APPLICATION

Study field "Mechanics and Metal Processing, Heat Power Engineering, Heat Technology, and Mechanical Engineering" for assessment

Study field	*Mechanics and Metal Processing, Heat Power Engineering, Heat Technology, and Mechanical Engineering*
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Self-evaluation report

Study field "Mechanics and Metal Processing, Heat Power Engineering, Heat Technology, and Mechanical Engineering"

Riga Aeronautical Institute

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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:

Riga Aeronavigation Institute- Higher Education Institution **(hereinafter - RAI)** was established on July 15, 1992 as a joint stock company, reorganizing Riga Higher Civil Aviation Aeronavigation School. RAI is a professional higher education institution that implements professional bachelor's and professional master's study programs, as well as is engaged in applied research.

The teaching staff of RAI is composed of elected academic staff and the guest staff associated on the base of contract. In the positions of guest docent and guest lecturer are employed high-skilled specialists of the Latvian transport sector and other universities teaching staff who have been elected to the academic positions in the corresponding higher education institution. Basically guest staff conducts theoretical basic courses and professional specialization courses of the branch.

In academic year 2019./2020. there are employed 55 representatives of teaching staff and 20 of them are elected to the academic position of docent or lecturer. 16 members of teaching staff have a doctoral degree.

RAI's vision: RAI is a professional higher education institution recognized in the Baltic region, which prepares specialists in the field of transport, especially in the field of aviation, and conducts applied research.

RAI's mission is to meet the needs of the Latvian national economy for aviation and other highly qualified specialists in the transport sector.

According to the RAI Development Strategy, the **goal** of RAI development is not to increase the number of study directions and implemented study programs, but to increase the quality of studies and academic work. In this regard, the activities of the Institute are aimed at the improvement of the content of study programs in cooperation with employers, modernization of infrastructure and information provision, rotation of the academic staff and improvement of professional qualification.

RAI Development Strategy and other important RAI documents are available on RAI homepage www.rai.lv/en/doc

Study directions and study programs implemented by RAI

No.	Study direction	Study program
1.	"Information technology, computer equipment, electronics, telecommunications, computer control and computer science"	Professional bachelor study program "Electronic equipment maintenance"
2.	"Mechanics and metalworking, heat energy, heat engineering and mechanical engineering"	1. Professional bachelor study program "Aircraft Technical Operation"; 2. Professional bachelor study program "Air transport systems management"; 3. Professional master study program "Transport Systems Management".
3.	Transportation services	1. Professional bachelor study program "Air Traffic Management"; 2. Professional bachelor study program "International Transport Logistics"; 3. Professional bachelor study program "International Transport Company Management"; 4. Professional master study program "International Transport Company Management".

Changes in the number of students at RAI in academic years 2015/16 - 2020/21

Year	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Number of students	425	345	356	360	333	325

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.

In accordance with the Law on higher education establishments, the RAI Constitution (Satversme) and the RAI governance structure attached in Appendix 2, the main RAI representative and management institutions are the following:

1) Board,

2) Senate,

3) Rector,
4) Vice-Rector,
5) Dean of the Faculty of Engineering and Management,
6) Directors of study programs.

The management and administration of RAI are actually performed through the collegial cooperation of the mentioned institutions, as well as cooperating with the student self-government and academic staff.

The Board is RAI's highest collegial representative and governing body and decision-making body in academic and scientific matters. The Board is composed of 11 representatives, one of whom is student representative.

The Board elects and removes the Rector, hears the Rector's work statement, elects and recalls the Senate, the Audit Commission and the Academic Arbitration Court, approves the Regulations of the Senate, the Audit Commission and the Academic Arbitration Court.

The Senate is a collegial staff management institution and decision-making body that approves the procedures and regulations that regulate all areas of activity of RAI. The Senate consists of 10 senators, 8 of whom are representatives of the academic staff and 2 are representatives of the students.

The Senate:

• examines and approves all internal regulations of RAI, except those that fall within the competence of the Board;
• examines and approves academic and professional study programs, study plans and work plans;
• examines research topics and funding structure;
• approves the study final examination and state examination commissions;
• approves the methodological council, heads of structural units (deans of the faculty, heads of departments and laboratories, etc.);
• hears the report of the Vice-Rectors, heads of structural units and other officials on the course of studies and the activities of the relevant services, as well as makes appropriate decisions and recommendations to the Board;
• makes decisions on the establishment, reorganization or liquidation of RAI structural units, approves their regulations;
• performs other functions specified in the regulatory enactments.

The main function of the Rector is the administrative management of the higher education institution, which manifests itself in the implementation of the decisions of the higher education institution collegial institutions, the Board and the Senate, in accordance with the Law on Higher Education Institutions and other regulatory enactments. The Rector, as the administrative head of the Institute, represents the Institute in cooperation with the Cabinet of Ministers, the Ministry of Education and Science, the Rectors' Council, the Council of Higher Education and other public administration institutions. In cooperation with these institutions, the Rector expresses an opinion that corresponds to the strategy developed by the Institute and the decisions taken by the collegial institutions of the Institute. When implementing the decisions of the Board and the Senate of the Institute, the Rector takes into account the opinions of the students (student self-government) and the academic staff of the Institute.

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.

In recent years, RAI has significantly improved its quality management and assurance system - the Quality Management Manual, the Operations Organization Manual and the RAI Internal Rules of Procedure have been developed and implemented, all of which are published on the RAI homepage www.rai.lv/en/doc.The Quality Management Department has been established and the head of the department has been hired.

The quality management and assurance system was developed under the management of RAI Vice rector and Head of Quality Management Department, involving teaching staff and student self-government. The draft of quality management and assurance system was examined
and discussed at the RAI Senate hearing.

RAI has fully provided students with opportunities to continue their studies and financial guarantees in case the study program of the study direction is reorganized or liquidated, concluding appropriate cooperation agreements and specific agreements with Riga Technical University and Ventspils University College, which implements study programs similar to the RAI ones.

Mechanism and procedures of the Quality Management System are described in the Quality Manual. RAI rector, study vice rector and directors of the study programs are responsible for the introduction and implementation of the Quality Management System. Quality audits are orga-nized by the Head of the Quality Management Department. The main objective of the Quality Management System is to provide the compliance of the RAI studies, academic activities and research activities with the “Education Law” and international education standards “Standards and guidelines for Quality Assurance in the European Higher Education Area (ESG)”. Quality policy implementation mechanism is based on the quality system audits, including study audits, personnel audits, methodological material, equipment, study and research activities premises au-dits. Audit results are reviewed at the Senate sessions, where the appropriate decisions are taken, including the decision on amending or qualifying the self-certification reports for the appropriate study direction or about the update of the study course.

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
		RAI's quality assurance policy is set out in the Quality Management Manual and the Operations Organization Manual, which are published on RAI homepage www.rai.lv/en/doc.

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.	Complies
		The study programs have been developed on the basis of the European Qualifications Framework, the State Standard of Professional Higher Education (Cabinet of Ministers Regulations No 512 "Regulations on the state standard of second level professional higher education") (appendix 12) and the standard of the profession of electronic and radio electronic engineer (appendix 13).
3.	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.	Complies
		Have been prepared and published on RAI homepage www.rai.lv/en/doc): 1) Admission rules for study programs at the Riga Aeronautical Institute in academic year 2020/2021; 2) Regulations on the assessment and recognition of study results achieved in previous education or professional experience at the Riga Aeronautical Institute; 3) Quality management manual; 4) Regulations on elaboration and defence of bachelor thesis and master thesis; 5) Other documents, see on RAI homepage www.rai.lv/en/doc.
4.	Internal procedures and mechanisms for assuring the qualifications of the academic staff and the work quality have been developed.	Complies
		RAI has developed and published on its homepage www.rai.lv/en/doc) clear and transparent personnel selection and recruitment rules: 1) Regulations on election to academic positions; 2) Internal Rules of Procedure; 3) Regulations on the organization of the scientific and methodological work at the Riga Aeronautical Institute.

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 RAI has created a study data processing and storage program WinStudents, where all the necessary information is regularly collected and entered. Surveys of students, RAI graduates and employers are conducted regularely (Part 2 of the self-assessment report).
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 Internal quality assurance is performed on an ongoing basis. RAI regularly conducts surveys of employers, graduates and students. Representatives of employers are chairmen and members of examination boards. RAI periodically accredits study directions not only in accordance with the Latvian Law on Education, but also periodically undergoes international certification by international organizations supervising the aviation industry.

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 management and administration of the study direction “Mechanics and Metalworking, Thermal Energetics, Thermal Power Engineering and Mechanical Engineering” is implemented inseparably from the overall management of RAI as a higher education institution. The director of the study direction working at the Institute is at the same time the director of study programs of the study direction. The director of the study direction is directly subordinated to the dean of the Faculty of Engineering and Management, who in turn coordinates the primary goals and tasks with the RAI vice-rector and rector. Resolutions, regulations, results of final theses, students' progress, faculty development and other issues of studies and academic work are under the supervision and responsibility of the RAI Senate. Conceptual issues of the development of the study direction are the responsibility of the RAI Valde and JSC “Riga Aeronautical Institute”.
The development strategy of the study direction is determined by the significant contribution of the

transport services sector to the Latvian economy, largely due to the advantageous geographical position of Latvia. Actual Transport Development Guidelines for 2021-2027 emphasize that transport in our country is one of the most strategically important sectors of the economy, which provides transportation of people and goods, promotes economic growth, as well as creates jobs. In its turn, the National Development Plan 2020 states that the growth of new jobs will not be created by productive, modernized industry, but by the companies serving it. Consequently, new specialists will be needed in the service trades, including the labour market of airports electronic equipment services.

Compared to similar study programs of other universities, the main emphasis in the RAI study program is on the operation and maintenance of aircraft and airport equipment, therefore the professional bachelor study programs are dominated by the specialized courses in the field. In turn, more emphasis is placed on theoretical courses in the field in similar study programs of Vilnius Gediminas Technical University and the Academic Bachelor's study programs of Riga Technical University. Such an approach provides a more general and comprehensive training of specialists in this field with a good theoretical knowledge base, which is characteristic of high-profile university programs with large student flows.

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.

The development strategy of the study direction is focused on increasing the quality of the study program and training new, highly qualified electronics specialists for the needs of the Latvian economy, especially the aviation industry. The aim of the study direction is to educate comprehensively developed electronics specialists with creative and analytical abilities in servicing airport electronic equipment and consumer electronics, as well as to prepare students for further studies in the Master's program.

The aim of the study direction corresponds to the aim and tasks of RAI, which determine that studies take place in professionally oriented study programs and practically usable scientific research is performed. The main tasks are the training of the international level specialists of aviation and other national economic sectors specialists with higher professional education, as well as the improvement of the qualification of specialists of aviation and other sectors.

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
The practical part of the study program has been developed, which gives students the opportunity to receive a license or certificate in order to be able to start working in areas regulated by EU regulations and increase competitiveness in the labor market; University infrastructure - buildings, land and technical equipment are owned by the university; Good co-operation with employers, involvement of employers in the development and improvement of study programs, examination and diploma thesis defence commissions; Due to the number of students in the groups, there are wide opportunities to use an individual approach to the study process; Historically, a recognizable specific niche of the Institute has been preserved.	There is no state budget funding; Insufficient publicity of research results, especially in internationally cited publications; Weak commercialization of scientific results; Insufficient international exchange of students and teachers.
Opportunities	**Threats**
The Institute has extensive experience and wide opportunities for implementing qualification upgrading courses, attracting additional funding; Increase the number of foreign students; To develop more wide cooperation with the Latvian and foreign universities; To attract more actively academic staff in collegial administrative institutions; Make greater use of marketing technologies to attract students; Development of the existing infrastructure to improve the quality of studies; Increase in the demand for new specialists due to transport sector development.	Further decrease in the number of school graduates due to demographic trends; Preference of the most capable school graduates to study in state financing or foreign universities; School graduates' insufficient knowledge in mathematics and science subjects; Due to the further decrease in the number of students, there is a risk of a decrease in the total amount of funding; The impact of the COVID-19 pandemic.

RAI strategy aim for 2021 and tasks necessary to reach it during the time period 2021-2027 are defined based on the SWOT analysis.
Aim: To increase the quality of education, which also includes not decreasing the quality when providing distant learning during the restrictions imposed by the Covid-19 pandemy.
In order to reach the aim the main tasks are defined which are described in RAI strategy .
In addition to above said, in order to eliminate the weak factors, RAI continuously improves personnel qualification skills and looks for cooperation possibilities both with Latvian and foreign educational estblishments. In order to improve the English language proficiency of the academic personnel, the English language courses are being conducted.

Development of the study direction is planned in cooperation with university students, graduates

and employers. Planned activities are added to the study direction development plan in order to ensure the development of the study direction and the only study program of study direction. Information obtained from students, absolutes, employers is used. Labor market requirements, European and World trends in the industry are analyzed. Working group of RAI Board and Senate evaluate the collected information and make the decision about practical implementation of plan.

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.

Considering that there are only three study programs in the field of study, the management of the field of study is quite simple. The director of the study field is at the same time the director of the study programs and is directly subordinated to the dean of the Faculty of Engineering and Management and indirectly to the vice-rector of RAI. The director of the study field is directly responsible for the development of study programs, their management and the evaluation of the teaching staff. The management of the study field takes place schematically in accordance with the structural scheme of RAI.

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.

The admission process and procedures are determined in the Quality Management Manual. Admission procedures and requirements for the current academic year are determined by RAI Admission Regulations, which have been developed on the basis of Cabinet Regulation No. 846 of 10 October 2006 “Regulations on Requirements, Criteria and Procedures for Admission to Study Programs”. The minimum requirement for admission is a previously acquired secondary education, which is confirmed by a secondary education document - a certificate of general secondary education or a diploma of vocational secondary education, which certifies the acquisition of a secondary vocational education program.
RAI has the opportunity to recognize previously acquired non-formal education and professional experience, but so far it has not been used due to lack of interest from students and other stakeholders. The Quality Management Manual, the Admission Regulations and the Regulations on the Assessment and Recognition of Study Results Achieved in Previous Education or Professional Experience at the Riga Aeronautical Institute are published on the RAI website www.rai.lv/en/doc.

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.

For the assessment of students' knowledge and quality control a continuous quality and volume evaluation system has been developed, which includes the operational accounting of performance - marks obtained in seminars, laboratory and practical works, homework and tests; examinations and tests after full or partial (stage) acquisition of the study course; complex evaluations of the work stage, defending study projects or qualification papers; practical training assessments in the speciality. Students are introduced to the expected results of each course and the report form, as well as tests at the beginning of the study course. Course content, expected results, recommended literature and other important information are provided in the description of each course. The results of the study process are analysed in discussions with the director of the study program, as well as in the meetings of the Senate.

Two scales are used to assess knowledge - two-point and ten-point evaluations. If the final result of the study course is evaluated in the form of an exam and it has an evaluation - a test, then it has two evaluations - passed or failed. If the final result of the study course is evaluated with a test, then it is evaluated like an exam on a 10-point scale. The test is then differentiated. In the study program, in each study course and class the study results are determined - what the student knows, what he/she can, what he/she is able to do and how competent the student is. Study results are assessed for the entire qualification as a whole, as well as for each component - the theoretical course and practice separately.
Students' work is mainly evaluated on the basis of the progress shown in the session after the course. Students' knowledge is assessed after mastering the study course twice a year - in winter and spring sessions. During this time, students take exams in the study courses in accordance with the developed individual study plans. Usually the number of questions in a study course does not exceed 75. Exam questions are designed so that the student can prepare them to achieve the goal of the study course described in the description of each study course. Descriptions of study courses are attached in Appendix 16. If necessary, students demonstrate the acquisition of study content on stands, use posters and models. Explanations shall be given orally. Exam questions, based on the description of the study course, are prepared by the lecturer, whose responsibilities include the management of the respective study course.

The defence of study papers and bachelor's theses takes place orally, using presentation materials. Practical training on stands and simulators is led by RAI engineers and instructors, performing the functions of training masters. Technical staff of the respective profile of the companies are involved in the provision of the internship.

Students can get acquainted with the criteria, conditions and binding procedures for evaluating success in Moodle system, the Quality Management Manual and other RAI internal regulatory enactments, which are published on the RAI website www.rai.lv/en/doc. Unclear questions related to the performance evaluation criteria can be clarified by students at the study program director, the relevant lecturer, management of the Institute or at the relevant Convention or Senate meeting, where the students are represented.

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 principles of academic integrity and the mechanism of their observance are set out in the RAI Code of Academic Integrity. The Code of Academic Integrity has been discussed at the meetings of the RAI Board and Senate, and the RAI students' self-government was involved in its development and discussion. Every RAI student has been introduced to the basic principles of the Code of Academic Integrity, the types of violations of the principles of academic integrity specified therein and the liability if a violation has occurred. As a tool against plagiarism RAI Moodle system has installed licensed open access anti-plagiarism software. Under the supervision of the responsible official of RAI, each student's final thesis is checked with the help of the program. It is the responsibility of every lecturer of the Institute, especially the supervisor of the bachelor's thesis, to eradicate plagiarism. Taking into account the small number of students, the procedure for approving bachelor's thesis topics and the procedure for storing bachelor's theses defended in previous years in the RAI library, the probability of plagiarism should be assessed as very low. The Code of Academic Integrity is published on the RAI website www.rai.lv/en/doc.

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.

Information about the study direction and study programs is published on the RAI website http://rai.lv/en/ The Deputy Dean of the Faculty of Engineering and Management Anna Tiļļa and marketing and admission commission specialist Jelena Reiskarte are responsible for the compliance of the information published on the RAI website 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.

RAI internal quality management and assurance system is set out in the RAI documents - the Quality Management Manual, the Operations Organization Manual and the RAI Internal Rules of Procedure www.rai.lv/en/doc.
The regulations of the RAI Internal Rules of Procedure not only determine the principles of organizing the study and study process, but also determine the quality of the entire higher education institution. The aspects of the study quality are specified in detail by the decisions of the Senate, which stipulate that a continuous quality and volume evaluation system has been developed for knowledge assessment and quality control.
The proposal for the development of a new study program usually comes from employers, higher education institution management, staff or students. The idea is discussed at the Senate meeting taking into account the usefulness and necessity of the program, as well as the preliminary demand of the labour market for the relevant specialists. After the discussion, an appropriate decision of the Senate is made. In case of a positive decision, the Senate instructs the director of the study direction to prepare documents for licensing the study program. Draft documents, especially descriptions of study courses, after prior acquaintance and evaluation, are discussed at a separate Senate meeting. Similarly, the course of the program implementation and the need to update and improve the study courses are discussed and evaluated. These issues are considered at the Senate meeting at least once a year.

We believe that the quality management system implemented by RAI works sufficiently effectively, which is evidenced by the regular quality audits performed and the evaluation of their results at the Senate meetings and the adoption of the relevant decisions.

Thus, for example, as a result of the evaluation of the study field, the recommendations of experts recommended in 2013 and 2019 were evaluated at the Senate sittings and recognized as professional, precisely defined and well understood by the university. Thus, RAI fully implemented them, thus improving the quality of studies.

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 self-assessment report of the study direction is reviewed once a year by the working group preparing the self-assessment report, in cooperation with the teaching staff, students and employers. Based on the proposals of the students, faculty, employers and university management, the working group prepares a draft improvement report, which is discussed and approved at the Senate meeting. In the process of improving the self-assessment report, issues regarding changes in the content of the study program and study courses, inclusion of new study courses in the program, as well as the need to develop new study programs or closing the existing programs are considered. The procedure for the development, approval and review of study programs is set out

in the Quality Management Manual www.rai.lv/en/doc.

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.

Taking into consideration the small number of students and staff of the Institute, the students have a wide range of opportunities to receive information and consultations, as well as opportunities to express their proposals, complaints and suggestions. They can do this by personally addressing the lecturer, the director of the study program or the management of the Institute (rector, vice-rector, dean of the faculty, deputy dean), as well as proposing consideration of the issue in the student self-government, RAI Board and Senate. It is in the student self-government, the Valde and the Senate, as well as at the mentioned officials that students can receive all information about the possibilities to submit proposals and complaints, as well as about the procedure for their review and receipt of answers. Students can also obtain the mentioned information from the Quality Management Manual and other documents published on the RAI website www.rai.lv/en/doc.

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.

The study data processing and storage program WinStudents has been introduced for the review of the study assessment results. The database of WinStudents also contains statistical data of the Institute - students enrolled in the 1st study year, total number of students, graduates, outgoing students, teaching staff. The data is entered into the database continuously as soon as there is a change in the previously entered data. Thus, for example, information about the students admitted in the 1st study year is entered within 1-2 working days after the issuance of the order on the matriculation of the enrolled students at RAI. The analysis of RAI statistical data and student achievement indicators allow the Institute to successfully monitor the progress of studies and academic work. Therefore, this extensive and accurate information is quite an effective tool for the improvement of the field of study and the work of the entire Institute.

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.

1.1. Quality assurance policy

RAI has developed a (officially documented) concept that defines quality assurance principles and implementation policy. The quality assurance components defined in it are integrated into RAI processes (management, core business and support processes) and RAI strategic development management, a continuous quality improvement cycle is developed.

1.2. Program development and approval

Qualitative provision of study programs plays a central role in the implementation of the RAI mission during the study process; the internal evaluation of the study program is performed regularly (self-evaluation and evaluation of the conformity of the quality culture in accordance with the ESG).

1.3. Student-centered learning, teaching and assessment

RAI provides student-centered learning, teaching and assessment. In the process of study implementation, students are provided with an individual approach (remote and face-to-face consultations with both administrative and academic staff), needs analysis (oral and written feedback, including course evaluation questionnaire, student satisfaction questionnaire)

1.4. Student matriculation, study process, recognition and certification of qualifications

During the study process, information is regularly obtained and analyzed for monitoring the study process and identifying opportunities for improvement.

1.5. Teaching staff

Teaching staff have appropriate education and qualifications that correspond to the content of study programs, as well as the necessary professional experience that complements academic competencies.

1.6. Learning resources and student support

RAI provides a wide range of material-technical and human resources that contribute to the provision of appropriate learning environments and processes based on students' needs and diversity, as well as the principles of student-centered learning.

1.7. Information management

For the efficient program management and reasonable decision making, RAI has acquired and analyzed the data on the study programs and activities of other educational institutions.

Student recommendations related to program changes, recommendations for adding new courses, complaints about course content, if any, are discussed in the RAI Senate.

1.8. Public awareness

RAI regularly publishes information (using various communication and information transfer channels) on the current events in the college, incl. information on the existing and new study programs, various aspects related to the learning process (i.e., admission, examination, teaching methods, teaching staff competence, curriculum, career and employment opportunities, mobility, social campaigns, conferences and other educational activities, graduate activities, and other aspects).

1.9 Inspection and regular review of programs

The opinions of all the involved parties are taken into account and thus the development of the study programs is promoted in accordance with the requirements of the industry specialists and the labor market, as well as students' views and graduates' experience in starting or

continuing their professional development.

1.10 Cyclical external quality assurance.
RAI regularly conducts external quality assessment of the direction of study, which is the basis for improvement of the Internal Quality Assurance System and development of study programmes.

The standard “Student-centered learning, teaching and assessment” can be considered a challenge, because the involvement of students in the development of the study process should be more active and broader. The standard ‘Public awareness’ could be mentioned as a standard that should be given more attention, as public awareness and promotion of the university are essential in a context of declining potential students, especially given the impact of the Covid-19 pandemic.

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.

Taking into consideration the fact that RAI is a private higher education institution, which does not receive funding from the state budget, its financial resources consist of income from studies paid by students, as well as income from the implementation of in-service training courses and professional education improvement programs. Based on long-term experience in the training of aviation specialists and qualified staff, RAI is an internationally certified higher education institution, which has the right to implement in-service training courses in the field of aviation.

RAI has established a Technical Maintenance Organization (MTO) that is certified in accordance with the requirements of the European Aviation Safety Agency (EASA) (Certificate No. LV.147.0001). RAI has trained aviation instructors for the needs of State Joint Stock Company Latvijas gaisa satiksme (LGS) .

RAI has entered into a cooperation agreement with the Government of Kazakhstan duly represented by the state-owned company “Kazaeronavigatsia” on the professional development of aviation specialists and their retraining for the state needs of Kazakhstan. Such financial synergy allows the university to ensure financial sustainability and stability in conditions when the total number of students is decreasing.

The above mentioned allows the higher education institution to ensure competitive remuneration of the academic staff, which complies with the norms specified in the Cabinet of Ministers Regulations No. 445 of 5 July 2016 “Regulations on Remuneration for Teachers' Work”. RAI financially ensures the participation of the academic staff in scientific conferences, preparation

of scientific publications, methodological materials, textbooks and teaching aids in accordance with the procedure established by RAI ("Regulations on the organization of scientific and methodological work at the Riga Aeronautical Institute"), www.rai.lv/en/doc.

Number of students in the study direction (study program) in study year 2021 /2022 is 78.
The average annual tuition fee per student is 3000 EUR.
Revenues from tuition fees make up 3000 x 78 = 234000 EUR;
Taking into consideration that in-service training courses, professional development programs and the bachelor's study program are implemented in the same premises, using the same infrastructure, equipment and facilities, the same teaching staff participates in the implementation of the bachelor's program and courses, 50 percent of the revenues from the implementation of courses and in-service training programs are used to cover the expenses of the bachelor's program.
Revenues from in-service training courses and professional development programs implementation in 2019- 2020 were 77638 EUR or 38819 EUR per year.
Thus, the total revenue of the study programs is:
234000 + (38819 x 0,5) = 253410 EUR.
The total expenses of the study direction are formed by:
1) Salaries of the teaching staff are of 50% of the total revenues or 126705 EUR;
2) Salaries of the general staff are 25% from the salaries of the teaching staff – 31676 EUR;
3) Social tax – (126705+31676) x 0,24 = 38011 EUR.
Total expenditure on salaries and taxes is:
126705 + 31676 + 38011 = 196392 EUR.
The remaining part of the revenue – (253410 – 196392 = 57018 EUR) is used to renew equipment and hardware and to purchase literature.

Expenses per one student:
1. Academic personnel remuneration is 1635 EUR , which constitutes 45%;
2. General personnel remuneration is 409 EUR (11%);
3. Taxes are 490 EUR (14%);
4. Expenses for facilities 310 EUR (9 %);
5. study literature purchase 300 EUR (7 %);
6. equipment modernization 280 EUR (9 %);
7. Other unclassified expenses – 5%.

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).

RAI has been operating at a profit all this time since its founding in 1992, and is the owner of its own buildings and the land. RAI registered capital is more than one million EUR. This allows for constant modernization of the Institute's infrastructure and equipment. On the first floor of the Institute there is a conference hall (180 m2), an auditorium-amphitheatre (90 m2) and a reading hall (90 m2). For practical and laboratory works on the second floor there are three specialized laboratories and a computer room (90 m2), with 32 workplaces. The Consumer Electronics

Laboratory (38 m2) and the Laboratory of Aviation Electronics (36 m2), welding workshop and Aircraft maintenance training workshop have been established for practical works. The aircraft laboratory (42 m2) is equipped with computer software CBT (computer base training), which provides individual PCs and, if necessary, on-screen learning of structures, assemblies and components, in addition, the laboratory also has the appropriate posters and nodes for assembly designs. The new building has a total of 14 auditoriums and work rooms with an area from 44 m2 to 61 m2.
In the newly built study building there are lecture auditoriums and study laboratories with the necessary aggregates and visual aids. Lectures are provided with the necessary auditoriums, equipped with multimedia equipment, study course programs and the necessary visual aids in the form of posters and video information, as well as real nodes objects. Due to the requirements of the COVID 19 pandemic, special equipment has been purchased for the implementation of hybrid lectures, both remotely and in person.

In the old building there are 13 auditoriums - rooms for lectures, practical work and seminars with a useful area from 16 m2 to 75 m2, equipped with audio-visual equipment, TV and computers. Auditoriums where lectures take place are intended for 20-30 large groups of students, but auditoriums for seminars and practical work - for groups of 10 to 14 students.
Developing the material and technical base of the direction in recent years 28 computers, 7 projectors, as well as peripherals and other equipment for the renovation and modernization of the computer classroom were purchased. An additional class with access to specific databases has been created. Win Students computer program for study process administration has been purchased and implemented, centralized transition to newer operating systems (Windows10 Professional and Windows 8.1 Professional) has been performed, professional computer programs such as ArcGI, ArcView 9.3.1, EAD (The European AIS Database) programs used to provide WGS-84, MATLAB, AutoCAD have been purchased. For practical work in air traffic control, an individual procedure simulator and complex simulators are used, which are located in two rooms with an area of 65 m2, each of which provides 12 workplaces.
In order to conduct practical activities RAI has created Aircraft Maintenance Laboratory, *Aircraft maintenance training workshop,* Electronics Laboratory, Electrical Installation Laboratory, Metal Working workshop, Welding workshop Electronics Laboratory which are used for conducting practical and research works for electronics and electrical engineering based on simulation programs.

In recent years, RAI's material and technical base has been significantly supplemented, which strengthens the material and technical provision of aviation, and a helicopter has been purchased.

This purchase served as a basis for Aircraft Maintenance Laboratory, which has at its disposal the helicopter, different aircraft construction components and details together with appropriate documentation, electronic equipment and special facilities, providing the students with an opportunity to perform aircraft maintenance and practical repair works.
RAI has at its disposal an Air Traffic Control Simulator which is based on computers integrated into a common network and which provides a possibility to create an Air Traffic Control Center and to simulate its functionality and service in real-time mode. Simulation process includes different facilities for data display and processing and different communication types. Students are using the Simulator in order to master the methods of providing maintenance for ground aviation electronic equipment.
In order to manage and operate modern communication systems as well as to organize the training efficiently, RAI uses fibre optic internet with transmission rate of 100 Mbit/s. RAI has 20 Wi-Fi points of contact and due to high performance routers almost the whole of the territory is covered by Wi-Fi.

RAI has a mail server with RAI domain name which is modernized on the basis of advanced technology platform, has a high level of security and provides reliable storage and exchange of information between structural units of the Institute.
We use modern learning and teaching devices in the study process, including Moodle system. BigBlueButton allows the teaching staff to cooperate with the students on-line, using audio and video communication, chats, etc.
9 overhead projectors, 15 multimedia projectors, 74 computer sets, 23 printers, 9 scanners, 5 audio loudspeaker sets, sound mixing console, 8 computer loudspeaker sets, 2 wireless intercom kits, 2 camcorders, a camera and 35 TVs are available in practical workshops, seminar rooms and classrooms.
Most computers are connected to a united computer network with limited access to centrally located information, as well as access to Moodle system. One auditorium is set up as a computer classroom with 13 computers, printers and scanners and one computer classroom with 24-hour access. Students also have free access to computers in the RAI library with access to databases, including ENCYCLOPEDIA BRITANNICA ONLINE.

Free Wi-Fi is available to students throughout the Institute. Two training laboratories in the area of 50 and 25 m2 are equipped with the necessary laboratory stands, 10 physics measuring instrument stands and equipment, 10 electrical engineering stands and 10 radio engineering stands, which ensure the acquisition of physics and professional specialization study courses. A remote control for remote computer control has been purchased for more convenient demonstration of presentations. The offices of the administration and academic staff (16 and 32 m2) are equipped with good furniture and the appropriate office equipment. Six computers with printers, a photocopier, a binding and perforating machine, as well as other necessary office equipment.

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.

Methodological and informative provision of the study direction - study materials, descriptions of study courses in Latvian and English, as well as the informative base of study programs fully correspond to the aims of the study direction and program, their type and study language. The informative and methodological provision of studies is sufficient to fully meet the requirements specified in the State Standard of Professional Higher Education and requirements specified in the Professional Standards for Aircraft Maintenance Engineers and Transport Systems Engineers.

The library of the Riga Aeronautical Institute as a library of a private higher education institution has been registered in the Library Register in accordance with the procedures specified in the Library Law and has been issued a registration certificate. The aim of the library

is to provide students, academic staff and the Institute management with study, reference and scientific literature.
The reading room of the library with modern equipment and modern interior is located in the new building of the Institute. The total area of the library premises is 120 m2, the part reserved for readers is 90 m2. The former library premises of 35 m2 are used for the needs of the fund's storage. The reading room is equipped with 21 workplaces, seven of which are computerized. In 2019, the library hardware was replaced with the newer models. The library is equipped with Wi-Fi, Internet access (100 Mbit/s), two scanners, a copier and a printer for the study process.
The library serves full-time and part-time students and the teaching staff by providing a reading room and home subscription. The library provides the following services: ordering books, using computers, printing documents, copying and scanning, using databases. The library performs consulting work in training users and using information resources. In academic year 2021/2022 the following databases are used: Zentralblatt MATH, SpringerLink, De Gruyter, Cambridge University Press, Emerald Publishing, Open Access.
The library fund consists of books, CDs, DVDs, audio cassettes, periodicals, final theses developed by students and samples of practical training reports. The collection of the library is supplemented in accordance with the study programs of the study directions. In the library, literature is available in the Latvian, English and Russian languages, which fully meets the needs of the students and academic staff. The entire collection of the library fund is placed in the library's local catalogue "Library". The total number of library resources consists of 6300 units, 5328 of which are books. In the last two years, the literature of the library fund of the study field “Mechanics and Metalworking, Heat Power Engineering, Heat Engineering and Mechanical Engineering” has been supplemented by 115 items, mostly in English, as well as three periodicals in English were purchased. Students and lecturers are informed about the new acquisitions of the library once in four months on the RAI website. The works of RAI lecturers and the materials of scientific conferences organized by RAI are regularly published.
The library fund is regularly supplemented. The purchase of the necessary literature is decided at the Senate meeting after discussing the proposals. Proposals for the purchase of literature are usually made by the teaching staff, students, the director of the study program, the head of the library and the management of the Institute.
The library working hours are from 9:00 to 17:30 on weekdays, but during part-time classes, including holidays, the working hours are extended according to the list of part-time classes.

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 teaching staff is elected to the academic position by the RAI Senate in accordance with the Regulations on Election to Academic Positions at the Riga Aeronautical Institute www.rai.lv/en/doc. An open competition is announced for the vacant academic position on the RAI website. According to the results of the competition, an employment contract is concluded with the elected lecturer in accordance with the procedures established by RAI.

RAI teaching staff consists of the elected academic staff and contracted guest staff. The guest

staff consists of highly qualified specialists of the Latvian transport industry and teaching staff of other higher education institutions, who mainly deliver the basic theoretical courses of the industry and professional specialization courses of the industry.
The implementation of the study direction is ensured by 19 representatives of the teaching staff, 12 of whom have been elected to the RAI academic positions of a docent or a lecturer. Seven of the RAI faculty members hold a doctoral degree. Most of the RAI teaching staff have extensive experience of academic and professional work outside the Institute, as well as scientific work experience. The qualification and professional experience of the teaching staff fully complies with the requirements of regulatory enactments and the conditions for the implementation of the study program.
The ratio of the students and the teaching staff in the study direction is 78/19. However, in this regard, it should be taken into account that practically every lecturer is involved in the implementation of other study directions and study programs, and in addition participates in the implementation of in-service training courses and professional development programs. In addition, some lecturers, especially those employed as guest lecturers, work part-time. Taking this into account, for a study direction with such a small number of students and in general for a small higher education institution such as RAI, a more objective indicator would be the ratio of the total number of students to the total number of teaching staff, and this in academic year 2021/2022 there is 328/55 or 6.0 students per lecturer. Such a ratio of students and lecturers is quite appropriate for a higher education institution of engineering and technology studies direction.

During the previous assessment, in 2013, 28 lecturers worked in the field of study, mostly part-time guest lecturers. During this time, the number of teachers has decreased to 19. A number of teachers have left RAI due to retirement age, as well as part-time teachers. Some teachers have been hired during the reporting period, including teachers from abroad and teachers with extensive experience in the aviation sector. In general, it has allowed to improve the management of the basic theoretical courses of the field and the professional specialization courses of the field, taking into account the experience of the invited lecturers in the field.

When starting to implement the study program of the study field in 2015, 12 lecturers worked in the study field. Throughout this time, the number of lecturers has increased to 15. Several lecturers have left RAI due to the fact that they reached their retirement age and because of other reasons. They have been replaced by new ones, including lecturers with practical work experience in the electronics industry. In general, it has allowed to reduce both the number of the delivered courses per lecturer, as well as to improve the delivery of the theoretical basic courses and professional specialization courses in the field, taking into account the experience of the invited lecturers in the relevant field. www.rai.lv/en/doc.

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.

All RAI academic staff regularly improve and supplement their knowledge in the relevant in-service teacher training program. Thus, for example, in 2016, the academic staff of RAI acquired the continuing education program “Innovations in the Higher Education System”, which was led by the teaching staff of the Faculty of Education and Management of Daugavpils University in an interesting and qualified manner.
RAI teaching staff whose English language skills need to be improved have the opportunity to attend the RAI English language licensed professional development program.
RAI has developed and implemented a motivation system for the academic staff with the aim to promote creative and high-quality academic and scientific activities, preparation and publication of scientific publications, teaching and study materials ("Regulations on the organization of scientific and methodological work at the Riga Aeronautical Institute", see RAI website, www.rai.lv/en/doc. In turn, regarding the organization of the study process, each lecturer responsible for the study course discusses and evaluates the improvements to be made in the course delivered by him/her with the director of the study program before the beginning of the study year. RAI management, by financially supporting the creative activity of the academic staff, has ensured more active participation of the staff in scientific conferences and facilitated the preparation of publications, which is evidenced by the increase in the number of publications in recent years.

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 implementation of the study direction is ensured by 19 representatives of the teaching staff, 12 of whom have been elected to the RAI academic positions of a docent or a lecturer. Seven of the RAI faculty members hold a doctoral degree. Most of the RAI teaching staff have extensive experience ofacademic and professional work outside the Institute, as well as scientific work experience. The qualification and professional experience of the teaching staff fully complies with the requirements of regulatory enactments and the conditions for the implementation of the study program.

Information on the mobility of the teaching is provided in Appendix 7.

The mobility of the teaching staff is manifested in the mutual exchange of teaching staff, inviting to conduct separate study courses, experience exchange trips, as well as organizing joint scientific conferences.

For example, within the framework of the Erasmus program, in 2021, a representative of Kaunas University of Technology visited RAI for the purpose of exchanging experience, who also gave separate lectures to students.

Thus, for example, within the framework of the Erasmus program, in the autumn of 2019, three RAI lecturers participated in the events of “Training week” at Klaipeda University. The events, which were attended by the representatives of higher education institutions from 15 countries, included an exchange of experience on issues of student and faculty mobility, acquaintance with the organization of studies and academic work of Klaipeda University, as well as an

agreement on further cooperation. In 2020, an exchange visit of the teaching staff of the Faculty of Informatics and Electronics of Klaipeda University to RAI was planned, which was postponed due to the Covid-19 pandemic.

In 2018, three RAI lecturers visited Vilnius Gediminas Technical University, where they got acquainted with the organization of the study process and the equipment of the electronics and electrical engineering laboratories. This year, two RAI lecturers visited Klaipeda University regarding concluding a student exchange agreement and the organization of student mobility between the two universities.

In 2017, one RAI lecturer participated in a scientific conference at Vilnius Gediminas Technical University.

In 2016, three RAI lecturers paid an experience exchange visit to the Kielce University of Technology (Poland), where they got acquainted with the informative and material provision of the study programs in the field of electronics. This year, one RAI student stayed at the Kielce University of Technology as part of an exchange, where he collected information on the topic of his bachelor's thesis.

During the reporting period, several lecturers from Vilnius Gediminas Technical University and Kielce Technological University attended RAI and conducted separate lectures, as well as participated in the scientific conferences organized by RAI.

RAI faces the following difficulties related to teaching staff mobility:

- The problem of flexible replacement of teachers involved in the academic mobility program in the educational process
- Program "Maintenance of electronic equipment" specifics due to the peculiarities of specialization.
- Specifics the main job employment contracts of academic staff.

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.).

Due to the small number of students, studies at RAI are in fact individual training. Consequently, students have quite wide opportunities to receive support from the university staff in solving both study and everyday issues. This is especially true for foreign students who work with relevant RAI officials. Students are provided with assistance in the recognition of educational documents, processing of entry and residence documents and resolving issues of residence, including the provision of RAI hotel services. Despite the fact that due to the specifics of RAI, the university does not have students with special needs, RAI has all the necessary equipment to enable persons with special needs to participate in events organized by RAI - scientific conferences, seminars and graduation events.

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).

RAI is a professional higher education institution, which is mainly focused on preparing qualified specialists for the labour market. Research is not fundamental, but it is of an application nature, usually related to the solution of a specific, practical problem in the field of transport. The total number of publications of the academic staff involved in the study direction in the last six years is 99, which is a recognizable indicator for profesional higher education institution.

The results of the research work of the teaching staff are reflected in their scientific publications.

RAI has established a Scientific Research Center, the members of which carry out research work on topics relevant to the field of study. The main ones are: Air traffic control technology;

Introduction of a global geodetic coordinate system in civil aviation and development of an aeronautical information management target program;

Composite materials research;

Non-destructive testing methods;

Heat engines;

Wind generators;

Aerodynamic and hydraulic calculations;

Taking advantage of alternative energy.

The members of the Research Center are developing a number of practical research projects, the results of which are being implemented by RAI. The most relevant topics of such projects are:

Development of RAI high-speed Internet based on optoelectronic optics;

Development and implementation of hardware and software complex “Scientific HUB” to improve the quality of training of aviation and transport specialists;

Taking advantage of alternative energy in educational institutions;

Air traffic control system research based on the use of a simulator;

Development of an aircraft control simulator based on virtual reality systems;

Development of 3D modeling complex;

Development of an unmanned aircraft design and modeling system.

The main goal of the RAI Scientific Research Center is to increase the competitiveness of the

university by creating a strong scientific infrastructure and human resources base and implementing the results of research work in the RAI studies and academic work.

The results of the research work of the teaching staff have been presented at scientific conferences and reflected in their scientific publications.

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 work is carried out on the topics included in the courses delivered by the lecturers, as well as on other topics. If the research projects carried out by the lecturers coincide with the issues of a course, then the lecturers usually inform and demonstrate the results of the scientific work, as well as, if possible, involve the students in the research work. Thus, the study work is enriched with additional information and examples of application of practical knowledge. Taking into account that RAI is a highly professional higher education institution, where only professional study programs are implemented with an emphasis on training qualified specialists for the needs of transport companies, research at the Institute is practical, but the scope of research and science is not so large compared to other universities. The necessary connection with the modern development trends and technical innovations is largely implemented by attracting knowledgeable, experienced specialists from transport companies with a master's or doctoral degree.

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.

The scientific activity of RAI staff and students is reflected in scientific and practical conferences. RAI organizes a student scientific conference every year and every two years an international scientific conference. Peer-reviewed collections of publications are published on the results of the conferences. Thus, for example, in 2018, an international scientific conference “ENGINEERING AND TRANSPORT SERVICES - 2018” with participants from Lithuania and Poland and the annual student scientific conference were organized. A list of RAI faculty publications is attached in Appendix 5.

The international scientific conference planned in 2020, dedicated to transport education, logistics and engineering, has been postponed to 2021 due to the Covid-19 pandemic. The conference which has been convened 3-4 July, 2021. covered the following topics:
Aviation equipment. Maintenance technologies and applications;
Aeronautical navigation. Air traffic organization;
Transport system management;

Electronics and robotics;
Integrated risk management: innovative management models;
Transport logistics, economics, marketing;
Information technology. Cyber security;
Aircraft and aerodynamics. Strength and safety of structures;
Unmanned aerial vehicles;
Composite materials and materials technology;
Environmental ecology and safety;
Transport security;
Sustainability and the use of renewable energy in transport;
Trends in education.

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.

In order to promote the research activities of RAI teaching staff, a motivation system for academic staff has been developed and implemented wwwrai.lv/en/doc. The scientific activity of RAI staff and students is reflected in scientific and practical conferences. RAI organizes a student scientific conference every year and every two years an international scientific conference.

During the reporting period, the teaching staff involved in the implementation of the study field has published 99 scientific publications, participated in 14 international conferences and implemented several practical research projects, the results of which have been implemented in RAI studies and academic work.

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 scientific research is promoted in such a way that students' scientific conferences offer and review topics that are close and related to the topics of possible

bachelor's theses. A student research group has been set up for this purpose. Thus, even before the development of the bachelor's thesis, the student has gained some practical experience in information processing and analysis, calculations and drawing conclusions.

The following research topics are offered at student scientific conferences (the list is updated annually):

Modernization of fire alarm systems in office buildings;

Efficiency of solar panels on electric aircraft;

Comparative analysis of transmitters of primary and secondary radar systems;

Research on the possible radio communication distance of aeronautical radio transmitting equipment;

Analysis of frequency synthesizers for aeronautical mobile telecommunications equipment;

Analysis of the accuracy of measuring the volume of petroleum products and the possibilities of it s increasing ;

Analysis of data transmission systems for digital video surveillance systems;

Assessment of aircraft wing and alignment problems and review of control process.

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 following can be considered as innovations in study process:

BigBlueButton bimodal education system use for teaching staff and student collaboration in the Moodle environment - online audio, video, chat, etc. way;

"Brainstorming" methods use to solve the problems in student classes and staff meetings;

Use of "Crawford map" methods for conflict resolution.

In accordance with our experience the mentioned innovations provide the possibility to organize the study process in a more efficient manner and students can in a more profound and sound way master the subjects included in the study process. We would like to put a particular emphasis on the advantages of using BigBlueButton system for distant cooperation between the students and academic personnel when restrictive measures were applied during the Covid-19 pandemy.

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.

RAI has a sufficiently wide and close cooperation with employers and professional organizations in Latvia and abroad. The main criteria for selecting cooperation partners are the field and area of activity- these are universities that implement similar study programs and companies that are interested in specialists trained by RAI and who can provide appropriate internships.
RAI cooperation with employers takes very different forms throughout the implementation of the program, from the idea of developing a new program and licensing it to ordering new specialists and receiving them at workplaces.
According to RAI's long-term and successful educational experience, the participation of employers in the implementation of the study programs is reflected in the following way:
negotiations on the usefulness and necessity of the program, as well as on the preliminary demand for the relevant specialists from the employers;
consultations on the content and structure of the programs, in particular on the emphasis on professional specialization courses and practical training;
proposals and recommendations for the improvement and development of study programs;
participation of employers' representatives in the implementation of programs as guest lecturers;
provision of internships;
participation of employers' representatives in the position of the chairman and members of the examination commissions;
participation of employers with reports in scientific conferences organized by RAI;
participation of employers in surveys organized by RAI on the quality of the prepared specialists.
Cooperation in the preparation and training of specialists also takes place with the airlines RAF-AVIA, SIA "VAM-Trans", the International Aviation Academy "PAN AM", pilot training school PFT USA Miami, maintenance and operation company "OS Technic" as well as the State Agency of the Ministry of Transport of the Republic of Latvia „Civilās aviācijas aģentūra".
With regard to foreign employers, a co-operation agreement has been concluded with the Kazakhstan state-owned company "Kazaeronavigacija", which provides for the training of specialists in the field of aviation services, internships and internships organization, as well as scientific and practical co-operation.

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 order to attract foreign students, RAI has signed cooperation agreements with student recruitment agencies: SIA “Baltic Center”, “Global Innovative Business Investments SIA”, “EU Consultant” and “Perfect EDU Support LLC” (Appendix 6). Through SIA Baltic Center and other agencies, RAI prepares and sends out advertising materials, as well as participates in exhibitions organized abroad. On average, 30% of all students in RAI are students from abroad. Foreign students make up 31% of the total number of students in the study field "Mechanics and Metalworking, Heat Power Engineering, Heat Engineering and Mechanical Engineering".

The recruitment of teaching staff from abroad usually takes place on the basis of mutual contacts, meeting at international conferences and other events, as well as announcing an open call for a certain vacancy on the RAI Website. Two lecturers from abroad are constantly involved in the implementation of the study field. One lecturer has been elected to the academic position of an docent, the other has been hired as a guest lecturer. In addition, foreign lecturers who participate in scientific conferences organized by RAI or attend RAI Erasmus programs usually give separate lectures to students.

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.

Practice is aimed to acquiring and strengthening practical skills. Internships in companies are organized by dividing the total amount by semesters (Appendix 8). The director of the study program, a representative of the internship company and the student sign an internship agreement. For the successful placement and management of the internship, a description of the internship has been developed, which includes the purpose and tasks of the internship, the content of the internship and a report on the internship. Internships are provided in companies with which a cooperation agreement has been concluded (Annex 9). The estimated number of internships positions in each company is 2-3 per year.

The tasks of the internship are related to the acquisition of practical skills and abilities in areas related to aircraft and transport systems such as:

Aircraft construction - Boeing, Airbuss;

Construction of aircraft engines;

Aircraft maintenance and repair;

Aviation power equipment;

Organization and provision of aircraft maintenance;

Technical diagnostics;

Mechanization and automation of aircraft technical maintenance production processes;

Aviation legislation;

Flight planning and execution;

Practical operation of aircraft;

International Transport Organization;

Transport logistics;

Organization of the transport system;

Automated air traffic control systems.

In order for the results of the study program to be achieved more fully and successfully, the total amount of practices in he professional bachelor study program “Aircraft Maintenance” is divided into five separate practices - maintenance work practice (3 CP), metalworking practice (3 CP), practice at the airport (3 CP), practice in an aircraft maintenance company (3 CP) and aircraft type training practice (6 CP).

During the internship, an internship supervisor from RAI is assigned to support the student during the internship, who coordinates the internship, consults the student and solves the issues related to the internship with the respective company.

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.

There are no joint study programs in the study field.

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.

The previous regular assessment of the study field was performed in 2013, but in 2019 the assessment of the study field was performed due to the request of RAI to allow the implementation of the study field programs in English.

In both assessments, the recommendations provided by the experts have been fully implemented,

as a result, the content and organization of study courses and study programs have clearly improved, which in turn has improved the quality of studies. An overview of the results of the implementation of the recommendations is attached.

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).

The following changes have been made in the professional bachelor study program "Aircraft technical maintenance":

1) Taking into account that the new updated standard for the profession of Aircraft technical maintenance engineer has entered into force, the title of the study program has been clarified. The previous name was "Aircraft technical exploitacion".

2) A new study course "Mechatronics" has been introduced. According to the professional standard, an aircraft technical maintenance engineer must have the knowledge, skills and abilities to service both mechanical and electronic equipment. Mechatronics provides the basis for this knowledge.

There are no significant changes in the professional bachelor's study program "Air transport systems management and operation", except that the name of the program has been slightly clarified. The previous name was " Air transport systems operation". This is done in order to more closely comply with the Latvian language norms, as well as the content of the program, which also includes management.

There are no significant changes in the professional master's study program "Transport Systems Management". Taking into account the norms of the Latvian language, the title of the program has been clarified editorially.

Annexes

I. Information on the Higher Education Institution/ College		
List of the governing regulatory enactments and regulations of the higher education institution/ college	1_app_List_Internal_regulations.pdf	1_piel_Iekšējie_normat_akti.pdf
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	2_app_RAI Structure 2020.pdf	2_piel_RAI struktūra 2020.pdf
II. Description of the Study Direction - 1. Management of the Study Direction		
Plan for the development of the study direction (if applicable)	RAI_ development_ plan .pdf	attistibas_plans_RAI.pdf
Management structure of the study direction	2_app_RAI Structure 2021_17.12.21.pdf	2_piel_RAI struktūra 2021_17.12.21.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	3.piel_MĀCĪBSPĒKU SARAKSTS_ENG.pdf	3.piel_MĀCĪBSPĒKU SARAKSTS_LV.pdf
Biographies of the teaching staff members (in Europass Curriculum Vitae format)	CV_ENG.rar	CV_LV.rar
Summary of the statistical data on the incoming and outgoing mobility of the teaching staff over the reporting period	Staff_Mobility_statData.pdf	Statistikas dati par_macibspeku_mobility.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	5_piel_List of publications.pdf	5_piel_Mācībspēku publikāciju saraksts.pdf
II. Description of the Study Direction - 5. Cooperation and Internationalisation		
List of cooperation agreements	6_app_List of Cooperation Agreements.pdf	6_piel_Sadarbības līgumu saraksts.pdf
Statistical data on the teaching staff and the students from abroad	7_app_statData_Students_Staff.pdf	7_piel_Statistikas dati par ārvalstu_studējošajie.pdf
Statistical data on the mobility of students (by specifying the study programmes)	Students_Mobility_statisticData.pdf	Statistikas dati par_studējošajie.pdf
Description of the organisation of the traineeship of the students	Placement-regulations_Mech.pdf	8_piel_Prakses nolikums.pdf
Information on the agreements and other documents confirming the traineeship of the students in companies	9_piel_Prakses līgumu saraksts.pdf	9_piel_Prakses līgumu saraksts.pdf
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	10_piel_Rekomendāciju_ieviešanas_pārskats_Eng.pdf	10_piel_Rekomendāciju_ieviešanas_pārskats.pdf
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.	21_app_Confirmation of the state language.pdf	21_piel_Apliecinājums valsts valoda.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)		studiju programmu plāni_GKTA.xlsx
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	Iesniegums_novertesanai_ENG.EDOC	Iesniegums_novertesanai_LV.EDOC

Other annexes

Name of document	Document

Aircraft Technical Maintenance (42525)

Study field	*Mechanics and Metal Processing, Heat Power Engineering, Heat Technology, and Mechanical Engineering*
ProcedureStudyProgram.Name	*Aircraft Technical Maintenance*
Education classification code	*42525*
Type of the study programme	*Professional bachelor study programme*
Name of the study programme director	*Vladimirs*
Surname of the study programme director	*Reiskarts*
E-mail of the study programme director	*v.reiskarts@rai.lv*
Title of the study programme director	*Dr.comp.sc.*
Phone of the study programme director	*67677831*
Goal of the study programme	*To train highly qualified and comprehensively developed engineers with creative and analytical abilities in aircraft maintenance and repair.*
Tasks of the study programme	*1. To provide students with the acquisition of theoretical knowledge (natural sciences, information technologies, technical, humanitarian and professional study courses);* *2. To provide students with opportunities to acquire practical skills and abilities that allow them to perform qualified aircraft maintenance, repair and operation.* *3. To develop the ability to formulate and solve problems specific to the aviation industry, which is determined by the theoretical knowledge and professional skills required for an aircraft maintenance engineer.*
Results of the study programme	*The student must be able to:* *1. Orient in aviation legislation and analyze maintenance regulatory documentation.* *2. Identify the causes of failures of aircraft mechanical and electronic systems and take measures to prevent them;* *3. Perform aircraft maintenance and repair in accordance with regulatory documentation;* *4. To organize technical diagnostics of the aircraft engine;*
Final examination upon the completion of the study programme	*bachelor thesis*

Study programme forms

Full time studies - 4 years - latvian

Study type and form	*Full time studies*
Duration in full years	*4*
Duration in month	*0*
Language	*latvian*
Amount (CP)	*160*
Admission requirements (in English)	*Secondary education*
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	*Professional bachelor's degree in aviation*

Qualification to be obtained (in english)	*Aircraft technical maintenance engineer*

Places of implementation

Place name	City	Address
Riga Aeronautical Institute	RĪGA	MEŽKALNA IELA 9, ZEMGALES PRIEKŠPILSĒTA, RĪGA, LV-1058

Full time studies - 4 years - english

Study type and form	*Full time studies*
Duration in full years	*4*
Duration in month	*0*
Language	*english*
Amount (CP)	*160*
Admission requirements (in English)	*Secondary education*
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	*Professional bachelor's degree in aviation*
Qualification to be obtained (in english)	*Aircraft technical maintenance engineer*

Places of implementation

Place name	City	Address
Riga Aeronautical Institute	RĪGA	MEŽKALNA IELA 9, ZEMGALES PRIEKŠPILSĒTA, RĪGA, LV-1058

Part time studies - 4 years, 6 months - latvian

Study type and form	*Part time studies*
Duration in full years	*4*
Duration in month	*6*
Language	*latvian*
Amount (CP)	*160*
Admission requirements (in English)	*Secondary education*
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	*Professional bachelor's degree in aviation*
Qualification to be obtained (in english)	*Aircraft technical maintenance engineer*

Places of implementation

Place name	City	Address
Riga Aeronautical Institute	RĪGA	MEŽKALNA IELA 9, ZEMGALES PRIEKŠPILSĒTA, RĪGA, LV-1058

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 has undergone the following changes:

1) Taking into account that the new updated standard for the profession of Aircraft Maintenance Engineer has entered into force, Professional standard agreed at the meeting of the Tripartite Cooperation Sub-Council for Vocational Education and Employment on 11 December 2019 (Minutes No.8), the title of the study program has been clarified.

2) A new study course "Mechatronics" has been introduced. According to the professional standard, an aircraft technical maintenance engineer must have the knowledge, skills and abilities to service both mechanical and electronic equipment. Mechatronics provides the basis for this knowledge.

According to the Law on Higher Education Institutions, the implementation of studies in Russian is suspended. Existing students studying in Russian will graduate in 2022. Therefore, in the future RAI will study only in Latvian and English.

There are currently no part-time part-time students in English and Latvian and RAI does not plan to admit new students in this form in the future.

The results to be achieved by the study program are specified. The student must be able to:

Orientation in aviation legislation and analysis of maintenance documentation.

To determine the causes of failures of aircraft mechanical and electronic systems and to perform their elimination;

Perform aircraft maintenance and repair in accordance with regulatory documentation;

Organize technical diagnostics of aircraft engines;

Work in a team and communicate professionally in English. Work in a team and communicate professionally in English.

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.

Statistical data on students in the Professional Bachelor's study program "Aircraft technical maintenance" are attached. As can be seen from the tables, the number of students is very small,

which allows the provision of individual training. Despite the demand from employers and the labor market for aircraft technical maintenance engineers, the number of emrollee and thus the number of students is not increasing. In our opinion, this is mainly due to the sufficiently complex content of the study program, which requires a sufficiently good background in mathematics and natural science at the secondary level. This is evidenced by the opinions of the students in the study program, graduates and excluded students, who point to the difficulties in successfully acquiring study courses due to their prior insufficient knowledge of mathematics and physics.

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 study program has been developed in accordance with the Cabinet of Ministers Regulations No. 512 of 26 August 2014 “Regulations on the state standard of the second level professional higher education” (Appendix 12), the Aircraft technical maintenance engineer professional standard, PINTSA protocol Nr.8 of 11 December 2019 (Appendix 13), the Cabinet of Ministers Regulations No. 795 of 11 December 2015 “Regulations for Licensing of Study Programs”, as well as the Law on Higher Education Institutions and the Constitution of RAI (Latv. - Satversme). As a result of licensing of study program in 2013 and 2019, experts evaluated it and gave a positive opinion. The above-mentioned confirms that the title of the study program, the entitled degree and professional qualification, the study program objective, its tasks, outcomes to be achieved and admission requirements are mutually agreed, logically combined.

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 signed agreements and extensive cooperation with employers in the development, improvement and implementation of the study program provide an opportunity to regularly update the content of study courses in accordance with the development trends of aircraft maintenance and the demand of the Latvian labor market. In addition, the involvement of employers in the implementation of students' internships and in the selection of bachelor's thesis topics and

coordination of thesis development allows the continuous improvement of the content of study courses, especially professional specialization courses in the field.

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 objective and tasks of the study program are coordinated with the objectives and tasks of the study courses forming the content of the program. General education study courses provide students with such a theoretical knowledge base that allows them to successfully acquire basic theoretical courses in the field. In turn, the theoretical knowledge of the field is the basis for the acquisition of professional specialization courses in the field. Basic theoretical knowledge of the field and knowledge of professional specialization allow students to successfully acquire practical work skills and abilities that they perform during practice.

The structure of the study program is organized so that at the beginning of the studies there are mostly study courses that ensure the acquisition of knowledge necessary for obtaining a professional bachelor degree, but at the end of the studies - study courses that ensure the acquisition of the courses necessary for qualification. Such a set of theoretical and professional knowledge, skills and abilities allows the student as the future aircraft technical maintenance engineer to perform aircraft maintenance, operation and repair.

The content of the study courses is organized in such a way that the courses focused on obtaining a professional degree are located in the section of general education study courses and theoretical basic courses in the field. General education study courses and basic theoretical courses in the field are mainly conducted in the first three semesters. The courses of the study program include topics not only with the current situation in the field of aircraft technical maintenance, but also the peculiarities of solving perspective problems and issues in the directions of aircraft technical maintenance development, as well as the ability to work in a team of the field specialists.

The presented organization of study courses by separate course blocks allows to successfully link the results of individual courses. Thus, for example, the results of the acquisition of the theoretical course of the industry “Aviation materials and technology” provide an opportunity to successfully complete the professional specialization courses “Airplane structure and systems”, "Theory and construction of aviation engines", “ Technical maintenance and repair of aircraft” and others. to successfully develop study projects in mechanics, aviation engines and maintenance.

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.

Various methods are used to acquire and evaluate the courses and practical skills of the program - situation analysis, group work, problem-oriented studies, use of information technology. By applying individual teaching and study methods and technical means, students are provided with a real operating environment for acquiring practical skills. Professional higher education is provided with a broad view of professional ethics, as well as an understanding of the impact of the industry on the environment and society, the possibility to choose study courses according to their interests and needs is provided.

The principles of student-centred education have been taken into account in the implementation of the study program - students' representatives have participated in the development of the program, its discussion and approval. The schedule of classes and examination times have been developed taking into account the possibilities of the students as employed persons. Students are informed about the examination methods, criteria and the procedure for appealing the assessment. This information is set out in the Quality Management Manual (http://rai.lv/lv/doc). Students have a veto right in the Senate on issues that affect the interests of students.

The main form of studies at the Institute is a lecture. Lectures are implemented in contact classes with students. Student working hours consist of contact classes and independent work. Usually the ratio of contact time and student's independent working time in full-time studies is 4/6, but in part-time studies 2/8 or 1.5 / 8.5. Depending on the specifics of the study course, the ratio between the contact time and the student's independent working time can be changed. It is determined by the director of the study program in coordination with the course lecturer and approved by the RAI Senate.

In addition to lectures, seminars, practical work, discussions, situation analysis, debates and tests are used to present the study course. Lectures are given to all students of the study course together, but other forms of studies are implemented in small groups. Each lecture of the course indicates the objective of the presented content, tasks and achieved outcomes.

Laboratory works are organized in accordance with the study program. Laboratory work is performed in specialized classes. Execution of laboratory work includes four stages: preparation for laboratory work; performing laboratory work in the laboratory; analysis of the results, preparation and defence of the work report. No more than 2-3 students develop a laboratory work of the same topic at a time.

The study program uses the e-learning environment Moodle. The system is constantly updated with electronic study materials.

Practical training is meant to be used for acquiring and strengthening practical skill

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.

Internships in companies are organized by dividing the total amount by semesters. The director of the study program, a representative of the internship company and the internship sign an internship agreement. For the successful course and management of the internship, a description of the internship has been developed, which includes the purpose and tasks of the internship, the content of the internship and a report on the internship. Internships are intended for companies with which a cooperation agreement has been concluded. The estimated number of internships in each company is 2-3 students per year. The tasks of the practice are related to the achievement of the results of the study program such as: aircraft operation,

-maintenance and repair skills,

-aircraft documentation skills, shift simulation,

- ability to remove, install and mark parts and assemblies on a regular basis, to restore surfaces, to check the functionality, maintenance and renewal of assemblies.

In order to achieve the results of the study program more fully and successfully, the total amount of practice in the Professional Bachelor's study program “Aircraft technical maintenance” is divided into five separate practices - technical maintenance practice1 (3 CP), technical maintenance practice2 (3 CP), metalworking practice (3 CP), airport practice (3 CP), practice in an aircraft technical maintenance company (3 CP) and aircraft type acquisition practice (7 CP). During the internship, an internship supervisor-supervisor from RAI is appointed to support the student during the internship, who coordinates the internship, consults the student and solves the issues related to the internship with the respective company.

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.

The student usually chooses the topic of the bachelor thesis from the list of topics offered by RAI in the second semester of the 3rd study year. The list of topics is compiled by the Institute together with employers, including the managers of the companies of students' practical training, in accordance with the most current trends in the industry and the labour market and the current topics recommended by the European Aviation Safety Agency. RAI implements in-service training courses for aviation specialists certified by the European Aviation Safety Agency on the current topics.

The development of a bachelor thesis with a project part is the final stage of professional bachelor studies and qualification acquisition. On the basis of the defending the bachelor thesis, the relevant professional bachelor degree is entitled. The bachelor thesis is an analytical study, the conclusions of which are based on a review of the literature on a problem formulated within the bachelor study program, creating a technical solution to the analysed problem. Completion of the bachelor thesis is

based on the knowledge, skills and abilities acquired during the study program. The internship task includes a section on collecting specific materials on the current topics. Third- or fourth-year students choose and coordinate the topics of the bachelor thesis with the supervisor-consultant and also coordinate the materials for work obtained in companies. The topics of bachelor theses and their supervisors are approved by the RAI Senate. The bachelor thesis is prepared in accordance with the Regulations on the development and defence of bachelor and master theses www.rai.lv/en/doc. A fully completed and bound bachelor thesis is signed by the student and the supervisor. After reviewing the thesis, the supervisor determines the reviewer of the bachelor thesis. The bachelor thesis with the project part is defended at the State Examination Commission, the composition of which is approved by the Rector. One of the employers' representatives, usually in the position of the head of the commission or his/her deputy, must participate in the bachelor thesis defence commission.

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.

For the purposes of development and improvement of the study program, RAI regularly conducts surveys of students, graduates and employers. The results of the surveys are summarized, reviewed and analyzed at the Senate sittings. In accordance with the results of the analysis, as well as the recommendations of the experts provided during the previous evaluation of the program, the content of the program and study courses is updated. Thus, based on the employers 'recommendations on the need to strengthen the acquisition of students' practical skills and abilities, the internship was divided into several separate internships with specific, individual tasks precisely defined for the internship, internship diary and internship report defense at the end of the internship.

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.

Information on incoming and outgoing student mobility is included. Student mobility is relatively low, which has stopped at all in recent years. This is, firstly, due to the small number of students in the study program, secondly, all students working at the same time, and thirdly, according to situation due to the Covid-19 epidemic in the last two years.

The courses acquired during the mobility are recognized and credited to the student workload.

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.

Taking into account that only three study programs are implemented in the field of study, information about the resources and material and technical provision of the program, including the teaching staff, is practically common to all programs. and it is presented in Section 3 of the second part - Resources and provision of the study field. Several laboratories have been established for practical work within the study program - Aircraft Maintenance Laboratory, Electronics Laboratory, Electrical Installation Laboratory and Locksmith Workshop. In recent years, the material and technical base of RAI has been significantly supplemented, in scope of strengthening the material and technical provision in the field of aviation, and a helicopter has been purchased. Based on this acquisition, an Aircraft Maintenance Laboratory has been established, which houses a helicopter, individual aircraft components, structures and parts with appropriate documentation, electronic equipment and specialized equipment that enables students to perform practical maintenance and repair work on aircraft. In 2020, a welding complex and elements of aircraft landing systems from Boeing 737 were purchased , which enables students to acquire professional and practical skills more effectively in the study process. RAI has at its disposal an air traffic control simulator, which is created on computers connected to a united network and which enables real-time modeling of the operation and maintenance of the Air Traffic Control Center. In the modeling process, various information displays, means of processing and various forms of communication are implemented. Students use the simulator to learn the technical methods of servicing ground electronic aviation equipment. There are 9 overhead projectors, 15 multimedia projectors, 74 computer sets, 23 printers, 9 scanners, 5 audio speaker sets, 8 computer speaker sets, 2 wireless intercom sets, 2 video cameras, photo camera, TVs available in the workshops and seminar rooms.

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).

There are no doctoral study programs in the study field.

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.

During the previous assessment in 2013, 25 lecturers worked in the study program. During this time, the number of teaching staff is 17. As part of staff renewal strategy, some part-time teachers have left RAI. Some teachers have been hired during the reporting period, including teachers from abroad and teachers with extensive experience in the aviation sector. In general, it has allowed to improve the management of the basic theoretical courses of the field and the professional specialization courses of the field, taking into account the experience of the invited lecturers in the field.

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 academic and scientific qualification of the teaching staff of the study program, professional work experience in the respective field, regular supplementation and improvement of knowledge in the respective in-service teacher training program fully comply with the conditions of the study program implementation and regulatory enactments.

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).

There are no doctoral study programs in the study field.

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).

There are no doctoral study programs in the study field.

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.

RAI supports the active participation of the teaching staff of the study program in scientific research development and the publication of the obtained results. For this purpose, the university has introduced a motivation system that stimulates the participation of teachers in scientific conferences and the preparation of publications. In order to support the contribution of the intellectual work of the academic staff to the preparation and publication of scientific and methodological works, certain funding is calculated and allocated for this purpose each study year. The decision on the amount of remuneration to be paid to the author and the payment of remuneration shall be made in accordance with the Regulations on the organization of scientific and methodological work in Riga Aeronautical Institute http://rai.lv/en/doc .

A list of faculty publications is attached. The results obtained in the research work, their analysis and conclusions are used in practical classes with students, in the development and improvement of study courses. One of the many examples is: Nechval A New Pivot-Based Approach to Constructing Prediction Limits and Shortest-Length or Equal Tails Confidence Intervals for Future Outcomes under Parametric Uncertainty. Proceedings of the 31st European Safety and Reliability Conference (ESREL 2021), Edited by Bruno Castanier, Marko Cepin, David Bigaud, and Christophe Berenguer. Angers, France, pp. 2886-2893. Published by Research Publishing, Singapore. ISBN: 978-981-18-2016-8; doi:10.3850/978-981-18-2016-8 419-cd, 2021. The results obtained in the research work are used in the study course Resistance of Materials and Strength of Structures.

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).

Cooperation between teachers i RAI is sufficiently effective. Cooperation is provided in the following forms:

- Study methodological meetings are organized regularly (usually three times a year);

- Seminars in the form of "Brainstorming";

- Scientific groups within the Moodle learning system.

Such cooperation allows the teaching staff to discuss actual issues of the study and study process,

exchange experience and improve the content and structure of study courses with the aim to increase the quality of studies and academic work.

The implementation of the professional bachelor's study program "Aircraft technical maintenance" is ensured by 20 representatives of the teaching staff, 12 of whom have been elected to the academic positions of RAI docent or lecturer. Eight of the RAI faculty members have a doctoral degree. Most of the teaching staff of RAI have extensive experience in academic and professional work outside the university, as well as experience in scientific work. The qualification and professional experience of the teaching staff fully complies with the requirements of regulatory enactments and the conditions for the implementation of the study program.

The ratio of students to teaching staff in the study program is 8/20, or 0.4 students per teaching staff. However, in this regard, it should be taken into account that practically every lecturer is also involved in the implementation of other fields of study and study programs, and in addition participates in the implementation of in-service training courses and professional development programs. In addition, part of the teaching staff, especially those employed as visiting teachers, work part-time. Taking this into account, for a study program with such a small number of students and in general for a small university such as RAI, a more objective indicator would be the ratio of the total number of students to the total number of teaching staff, and this in 328/55 or 6.0 students per lecturer in 2021/2022. academic year. Such a ratio of students and teachers is quite appropriate for a university of engineering and technology studies.

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	11_1_piel_GKTA_students_stat_data.pdf	11_1_piel_GKTA_Statistikas dati par studējošajiem.doc.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	en 12_1_piel_GKTA_Salīdz_valsts_izglītības_standarts.pdf	
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable)	en13_1_piel_GKTA_Salīdz_profesijas_standarts.pdf	13_1_piel_GKTA_Salīdz_profesijas_standarts.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	en14_1_piel_GKTA_Studiju_kursu_kartējums.pdf	14_1_piel_GKTA_Studiju_kursu_kartējums.pdf
Curriculum of the study programme (for each type and form of the implementation of the study programme)	Study program plans_GKTA.xlsx	studiju programmu plāni_GKTA.xlsx
Descriptions of the study courses/ modules	ATM.rar	GKTA.rar
Description of the Study Direction - Other mandatory attachments		
Sample of the diploma to be issued for the acquisition of the study programme.	GKTA_paraug_ENG.pdf	GKTA_paraug_LV.pdf
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	01000-4.1-e_59.edoc	01000-4.1-e_59.edoc
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	Extract_GKTA_stud_ligums.pdf	Extract_GKTA_stud_ligums.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.	22_app_Confirmation of the level of English.pdf	22_piel_Apliecinājums angļu valoda.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	GKTA_stud_ligums.pdf	GKTA_stud_ligums.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.		

Air Transport Systems Management and Operation (42525)

Study field	*Mechanics and Metal Processing, Heat Power Engineering, Heat Technology, and Mechanical Engineering*
ProcedureStudyProgram.Name	*Air Transport Systems Management and Operation*
Education classification code	*42525*
Type of the study programme	*Professional bachelor study programme*
Name of the study programme director	*Vladimirs*
Surname of the study programme director	*Reiskarts*
E-mail of the study programme director	*v.reiskarts@rai.lv*
Title of the study programme director	*Dr.comp.sc.*
Phone of the study programme director	*67677831*
Goal of the study programme	*To prepare highly qualified and comprehensively developed engineers with creative and analytical abilities in air transport management and operation*
Tasks of the study programme	*1. To provide students with the acquisition of theoretical knowledge (natural sciences, information technologies, technical, humanitarian and professional study courses);* *2. To provide students with opportunities to acquire practical skills and abilities that allow them to skillfully manage air transport systems;* *3. To develop the ability to formulate and solve problems specific to the aviation industry, which are determined by the theoretical knowledge and professional skills required of an aircraft maintenance engineer.*
Results of the study programme	*The student has obtained:* *- knowledge of aviation law, employment law, business fundamentals, safety and environmental issues, foreign language, management and communication skills;* *- knowledge of aircraft structure, aviation transport systems, flight organization and execution, avionics and electrical equipment, meteorology, navigation;* *- skills in air transport system management;* *- skills in operation and maintenance of aviation systems.*
Final examination upon the completion of the study programme	*bachelor thesis*

Study programme forms

Full time studies - 4 years - latvian

Study type and form	*Full time studies*
Duration in full years	*4*
Duration in month	*0*
Language	*latvian*
Amount (CP)	*160*

Admission requirements (in English)	*General secondary or vocational secondary education*
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	*Professional bachelor's degree in air transport system management and operation*
Qualification to be obtained (in english)	*Aircraft technical maintenance engineer*

Places of implementation

Place name	City	Address
Riga Aeronautical Institute	RĪGA	MEŽKALNA IELA 9, ZEMGALES PRIEKŠPILSĒTA, RĪGA, LV-1058

Full time studies - 4 years - english

Study type and form	*Full time studies*
Duration in full years	*4*
Duration in month	*0*
Language	*english*
Amount (CP)	*160*
Admission requirements (in English)	*General secondary or vocational secondary education*
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	*Professional bachelor's degree in air transport system management and operation*
Qualification to be obtained (in english)	*Aircraft technical maintenance engineer*

Places of implementation

Place name	City	Address
Riga Aeronautical Institute	RĪGA	MEŽKALNA IELA 9, ZEMGALES PRIEKŠPILSĒTA, RĪGA, LV-1058

Part time studies - 4 years, 6 months - latvian

Study type and form	*Part time studies*
Duration in full years	*4*
Duration in month	*6*
Language	*latvian*
Amount (CP)	*160*
Admission requirements (in English)	*General secondary or vocational secondary education*
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	*Professional bachelor's degree in air transport system management and operation*
Qualification to be obtained (in english)	*Aircraft technical maintenance engineer*

Places of implementation

Place name	City	Address
Riga Aeronautical Institute	RĪGA	MEŽKALNA IELA 9, ZEMGALES PRIEKŠPILSĒTA, RĪGA, LV-1058

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

There are no significant changes in the program, except that the name of the program is slightly clarified. This is done in order to more closely comply with the Latvian language norms, as well as the content of the program, which also includes operation.

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.

Statistical data on students in the Professional Bachelor's study program "Transport Systems Management" are attached. As can be seen from the tables, the number of students is very small, which allows the actual provision of individual training. Despite the demand of employers and the labor market for air transport system management engineers, the number of enrollees and thus the number of students is not increasing. In our opinion, this is mainly due to the sufficiently complex content of the study program, which requires a good background in mathematics and natural science at the secondary level. This is evidenced by the opinions of the students in the study program, graduates and especially excluded students, who point to the difficulties in successfully acquiring study courses precisely due to their prior insufficient knowledge of mathematics and physics.

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 study program has been developed in accordance with the Cabinet of Ministers Regulations No. 512 of 26 August 2014 “Regulations on the Second Level Professional Higher Education State Standard” (Annex 12), the Aircraft Maintenance Engineer Profession Standard (Annex 13), the Cabinet of Ministers Regulations 2015. Regulations No. 408 of 14 July 2006 “Regulations for

Licensing of Study Programs", as well as the Law on Higher Education Institutions and the Constitution of RAI. As a result of the accreditation process, the study program in 2013 and 2019 was evaluated by experts, who gave a positive opinion. The above confirms that the title of the study program, the degree and professional qualification to be obtained, the aim of the program, the tasks to be achieved and the admission requirements are mutually agreed.

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 signed agreements and extensive cooperation with employers in the development, improvement and implementation of the study program provide an opportunity to regularly update the content of study courses in accordance with the development trends of transport systems and the demand of the Latvian labor market. In addition, the involvement of employers in the implementation of students' internships and in the selection of bachelor's thesis topics and coordination of thesis development ensures the continuous improvement of the content of study courses, especially professional specialization courses in the field.

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 aim and tasks of the study program are coordinated with the aims and tasks of the study courses that form the content of the program. General education study courses provide students with a theoretical knowledge base that allows them to successfully complete basic theoretical courses in the field. In turn, the theoretical knowledge of the field is the basis for the acquisition of professional specialization courses in the field. Basic theoretical knowledge of the field and knowledge of professional specialization allow students to successfully acquire practical work skills and abilities that they perform during the internship.

The structure of the study program is organized in such a way that at the beginning of the studies there are mostly study courses that ensure the acquisition of the knowledge necessary for obtaining a professional bachelor's degree, but at the end of the studies- study courses that ensure the acquisition of the courses required for the qualification. This set of theoretical and professional knowledge, skills and abilities allows the student to successfully perform job duties as the next transport systems engineer.

The content of the study courses is organized in such a way that the courses focused on obtaining a professional degree are located in the section of general education study courses and basic theoretical courses in the field. General education study courses and basic theoretical courses in the field are mainly conducted in the first three semesters. The courses of the study program include topics not only about the current situation in the management of transport systems, but also the peculiarities of solving perspective problems and issues in the most current directions of air transport system development, as well as the ability to work in a team of specialists. The presented organization of study courses by separate course blocks allows successfully link the results of individual courses. Thus, for example, the results of the acquisition of the theoretical basic course of the branch “Electronics” give an opportunity to successfully acquire the professional specialization course of the branch “Aviation electronics and electrical equipment”, etc.

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.

Various methods are used to acquire and evaluate the program's courses and practical skills - situation analysis, group work, problem-oriented studies, use of information technology. By applying individual teaching and study methods and technical means, students are provided with a real operating environment for acquiring practical skills. Professional higher education is provided with a broad view of professional ethics, as well as an understanding of the impact of the industry on the environment and society, and the possibility to choose study courses according to their interests and needs is provided.

The principles of student-centered education have been taken into account in the implementation of the study program - the representatives of the students have participated in the development of the program, its discussion and approval. The schedule of classes and examination times have been developed taking into account the possibilities of students as employed persons. Students are informed about the examination methods, criteria and the procedure for appealing the assessment. This information is set out in the Quality Management Manual http://rai.lv/en/doc . Students in the Senate have a veto right on issues that affect the interests of students.

The main form of study at the university is a lecture. Lectures are implemented in contact classes with students. Student work hours consist of contact lessons and independent work. Usually the ratio of contact time to the student's independent working time in full-time studies is 4/6, but in part-time studies 2/8 or 1.5 / 8.5. Depending on the specifics of the study course, the relationship between contact time and the student's independent working time can be changed. It is determined

by the director of the study program in coordination with the course lecturer and approved by the university Senate.

In addition to lectures, seminars, practical work, discussions, situation analysis, discussions and tests are used to present the study course. Lectures are given to all students of the study course together, but other forms of study are implemented in small groups. Each lecture of the course indicates the aim of the content to be presented, the tasks and the results to be achieved.

Laboratory works are organized according to the study program. Laboratory work is performed in specialized classes. Completion of laboratory work includes four stages: preparation for laboratory work; performing laboratory work in the laboratory; analysis of results, design and defense of work report. No more than 2-3 students develop a laboratory work of one name at a time.

The study program uses the e-learning environment Moodle. The system is constantly updated with electronic study and learning materials.

Practice serves for acquiring and strengthening practical skills.

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.

Internships in companies are organized by dividing the total amount by semesters. The director of the study program, a representative of the internship company and the student sign an internship agreement. For the successful course and management of the internship, a description of the internship has been developed, which includes the purpose and tasks of the internship, the content of the internship and a report on the internship. Internships are intended for companies with which a cooperation agreement has been signed. The estimated number of internships positions in each company is 2-3 students per year.

The tasks of the practice are related to the achievement of the results of the study program such as:

- knowledge of aircraft design, aviation transport systems, flight organization and performance, avionics and electrical equipment, meteorology, navigation,

- skills in the management of air transport systems,

- skills in the operation, maintenance and operation of aircraft systems.

After the study results and completion of all practical tasks, students have the opportunity to undergo flight training and receive PPL, CPL, ATPL licenses for aircraft or helicopter pilots. During the internship, an internship supervisor from RAI is appointed to support the student during the internship, who coordinates the internship, consults the student and solves the issues related to the internship with the respective company.

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.

The student usually chooses the topic of the bachelor's thesis from the list of topics offered by RAI in the 3rd study year. The list of topics is compiled by the University together with employers, including the managers of student internships, in accordance with the latest trends in the industry and the labor market and current topics recommended by the European Aviation Safety Agency. RAI implements in-service training courses for aviation specialists certified by the European Aviation Safety Agency on current topics.

The development of a bachelor's thesis with a project part is the final stage of obtaining a professional bachelor's study and qualification. Based on the defense of the bachelor's thesis, the relevant professional bachelor's degree is awarded. The bachelor's thesis is an analytical study, the conclusions of which are based on a review of the literature on a problem formulated within the bachelor's study program, creating a technical solution to the problem to be analyzed. Completion of the bachelor's thesis is based on the knowledge, skills and abilities acquired during the study program.

The internship task includes a section concerned with collection of specific materials and analysis of current topics. The third or fourth year students select and coordinate the topics of the bachelor's thesis with the supervisor-consultant and also coordinate the materials for work obtained in the companies. The topics of bachelor's theses and their supervisors are approved by the RAI Senate.

The bachelor's thesis is prepared in accordance with the Regulations on the development and defense of bachelor's and master's theses http: // rai / en / doc. The fully completed and bound bachelor's thesis is signed by the student and the supervisor. After reviewing the thesis, the supervisor determines the reviewer of the bachelor's thesis. The bachelor's thesis with the project part is defended at the State Examination Commission, the composition of which is approved by the Rector. One of the employers' representatives, usually the head or deputy of the commission.

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.

For the purposes of development and improvement of the study program, RAI regularly conducts surveys of students, graduates and employers. The results of the surveys are summarized, reviewed and analyzed at the Senate sittings. In accordance with the results of the analysis, as well as the recommendations of the experts provided during the previous evaluation of the program, the content of the program and study courses is updated. Thus, based on the employers 'recommendations on the need to strengthen the acquisition of students' practical skills and abilities, the internship was divided into several separate internships with specific, precisely defined for the internship individual tasks , internship diary and internship report defense at the end of the internship.

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.

Information on incoming and outgoing student mobility is included. Student mobility is relatively low and has stalled in recent years. This is, firstly, due to the small number of students in the study program, secondly, all students are working at the same time, and thirdly, the situation due to the Covid-19 pandemic in the last two years.

The courses acquired during the mobility are recognized and credited to the student workload.

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.

Due to the fact that the program resources and material and technical provision, including the teaching staff, are practically common to all three study programs of the study field, information on resources and material and technical provision is presented in Section 3 of the second part - Resources and provision of the study field.

The students of the study program have at their disposal an air traffic control simulator, which is created on computers connected in a united network and which gives an opportunity to model the work, operation and maintenance of the Air Traffic Control Center in real time. Different means of displaying and processing information and different types of communication are implemented in the modeling process. Students use the simulator to learn the technical methods of servicing ground electronic aviation equipment.

In order to organize and function modern communication systems, obtain information and organize student training, RAI uses optical fiber Internet with a transmission speed of 100 Mbit / s.

The institute has 20 Wi-Fi hotspots and, using high-yield routers, virtually the entire territory of the institute is covered with a Wi-Fi zone.

RAI is a mail server with RAI domain name, which is modernized on a modern platform, has a high degree of protection and provides reliable storage and exchange of information between the institute's departments.

Modern training management tools, including the Moodle system, are successfully used in the

student training process. The BigBlueButton system allows faculty to interact with students online in audio, video, chat, and more. way.

There are 9 overhead projectors, 15 multimedia projectors, 74 computer sets, 23 printers, 9 scanners, 5 audio speaker sets, 8 computer speaker sets, 2 wireless intercom sets, 2 video cameras, a camera available in the workshops and seminars. and 35 TVs.

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).

There are no doctoral study programs in the study field.

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.

During the previous assessment, in 2013, 26 lecturers worked in the study program, which were mostly part-time guest lecturers. During this time, the number of teaching staff has decreased to 19. A number of teaching staff who have reached retirement age have left the RAI, as well as teaching staff who were employed part-time. Some teachers have been hired during the reporting period, including teachers from abroad and teachers with extensive experience in the aviation sector. In general, it has allowed to improve the management of the basic theoretical courses of the field and the professional specialization courses of the field, taking into account the experience of the invited lecturers in the field.

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 academic and scientific qualification of the teaching staff of the study program, professional

work experience in the respective field, regular supplementation and improvement of knowledge in the corresponding in-service teacher training program fully comply with the conditions of the study program implementation and regulatory enactments.

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).

There are no doctoral study programs in study field.

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).

There are no doctoral study programs in the study field.

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.

RAI supports the active participation of the teaching staff of the study program in scientific research and publication of the obtained results. For this purpose, the university has introduced a motivation system that stimulates the participation of teachers in scientific conferences and the preparation of publications. A list of faculty publications is attached. The results obtained in the research work, their analysis and conclusions are used in practical classes with students, in the development and improvement of study courses, as well as in the modernization of RAI technical and information support.

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).

RAI cooperation between teachers is sufficiently effective. Cooperation will take the following forms:

- Study - methodological meetings are organized regularly (usually three times a year);

- Seminars in the form of "Brainstorming";

- Scientific groups within the Moodle learning system.

Such cooperation allows the teaching staff to discuss topical issues of the study and study process, exchange experience and improve the content and structure of study courses with the aim to increase the quality of studies and academic work. The implementation of the professional bachelor's study program "Air Transport Management and Operation" is ensured by 19 representatives of the teaching staff, 12 of whom have been elected to the academic positions of RAI docent or lecturer. Seven of the RAI faculty members have a doctoral degree. Most of the teaching staff of RAI have extensive experience in academic and professional work outside the university, as well as experience in scientific work. The qualification and professional experience of the teaching staff fully complies with the requirements of regulatory enactments and the conditions for the implementation of the study program.

The ratio of students to teaching staff in the study program is 27/19, or 1.4 students per teaching staff. However, in this regard, it should be taken into account that practically every lecturer is also involved in the implementation of other fields of study and study programs, and in addition participates in the implementation of in-service training courses and professional development programs. In addition, part of the teaching staff, especially those employed as visiting lecturers, work part-time. Taking this into account, for a study program with such a small number of students and in general for a small university such as RAI, a more objective indicator would be the ratio of the total number of students to the total number of teaching staff, and this in 2021/2022. academic year is 328/55 or 6.0 students per lecturer. Such a ratio of students and teachers is quite appropriate for a university of engineering and technology studies.

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	11_2_app_GTVE_Stat_Data.pdf	11_2_piel_GTVE_Statistikas dati par studējošajiem.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	en12_2_piel_GTVE_Salīdz_valsts_izglītības_standarts.pdf	12_2_piel_GTVE_Salīdz_valsts_izglītības_standarts.pdf
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable)	en1612 13_2_piel_GTVE_Salīdz_profesijas_standarts.pdf	13_2_piel_GTVE_Salīdz_profesijas_standarts.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	en14_2_piel_GTVE_Studiju_kursu_kartējums.pdf	14_2_piel_GTVE_Studiju_kursu_kartējums.pdf
Curriculum of the study programme (for each type and form of the implementation of the study programme)	Study program plans_GTVE.xlsx	studiju programmu plāni_GTVE.xlsx
Descriptions of the study courses/ modules	ATSMO.rar	GTVE.rar
Description of the Study Direction - Other mandatory attachments		
Sample of the diploma to be issued for the acquisition of the study programme.	GTVE_paraug_ENG.pdf	GTVE_paraug_LV.pdf
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	01000-4.1-e_59.edoc	01000-4.1-e_59.edoc
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	Extract_GTVE_stud_lig.pdf	Extract_GTVE_stud_lig.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.	22_app_Confirmation of the level of English.pdf	22_piel_Apliecinājums angļu valoda.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	GTVE_stud_lig.pdf	GTVE_stud_lig.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.		

Transport systems management (47525)

Study field	*Mechanics and Metal Processing, Heat Power Engineering, Heat Technology, and Mechanical Engineering*
ProcedureStudyProgram.Name	*Transport systems management*
Education classification code	*47525*
Type of the study programme	*Professional master study programme*
Name of the study programme director	*Vladimirs*
Surname of the study programme director	*Reiskarts*
E-mail of the study programme director	*v.reiskarts@rai.lv*
Title of the study programme director	*Dr.comp.sc.*
Phone of the study programme director	*67677831*
Goal of the study programme	*To prepare highly qualified and comprehensively developed masters with creative and analytical abilities in the management of transport systems.*
Tasks of the study programme	*1. To provide students with the acquisition of theoretical knowledge (modern management systems, transport system management, information technology in transport system management) concerned with achievements in the field;* *2. To provide students with opportunities to acquire practical skills and abilities that allow them to manage specialized transport systems;* *3. To develop the ability to formulate and solve problems specific to aviation, which is determined by the professional theoretical knowledge and skills required for the management of transport systems.*
Results of the study programme	*The student has obtained:* *- knowledge of modern management systems, transport process modeling, global logistics and transport management;* *- knowledge of research methodology, strategic management and management sciences;* *- skills in research and design work.*
Final examination upon the completion of the study programme	*Master's thesis*

Study programme forms

Full time studies - 1 years, 6 months - latvian

Study type and form	*Full time studies*
Duration in full years	*1*
Duration in month	*6*
Language	*latvian*
Amount (CP)	*60*
Admission requirements (in English)	*Appropriate bachelor's or second level professional higher education*
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	*Professional master's degree in transport systems*
Qualification to be obtained (in english)	*-*

Places of implementation

Place name	City	Address
Riga Aeronautical Institute	RĪGA	MEŽKALNA IELA 9, ZEMGALES PRIEKŠPILSĒTA, RĪGA, LV-1058

Full time studies - 1 years, 6 months - english

Study type and form	*Full time studies*
Duration in full years	*1*
Duration in month	*6*
Language	*english*
Amount (CP)	*60*
Admission requirements (in English)	*Appropriate bachelor's or second level professional higher education*
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	*Professional master's degree in transport systems*
Qualification to be obtained (in english)	*-*

Places of implementation

Place name	City	Address
Riga Aeronautical Institute	RĪGA	MEŽKALNA IELA 9, ZEMGALES PRIEKŠPILSĒTA, RĪGA, LV-1058

Part time studies - 2 years - latvian

Study type and form	*Part time studies*
Duration in full years	*2*
Duration in month	*0*
Language	*latvian*
Amount (CP)	*60*
Admission requirements (in English)	*Appropriate bachelor's or second level professional higher education*
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	*Professional master's degree in transport systems*
Qualification to be obtained (in english)	*-*

Places of implementation

Place name	City	Address
Riga Aeronautical Institute	RĪGA	MEŽKALNA IELA 9, ZEMGALES PRIEKŠPILSĒTA, RĪGA, LV-1058

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

There are no significant changes in the program. Taking into account the norms of the Latvian language, the title of the program has been clarified editorially.

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.

Statistical data on students in the Professional Master's study program "Transport Systems Management" are attached. As can be seen from the tables, the number of students is very small, which allows the actual provision of individual training. Despite the demand of employers and the labor market for air transport system management engineers, the number of enrollees and thus the number of students is not increasing. In our opinion, this is mainly due to the sufficiently complex content of the study program, which requires a good background in mathematics and science at the secondary level. This is evidenced by the opinions of students in the study program, graduates and especially dropped out students, who point to the difficulties in successfully acquiring study courses especially due to insufficient prior knowledge of mathematics and physics.

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 study program has been developed in accordance with the Cabinet of Ministers Regulations No. 512 of 26 August 2014 “Regulations on the State Standard of the Second Level Professional Higher Education” (Annex 12). Cabinet Regulation No. 408 of 14 July 2015 “Regulations for Licensing Study Programs”, as well as the Law on Higher Education Institutions and the Constitution of RAI. As a result of the accreditation process, the study program in 2013 and 2019 was evaluated by experts, who gave a positive opinion. The above confirms that the title of the study program, the degree and

professional qualification to be obtained, the aim of the program, the tasks to be achieved and the admission requirements are mutually agreed.

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 signed agreements and extensive cooperation with employers in the development, improvement and implementation of the study program provide an opportunity to regularly update the content of study courses in accordance with both the development trends of transport systems and the demand of the Latvian labor market. In addition, the involvement of employers in the implementation of students' internships and in the selection of master's thesis topics, coordination of thesis development allows the continuous improvement of the content of study courses, especially research and design work, management 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 aim and tasks of the study program are coordinated with the aims and tasks of the study courses that form the content of the program. The content of the study program consists of courses that ensure the acquisition of the latest achievements and the theoretical knowledge base. These courses, which are usually implemented in the first or second semester, allow students to successfully complete research and design work and management courses.

The courses of the study program include topics not only about the current situation in the management of transport systems, but also the peculiarities of solving perspective problems and issues in the most actual directions of transport system development. The presented organization of study courses by separate course blocks allows to successfully link the obtained results of individual courses.

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.

Various methods are used to acquire and evaluate the program's courses and practical skills - situation analysis, group work, problem-oriented studies, use of information technology. By applying individual teaching and study methods and technical means, students are provided with a real operating environment for acquiring practical skills. Professional higher education is provided with a broad view of professional ethics, as well as an understanding of the impact of the industry on the environment and society, and the possibility to choose study courses according to their interests and needs is provided.

The principles of student-centered education have been taken into account in the implementation of the study program - the representatives of the students have participated in the development of the program, its discussion and approval. The schedule of classes and examination times have been developed taking into account the possibilities of students as employed persons. Students are informed about the examination methods, criteria and the procedure for appealing the assessment. This information is set out in the Quality Management Manual http://rai.lv/en/doc Students in the Senate have a veto right on issues that affect the interests of students.

The main form of study at the university is a lecture. Lectures are implemented in contact classes with students.

Student work hours consist of contact lessons and independent work. Usually the ratio of contact time to the student's independent working time in full-time studies is 4/6, but in part-time studies 2/8 or 1.5 / 8.5. Depending on the specifics of the study course, the relationship between contact time and the student's independent working time can be changed. It is determined by the director of the study program in coordination with the course lecturer and approved by the University Senate.

In addition to lectures, seminars, practical works, polemics, situation analysis, discussions and tests are used to present the study course. Lectures are given to all students of the study course together, but other forms of study are implemented in small groups. Each lecture of the course indicates the aim of the content to be presented, the tasks and the results to be achieved.

The study program uses the e-learning environment Moodle. The system is constantly updated with electronic study and study materials.

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.

Before starting the internship, the director of the study program, a representative of the internship company and the student sign an internship agreement. For the successful course and management of the internship, a description of the internship has been developed, which includes the purpose and tasks of the internship, the content of the internship and a report of the internship. The internship is intended for companies with which a cooperation agreement has been signed. The estimated number of internships in each company is 2-3 per year.

Practice tasks include:

- getting acquainted with the company's documentation, management structure, the main results of the company's operations;

- analysis of the company's financial situation, remuneration policy, employee selection and motivation system;

- identification of the main problems of the company and proposals for improvement of the situation.

The tasks of the internship are related to the achievement of such study program results as the acquisition of theoretical knowledge in modern management systems, transport systems management and global logistics, acquisition of practical skills and abilities in research and design work, risk, innovation and strategic management.

During the internship, an internship supervisor from RAI is appointed to support the student during the internship, who coordinates the internship, consults the student and solves the issues related to the internship with the respective company.

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.

The student usually chooses the topic of the master's thesis from the list of topics offered by RAI in the second or third semester. The list of topics is compiled by the University together with employers, including the managers of student internships, in accordance with the latest trends in the industry and the labor market and current topics recommended by the European Aviation Safety Agency. RAI implements in-service training courses for aviation specialists certified by the European Aviation Safety Agency on current topics. The development of a master's thesis is the final stage of obtaining a professional master's study and qualification. On the basis of the defense of the master's thesis, the relevant professional master's degree is awarded. The master's thesis is an analytical study, the conclusions of which are based on a review of the literature of a problem formulated within the master's study program, creating a technical solution to the problem to be analyzed. Completion of the master's thesis is based on the knowledge, skills and abilities acquired during the acquisition of the study program. The internship task includes a section on the collection and analysis of specific materials of current topics. Students select and coordinate the topics of the master's thesis with the supervisor-consultant and also coordinate the materials obtained in the companies for the work. The topics of master's theses and their supervisors are approved by the RAI Senate. The master's thesis is prepared in accordance with the Regulations on the development and defense of bachelor's and master's theses http: //rai/en/doc. The fully completed and bound master's thesis is signed by the student and the supervisor. After reviewing the thesis, the supervisor determines the reviewer of the master's thesis. The master's thesis is defended at the

State Examination Commission, the composition of which is approved by the Rector. One of the representatives of the employers, usually the head of the commission or deputy, must participate in the defense of the master's thesis.

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.

For the purposes of development and improvement of the study program, RAI regularly conducts surveys of students, graduates and employers. The results of the surveys are summarized, reviewed and analyzed at the Senate sittings. The content of the program and study courses is updated in accordance with the results of the analysis, as well as the recommendations of the experts provided during the previous evaluation of the program. Thus, for example, based on the employers 'recommendations on the need to strengthen the acquisition of students' practical skills and abilities, the internship was divided into several separate internships with specific, individual tasks precisely defined for the internship, internship diary and internship report defense at the end of the internship.

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.

Information on incoming and outgoing student mobility is included. Student mobility is relatively low and has stalled in recent years. This is, firstly, due to the small number of students in the study program, secondly, all students are working at the same time, and thirdly, the situation due to the Covid-19 pandemic in the last two years.

The courses acquired during the mobility are recognized and credited to the student workload.

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.

Due to the fact that the program resources and material and technical provision, including the teaching staff, are practically common to all three study programs of the study field, information on resources and material and technical provision is presented under the professional bachelor study program “Aircraft Technical Maintenance” and the professional bachelor study program “Air Transport Systems Management and Operation ” description of resources and provision ”(Part III, Section 3 - resources and provision of the respective study program).

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).

There are no doctoral study programs in the study field.

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.

9 lecturers are involved in the implementation of the study program, compared to 13, which was during the previous evaluation in 2013. During this time, a number of teaching staff who have reached retirement age have left the RAI, as well as teaching staff who have been employed part-time. A number of teachers have been hired during the reporting period, including teachers from abroad and teachers with extensive experience in the aviation sector. In general, it has allowed to update the content of several study courses and improve their management, taking into account the experience of the invited lecturers in the field. This is especially true for courses in the research and design work and management block.

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 academic and scientific qualification of the teaching staff of the study program, professional work experience in the respective field, regular supplementation and improvement of knowledge in the appropriate in-service teacher training program fully comply with the conditions of the study program implementation and regulatory enactments.

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).

There are no doctoral study programs in the study field.

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).

There are no doctoral study programs in the study field.

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.

RAI supports the active participation of the teaching staff of the study program in scientific research and publication of the obtained results. For this purpose, the university has introduced a motivation system that stimulates the participation of teachers in scientific conferences and the preparation of publications. A list of faculty publications is attached. The results obtained in the research work, their analysis and conclusions are used in practical classes with students, in the development and improvement of study courses, as well as in the modernization of RAI technical and information support.

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).

Cooperation between teachers is sufficiently effective at RAI. Cooperation shall take the following forms:

- Study - methodological meetings are organized regularly (usually three times a year);

- Seminars in the form of "Brainstorming";

- Scientific groups within the Moodle learning system.

Such cooperation allows the teaching staff to discuss topical issues of the study and study process, exchange experience and improve the content and structure of study courses with the aim to increase the quality of studies and academic work.

The implementation of the professional master's study program "Transport Systems Management" is ensured by 9 representatives of the teaching staff, six of whom have been elected to the academic positions of RAI docent or lecturer. Most of the teaching staff of RAI have extensive experience in academic and professional work outside the university, as well as experience in scientific work. The qualification and professional experience of the teaching staff fully complies with the requirements of regulatory enactments and the conditions for the implementation of the study program.

The ratio of students to teaching staff in the study program is 8/9. However, in this regard, it should be taken into account that practically every lecturer is also involved in the implementation of other fields of study and study programs, and in addition participates in the implementation of in-service training courses and professional development programs. In addition, part of the teaching staff, especially those employed as visiting teachers, work part-time.

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	11_3_piel_TSV_Stat_Data.pdf	11_3_piel_TSV_Statistikas dati par studējošajiem.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	en 12_3_piel_TSV_Salīdz_valsts_izglītības_standarts.pdf	12_3_piel_TSV_Salīdz_valsts_izglītības_standarts.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	en14_3_piel_TSV_Studiju_kursu_kartējums.pdf	14_3_piel_TSV_Studiju_kursu_kartējums.pdf
Curriculum of the study programme (for each type and form of the implementation of the study programme)	Study program plans_TSV.xlsx	studiju programmu plāni_TSV.xlsx
Descriptions of the study courses/ modules	TSM.rar	TSV.rar
Description of the Study Direction - Other mandatory attachments		
Sample of the diploma to be issued for the acquisition of the study programme.	TSVm_paraug_ENG.pdf	TSVm_paraug_LV.pdf
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	01000-4.1-e_59.edoc	01000-4.1-e_59.edoc
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	Extract_TsV.Master's_St_ligums.pdf	Extract_TsV.Master's_St_ligums.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.	22_app_Confirmation of the level of English.pdf	22_piel_Apliecinājums angļu valoda.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	TsV.Master's_St_ligums.pdf	TsV.Master's_St_ligums.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.		