RĪGAS TEHNISKĀ
UNIVERSITĀTE
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Digital transformation of HEIs education process in Ukraine and Moldova for sustainable engagement with enterprises, DIGITRANS
101127683 — DIGITRANS — ERASMUS-EDU-2023-CBHE

WP6 Management, Coordination and Quality Assurance
January 11 , 2024

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Riga Technical University

Quality Assurance system

The Quality Assurance system, introduced from the beginning of the project, will navigate self-evaluation process on the development of qualitative curricula and ensure external evaluation, arranged by external EU experts. QA will arrange measuring of the stakeholders` feedback and a degree of satisfaction from stakeholders (teaching staff, students, professional associations, etc.).

Work Package 6: Management, Coordination and *Quality Assurance*

- Administrative and financial management, financial audit.

- Purchasing, installation and lay off of equipment.

- Creation of the Quality Assurance system.

- Following up the project progress, providing corrective actions if necessary.

T6.3 Creation of the Quality Assurance system

The partners will nominate the Project Quality Assurance and Monitoring Team (QAMT) at the Kick-off meeting. The QAMT will develop the Project Quality Assurance plan (PQAP), which will be approved by the MC2. Additionally, a working group for internal quality control activities will be created at each MD-UA HEIs.

-Internal QAMT will establish the quality measures, which will be used for the project outcomes evaluation against the benchmarks and indicators.

- Development of reporting system on the QA

- Methodology for obtaining a feedback from the employers and other stakeholders on new developed curricular will be used in WP1 and WP4.

- Teachers and students training events and sessions, will be evaluated according to the quality assurance methodology. The evaluation will be arranged in the form "self-evaluation". The QAMT teams will develop a methodology for "self-evaluation": criteria of evaluation, questionnaires, the analysis form of the answers etc. The QAMT will report to WP4 leader and to the management team at MC meetings.

-The state of quality of the project deliverables will be measured by Interim and Final Quality Reports from partners with the inputs from PQAP, as well as reports provided by external experts.

RTU, all beneficiaries

Quality Assurance System Setup

DIGITRANS will establish internal quality procedures, preparing evaluation forms and guidelines, internal and external evaluations of deliverables, reporting, and accreditation/ validation of developed curricular.

The partners nominate the Project Quality Assurance and Monitoring Team (QAMT) at the kick-off meeting. Each partner will delegate to QAMT one academic/teaching staff person. The QAMT will develop the Project Quality Assurance plan (PQAP), which will be approved by the Management Committee (MC) in the beginning of the project. Working groups for internal quality control of activities will be created at each HEIs of Moldova and Ukraine.

PQAP will establish the quality measures, which will be used for outcomes evaluation against the benchmarks and indicators:

1. The developed courses and study programs design and content will be reviewed and evaluated by involved parties and stakeholders; suggestions will be offered and follow-up procedures will be determined.

2. Specific needs of different modes of delivery (e.g. lecturing, lab works, e-learning, remote labs, etc.) and target groups are considered.

3. Learning/teaching resources are available to the teachers, students and other stakeholders.

4. Formal curricular approval and accreditation procedures will be initiated and completed according to the work plan.

5. Procedures and forms for testing and evaluation of new developed courses will be created, and PCs

During the project two quality control mechanisms will be used: internal and external. For the external quality control and monitoring, two experts from non-participating EU institutions will be invited by Coordinator to carry out QA activities.

The monitoring by Erasmus+ Offices Ukraine and Moldova will be used. Evaluation by external experts will take place in the second and third project year, related to new courses piloting at PCs universities.

Quality assurance otline

Newly developed programs, both at the undergraduate and graduate level, are tested and feedback is provided from the target groups;

The indicated hardware/software is acquired to develop novel ICT-driven teaching and learning environments;

The outputs of each Work Package are monitored, reviewed and evaluated by the Quality Assurance and Monitoring Team, as well as other involved parties;

Stakeholders suggestions are solicited and follow-up procedures are established;

Common templates are used for feedback solicitation and reporting purposes;

Reports on the evaluation of the programs and curricula are prepared and delivered by following guidelines offered;

Results from the evaluation of the training programs, curricula, courses and labs are validated and all necessary modifications are undertaken to enhance their quality;

Formal program approval procedures, initiated by the appropriate academic institution units, are completed in a timely manner;

The progress and performance of participating students are effectively monitored;

Financial and management reports that adhere to high standards are prepared and submitted in a timely manner

Quality assurance outline

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Methodology for Quality Assurance includes

(a) Procedures, measures and tools for monitoring, reviewing and evaluating the activities involved in each WP;

(b) The Quality Assurance and Monitoring Team and its role in realizing the project objectives and deliverables;

(c) The working group for internal quality control and monitoring;

(d) Internal monitoring and control procedures;

(e) External monitoring and control procedures;

(f) Implementation schedule;

(g) Assumptions and risks;

(h) Risk management and contingency plan

Roles and Responsibilities

Within the consortium body, the Project Coordinator, Quality Assurance and Monitoring Team and Work Package Leaders will collaborate closely to monitor, evaluate and review the quality of all project-related activities and deliverables.

Quality Assurance and Monitoring Team members:

Nadezda Kunicina Riga Technical University Nadezda.Kunicina@rtu.lv

Please nominate representaive from partner universities

Electrical Energy Markets and Engineering Education
ELEMEND 585681-EEP-1-2017-1-EL-EPPKA2-CBHE-JP

Quality Monitoring Visit

MEDITERRANEAN UNIVERSITY – October 21, 2019

Summary of key points

1. Explicit intended learning outcomes are developed and published in the new syllabi

2. Industry (SME) representatives and students participated in syllabi design

3. The curriculum and programme design and content, output of WP2, is reviewed and evaluated by involved parties and stakeholders; suggestions offered and follow-up procedures determined

4. Specific needs of different modes of delivery (e.g. lecturing, lab work, e-learning) and target groups are taken into account

Summary of key points

5. Learning resources are available to the teachers and students (equipment availability)

6. Formal programme approval procedures by the University authorities

7. Monitoring of the progress and achievements of students is in place

8. Finance and reports

1. Explicit intended learning outcomes are developed and published in the new syllabi

- In total, 7 new courses are developed in MSc:

  1. Alternative energy sources
  2. Energy and ecology
  3. Energy market
  4. Energy storage
  5. Internet of things
  6. Software defined networks
  7. Wireless networks

1. Explicit intended learning outcomes are developed and published in the new syllabi

- MSc shoud started as 2 year study program in 2019, but such model is postponed to 2020
- MSc will be organized in 4 semesters where students enroll 10 subjects + master thesis (Obligatory 7 courses + 3 elective)
  - 1st semester – 3 obligatory courses
  - 2nd semester – 3 obligatory courses
  - 3rd semester – 3 elective courses (including ELEMEND) + 1 obligatory
  - 4th semester – master thesis work

- The syllabuses prepared for were developed by the staff engaged at Faculty of Information Technology (Mediterranean University), and with the assistance of representatives of students and SMEs.

2. Industry (SME) representatives and students participated in syllabi design

- In order to get the feedback on competence matrix as the basis for the new MSC program, an **Info-day** was organized on **May 16, 2018**.

- The event was attended by students and business representatives, who were introduced to Elemend project

- Also, project was presented at the International book and education fair on April 04-11 2019

- The Elemend platform can further improve the quality of courses

- Moodle platform has been already used, so some of the teaching materials are preparing

3. Curriculum and programme design and content

- Before the accreditation, students were introduced to the new courses, so their oppinion was also taken into the account

- No significant feedback from industry partners – generally passive in such involvement

4. Specific needs of different modes of delivery and target groups are taken into account

- The Elemend platform can further improve the quality of courses

- Moodle platform has been already used, so some of the teaching materials are preparing

5. Learning resources available to the teachers and students (equipment availability)

- Acquisition and installation of the equipment regarding ELEMEND laboratory is currently in progress.
  - There was significant delay due to the administrative changes at the level of ministries (state level)
  - Procurement procedure finished on time (november 2018), but due to the delay, equipment will be delivered in following days

- Planned equipment is **laboratory equipment** and **computer equipment**

- After establishment of the laboratory and equipment installation, teaching materials (manuals) will be prepared for laboratory purposes (mostly in the IoT field).

6. Formal program approval procedures by the University authorities

- In order to officially approve the structure of the proposed master program, proposal passed necessary discussions at the Senate of the University.

- Mediterranean University finished the accreditation procedure for the whole University, including new courses at master level, on May 13th 2019

7. Monitoring of the progress and achievements of students is in place

- Mediterranean University already have quality monitoring procedure realized through anonymous surveys by students

  - feedback will be collected through regular „Quality Assessment" survey that University executes at the end of each semester

  - As soon as the data is collected, results will be reported

  - This cannot be expected before the new accredited program is started, which will probably be in 2020

8. Finance and reports

- A total **31 055.16 euros** was spent, which accounts for **85% of the first payment installment**.

- This amount includes **travel and cost of stay**, and recently paid equipment
  - Due to the exclusion of VAT almost 6000 eur are left in budget for additional purchase
  - No staff cost are paid yet
  - University paid for the accreditation, so 3000 eur should be given back to the University

8. Finances and reports

COST CATEGORY	AMOUNT IN EURO
STAFF	0
TRAVEL	1519,12 (30% of total budget)
COST OF STAY	4 200 (30% of total budget)
EQUIPMENT	24195 (80% of total budget)
SUBCONTRACTING	0
TOTAL	**~ 30 000** (+bank fees) 5557.34 left
ADVANCE PAYMENT	36 612.58
Percentage	85%

RTU conferences

- http://www.conference.rtu.lv IEEE International Scientific Conference on Power and Electrical Engineering, annual, October

- http://itms.rtu.lv IEEE Information Technology and Management Science Conference, annual, October

- http://aieee.vgtu.lt/index.php/IEEE2017/AIEEE2023 Advances in Information, Electronic and Electrical Engineering, annual, April

- http://mttw.org/   IEEE Workshop on Microwave Theory and Techniques in Wireless Communications, annual, October

Organized Scientific Events

International Doctoral School at the RTU
https://ieei.rtu.lv/ids-ecst/

- IIEEE organized annual **International doctoral school in Electrical Engineering and Power Electronics**

- The intention is to provide **an opportunity for doctoral students to learn** about scientific innovation, share the scientific experience with leading scientists, discuss their own recent achievements.

Background

- RTU is the only polytechnic university in Latvia and the largest university in the country – it educates more than 15 thousand students.

- RTU is focused on becoming a third generation university that not only provides high quality education, but also conducts advanced research, innovation and technology transfer.

- Study programs at RTU have been persistently developed in cooperation with employers to provide tertiary education in cutting-edge technologies and engineering that meets the needs of the global labor market.

- RTU graduates easily integrate in the labor market and to develop a successful professional career.

- RTU provides opportunities to pursue a career in science to the alumni who are interested in research.

Research, Innovation and Entrepreneurship

- **Innovation and Technology Transfer Centre**

is the main unit responsible for intellectual property, innovation, technology transfer and collaboration between scientists and industry.

The main activities of the Innovation and Technology Transfer Centre:

- Technology transfer process management
- Protection and development of intellectual property
- Identification and licensing of new technologies
- Organization of conferences, seminars and visits
- Establish and develop local and international cooperation

- **Business Accelerator**

offers personalized consulting services, entrepreneurship training, collaborative workplaces, guidance from experienced market executives (mentoring) and networking with other companies to accelerate the business process from the idea to the market and the creating sustainable businesses.

- The Center offers Acceleration Services:
  - Coaching
  - Training
  - Mentoring
  - Networking
  - Working space

RTU DESIGN FACTORY

«A place where students and scientists can simply DO!»

https://drive.google.com/drive/folders/1zZ_5n_DA7E0HQMKD
oBGjDFSzvrOuDwbk

rtudf.rtu.lv

FACULTY OF POWER AND ELECTRICAL ENGINEERING TODAY

Started at the beginning of 2013 the new building of FPEE was completed in less than a year

A separate laboratory building was built in 2015 where various laboratory equipment is still being installed currently

INSTITUTE OF INDUSTRIAL ELECTRONICS AND ELECTRICAL ENGINEERING - IEEI

Structure:

- Department of Industrial Electronics and Electrical Technologies
- Department of Electrophysics
- Departament of Electrical Machines

Research directions include:

- Power Electronics for Renewables, Energy Storage Systems, Reactive Power Compensation and Active Filtering
- Electrical Drives and Motion Control
- Industrial Automation and Robotics
- LED Lighting Systems
- Decision Support Systems in Railway Automation

Laboratories of EVIF faculty

- **Latvenergo student's laboratory**

The Faculty of Electrical Engineering and Environmental Engineering has a student creative workshop set up with the financial support of Latvenergo AS, the aim of which is to develop students' practical skills in electronics and electrical engineering.

- **Laboratory of Semiconductor Converters for Solar and Wind Energy Systems.**

The laboratory carries out research in renewable energy resources in order to integrate them into traditional power supply systems.
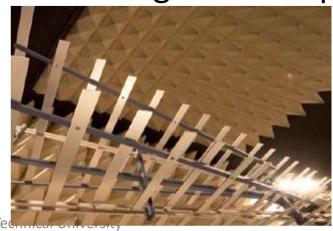
Laboratories

- **Accredited EMC testing laboratory "LEITC"**

RTU EMC testing laboratory "LEITC" is located in RTU facilities, created and sustained together with Latvian Electrical Engineering and Electronics Industry Association – LETERA.

EMC laboratory provides technical base for experiments and research in electromagnetic compatibility and electrical safety.

Laboratories

- **Science Laboratory of Electromechatronics**

The Laboratory's current focus lies on the research of human-robot interaction with physical motion simulator based on KUKA KR 600 R2830 with passenger, BEC gondola shell including projection system and software licenses for BEC simulator-software.
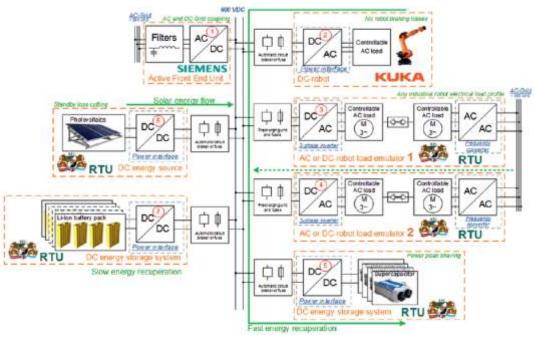
Laboratories

- **Laboratory of Industrial Robots and DC Micro-Grid Research**

DC Micro-Grid LAB was especially developed for H2020 project AREUS demonstration purposes, and is able to demonstrate novel AREUS approach of industrial DC power supply system where energy is exchanged, harvested, stored and recovered at factory level.
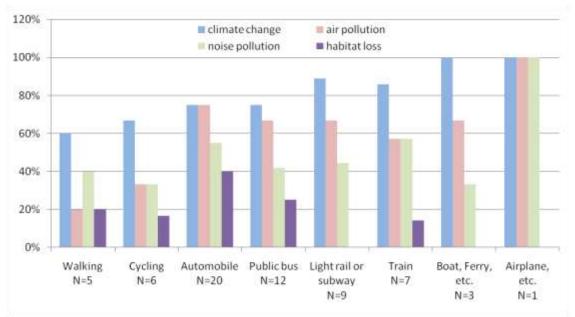
Indicators of environmental sustainability in transport

COST 356 Indicators of environmental sustainability in transport:
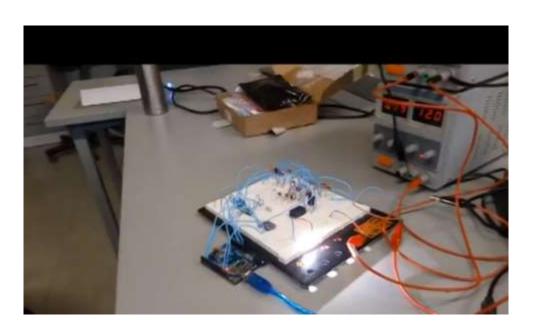An interdisciplinary approach
to methods

Percentage of documents that use indicators for the different modes

PBL at the course of Elements of automations

Mixed group of Erasmus exchange and international master students in RTU student's development laboratory

A prototype of VeloLight solution

The practical development of Smart pill box

'Smart pills" prototype creation process

Demonstration of product prototype

Smart pill box development project was a challenge for students.

The initially thought of using a micro solenoid for the control of gates, but we had to deal with a huge setback considering the solenoid was a failed idea.

Then decided to control the gates with a more convenient way by using a micro DC motor.

During the course of the development the students found out that it is hard to implement app based control of the smart pill box, however they managed to do it with Bluetooth connectivity.

In this course, the involvement of students in the idea development process through individual contribution and group training was successfully tested

Erasmus+ KA171 cooperation

globalerasmus <globalerasmus@rtu.lv>;

Sabīne Baltaisbrence <Sabine.Baltaisbrence@rtu.lv>;

Maija Ļebedeva <Maija.Lebedeva@rtu.lv>

HEI INFORMATION

Country: _Kazakhstan_____
Legal Name of the HEI: Al-Farabi Kazakh National University
Organization ID: E10152790_____
Email address of contact person: Madina.Mansurova@kaznu.kz

PART 1: MOBILITY ARRANGEMENTS AND RATIONALE

A) How many mobilities are you interested in implementing with RTU over **the next three years**? Please indicate a number for each mobility type and flow below.

B) Please provide a **detailed** and **specific** rationale for the numbers you have indicated below for each mobility type and flow as it relates to your organization's strategy, capacity, and previous international cooperation experience.

Student Mobility

Outgoing students - BA	Number: 6	**Rationale:** Al-Farabi Kazakh National University (KazNU) has a high academic reputation and quality programs in the field of computer science and intelligent control systems. This can be a key motivator for students seeking high-quality education. Al-Farabi Kazakh National University is one of the leading universities in Kazakhstan, which trains highly qualified specialists in various fields of science and technology. In recent years, the university has been paying special attention to the development of training programs in the field of information technology. Studying at RTU will allow students to get acquainted with the culture and traditions of Latvia, as well as develop their skills of intercultural communication and cooperation. These skills will be necessary for students in their future careers, as they will allow them to work in multinational teams and interact effectively with people from different cultures.

Latvian state scholarships

Call for applications for the Latvian state scholarships 2024/2025
In accordance with bilateral agreements on co-operation in education and science concluded between Latvian government and a few countries Latvia offers scholarships to foreign students, researchers and teaching staff for studies and participation in summer schools in Latvian higher education institutions (HEIs) in the 2024/2025 academic year. The Ministry of Education and Science of Latvia has delegated the administration of the Latvian state scholarships to the State Education Development Agency (Valsts izglītības attīstības aģentūra – VIAA).
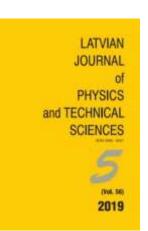
Applicants from Moldova and Ukraine are welcome

SCIENTIFIC JOURNALS

Electrical, Control and Communication Engineering
The Journal of Riga Technical University
https://content.sciendo.com/view/journals/ecce/ecce-overview.xml?tab_body=editorial

http://fei-web.lv/en/journals

LATVIAN JOURNAL of PHYSICS and TECHNICAL SCIENCES

Special issue
[Sustainability] Special Issue "Advances in Education for Sustainable Computing, Communications and Applied Engineering"
Sustainability receives its 9th Impact Factor, 3.889 (2021)
Deadline for manuscript submissions: **31 January 2024**
https://www.mdpi.com/journal/sustainability/special_issues/A552B3XK6D

Special issue [Electronics]
IoT-Enabled Smart Devices and Systems in Smart Environments
A special issue of *Electronics* (ISSN 2079-9292). This special issue belongs to the section "**Industrial Electronics**".
Deadline for manuscript submissions: **15 September 2024** | Viewed by 23
https://www.mdpi.com/journal/electronics/special_issues/D5I85GMU5D

About IEEE

IEEE Latvia section

- The IEEE Latvia Section is part of Region 8 and covers the area of the Republic of Latvia.

- Population of Latvia – less than 2 million

- Industry – mainly small & medium enterprises

- The IEEE Latvia Section was founded 16/02/2008. Six chapters and AGs created:

1 IEEE Latvia Section COM/MTT/AP Joint Societies Chapter
2 The Latvia Section of Women In Engineering Affinity Group
3 IEEE Latvia Section Power Electronic, Industrial Electronic and Industrial Application Societies Joint Chapter
4 IEEE Education Society Latvia Chapter
5 IEEE Latvia Section Student Branch
6 IEEE Computer Society Latvia Chapter

Number of members 129   www.ieee.lv

- Workshop on Advances in Wireless and Optical Communications RTUWO, Location: Riga, Latvia, organized & published in IEEEXplore in 2015-2018, indexed Scopus, Wos

- IEEE International Information and Communication Technology Festival ICTFest, organized from 2022

- IEEE Energycon'2022 (09.05.2022 - 12.05.2022)

- The 34th Conference of the Open Innovations Association FRUCT (15.11.2023 - 17.11.2023)

IEEE LATVIA

2009, IEEE Education Society Chapter

2010, IEEE Computer Society Chapter

2011, IEEE Latvia Section Student Branch at Riga Technical University

2013, IEEE Power Electronics, Industrial Electronics, and Industry Applications

Societies Joint Chapters foundation

2017, IEEE Women in Engineering Affinity Group

2018, IEEE Latvia Section COM/MTT/AP Joint Societies Chapter   http://com.ieee.lv

Latvia Section Affinity Group, WIE (WE80010) - Affinity Group Chair   Anna Mutule

Latvia Section Chapter, C16 (CH08689) - Chapter Chair   Janis Grabis

Latvia Section Chapter, E25 (CH08652) - Chapter Chair   Guntis Arnicans

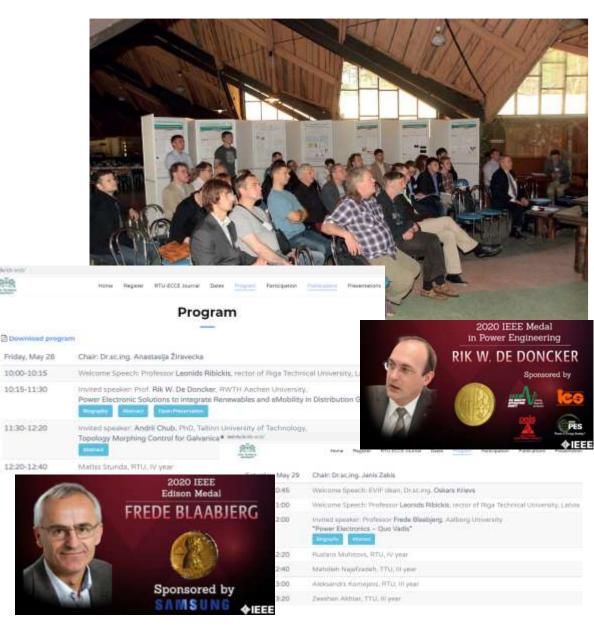Latvia Section Joint Chapter, PEL35/IE13/IA34 (CH08770) - Chapter Chair   Ilja Galkin

IEEE Latvia – Strengths I

- Increased activity of Latvia section and chapters, even recognized at societies level: IEEE Latvia Section COM/MTT/AP Joint Societies Chapter have been recognized by MTT-S and got award for membership recruitment and retention efforts within the Chapter for 2020 year.

- Due to the increased activity of Latvia section and chapters, the new member recruitment equally high for students and Higher Grade (HG) has been obtained.

- Retention trends are comparable stable during the last four years, which is very promising considering the pandemic situation in the world globally and in Latvia particularly (lockdown, social and economic crisis).

- Even the increased number of IEEE Latvia section members last year.

- Collaboration with other sections, strong links with Baltic sections, common events organization: conferences, summits, distinguished lectures, etc.

Organized Scientific Events
International Doctoral School

- End of May annual **International doctoral school in Electrical Engineering and Power Electronics** at RTU sports campus "Ronīši" close to the sea.

- The duration of the school is usually 2-3 days giving the post-graduate students an opportunity of listening to **Latvian and world-known leading professionals lectures** as well as informing about their own research and results.

- The intention is to provide **an opportunity for doctoral students to learn** about scientific innovation, share the scientific experience with leading scientists, discuss their own recent achievements.

Organized Scientific Events

ICT FEST 2023

- **IEEE Day, IEEE Workshop on Microwave Theory and Techniques in Wireless Communications (MTTW'2023)** http://mttw.rtu.lv/

- **IEEE Section of Information Technology and Management Science (ITMS'2023)** http://itms.rtu.lv/

Organized Scientific Events

- **International Scientific Conference on Power and Electrical Engineering**

- **http://www.conference.rtu.lv/**

Thank you for the questions!