JOINT REPORT BY THE EXPERTS ON THE INCLUSION OF A LICENSED STUDY PROGRAMME ON THE ACCREDITATION FORM

Riga Technical University

STUDY FIELD

Transport Services

STUDY PROGRAMME

"Logistics and Supply Chain Security"

Experts:

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I. Summary of the Assessment

Riga Technical University (hereinafter referred to as: the RTU) the professional master's study programme "Logistics and Supply Chain Security" is in the process of becoming a fully approved constitutive part of the "Transport Services" study field. The study programme has been implemented by the Department of International Business, Transport Economics and Logistics as a structural unit of the Faculty of Engineering Economics and Management (hereinafter referred to as: the FEEM). An important task of the Study field is to prepare internationally recognized, highly qualified specialists in various fields of the transport services sector.

The topicality of the study programme may be deemed adequate as quality logistics influences the efficiency of any business process or organisation, especially if considered that today's businesses often involve operations at geographically larger areas or globally. The dynamics of the student number is inconclusive and the evaluation process has failed to establish employment opportunities for the graduated students as explained further in Section 2. Even though it may be argued that international students graduating from the study programme may seek employment in Latvia and hence address the needs of the local labour market, unfortunately this is an unlikely scenario given the Latvian language proficiency requirement formally existing in companies operating in the Latvian public sector.

The compliance of the study base may be deemed adequate but only because of the generic nature of the learning outcomes set. At the same time, even though the lack of dedicated IT solutions underpinning the teaching on contemporary logistics was identified as one of the study programme's critical weaknesses in the licensing process, not much has been done since to remedy such a situation. As for the financial base of the programme, the RTU is a publicly funded institution and as such enjoys a comfort of secured long-term financial stability through public funds.

The university involved the scientific and academic staff of RTU in the implementation of the study programme. During the previous assessment, the following was indicated as one of the weak sides: The participation of academic staff in projects specifically in the field of logistics is not sufficient, specifically the teaching staff of transport and logistics study courses do not participate in such projects. The participation of academic staff in projects specifically in the field of logistics is still not sufficient. Although several observations made in the Self-Evaluation Report (hereafter referred to as: the SER) are very reassuring, they cannot be considered as to have been backed by adequate evidence. The study programme mostly complies with the requirements of the Law on Higher Education Institutions and other applicable regulations. The study programme may be found as partially compliant with the corresponding study field primarily because it does not address critical issues pertinent to the contemporary transportation and logistics such as those related to climate change, transport sustainability and others.

There is a list of recommendations elaborated in the section IV. Recommendations.

II. Description of the study programme

1. Indicators describing the Study Programme

1.	Name of the higher education institution/college	Riga Technical University (RTU)
2.	Name of the study field corresponding to the study programme	Transport Services
3.	Name of the study programme	Logistics and Supply Chain Security
4.	Code of the study programme in accordance with the Latvian Education Classification	47840
5.	Language of study programme implementation	Latvian and English
6.	Amount, duration, form and type of the study programme (also distance-learning)	1. implementation variant - 40 CP (60 ECTS), 1 year, full-time studies 2. implementation variant - 60 CP (90 ECTS), 1 year and 6 months, full-time studies 3. implementation variant - 80 CP (120 ECTS), 2 years, full-time studies
7.	Admission requirements	1. implementation variant: Professional bachelor's degree in business logistics and professional qualification of logistics manager or comparable education. 2. implementation variant: Professional bachelor's degree and/or 2nd level professional higher education in commercial sciences and administration, economics, law, engineering and technology, manufacturing and processing or construction thematic areas or comparable education. 3. implementation variant: Bachelor's degree in natural sciences, engineering, environmental sciences, economics, management science and administration or comparable education.
8.	Address of the study programme implementation, indicating whether the study	Kalnciema iela 6, Riga

	programme is implemented in the branches of the higher education institution / college	Faculty of Engineering Economics and Management (FEEM)
9.	Degree, professional qualification or degree and professional qualification to be awarded	Professional master degree in supply chain management and supply chain manager professional qualification
10.	Date of study programme licensing	14.12.2022.
11.	Date of starting the implementation of the study programme	30.01.2023.
12.	Accreditation term of the study field	31.12.2024.

Analysis

1. Compliance of the study programme with the study field.

The study programme is said to has been designed as a modern interdisciplinary programme (p.4 of the SER) yet to be included in the "Transport Services" study field. The study field on the other hand has been set to "…*provide students with sustainable multi-stage education in the field of transport services*…". Despite the aims, from the study course descriptions made available as a part of the given evaluation process, as well as the descriptions available at the RTU web site (https://stud.rtu.lv/rtu/spr_export/prog_pdf_lv.223), it may be concluded that the interdisciplinarity of the study programme is rather marginal as a number of the courses focus largely on strategic context of international logistics and supply chain, while the operational context and execution of various concrete logistical and supply chain processes is left overlooked. As for the study field, in the SER justification for both the study field as well as the study programme evaluated is often sought by referencing programme/study field key performance indicators (KPI) to the sustainability goals of the Latvian economy set forth in the Sustainable Development Strategy 2030 document. However, although this would suggest a number of the study courses taught as a part of the study programme would address issues like zero emission mobility, decarbonisation in supply chain routes and similar, only one study course – namely the "Supply Chain Strategy Management" course – includes the expressions and contemporary transport related syntagms such as "environmental", "green mobility", "energy efficiency" or similar in the corresponding course description.

The study programme is said to match changes in demands of various sectors of the Latvian economy by preparing versatile specialists able to take a wide range of job positions. This, however, may hardly be considered plausible, given that it undermines the entire idea of setting up an industry specific study programme focusing on logistics and supply chain security, as well as given that all the interviewed students demonstrated only junior level understanding of challenges of modern supply chain and logistics. Thus, for instance, with regards to the latter, as the majority of the interviewed students were employed, when asked on what particular skill/knowledge/ability acquired in their study they would consider most valuable for their current jobs and future careers, they mentioned their presenting skills and advanced Excel literacy. Taking into account the key objective of setting up the "Transport Services" study field said in the SER (p.3) to has been "…*preparing internationally recognized, highly qualified specialists*…", mastering presenting skills and MS Excel may hardly be considered as an important skill of a globally employable supply chain specialist.

2. Compliance between the title of the study programme, the degree to be awarded and the qualification (if applicable).

The title of the study programme, the degree to be awarded and the corresponding qualification may be seen as only formally mutually compliant given that the interviewed FEEM representatives struggled to provide consistent feedback on what sort of security issues the programme is set to address. For instance, one such feedback was that the study programme deals with financial and economic security of the supply chain processes. At the same time, when explaining the purpose behind the so-called Customs Control Laboratory, the security context was described as more to do with legal aspects of the goods transport.

Although the degree and qualification awarded may be seen appropriate, this has been a result of the rather generic nature of the KPIs set for both the study programme and the corresponding study field. Thus, for instance, with respect to the latter, the study field is expected to be focused on developing student's "*critical thinking*", "*intelligence*" and "*skills in identifying problems, formulating goals, and solving them*", as well as on acquiring their "*…knowledge and improve professional skills and abilities…*" (p.3 of the SER), all of which may be considered immensely generic and as such fit for a variety of study programme design and realisation scenarios.

Finally, the generic nature of the learning outcomes also leads to a conclusion that even students with different backgrounds may indeed be able to meet the requirements of such outcomes. This, in turn, means that, theoretically, it is not even needed to define different admission criteria for each of the study variants as even the least demanding requirement may be seen matching the requirements of the learning outcomes like, for instance, the ability to "*improve the supply chain process by looking for possible solutions*", or "*work both individually and in a team, using (their) knowledge and skills*" (p.8 of the SER).

3. Compliance of the study programme indicators (study programme code, amount, implementation duration) with the learning outcomes defined for it.

The RTU master's level (second cycle professional higher education) professional study programme "Logistics and Supply Chain Security" which corresponds to the study field of "Transport Services", is designed as a modern and open to cooperation interdisciplinary Study programme, which will be able partially to respond to market trends and the requirements for the improvement of the qualification of supply chain management professionals, using the structure and advantages of RTU.

Upon completion of the study programme is awarded professional master's degree in supply chain management and supply chain manager professional qualification.

The content of the Study programme complies with the requirements of regulatory enactments and has been created in compliance with the conditions of the decision of the RTU Senate "On approval of the unified requirements for study programmes of Riga Technical University in a new version". The amount of the Study programme is 40/60/80 credit points and the length are 1 year, 1 year and 6 months or 2 years in full-time studies. At the end of their studies, students must develop a master's thesis and defend them before the State examination commission in

accordance with the "Regulations on final examinations at Riga Technical University" adopted by RTU.

The study programme is coordinated with the Professional standard "Supply chain manager" (its approval year - 2021). The study programme comprises:

- by 1st implementation variant: 40 credit points (CP) of which 6 CP are compulsory study courses, 6 CP are compulsory elective study courses, 2 CP are elective study courses, 6 CP are internship, and 20 CP are Master Thesis.

- by 2nd implementation variant: 60 credit points (CP) of which 12 CP are compulsory study courses, 20 CP are compulsory elective study courses, 2 CP are elective study courses, 6 CP are internship, and 20 CP are Master Thesis.

- by 3rd implementation variant: 80 credit points (CP) of which 12 CP are compulsory study courses, 20 CP are compulsory elective study courses, 2 CP are elective study courses, 26 CP are internship, and 20 CP are Master Thesis.

The experts are convinced that the study content is up-to-date and complies with industry trends and regulatory requirements. The study programme's code corresponds to the requirements of the Latvian Education Classification and is 47840. According to experts, the conditions for admission requirements to all 3 variants are logical, correct, without significant violations.

Given the above-mentioned feedback from the interviewed students, the compliance of the study programme indicators with the learning outcomes may only be seen as partially adequate. That is, despite the generic nature of the study programme learning outcomes, the feedback from the interviewed students strongly suggests they do not hold capacities needed to manage a globally present supply chain and/or logistics. The expert team appreciates that the sample on which such conclusions have been drawn is indeed too small, given that only four interviewees have been consulted, three of which were employed, nevertheless the feedback may still be deemed relevant given the overall number of students admitted. Also, to feedback practically showcases in a very vivid way all the key shortcomings of the study programme identified in the undertaken evaluation.

Conclusions, strengths and weaknesses

Conclusions:

The study programme may be found as partially compliant with the corresponding study field primarily because of the fact that it does not address important issues pertinent to the contemporary transportation and logistics such as those related to climate change, transport sustainability and others, as well as given that it may hardly be deemed as able to generate internationally recognized highly qualified specialists which has been set as a primary objective of the corresponding study field. Even though the FEEM considers the security aspect of the study programme to be its key unique discriminator, it remains unknown what concrete practical security-centred abilities students are capacitated with upon graduation, as it is unknown which security aspects are covered in the curriculum (eg. financial, geopolitical, legal, sanitary etc.).

Strengths:

Targeting the niche with a strong demand for specialists in both Latvian economy and internationally.

Weaknesses:

Inconsistent understanding of the security context of the study programme by different stakeholders.

2. Topicality of the study programme

Analysis

1. The topicality of the study programme and the compliance of the content with the tendencies of the industry (area), the changes made since the licensing of the study programme.

The topicality of the study programme may be deemed adequate as quality logistics influences greatly the efficiency of any business process or organisation especially if taken into account that today's businesses often involve operations at geographically larger areas or globally. As such, in addition to securing capacitated staff able to sustain the company's top-line growth, maintaining qualified personnel responsible for parallel running of a functional supply chain thus making sure the bottom-line costs remain within projected boundaries is critical to any successful business operation. The RTU's Faculty of Engineering Economics and Management (hereafter referred to as: the FEEM) has recognised that need and hence set up a study programme supposed to address the management aspect of logistics and supply chain to complement the specialist profiles generated as a part of the "Logistics Systems & Supply Chain" study programme taught at the RTU's Faculty of Computer Science and Information Technology. This is seen as good example of sound academic and business practice.

Despite the generally adequate topicality of the study programme, it must be said that the programme does not address important challenges of contemporary supply chain and logistics such as those related to decarbonisation, energy efficiency and climate change. Out of 14 mandatory and elective study courses, only one of them – namely the "Quality and Environmental Management" course – has been entitled suggesting it covers these subjects, however, if the study course description available at https://stud.rtu.lv/rtu/discpub/o.28736 is consulted, it may be seen that the study course is primarily focused on the quality management issues. Furthermore, as already mentioned in Section 1 under "Compliance of the study programme with the study field", if descriptions of other study courses are analysed, it may be seen that, for instance, even though the "Supply Chain Strategy Management" course includes content such as "*Environmental and comparative analysis. Analysis of available resources*" and learning outcomes like the ability to "*...perform organizational and environmental analysis...*" (https://stud.rtu.lv/rtu/discpub/o.33496), it remains unclear what sort of environmental analysis is undertaken and according to which criteria/influencing factors (e.g. supply chain optimisation with respect to the CO_2 emissions made, optimisation with respect to the energy costs etc.).

In addition to inadequate representation of environmental issues, the study programme also fails to address important geopolitical aspects of modern supply chains and logistics. Thus, for

instance, even though it would somewhat be expected that study courses such as the "Globalization and Integration Processes in the World Economy" would cover key influencing factors of globalised supply chain and logistics like energy sources abundance/availability, chip manufacturing locations or energy supply reliability, from the corresponding study course description (https://stud.rtu.lv/rtu/discpub/o.17359) this does not seem to have been the case. The course description does not include a single reference of any of these keywords and the impression is that students are not even aware of them, let alone to be capacitated to take any of the driving factors into account when designing or optimising their real-life supply chain or logistics operations.

Finally, in addition to being generic, and hence applicable for a variety of learning outcomes, some of the study course descriptions may also be considered unsubstantiated by concrete realisation methodology, practice and/or equipment. Thus, for instance, the "Global Markets and Supply Chains" study course description suggests that after passing the exam the student would be able to "…*choose the optimal solution in the planning of supply chain processes, using special methods…*" (https://stud.rtu.lv/rtu/discpub/o.28980). However, the description provides no information on which concrete optimisation techniques, tools or practices will be studied and applied herewith. Consequently, it may be concluded that even if the topicality of a particular study course is provisionally deemed adequate, very often its content is too generic to be undoubtedly considered as properly addressing the challenges of modern supply chain and logistics.

2. Dynamics of the student number and prospects of employment for graduates.

Dynamics of the student number is inconclusive, and the evaluation process has failed to establish employment opportunities for the graduate students. Even though it is said in the SER (p.16) that in Sep 2023 28 new students got admitted and 33 potential students were at that point waiting for visa clearance (i.e. 61 prospective students overall), the feedback from the interviewed representatives conflicted these data as well as the data provided in Table 2 of the SER. Moreover, at the site visit, the feedback from the study programme heads on the actual number of students was that there were at that point, in total, 5 Latvian and 45 international students admitted which somewhat differs both the 61 prospective students and the number of students outlined in Table 2 of the SER. The expert team appreciates that the overall number changes over time, still, the differences shown are difficult to be found justifiable. Moreover, even if the data on the forecasted number of students provided in Table 2 of the SER would be considered genuine, it showcases negative growth trends (see below) which – for some reason – the FEEM management/study programme heads did not find important to address, let alone to update the forecasts such that to demonstrate more positive expectations from the study programme. Finally, when asked on the number of students the institution works with in planning and executing the study programme, the FEEM management surprisingly could not provide a straightforward answer which expert team finds a bit unusual from an institution said repeatedly to has been management focused.

Yr	NoOfStudents Enrolled	Difference	TotalNoOfStudents	Difference
22/23	4		4	
23/24	10	150%	16	300%
24/25	14	40%	23	44%
25/26	19	36%	32	39%
26/27	26	37%	44	38%

Indeed, as the study programme is yet to produce its first graduates, the employment opportunities could not have been assessed from experiences of the study programme's alumni. Nevertheless, it was somewhat expected that setting up the study programme would be preceded by a comprehensive collection of labour market analyses helping the FEEM forecasting the financial and logistics aspects of running the given study programme. This however has not been the case. In the undertaken interviews, none of the stakeholders – from the Management to teaching staff – were able to provide a straightforward answer as to the actual and forecasted number of students the institution works with to plan its activities. In contrary, the individual feedbacks provided would differ greatly and an impression was left as if setting up a figure on the target number of students to be used as a critical input for effective business planning has been rather marginalised. As the institution has – at the same time – repeatedly prided itself to have been management focused (unlike the concurrent "Logistics Systems & Supply Chain" study programme taught at the Faculty of Computer Science and Information Technology claimed to have been focusing on engineering aspects of the supply chain only), quality data-substantiated business forecasting would somewhat be expected to have been executed prior to setting up the study programme.

The commented inconclusive planning has also been illustrated in the outcomes of the 2023/24 admissions. Thus, for instance, in the documentation on the actual number of students (the document entitled "9. Statistical data on students"), which was requested and provided upon the on-site visit, it is clear that the absolute majority of the new first year students are overseas students, not the Latvian or students coming from the neighbouring countries. Even though such a token of an international interest should definitely be complimented for, still it is also a demonstration of faulty forecasting of the labour market needs. That is, both the documentation provided and the feedback gained state that the primary objective of the given study programme has been to address needs of the Latvian labour market originating primarily from the fact that Latvia has been known to have been serving as a transport hub for a number of industries. This was particularly reaffirmed in the session interviewing the potential employers which unanimously confirmed their omnipresent need for logistics specialists, as well as by the reports from the EURES (European cooperation network of employment services) quoting, for instance, that the second highest number of vacancies at the end of the QI/2023 was in the Latvian transport and logistics sector. Nevertheless, such strong affirmative feedback on the local market needs has rather been contradicted by the fact that – when asked on the reasons behind their choice to undertake the given study programme – the interviewed students all said they were simply taking the advantage of being able to receive a master's degree in a single year only, as one of the implementation variants offers that.

Finally, even though it may be argued that international students graduating from the study programme may seek employment in Latvia and hence address the needs of the local labour

market, unfortunately this is an unlikely scenario given the Latvian language proficiency requirement formally existing in companies operating in the Latvian public sector. This was confirmed in the session with the industry representatives. Moreover, the feedback from the students and employers also confirmed that most of the students in the study programme are already employed. Consequently, their contribution to addressing the Latvian labour market needs may be considered neutral or marginal as the overall number specialists operating in the sector remains the same.

Conclusions, strengths and weaknesses

Conclusions:

The rationale behind the study programme is inconclusive and needs to be updated such that to provide solid data-backed ground for sound academic and business forecasting. The topicality of the study programme may be deemed adequate but only as a result of the fact that well managed supply chain and logistics influence greatly the overall performance of any business entity, hence good understanding of the influencing factors driving the successfulness of company's supply chain and logistics as well as good management of supply chain and logistics operations is of critical importance for the company's wellbeing. Despite the articulated adequate topicality, the study programme still lacks content which would be considered to have been addressing important issues and challenges of the modern globalised supply chain and logistics. These include environmental aspects of global supply chain, geographical distribution of the important economy drivers, reliability of the energy supply and others.

Strengths:

The number of the students admitted in the academic year 2023/2024 is impressive and clearly provides a guideline for future updates of the study programme.

Weaknesses:

Questionable reasoning behind establishing the study programme.

3. Resources and provision

Requirement [R1]: Compliance of the study base, science base (if applicable), information base (including library), material and technical base and financial base with the conditions for the implementation of the study programme and for ensuring the achievement of learning outcomes.

Analysis

The compliance of the study base may be deemed adequate but only as a result of the generic nature of the set learning outcomes. As the majority of the outcomes include abilities and skills such as "*…able to determine the organization's supply chain management strategy…*", "*…able to analyse trends in globalization…*", "*…able to organize the management and control of the supply chain in accordance with the strategy…*", "*…able to work both individually and in a*

team…" and others, which may all be considered as fundamental skills of any master level graduate (i.e. ability to understand company's strategy, ability to analyse trends, ability to organise processes according to the strategy, or work in teams), achieving these skills may hardly be seen as demanding with respect to the resources underpinning the teaching processes. This is somewhat depicted in the type of physical infrastructure which the expert team was introduced to during the site visit, featuring – for instance – the so-called Design Thinking and LEGO rooms both of which may be seen as rather bizarre examples of purposeless facilities. Thus, for instance, the first room is supposed to cater for student initiatives aimed at designing and realising proof-of-concepts for their entrepreneurial ideas which is, in its essence, a well thought off concept. However, in the 21st century business undertaking, expected to gain eventually global relevance, solutioning and proof-of-concepting by means of spanners, screwdrivers, pliers and basic hand power tools can hardly be perceived as anything remotely close to meaningful. Unfortunately, the same reasoning may also be applied when analysing the purpose and facilities of the so-called Customs Control Laboratory. Apart from the above-mentioned dedicated rooms, all other physical infrastructure may be deemed as adequate, well-furnished and modern facility, matching the standards of a 21st higher education.

At the same time, even though the lack of dedicated IT solutions underpinning the teaching on contemporary logistics was identified as one of the study programme's critical weaknesses in the licensing process, not much has been done since to remedy such a situation. Thus, for instance, in the "virtual tour" of the facilities the expert team was introduced to the so-called Bloomberg Laboratory featuring – what appears to be – over capacitated PC infrastructure providing mere database browsing opportunities to students. However, when asked if the workstations shown are used for working with GIS software said to has been implemented in the curriculum (document "6. Review of implementation of recommendations"), as they all feature large double screens typical to any GIS-related undertaking, all the academics were very clear in explaining that even introductory level GIS implementation in the teaching process is yet to happen.

Another example of the questionable IT infrastructure has already been given in Section 2 when assessing the topicality of the study programme where a most vivid demonstration of the discrepancy between the programme/course study content and the underpinning infrastructure may be seen in the "Global Markets and Supply Chains" study course. Even though the course is set to capacitate students to optimise company's supply chain and logistics, the optimisation process does not seem to include any corresponding modern IT aid.

The study programme has been realised by the Department of International Business, Transport Economics and Logistics as a structural unit of the FEEM Customs Institute. The institute has already accumulated practical experience in providing similar master level study programmes at the RTU and as such there are no reasons to maintain its academic staff would not be capacitated enough to realise all of the programme's study courses.

As for the financial base of the study programme, the FEEM is a publicly funded institution and as such enjoys a comfort of generally secured long-term financial stability through public funds. However, despite the comfort, some degree of awareness on the importance of securing self-generated revenue streams needed to support a certain level of financial independence should be exercised. In this regard, although the study programme has been well advocated by all the parties interviewed, as commented earlier in Section 2, the FEEM has failed to provide assurances for its long-term sustainability, as it has demonstrated questionable long-term

planning to have taken place resulting in volatile number of students admitted. Equally so, instead of devising a well thought-off phase out plan, the only mechanism addressing possible discontinuation of the study programme has been a legally-required confirmation letter stating the students would be compensated financially in cased the study programme would not be accredited or revoked.

Conclusions, strengths and weaknesses

Conclusions:

It may be deemed that material, technical and financial foundations have been provided to secure successful operation of the study programme, but more challenging study programme outcomes should be considered which, in turn, would also require corresponding improvements in resources underpinning the study programme to be accounted for. Also, the institution has not put in practice the recommendations on the IT provisions advocated in the licensing process.

Strengths:

Modern and capacitated facilities.

Weaknesses:

- Remaining lack of IT tools, solutions and practices utilised in the realisation of the study programme.

- Questionable reasoning behind facilities such as the purpose-built LEGO, Bloomberg or Design Thinking rooms/labs.

Evaluation of the requirement [R1]:

Requirement	Compliance			Justification
Compliance of the study provision, science provision (if applicable), information provision (including library), material and technical provision and financial provision with the conditions for the implementation of the study programme and for ensuring the achievement of learning outcomes.	Fully compliant	Partially compliant	Non-compliant	The study programme features rather undemanding learning outcomes which puts less pressure on the provisions needed to facilitate the study programme. Most of the study programme outcomes are aligned with the professional standard, but may be considered mostly
		X		

				adequate. Also, there are some discrepancies between the info provided in the document and the feedback received from the interviewed academics (related to supply chain digitalisation).

Requirement [R2]: Compliance of the qualification of the academic staff and visiting professors, visiting associate professors, visiting docents, visiting lecturers and visiting assistants with the conditions for the implementation of the study programme and the requirements of the laws and regulations.

Analysis

RTU involved the scientific and academic staff of RTU in the implementation of the study programme - a total of 19, including: 17 with a doctorate degree, 2 with a master's degree.

The justification for the selection of teaching staff is based on the field of activity, scientific experience, achievements, research, etc., directed to the specifics of the study programme and study courses. Industry experts are invited as guest lecturers for the implementation of study courses. Young teaching staff and scientists whose activities and research areas are related to logistics and supply security are involved in the implementation of the study programme. As necessary and for the content of the study course at the discretion of the responsible teaching staff, guest lecturers are engaged (1-3 times within the study course) who work in companies and are familiar with the theoretically learned material at a practical level. The university administration regularly invites lecturers from foreign universities, organized introductory lectures in which they share theoretical and practical knowledge, talk about their experience and operating principles in the respective country. Weaknesses were not detected. However, the experts noted that one of the teaching staff (Appendix 3.2 "List of academic staff", No. 7 - "A.K.") is a full-time employee of both RTU and Transport and Telecommunication Institute TSI.

The level of knowledge of the teaching staff, based on the list of teaching staff and CVs attached to the Application, gives an idea of the optimal level of knowledge of the English language (not lower than B2), which is sufficient to ensure the implementation of the study programme also in English.

During the licensing of the study programme, the following was indicated as one of the weak sides: *"The participation of academic staff in projects, specifically in the field of logistics, is not*

sufficient, specifically the teaching staff of transport and logistics study courses do not participate in such projects". In response to the recommendation, the university reported on full implementation and listed two project applications (Annex 3.6. Review of implementation of recommendations, # 4) to be submitted: one for the Erasmus+ Train4RailBaltica project and the other for the Connecting Europe Facility project "Cross-border operational digital platforms for energy and transport". Although both projects are considered a good step forward in meeting this recommendation, RTU was unable to provide additional information on the level of targeted participation in these projects. Consequently, it is difficult to assess the extent to which these projects – if approved – would contribute to the quality of the curriculum and the institution.

Conclusions, strengths and weaknesses

Conclusions:

The study programme involves 19 representatives of academic staff with a high level of qualification, necessary and sufficient for the implementation of a professional master's study programme. The study process of this study programme involves visiting academics who are representatives of the industry.

Strengths:

- The study programme employs 89% of academic staff with doctoral degrees.
- A high number of academics scientific articles in the field of logistics.

Weaknesses:

The participation of academic staff in projects specifically in the field of logistics is still not sufficient, only 2 projects corresponding to the academic staff of transport and logistics study courses have been planned.

Evaluation of the requirement [R2]:

Requirement	Compliance			Justification
Compliance of the qualification of the academic staff and visiting professors, visiting associate professors, visiting docents, visiting lecturers and visiting assistants with the conditions for the implementation of the study programme and the requirements of the laws and regulations.	Fully compliant	Partially compliant	Non-compliant	The academic staff is compliant for implementing the Study programme, as well as legislative requirements. The participation of academic staff in projects specifically in the field of logistics is still not sufficient.
	X			

Requirement [R3]: The study programme for obtaining a master's or doctoral degree is based on the achievements and findings of the respective field of science or artistic creation (if applicable).

Analysis

Although a number of observations made in the SER are very reassuring, they cannot be considered as to have been backed by adequate evidence. Thus, for instance, in the report it is suggested the teaching process includes students undertaking various optimisation tasks focusing on solving real-life problems. This, however, could not have been confirmed in the undertaken interviews and students – when asked on the most advanced and valuable skills they are expected to be capacitated with upon graduation – mentioned nothing on their supposed experiences with Matlab, PSPP or linear programming suggested in the report. Moreover, the report says the teaching staff gained significant experience in practical applications of these methods and/or technology, however, similar to students, academics too could not provide concrete evidence on what sort of practices they have been involved with.

As discussed earlier in Section 2, although nominally sound, the reasoning behind the study programme may be deemed dubious. For instance, despite that the institution has gone to a great extent advocating the importance of the study programme and justifying it by its supposed timeliness and trend-matching adequacy, the reasoning provided by the students prove otherwise. Thus, none of the students who were present in interviews had chosen the study programme by assessing its sectoral relevance or employment potential but was more interested in the practicality of achieving the degree. Also, although the notion that managing a supply chain and/or logistics processes requires a mindset of a manager not an engineer was repeatedly exercised during the visit, the experiences from the employer's session prove contrary as it happens that one of the industry representatives managing a major transportation company is a naval engineer, yet still clearly able to manage the company successfully. Incidentally, the same person participates in the teaching process too by taking part in the study course dealing with global market and supply chain basic principles.

In assessing contemporary sectoral challenges there is lack of systematic data-substantiated approach, which defines the niche the institution would like to excel in. The institution does not seem to have implemented a practise of running performance analyses set to evaluate its efficacy, apart from those mandatory by the corresponding laws and regulations. As such, in the undertaken evaluation process, no evidence has been shown proving achievements and findings of the respective field of science had been carefully analysed and the results have been using in designing the study programme.

Conclusions, strengths and weaknesses

Conclusions:

The study programme is yet to produce its first graduates, and they are yet to demonstrate their abilities in pursuing their careers as logistics professionals. It is somewhat difficult to assess to which extent the study programme matches the challenges of the corresponding sector as its planned outcomes are yet to be validated practically.

Strengths:

The RTU clearly has a reputation of a forward thinking and capacitated higher education institution able to match even the most advanced challenges of today's economy. As such, by proper cross-institutional teaming and doing, the institution is undoubtedly able to set up a sound study programme targeting logistics and supply chain specifics.

Weaknesses:

Lack of systematic data-substantiated approach in assessing contemporary sectoral challenges and hence defining the niche the institution would like to excel in.

Evaluation of the requirement [R3]:

Requirement	Compliance			Justification
	Fully compliant	Partially compliant	Non-compliant	
The study programme for obtaining a master's or doctoral degree is based on the achievements and findings of the respective field of science or artistic creation (if applicable).		X		The study programme is yet to produce concrete evidence in a form of the experiences from the professional careers of the graduated students which would help assessing to which extent the study programme matches the challenges of the corresponding sector

Requirement [R4]: Compliance of the study programme with the requirements of the Law on Higher Education Institutions and other laws and regulations.

No.	Requirement	Fully compliant	Partially compliant	Non-compliant	Justification

| 1. | The study programme complies with the State Academic Education Standard or the Professional Higher Education Standard, including the minimum requirements for the content of the compulsory civil protection course and the content of civil protection training for employees specified for the implementation of the study programme.

The study courses of the professional study programmes include a module for the development of professional competence of entrepreneurship in the amount of at least 6 CP, if it has not been acquired in the previous professional study programme or is not included in the theoretical basic courses of the study programme branch (field of professional activity). | X | | | Based on the Cabinet of Ministers Regulations No.305 "Regulations on the State Professional Education Standard", the Study programme complies with the standard of professional education |
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| 2. | The study programme complies with a valid professional (occupational) standard, or with the requirements of professional qualification (if it is not necessary to develop a professional standard for the profession), if a professional qualification is awarded after acquisition of the study programme | X | | | 3.9 of the submission. the appendix "Compilance with the Professional Standard". The study programme complies with a valid professional standard of "Supply chain manager", with the requirements of professional qualification. |
| 3. | The code of the study programme complies with the Cabinet regulations on the Latvian Education Classification | X | | | The code of the master study programme - 47840 is in accordance with the Latvian Education Classification |
| 4. | The qualification of the teaching staff [1] complies with the conditions and requirements set for the implementation of the | X | | | Qualification of teaching staff, referring to 3.4. "CV of teaching staff". "List of academic staff" of the |

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[1] *As used in this document, the term "teaching staff" refers to the academic staff and visiting professors, visiting associate professors, visiting lecturers, visiting lecturers, and visiting assistants of the corresponding higher education institution / college.*

	study programme, which are specified in the regulatory enactments in the field of education including the participation in the implementation of an academic study programme of at least five professors and associate professors together who have been elected to academic positions in the respective higher education institution, except in the cases provided for in Section 55, Part two of the Law on Higher Education Institutions.				appendix, meets the implementation conditions and requirements. Teaching staff are elected in the specific higher education institution (except for the cases provided for in Article 55, Article 2 of the Law on Higher Education Institutions).
5.	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 the European Language Proficiency Assessment levels (the division of levels is available on the website www.europass.lv), if the study programme or any part thereof is to be implemented in a foreign language **or** proficiency of the Latvian language at least on the B2 level, if the study programme or a part thereof is intended to be implemented in the Latvian language and the lecturer has not acquired secondary or higher education in the Latvian language.	X			3.2 of the submission. the appendix "Confirmation - knowledge of the foreign language.pdf " contains a confirmation about the language skills of teaching staff involved in the implementation of the professional master's study programme "Logistics and supply security". Appropriate language skills are also indicated in the list of teaching staff (Appendix 3.2 of initial information).
6.	The study programme, which is intended to be implemented in a foreign language, complies with the requirements of Section 56, Part three of the Law on Higher Education Institutions	X			Taking into account study field in which the Study Programme is to be included, the evaluation of the Study Programme as well as its goals, the experts believe that the Study Programme should be

					implemented in English. This is especially true since it meets the requirements of Section 7 of Article 56 of the Higher Education Law, which mandates Latvian language study courses for foreign students (Annex 3.10. Study plans).
7.	The sample of the study agreement complies with the mandatory provisions to be included in the study agreement (if applicable).	X			According to the regulations of the Cabinet regulations no. 70, "Provisions to be included in the study contract", 4 study contract samples in LV and EN languages, for paid and budget study places, are attached (appendix 3.11). Study contracts meet the mandatory conditions.
8.	The sample of the diploma to be issued for the acquisition of the study programme complies with the procedure by which state recognised documents of higher education are issued (if applicable).	X			The diploma complies with the regulations of the Cabinet regulations no. 202 "Procedure in which documents certifying higher education recognized by the state are issued".
9.	The higher education institution/ college has confirmed that it 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 (if applicable).	-	-	-	*Information has not changed since the licensing of the study programme*
10.	The higher education institution/ college has confirmed that it guarantees to the students a compensation for losses if the	X			3.14 of the submission. the appendix "Confirmation - on compensation for losses"

	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 omissions) and the student does not wish to continue the studies in another study programme (if applicable).				
11.	At least five teaching staff members with a doctoral degree are among the academic staff of an academic doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field of science. At least five teaching staff members with a doctoral degree are among the academic staff of a professional doctoral study programme in arts (if applicable).	-	-	-	*Not applicable*
12.	The scientific and pedagogical qualification of doctors of science complies with the criteria specified in the regulatory enactments regarding the evaluation of the scientific and pedagogical qualification of a candidate for the position of a professor and an associate professor (if applicable).	-	-	-	*Not applicable*
13.	The joint study programme complies with the requirements prescribed in Section 55[1], of the Law on the Higher Education Institutions (if applicable).	-	-	-	*Not applicable*

Evaluation of the requirement [R4]:

Requirement	Compliance			Justification
Compliance of the study programme with the	Fully compliant	Partially compliant	Non-compliant	

requirements of the Law on Higher Education Institutions and other laws and regulations.	X			Study programme mostly complies with the requirements of the Law on Higher Education Institutions and other applicable regulations. However, experts point out certain shortcomings associated with formal confirmation of the required knowledge for the relevant courses in appendix "Compliance with the Professional Standard".

4. Implementation of the recommendations received during the licensing of the study programme

Assessment of the implementation of the recommendations provided by the licensing experts of the study programme.

Analysis

The recommendations from the licensing process have been formally implemented but full operational implementation of target software tools in the study programme realisation is yet to be achieved. The degree of implementation has been established by crossmatching the information provided in the "Review of implementation of recommendations" document and the SER, with the feedback gained from the undertaken interviews.

The recommendations considered by the expert team to have been most challenging are Recommendation #2 and #4 suggesting respectively that the institution should address the issue of lacking IT tools, solutions and practices in supporting the realisation of the study programme, and stronger staff participation in supply chain focused research and professional projects. Even though in the "Review of implementation of recommendations" document both recommendations are said to have been implemented successfully, feedbacks gained from the undertaken interviews prove otherwise. Thus, for instance, the document lists software (SW) tools such as the Open Door Logistics Studio, Logware, QGIS and SAP ERP to have been analysed to take part in implementing the study programme, however, all interviewed academics demonstrated clearly their unfamiliarity with these SW tools. Moreover, if individual feedbacks on the matter from different stakeholders would be crossmatched, discrepancies as to the level

of implementations may be observed despite the fact that the institution has marked the given recommendation as fulfilled. It hence remains to be concluded that either the recommendation has been implemented but has not made any significant progress, or – more likely – it has actually not been implemented yet. In this regard, in case of the latter, it is highly recommended that the institution first analyse which SW tool packages are likely to most contribute the study programme, and then devises a sound long-term plan on how to best include the SW tools into the practical realisation of the study programme.

The second most challenging improvement suggested in licencing process was that the number of participations of teaching staff in projects directly related to the field of logistics should be improved. In response to the recommendation the institution has listed two project applications to have been submitted, one for the Erasmus+ project Train4RailBaltica and the other one for the Connecting Europe Facility project "Cross-Border Operational Digital Platforms for Energy and Transport". Even though both should be complimented for and considered a good step forward in fulfilling the given recommendation, the institution has failed to provide more info on the level of target participation in the given projects. As such, it is difficult to assess to which extent these projects will – if granted – contribute to the quality of the study programme and the institution in general. Moreover, taking into account that any project application comes with a degree of uncertainty, there is a latent possibility no project would be eventually contracted which is an issue the institution has not addressed in any shape or form. It is therefore recommended more careful planning as to which types of projects to focus on and apply for is undertaken, in addition to increasing the overall number of project applications. As the success of these activities will greatly influence the successfulness of fulfilling the Recommendation #5, the institution should pay duly attention to meeting the proposed best way possible.

All other recommendations may be considered as fulfilled.

Conclusions, strengths and weaknesses

Conclusions

The recommendations have been formally fulfilled but the content of the actions taken and the effects on the quality of the study programme still remain to be seen.

Strengths

Affirmative feedback on the proposed recommendations by the institution.

Weaknesses

The response to given recommendations suggests the institution was more focused on meeting formal aspects of the fulfilment rather than on fine-tuning a particular response such that it'd best contribute study programme realisation.

III.   Assessment of the study programme

Excellent	**<u>Good</u>**	Average	Poor

IV. Recommendations

Given the findings from the undertaken evaluations, the expert team recommends the study programme "Logistics and Supply Chain Security" to be included in the "Transport Services" study field.

Recommendations for the elimination of the deficiencies identified (on a short-term basis):

1. Update the forecasts on the number of students to demonstrate sound business planning. The updated forecasts should refer to at least the 3–5-year planning period. The plans must address the fact that, so far, more interest has been demonstrated internationally and not locally/regionally. Nevertheless, the plans need to be backed by concrete data-substantiated analyses undertaken to assess Latvian economy future needs too. In doing so, it is highly advocated the strong liaisons with the industry to be utilized in ways other than mere sporadic non-systematic consultations.

   Proposed timeframe for the recommendation to be fulfilled: 3 months

2. Define key elements discriminating the study programme from the concurrent "Logistics Systems & Supply Chain" study programme taught at the RTU's Faculty of Computer Science and Information Technology. Consider a full or partial study programme merger, especially given that reducing the number of study programmes and optimizing RTU's offer of study courses has been formally recognized in the RTU Development Strategy as a key development goal. The identified discriminating factors must go beyond the trivial "We're management and they're engineers..." reasoning and need to outline far more tangible benefits for all the stakeholders involved. Thus, established discriminators need to be used in all follow-up undertakings (e.g., see Long-term recommendation #1).

   Proposed timeframe for the recommendation to be fulfilled: 3 months

3. Revise the use and purpose of the dedicated study rooms and labs (LEGO, Bloomberg, Design Thinking, and Customs Control). Make sure all of them are able to cater for state-of-the-art university level thinking and doing, instead of showcasing rather trivial examples of supply chain key challenges and practices.

   Proposed timeframe for the recommendation to be fulfilled: 6 months

4. Assess possible calls for project proposals and come up with a plan on which types of projects to focus on and apply for. Increase the overall number of project applications such that to improve absolute application efficiency and hence secure stronger academic staff involvement.

   Proposed timeframe for the recommendation to be fulfilled: 6 months

Recommendations for the improvement of the study programme (on a long-term basis):

1. Upon setting up the key discriminators explained above under "Short-term recommendations #2", revise the plans on which dedicated IT tools would best be serving the study programme.

   Proposed timeframe for the recommendation to be fulfilled: end of academic year 2023/24.

2. As a follow-up to the previous recommendation, devise and execute a detailed plan on capacitating staff to utilize the new IT tools in the curriculum's realization.

   Proposed timeframe for the recommendation to be fulfilled: end of academic year 2023/24.

3. Given the expected further interest of prospective students coming from overseas, set up a corresponding capacity building plan to address issues like staff English language fluency, distance learning techniques, tools and practices, and similar.

   Proposed timeframe for the recommendation to be fulfilled: continuously.

4. Define which sub-sectoral disciplines the institution would like to excel in and define a strategy on how to reach these objectives. Align plans commented under "Short-term recommendation #4" accordingly.

   Proposed timeframe for the recommendation to be fulfilled: end of academic year 2023/24.