

## APPLICATION

Studiju virziena "Management, Administration and Management of Real Property" for assessment

Study field	<i>Management, Administration and Management of Real Property</i>
Title of the higher education institution	<i>Transporta un sakaru institūts</i>
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**TRANSPORTA  
UN SAKARU  
INSTITŪTS**

## **Self-evaluation report**

Study field "Management, Administration and Management  
of Real Property"



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## I - Information on the Higher Education Institution/College

### 1.1. Basic information on the higher education institution/ college and its strategic development directions, including the following information:

#### Short description of the Institute

The Transport and Telecommunication Institute (henceforth *TTI*) is the only private university of the technical type in Latvia, which offers the full cycle of higher education in transport and logistics, aviation, management, computer sciences and electronics.

The history of the Institute is dated back to 1919, when in Kiev there was opened an Aviation Technician and Mechanic School, which was later transferred to Petrograd (Saint-Petersburg). However, in 1945 the School was relocated to Riga, where in 1967 it was renamed the Riga Institute of Civil Aviation Engineers (RICAE). In 1992 the Institute came under the jurisdiction of the Latvian State and was renamed Riga Aviation University (RAU). In August 1999 the Cabinet of Ministers passed a decision to liquidate RAU as a state university.

On September 6, 1999 the joint stock company *Transport and Telecommunication Institute* was registered and the day became known as the TTI Foundation Day. Nowadays, in accord with the TTI Constitution, September 6 is the TTI Celebration Day.

TTI received the certificate of its registration as the educational establishment on November 21, 2001 (registration No. 3343801782). On January 25, 2002 TTI was accredited for the indefinite period (accreditation page No. 032).

So far the total number of the graduates of the Institute has exceeded 7500 people. Students that pursue their education at TTI come from Latvia, Russia, Kazakhstan, Uzbekistan, Moldova, Ukraine, Azerbaijan, India and other countries.

Education is offered in 3 languages – Latvian, English and Russian. Following the amendments to the Law on Higher Education, introduced on June 21, 2018, admission of students to study programs administered in Russian was stopped on January 1, 2019. However, current students continue to pursue their education in the Russian language till December 31, 2022.

Multidimensional research activities have been conducted at TTI. The Transport and Telecommunication Institute was registered as a research institute in the Scientific Institute Register on February 27, 2006 (registration certificate No. 432062).

In the International Assessment of Latvian Scientific Institutions of 2013 the Transport and Telecommunication Institute as the only private scientific institute (among 150 assessed units of scientific institutes and universities) was included into the list of top 15 universities. The experts rated the Institute with grade 4, which means the Institute is a *strong international player* (good performance, activities to be pursued further).

**TTI vision** is to become a European level university that offers education and research in ICT and transport areas.

**TTI mission** is to create and disseminate advanced knowledge for enhancing the quality of life in society.

#### Implemented study directions and the program numbers at TTI

The Transport and Telecommunication Institute implements academic and professional study programs in 5 directions across 3 departments (see Figure 1):

- Information Technologies, computer hardware, electronics, telecommunications, computer management and computer science – 5 Bachelor's programs, 3 Master's and 1 doctoral program;
- Mechanics and metalworking, thermal power engineering, heat engineering and machinery – 3 Bachelor's programs;
- Transport services - 2 Bachelor's programs and 1 Master's program;
- Economics – 1 Bachelor's program and 1 Master's program;
- Management, administration and real estate management – 1 Bachelor's program and 2 Master's programs.

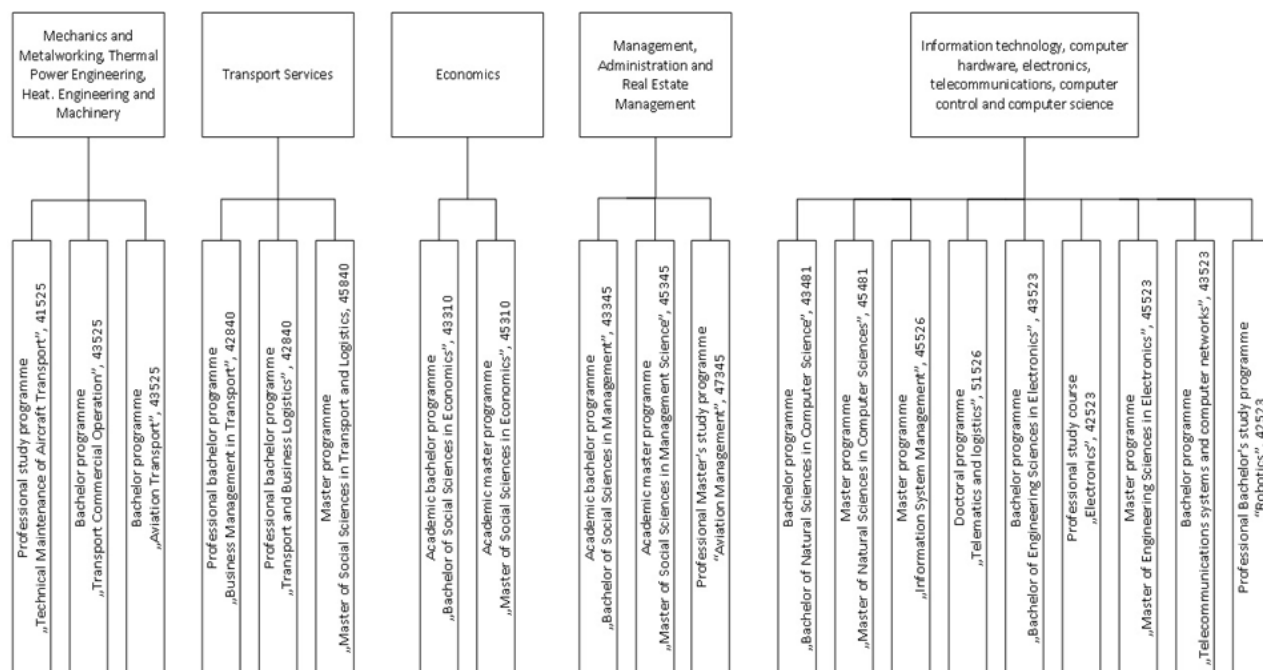


Figure 1: TTI study directions

## General information about branches of the Institute

TTI has one branch, which was opened in 2003 in Daugavpils, the second largest city in Latvia (the registration certificate was issued on May 23, 2003; registration No. 2744802383). Since September 9, 2005, the Latgalian branch has been situated in the old building of the Red Cross Hospital (which was built in 1913), which has received the status of an architectural monument of local importance.

The study facilities include 2 two-storey buildings with the total area of 1128,3m<sup>2</sup>. Study rooms and offices are equipped with modern technologies to ensure high quality training and easy access to information for all students. In 2019, the Institute organized 24 workplaces equipped with new computers in two computer rooms. The methodological and informative provision for the study process is uniform throughout the Institute, including the branch (see Subsection 3.3. in Section II).

The Latgalian branch implements the following programs: Bachelor of Science in Computer Science, Bachelor of Social Sciences in Economics, the professional Bachelor's program in Transport and Business Logistics and the Master's program in Information System Management.

With the decline in the number of potential students, which results from the demographic situation in the country, the migration of Latgale population and the human brain drain to other countries, the number of students has rapidly been decreasing in the last few years. Therefore, the branch currently only provides part-time studies consistently with a specific study schedule. The studies

are organized in 5 modules per semester, specifically, on Friday afternoon from 3:35pm to 9:30pm, on Saturdays from 8.45am until the end of classes (all day), on Sundays from 8.45am until the end of classes during the first half of the day, which is usually until 12pm to enable students to return home and prepare for the work week. This allows to attract students living far from Daugavpils. The total number of students in September 2019 was 85 individuals.

### **Student numbers at the Institute during the evaluation period**

Despite the demographic crisis and the decline in the total number of applicants, the TTI development strategy and implemented approach to the study program management have contributed to the provision of high-quality and up-to-date study programs, which was demonstrated by the increasing number of students in the TTI implemented study directions prior to the current academic year (Figures 2 and 3).

The decrease in the number of students in academic year 2019/2020 is related to the amendments to the Law on Higher Education Institutions of the Republic of Latvia, introduced on June 21, 2018, which stipulate that institutions of higher education whose language of instruction in study programs does not comply with the provisions of Section 56 of Paragraph 3 of this Law have the right to continue the implementation of study programs in the respective language until December 31, 2022. After January 1, 2019, admission of students to study programs with a language of instruction that does not meet the requirements of Section 56 of Paragraph 3 of this Law is not permitted. Thus, the last intake of students who wished to pursue their education in Russian at TTI was in 2018/2019.



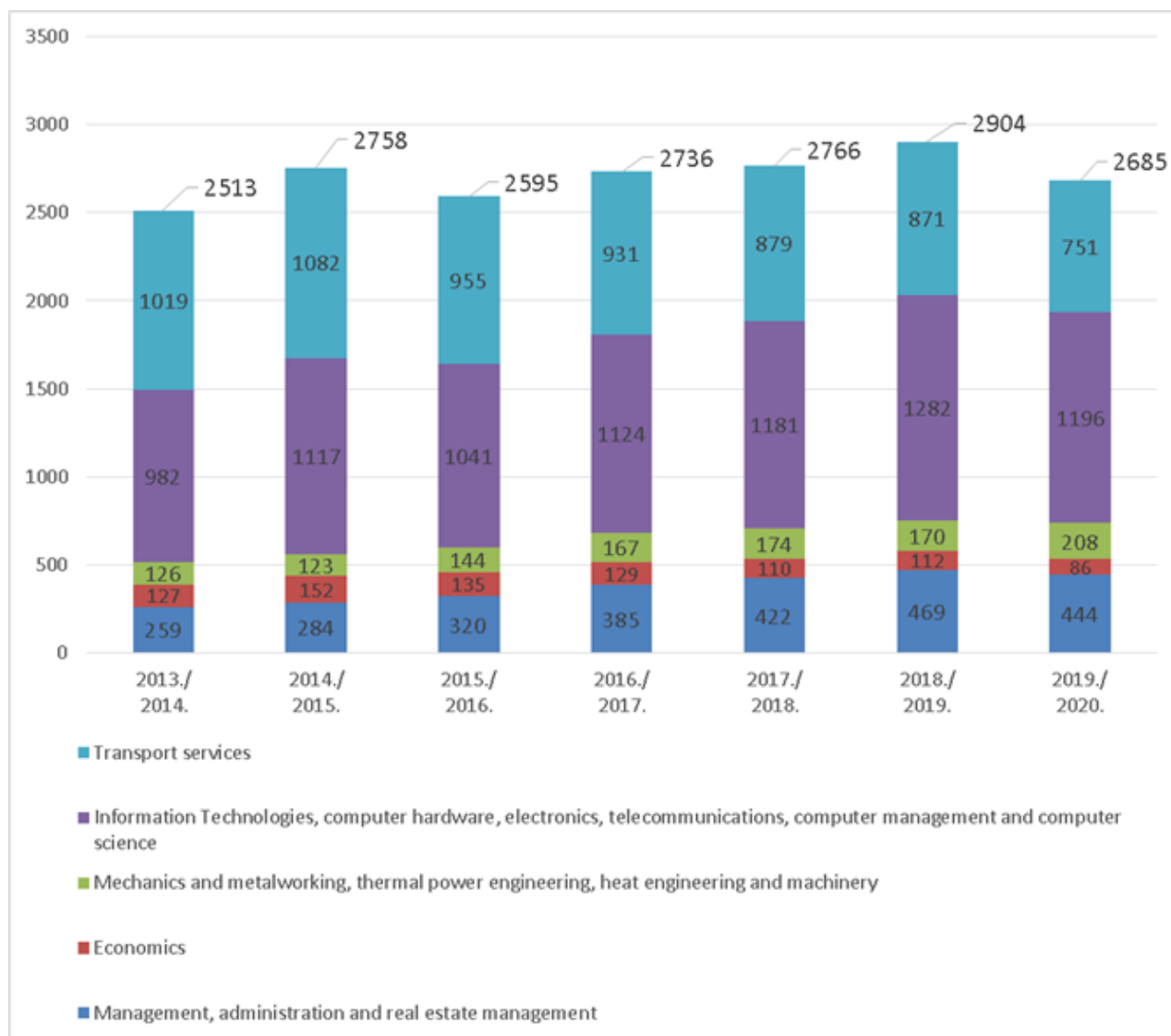


Figure 2: Number of students in study directions implemented at TTI over the reported period

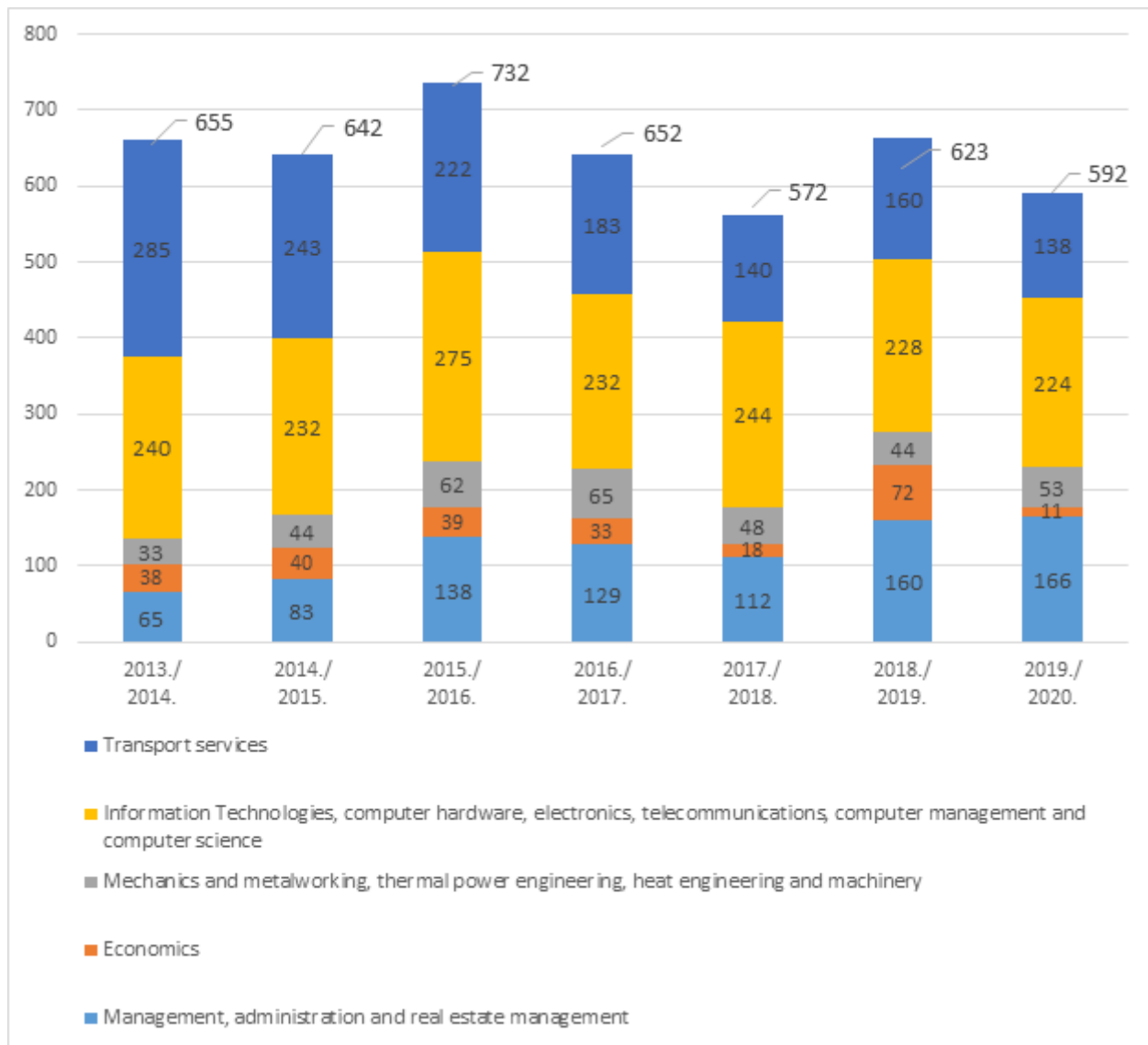


Figure 3: Number of matriculated students in study fields implemented at TTI during the reported period

In contemporary dynamic and changing environment, the issue of the institutional competitiveness and increasing efficiency of higher education institutions is becoming increasingly more important. In response to these challenges, the Transport and Telecommunication Institute has formulated its **long-term strategic goals**:

- **Excellence in research:** high quality research integrated into the study process with broad involvement in international, national and sectoral research programs that promote technology transfer and innovation development.
- **Study excellence:** high quality, prestigious, internationally recognized studies that focus on the development of students abilities to think and perceive information critically, process information creatively, think analytically, develop creativity and develop lifelong learning skills, and in doing so, train professionals for the international labor market.
- **Organizational excellence and visibility:** a democratic, effective and modern work organisation of the Institute that promotes excellence in studies, excellence in research and visibility of TTI in the world.
- **Excellence in infrastructure:** an integrated and modern information and territorial complex promoting training and scientific activities.

In line with these goals, the following strategic directions of development have been identified:

- Contemporary curriculum development with a focus on digitalization and the development of

the perspective on digital technology acquisition.

- Digitalization of the study process (by transforming teaching methods, study materials, the management system of the study process into the digital format).
- Development of high quality, prestigious and labor market-relevant multidisciplinary study programs with various specializations that enable the implementation of the key strengths and competencies of the Transport and Telecommunication Institute (ICT, transport and logistics).
- Strengthening co-operation with employers and TTI graduates, taking into account the expected demands of the labor market for the skills and competences of professionals to be trained, and in order to enhance the quality of study programs.
- Expanding international cooperation with foreign partners in order to improve the implemented study programs and boost the overall competitiveness of the Institute.
- Further professional development of academic staff and ensuring international competitiveness.

The implementation of these development directions involves the synergy of three essential and interconnected elements in the process of further development of TTI:

- education
- science
- business.

This synergy should be realized in a coherent way across all segments of the Institute, specifically, in setting future priorities for development, shaping its governance structure and the human resource policy, modernizing the curriculum package of the implemented study programs, developing a modern study environment, monitoring and improving its internal quality of operations etc.

In order to realize its vision for the future development and attain the defined long-term strategic goals, the Transport and Telecommunication Institute has set 5 interrelated medium-term **goals**:

1. Supply the Latvian and European economies with demanded specialists, such as engineers, ICT experts, researchers, analysts and managers, possessing competences of best intellectual and management resources.
2. Establish a European level research centre specialising in ICT, transport and logistics.
3. Participate in dissemination of innovative knowledge and experience.
4. Develop a personnel base required for the operation of a research university.
5. Build an education and research infrastructure at the level of the best science and education centres.

A significant objective of strategical development, which also represents an opportunity, which TTI should continuously focus on, is international pedagogical and scientific cooperation with foreign partners. This cooperation should focus on obtaining the following results:

- Developing academic mobility (including through the increased use of opportunities offered by the ERASMUS + program) by engaging in student exchange opportunities, organizing lectures of TTI instructors at foreign universities and inviting lecturers from cooperating universities to teach at TTI
- Development and implementation of new joint programs or double degree programs
- Participation in annual scientific conferences and seminars at partner universities
- Preparation of joint scientific publications with foreign universities.
- Preparation and implementation of joint research and innovative contract projects.

The attainment of the goals set by TTI is carried out through the implementation of specific action

programs.

The full text of the TTI Development Strategy for 2015-2020 is available on the TTI web-site in Latvian and English at <http://www.tsi.lv/lv/content/oficialie-dokumenti> (see Appendix 2 of TTI Development Strategy for 2015-2020).

At the same time, it should be noted that currently a new TTI Development Strategy for the next five years is being developed in cooperation with international consultants. It will have been completed by the end of 2019, and in the first quarter of 2020, the Strategy will be examined by the Senate of the Transport and Telecommunications Institute.

## **1.2. Description of the management of the higher education institution/ college, the main institutions involved in the decision-making process, their composition (percentage depending on the position, for instance, the academic staff, administrative staff members, students), and the powers of these institutions.**

### **Description of the TTI governing body**

The general structure of the Transport and Telecommunication Institute was approved on 17/04/2019. The information on TTI Senate sitting and minutes No. 01-7 / 8 was published in Latvian and English on the TTI website at <http://www.tsi.lv/en/content/galvena-informacija>.

The TTI structure is published on the Institute website in Latvian and English. the TS homepage

### **Description of the main TTI decision-making bodies**

The activities of TTI are regulated by the Constitution of the Transport and Telecommunication Institute, approved by the Cabinet of Ministers, Order No. 238, on 23/04/2003 and amended on 29/07/2008 by the Cabinet of Ministers, Order No. 444, Law on Higher Education and other external and internal legislation. According to it, decision-making at TTI is ensured by the Constitutional Assembly, Senate, Audit Committee, Academic Arbitration Court, Board, Rector, Vice-Rectors, Student Self-Government, Faculty Councils and Study Direction Councils.

The highest decision-making body of TTI in strategic and financial matters is the Supervisory Board of the Joint Stock Company *Transport and Telecommunication Institute* appointed by the founders. In turn, the Management Board of the Joint Stock Company ensures the implementation of the decisions of the Supervisory Board, the management and control of the operational activities of the Joint Stock Company.

The highest representative, governing body and decision-making body in academic and scientific matters is the Constitutional Assembly. The Constitutional Assembly adopts and amends the TTI Constitution, elects and revokes the Rector, the Audit Committee, the Academic Arbitration Court and the Senate (in accordance with the Constitutional Assembly Regulations). The Constituent Assembly consists of 50 persons, of whom 30 (i.e. 60%) hold academic positions, 10 (i.e. 20%) are representatives of general staff and 10 (i.e. 20%) are student representatives.

The Senate is a collegial management and decision-making body of TTI personnel, which approves the rules and regulations that regulate all areas of TTI activities. According to the by-laws of the Senate, the Senate comprises the following permanent committees: the Development Committee, Study Committee, Regulatory Enactment Committee and Competition Committee. The Senate consists of 20 senators, 75% of whom are elected academic staff; the percentage of students is not

to be below 20%; others are representatives of scientific and administrative structural units.

In accordance with the by-laws of the Audit Committee, the Audit Committee is elected by the Constitutional Assembly of TTI from among all permanent employees and representatives of the students' self-government, except for the administrative staff. The Audit Committee has the right to inspect TTI financial and business documentation, to evaluate its compliance with the legislation of the Republic of Latvia and to report the results to the Board.

In accordance with the by-laws of the Academic Arbitration Court, the Academic Arbitration Court consists of representatives of the students' self-government and academic staff. The Academic Arbitration Court reviews TTI administrative acts, applications of the academic staff or their actual actions in pertinence to the restrictions of academic freedom and rights provided by the Constitution, and make decisions that are binding to TTI staff.

In accordance with the TTI Constitution, the Rector carries out general administrative activities in academic and scientific fields of TTI specialization. In coordination with the TTI Board, the Rector represents the Institute in financial matters. The Rector is responsible for the quality of education and science as well as the promotion of staff development and academic freedom.

Effective management and supervision of business operations are conducted by the Vice Rector for Academic Affairs, Vice Rector for Research and Development, administrative director as well as existing study, research and administrative units under their supervision.

The students' self-government is an elected and independent body representing students' rights and interests. It operates in accordance with the by-laws of the Students' self-government and represents students' interests at the Constitutional Assembly, in the Academic Arbitration Court, Senate, Faculty Councils and Study Direction Boards. In the Senate, students' representatives have a veto right on issues pertaining to students' interests.

In accordance with the Faculty Regulations, the Faculty Council is a collegial body management institution consisting of the head of the faculty, heads of faculty departments, external employers and representatives of the students' self-government. The Council is elected at the general meeting of the faculty. The Dean recommends the employers to be elected to the Faculty Council. The Council is chaired by its chairman, and it organizes the dean's election, ensures the methodological foundation for the implemented study programs, external co-operation (within the scope of activities of the faculty) and planning of the further development of study programs. The Council reviews and tackles issues related to the planning of the faculty activities.

Study Direction Councils (following the regulations of the Study Direction Council) evaluate the compliance of study programs with the requirements of legislation and the labor market, discuss assessments provided by external experts and coordinate plans aiming at elimination of shortcomings, discuss and coordinate study plans and study program development plans. The composition of the Study Direction Council is approved by the Rector's order.

### **Participation of external partners in decision-making**

External partners are involved in the work of the Study Direction Council, Faculty Council as well as Alumni Association and the International Scientific Advisory Council.

The Study Direction Council includes cooperation partners from respective higher education institutions.

Employers are included into the Faculty Council. The Faculty Council reviews and tackles issues related to the planning of faculty activities.

Founded on January 30, 2016, the TTI Alumni Association promotes cooperation between the

Institute and its alumni by creating a positive environment for the exchange of experience and business contacts, offering opportunities for raising qualifications, promoting and supporting TTI, and thus, supporting education processes at the Institute.

The International Scientific Advisory Board is composed of leading international experts and researchers in the scientific fields relevant to the TTI research program. The Board members are approved by the order of the TTI Rector. The Board evaluates TTI research activities and advises on global and strategic research directions.

### **Participation of structural units in decision-making**

The TTI structural units include faculties, departments, research and study laboratories, administrative departments and units, which operate in accordance with regulations approved by the Senate.

The faculty comprises units of one scientific or one professional direction or of several directions and is chaired by the Dean. The Dean is elected by the Faculty Council.

The involvement of structural units in decision-making and budget planning at TTI proceeds in accordance with the financial management plan and is monitored and analyzed by the heads of the Financial Responsibility Centers.

The budget is formed based on the needs of responsibility centers, and its resources are allocated consistently with the approved plan. The financial plan provides for a separate development fund, which is aimed to support research activities. Annual work and the budget plan are developed considering the needs of structural units and the results of the current year.

The budget plan for the unit is drawn up by its head upon assessing the efficiency of use of resources considering both technical and human resource aspects and in collaboration with this unit's staff as well as attracting and consulting personnel of other units. The head of the unit agrees upon this plan with his/her immediate supervisor, considering the hierarchical management scheme of the Institute.

Along the similar lines is the annual performance plan drawn up. In this plan, the head of the unit reviews information on the current work processes (which are more relevant to the core functions of the unit) and on strategically sound projects that contribute to the development of the unit and increase its efficiency. In turn, the performance of the faculty, the budget planning and control are conducted by the dean in accordance with the by-laws of the faculty.

Therefore, the detailed planning of the budget includes specific responsibilities, as units must conduct their activities within the approved budget resources. To implement new projects and innovations, TTI sets up working groups and organizes discussions and seminars, thus encouraging the involvement of staff and managers in decision-making.

Appendix 2: TTI Development Strategy for 2015-2020

Appendix 3: The list of TTI internal rules. TTI main internal regulations

### **1.3. Description of the mechanism for the implementation of the quality policy and the procedures for the assurance of the quality of higher education, as well as the stakeholders involved in the development and improvement of the quality assurance system and their role in these processes.**

The quality policy is the declaration of the TTI Board pertaining to the quality of goals and principles, which the Board follows when organizing the development of educational products and study processes. The quality policy is documented and approved in the quality manual. *The quality manual* is the main document of the TTI quality management system (see Appendix 3: Key Internal Regulation. Quality Management Manual).

The quality policy is based on TTI development strategy. The quality policy is available on the TTI website in Latvian and English.

The planning process for the quality policy implementation is shown in the diagram below (see Figure 4).

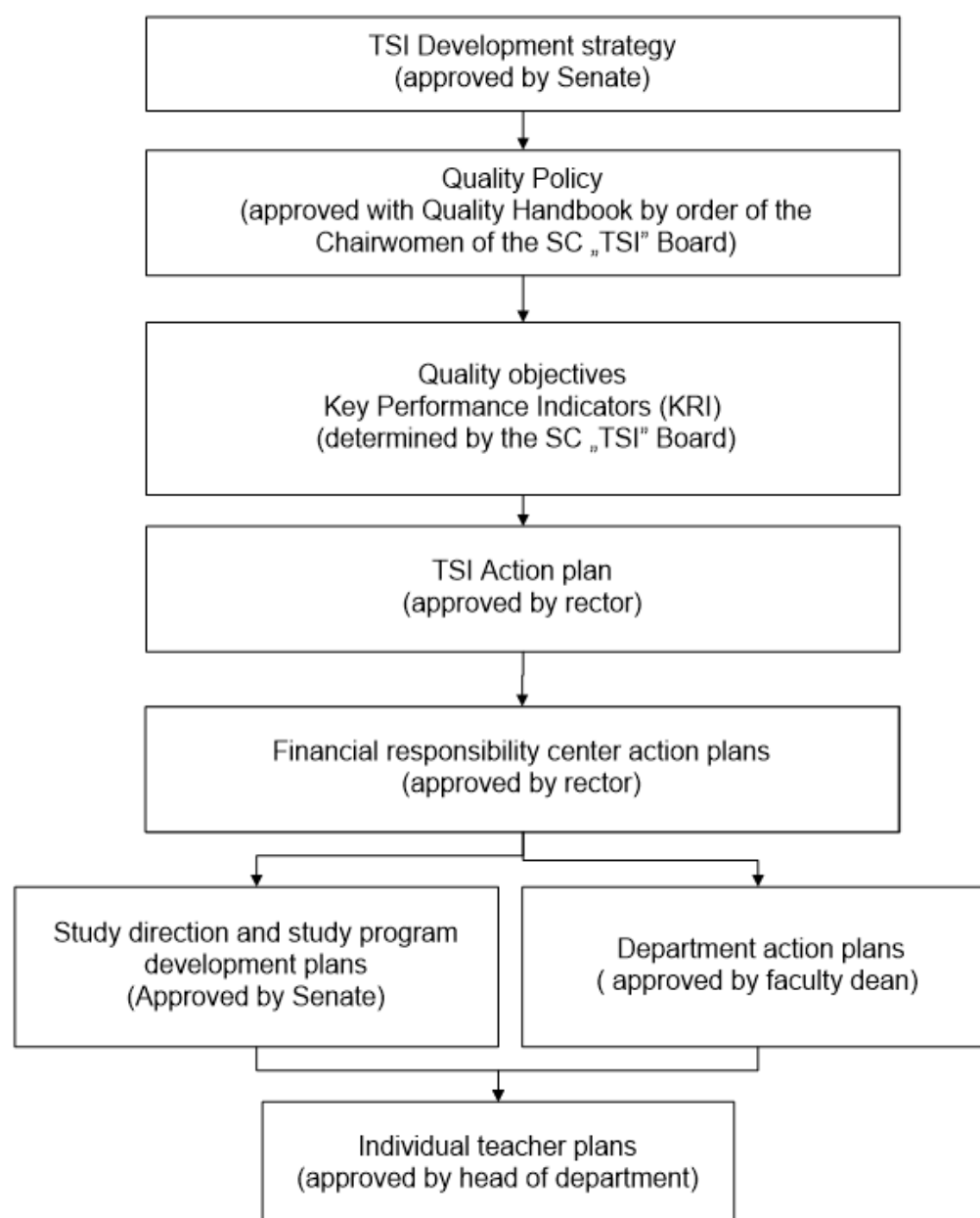


Figure 4. Diagram of TTI quality policy implementation

### Procedures for quality assurance in higher education

The quality assurance of TTI education services is based on the quality management system designed in accordance with the requirements of the ISO 9001 standard. It consists of processes whose structure is illustrated in Figure 5.

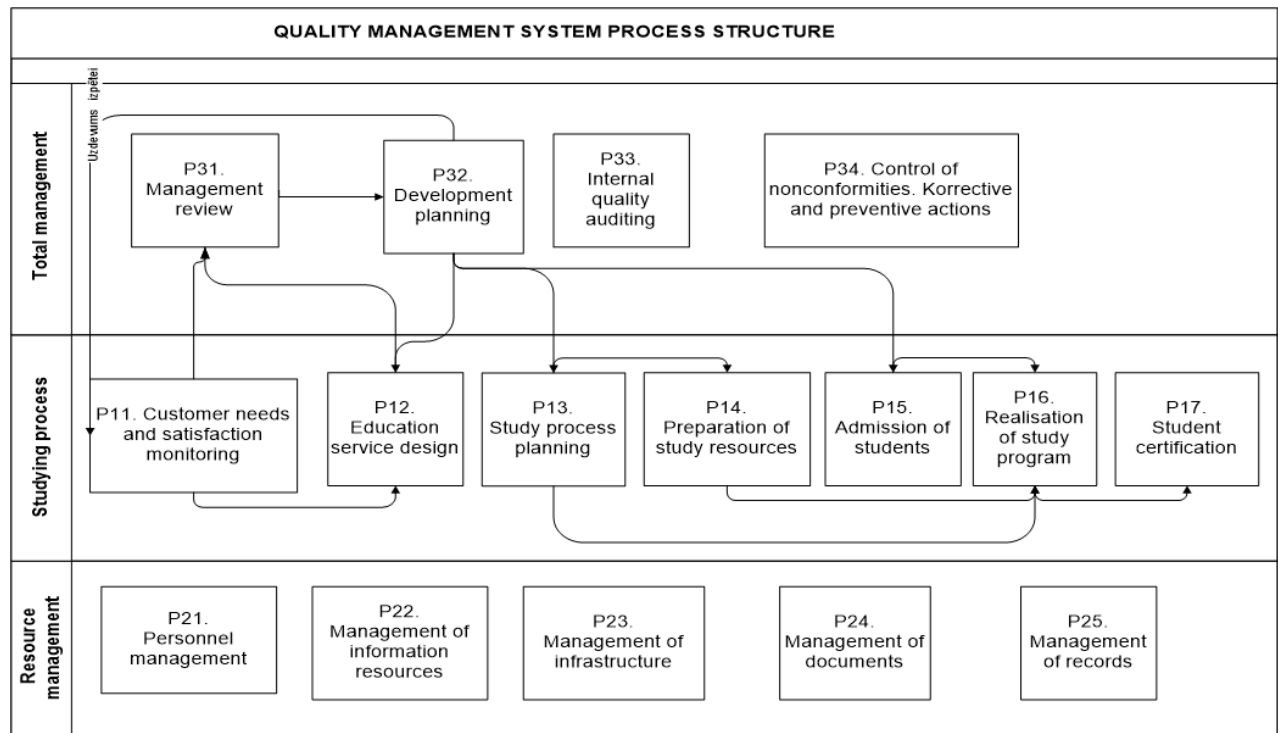


Figure 5: Structure of the quality management processes

Consistently with ISO 9001:2015 *Quality Management System Requirements*, the TTI quality assurance and enhancement processes are conducted at different levels.

The lower level assesses learning outcomes (examinations, tests, final examinations). The next level focuses on the control of lesson processes (whether resources and methods meet relevant requirements). The third level is characterized by the control and audit of management processes. At the fourth level the Board evaluates the compliance of educational products and services with the market and employer demands, legislation as well as their transformational trends. At the highest, fifth, level, resources and opportunities are analyzed and development strategies are designed (see Figure 6).





Figure 6: TTI quality assurance and enhancement processes

**1.4. Fill in the table on the compliance of the internal quality assurance system of the higher education institution/ college with the provisions of Section 5, Paragraph 21 of the Law on Institutions of Higher Education by providing a justification for the given statement. In addition, it is also possible to refer to the respective chapter of the Self-Assessment Report, where the provided information serves as evidence for the full compliance, partial compliance or non-compliance.**

1.	The higher education institution/ college has established a policy and procedures for assuring the quality of higher education.	Complies
		The developed and implemented quality management system meets the requirements of the ISO 9001:2015 standard. It determines the field of the quality policy and the structure of quality management processes. For more information, see Subsection 1.3. in Section I.

2.	A mechanism for the creation and internal approval of the study programmes of the higher education institution/ college, as well as the supervision of their performance and periodic inspection thereof has been developed.	<p>Complies</p> <p>The procedures for the development, internal approval, implementation of amendments and periodic examination of study programs are stipulated in the Regulations on Study Directions and Study Program Management, approved by the Senate on May 21, 2019.</p> <p>The management of the development and implementation of collective study programs is ensured by the Study Direction Boards. Regulations on Study Direction Councils was approved by the Senate on May 21, 2019. Students, graduates, employers and external experts are involved in the development of study programs, annual evaluation and program enhancement by participating in Study Direction Councils, Faculty Concils, Senate Committees, Senate and completing questionnaires. Students, graduates and employers are engaged in the development of study programs and study directions within the framework of the program self-assessment procedure.</p> <p>The periodic review of the program takes place during annual self-assessment. The course of the annual self-assessment, deadlines and persons responsible for these matters are approved by an order in September each year.</p> <p>For more information, see Subsection 2.2. in Section II.</p>
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3.	<p>The criteria, conditions, and procedures for the evaluation of students' results, which enable reassurance of the achievement of the intended learning outcomes, have been developed and made public.</p>	<p>Complies</p> <p>Lecturers inform students about the knowledge assessment criteria and methods during the first class. The assessment methods and criteria of learning outcomes are included in the course description and are available to students in the e-learning system. Study programs that include internships are designed in such a way that during their internships students consolidate the knowledge acquired in courses and develop practical skills.</p> <p>To assess graduation theses, internship reports and final examinations, there have been established committees that include representatives of employers. The committee members are informed about the basic principles of assessment.</p> <p>The degrees and professional qualifications awarded to students upon successful completion of their studies are regulated by national standards of higher education. The Regulations on the Award of Professional Bachelor's Degree, Professional Master's Degree and professional qualifications at the Transport and Telecommunication Institute describe the procedures for organizing final examinations and determine duties, actions, terms for both students and staff.</p> <p>Assessment criteria and methods for final examinations are included into the Methodological Guideliness for Writing Graduation Theses as well as into the Regulations for the Award of Academic Bachelor's and Master's Degrees and Regulations for the Award of Professional Bachelor's Degree, Professional Master's Degree and Professional Qualifications.</p> <p>Learning outcomes achieved in prior education or professional experience are recognized in accordance with the TTI Regulations on the Evaluation and Recognition of Prior Learning and Professional Experience. The procedures are included into the Final Examination Regulations and Regulations on Study Procedures, which additionally describe the system of assessment of learning outcomes.</p> <p>Recognition of learning outcomes achieved through participation in the ERASMUS + Programme is regulated by the TTI ERASMUS + Programme Scholarship Instructions.</p> <p>Each students receives an ID card created in the TTI internal information system Intranet. This card contains information on the student's academic progress, student's plan for the entire study period and assessment outcomes, which enables the student to control his/her own study plan and the achievement of the expected learning outcomes.</p> <p>For more information, see Subsections 1.6. and 3.3. in Section II.</p>
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4.	Internal procedures and mechanisms for assuring the qualifications of the academic staff and the work quality have been developed.	Complies
		Descriptions of academic positions are approved by the Regulations on Election to Academic Positions. The Institute has introduced the procedures and criteria for periodic attestation of academic staff.
5.	The higher education institution/ college ensures the collection and analysis of the information on the study achievements of the students, employment of the graduates, satisfaction of the students with the study programme, efficiency of the work of the academic staff, the study funds available, and the disbursements thereof, as well as the key performance indicators of the higher education institution/ college.	Complies
		<p>Information on student achievements is available in the TTI internal information system. The Study Department collects and analyses information on academic progress indicators, the results of which are regularly reviewed at the Rectorate meetings. Information on student satisfaction is collected through surveys and analyzed at department, faculty, and Institute management levels. During annual attestation the efficiency of academic staff is evaluated. The criteria include indicators of methodological work, student feedback and participation in the Institute management processes.</p> <p>Training aids used in the implementation of study programs are described and evaluated during self-assessment of study programs.</p> <p>Key Performance Indicators (also KPI) of the Institute have been determined.</p> <p>The performance of the Institute and its structural units is periodically evaluated in accord with KPI. Regulations on Student, Graduate and Employer Surveys have been developed.</p> <p>For more information, see Subsections 1.6., 2.1., 2.4., 3.1., 3.2., 3.5. in Section II.</p>
6.	The higher education institution/ college shall ensure continuous improvement, development, and efficient performance of the study direction whilst implementing their quality assurance systems.	Complies
		<p>Every year the Senate approves reports on self-assessment of study directions and makes decisions on the compliance of study programs and study directions with the requirements of state accreditation.</p> <p>Every study direction has its own development program, which is consistent with the Institute Development Strategy.</p> <p>For more information, see Subsections 1.2. and 1.4. in Section II as well as Appendix 6.</p>

## II - Description of the Study Direction (1. Management of the Study Direction)

### 1.1. Economic and/or social grounds for the creation of the study direction and the relevant study programmes, the assessment of the interrelation among the study programmes, as well as the analysis of the significance (singularity) of the study programmes in comparison with other similar study programmes in Latvia and abroad.

The study field "Management, Administration and Real Estate Management" includes study programmes corresponding to the thematic area *Commerce and Administration* of the Latvian Education Classification.

The accredited study field Management, Administration and Real Estate Management of the Transport and Telecommunication Institute allows the implementation of one Basic Study Programme, one Academic Master's and one Professional Master's Study Programme:

- **Bachelor Program "Business and Management"** (previous name "Bachelor of Social Sciences in Management"), education qualification code 43345, licensed on 13 October 1999;
- **Master Program "Business and Management"** (previous name "Master of Social Sciences in Management"), education qualification code 45345, licensed on 13 October 1999;
- **Professional Master of Aviation Management**, education qualification code 47345, licensed on 25 October 2017.

Both academic programmes of the study field are designed in accordance with Cabinet Regulation No. 240 of 13 May 2014 Regulations on the National Standard for Academic Education; the Professional Master's programme is designed in accordance with Cabinet Regulation No. 512 of 26 August 2014 Regulations on the National Standard for Second-Level Professional Higher Education and the *Head of Organisation* Profession Standard (Profession Code 1120), approved at the session of the Tripartite Cooperation Subcommittee on Vocational Education and Employment on 18 September 2019 (available at: National Centre for Education website <https://visc.gov.lv/profizglitiba/dokumenti/standarti/2017/PS-114.pdf>).

The basic principles for the development of the field of study and study programmes are based on the values of the higher education institution and the overall development strategy thereof, as well as in compliance with the requirements of the laws and regulations and priorities set in national and international policy-planning documents. Implementation of the field of study and study programmes takes place on the basis of several European Union and Latvian guidelines, policy-planning processes, including of Bologna, in the area of higher education for the coming periods, where students are considered to be the basis for building a knowledge society; so it is important to understand students' views in order to evaluate the current higher education process and develop a field of study that is directed towards a more efficient and responsible study process.

#### **Prospective assessment from the point of view of interests of the Republic of Latvia**

The following documents are respected in the development and implementation of the field of study: Guidelines for the Development of Education for 2014-2020, National Development Plan of Latvia for 2014-2020 (NDP 2020), Sustainable Development Strategy of Latvia for 2030 (Latvia 2030), National Reform programme of Latvia for the Implementation of Europe 2020 Strategy (NRP), Guidelines for the Development of Science, Technology and Innovation for 2014-2020, the National Concept for the Development of Higher Education and Institutions of Higher Education of Latvia for 2013-2020, Information Society Development Guidelines for 2014-2020, Smart Specialisation Strategy (RIS3).

By analysing various normative documents of the political planning of Latvia:

1. *Internationalisation of higher education and international competitiveness* is mentioned as one of the priorities in the Guidelines for the Development of Education for 2014-2020. Promoting the openness of higher education to international cooperation and exchange of information, as well as increasing export capacity is one of the priority areas for action in the development of higher education. The Sustainable Development Strategy of Latvia 2030 defines the goal of increasing the proportion of foreign students in the higher education institutions of Latvia to at least 10% of the total number of students. Internationalisation processes and attracting foreign students is actively taking place in the Transport and Telecommunication Institute. 28% of foreign students are studying in the field of study "Management, Administration and Real Estate Management" in the academic year of 2019/2020.
2. High-quality and accessible lifelong education is one of the priorities of the Sustainable Development Strategy of Latvia for 2030. The aim of this priority is to "develop one of the best education systems in the EU and become one of the leaders in access to and use of adult education". Owing to materially-technical and human resources provided by TTI, students in the study field have an opportunity to obtain qualitative and accessible education from anywhere in the world and at any convenient time, by means of distance learning. According to Section 59.2 of the Law on Higher Education Institutions, the listener may accumulate the amount of study work confirmed by certificates and, if he/she has the appropriate previous education, ask the university or college to assess the conformity of the work volume of the acquired study courses to the study programmes or sections thereof, awarding credits for it. Graduates of TTI studies receive a certificate which includes information about its recipient, name of the study course and volume thereof in credit points, name, surname and qualification of the course lecturer, assessment of the course. In this way, TTI offers mastering of the study courses that would be useful for a professional career or for continuing studies at the next education levels. TTI is also the Lifelong Learning Centre that offers a variety of study courses for adult education, g. Financial literacy.
3. The direction of action "Provision of Educational Environment and Educational Process Conforming to the 21st Century" set out in the Guidelines for the Development of Education for 2014-2020 relates to the provision of educational environment and educational process in the 21st century, including the use of digital learning tools and resources, which include content necessary for the implementation of the education programme. In 2011/2012 academic year, TTI, one of the first universities in Latvia, started implementation of the Master's Programme in Distance Learning, while the implementation of the Bachelor's Programme in Distance Learning started in the 2013/2014 academic year, which makes these programmes unique on the national scale.
4. The goals of the Smart Specialisation of Latvia are defined in the *Research and Innovation Strategy for Smart Specialisation* (RIS3) (Smart Specialisation Strategy. Available at: [petijumi.mk.gov.lv/sites/default/files/file/IZM\\_Viedas\\_Specializ\\_strategija.doc](http://petijumi.mk.gov.lv/sites/default/files/file/IZM_Viedas_Specializ_strategija.doc)). It is an economic development strategy prescribing that the research and innovation resources are purposefully directed at the areas of knowledge specialisation where the country has comparative advantages, or the assets exist, on the basis of which such advantages can be created. One of the key RIS3 components is building human capital in the knowledge areas important for Latvia, taking into account the potential of the existing sectors of the economics, and aimed at increasing the mobility of those sectors in order to modernise research and education.
5. Provision of professional education based in the working environment is currently a high educational and employment policy priority on the EU level, including Latvia, which is defined in the Guidelines for the Development of Education for 2014-2020. Taking into account the close cooperation of TTI with the aviation industry, as the Institution is implementing the first-

level professional higher education and the bachelor's aviation programmes and ensures the work of the Academic and Professional Aviation Centre, it was decided in consultation with the employers to create the professional master's study programme in Aviation Management, which would ensure comprehensive professional training for managers of companies and institutions directly related to aviation. The Aviation Management programme was licensed in 2017, and internationally recognised industry experts of Latvia are involved in the development and implementation thereof.

6. By comparing the objectives and set priorities of the field of study with the Sustainable Development Strategy of Latvia by 2030, it can be concluded that the field of study:

- ensures the development of skills, knowledge and talents of Latvia's main capital — its people;
- promotes creativity and the ability to cooperate;
- educates young people, so that they can integrate in the global labour market without leaving Latvia and offer their knowledge and skills in the virtual environment;
- provides a possibility for gifted and talented people to acquire world-class knowledge without leaving Latvia;
- realises all the key strategic development principles of Latvia: creative activity, tolerance, cooperation and participation;
- is able to increase the productivity of human capital and participation in the labour market;
- ensures the efficiency of education services;
- ensures qualitative and available lifelong education focused on creativity;
- supports the creation and commercialisation of new ideas;
- ensures transfer and user-driven research, innovations.

The Europe 2020 development plan - the EU's ten-year Job and Growth Strategy - sets out guidelines for the development of employment policies in the Member States of the European Union. Increase of the available workforce, skills and competences to raise the overall employment rate in the European Union in the age group between 20 and 64 to 75% by 2020 has been specified therein as one of its priority goals. To ensure that the goal is achieved, CEDEFOP, in cooperation with the EC has developed a Skills Panorama tool for forecasting the necessary future skills. The Skills Panorama information is not related to specific positions or sectors - it is assumed that all employees, regardless of industry, use skills that are categorised as basic, transversal or rolling and technical skills. Transversal or rolling skills are communication skills, teamwork skills, customer service skills, problem-solving skills, learning skills, planning and organisational skills, and are acquired by students in the higher education institutions. All the above mentioned transversal or rolling skills are defined as a result of mastering the study programmes included in the field of study.

Analysing the economic development of Latvia, it is noted that the economic growth of Latvia continues steadily, with an average annual growth rate of 3.6% between 2011 and 2018, with growth of close to 5% over the last 2 years, thus almost twice exceeding the EU average growth rate. At the same time, recruitment of employees in the fast-growing segments of the labour market is becoming increasingly difficult. The dynamics of job vacancies at the State Employment Agency also testifies to the growing labour shortage. As economic activities grow, more and more new job opportunities are opening up, thus contributing to the increase of population employment and reduction of unemployment. The following conclusions can be drawn by analysing reports developed by the Ministry of Economics in 2018 "Low-Skilled Workforce in Latvia" (*"Mazkvalificētais darbspēks Latvijā"*) and the "Informative report on medium and long-term labour market forecasts" and indicators therein on employment and unemployment in Latvia:

1. Improvements in the labour market are not felt evenly by all groups of the population; the

unemployment rate among the population with primary and lower education is nearly 10 percentage points higher than the national average, and the unemployment gap (difference of the unemployment level) between the population with primary education and higher education level has increased on average by 3-4 percentage points compared to the period of 2005-2006, when the average unemployment in Latvia was similar to the current one. Thus, people with low level of education have had much more difficulty finding a job that matches their skills in recent years;

2. The share of population aged 25-64 with higher education has almost doubled between 2003 and 2018 and continues growing.

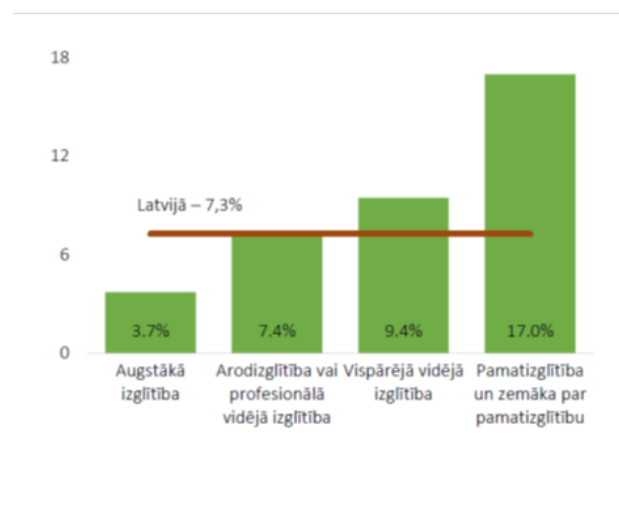


Figure 7. Unemployment level in Latvia based on education in 2018, in percentage from the economically active population aged 25-64 (source: Low - skilled workforce in Latvia ("Mazkvalificētais darbaspēks Latvijā"). Ministry of Economics. 2019)

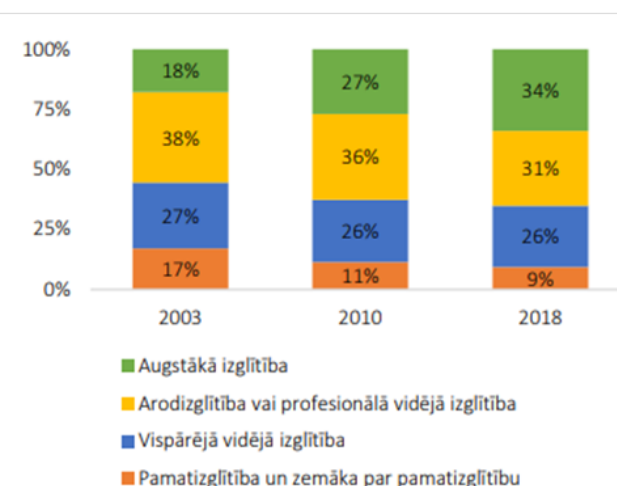


Figure 8. Breakdown of the population in Latvia by education level in the age group of 25-64 in percentage (source: Low-skilled workforce in Latvia ("Mazkvalificētais darbaspēks Latvijā"). Ministry of Economics. 2019)

3. High level of education and appropriate skills affect not only employment opportunities but also income levels. The average gross salary of employees with higher education significantly exceeds the average salaries in the national economy, as well as the salaries of managers, senior specialists and specialists. Comparing gross salary in 2018 depending on education and speciality, it can be stated that the population with a bachelor's degree on average earn 24% more, with a master's degree - 35% more, and managers 52% more than average in the national economy.

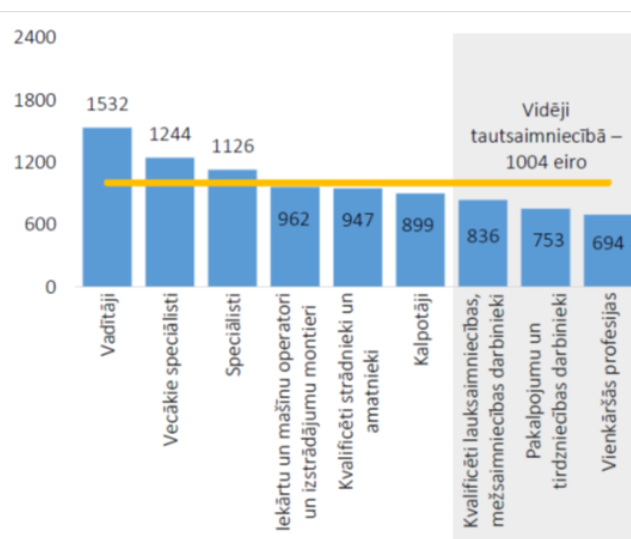
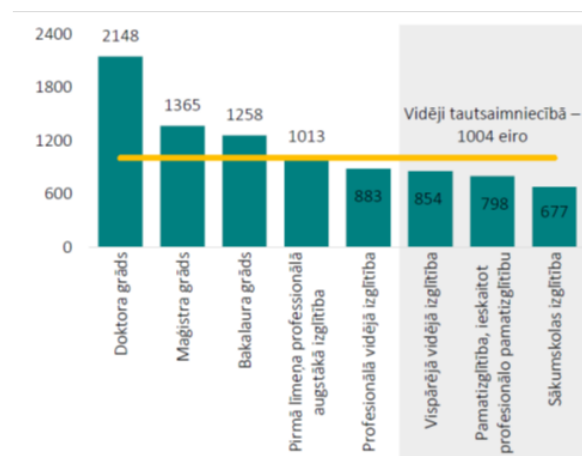




Figure 9. Average monthly gross salary based on acquired education in Latvia in 2018 (source: Low-skilled workforce in Latvia ("Mazkvalificētais darbaspēks Latvijā"). Ministry of Economics. 2019)

Figure 10. Average monthly gross salary based on profession groups in Latvia in 2018 (source: Low-skilled workforce in Latvia ("Mazkvalificētais darbaspēks Latvijā"). Ministry of Economics. 2019)

4. Demand for highly-qualified specialists has increased by 28%, when comparing 2003 and 2018.

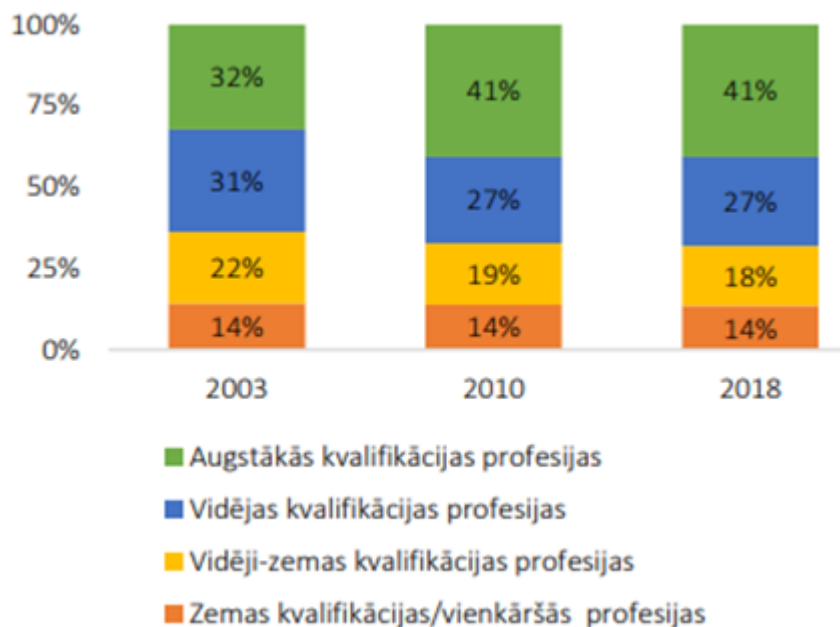


Figure 11. Breakdown of employees based on profession qualification level in percentage (source: Low-skilled workforce in Latvia ("Mazkvalificētais darbaspēks Latvijā"). Ministry of Economics. 2019)

5. Changes in the number of employed persons in the sectors of the national economy in Latvia by occupation groups; in the group of persons employed in the highest qualification positions in 2017 had 8 thousand more employees (incl. increase of managers by 7.5 thousand) or 2.2% compared to 2016; if compared to 2010, the increase was 10.4%. Growth in the management profession is in all sectors of the national economy except for agriculture.

The skills acquired by the students during studying management are attractive to many employers. Graduates of the programmes implemented in the field of study are working in different fields in the financial sector, manufacturing sector and also in trade companies and public administration, representing both large and small companies, such as A/S Swedbank, SIA Conexus Baltic Grid, Cita Santehnika, Prison Administration, Aspect SIA, SIA CREAMFINANCE LATVIA, Baltic Container Terminal, AS Drogas, AS NORVIK BANKA, AS Baltikums, as well as establish their own commercial companies; in total more than 70% of the surveyed graduates work in a field or sector related to studies.

It can be concluded from the above that the development of the field of study and the study programmes included in it are in line with the priorities set in Latvia's policy planning documents and are based on the National Development Plan of Latvia for 2014-2020 and the Sustainable Development Strategy of Latvia for 2030.

The programmes implemented at the Transport and Telecommunication Institute are designed and

implemented in compliance with the principle of continuity in the respective field of study and at the level of the whole higher education institution. The students of the field of study Management, Administration and Real Estate Management, after graduation of the Bachelor's Programme can continue their Master's studies, reaching the EQF level 7, within the scope of the direction in two Master's programmes and also by continuing studies in the programme Management of Information Systems implemented by the field of study Information Technologies, Computer Science, Electronics, Telecommunications, Computer Management and Computer Science. As mentioned above, the "Aviation Management" programme was designed as an interdisciplinary programme, where the graduates of the Bachelor's Programme "Aviation Transport" can also continue their studies.

TTI is implementing one Doctoral Programme "Telematics and Logistics", where it is also possible to continue studies after the obtaining Master's Degree in the field of study Management, Administration and Real Estate Management. The connection and continuity of the study programmes implemented at the Faculty is provided in Figure 12.

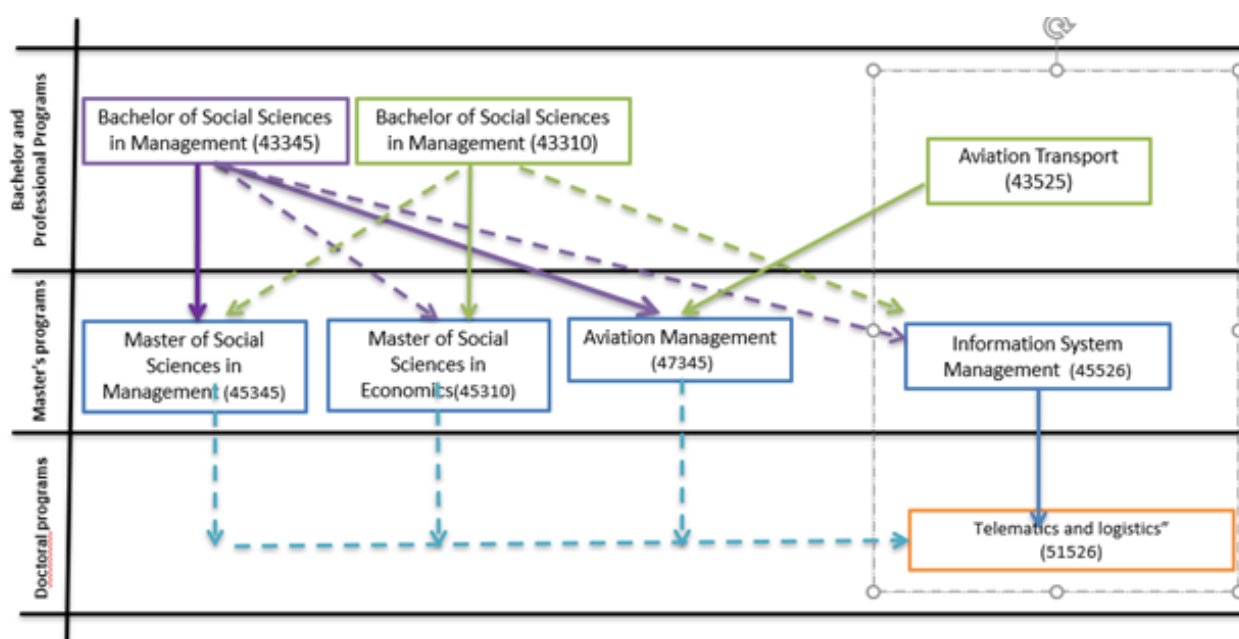


Figure 12. Continuity of the study programmes at TTI

The structure of the Bachelor's Programme is based on the principle of continuity - in the first year of the Bachelor's Programme, the students acquire basic courses such as mathematics, IT, marketing and micro-macroeconomics. In the last study year, there is already an opportunity to specialise by choosing the specialisation "Digital Business Management" or "Managerial Economics" that the student wants. The first year of the Master's Programme includes study courses in research analysis (Methodology of Scientific Research, Quantitative Methods in Management, etc.), but during the second year of study it is possible to choose one of two specialisations: "Business and Change Management" or "Business and Financial Management". The study courses included in each study programme ensure reaching the overall study results of the programme.

Study programmes in the field of management are implemented in many higher education institutions of Latvia, while TTI implements three study programmes. Academic study programmes are renamed in accordance with the recommendations of international experts to avoid duplication of the programme titles and the awarded academic degree:

- the Bachelor's Programme "Bachelor of Social Sciences in Management", 43345, to the Bachelor's Programme "Business and Management";

- the Master's Programme "Master of Social Sciences in Management", 45345, to the Master's Programme "Business and Management";
- the Professional Master's programme "Aviation Management", 47345.

In order to ensure that the programme complies with the practice of the EU higher education institutions, as well as to compare programmes, the comparison of the study programmes of Latvian and foreign higher education institutions was carried out by comparing study duration, degree awarded, the programme structure and methods of programme implementation (see Annex 4).

1. *The Bachelor's Programme with the title Business and Management* is implemented in the education market of Latvia at RTU as well as in other universities with a similar title, but they are professional Bachelor's Programmes. The specialisations "Digital Business Management" and "Managerial Economics" are planned in the study programme implemented by TTI, which are not implemented in other study programmes of Latvia. For international comparison, study programmes implemented in Sweden, Germany, Great Britain, which include similar study courses and the total scope of the programme, were analysed.

*In general, it can be concluded that the graduates of the TTI Bachelor's Programme have the necessary theoretical knowledge and practical skills, enabling them to successfully continue their studies in Latvia and abroad. The level of knowledge, skills and competences allows the graduates to find jobs in the home country and also abroad according to the acquired education, and developing their careers there. The Bachelor's Programme "Business and Management" with the specialisations "Digital Business Management" and "Managerial Economics" is unique in the education market of Latvia and modern compared to the Western education market where such bachelor's programmes are being successfully implemented.*

2. *The Master's Programme "Business and Management"* is interdisciplinary in nature, enabling graduates to acquire the competencies needed to handle economic, political and societal problems and prepare for future changes. The ability to manage changes is the most pressing task for today's leader; this increases the need to train such specialists for today's labour market of Latvia. The programme has two specialisations: "Business and Change Management" and "Business and Financial Management".

Similar study programmes were critically and constructively evaluated in order to compare the programme implemented by TTI with the study programmes implemented in other higher education institutions of Latvia. Currently, this type of study programme in Latvia is not being implemented, although similar study programmes are being offered, but with a different direction and with other specialisations in the management area. The Master's Programmes of Bocconi University (Milan, Italy), the University of Bristol (UK) and the Rotterdam Graduate School of Management (Netherlands), which include similar courses, study time and study outcomes, were selected for comparison with other study programmes implemented in the EU Member States.

*In general, it can be concluded that TTI graduates have the necessary theoretical knowledge and practical skills in comparison with the Latvian and EU higher education institutions, allowing them to continue their studies successfully in Latvia and abroad. The level of knowledge, skills and competences allows the graduates to find jobs both in their home country and also abroad according to the acquired education and developing their careers therein. The envisaged specialisations reflect current development trends in today's economic and labour market.*

3. Comparison of *the professional Master's Programme "Aviation Management"* with similar study programmes in foreign higher education institutions was performed, taking into account that this type of study programme is not implemented either in Latvia or other Baltic

states. Most universities offer the company and business management programmes, but no university in Latvia offers a professional Master's Programme in aviation management. Therefore, the TTI study programme is unique in the Latvian and Baltic higher education market, as it focuses on training of professional managers exactly in the field of aviation sector management. The comparison was made with the study programmes of German, UK and Australian universities to be able to make a comparison not only in Europe but also in the world.

*In general, it can be concluded that the TTI graduates of the professional Master's Programme "Aviation Management" acquire unique knowledge in the Baltic market, in comparison with other EU higher education institutions, by the graduates acquiring the necessary theoretical knowledge and practical skills, as well as the professional qualification. As the aviation industry is rapidly growing, it can be concluded that the programme provides an opportunity to increase both the professional and academic knowledge for those employed in the aviation industry, as well as for those planning to join the aviation industry.*

Annex 4. Comparison of the study programmes implemented in the field of study with the programmes of other higher educational establishments

## **1.2. Aims of the study direction and their compliance with the scope of activities of the higher education institution/ college, the strategic development directions, as well as the needs and the development trends of the society and the national economy.**

One of the most important preconditions for economic and social development is a high level of public education, which is also reflected by the long-term forecasts of the labour market of Latvia. *The Guidelines for the Development of Education for 2014–2020* state that, in view of the mounting global competition in higher education and science while the number of potential students decreases in Latvia, a necessity arises to develop a flexible higher education system which would be internationally open, widely accessible and qualitative, i.e. capable of meeting the demand for adequately qualified specialists in line with the development needs of the Latvian economy and the global education market trends, at the same time promoting the personal growth of individuals and the development of society. The Guidelines set key priorities such as people-orientated education, education for sustainable growth, and knowledge-based education promoting society.

The country's long-term priorities and objectives are defined in the Sustainable Development Strategy of Latvia for 2030, which aims to make Latvia a prosperous country of active and responsible citizens in 2030, the strength of which is based on the inherited, learnt and newly-created cultural and spiritual values, richness of the Latvian language and knowledge of other languages. It unites society in the creation of new, diverse and unique values in *economics, science* and culture. The strategy identifies several interconnected priority areas: cultural space, *human capital, education, economics*, nature, spatial development, governance and public participation. Each area can be seen as an important element in the innovation chain, but there are also identifiable barriers to development in each individual area, the reduction of which requires innovations.

In its operational Strategy until 2020, TTI follows these principles set out in national strategy documents. Sets of the academic programme include courses in business and management, as well

as economics. This is very important because students are prepared to work in any company of the national economy area, the operation of which is related to business and management areas, so they need to understand a wide range of issues related to the overall development of economics and be able to make specific calculations and adopt effective management decisions.

In line with the *TTI Development Strategy for 2015-2020*, the TTI curriculum aims to prepare internationally competitive professionals: engineers, specialists of the ICT area, researchers, analysts, managers with the competences and skills needed in a knowledge-based economics, including by the development of new interdisciplinary programmes and programme specialisations in response to labour market changes that require new professional skills in an increasingly competitive environment. *The TTI Research programme for 2015-2020* (available at: [http://www.tsi.lv/sites/default/files/editor/transport\\_and\\_telecommunication\\_institute\\_research\\_programme\\_final\\_website.pdf](http://www.tsi.lv/sites/default/files/editor/transport_and_telecommunication_institute_research_programme_final_website.pdf)) identifies 3 strategic research areas, one of which is dedicated to the digital society and economics.

The study programme “Management, Administration and Real Estate Management” has been modified based on changes in the normative framework of the Republic of Latvia and taking into account the recommendations of employers, external experts and students.

1. On 23 January 2018, the Cabinet of Ministers approved the Latvian Science Sectors and Subsectors based on the OECD Science Sectoral Classification (Cabinet Regulations No. 49 Regulations on Latvian Scientific Sectors and Subsectors”). According to the European Research Area standards, the *Social Sciences* include a subsector *Economics and Business*, combining therein several existing related industries. In accordance with the new classification of science sectors and subsectors, TTI has changed the names of the study programmes, specifying the titles of the programmes from “*Bachelor of Social Sciences in Management*” and “*Master of Social Sciences in Management*” to “*Business and Management*” both in Bachelor’s and Master’s studies, thus harmonising with the previously mentioned, the classification of the science sectors and subsectors.
2. According to the TTI development strategy, gradual integration of the TTI’s second social sciences field of study “Economics” into the field of study “Management, Administration and Real Estate Management” is planned, thus improving the graduates’ competencies for better resource management. For this purpose, the academic programmes implemented in the field of study “Management, Administration and Real Estate Management” are being improved and upgraded, opening the relevant specialisations: in the Bachelor’s studies - *digital business management* and *managerial economics*, and in the Master’s studies - *business and change management*, *business and financial management*.

The goals and development objectives of the field of study were developed by involving the TTI management, teaching staff, representatives of the students’ self-government and the representatives of the employers in the Faculty Council meetings, thus ensuring that the needs of all stakeholders are taken into consideration. Experts of the employers of the industry were involved in the evaluation of the content of the implemented study programmes (please refer to Annex 5). Opinions of the Industry Experts). Additionally, for the ex-ante assessment of the field of study, a policy evaluation approach was used, analysing the accessibility of higher education to young people from different social groups: mobility (including international mobility, factors influencing it, incl. economic state, employment), policy of tuition, time budget of students (lectures and independent work related to full-time/part-time studies and employment), assessment of students’ studies and assessment of future plans. Therefore, the development of the field of study is based not only on the long-term strategic goals developed by TTI, but also on the public assessment, thus the goal of the field of study “Management, Administration and Real Estate Management” has been subjected to the information prescribed in the TTI development strategy

and research programme.

**The main goal of the study direction** is to provide students with sustainable high-quality education in the field of management, ensuring competitive career development in the Latvian and international labour market and by training internationally recognised, highly qualified specialists meeting the requirements of modern employers in various fields of management and administration, using the results of relevant researches.

**The sub-goals of the study direction** are:

1. designing, maintaining and developing multi-level, sustainable education based on research and collaboration with business specialists;
2. ensuring a study process that meets regulatory and labour market requirements, as well as a student-centred approach to higher education;
3. ensuring the qualification of the teaching staff in the teaching and scientific field;
4. providing and developing the infrastructure and materially-technical base in accordance with the study programme implementation needs;
5. developing international cooperation with related higher education institutions, enterprises and organisations;
6. provide students with transversal skills.

The **development principles** of the study direction development by TTI “Management, Administration and Real Estate Management” are as follows:

- compliance with the laws and regulations, requirements, guidelines, strategies of the Transport and Telecommunication Institute, Latvia, Europe and international space;
- development and implementation of the study courses corresponding to the manager’s standard;
- cooperation with students, employers, professional organisations;
- attraction and development of highly-qualified teaching staff;
- quality control and implementation of the study process on all levels;
- continuous improvement of the study process and study quality;
- cooperation with other higher education institutions, universities, and research institutes both in Latvia and abroad.

The purpose of all study programmes is to teach the students to build efficient decision-making logic, provide knowledge about the management, assessment and optimisation of operations of the company in order to reach the company’s strategic goal and mission.

In addition to the objective economic problems, an important role is played by today's changing business environment, which is affected by rapid changes in technologies, development of information technologies, related both to changes in the products themselves and also to their production and use. Use of information technologies in economic activities enables more efficient use of manufacturing factors, facilitating higher productivity. The quality of goods and services and their compliance with environmental protection requirements is also of increasing importance for the competitiveness of goods and services. There is a growing demand for a highly-skilled workforce capable of quickly absorbing and mastering innovations. The report “Doing Business in the Digital Age: The Impact of New ICT Developments in the Global Business Landscape” (2015) by the multinational company Deloitte, indicates that there is demand for a new generation of specialists-executives. Such need is created by the increasing role of digital technologies, which is the most important source of growth for national economies. Digital technologies are changing the world, organisations, business, society and setting new demands for specialist education. In this context, the European Commission has formulated the following vision for the labour market:

“Europe aims to accelerate transformation of the business environment by developing and wisely using digital technologies to accelerate growth and create jobs.” To achieve this goal, three tasks have been set:

- to become a magnet for highly qualified talents and a great place for business;
- develop an entrepreneurial culture to harness the digital potential of European economics, focusing on small and medium-sized companies;
- actively maintain and develop the link between traditional industries and digital economics.

What competencies must modern leaders have in order to be competitive in the European market? A study “Employers' Needs and Expectations for Qualified Employees”, conducted by Latvian scientists in collaboration with the Erasmus University Rotterdam, led by Professor B. Sloka, identified the key competencies that Latvian employers require from young specialists. They are as follows: loyalty to the company and business, ability to plan their own time, ability to do business independently, communicativeness and desire to improve. Results of this study are in line with the statements made during the 12<sup>th</sup> European Quality Assurance Forum (2017) by Anita Līce, the Head of Education and Employment of the Employers' Confederation of Latvia. According to employers, the competencies necessary for managerial work include responsibility for decision-making, teamwork skills, communication skills, ability to work independently, computer skills.

Results of international research prove the growing need for manager training in a global context. The results of a study conducted by the International Nonprofit Graduate Management Admission Council, published in the “*Application Trends Survey Report 2018*”, show that in 2018, the number of students enrolled in business study programmes in the MSc in Management and MSc in Finance programmes is increasing in Europe. The overall demand for the business management programmes is stable, and international student mobility is a key driver of the growing interest for the manager education programmes. (Source: Graduate Management Admission Council, GMAC (2018), *GMAC Application Trends Survey Report 2018*, <https://www.gmac.com/-/media/files/gmac/research/admissions-and-application-trends/gmac-application-trends-survey-report-2018.pdf>).

Analysing data on labour market development opportunities in Latvia, compiled by the Ministry of Economics *Informative Report on Medium and Long-Term Forecasts of the Labour Market*:

- The population with tertiary education in the labour market will gradually increase in the long term, with annual growth projected at 1%, not counting ageing of the workforce;

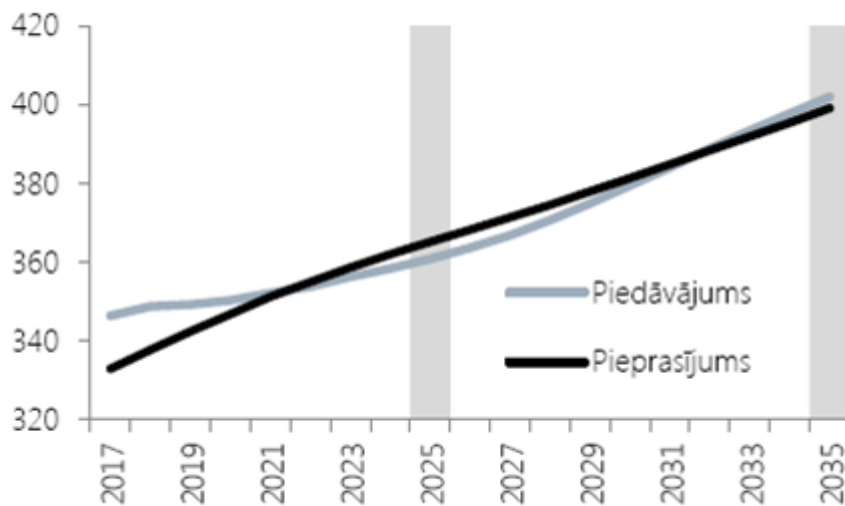


Figure 13. Proportion of offer and demand of the workforce of Latvia with higher education in 2025, thousand  
(source "Informative Report on Medium and Long-term Forecasts of the Labour Market", Ministry of Economics, 2018, page 54)

- Changes in the number of employed persons in the national economy sectors of Latvia by occupation groups, medium-term and long-term forecasts of the share of highly qualified persons, including managers for 2025 and 2035 relative to the year 2017 are up by 3.9% - in 2025, and by 5.0% in 2035;
- With the current structure of education supply remaining the same, the largest increase in the workforce with higher education is expected in the fields of social sciences, business and law. The increase in supply of qualified workforce by 2035 will account for about 63% of the total workforce increase with higher education. If in 2025, 16.1% of the employed will work in social, business and legal sciences, then in 2035 this number has increased to 18.6% of the total number of employees.

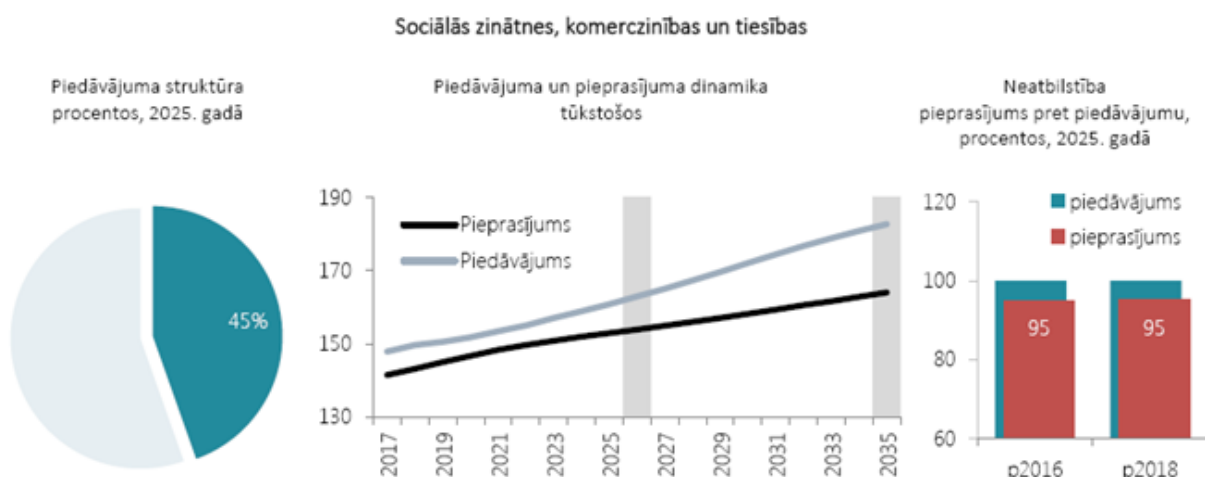


Figure 14. Forecasts of workforce supply and demand with higher education by thematic group of education in percentage "social sciences, business and law, demand versus supply in 2025"  
(Source: "Informative Report on Medium and Long-term Labour Market Forecast", the Ministry of Economics, 2018)

The Transport and Telecommunication Institute as a higher education institution with a highly-respected engineering block in conjunction with management, according to the RIS3 ecosystems



“Information and Communication Technologies” and “Intelligent Materials, Technologies and Engineering Systems” noted in the TTI's development strategy, provides perspectives for interdisciplinary research fields able to facilitate creating new products with high added value, intelligent materials research. It opens up opportunities for innovative solutions and via organisational and economic knowledge, facilitates the implementation of various new technologies in practice.

Taking into account the transformation of the national economy from labour-intensive and resource-intensive economics to knowledge and technology-intensive circular economics, and based on the TTI strategic scientific field of studies, where one of the fields is dedicated to digital society and economics, academic programmes implemented in the field of study “Management, Administration and Real Estate Management” were modified to open up relevant specialisations.

- In the Bachelor's Programme “Business and Management”: “Digital Business Management” and “Managerial Economics”;
- In the Master's Programme “Business and Management”: “Business and Change Management” and “Business and Financial Management”.

The aviation industry is developing rapidly as a result of increased world globalisation and the development process of the economic environment, liberalisation of transportation; the manager's role in the aviation industry is related to the specifics of the industry, which first of all is related to the security policy, as well as in accordance with ACI Europe - Airport Council International Europe study published in 2015 regarding the economic impact of European airports, direct and indirect impact (including induced and catalytic effects) of the aviation industry on the economics of Latvia is estimated at EUR 770 million, or 3.3% of GDP and in 31,500 jobs. The authors of the research, when calculating employment data, took into account the number of people employed at the Latvian aviation companies (airports, airlines, ground-handling service providers, etc.) (4,200 employees), as well as the number of persons employed by the aviation-related companies, such as travel agencies, people employed by aviation fuel manufacturers, air cargo and logistics companies, aviation training institutes.

Based on the methodology used in the International Airport Council's study, the International Airport Council has published an Economic Impact Calculator, allowing anyone to assess the industry's impact on national economies. According to this calculator, taking into account the Latvian aviation industry indicators for 2016, the Latvian aviation companies directly employed 5,281 people in 2016 (+25.7% compared to 2014), while their affiliated companies employed 34,823 people.

According to the indicators for reaching the goals of Objective 2 “Ensure international Accessibility of Latvia” of the Action Plan “Excellent Business Environment” of the National Development Plan of Latvia for 2014-2020, 8.5 million passengers should be served at Riga Airport in 2020, while 12 million in 2030.

*Table 2. Number of passengers handled at Riga International Airport (million people)*

	2011	2017	2018	2020*	2030*
Annual number of passengers carried by air	5,10	6,1	7,06	8,5	12

*\* forecast Source: National Development Plan of Latvia for 2014-2020*

The International Air Transport Association (IATA) estimates that 7.8 billion passengers will travel by air in 2036, which is almost twice as many as the 4 billion passengers in 2017. The forecast is based on 3.6% of the compound annual growth rate (CAGR), as noted in the latest 20-year forecast

update. According to the Riga International Airport semi-annual report, the number of passengers at Riga Airport increased by almost 10% in the first six months of 2019 (7 million passengers were already carried at the end of 2018).

The above means that if the passenger forecasts mentioned in the National Development Plan of Latvia for 2014-2020 are met, the Latvian aviation industry will need 8,090 employees in 2020 (10,248 in 2030) and 42,970 employees related to industry (49,227 in 2030).

In 2016, SJSC Riga International Airport employed an average of 1,100 people, of whom 65 were heads of structural units at various levels. This allows the conclusion to be made that there is one manager for 17 employees in the company. Applying this figure to all employees in the industry, it can be assumed that 311 managers at various levels were employed in the aviation sector in 2016, but this number could increase by 53% in proportion to passenger growth by 2020 and 94% by 2030.

*Table 3. Number of employees and managers employed in the aviation sector in Latvia*

Year	2016	2020*	2030*
Number of employees	5 281	8 090	10 248
Managers	311	476	603

\* *forecast*

In October 2019, there were already 1,250 people employed at SJSC Riga International Airport, of which 70 were heads of structural units at various levels, with an increase of 150 employees within two years.

This demonstrates that the aviation industry globally and in Latvia is experiencing rapid growth. This trend is expected to continue in the long term, thus the demand for aviation specialists will only increase. At the same time, mergers of many companies and the formation of joint ventures is observed in the aviation industry, leading to the optimisation and centralisation of management of these companies. Consequently, taking into account the specifics of the industry, it is expected that the industry will have the greatest demand for specialists with the necessary specific, narrowly-specialised and in-depth knowledge, including managers at different levels.

Annex 5. Opinions of the Industry Experts

**1.3. SWOT analysis of the study direction with regard to the set aims by providing explanations on how the higher education institution/ college expects to eliminate/improve weaknesses, prevent threats, and avail themselves of the given opportunities, etc. The assessment of the plan for the development of the study direction for the next six years and the procedure of the elaboration thereof. In case there is no development plan elaborated or the aims/ objectives are set for a shorter period of time, information on the elaboration of the plan for the development of the study direction for the next assessment period shall be provided.**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• The TTI educational services are certified according to the ISO 9001:2015 standard, and a quality management system for study programmes has been introduced;</li> <li>• Information technology infrastructure, technical support of the study process, Moodle environment conforming to modern requirements;</li> <li>• Students and lecturers have access to a modern electronic library, and international databases are subscribed to;</li> <li>• Studies are available on a full-time and part-time basis, including distance learning in English;</li> <li>• Field of study is orientated towards modern and high quality education, as well as good career development opportunities;</li> <li>• Qualified academic staff (73% of lecturers elected in the faculty have a doctoral degree, while 53% of the total number of lecturers (including practitioners) have a doctoral degree), providing theoretical, research and practical application in the study process;</li> <li>• The teaching process is also provided in English (lectures, practical training, etc.), which allows one to attract students from abroad;</li> <li>• Cooperation has been established, and a wide range of contacts has been established with employers, companies, state institutions and other institutions of higher education both in Latvia and abroad;</li> <li>• Diverse and successful cooperation between the TTI faculties, securing interdisciplinary study process.</li> </ul>	<ul style="list-style-type: none"> <li>• Absence of common study courses or double diploma programmes with the Latvian and foreign universities;</li> <li>• Renewal dynamics of insufficient teaching staff;</li> <li>• Insufficient scientific activity in economics and business;</li> <li>• Most students work alongside their studies to provide funding for their studies, reducing the learning outcomes as a result;</li> <li>• There are no doctoral studies and professors' councils in the TTI in economics and business that hinder the renewal of the staff;</li> <li>• Remuneration of the teaching staff is lower than that of practitioners in the industry which does not encourage practitioners to be attracted to the academic environment.</li> </ul>

In order to maintain its strengths, it is necessary to improve the material and technical base and the e-learning environment according to the needs and topicalities, motivate the lecturers to maintain and improve their qualification and professional level, and attract new lecturers.

Based on demand of the labour market and students themselves, the quality of acquisition of a wide range of knowledge, skills and competences must be continued to provide graduates with an opportunity to succeed in different positions in the future. Likewise, during the Bachelor's study programme, an opportunity to acquire in-depth knowledge on relevant issues in the relevant area at the Master's level should be promoted, thus obtaining a more competitive education.

In order to mitigate the weaknesses, the TTI Faculty of Management and Economics for reduction of the weaknesses shall implement the following measures:

- continue carrying out research and give consultations on economics and management issues related to transport, logistics, information and communications technologies and their application, thus integrating theoretical knowledge into the practical application;
- In 2020, it is planned to start discussions on establishing a double degree study programme for both the Master's and Bachelor's studies;
- TTI promotes academic staff training in doctoral studies by co-financing the doctoral studies, attracts foreign lecturers through the EU funded projects;
- At the beginning of 2020, it is planned to form a joint professors' council in the field of economics and business with the Bank School of Business and Finance and Turība University;
- implementation of academic staff involvement in research through ESF funding (for example, post-doctoral studies, COST projects, etc.).

Opportunities	Threats
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- Focus on attracting students from Western Europe and Asia, as the tuition fees are more competitive compared to the relevant Western European countries;
- The demand for highly-qualified specialists, including managers, is increasing;
- The labour market has a need for new professionals and managers in the aviation sector;
- Expansion of cooperation with the employers will allow one to take their requirements into account in respect of skills and competences of the specialists they are preparing, and accordingly improve the quality of the study programmes;
- Creation of double diploma programmes with the Latvian or foreign higher education institutions will improve the competitiveness of the field of study;
- Possibility to participate in the implementation of the European Union funds by raising additional funds for the higher education institution;
- Demand for social sciences - especially financial literacy in lifelong learning.

- Unequal treatment of private education institutions and private scientific institutes in the national legislation;
- Inaccessibility of the state budget funding to cover tuition fees for the students at the private higher education institutions;
- Reduction of the number of potential students due to the demographic situation in the country, migration and brain drain to other countries around the world;
- Decrease of the students' ability to pay and restrictions for the receipt of student loans, while the tuition fees and inflation rate increase;
- Different possibilities to access national and EU funds, human resources and research programme funding for private and state higher education institutions;
- Different levels of student preparation in the secondary education institutions.

In order to mitigate threats and risks, the following steps must be taken at the TTI's Faculty of Management and Economics to improve the field of study;

- Active work abroad, promoting field of study programmes. In addition, graduates are offered Foundation courses to improve their knowledge of English and mathematics.
- Due to the reduction of the number of potential students as a result of demographic decline, migration and transfer of the human intellectual potential to other countries, it is necessary to attract foreign students through active marketing policies in the Asian, Western European and post-Soviet countries.
- TTI participates in various EU projects. From 2019 to 2021, participates in the ESF funded project 8.2.2.0/18/A/011 : "Strengthening Transport and Telecommunication Institute Academic Staff in the Areas of Strategic Specialisation", 8.2.2. Specific Support Objective "To Strengthen Academic Staff of Higher Education Institutions in the Areas of Strategic Specialisation". Foreign lecturers are attracted and the qualification of the academic staff of the Institution is improved with the help of this project.
- The Institution has partnerships with the industry companies and is actively using a discount-loyalty system to cover or reduce the student tuition fees.
- TTI operates a Lifelong Learning Centre, where anyone interested can apply for the study courses as a listener, gaining additional lifelong knowledge, and the Institution implements several Lifelong Learning study courses co-financed by SEDA.

The development directions and tasks of the field of study "Management, Administration and Real Estate Management" are subordinated to the long-term strategic goals of the Transport and Telecommunication Institute: study excellence, scientific excellence, organisational excellence and recognition, infrastructure excellence, and include the following activities to be taken:

1. Participate in development of the direction and faculty strategy and in the implementation of the strategy with specific works by choosing the most important goals that can be realistically achieved.

*Objectives:*

- Evaluation of the content of the annual programme and reflection of changes in the self-assessment reports
- Improvement of the programme content according to the requirements of the labour market

2. Improvement and development of the study environment and content

*Objectives:*

- To improve study course programmes (improvement of methodological provision of the study content, improvement of study implementation methods by more actively introducing interactive study methods, which will improve the quality of education service including information on the latest research, taking into account labour market demand and the development trends of economics in Latvia and the EU and ensure their timely availability in the e-environment).
  - Study of the experience of the leading European and world universities in teaching management and economics, ensuring the implementation of modern forms of education programme implementation in the study process (distance learning, development of e-studies, modular and interdisciplinary principle, network forms, etc.).
  - Continuously improve the knowledge assessment system, contributing to ensuring objectivity and efficiency.
  - Improve planning of the study process, taking into account the increase of the number of foreign students (uniformity of workload, intervals of tests).
  - Ensure continuous and intensive interdisciplinary link; diversify and improve the study methods.
  - Continuously work to improve qualification of the academic staff.
  - Ensuring students' participation in the TTI research work.
  - Carry out continuous research of the students' and graduates' satisfaction with the study process and study results.
3. Develop contacts with employers and professional organisations to transfer knowledge and skills for defining the study outcomes.

*Objectives:*

- Optimisation of the internship programme according to the requirements of the labour market and opportunities of internship places.
  - Improve internal quality assurance measures (annual surveys of employers, academic staff, students).
  - Inform the graduates of the study programme about the possibilities of further education.
  - Conduct surveys of graduates and their employers, involving them in the development of the field of study and improvement of the programme quality.
  - Development of lifelong learning in compliance with the market requirements and individual interests and needs in cooperation with the employers and industry associations.
  - Involve business leaders and specialists in the study process, including from abroad, in order to ensure constant academic environment cooperation with the industry.
4. Development of cooperation with other higher education and research institutions in Latvia and other countries.

*Objectives:*

- Improvement of cooperation with other HEIs by concluding cooperation agreements aimed at establishing inter-university cooperation in the field of business and economics, creating joint doctoral studies, professors' councils, teaching joint study courses, as well as creating double degree study programmes in cooperation with the Latvian and foreign higher education institutions (for example, in the "two diploma" format).
  - Development of cooperation with other associated HEIs in Latvia and abroad, including involvement of foreign university lecturers in the study process by conducting joint classes, masterclasses.
5. Career planning, activities for improving competences and qualifications of the research and

academic staff

*Objectives:*

- Development of staff potential (aimed at improving their professional skills by creating conditions for professional mobility, guest lectures, internships at the European universities).
- 6. Promotion of return of the academic staff by organising and improving the organisation of the study process

*Objectives:*

- Constantly follow changes to external laws and regulations and ensure their coordination with internal regulations.
- 7. Introduction of new knowledge management technologies in the study process

*Objectives:*

- Promote the preparation and publication of study books, brochures and lecture materials in the e-environment.
- Supplement the library stock with up-to-date teaching and reference materials.
- Continue developing new study materials and ensuring their availability in the e-environment by motivating the TTI academic staff.
- Encouraging academic staff to participate in international, national and sectoral research programmes in the field of management and integration of the project results in the study process.
- 8. Improvement of the quality management system of the field of study

*Objectives:*

- Provision of internal audit of the study programme (interdisciplinary links, continuity of study courses, updating of content) based on internal quality assessment activities, labour market requirements and the profession standard of the manager.
- Participation of students, graduates and employers in the quality management of the study programmes.
- Expand the application of the Anti-Plagiarism System by implementing the verification of the study ethical standards.
- 9. Improvement of the organisational structure and increase of the management efficiency

*Objectives:*

- Development of the organisational structure, modernisation of the financial and management administration system, presentation of the Faculty to the target audience.
- Promotion of the study programme in Latvia in cooperation with the employers and graduates of the study programme. By organising school visits and participation in the pupils' Olympiads.
- Advertising and promotion of TTI and the Study programme abroad.
- Continuously improve the document circulation scheme with a view to ensure timely and high-quality information receipt, including electronically.

Annex 6. Development plan of the field of study

## **1.4. The structure of the management of the study direction and the relevant study**

programmes, and the analysis and assessment of the efficiency thereof, including the assessment of the role of the director of the study direction and the heads of the study programmes, their responsibilities, and the cooperation with other heads of the study programmes, as well as the assessment of the support by the administrative and technical staff of the higher education institution/ college provided within the study direction.

### General Management Terms of the Study Directions

In accordance with *the Regulation on Management of the Study Directions and Study Programmes*, the faculty is responsible for the management of the field of study. The institutions included in the TTI structure participate in the management of the TTI fields of study. The structure of the TTI fields of study management is given in Appendix 7.

Visualisation of the study direction management processes is provided in Figure 15.

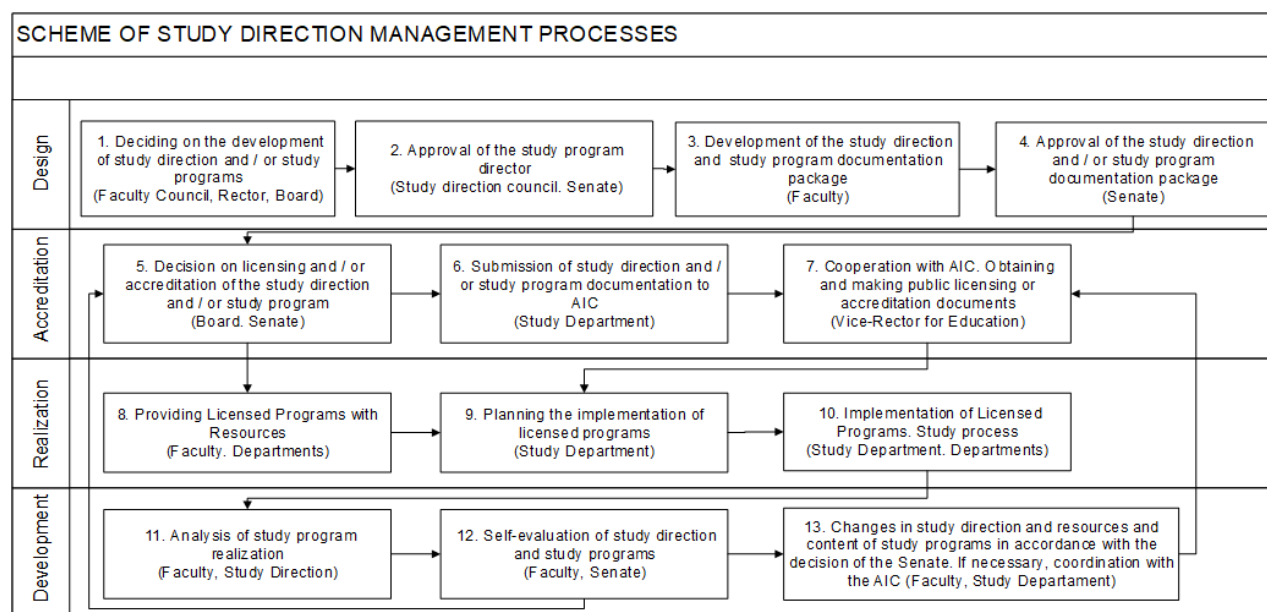


Figure 15 TTI Scheme of field of study management processes

Such structure of the study process and study program management processes is efficient because the main role in the structure is assigned to the collegial bodies, such as the Faculty Council and the Senate, which evaluate the efficiency of performance of the study programme directors and the heads of the study directions, specifically:

- the Senate participates in processes 1, 2, 4, 5 and 12.
- the Study Direction Councils and Faculty Councils participate in processes 1, 3, 11 and 12.

The collegial bodies periodically request the heads of directions - the Deans of Directions - to submit reports on the compliance of the Directions with the accreditation requirements and the aims of the development of the Institute. These bodies also evaluate the efficiency of the management of study programmes and study directions as well as make decisions regarding the enhancement of this efficiency.

According to the *Faculty Regulation* (approved by the TTI Senate on 09.05.2013, amended on 20.09.2016 and available in the TTI Record-Keeping System), the head of the study directions, is the Dean of the Faculty. Head of the field of study: plans development of the fields of study; plans, controls and evaluates the work of the study programme directors; periodically analyses the quality and effectiveness of the study programmes; organises the preparation of self-assessments of the

study programmes and fields of study; ensures the development of new programmes and performs modernisation of the existing programmes, compiles documentation necessary for accreditation of the fields of study and licensing of the study programmes.

The programmes included in the field of study are managed by *the study programme directors* who act in accordance with the *Regulation on the Study Programme Director* (approved by the TTI Senate on 29.04.2014, available in the TTI Record-Keeping System) and the job description of the study programme director. Director of the study programme has a major role in the development and further implementation of the programme. The Director's main tasks are to:

- ensure developing the study programme in accordance with the current requirements set for the field of science and the laws and regulations that govern the study process;
- a) analyse a place of the study courses in the study programme and control interdisciplinary relations;
- develop methodological guidelines for the final examinations of the students willing to graduate from the programme (state examination questions, requirements for the final paper assignments and content, criteria for its assessment);
- follow the updating of study course descriptions, as well as avoid duplication of the study courses;
- ensure preparation of the annual self-evaluation report of the study programmes;
- cooperate with the heads of departments, the head of the field of study and adjust the study plan for the next academic year according to the achievement of the planned study results;
- take the necessary steps to ensure the accreditation of the field of study in cooperation with the head of the field of study;
- analyse and summarise the results of the survey of students, graduates and employers and organise the elimination of the identified deficiencies and improvement of the programme;
- participate in the assessment and comparison of the scope and content of the study course previously acquired by the students at TTI or other higher education institutions;
- engage in advertising campaigns in cooperation with the Marketing Department.

The Field of Study Council (FSC) acts as support for the development of the field of study and study programmes. It operates in accordance with *the Regulation on the Field of Study Board* approved by the TTI Senate (please refer to Annex 3). TTI's Main Internal Regulations). The FSC evaluates the necessity of the field of study and programme development in accordance with labour market trends in Latvia and the EU, makes proposals for the attraction of independent experts (employers) for evaluation of the topicality and content of the programme, discusses and coordinates development plans of the fields of study and study programmes, discusses proposals for participation in the projects related to the development of joint programmes with the Latvian and foreign higher education institutions and implementation of joint programmes, coordinates interfaculty cooperation and harmonises joint matters on implementation of the field of study with all faculties participating in teaching the field of study courses.

The FSC composition is approved by an order issued by the rector, involving therein the relevant dean - a head of the field of study, directors of the study programme, chairman of the faculty council, leading teachers from other faculties involved in teaching of the study course, as well as employers and students.

The Faculty Council, in accordance with the TTI Regulation on Faculty, consists of 14 members, including 7 representatives of the faculty's permanent staff, 3 students' self-government representatives and 4 external experts.

The Faculty Council discusses and adopts proposals for the development of new study programmes, reviews the fields of study and study programme development plans, reports of the programme



directors and deans on the study programmes and fields of study.

The following structural units are involved in ensuring the study process, implementation of fields of study and study programmes:

- All TTI Departments
- Studies Department - plans the study process (lesson planning, lecturer work, etc.) and records study achievements
- Distance Learning Department - provides the development and placement of distance learning course materials and organises the study process of the distance learning students
- Academic staff - prepares and improves the description and content of study courses, preparation of study materials, updating of literature, determination of assessment criteria. Gives lectures, conducts seminars and workshops, takes exams, organises consultations, performs other duties related to organisation of the study work
- Library - provides students and lecturers with educational and scientific literature

### **Management description of the field of study “Management, Administration and Real Estate Management”**

Management of the TTI field of study “Management, Administration and Real Estate Management” is provided by the Faculty of Management and Economics (FME). Head of the field of study is Dr.sc.administr. Ilze Sproģe.

Issues of the direction development strategy are addressed and discussed by the FME Council.

Appendix 8 prescribes the composition of the council of the study field “Management, Administration and Real Estate Management”.

### **1.5. Description and assessment of the requirements and the system for the admission of students by specifying, inter alia, the regulatory framework of the admission procedures and requirements. The assessment of the study period, professional experience, and the options for the students to have their previously acquired formal and non-formal education recognised within the study direction by providing specific examples of the application of these procedures.**

Admission to TTI is based on the Admission Rules approved by the TTI Senate for a particular academic year. Admission Rules for the 2020-2021 academic year approved by the TTI Senate on 29 October 2019 (Latvian language available at: [http://www.tsi.lv/sites/default/files/editor/1.pielikums.\\_uznemasanas-noteikumi-2020\\_-2021\\_jk\\_2.pdf](http://www.tsi.lv/sites/default/files/editor/1.pielikums._uznemasanas-noteikumi-2020_-2021_jk_2.pdf), English language available at: [http://www.tsi.lv/sites/default/files/editor/admission\\_rules-2020-2021\\_jk\\_2\\_eng.pdf](http://www.tsi.lv/sites/default/files/editor/admission_rules-2020-2021_jk_2_eng.pdf)). Admission Rules have been drafted, and admission itself takes place in accordance with external laws and regulations - the Law on Higher Education Institutions, Cabinet Regulation of 10.10.2006 No. 846 “Regulations on Requirements, Criteria and Procedures for Admission in Study Programmes”, Cabinet Regulation of 29 September 2015 No. 543 “Provisions for the Substitution of a Foreign Language Centralised Examination in the General Secondary Education Programme for a Foreign Language Examination by an International Testing Institution”, as well as other external laws and regulations and the TTI Constitution.

Admission to later stages of studies at TTI is based on Cabinet Regulation No. 932 of 16 November

2004 "Procedure for the Commencement of Studies in Later Stages of Studies" and Cabinet Regulation No. 505 of 14 August 2018 "Regulations for the Recognition of Competences and Vocational Education and Training Acquired Outside Formal Education or Professional Experience and the Study Results Achieved in the Previous Education", the TTI "Regulations on the Recognition of Competences and Vocational Education and Training Acquired Outside Formal Education and the Study Results Achieved in Previous Education" and the TTI "Procedure for Starting Studies at Later Study Stages" and other external laws and regulations.

The admission terms and procedure for citizens and non-citizens of the Republic of Latvia, as well as foreigners holding a permanent residence permit in Latvia, are determined in accordance with the general procedure and Paragraph 7 of Cabinet Regulation No. 846 of 10 October 2006 "Regulations on Requirements, Criteria and Procedure for Admission to Study Programmes". The right of foreign nationals without a permanent residence permit to study at a higher education institution is governed by the requirements of Sections 83, 84 and 85 of the Law on Higher Education Institutions. Foreigners applying for distance learning do not need permanent or temporary residence permits (students at the Transport and Telecommunication Institute are asked to appear in person to present their final thesis only).

To secure the highest quality of knowledge of admitted students, foreign applicants wishing to study in undergraduate programmes are required to take tests in English (in social science programmes) or in English and the specialisation subject(-s) (in engineering programmes).

The admission rules set out the document submission procedure, deadlines, competition process, appeal and contesting procedure of the decisions related to admission, the procedure for entering into the study agreement and matriculation, the rights and obligations of the applicant and TTI. The annexes to the admission rules contain precise information about each study programme for which enrolment is planned in a given academic year, including admission requirements, documents to be submitted, etc. The admission rules are approved by the TTI Senate and published on the TTI website [www.tsi.lv](http://www.tsi.lv) and may be viewed by anyone interested. The website of the School contains up-to-date information on the study programmes, enrolment period, tuition fees, discounts and scholarships.

TTI ensures fair recognition of earlier education and professional experience so that applicants can apply for studies in the later study stages. This process takes place in the context of the fact that students are mobile both within the higher education system and between education systems.

In the study section, prospective students can receive consultations on the admission process, including admission requirements, contesting admission results, rights and obligations of the applicants. The Studies Department provides services via e-mail, telephone and face-to-face meetings. Similarly, consultations on admission requirements, for example, entrance examinations and their specifics, are provided by the heads of the study programmes, thereby ensuring that applicants are fully informed and prepared for admission to TTI.

TTI announces the admission results as stipulated in the admission rules and organises signing of the study agreements with the successful candidates. After signing of the study agreements and fulfilment of the applicant's obligations, TTI shall ensure the matriculation of these applicants.

The procedure for admission and registering applicants in the first study without applying it to admission in later stages of studies is described in "*Procedure for Admission and Registration of Applicants*" (approved on 29.10.2019, available in the TTI Record-Keeping System). The document sets out stages, deadlines and performers, as well as outlines the admission process, by separately indicating the processes that apply to admission of the foreign students only.

The academic degree and/or qualification obtained as a result of the acquisition of the programme

is specified in the accreditation and licensing documents for the study fields, description of the study programmes and fields of study, the admission rules and diplomas.

Awarding of diplomas by TTI shall be carried out in accordance with Cabinet Regulation No. 202 “Procedures for Issuing State-Recognised Higher Education Documents”, setting out the criteria and procedures for issuing state-recognised higher education documents for mastering the accredited study programme, as well as samples of those documents. Sample diplomas and diploma supplements to be awarded as a result of the program completion are provided in Annexes 32, 42 and 51.

The procedure for awarding diplomas to distance learning graduates is specific, as distance learning students arrive at TTI for the presentation period only and may not wait for the official graduation and the moment of awarding the diplomas. In this case, in accordance with the “Procedure for Receiving and Sending Diplomas to Distance Learning Students of the Institute of Transport and Telecommunication Studying” (approved on 11.07.2019, Order No. 01-12.1 / 71., available in the TTI Record-Keeping System), the diploma and its attachment shall be sent by express mail to the postal address specified in the application.

**Recognition of the study results achieved in previous education or professional experience shall be governed by:**

- external laws and regulations: Law on Higher Education Institutions - Sections 59.2 and 59.3; Cabinet Regulation of 14 August 2018 No. 505 “Regulations On Recognition of the Results of Studies Acquired Outside Formal Education or in Professional Experience and Previous Education”;
- internal regulations: Regulation On Recognition of the Results of Studies Acquired Outside Formal Education or in Professional Experience and Previous Education (please refer to Annex 3. TTI's main internal regulations).

In accordance with Cabinet Regulation No. 505 of 14 August 2018 “Regulations Regarding Recognition of the Results of Studies Acquired Outside Formal Education or in Professional Experience and Previous Education” a person has the right to apply to the TTI for the recognition of knowledge, skills and competences acquired outside formal education or in professional experience and previous education.

In order to make a decision on the recognition of knowledge, skills and competences acquired outside formal education or gained from professional experience, as well as the learning outcomes achieved in previous education, TTI has established a single commission, attracting a director of the relevant study programme and head of the faculty to which recognition of the relevant study programmes or a part thereof is applicable. Establishment of a single commission for all thematic areas of education allows for a uniform approach across the higher education institution without creating different interpretations and ensuring the equal treatment of individuals.

The rights and obligations of the Commission are established in *the Regulation On Recognition of the Results of Studies Acquired Outside Formal Education or in Professional Experience and Previous Education*.

In order to start recognising knowledge, skills and competences acquired outside formal education or gained through professional experience, the following shall be submitted to the commission: an application; documents attesting to the knowledge, skills and competences acquired outside the formal education or professional experience; bank payment order for the payment made.

The Commission shall assess the knowledge, skills and competences acquired by a person outside formal education or in professional experience and, if they match the study results to be achieved

in the relevant study programme, recognise them and award the relevant credit points. Review of the application and decision making in accordance with Section 59.3, Paragraph one of the Law on Higher Education Institutions takes place within four months of receipt of the application.

In order to commence the recognition of learning outcomes achieved in earlier education, the commission must receive an application, a certificate of the study modules or courses acquired at the university or college which the person has acquired as a listener; a bank payment order for the payment made. Review of the application and decision making shall take place within the time period specified in the Administrative Procedure Law, i.e. within one month after receipt of the application.

So far, in the field of study “Management, Administration, Real Estate Management”, no one so far has taken an opportunity to write an application on recognition of knowledge, skills and competences acquired outside formal education or professional experience, as well as learning outcomes achieved in previous education. At the moment of writing this document, three applications have been received concerning the recognition of the previously obtained knowledge, skills and competences in the frame of the study programme “Aviation Management”. The applicants asked to consider the achieved learning outcomes equivalent to the learning outcomes specified in the study course “Practice-2”. In order to confirm compliance of the achieved learning outcomes, the applicants have provided additional documents such as employment verification letters and copies of their education documents and diploma supplements. In the employment verification letters, the length of service in the profession was specified, and detailed description of their duties and responsibilities was provided. At the Commission session, the Commission had considered the applications and made a decision that, in the next two months (till December 20, 2019), in accordance with the practice plan, the applicants have to submit a report and defend it in the corresponding department in presence of the Commission.

As an example of recognition of the acquired knowledge, skills and competences in the professional experience, the student application of the 2nd level professional programme of the field of study “Information Technologies, Computer Engineering, Electronics, Telecommunications, Computer Control and Computer Science” can be mentioned. The Applicant requested that the results of his/her professional experience would be compared to the study course “Industrial Practice” envisaged in the study programme. In order for the study results achieved in the professional experience to be recognised, the applicant had to submit, in addition to the application, also the references from the workplaces. Certificates included both length of service and detailed job responsibilities. At the meeting of the commission, while reviewing the submitted documents, it was decided that the applicant should submit the internship report within one month in accordance with the internship programme and present it for the commission of the relevant department. After presenting the internship report, the commission recognised the study results in the amount of 26 CP and made a decision on the recognition of the study results achieved in the professional experience and their inclusion in the professional study programme study course “Production Internship”.

**Recognition of the study period for studies in the later study stages** is regulated by *Section 47 of the Law on Higher Education Institutions and requirements of Cabinet Regulation of 16.11.2004 No. 932 “Procedure for Starting Studies at Later Stages”*. The procedure for starting studies at later stages is defined in the *TTI Procedure for Starting Studies at Later Stages (Please refer to Annex 3). TTI's Main Internal Regulations*). The studies at the later stages at TTI, in the same or lower level study programme may be started:

- by transferring from another higher education institution;
- by transferring to another TTI study programme;

- by resuming studies after ex-matriculation;
- by continuing studies in higher education programmes to earn a Bachelor's degree or the second-level professional education after earning of the first-level professional higher education;
- following the recognition of learning, skills and competences acquired outside formal education and from professional experience or attained in previous education and gaining credits.

**1.6. Assessment of the methods and procedures for the evaluation of students' achievements, as well as the principles of their selection and the analysis of the compliance of the evaluation methods and procedures with the aims of the study programmes and the needs of the students.**

The assessment system of the students' achievements and study results is stipulated in the external laws and regulations: the Law on Higher Education Institutions and the Law on Education, and in several internal regulations:

- Study Regulation
- Rules of Study Procedure
- Regulation on Awarding a Professional Bachelor's Degree, Professional Master's Degree and Professional Qualification
- Regulation on Awarding Academic Bachelor's and Master's Degrees
- Regulations on Final Examinations
- Rules for Grading the Final Examination Papers
- Internship Regulation
- Methodological Guidelines for Designing the Final Examination Thesis and Methodological Internship Guidelines.

Different study methods and forms are used in the study process. The main criteria for the selection of training methods include the necessity to ensure the acquisition of required information and development of critical attitudes as well as the general need to attain the expected learning outcomes (specific knowledge, skills and competences).

In the educational process, both traditional and innovative teaching methods (novel interactive teaching methods) are used, such as: Case studies, Interactive brainstorming, Buzz session, Behavioral modeling, Business games, Project-Based Learning (PBL), Smart Class, On-line research, and Creating on-line communities:

- *Case study method* is training by solving specific cases, a collective analysis of a situation, finding a solution and a public defence of said solution, the result being not only knowledge but also professional skills and a well-formed personality and set of values.
- *Interactive brainstorming* performed in group sessions for generating creative thoughts and ideas.
- *Buzz session* performed in session groups that focus on a single topic; within each group, every student contributes thoughts and ideas.
- *Behavioural modelling* is a method of teaching interpersonal skills and professional conduct.
- *The method of peer feedback* is based on information (objective and honest feedback) when performing tasks associated with the development of new skills and performing current professional duties.

- *Project-Based Learning (PBL)* is a teaching method, in which students learn by actively engaging in real-world and personally meaningful multidisciplinary projects.
- *Smart Class* – is a teaching method that presupposes using DVD players, TV, projectors and eLearning system to display tutorial videos and short sessions online.
- *Supporting Online Research and Creating on-line Communities* - groups or teams staying connected online, submitting projects, discussing topics or communicate ideas, organizing subject-related queries, etc.

Interactive teaching methods create favorable conditions for successful mastering of the study program and strengthen the multidisciplinary nature of the curriculum.

When grading the students' achievements, the following basic principles of grading, which are set in the national standards of higher education, are followed:

- openness in the grading of knowledge and skills - students have access to information on the set of requirements necessary for positive grading when starting the course;
- compulsory grading - the student must have positive grading of acquiring the content of the programme, i.e. tests and final examination (test or exam) with 'almost satisfactory' (4 points) or 'passed';
- grading review options - a procedure for reviewing the acquired grading;
- variety of testing types used in grading - different types of testing are used for grading the study programme acquisition: tests, exercises, case studies, projects, etc., described in the methodological materials of the course in the e-learning environment Moodle.

The procedure for grading of the students' achievements and study results is included in the description of each study course. The course description is created by the head lecturer, and he/she also defines the grading system of his/her course, which is discussed at the meeting of the respective department. Criteria for passing the course include attendance of classes, active participation in discussions and seminars, group work, practical work, laboratory work, exams, case studies, test, etc. The course grading system specifies how many per cent of the total assessment is formed by each grading criterion. Criteria may be marked as compulsory for letting the student undergo the final examination of the course.

In the updated study course descriptions, there is a general trend to increase the proportion of intermediate examinations, which may be rated positively, because it allows the student to smoothly acquire the study material and receive grading of the acquired knowledge.

Lecturers inform students about the criteria and methods for the knowledge grading during the first classes. Description of the study course with grading methods and criteria for students is available in the Moodle e-learning environment.

Examinations of the study period (semester, study year) are determined in the study plan. If the study course consists of several parts and the acquisition thereof lasts for several semesters, examinations are to be passed in each semester. Time and place of consultations, examinations and tests planned during the examination period is determined in the List of Exams. The main forms of examination of the study programme acquisition are exams and differentiated tests, which are taken after the study course, in oral or written form. The choice of the type of knowledge testing (written, oral, etc.) depends on the specifics of the subject taught and the individual approach of the lecturer to rating of the students' knowledge. A large portion of the knowledge testing is organised in written form. The knowledge testing is usually performed by the lecturer who conducts the classes, but other department lecturers may be invited to the test by the head of the department.

Grading methods of the students' achievements and assessment of the study results is specified in

*the Regulations of Study Procedure* (please refer to Annex 3. TTI's Main Internal Regulations. Rules of Study Procedure). Programme acquisition at all levels of final examinations is graded in a 10-point system, the lowest positive grade being "4".

The final examinations of the study course are taken within the time set in the exam list. For students who have fully complied with the requirements of the study programme, the Head of the Studies Department, after approval by the Dean, may authorise taking the examinations early. Foreign students need to receive the authorisation of the Vice Rector as well.

According to the study plans, the Studies Department prepares the examination mark sheets for each examination. The Studies Department issues the examination mark sheets to the examiner (lecturer).

Students who have fulfilled all the requirements for payment for studies are granted permission to take examinations. Students who have not received permission to take examinations are marked by the employee of the Studies Department in the examination mark sheet with the words 'not admitted' and a description of the cause. Revoking of non-admission to the examination and being allowed to take the examination is only possible after payment of the debt. In such an event the student receives the assignment from the Studies Department and takes the examination in the presence of the lecturer.

Marks are recorded on the examination mark sheet. Fully completed examination mark sheets are submitted to the Studies Department within 3 business days after the examination. An employee of the Studies Department enters the marks in the TTI information system within 3 business days after the sheet is received.

If no mark is obtained from the examination or it is less than the minimum level, it shall be qualified as an academic debt. In the event of a negative result of the examination, repeated taking of the examination may only take place after receiving the assignment issued by the Studies Department. This assignment is returned to the Studies Department by the examiner within 3 business days after the examination.

If a conflict situation arises during the examination process, upon the request of the student, the Head of the department, with the consent of the Dean, appoints a commission to settle the respective academic debt. The decision of the commission is final.

The TTI internal information system Intranet has a personal card made for each student, containing all information about the student's course of study - agreements, invoices, study plan for the entire study period, as well as assessment of the study results, allowing the student to control fulfilment of the study plan and reach the study results prescribed in the programme.

The procedure of the internship course and the assessment procedure is specified in the *Regulation on the Organisation of Internship of TTI Students* (please refer to Annex 3). TTI's Main Internal Regulations). At the end of the internship, the student prepares and submits a report to the department on the internship results, as well as presents the results of the internship, attaching the internship diary and a reference of the company internship supervisor according to the Methodological Instruction of Internship. Results of the internship are assessed by a differentiated assessment.

Studies are completed by a final or state examination, i.e. presentation of the Bachelor's or Master's Thesis. Criteria and methods for assessment of final examinations are included in the *Methodological Materials for the Development of the Final Thesis, Regulation on Awarding Bachelor's and Master's Degrees* (please refer to Annex 3, the main TTI internal regulations), in *Regulation on Awarding a Professional Bachelor's Degree, Professional Master's Degree and*

*Professional Qualification (please refer to Annex 3). TTI's Main Internal Regulations).*

*Regulations on Final Examinations (please refer to Annex 3. TTI's main internal regulations)* regulate the final examination process for awarding academic degrees, professional degrees and/or professional qualifications in all study programmes implemented by TTI. The final examination papers are evaluated by the national/final examination commissions. After presenting each final test paper, a Review (evaluation by the reviewer of the final thesis) and an Opinion (opinion of the final thesis supervisor) is read. The final grade of the final thesis is determined in a closed session of the commission as a result of the discussion, based on the ratings offered by the commission members, taking into account the rating of the reviewer and the thesis supervisor, by a simple majority vote. In the event of a tie, the vote of the Chairman of the Commission shall prevail. The Member of the Commission - the supervisor of the thesis being evaluated shall not vote.

The analysis of students' achievements is carried out twice in the academic year after the end of the semester at the meetings of the Department, the Rector's Office and the academic meetings.

Attitude of the students towards the study courses to be acquired shall be evaluated at the end of each semester by conducting an anonymous questionnaire about the quality of studies. The questions of the questionnaire offer to evaluate the following aspects: understandability and content of the lectures, competence and personal characteristics of the teaching staff, level of requirements, possibility to receive a consultation outside the study time, etc. The results obtained are discussed at the relevant departmental meetings, methodological and administrative meetings. Following the results of the meetings, measures aimed at improving the study process are developed.

In accordance with the Procedure for Submission and Review of the Appeal contained in the Study Regulation, the student may contest the assessment of any examination undertaken during the study process or the decision of the examination commission.

Within the study field, two programmes are implemented in the form of distance learning: *Bachelor of Social Sciences in Management and Master of Social Sciences in Management*. A specially organised grading of educational achievements has been developed for distance learning education, which includes:

Intermediate tests:

- Self-assessment tests - self-assessment questions are available in the e-learning environment in the form of a test with automatic answers, allowing students to assess their readiness for an intermediate test or a final test.
- Testing (with a grade) in the form of a test, as well as in the form of offline and online written or oral assignments as defined in each course.
- After obtaining a certain assessment in the intermediate examinations (the number of which corresponds to the number of credit points in the respective study course), the student shall be admitted to the final examination of the study course.

Final examinations of the study course:

- The test or exam is taken orally in Skype. In addition, the author of the course may set a written test. In the Bachelor's Programmes, the form in which the test is taken shall be determined by the author of the course and may include: multiple test versions, oral in Skype or a written test).
- Course papers are presented orally in Skype.

The grade is entered into the School's unified grade database in each student's personal card, which the student can access remotely.



**1.7. Description and assessment of the academic integrity principles, the mechanisms for the compliance with these principles, and the way in which the stakeholders are informed. Specify the plagiarism detection tools used by providing examples of the use of these tools and mechanisms.**

The Institute of Transport and Communications has developed *the Code of Ethics* (please refer to Annex 3. TTI's Main Internal Regulations). The Code of Ethics defines the basic principles of ethics and conduct for administrative, scientific, and research staff, as well as students, creating a favourable, respectful and responsible working environment at the Institute. The Code of Ethics shall include core principles and standards of conduct to be complied with by students and employees in their attitude to the Institute, their work and in relations with their colleagues, clients and business partners.

The general principles of ethics are the principles of honesty and justice, responsibility and loyalty, respect and collegiality.

Separately, the TTI Code of Ethics defines basic ethical principles for students:

- Honestly complete the selected programme, obtain theoretical and practice knowledge and skills;
- Not permit a discriminating attitude towards other students or employees, comply with the principles of honest competition, creating constructive dialogue for the settlement of disputes and conflict situations, and respect the opinion of other persons;
- Be honest in study work, not permit plagiarism and other kinds of fraud;

and for the teaching staff:

- Honestly and responsibly perform their work duties.
- Adhere to the respectful culture of mutual relations.
- The academic staff shall serve as an example for adherence to moral norms.
- Not permit a discriminating attitude towards students and employees.
- Assess the work of students in a timely manner, fairly and in a reasoned manner and to respect the opinion of students.
- Admit errors and shortages made during the study process or assessment of students and settle disputes by direct and open negotiations.
- Avoid the imposition of personal likes or dislikes during the assessment of students works.
- Employees of the academic staff shall take care to ensure academic and professional honesty, without creating conditions for the manifestation of academic dishonesty, to follow up the development process of students' papers, not permit plagiarism, copying and other unfair use of intellectual property or fraud.
- Respect the results of individual work of other colleagues and not use them for personal purposes.

The Ethical Commission shall be established on the basis of an order, which shall assess complaints regarding a failure to comply with the core principles of professional ethics and conduct.

Students are introduced to the principles of academic integrity, adherence thereto during their studies, and any sanctions for non-compliance with these principles, from the beginning of the

study process, in the first introductory lecture. Personnel Department shall introduce employees to the Code and an employee shall confirm becoming acquainted with the Code with their signature. The Code of Ethics of the Institute shall be available to all students, employees of the Institute as well as the public.

Student surveys are conducted regularly at TTI, and students have an opportunity to express their views anonymously on the professional level of the lecturer and on adherence to the Code of Ethics. These results are taken into account when planning the improvement of lecturers' work quality.

TTI shall act in accordance with the principles and rules of good faith and responsible conduct described in *the TTI Plagiarism Control Regulations* (please refer to Annex 3). TTI's Main Internal Regulations). The regulations set out the procedures for identifying plagiarism, including self-plagiarism, in the work of the TTI students, the criteria for a violation and the applicable sanctions.

In order to prevent violations of the principles of academic integrity, TTI uses the Unified Computerised Plagiarism Control System developed by the University of Latvia from 2017. All final examination papers of the faculty - both on the bachelor's and master's level, are examined by means of this system.

Currently several higher education institutions of Latvia use this plagiarism control system: Daugavpils University, Liepaja University, Latvia University of Agriculture, Riga Stradins University, Rezekne Academy of Technology, Higher School of Economics and Culture, BA Turība, as well as the Riga International School of Economics and Business Administration. The system automatically compares the final papers uploaded to these university systems, incl. material available on the internet, and in the event of a certain percentage match between the fragments of the work, a review of these inspection results is sent to the person conducting plagiarism control, where the same snippets of text from different authors may be viewed in a parallel layout.

Collaboration of several higher education institutions in the field of application of the system facilitates more effective control of the study work in each higher education institution and in Latvia in general, and this system works successfully in practice, raising the significance and quality of the final papers.

According to the final examination procedure, the examination of Bachelor's and Master's theses in the anti-plagiarism system is carried out no later than 5 days before the presentation thereof. A person responsible for entering the final examination papers in the University of Latvia System and analysing the results is appointed by the order of the rector.

In the event that plagiarism is identified in the final paper, the dean of the faculty shall, within one working day of receiving the report from the responsible person in charge, set up a Plagiarism Review Commission. The Commission examines the issue of assessing the materiality of the identified violation and makes a decision to prevent plagiarism by setting a deadline that does not exceed the deadline for submission of the final examination paper, or student expulsion with a right to resume studies, nor earlier than one year. The student has the right to appeal the decision by submitting an appeal to the Vice-Rector for Education.

During the academic year of 2018/2019, a total of 76 Bachelor's and 12 Master's theses were tested at the FME faculty in the Unified Plagiarism Control System.

**1.8. Specify the websites (e.g. the homepage) on which the information on the study direction and the relevant study programmes is published (in all languages in which the**

**study programmes are implemented) by indicating the persons responsible for the compliance of the information available on the website with the information published in the official registers.**

Full information on the study programmes implemented at the Institution is published on the TTI website at [www.tsi.lv](http://www.tsi.lv) in accordance with the study pages, accreditation pages, programme licenses and information included in the National Education Information System.

For each programme, the name of the programme, degree and/or qualification obtained, programme volume in credits, type and form of studies, language of implementation, programme director and contact information, admission requirements, programme annotation, possible career areas, programme structure in the form of study courses, tuition fee, graduate references and other programme-specific information is listed on the programme website.

As almost all programmes are still being implemented in Latvian, English and Russian by the end of 2022, all information on the TTI website is also published in three languages, except for registration, accreditation sheets, certificates, and similar documents that are not translated.

The director of each study programme shall be responsible for publishing the study programme information on the TTI website, and the accreditation specialist of the study programmes - for the compliance of the published information with the information available in the official registers.

## **II - Description of the Study Direction (2. Efficiency of the Internal Quality Assurance System)**

**2.1. Assessment of the efficiency of the internal quality assurance system within the study direction by specifying the measures undertaken to achieve the aims and outcomes of the study programmes and to ensure continuous improvement, development, and efficient performance of the study direction and the relevant study programmes.**

The TTI Quality Management System covers the processes of higher education service provision and scientific activities. It has been designed, implemented and certified in accordance with the requirements of the ISO 9001: 2015 standard. The operation of the Quality Management System ensures the quality of the study process and results in all types of studies and in all programmes of the Institution, as well as the compliance of research and other types of scientific activity with certain requirements.

Field of study management includes the following quality management processes:

P11. Researching consumer demands and satisfaction

P12. Development of educational services

P13. Planning of the study process

P14. Preparation of study subunits

P15. Admission and registration of students

P16. Implementation of the study programme

P17. Study attestation.

The operation of the TTI quality management system for the quality assurance of field of study products and services includes:

- development, implementation and periodic updating of internal guidance documents;
- planning and conducting internal quality audits;
- control over fields of study and study programme development, implementation and evaluation processes;
- identification, recording and analysis of non-conformities found during the audits;
- analysis of complaints and suggestions made by the students and other stakeholders;
- development, implementation and evaluation of the corrective works;
- research of satisfaction by the students, graduates, employers and university staff, analysis of survey data;
- research of the standards and other regulatory requirements in the field of education and quality management, monitoring of changes, conformity assessment;
- preparation of reports on the state and efficiency of the management system and presentation to the rectorate and the board.

*Table 4. List of the main documents of the quality management system relevant to the field of study management*

Processes (indices)	Title of the relevant guidance document
<b>P11</b>	Regulations for the Student, Graduate and Employer Questionnaires.
<b>P12</b>	Regulation on Management of the Fields of Study and Study Programmes. Regulation on Management of Study Courses. Regulation on Teaching Methodological Work. Regulation on the Director of Study Programmes.
<b>P13</b>	Study Regulation. Rules of Study Procedure. Doctoral Regulation
<b>P14</b>	Regulation on the Department. Regulation on the TTI Branch. Procedure for Inviting Foreign Professors for Their Short-Term Academic-Scientific Work at TTI.
<b>P15</b>	Admission Rules
<b>P16</b>	Rules of Study Procedure. Regulation on Internship. Regulation on the Organisation of Distance Learning
<b>P17</b>	Regulations on Final Examination. Regulations Governing Granting the Academic Degree and Professional Qualification.
<b>P18</b>	Quality Manual of Scientific Activity. "Regulation On the Procedure and Criteria for Granting (Promotion) of the Scientific Doctoral Degree".

Procedure for Performing Internal Quality Audits (Inspections) is described in Table 5.

*Table 5. Procedure for Performing Internal Quality Audits (Inspections)*

Explanations	Form of recording
1. Decision on the performance of audits: In the decision of the Board or in the instruction of the Chairman of the Board. The decision on the extraordinary audit should include details of the inspection terms, the sub-bodies to be inspected, the objectives of the audit (processes to be audited) and appointment of the head auditor.	Internal Annual Audit Plan; Instruction of the Chairman of the Board
2. When coordinating the audit programme, audit deadlines may be moved at the initiative of the heads of the sub-divisions being audited, if appropriate.	Audit Programme
3. In preparation for the audit, the head auditor shall distribute the tasks among the members of the audit team (where such a team has been established). The auditors examine the governing documents regulating the work of the sub-divisions to be audited and formulate a list of questions. These questions are formulated on checklists. The auditors should be familiarised with the procedures for conducting quality audits and the rules for completing checklists in the courses for raising qualification.	Control Sheets
4. Before the audit, the heads of the audited entities should familiarise the staff with the auditors and ensure the cooperation of the staff with the auditors. The auditors must have access to the data pertaining to the processes being audited. If there are any obstacles to the audit, the auditor shall immediately report to the head of the sub-division and, where appropriate, to the chairman of the board.	Entries in the Control Sheets

Explanations	Form of recording
5. The auditors shall discuss the identified non-conformities with the staff and the head of the structural unit. Non-conformities shall be recorded in the minutes. The corrective actions agreed with the heads of subdivisions shall also be included herein.	Non-Compliance Protocols. Entries in the Non-Conformity Registry (LOTUS)
6. After coordinating the identified non-conformities and planned corrective actions with the auditee, the head auditor shall summarise the work of the auditors' task group and submit it to the chairman of the board not later than one week after the end of the audit.	Annual Report
7. The chairman of the board shall discuss the results of the audit with the head auditor and (where appropriate) the members of the board and the heads of the audited subdivisions. Following the outcome of the discussions, the chairman of the board may make changes and additions to the composition and content of corrective actions. These decisions shall take the form of orders from the chairman of the board. 8. All documents relating to the audit shall be forwarded by the chairman of the board to the head of the Quality Management System.	Orders of the chairman of the board, minutes of board meetings
9. The corrective actions and their effectiveness shall be checked in accordance with the Procedure for Handling the Non-Conformity Register.	In the Non-Conformity Register (LOTUS)

*Table 6. Annual Internal Audit Plan (in 2019) attached as Appendix.*

## **2.2. Analysis and assessment of the system and the procedures for the development and review of the study programmes by providing specific examples of the procedures for the development of new study programmes within the study direction (including the approval of study programmes), the review of the study programmes, the aims, and regularity, as well as the stakeholders and their responsibilities. Description of the mechanism for obtaining and providing a feedback, including with regard to the work with the students, graduates, and employers.**

The procedure for designing, approving, revising and modifying the TTI study programmes, as well as the responsibilities of the respective employees and structural units are specified in the Regulation on Management of *the Fields of Study and Study Programmes* (please refer to Annex 3). TTI's main internal regulations) in accordance with the effective Cabinet Regulations (Cabinet Regulation No. 795 of 11 December 2018 Regulations on Licensing of the Study Programmes).

The procedure for the development, assessment, registration and modification of the study course description and course teaching methodological materials included in the programmes are specified in the *Regulation on Management of Study Courses* (please refer to Annex 3). TTI's Main Internal Regulations).

Collective management of the study programme designing and implementation is carried out by the Field of Study Council (FSC), which operates in accordance with *the Regulation of the Fields of Study Council* (please refer to Annex 3). TTI's Main Internal Regulations). The respective deans of the faculties - heads of the fields of study - are responsible for the organisation of the FSC.

In conformity with the student-centred education principles, the students are involved in designing the study programmes, annual evaluation and programme improvement, acting in the field of study councils, faculty councils, Senate commissions, Senate, by filling out the survey questionnaires. Graduates, employers and external experts also express their opinion on the programme in surveys.

Supervision over the implementation of the study programme and its quality shall be ensured by the director of the study programme, assessing the study process, study results, analysing the results of student surveys, changes in labour market trends and topical issues in the sector and the world. To analyse and summarise the results of the survey of students, graduates and employers and organise the elimination of the identified deficiencies and improvement of the programme.

New study programmes are developed in accordance with the TTI development strategy. Their necessity, usefulness and relevance to the development strategy shall be assessed by several TTI structural units and collegial bodies, including the Study Quality Council, Faculty Council, Dean's Council, Rectorate and Senate.

The design, approval and implementation of the study programme involves several stages:

- Programme development application, which includes justification of the programme topicality, annotation, and graduate's employment forecast
- Developing programme content, by including the programme planning, course descriptions, and independent expertise
- Preparation, examination and approval of the licensing document package in the Senate
- Submission of the licensing document package to an agency included in the European Quality Assurance Register for Higher Education, expert visit and receipt of a licence
- Marketing activities, announcement of admission and student admission.
- Preparation and placement of the study materials in the e-learning environment Moodle, in accordance with the *Regulations on Study Course Management* (Please refer to Annex 3). TTI's Main Internal Regulations. Regulations on Study Course Management)
- Accreditation of a study programme and/or a field of study in the agency listed in the European Quality Assurance Register for Higher Education

The Professional Master's programme "Aviation Management" was developed and licensed in the field of study "Management, Administration and Real Estate Management" at the Faculty of Management and Economics in 2017 by the decision of 25 October 2017 No. 54-L of the licensing commission of the study programmes. Independent examination was performed by A. Kokars, Member of the Latvian Aviation Association Board, I. Līce, Chairwoman of the Riga International Airport Board, Ilja Podkolzins, Head of SIA Airline Support Baltic, and A. Artjomovs, Member of the JSC Raf-Avia Board.

After the accreditation, in accordance with the Rector's order, an annual self-assessment report is prepared for the study programmes and fields of study, which includes an overview of the activities undertaken for the improvement of the field of study, and approved by the Senate of the higher education institution by the 15th date of the next year. The task of the annual self-assessment process is to check the preservation of compliance of the study programmes and fields of study (content and resources) for the accredited field of study; check the validity and permissibility of the changes made in the study programme and the respective study plans according to the effective regulations, as well as assess the conformity of the study programmes with the higher education institution strategy and the requirements for the quality and efficiency of the study programmes.

Self-assessment of the study programmes is mainly performed by the programme director, the head of the field of study. Self-assessment reports are reviewed by the Study Council and approved by the Senate.

During the self-assessment of the study programmes, proposals and decisions regarding the inclusion of changes in the study programme plans and the need to coordinate changes in the study programmes with the AIC Fields of Study Accreditation Commission are discussed, as well as a decision on the usefulness of the programme conformity measures, development of new study courses and the modernisation of the existing courses, and provision of resources thereto. These proposals and decisions are discussed and approved by the Senate as recommendations for the changes and development of the study programmes.

Procedures for organising surveys at TTI are described in the document *Regulations for Organising Surveys of Students, Graduates and Employers* (approved at the meeting of the TTI Senate on

29.10.2019, available in the TTI Record-Keeping System).

The students' electronic survey with further analysis of the survey data is being organised once a year at the beginning of the spring semester in 2 stages. Part 1 of the survey is devoted to assessment of the study programmes and study process and is organised at the end of each semester, while Part 2 is devoted to assessment of the quality of the study course and the lecturer's work.

The results of the surveys are reviewed during the rectorate, departmental meetings, faculty councils, field of study councils and summarised in the annual field of study self-assessment report. Thus, the study programme with the study courses included therein each year shall be updated according to the students' provided assessment. Students' survey results shall be used by:

- teaching staff - for assessment of their professional skills and to improve their study courses,
- study programme directors - to improve the content of study programmes and courses,
- heads of departments and deans - for assessment of work of the teaching staff and planning activities for the improvement of the professional qualification of the teaching staff,
- rector and teaching vice rector - to determine remuneration of the teaching staff and improve quality of the studies at the higher education institution level.

In recent years, 30-35% of the students complete survey questionnaires.

Following the questionnaire, students are informed of the survey results, impact of their responses, the actions taken and planned and the changes brought about by the recommendations made in the questionnaires. Students receive information during a specially organised general meeting. For example, the desires expressed in the questionnaires during this academic year became the reason for changing the lesson schedule, providing for a lunch break of 30 minutes.

In the form of distance learning, students fill in a supplemental questionnaire at the end of each completed course, providing answers about the communication with the lecturer, available materials, etc. within the scope of the specific course.

Once a year the higher education institution organises surveys of graduates and employers, the results of which are used for the analysis and assessment of the content and implementation of study programmes at the Faculty Council, taken into account for the creation of annual self-assessments and programme development plans of the study programmes for further improvement of the study programmes. Not only a questionnaire, but also direct communication carried out by the Corporate Client Relationship Department by meeting with representatives of various companies, is used as a form of the employer survey. Questions about the employment of the TTI graduates in the relevant company are asked during these meetings, and the company representatives are asked to assess the relevance of the knowledge and skills graduates have acquired at the university to practical work.

Based on the point of view of the graduates and employers, education provided in the programmes implemented at the faculty is generally in line with the requirements of the labour market.

Annex 9 Data of the student, graduate and employer surveys.

**2.3. Description of the procedures and/or systems according to which the students are expected to submit complaints and proposals (except for the surveys to be conducted among the students). Specify whether and how the students have access to the information on the possibilities to submit complaints and proposals and how the outcomes of the examination of the complaints and proposals and the improvements of the study**

**direction and the relevant study programmes are communicated by providing the respective examples.**

The procedure for submitting and reviewing student complaints and proposals is set out in the *TTI Regulations for the Admission and Examination of Student Complaints and Proposals* ( please refer to Annex 3). TTI main internal regulations , requirements for filing and reviewing appeals are additionally prescribed in by the *Rules of Study Procedure* (please refer to Annex 3). TTI's main internal regulations).

In accordance with the internal procedure, students may submit complaints and suggestions to the Customer Service Centre of the Studies Department, which shall ensure that complaints and suggestions are registered and forwarded to the responsible department and official in accordance with the *Procedure for the Acceptance and Examination of Requests*.

Complaints and suggestions can be submitted by the student in person, by e-mail, by sending them to the Study Department's e-mail or by filling in an electronic form on TTI's Intranet, or by sending them by mail.

Complaints and suggestions received by the Customer Service Centre are registered in the section "Complaints and Suggestions" of the Register of Applications, which is later supplemented with the information on the result of examination of the application and the decision taken. Complaints and suggestions are processed within 7 business days.

The Customer Service Centre shall communicate the decision taken in writing to the person submitting the complaint or suggestion (for information) and the appropriate officer (for execution). The registered complaints and proposals are regularly reviewed and analysed by the Quality Department staff. Where complaints indicate significant deficiencies in the quality assurance system for education services, they are recorded in a register of non-conformities, and the development and implementation of corrective actions is organised in accordance with the rules for maintaining this register.

Students' complaints to TTI are not many in number, as the problematic situations are usually handled and resolved in a positive way.

During the academic year of 2018/2019, 1 complaint was registered in the spring semester, and dealt more with communication issues. On 21 March 2019, a full-time 2nd year student in the study programme "Bachelor of Social Sciences in Management" filed a complaint regarding the Chairperson of the Student Council in the Customer Service Centre of the Studies Department. The complaint was referred to the TTI rector, who on 8 April 2019 invited the complainant to a discussion. After the discussions, it was recorded that the issue was no longer relevant.

**2.4. Provide information on the mechanism for collecting the statistical data, as developed by the higher education institution/ college. Specify the type of the data to be collected, the collection frequency, and the way the information is used to improve the study direction.**

In order to ensure continuous review and improvement of the study programmes and study courses, identify the strengths and weaknesses of the study process, the Institute of Transport and



Telecommunication shall conduct:

- Analysis of data and information on the student composition (home countries), student performance, drop-outs and reasons for this, which shall be discussed at academic and collegiate meetings and included in self-evaluation reports
- Analysis of the questionnaire results on the students' and graduates' satisfaction with the implementation of the study programme (content, quality of the lecturers' work, objectivity of the evaluation system, availability of information, career opportunities), which shall be discussed at academic and collegiate meetings and included in self-evaluation reports
- Analysis of the graduate employment discussed at the academic and collegiate meetings and included in self-evaluation reports
- Analysis of hospitality results, which shall be discussed at academic and collegiate meetings
- Analysis of the effectiveness of the academic staff (in relation to their election, according to the results of the surveys, at the end of each academic year evaluate the achievements in research)
- Analysis of available study aids and their costs
- Analysis of the TTI key performance indicators

According to the results of data analysis, the necessary improvements for the implementation of study programmes and organisation of the study process are determined.

## **2.5. Description and assessment of the integration of the standards set forth in Part 1 of the ESG. Specify which of the standards are considered a challenge and which require special attention.**

Analysis of the ESG standards showed that all requirements of the ESG standard comply with the international standard ISO 9001: 2015 *Quality Management System. Requirements*. For this reason TTI management decided on the general implementation of this standard in the study process and scientific performance management system. This task was successfully fulfilled, and currently the TTI management system has been certified according to ISO 9001: 2015.

Owing to the implementation and functioning of a quality management system conforming to ISO 9001: 2015, TTI fully complies with the ESG requirements for managing the overall management process (including the defined Quality Policy and Purpose). Resource development and maintenance processes also function for complying with the Standards and Guidelines for Quality Assurance in the European Higher Education Area.

There was a need to further study the qualification management procedures for academic staff, as the Law on Higher Education Institutions contains a number of provisions that exceed the information provided in the standard ISO 9001: 2015. Management of the educational process is regulated at all stages of the development and implementation of educational products. Control over the study results is also sufficiently regulated.

Some effort had to be made to adapt the ESG requirements for forming feedback to education service users and in work with the student complaints. These procedures were developed separately and in addition to the standard processes of the quality management system.

In addition to the ESG requirements, the TTI quality management system includes a regular quality audit procedure, as well as a related corrective action procedure to address non-conformities identified during the audit.

The closing procedure for the management cycle is Management Review - a periodic analysis of the condition of the management system. This is a requirement of the ISO 9001: 2015 standard, which provides a systemic approach to handling quality management problems.

*Table 7 Evaluation of standards in the 1st part of ESG*

Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG, 2015). Requirements	Assessment of the current situation
1.1 Quality Assurance Objectives	<p>Quality policy is a declaration of the TTI management on quality objectives and principles that management follows when organising the development of educational products and study processes. The Quality Policy is documented and approved in conjunction with the Quality Manual (approved on 29.10.2018, Order No. 01-12.1 / 57A). The Quality Manual is the main document of the TTI Quality Management System. The TTI Quality Management System covers the processes of higher education service provision and scientific activity. It has been designed, implemented and certified in accordance with the requirements of the ISO 9001: 2015 standard.</p> <p>Quality policy is based on the TTI development strategy.</p> <p>Quality policy is implemented based on a plan within the framework of quality management processes:</p> <p>Processes of the TTI quality management system fall into three groups.</p> <p>1. Processes of educational services cycle:</p> <ul style="list-style-type: none"> <li>P11. Researching consumer demands and satisfaction</li> <li>P12. Development of educational services</li> </ul> <p>P13. Planning of the study process</p> <ul style="list-style-type: none"> <li>P14. Preparation of study subunits</li> <li>P15. Admission and registration of students</li> <li>P16. Implementation of the study programme</li> <li>P17. Study certification</li> </ul> <p>P18. Scientific activity.</p> <p>2. Human, material and information resources management processes:</p> <ul style="list-style-type: none"> <li>P21. Management of staff development training</li> <li>P22. Managing the information resources fund</li> <li>P23. Managing infrastructure and production environment</li> <li>P24. Document handling management</li> <li>P25. Record-keeping</li> </ul> <p>3. General management processes implemented by the rectorate to ensure the continuous improvement of quality and raising the efficiency of the management system:</p> <ul style="list-style-type: none"> <li>P31. Data analysis on quality issues</li> <li>P32. Planning of development</li> <li>P33. Internal quality audits</li> <li>P34. Corrective actions.</li> </ul> <p>Planning and implementation of the quality policy takes place at different levels.</p> <p>At the lowest level, learning outcomes (exams, tests, final examinations) are assessed. Lesson processes are controlled on the next level (conformity of resources and methods to requirements). Third level - control and audit of management processes. At the fourth level, the management assesses the compliance of educational products and services with market and employer requirements, legislation and trends of changes. At the upper, fifth level, resources and capabilities are analysed and development strategies are designed.</p> <p>All quality assurance processes are regulated in the TTI regulations and rules.</p>
1.2 Development and approval of programmes	<p><i>Regulation on the Fields of Study and Study Programmes</i> (approved by the TTI Senate on 21.05.19) summarise the procedures for designing, approving, and making changes to programmes.</p> <p>Field of study councils are responsible for the collective management of study programme development and implementation.</p> <p><i>Regulation on the Fields of Study Councils</i> was approved by the Senate on 21.05.19. Students, graduates, employers, external experts are involved in designing the study programmes, annual evaluation and programme improvement, acting in the field of study councils, faculty councils, Senate commissions, Senate, by filling out the survey questionnaires).</p> <p>Study programme learning outcomes are formulated, published and validated during licensing/accreditation, according to the specified EQF / LQF level.</p> <p>The mutual conformity between the study programme goals, planned learning outcomes and content is assessed annually during the self-accreditation process of the fields of study and study programs.</p> <p>The structure and content of the study programme is designed so that the results of individual study courses ensure achievement of the overall study results of the programme.</p>

Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG, 2015). Requirements	Assessment of the current situation
1.3 Student-centred learning, teaching and assessment	<p>A flexible study process that provides students with the opportunity to study, taking into account everyone's interests and opportunities, and to actively participate in the improvement of the study content.</p> <p>The students are offered various forms of study: full-time, part-time with an option of studying on Saturdays or once a month on a modular basis (Friday-Sunday), and distance learning, ensuring study access to different study groups with different learning abilities.</p> <p>Students have an opportunity to create an individual study plan from another higher education institution.</p> <p>Study course descriptions and study course learning materials are available to students in the e-learning environment, which allows one to adapt the study process to the individual needs of the student.</p> <p>Different study methods are used in the study process: lectures, seminars, practical work, case studies, projects, meetings with industry specialists, etc., thus ensuring the students' interest in studies.</p> <p>Students are provided with tutor guidance and individual consultations. Depending on the specifics of the study course, teaching staff use different teaching methods.</p> <p>Lecturers inform students about the criteria and methods of the knowledge assessment during the first classes. Methods and criteria for the assessment of learning outcomes are included in the study course description available to the students in the e-learning system.</p> <p>Commissions for the evaluation of study papers, internship reports and final examinations have been created, and representatives of employers have been invited to participate therein. The commission members are aware of the basic principles of evaluation.</p> <p>Students may submit their complaints to the management of the institution regarding the content and organisation of studies; the procedure for submitting and reviewing the student complaints and proposals is prescribed in the <i>TTI Regulations for Acceptance and Review of Student Complaints and Proposals</i>, while the requirements for the filing and review of appeals are additionally prescribed in the <i>Rules of Study Procedure</i>.</p> <p>The Institution ensures the participation of students in the organisation of the study process. Students are represented and actively participate in all TTI collegial institutions - Fields of study councils, faculty councils, Senate, Constitutional Assembly. Student surveys are conducted every year to assess the teaching staff's teaching methods and quality of the study programmes.</p>
1.4 Matriculation of students, course of studies, recognition of qualifications and certification	<p>Matriculation of students at TTI is determined by the <i>Admission Regulations</i>, which are approved by the Senate and published on the TTI website by 1 November of the current year. According to these regulations, students are admitted to study programmes.</p> <p>TTI has developed the <i>Registration and Admission Procedure of Applicants</i>, describing all registration and admission procedures, with a particular focus on foreign students.</p> <p>An Admission Committee is set up for the admission of students for each admission year.</p> <p>At the beginning of studies, the Student Service shall acquaint students with the <i>Code of Ethics</i>, and other internal regulations shall be presented to the students at the Organisational Meeting.</p> <p>The study programmes are implemented in accordance with the study plan approved annually by the rector. A list of classes is made for each semester and is publicly available to students and the faculty staff.</p> <p>The Studies Department evaluates and recognises study courses acquired at other higher education institutions in accordance with the procedure established by TTI, in accordance with the <i>Regulations on Admission to the Senior Stages of Studies</i>.</p> <p>Learning outcomes achieved in the previous education or professional experience are recognised in accordance with the <i>Regulations on Competences Acquired Outside Formal Education or in Professional Experience and Learning Outcomes Achieved in Previous Education</i>.</p> <p>Recognition of learning outcomes achieved during the ERASMUS+ programme shall be governed by the <i>TTI ERASMUS+ Programme Scholarship Contest Manual</i>.</p> <p>The TTI internal information system Intranet has a personal card made for each student, containing all information about the student's course of study - his/her study plan for the entire study period and assessment of the study results, allowing the student himself/herself to control fulfilment of the study plan.</p> <p>The regulations describing the student's entire "study life" are governed by the <i>Regulation on Studies</i>, the <i>Regulation on Procedure of Studies</i> and the <i>Regulation on Organising Distance Learning</i>.</p> <p>The degrees and professional qualifications obtained as a result of the study programme shall be regulated by the national standards of higher education. The <i>Regulation on Professional Bachelor's</i>, <i>Professional Master's</i> and <i>Professional Qualification</i> and the <i>Regulation on Awarding Bachelor's and Master's Degrees at the Institute of Transport and Telecommunication</i> describe the procedure for organising final examinations, define the duties, activities and terms of the students and employees.</p> <p>The interests of the students are ensured by the Students' Council, operating in accordance with the Regulation on the Students' Council.</p>

Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG, 2015). Requirements	Assessment of the current situation
1.5 Teaching staff	<p>In accordance with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), the TTI has established and maintains a clear, open and fair procedure for the recruitment of staff and the working conditions that demonstrate the importance of learning. The lecturers are provided with opportunities to develop their professional competence, and their scientific activity is promoted, strengthening the link between science and education. Innovations in teaching methods and use of new technologies are supported.</p> <p>Academic staff of the TTI is formed in accordance with the Law on Universities of the Republic of Latvia and with the TTI Constitution, and is based on the number of students and study workload at the faculty departments. Selection of lecturers takes into account the lecturer's education, scientific degree, scientific activity, work experience, ability to teach his/her study course. An open lecture is organised for each selected applicant.</p> <p>Election procedure for academic positions - professor, associate professor, assistant professor, lecturer, assistant is regulated by the <i>Regulation on the Election of Academic Staff of the Transport and Telecommunication Institute Based on the Competition Procedure</i>. The academic staff of TTI is elected by the Senate.</p> <p>Professors and associate professors are evaluated and elected in accordance with the criteria set by the Cabinet of Ministers, by the Council of Professors in the relevant field, the TTI Transport Engineering Council of Professors. Also, in the autumn of 2019 a joint professors' council is being formed with other Latvian higher education institutions in the field of economics and management science.</p> <p>The procedure by which foreign professors are invited to the TTI for teaching or research activities is determined by the <i>Procedure for Inviting Foreign Professors (Specialists) for Short-Term Academic-Scientific Activities at TTI</i>.</p> <p>The Institution promotes scientific activities of its lecturers. The TTI research staff shall be elected to the positions of the principal investigator, researcher and research assistant in accordance with the <i>TTI Regulation on the Election of Research Staff in Academic Positions</i>.</p> <p>Lecturers actively participate in scientific conferences and publish their research results in scientific articles.</p> <p><i>Programme for Organising Professional Development Planning for Academic Staff</i> has been developed at TTI. Lecturers improve their professional competence by participating in scientific and study conferences, mobility activities (giving lectures in partner universities), etc.</p> <p>In order to evaluate the performance of the academic staff, certification of the academic staff is organised every year in accordance with the <i>Procedure for the Academic Staff Certification for the Current Academic Year</i>.</p> <p>The quality control of the academic staff includes a survey of students on the quality of teaching staff and study courses and analysis of the results obtained at the end of the academic year.</p> <p>Lecturers use e-resources and information technologies, library resources in the study process, which make the study process more interesting for students.</p>
1.6. Teaching resources and student support	<p>TTI is a private institution founded by a legal entity. The annual budget of the Institution is approved by the Shareholders' Council. The institution has designated financial accountability centres (FACs) - faculties and other structural units. Each FAC has an annual budget, which is based on FAC applications for funding needed to run it.</p> <p>The tuition fee paid by students is the main source of funding for the study process. Tuition fee is set to ensure high-quality studies, so that students consider the tuition fee to be appropriate for the quality of their studies and can pay for their studies. The school has an effective tuition fee discount system to support student loyalty and contribution to the operation of the higher education institution.</p> <p>The Institution provides the teaching materials and technical facilities necessary for the study process, which consists of study rooms and their equipment, library resources, laboratories, e-learning environment. The 2020 budget includes funds to replenish the library's collection in the amount of EUR 12,005, which is a more than 25% increase compared to 2019.</p> <p>TTI provides studies in the auditoriums and modern laboratories with a study and research area of 9,638 m<sup>2</sup> and a sports and recreation area of 2,879 m<sup>2</sup>. Infrastructure of the building is adapted for people with disabilities (including lifts, internal and external staircases, hygiene facilities).</p> <p>Students are provided with access to e-resources: the e-learning environment Moodle and TTI's in-house information system Intranet. Wireless network covers almost all campus premises. E-resources have been developed in the language of the studies so that they can also be used by the foreign students. A special internet resource online.tsi.lv has been created for distance students, faculty and administration.</p> <p>Informative and consultative assistance is provided in a centralised way by the Student Service. Corporate Client Relationship Department consults and provides information about the internship opportunities and labour market offers, ensures cooperation with employers. Special support measures are taken for the adaptation of first-year and foreign students.</p> <p>Information about students' satisfaction with the study resources is obtained via student surveys, which include questions about teaching materials and technical resources.</p>
1.7 Information management:	<p>The TTI Information System on the Intranet stores information on the study programmes, study plans and courses, on each student and course listener, on their study progress and achievements, on lecturers and planning of the lessons taught. This information is summarised in the <i>Regulations on the TTI Internal Information System</i>. The data available in the Intranet system is collected and analysed, as well as used for efficient management and development of the study field and programs.</p> <p>Annual student surveys help in identifying satisfaction with the provision of existing systems and, where necessary, making improvements, including improvement of the internal student information system and computer software.</p>
1.8 Public awareness	<p>The website of TTI <a href="http://www.tsi.lv">www.tsi.lv</a> in Latvian, English and Russian provides up-to-date information on its activities - studies, events and planned activities.</p> <p>The section of the website <a href="http://www.tsi.lv/en/studies-programmes">http://www.tsi.lv/en/studies-programmes</a> describes each programme, providing essential information about the programme (admission requirements, expected learning outcomes of the programme, degree and/or qualification to be awarded, employment of graduates).</p> <p>The most important documents, including reports on the activities carried out in the previous year for the improvement of the field of study may be found on the website: <a href="http://www.tsi.lv/en/content/oficialie-docs">http://www.tsi.lv/en/content/oficialie-docs</a></p> <p>The annual field of study self-assessment reports provide information on the study programmes offered, the planned learning outcomes, the degrees and/or qualifications to be awarded, the organisation and assessment of the study process, the learning environment and opportunities.</p> <p>The Marketing and Sales Department regularly updates information about the higher education establishment.</p>

Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG, 2015). Requirements	Assessment of the current situation
1.9. Programme monitoring and regular review	<p>Each year, in accordance with the requirements of the Regulations for the Accreditation of Higher Education Institutions, Colleges and Studies and the Regulation on Management of the Field of Study and Study Programmes self-assessment reports are prepared at the Institution, where the heads of the fields of study, programme directors, together with employer and student representatives, evaluate the relevance of content of the study programme to the needs of the national economy, taking into account current issues in the field, evaluate students' satisfaction with the programme, study courses and the lecturers' qualification and resources. For this purpose, surveys and recommendations of students, graduates and employers are used.</p> <p>Once a year, the lecturers update the courses included in the study programme. Quality of the study courses is controlled by the heads of the faculties' departments.</p> <p>Accreditation of the study programmes implemented by the Faculty has taken place 3 times. The last accreditation took place in 2012, during which all programmes were assessed as sustainable. The sheet of accreditation of the direction was issued on 11 June 2013, and the field of study accredited by 11 June 2019, with the extension stipulated in the Amendments to the Law on Higher Education Institution by 31 December 2020.</p>
1.10. Cyclic external quality assurance	<p>In 2005, the European Commission assessed TTI's ability to effectively implement the European Credit Transfer System by awarding the ECTS Label.</p> <p>The TTI Quality Management System is certified by the international certification body TUV Rheinland in 2017. The monitoring audits thereof are conducted annually.</p>

## II - Description of the Study Direction (3. Resources and Provision of the Study Direction)

**3.1. Provide information on the system developed by the higher education institution/college for determining the financial resources required for the implementation of the study direction and the relevant study programmes. Provide data on the available funding for the relevant study programmes, as well as the sources of the funding for the scientific research and/or artistic creation activities and their use for the development of the study direction. Provide information on the costs per one student (for each relevant study programme of the study direction) by specifying the headings indicated in the calculation of costs and the percentage of the funding among the indicated headings.**

As a university with private capital, TTI supports its operations with its own revenues. Own revenues form up to 95–98% of the total financing, with the other financing of up to 2–5% coming from the implementation of various Latvian and EU fund projects. The main item of financing costs is salaries and other personnel costs forming up to 65% of the total cost of TTIs.

Due to the fact that the largest share of the total funding of the TTI is constituted by revenue from tuition fees while the majority of total costs are staff costs, a decrease in the number of students and downgrading of staff professionalism and loyalty may have destabilising effects on TTI's financial situation. Therefore, TTI as an institution with private capital, steadily and ambitiously takes various result-orientated actions and measures, primarily towards reaching the set results. TTI carries out planning of its operation, plan execution control and analysis.

TTI has developed and approved *the Accounting Policy of JSC Transport and Telecommunication Institute* (approved on 30.03.2018, Order No. 01-12.1 / 13A, available in the TTI Record-Keeping System) . According to the Accounting Policy, TTI

budgeting is performed both in the short term (per calendar year) and in the long term (up to 5 years), separately forming the budgets of financial responsibility centres. Two approaches to the budgeting process are used: top-down and bottom-up, primarily using the top-down approach to identify priority areas and directions of action, as well as to allocate funding in accordance with TTI's strategic vision of development and set performance indicators for each direction of action.

In accordance with the Accounting Policy, the Faculty of Management and Economics has been designated as a separate Financial Accountability Centre (FAC). A separate budget is established for the faculty, based on defined directions of operation in accordance with the TTI strategic vision; monthly reports on the progress of budget implementation are submitted to the Dean of the Faculty, and explanations are given on the reasons for significant deviations and risk mitigation. The general budget of the faculty includes direct income and direct expenses. The main source of funding for the faculty and therefore the study programme is our own revenue from the tuition fees and related supplementary service fees, which are covered by the funds of natural and legal persons. The amount of the tuition fee and additional service fees is reviewed annually, taking into account market trends and cost prices, and is approved by an order of the Board.

*Table 8. Tuition fee for full-time and part-time studies during the reference period*

Programme/academic year	2013/2014		2014/2015		2015/2016		2016/2017		2017/2018		2018/2019		2019/2020	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Bachelor of Social Sciences in Management	1120	800	1580	1180	1780	1380	1780	1380	1780	1440	1780	1440	1780	1440
Master of Social Sciences in Management	1220	900	1780	1440	1980	1640	1980	1640	1980	1640	1980	1640	1980	1640
Aviation management											4200	3400	4200	3400

Cost price is one of the management tools of an organisation which can be used for the analysis of its operations and decision-making. Activity based costing (ABC) is used to calculate the cost prices of the Transport and Telecommunication Institute (TTI). It assigns cost to each activity (service or process) and allows one to precisely determine the cost price of the activity. The Faculty also calculates the cost price of the study programmes and analyses the calculation. All the faculty programmes are cost-effective and allow the profits to be channelled into the faculty's development and the achievement of strategic goals. The results of implementation of the study programme allow one to conclude that all the necessary resources have been used efficiently in the realisation of the study programmes.

*Table 9 Number of students*

Study field	Study programme	Period					
		2014	2015	2016	2017	2018	2019
Average number of students							
Management, administration and real estate management	Bachelor of Social Sciences in Management	253	278	332	362	398	362
	Master of Social Sciences in Management	32	43	55	62	69	75
	Aviation management	0	0	0	0	3	15
	<b>Total:</b>	<b>285</b>	<b>321</b>	<b>387</b>	<b>424</b>	<b>470</b>	<b>452</b>
Economics	Bachelor of Social Sciences in Economics	134	121	116	103	88	85
	Master of Social Sciences in Economics	18	14	13	12	5	4
	<b>Total:</b>	<b>152</b>	<b>135</b>	<b>129</b>	<b>115</b>	<b>93</b>	<b>89</b>
Revenue, EUR							
Management, administration and real estate management	Bachelor of Social Sciences in Management	232 730	256 533	311 655	374 990	428 672	400 327
	Master of Social Sciences in Management	39 505	54 099	69 629	90 271	110 558	137 686
	Aviation management	-	-	-	-	8 520	57 160
	<b>Total:</b>	<b>272 235</b>	<b>310 632</b>	<b>381 284</b>	<b>465 261</b>	<b>547 750</b>	<b>595 172</b>

Study field	Study programme	Period					
		2014	2015	2016	2017	2018	2019
Economics	Bachelor of Social Sciences in Economics	142 041	129 466	124 363	111 730	95 590	93 571
	Master of Social Sciences in Economics	17 256	13 474	12 556	12 524	9 998	9 675
	<b>Total:</b>	<b>159 297</b>	<b>142 941</b>	<b>136 919</b>	<b>124 254</b>	<b>105 588</b>	<b>103 246</b>
Total cost, EUR							
Management, administration and real estate management	Bachelor of Social Sciences in Management	203 638	227 032	277 061	337 003	389 149	365 498
	Master of Social Sciences in Management	34 567	47 877	61 900	81 126	100 365	125 707
	Aviation management	-	-	-	-	7 734	52 187
	<b>Total:</b>	<b>238 205</b>	<b>274 909</b>	<b>338 961</b>	<b>418 130</b>	<b>497 248</b>	<b>543 392</b>
Economics	Bachelor of Social Sciences in Economics	124 286	114 578	110 558	100 412	86 777	85 430
	Master of Social Sciences in Economics	15 099	11 925	11 162	11 256	9 077	8 833
	<b>Total:</b>	<b>139 385</b>	<b>126 502</b>	<b>121 721</b>	<b>111 667</b>	<b>95 853</b>	<b>94 263</b>
Average revenue per student, EUR							



Study field	Study programme	Period					
		2014	2015	2016	2017	2018	2019
Management, administration and real estate management	Bachelor of Social Sciences in Management	920	923	939	1 036	1 077	1 106
	Master of Social Sciences in Management	1 235	1 258	1 266	1 456	1 602	1 836
	Aviation management	-	-	-	-	2 840	3 811
	<b>Total:</b>	<b>955</b>	<b>968</b>	<b>985</b>	<b>1 097</b>	<b>1 165</b>	<b>1 317</b>
Economics	Bachelor of Social Sciences in Economics	1 060	1 070	1 072	1 085	1 086	1 101
	Master of Social Sciences in Economics	959	962	966	1 044	2 000	2 419
	<b>Total:</b>	<b>1 048</b>	<b>1 059</b>	<b>1 061</b>	<b>1 080</b>	<b>1 135</b>	<b>1 160</b>
Average costs per student, EUR							
Management, administration and real estate management	Bachelor of Social Sciences in Management	805	817	835	931	978	1 010
	Master of Social Sciences in Management	1 080	1 113	1 125	1 308	1 455	1 676
	Aviation management	-	-	-	-	2 578	3 479
	<b>Total:</b>	<b>836</b>	<b>856</b>	<b>876</b>	<b>986</b>	<b>1 058</b>	<b>1 202</b>

Study field	Study programme	Period					
		2014	2015	2016	2017	2018	2019
Economics	Bachelor of Social Sciences in Economics	928	947	953	975	986	1 005
	Master of Social Sciences in Economics	839	852	859	938	1 815	2 208
<b>Total:</b>		<b>917</b>	<b>937</b>	<b>944</b>	<b>971</b>	<b>1 031</b>	<b>1 059</b>

An analysis of cost items shows that the major items of expenditure are salaries and taxes, infrastructure costs, advertising and marketing costs. Salaries and taxes make up 55% to 57% of the costs on average and are highly dependent on the qualifications of the staff involved in the study process. The second largest cost item is infrastructure costs, which account for 10% of the total cost on average. Infrastructure costs have fallen significantly in recent years as a result of investments in TTI infrastructure and energy efficiency.

Additional marketing and advertising activities were carried out between 2015 and 2017, which also made it possible to increase the number of students. In 2019, advertising and marketing costs account for around 5-6% of total costs, but in the future, the proportion will change in accordance with adjustments in the strategic development plan.

The positive financial results of the last years allowed one to allocate additional funds for the implementation and development of study programmes, as well as for the use of study materials and scientific infrastructure. Currently, these cost items make up 17% of the total costs.

In addition, attention needs to be paid to reducing administrative costs and interest payments, since a number of structural changes have been made to reduce the administrative burden, and the financial management of resources has been successful.

Table 10. Expenditure structure of the Faculty of Management and Economics

Cost item	Period					
	2014	2015	2016	2017	2018	2019
Salaries and taxes	54%	54%	52%	58%	61%	57%
Infrastructure costs	13%	13%	11%	11%	9%	9%

Advertising and marketing expenses	7%	10%	12%	11%	9%	5%
Other costs for the implementation of the study programme	2%	2%	4%	4%	4%	6%
Study programme development costs	0%	0%	0%	0%	1%	1%
Study materials, costs of scientific infrastructure and other similar costs	1%	1%	1%	1%	2%	10%
IT service costs	3%	2%	2%	2%	1%	1%
Other staff costs	2%	1%	1%	1%	1%	1%
Other taxes	3%	3%	3%	3%	3%	4%
Depreciation and amortisation	4%	4%	4%	4%	4%	4%
Interest payments	5%	5%	4%	2%	1%	1%
Other administrative expenses	6%	5%	5%	3%	4%	2%

The scientific-research budget is planned to cover the promotion of scientific and research activities of each faculty and their lecturers - to pay for publications and conferences, exchange visits, as well as for international cooperation activities and membership fees. The budget for these purposes is planned based on the development and professional growth plans of each faculty and their lecturers. The resources for the expansion of study materials, scientific literature and Library funds are planned in the Library budget on the basis of orders submitted by the financial responsibility centres. These orders in turn meet the objectives set out in the development plan of the financial responsibility centres.

The student council of the Transport and Telecommunication Institute, which is an elected, independent body representing the rights and interests of students at the TTI, draws up its annual operational plan, including a detailed expenditure budget, during budget planning every year to ensure the fulfilment of its functions. Similarly to other TTI financial responsibility centres, the

student council budget is planned and approved for the calendar year. Student council's approved budget complies with the requirements of the Law on Higher Education Institutions.

**3.2. Provide information on the infrastructure and the material and technical provision required for the implementation of the study direction and the relevant study programmes. Specify whether the required provision is available to the higher education institution/ college, availability to the students, and the teaching staff (the specific equipment required for the relevant study programme shall be indicated in Part III, Chapter 3 below the respective study programme).**

The study programme in Riga is realised in a study block with a total area of 13,567.10 m<sup>2</sup>, located at 1 Lomonosova Street. Currently, the TTI auditorium fund has 12 lecture halls, 10 computer classes, and more than 20 classrooms for practical and laboratory classes. The study and research area is 9638 m<sup>2</sup>, the sports and recreation area is 2879 m<sup>2</sup>.

The study premises have undergone a modern reconstruction using the university funds. From 2011 to 2016, during the TTI project "Information and Communication Technologies as a Single Academic Resource at the Transport and Telecommunication Institute" (Agreement No. 2010/0180/3DP/ 3.1.2.1.1/09/IPIA/VIAA/023), building construction works were carried out, and the building infrastructure was adapted for persons with functional disabilities: lifts were purchased and installed; the internal and external stairs were adapted for persons with disabilities; sanitation facilities were renovated and adapted for persons with disabilities.

As of January 2017, TTI students have access to a fully renovated and equipped gym that offers classes in a variety of sports. Students can choose sports activities according to their interests as well as practice sports in additional sections.

During the project "Modernisation of STEM study programmes at the Transport and Telecommunication Institute", contract No. 8.1.1.0/17/I/009, classrooms of 656 m<sup>2</sup> on the 2nd floor were renovated (auditorium No. I - 170 seats, No. II - 216 seats and No. III - 170 seats). Renovations included repairs, insulation, heating, improvement of ventilation and air conditioning systems, power and fire protection, acoustic solutions, and furnishing the auditoriums. Outdated servers were also replaced - servers with study data and servers supporting the study process (providing e-mails to students and the distance learning system Moodle), the Multimedia Lab was updated (video lectures and other materials for on-site, off-site and distance learning departments were recorded), the Library fund was expanded. In April 2019, the Library's electronic reading room (72 m<sup>2</sup>) with 30 user sites was opened. The e-library has workstations with 15 desktop computers, as well as 15 working sites for personal smart devices. An individual electrical connection is provided for each working site.

Table 10 details TTI's study areas in Riga, Lomonosova Street 1

*Table 10. TTI's study areas*

No.	Auditorium No.	Number of places per auditorium	Auditorium type
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1.	01.	21	Practical training room
2.	02.	25	Computer classroom
3.	03.	24	Laboratory
4.	101.	25	Laboratory
5.	105.	24	Practical training room
6.	126.	36	Practical training room
7.	130.	250	Auditorium
8.	220.	52	Auditorium
9.	221.	92	Auditorium
10.	222.	70	Auditorium
11.	223.	100	Auditorium
12.	224.	24	Practical training room
13.	225.	60	Auditorium
14.	226.	15	Computer classroom
15.	227.	30	Computer classroom
16.	230.	68	Auditorium
17.	303.	21	Computer classroom
18.	304.	24	Computer classroom
19.	305.	22	Computer classroom
20.	306.	25	Computer classroom
21.	503.	25	Computer classroom
22.	505.	23	Computer classroom
23.	703.	60	Auditorium
24.	710.	30	Practical training room
25.	903.	60	Auditorium
26.	904.	15	Practical training room

27.	905.	24	Practical training room
28.	906.	40	Practical training room
29.	I	170	Auditorium
30.	II	216	Auditorium
31.	III	170	Auditorium
32.	L1	15	Laboratory
33.	L2	10	Laboratory
34.	L3	10	Laboratory
35.	L4	10	Laboratory
36.	L5	10	Laboratory
37.	L6	10	Laboratory
38.	L7	10	Laboratory
39.	L8	24	Laboratory
40.	L9	12	Laboratory

The study programmes related to aviation are implemented on the basis of APAC – Academic and professional Aviation Centre; in 2009, it was certified as technical maintenance training organization in accordance with Regula (EU) Nr. 1321/2014 Annex IV (Part-147). APAC is a structural unit of Transport and Telecommunication Institute, which is located in the basement of the teaching and learning building, where 2 classrooms and 2 laboratories are situated. TSI/APAC classrooms are equipped with simulators, work desks with modern tools, which are necessary for training aviation specialists.

TTI's physical IT infrastructure consists of:

- TTI's computer network, located in the study blocks in Riga and Daugavpils, which are connected with IPsec VPN. More than 500 computers and other network devices are connected to the TTI's computer network;
- TTI's data centre infrastructure, located at Lomonosova iela 1, Riga, and at Varšavas iela 43, Daugavpils, 25 physical servers, RAID, Hyper-V virtual server infrastructure with more than 25 virtual servers, backup power system, cooling, data backup infrastructure;
- IT hardware and systems monitoring system Nagios (Centreon), Zabbix, MS SCCM with more than 500 monitored devices and services;
- Computer network security is ensured by PaloAlto's New Generation network screen;
- 3CX phone infrastructure maintenance & support - 100 connections;
- Videoconferencing system for providing online lectures, with an average of 60 remote lectures per academic year;
- E-mail system maintenance - employees use an Exchange server which offers calendar and contact management and provides a convenient tool to work with electronic mail; students

- are provided with Office 365 cloud service;
- *MS Active Directory*-based maintenance of an electronic identity management infrastructure (one username and password for all centrally maintained IT systems);
- maintenance of a file server;
- maintenance of computerised workstations and computer classrooms (450 computers, 125 printers, scanners and other devices);
- maintenance of classroom equipment - 35 rooms with stationary equipment, 25 projectors, also including preventive maintenance of the equipment;
- classrooms provide the necessary support for video recordings of the lectures, online lectures and lectures in classrooms with sophisticated multimedia equipment;
- self-service copy/print/scan system;
- a software server that enables students to work remotely with the software used by TTI.

An IT support service is available to ensure the uninterrupted availability of IT resources throughout the learning process.

A secure wireless computer network is available in all TTI's buildings. Students can connect to a wireless computer network that is protected by the PaloAlto New Generation Firewall.

Virtually all lecture halls are equipped with visual display equipment, and all lecture halls are equipped with high-power stationary video projectors or large television sets. There are 9 computer rooms equipped with computers, intended for the study process.

Laboratory classes take place in specialised auditoriums. The academic work utilises the Applied Software Systems Laboratory, a multidisciplinary research laboratory that provides TTI's students, lecturers, and researchers with access to software products, some of which are unique. The software range is wide, ranging from simulation modelling tools: PTV VISSIM & VISUM - software for modelling transport flow; AnyLogic - universal modelling software; Aris, BPWin, Business Object - business process modelling software; to software for data processing and mathematical calculations: R, SPSS, STATISTICA, MatLab, Matematika and more. The main goal of the laboratory is to provide access to software for students, researchers and lecturers, as well as to provide consultations on the application of the software. In addition, the laboratory is used for scientific projects and contract research.

TTI offers its students the use of *Office365*, which provides full *Microsoft Office OneDrive* file storage at no additional cost. While students are studying at TTI, they have access to all the software they need for successful studies. Students can install *Microsoft Office* programs - *Word*, *Excel*, *PowerPoint*, *OneNote* on five computers (*PC or Mac*) and on five mobile devices (e.g., smartphone, laptop and tablet). A student can use *OneDrive* for automatic device synchronisation of up to 1 TB.

TTI's students and lecturers already have a well-developed IT infrastructure and a virtual study environment. TTI's students and lecturers have access to the TTI's internal information system Intranet, which contains the register of study programmes and study courses and student ID cards; which summarises the entire course of studies and outlines the students' grades and evaluations, as well as a list of classes; and which provides an e-learning environment containing study materials and the latest study information for students. A separate module is intended for distance learning.

All classrooms are equipped with a student registration system for classes that enables the automatic registration of students attending lectures and allows one to control attendance.

TTI's computer technology division is a subsection of TTI which has the implementation of a modern information technology infrastructure strategy as its performance objective. The computer

technology division develops and operates TTI electronic services. The department not only executes the users' orders for new services or replacements, but also initiates such changes itself.

In order to improve the infrastructure, information and technical equipment necessary for the implementation of the study programmes, the organisational structure of the institute was changed and the IT department was directly subordinated to TTI's Board, which significantly reduces the decision-making time for IT problems and enhances the role of the structural unit in the Institute's business processes. The physical IT infrastructure is planned according to the requests of the structural units, assessing the load of the existing infrastructure at the time of TTI's budgeting.

In order to achieve the above objectives, the computer technology section shall receive an annual budget approved by the Institute's management board. Most of the funding is invested in long-life fixed assets, including system software. About 50% of the IT budget per year is spent on long-term investments in network and server infrastructure, hardware and software.

**3.3. Provide information on the system and procedures for the improvement and purchase of the methodological and informative provision. Description and assessment of the availability of the library and the databases to the students (including in digital environment) and their compliance with the needs of the study direction by specifying whether the opening times of the library are appropriate for the students, as well as the number/ area of the premises, their suitability for individual studies and research work, the services provided by the library, the available literature for the implementation of the study direction, the databases available for the students in the respective field, the statistical data on their use, the procedures for the replenishment of the library stock, as well as the procedures and options for the subscription to the databases.**

The list of classes for students and lecturers is available on TTI's internal information system Intranet. Intranet. Here the student can also see his or her evaluations on the study papers and the final grades of the study course.

TTI's internal information system Intranet creates an ID card for each student, which contains his or her personal information (contact information, information about contracts, finances), lesson plan, study plan for the whole study period with the grades for the study papers and the final evaluations obtained in courses. TTI's lecturers also have access to the lesson list on the Intranet.

The e-learning environment or the *Moodle* platform is used as a tool for organising the study process in each study course. The compulsory methodological teaching kit for each course to be placed on Moodle is defined in the *Study Course Management Regulations* (see Appendix 3 TTI's main internal laws and regulations) and it consists of:

- a study course description;
- a methodological (calendrical) plan for the current semester for all types of studies;
- the tasks of independent work planned in the study course;
- samples of independent work (if available);
- self-test tasks, exam questions;
- other study materials used for independent study (lecture materials, presentations, various supplementary materials, etc.).



The rules of study course management determine the procedure of discussion and evaluation regarding the results of the development of study course descriptions and methodological materials, as well as the decision on the suitability of the study course teaching materials and the readiness of study courses to be included in the study course register.

In the e-learning environment, there is an exchange of study materials and communication of students with the lecturer, submission of tests, etc.

Students and the teaching staff can get acquainted with the internal and external laws and regulations, methodological guidelines for developing the final examination tasks, practice programmes and other practice documents, application forms etc., as well as the latest information on student life and upcoming events. E-studies are available 24 hours a day from anywhere with internet access.

For the academic staff, the e-learning environment not only serves as a place to place their study materials and to organise examinations in connection with their course, but also as a place to improve their knowledge; materials for pedagogical seminars, projects etc. are available here.

A special internet resource [online.tsi.lv](http://online.tsi.lv) has been created for distance students, lecturers and the university administration. After matriculation, an informative letter is sent out to each student, a profile is created and access rights (password) are granted to the distance learning system. The informative course "Current Information", access to which is opened immediately after matriculation, contains all the information necessary for the student to start studies: a list with the study course opening procedures (access to study courses organised by TTI is granted according to a modular principle), software resources for distance learning students and recommendations for working with the distance learning system, instructions for working in the Moodle e-learning environment, for conducting tests in a distance learning system, direct link to TTI's e-library, audio recordings of virtual meetings, etc. The student ID card, the study plan for the entire study period and the course evaluations for the distance students, similarly to full-time students, are available on the TTI's internal information system Intranet.

The distance learning materials provided in each study course are different from the traditional study materials. These are materials that have been specially prepared for distance learning - documents, presentations, video files of the lectures, exercises for self-control, tests, as well as exercises for learning the subject. The content of the distance learning courses is developed in accordance with *Content of Teaching Materials for Distance Learning Courses* (approved on 13/05/2019, Order No. 01-12.1/52, available in TTI's record-keeping system).

TTI's *Regulations on Methodological Work* ( see Appendix 3. TTI's Main Internal Regulations) , which set out the requirements and regulations for the organisation of methodological work in the Institute. The Regulations specify and regulate the activities which aim to establish, maintain and develop the methodological base of the university study programme: the development of a new study programme, making changes to the study programme, the preparation of the methodological learning material set of the study course, the development of distance learning courses, the design of teaching materials, the updating of teaching materials, open lessons and methodological seminars.

### **TTI's Library - general information**

The legal basis for the operation of the Library of the Transport and Telecommunication Institute is the laws and regulations in force in the Republic of Latvia, the Constitution of TTI, the Regulations for the Use of the Library, the internal regulations of the Institute and the Bylaws of TTI's Library. According to the *Bylaws of TTI's Library* (approved at the Senate meeting on 19/02/2019, available in TTI's record-keeping system), the Library's primary goal is to ensure the availability of the

collection, electronic resources, and information systems to students, staff, and any Library user.

The Regulations for the Use of the Library (approved by TTI's order of 28/08/2019, order No. 01-12.1/88, available on TTI's website) govern the procedure for servicing the Library's users, lays down the duties, rights and responsibility of the Library's users, the use of information resources (printed matters, unpublished materials, electronic publications), facilities, systems and equipment, and other matters related to the Library.

The key Library statistical indicators (year of 2018):

- Number of users – 865
- Number of visits – 4642
- Number of remote visits – 1250
- Number of issues – 4122

The Library is registered in the Register of Libraries of the Ministry of Culture of the Republic of Latvia under No. BLB1920 on 17 May 2007.

The Library's main location on Lomonosova iela 1 has two service points:

- The Library study collection and research collection service point;
- Electronic reading room.

The Library facilities are in good technical and visual condition. The total area of the Library is 308 m<sup>2</sup>. Of these, the available space for users is 117 m<sup>2</sup> and storage space is 171 m<sup>2</sup>.

Library working hours are optimal, based on user flow measurements and according to the study plan schedule. Thus, Library services are provided to both full-time and part-time students.

The Library's electronic reading room (72 m<sup>2</sup>) with 30 user spaces, opened on 24 April 2019, implements the concept of “the Library as a learning place”. The comfortable and ergonomically designed room offers students the opportunity to use its equipment and access e-resources throughout the day for high-quality learning and well-spent time outside the studies. The e-library has workstations with 15 desktop computers, as well as 15 working sites for personal smart devices. An individual electrical connection is provided for each working site.

Opening hours of Library service points:

	Inventory	E-reading room
Mon	10.00 - 18.00	8.00 - 21.00
Tue	10.00 - 18.00	8.00 - 21.00
Wed	10.00 - 19.00	8.00 - 21.00
Thu	10.00 - 19.00	8.00 - 21.00
Fri	10.00 - 16.00	8.00 - 21.00
Sat	10.00 - 14.00	8.00 - 17.00

The Library employs three qualified staff: a Library manager and two librarians. The librarians work shift work, the Library is open to users six days a week, providing optimal Library opening hours.

For distance learning students, electronic Library services are available on the Library's homepage <http://lib.tsi.lv> without a time limit from any location with an internet connection.

### **User support and services**

The Library caters for the university's students, academic and general staff, and any user in the country in accordance with the Regulations for the Use of the Library. The Regulations for the Use of the Library are available to any user on the Library's premises, as well as on the Library's website at <http://lib.tsi.lv>.

Basic free Library services are available to all Library users, as well as additional paid services as per the approved pricelist:

- Providing textbooks for reading at home;
- Lending the books in the scientific collections;
- Library and e-library services;
- Self-service copying/printing of materials (paid service);
- Interlibrary loan services;
- Consultancy in the use of digital resources;
- Consultancy in the search for thematic information in the electronic resources;
- Assigning ISBN/ISSN numbers;
- Purchase of books published by the TTI (paid service);
- 19 user computers;
- Wireless internet connection.

### **Provision of information resources**

The Institute Library centrally enables the study process at the TTI and scientific-research activities with quality information resources and services in accordance with the goals and tasks set by the Institute, as well as examples of good practice in the modern library sector.

The compilation of information resources in the Library takes place in close cooperation with the representatives of the faculties, taking into account the recommendations of the academic staff and evaluating the statistics of the use of information resources.

The Library's collection of information resources consists of:

1. The collection – 41 357 units, of which:
  - books – 28299 units (14,617 titles)
  - e-books – 2795 units
  - periodicals – 10,263 units
2. Subscribed databases
  - Academic Complete (e-Book database, ~ 150000 book titles)
  - EBSCO national package (a digital resource platform that provides access to full-text database collections in humanities, as well as exact, social and natural sciences)

### **Accessibility:**

- The Library provides access to an electronic catalogue containing records of the printed and electronic resources in the Library's collection. Access to the catalogue is provided from the Library home page <http://lib.tsi.lv>; Users of the premises of the Institute and its Branch are

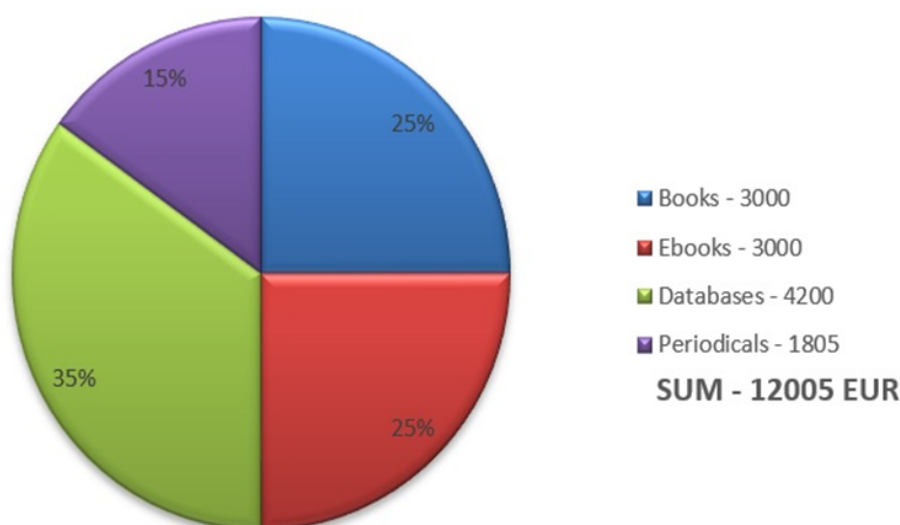
provided with unlimited access to the available remote services and electronic resources, including research databases. TSI students and staff also have access to the above services and electronic resources from external computers; the access is ensured through establishing VPN (Virtual Private Network) connection with TSI servers. The guidelines how to establish the connection can be found on the Library's web page.

- users can remotely access their virtual account, create lists of desired information resources, check issue history, extend the loan period of and order information resources for further use at home;
- Authorised users are provided with remote access to a wide range of scientific e-books from anywhere with an internet connection. The library holds 2,700 e-books. They can be read online or downloaded to the user's smart device. The books are available in e-pub and pdf format.
- Database of publications published by TTI's lecturers has been created and is regularly updated  
[http://research.tsi.lv/index.php?option=com\\_jresearch&view=publicationslist&Itemid=64&lang=en/](http://research.tsi.lv/index.php?option=com_jresearch&view=publicationslist&Itemid=64&lang=en/)
- manuals for the use of the electronic book collection and electronic resources have been placed on the Library website;
- users have the opportunity to remotely contact library staff and ask questions about using e-books and e-resources;
- a list of scientific electronic resources with description and online links has been posted in the Library portal;
- In the study course Introduction to Specialities, all first year students are introduced to the use of the library and the use of collections, including electronic resources;
- The library regularly organises training of academic staff to work with electronic resources, including with foreign lecturers representing the largest database publishing organisations.

### Principles for creating the Library collection:

The 2020 budget includes funds to replenish the collection:

**Acquisition budget by type of resources 2020**



*Fig. 16 Budget breakdown by type of resource in 2020*

- every year the Library's budget for the replenishment of the collection increases. Compared to 2019, the budget for replenishment in 2020 is over 25%;
- In cooperation with TTI's Library council, the collection's compilation policy was established which, in accordance with TTI's development strategy, defines the priority compilation directions;
- in accordance with the compilation policy, each faculty receives specific funding to supplement the resources of the study field it implements, in proportion to the number of programmes implemented in the faculty;
- at the beginning of the calendar year, faculties fill out requests of uniform format for books and e-books. Within the framework of the quality control system, a process scheme for carrying out the book purchase procedure at TTI has been developed and made available;
- Since 2018, requests for purchasing e-books are also accepted;
- regular consultations with the academic staff and TTI's management are held regarding the renewal and replenishment of the Library collection, including electronic resources;
- Every October, faculties are invited to review the list of subscribed periodicals and to make proposals for subscriptions to periodicals for the following year;
- information on the latest resources purchased is posted on the TTI Library portal and sent as electronic information to all TTI staff and students;
- users are regularly offered trials of scientific databases.

Students in the field **“Management, Administration and Real Estate Management”** have the opportunity to use the library's collection, which is mainly based on publications issued after 2008. Of the total collection, in the management, economics, finance and marketing fields, there are 3415 book titles (7245 units in total), about 50 e-books and 12 print magazine titles (including scientific magazines):

- *Harvard Business Review*
- *IEEE Aerospace and Electronic Systems Magazine*
- *IEEE Engineering Management Review*
- *IEEE Transactions on Education*
- *Air Traffic Technology International*
- *CAT Magazine. The Journal for Civil Aviation Training*
- *ICAO Journal*
- *Jane's Airport Review*
- *Bilance*
- *Juridiskie Padomi*
- *Praktiskais Likumdošanas Ziņnesis*

In 2020, the planned funds for the purchase of books within the field total EUR 1500.

To provide academic staff, researchers, and students in the field with high-quality scientific resources and remote services, within the framework of the project “Modernisation of STEM study programmes at the Transport and Telecommunication Institute” in November 2018, the Library migrated to a new library information system, *Accessit Libraries*, and purchased more than 2700 electronic books. With the implementation of the project, students have access to the following remote services:

- The library information system *Accessit Libraries* offers new technological solutions. For example, it has an integrated catalogue that allows students to locate resources in a variety of formats and access both e-books and database content;
- The e-book collection consists of 2015-2018 editions from authoritative publishers such as *Springer, Elsevier, Ashgate, Taylor & Francis*

- the e-book collection consists of scientific books and textbooks, research reviews and scientific conference materials in English;
- e-books can be read both online and downloaded to the user's computer for a limited period of time – up to one semester, and can also be read when no internet connection is available.

Since January 2019, two subscribed scientific databases have been made available to students in the field of Management, Administration and Real Estate Management.

The e-book database Academic Complete contains a specialised collection of management and administration books containing 1777 book titles.

The *EBSCO host* collections database contains tens of thousands of different types of electronic resources thematically related to the topics of management, administration and real estate management. These include journal and book articles, research descriptions, multimedia materials, etc., which enable the TTI academic staff, researchers and students to use high-quality, reliable scientific information in the coursework design and research process.

In addition to the subscribed scientific databases, students in the field of Management, Administration and Real Estate Management are advised to use several open-access scientific databases and resources:

- *OECD Library*
- *Directory of open access journals (DOAJ)*
- *Versita Open*
- *EconBiz*
- *NBER: National Bureau of Economic Research*
- *RePEc: Research Papers in Economics*

Students in the field have access to the following *OpenAccess* electronic scientific journals in economics and management:

- Aerospace
- Journal of Air Transport Management
- Journal of Airline and Airport Management
- Journal of Media Economics
- Baltic Journal of Economics
- Economic Research-Ekonomska Istraživanja
- Econometric Reviews
- International Journal of Public Administration
- Journal of Applied Economics
- Macroeconomics and Finance in Emerging Market Economies
- Economy and Society
- Journal of Change Management
- Journal of Social Entrepreneurship
- Journal of Strategic Marketing
- Technology Analysis & Strategic Management
- Total Quality Management & Business Excellence ect.

### **3.4. Provide information on the procedures for attracting and/or employing the teaching staff (including the call for vacancies, employment, election procedure, etc.), and the**

## **assessment of their transparency.**

The Transport and Telecommunication Institute's development strategy for 2016-2020 assesses and defines a human resources development plan, with the main emphasis on the attraction, development and renewal of educators.

Both academic and pedagogical staff with high qualification and knowledge and competencies appropriate to the respective academic position are involved in the implementation of the study direction and achievement of results.

The application and selection procedure for the academic staff at the Institute is governed by the "Regulations on the Selection of Academic Staff by a Competition" (see Appendix 3, TTI's Main Internal Regulations).

The number of academic staff positions is confirmed within the appropriate department's position list and budget. The planned change in the position list of the academic staff for the next budget year shall be approved by the dean of the respective faculty. Unplanned changes may only be made with the consent of the Board.

The selection/election of the academic staff is carried out in several stages -

- Information on vacancies in the department or the need for new vacancies;
- submission of an application prepared by the Head of the Department and agreed on with the Dean of the faculty, Vice-Rector for Academic Affairs and the Rector on the need to organise a competition for the academic position;
- The Head of the Department together with the Personnel Specialist shall determine the requirements, knowledge and competences that are necessary for the performance of the academic position and that shall be included in the text of the advertisement;
- The HR department announces the competition by publishing the advertisement, depending on the requirements and the vacancy status - on TTI's website or specialised job advertisement portals (e.g., CV-online);
- The HR department accepts the candidates' application documents and carries out the initial evaluation of the applicants' documents for compliance with the established requirements;
- Depending on the vacancy requirements and status, applicants' pedagogical skills are evaluated at the faculty - conducting an open class, after which the Dean and the Head of the Department give an opinion, a recommendation;
- Evaluation of the given information and professional abilities of the applicant by an expert nominated by the Senate Competition Commission and the presentation of this evaluation to the members of the Senate Competition Commission;
- Voting of the members of the Senate Competition Commission and recommendation to the Senate regarding the election/non-election of the candidate to the academic position;
- Elections are held in the Senate, the most suitable candidate is selected and a job offer is made.

The competency, professional skills and self-motivation level of the potential employee are evaluated during the recruitment process.

Competitions for academic and research staff positions are advertised publicly - on the TTI homepage, in the specialised job advertisement portals with which TTI has a contract (CV-online), if necessary, in the Latvijas Vēstnesis portal, European Commission portal Euraxess, etc., giving the chance to all the interested parties to apply for employment at TTI within one month of the date of

publication of the vacancy. Other recruitment methods, such as disseminating information through social media sites (Facebook, LinkedIn, etc.), may be used to attract applicants from specific fields or a narrow specialisation.

Applicants are assessed for application documentation, previous research activity, and an open lesson is prepared and conducted by the candidate and attended by the students, after which the Dean and the Head of the Department shall provide an opinion.

For the detailed evaluation of the documents submitted by the Applicant, one expert shall be appointed from the TTI academic staff who is competent in the respective field.

During the meeting of the Senate Competition Commission, which assesses the adequacy of the applicant's scientific, pedagogical and organisational competences, the evaluation of experts and the Head of the Department is heard, and personal interviews are conducted with the applicant. The Commission, by its decision, directs the most suitable applicants to the Senate for election to the academic position.

The HR department, within three days of the receipt of the Senate decision on the election to an academic position, shall notify the applicant regarding the Senate sitting decision and within 5 (five) working days shall prepare the necessary amendments to the agreements for the elected lecturers or conclude employment agreements. In the case of the election of a professor or associate professor, a package of documents with an extract of the Senate minutes shall be handed over to the applicant for submission to the relevant Council of Professors.

The qualifications and competencies of the academic staff are constantly being developed by the improvement of pedagogical skills, the development of English and by professional training in the field.

The lecturers' knowledge of the national language is fully in line with Cabinet of Ministers 07/07/2009 Regulation No. 733 "Regulations Regarding the Amount of Knowledge of the Official Language and the Procedures for Examination of the Knowledge of the Official Language and the Amount of the State Fee for the Examination of Fluency in the Official Language" and with the level of knowledge specified in Appendix 1 of the Regulations. This requirement does not apply to visiting lecturers from abroad who teach courses in the official languages of the European Union. The TTI's HR department verifies the national language skills by selecting staff and compiling documents in the preparation process for the academic position elections.

Guest teachers and external instructors are also invited to conduct individual study university courses on a contractual basis; their competences are assessed in a similar way as for the elected academic staff. In order to improve the content of the study programmes, foreign visiting lecturers are invited to teach TTI study courses. The procedure for inviting foreign visiting lecturers is stipulated in The Procedure for Inviting Foreign Visiting Lecturers for Short-Term Academic and Scientific activities at TTI (approved on 27/11/2012, Order No. 01-174-V, available in TTI's record-keeping system). TTI fulfills the requirement of the Law on Higher Education Institutions for the number of foreign visiting lecturers, last two years the number of foreign visiting lecturers at the university is 7%; Appendix 17 provides a list of foreign visiting lecturers during the reporting period at the Faculty of Management and Economics.

The process of recruitment and evaluation of lecturers is transparent, effective and one of the preconditions for high quality of the study process.

### **3.5. Specify whether there are common procedures for ensuring the qualification of the**



**academic staff members and the work quality in place and provide the respective assessment thereof. Specify the options for all teaching staff members to improve their qualification (including the information on the involvement of the teaching staff in different activities, the incentives for their involvement, etc.). Provide the respective examples and specify the way the added value of the possibilities used for the implementation of the study process and the improvement of the study quality is evaluated.**

Further training and professional development of TTI's academic staff is carried out in accordance with the *TTI academic staff professional development planning organisation programme* (approved on 15/04/2014, Order No. 01-12.1/35, available in TTI's record-keeping system). The Programme includes targets, content and forms of professional development planning for TTI academic staff.

The following targets for the professional development of academic staff have been set:

1. Mastering of new knowledge, skills and teaching methods, and the ability to use them in practical work;
2. Development of professional skills and overall personal development.

The regular audit and assessment process of academic staff competences includes:

- Preparation of annual action plans for the professional teaching and methodological development of academic staff and their implementation in accordance with the Programme and TTI management decisions;
- Planning of the financial resources required for upgrading the skills of academic staff;
- Assessment of the professional growth potential of the academic staff of the Faculties and the preparation of proposals and nominating of the most promising teachers;
- Compiling individual plans for teachers and proposals from Department heads on the implementation of the required professional development measures during the academic year;
- Organisation of annual academic staff attestations.

The following forms for the professional development of academic staff are mostly used:

- preparation and publication of scientific publications in international peer-reviewed journals;
- speeches by TTI's academic staff at international or inter-university conferences, seminars, participation in national or international projects and experience exchange programmes;
- Promotion of academic staff mobility by organising cooperation with other universities of a similar profile in Latvia and other countries (incl. within the ERASMUS+ programme);
- Participation of lecturers in conferences organised by TTI (RelStat, MIP, R&T-SiF), and the publication of their articles in international journals and journals issued by TTI;
- Participation of young teachers in methodological workshops to master new teaching methodologies and pedagogical skills;
- Lectures by the most experienced professors at workshops for the improvement of pedagogical skills of young teachers;
- Mastering of programmes on innovations in the higher education system, university didactics or the management of education work by teachers without higher pedagogical education;
- training/traineeships at international training centres, foreign universities or research institutes;
- Internships with leading employers of the industry and work in research laboratories outside the Institute;

- doctoral studies and development and defence of the PhD dissertation;
- Development of foreign language skills necessary for the work of the teachers.

The 2019-2025 implementation plan of the TTI's study field *Management, Administration and Real Estate Management* (approved on 06/09/2019, at the Council meeting of the Faculty of Management and Economics, available in TTI's record-keeping system) is updated for each academic year and includes the planned measures for the improvement of the qualification of the teaching staff of the Faculty.

1. During the reporting period, methodological seminars were regularly organised for the lecturers, where the lecturers were introduced to topical issues: creation of a study course in the e-learning environment Moodle, a seminar block devoted to the distance learning methodology, the use of a case study in the study process, pedagogical rhetoric for young lecturers, the preparation and publication of scientific articles, discovering plagiarism in students' work, mapping of study results, a block of seminars devoted to library e-resources, etc.
2. During the framework of the project *Strengthening of the Academic Staff of the Institute of Transport and Telecommunication in the Fields of Strategic Specialisation 8.2.2.0/18/A/011*, all academic staff are offered 200 hours of internship opportunity in Latvian companies and Latvian branches of foreign companies. In the spring semester of 2019, 11 lecturers have started their internship (including 4 lecturers involved in the study field), and 10 lecturers will start their internship in October (including 5 lecturers involved in the study field). The lecturers are doing internships in the following companies: VAS Riga International Airport, AS Air Baltic Corporation, AS Accenture, SIA Kuehne + Nagel, SIA Havas Latvia, SIA Airline Support Baltic, SIA X Infotech, SIA RunWay, SIA SAF Tehnika, SIA RoboLogic, etc.
3. As TTI has long-term experience in attracting foreign students, the English language skills of the lecturers are constantly monitored and opportunities for improvement are offered. To test their foreign language skills, in 2016, all lecturers were provided with an opportunity to assess their level of proficiency in English. If necessary for the development of foreign language skills, the institution offers English language training. Such training was organised in 2014, and also in the 2019/2020 academic year, the academic staff are provided with the opportunity to increase their English proficiency during the framework of the project *Strengthening of the Academic Staff of the Institute of Transport and Telecommunication in the Fields of Strategic Specialisation 8.2.2.0/18/A/011*. 19 lecturers use the opportunity to improve their English language skills.
4. Participation of the academic staff in the Latvian and international professional associations, unions, clusters is supported and promoted, which enables one to ensure connection with the professional environment. Currently the teaching staff is represented in: Latvian Aviation Association, Latvian Supply Chain Cluster, Latvian Transport Development and Education Association, European Council for Small Business and Entrepreneurship, European Conference of Transport Research Institutes (ECTRI), Latvian Supply Chain Cluster, Informatics Europe, Association of Paneuropean Coach Terminals, Latvian Information and Communication Technology Association, Latvian Electrical Engineering and Electronics Industry Association, Latvian Simulation Society, Latvian Society of Operational Research.
5. All lecturers have the opportunity to attend guest lectures organised by the Institute. As the most significant in recent years, the following guest lectures should be noted:
  - 13 October 2016 Director of the Fraunhofer-Institut für Fabrikbetrieb und-Automation Service (Magdeburg, Germany) Prof. Michael Schenk's guest lecture *How Can You Bring INDUSTRY 4.0 Technologies to Logistics Networks?*, in which Schenk presented the Industry 4.0 Concept that in 2011, the German government had declared the basic

component of the national development strategy in the field of high technology (information about the event: <http://www.tsi.lv/en/content/expert-meeting-how-can-you-bring-industry-40-technologies-logistics-networks>)

- 11 December 2017 During the presentation of the Master's Degree Programme in Aviation Management, in the conference room of the Riga International Airport VIP Terminal, Rigas Doganis, a world-class aviation expert and author of many books, gave a guest lecture on Future Perspectives and Challenges for Global Aviation Development, which brought together representatives from various sectors, including Riga International Airport and Liepaja Airport. During the lecture, R. Doganis talked about current developments in the aviation industry and revealed the key to the success of Europe's largest low-cost airline, Ryanair (event details: <https://www.tsi.lv/en/content/presentation-tsi-msc-aviation-management-and-aviation-consultant-rigas-doganis-lecture>)
- 18 January 2018 The guest lecture of Konstantinos Kalligiannis, the Managing Director of "K.K. Aviation Ltd" - *A Need for Holistic Management Approach in Today's Aviation Industry*.

6. Participation in scientific and teaching methodological conferences organised by TTI is supported and encouraged. The annual conference Problems of Modern Education provides an opportunity for TTI lecturers to share their experience with representatives of Latvian and foreign higher education and research institutions, representatives from businesses and municipalities on all issues of methodological and scientific work related to the modern educational process which is based on information and communication technologies. The final conference programme of 2018:

<http://mip2018.tsi.lv/en/>

7. Special seminars and science weeks are organised to improve professional

- In 2017-2018, TTI organised a series of open seminars on the topic of Science for Business.
  - The first seminar, on 8 December 2017, was devoted to the topic *From Data to Added Value: Views and Solutions*, where experience was shared by Accenture representatives, TTI's lecturers, doctoral and postgraduate students.
  - The second seminar on 26 April 2018 was devoted to the topic *Digitalisation in Logistics and Transport*, attended by outstanding scientists from Latvia and Germany, including the Fraunhofer Institute for Factory Operation and Automation IFF (Germany) Dipl.-Vw. Kay Matzner and Hon. -Prof. Dr.-Ing. Klaus Richter. [http://www.tsi.lv/sites/default/files/editor/26\\_april\\_workshop\\_agenda\\_2.pdf](http://www.tsi.lv/sites/default/files/editor/26_april_workshop_agenda_2.pdf)
  - The third seminar, on 7 December 2018, was devoted to the topic *From Data to Business Added Value*, where experience was shared by Deloitte Latvia employees.
- In 2018, on 16-20 October, for the first time, Science Week took place and consisted of several events: the seminar SCI-BI: Digitalisation in Logistics and Transport, closing conference of the ALLIANCE project Sustainable Urban Interchanges: Trends and New Prospects and the international conference The 18th International Multi-Conference Reliability and Statistics in Transportation and Communication (RelStat-2018).
- On 23-25 October 2017 - a seminar - guest lecture on online pedagogy for TTI educators. A. Pupcevs, President of the Senate of the European Humanities University (Lithuania), presented the topic *Distance Education as a Priority in the Development of a Modern University*, which looked at improving the quality of distance education based on modern methods and technologies.
- On 15 May 2019 - an open seminar *Putting Management Decisions into Practice* with a purpose of discovering the importance of management skills in the growth and development of every business, both in private companies and in public administration. Main topics:

management decision making and implementation, project management in organisations, international project management, leadership - the main cornerstone of company management, etc.

8. At TTI, all teaching staff have the opportunity to visit foreign universities in the Erasmus+ programme, to conduct classes, attend lectures led by foreign teachers, learn new methods and share experiences. For example, one of the lecturers of the Faculty of Management and Economics, O. Zervina, within the framework of this programme, participated in the International Days of the Thomas More University (Belgium) on 18-22 March 2019 in a seminar on *Intercultural Communication and Multilingual & Intercultural Education in Practice*.

9. The Institute supports lecturers' participation in projects (see Section 4.2), as well as actively utilises the opportunities provided by various projects to increase lecturers' competence in various fields.

For example, within the *SPREAD YOUR WINGS* project,

- in June 2018, TTI professors I. Kuzmina-Merlino, A. Medvedevs, J. Stukaļina visited Kazimiero Simonavičiaus Universitetas in Lithuania to exchange experience and improve lecturing methods.
- From 14 to 18 January 2019, the Transport and Telecommunication Institute hosted a Digital Academy - an intensive educator qualification improvement programme aimed at enhancing the lecturers' digital competencies needed to create online training courses.

Within the framework of the project *Enhancing Excellence and Innovation Capacity in Sustainable Transport Interchanges* (ALLIANCE):

- On 24-27 May 2016, TTI Professor I. Kuzmina-Merlino and lecturer O. Skorobogatova at the University of Thessaly in Greece collaborated in the *Urban and Transportation Training* qualification improvement course.
- From 19 February 2017 till 4 March 2017, within the framework of the INTERNATIONAL SPRING SCHOOL LOGISTICS project, TTI professor I. Kuzmina-Merlino and lecturer O. Skorobogatova completed a qualification improvement course at the Fraunhofer Institute for Factory Operation and Automation, Germany.
- I. Kuzmina-Merlino in collaboration with prof. Dr.ing. Henning Strubelt, Otto-von-Guericke University, Magdeburg, Germany, developed a new study course called *Building Models for Intermodel Transport Interchanges*.
- I. Jackiva in collaboration with Prof. Eftihia Nathanail (University of Thessaly) developed a new study course *Decision Making Methodologies*, which since 2017 is being taught to postgraduate students.
- For two years, in July 2017 and July 2018, TTI hosted Summer Schools on topics such as decision-making methodology, business models for transport terminals, best practices in transport company management, etc. The following lecturers participated in the summer schools and developed their competence: D. Pavļuks, O. Skorobogatova, M. Plise, N. Spiridovska, I. Kuzmina-Merlino, I. Išmuhametovs.

In order to motivate employees to show initiative and assume responsibility, and to evaluate the performance of the academic staff, an annual evaluation of the academic staff is organised in accordance with the *Academic Staff Certification Procedure for the Current Academic Year* (available in TTI's record-keeping system), which assesses scientific excellence, academic (pedagogical) activities, scientific organisational and administrative activities as the main guiding criteria. The evaluation results obtained are used for determining remuneration, which acts as an incentive for employees to achieve even better results.

The evaluation criteria are reviewed and, if necessary, adjusted annually to ensure their compliance with the priority orientations for the academic and scientific activities set by the university. As a result of the attestation, junior teachers are included in the TTI staff reserve list, and a special motivation system is applied to them, which is different from the common system.

The evaluation of the quality of the academic staff is carried out through regular student surveys and these evaluations are also taken into account in the annual evaluation of the teaching staff.

In March 2019, TTI electronically surveyed employees', including the educators', overall job satisfaction and engagement. In the survey, employees expressed their views on work content, work environment, communication and development issues. As the survey was successful, in the future such surveys will be conducted on a regular basis. The results of the surveys, together with the performance indicators of the planned work, are used to improve the internal communication, management and operational processes of the Institution.

**3.6. Provide information on the number of the teaching staff members involved in the implementation of the relevant study programmes of the study direction, as well as the analysis and assessment of the academic and research workload. Provide the assessment of the incoming and outgoing mobility of the teaching staff over the reporting period, the mobility dynamics, and the issues which the higher education institution/ college must tackle with regard to the mobility of the teaching staff.**

The qualification of the academic staff involved in the realisation of the study field corresponds to the specifics of the study programmes and the implementation conditions, as well as the requirements of the regulatory enactments.

The academic staff are professionals in their field of science and have proven their competence in the research of their respective fields.

In accordance with the Law on Higher Education Institutions, Cabinet of Ministers Regulation No. 445 *Regulations on the Teaching Staff Remuneration*, *TTI Regulation on the Remuneration of the Academic Staff* (approved at the meeting of the TTI Senate on 17/09/2019 and available in the TTI Record Keeping System) and the job descriptions for academic positions, the teaching load comprises student education, including teaching, conducting and supervising studies, organizing and supervising classes, tests and examinations; it also includes conducting scientific research, conducting and managing research in a relevant sub-branch of science, managing the doctoral studies and research, participation in conferences, preparation of publications, etc.; it also contains both organizational and methodological activities, including the organization of study activities, development and evaluation of study programmes, participation in the enhancement of performance quality of the Institute, training of young scientists and lecturers. All members of the academic staff elected to academic positions carry out academic, scientific, organizational and methodological activities.

According to Cabinet of Ministers Regulation No. 445 and the *TTI Regulation on the Remuneration of the Academic Staff*, full-time academic staff are assigned annual workload that includes teaching hours, which is the reflection on the pedagogical work, and the rest of the academic workload comprises scientific, organizational and methodological activities. In addition to the workload hours listed in the table, research work is conducted in projects carried out outside main working hours of staff and is separately remunerated.

Academic position	Workload in hours (per year)		
	Teaching load	Other academic load	Total
Professor	500	400	900
Associate professor	550	350	900
Assistant professor	600	300	900
Lecturer	650	250	900
Assistant	700	200	900

Depending on the academic position, the relationship between these duties is changing.

In 2018, the Institute had 60 academic staff members and 68 in-house researchers; in full-time equivalent - 24. The full-time equivalent of the research activity tends to increase each year, reflecting more active involvement of the academic staff in research. This is also supported by the scientific human resources strategy reflected in the Transport and Telecommunication Institute's Development Strategy for 2016-2020.

Twenty-three members of the academic staff participate in the implementation of the study direction and their work is divided as follows:

Position	Number of academic staff	Academic work of FTE	Scientific work of FTE
Professor	5	1.66	2.83
Associate professor	6	1.88	2.27
Assistant professor	8	2.46	2.09
Lekturer	4	1.74	0.63

It is evident that professors and associate professors have been doing more serious work in science, conducting research and have been less involved in the study management and provision process, whereas assistant professors and lecturers are more engaged in teaching.

TTI also places great emphasis on promoting the development of academic staff by engaging faculty members in research activities and encouraging them to pursue doctoral education. Thus, there is an increase in academic positions, specifically, in 2019, for the first time, 3 members of the academic staff were elected as associate professors, 1 lecturer as an assistant professor. In the previous year, in 2018, for the first time, 1 member of staff was elected as a professor and 1 member of staff became an associate professor. In 2017, for the first time, 2 members of staff were elected as associate professors. There are 2 lecturers studying for a doctoral degree and there is an opportunity for them to apply for the position of an assistant professor in the future.

Efforts are also being made to improve the qualitative, not only quantitative, indicators of the research staff. In order to balance academic and research activities, to motivate the academic and teaching staff to do academic and scientific work, in the *TTI Remuneration Rules for Teaching Staff* (approved at the meeting of TTI Senate on 17/09/2019, available in TTI's record-keeping-system) a detailed payment system for both academic and scientific activities has been developed.

Academic staff from all TTI faculties participate in the implementation of the study direction, because the study programmes are multidisciplinary and study courses are designed so that management theories can be integrated in different fields. Programme specialisation courses are provided by the Faculty of Management and Economics.

The implementation of the TTI study direction is ensured by 23 elected academic staff members, including 5 professors, 6 assoc. professors, 8 docents and 4 lecturers.

In order to ensure meaningful knowledge and skills that are appreciated in the labour market, in addition to the permanent staff, teaching staff is recruited who carry out their duties as lecturers on a contractual basis for a fixed period. They include industry experts, lecturers elected at other higher education institutions, etc.

TTI also involves foreign lecturers in academic and research activities, not only as guest lecturers, but also in the elected academic positions, such as associate professor Alomar Iyad, Ph.D. in Engineering.

Visiting lecturers are mainly invited for academic work and less for research. However, they are highly ranked lecturers with specific knowledge or professional experience in their respective areas of specialization, which is why they provide high quality lectures and classroom management. Visiting lecturers are academic staff elected in other higher education institutions or they are professionals in relevant fields, which guarantees the quality of their work in academia and science.

For the autumn semester of 2019, several visiting lecturers have been attracted and agreements with them have already been signed within the framework of the project 8.2.2. They are:

- D. E.G. Nathanail will teach the course *Decision Making Methodology*
- Ed. I. Gabelaia will teach the course *Human Resource Management and Leadership*
- B. Ovezmyradov will teach the course *Sustainable Supply Chain Management and Multimodal Transport*. B. Ovezmyradov is planned to be elected as a member of the TTI academic staff in 2020.

Several foreign lecturers are invited for independent work as guest lecturers. Msc. Dolle Nicolas, who has just started studies at the TTI's PhD programme, will be teaching Digital Business Environment (undergraduate programme), MBA-Finance Toufic Kavar , *Fundamentals of Business Management* (undergraduate programme).

Professionals in their speciality with practical work experience in the respective field are also involved in the implementation of the study programmes of the speciality - mainly in the study courses related to specific industries - A. Saveljevs, Member of the Board and Commercial Director of VAS Riga International Airport teaches the study course *Strategic and Change Management in Aviation*; I. Pavasars Head of the Training Centre of the VAS Riga International Airport teaches the course *Quality and Safety Management in Aviation*; A. Kokars, Advisor to the Chairman of the Board of VAS Riga International Airport teaches the courses *Legal Aspects of International Trade and Aviation* and the specialisation courses *Airport Management* and *Airline Management*.

In the study direction, 19 (83%) of TTI's academic staff have a PhD, and 8 academic staff have a PhD in the respective field.

Out of the invited lecturers, 10 have a doctoral degree, the rest have a Master's degree in the respective field.

The lecturers involved in the realisation of the study field direction and the programmes implemented therein plan their pedagogical load according to the study plan of each semester and academic year.

The professional qualification of the academic staff fully corresponds to the implementation of the study programmes of the study field; the competence of the academic staff is attested by:

- qualification of the academic staff, its compliance with the requirements specified in regulatory enactments;
- scientific work, topicality of scientific work and cooperation with scientific institutions in Latvia and abroad;
- professional competence as evidenced by the professional and academic experience; the postgraduate students they have educated; the study materials developed, the scientific publications; participation in projects and “their management, participation in the development or management of study programmes, cooperation with Latvian and foreign higher education institutions; work with foreign students; development of study courses, self-assessment of professional activity, etc”.

Appendix 10 Biographies of the teaching staff (Curriculum Vitae in *Europass* format).

Appendix 11 Teaching staff involved in the implementation of the study direction, indicating their degree/qualification; electoral status at the higher education institution/college; study programmes and study courses in whose implementation they are participating.

### **Evaluation of outgoing teacher mobility during the reporting period**

Outgoing teacher mobility within the university is implemented through the *Erasmus+* programme. Cooperation agreements have been concluded with other European Union higher education institutions, in which study programmes with equivalent study content are implemented to ensure meaningful cooperation. Prerequisite for Erasmus+ visiting lecturers: The educator must teach for at least eight academic hours, which may include lectures and seminars. Before going on a guest lecture visit, lecturers contact the host university to develop the appropriate lecture plan.

During the reporting period, the lecturers involved in the field of study delivered lectures 22 times in the framework of the Erasmus+ Program.

### **Evaluation of the incoming educators' mobility during the reporting period**

The mobility of the incoming educators at the Faculty of Management and Economics is implemented through both ERASMUS+ project activities and inter-university cooperation. During the reporting period, the Faculty of Management and Economics has hosted 8 guest lecturers within the ERASMUS+ programme and many guest lecturers who deliver individual guest lectures or entire courses (see Appendices 12, 17)

Appendix 12 Statistics on incoming and outgoing mobility of teaching staff during the reference period

Incoming mobility at the Faculty of Management and Economics in the reporting period:

2013

- Dr Gunnar Prause, Wismar Business School, University of Wismar (Germany): Strategic Management and Business Simulation Game LUDUS



## 2014

- Anatoli Beifert, Head of the EU projects centre, Wismar University of Applied Sciences: Business simulation games (3ECTS)
- Dimitar Radev, University of Telecommunications and Post (Bulgaria): Management of telecommunication companies
- Massimo Merlino, Bergamo University (Italy): International marketing and advertising (8 academic hours)

## Year 2015

- Mr Ing. Peter Marton Ph.D., Vice-Dean of Science and Research, University of Žilina (Slovakia): Modelling and simulation - using in transport and logistics (8 academic hours)
- Osman Yildirim, Arel University Company's: Performance Management (8 academic hours)

## 2016

- Serkan Gursoy, Ass. Professor Beykoz Lojistik Meslek Yuksekolu: *Big Data as a Big Capital and Latest Strategies for Globalizing Business* (8 academic hours)
- Majerova Jana, JUDr.ing., PhD.University of Zilina (Slovakia): *Issue of Brand Value Building and Management* (8 academic hours)
- Mišankova Maria, Ing. PhD.University of Zilina (Slovakia): *Issue of Financial Health of Transport Companies* (8 academic hours)
- Irina Keshabyan, Ivanova UNIVERSITY OF MURCIA (Spain): International economics

## 2017

- Dr Neil Rubens, Stanford University Project Manager in the Use of Artificial Intelligence for Industry Analysis: Strategic Industry analysis (3 ECTS)
- Massimo Merlino, University of Bergamo (Italy): International Marketing (4 academic hours)
- Eftihia Nathanail, University of Thessaly (Greece): Decision Making Methodologies (24 academic hours)
- prof.Derya Saatçioğlu, Beykoz Vocational School of Logistics, Beykoz University (Turkey): *E-commerce Logistics Operations - Behind the Scenes; Last Mile Delivery in B2C* (8 academic hours)

## 2018

- Luboslava Kubišova, Univerzita Mateja Bela v Banskej Bystrici (Slovakia): Organizational Changes in the Modern World
- Maria Spišiaková, Univerzita Mateja Bela v Banskej Bystrici (Slovakia): Organizational Changes in the Modern World
- Eftihia Nathanail, University of Thessaly (Greece): Decision Making Methodologies (24 academic hours)
- Mrs Albena Stefanova, University of National and World Economy (Bulgaria): *International Economics; European Regulation*
- József Stoklosa, University of Economics and Innovation (Bulgaria): *Financial Innovations*

## 2019

- Eftihia Nathanail, University of Thessaly (Greece): Decision Making Methodologies (24 academic hours)
- Mrs Gabelia Ioseb, visiting lecturer, project 8.2.2, *Strategic Human Resource Management and Leadership*, 2 credits, 24 academic hours)

**3.7. Assessment of the support available for the students, including the support provided during the study process, as well as career and psychological support by specifying the support to be provided to specific student groups (for instance, students from abroad, part-time students, distance-learning students, students with special needs, etc.).**

Assessment of the support available to students, including study process support, career guidance and psychological support, with particular reference to support for specific groups of students (e.g., students from abroad, part-time students, distance learning students, students with special needs, etc.).

During the matriculation process, a student's handbook is issued to the students so that they'd know from day one where to turn if they have questions.

TTI technical support is provided by the IT department. A centralised study process and information structure support - *helpdesk* - has been set up to receive applications, process them and give guidance to support staff. Table 12 describes the support staff.

*Table 12. Description of support staff.*

<i>No. personal identity No.</i>	<i>Speciality</i>	<i>Task</i>	<i>Quantity</i>	<i>Notes</i>
1	Operating Systems Engineer	Support of users, study process, IT services	2	Monday-Friday: from 8:30 a.m. till 8:30 p.m. Saturday - from 8:30 a.m. till 6:30 p.m. Sunday - according to the list of classes for the module training form Applications sent to the email are accepted around the clock.
2	Computer Technology Engineer	Computer hardware exploitation	1	
3	Computer Systems Administrator	Support of IT structure functioning	1	

As the study process at the university is also organised in full-time evening groups and part-time off-site sessions, which include Saturday classes or in modular form also on Sundays, the help desk is available on weekday evenings as well as on weekends.

Questions related to the study process are supported by the Studies Department and the Faculty Office, also providing feedback in communication with students. The working hours of the Studies Department are from 8:30 a.m. till 6:30 p.m. on weekdays and from 8:30 a.m. till 4:00 p.m. on Saturdays. Thus, the Studies Department is open to both evening students who come to the Institute after the work and part time students on Saturdays.

The association Apeirons has recognised TTI as an organisation friendly for people with disabilities. This was achieved by adapting the building and the study rooms for persons with disabilities (see Part II, Section 3.2). Heads of departments, deans and teaching staff take an individual approach to such students in each situation in the study process. Although the lift is specially adapted, it is often the lecturers who go to the student and individual consultation or course tests are conducted in the ground floor hall.

TTI pays special attention to foreign students. Already at the time of enrolment, the prospective student is offered the opportunity to complete a questionnaire in the electronic system Admission that includes questions about whether the student will need to be picked up at the airport and whether he or she will need to be provided with a hotel room, with "yes" and "no" as the possible answers. TTI does not have its own hotel, but it has concluded cooperation agreements with several

hotels (SIA RIGAAPARTMENT.COM, AS 1Home Group, SIA DODO Hotels) guaranteeing the accommodation of TTI students - foreigners. Foreign students are offered the addresses and contact information of these hotels. At the airport, students are welcomed by a TTI student - a volunteer. TTI students are entitled to a tuition fee discount for performing such duties.

The organisation of work with foreign students at TTI is the responsibility of the Foreign Students Coordinator, whose responsibility it is to give advice on the study process organisation, behavioural and ethical issues at TTI, entry and accommodation in Latvia (places of residence, hotels, shops, pharmacies, medical institutions, The Office of Citizenship and Migration Affairs, etc.); to organise the integration of foreign students into the TTI study process and student life; to provide communication between TTI administration, departments, the Student Council and national regulatory authorities in order to offer support to foreign students to successfully complete their studies at TTI; together with the assistants of the deans of the faculties and the lecturers, to control the progress of the study process of foreign students (including attendance of classes, control of the study performance); to provide assistance to foreign students in the organisation of their compulsory study internship (finding a place of internship, internship applications, preparing and registering an internship agreement, etc.), etc.

The first week of the semester is devoted to the adaptation of foreign students, introducing them to the structure of TTI, departments and staff (dean and assistant dean), academic culture, information about available IT resources, Library, and a guided tour of the capital.

A Distance Learning Unit has been established for the organisation and support of distance learning. It employs 3 distance learning educationalists and the Head of the Unit. The employees of the Distance Learning Department carry out the planning and coordination of the distance learning; place and process methodological materials in the electronic system Moodle; participate in the registration of distance learning students and implementation of study plans; participate in the analysis of study quality and customer satisfaction; organise communication with distance learning students and teachers; provide students with access to distance learning courses; participate in the study process as mentors and implement other activities related to the study process. Each educationalist is responsible for the students in a particular programme, advising and assisting with organisational, technical and curriculum related issues during the course of the studies, including adjusting deadlines for the current papers to suit the needs of the students, taking into account justifying reasons.

The Corporate Customers section of TTI, which oversees an information database about companies that provide internship opportunities, offers students both internships and information about the latest job offers. The latest job offers are posted and available to students in the TTI e-learning environment Moodle. Each spring, the TTI Corporate Clients Department organises Career Days for TTI students, including guest lectures by professionals from various disciplines on successful integration into the labour market, news and current affairs in IT, logistics, and aviation, and the aspiring entrepreneurs are given the opportunity to listen to tips for starting their own business.

## **II - Description of the Study Direction (4. Scientific Research and Artistic Creation)**

### **4.1. Description and assessment of the directions of scientific research and/or artistic creation in the study direction, their compliance with the aims of the higher education institution/ college and the study direction, and the development level of scientific**

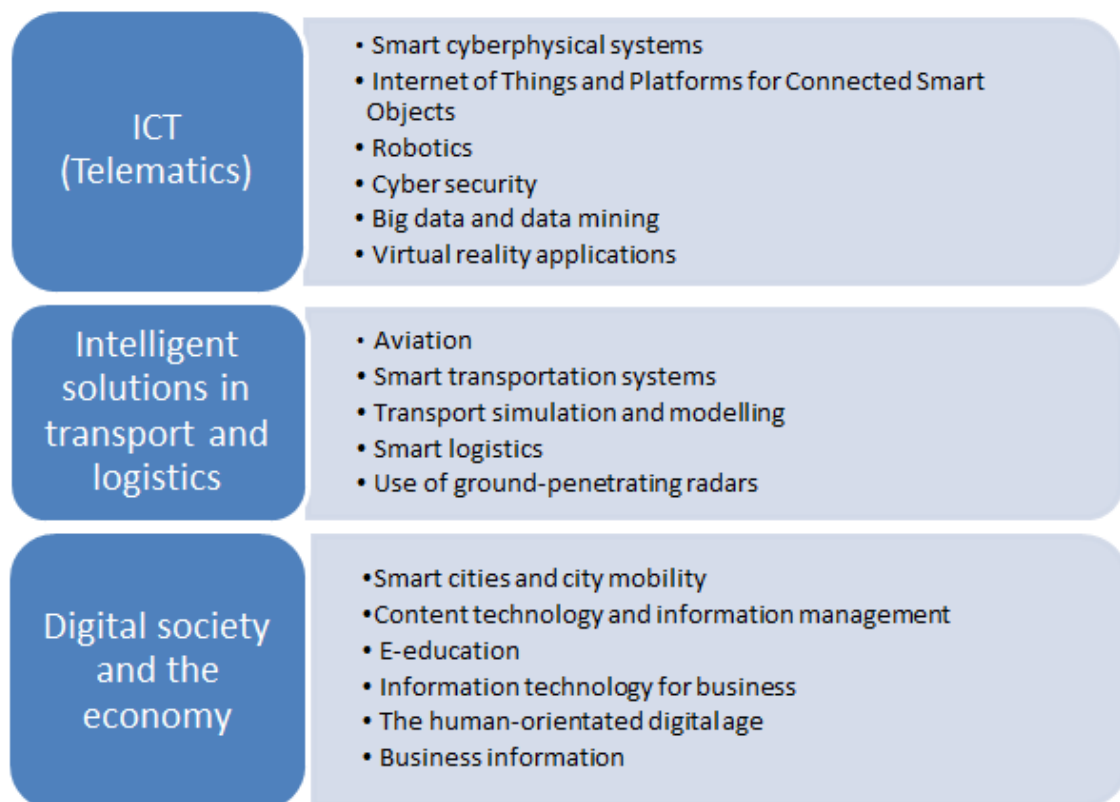
**research and artistic creation (provide a separate description of the role of the doctoral study programmes, if applicable).**

The mission of the research at the Transport and Telecommunication Institute is to create and disseminate advanced knowledge to boost the quality of life of the society.

The main objective of TTI's science development policy is to build science and research as the basis for the long-term development of the Institute, ensuring the implementation of the knowledge economy and its sustainable growth.

Research at the Transport and Telecommunication Institute operates in accordance with the strategy approved in 2015, *Transport and Telecommunication Institute Strategy and Research Programme 2015-2020* (available at: [http://www.tsi.lv/sites/default/files/editor/transport\\_and\\_telecommunication\\_institute\\_research\\_programme\\_final\\_website .pdf](http://www.tsi.lv/sites/default/files/editor/transport_and_telecommunication_institute_research_programme_final_website.pdf)). The research programme aims to create an education and science environment which ensures continuous academic staff training and carrying out research and development along the TTI priority development directions.

The research at TTI is mainly focused on 3 main directions (see Figure 17), the last of which is more focused on the Faculty of Management Science and Economics.



*Fig. 17 TTI research directions*

TTI supports research in all fields of social sciences with adequate capacity at the Institute. The directions of research correspond to the aim of the study field to be accredited.

The aim of the study field “Management, Administration and Real Estate Management” is to provide students with sustainable high quality education in management, ensuring competitive career development in the Latvian and international labour market and preparing internationally recognised, highly qualified specialists in various fields of management and administration

research, using the results of relevant research.

The Faculty of Management Science and Economics specialises in business management and administration, while the university's historical profile is the use of information and communication technologies (ICT) in transport and logistics, which investigate societal and economic impacts in various fields, which also creates the preconditions for interdisciplinary research.

Lecturers involved in the field of study are occupied in research related to participation in:

- HORIZON 2020 programme projects. Enhancing Excellence and Innovation Capacity in Sustainable Transport Interchanges (ALLIANCE) (led by Prof. I. Jackiva), whose goal was to establish an advanced science and higher education institute in the field of transport in Latvia. The project focuses on intermodal passenger and freight transport systems, taking into account legal and organisational aspects and links with other areas, such as spatial planning and economic development, defining smart and sustainable transport solutions, and incorporates decision strategies, methodologies and methods to analyse and evaluate the impact of these solutions on transport, the economy and society as a whole.
- Participation in COST projects has enabled many young scientists to gain new knowledge and practical experience for the successful development and defence of doctoral theses.
- ERASMUS+ programme projects. It enables research and administrative staff to become familiar with the principles of management and research implementation in projects, while at the same time improving the educational process and attracting young researchers to projects. The ERASMUS+ programme offers ample opportunities to improve the quality of the education process and thus prepare the next generation of academic and research staff. Projects under ERASMUS+ are focused on innovation solutions in education, knowledge sharing, creation of joint master's programmes, etc. For example, Learning with ICT use (LEARN IT) 2015-2018 prof. J. Stukalina.
- INTERREG EUROPE programme projects. *Smart Logistics and Freight Villages Initiative* (SmartLog) (led by Prof. I. Kabashkin) was focused on improving transport corridors and reducing travelling times of goods by planning and investing in ICT solutions.

The research organisation of TTI is formed in accordance with the Law on Scientific Activity. The highest collegial body in research is the Scientific and Doctoral Council, which takes strategic decisions in research by appointing research staff by secret ballot. The day-to-day management of scientific activities is carried out by the Research Section under the supervision of the Vice-Rectors of Research and Development.

The International Scientific Advisory Board established by the TTI is a consultative body that makes recommendations to the TTI in the fields of science, education and innovation. Its operation is governed by the *Statutes of the International Scientific Advisory Board* (approved by the Senate on 25 June 2015, available in the record-keeping system of TTI). The Council consists of Prof. Dr Nicos Komninos (Greece), Univ.-Prof. Dr.-Ing. habil. Prof. E. h. Dr. h. c mult. Michael Schenk (Germany), Prof. Dr Andres Monzon De Caceres ( Spain ) (available at: <http://www.tsi.lv/en/content/international-zinatniska-konsultativa-padome>). A progress report is presented to the Council each year. The Council shall evaluate the research activities of TTI and shall advise on the strategic development directions and priorities of research. They act as ambassadors to the Institute at an international level, advising on available funding opportunities that could be used by TTI and advising on how to realise these potential opportunities in practice.

The quality management of the research activities of the Institution, the rules for the organisation, provision and implementation of research activities and the quality control of its results are governed by the *Research Quality Manual* (approved on 29/10/2018, Order No. 01-12.1/57A, available in TTI's record-keeping system).

Annual monitoring of the research is provided by summarising the scientific results of the faculties at the beginning of each calendar year. The Dean of the Faculty submits a special report form to the Research Section. The data is compiled in the TTI Scientific Activity Report, which is prepared by 1 April of the current year for the previous calendar year.

Research activities are monitored at the department level by their managers. For supervisors of all scientific and academic departments, oversight of scientific work is included in job descriptions.

External funding is used for research, as well as TTI's internal resources. Funding is included in the budget of the Research Section.

At the beginning of each academic year, in September, the dean of the faculty submits a plan for the academic research of the teaching staff to the Research Section, which includes the plan in their budget.

The types, amount and procedure of payment for the scientific activity are specified in *the TTI Remuneration Rules for Teaching Staff* (approved on 17/09/2019. in the TTI Senate sitting, protocol No. 01-7/1, available in TTI's record-keeping system), defining the following types of separately payable research work for teaching staff - supervising doctoral thesis, reviewing the papers of TTI Scientific Conference's (RelStat/MIP/RatSif) participants, reviewing the TTI RelStat conference members' articles, publishing in an issue that is included in the quoted databases WoS, SCOPUS and included in the first quartile Q1\*\*\* of the international ranking of magazines, publishing in an issue that is included in the quoted databases WoS, SCOPUS \*\*\*, publishing in an issue that is included in the quoted databases ERIH, Engineering Village2, EBSCO\*\*\*, article based on the results of the RelStat conference (participation with a report) or in the TTI publication *Transport & Telecommunication*, review of articles in the TTI's publication *Transport & Telecommunication*, patent registration.

In accordance with the financial capacity of the TTI and the topicality of the research field, TTI supports the participation of academic staff in scientific conferences by granting paid leave.

The research department is responsible for informing the academic staff of the Institute and for any communication related to the research activities. Support for this process shall be provided by:

- Marketing and Sales Department: support in the preparation of information, visualisation and formatting.
- Human Resources: support in information dissemination.
- Computer Technology (IT): support for publishing the information on electronic resources.

Academic staff are introduced to the following types of information:

- information on the opening of project programmes, research co-financing funds and other instruments to support research activities,
- information on external and internal scientific activities:
  - information is sent by e-mail (the recipients are identified according to the planned activity),
  - published on the TTI website: <http://www.tsi.lv/en/content/zinas>; <http://www.tsi.lv/en/news>.

The content of a particular publication is taken into account when determining the publication section.

- The TTI website publishes up-to-date information on all scientific activities at the Institute: <http://www.tsi.lv/en/content/reasearch-tsi>.

On 29 November 2018, TTI's research activities were certified according to the requirements of the

#### **4.2. The relation between scientific research and/or artistic creation and the study process, including the description and assessment of the use of the outcomes in the study process.**

Research is an integral part of the study process. Linking research with the study process is characterised by lecturers' research activity, which creates preconditions for improvement and updating of study course content in preparation for lectures, design of practical tasks, seminars, project work and graduation thesis topics, etc., as well as in developing the students' research skills.

The equipment and special software purchased for research are available in the TTI laboratories. The opportunities of the laboratory are actively used by students in the development of Master's theses, as well as they are used for the undergraduate and doctoral students of the university. Many scientific projects involve students helping to collect and process research data.

Appendix 13 List of projects involving faculty members as leaders or participants.

As part of the ERASMUS+KA2 "SPREAD YOUR WINGS" 2017-1-PL01-KA203-038782 (professor J. Stukaļina) project, TTI is currently developing an innovative course, *Development of Sustainable Aviation*, for the students of the Master's degree programme *Aviation Management* worth 2 credit points (part of the course is already available on the distance learning platform), including the development of multimedia teaching materials that facilitate the scientific activity of lecturers and students by developing and implementing technologies for sustainable development in the aviation industry. After designing the course and completing the project in autumn 2020, the course will be included in the programme study plan and offered to students.

As part of the COST Action project CA15137 European Network for Research Evaluation in the Social Sciences and Humanities (Prof. J. Stukaļina), young researchers of the faculty participated in a seminar on the problem of evaluating research results in the social and humanitarian sciences, organised with the aim of improving the relevant procedures in the European Union.

The goal of the COST Action project 15221 Advancing Effective Institutional Models Towards Cohesive Teaching, Learning, Research, and Writing Development to improve the centralised support model of the Institution's main academic and educational work directions. Within this project, prof. J. Stukaļina visited Masaryk University in Brno (Czech Republic) in 2018 with a scientific mission. Based on the results of the scientific mission, a presentation was made at the RelStat-2018 conference, and a scientific article and seminar for faculty lecturers was prepared. As part of the project, O. Zervina, a lecturer and PhD student at the TTI faculty, completed a training course at the Summer School at the *Goethe-Universität Frankfurt am Main* in 2019.

The aim of the COST Action project CA18236 Multi-Disciplinary Innovation for Social Change (SHIINE) (Prof. J. Stukaļina) is to demonstrate the ability to respond to social challenges through the methods of multi-disciplinary innovation, and to support positive social change. The project brings together researchers in higher education, business and social sciences to take a multidisciplinary approach to solving social problems. A Pan-European Public Sector Innovation / ePSI Laboratory will be established to: 1) prepare students for employment by integrating educational programmes into

laboratory activities; 2) support agencies involved in public policy-making. The project only started in October this year, and the faculty's educators and students will get involved in it.

TTI Assoc. Professor J. Popova as a researcher is involved in the Baltic International Academy's project Enhancing Green Economy in 3 countries of Asia, Grant agreement (project contract No. 598470-EPP-1-2018-DE-EPPKA2-CBHE-JP-ENV2), implemented jointly by universities from 6 countries: Germany, Poland, Latvia, Kyrgyzstan, India and Nepal. The aim of the project is to develop programme modules that will strengthen knowledge of the green economy, which will be integrated into the Institute's degree programmes. The skills acquired as a result of the development of such modules will also be used by the TTI lecturer in the TTI study process.

Lecturers of the Faculty of Management and Economics, prof. Irina Kuzmina-Merlino and lecturer Oksana Skorobogatova participated in the international scientific project *Enhancing Excellence and Innovation Capacity in Sustainable Transport Interchanges* (ALLIANCE) (supervisor prof. I. Jackiva), whose goal was to develop an advanced science and higher education institute in Latvia in the field of smart interconnected sustainable transport networks. The project was carried out in cooperation with two internationally recognised research institutes - the University of Thessaly (UTH) in Greece and the Fraunhofer Institute in Germany. The results achieved in the project:

- Skorobogatova's doctoral studies with an approved doctoral thesis topic: *Economic Aspects of the Concept of Sustainable Development of the Transport Sector* (research supervisor Prof. I. Kuzmina-Merlino).
- Skorobogatova's participation in the study programme *Urban and Transportation Planning*. The programme was organised as part of the third conference (3rd CSUM) UTH Intersectoral Master's and Doctoral programme's *Project Management Transportation and Regional planning and Sustainable Urban Mobility* which took place on 26 and 27 May of 2016.
- Joint writing of scientific articles in cooperation with German partners (Niels Schmidtke, Ph.D student and Prof., Dr.-Ing. Fabian Behrendt, Fraunhofer Institute for Factory Operations and Automation, Magdeburg:
  - Kuzmina-Merlino, I., Skorobogatova O., Schmidtke N., Behrendt F. (2018) *The Financial and Economic Aspects of Transport Infrastructure Development in Latvia*, *Transport and Telecommunication Journal, The Journal of the Transport and Telecommunication Institute, Volume 19, issue 3, pages 203-212*, Available at: <https://www.degruyter.com/view/j/ttj.2018.19.issue-3/ttj-2018-0017/ttj-2018-0017.xml?format=INT> Indexed by Scopus.
  - Kuzmina-Merlino, I., Skorobogatova O., Schmidtke N., Behrendt F. (2018) *Mechanism for Investment in the Transport Infrastructure Development in Latvia in: Lecture Notes in Networks and Systems, Volume 36, Springer, pages 507-518*. [https://link.springer.com/chapter/10.1007/978-3-319-74454-4\\_49](https://link.springer.com/chapter/10.1007/978-3-319-74454-4_49) Indexed by Scopus and WoS.
- Preparation of a scientific paper (I. Kuzmina-Merlino and O. Skorobogatova, 2019). *Theoretical View on the Designing of Prototype of Business Model for a Transport Company* in Book: *"Data Analytics: Paving the Way to Sustainable Urban Mobility"*, Springer Nature Switzerland AG 2019, E.G. Nathanail and I.D. Karakikes (Eds): CSUM 2018, AISC 879, pp. 487-495 Indexed by Scopus.
- Development of a new study course *Building Models for Intermodel Transport Interchanges* - I. Kuzmina-Merlino's collaboration with prof. Dr.ing. Henning Strubelt, Otto-von-Guericke University, Magdeburg, Germany.

COST Action TU1306: Fostering knowledge about the relationship between Information and Communication Technologies and Public Spaces supported by strategies to improve their use and attractiveness (CYBERPARKS) COST action TU1306: Promotion of Knowledge on the Relationship of



Information and Communication Technologies with Public Spaces Supporting their Use and Strategy for their Use and Improvement (CYBERPARKS), moderator prof. I. Jackiva. The main objective of the project is to establish a research platform on the relationship between Information and Communication Technologies (ICT) and the public open space and their relation to sustainable urban development. The impact of these relationships was explored from a social, ecological and urban perspective. The results of the actions will be integrated into the study course *Sustainable Economics*.

TTI prof. J. Stukaļina participated as a researcher in the World Council for Curriculum and Instruction (WCCI) monitoring project *Special Interest Group Media and Technology* (2013-2014). The project aimed to encourage WCCI members, partners and staff to focus on new media, ICT and organisational communications applications to maximise the educational and human potential by providing equal access to educational opportunities. The project involved several teleconferences with faculty and students at Frostburg State University (Maryland, USA) (available at: <http://wcci-international.org/community-development/media-technology/>).

COST Action TU1305 *Social Networks and Travel Behaviour* COST action TU1305 *Social Networks and Travel Behaviour*, supervisor assoc. prof. M. Savrasovs. The aim of the action was to propose a new framework for cooperation between different EU research groups developing a new transport paradigm based on ICT social networks and their future travel behaviour in urban environments.

COST Action TU1408: *Air Transport and Regional Development* (ATARD) / COST Action TU1408: *Air Transport and Regional Development* (ATARD), supervisor prof. I. Kabaškins. This action explores the relationship between air transport and regional development. The benefits it brings are both scientific and societal in nature. These include a better understanding of these relations, focusing on Europe; analysing policy recommendations on how air transport infrastructure and services should be pursued to support the economic competitiveness that is dedicated to air transport and its economic, social and environmental consequences, in line with the Europe 2020 strategy.

COST Action CA16222: *Wider Impacts and Scenario Evaluation of Autonomous and Connected Transport*, supervisor prof. I. Jackiva. The focus of this COST action is on future mobility trends and impact on travel patterns, such as car sharing, travel time or choice of residence, and other important issues to be explored in different deployment scenarios as well as social, ethical, institutional and business implications.

**4.3. Description and assessment of the international cooperation in the field of scientific research and/or artistic creation by specifying any joint projects, researches, etc. Specify those study programmes, which benefit from this cooperation. Specify the future plans for the development of international cooperation in the field of scientific research and/or artistic creation.**

TTI implements student and staff mobility activities. Currently, TTI has concluded the following agreements with foreign scientific institutions (Table 13).

*Table 13. Cooperation agreements with foreign scientific institutions*

University	Country	Type of cooperation	Field of scientific research
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The University of Thessaly, Greece	Greece	Collaboration Agreement in scientific and academic activities (Design of Doctoral program, researchers' mobility in EU Project Horizon-2020, etc.)	Management Transport Economics
Tallinn University of Technology	Estonia	Collaboration Agreement in scientific and academic activities	Management
Kyiv National Economic University named after Vadym Hetman; department of Strategic Management	Ukraine	Organizing committee of the International scientific-practical conference	Strategic Management
University of Zilina, Zilina	Poland	Researcher mobility	Management Aviation Management
P.G. Demidov Yaroslavl State University (Yaroslavl, Russian Federation)	Russia	Research mobility	Financial Management
Fraunhofer Institute for Factory Operation and Automation IFF	Germany	Researchers' mobility in EU Project Horizon-2020, preparation of common scientific paper, doctoral seminars, etc. Magdeburg, Germany	Transport Economics and Management
Bulgarian Association for Management Development and Entrepreneurship	Bulgaria	Research mobility	Entrepreneurship and Small Business Development
Adamas University, Kolkata, India	India	Research mobility	Entrepreneurship and Small Business Development
Wroclaw University of Technology (Poland)	Poland	Scientific and academic activities; Mobility-program activities; Cross-participation in conferences	Transport Economics; Erasmus+ Program
University of Economics and Innovation (WSEI-Lublin) (Poland)	Poland	Researcher and academic mobility	Transport Economics
Kazimieras Simonavičius University (KSU)	Lithuania	Collaboration in common Projects	Management
Otto-von-Guericke University of Magdeburg (Germany)	Germany	Collaboration Agreement for joint scientific and academic activities and Erasmus mobility; Wide set of research and academic collaborations	Management Transport Economics
University of Deusto (Spain)	Spain	Collaboration Agreement: ERASMUS program for Msc and PhD students, professors mobilities	Management
Margad University of Mongolia (Mongolia)	Mongolia	Researcher and academic mobility	Management

Most of these partners are actively involved in scientific research and the TTI has prepared a number of proposals under the ERASMUS+ programme.

By participating in joint scientific projects within the framework of EU funded programmes, the study programme lecturers have the opportunity to gain new knowledge and skills, create and develop new, innovative scientific ideas and find their potential application, as well as promote the transfer of knowledge and experience from foreign partners for developing TTI's scientific ideas in Latvia.

Projects involving study programme lecturers:

- [ERASMUS+ KA2 "SPREAD YOUR WINGS" 2017-1-PL01-KA203-038782](#) (01.12.2017 – 31.08.2020) (University of Information Technology and Management in Rzeszow (Poland), Kazimiero Simonavičiaus Universitetas (Lithuania), TSI)- J. Stukaļina, O. Zervina, I. Kuzmina-Merlino.
- ALLIANCE – Enhancing excellence and innovation capacity in sustainable transport interchanges. Grant agreement Nr. 692426. 01.02.2016. – 31.12.2018 (TSI, University of Thessaly (Greece), Fraunhofer Institute for Factory Operation and Automation (Germany) – I. Jackiva, I. Kuzmina-Merlino, O. Skorobogatova
- COST Action 15221 “Advancing effective institutional models towards cohesive teaching, learning, research and writing development” (24.10.2016-23.10.2020) – J. Stukaļina
- COST Action CA15137 “European Network for Research Evaluation in the Social Sciences and the Humanities – ENRESSH” (08.04.2016-07.04.2020)- J. Stukaļina
- Learning with ICT use. Nr. 2014-1-PL01-KA200-003353. 2014.-2016.g. (University of Economics and Innovation in Lublin (Poland; KVK - Klaipeda State College (Lithuania); TSI), <http://learnit.kvk.lt/> - Stukaļina, I. Išmuhametovs
- Implementation of Software Engineering Competence Remote Evaluation for Master Program Graduates (ISECRET) (WSG – University of Economy in Bydgoszcz (Poland); KTU – Kaunas Technological University (Lithuania); UM – University of Murcia (Spain); TEIEP – Technological Educational Institute of Epirus (Greece); UP – Plovdiv university (Bulgaria); TSI). -2017.g.- I. Kabaškins, I. Išmuhametovs

Future plans for the development of international cooperation in scientific research:

- Publications of lecturers involved in the study field in internationally reviewed publications
- Speeches at international scientific conferences
- Participation in the implementation activities of international projects enhancing the internationalisation and international competitiveness of higher education
- Activities to support international mobility and cross-border cooperation. Concluding agreements within the Erasmus+ programme (2015 - 2020) for the implementation of higher education international activities
- Ensuring the scientific and professional development of academic staff and exchange of international experience within the EU Erasmus+ funding. Compilation of examples of good practices
- Integration of engineering, IT and social sciences study fields to provide higher added value and competitive education service using human and TTI infrastructure resources
- Strategic partnerships with Latvian universities, scientific institutions and the business sector for the development of study process management
- Agreement on cooperation for the improvement of the study programme in accordance with the requirements of the labour market
- Collaboration with employers, entrepreneurs, company managers and industry professionals for commercialization of research results
- Development of lifelong learning in compliance with the market requirements and individual interests and needs - in cooperation with employers and industry associations

**4.4. Specify the way how the higher education institution/ college promotes the involvement of the teaching staff in scientific research and/or artistic creation. Provide the description and assessment of the activities carried out by the academic staff in the field of scientific research and/or artistic creation relevant to the study direction by providing**

**examples and the summary of the quantitative data on the activities in the field of scientific research and/or artistic creation relevant to the study direction over the reporting period, for instance, the publications, participation in conferences, activities in the field of artistic creation, participation in projects by the academic staff members, etc., by listing the aforementioned according to the relevance.**

The research work of the academic staff is mainly related to the specialisation of the lecturers within the programme, with the lectures to be taught. The research carried out by the academic staff is an important contribution both to the development of their representative field and to the development of the study programme and study content. Through research, lecturers bring the most up-to-date innovations in the field to their courses. The educators prepare scientific articles, participate in conferences and workshops, develop textbooks and methodological materials.

The five educators involved in the implementation of the study programme are experts of the Latvian Council of Science - professors Irina Kuzmina-Merlino, Jūlija Stukaļina and assoc. professor Ilze Sproģe (social sciences - economics and business), and professors Igors Kabaškins, Irina Jackiva and assoc. professor Dmitrijs Pavļuks (in transport and traffic).

In order to systematise the publications of TTI lecturers, an open software based and integrated registration system of TTI lecturers' publications has been developed. The system is developed on the basis of web technologies that provide access to system resources through the internet. Its task is to store data on publications of lecturers of the Transport and Telecommunication Institute in a structured way. Resource address: <http://research.tsi.lv/>

Appendix 14 List of scientific publications of the academic staff involved in the implementation of the study field for the reference period.

Members of the academic staff actively participate in research in accordance with their specialisation by engaging in scientific and practical projects that strengthen their scientific capacity.

The procedure for the management of scientific projects is stipulated in the *Project Management Regulations*. It consists of 4 phases: the initial phase, during which the initiative application for the preparation of the project application is created, the project initiation phase according to the established plan, the project implementation phase, including the execution of works, work control and monitoring and correction of works; and the project closure phase.

The participation of the academic staff involved in the implementation of the study field is provided in Appendix 13.

The educators are members of the editorial boards of local and international magazines and other publications:

1. Jackiva is a member of the editorial board of several international magazines: *Transport* (VGTU, Lithuania), *Maintenance and Reliability* (Polish Maintenance Society, Poland), *Transport and Telecommunication* (TTI), *Mathematics in Engineering, Science and Aerospace*, *Economics of Development* (Kharkiv National University of Economics); reviewer of the international *Journal of Air Transportation* (USA, University of Nebraska at Omaha); editor of *Student Research Works* (TTI).
2. Kabaškins is editor-in-chief of two scientific journals, *Computer Modeling and New Technologies* and *Transport and Telecommunication*, co-editor and member of the international editorial board of the *Journal of Air Transportation*, University of Nebraska

(Omaha, USA), and works on the editorial board of many scientific journals: *Journal of Aviation Technology and Engineering* (Purdue University, USA), *Transport* (Lithuanian Academy of Sciences), *Technological and Economic Development and Aviation* (Vilnius Gediminas Technical University), *Transactions on Transport Sciences* (Ministry of Transport of the Czech Republic), *Sustainable Spatial Development* (RTU), *Regional Review* (University of Daugavpils), *Scientific Journal on Transportation Systems and Information Technology* (University of Economics and Innovation, Poland), etc.

Yet more professors are on the editorial boards of various magazines:

1. Kuzmina-Merlino: *Journal of Business Case Studies* (The Clute Institute, USA), *The University Yearbook* (University of National and World Economy, Bulgaria), *Emerald Editorial Advisory Board* (EAB) for *Emerald's Emerging Markets Case Studies* (EMCS); P.G. Demidov Yaroslavl State University *University's Vestnik* ("Social and Humanity knowledge")
2. Stukaļina: International Scientific Journal *Business, Management and Education* (Vilnius Gediminas Technical University, Lithuania)
3. Baltgailis: *World Economics Magazine* (Azerbaijan, [www.wem.az](http://www.wem.az))
4. Popova: Editor of *Scientific Journal Cultural Heritage & Tourist Destinations: Creative Approaches in Development* (2017) ISSN 2592-8449, <http://bsa.edu.lv/nauka/touristjournal1.pdf>

The research work of the academic staff and students is facilitated by international scientific conferences and methodological conferences organised by TTI, the main ones being:

#### **Annual conferences:**

- International conference *Reliability and Statistics in Transportation and Communications* 2000-2019 For the third year in a row, selected articles from the RelStat conference have been published in the conference special edition, *Springer Lecture Notes in Networks and Systems* (indexed by SCOPUS).
- Biennial student scientific conference *Science and Technology - A Step into the Future*.
- International scientific and methodological conference *Contemporary Education Problems* 2003-2019.

#### **TTI publishes internationally cited journals:**

- *Transport and Telecommunication*, ISSN 1407-6160, Transport and Telecommunication Institute, Latvia (SCOPUS since 2008, Vol. 9, No. 1), Elsevier Database, The Summon, VINITI, Versita, [Transportation Research Board](#), [JournalTOCs](#), [INSPEC](#), [TEMA \(Technology and Management\)](#). In total, the journal is indexed in more than 35 bibliographic databases. Bibliographic indexes in recent years show an increase in the quality of the magazine.
- A magazine is published for the young researchers: *Research and Technology – Step into the Future* ISSN 1691-2853

The scientific work of TTI lecturers is financed both from the revenue of the Institute and by raising funds from different funds in the form of projects.

Research carried out by academic staff ensures the transfer of knowledge from scientific research to the educational and administrative field, thus enhancing the quality of studies. In order to promote research activities, an effective motivation system has been implemented at the Institute. Specifically, scientific research of the academic staff is included as an assessment component in the annual evaluation of the academic staff. During this assessment, the quality of work outcomes of the academic staff is evaluated by determining the performance quality coefficient. Scientific qualification is evaluated according to the following criteria: publications included in the quoted

databases Web of Science (WoS), SCOPUS, publications in other international peer-reviewed publications, other publications, presentations at TTI conferences, another international scientific conference with the publication of an article, abstract or presentation, the Latvian Council of Science expert status, patent application, participation in the preparation or realization of project applications of different levels.

The obtained assessment outcomes are used to stimulate the academic staff to attain better results, including the involvement of the academic staff in scientific research. Each year, the assessment criteria are reviewed and, if necessary, adjusted to reflect the priorities set for academic and research activities of the Institute.

Other measures used at TTI to develop research activities and boost the involvement of the academic staff in them are the following:

1. In order to increase the number of scientific publications of the academic staff in internationally quoted databases, the remuneration policy of the TTI academic staff includes a separate payment for:
  1. the publication in a scientific journal included in the quoted databases WoS, SCOPUS and included in the first quartile of international rankings of journals Q1 \*\*\*,
  2. the publication in a scientific journal included in the quoted databases WoS, SCOPUS \*\*\*,
  3. the publication in a scientific journal included in the quoted databases ERIH, Engineering Village2, EBSCO \*\*\*.
2. Research activities of the academic staff are facilitated by the opportunity to participate in conferences organized by TTI, which offers to the TTI lecturers a significant fee discount. These conferences are the international conference *Reliability and Statistics in Transportation and Communication* and the international scientific and pedagogical conference *Actual Problems of Education*. The TTI academic staff also have an opportunity to participate in international scientific conferences and seminars organized by the TTI partners in Latvia and abroad.
3. TTI publishes the scientific journal *Transport and Telecommunication*, indexed in more than 35 bibliographic databases. It is a good opportunity for the academic staff to share their research findings with the journal's readership.
4. TTI organizes special seminars and science weeks, which are attended by outstanding Latvian and foreign scientists and which encourage the participation of the TTI academic staff. For example, in 2017-2018, TTI organized an open series of 3 seminars: *Science for Business: From Data to the Competitive Advantage: Views and Solutions*, *Digitalization in Logistics and Transport*, *From Data to the Competitive Advantage for Business*. In October 2018, the Science Week was held, which comprised several events: the seminar *SCI-BI: Digitalisation in Logistics and Transport*, the closing conference of the ALLIANCE project *Sustainable Urban Interchanges: Trends and New Prospects* and the international conference *RelStat-2018*.
5. TTI implements the international mobility programme for the academic staff, including the Erasmus + programme, which offers opportunities to visit foreign universities, to acquire new teaching methods and to share experience.
6. TTI participates in the implementation of international projects and engages its academic staff in these projects considering the scientific and professional interests of the academic staff. This provides opportunities for the academic staff to acquire new knowledge and skills, to develop innovative scientific ideas and to find practical application for them. This also facilitates the transfer of knowledge and best practices of foreign partners.
7. TTI has been developing research infrastructure as well as material and technical basis for

conducting scientific research.

8. As intangible motivation, TTI uses awards and honorary diplomas that are awarded during the annual celebration of the TTI Day on September 6. They are awarded to the best young scientists for the contribution to the development of innovative methods and technologies, students' involvement in scientific activities, implementation of scientific results, high scientific productivity (publications), development of interdisciplinary approaches, etc. In 2018, two top doctoral students were paid to attend a conference.

The Scientific Research Department is the unit that informs the academic staff about the latest developments in scientific areas (conferences, seminars, publications and project activities) and ensures communication related to scientific research activities. In order to promote scientific activities of the academic staff, the information is not only published on the TTI websites <http://www.tsi.lv/en/content/zinas> and <http://www.tsi.lv/en/news>, but also is sent to e-mails consistently with the planned activities.

Such scientific policy, implemented at the Institute, is effective and encourages the engagement of the academic staff in scientific research.

**4.5. Specify how the involvement of the students in scientific research and/or artistic creation activities is promoted. Provide the assessment and description of the involvement of the students of all-level study programmes in the relevant study direction in scientific research and/or artistic creation activities by giving examples of the opportunities offered to and used by the students.**

The involvement of students in research projects during the implementation of the study programme is achieved by the development of the coursework and final tests included in the study courses. Students are engaged in research to acquire new, useful knowledge, professional skills, competences and to build bridges between knowledge and practice. Students' research work is topical and related to different branches of the national economy.

Since 2002, TTI has organised a student scientific conference *Science and Technology - A Step into the Future*, RatSif (<http://ratsif2019s.tsi.lv/>), which provides an opportunity for young researchers to participate in an interdisciplinary scientific conference and collaborate with experienced scientists.

The aim of the conference is to bring together young scientists from TTI and other higher education institutions, based on common interdisciplinary research interests, in order to obtain new high-quality results, addressing issues that already exist and will arise in the future.

Conferences are held twice a year - in December and April. It is mandatory for students of all academic and professional master's study programmes implemented by TTI to present their final thesis at the presentation conference. Such a requirement is determined by the "Regulation on Granting of the Academic Bachelor's Degree and the Academic Master's Degree" and the "Regulation on Granting of the Professional Bachelor's and Professional Master's Academic Degree and the Professional Qualification". The conference is also open to TTI undergraduate students and new researchers, as well as postgraduate students and students from Latvian and foreign universities.

The programme of the scientific conference includes presentations-lectures from Latvian and



foreign scientist plenary sessions and the presentations of new participants within the context of section work.

TTI Science Day is being held for the fourth year in a row within the framework of the conference.

*Table 12. Students of the Faculty of Management and Economics who have participated in the conference*

Year	2013	2014	2015	2016	2017	2018	April 2019
Number of students	32	20	12	16	16	17	9

Student research is summarised in the student conference proceedings, which are available electronically

([http://ratsif2019s.tsi.lv/wp-content/uploads/sites/8/2019/01/RT\\_SF\\_2019\\_vol14\\_n1.pdf](http://ratsif2019s.tsi.lv/wp-content/uploads/sites/8/2019/01/RT_SF_2019_vol14_n1.pdf)).

Students of all levels are encouraged to participate in other TTI and external conferences as well, see Table 13.

*Table 13. Participation of TTI students in external conferences*

Year	Conference name	TTI students - conference participants
2016	International Scientific Symposium "Economics, Business and Finance", 5-9 July, 2016, Latvia, Jurmala, hosted by IRIS-ALKONA Institute of Researches and International Symposiums Alkona.	<ol style="list-style-type: none"> <li>1. Ishgaley Ishmuhametov, Aleksandr Simakov (Master's degree) <i>Assessing the level of corporate customer satisfaction with banking service</i></li> <li>2. Oksana Kusnireva (Master's degree) <i>Company "socintegra" performance assessment in the area of social entrepreneurship</i></li> <li>3. Veronika Lukoperova (Bachelor's degree), Oksana Skorobogatova <i>Concept of Ethical and Socially Responsible Marketing as a Part of Modern Business Environment</i></li> <li>4. Milena Temne (Master's degree) <i>Research of personnel motivation in organization "VIASAT"</i></li> </ol>
2017	International Scientific Symposium "Economics, Business and Finance", 4-8 July, 2017, Latvia, Jurmala, IRIS-ALKONA Institute of Researches and International Symposiums Alkon	<ol style="list-style-type: none"> <li>1. Aleksejs Kabanovs (Bachelor's degree), Oksana Skorobogatova <i>The Development of a business model as an element of the architectural approach for the analysis of the transport enterprise's activities</i></li> <li>2. Mahash Pranaav (Master's degree), Julia Stukalina <i>Developing the ways of improving competitiveness of a company</i></li> <li>3. Shotheesh Choorapra (Master's degree), Irina Kuzmina-Merlino <i>Cost Management Improvement in a Manufacturing Company</i></li> </ol>
	Student scientific conference "Стратегия развития: факторы формирования и инструменты реализации цифровой экономики", 2017 Санкт-Петербург, СПбГЭУ	<ol style="list-style-type: none"> <li>1. S. Jerjomenko (Bachelor's degree), ass.prof. J. Popova <i>The current expenditure formation of households</i> (2nd place for the presentation and participation in a discussion)</li> <li>2. D. Soidov (Bachelor's degree), ass.prof. J. Popova <i>Inflation as a Factor in the Negative Impact of the Economy</i> (1st place for the presentation and participation in the discussion).</li> </ol>
2018	International Scientific Symposium "Economics, Business and Finance", 4-8 July, 2018, Latvia, Jurmala, IRIS-ALKONA Institute of Researches and International Symposiums Alkon	<ol style="list-style-type: none"> <li>1. Ildar Farkhshatov (Master's degree), Transport and Telecommunication Institute (TTI) <i>The comparison of time series models for forecasting the Baltic STATES GDP</i></li> </ol>
	International Conference Reliability and Statistics in Transportation and Communications (RelStat-2019), 16.-19.10.2019	<ol style="list-style-type: none"> <li>1. Karina Djakonova (Master's degree), I. Kuzmina-Merlino, <i>Airport Charges Policy as a Tool for Achieving Competitive Advantage in the Aviation Market</i> (article accepted by RelStat2019).</li> <li>2. Darya Ten (Master's degree), A. Prohorovs (2018) <i>Startup Success Factors in the Capital Attraction Stage: Founders' Perspective</i>, Journal of East-West Business, Taylor&amp;Francis, Scopus</li> </ol>
2019	International Scientific Symposium "Economics, Business and Finance", 9-13 July, 2019, Latvia, Jurmala, IRIS-ALKONA Institute of Researches and International Symposiums Alkon	<ol style="list-style-type: none"> <li>1. Liana Yenoyan (Bachelor's degree), <i>Organization of Online Marketing Activities of the Company</i></li> <li>2. Aleksejs Vesjolijs (Bachelor's degree) <i>Comparative Analysis of the Effectiveness of the Media Agency's Advertising Business: Case of Latvia, Sweden and France</i></li> </ol>



**4.6. Provide a brief description and assessment of the forms of innovation (for instance, product, process, marketing, and organisational innovation) generally used in the study direction subject to the assessment, by giving the respective examples and assessing their impact on the study process.**

The Institute of Transport and Communication uses innovative solutions in its work in the study process, as well as methodological and scientific work. The use of distance learning allows the Institute to extend access to students from remote areas and to also offer full-time students the additional opportunities offered by distance learning. For example, the innovative course *Development of Sustainable Aviation* for the students of the Master's Degree programme *Aviation Management*, some of which is already available on the distance learning platform.

New approaches to work with postgraduate students, taking advantage of the opportunities offered by international research projects.

Multidisciplinary and multicultural seminars - summer schools - took place at TTI in July 2017 and July 2018 for two years as part of the ALLIANCE project *Enhancing excellence and innovation capacity in sustainable transport interchanges* (<http://alliance-project.eu/>). Each year, 25 postgraduate transportation, logistics and management science students from Latvia, Germany, Greece and Lithuania participated in the summer schools.

Within the same project, a working group was created consisting of two doctoral students - Oksana Skorobogatova, TTI and Niels Schmidtke, Fraunhofer IFF, and two scientific supervisors, Dr., prof. I. Kuzmina-Merlino, TTI, and Dr.-Ing. Fabian Behrendt, Fraunhofer IFF. As a result of the collaboration, two joint scientific publications were prepared and the development of doctoral theses was promoted.

Within the framework of SPREAD YOUR WINGS 2017-1-PL01-KA203-038782, implemented in cooperation with Polish and Lithuanian partners, international aviation schools are being established in the member states.

- 1-5 October 2018. The international aviation school was held at the University of Information Technology and Management (Rzeszow, Poland). TTI lecturer S. Junusovs and students - K. Matvejeva, K. Jevsejeva and R. Kotova participated in the aviation school. The school programme included discussions on issues related to the sustainable development of the aviation sector.
- 19-23 November, 2018 The second phase of the international aviation school was held at Kazimirs Simanovičs University in Vilnius, Lithuania, in which issues related to the sustainable development of the aviation industry were discussed. TTI professor J. Stukalina and students K. Matvejeva, K. Jevsejeva and R. Kotova participated in it.
- 23-27 September 2019. The third phase of the international aviation school took place at the Institute of Transport and Communication. The aviation school was also attended by TTI professor J. Stukalina, professor I. Kuzmina-Merlin and TTI students J. Savicka, S. Lukonina and S. Ratnikovs. During the aviation school, students gain knowledge of the environmental impact of aviation and methods to control and reduce aircraft emissions, the role of sustainable aviation fuel (SAF) in mitigating climate change caused by aviation, the major social benefits of aviation in supporting sustainable societal development, main sources of

financing for the airline in the context of sustainable development, on the principles and strategies used by airlines to create aviation alliances for sustainable development, on employment opportunities and real-life working conditions in air transport, etc.

The aim of the Learning with ICT use (LEARN IT) project was to develop technologies that will help increase the effectiveness of learning while maintaining a high level of concentration tailored to individual learning rhythms. This project resulted in the creation of a Learning Lab. Students of all levels participated in the project. As part of the distance learning mathematics course at Khan Academy, TTI students took an intensive study course in solving practical arithmetic, algebra, geometry and trigonometry problems.

The project *Implementation of Software Engineering Competence Remote Evaluation for Master Program Graduates* (iSecret) has resulted in an effective experimental framework for defining and evaluating learning outcomes in master's degree programmes in the ICT field, which were used by TTI lecturers to develop their competencies.

TTI uses an innovative method of organising joint seminars - guest lectures for TTI faculty staff and business representatives, such as guest lectures by Rigas Doganis on Future Perspectives and Challenges for Global Aviation Development for TTI staff and representatives of Riga International Airport, Liepaja Airport, etc., or an open seminar series on Science for Business.

TTI's new line of research in the field *Economics and business* is financial technologies. The result of the new research direction - publications jointly prepared by TTI and University of Latvia professors, indexed in Scopus and WoS databases:

- Saksonova, S., Kuzmina-Merlino, I. (2019) *Cryptocurrency as an Investment Instrument in a Modern Financial Market*, *St Petersburg University Journal of Economic Studies (SUJES)*, Editor-in-Chief V.Kovalev, Volume 35 No.2, June 2019, pp. 269-282, Saint Petersburg State University. <https://economicsjournal.spbu.ru/issue/view/386>
- Saksonova S., Kuzmina-Merlino I. (2019) *The Principles of Creating a Balanced Investment Portfolio for Cryptocurrencies in: Lecture Notes in Networks and Systems*, Volume 64, Springer, Cham, Conference Proceedings, RelStat 2018, Editors: I. Kabaskin, I. Yatskiv, O. Prentkovskis, pages 714-724. DOI<https://doi.org/10.1007/978-3-030-12450-2>
- Kuzmina-Merlino I., Saksonova S. (2018) *The Knowledge and Competences Required for the Fintech Sector*, *Proceedings of the International Scientific Conference "New Challenges of the Economic and Business Development – 2018: Productivity and Economic Growth"*, organized by the Faculty of Business, Management and Economics, University of Latvia, May 10-12, 2018, Riga, Latvia, pages 387-395.
- Kuzmina-Merlino, I., Saksonova S. (2017) *Fintech as Financial Innovation - The Possibilities and Problems of Implementation*, *European Research Studies Journal*, Volume 20, Issue 3A, 2017, Pages 961-973 [https://www.ersj.eu/index.php?option=com\\_content&task=view&id=940](https://www.ersj.eu/index.php?option=com_content&task=view&id=940) .

Attracting Master's students to research carried out by professors and publishing the results of such research in quoted databases, for example:

- Podjačevs P. (Bachelor's degree) and O. Skorobogatova (2017) *Computer Role-Playing Games as One of the Most Efficient Methods of Teaching and Learning in Higher Education*. *International Journal on Information Technologies and Security*, pp. 65-78, Web of Science;
- Ten D., Prohorovs A. (2018) *Startup Success Factors in the Capital Attraction Stage Founders' Perspective*, *Journal of East-West Business*, Taylor&Francis, Scopus;
- Djakonova K., Kuzmina-Merlino I., *Airport Charges Policy as a Tool for Achieving Competitive Advantage in the Aviation Market* – article accepted by RelStat2019 (Scopus).

The Faculty of Management and Economics also uses new forms of cooperation with foreign

educational institutions and business organisations, for example:

- Organisation of internships for senior staff of foreign educational institutions. In July 2014, 56 hours of further training sessions were organised for the Kazakhstan Civil Aviation Academy College (Alma-Ata) representatives at the Faculty of Management and Economics.
- Organisation of internships for postgraduate students from foreign educational institutions. In April 2014, the Economics and Management programme Master's students underwent a traineeship at the Kazakhstan International Business Academy. Duration of internship - 40 academic hours, the purpose of the internship- to help develop the structure of the master's thesis and to write the application for the master's thesis.
- Organisation of an internship in Tajikistan for business women in July 2017 *Effective management of one's personal business*.

Patents: Docent Dr.sc.ing. [Jurijs Roliks ]

- Device for registration of magnetic field in electric facilities. Patent of Latvian Republic LV15042, SKI G01R33/07, 20.09.2015.
- Method and device for transporting long wind turbine blades. Patent of Latvian Republic LV15052, SKI F03D11/04, 20.10.2015.

Stimulating innovative solutions for economic development, the university is implementing a post-doctoral research support project *Integrated Model for Power Generation, Distribution and Management*, No. 1.1.1.2/VIAA/1/16/095 attended by TTI Researcher, Dr.sc.ing. Tatjana Endrjukaite. The main goal of the project is to develop a national energy combined model for sustainable development and economic growth in Latvia by offering an innovative routing Smart Grid prototype for energy distribution and management.

The main objective of the project *Enhancing the Transfer of Intelligent Transportation System Innovation* (T-TRANS; manager of the project - prof. I. Kabaškins) was to provide information on innovation mechanisms for intelligent transport systems to facilitate the market introduction of related innovative products and services. The main result of T-TRANS was a set of recommendations and information to improve the understanding of ITC innovation processes.

## **II - Description of the Study Direction (5. Cooperation and Internationalisation)**

**5.1. Provide the assessment as to how the cooperation with different institutions from Latvia and abroad (higher education institutions/ colleges, employers, employers' organisations, municipalities, non-governmental organisations, scientific institutes, etc.) within the study direction contributes to the achievement of the aims and learning outcomes of the study direction. Specify the criteria by which the cooperation partners suitable for the study direction and the relevant study programmes are selected and how the cooperation is organised by describing the cooperation with employers. In addition, specify the mechanism for the attraction of the employers.**

The aim of the study direction is closely related to the involvement of cooperation partners. Without cooperation partners there would be no sustainable development of the study direction, there would be no student training consistent with the requirements of the labor market.

In order to attain the aim of the study direction and the programmes included therein, the cooperation partners provide the study direction and the study programmes included therein with the following (see Scheme A):

- teaching sustainability,
- development of students' knowledge and skills,
- administrative development.



*Scheme A. Involvement of partners in the implementation of the study direction*

TTI participates in the implementation of the *ERASMUS +* exchange projects. TTI has signed 39 agreements with partner universities, which allows students to study in partner universities and offers the academic staff to participate in exchange programmes through delivering lectures and attending seminars on the latest developments in science. Within the framework of the ESF project, the TTI academic staff participates in traineeship programs with cooperation partners (employers), which ensures the connection between real life applications and the taught study courses. The duration of the traineeship is 200 hours. In the academic year 2019/2020, four faculty members have been participating in the traineeship with the leading Riga Airport employees, gaining valuable insights into the connection between real life experiences in a specific sector of the economy and the taught courses. Additionally, representatives of cooperation organizations are included in the Study Direction Council, ensuring the connection of the overall development strategy of the study direction with the national economy.

Appendix 15 Concluded cooperation agreements with other institutions.

Cooperation agreements with companies: Riga International Airport, SIA Airline Support Baltic, SIA Smartlynx, AS Riga International Coach Terminal, AS Accenture Latvia, SIA DHL Latvia, SIA Havas Latvija, SIA Balstors, SIA GEFCO Baltic, SIA Kreiss, SIA Kuehne + Nagel, SIA TechAutomatics, SIA Aimer, SIA MSC SH, SIA Wellman Logistics, SIA Nano IT, SIA Trialto, SIA Elfa Distrelec, SIA Arfa-F, SIA Fotricom, SIA Airline Support Baltic, SIA VIO TRANS, SIA STRANDECK, SIA L-EKSPRESS, etc.

Cooperation agreement on the provision of a place of internship: AS Riga International Airport, SIA Airline Support Baltic, SIA Wing 4 Sky Group.

Within the study field, independently organised cooperation with employers and professional organisations. Key areas of cooperation:

1. Cooperation with employers and their organisations at the level of the faculty council and the council of study fields, ensuring involvement in the improvement of study fields and programmes. For example, employers are involved in the Council of the Faculty of Management and Economics and the Council of Study Direction; see chapter 1.4 and annex 8.
2. Employers' representatives are included in the State Examination Commissions, in accordance with Cabinet of Ministers Regulation No. 481, which states that the head of the commission and at least half of the commission shall be representatives of professional organisations or employers in the sector.
3. Employers are involved in delivering guest lectures. This is done both centrally by inviting specialists of the field to teach professional study courses and as separate guest lectures of companies.
  - Periodically, guest lectures for faculty students and lecturers are read by Anatolijs Prohorovs (SIA Proks Capital): *Entrepreneurial Risks, Attracting Private Investors, How to Run a Company to Achieve Record-High Performance, Introductory Venture Capital Course, Creation and Promotion of Personal Branding in Research and Education*.
  - Jevgeņijs Ļeonovs (credit management specialist): *Excellent Client Services or Where is Success?*
  - Tatjana Ņikitina (SIA Amber Games): *Development of customer loyalty and behaviour programmes, Customer loyalty and consumer behaviour*
  - Konstantīns Beņkovskis (Monetary Policy Department of the Bank of Latvia): *The Bank of Latvia's Monetary Policy and Macroeconomic Analysis*
  - Dmitrijs Zmijevs: *Small business and freelancing Foundation of a new start-up*
  - Jūlija Golubeva (IGK Credit Management): *International trade*
  - Līga Pīgita, Elita Burmistrova, Fredijs Bikovs (Transcom Worldwide Latvia): *Excellent customer service - the key to business success!*
  - Jevgeņijs Miščeņuks (IA Dialogu darbnīca): *Social networks in business*
  - Ilze Jaunsleine (Rietumu banka): *Prevention of money laundering etc.*
4. In the professional Master's programme *Aviation Management*, all invited lecturers represent the employers' institutions within the industry and are specialists in the field: A. Saveljevs, Member of the Board and Commercial Director of VAS Riga International Airport, I. Pavasars, Head of the Study Centre, and A. Kokars, Member of the Board of the Latvian Aviation Association. This not only provides students with the practical knowledge needed in the field, but also facilitates the university's own cooperation opportunities. A. Saveljevs, the creator of the *Aviation Management* programme, who teaches the course on *Strategic and Change Management in Aviation*, holds a Master's Degree in Airport Planning and Management from Cranfield University, UK. Currently, he continues to work closely with this university, while also promoting the popularity of TTI. Thanks to this collaboration, TTI has the opportunity to consult one of the best aviation management experts at Cranfield University - Romano Pagliari, a leading professor on the Airport Planning and Management (MSc) programme. In the spring semester of 2020, as a guest lecturer, Romano Pagliari will be teaching a course in Airport Management in the *Aviation Management* programme.
5. Collaboration in the realisation of the internship, which is determined by the concluded cooperation agreements on the realisation of the internship. There are 3 companies offering internships in the field of study: SIA Airline Support Baltic, SIA Wing 4 Sky Group, VAS Riga International Airport. Appendices 18 and 19 provide documentation on the organisation of student internships and other documentation.
6. Cooperation with professional associations such as the Latvian Aviation Association, ECTRI, Latvian Transport and Education Association etc.

7. Collaboration with employers in providing training to corporate clients' employees in TTI-implemented programmes at a discount on the tuition fee.
8. The teaching staff of the faculty provides consultations and teaches professional development courses in the cooperating companies. For example, in spring 2018, at Riga International Airport, faculty members taught a 36-academic-hour course on intercultural communication *Journey to the Unknown, or Breaking the Boundaries*; in the summer of 2019 at the Association of Accountants of the Republic of Latvia, prof. I. Kuzmina-Merlino taught the study course *Management Accounting*.
9. Career days are organised every year to promote cooperation with the employers' organisations, their involvement in the training of prospective professionals, and to increase the competitiveness of TTI students in the labour market. During these days, presentations are read by the employers' organisations, in which the employers' representatives talk about career opportunities within the organisation and provide practical advice on how to succeed in the labour market. During the last Career Days, there was a discussion between educators, students and industry representatives on the development of the field of aviation, education and career opportunities. During the discussion, employers were represented by A. Saveljevs, Member of the Board of VAS Riga International Airport, Murat Demirag, manager of ATU Duty Free shops in Latvia, and Beata Kayhan, manager of the airport catering company Cakes & Bakes.

Cooperation agreements with universities and scientific institutions: Vidzeme University of Applied Sciences, Latvian University of Agriculture, Maritime Academy, Tallinn University of Technology (Estonia), University of Zilina (Slovakia), Wroclaw University of Technology (Poland), European Humanities University (Lithuania), Vilnius Gedeminas Technical University (Lithuania), P.G. Demidov Yaroslavl State University (Russian Federation), Moscow International Higher Business School MIRBIS (Russian Federation), Adamas University (India), The University of Thessaly (Greece), Fraunhofer Institute for Factory Operation and Automation IFF (Germany).

There are many forms of collaboration: review of doctoral theses and consultation, educators' and doctoral students' joint participation in research, conferences and seminars, joint scientific publications, etc.

In cooperation with the School of Business Administration Turība and BA School of Business and Finance, a joint professors' council in the field of economics and business is being formed. Council approval is due in autumn 2019. Several TTI professors are also involved in the boards of professors of other universities.

Currently, there are talks with Aalen University (Germany), whose graduate and lecturer Nicolas Dolle will continue his doctoral studies at TTI while simultaneously teaching study courses in the field, and his supervisors and consultants will be professors from both the TTI Faculty of Management and Economics and Aalen University.

The lecturers and students of TTI and other higher education institutions cooperate in scientific and academic conferences, seminars, preparation of scientific publications.

Cooperation agreements also provide an opportunity to improve the competence of the administrative staff. On 26 October 2018, three educationists from the distance learning unit visited the European Humanities University, where they improved their e-course teaching skills and took the course "Distance Learning as a Priority Trend in the Development of a Modern University". From 23 to 27 April 2018, T. Mišāne from the distance learning unit participated in an exchange of experience within the framework of Vilnius Gedeminas Technical University International Staff Week "Erasmus+ goes global".

TTI implements *Erasmus+* programme mobility activity between the programme countries. In total, the Institute has signed 38 bilateral cooperation agreements with higher education institutions in 15 countries, providing for student and staff mobility in all study cycles - Bachelor's, Master's and doctoral studies.

Partner universities are selected on the basis of the available information on equivalent study programmes and the language of study. One of the main conditions is the coordination of study subjects during the student exchange programme, so that the subjects can be recognised and added to the Diploma Supplement of the respective TTI study programme. This ensures a fully-fledged study process, complemented by experience abroad.

The concluded Erasmus+ collaboration agreements with institutions implementing similar study programmes to those of the Faculty of Management and Economics:

1. Università Degli Studi Di Firenze, Italy
2. Otto-von-Guericke University Magdeburg, Germany
3. Universidad de Murcia, Spain
4. University of Leon, Spain
5. Istanbul Arel University, Turkey
6. University of Turkish Aeronautical Association, Turkey
7. University of Saint Nazaire (UIT de Saint Nazaire), France
8. The University of National and World Economy, Bulgaria
9. Hochschule Wismar University of Applied Sciences: Technology, Business and Design, Germany
10. Estonian Entrepreneurship University of Applied Sciences (EUAS), Estonia
11. Todor Kableshkov University of Transport, Bulgaria
12. University of Szeged, Hungary
13. European Humanities University, Lithuania
14. National Defence University, Poland
15. University of Economics and Innovation, Poland
16. Faculty of Economics, Matej Bel University, Slovakia
17. University of Zilina, Slovakia

On the basis of the described above, it can be concluded that the cooperation with the employers, employers' organizations, higher education institutions and scientific institutes implemented within the framework of the study direction ensures the attainment of the aims of the study direction and study outcomes.

## **5.2. Specify the system or mechanisms, which are used to attract the students and the teaching staff from abroad and provide a description of the dynamics of the number of the attracted students and the teaching staff.**

In accordance with the TTI development strategy, TTI is purposefully attracting foreign students. TTI had already planned to attract foreign students, as well, when designing study programmes, therefore the programmes were also accredited in English. To attract foreign students, various marketing activities are used:

1. Participation in international education exhibitions. In 2019, TTI participated in exhibitions in Uzbekistan, Ukraine, Russia, and in November, it plans to participate in an exhibition in

Kazakhstan. It is planned to visit exhibitions in Russia, Kazakhstan, Uzbekistan, Belarus, Georgia, Moldova and Azerbaijan in 2020.

2. Collaboration with agencies that help students complete their documentation when entering the Institute. In 2019, great efforts were made to improve and establish new cooperation with agencies in Uzbekistan, Kazakhstan, Ukraine, Russia. In the first half of 2019, 25 new cooperation agreements were signed with agencies on attracting foreign students. Agents receive a commission for their enrolled students based on a cooperation agreement. Currently active agencies:

Uzbekistan -	17
India, Sri Lanka -	13
Pakistan -	5
Russia -	4
Kazakhstan -	4
Turkey -	2
Tajikistan -	2
Egypt -	1
Nepal -	1

3. Seminars for potential students in cooperation with agencies. One aspect of collaborating with agencies is also organising seminars with potential students and their parents. Such seminars are organised both abroad and online, using modern technology.
4. School visits, in cooperation with agencies, in cooperation with the Higher Education Export Association. Visiting abroad offers an opportunity to visit schools and talk about study opportunities in Latvia. Every year, the Higher Education Export Association organises school visits abroad, and this year we are taking part in such a tour of Ukrainian schools.
5. Digital advertising campaigns on social networks. After evaluating the popularity of social networks in each country, we have carried out digital advertising campaigns, for example, on distance learning. This type of campaign has great success in Kazakhstan and Russia.
6. PR activities in foreign markets. When visiting abroad, we use the opportunity to publish information about the visit, seminars, general information about studying in Latvia and in TTI in the local media.
7. TTI students work to attract new students.

Every TTI student (especially foreign) has the opportunity to promote his/her institution and attract new students to it. A cooperation agreement is concluded with the student (similarly to with an agency), and he or she receives commission for each student attracted.

We pay great attention to the selection and admission of foreign students. Various measures are being taken to attract the most promising students to the Institute and to address the risks associated with illegal immigration. In November 2017, the largest Latvian higher education institutions, including the Transport and Telecommunication Institute, and the Ministry of Education and Science of the Republic of Latvia signed an Agreement on Good Practice in Attracting Foreign Students and Providing Studies. TTI strictly adheres to the criteria and principles contained therein,



promoting good practice in attracting foreign students and ensuring the study process. Foreign applicants wishing to study in the undergraduate programmes must pass the tests in accordance with the additional enrolment requirements of the study programme. TTI conducts online video interviews with all foreign applicants in order to establish the motivation to study in the selected programme in the Institute.

The total number of foreigners studying at the Institute and in the study programme “Management, Administration and Real Estate Management” is given in Figure 18.

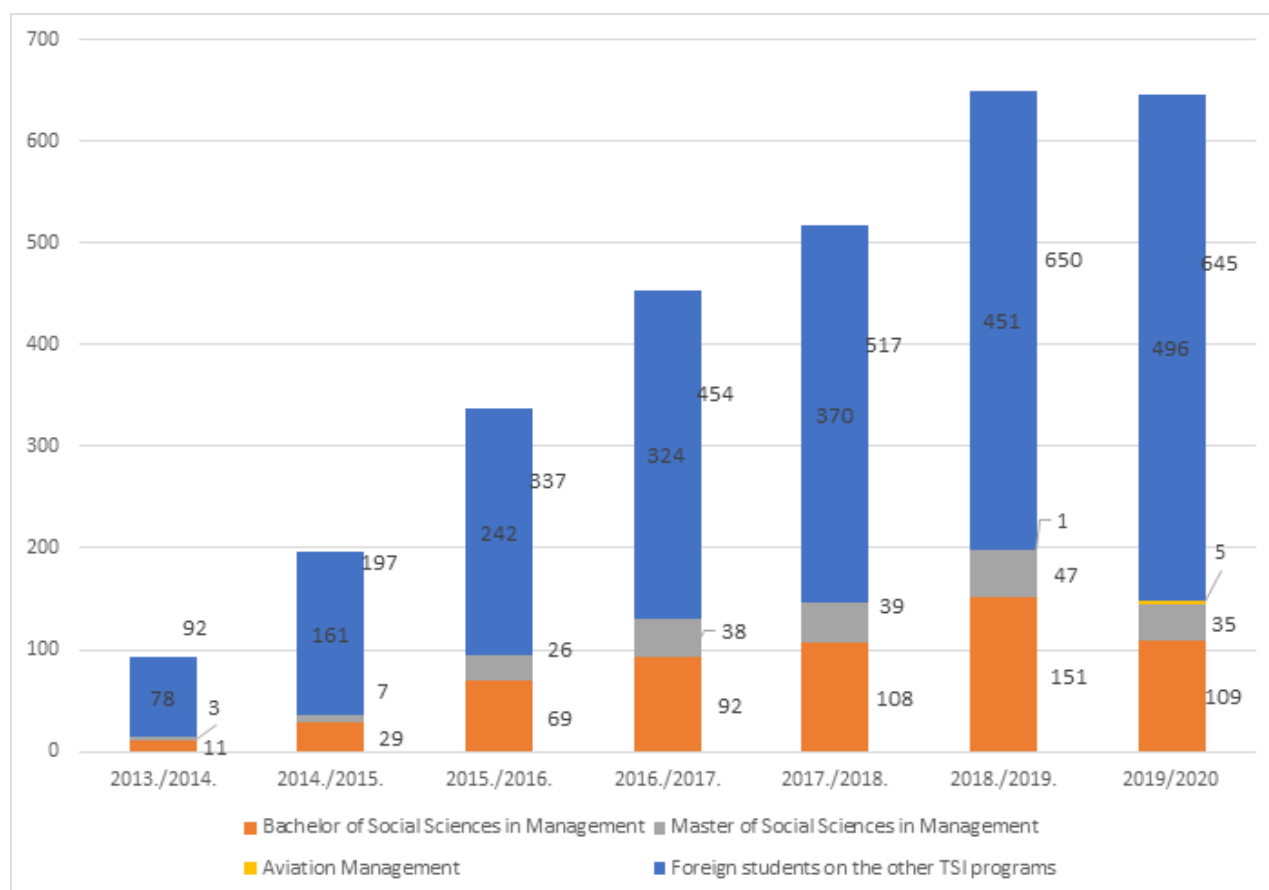


Figure 18. The total number of foreigners studying in the study programme “Management, Administration and Real Estate Management”.

While so far every year the number of foreign students has shown a steady upward trend, this year the number of foreign students has decreased. This is due to amendments to the Law on Higher Education Institutions, which in the future prohibits the admission of students to study in the Russian language. Studies at the TTI have so far been available to foreign students in English and Russian, and many foreigners, mostly from the former post-Soviet countries, have taken the opportunity to study in Russian. The breakdown of foreign students enrolled in September 2019 by country of residence is given in Table 14, for some countries the data of the previous year are given in brackets for comparison purposes.

Table 14. Foreign students by country of residence (as of September 2019)

Country of residence of the foreign student	Number of students in 2019/2020 (2018/2019)
India	150 (152)
Uzbekistan	108 (150)

Russian Federation	93 (126)
Kazakhstan	67 (76)
Pakistan	42 (42)
Ukraine	13 (20)
Republic of Belarus	9 (13)
Tajikistan	8
Turkey	7
Azerbaijan	6
Spain	6
Lithuania	5
Italy	4
Slovakia	4
Sri Lanka	4
Kyrgyzstan	3

Arab Republic of Egypt, Estonia, Mongolia, Turkmenistan, Algeria, Bulgaria, Israel, Cyprus, Nepal, Nigeria, Peru, Syria, Finland, Germany, Sweden - 1 or 2 students

The share of foreign students in the higher education institution and the study field (%), see Fig. 19, the proportion of foreign students in the study field is significantly higher than in TTI in general. This indicates a well-implemented marketing policy.

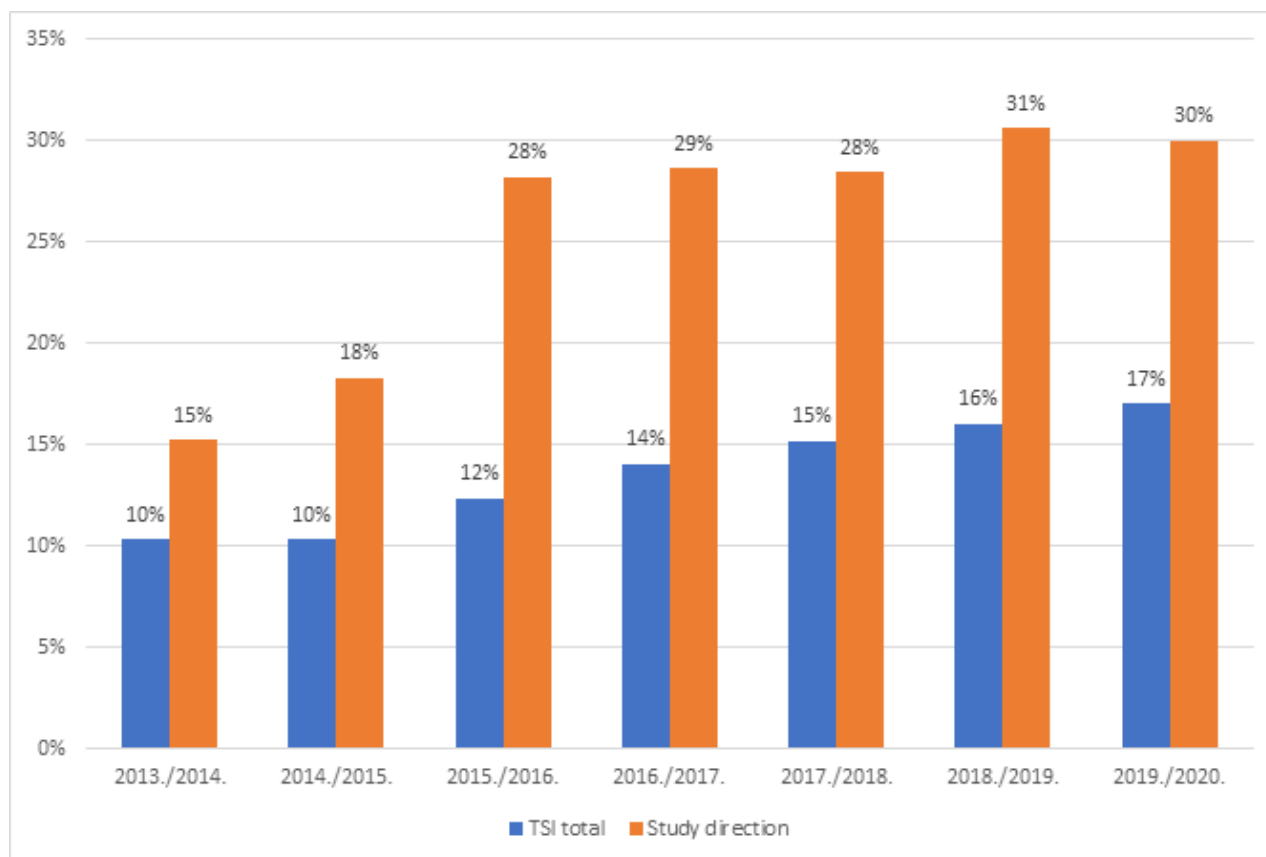


Figure 19. Proportion of foreign students in the Institute and the study field (%)

At the TTI Faculty of Management and Economics, student mobility is implemented in all study programmes. TTI agreements providing for a mutual student exchange flow within the faculty, see Section 5.1.

Incoming mobility students are admitted as students to one of the Faculty of Management and Economics study programmes during their exchange studies, although exchange students often choose to also take separate courses from other faculty programmes. Students are provided with the required amount of study courses and an adequate number of credit points. The courses offered are conducted in English. Recognition of learning outcomes achieved during the ERASMUS+ programme is governed by the *TTI ERASMUS+ Programme Scholarship Contest Manual* (available at [http://www.tsi.lv/sites/default/files/editor/2017.02.07.\\_instrukcija\\_0.pdf](http://www.tsi.lv/sites/default/files/editor/2017.02.07._instrukcija_0.pdf)).

In the last six years, 49 students within the study field have gone on a mobility exchange; the number of incoming exchange students in the last six years at the Faculty of Management and Economics - 35 students.

Appendix 16 Incoming and outgoing student mobility within the ERASMUS programme.

For the internationalisation of TTI activities and the increase of its competitiveness on the national and international level, as well as for the improvement of the quality of studies, the attraction of highly qualified foreign lecturers is encouraged. This is achieved through the resources of the Institute and the funding from the European Structural Funds. Foreign lecturers are invited to deliver guest lectures or entire courses within the framework of the Erasmus+ cooperation agreements and the individual inter-university cooperation agreements, by announcing the competition in the European Commission's Euraxess portal as well as through other forms of engagement that may differ significantly. Foreign lecturers are usually attracted to programme-specific, professionally-orientated courses, so, for the purposes of selection of the educators, faculty management gets acquainted with the latest publications in a particular field to subsequently

collaborate with authors of a particular study.

The human resources policy, including the attraction of foreign lecturers to the faculty, is implemented in accordance with the development plan of the Faculty of Management Science and Economics, which envisages a steady increase in the number of foreign lecturers. During the reporting period, TTI has had guest lecturers such as Dr Gunnar Prause (Wismar Business School, University of Wismar), Anatoli Beifert (Head of EU projects centre, Wismar University of Applied Sciences), Prof. Massimo Merlino (Bergamo University), Dr Neils Rubenss, Prof. Eftihia Nathanail (University of Thessaly) etc.

Appendix 17 Dynamics of the number of attracted foreign teaching staff during the reporting period.

For the academic year of 2019/2020 and the following years, foreign educators have been attracted within the framework of the European Social Fund project *Strengthening the Academic Staff of the Transport and Telecommunication Institute in the Areas of Strategic Specialisation* (No. 8.2.2.0/18/A/011). In the study programme *Aviation Management*, Ioseb Gabelaia, a guest lecturer from Georgia and a marketing specialist with work experience in American companies, as well as a PhD candidate at International Black Sea University (Tbilisi), will teach a study course *Human Resource Management and Leadership*; Berdymyrat Ovezmyradov and a PhD in Engineering Technology at the Tsukuba University (Japan), will teach the course *Sustainable Supply Chain and Intermodal Transportation*, and Romano Pagliari, Senior Lecturer in the study programme *Airport Planning and Management* (MSc) at Cranfield University, will teach the course *Airport Management*.

Other internationally recognised foreign lecturers and practitioners are also invited. For several years, PhD Eftihia Nathanail, Assistant Professor and Head of Traffic, Transport and Logistics Laboratory, University of Thessaly (Greece), has been teaching a course on *Decision Making Methodology* in Master's programmes. Already for the second year, Toufic R. Kavar, former Vice President of Citibank NA/Saudi American Bank (France), has been invited as a guest lecturer in the course Fundamentals of Business Management at the Bachelor's level; the course "Digital Business Environment" will be taught by Nicolas Dolle from Germany, who is also planning to start his PhD studies at TTI at the same time.

**5.3. In the event that the study programme entails a traineeship, provide a description of the traineeship options offered to the students, as well as the provision, and work organisation. Specify whether the higher education institution/ college provides assistance in finding traineeships.**

The professional Master's programme *Aviation Management*, in accordance with the Regulations on the Second Level Vocational Education Standard, includes an internship worth 26 CP. The procedure for the organisation of internships in the professional study programmes of the Transport and Telecommunication Institute is determined by the *TTI Regulations on the organisation of internships at TTI* (see Appendix 18.1); here, the parties involved in organising the internship and their responsibilities are also described.

The internship is organised in accordance with the study plan and the calendar plan of the internship, in order for students to acquire practical work skills, deepen and strengthen theoretical knowledge, skills and know-how acquired during the study process.

The internship is implemented in accordance with the internship programme, which is developed by

the department responsible for the implementation of the study practice, agreed on by the director of the study programme and approved by the dean. Appendix 18.2. shows the Aviation Management Internship Programme.

Internship shall be organised on the basis of agreements, concluded between TTI, students and companies where the students undertake their internships.

The Corporate Clients Department coordinates the work of the institute's departments in the matter of the organisation of internships, gathering information about the cooperating companies that provide internships. Internship placements in the form of a list of companies with the number of internships available there, according to the programme requirements, are provided by the Department. Students shall have the right to independently select the place of internship by submitting a document to the Institute regarding the consent of the company to organise the internship of the relevant student in the company, in accordance with the internship programme of the Institute.

Appendix 18.3 offers a model tripartite internship contract concluded between the university, company and the student.

If the place of internship is a company abroad, as well as with foreign students, a tripartite contract in Latvian/English is concluded.

The provision of the study programme is stipulated in the cooperation agreements between TTI and major aviation companies. Separate co-operation agreements have been concluded on the provision of internships for students of the programme Aviation Management with the companies SIA Airline Support Baltic, SIA Wing 4 Sky Group, VAS Riga International Airport. (See Appendix 19 - Collaboration Agreements on the Provision of Internships), which will engage its staff as internship supervisors to provide the internships.

The placement of a student in an internship shall be formalised by an order of the Rector, prepared by the Department of Studies stating the enterprise in which the student is going on an internship and the term of the internship.

At the end of the internship, the student prepares a report on the internship results, developed in accordance with the *Methodological Guidelines for the Internship*, attaching the internship diary and a reference of the company internship supervisor to the report. Internship papers are available to the student in the TTI e-learning environment Moodle.

The practice report is defended in the department. The student's accomplishments in the execution of the goals and tasks of the internship, as well as the internship report are evaluated by a differentiated test.

Appendix 18 Internship documentation

**5.4. In the event that joint study programmes are implemented in the study direction, provide the justification of the creation of the joint study programmes and a description and assessment of the selection of the partnering higher education institutions by including information on the principles and the procedures for the creation and implementation of these joint study programmes. In the event that no joint study programmes are implemented in the study direction, provide a description and assessment of the plans of the higher education institution/ college for the creation of such study programmes within the study direction.**

Joint study programmes have not yet been established at the Transport and Telecommunication Institute. In 2017, in accordance with the Institute's development strategy and the concluded cooperation agreements, work on the joint doctoral programme was started with Vidzeme University of Applied Sciences, the Latvian Agricultural University and Latvian Maritime Academy. In the absence of public funding for TTI, no agreement was reached on the cost of the programme and no joint programme was established.

Currently, in accordance with the TTI study direction's "Management, Administration and Real Estate Management" implementation plan 2019-2025, the faculty is in talks with the University of Bergamo (Italy) on the establishment of a master's level double degree programme.

## **II - Description of the Study Direction (6. Implementation of the Recommendations Received During the Previous Assessment Procedures)**

**6.1. Assessment of the fulfilment of the plan regarding the implementation of the recommendations provided by the experts during the previous accreditation of the study direction, as well as the assessment of the impact of the given recommendations on the study quality or the improvement of the study process within the study direction and the relevant study programmes.**

In the previous accreditation of the study field, which took place in spring 2012, the experts made recommendations for the implementation of which a plan was drawn up.

In appendix 20 Execution of the implementation plan of recommendations made by experts.

**6.2. Implementation of the recommendations given by the experts during the evaluation of the changes to the relevant study programmes in the respective study direction or licensed study programmes over the reporting period or recommendations received during the procedure for the inclusion of the study programme in the accreditation form of the study direction (if applicable).**

During the licensing of the study programme *Aviation Management* on 20 September 2017, the experts noted a number of recommendations that had to be followed after the licence was issued. The recommendations of the experts were taken into account and the attached appendix shows the fulfilment of the implementation plan of the recommendations received during the licensing process.

In appendix 21 Execution of the implementation plan of recommendations received during programme licensing.



# Annexes

I. Information on the Higher Education Institution/ College		
List of the governing regulatory enactments and regulations of the higher education institution/ college	3.Appendix. TTI internal regulation list.zip	3.pielikums. Normativo aktu saraksts un normatīvie akti.zip
Information on the implementation of the study direction in the branches of the higher education institution/ college (if applicable)		
Management structure of the higher education institution/ college	Management structure.pdf	TSI parvaldības struktūra.pdf
II. Description of the Study Direction - 1. Management of the Study Direction		
Plan for the development of the study direction (if applicable)	6. Appendix. Study direction development plan.pdf	6.pielikums Studiju virziena attīstības plans līdz 2025.pdf
Management structure of the study direction	7.Appendix. Study direction management structure.pdf	7.Pielikums. Studiju virziena parvaldības struktūrschema.pdf
II. Description of the Study Direction - 3. Resources and Provision of the Study Direction		
Basic information on the teaching staff involved in the implementation of the study direction	11. Appendix. Members of the academic staff the list and explanations.zip	11.pielikums. Macībispēku saraksts ar paskaidrojumi.zip
Biographies of the teaching staff members (in Europass Curriculum Vitae format)	10.Appendix. CV EN.zip	10.pielikums. CV LV.zip
Summary of the statistical data on the incoming and outgoing mobility of the teaching staff over the reporting period	12.Appendix. Statistics on incoming and outgoing teaching staff mobility.pdf	12.pielikums. Statistikas dati par macībspēku mobilitāti ERASMUS .pdf
II. Description of the Study Direction - 4. Scientific Research and Artistic Creation		
List of the publications, patents, and artistic creations of the teaching staff over the reporting period	13.14.Appendix. List of scientific publications , project.zip	13.14.pielikums. Macībspēku publikācijas, daļa projekts.zip
II. Description of the Study Direction - 5. Cooperation and Internationalisation		
List of cooperation agreements	15.Appendix. Cooperation Agreements.pdf	15.pielikums. Sadarbības līgumi.pdf
Statistical data on the teaching staff and the students from abroad	17.Appendix. teaching staff and the students from abroad.zip	17.pielikums. Ārvalstu mācībspēku un studentu skaita dinamika.zip
Statistical data on the mobility of students (by specifying the study programmes)	16.Appendix. Statistical data on the mobility of students.pdf	16.pielikums. Erasmus studenti.pdf
Description of the organisation of the traineeship of the students	18.Appendix. Internship doc.zip	18.pielikums.Prakses dokumentācija.zip
Information on the agreements and other documents confirming the traineeship of the students in companies	19.Appendix.Cooperation agreements on ensuring internship placement.zip	19.pielikums. Sadarbības līgumi par prakses nodrošināšanu.zip
II. Description of the Study Direction - 6. Implementation of the Recommendations Received During the Previous Assessment Procedures		
Overview of the implementation of the provided recommendations	2021AP–1.ZIP	20.21.pielikums.Rekomendāciju izpildes pārskats.zip
Description of the Study Programme - Other mandatory attachments		
Confirmation signed by the rector, director or the head of the study programme or the study direction of the higher education institution/ college which states that the official language proficiency of the teaching staff involved in the implementation of the relevant study programmes of the study direction complies with the regulations on the level of the official language knowledge and the procedures for testing official language proficiency for performing professional duties and office duties.	22. Appendix. Confirmation.pdf	22. pielikums. Apliecinājums valsts valodas prasme.pdf
III. Description of the Study Programme - 1. Indicators Describing the Study Programme		
Compliance of the joint study programme with the provisions of the Law on Institutions of Higher Education (table)		
Statistics on the students over the reporting period		
III. Description of the Study Programme - 2. The Content of Studies and Implementation Thereof		
Compliance of the study programme with the State Education Standard		
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable)		
Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable)		
Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme		
Curriculum of the study programme (for each type and form of the implementation of the study programme)		
Descriptions of the study courses/ modules		
Description of the Study Direction - Other mandatory attachments		
Sample of the diploma to be issued for the acquisition of the study programme.		
Description of the Study Programme - Other mandatory attachments		
Document confirming that the higher education institution/ college will provide the students with the options to continue the acquisition of education in another study programme or at another higher education institution/ college (a contract with another accredited higher education institution/ college), in case the implementation of the study programme is discontinued		
Document confirming that the higher education institution/ college guarantees to the students a compensation for losses if the study programme is not accredited or the licence of the study programme is revoked due to the actions of the higher education institution/ college (actions or failure to act) and the student does not wish to continue the studies in another study programme		
Confirmation of the higher education institution/ college that the teaching staff members to be involved in the implementation of the study programme have at least B2-level knowledge of a related foreign language according to European language levels (see the levels under www.europass.lv), if the study programme or any part thereof is to be implemented in a foreign language.		



If the study programmes in the study direction subject to the assessment are doctoral study programmes, a confirmation that at least five teaching staff members with doctoral degree are among the academic staff of a doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field or sub-field of science, in which the study programme has intended to award a scientific degree.		
If academic study programmes are implemented within the study direction, a document confirming that the academic staff of the academic study programme complies with the provisions set out in Section 55, Paragraph one, Clause three of the Law on Institutions of Higher Education		
Sample (or samples) of the study agreement		
If academic study programmes for less than 250 full-time students are implemented within the study direction, the opinion of the Council for Higher Education shall be attached in compliance with Section 55, Paragraph two of the Law on Institutions of Higher Education.		
Description of the Study Direction - Other mandatory attachments		
Electronically signed application form for assessment of a study direction	TSI Iesniegums AIC.pdf	Iesniegums.pdf

## Other annexes

Name of document	Document
4.pielikums. Studiju virzienā īstenoto studiju programmu salīdzinājums ar citu augstskolu studiju programmām	4.pielikums. Programmu salīdzinājums.zip
8.pielikums. Studiju virziena padomes sastāvs	8.pielikums. Studiju virziena padomes sastāvs .pdf
9.pielikums. Studējošo, absolventu, darba devēju aptauju dati	9.pielikums. Aptauju dati.zip
1.pielikums. Senata lemums par akreditācijas dokumentu apstiprināšanu	1.pielikums. Senata lemums par akreditācijas dokumentu apstiprināšanu.pdf
2.pielikums.TSI attīstības stratēģija 2016_2020 (lv)	2.pielikums.TSI attīstības stratēģija 2016_2020 lv.pdf
2. Appendix. TTI development strategy 2016_2020 (en)	2. Appendix. TTI development strategy 2016_2020 (en).pdf
5.pielikums. Nozares ekspertu atzinumi.zip	5.pielikums. Nozares ekspertu atzinumi.zip
8.Appendix. Study direction council	8.Appendix. Study direction council.pdf
9.Appendix. Student, graduate and employer survey data	9.Appendix. Student, graduate and employer survey data.zip
5.Appendix. Industry expert statements	5.Appendix. Industry expert statements.zip
1.Appendix.Extract of minutes of the sitting of the senate	1.Appendix.Extract of minutes of the sitting of the senate.pdf
4.Appendix. Comparison of the TTI program with other programs	4.Appendix. Comparison of the TTI program with other programs.zip
II.dalas. 2.1.apakšpunkta 6.tabula. TSI iekšējo auditu gada plāns	II.dalas. 2.1.apakšpunkta 6.tabula. TSI iekšējo auditu gada plāns .docx
Table 6 of Part II, Section 2.1. Annual Internal Audit Plan	Table 6 of Part II, Section 2.1. Annual Internal Audit Plan .docx

# Aviation Management

Title of the higher education institution	<i>Management, Administration and Management of Real Property</i>
ProcedureStudyProgram.Name	<i>Aviation Management</i>
Education classification code	<i>47345</i>
Type of the study programme	<i>Professional master study programme</i>
Name of the study programme director	<i>Olga</i>
Surname of the study programme director	<i>Zervina</i>
E-mail of the study programme director	<i>Zervina.O@tsi.lv</i>
Title of the study programme director	<i>Mg.oec.</i>
Phone of the study programme director	<i>25932353</i>
Goal of the study programme	<i>The aim of the program is to train aviation managers competitive on the international market and who have acquired in-depth knowledge, skills and competences across various functional management areas pertaining to the contemporary aviation industry and who will be able to apply their knowledge to management activities in aviation-related companies for their sustainable development.</i>
Tasks of the study programme	<ol style="list-style-type: none"> <li><i>1. To ensure internationally competitive education by providing students with comprehensive theoretical knowledge and practical skills in business management relevant to an aviation company or institution.</i></li> <li><i>2. To develop students' analytical abilities and interest in the global business environment and society by analyzing the economic conditions and development trends in the aviation industry, analyzing and evaluating the conditions in organizations in the sector of the economy, the overall condition of the state economy and various management areas.</i></li> <li><i>3. To develop understanding of management issues an aviation company and institution encounter and provide knowledge necessary for successful strategic, financial and human resource management of a company in this industry.</i></li> <li><i>4. To develop and deepen the knowledge and skills essential for work in the capacity of a manager and leader at an aviation company or institution, including the ability to manage change processes, manage projects and conduct research.</i></li> <li><i>5. To provide in-depth knowledge of research methodology and to develop necessary skills in gathering, processing and analyzing quantitative and qualitative data as part of research activities.</i></li> <li><i>6. To develop the ability to independently formulate and solve scientific problems, to promote participation of Master's students in research, to participate in scientific conferences, to prepare research results for publication.</i></li> </ol>

Results of the study programme	<p><i>Knowledge:</i></p> <ul style="list-style-type: none"> <li>• To identify methods of setting organizational goals, of critical thinking and of strategic management</li> <li>• To formulate modern management concepts and models, understand their research and practical application in the management of aviation companies and institutions.</li> <li>• To describe the main international and domestic regulatory enactments relevant to the aviation industry and the legal aspects of international trade and aviation.</li> <li>• To list the latest research, external and internal environmental analysis methods and innovation technologies in the field of aviation transport.</li> <li>• To explain theories of corporate governance, to be able to present the basic principles of operations of airports, airlines and aircraft maintenance and the unique features of their management.</li> <li>• To demonstrate key aspects of aviation quality management and safety, organizational theory, financial management and human resource strategy.</li> </ul> <p><i>Skills:</i></p> <ul style="list-style-type: none"> <li>• To formulate and modify the mission, vision and values of an aviation organization, to timely identify problems, to plan needed actions in order to adapt to and cope with market transformations.</li> <li>• To use the knowledge of aviation business in finance and marketing.</li> <li>• To set strategic and operational goals, plan required activities and resources in order to achieve these goals, identify and deploy necessary technology resources.</li> <li>• To manage crisis situations, organizational changes, to be able to analyze and solve issues of organizational resources, to know functional areas of organizational operations and to manage risks.</li> <li>• To prepare analytical materials for business process management in the aviation industry and for the evaluation of their efficiency, to think critically and creatively and to express own opinion using arguments.</li> <li>• To assign and apply required international and domestic regulatory enactments relevant to the aviation industry when conducting business operations in this industry.</li> <li>• To identify and apply qualitative and quantitative research methods required for research and management of business processes at an aviation company, to select appropriate research approaches, to obtain and analyze data.</li> <li>• To develop activities for enhancing the effectiveness of cooperation with stakeholders, clients and other interested parties.</li> </ul> <p><i>Competences:</i></p> <ul style="list-style-type: none"> <li>• To argue for the organizational development strategy and determine priorities in accordance with internal and external environment analysis, to introduce innovative solutions for the attainment of organizational goals in an aviation company.</li> <li>• To choose research and project management skills for organizing work in an aviation company or institution.</li> <li>• To independently identify, analyze and apply the most appropriate research activities in accordance with the developed program, implementing all stages of research.</li> <li>• To justify the human resource management system that complies with the strategy of the organization, to set control indicators and monitor action plans to achieve goals.</li> <li>• To compare modeling methods in decision-making in air transport and logistics processes, to evaluate the indicators of financial and economic performance of the organization.</li> <li>• To evaluate different opportunities of using information technologies, to discuss personal, social, civic, communication, interpersonal and intercultural skills.</li> </ul>
Final examination upon the completion of the study programme	Defence of the Master's thesis

# Study programme forms

## Full time studies - 1 years, 6 months - english

Study type and form	<i>Full time studies</i>
Duration in full years	<i>1</i>
Duration in month	<i>6</i>
Language	<i>english</i>
Amount (CP)	<i>60</i>
Admission requirements (in English)	<i>Professioinal Bachelor's degree in business management, transport, logistics, aviation transport and/or the 2nd level professional higher education in management, economics, administration, business management, logistics or other related fields and acquired professional internship of minimum 20 CP.</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Professional Master's Degree in Aviation Management</i>
Qualification to be obtained (in english)	

## Places of implementation

Place name	City	Address
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

## Part time extramural studies - 2 years - english

Study type and form	<i>Part time extramural studies</i>
Duration in full years	<i>2</i>
Duration in month	<i>0</i>
Language	<i>english</i>
Amount (CP)	<i>60</i>
Admission requirements (in English)	<i>Professioinal Bachelor's degree in business management, transport, logistics, aviation transport and/or the 2nd level professional higher education in management, economics, administration, business management, logistics or other related fields and acquired professional internship of minimum 20 CP.</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Professional Master's Degree in Aviation Management</i>
Qualification to be obtained (in english)	

## Places of implementation

Place name	City	Address
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

## Full time studies - 2 years - english

Study type and form	<i>Full time studies</i>
Duration in full years	<i>2</i>
Duration in month	<i>0</i>
Language	<i>english</i>
Amount (CP)	<i>80</i>

Admission requirements (in English)	<i>Bachelor's degree in management, economics, logistics, transport, business management, administration, aviation transport or a related field</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Professional Master's Degree in Aviation Management</i>
Qualification to be obtained (in english)	<i>Organization Manager</i>

### **Part time extramural studies - 2 years, 6 months - english**

Study type and form	<i>Part time extramural studies</i>
Duration in full years	<i>2</i>
Duration in month	<i>6</i>
Language	<i>english</i>
Amount (CP)	<i>80</i>
Admission requirements (in English)	<i>Bachelor's degree in management, economics, logistics, transport, business management, administration, aviation transport or a related field</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Professional Master's Degree In Aviation Management</i>
Qualification to be obtained (in english)	<i>Organization Manager</i>

### III - DESCRIPTION OF THE STUDY PROGRAMME (1. Indicators Describing the Study Programme)

**1.1. Description and analysis of changes in study programme parameters that have taken place since the issue of the previous accreditation certificate of study direction or the license of study programme if study programme is not included in the accreditation page of the study direction**

Lūdzu skatīt sadaļu "Parametri""

**1.2. Analysis and assessment of the statistical data on the students of the respective study programme, the dynamics of the number of the students, and the factors affecting the changes to the number of the students. The analysis shall be broken down in the different study forms, types, and languages.**

Professional Master's program *Aviation Management* was licensed by the Study Program Licensing Committee on October 25, 2017 for implementation in English. Practical implementation of the program was started in 2018/2019, when on September 1, 2018 three students enrol in their first year. Taking into account the enrolled students in winter 2019, in 2019/2020 there are overall 20 students in the program.

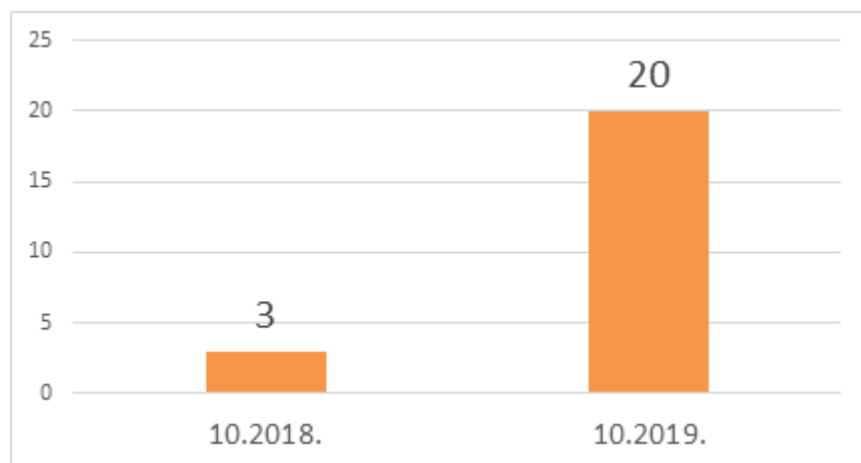


Figure 30: Dynamics of the student numbers in the Master's program *Aviation Management*

There are currently 5 full-time students in the second year, 10 full-time students in the first year and 5 part-time students pursuing their education in the modular mode.

The number of students has increased 7 times over the first year. The popularity of the program is the result of the active marketing policy, including promotion of the study program in aviation organizations in Latvia, such as Sia Havas, Sia SmartLynx and Vas LGS, as one of the aims of the program is to provide Latvian aviation companies with qualified management specialists.

The program is also actively promoted in the Central Asian market: Kazakhstan, Uzbekistan, Azerbaijan, of which 5 are currently studying in the program. In the survey, the students

themselves admitted that they were encouraged by the high reputation of Latvia's higher education, the prestige of the aviation industry and the competitive price of the program in the European market to obtain education at the Transport and Telecommunication Institute.

In addition, the program has actively been advertised in the Central Asian market, specifically, in Kazakhstan, Uzbekistan and Azerbaijan. There are 5 students from this region currently pursuing their education in the program. In the survey, students admitted that they decided to obtain education at the Transport and Telecommunication Institute because of a very good reputation of Latvian higher education, the prestige of the aviation industry and the competitive price of the program in the European market.

Table 28: The breakdown of students by the country of residence

Countries of residence of students	Number of students
Azerbaijan	1
India	2
Kazakhstan	2
Latvia	12
Ukraine	1
Uzbekistan	2

### **1.3. Analysis and assessment of the interrelation between the name of the study programme, the degree or professional qualification to be acquired or the degree and professional qualification to be acquired, the aims, objectives, learning outcomes, and the admission requirements.**

The interrelationship among the title of the study program Aviation Management, the obtained degree, professional qualification, aims, objectives and admission conditions was already postulated at the time of the program development in 2017, which was carried out in cooperation with the industry experts.

In addition, there has been conducted course mapping (see Appendix 48), the attainment and assessment of learning outcomes in accordance with the profession standard for the “*Manager of Organization*” (profession code 1120), which has allowed to carry out in-depth analysis and consequently enhance the contents and learning outcomes of the course.

The aim of the program is *to train aviation managers competitive on the international market and who have acquired in-depth knowledge, skills and competences across various functional management areas pertaining to the contemporary aviation industry and who will be able to apply*



*their knowledge to management activities in aviation-related companies for their sustainable development.* It complies with the requirements of the awarded Master's degree in aviation management, ensuring the attainment of the 7th level EQF/LQF qualification and awarding the professional qualification *Organization Manager* (LQF 5).

The Profession Standard was agreed on at the meeting of the Tripartite Cooperation Subcommittee on Professional Education and Employment, which took place on 18 September 2019 (Protocol no. 6). The Standard is published on the home page of the National Center for Education <https://visc.gov.lv/profizglitiba/dokumenti/standarti/2017/PS-114.pdf>.

Admission requirements are determined pursuant to the following regulatory enactments: Articles 46 and 47 of the Law on Higher Education Institutions and Regulation of the Cabinet of Ministers No. 846 of October 10, 2006 on *Requirements, Criteria and Procedures for Admission to Study Programs*.

The professional Master's study program *Aviation Management* fully complies with Cabinet Regulation No. 512 of August 26, 2014 on *Regulations on the National Standard of the Second Level Professional Higher Education* (accessible on <https://likumi.lv/doc.php?id=268761>)

Appendix 44: Compliance of the study program with the State Education Standard

Appendix 45: Compliance of the awarded qualification with the Profession Standard.

### **III - DESCRIPTION OF THE STUDY PROGRAMME (2. The Content of Studies and Implementation Thereof)**

**2.1. Assessment of the relevance of the content of the study course/ module and the compliance with the needs of the relevant industry and labour market and with the trends in science. Provide information on how and whether the content of the study course/ module is updated in line with the development trends of the relevant industry, labour market, and science. In case of master's and doctoral study programmes, specify and provide the justification as to whether the degrees are awarded in view of the developments and findings in the field of science or artistic creation.**

The expansion of the aviation industry and its increasing role in the global economies have led to a significant increase in the demand for qualified professionals. The liberalization of the air transport market has significantly intensified competition among air carriers, which has made aviation transport much more accessible. As a result, the turnover of both airline passengers and cargo has created a demand for qualified workforce, leading to the establishment of business programs, specializing in the aviation management, in many European and other universities worldwide.

The Professional Master's degree program in Aviation Management provides comprehensive professional training for managers for aviation-related companies and organizations. Students who have successfully completed this program are able to develop managers' careers on domestic and international aviation markets in areas, such as air passenger and air freight transportation, airport and airline management, aircraft maintenance and other industry related businesses, including those whose activities directly pertain to aviation, such as tourism, finance and investment, insurance, logistics, transit etc.

The program has been developed and implemented considering recent development trends in the aviation industry and in cooperation with well recognized professionals in the field, following their recommendations. They are Mr. Saveljevs, Member of the Board and the Commercial Director of the SJSC *Riga International Airport*, who was one of the program developers, and Mr. Kokars, Advisor to the Chairman of the Board of *Riga International Airport*.

The program contents comply with the current academic and professional requirements and international standards. The program provides an opportunity to acquire theoretical and applied aspects of business management, to acquire and develop in-depth business management skills relevant to the aviation industry, to find solutions and to make decisions based on the acquired knowledge.

The particularity of the aviation industry is determined not only by its global scope but also by security considerations, therefore, any decision-making involves the analysis of various indicators. Topicality of these research tools and methods has been highlighted in the regularly organized seminar of ICAO (International Civil Aviation Organization), which provides participants with an opportunity to expand their knowledge about new ICAO solutions with respect to data collection, analysis and interpretation. The governments, policy makers and industry representatives are required to develop in-depth knowledge of decision making methodologies in order to be able to measure the economic impact of aviation (<https://www.icao.int/APAC/Meetings/Pages/2019-ICAO-ADA-Seminar.aspx>). The contents of the study programme includes a study module of 6 credit points called *Research Methods and Project Management*, which consists of 3 courses and helps students to understand research-based practice and research methods. The module facilitates the use of research methods and knowledge of statistical analysis to solve research problems in the air transport sector. At the end of the module students will be able to apply aviation data collection, management and analysis techniques to produce reports and interpret results for effective decision making, risk management and setting priorities for different civil aviation activities relevant to an area of research; to use IT software in research, including SPSS.

The module Decision Making Methodologies aims to help Master's students to understand the decision making techniques by exploring different characteristics and features of each one and demonstrate how these can be applied to solve problems in various industries, including aviation. After successful completion of the course, students will be able to demonstrate and employ critical thinking skills in order to tackle compromise situations and seek alternative solutions, and are able to apply multi-criteria analysis for aviation data-driven decision making.

Scientific research activities of the academic staff significantly contribute to the development of the study programme and the enhancement of the study contents. Lecturers participate in local and international scientific conferences and seminars, publish their research outcomes in scientific publications and develop teaching aids. Through this research, lecturers enhance the quality of their courses by incorporating into them the most recent area-specific innovations in line with the most recent scientific tendencies.

The Latvian Aviation Association, together with the Transport and Telecommunication Institute, the Riga Technical University and the Riga Aeronautical Institute, is committed to facilitate the development of innovative Latvian aviation research by organizing an annual scientific conference on aviation. This is evidenced by the signed cooperation agreement, in which the parties agreed to promote the development of innovative Latvian aviation research and opinion leadership within European aviation. The first ever Riga Aviation Forum's Scientific Conference will take place on May 21, 2020. This year the organizers of the conference, in cooperation with its main sponsor airBaltic, have put the issue of sustainable aviation at the heart of the conference this year. Its future

challenge is to promote the development of new aviation-related scientific research, including Master's and doctoral theses written in Latvia. The conference will be open not only to academic staff but also to university students.

The study programme ends with the completion and defense of the Master's thesis. Student select an important research topic from a set of research themes of a specific science branch or sub-branch offered by the leading academic staff. Students of all academic and professional Master's programmes implemented by TTI present their research outcomes at the students' scientific conference *Science and Technology - a Step into the Future*, RatSif, which takes place at TTI twice a year - in December and April. The aim of the conference is to promote professional development of students along with the acquisition of theoretical knowledge of study courses by developing scientific research skills pertaining to research methodology, the choice of research methods, summarization of theoretical knowledge, implementation of practical research outcomes, development of the skills of obtaining research results, conducting analysis and interpretation, as well as the ability to express the obtained research results in reasoned and understandable conclusions. The conference also aims at promoting students' scientific creativity, thus, strengthening the link between studies, practice and research. Students also participate in other scientific conferences in Latvia and abroad (for more information, see Sub-section 4.5 of Part II of the Study Direction).

The contents of study courses, including the contents of course descriptions, are reviewed annually during the study program and study direction self-assessment procedure, held in December and January in accordance with the course management regulations. As a result of such self-assessment, a program development plan is drawn up, which comprises various aspects of study courses, including updating of course descriptions following the specific field, labor market and science development trends. The updated courses are coordinated, approved and included in the study program register and published in the e-learning environment *Moodle* by the beginning of the new academic year.

Research activities of the academic staff and students and the contents of the study courses of the programme confirm that the degree awarded as a result of the completion of the study programme is based on the achievements within a relevant branch of science.

The study program can be acquired in the form of full-time intramural and part-time extramural studies. The volume of the study program is 60 or 80 credit points.

- Studies for applicants with a Bachelor's degree or equivalent: 2 years (full-time intramural program) and 2.5 years (part-time extramural program)
- Studies for applicants with a professional Bachelor's degree and/or 2nd level professional higher education and acquired professional internship of at least 20 CP: 1.5 years (full-time intramural program) and 2 years (part-time extramural program).

The curriculum plan for full-time intramural and part-time extramural studies in the amount of 80 CP and 60 CP is provided in Appendix 46.

The study program structure is provided in Table 29.

*Table 29: The structure of the Master's program Aviation Management*

<b>Program part</b>	<b>Course code</b>	<b>Study courses</b>	<b>Credit points (CP)</b>	<b>Credit points (ECTS)</b>	<b>Final assessment</b>
<b>A</b>		<b>Compulsary courses</b>	<b>50</b>	<b>75</b>	

1	B 03 009	Latvian language*	2	3	Examination
2	05 M 359	Global economy and international business environment *	2	3	Examination
3	05 M 355	Financial management	2	3	Examination
4	M 13 002	Sustainable Supply Chain Management and Multimodality	2	3	Examination
5	05 M 374	Strategic human resource management and leadership	2	3	Test
6	M 13 001a	Research methods and project management 1 (Data Analysis)	2	3	Examination
7	M 13 001b	Research methods and project management 2 (Project Management)	2	3	Test
8	M 13 001c	Research methods and project management 3 (Decision Making Methodologies)	2	3	Examination
<b>B</b>		<b>Limited elective courses</b>	<b>16</b>	48	
1	M 13 005	Aircraft maintenance management	4	6	Examination
2	M 13 006	Strategic and change management in aviation	4	6	Examination
3	M 13 007	Quality and safety management in aviation	2	3	Test
4	M 13 008	Legal aspects of international trade and aviation	2	3	Examination
B1	M 13 003	Airport management	4	6	Examination
B2	M 13 004	Airline management	4	6	Examination
<b>C</b>		<b>Free elective courses</b>	<b>2</b>	3	
<b>D</b>		<b>Internship</b>	<b>26</b>		
		Practice1	6		
		Practice 2	20		
<b>E</b>		<b>Final assessment</b>	<b>20</b>		

	Master's thesis	20	30	Defence
	<b>Program credit points in total:</b>	<b>80</b>	<b>120</b>	

\* Pursuant to Article 56 of Section 3, Part 1 of the Law on Higher Education Institutions, the official language acquisition in the set number of credit points is included into the compulsory courses for foreign students. Other students attend the course on Global Economy and International Business Environment

The program comprises two specialization courses of 4 CP - *Airport Management* and *Airline Management*.

Table 30: The structure of the Master's program *Aviation Management* (full-time program)

Program blocks (courses)	Number of CP							
	Semester 1		Semester 2		Semester 3		Semester 4	
	80 CP	60 CP	80 CP	60 CP	80 CP	60 CP	80 CP	60 CP
Compulsary courses (Block A)	14	14	2	2	--	--	-	--
Limited elective courses (Block B)	4	4	12	12	--	--	-	--
Free elective courses (Block C)	2	2	--	--	--	--	-	--
Internship	--	--	6	6	20	--		--
Final assessments	--	-	-	-	-	20	20	--
Program in total	20	20	20	20	20	20	20	--

Table 31: The structure of the Master's program *Aviation Management* (part-time program)

Free elective courses are offered within the framework of Block C, of which 2 credits are required to fulfill the program requirements. The aim of these courses is to provide students with an opportunity to acquire additional knowledge in a field of science or to acquire skills useful for professional activities. Free elective courses include *Marketing Management*, *Information Systems and Technology* etc. As the English language used in the aviation industry is a common language of communication, in which familiar lexical items are used with a different meaning, to work in the

aviation industry in this language, it is not sufficient to have a good general command of English. Although the program itself is delivered in English, following the advice of aviation experts, in addition to the free elective courses of Block C, there has been offered an opportunity to enrol in the course *English for Aviation*.

*Appendix 46: Study program plan (for each study program form and type)*

*Appendix 47: Descriptions of the study program courses*

**2.2. Assessment of the interrelation between the information included in the study courses/ modules, the intended learning outcomes, the set aims and other indicators, the relation between the aims of the study course/ module and the aims and intended outcomes of the study programme. In case of a doctoral study programme, provide a description of the main research roadmaps and the impact of the study programme on research and other education levels.**

The study program has been developed pursuant to Cabinet Regulation No. 512 of August 26, 2014 on the 2nd Level Professional Higher Education State Standard and the Profession Standard requirements for *Organization Manager* (LPQ 5). The learning outcomes of the program are formulated in accordance with the knowledge, skills and competences required for studies conducted at Level 7 of the European Qualifications Framework.

The program compliance with the Profession Standard is provided in Appendix 44.

The aim, tasks and learning outcomes of the study programme, such as knowledge, skills and competences, are in line with the Profession Standard for the organization manager. The skills and attitudes, competencies and professional knowledge required by the Standard have been transferred from the Profession Standard to the outcomes of the study programme. According to the profession description provided in the Standard, the aim and tasks of the study programme have been formulated in such a way as to show how to achieve this aim.

The information (topics to be learned) included in each specific course of the programme derives from the course objectives and learning outcomes, which in turn derive from the overall aims and learning outcomes of the programme. As it was mentioned in the self-assessment before, this interconnection is reflected in the program mapping (see Appendix 47) Each study course ensures the achievement of at least 2 learning outcomes of the programme. The achievement of each learning outcome is provided by at least 1 study course, yet, on average, these are 4 or more courses.

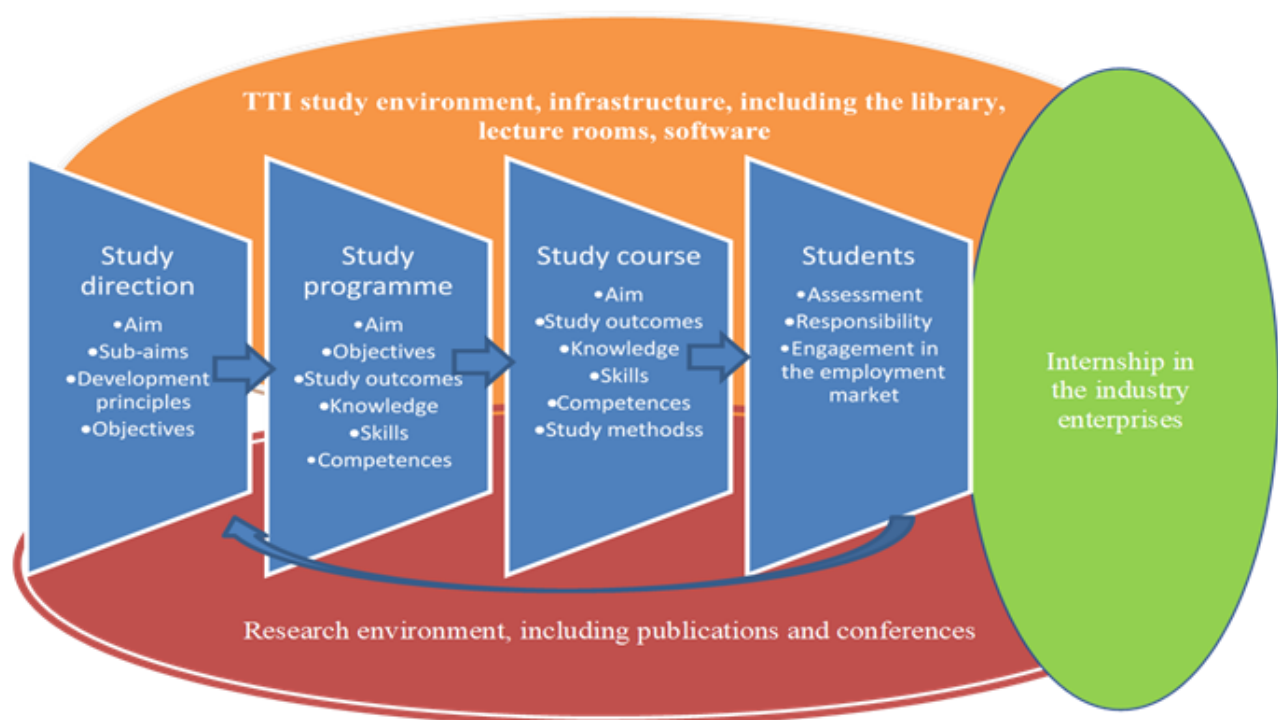
The correlation of the study programme aims and outcomes (see Figure D) with the expected outcomes of specific study courses can be found in each study course description, which contains information on the ways of attainment of leaning outcomes, their sequence, types of competence assessment and assessment criteria. Course descriptions also provide compulsory literature, of which at least one source is not older than 5 years, which ensures the acquisition of the material according to the latest scientific and industry trends.

Courses in the programme curriculum are organized in a logical order. Initially, students attend general education, general business and management courses, which advance students' entrepreneurial competences, research and analysis skills, and only then do they enrol in

professional ones.

In accordance with the norms of the professional Master' programmes, students acquire professional skills in the amount of 26 CP, which are developed after completing theoretical courses.

To ensure the successful implementation of the study programme (see Figure D), TTI provides an appropriate learning environment, infrastructure with appropriate resources for classrooms, computer classrooms, library as well as IT software for research work, including SPSS. The research environment is an integral part of the Master's studies. When pursuing their Master's degree, students also conduct independent research, draws conclusions based on science or develops research-based creative work within the framework of the courses Scientific Seminar 1 and Scientific Seminar 2 and when defending both their term-paper and Master's thesis. Participation in a scientific conference and in-depth approbation of the topic of the Master's thesis are a prerequisite for defending the Master's thesis. Students of all academic and professional Master's programmes implemented by TTI present their research results at the student scientific conference *Science and Technology - Step into the Future* (RatSif). The aim of the conference is to promote professional development of students along with the acquisition of theoretical knowledge of study courses by developing scientific research skills pertaining to research methodology, the choice of research methods, summarization of theoretical knowledge, implementation of practical research outcomes, development of the skills of obtaining research results, conducting analysis and interpretation, as well as the ability to express the obtained research results in reasoned and understandable conclusions. The conference also aims at promoting students' scientific creativity, thus, strengthening the link between studies, practice and research.



*Figure D: Linking the aims of the Master's study direction to students' study outcomes and integration into the labor market*

The courses included in the programme are relevant to the aims and tasks of the programme as they focus on the development of skills and attitudes, general and professional knowledge and competencies required by the Profession Standard for the head of an organization so that this manager can fulfil the key professional objectives and responsibilities.

Descriptions of study courses and graduation theses have been developed in accordance with the requirements of regulatory enactments. The course contents are topical, mutually complementary, are consistent with the program aims, ensure the achievement of study outcomes, satisfy the needs of the field and are in line with science development tendencies.

Appendix 48: Mapping of courses aiming at attaining the study program outcomes

**2.3. Assessment of the study implementation methods (including the evaluation methods) by providing the analysis of how the study implementation methods (including the evaluation methods) used in the study courses/ modules are selected, what they are, and how they contribute to the achievement of the learning outcomes of the study courses and the aims of the study programme. Provide an explanation of how the student-centred principles are taken into account in the implementation of the study process.**

Further information is provided in Subsection 1.6. of Section II.

The study implementation methods, assessment methods, types and requirements are included into the description of each course available to students in the e-learning environment Moodle.

The study process is mainly implemented in the format of interactive lectures, seminars, tutorials and student independent work. Courses include workshops, often discussions, role-plays, teamwork, project work, in-basket professional tasks or solving specific practical problems. The method choice depends on the learning outcomes to be achieved. The applied methods are geared to the development of the students' abilities, specifically, to learning, creative use of knowledge, cooperation, self-evaluation, offering of alternative solutions to problems, to critical thinking and making responsible decisions.

The case study method, which embodies the analysis of real life professional problems, is increasingly used in the study process. This method has been recognized as one of the most appropriate and effective methods of training of managers and for raising their qualifications. Teaching based the case study methodology helps students develop a set of qualities a modern leader needs, such as focus on results, team involvement, leadership, responsibility, self-organization and self-assessment (for more information, see Subsection 2.3. in Section IV).

The basic principles and procedure for the assessment of the acquisition of the study program comply with the requirements of Article 40 of the State Academic Education Standard. Forms of control of study results include oral and written examinations, tests and internship reports. Learning outcomes within the program are assessed according to two assessment criteria, one of which being the 10-point marking system within which the lowest passing mark being 4 and another one being the quantitative criterion, which refers to the credit point number, which is based on the total number of hours allocated to a specific course.



At the end of the internship, students draw up a report on the internship outcomes. The internship defence takes place on the premises of the Department. The quality of the attained internship outcomes, tasks and the report is assessed applying a grade system.

The Master's thesis is evaluated using a complex approach. A completed Master's thesis is evaluated by the State Examination Committee, where the Master's student defends his/her own Master's thesis. The Master's thesis is reviewed prior to the defence.

According to Article 53 of Chapter VII of the Cabinet Regulation No. 512 of August 26, 2014, on *The State Standard for the 2nd Level Professional Higher Education*, the Chair of the State Examination Committee and at least half of the Committee members are representatives of the industry professional organizations or are employers. This condition is strictly observed at TTI.

Members of the Committee considers the following criteria: 1) the quality of the content of the Master's thesis and its relevance to the study direction; 2) compliance of the thesis with the methodological guidelines for writing the Master's thesis; 3) the quality of presentation; 4) the student's ability to answer the questions posed by the Committee; 5) assessment and comments written in the review. The overall evaluation of the Master's thesis is formed by summarizing the votes of each member of the Committee and by voting on it. The Chair of the Committee has the decisive vote in disputes (see Subsection 1.6 in Section II).

The principles of student-centered learning are described in Subsection 2.3. in Section III.

**2.4. If the study programme entails a traineeship, provide the analysis and assessment of the relation between the tasks of the traineeship included in the study programme and the learning outcomes of the study programme. Specify how the higher education institution/ college supports the students within the study programme regarding the fulfilment of the tasks set for students during the traineeship.**

Internship is a component of the professional Master's degree program in *Aviation Management*. According to the requirements of the professional Master's program, students are offered internships of 6 CP or 26 CP. The internship aim is to enable the Master's students to consolidate and supplement their academic knowledge with applied professional skills, based on the work experience acquired during their internship at a specific company as well as to acquire the practical skills required for conducting professional activities in their specific industry.

Internship objectives are the following:

- Acquire a general idea about the basic functional principles of a company
- Consolidate and deepen theoretical knowledge about modern business management processes and methods
- Develop knowledge about business operation organization and management principles through practical experience
- Collect and analyze data and other resources for writing a Master's thesis.

Internships are organized in accordance with the study plan and internship calendar plan, based on agreements between TTI, students and companies that offer internship placement for students.

The number of credit points for all students and internships (Internship 1) is 6 CP:

- Full-time intramural program: Semester 2

- Part-time extramural program: Semester 3

Master's students with the academic Bachelor's degree must additionally gain 20 CP through Internship 2:

- Full-time intramural program: Semester 3
- Part-time extramural program: Semester 4

During Internship I students acquire knowledge about specifics of business management in the aviation industry, future prospects and issues on the aviation transportation market, typical and unique business operations in aviation companies, application of aviation regulating enactments to international business operations. Necessary information is gathered, analyzed and systematized to understand business principles, importance and topical issues operating at the internship workplace.

During Internship II students apply acquired theoretical knowledge to real-life business activities and work on solutions to topical issues. The collected and processed data is updated with clarifications. If required, additional information is acquired and processed in order to identify all aims and objectives for the Master's thesis.

Provision of internship within the framework of the study program is described in cooperation agreements between the Institute and major aviation companies. Cooperation agreements have been signed with companies such as *Airline Support Baltic*, *Wing 4 Sky Group* and *Riga International Airport*, which engage their staff as internship supervisors to ensure their compliance with the internship agreement requirements.

Internship is implemented in accordance with the internship plan, which is developed by the Department responsible for the internship implementation and which is approved by the program director and the Dean of the Faculty.

The Corporate Client Department coordinates the Institute units involved in organizing internships and gathers information on partner enterprises that provide internship placement. In accordance with the internship requirements, the Department provides information on internship placement, specifically, the list of companies offering internship opportunities and the number of available internship places. Consistently with the TTI internship program, students have the right to independently choose internship places but must provide the Institute with a document certifying the agreement of the company to offer the internship placement to this specific student.

At the end of the internship students write a report on the internship outcomes, which they prepare following the *Internship Methodological Guidelines*. Students must also submit an internship diary and the internship supervisor reference. Internship documents are accessible to students on the e-learning platform *Moodle*.

The internship defence takes place on the premises of the Department.

The attainment of internship aims and objectives as well as the internship report are assessed using a grade system.

The internship aims and objectives are described in the internship program. Students learn about this internship program, its aims and objectives in the beginning of their studies. The internship objectives are relevant to the expected learning outcomes of the program (see the program mapping in Appendix 48 and the program compliance with the Profession Standard in Appendix 45).

Further information on the internship description is provided in Subsection 5.3. in Section II.

## **2.5. Analysis and assessment of the topics of the final theses of the students, their relevance in the respective field, including the labour market, and the evaluations of the final theses.**

A student chooses a theme of his or her Master's thesis independently from the list of research directions for Master's theses offered by the Department. Consistently with the Final Assessment Regulation, the Department publishes the list of Master's thesis themes one year prior to the defence of Master's theses. The student can also propose his or her own research theme. The list of plausible research areas offered by the Department is updated annually, taking into account the development of Latvian businesses and global trends in economics, politics and society, which affect the needs of the labor market and based on which new education requirements for modern manager training are developed.

The first defence of Master's theses will take place in June 2020. Upon successful completion of the study plan and successful defence of the Master's thesis, there will be 5 students graduating from the program this summer. The Department has offered the following themes for their Master's theses:

- Analysis of safety and security tendencies in civil aviation in Latvia
- Assessment of digital efficiency of aviation technical maintenance management
- Competition between low cost airlines and traditional airlines
- Greatest challenges of airlines
- In-depth analysis of the increase of air traffic in Latvia
- Corporate responsibility, advantages for consumers and air traffic opportunities in the aviation industry
- Delays in aircraft supply in major airline alliances
- The airline impact on climate and how the industry responds to it
- Challenges and ethical issues in the air traffic industry
- Liabilities of airlines and other aviation companies to their passengers
- Risk management in the aviation industry: a case study
- Demand development opportunities in civil aviation in Europe
- Management of data on civil aviation aircraft exploitation
- Application of the quality management methods for the development of airport strategy
- Forecast of the volume of civil aviation transportation: a case study
- Risk management strategies in aviation: a case study

Consistently with the earlier mentioned remarks and pursuant to the Order of the 30th of October 2019, No. 06-4.3 / 1, there was formed the State Final Examination Committee, chaired by Mr. Saveljevs, Member of the Board and Commercial Director of *Riga International Airport*. The members of the Committee include yet two other representatives of the aviation industry, which is why the relevance of graduation theses to the needs of the industry will be objectively assessed.

## **2.6. Analysis and assessment of the outcomes of the surveys conducted among the students, graduates, and employers, and the use of these outcomes for the improvement of the content and quality of studies by providing the respective examples.**

Last academic year there were 5 students registered in the program of whom 3 students participated in the survey. The students reported satisfaction with their choice of the study program, provision of material, technical and information resources within the framework of the program, library and the quality of teaching, however, they also noted that the number of lecturer consultations was insufficient.

Considering the fact that the same fact was mentioned by students of other programs, in the future more efforts must be put into consultation arrangements, by making them more available to students. The planned consultations of the academic staff are visible in the overall lecture schedule, which is why it is feasible to control them.

Because the program has been implemented only for the second year, there are no graduates, yet.

The relationship with employers is continuously sustained and in fact the senior staff members of *Riga International Airport*, who will also assess the students' knowledge in the capacity of Members of the State Final Examination Committee, participated in the development of the program. The defence outcomes will be analysed and considered for the purposes of quality enhancement.

## **2.7. Provide the assessment of the options of the incoming and outgoing mobility of the students, the dynamics of the number of the used opportunities, and the recognition of the study courses acquired during the mobility.**

Students of the study program use outgoing mobility opportunities. Last year 1 student participated in the exchange mobility program (see Appendix 16). Many Master's students work and not always can they allocate time to the pursuit of their education abroad, which is why the number of Bachelor's students, participating in the international student exchange program, is always higher than that of Master's students (see Appendix 16).

Courses and their credit points acquired through participation in the ERASMUS + program may be transferred in full. Recognition of learning outcomes achieved through the ERASMUS + mobility program is regulated by the TTI ERASMUS + Program Scholarship Instruction Manual (available at [http://www.tsi.lv/sites/default/files/editor/2017.02.07.\\_instrukcija\\_0.pdf](http://www.tsi.lv/sites/default/files/editor/2017.02.07._instrukcija_0.pdf)) (see Subsection 5.2. in Section II).

Incoming mobility students are admitted with the status of exchange students to one of the Faculty of Management and Economics degree programs during their exchange visit, although exchange students often choose to enrol in courses in other faculty programs. Students are provided with the required amount of study courses and the required number of credit points. The offered courses are conducted in English.

## **III - DESCRIPTION OF THE STUDY PROGRAMME (3. Resources and Provision of the Study Programme)**

### **3.1. Assessment of the compliance of the resources and provision (study provision, scientific support (if applicable), informative provision (including libraries), material and technical provision, and financial provision) with the conditions for the implementation of**

**the study programme and the learning outcomes to be achieved by providing the respective examples. Whilst carrying out the assessment, it is possible to refer to the information provided for in the criteria set forth in Part II, Chapter 3, sub-paragraphs 3.1 to 3.3.**

The Transport and Telecommunication Institute has three faculties and several departments:

1. Faculty of Management and Economics:
  1. Department of Economics, Finance and Management
  2. Department of Humanities
2. Faculty of Transport and Logistics:
  1. Department of Aviation Transport
  2. Department of Transport and Logistics
3. Faculty of Computer Sciences and Telecommunications:
  1. Department of Electronics and Telecommunication
  2. Department of Computer System Programming
  3. Department of Mathematical Methods and Modelling

The study direction *Management, Administration and Real Estate Management* along with the included programs, in cooperation with the lecturers from other TTI departments and visiting lecturers is implemented at the Faculty of Management and Economics (VEF).

Other TTI departments are also involved in the implementation of the study process.

1. Corporate Client Department, which organizes and ensures cooperation with companies
2. Study Department, which plans the study process (including aspects related to lecture schedules, lecturer work etc.), manages activities involving students (providing consultations, supplying information, managing students' paperwork, student records, payments etc.)
3. Library, which provides students and lecturers with study and scientific literature
4. Research Department, which ensures high quality training of young scientists and involvement of students in research.
5. The Academic and Professional Aviation Center (APAC), which provides mainly theoretical and practical training and offers examinations in specialized aviation courses. The APAC Aircraft A320 Simulator is used in training within the course *Aircraft Maintenance Management*.
6. The Applied Software System Laboratory, which provides TTI students, lecturers and researchers with the access to software products, including simulation tools, such as PTV VISSIM & VISUM, which is designed for transport flow modeling, AnyLogic, which is a universal modeling software, Aris, BPWin, Busines Object, which is a business process modeling software, R, SPSS, STATISTICA, MatLab, Maths etc., which are various software packages developed for data processing and mathematical calculations (see Subsection 3.2. in Section II).

Study time, helpdesk and library opening hours are organized considering lecture schedules..

An important tool for organizing the study process for each study course is the e-learning environment or platform *Moodle*. Each course contains teaching materials, which include a course description, a methodological (calendar) lecture schedule for the current semester, independent study assignments planned for the course, self-assessment assignments, examination questions, other study materials to be used for independent studies (lecture materials, presentations, various other materials etc.).

The student ID card, the study plan for the entire study period and the marks received for study courses for all TTI students, including distance learning students, are available on the TTI internal information system *Intranet*. Full-time and part-time students and faculty members can access lecture schedules in this system.

The Faculty has received specific funding to expand its resources in relation to the number of implemented programs. In 2020, in total, the allocated funds for the acquisition of study books comprise 1500 EUR. In the course description lecturers indicate at least one study resource available in the TTI library. During the first induction week, foreign students are required to attend a class that familiarizes them with the library's facilities and resources. Also, within the framework of the course *Introduction to Specialty*, lecturers talk about books and e-book databases that are available in the library (see Subection 3.3 in Section II).

As the majority of the Master's students already have permanent jobs, classes are administered on weekday evenings, which allows to combine studies and work. For part-time extramural students, classes are held on Saturdays or are delivered on a modular basis consistently with which intensive study classes are organized once a month on Fridays, Saturdays and Sundays.

The Faculty of Management and Economics has been designated as a separate Financial Accountability Center (FAC) in accordance with the Accounting Policy. The Faculty of Management and Economics has its own budget to ensure implementation of required activities in accordance with TTI strategic vision. The Dean of the Faculty receives a monthly report on budget implementation and is required to submit explanations for significant deviations from the budget implementation plan and deliver an action plan for reducing risks. The basic budget of the Faculty includes direct income and direct costs. The main source of funding of the Faculty and consequently of the study program is the income obtained from tuition fees and related supplementary service fees, which are paid by natural and legal persons. The amount of the tuition fees and supplementary service fees is reviewed annually considering the market trends and cost results and is approved by the order of the Board of Directors.

For the academic year 2019/2020, the tuition fee for the full-time intramural studies has been 4200EUR, for part-time extramural studies 3400EUR.

The Faculty conducts cost calculation and cost analysis. All programs, delivered within the Faculty, are cost-effective and allow to invest profits into the further development of the Faculty and the attainment of specific strategic aims. To ensure the efficient implementation of the study programs, all necessary resources have been used (for further information, see Subsection 3.1. in Section II).

In general, the study foundation, information base (including libraries), material and technical base and financial foundation correspond to the specifics of both the study program and implementation conditions and create preconditions for the achievement of study outcomes, thus, demonstrating the ability to ensure the delivery of high quality study process.

### **3.2. Assessment of the study provision and scientific support, including the resources provided within the cooperation with other science institutes and institutions of higher education (applicable to the doctoral study programmes).**

Not applicable

### III - DESCRIPTION OF THE STUDY PROGRAMME (4. Teaching Staff)

#### 4.1. Analysis and assessment of the changes to the composition of the teaching staff over the reporting period and their impact on the study quality.

The program was licensed only in 2017, but there have been minor changes in its academic staff composition. Two foreign visiting lecturers were involved within the framework of Project 8.2.2. – Dr. Ovezmyradov, Ph.D., will replace a visiting lecturer Dr. Beifert, Ph.D., while Mr. Gabelaia, MA in Education, in cooperation with Prof. Stukalina, Ph.D., will deliver the course *Strategic Human Resource Management and Leadership* instead of Associate Professor Ishuhametov, Ph.D.

TTI Assistant Professor Alomar, Ph.D. in Engineering, will teach the course *Aircraft Maintenance Management* instead of Prof. Medvedev, Ph.D. in Engineering, who, as the Head of the Department, is now responsible only for implementing internships.

All new lecturers recruited in the program are foreign lecturers, except for Professor Stukalina, who is an English philologist.

Changes in the academic staff composition have not impaired the quality of teaching. Foreign lecturers enhance the quality of the program by bringing their teaching experience and skills, which is essential for providing students with a comprehensive understanding of different approaches to education and work. For example, Dr. Gabelaia has received her degree at the University of Iowa (USA) and has had work experience in marketing. Dr. Ovezmyradov has obtained his Ph.D. in Engineering from Tsukuba University and MA in Management from Niederrhein University, Germany.

#### 4.2. Assessment of the compliance of the qualification of the teaching staff members (academic staff members, visiting professors, visiting associate professors, visiting docents, visiting lecturers, and visiting assistants) involved in the implementation of the study programme with the conditions for the implementation of the study programme and the provisions set out in the respective regulatory enactments. Provide information on how the qualification of the teaching staff members contributes to the achievement of the learning outcomes.

The study program has been implemented by 7 TTI elected lecturers and 7 invited lecturers.

Four professors and 1 associate professor deliver courses in the program: Prof. Kuzmina-Merlino, Ph.D. in Economics, Prof. Stukalina, Ph.D. in Administration, Prof. Jackiva, Ph.D. in Engineering, Prof. Medvedevs, Ph.D. in Engineering, and Associate Prof. Popova, Ph.D. in Economics. In addition, courses are taught by Assistant Professor Baltgailis, Ph.D. in Economics, and Assistant Professor Alomar, Ph.D. in Engineering. All members of the academic staff hold scientific doctoral degrees.

As it has been mentioned before, some courses are delivered by industry professionals, specifically, by Mr. Saveljevs, Member of the Board of *Riga International Airport*, Mr. Kokars, Advisor to the Chairman of the Board of *Riga International Airport*, and Mr. Pavasars, Head of the Training Center of *Riga International Airport*.

Dr. Roskoša, Ph.D. in Administration, Associate Professor of Riga Technical University, teaches the course *Latvian for Foreign Students*. Project 8.2.2 ensures teaching by foreign academic staff, who are Dr. Ovezmyradov and Mr. Gabelaia and who will deliver the course *Sustainable Supply Chain Management and Intermodal Transport* and the course *Strategic Human Resource Management and Leadership*. Prof. Nathanail from Greece delivers the course *Methodology of Decision-Making*.

In addition, there has been signed an agreement with Dr. Pagliari, Senior Lecturer at Crenfield University, for the delivery of the course *Airport Management* in the Spring Semester 2019/2020.

The TTI academic staff conduct research and participate in students' education.

The Transport and Telecommunication Institute, as far as possible, ensures the professional development of its employees and provides incentives with competitive salaries in Latvia.

Qualifications of the academic staff, recruited in the program, meet the program implementation requirements and relevant regulatory enactments, which ensures the achievement of the expected learning outcomes, study program aims and study course objectives.

The language skills of the lecturers employed by the program meet the official language knowledge requirements passed by the Cabinet of Ministers on July 7, 2008 as Regulation No. 733 entitled *Regulations Regarding the Extent of the Knowledge of the Official Language, the Procedures for Examining the Proficiency in the Official Language for the Pursuit of Professional and Occupational Duties, for the Acquisition of the Permanent Residence Permit and of the Permanent European Union Resident Status and the State Fee for Examining the Proficiency in the Official Language*. When recruiting, the TTI Personnel Department verifies the official language skills (see Appendix 22).

The program is administered only in English, which is why all lecturers have the required level of the English language knowledge.

#### *Appendix 50 Confirmation of English proficiency of academic staff involved in the programme.*

*Table 32: Academic staff of the Master's program Aviation Management*

Course code	Course	Lecturer (First name, surname)	Scientific/academic degree	Key employment, positions	Elected as TTI academic staff member
05 C 957	Latvian for Foreign Students	Antra Roskoša	Ph.D. in Administration	Invited Lecturer, Associate Professor at Riga Technical University	--
05 M 359	Global Economy and the International Business Environment	Jurijs Baltgailis	Ph.D. in Economics	Assistant Professor	levelēts
M 13 002	Sustainable Supply Chain Management and Multimodality	Berdymyrat Ovezmyradov	Ph.D.	Invited Lecturer (within the framework of Project 8.2.2)	--
05 M 355	Financial Management	Irina Kuzmina-Merlino	Ph.D. in Economics	Professor	Elected
05 M 374	Strategic Human Resource Management and Leadership	Yulia Stukalina	Ph.D. in Administration	Professor	Elected
		Ioseb Gabelaia	MA in Education	Invited Lecturer (within the framework of Project 8.2.2)	Elected



Course code	Course	Lecturer (First name, surname)	Scientific/academic dedgree	Key employment, positions	Elected as TTI academic staff member
M 13 001a	Research Methods and Project Management 1 (Data Analysis)	Irina Jackiva	Ph.D. in Engineering	Professor	Elected
M 13 001b	Research Methods and Project Management 2 (Project Management)	Jelena Popova	Ph.D. in Economics	Associate Professor	Elected
M 13 001c	Research Methods and Project Management 3 (Decision Making Methodologies)	Irina Jackiva	Ph.D. in Engineering	Professor	Elected
		Eftihia Nathanail	Ph.D	University of Thessaly	--
M 13 003	Airport Management	Artūrs Kokars	MBA, LL.M.	Invited Lecturer, Adviosor to the Chairman of the Board of <i>Riga International Airport</i>	--
M 13 004	Airline Management	Artūrs Kokars	MBA, LL.M.	Invited Lecturer, Adviosor to the Chairman of the Board of <i>Riga International Airport</i>	--
M 13 006	Strategic and Change Management in Aviation	Artūrs Saveljevs	MA in Economics, MSc Airport Planning and Management	Invited Lecturer, Member of the Board and the Commercial Director of <i>Riga International Airport</i>	--
M 13 005	Aircraft Maintenance Management	Iyad Alomar	Ph.D. in Engineering	Assistant Professor	Elected
M 13 007	Quality and Safety Management in Aviation	Ivars Pavasars	Master's degree, EMBA	Invited Lecturer, Head of the Human Resource Development Unit (Training Center) at Riga International Airport	--
M 13 008	Legal Aspects of International Trade and Aviation	Artūrs Kokars	MBA, LL.M.	Invited Lecturer, Adviosor to the Chairman of the Board of <i>Riga International Airport</i>	--
	Practice1 Practice2	Aleksandrs Medvedevs	Ph.D. in Engineering	Profesors	Elected

**4.3. Information on the number of the scientific publications of the academic staff members, involved in the implementation of the doctoral study programme, as published during the reporting period by listing the most significant publications published in Scopus or WoS CC indexed journals. As for the social sciences, humanitarian sciences, and the science of art, the scientific publications published in ERIH+ indexed journals may be**

**additionally specified (if applicable).**

Not applicable

**4.4. Information on the participation of the academic staff, involved in the implementation of the doctoral study programme, in scientific projects as project managers or prime contractors/ subproject managers/ leading researchers by specifying the name of the relevant project, as well as the source and the amount of the funding. Provide information on the reporting period (if applicable).**

Not applicable

**4.5. Provide examples of the involvement of the academic staff in the scientific research and/or artistic creation activities both at national and at international level (in the fields related to the content of the study programme), as well as the use of the obtained information in the study process.**

More information is provided in Subsections 4.2.-4.6. in Section II.

Scientific activities of the academic staff play a decisive role in shaping the content of specific study courses. In order to understand the nature of changes taking place in the world, it is necessary to carry out research in relevant fields of science, which is attained by the academic staff participating in international scientific projects, international scientific and practical conferences and preparing publications.

Research of the academic staff directly pertains to the study courses administered in the program:

- Weigert D., Rettmann A., Alomar I., Tolujew J. (2018) *Modelling and Simulation of the Riga International Airport to Reduce Turnaround Times of Crucial Clearance Processes.*
- Alomar I., Tolujevs J. (2017) *Optimization of ground vehicles movement on the aerodrome, Transport Research Procedia*
- Berdymyrat Ovezmyradov (2017) *The Sales Strategy for a Base Product, Optional Items, and After-sales Services when Customers Prefer Over-Specification Products*
- Ioseb Gabelaia (2019) *The Importance of Communication Management In the 21st Century*
- Ioseb Gabelaia (2019) *Importance of Verbal and Nonverbal Communication Strategies in Student Enrollment Management*

New tendencies in the development of relevant fields of science and the emergence of new fields of knowledge not only affect the contents of the study program, but also make it necessary to use new methods and technologies in the learning process, the research of which has become the object of scientific endeavours of the academic staff of the program. Below are provided some examples of scientific publications of the academic staff on such themes:

- Kuzmina-Merlino I. (2017). *Postgraduate Financial Management for Non-Financial Specialists: Teaching Methodology and Scientific Approach.*

- Kuzmina-Merlino and I. Ishmuhametov. *Financial Literacy: What Motivates a Lerner Entrepreneur to Achieve It?*
- Ishmuhametov and I. Kuzmina-Merlino. *What Motivates a Learner Manager of a Logistic Company to Achieve Financial Literacy?*
- Kuzmina-Merlino I. and S. Saksonova. "The Knowledge and Competences Required for the Fintech Sector".
- *The Case Study Method in Post Graduate Management Education, Proceedings of the International Scientific and Educational conference Actual Problem in Education (MIP 2016),*

More information is provided in Appendix 13, which contains a list of projects involving the academic staff recruited by the program, Appendix 14, which provides a list of scientific publications of the academic staff recruited by the program for the reference period and Appendix 10, which contains resumes of the relevant academic staff.

**4.6. Assessment of the cooperation between the teaching staff members by specifying the mechanisms used to promote the cooperation and ensure the interrelation between the study courses/ modules. Specify also the proportion of the number of the students and the teaching staff within the study programme (at the moment of the submission of the Self-Assessment Report).**

The professional Master's program *Aviation Management* is implemented by lecturers from different departments and different areas of science because the study program incorporates not only classical management courses but also interdisciplinary (integrated) courses.

As the program is professional, the delivered courses are interdisciplinary and have been developed and implemented by TTI lecturers, foreign academic staff and industry professionals specializing in different areas of science.

Such cooperation allows to use the best competences of the academic staff, helps to improve teaching methods, boosts the interest in studies and motivates students. The development of integrated courses is necessary to ensure the full achievement of the program aims and learning outcomes. Typically, this type of courses is delivered by professionals, specializing in a particular area and who share their professional experience with students, which also leads to strengthening the practical orientation component of the study program and which additionally creates favorable study conditions to enable students to successfully acquire modern managerial competencies.

Interdisciplinary (integrated) courses can be divided into several groups, including study courses developed and taught by one lecturer specializing in another area (for example, *Sustainable Supply Chain Management and Intermodal Transport, Research Methods and Project Management 1 (Data Analysis)*) and study courses delivered by 2 or more lecturers from different fields of science (for example, *Methodology of Decision-Making, Strategic Human Resource Management and Leadership*).

Almost all limited elective courses of 16 CP are taught by representatives of particular professional fields, who work in the leading positions at SJSC *Riga International Airport* (see Subsection 4.2.). As early as at the program development stage, limited elective courses, such as *Legal Aspects of International Trade and Aviation, Quality and Safety Management in Aviation, Strategic and Change Management in Aviation, Airport Management and Airline Management*, were designed in collaboration with invited lecturers and TTI academic staff. The remaining 4 CP of the limited

elective courses are allocated to the course *Aircraft Maintenance Management*, delivered by Iyad Alomar, Ph.D. in Engineering, Assistant Professor at TTI Aviation Transport Department.

Additionally, in Spring Semester of 2019/2020 Dr. Pagliari was invited to deliver the course *Airport Management*, thus providing students with a perspective different from the academic staff currently teaching the course. Dr. Romano Pagliari, Senior Lecturer at the School of Aeronautics and Transport at the University of Crenfield, is the author of numerous scientific publications *specifically* in the field of aviation management. He has studied air traffic forecasts for flights through the UK airspace, the potential impact of increased air fees on low cost airlines at Luton Airport, UK. Having received a commission from the European Airlines Association, Dr. Pagliari has also analysed consumer expenses when choosing international airports around the world.

In general, it can be concluded that a mechanism for lecturer collaboration has been established to facilitate the enhancement of study courses.

The ratio of students to the number of lecturers in the study program is variable, depending on the the semester course plan and form of study. On average it is 1:1.5.

# Annexes

III. Description of the Study Programme - 1. Indicators Describing the Study Programme		
Compliance of the joint study programme with the provisions of the Law on Institutions of Higher Education (table)		
Statistics on the students over the reporting period	STATISTICS ON STUDENTS, Self-Assessment report, Part V, sub-chapter 1.2.pdf	Statistikas dati par studējošajiem, Pašnovērtējuma V.daļas 1.2.punkts.pdf
III. Description of the Study Programme - 2. The Content of Studies and Implementation Thereof		
Compliance of the study programme with the State Education Standard	44.Appendix. Compliance with the State Education Standard.pdf	44.pielikums.Atbilstība valsts izglītības standartam.pdf
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable)	45.Appendix. Compliance with the professional standard.pdf	45.pielikums. Atbilstība profesionālajam standartam.pdf
Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable)		
Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme	48.Appendix. Mapping of the study courses_ Studiju kursu kartējums MSc Avio EN.xlsx	48.pielikums. Studiju kursu kartējums MSc Avio programmas rezultātu sasniegšanai.xlsx
Curriculum of the study programme (for each type and form of the implementation of the study programme)	46.Appendix. Study program plan.zip	46.pielikums. Studiju plans.zip
Descriptions of the study courses/ modules	47.Appendix.Course descriptions.zip	47.pielikums. Studiju kursu apraksti.zip
Description of the Study Direction - Other mandatory attachments		
Sample of the diploma to be issued for the acquisition of the study programme.	51.Appendix. Diploma Supplement.zip	51.pielikums. Diploms un diploma pielikums.zip
Description of the Study Programme - Other mandatory attachments		
Document confirming that the higher education institution/ college will provide the students with the options to continue the acquisition of education in another study programme or at another higher education institution/ college (a contract with another accredited higher education institution/ college), in case the implementation of the study programme is discontinued	23.Appendix. Cooperation Agreement.zip	23.pielikums. Līgumi programmas slegsanas gadījumā.zip
Document confirming that the higher education institution/ college guarantees to the students a compensation for losses if the study programme is not accredited or the licence of the study programme is revoked due to the actions of the higher education institution/ college (actions or failure to act) and the student does not wish to continue the studies in another study programme	49.Appendix. Confirmation.pdf	49.pielikums. Apliecinājums par zaudējumu kompensāciju.pdf
Confirmation of the higher education institution/ college that the teaching staff members to be involved in the implementation of the study programme have at least B2-level knowledge of a related foreign language according to European language levels (see the levels under www.europass.lv), if the study programme or any part thereof is to be implemented in a foreign language.	50.Appendix. Confirmation.pdf	50.pielikums. Apliecinājums angļu valodas prasme.pdf
If the study programmes in the study direction subject to the assessment are doctoral study programmes, a confirmation that at least five teaching staff members with doctoral degree are among the academic staff of a doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field or sub-field of science, in which the study programme has intended to award a scientific degree.		
If academic study programmes are implemented within the study direction, a document confirming that the academic staff of the academic study programme complies with the provisions set out in Section 55, Paragraph one, Clause three of the Law on Institutions of Higher Education		
Sample (or samples) of the study agreement	52.Appendix. Sample of the study agreement.pdf	52.pielikums. Studiju līguma paraugs.pdf
If academic study programmes for less than 250 full-time students are implemented within the study direction, the opinion of the Council for Higher Education shall be attached in compliance with Section 55, Paragraph two of the Law on Institutions of Higher Education.		

# Business and Management

Title of the higher education institution	<i>Management, Administration and Management of Real Property</i>
ProcedureStudyProgram.Name	<i>Business and Management</i>
Education classification code	<i>45345</i>
Type of the study programme	<i>Academic master study programme</i>
Name of the study programme director	<i>Irina</i>
Surname of the study programme director	<i>Kuzmina-Merlino</i>
E-mail of the study programme director	<i>Kuzmina.I@tsi.lv</i>
Title of the study programme director	<i>Dr.oec., profesore</i>
Phone of the study programme director	<i>29610918</i>
Goal of the study programme	<i>The study program aim is to ensure the in-depth acquisition of knowledge, skills and competences in various domains of business management in a modern organization, to develop students' independent, creative and analytical thinking, which will allow to apply research methods for solving real life issues and the development of the long-term business strategy and to conduct consulting and research activities in the digital environment</i>
Tasks of the study programme	<p><i>The TTI academic Master's study program Business and Management focuses on the elite manager, specifically, on training of a leader that will contribute to the organization's prosperity by striving to yield organizational operations productive and efficient.</i></p> <p><i>The mission of the program is by using digital technologies to help students develop a rational analytical approach to solving the contemporary enterprise problems in order to affect the internal changes in business management within the enterprise and to become a leader who acts as a change agent in the organization.</i></p> <p><i>The study program objectives are the following:</i></p> <ul style="list-style-type: none"> <li><i>• To provide students with the in-depth knowledge of various aspects of business management in organizations operating in the context of continuous economic, political and societal change.</i></li> <li><i>• To teach students how to master management decision-making methods and develop their skills through critical evaluation of ethical implications of management decisions and their consequences considering the expected outcomes.</i></li> <li><i>• To provide students with research skills and develop their abilities to conduct research in the chosen field of business management.</i></li> <li><i>• Based on their knowledge of management theory, teach them how to select a management style that will suit the financial condition of the organization and characteristics of the corporate culture and behavior of the organization.</i></li> <li><i>• To ensure the study process with the appropriate infrastructure and all the necessary resources for the adequate implementation of the study program.</i></li> <li><i>• To motivate students to become organized and to realize their personal qualities in a multicultural educational environment.</i></li> <li><i>• To develop international cooperation with related higher education institutions, businesses and organizations.</i></li> </ul>

Results of the study programme	<p><i>Knowledge:</i></p> <ul style="list-style-type: none"> <li>• To be able to explain the diversity of management science theories, which provide the foundation for creative thinking and allow for interpretation of the latest tendencies in management sciences;</li> <li>• To be able to classify the importance of information systems used by a company when implementing management functions;</li> <li>• To be able to identify and comply with laws, regulations, employment rules and ethics of the company;</li> <li>• To be able to describe the influence of external environmental factors on the internal processes of the organization;</li> <li>• To be able to formulate and present own ideas and views on how to enhance the company's performance in a changing business environment;</li> <li>• To demonstrate the command of planning, management and resource control methods by using information technology and data processing methods.</li> </ul> <p><i>Skills:</i></p> <ul style="list-style-type: none"> <li>• To be able to formulate the organizational aims, develop appropriate ways for promoting organizational performance and value creation;</li> <li>• To be able to apply the latest work organization forms and information management systems in ensuring the enterprise management process;</li> <li>• Based on the knowledge of management theory, to be able to choose a management style appropriate both for the operating conditions of the organization and for the features of the corporate culture and behavior;</li> <li>• To be able to take responsibility for the performance outcomes of the teamwork and conduct the analysis of such outcomes;</li> <li>• To work with management decision-making, critically evaluate the financial and ethical aspects of the results of such decisions;</li> <li>• To independently organize own work and conduct self-assessment.</li> </ul> <p><i>Competences</i></p> <ul style="list-style-type: none"> <li>• Able to take a leadership role, plan and organize teamwork to ensure the attainment of organizational aims;</li> <li>• Able to implement organizational management functions that are geared towards achieving results, by creating the product that is needed to meet the customer needs, which ultimately ensures the existence of the organization;</li> <li>• Able to adequately explain own position and discuss complex aspects of management science with professionals and the public, able to conduct research using modern approaches;</li> <li>• Able to evaluate the indicators of financial and technological performance of the company and make decisions in order to optimize the company's performance and enhance its profitability;</li> <li>• Able to respond quickly to changes in the business environment and determine which direction the company should take, when considering a response to such changes, when developing strategic plans and making innovative decisions;</li> <li>• Able to critically analyze and evaluate the consequences of management decisions and expected outcomes;</li> <li>• Able to integrate knowledge from different fields, to contribute to the creation of new knowledge and the development of research or management methods, to demonstrate understanding and ethical responsibility for possible environmental and social impact of scientific results or professional activities.</li> </ul>
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Final examination upon the completion of the study programme	<i>Defence of the Master's thesis</i>
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## Study programme forms

### Full time studies - 2 years - latvian

Study type and form	<i>Full time studies</i>
Duration in full years	2
Duration in month	0
Language	<i>latvian</i>
Amount (CP)	80
Admission requirements (in English)	<i>1. Bachelor's degree or Level 2 professional higher education in business and economics sciences 2. Bachelor's or Master's degree in other social sciences or related sciences and two years of work experience in business and economics 3. Bachelor's and Master's degree in other sciences and at least 5 years of experience in business and economics</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Master of Social Sciences in Management</i>
Qualification to be obtained (in english)	--

### Places of implementation

Place name	City	Address
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

### Full time studies - 2 years - english

Study type and form	<i>Full time studies</i>
Duration in full years	2
Duration in month	0
Language	<i>english</i>
Amount (CP)	80
Admission requirements (in English)	<i>1. Bachelor's degree or Level 2 professional higher education in business and economics sciences 2. Bachelor's or Master's degree in other social sciences or related sciences and two years of work experience in business and economics 3. Bachelor's and Master's degree in other sciences and at least 5 years of experience in business and economics</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Master of Social Sciences in Management</i>
Qualification to be obtained (in english)	--

### Places of implementation

Place name	City	Address
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

### Full time studies - 2 years - russian

Study type and form	<i>Full time studies</i>
Duration in full years	2



Duration in month	0
Language	<i>russian</i>
Amount (CP)	80
Admission requirements (in English)	1. Bachelor's degree or Level 2 professional higher education in business and economics sciences 2. Bachelor's or Master's degree in other social sciences or related sciences and two years of work experience in business and economics 3. Bachelor's and Master's degree in other sciences and at least 5 years of experience in business and economics
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Master of Social Sciences in Management</i>
Qualification to be obtained (in english)	--

### Places of implementation

Place name	City	Address
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

### Part time extramural studies - 2 years, 6 months - latvian

Study type and form	<i>Part time extramural studies</i>
Duration in full years	2
Duration in month	6
Language	<i>latvian</i>
Amount (CP)	80
Admission requirements (in English)	1. Bachelor's degree or Level 2 professional higher education in business and economics sciences 2. Bachelor's or Master's degree in other social sciences or related sciences and two years of work experience in business and economics 3. Bachelor's and Master's degree in other sciences and at least 5 years of experience in business and economics
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Master of Social Sciences in Management</i>
Qualification to be obtained (in english)	--

### Places of implementation

Place name	City	Address
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

### Part time extramural studies - 2 years, 6 months - english

Study type and form	<i>Part time extramural studies</i>
Duration in full years	2
Duration in month	6
Language	<i>english</i>
Amount (CP)	80

Admission requirements (in English)	1. Bachelor's degree or Level 2 professional higher education in business and economics sciences 2. Bachelor's or Master's degree in other social sciences or related sciences and two years of work experience in business and economics 3. Bachelor's and Master's degree in other sciences and at least 5 years of experience in business and economics
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	Master of Social Sciences in Management
Qualification to be obtained (in english)	--

#### Places of implementation

Place name	City	Address
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

#### Part time extramural studies - 2 years, 6 months - russian

Study type and form	Part time extramural studies
Duration in full years	2
Duration in month	6
Language	russian
Amount (CP)	80
Admission requirements (in English)	1. Bachelor's degree or Level 2 professional higher education in business and economics sciences 2. Bachelor's or Master's degree in other social sciences or related sciences and two years of work experience in business and economics 3. Bachelor's and Master's degree in other sciences and at least 5 years of experience in business and economics
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	Master of Social Sciences in Management
Qualification to be obtained (in english)	--

#### Places of implementation

Place name	City	Address
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

#### Part time extramural studies distance education - 2 years, 6 months - english

Study type and form	Part time extramural studies distance education
Duration in full years	2
Duration in month	6
Language	english
Amount (CP)	80
Admission requirements (in English)	1. Bachelor's degree or Level 2 professional higher education in business and economics sciences 2. Bachelor's or Master's degree in other social sciences or related sciences and two years of work experience in business and economics 3. Bachelor's and Master's degree in other sciences and at least 5 years of experience in business and economics

Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Master of Social Sciences in Management</i>
Qualification to be obtained (in english)	--

#### **Places of implementation**

<b>Place name</b>	<b>City</b>	<b>Address</b>
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

#### **Part time extramural studies distance education - 2 years, 6 months - russian**

Study type and form	<i>Part time extramural studies distance education</i>
Duration in full years	<i>2</i>
Duration in month	<i>6</i>
Language	<i>russian</i>
Amount (CP)	<i>80</i>
Admission requirements (in English)	<i>1. Bachelor's degree or Level 2 professional higher education in business and economics sciences 2. Bachelor's or Master's degree in other social sciences or related sciences and two years of work experience in business and economics 3. Bachelor's and Master's degree in other sciences and at least 5 years of experience in business and economics</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Master of Social Sciences in Management</i>
Qualification to be obtained (in english)	--

#### **Places of implementation**

<b>Place name</b>	<b>City</b>	<b>Address</b>
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

### III - DESCRIPTION OF THE STUDY PROGRAMME (1. Indicators Describing the Study Programme)

**1.1. Description and analysis of changes in study programme parameters that have taken place since the issue of the previous accreditation certificate of study direction or the license of study programme if study programme is not included in the accreditation page of the study direction**

Lūdzu skatīt sadaļu "Parametri"

**1.2. Analysis and assessment of the statistical data on the students of the respective study programme, the dynamics of the number of the students, and the factors affecting the changes to the number of the students. The analysis shall be broken down in the different study forms, types, and languages.**

The Master's study program *Business and Management* (the former title being *Master of Social Sciences in Management*) has been accredited and implemented on a full-time and part-time extramural basis in Latvian, Russian and English and as a part-time distance learning program administered in Russian since 2012 and in English since 2018.

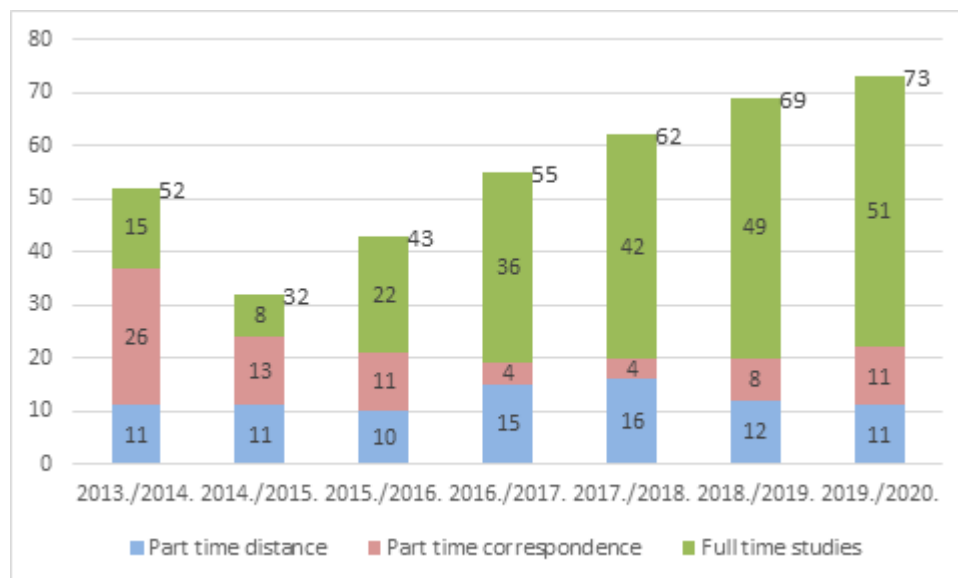


Figure 25: Dynamics of the student numbers in the Master's program in management science

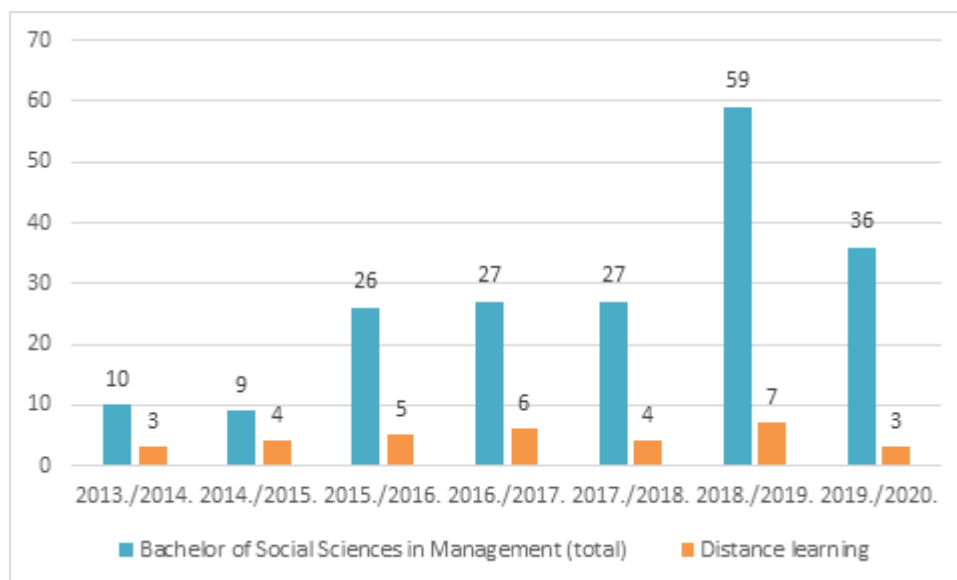


Figure 26: Dynamics of the matriculated students in the Master's program in management science

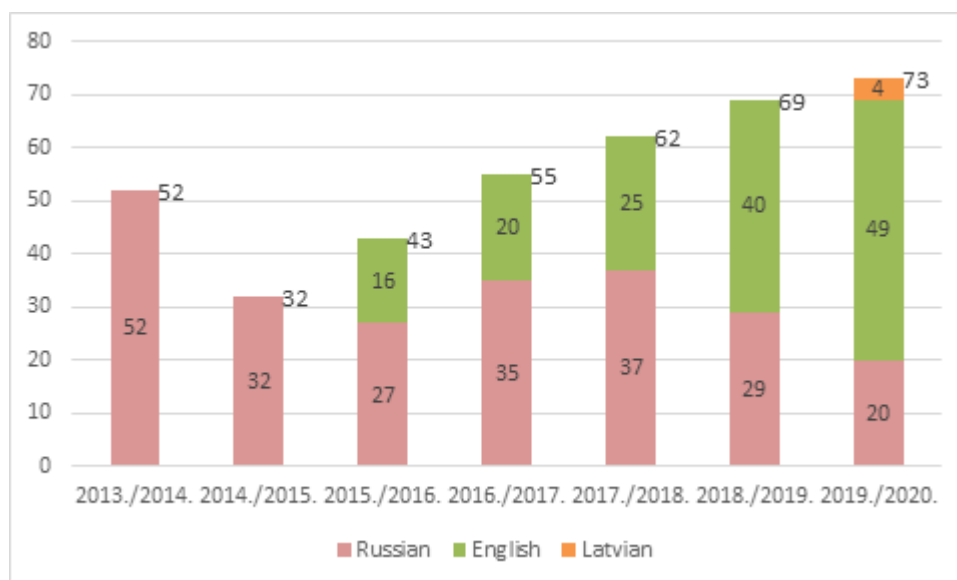


Figure 27: Distribution of the student numbers by their enrolment in the Master's program in management science based on the language of instruction

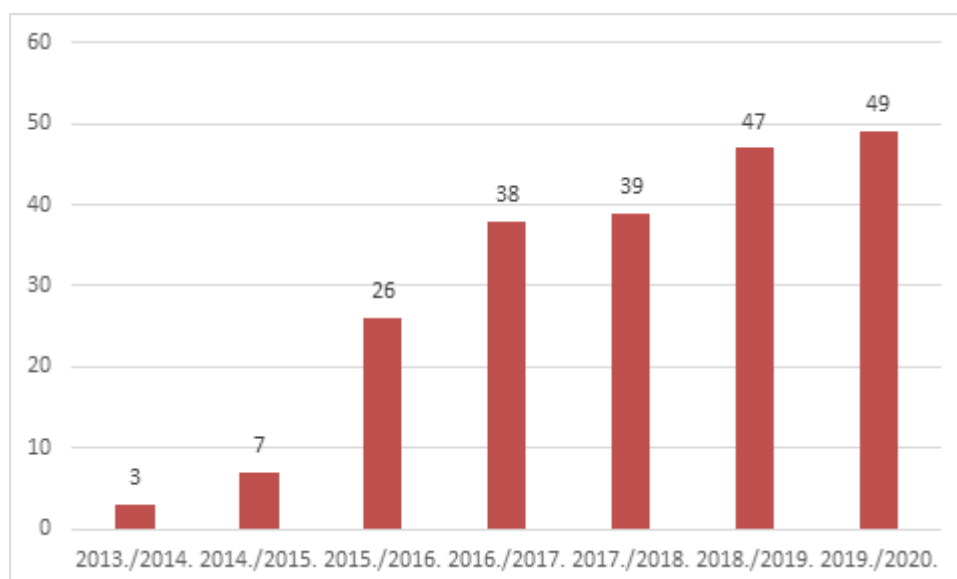


Figure 28: Foreign student numbers in the Master's program in management science

The graphs above show a steady increase in student numbers across all types and forms of study programs, including the languages of instruction.

The number of matriculated students in academic year 2019/2020 has decreased compared to the previous academic year 2018/2019, but is higher than the number of matriculated students in 2017/2018. Last academic year many undergraduate graduates still took the opportunity to enrol in the programs administered in the Russian language, as the amendments to the Law on Higher Education Institutions of the Republic of Latvia, passed on June 21, 2018, allowed the admission to programs in which the language of instruction was Russian only until 1 January 2019. Therefore, students, wishing to pursue their education in the Russian language, were no longer admitted to the Transport and Telecommunication Institute in the academic year 2019/2020.

While the total number of foreign students has remained almost unaltered, the distribution of students by the country of residence has changed. Until January 1, 2019 foreign students were enrolled in programs administered in English and Russian, and many foreigners, mostly from the former Soviet Republics, took the opportunity to commence their studies in Russian. This, however, has not been feasible since January 1, 2019. As a result, the number of foreign students from post-Soviet countries has decreased (see Subsection 5.2. of Section II).

The breakdown of students by the country of residence for the academic year 2019/2020 is provided below:

· India	19
· Kazakhstan	3
· Russian Federation	5
· Latvia	23
· Pakistan	6
· Sri Lanka	1
· Tunis	1
· Uzbekistan	2

The breakdown by the language of instruction shows that the number of students pursuing their education in English has increased, accounting for 67% (or 49 students) of the total number of students in the program. This academic year, after a long break (since 2012), students have been admitted to the program administered in Latvian. These are part-time students whose classes are organized in modules and are held once a month as intensive instructions on Fridays, Saturdays and Sundays. Such mode of studies in the part-time Master's program has been offered for the first time, and its application has already attracted a whole group of students.

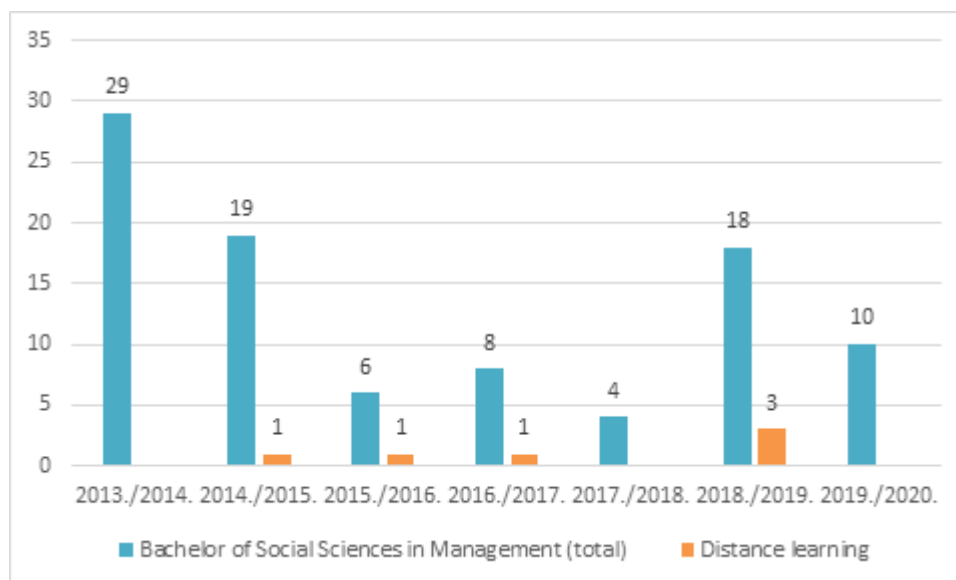


Figure 29: Dynamics of the number of graduates in the Master's program in management science

The average drop-out rate of students is 20-25%. In the academic year 2018/2019, 21 students terminated their participation in the study process, which constituted 30%. Half of them were expelled for failing to complete their study objectives, while others reported personal circumstances as the reason to leave the program.

This high drop-out rate can be accounted for by the increase in the number of foreign students in the program. Eighty six per cent (or 18 students) of the total dropout number were foreign students and, similarly to other programs, the highest number of expelled students came from India and Pakistan. Although the selection of foreign students, especially from these countries, is carefully conducted, not all foreign students are able to meet the academic requirements of the study program.

### 1.3. Analysis and assessment of the interrelation between the name of the study programme, the degree or professional qualification to be acquired or the degree and professional qualification to be acquired, the aims, objectives, learning outcomes, and the admission requirements.

Correspondence between the title of the study program *Business and Management*, the awarded degree, aims and objectives as well as the admission requirements was evaluated and confirmed appropriate by the Study Direction Council.

The title of the study program has been created considering the titles of similar programs in Latvia and worldwide. There has been conducted the mapping of study courses to the attainment of study program learning outcomes and this has allowed to carry out in-depth analysis of specific study courses and to specify their results (Appendix 37).

The aim of the study program is the following: *to provide in-depth knowledge, skills and competences in various areas of business management in a modern organization and to develop independent creative and analytical thinking, which allows to apply research methods to solve real life problems, to develop long-term business strategies and to carry out consulting and research*

*activities*. The aim corresponds to the awarded degree of social sciences in management, which ensures the attainment of Level 7 of EQF / LQF qualification.

The admission requirements are determined in accordance with the following regulatory enactments: Articles 46 and 47 of the Law on Higher Education Institutions as well as Regulation No. 846 of the Cabinet of Ministers of October 10, 2006 on *Requirements, Criteria and Procedures for Admission to Study Programs*.

The structure of the Master's study program *Business and Management* is developed in accordance with the State Academic Education Standard (13.05.2014. Regulation No. 240 of the Cabinet of Ministers of May 15, 2014 on *Regulations on the State Academic Education Standard*, <https://likumi.lv/doc.php?id=266187> ).

*Appendix 34: Compliance of the study program with the State Education Standard*

### **III - DESCRIPTION OF THE STUDY PROGRAMME (2. The Content of Studies and Implementation Thereof)**

**2.1. Assessment of the relevance of the content of the study course/ module and the compliance with the needs of the relevant industry and labour market and with the trends in science. Provide information on how and whether the content of the study course/ module is updated in line with the development trends of the relevant industry, labour market, and science. In case of master's and doctoral study programmes, specify and provide the justification as to whether the degrees are awarded in view of the developments and findings in the field of science or artistic creation.**

The TTI Academic Master's program in *Business and Management* focuses on training elite managers, future leaders, who will contribute to the growth of the organization by striving to yield the organization productive and efficient. The interdisciplinary nature of the study program allows graduates to acquire the competences necessary to solve economic, political and social problems and allows to prepare these graduates for future changes. The ability to manage change is the most pressing task for modern managers, which increases the need to train such specialists for the contemporary Latvian labor market.

Contemporary organizations operate in the context of ever-changing economic, political and social life. Such context requires knowledge and skills to help organizations prepare for change and to enable these organizations to successfully manage and implement change to secure their sustainable development.

Change is the foundation of modern culture and business. Over the past 20 years, technological transformations have altered the representation of enterprises. The bureaucratic society, having its operations recorded on the paper, has recently been moving towards information exchange in the virtual space. For example, Facebook was launched as a social communication platform for students. However, nowadays it functions as an e-commerce platform. Thus, not only has Facebook demonstrated the ability to manage change in social networks in the changing structure of the enterprise, but has also triggered change in society. Change is not only a reality, it is also a driving



force of enterprises. Change management is a way to initiate innovation, train for change and train for how to manage change at the individual level in order to attain higher-level organizational goals.

The Master's program is designed to help students develop a rational analytical approach to solving business problems and to affecting the internal change within the business by using modern management technologies. The program's objective is also to help students become leaders who act as agents of change.

The acquisition of the study program allows students to gain a balanced and multidimensional understanding of different scientific theories from different areas, while highlighting relevant methods and models, skills and abilities that help students act as agents of change in order to subsequently research, analyze, and implement change in organizations.

The Master's program in *Business and Management* benefits from irreversible trends of the modern world. The first tendency pertains to the need of organizations to undergo transformations in order to overcome economic shocks and address social issues, considering the growing importance of information technologies. The second trend relates to that globalization tendencies, intensification of data protection and information security requirements as well as expansion of outsourcing necessitate the creation of new organizational structures based on horizontal rather than vertical (traditional) organizational management principles.

The third trend is closely connected to the first two tendencies because any change in the organization affects financial resources of the organization, its planning, allocation and control. In this light, it is important to develop analytical abilities of modern managers, who must make operational decisions and who must be able to predict the impact of these decisions on the financial performance of the organization.

These three trends in the modern world call for the training of a new generation of leaders. This training should be based on implementing integrated and multidisciplinary approaches to the leadership training system. This means that contemporary organizations should rely more on highly skilled professionals with good analytical skills to enhance and sustain good quality of changing strategies and business processes. The change manager is a trained professional who can lead an organization through change in business processes. This manager can model the change outlook, can determine the financial consequences of the change and can help handle the stress of the change in the organization.

Several study courses focus on the latest trends in research and practice, as well as research methods. New study courses, such as Smart Organization Management, Management Finance and Change Management, are introduced to ensure understanding of today's changing environment.

Such circumstances have influenced the decision of the study direction management team to introduce two specializations into the Master's program:

- ***Business and Change Management***
- ***Business and Financial Management***

The number of allocated credit points to the specialized study courses comprises 10 CP (15 ECTS) in each specialization area.

Within the *Business and Change Management* specialization, students acquire in-depth knowledge and skills of organizational transformation management, which includes organizational, personnel, communication and information aspects both at the individual level and within the organization as a whole and which aims at driving business towards the achievement of strategic goals. The main types of transformation comprise the changes in mission and goals, strategy, organizational structure, products, human resource management and organizational culture.

The courses included in the specialization *Business and Financial Management* are aimed at acquiring in-depth knowledge of financial management. Students learn how to develop financial management models based on the indicators of financial and non-financial performance and learn how to design financial strategies for sustainable business development.

This approach enhances the professional component of the Master's program and makes it more competitive on the labor market.

Students who have successfully completed the Master's program in Business and Management will be able to develop managerial careers in companies of all sizes, working in different sectors of the economy in the local or global market.

The scientific research activities of the academic staff make a significant contribution to the development of the study programme and the improvement of the study content. Lecturers participate in local and international scientific conferences and seminars, publish research results in scientific publications and develop teaching aids. Through research, lecturers integrate the most up-to-date industry and scientific trends in their study courses. When introducing new study courses in the study programme, for example, Management Finance, Prof. Kuzmina-Merlino's research on non-financial investments and their impact on corporate value is taken as foundation (one of the research publications is *Linkage Between Management of Long-Lived Non-financial Assets and Performance of the Latvian Companies Listed on the Baltic Stock Exchange* and is found in the Web of Science database). The main conclusions of this study are that the value of modern enterprises is determined not only by financial resources of a company, but also by non-financial resources, and this creates the topicality of the study course.

Knowledge relevant to the aim of the programme is acquired in all courses of the study programme, providing students with in-depth knowledge of planning and forecasting business activities, risk assessment and management as well as understanding of business management and business activities of an enterprise or institution in the context of the contemporary changing economic environment.

The study plan of the academic Master's programme includes such study courses as Scientific Seminar 1 and 2, which, in the first part provides students with general knowledge of scientific research methodology, develops practical skills for oral and written presentation of scientific research results, teaches how to work with professional and scientific literature and how to prepare scientific papers, introduces scientific research and discussion ethics, while the second part focuses on a specific research area.

The course Decision Making Methodology, taught by a foreign professor Eftychia Nathanail, Ph.D., has been included in the study programme. The acquired knowledge makes the students more aware of various possibilities of using multi-level criteria for developing alternative decisions for their research work, which is important for their studies in this academic Master's programme because they are expected to conduct independent research and make conclusions based on science or else they develop research-based activities defending both term-papers and Master's thesis. During their Master's studies, students also participate in scientific conferences, presenting papers consistent with the chosen Master's theme. Many Master's students participate in conferences not only at TTI, but also at other universities or scientific institutions.

In general, the study program ensures the acquisition of contemporary theoretical concepts related to economics and business, research methodology and methods as well as skills that are essential for training leading specialists in the field.

The study program plan by specializations for full-time intramural, part-time extramural and part-time distance learning is provided in Appendix 35.

The credit point number for the study program is 80 CP (120 ECTS) and the program structure are provided in Table 23.

Table 23: The structure of the Master's program *Business and Management*

<b>Program part</b>	<b>Course code</b>	<b>Study courses</b>	<b>Credit points (CP)</b>	<b>Credit points (ECTS)</b>	<b>Final assessment</b>
<b>A</b>		<b>Compulsary courses</b>	<b>28</b>	<b>42</b>	
1	05 M 004	Research Methodology	2	3	Test
2	05 M 339	Methods of Data Analysis and Business Forecasting	4	6	Examination
4	B-04-142/ 05 M 361	Labour Safety, Civil Defence and Environment Protection/ Corporate governance and social responsibility	2	3	Test
5	B 03 009/ 05 M 602	Latvian / Academic English	2	3	Test
7	05 M 001	Pedagogy and psychology	2	3	Test
8	05 M 202	Strategic management	4	6	Examination
9	M 04 217	Quantitative methods in management	2	3	Test
10	05 M 355	Financial management	4	6	Examination
11	M-04-Zs	Research seminar I	2	3	Test
12	M-04-Zs2	Research seminar II	2	3	Test
13	05 M 369	Study project	2	3	Study project
<b>B</b>		<b>Limited elective courses</b>	<b>28</b>	<b>42</b>	
		<i>General field-specific professional courses</i>	18	27	
1	05 M 311	Project management and financing	4	6	Examination
2	05 M 356	Business Information Systems	4	6	Examination
3	05 M 359	The global economy and international business environment	4	6	Examination
4	05 M 342	Decision Making Methodologies	2	3	Test
5	05 M 357	International marketing and advertising	4	6	Examination

<b>Program part</b>	<b>Course code</b>	<b>Study courses</b>	<b>Credit points (CP)</b>	<b>Credit points (ECTS)</b>	<b>Final assessment</b>
		<i>Professional specialization courses</i>	10	15	
B1		<i>Business and Change Management</i>			
1	05 M 358	Human resource management and leadership	4	6	Examination
2	05 M 372	Change management	4	6	Examination
3	05 M 373	SMART administration	2	3	Test
B2		<i>Business and Financial Management</i>			
1	05 M 106	Innovation management	2	3	Test
2	05 M 378	Financial and management analysis	4	6	Examination
3	05 M 377	Management finance	4	6	Examination
<b>C</b>		<b>Free elective courses</b>	<b>4</b>	6	
<b>D</b>		<b>Final assessment</b>			
		Master's thesis	<b>20</b>	30	
<b>Program credit points in total:</b>			<b>80</b>	<b>120</b>	

Table 24: The structure of the Master's program *Business and Management* (full-time program)

Program blocks (courses)	Number of CP			
	Semester 1	Semester 2	Semester 3	Semester 4
Compulsary courses (Block A)	12	12	4	-
Limited elective courses (Block B)	8	6	4	-
Specialization courses (Block B)	-	-	10	-
Free elective study courses (Block C)	-	2	2	-
Final assessment	-	-	-	20
Program in total	20	20	20	20

Table 25: The structure of the Master's program *Business and Management* (part-time program)

Program blocks (courses)	Number of CP				
	Semester 1	Semester 2	Semester 3	Semester 4	Semester 5
Compulsary courses (Block A)	10	8	8	2	20
Limited elective courses (Block B)	4	6	8	-	-
Specialization courses (Block B)	-	-	-	10	-
Free elective study courses (Block C)	-	-	-	4	-
Final assessment	-	-	-	-	-
Program in total	14	14	16	16	20

Free elective study courses are offered within Part C, and to fulfil the program requirements, 4 credit points must be obtained. The aim of these study courses is to provide students with an opportunity to acquire additional knowledge in a science field or to acquire skills useful for professional activities. Free elective study courses include, Business Process Modeling and Management, Enterprise Information Systems, International Financial Reporting Standards etc.

The basis of the quality assurance of the study program is cooperation with potential employers, organization of meetings for the discussion of issues related to the current issues on the labor market, demands of the labor market, reviewing annual self-assessment reports, receiving and reviewing suggestions from the Study Council.

Study courses, including the contents of the course descriptions, are reviewed annually during the study program and study direction self-assessment procedure, held in December and January in accordance with the course management regulations. As a result of such self-assessment, a program development plan is drawn up, which comprises various aspects of the study course, including updating of course descriptions following the specific field, labor market and science development trends. The updated courses are coordinated, approved and included in the study program register and published in the e-learning environment *Moodle* by the beginning of the new academic year.

*Appendix 35: Study program plan (for each study program form and type)*

*Appendix 36: Descriptions of the study program courses*

**2.2. Assessment of the interrelation between the information included in the study courses/ modules, the intended learning outcomes, the set aims and other indicators, the relation between the aims of the study course/ module and the aims and intended outcomes of the study programme. In case of a doctoral study programme, provide a description of the main research roadmaps and the impact of the study programme on research and other education levels.**

The study program has been developed pursuant to Regulation No. 240 of the Cabinet of Ministers of May 13, 2014 on the National Academic Education Standard.

The study direction with the included study programmes has been developed taking into account the interrelation and sequence of the study courses, which allows to fully achieve the aim of the Master's programme *Business and Management* (45345), and which, thus, represents a logical continuation of the academic Bachelor's programme *Business and Management* (43345). The main aim of the Master's programme *Business and Management* (45345) is to provide a set of knowledge, skills and competences in accordance with the knowledge, skills and competences outlined within the framework of Level 7 of the Latvian Education Classification.

Nineteen elements of the overall set of knowledge, skills and competences to be acquired as a result of the completion of the study programme have been formulated in order to ensure the attainment of the study programme aim. Considering the expected outcomes of the study programme, specific study courses were identified, and the amount of knowledge, skills and competences to be achieved within each specific course was determined (see the mapping of the study programme in Appendix 27). The correlation of study programme aims and results (see Figure C) with specific study course outcomes can be found in each study course description, which contains the course contents, plan, requirements, expected outcomes, teaching methods, literature and other sources. Furthermore, the study programme has been created by successive implementation of study courses. The programme contents ensure the achievement of learning outcomes that include the acquisition of in-depth theoretical knowledge and the development of research skills and competences in the selected field of management science.

To ensure the successful implementation of the study programme (see Figure C), TTI provides an appropriate learning environment, infrastructure with the appropriate resources for classrooms, computer classrooms, library as well as IT software for research work, including SPSS. The research environment is an integral part of the Master's studies. When pursuing their Master's degree, students also conduct independent research, draws conclusions based on science or develops research-based creative work within the framework of the courses Scientific Seminar 1 and Scientific Seminar 2 and when defending both their term-paper and Master's thesis. Participation in a scientific conference and in-depth approbation of the topic of the Master's thesis are a prerequisite for defending the Master's thesis. Students of all academic and professional Master's programmes implemented by TTI present their research results at the student scientific conference *Science and Technology - Step into the Future* (RatSif). The aim of the conference is to promote professional development of students along with the acquisition of theoretical knowledge of study courses by developing scientific research skills pertaining to research methodology, the choice of research methods, summarization of theoretical knowledge, implementation of practical research outcomes, development of the skills of obtaining research results, conducting analysis and interpretation, as well as the ability to express the obtained research results in reasoned and understandable conclusions. The conference also aims at promoting students' scientific creativity, thus, strengthening the link between studies, practice and research.

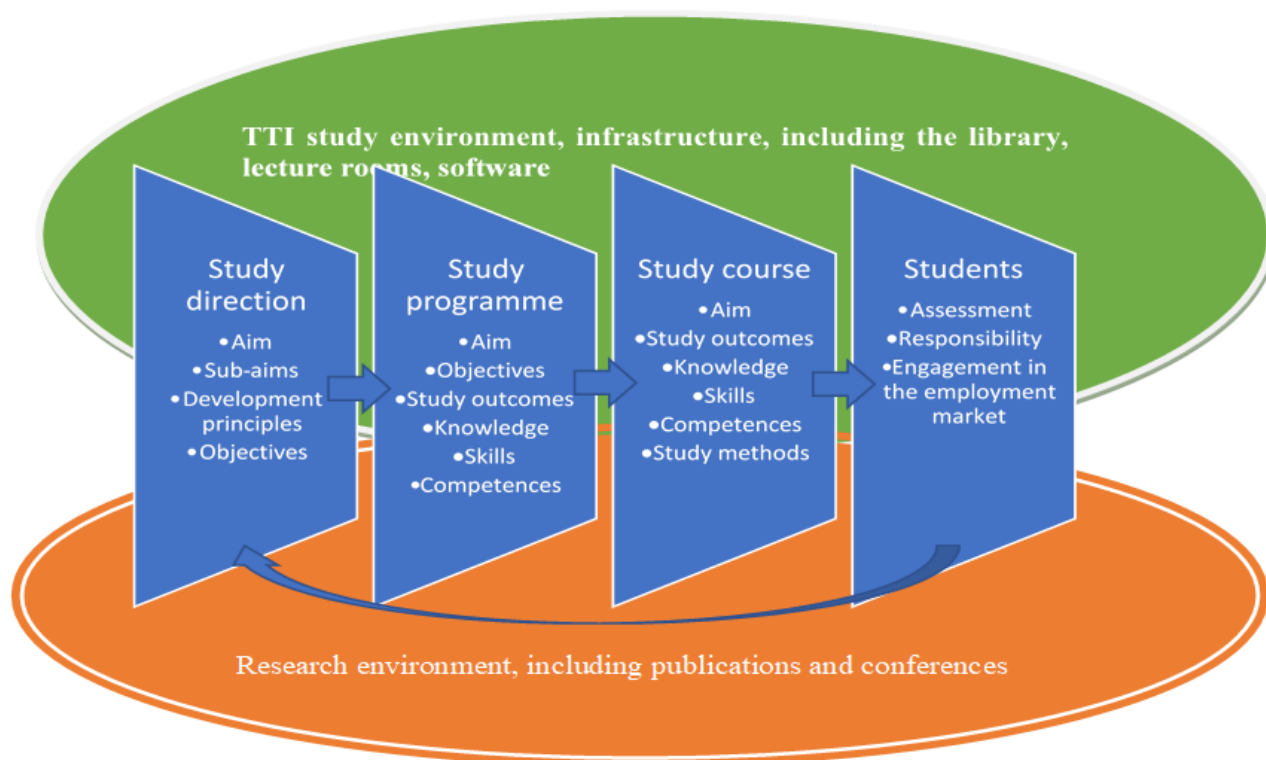


Figure C: Linking the aims of the Master's study direction to students' study outcomes and integration into the labor market

When developing the annual self-assessment of the study programme, the study courses are updated on the basis of the latest scientific discoveries, student evaluation and employers' recommendations. The plan and the study course contents of the Master's study programme *Business and Management* (45345) are aimed at the achievement of the overall study results:

1. The aim of the study programme *Business and Management* corresponds to the level of the academic Master's degree in social sciences, including the latest knowledge in the field;
2. The plan of the study programme *Business and Management* corresponds to the aim and tasks of the study programme;
3. The aim of each study course and the formulated learning outcomes (knowledge, skills, competences) are aimed at the attainment of the overall planned curriculum aim and overall learning outcomes;

Study courses are formed in logical interconnection, which ensures the achievement of the general learning outcomes defined by the programme.

Descriptions of study courses and graduation theses have been developed in accordance with the requirements of regulatory enactments. The course contents are topical, mutually complementary, are consistent with the program aims, ensure the achievement of study outcomes, satisfy the needs of the field and are in line with science development tendencies.

Thus, the aim and objectives of the academic Master's study program *Business and Management* (45345), as well as the formulated achievable outcomes reflect a set of total knowledge, skills and competences acquired during the study courses included in the study programme and the study outcomes at the course level are connected to the overall outcomes of the study programme. By analyzing study course mapping results, students are able to achieve study program aims and

understand and critically evaluate basic laws and regularities of management science, are able to use the acquired theoretical foundations and skills, carry out research activities, demonstrate analytical approach in the analysis of a research object, make decisions and find creative solutions in changing or uncertain circumstances, and take responsibility and initiative by working individually or in teams. Each course focuses on students' ability to apply theoretical knowledge in solving practical tasks to improve the performance of a company or institution, and to be able to effectively interpret and present the results to specialist and non-specialist audiences. All of this is an absolute necessity in today's business because working in any company or organization on a regular basis requires the application of different analytical methods and finding solutions to a variety of everyday problems.

Students and graduates have also been satisfied with the outcomes of the programme and study courses (see Section 2.6. Analysis and Evaluation of Survey Results (students, graduates and employers)).

Appendix 37: Mapping of courses aiming at attaining the study program outcomes

**2.3. Assessment of the study implementation methods (including the evaluation methods) by providing the analysis of how the study implementation methods (including the evaluation methods) used in the study courses/ modules are selected, what they are, and how they contribute to the achievement of the learning outcomes of the study courses and the aims of the study programme. Provide an explanation of how the student-centred principles are taken into account in the implementation of the study process.**

The following methodological materials for each study course are published in the e-learning environment: a course description, methodological plan, lecture materials, assignments, presentations, test questions, etc. The materials are updated at least once a semester.

Different study methods and forms are used in the study process. The main criteria for the selection of training methods include the necessity to ensure the acquisition of required information and development of critical attitudes as well as the general need to attain the expected learning outcomes (specific knowledge, skills and competences). Each lecturer has ample opportunities to enhance his or her range of methods, however, all methods require careful preparation, which is why their time-consuming nature must be taken into account.

In order to boost the practical orientation of academic programs, the case study method, in other words, the analysis of real-life situations, have increasingly been included into the study process. This method has been recognized as one of the most appropriate and effective methods for the manager training and qualification raising. The use of case studies and analysis contributes to the following: 1) developing skills in understanding, grouping, analyzing, synthesising, evaluating and using information for making management decisions; 2) developing practical skills in tackling corporate governance issues; 3) developing communication skills; and 4) engaging students in their own training. As a result, learning proceeds by doing, which makes the learning process effective. Many of our lecturers have specially learned how to best use the case study methods in their lectures. For example, Professor I. Kuzmina-Merlino attended such training at the International Management Teachers Academy (IMTA-2009), organized by the Central and East European Management Development Association (CEEMAN) in Slovenia in 2009.

The success of the use of case studies depends on the professional level of a lecturer, who acts as a



mentor and coach, and on how well the students are prepared and motivated to solve such cases. To boost students' motivation, the lecturer attempts to create a competitive environment amongst groups of students (specific teams) and "warms up" the audience, thus, encouraging students to find innovative and creative solutions to management problems. Each group develops a set of alternative solutions that group leaders present to the audience. The case study and analysis method is widely used in Master's programs when teaching courses such as Strategic Management, Financial Management, International Marketing and Advertising, Personnel Management and Leadership, etc.

The most challenging aspect of teaching is the evaluation of students' knowledge. How is it feasible to evaluate students' knowledge objectively? In practice, the approach, containing the following components, is applied: 1) each student group evaluates the results of the presentation of other student groups according to specific criteria and a special assessment scale, earlier developed and communicated to the students by the lecturer; 2) the lecturer gives a mark to each student group; 3) the final grade is calculated as a weighted average of two grades, in which 50% constitutes the average grade of student groups and 50% of the lecturer mark.

Teaching through the application of the case study and analysis method helps students develop such required qualities of a modern leader as the focus on results, team involvement, leadership, responsibility, self-organization and self-evaluation.

The main assessment principles and procedures pertaining to the acquisition of the study program meet the requirements of Article 40 of the State Academic Education Standard. In accordance with the rules adopted by the TTI, the study outcomes in the academic Master's program are assessed according to two assessment criteria, one of which being the 10-point marking system and another one being the quantitative criterion, which refers to the credit point number, which is based on the total number of hours allocated to a specific course.

*The Master's thesis is evaluated* using a complex approach. The evaluation of a fully completed Master's thesis is conducted by the Final Examination Committee, where a Master's student defends his or her Master's thesis. The Master's thesis is reviewed before the Committee. Members of the Committee considers the following criteria: 1) the quality of the content of the Master's thesis and its relevance to the study direction; 2) compliance of the thesis with the methodological guidelines for writing the Master's thesis; 3) the quality of presentation; 4) the student's ability to answer the questions posed by the Committee; 5) assessment and comments written in the review. The overall evaluation of the Master's thesis is formed by summarizing the votes of each member of the Committee and by voting on it. The Chair of the Committee has the decisive vote in disputes (see Subsection 1.6 in Section II)

The principles of student-centered learning are described in Subsection 2.3. in Section III.

**2.4. If the study programme entails a traineeship, provide the analysis and assessment of the relation between the tasks of the traineeship included in the study programme and the learning outcomes of the study programme. Specify how the higher education institution/ college supports the students within the study programme regarding the fulfilment of the tasks set for students during the traineeship.**

Not applicable

## 2.5. Analysis and assessment of the topics of the final theses of the students, their relevance in the respective field, including the labour market, and the evaluations of the final theses.

A student chooses the theme of his or her Master's thesis independently from the list of research directions for Master's theses offered by the department. When working on a Master's thesis, typically the student deliberately selects a theme of his or her future research with the aim to solve a particular problem in an enterprise for which he or she works. The student can also propose his or her own research theme. The list of plausible research areas offered by the Department is updated annually, taking into account the development of Latvian businesses and global trends in economics, politics and society, which affect the needs of the labor market and based on which new education requirements for modern manager training are developed.

Some Master's theses are developed in the interest of companies and on their commission. For instance:

- *Enterprise Performance Management Applying SMART Principles*. As a result of this work, a financial management model for the real estate company *Colliers International* was created and implemented.
- *Controlling as an Effective Enterprise Management Tool*. As a result of the work, recommendations for the enhancement of the management control model in a transport company (fleet management) were developed and the predictive assessment of the efficiency of recommendations was conducted.
- *Development of Methodology for Integrating Internet Marketing Tools into a Company's Marketing System*. As a result of the work, recommendations for the development of an integrated marketing system for an advertising campaign were proposed.

Table 16 provides a list of Master's thesis topics that were defended in the previous 2019/2020 academic year.

Table 26: Titles of Master's theses for the academic year 2019/2020

No.	Thesis titles	Mark	Supervisor	Student's country of residence
1.	Developing methods for improving service quality in the hospitality industry	8	Y.Stukalina	Kazakhstan
2.	Developing the ways of improving the competitiveness of a company	9	Y.Stukalina	India
3.	Cost management system improvement in manufacturing companies	8	I.Kuzmina - Merlino	India
4.	Creating ways of improving the competitiveness of a logistics company	6	Y.Stukalina	India
5.	Brand as an intangible factor of a company value creation	7	I.Kuzmina - Merlino	India

No.	Thesis titles	Mark	Supervisor	Student's country of residence
6.	Baltijas valstu IKP pieauguma īstermiņa prognozēšana/Short-term forecasting of Baltic states' GDP growth	9	D.Pavlyuk	Russia
7.	Biznesa modelis kā instruments kompānijas stratēģiskai vadīšanai /Business model as a tool of a company's strategic management	9	I.Kuzmina - Merlino	Uzbekistan
8.	Finanšu tehnoloģiju nozares ietekme uz vadības zinātņu studiju programmu/The effect of the financial technology field on the management study program	9	I.Kuzmina - Merlino	Uzbekistan
9.	Korporatīvā sociālā atbildība un finansiālais sniegums/ Corporate Social Responsibility and financial performance	8	I.Kuzmina - Merlino	India
10.	Projektu vadības pieejas izmantošana materiālu resursu pārpalikuma gadījumos ražošanas uzņēmumā/Application of the project management approach in cases of surplus of material resources in a manufacturing enterprise	8	I.Sproģe	Russia
11.	Krājumu vadības efektivitātes paaugstināšanas metodes piena rūpniecības uzņēmumos/Methods of increasing the efficiency of inventory management in dairy production companies	9	I.Sproģe	Russia
12.	Darbinieku kompetence kā konkurences priekšrocība mūsdienu ārpusbanku kredītu organizācijās/Staff competence as a competitive advantage in contemporary non-banking credit organizations	6	I.Sproģe	Latvia
13.	Metodikas izstrāde interneta mārketinga instrumentu integrācijai uzņēmuma mārketinga sistēmā/Development of methodology for integrating Internet marketing tools into a company's marketing system	8	Ļ.Fainglozs	Russia
14.	Uzņēmuma mārketinga stratēģijas izveides metodikas izstrāde/Development of methodology for a company's marketing strategy	8	Ļ.Fainglozs.	Ukraine
15.	Personāla darba motivācija kā vadības funkcija loģistikas uzņēmumā/Staff motivation as a management function in a logistics company	7	I.Išmuhametovs	Latvia
16.	PR-tehnoloģiju izmantošana imidža izveidošanai mobilajiem operatoriem Kazahstānas telekomunikāciju tirgū/ Use of PR-technologies in creating an image for mobile operators in Kazakhstan telecommunications market	9	I.Išmuhametovs	Kazakhstan

No.	Thesis titles	Mark	Supervisor	Student's country of residence
17.	Uzņēmuma mārketinga stratēģijas izstrāde/Development of a company's marketing strategy	7	Y.Stukalina	Uzbekistan
18.	Mazo un vidējo uzņēmuma vadītāja pašorganizēšanas programmas izveide/Development of a self-organization program for an executive of a small and medium-sized business	8	I.Kuzmina-Merlino	Latvia
19.	Kontrolings kā efektīvas uzņēmuma vadības instruments/Controlling as an effective enterprise management tool	9	I.Kuzmina-Merlino	Latvia
20.	Bankrota iespējamības novērtēšanas modeļa izstrāde/Development of the assessment model of bankruptcy probability	9	N.Podoļakina	Latvia
21.	Studentu mobilitātes veicināšanas metožu izstrāde, starptautisko apmaiņas programmu ietvaros, privātajā augstskolā/Development of methods of student mobility promotion within the framework of international exchange programs at a private higher education institution	9	Y.Stukalina	Russia
22.	Aviokompānijas lidmašīnu parka attīstības stratēģijas analīze/Analysis of the development strategy of the airline fleet	7	I.Sproģe	Latvia
23.	Kriptovalūta kā pievilcīgs investīciju portfeļa veids/Cryptocurrency as an attractive investment portfolio type	9	I.Kuzmina-Merlino	Russia
24.	Uzņēmuma snieguma vadība balstoties uz SMART principiem/Enterprise performance management applying SMART principles	8	I.Kuzmina-Merlino	Latvia
25.	Līderības stilu ietekmes uz darbinieku motivāciju novērtēšana mūsdienu kompānijā/The effect of the leadership style on the assessment of staff motivation in a modern company	9	Y.Stukalina	The Republic of Ghana
26.	Mazo un vidējo uzņēmumu finansēšanas avoti un veidi Latvijā/Sources and types of financing for small and medium-sized enterprises in Latvia	9	I.Kuzmina-Merlino	Latvia

The Final Assessment Committee described the quality of Master's thesis as good and very good. In summer 2018, when 7 students graduated from the program, the average grade was 8.4 (grades varied from 7 to 9). In summer 2017, when there were 11 graduates, the average mark was 8.

The outcomes of assessment of theses demonstrate that the knowledge acquired during the studies was efficiently applied. Although there was a range of marks, it points not only to the level of knowledge, but also to the ability to concentrate, when delivering public speech, to the ability to argue, support and defend own opinion and proposals.

## **2.6. Analysis and assessment of the outcomes of the surveys conducted among the students, graduates, and employers, and the use of these outcomes for the improvement of the content and quality of studies by providing the respective examples.**

In 2019 survey there participated 29.1% of the students of the study direction *Management, Administration and Real Estate Management*, including 23.5% of the students of the study program. Seventy five percent of the respondents positively evaluated their choice of the institute. Regrettably, this figure fell by 25% compared to the previous year.

In 2019, the majority of the surveyed students positively evaluated their studies in the program – they were 75%. These figures are significantly higher than those of 2018, when 57.1% yielded a positive response. The indicator *Lecturers encourage and support students* received positive evaluation from 75% of the program students.

In general, it should be noted that students are satisfied with the material and technical provision of the program and with the materials available in the e-learning environment *Moodle*. Regrettably, only half of the respondents are satisfied with the availability of lecturers' consultations and the objectivity of assessment.

In the future, the Department should focus more on organizing consultations and making them more accessible to students. The planned lecturers' consultations are visible in the list of classes, which is why their progress can be controlled. The final course assessment and the assessment criteria are included into the description of each study course, which is available to students in the e-learning environment *Moodle*. It is the responsibility of the Heads of the Department to verify the objectivity of final assessments.

In conclusion, the study process at the Institute is organized at a sufficiently high level and meets students' requirements and wishes.

The results of the alumni survey demonstrate that among the respondents there were no graduates who were dissatisfied with the study program. The study quality in the study program was highly evaluated by 57.14% of respondents, and 42.86% of the alumni viewed the quality of their studies as satisfying. According to the graduates' assessment of acquired knowledge, skills and competences and their correspondence to the requirements of the modern labor market, two ratings were provided: 28.57% viewed their studies as corresponding to such requirements and 71.43% viewed their studies as rather corresponding to these requirements.

There was a very high percentage of the surveyed alumni who said they would support cooperation with the Institute after their graduation – they were 83.33%.

Overall, graduates of the Master's program are satisfied with the acquired education and note that the knowledge, skills and competences gained during their studies meet the requirements of the modern market.

Also, employers have positively evaluated the graduates' preparedness for the field of their studies, but at the same time, all of them noted the lack of practical skills, especially in reference to the undergraduate program graduates. The following recommendations have been suggested:

- supplement the theoretical part with practical experience, situations, tasks and analysis
- focus on aims
- increasing students' initiatives and activities, perhaps, by including them into program projects on creating thinking

- ensuring acquisition of practical knowledge and internship placement
- training/group work on communication skills, stress management, teamwork, time management.

Employers recommend to more actively sustain cooperation with companies, offer students internship in their professional fields and use business situations and assignments in training. They further suggest focusing more on students' personal growth, initiative, critical thinking, stress resistance and teamwork skills.

## **2.7. Provide the assessment of the options of the incoming and outgoing mobility of the students, the dynamics of the number of the used opportunities, and the recognition of the study courses acquired during the mobility.**

Students of the study program use outgoing mobility opportunities. In the last six years, 13 students of the program have participated in the exchange mobility program (see Appendix 16).

Courses and their credit points acquired through participation in the ERASMUS + program may be transferred in full. Recognition of learning outcomes achieved through the ERASMUS + mobility program is regulated by the TTI ERASMUS + Program Scholarship Instruction Manual (available at [http://www.tsi.lv/sites/default/files/editor/2017.02.07.\\_instrukcija\\_0.pdf](http://www.tsi.lv/sites/default/files/editor/2017.02.07._instrukcija_0.pdf)) (see Subsection 5.2. in Section II).

Incoming mobility students are admitted with the status of exchange students to one of the Faculty of Management and Economics degree programs during their exchange visit, although exchange students often choose to enrol in courses in other faculty programs. Students are provided with the required amount of study courses and the required number of credit points. The offered courses are conducted in English.

Considering the ERASMUS program funding available to the Institute, the number of students who have taken the advantage of mobility program opportunities, has been slowly increasing year by year.

## **III - DESCRIPTION OF THE STUDY PROGRAMME (3. Resources and Provision of the Study Programme)**

**3.1. Assessment of the compliance of the resources and provision (study provision, scientific support (if applicable), informative provision (including libraries), material and technical provision, and financial provision) with the conditions for the implementation of the study programme and the learning outcomes to be achieved by providing the respective examples. Whilst carrying out the assessment, it is possible to refer to the information provided for in the criteria set forth in Part II, Chapter 3, sub-paragraphs 3.1 to 3.3.**

The Transport and Telecommunication Institute has three faculties and several departments:

1. Faculty of Management and Economics:
  1. Department of Economics, Finance and Management
  2. Department of Humanities
2. Faculty of Transport and Logistics:
  1. Department of Aviation Transport
  2. Department of Transport and Logistics
3. Faculty of Computer Sciences and Telecommunications:
  1. Department of Electronics and Telecommunication
  2. Department of Computer System Programming
  3. Department of Mathematical Methods and Modelling

The study direction *Management, Administration and Real Estate Management* along with the included programs, in cooperation with the lecturers from other TTI departments and visiting lecturers is implemented at the Faculty of Management and Economics (VEF). The Faculty provides 46 CP (or 76%) of teaching, including all specialization courses.

Other departments of TTI are also involved in the implementation of the study process.

1. Corporate Client Department, which organizes and ensures cooperation with companies
2. Study Department, which plans the study process (including aspects related to lecture schedules, lecturer work etc.), manages activities involving students (providing consultations, supplying information, managing students' paperwork, student records, payments etc.)
3. Distance Learning Department, which ensures the development and publication of distance learning course materials and organizes the study process for distance learning students.
4. Library, which provides students and lecturers with study and scientific literature
5. Research Department, which ensures high quality training of young scientists and involvement of students in research.

There are computer rooms equipped with new computers; there are also lecture halls and laboratories, whose purpose is to enable learning. The Institute has necessary computer equipment and software that boost the completion of study courses and practical work. For example, the Institute possesses the Applied Software System Laboratory, which provides TTI students, lecturers and researchers with the access to software products, including simulation tools, such as PTV VISSIM & VISUM, which is designed for transport flow modeling, AnyLogic, which is a universal modeling software, Aris, BPWin, Busines Object, which is a business process modeling software, R, SPSS, STATISTICA, MatLab, Maths etc., which are various software packages developed for data processing and mathematical calculations (see Subsection 3.2. in Section II).

Study hours, Helpdesk and Library opening hours are organized pursuant to lecture schedules.

An important tool for organizing the study process for each study course is the e-learning environment or platform *Moodle*. Each course contains teaching materials, which include a course description, a methodological (calendar) lecture schedule for the current semester, independent study assignments planned for the course, self-assessment assignments, examination questions, other study materials to be used for independent studies (lecture materials, presentations, various other materials etc.).

A special internet resource *online.tsi.lv* has been created for distance learning students, academic and administrative staff of the Institute. The distance learning materials produced for each study course are different from traditional study materials. These are materials that are specifically prepared for distance learning with the aim to facilitate learning focusing on a particular course contents and aims and that contain documents, presentations, lecture video files, self-assessment assignments and tests.

The student ID card, the study plan for the entire study period and the marks received for study courses for all TTI students, including distance learning students, are available on the TTI internal information system *Intranet*. Full-time and part-time students and faculty members can access lecture schedules in this system.

The Faculty has received specific funding to expand its resources in relation to the number of implemented programs. In 2020, in total, the allocated funds for the acquisition of study books comprise 1500 EUR. In the course description lecturers indicate at least one study resource available in the TTI library. During the first induction week, foreign students are required to attend a class that familiarizes them with the library's facilities and resources. Also, within the framework of their courses *Introduction to Specialty*, lecturers mention books and e-book databases that are available in the library. Distance learning students have a direct link to the TTI e – library indicated in the informative course *Current Information* (see Subection 3.3 in Section II).

As the majority of the Master's students already have permanent jobs, classes are administered on weekday evenings, which allows to combine studies and work. For part-time extramural students, classes are held on Saturdays or are delivered on a modular basis consistently with which intensive study classes are organized once a month on Fridays, Saturdays and Sundays.

The Faculty of Management and Economics has its own budget to ensure implementation of required activities. The main source of funding for the Faculty and consequently for the study program is the income obtained from tuition fees and related supplementary service fees, which are paid by natural and legal persons. The amount of the tuition fees and supplementary service fees is reviewed annually considering the market trends and cost results and is approved by the order of the Board of Directors. For the academic year 2019/2020, the tuition fee for the full-time studies has been 1980EUR, for part-time studies 1640EUR and for part-time distance learning 1700 EUR.

The Faculty conducts cost calculation and cost analysis based on which it can be concluded that the program is cost-effective and allows to invest profits into the further development of the Faculty and the attainment of specific strategic aims (for further information, see Subsection 3.1. in Section II).

In general, the study foundation, information base (including libraries), material and technical base and financial foundation correspond to the specifics of both the study program and implementation conditions and create preconditions for the achievement of study outcomes, thus, demonstrating the ability to ensure the delivery of high quality study process.

### **3.2. Assessment of the study provision and scientific support, including the resources provided within the cooperation with other science institutes and institutions of higher education (applicable to the doctoral study programmes).**

Not applicable

## **III - DESCRIPTION OF THE STUDY PROGRAMME (4. Teaching Staff)**



#### **4.1. Analysis and assessment of the changes to the composition of the teaching staff over the reporting period and their impact on the study quality.**

At the time of accreditation in 2012, the experts noted that within the set study direction, the program was too much oriented towards technical aspects. This was partly the result of the composition of academic staff involved in the implementation of the program. Not even one professor or associate professor of social sciences was involved in teaching practices of the program. All professors and associate professors held doctoral degrees in engineering. The implementation of the program was conducted by 15 academic staff members, of whom 67% held doctoral degrees, but only three assistant professors had a doctoral degree in social sciences. They were Assistant Professor Ishhametov, Ph.D. in Psychology, Assistant Professor Podolakina, Ph.D. in Economics (currently they are both associate professors) and Assistant Professor Vishnevsky, Ph.D. in Education.

To teach two courses, there were invited academics from other universities with very well established reputation in their fields, but there was no one foreign visiting lecturer without whom the implementation of the study programs is currently implausible.

During the post-accreditation period, the Institute carried out purposeful work on the composition of the academic staff in order to ensure the best quality of study programs. There was developed a human resource development plan for the Faculty (the current plan is included into the implementation of the study plan for the study direction *Management, Administration and Real Estate Management* for 2019-2025 (see Appendix 6), which envisages the improvement of the quality of the study program based on further development of the existing academic staff and on the engagement of recognized academic staff, industry experts and professionals, foreign visiting lecturers as well as students and graduates of the Institute doctoral program.

The current composition of the academic staff involved in the implementation of the study program is described in the following subsection. It is formed by evaluating the requirements of external regulatory enactments and of higher education quality and it ensures the attainment of the aims and learning outcomes of the study program and respective study courses.

#### **4.2. Assessment of the compliance of the qualification of the teaching staff members (academic staff members, visiting professors, visiting associate professors, visiting docents, visiting lecturers, and visiting assistants) involved in the implementation of the study programme with the conditions for the implementation of the study programme and the provisions set out in the respective regulatory enactments. Provide information on how the qualification of the teaching staff members contributes to the achievement of the learning outcomes.**

The study program is delivered by 13 lecturers with the status of elected TTI members of academic staff.

The following members are engaged in delivering courses in the program: 4 professors, including 2 with the doctoral degree in relevant scientific fields (Prof. Kuzmina-Merlino, Ph.D. in Economics, and Prof. Stukalina, Ph.D. in Business Administration), 5 associate professors with doctoral degrees in relevant scientific fields (As. Prof. Sproge, Ph.D. in Economics, As. Prof. Podolakina, Ph.D. in

Economics, As. Prof. Popova, Ph.D. in Economics, As. Prof. Išmuhametovs, Ph.D. in Psychology, and As. Prof. Pavļuks, Ph.D. in Engineering).

In addition to the above mentioned professors, the program employs 3 assistant professors (Baltgailis, Ph.D. in Economics, Kijonoka, Ph.D. in Engineering and Užule, Ph.D. in Psychology) and one lecturer (Zervina, MA in Economics, who is currently pursuing a doctoral degree).

Overall, 92% of the academic staff engaged in the program hold a scientific doctoral degree.

To increase the program quality, additionally the program recruits leading academics from other universities or specialists in a particular field, for example, Professor Čirjeviskis of RISEBA University of Applied Sciences and Mr Vītols, Senior Financial Analyst at Latvian Post-Office Bank, who administer courses in one of three languages. Amongst invited lecturers, 5 hold a doctoral degree and others a Master's degree.

Since 2017 Nathanail Eftihia has been teaching the course *Decision-Making Methodology* as a permanent guest lecturer in Master's programs.

Lecturers conduct research and participate in educating students. The Transport and Telecommunication Institute, as much as possible, ensures the professional development of own staff and provides incentives with competitive salaries in Latvia.

The qualifications of the academic staff involved in the delivery of the study program meets to the requirements of the study program implementation.

The language skills of the lecturers employed by the program meet the official language knowledge requirements passed by the Cabinet of Ministers on July 7, 2008 as Regulation No. 733 entitled *Regulations Regarding the Extent of the Knowledge of the Official Language, the Procedures for Examining the Proficiency in the Official Language for the Pursuit of Professional and Occupational Duties, for the Acquisition of the Permanent Residence Permit and of the Permanent European Union Resident Status and the State Fee for Examining the Proficiency in the Official Language*. When recruiting, the TTI Personnel Department verifies the official language skills (see Appendix 22).

In order to verify the English language skills of the academic staff, TTI periodically organizes testing of the English language proficiency and if necessary organizes additional training, for example, currently several members of the academic staff are enhancing their English language skills within the framework of Project 8.2.2 .

*Appendix 41 Confirmation of English proficiency of academic staff involved in the programme.*

Qualifications of the academic staff involved in the implementation of the study program satisfy the program implementation requirements and the requirements of the regulatory enactments, thus, ensuring the achievement of the aims and learning outcomes of the study program and respective study courses.

Table 27: Academic staff in the Master's program *Business and Management*

Course code	Course	Lecturers (first name, surname, scientific or academic degree, position)				Elected as TTI academic staff member
		ENG	LV	RU	Distance Learning	
B 03 009	Latvian	Antra Roskoša, Ph.D. in Business Administration, invited lecturer	-	Antra Roskoša, Ph.D. in Business Administration, invited lecturer	Antra Roskoša, Ph.D. in Business Administration, invited lecturer	--
05 M 001	Pedagogy and Psychology	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Elected
05 M 004	Research Methodology	Igors Kabaškins, Ph.D in Engineering, Professor	Igors Kabaškins, Ph.D in Engineering, Professor	Igors Kabaškins, Ph.D in Engineering, Professor	Igors Kabaškins, Ph.D in Engineering, Professor	Elected
05 M 339	Methods of Data Analysis and Business Forecasting	Irina Jackiva, Ph.D. in Engineering, Professor		Irina Jackiva, Ph.D. in Engineering, Professor	Irina Jackiva, Ph.D. in Engineering, Professor	Elected
		Dmitry Pavlyuk, Ph.D. in Engineering, Ph.D. in Economics, Associate Professor		Dmitry Pavlyuk, Ph.D. in Engineering, Ph.D. in Economics, Associate Professor	Dmitry Pavlyuk, Ph.D. in Engineering, Ph.D. in Economics, Associate Professor	Elected
		Jeļena Kijonoka, Ph.D. in Engineering, Assistant Professor		Jeļena Kijonoka, Ph.D. in Engineering, Assistant Professor		Elected
			Kristīne Vītola, Ph.D. in Economics, Invited Lecturer			--

Course code	Course	Lecturers (first name, surname, scientific or academic degree, position)				Elected as TTI academic staff member
		ENG	LV	RU	Distance Learning	
05 M 361	Corporate Governance and Social Responsibility	Yulia Stukalina, Ph.D. in Business Administration, Professor			Yulia Stukalina, Ph.D. in Business Administration, Professor	Elected
			Vitālijs Šlendins, MA in Education, Invited Lecturer			--
				Išgalejs Išmuhametovs, Ph.D. in Psychology, Associate Professor		Elected
05 M 602	Academic English	Yulia Stukalina, Ph.D. in Business Administration, Professor	Yulia Stukalina, Ph.D. in Business Administration, Professor	Yulia Stukalina, Ph.D. in Business Administration, Professor		Elected
		Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Elected
		Olga Zervina, MA in Economics, Lecturer	Olga Zervina, MA in Economics, Lecturer	Olga Zervina, MA in Economics, Lecturer		Elected
B-04-142	Labour Safety, Civil Defence and Environment Protection	Vitālijs Šlendins, MA in Education, Invited Lecturer	Vitālijs Šlendins, MA in Education, Invited Lecturer	Vitālijs Šlendins, MA in Education, Invited Lecturer	Vitālijs Šlendins, MA in Education, Invited Lecturer	--
05 M 356	Business Information Systems	Aleksandrs Avdeikins, Msc in Engineering, Invited Lecturer	Aleksandrs Avdeikins, Msc in Engineering, Invited Lecturer	Aleksandrs Avdeikins, Msc in Engineering, Invited Lecturer	Aleksandrs Avdeikins, Msc in Engineering, Invited Lecturer	--
05 M 359	The Global Economy and International Business Environment	Jurijs Baltgailis, Ph.D. in Economics, Assistant Professor	Jurijs Baltgailis, Ph.D. in Economics, Assistant Professor	Jurijs Baltgailis, Ph.D. in Economics, Assistant Professor		Elected
					Aleksandrs Stetjuha, Ph.D. in Economics, Visiting Assistant Professor	--

Course code	Course	Lecturers (first name, surname, scientific or academic degree, position)				Elected as TTI academic staff member
		ENG	LV	RU	Distance Learning	
05 M 202	Strategic Management	Yulia Stukalina, Ph.D. in Business Administration, Professor			Yulia Stukalina, Ph.D. in Business Administration, Professor	Elected
			Andrejs Čirjeviskis, Ph.D. in Economics, Invited Lecturer	Andrejs Čirjeviskis, Ph.D. in Economics, Invited Lecturer		--
05 M 355	Financial Management	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Elected
M 04 217	Quantitative Methods in Management	Dmitry Pavlyuk, Ph.D. in Engineering, Ph.D. in Economics, Associate Professor		Dmitry Pavlyuk, Ph.D. in Engineering, Ph.D. in Economics, Associate Professor	Dmitry Pavlyuk, Ph.D. in Engineering, Ph.D. in Economics, Associate Professor	Elected
			Kristīne Vītola, Ph.D. in Economics, Invited Lecturer			--
M-04-Zs	Research Seminar I	Irina Jackiva, Ph.D. in Engineering, Professor	Irina Jackiva, Ph.D. in Engineering, Professor	Irina Jackiva, Ph.D. in Engineering, Professor	Irina Jackiva, Ph.D. in Engineering, Professor	Elected
05 M 342	Decision-Making Methodology	Irina Jackiva, Ph.D. in Engineering, Professor	Irina Jackiva, Ph.D. in Engineering, Professor	Irina Jackiva, Ph.D. in Engineering, Professor	Irina Jackiva, Ph.D. in Engineering, Professor	Elected
		Eftihia Nathanail, Ph.D., Visiting Professor				--
05 M 357	International Marketing and Advertising	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor			Elected
				Alevtīna Višņevska, Ph.D. in Education, Visiting Assistant Professor	Alevtīna Višņevska, Ph.D. in Education, Visiting Assistant Professor	--

Course code	Course	Lecturers (first name, surname, scientific or academic degree, position)				Elected as TTI academic staff member
		ENG	LV	RU	Distance Learning	
05 M 369	Study project	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Elected
M-04-Zs2	Research Seminar II	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Elected
05 M 311	Project Management and Financing	Jeļena Popova, Ph.D. in Economics, Associate Professor		Jeļena Popova, Ph.D. in Economics, Associate Professor		Elected
			Ilze Sproģe, Ph.D. in Business Administration, Associate Professor		Ilze Sproģe, Ph.D. in Business Administration, Associate Professor	Elected
05 M 358	Human Resource Management and Leadership	Yulia Stukalina, Ph.D. in Business Administration, Professor			Yulia Stukalina, Ph.D. in Business Administration, Professor	Elected
			Kristīne Užule, Ph.D. in Psychology, Assistant Professor			Elected
				Išgalejs Išmuhametovs, Ph.D. in Psychology, Associate Professor		Elected
05 M 372	Change Management	Katerīna Čerņavska, MA in Economics, Invited Lecturer	Katerīna Čerņavska, MA in Economics, Invited Lecturer	Katerīna Čerņavska, MA in Economics, Invited Lecturer	Katerīna Čerņavska, MA in Economics, Invited Lecturer	--

Course code	Course	Lecturers (first name, surname, scientific or academic degree, position)				Elected as TTI academic staff member
		ENG	LV	RU	Distance Learning	
05 M 373	SMART administration	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor			Elected
				Išgalejs Išmuhametovs, Ph.D. in Psychology, Associate Professor	Išgalejs Išmuhametovs, Ph.D. in Psychology, Associate Professor	Elected
05 M 106	Innovation Management	Jeļena Popova, Ph.D. in Economics, Associate Professor	Jeļena Popova, Ph.D. in Economics, Associate Professor	Jeļena Popova, Ph.D. in Economics, Associate Professor	Jeļena Popova, Ph.D. in Economics, Associate Professor	Elected
05 M 377	Management Finance	Andrejs Čirjevskis, Ph.D. in Economics, Invited Lecturer	Andrejs Čirjevskis, Ph.D. in Economics, Invited Lecturer	Andrejs Čirjevskis, Ph.D. in Economics, Invited Lecturer		--
		Ilze Sproģe, Ph.D. in Business Administration, Associate Professor	Ilze Sproģe, Ph.D. in Business Administration, Associate Professor	Ilze Sproģe, Ph.D. in Business Administration, Associate Professor	Ilze Sproģe, Ph.D. in Business Administration, Associate Professor	Elected
05 M 378	Financial and Management Analysis	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor		Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Elected
				Natalja Podoļakina Ph.D. in Economics, Associate Professor		Elected

**4.3. Information on the number of the scientific publications of the academic staff members, involved in the implementation of the doctoral study programme, as published during the reporting period by listing the most significant publications published in Scopus or WoS CC indexed journals. As for the social sciences, humanitarian sciences, and the science of art, the scientific publications published in ERIH+ indexed journals may be additionally specified (if applicable).**

Not applicable.

**4.4. Information on the participation of the academic staff, involved in the implementation of the doctoral study programme, in scientific projects as project managers or prime contractors/ subproject managers/ leading researchers by specifying the name of the relevant project, as well as the source and the amount of the funding. Provide information on the reporting period (if applicable).**

Not applicable.

**4.5. Provide examples of the involvement of the academic staff in the scientific research and/or artistic creation activities both at national and at international level (in the fields related to the content of the study programme), as well as the use of the obtained information in the study process.**

The research activities of the academic staff is mostly related to the specialization of the lecturers within the program and the delivered study courses.

The scientific activities of the academic staff play a decisive role in the development of the study program and the content of specific study courses. In order to understand the nature of changes taking place in the world, it is necessary to conduct research in relevant fields, which has been implemented by the Faculty through the participation of academic staff in international scientific projects, international scientific and practical conferences and preparation of publications. Conversely, if the labor market needs management professionals with specific skills and competences (e.g. with the focus on enterprise digital transformation), this theme will be selected as a priority research area by both lecturers and students.

Master's students are more involved in scientific activities than students in some other programs because the scientific novelty of the research theme is one of the most important assessment criteria of the quality of their Master's theses. The cooperation between the lecturer and the student is manifested in the preparation of joint scientific publications and the involvement of Master's students in international scientific projects.

New tendencies in the development of the study direction and the emergence of new areas of knowledge not only influence the contents of the study program, but also make it necessary to use new methods and technologies in the educational process, the research of which is also the object of research. The examples of scientific publications related to the educational process are the following:

- Kuzmina-Merlino I. (2017). *"Postgraduate Financial Management for Non-Financial Specialists: Teaching Methodology and Scientific Approach."*
- Kuzmina-Merlino and I. Ishmuhametov. *"Financial Literacy: What Motivates a Learner Entrepreneur to Achieve It?"*.
- Ishmuhametov and I. Kuzmina-Merlino. *"What Motivates a Learner Manager of a Logistic Company to Achieve Financial Literacy?"*
- Kuzmina-Merlino I. and S. Saksonova. *"The Knowledge and Competences Required for the Fintech"*



Sector".

- *The Case Study Method in Post Graduate Management Education, Proceedings of the International Scientific and Educational Conference Actual Problem in Education (MIP 2016),*

Through research, lecturers enhance the quality of their courses by integrating the most up-to-date information on innovations in a specific field.

The academic staff prepare scientific papers, participate in conferences, seminars and workshops, develop textbooks and other methodological materials, and participate in projects.

See Appendix 13 for a list of projects that involve the lecturers who participate in the implementation of the study direction. Appendix 14 contains a list of the scientific publications of the lecturers involved in the implementation of the study direction for the referenced period.

**4.6. Assessment of the cooperation between the teaching staff members by specifying the mechanisms used to promote the cooperation and ensure the interrelation between the study courses/ modules. Specify also the proportion of the number of the students and the teaching staff within the study programme (at the moment of the submission of the Self-Assessment Report).**

Many courses included in the program are of interdisciplinary nature and their development is conducted by the academic staff of TTI and other universities as well as by industry professionals, who in some cases specialize in various domains of science.

The interdisciplinary nature of the study program is its distinctive feature compared to other similar study programs in *Business and Management*.

The Master's program *Business and Management* includes the following interdisciplinary (integrated) courses: *Information Systems and Technologies in Business, Methods of Data Analysis and Business Forecasting, Quantitative Methods in Management Science, Decision-Making Methodology, Research Seminar, Pedagogy and Psychology, Smart Organization Management* etc.

Interdisciplinary (integrated) courses can be divided into two groups: 1) study courses developed and taught by one lecturer specializing in another area (for example, *Quantitative Methods in Management Science*); 2) study courses delivered by 2 or more lecturers from different fields of science (for example, *Scientific Seminar, Pedagogy and Psychology, International Marketing and Advertising*).

To illustrate the point, there were 3 lecturers involved in teaching the course *International Marketing and Advertising* to foreign students: professor Merlino of the University of San Marino, who focused on global market issues, Ms. Chui, marketing communications and advertising specialist and professor Kuzmina-Merlino, who is the author of this course. The teaching methods, deployed in this course, the methodology of knowledge assessment and of calculating the final mark are well developed. The final examination included the development of a marketing strategy for a foreign company, wishing to enter the Latvian market.

Such cooperation allows to use the best competences of the academic staff, helps to improve teaching methods, boosts the interest in studies and motivates students. The development of integrated courses is necessary to ensure the full achievement of the program aims and learning outcomes. Typically, this type of courses is delivered by professionals, specializing in a particular area and who share their professional experience with students, which also leads to strengthening

the practical orientation component of the study program and which additionally creates favorable study conditions to enable students to successfully acquire modern managerial competencies.

Integrated study courses promote students' ability to combine knowledge of various fields of science, enable them to acquire the knowledge of management and management decision-making tools, create conditions for teamwork and promote student self-organization and self-realization.

A good example of cross-departmental cooperation amongst the academic staff is the engagement of lecturers from other faculties in the supervision of students' Master's theses. For example, Ildar Farkhshatov's Master's thesis *Short-term forecasting of Baltic states' GDP growth* was supervised by Pavlyuk, Ph.D. in Engineering.

In general, it can be concluded that a mechanism for lecturer collaboration has been established to facilitate the enhancement and interconnections of study courses/modules.

The ratio of students to the number of lecturers in the study program is variable, depending on the semester course plan, whether or not students are divided into specializations within the specific study year and form of study. On average it is 1:1 for distance learning and 1:3 for other modes of study.

# Annexes

III. Description of the Study Programme - 1. Indicators Describing the Study Programme		
Compliance of the joint study programme with the provisions of the Law on Institutions of Higher Education (table)		
Statistics on the students over the reporting period	STATISTICS ON STUDENTS, Self-Assessment report, Part IV, sub-chapter 1.2.pdf	Statistikas dati par studējošajiem maģistra studiju programmā.pdf
III. Description of the Study Programme - 2. The Content of Studies and Implementation Thereof		
Compliance of the study programme with the State Education Standard	34.Appendix. Compliance of the study programme with the State Education Standard.pdf	34.pielikums. Atbilstība akadēmiskajam standartam.pdf
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable)		
Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable)		
Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme	37.Appendix. Mapping of the study courses Studiju kursu kartējums MSc EN.xlsx	37.pielikums. Studiju kursu kartējums MSc programmas rezultātu sasniegšanai.xlsx
Curriculum of the study programme (for each type and form of the implementation of the study programme)	35.Appendix. Study program plan.zip	35.pielikums. Studiju plāns.zip
Descriptions of the study courses/ modules	36.Appendix. Course descriptions.zip	36.pielikums. Studiju kursu apraksti.zip
Description of the Study Direction - Other mandatory attachments		
Sample of the diploma to be issued for the acquisition of the study programme.	42Appendix.Diploma Supplement.zip	42.pielikums. Diploms un pielikums.zip
Description of the Study Programme - Other mandatory attachments		
Document confirming that the higher education institution/ college will provide the students with the options to continue the acquisition of education in another study programme or at another higher education institution/ college (a contract with another accredited higher education institution/ college), in case the implementation of the study programme is discontinued	23.Appendix. Cooperation Agreement.zip	23.pielikums. Līgumi programmas slegsanas gadījumā.zip
Document confirming that the higher education institution/ college guarantees to the students a compensation for losses if the study programme is not accredited or the licence of the study programme is revoked due to the actions of the higher education institution/ college (actions or failure to act) and the student does not wish to continue the studies in another study programme	38.Appendix. Confirmation.pdf	38.pielikums. Apliecinājums par zaudējumu kompensāciju.pdf
Confirmation of the higher education institution/ college that the teaching staff members to be involved in the implementation of the study programme have at least B2-level knowledge of a related foreign language according to European language levels (see the levels under www.europass.lv), if the study programme or any part thereof is to be implemented in a foreign language.	41.Appendix. Confirmation.docx	41.pielikums. Apliecinājums angļu valodas prasme.pdf
If the study programmes in the study direction subject to the assessment are doctoral study programmes, a confirmation that at least five teaching staff members with doctoral degree are among the academic staff of a doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field or sub-field of science, in which the study programme has intended to award a scientific degree.		
If academic study programmes are implemented within the study direction, a document confirming that the academic staff of the academic study programme complies with the provisions set out in Section 55, Paragraph one, Clause three of the Law on Institutions of Higher Education	40.Appendix.Confirmation.pdf	40.pielikums. Apliecinājums atbilstība AL.pdf
Sample (or samples) of the study agreement	43.Appendix. Sample of the study agreement.pdf	43.pielikums. Studiju līguma paraugs.pdf
If academic study programmes for less than 250 full-time students are implemented within the study direction, the opinion of the Council for Higher Education shall be attached in compliance with Section 55, Paragraph two of the Law on Institutions of Higher Education.	39.Appendix. Decision.pdf	39.pielikums. AIP atzinums_M_Vadibzinatne.pdf

# Business and Management

Title of the higher education institution	<i>Management, Administration and Management of Real Property</i>
ProcedureStudyProgram.Name	<i>Business and Management</i>
Education classification code	<i>43345</i>
Type of the study programme	<i>Academic bachelor study programme</i>
Name of the study programme director	<i>Irina</i>
Surname of the study programme director	<i>Kuzmina-Merlino</i>
E-mail of the study programme director	<i>Kuzmina.I@tsi.lv</i>
Title of the study programme director	<i>Dr.oec., profesore</i>
Phone of the study programme director	<i>29610918</i>
Goal of the study programme	<i>The study program aim is to ensure the in-depth acquisition of knowledge, skills and competences in various domains of business management and provide students with knowledge of various digital and financial management tools that can be effectively used in business management in a global business environment</i>
Tasks of the study programme	<p><i>The objectives of the study program are the following:</i></p> <ul style="list-style-type: none"> <li><i>• To provide students with knowledge of various areas of contemporary organization management;</i></li> <li><i>• To provide students with knowledge of management styles and methods; to develop an understanding of how leadership styles and methods may change as a result of global economic processes and the digitalisation of business and society</i></li> <li><i>• To develop research skills and abilities to carry out research in the chosen field of business management</i></li> <li><i>• To provide the study process with all necessary resources to maintain high quality of training</i></li> <li><i>• To provide and develop the infrastructure as well as material and technical basis in accordance with the study program implementation needs</i></li> <li><i>• To motivate students for self-organization and self-realization of personal qualities in a multicultural educational environment</i></li> <li><i>• To develop international cooperation with related higher education institutions, businesses and organizations.</i></li> </ul>

Results of the study programme	<p><i>Knowledge:</i></p> <ul style="list-style-type: none"> <li>• To be able to formulate indicators of economic, social and organizational performance, which reveal the condition of manufacturing and management, characteristics of aggregation and analysis</li> <li>• To interpret basic concepts of business and information technologies</li> <li>• To be able to describe the importance of human resources, organizational performance and digitalisation of society</li> <li>• To be able to understand the documentation and regulatory enactments regulating business operations of the company</li> <li>• To be able to describe the latest global trends in the management science.</li> </ul> <p><i>Skills:</i></p> <ul style="list-style-type: none"> <li>• To group, evaluate and critically interpret economic and financial information</li> <li>• To use information technologies to acquire, store, create, evaluate and exchange information to securely communicate and cooperate on collaborative or social networks using modern technology and Internet capabilities</li> <li>• To apply planning, management and resource control methods using information technology and data processing methods</li> <li>• To implement day-to-day transactions, operational business processes and be able to respond quickly to changes in the business environment</li> <li>• To analyze and evaluate the company's performance using various economic, management, marketing and statistical analysis methods;</li> <li>• To prepare a business plan for a new start-up or for expanding business operations</li> <li>• To take responsibility for the performance outcome of teamwork and conduct its analysis</li> <li>• To independently organize own work</li> <li>• To reasonably discuss the topical aspects of management science</li> <li>• To apply intellectual property and personal data protection rules, use and quote the obtained or found information in accordance with the basic principles of the relevant scientific field.</li> </ul> <p><i>Competences:</i></p> <ul style="list-style-type: none"> <li>• To be able to take a leadership role, plan and organize teamwork in the multicultural environment to ensure the attainment of organizational aims</li> <li>• To be able to form own management "team" and develop positive relationships among its members, be able to accept diversity of views, care for the "team" and motivate its members to attain common aims</li> <li>• To be able to analyze and critically evaluate the reliability of the obtained information</li> <li>• To be able to evaluate the indicators of the company's financial and technological operations and make decisions in order to conduct business optimization and increase the profitability of the company</li> <li>• To be able to evaluate business performance outcomes of the company having operations in the digital environment, considering relevant scientific, social and ethical aspects</li> <li>• To be able to identify the need for additional knowledge and the development of own skills</li> </ul>
Final examination upon the completion of the study programme	Defence of the Bachelor's thesis

# Study programme forms

## Full time studies - 3 years - latvian

Study type and form	<i>Full time studies</i>
Duration in full years	<i>3</i>
Duration in month	<i>0</i>
Language	<i>latvian</i>
Amount (CP)	<i>120</i>
Admission requirements (in English)	<i>Secondary education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Bachelor of Social Sciences in Management</i>
Qualification to be obtained (in english)	<i>--</i>

## Places of implementation

Place name	City	Address
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

## Full time studies - 3 years - english

Study type and form	<i>Full time studies</i>
Duration in full years	<i>3</i>
Duration in month	<i>0</i>
Language	<i>english</i>
Amount (CP)	<i>120</i>
Admission requirements (in English)	<i>Secondary education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Bachelor of Social Sciences in Management</i>
Qualification to be obtained (in english)	<i>--</i>

## Places of implementation

Place name	City	Address
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

## Full time studies - 3 years - russian

Study type and form	<i>Full time studies</i>
Duration in full years	<i>3</i>
Duration in month	<i>0</i>
Language	<i>russian</i>
Amount (CP)	<i>120</i>
Admission requirements (in English)	<i>Secondary education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Bachelor of Social Sciences in Management</i>
Qualification to be obtained (in english)	<i>--</i>

## Places of implementation

Place name	City	Address
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

## Part time extramural studies - 4 years - latvian

Study type and form	<i>Part time extramural studies</i>
---------------------	-------------------------------------

Duration in full years	4
Duration in month	0
Language	latvian
Amount (CP)	120
Admission requirements (in English)	Secondary education
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	Bachelor of Social Sciences in Management
Qualification to be obtained (in english)	--

#### Places of implementation

Place name	City	Address
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

#### Part time extramural studies - 4 years - english

Study type and form	Part time extramural studies
Duration in full years	4
Duration in month	0
Language	english
Amount (CP)	120
Admission requirements (in English)	Secondary education
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	Bachelor of Social Sciences in Management
Qualification to be obtained (in english)	--

#### Places of implementation

Place name	City	Address
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

#### Part time extramural studies - 4 years - russian

Study type and form	Part time extramural studies
Duration in full years	4
Duration in month	0
Language	russian
Amount (CP)	120
Admission requirements (in English)	Secondary education
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	Bachelor of Social Sciences in Management
Qualification to be obtained (in english)	--

#### Places of implementation

Place name	City	Address
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

#### Part time extramural studies distance education - 4 years - english

Study type and form	Part time extramural studies distance education
Duration in full years	4
Duration in month	0
Language	english

Amount (CP)	120
Admission requirements (in English)	<i>Secondary education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Bachelor of Social Sciences in Management</i>
Qualification to be obtained (in english)	--

#### **Places of implementation**

<b>Place name</b>	<b>City</b>	<b>Address</b>
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019

#### **Part time extramural studies distance education - 4 years - russian**

Study type and form	<i>Part time extramural studies distance education</i>
Duration in full years	4
Duration in month	0
Language	<i>russian</i>
Amount (CP)	120
Admission requirements (in English)	<i>Secondary education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Bachelor of Social Sciences in Management</i>
Qualification to be obtained (in english)	--

#### **Places of implementation**

<b>Place name</b>	<b>City</b>	<b>Address</b>
Transport and Telecommunication Institute	RĪGA	LOMONOSOVA IELA 1, RĪGA, LV-1019



### III - DESCRIPTION OF THE STUDY PROGRAMME (1. Indicators Describing the Study Programme)

#### 1.1. Description and analysis of changes in study programme parameters that have taken place since the issue of the previous accreditation certificate of study direction or the license of study programme if study programme is not included in the accreditation page of the study direction

*\*The program director Oksana Skorobogatova, MA in Economics, Lecturer, has been on the maternity leave until February 2020. During her absence, consistently with the TTI order, her duties have been performed by Prof. Kuzmina-Merlino, who is also the director of the academic Master's program.*

#### 1.2. Analysis and assessment of the statistical data on the students of the respective study programme, the dynamics of the number of the students, and the factors affecting the changes to the number of the students. The analysis shall be broken down in the different study forms, types, and languages.

The Bachelor's study program *Business and Management* (the former title being *Bachelor of Social Sciences in Management*) has been accredited and implemented on a full-time intramural and part-time extramural basis in Latvian, Russian and English and as a part-time distance learning program administered in Russian since 2012 and in English since 2018.

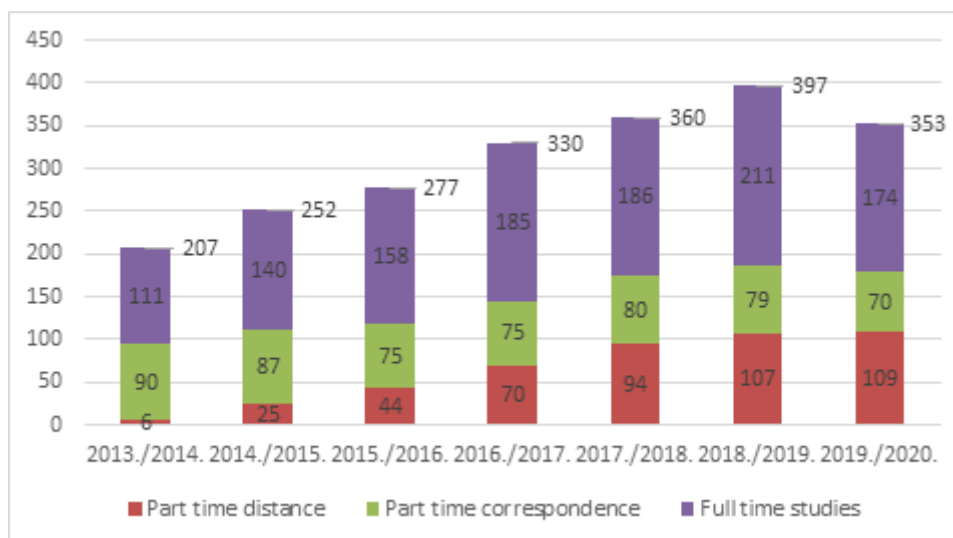


Figure 20: Dynamics of the student numbers in the Bachelor's program in management science

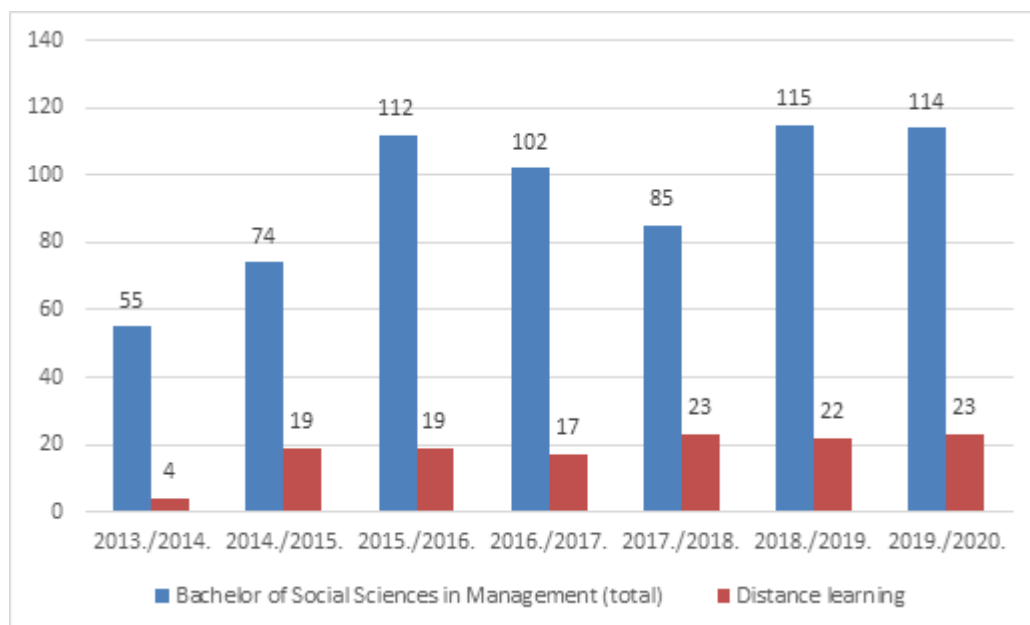


Figure 21: Dynamics of the matriculated students in the Bachelor's program in management science

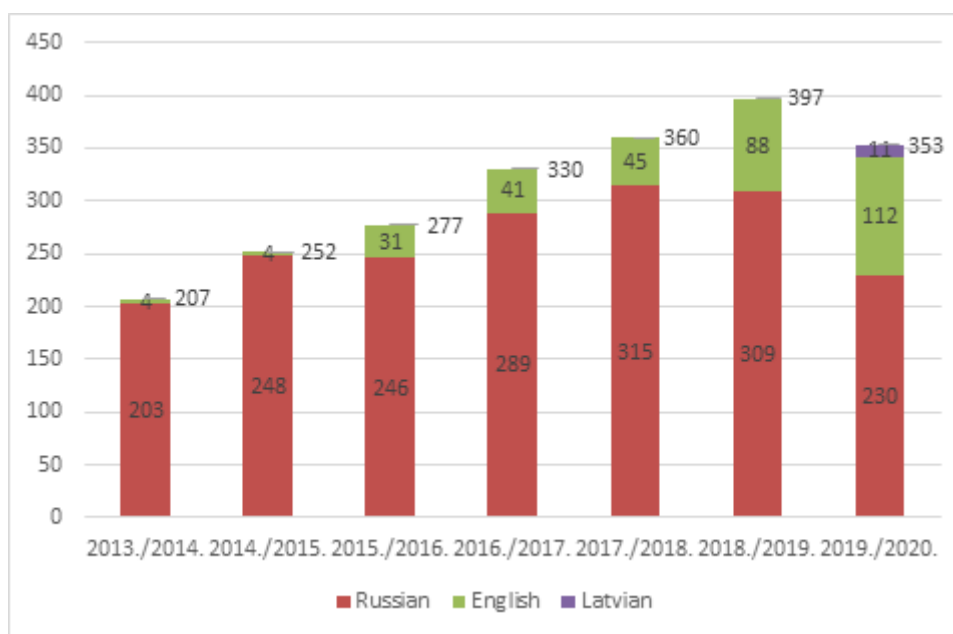


Figure 22: Distribution of the student numbers by their enrolment in the Bachelor's program in management science based on the language of instruction

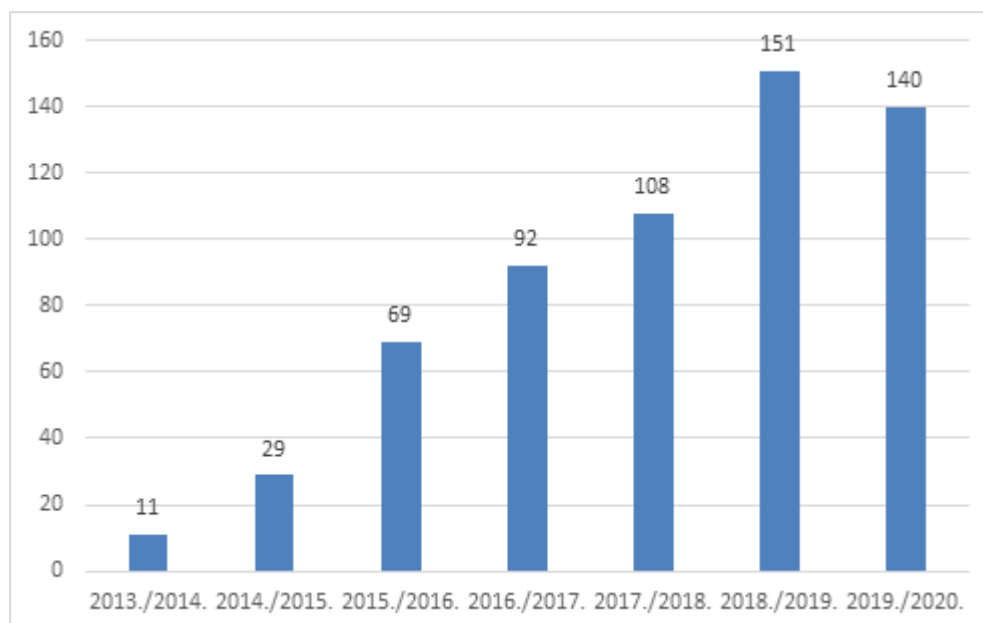


Figure 23: Foreign student numbers in the Bachelor's program in management science

Until the academic year 2018/2019, the graphs above show an increase in student numbers across all types and forms of study programs, including the languages of instruction.

The decrease in the number of students in the academic year 2019/2020 is related to the amendments to the Law on Higher Education Institutions of the Republic of Latvia of June 21, 2018, which provide that higher education institutions whose language of instructions in the study program does not comply with the provisions of Article 56 of Section 3 of this Law shall have the right to continue the study program implementation in the respective language until December 31, 2022. After January 1, 2019 the admission of students into the programs whose languages of instructions do not comply with these provisions is allowed. Thus, there was no intake of students for studies in the Russian language for the academic year 2019/2020, which resulted in a decrease in the total number of students and the number of foreign students.

So far foreign students have been admitted to studies in English and Russian, and many foreigners, mostly from the former post-Soviet republics, took the opportunity to study in Russian.

The breakdown of students by the country of residence for the academic year 2019/2020 is provided below:

· Azerbaijan -	1
· Belarus -	5
· Egyptian Arabic Republic -	1
· Estonia -	1
· India -	16
· Kazakhstan -	10
· Russian Federation -	24
· Latvia -	210

· Nigeria-	1
· Pakistan -	14
· Slovakia -	2
· Spain -	5
· Sri-Lanka -	2
· Tajikistan -	4
· Turkey -	4
· Ukraine -	3
· Uzbekistan -	26
· Germany -	1

The breakdown by the language of instruction shows a significant increase in the number of students pursuing their education in English, accounting for 32% (or 112 students) of the total number of students enrolled in the program. This academic year, after a long break (since 2012), students studying in Latvian have been admitted again.

Of the 114 students enrolled in the program, 10% (or 11 students) have been enrolled in Latvian. Applicants who earlier preferred to pursue their studies in Russian because they could speak both the state language and the Russian language, after the above mentioned Law on Higher Education Institutions have entered into force, have now made a decision to study in Latvian. This shows that the university is prestigious and with very good reputation, and applicants pursue their degrees at TTI regardless of the language in which they will have to receive their education.

The number of students enrolled in the distance learning program is similar to that of the previous year, however, compared to the previous year when applicants were admitted to studies in the Russian language, for the first time this year all distance learning students have enrolled in the program administered in English.

As the total number of students increases, the number of graduates increases accordingly.

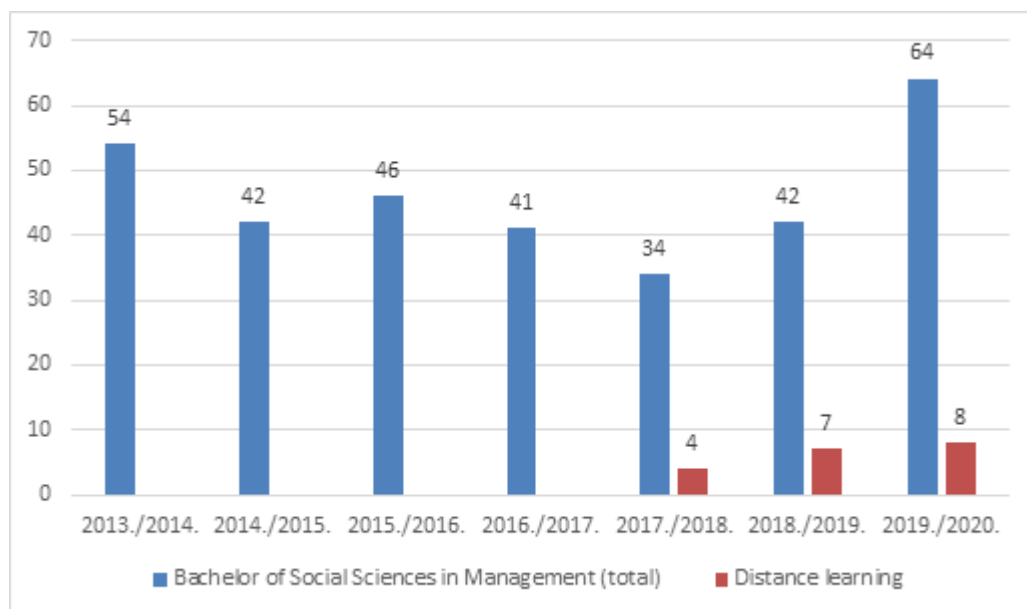


Figure 24: The dynamics of graduates' numbers in the Bachelor's program

The average drop-out rate of students is 18-20%. In the academic year 2018/2019, there were 106 students expelled from the program, which is 26%. The main reason for the drop-out was failure to fulfill the study plan requirements – such were 54 students, absenteeism resulted in the drop-out of 3 students, other students indicated personal reasons for their drop-out. Such high drop-out rate is explained by the increase in the number of foreign students in the program. Seventy percent (or 74 students) of the total number of students who were expelled are foreign students and of those 93% (or 50 students) were foreigners who had failed to complete their study plan. The expelled students mainly came from India (21 students) and Pakistan (16 students). Although the selection of foreign students, especially from these countries, has been carefully conducted, not all foreign students are able to meet the requirements of the course assessment procedure.

### 1.3. Analysis and assessment of the interrelation between the name of the study programme, the degree or professional qualification to be acquired or the degree and professional qualification to be acquired, the aims, objectives, learning outcomes, and the admission requirements.

The title of the study program *Business and Management*, the correspondence of the degree, aims and objectives as well as the admission requirements were evaluated by the Study Direction Council, and all of the above parameters were found corresponding.

The title of the study program is based on the titles of similar programs in Latvia and worldwide. Study course mapping (see Appendix 27) has been carried out to attain the study program outcomes, which has allowed to carry out the in-depth analysis and specify the outcomes of specific study courses.

The main aim of the Bachelor's program is to provide specific knowledge, skills and competences in accordance with the knowledge, skills and competences required by Level 6 of the Framework of Latvian Education Classification.

The admission requirements are determined pursuant to the following regulatory enactments: Articles 46 and 47 of the Law on Higher Education Institutions as well as Regulation No. 846 of the Cabinet of Ministers of October 10, 2006 on *Requirements, Criteria and Procedures for Admission to Study Programs*.

*Appendix 24: Compliance of the study program with the State Education Standard*

### **III - DESCRIPTION OF THE STUDY PROGRAMME (2. The Content of Studies and Implementation Thereof)**

**2.1. Assessment of the relevance of the content of the study course/ module and the compliance with the needs of the relevant industry and labour market and with the trends in science. Provide information on how and whether the content of the study course/ module is updated in line with the development trends of the relevant industry, labour market, and science. In case of master's and doctoral study programmes, specify and provide the justification as to whether the degrees are awarded in view of the developments and findings in the field of science or artistic creation.**

In the current stage of economic development, Latvia needs a new generation of leaders who are able to synthesize academic, professional and information competences, including the ability to work in a dynamic and volatile global environment, and who are able to make decisions, tackle issues, plan and set priorities. Students are provided with an opportunity to enhance their employment prospects through advanced courses focusing on business digital innovation, marketing and communication strategies, development of emotional intelligence, financial literacy and leadership.

The Bachelor's program *Business and Management* promotes the acquisition of the necessary knowledge in the area of modern business management, which allows to effectively use the opportunities of the international business environment. Classical higher education combined with the in-depth knowledge of mathematics and information technology and an innovative approach to specialist training is a special feature of this program. Undoubtedly, study programs in management science are implemented in many higher education institutions in Latvia, however, the key feature of the TTI program is the application of an interdisciplinary approach to training of the modern manager. The study program provides a broad understanding of digital business management and combines courses from various fields of management, information technology, mathematics, economics and other social sciences.

The last decades have been characterized by the rapid development and spread of information technology. Digitalization is a major tendency in the contemporary global economy. The digitalisation of society is pursued in relation to individuals, whereas businesses and the public sector create new models of collaboration among people, businesses and government institutions. Such developmental trends yield new professional competencies for a modern manager, which requires the application of innovative and technological knowledge in various fields of management. Integrating information systems with digital communications in an organization's management system enables many of the company's business processes to be enhanced, such as customer service, enhancement of manufacturing processes and inventory management,

enhancement of its accounting and reporting system, which generally increases the efficiency of management decisions.

This increases the need for talented graduates with digital management skills who can help companies compete in a global business environment.

The basis of the quality assurance of the study program is cooperation with potential employers, organization of meetings for the discussion of issues related to the current issues on the labor market, demands of the labor market, reviewing annual self-assessment reports, receiving and reviewing suggestions from the Study Direction Council.

Study courses, including the contents of the course descriptions, are reviewed annually during the study program and study direction self-assessment procedure, held in December and January in accordance with the course management regulations. As a result of such self-assessment, a program development plan is drawn up, which comprises various aspects of the study course, including updating of course descriptions following the specific field, labor market and science development trends. The updated courses are coordinated, approved and included in the study program register and published in the e-learning environment *Moodle* by the beginning of the new academic year.

The Bachelor's program has two specializations:

- **B1 Digital business management**
- **B2 Management Economics**

The number of allocated credit points to the specialized study courses comprises 16 CP (24 ECTS) in each specialization area.

B1 specialization in Business Digital Management courses help students master concepts such as digital transformation and business management tools in a digital environment. Digital transformation means the transition of companies and organizations to digital management methods, which change the corporate culture and organizational behavior and which create the necessity to introduce new digital management tools. Digital transformation expands organizational boundaries and helps restructure business models to deliver economic growth by blurring boundaries between economic sectors. The multidisciplinary nature of the offered specialization focuses on developing the management skills and competences necessary for successful implementation of digital transformations for the development of own business.

B2 specialization in Management Economics enables the future specialist to master the economic methods of modern business management regardless of the type, size and legal form of the business in the context of globalization. Mastering the methods of economic management in a modern enterprise focuses on sustainable business development.

The study program plan by specialization for full-time intramural, part-time extramural and part-time distance learning is provided in Appendix 26.

The credit point number for the study program is 120 CP (180 ECTS) and the program structure are provided in Table 17.

Table 17: The structure of the Bachelor's program *Business and Management*

<b>Program part</b>	<b>Course code</b>	<b>Study courses</b>	<b>Credit points (CP)</b>	<b>Credit points (ECTS)</b>	<b>Final assessment</b>
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<b>Program part</b>	<b>Course code</b>	<b>Study courses</b>	<b>Credit points (CP)</b>	<b>Credit points (ECTS)</b>	<b>Final assessment</b>
<b>A</b>		<b>Compulsary courses</b>	<b>50</b>	<b>75</b>	
1	B-04-142	Labour Safety, Civil Defence and Environment Protection	2	3	Test
2	05 B 276	Introduction to Studies in Economics and Business Science	2	3	Test
3	B 03 009/ 05 B 272	Latvian / English for Academic Purposes I	2	3	Test
4	B 04 248	Mathematics for business	4	6	Examination
5	05 B 101	Microeconomics	4	6	Examination
6	05 B 277	Essentials of Business Management	4	6	Examination
7	05 B 273	English for Academic Purposes II	2	3	Test
8	05 B 102	Macroeconomics	4	6	Examination
9	05 B 284	Study project I	2	3	Test
10	05 B 109	Marketing	4	6	Examination
11	05 B 110	Accounting	4	6	Examination
12	05 B 206	Project management	2	3	Test
13	05 B 285	Study project II	2	3	Test
14	05 B 292	Management Accounting	4	6	Examination
16	05 B 177	Management and organizational theory	2	3	Test
15	05 B 286	Study project III: Business plan	2	3	Test
16	05 B 111	Fundamentals of entrepreneurship	4	6	Examination
<b>B</b>		<b>Limited elective courses</b>	<b>54</b>	<b>81</b>	
		<i>General field-specific professional courses</i>	<i>38</i>	<i>57</i>	
1	05 B 287	Business psychology	4	6	Examination
2	BP-05-02a	Information technologies 1	2	3	Test
3	BP-05-01a	Informal technologies 2	2	3	Test
4	05 B 115	Business Activity Legal Regulation	2	3	Test



<b>Program part</b>	<b>Course code</b>	<b>Study courses</b>	<b>Credit points (CP)</b>	<b>Credit points (ECTS)</b>	<b>Final assessment</b>
5	05 B 274	Business communications I	2	3	Test
6	05 B 337	Operations management	4	6	Examination
7	B 04 247	Statistics for business and finance	4	6	Examination
8	05 P 301	Fundamentals of logistics	2	3	Test
9	05 B 203	Human resource management	4	6	Examination
10	B 04 246	Econometrics	4	6	Examination
11	05 B 275	Business communications II	2	3	Test
12	05 B 281	Digital marketing	2	3	Test
13	05 B 215	Risk management	4	6	Examination
		<i>Professional specialization courses</i>	<b>16</b>	<b>24</b>	
B1		<i>Digital business management</i>			
1	B-04-026	Introduction to operation research	2	3	Test
2	05 B 280	Introduction to change management	4	6	Examination
3	05 B 289	Digital business environment	4	6	Examination
4	05 B 283	Time management	2	3	
5	05 B 288	Organization behavior and leadership	4	6	Test
B2		<i>Management economics</i>			
1	05 B 290	Sustainable economics	2	3	Test
2	05 B 282	Economic relations of the European countries	4	6	Examination
3	05 B 134	Financial reporting analysis	4	6	Examination
4	05 B 291	Managerial economics	4	6	Examination
5	05 B 133	Public economics	2	3	Test
<b>C</b>		<b>Free elective courses</b>	<b>6</b>	<b>9</b>	
<b>E</b>		<b>Final assessment</b>			
		Bachelor's thesis	<b>10</b>	<b>15</b>	
		<b>Program credit points in total:</b>	<b>120</b>	<b>180</b>	

Table 18: The structure of the Bachelor's program *Business and Management* (full-time program)

Program blocks (courses)	Number of CP					
	Sem. 1	Sem. 2	Sem. 3	Sem. 4	Sem. 5	Sem. 6
Compulsary courses (Block A)	18	12	4	8	8	-
Limited elective courses (Block B)	2	8	16	10	2	-
Specialization courses (Block B)	-	-	-	-	6	10
Free elective courses (Block C)	-	-	-	2	4	-
Bachelor's thesis	-	-	-	-	-	10
Program in total:	20	20	20	20	20	20

Table 19: The structure of the Bachelor's program *Business and Management* (part-time program)

Program blocks (courses)	Number of CP							
	Sem. 1	Sem. 2	Sem. 3	Sem. 4	Sem. 5	Sem. 6	Sem. 7	Sem. 8
Compulsary courses (Block A)	14	14	6	-	6	4	6	-
Limited elective courses (Block B)	2	2	10	14	8	2	-	-
Specialization courses (Block B)	-	-	-	-	-	6	10	-
Free elective courses (Block C)	-	-	-	2	2	2	-	-
Bachelor's thesis	-	-	-	-	-	-	-	10
Program total:	16	16	16	16	16	14	16	10

The Bachelor's program *Business and Management* (specializations *Digital Business Management* and *Management Economics*) prepares specialists not only for work in the Latvian labor market but also for business activities in complex global labor markets, including the specialists capable of launching their own start-ups or pursuing self-employment careers.

Our advanced learning concepts combine individual and group projects at both theoretical and practical levels; each study course also incorporates design work. Such an educational approach facilitates the discovery of individual talent and promotes manifestation of personal organizational and analytical qualities in emerging professionals in digital business management.

The program offers free elective courses (Block C), of which 6 credits are required to fulfill the program requirements. The aim of these courses is to provide students with an opportunity to acquire additional knowledge in a field of science or to acquire additional skills useful for professional activities.

Table 20: Free elective courses (Part C)

No.	Courses	CP (ECTS)
1.	Resource planning and control	4 (6)
2.	Corporate finances	4(6)
3.	Taxation	2 (3)
4.	Philosophy	2 (3)
5.	Standardization and quality control	2 (3)
6.	Professional English for business	4 (6)
7.	Business relations psychology	2 (3)

TSI studentiem ir iespēja apmeklēt citu TSI realizēto studiju programmu A vai B daļas studiju kursus, saskaņojot to Studiju daļā ar savu nodarbību sarakstu. No 2016.gada kā brīvās izvēles studiju kurss tiek piedāvāts arī sports.

In addition to the courses offered in the program, TTI students have the opportunity to enrol in courses of parts A or B of other TTI programs by coordinating it with the Study Department and ensuring these courses fit into their study plan. As of 2016, sports has also been offered as an elective course.

*Appendix 26: Study program plan (for each study program form and type)*

*Appendix 27: Descriptions of the study program courses*

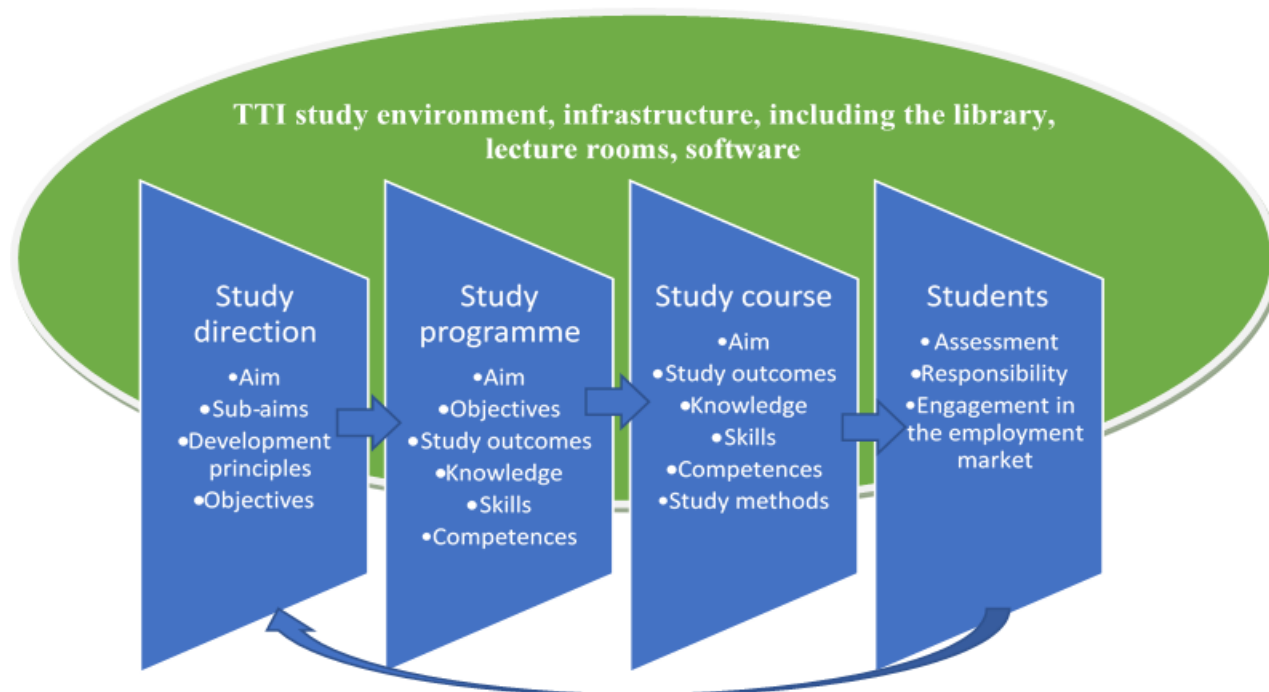
**2.2. Assessment of the interrelation between the information included in the study courses/ modules, the intended learning outcomes, the set aims and other indicators, the relation between the aims of the study course/ module and the aims and intended outcomes of the study programme. In case of a doctoral study programme, provide a description of the main research roadmaps and the impact of the study programme on research and other education levels.**

The study program has been developed pursuant to Regulation No. 240 of the Cabinet of Ministers of May 13, 2014 on the National Academic Education Standard. The learning outcomes of the program are formulated in accordance with the knowledge, skills and competences required for studies conducted at Level 6 of the European Qualifications Framework.

The study direction with the study programmes included in it has been developed considering the

interrelation and sequence of study courses, which allows to fully achieve the aim of the study programme (see Figure B), and in order to attain this, within the study programme there have been formulated 21 elements constituting a set of the acquired knowledge, skills and competences. Taking into account the results achieved within the framework of the study programme, specific study courses have been formulated, and the amount of knowledge, skills and competences to be developed within each specific course has been determined (see the map of the study programme in Appendix 27). The correlation of study programme aims and outcomes (see Fig. B) with a specific study course results has been included in each study course description, which contains the description of the course content, course plan, course requirements, expected outcomes, learning methods, literature and other sources.

The implementation of study courses includes the use of different teaching methods, the choice of which is affected by the TTI infrastructure, which contains many computer classes, where students can acquire the knowledge of different types of company analysis, customer service software used in different study courses, e.g. *Accounting* (C1, Tildes Jumis), and other IT software used in research, including SPSS. An integral part of the study environment is the library with its databases.



*Figure B: Linking the aims of the Bachelor's study direction to study outcomes and students' integration in the labor market*

The study programme is created by the successive implementation of study courses. For example, basic courses such as Accounting, Personnel Management and Project Management are taken first, and only then students practice the acquired knowledge when developing their own business plans within the framework of student independent work. Students begin with Accounting, then Management Accounting, and only then Financial Analysis. The curriculum also includes multidisciplinary courses such as Digital Business Environment, which is both a management and information technology course, where students are introduced to application of various software for business purposes, such as CRP (Customer Relationship Programs, SCM - supply chain management, etc.).

The reflection of the outcomes of the study courses in the course descriptions confirms the fact that in general, all the knowledge, skills and competences specified in the study programme are

achieved in the study courses. Taking into account the teaching methods used in both lectures and seminars, the mapping reflects the fact that almost all courses promote the acquisition of skills and competences necessary for a potential manager.

By analyzing the outcomes of the course mapping, students are able to attain the aims set for the study programme, able to understand and critically evaluate the basic management laws and regularities, able to carry out research activities, using acquired theoretical foundation and skills and demonstrating the analytical approach in the analysis of the research object, able to enhance and develop own skills, able to make decisions and find creative solutions in changing or uncertain circumstances, and take responsibility and initiative as an individual or part of a team. Each course focuses on students' ability to apply theoretical knowledge to solving practical tasks in order to enhance the performance of a company or institution, and to be able to effectively interpret and present the obtained results to specialist and non-specialist audiences. All of this is an absolute necessity in today's business because working in any company or organization requires regular application of different analytical methods and finding solutions to a variety of everyday problems.

To complete their Bachelor's studies, students are required to write the Bachelor's thesis, which additionally develops competences pertinent to the identification of changes in the social and economic environment as well as making decisions about the necessity of implementation or change of business aims and plans of a structural unit of an enterprise or of the enterprise as a whole. These competences also relate to understanding of the importance of professional ethics in economic activities and to the evaluation of the impact of their professional activities on the environment and society.

Students and graduates have been satisfied with the results of the programme and study courses (see Section 2.6 *Analysis and Evaluation of Survey Results* (students, graduates and employers)).

Appendix 27: Mapping of courses aiming at attaining the study program outcomes

**2.3. Assessment of the study implementation methods (including the evaluation methods) by providing the analysis of how the study implementation methods (including the evaluation methods) used in the study courses/ modules are selected, what they are, and how they contribute to the achievement of the learning outcomes of the study courses and the aims of the study programme. Provide an explanation of how the student-centred principles are taken into account in the implementation of the study process.**

Further information is provided in Subsection 1.6. of Section II.

The study implementation methods, assessment methods, types and requirements are included into the description of each course available to students in the e-learning environment Moodle.

The study process is mainly implemented in the format of interactive lectures, seminars, workshops and student independent work. Courses include workshops, often discussions, role-plays, teamwork, project work, in-basket professional tasks or solving specific practical problems. The method choice depends on the learning outcomes that a lecturer is planning to achieve. The applied methods are geared to the development of the students' abilities, specifically, to learning, creative use of knowledge, cooperation, self-evaluation, offering of alternative solutions to problems, to critical thinking and making responsible decisions.

Full-time and part-time students may use distance learning opportunities to facilitate independent

work.

Each lecturer has ample opportunities to enhance his or her range of methods, yet, all methods require careful preparation and this is a time-consuming process.

Teaching materials for all courses are published in the e-learning environment *Moodle*.

The distance learning program has been prepared in English and Russian (applicants for Russian studies were admitted until 2019). Taking into account the specifics of distance learning programs, students mainly acquire the content of the study courses independently by using distance learning support tools. The study process includes such study implementation methods as self-assessment tests, video lectures, lecturers' consultations, and assessment methods (examination or test assessment), which are chosen in order to achieve the study program aims and all learning outcomes as effectively as possible.

The basic principles and procedure for the assessment of the acquisition of the study program comply with the requirements of Article 40 of the State Academic Education Standard. Pursuant to the regulations adopted by the TTI Senate, the results of an academic Bachelor's study program are evaluated according to two evaluation criteria: a quality criterion based on the 10-point marking system and a quantitative criterion - a credit point based on the total number of hours in the course. The study program *Business and Management* uses a complex method when assessing learning outcomes. It includes assessment of students' practical work, individual or group work, mid-term assessment and final examinations (a test or exam). In order to facilitate students' independent work, it is stipulated that the final assessment (a test or exam) does not exceed 50% of the final mark for the course. In the beginning of the semester, students are informed how the final result (grade) will be determined.

In practice, the evaluation process takes place regularly throughout the course of studies. The final assessment of students' knowledge is made at the end of the semester after all stages of assessment are completed, such as practical work, seminars, independent work, mid-term assessment and final assessment. Lecturers develop an assessment methodology, which indicates the percentage of each assessment criterion in the composition of the total assessment. In the updated study course descriptions there is a general tendency to increase the proportion of the mid-term assessment, which should be evaluated positively, as it allows the student to sequentially cover study materials and receive the assessment for the acquired knowledge.

At the end of the Bachelor's studies, students choose a theme for their Bachelor's thesis and in cooperation with their supervisors complete and defend the thesis.

TTI implements student-centered learning to encourage students to become actively involved in the design of the study process and to ensure appropriate assessment of student performance. The principles of student-centered learning require the following:

- Students know and understand the learning outcomes of the study program or course, and students are studying to achieve them.
- Students are involved in the enhancement of the study process and content.
- The applied teaching and testing methods are geared to skill development.
- The assessment criteria are described in course descriptions and explain to students to what extent they have achieved the expected learning outcomes; students also receive explanation of the assessment and advice.
- Students receive feedback that provides guidance on the learning process, if needed.
- Assessment is consistent, fair to all students and implemented in accordance with the approved procedures.
- There is a procedure for reviewing student appeals.

- Admission procedures and criteria are open.
- An information system has been established to ensure the implementation of the study process.
- TTI cooperates with other universities, QA agencies and ENIC-NARIC Centers to ensure smooth recognition of qualifications across different countries.

More information on the principles of student-centered learning adopted by the Institute, see Point 1.3. in the Table in the Subsection 2.5. in Section II.

**2.4. If the study programme entails a traineeship, provide the analysis and assessment of the relation between the tasks of the traineeship included in the study programme and the learning outcomes of the study programme. Specify how the higher education institution/ college supports the students within the study programme regarding the fulfilment of the tasks set for students during the traineeship.**

Not applicable

**2.5. Analysis and assessment of the topics of the final theses of the students, their relevance in the respective field, including the labour market, and the evaluations of the final theses.**

A student chooses the theme of his or her Bachelor's thesis independently from the list of research directions for Bachelor's theses offered by the department. The offered themes are broad and comprehensive. Together with the supervisor of the final Bachelor's thesis, a student can make corrections and specify the theme. The student can also propose his or her own research theme.

This is usually the case when the student is already working and the chosen research topic will help him or her to acquire professional competences in a specific field.

The list of possible fields of research offered by the Department is updated annually, taking into account the development of Latvian business and global trends in economics, politics and society, which influence the needs of the labor market and influence the new education requirements of modern managers.

The list of plausible research areas offered by the Department is updated annually, taking into account the development of Latvian businesses and global trends in economics, politics and society, which affect the needs of the labor market and based on which new education requirements for modern manager training are developed.

Table 21 provides a list of Bachelor's thesis topics that were defended in the previous 2019/2020 academic year

Table 21: Titles of Bachelor's theses for the academic year 2019/2020

No.	Bachelor's thesis titles	Mark	Supervisor	Student's country of residence
1.	On-line marketinga organizēšana uzņēmumā/Organization of on-line marketing activities of the company	9	O. Zervina	Armenia
2.	Izmaksu vadīšanas pilnveidošanas būvniecības uzņēmumā/Cost Management Improvement in a Construction Company	9	I.Kuzmina-Merlino	Latvia
3.	Klientu attiecību pārvaldības sistēma uzņēmuma vadībā/Customer relationship management system in managing a company	8	I.Kuzmina-Merlino	Latvia
4.	Novatoriska mārketinga izmantošana biznesa struktūras ilgtspējīgas attīstības nodrošināšanai/Using innovative marketing to ensure sustainable business structure development	8	O.Skorobogatova	Armenia
5.	Organizācijas kultūras pilnveide uzņēmumā/Improvement of organizational culture in the company	9	A.Palma	Kazakhstan
6.	Intelektuālais kapitāls un augstākās izglītības loma tās veidošanā/Intellectual capital and the role of higher education in its formation	9	O.Skorobogatova	Latvia
7.	Interaktīvais mārketingas, kā uzņēmuma komunikatīvās politikas realizācijas rīks/Interactive marketing as a tool for implementing a corporate communication policy	8	O.Skorobogatova	Latvia
8.	Uzņēmuma "36.line" interneta mārketinga stratēģijas izstrāde/ Development of the Internet marketing strategy for the company 36.line	9	Ļ.Fainglozs	Latvia



No.	Bachelor's thesis titles	Mark	Supervisor	Student's country of residence
9.	"Austra Pak" uzņēmuma risku noteikšana un rīcības plāna izstrāde to neitralizēšanai/Identification of risks and the development of an action plan for their neutralization for the company <i>Austra Pak</i>	8	J.Baltgailis	Latvia
10.	Uzņēmuma SIA "EKL/LS" finansiālā stāvokļa novērtējums/ Assessment of the financial condition of the company <i>EKL/LS</i>	7	I.Kuzmina-Merlino	Latvia
11.	Pakalpojumu virzīšanas sistemu izstrāde sporta klubā/ Development of service promotion systems for a sports club	7	A.Višņevska	Latvia
12.	Starptautisko reitingu izmantošana, lai identificētu valsti ar vislabvēlīgāko ekonomisko vidi IT biznesa organizēšanai Īrijā, Portugālē un Dānijā/Using international ratings to identify the country with the most favorable economic environment for organizing IT businesses in Ireland, Portugal and Denmark	6	J.Baltgailis	Latvia
13.	Mārketinga loma uzņēmējdarbībā/ Role of marketing in business	7	I.Sproģe	Uzbekistan
14.	Organizācijas personāla darba motivēšanas sistēmas pilnveide/Improvement of the system of personnel motivation at an organization	7	N.Podoļakina	Latvia
15.	Mārketinga attiecību izmantošana SIA "Wash Car" attīstībai/ Use of marketing relations for the development of the company <i>Wash Car, Ltd.</i>	6	I.Sproģe	Latvia
16.	Personāla darba motivācijas sistēmas pilnveide pašvaldības uzņēmumā/Improvement of personnel motivation system in a municipal enterprise	9	A.Palma	Russia

No.	Bachelor's thesis titles	Mark	Supervisor	Student's country of residence
17.	Brenda kapitāla veidošanās kā attīstības rīks inovācijas idejai tirgū/Brand capital formation as a development tool for market innovation	8	O.Skorobogatova	Latvia
18.	Pakalpojuma nozares klientu lojalitātes veidošana mārketinga tehnoloģijas/Developing customer loyalty in the service industry using marketing technologies	8	O.Skorobogatova	Latvia
19.	Personāla izvēles un atlases procedūras pilnveidošana uzņēmumā/Improvement of personnel selection and recruitment procedures at an enterprise	9	I.Išmuhametovs	Latvia
20.	Mārketinga loma uzņēmējdarbībā/Role of marketing in business	7	I.Sproģe	Latvia
21.	Uzņēmuma SIA "Lauma-D" mārketinga darbības attīstība Internetā/Development of marketing activities on the Internet for the company <i>Lauma-D</i>	8	A.Višņevska	Latvia
22.	Pirmsskolas izglītības iestāžu modeļa novērtēšana un pilnveide/Evaluation and improvement of the model of pre-school institutions	7	E.Gončarova	Latvia
23.	Personāla mainības samazināšanas pasākumu kompleksa izstrāde/Development of a set of measures to reduce staff turnover	8	O.Skorobogatova	Latvia
24.	Korporatīvās kultūras pilnveide uzņēmuma "Rīgas satiksme" tramvaja depo/Development of corporate culture in the tram depot of <i>Rīgas satiksme</i>	8	I.Išmuhametovs	Latvia
25.	Reklāmas kampaņas analīze un pilnveidošana pakalpojumu jomā/ Analysis and development of advertising campaigns in services	7	E.Gončarova	Latvia

No.	Bachelor's thesis titles	Mark	Supervisor	Student's country of residence
26.	Restorānu biznesa uzņēmuma darbinieku darba motivēšana un stimulēšana/Motivating and stimulating the employees of the restaurant business	7	E.Gončarova	Latvia
27.	Holokrātijas ieviešana un adaptācija IT uzņēmumos/Introduction and adaptation of holacracy in IT companies	6	N.Podoļakina	Latvia
28.	Uzņēmuma personāla darbības analīze pakalpojumu jomā/ Performance analysis of company personnel in services	6	E.Gončarova	Latvia
29.	Jauna telpu uzkopšanas uzņēmuma izveidošanas iespēju izvērtējums/Assessment of the possibilities of setting up a new cleaning company	7	Ļ.Fainglozs	Latvia
30.	Uzņēmuma "Mēness aptieka" lojalitātes programmas izstrāde/ Development of the loyalty program for the company <i>Moon Pharmacy</i>	9	Ļ.Fainglozs	Latvia
31.	Transporta uzņēmuma zvanu centra pakalpojumu kvalitātes vadības sistēmas izstrāde/Development of service quality management system for the call center at a transport company	9	G.Utehins	Latvia
32.	Tirgus iespēju analīze uzņēmumā/Analysis of market opportunities in a company	7	A.Višņevska	Latvia
33.	Darba motivācija kā organizācijas personāla mainības samazināšanas factors/Work motivation as a factor in reducing staff turnover at an organization	8	I.Išmuhametovs	Latvia
34.	Organizācijas personāla darba motivācijas sistēmas pilnveide/Improvement of the system of personnel motivation at an organization	8	I.Išmuhametovs	Latvia

No.	Bachelor's thesis titles	Mark	Supervisor	Student's country of residence
35.	Kompānijas SIA "L'Oreal Baltic" finanšu rādītāju novērtējums/ Evaluation of financial indicators of the company <i>L'Oreal Baltic</i>	7	I.Kuzmina- Merlino	Latvia
36.	Trolejbusa tehniskā specifikācija un ekspluatācijas ekonomiskie aspekti RP SIA "Rīgas Satiksme"/Trolleybus technical specifications and economic aspects of their operations at the company <i>Rīgas Satiksme</i>	9	I.Sproģe	Latvia
37.	Reklāmas efektīvas izmantošanas analīze un novērtējums firmas darbībā/Analysis and evaluation of the effective use of advertising in a company	7	N.Podoļakina	Latvia
38.	Pasākumu plāns Young Folks jauniešu organizācijas attīstībai/Development of an action plan for the organization <i>Young Folks</i>	9	E. Gončarova	Latvia
39.	Motivācija kā uzņēmuma darbinieku vadības instruments SIA ELEKTRONIKA SERVISS/Motivation as an employee management tool at the company <i>ELEKTRONIKA SERVISS</i>	9	N.Podoļakina	Latvia
40.	Uzņēmuma biznesa procesu uzlabošanas iespēju noteikšana loģistikas jomā/ Identification of opportunities for improvement of company business processes in logistics	6	O.Skorobogatova	Latvia
41.	"Evolution Gaming" uzņēmuma personāla motivēšanas sistēmas pilnveide/Improvement of the personnel motivation system at the company <i>Evolution Gaming</i>	7	A.Palma .	Latvia
42.	Reklāmas organizēšana skaistumkopšanas salonā/Organization of advertising in a beauty salon	8	A.Višņevska	Latvia

No.	Bachelor's thesis titles	Mark	Supervisor	Student's country of residence
43.	Korporatīvās sociālās atbildības pētījums augstskolas piemērā/Research of corporate social responsibility on the example of a high school	10	O.Skorobogatova	Uzbekistan
44.	Pārdošanas apjomu atkarības analīze no sociāli-kultūras faktoriem dažādos tirgos/Analysis of sales dependence on socio-cultural factors on different markets	10	I.Išmuhametovs	Uzbekistan

The Final Assessment Committee described the quality of Bachelor's thesis as good and very good. In summer 2018, when 57 students graduated from the program, the average grade was 7.2 (grades varied from 6 to 9). In summer 2017, when there were 50 graduates, the average mark was 7.4.

The outcomes of assessment of theses demonstrate that the knowledge acquired during the studies was efficiently applied. Although there was a range of marks, it points not only to the level of knowledge, but also to the ability to concentrate, when delivering public speech, to the ability to argue, support and defend own opinion and proposals.

## **2.6. Analysis and assessment of the outcomes of the surveys conducted among the students, graduates, and employers, and the use of these outcomes for the improvement of the content and quality of studies by providing the respective examples.**

During the surveys students have the opportunity to make their suggestions for the improvement of the study process, improvement of the course contents and to evaluate the academic staff involvement in teaching. Surveys are organized in the beginning of the spring semester in accordance with the rules set out in the *Regulations on Student, Graduate and Employer Surveys*.

Outcomes of surveys are discussed and analyzed at the Rectorate, Department, Faculty Council and Study Direction Council meetings, the latter of which also includes representatives of the employers. The results of such surveys are used for the development of study programs, annual self-assessment, analysis of study courses, analysis of the the end-of-the-term results and of final examinations, certification of the academic staff.

Further details are provided in Subsection 2.2. in Section II in Appendix 9.

From 31% of the study program students, who participated in the recent survey, held on November 6, 2019, there were 29.1% of the students of the area *Management, Administration and Real Estate Management*. According to the criterion "Satisfaction with the choice of the study program", in

2019, 87% of the program students gave a positive evaluation. They acknowledged high quality of teaching (78.3% of responses). In general, the students consider that the study process at the Institute is organized at quite a high level and corresponds to the students' requirements and wishes. Nevertheless, there are still some issues that need to be improved, such as student access to lecturer consultations and the wish for more attentive attitudes to the needs of students and their support.

As for the graduate survey responses, they can be summarized as follows:

1. In general, program graduates are satisfied with the quality of education acquired in the program.
2. They highly evaluated the knowledge, skills and competences acquired during their studies in the program and consider that they meet the requirements of the modern labor market (16.67% of the surveyd indicated that this knoweldge, skills and competences fully meet these requirements and 75% responded as "rather yes than not"). The acquired education allows to continue studies in Latvian and EU higher education institutions.
3. Attention was drawn to the need to improve the program contents, to tackle the lack of internships in the program, and the need for greater support in career planning.

As for the employer survey, representatives of the following companies participated in the 2019 employers survey: *JM Master SIA; Kreiss SIA; Elisa-K Ltd.; Vidar SIA; Redmond Baltic SIA; LDZ VAS; Privat Bank AS; Solvay SIA; Latvijas Tilti, MSC Shared Service Center.*

Employers suggest continuous improvement of the study process regarding professional training of students, improvement of the study contents, supplementing theoretical aspects of studies with practical experience, case studies, more practical tasks, analysis. They also suggest raising study requirements, reinforcing study control, increasing the number of practical and laboratory classes and developing preparatory contents to increase the diversity of student knowledge and skills. Another suggestion is to include courses aiming at the development of communication skills, teamwork skill and time management skills.

The Faculty has been continuously cooperating with employers to understand how modern organizations have been transforming, what management skills are most important in the current situation and what competencies a modern manager should have in order to be demanded in the Latvian labor market.

The results of student, graduate and employer surveys are used for the enhancement of of study quality. Specifically, the following has been achieved over the last year period:

- The practical component of the study program has been boosted through the implementation of two specializations, such as *Digital Business Management* and *Management Economics*.
- The cooperation with companies and organizations has been expanded; there have been organized seminars with business representatives (see Subsection 3.5. in Section II) and guest lectures with business representatives; companies have also been involved in offering bachelor research topics.
- Teaching focuses more on interactive forms of study, including wider application of the case study method.
- The library collections have received more books and other resources on economics and management. There has been opened a reading room.
- Other aspects of the study process have been enhanced as well.

## **2.7. Provide the assessment of the options of the incoming and outgoing mobility of the**

**students, the dynamics of the number of the used opportunities, and the recognition of the study courses acquired during the mobility.**

Students of the study program use outgoing mobility opportunities. In the last six years, 28 students of the program have participated in the exchange mobility program (see Appendix 16).

Courses and their credit points acquired through participation in the ERASMUS + program may be transferred in full. Recognition of learning outcomes achieved through the ERASMUS + mobility program is regulated by the TTI ERASMUS + Program Scholarship Instruction Manual (available at [http://www.tsi.lv/sites/default/files/editor/2017.02.07.\\_instrukcija\\_0.pdf](http://www.tsi.lv/sites/default/files/editor/2017.02.07._instrukcija_0.pdf)) (see Subsection 5.2. in Section II).

Incoming mobility students are admitted with the status of exchange students to one of the Faculty of Management and Economics degree programs during their exchange visit, although exchange students often choose attend courses in other faculty programs. Students are provided with the required amount of study courses and the required number of credit points. The offered courses are conducted in English.

Considering the ERASMUS program funding available to the Institute, the number of students who have taken the advantage of participating in the mobility program,, has been slowly increasing year by year.

### **III - DESCRIPTION OF THE STUDY PROGRAMME (3. Resources and Provision of the Study Programme)**

**3.1. Assessment of the compliance of the resources and provision (study provision, scientific support (if applicable), informative provision (including libraries), material and technical provision, and financial provision) with the conditions for the implementation of the study programme and the learning outcomes to be achieved by providing the respective examples. Whilst carrying out the assessment, it is possible to refer to the information provided for in the criteria set forth in Part II, Chapter 3, sub-paragraphs 3.1 to 3.3.**

The Transport and Telecommunication Institute has three faculties and several departments:

1. Faculty of Management and Economics:
  1. Department of Economics, Finance and Management
  2. Department of Humanities
2. Faculty of Transport and Logistics:
  1. Department of Aviation Transport
  2. Department of Transport and Logistics
3. Faculty of Computer Sciences and Telecommunications:
  1. Department of Electronics and Telecommunication
  2. Department of Computer System Programming
  3. Department of Mathematical Methods and Modelling

The study direction *Management, Administration and Real Estate Management* along with the included programs, in cooperation with the lecturers from other TTI departments and visiting lecturers is implemented at the Faculty of Management and Economics (VEF). The Faculty provides 90 CP (or 82%) of teaching, including all specialization courses.

Other TTI departments are also involved in the implementation of the study process.

1. Corporate Client Department, which organizes and ensures cooperation with companies
2. Study Department, which plans the study process (including aspects pertaining to lecture schedules, lecturer work etc.), manages activities involving students (providing consultations, supplying information, managing students' paperwork, student records, payments etc.)
3. Distance Learning Department, which ensures the development and publication of distance learning course materials and organizes the study process for distance learning students.
4. Library, which provides students and lecturers with study and scientific literature
5. Research Department, which ensures high quality training of young scientists and involvement of students in research.

There are computer rooms equipped with new computers; there are also lecture halls and laboratories, whose purpose is to enable learning. The Institute has necessary computer equipment and software that boost the completion of study courses and practical work. For example, the Institute possesses the Applied Software System Laboratory, which provides TTI students, lecturers and researchers with the access to software products, including simulation tools, such as PTV VISSIM & VISUM, which is designed for transport flow modeling, AnyLogic, which is a universal modeling software, Aris, BPWin, Busines Object, which is a business process modeling software, R, SPSS, STATISTICA, MatLab, Maths etc., which are various software packages developed for data processing and mathematical calculations (see Subsection 3.2. in Section II).

Study time, helpdesk and library opening hours are organized considering lecture schedules.

An important tool for organizing the study process for each study course is the e-learning environment or platform *Moodle*. Each course contains teaching materials, which include a course description, a methodological (calendar) lecture schedule for the current semester, independent study assignments planned for the course, self-assessment assignments, examination questions, other study materials to be used for independent studies (lecture materials, presentations, various other materials etc.).

The student ID card, the study plan for the entire study period and the marks received for study courses for all TTI students, including distance learning students, are available on the TTI internal information system *Intranet*. Full-time and part-time students and faculty members can access lecture schedules in this system.

The Faculty has received specific funding to expand its resources in relation to the number of implemented programs. In 2020, in total, the allocated funds for the acquisition of study books comprise 1500 EUR. In the course description lecturers indicate at least one study resource available in the TTI library. During the first induction week, foreign students are required to attend a class that familiarizes them with the library's facilities and resources. Also, within the framework of their courses *Introduction to Specialty*, lecturers mention books and e-book databases that are available in the library. Distance learning students have a direct link to the TTI e - library indicated in the informative course *Current Information* (see Subection 3.3 in Section II).

The Faculty of Management and Economics has its own budget to ensure implementation of required activities. The main source of funding of the Faculty and consequently of the study program is the income obtained from tuition fees and related supplementary service fees, which are paid by natural and legal persons. The amount of the tuition fees and supplementary service



fees is reviewed annually considering the market trends and cost results and is approved by the order of the Board of Directors. For the academic year 2019/2020, the tuition fee for the full-time intramural studies has been 1780EUR, for part-time extramural studies 1440EUR and for part-time distance learning 1300 EUR.

The Faculty conducts cost calculation and cost analysis based on which it can be concluded that the program is cost-effective and allows to invest profits into the further development of the Faculty and the attainment of specific strategic aims (for further information, see Subsection 3.1. in Section II).

Overall, the study foundation, information base (including libraries), material and technical base and financial foundation correspond to the specifics of both the study program and implementation conditions and create preconditions for the achievement of study outcomes, thus, demonstrating the ability to ensure the delivery of high quality study process.

### **3.2. Assessment of the study provision and scientific support, including the resources provided within the cooperation with other science institutes and institutions of higher education (applicable to the doctoral study programmes).**

Not applicable

## **III - DESCRIPTION OF THE STUDY PROGRAMME (4. Teaching Staff)**

### **4.1. Analysis and assessment of the changes to the composition of the teaching staff over the reporting period and their impact on the study quality.**

At the time of accreditation in 2012, the experts noted that within the set study direction, the program was too much oriented towards technical aspects. This was partly the result of the composition of academic staff involved in the implementation of the program. There were only 2 associate professors with the Ph.D. in economics and education; other 3 professors held doctoral degrees in engineering. Yet 2 assistant professors had Ph.D. in Economics and 1 with a Ph.D. in psychology. Currently these assistant professors are already associate professors. Other academic staff include 12 assistants, lecturers and assistant professors with the academic Master's degree in economics or education. The opportunity to invite recognized academic staff from other universities in Latvia or abroad to deliver some lectures is not currently used.

During the post-accreditation period, the Institute carried out purposeful work on the composition of the academic staff in order to ensure the best quality of study programs. There was developed a human resource development plan for the Faculty (the current plan is included into the implementation of the study plan for the study direction *Management, Administration and Real Estate Management* for 2019-2025 (see Appendix 6), which envisages the improvement of the quality of the study program based on further development of the existing academic staff and on the engagement of recognized academic staff, industry experts and professionals, foreign visiting

lecturers as well as students and graduates of the Institute doctoral program.

The current composition of the academic staff involved in the implementation of the study program is described in the following subsection. It is formed by evaluating the requirements of external regulatory enactments and of higher education quality and it ensures the attainment of the aims and learning outcomes of the study program and respective study courses.

**4.2. Assessment of the compliance of the qualification of the teaching staff members (academic staff members, visiting professors, visiting associate professors, visiting docents, visiting lecturers, and visiting assistants) involved in the implementation of the study programme with the conditions for the implementation of the study programme and the provisions set out in the respective regulatory enactments. Provide information on how the qualification of the teaching staff members contributes to the achievement of the learning outcomes.**

The study program is delivered by 18 lecturers with the status of elected TTI members of academic staff.

The following members are engaged in teaching courses in the program: 2 professors with the doctoral degree in the relevant scientific field (Prof. Kuzmina-Merlino, Ph.D. in Economics and Prof. Stukalina, Ph.D. in Business Administration), 6 associate professors, 5 of whom hold doctoral degrees in relevant scientific fields (As. Prof. Sproģe, Ph.D. in Business Administration, As. Prof. Podoļakina, Ph.D. in Economics, As. Prof. Popova, Ph.D. in Economics, Assoc. Prof. Išmuhametovs, Ph.D. in Psychology, As. Prof. Pavlyuk, Ph.D. in Economics, Ph.D. in Engineering). Given the program's specialization in Digital Business Management, Assoc. Prof. Savrasovs, Ph.D. in Engineering, is involved in teaching the course *Digital Business Enviornment*. There are 6 additional assistant professors and 4 lecturers involved in teaching.

Of the academic staff, only 4 lecturers have an academic Master's degree, and 2 of them are currently pursuing thier Ph.D. (Zervina, MA in Economics and Skorobogatova, MA in Economics). Eighty two percent of the academic staff, recruited in the program, hold a doctoral degree.

In addition, to boost the quality of the program, leading lecturers from other higher education institutions or specialists in a particular field have been invited to deliver courses in the study program, for example, Assoc. Prof. Purmalis of the University of Latvia and Mr. Stačenko, sworn advocates of the Latvian Bar Association, who teaches in one of three languages. As for invited lecturers, 6 have doctoral degrees and the rest hold Master's degree

For the second consecutive year, Mr. Toufic R. Kavar, former vice president of Citibank NA/Saudi American Bank (France), has been invited as a guest lecturer for the course *Rudiments of Business Management*. The course *Digital Business Environment* will be taught by Nicolas Dolle (Germany), who is planning to commence his Ph.D. studies at the Institute.

Lecturers conduct research and participate in student education. The Transport and Telecommunication Institute, as far as possible, ensures the professional development of its staff and provides incentives with competitive salaries in Latvia.

Qualifications of the academic staff involved in the program meet the program implementation requirements.

The language skills of the lecturers employed by the program meet the official language knowledge

requirements passed by the Cabinet of Ministers on July 7, 2008 as Regulation No. 733 entitled *Regulations Regarding the Extent of the Knowledge of the Official Language, the Procedures for Examining the Proficiency in the Official Language for the Pursuit of Professional and Occupational Duties, for the Acquisition of the Permanent Residence Permit and of the Permanent European Union Resident Status and the State Fee for Examining the Proficiency in the Official Language*. When recruiting, the TTI Personnel Department verifies the official language skills (see Appendix 22).

In order to verify the English language skills of the academic staff, TTI periodically organizes testing of the English language proficiency and if necessary organizes additional training, for example, currently several members of the academic staff are enhancing their English language skills within the framework of Project 8.2.2 .

*Appendix 31 Confirmation of English proficiency of academic staff involved in the programme.*

Table 22: Academic staff in the program *Business and Management*

Course code	Course	Lecturers (first name, surname, scientific or academic degree, position)				Elected as TTI academic staff member
		ENG	LV	RUS	Distance Learning	
05 B 272	English for Academic Purposes I	Yulia Stukalina, Ph.D. in Business Administration, Professor	Yulia Stukalina, Ph.D. in Business Administration, Professor	Yulia Stukalina, Ph.D. in Business Administration, Professor		Elected
		Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Elected
		Olga Zervina, MA in Economics, Lecturer		Olga Zervina, MA in Economics, Lecturer		Elected
B-04-142	Labour Safety, Civil Defence and Environment Protection	Vitālijs Šlendins, MA in Education, Invited Lecturer	Vitālijs Šlendins, MA in Education, Invited Lecturer	Vitālijs Šlendins, MA in Education, Invited Lecturer	Vitālijs Šlendins, MA in Education, Invited Lecturer	--
05 B 276	Introduction to Studies in Economics and Business Science	Ilze Sproģe, Ph.D. in Business Administration, Associate Professor	Ilze Sproģe, Ph.D. in Business Administration, Associate Professor			Elected
				Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Elected
BP-05-02a	Information technologies I	Karīna Kostkina, Msc in Engineering, Lecturer	Karīna Kostkina, Msc in Engineering, Lecturer	Karīna Kostkina, Msc in Engineering, Lecturer		Elected
					Sergey Yunusov, Ph.D. in Engineering, Assistant Professor	Elected
B 03 009	Latvian	Antra Roskoša, Ph.D. in Business Administration, invited lecturer	-	Antra Roskoša, Ph.D. in Business Administration, invited lecturer	Antra Roskoša, Ph.D. in Business Administration, invited lecturer	--

Course code	Course	Lecturers (first name, surname, scientific or academic degree, position)				Elected as TTI academic staff member
		ENG	LV	RUS	Distance Learning	
B 04 248	Mathematics for business	Tatjana Šamšina, Ph.D. in Engineering, Assistant Professor	Tatjana Šamšina, Ph.D. in Engineering, Assistant Professor	Tatjana Šamšina, Ph.D. in Engineering, Assistant Professor	Tatjana Šamšina, Ph.D. in Engineering, Assistant Professor	Elected
		Anna Levicka, Msc in Mathematics, Invited Lecturer	Anna Levicka, Msc in Mathematics, Invited Lecturer			--
05 B 101	Microeconomics	Jeļena Popova, Ph.D. in Economics, Associate Professor		Jeļena Popova, Ph.D. in Economics, Associate Professor	Jeļena Popova, Ph.D. in Economics, Associate Professor	Elected
			Elīna Gončarova, MA in Economics, Lecturer			Elected
05 B 277	Essentials of Business Management	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Elected
		Kawar Toufic, guest lecturer				--
			Elīna Gončarova, MA in Economics, Lecturer			Elected
05 B 273	Business Activity Legal Regulation II	Yulia Stukalina, Ph.D. in Business Administration, Professor	Yulia Stukalina, Ph.D. in Business Administration, Professor	Yulia Stukalina, Ph.D. in Business Administration, Professor		Elected
		Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Elected
		Olga Zervina, MA in Economics, Lecturer		Olga Zervina, MA in Economics, Lecturer		Elected
05 B 287	Business psychology	Natalja Podoljakina Ph.D. in Economics, Associate Professor	Oksana Pozdņakova, Ph.D. in Sociology, Assistant Professor	Oksana Pozdņakova, Ph.D. in Sociology, Assistant Professor	Oksana Pozdņakova, Ph.D. in Sociology, Assistant Professor	Elected
BP-05-01a	Information technologies 2	Karīna Kostkina, Msc in Engineering, Lecturer	Karīna Kostkina, Msc in Engineering, Lecturer	Karīna Kostkina, Msc in Engineering, Lecturer		Elected
					Sergey Yunusov, Ph.D. in Engineering, Assistant Professor	Elected
05 B 102	Macroeconomics	Jeļena Popova, Ph.D. in Economics, Associate Professor		Jeļena Popova, Ph.D. in Economics, Associate Professor	Jeļena Popova, Ph.D. in Economics, Associate Professor	Elected
			Elīna Gončarova, MA in Economics, Lecturer			Elected

Course code	Course	Lecturers (first name, surname, scientific or academic degree, position)				Elected as TTI academic staff member
		ENG	LV	RUS	Distance Learning	
05 B 284	Study project I	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Elected
05 B 109	Marketing	Alevtīna Višņevska, Ph.D. in Education, Visiting Assistant Professor	Alevtīna Višņevska, Ph.D. in Education, Visiting Assistant Professor	Alevtīna Višņevska, Ph.D. in Education, Visiting Assistant Professor	Alevtīna Višņevska, Ph.D. in Education, Visiting Assistant Professor	--
05 B 115	Business Activity Legal Regulation	Sergejs Stačenko, MA in Law, Invited Lecturer				--
			Jurijs Mašošins, Ph.D. in Law, Invited Lecturer	Jurijs Mašošins, Ph.D. in Law, Invited Lecturer	Jurijs Mašošins, Ph.D. in Law, Invited Lecturer	--
05 B 274	Business communications I	Yulia Stukalina, Ph.D. in Business Administration, Professor	Yulia Stukalina, Ph.D. in Business Administration, Professor	Yulia Stukalina, Ph.D. in Business Administration, Professor		Elected
		Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor		Elected
		Olga Zervina, MA in Economics, Lecturer	Olga Zervina, MA in Economics, Lecturer	Olga Zervina, MA in Economics, Lecturer	Olga Zervina, MA in Economics, Lecturer	Elected
05 B 337	Operations management	Oksana Skorobogatova, MA in Economics, Lecturer		Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Elected
			Kārlis Purmalis, Ph.D. in Economics, Invited Lecturer			--
B 04 247	Statistics for business and finance	Dmitry Pavlyuk, Ph.D. in Engineering, Ph.D. in Economics, Associate Professor		Dmitry Pavlyuk, Ph.D. in Engineering, Ph.D. in Economics, Associate Professor	Dmitry Pavlyuk, Ph.D. in Engineering, Ph.D. in Economics, Associate Professor	Elected
			Nadežda Spiridovska, Ph.D. in Engineering, Assistant Professor			Elected
05 B 110	Accounting	Natalja Podoļakina Ph.D. in Economics, Associate Professor	Natalja Podoļakina Ph.D. in Economics, Associate Professor	Natalja Podoļakina Ph.D. in Economics, Associate Professor	Natalja Podoļakina Ph.D. in Economics, Associate Professor	Elected
05 P 301	Fundamentals of logistics	Genadijs Gromovs, Dr.sc.ing., asoc.viesprofesors	Genadijs Gromovs, Dr.sc.ing., asoc.viesprofesors	Genadijs Gromovs, Dr.sc.ing., asoc.viesprofesors	Genadijs Gromovs, Dr.sc.ing., asoc.viesprofesors	--

Course code	Course	Lecturers (first name, surname, scientific or academic degree, position)				Elected as TTI academic staff member
		ENG	LV	RUS	Distance Learning	
05 B 203	Human resource management	Yulia Stukalina, Ph.D. in Business Administration, Professor	Yulia Stukalina, Ph.D. in Business Administration, Professor			Elected
				Iļgalejs Iļmuhametovs, Ph.D. in Psychology, Associate Professor	Iļgalejs Iļmuhametovs, Ph.D. in Psychology, Associate Professor	Elected
B 04 246	Econometrics	Dmitry Pavlyuk, Ph.D. in Engineering, Ph.D. in Economics, Associate Professor		Dmitry Pavlyuk, Ph.D. in Engineering, Ph.D. in Economics, Associate Professor	Dmitry Pavlyuk, Ph.D. in Engineering, Ph.D. in Economics, Associate Professor	Elected
			Nadežda Spiridovska, Ph.D. in Engineering, Assistant Professor			Elected
		Anastasija Hismutova, Msc in Engineering, Invited Lecturer		Anastasija Hismutova, Msc in Engineering, Invited Lecturer		--
05 B 275	Business communications II	Yulia Stukalina, Ph.D. in Business Administration, Professor	Yulia Stukalina, Ph.D. in Business Administration, Professor	Yulia Stukalina, Ph.D. in Business Administration, Professor		Elected
		Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor	Kristīne Užule, Ph.D. in Psychology, Assistant Professor		Elected
		Olga Zervina, MA in Economics, Lecturer	Olga Zervina, MA in Economics, Lecturer	Olga Zervina, MA in Economics, Lecturer	Olga Zervina, MA in Economics, Lecturer	Elected
05 B 206	Project Management	Jūlija Mironova, MA in Economics (Project 8.2.2.)	Jūlija Mironova, MA in Economics (Project 8.2.2.)	Jūlija Mironova, MA in Economics (Project 8.2.2.)	Jūlija Mironova, MA in Economics (Project 8.2.2.)	--
05 B 215	Risk Management	Jurijs Baltgailis, Ph.D. in Economics, Assistant Professor	Jurijs Baltgailis, Ph.D. in Economics, Assistant Professor	Jurijs Baltgailis, Ph.D. in Economics, Assistant Professor	Jurijs Baltgailis, Ph.D. in Economics, Assistant Professor	Elected
05 B 285	Study project II	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Elected
05 B 292	Management Accounting	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Irina Kuzmina-Merlino, Ph.D. in Economics, Professor	Elected
05 B 281	Digital Marketing	Olga Zervina, MA in Economics, Lecturer			Olga Zervina, MA in Economics, Lecturer	Elected
			Inna Gudele, MA in Economics, Invited Lecturer	Inna Gudele, MA in Economics, Invited Lecturer		--

Course code	Course	Lecturers (first name, surname, scientific or academic degree, position)				Elected as TTI academic staff member
		ENG	LV	RUS	Distance Learning	
05 B 177	Management and Organisational Theory	Elīna Gončarova, MA in Economics, Lecturer	Elīna Gončarova, MA in Economics, Lecturer	Elīna Gončarova, MA in Economics, Lecturer	Elīna Gončarova, MA in Economics, Lecturer	Elected
B-04-026	Introduction to Operation Research	Dmitry Pavlyuk, Ph.D. in Engineering, Ph.D. in Economics, Associate Professor			Dmitry Pavlyuk, Ph.D. in Engineering, Ph.D. in Economics, Associate Professor	Elected
			Tatjana Šamšina, Ph.D. in Engineering, Assistant Professor	Tatjana Šamšina, Ph.D. in Engineering, Assistant Professor		Elected
05 B 280	Introduction to Change Management	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Elected
		Katerīna Čerņavskā, MA in Economics, Invited Lecturer	Katerīna Čerņavskā, MA in Economics, Invited Lecturer	Katerīna Čerņavskā, MA in Economics, Invited Lecturer		
05 B 290	Sustainable economics	Jeļena Popova, Ph.D. in Economics, Associate Professor	Jeļena Popova, Ph.D. in Economics, Associate Professor	Jeļena Popova, Ph.D. in Economics, Associate Professor	Jeļena Popova, Ph.D. in Economics, Associate Professor	Elected
05 B 282	Economic Relations of the European Countries	Jurijs Baltgailis, Ph.D. in Economics, Assistant Professor	Jurijs Baltgailis, Ph.D. in Economics, Assistant Professor	Jurijs Baltgailis, Ph.D. in Economics, Assistant Professor	Jurijs Baltgailis, Ph.D. in Economics, Assistant Professor	Elected
05 B 286	Study project III: Business plan	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Oksana Skorobogatova, MA in Economics, Lecturer	Elected
05 B 111	Fundamentals of Entrepreneurship	Olga Zervina, MA in Economics, Lecturer			Olga Zervina, MA in Economics, Lecturer	Elected
			Elīna Gončarova, MA in Economics, Lecturer	Elīna Gončarova, MA in Economics, Lecturer		Elected
				Oksana Skorobogatova, MA in Economics, Lecturer		Elected
05 B 289	Digital Business Environment	Nicolas Dolle, Msc., Invited Lecturer			Nicolas Dolle, Msc., Invited Lecturer	--
			Mihails Savrasovs, Ph.D. in Engineering, Associate Professor	Mihails Savrasovs, Ph.D. in Engineering, Associate Professor		Elected

Course code	Course	Lecturers (first name, surname, scientific or academic degree, position)				Elected as TTI academic staff member
		ENG	LV	RUS	Distance Learning	
05 B 283	Time Management	Ilze Sproģe, Ph.D. in Business Administration, Associate Professor	Ilze Sproģe, Ph.D. in Business Administration, Associate Professor	Ilze Sproģe, Ph.D. in Business Administration, Associate Professor	Ilze Sproģe, Ph.D. in Business Administration, Associate Professor	Elected
05 B 288	Organization Behavior and Leadership	Išgalejs Išmuhametovs, Ph.D. in Psychology, Associate Professor	Išgalejs Išmuhametovs, Ph.D. in Psychology, Associate Professor	Išgalejs Išmuhametovs, Ph.D. in Psychology, Associate Professor	Išgalejs Išmuhametovs, Ph.D. in Psychology, Associate Professor	Elected
05 B 134	Financial Reporting Analysis	Natalja Podoļakina Ph.D. in Economics, Associate Professor	Natalja Podoļakina Ph.D. in Economics, Associate Professor	Natalja Podoļakina Ph.D. in Economics, Associate Professor	Natalja Podoļakina Ph.D. in Economics, Associate Professor	Elected
05 B 291	Managerial Economics	Jeļena Popova, Ph.D. in Economics, Associate Professor	Jeļena Popova, Ph.D. in Economics, Associate Professor	Jeļena Popova, Ph.D. in Economics, Associate Professor	Jeļena Popova, Ph.D. in Economics, Associate Professor	Elected
05 B 133	Public Economics	Ilze Sproģe, Ph.D. in Business Administration, Associate Professor	Ilze Sproģe, Ph.D. in Business Administration, Associate Professor	Ilze Sproģe, Ph.D. in Business Administration, Associate Professor	.	Elected
					Aleksandrs Stetjuha, Ph.D. in Economics, Visiting Assistant Professor	--

**4.3. Information on the number of the scientific publications of the academic staff members, involved in the implementation of the doctoral study programme, as published during the reporting period by listing the most significant publications published in Scopus or WoS CC indexed journals. As for the social sciences, humanitarian sciences, and the science of art, the scientific publications published in ERIH+ indexed journals may be additionally specified (if applicable).**

Not applicable.

**4.4. Information on the participation of the academic staff, involved in the implementation of the doctoral study programme, in scientific projects as project managers or prime contractors/ subproject managers/ leading researchers by specifying the name of the relevant project, as well as the source and the amount of the funding. Provide information on the reporting period (if applicable).**

Not applicable



**4.5. Provide examples of the involvement of the academic staff in the scientific research and/or artistic creation activities both at national and at international level (in the fields related to the content of the study programme), as well as the use of the obtained information in the study process.**

Further information is provided in Subsections 4.2.- 4.6. in Section II.

All activities of the academic staff (scientific, methodological, organizational) are interrelated. The structure of the study program and its contents depend on the current economic development trends and the influence of these trends on the changing labor market, all of which affect the requirements of training management specialists.

The research work of the academic staff is mostly related to the specialization of the lecturers within the program and the courses taught.

The scientific activities of the academic staff play a decisive role in the development of the study program and the content of specific study courses. In order to understand the nature of changes taking place in the world, it is necessary to conduct research in relevant fields, which has been implemented by the Faculty through the participation of academic staff in international scientific projects, international scientific and practical conferences and preparation of publications. Conversely, if the labor market needs management professionals with specific skills and competences (e.g. with the focus on enterprise digital transformation), this theme will be selected as a priority research area by both lecturers and students.

Through research, lecturers enhance the quality of their courses by integrating the most up-to-date information on innovations in a specific field.

Academic staff prepare scientific articles, participate in conferences and workshops, develop textbooks and other methodological materials, and participate in projects.

See Appendix 13 for a list of projects that involve the lecturers who participate in the implementation of the study direction. Appendix 14 contains a list of the scientific publications of the lecturers involved in the implementation of the study direction for the referenced period.

At the Institute each lecturer prepares a report on own scientific, methodological and organizational activities. The report is to be submitted by each lecturer by September 1 for the new academic year. The information is used in the preparation of annual study program and study direction self-assessment reports. The lecturer report on own scientific, methodological and organizational activities contains the following information: 1) scientific publications, 2) scientific publications prepared with students, 3) participation in scientific and professional conferences, 4) other scientific activities, 5) participation in committees and editorial councils in various programs, 6) participation in professional councils, associations etc, 7) guest lectures delivered at the invitation of companies and other universities, 8) participation in exchange programs, including ERASMUS, 9) methodological work, 10) other types of scientific and methodological activities.

**4.6. Assessment of the cooperation between the teaching staff members by specifying the mechanisms used to promote the cooperation and ensure the interrelation between the study courses/ modules. Specify also the proportion of the number of the students and the teaching staff within the study programme (at the moment of the submission of the Self-**

## Assessment Report).

Lecturers of different departments and different areas of science implement the study program because the study program consists not only of classical management courses, but also courses of interdisciplinary (integrated) nature.

Many courses included in the program are of interdisciplinary nature, which is why their development and implementation have been conducted by TTI academic staff, other university lecturers, industry professionals, in some cases specializing in different disciplines. The specialization *Digital Business Management* has required the introduction of the course *Digital Business Environment*, which has been developed through collaboration of TTI Associate Professor Savrasov, Ph.D. in Engineering (Faculty of Computer Sciences and Telecommunications), and Nicolas Dolle, Msc in Economics and Engineering, Germany.

Nicolas Dolle has been running his own company *PA-Systems UG*, which provides business consulting in the areas of digital transformations (<https://pa-systems.com>). He has also established the enterprise *StepByStep.Transformation*, which tackles digitization and digital transformation issues (<https://sbs-transformation.de>).

Guest Professor Toufic R. Kavar has extensive management consulting experience. Since 2010 he has been president and CEO of TRAK Consulting LLC (Florida, USA). He has extensive work experience as an auditor, including in the financial field.

The Bachelor's program *Business and Management* includes the following interdisciplinary (integrated) courses: *Information Technology, Work Safety, Civil and Environmental Protection, Mathematics for Business, Professional Communication in Business, Business Psychology, Statistics for Business and Finance, Digital Marketing, Digital Business Environment, Management Economics* etc.

Interdisciplinary (integrated) courses can be divided into two groups: 1) study courses developed and taught by one lecturer specializing in another area (for example, *Business Psychology* and *Mathematics for Business*), 2) study courses delivered by 2 or more lecturers from different fields of science (for example, *Digital Business Environment* and *Digital Marketing*).

Such cooperation allows to use the best competences of the academic staff, helps to improve the course teaching methods, increases the interest in studies and motivates students. The development of integrated courses is necessary to ensure the full achievement of the program aims and learning outcomes. Typically, this type of courses is delivered by professionals, specializing in a particular area and who share their professional experience with students, which also leads to strengthening the practical orientation component of the study program and which additionally creates favorable study conditions to enable students to successfully acquire modern managerial competencies.

In general, it can be concluded that a mechanism for lecturer collaboration has been established to facilitate the enhancement of study courses/modules and to develop interrelations between them.

The ratio of students to the number of lecturers in the study program is variable, depending on the study plan for the semester and whether or not students are divided into specializations within the specific study year, particular semester and mode of study. On average it is 1:5 for distance learning and 1:8 for other modes of study.



# Annexes

III. Description of the Study Programme - 1. Indicators Describing the Study Programme		
Compliance of the joint study programme with the provisions of the Law on Institutions of Higher Education (table)		
Statistics on the students over the reporting period	STATISTICS ON STUDENTS, Self-Assessment report, Part III, sub-chapter 1.2.pdf	Statistikas dati par studentiem. Pasnovertējuma III.dalas 1.2.punkts.pdf
III. Description of the Study Programme - 2. The Content of Studies and Implementation Thereof		
Compliance of the study programme with the State Education Standard	24.Appendix.Compliance with the State Education Standard.pdf	24.pielikums. Atbilstība izglītības standartam.pdf
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable)		
Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable)		
Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme	27.Appendix. Mapping of the study course Studiju kursu kartējums BSc EN.xlsx	27.pielikums. Studiju kursu kartējums BSc programmas rezultātu sasniegšanai.xlsx
Curriculum of the study programme (for each type and form of the implementation of the study programme)	25.Appendix. Study programm plan.zip	25.pielikums. Studiju plāni.zip
Descriptions of the study courses/ modules	26.Appendix.Course description.zip	26.pielikums. Studiju kursu apraksti.zip
Description of the Study Direction - Other mandatory attachments		
Sample of the diploma to be issued for the acquisition of the study programme.	32. Appendix Diploma Supplement.zip	32.pielikums. Diploms un pielikums.zip
Description of the Study Programme - Other mandatory attachments		
Document confirming that the higher education institution/ college will provide the students with the options to continue the acquisition of education in another study programme or at another higher education institution/ college (a contract with another accredited higher education institution/ college), in case the implementation of the study programme is discontinued	23.Appendix. Cooperation Agreement.zip	23.pielikums. Ligumi programmas slegsanas gadījumā.zip
Document confirming that the higher education institution/ college guarantees to the students a compensation for losses if the study programme is not accredited or the licence of the study programme is revoked due to the actions of the higher education institution/ college (actions or failure to act) and the student does not wish to continue the studies in another study programme	28.Appendix. Confirmation.pdf	28.pielikums. Apliecinājums par zaudējumu kompensāciju.pdf
Confirmation of the higher education institution/ college that the teaching staff members to be involved in the implementation of the study programme have at least B2-level knowledge of a related foreign language according to European language levels (see the levels under www.europass.lv), if the study programme or any part thereof is to be implemented in a foreign language.	31.Appendix. Confirmation.pdf	31.pielikums. Apliecinājums angļu valodas prasme.pdf
If the study programmes in the study direction subject to the assessment are doctoral study programmes, a confirmation that at least five teaching staff members with doctoral degree are among the academic staff of a doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field or sub-field of science, in which the study programme has intended to award a scientific degree.		
If academic study programmes are implemented within the study direction, a document confirming that the academic staff of the academic study programme complies with the provisions set out in Section 55, Paragraph one, Clause three of the Law on Institutions of Higher Education	30.Appendix.Confirmation.pdf	30.pielikums. Apliecinājums atbilstība AL.pdf
Sample (or samples) of the study agreement	33.Appendix. Sample of the study agreement.pdf	33.pielikums. Studiju līguma paraugs.pdf
If academic study programmes for less than 250 full-time students are implemented within the study direction, the opinion of the Council for Higher Education shall be attached in compliance with Section 55, Paragraph two of the Law on Institutions of Higher Education.	29.Appendix. Decision.pdf	29.pielikums. AIP atzinums_B_Vadibzinatne.pdf