TRANSPORTA UN SAKARU INSTITŪTS

Scientific Activity Report

2015

This report provides information on the aims and objectives of the research activities, scientific publications of the TTI reserachers - articles in journals and collections of articles from the conferences, monographs and patents as well as it identifies priority areas of research, describes the local and international conferences held at the Institute and scientific journals published by the Institute.

FOREWORD

Transport and Telecommunication Institute (TTI) is one of known Latvian research and academic entity in Baltic States and European Union. This is proved first of all by its operation results in field of research and innovations. The year 2015 was very successful for Transport and Telecommunication Institute in the area of research. The achievements of this year are great and will continue development of Institute.

By this year institute got ERDF grant to improve its institutional capacity target on research and innovation. In the frame of this grant the Research Programme of TTI (2016 -2020) was developed by leading researchers and academic staff. The document provides deep analysis of current situation, plans KPI's and provides planning of activities to raise research level. In frame of the grant new collaboration links were established with number of Latvian and EU level research entities by signing cooperation agreements with detailed activity plans in annex.

In 2015 TTI was established International Scientific Advisory Board. The Advisory Board is the primary external advisory body for the research establishment of Transport and Telecommunication Institute. The Board is charged with providing input and advice related to the scientific and research agenda, management, and funding for research of the Institute. Board members transmit their findings to the Vice-Rector for Science and Development Affairs. The board members are representatives of EU level entities: Univ.-Prof. Dr.-Ing. habil. Prof. E. h. Dr. h. c. mult. Michael Schenk (Germany, Fraunhofer Institute for Factory Operation and Automation IFF), Prof. Dr. Nicos Komninos (Greece, Aristotle University of Thessaloniki, Urban and Regional Innovation Research (URENIO)), Prof. Dr. Andres Monzon De Caceres (Spain, Transport Research Centre, Polytechnical Univercity of Madrid).

This year also was very intensive for promotional council of TTI. In total 6 defence of PhD students were successfully completed; a half of PhD students are researchers of TTI, a half are representatives of the business entities.

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1. GENERAL INFORMATION

1.1. Mission, vision, goal, objectives

Mission. The mission of the Transport and Telecommunication Institute (TTI) is adaptive to the needs of society academic and scientific activities at the international market in the interdisciplinary areas based on the fundamental achievements in the sphere of high technologies in the form of open cooperative environment.

Our vision for the Research Strategy is:
Research excellence and innovation are integral to the vision of the Transport and Telecommunication Institute. Our goal is to address fundamental and strategically important questions, and to deliver economic, social and cultural impact at regional, national and international levels. We engage in internationally leading research activities and collaborations.

Our Strategy is informed by the following set of values, by which the University will judge the merits of planning and investment decisions for research:

1. Research excellence contributes significantly to our reputation, both at a national and international level.
2. We engage in high quality research, both basic and applied, to answer fundamental and strategically important questions and to benefit the wider community.
3. Research informs our teaching and we seek to engage students in our research programmes.
4. We value the expertise of our staff and students, and are committed to supporting them to reach their full research potential.
5. We are committed to maximising the income associated with our research and through this providing the sustainable environment needed to enhance our research.

The TTI will:

- support the highest quality research and develop collaborations that enhance the contribution of research to the broad portfolio of our activities;
- support and develop excellent researchers within a sustainable research culture;
- promote and publicise the contributions that our research makes to the advancement of knowledge and to wider economic and societal benefit.

Strategic objectives

The University Research Strategy is presented as a series of objectives under six main themes:

Theme 1: Research excellence and profile

1. To support and enhance existing areas of excellent research.
2. To identify and develop emerging areas of research excellence, including those that cross traditional subject or discipline boundaries.
3. To achieve an optimal performance in the national system of accreditation of scientific organizations, thereby maintaining a visible, quality assured research standing in the academic community and beyond.
4. To support the effective dissemination of original and significant research outputs through high quality outlets.
5. To understand, influence and respond to external research priorities at both national and international levels.

Theme 2: Collaboration

6. To promote and support collaboration in order to extend the quality and breadth of our research.
7. To provide support for collaborations that address strategically important priorities, including interdisciplinary research.
8. To develop sustainable collaborations nationally and internationally, working with leading HEIs, research institutions and other organisations, including industry and other commercial partners.

Theme 3: Sustainable research environment

9. To increase the proportion of academic staff engaged in high-quality research through recruitment and ongoing staff development.
10. To direct targeted investment towards key infrastructure and an agile research support system which fosters and sustains high quality basic and applied research and responds promptly to emerging opportunities.
11. To enhance the resilience of our research base by diversifying our engagement with external funding streams.
12. To recruit, develop and retain high-quality postgraduate research degree students and to provide them with a stimulating and supportive research environment and development opportunities.

Theme 4: Supporting researchers and research leaders

13. To attract, retain and reward high quality academic and research staff who are able to make a significant contribution to our research profile.
14. To encourage all staff and research degree students to reach their full research potential and to support their career development.
15. To facilitate best practice in research leadership and management, including equal opportunities and diversity.
16. To make good use of our collaborations to develop opportunities for career and skill development.

Theme 5: Research informs educational strategy

17. To ensure that the curriculum is informed and enriched by research.
18. To engage research-active academic staff at all levels in teaching.
19. To foster the development of research skills in students and to engage them in research, where appropriate, through taught programmes.

Theme 6: Social, economic and cultural impact

20. To engage with partner organisations and communities to inform our research and deliver social, cultural and economic benefits.
21. To exploit the potential of the University's research both to generate resource for the Institution and in order to offer solutions to real- world problems.
22. To promote the impact and value of our research, to generate public understanding and awareness of the University and its contribution to society.

1.2. Research infrastructure

The research infrastructure of TTI is coordinated by the Research Department of TTI and it is presented in Figure below.

The Centre of Telecommunications, Electronics and Robotics was founded in 2013 in the framework of project IKAR with financial support of ERDF. The centre includes nine laboratories equipped with the latest software and hardware widely used in academic and research activities. Each laboratory is a collection of

contemporary technical, software and methodological maintenance, which allows conducting classes with students at the highest level. The following laboratories were formed and equipped as part of the centre:

Laboratory of Physics and Electrical Machines. The laboratory is equipped with training equipment of the company PHYWE, which allows students to explore the effect of the fundamental laws of physics. At the same time, the electrical machine equipment from the manufacturer K&H MFG, helps to understand the principles and work of modern electric motors.

Laboratory of Modelling of Electronic Systems. Computer class with modern software, which allows to execute the simulation of the work of electric circuits and the designing of printed circuit boards. The list of software includes: Electronic Design Automation package OrCAD; Functional Modelling (Simulation) System Proteus VSM; Modelling (Simulation) System of Industrial Standard NI Multisim; Graphical Programming System NI LabVIEW; Designing System for Microcontrollers AVR Studio; Designing System for PLIC (programmable logic integrated circuits) Xilinx ISE WebPACK and others.

Laboratory of Embedded Systems and Digital Signal Processing. The laboratory is equipped with special debug kits with modern microcontrollers AVR, Freescale, STMicroelectronics, as well as programmable logic circuits XILINX. The equipment of laboratory allows designing and exploring of digital signal processing systems and intelligent control systems.

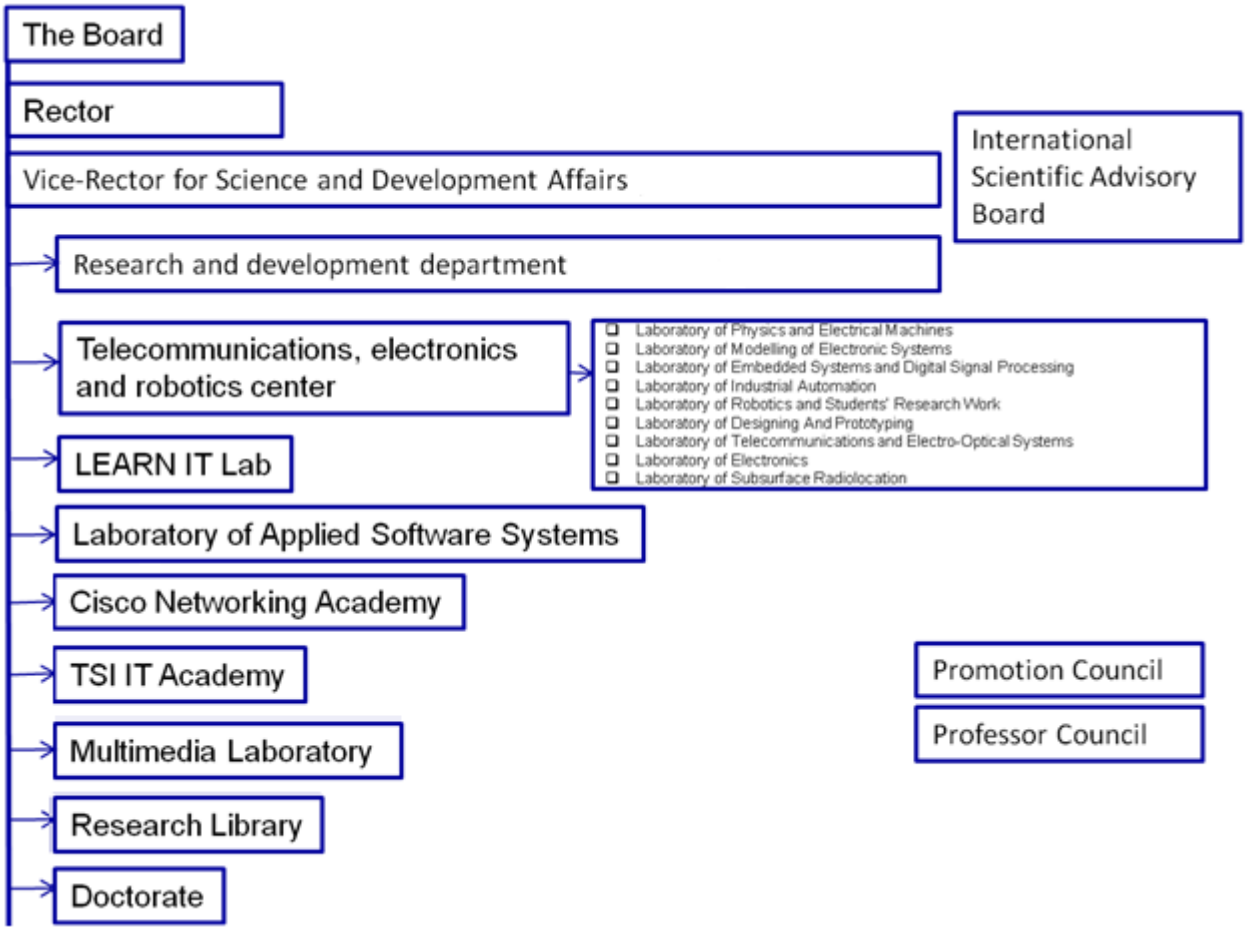

Figure 1. **Research infrastructure**

Laboratory of Industrial Automation. The laboratory is equipped with Siemens control software systems and models of the production lines. The laboratory is designed for the research of the principles of industrial networks and engineering of the systems of automation based on industrial logic controllers. Industrial manipulator Kawasaki RS03N allows learning the principles of programming of industrial robots and exploring the features of integration of the robotic devices into the automated production lines.

Laboratory of Subsurface Radiolocation. The laboratory is equipped with the ground penetrating radar of the company GSSI and a set of options for the research of the roadbed. There is software RADAN 7, for processing the data of ground penetrating radar, installed in the laboratory. All the equipment of the laboratory allows exploring the methods of non-destructive quality control of road surfaces and carrying out of work to assess the quality of the laying road surfaces and detection of hidden engineering communications

Laboratory of Robotics and Students' Research Work. The laboratory is equipped with a variety of modern measuring equipment made by the company HAMEG and a set of debug modules for microcontrollers, PLIC and signal processors. Software and hardware platform NI ELVIS II allows carrying out the research of the operation of electronic devices through physical, semi-natural and mathematical simulation. The laboratory contains a set of functional units of the robots from LEGO, Lynxmotion, Pololu and Parallax, which allows to create autonomous mobile robots and learn the principles of the construction of control systems of robotic facilities in the laboratory.

Laboratory of Designing And Prototyping. The laboratory is equipped with software and hardware of production the prototypes of the electronic devices, including CNC machine tool LPKF Protomat S63, for the production of double-sided printed circuit boards. Soldering Equipment of the laboratory allows to carry out montage using PTH (Pin Through Hole) and SMT (Surface Mount Technology) technologies.

Laboratory of Telecommunications and Electro-Optical Systems. The laboratory is intended for students to explore the principles of the construction of telecommunications equipment: Global System for Mobile communications (GSM); Global Positioning System (GPS);adio-Frequency Identification System (RFID); Optoelectronic Systems; Digital Telephone Networks; Radio Transmitting and Receiving Devices;Antenna-Feeder Devices.

Laboratory of Electronics. This laboratory is equipped with typesetting fields for creating electrical circuits. All the research work is with the use of specialized laboratory measuring equipment.

Additionally TTI has a number of laboratories, which are not part of the Centre of Telecommunications, Electronics and Robotics:

Laboratory of Applied Software Systems of the Transport and Telecommunication Institute carries on research and offers consulting in the following fields: traffic, logistics and business processes. The research and analysis are fulfilled using nowadays simulation software. The software of the laboratory allows to do the high-quality, representative and many-sided analysis of the research systems. Such projects as the projects connected with the new bus station in Riga, three level flyover of South bridge model, Liepaja city traffic macroscopic model can be mentioned as a vivid example (see more on website las.tsi.lv).

Multimedia Laboratory. The laboratory is equipped with video-recording and editing equipment complex, which allows creating educational, informative and commercial videos. The filming process of video lectures for the purposes of distance studying, sound recording for video materials and their preparation for placing into e-studying environment takes place at the filming studio. Moreover, the conference presentations and lectures of the lecturers and guest lecturers are being broadcasted live on the internet.

Cisco Networking Academy. Cisco Networking Academy (CNA) Program developed by the specialists of Cisco Systems Company is the most fundamental and methodically worked over among other similar programs in the area of network technologies. Annually over 500 000 students use it in their learning in

more than 8000 academies in 164 countries of the world. Only 29 countries do not have networking academies. The purpose of the program is the fundamental training of specialists of planning theory and practice, construction and technical maintenance of local and global networks with the use of generally recognized standards and solutions.

In 2015 in the frame of Learn_IT project Laboratory **Learn_IT** was established. The main goal of this Laboratory would be to test a set of tools that will help to increase the effectiveness of learning by supporting the high level of concentration in a manner adapted to the individualized rhythm of learning. The solutions offered under the framework of LEARN IT project may be a good alternative for traditional ways of stimulation of concentration and focus during the process of learning. The Learning Lab with software for mobile devices was developed so that it can be used to prepare personalized recommendations for each person who will be tested in this Laboratory.

And finally TTI has **Research Library**, which provides access to the students and staff of TTI to the latest literature and scientific journals. The library has electronic catalogue of all information entities and it is possible to search the necessary information via internet.

1.3. Research journals and conferences

Transport and Telecommunication Scientific Journal. Journal "Transport and Telecommunication" is a peer-reviewed open-access scientific journal, owned by Transport and Telecommunication Institute and has more 10 years of experience. This Journal is a source of information and research results in the full scope of transport science: modelling and planning the transport systems, technical means of transport; transport infrastructure, traffic control, intellectual transport system, telematic and also concerns the interdisciplinary questions: transport and the environment, safety in transport, quality and effectiveness of transport, interoperability and intermodality. The journal aims at addressing professionals in transport and telecommunication in different types of positions in the area of industry, research and academic institutions. The Journal is published quarterly in the electronic and printed version. The papers published in Journal "Transport and Telecommunication" are included in: SCOPUS (since 2008, Vol. 9, No 1), Elsevier Database; De Gruyter Open; VINITI; The Summon; Transportation Research Board; JournalTOCs; INSPEC; TEMA (Technology and Management); ProQuest; Advanced Technologies & Aerospace Journals; ProQuest Engineering Journals; ProQuest Illustrata: Technology; ProQuest SciTech Journals; ProQuest Technology Journals; Celdes; CNKI Scholar (China National Knowledge Infrastucture); CNPIEC; DOAJ; EBSCO Discovery Service; Google Scholar; Primo Central (ExLibris); SCImago (SJR); TDOne (TDNet); WorldCat (OCLC); J-Gate; Naviga (Softweco); TEMA (Technology and Management); Cabell`s Directory. Q2

The Figures below demonstrated the development process of the journal. The data are obtained from the Scimago Journal & Country Ranks (http://www.scimagojr.com/).

Figure 2. **Transport and Telecommunication Journal performance**

Annual International conference "Reliability and Statistics in Transportation and Communication". The goal of the RelStat conference is to provide an international forum for scientists and professional in academia, industry, and government to address recent research results and to present and discuss their ideas, theories, technologies, systems, tools, applications, work in progress and experiences on all theoretical and practical issues arising in transport, information and communication technologies. In 2015 RelStat-15 Conference was held on 21-24 October 2015 and more than 80 participants from 11 countries presented their researches.

1.4. Research staff

The research staff of TTI is registered in VIAA (State Education Development Agency Republic of Latvia) research staff database. The table below represents the table with research staff elected in TTI.

#.	Surname	Name	Position	Grade	Sex (M/F)
1	Andronovs	Aleksandrs	Senior researcher	Dr. habil. sc. ing.	M
2	Fainglozs	Ļevs	Research assistant	Mg. oec., Bc.sc.ing.	M
3	Grakovskis	Aleksandrs	Senior researcher	Dr. sc. ing.	M
4	Gromovs	Genadijs	Senior researcher	Dr. sc. ing.	M
5	Jackiva	Irina	Senior researcher	Dr. sc. ing.	F
6	Jurševiča	Jeļena	Researcher	Dr. sc. ing.	F
7	Kabaškins	Igors	Senior researcher	Dr. habil. sc. ing.	M
8	Kraiņukovs	Aleksandrs	Researcher	Dr. sc. ing.	M
9	Kutevs	Valerijs	Senior researcher	Dr. habil. sc. ing.	M
10	Kuzmina - Merlino	Irina	Senior researcher	Dr. oec.	F
11	Labendiks	Vladimirs	Senior researcher	Dr. habil. sc. ing.	M
12	Ļaksa	Igors	Research assistant	Mg. sc. ing.	M
13	Medvedevs	Aleksandrs	Senior researcher	Dr. sc. ing.	M
14	Mišņevs	Boriss	Senior researcher	Dr. sc. ing.	M
15	Opolchenov	Daniil	Research assistant	Mg. sc. ing.	M
16	Pētersons	Elmārs	Senior researcher	Dr. sc. ing.	M
17	Pozdņakovs	Anatolijs	Researcher	Dr. sc. ing.	M
18	Pticina	Irina	Researcher	Dr. sc. ing..	F
19	Savrasovs	Mihails	Researcher	Dr. sc. ing.	M
20	Sikeržickis	Jurijs	Senior researcher	Dr. habil. sc. ing.	M
21	Stetjuha	Aleksandrs	Senior researcher	Dr. oec.	M
22	Stukaļina	Jūlija	Senior researcher	Dr. sc. admin.	F
23	Tolujevs	Jurijs	Senior researcher	Dr. habil. sc. ing.	M
24	Yunusov	Sergey	Researcher	Mg. oec.,Mg. sc. comp.	M
25	Malnača	Kristīne	Researcher	Mg. Soc.sc., Mg.sc.	F
26	Graurs	Igors	Senior researcher	Dr.phil.	M
27	Išmuhametovs	Išgalejs	Senior researcher	Dr.psych	M
28	Krasņitskis	Jurijs	Senior researcher	Dr. phys.-math. sc., Dr. habil. sc. ing	M
29	Ņečvaļs	Konstantīns	Researcher	Dr. sc. ing.	M

30	Pavlyuk	Dmitry	Researcher	Dr. sc. ing.	M
31	Revzina	Jeļena	Researcher	Mg. sc. comp.	F
32	Roļiks	Jurijs	Senior researcher	Dr. sc. ing.	M
33	Šarkovskis	Sergejs	Researcher	Dr. sc. ing	M
34	Utehins	Georgs	Research assistant	Dr. sc. ing	M

Figure below shows the dynamics regarding research staff in TTI staring from 2006 year.

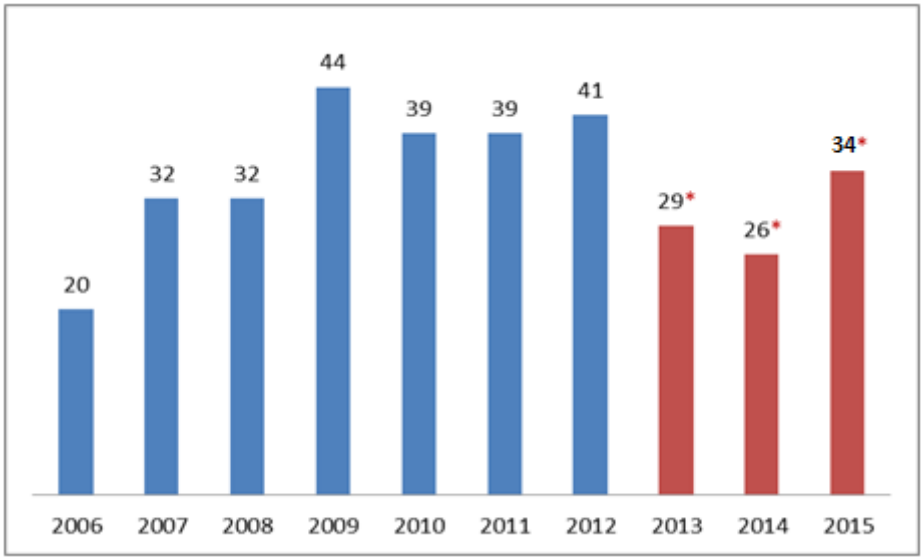

Figure 3. **Research staff in TTI (* elected for the position)**

2. RESEARCH OUTPUT

2.1. Number of scientific publications and other outputs

1. Original articles in anonymously refereed scientific journals cited in *Thomson Reuters Web of Science*, SCOPUS, ERIH or Engineering Village	22
2. Articles in other refereed scientific edited journals and conference proceedings	23
3. Monographs published[1]	6
4. Other scientific publications[2]	43
5. Text books and other research-related publications	1
6. Patents/ including international	2
7. Computer programs and algorithms[3]	
8. Registered cultivars	
9. Conference abstracts	68
10. Visiting lectures	2
11. Articles, radio and television programmes and journals popularising science	
12. Other[4]	2

[1] Includes doctoral theses and monographs.
[2] Includes edited proceedings, collections and special issues of scientific journals, and unrefereed scientific articles, excluding conference abstracts.
[3] Approximates the number of programs and algorithms that have been in use outside the unit.
[4] May include design products, prototypes, artefacts, exhibitions, performances etc.

2.2. Lists of most important publications by academic personnel and researchers with doctoral degree

1. Orlov, S. and Vishnyakov, A. (2015) Software Architecture and Detailed Design Evaluation. *Procedia Computer Science*, Vol. 43, pp. 41 – 52. **(SCOPUS)**
2. Misnevs, B., Melikyan, A. and Bazaras, D. (2015) Hazard Assessment of Weather Factors for the Occurrence of an Emergency on the Railway. *Procedia Computer Science*, Vol. 77, pp. 40 - 47. **(SCOPUS)**
3. Pticina, I., Kibish, S. and Nathanail, E. (2015) Software Solution for Planning and Conducting a Transport Survey. *Procedia Computer Science*, Vol. 77, pp. 240–248**. (SCOPUS)**
4. Kabashkin, I. (2015) Modelling of Regional Transit Multimodal Transport Accessibility with Petri Net Simulation. *Procedia Computer Science*, Vol. 77, pp. 151-157. **(SCOPUS)**
5. Kamenchenko, S. and Grakovski, A. (2015) Increased Safety of Data Transmission for "Smart" Applications in the Intelligent Transport Systems. *Theory and Engineering of Complex Systems and Dependability*, pp. 185-194. **(WoS, SCOPUS)**
6. Grakovski, A., Pilipovecs, A., Kabashkin, I. and Petersons, E. (2015) Tyre Footprint Geometric Form Reconstruction by Fibre-Optic Sensor's Data in the Vehicle Weight-in-Motion Estimation Problem. In: *Proceedings of the 10th International Conference "Informatics in Control, Automation and Robotics"*, Reykjavík, Iceland, Springer International Publishing, pp. 123-137. **(SCOPUS)**
7. Kabashkin, I., Mironov, A., Doronkin, P. and Priklonsky, A. (2015) Condition Monitoring of Operating Pipelines with Operational Modal Analysis Application. *Transport and Telecommunication*, Vol. 16, pp. 305–319. **(SCOPUS)**
8. Kabashkin, I. and Lučina, J. Development of the Model of Decision Support for Alternative Choice in the Transportation Transit System. *Transport and Telecommunication*, Vol. 16, pp. 61-72. **(SCOPUS)**
9. Krainyukov, A. and Kutev, V. (2015) Employment of IGBT-Transistors for Bipolar Impulsed Micro-Arc Oxidation. *Transport and Telecommunication*, Vol. 16, pp. 217-223. **(SCOPUS)**
10. Kostianoy, A. G., Bulycheva, E. V., Semenov, A. V. and Krainyukov, A. (2015) Satellite monitoring systems for shipping and offshore oil and gas industry in the Baltic Sea. *Transport and Telecommunication*, Vol. 16, pp. 117-126. **(SCOPUS)**
11. Savrasov, M. (2015) Macroscopic Transport Model as a Part of Traffic Management Center: Technical Feasibility Study. In: *Proceedings of the Tenth International Conference on Dependability and Complex Systems DepCoS-RELCOMEX,* pp. 425-434. **(WoS, SCOPUS)**
12. Yatskiv, I. and Yurshevich, E. (2015) Data Actualization Using Regression models in Decision Support System for Urban Transport Planning. In: *Proceedings of the Tenth International Conference on Dependability and Complex Systems DepCoS-RELCOMEX,* pp. 553-561. **(WoS, SCOPUS)**
13. Yatskiv, I., Gromule, V. and Pticina, I. (2015) Analysis of Different Aspects of Infomobility for Public Transport in Latvia. In: *Proceedings of the Tenth International Conference on Dependability and Complex Systems DepCoS-RELCOMEX,* pp. 543-552. **(WoS, SCOPUS)**
14. Bazaras, D., Yatskiv, I., Mačiulis, A. and Palšaitis, R. (2015) Analysis of Common Governance Transport System Development Possibilities in the East–West Transport Corridor. *Transport and Telecommunication*, Vol. 16, pp. 31-39. **(SCOPUS)**
15. Pavlyuk, D. (2015) Spatial Allocation of Bus Stops: Advanced Econometric Modelling. In: *Proceedings of the Tenth International Conference on Dependability and Complex Systems DepCoS-RELCOMEX,* pp. 331-339. **(WoS, SCOPUS)**
16. Andronov, A. and Jurkina, T. (2015) Reliability of supply chains in a random environment. *Automatic Control and Computer Sciences*, Volume 49, Issue 6, pp. 340-346. **(SCOPUS)**
17. Popova, Y., Zagulova, D., Nesterenko, A., Kapilevich, L. (2015) Effect of Considering the Initial Parameters on Accuracy of Experimental Studies Conclusions. In: *Proceedings of the 5th International Scientific Conference New Operational Technologies*, Volume 1688. Available at: http://scitation.aip.org/content/aip/proceeding/aipcp/10.1063/1.4936008; jsessionid=16792rfae55ju.x-aip-live-02 **(Web of Science)**
18. Kuzmina-Merlino, I. and Savina, S. (2015) Improving Financial Management System for Multi-business Companies. *Proceedings of the 4th International Conference on Leadership, Technology, Innovation and*

Business Management, Book Series: Procedia – Social and Behavioral Sciences, Vol. 210, pp. 136-145. (**Web of Science)**

19. Kuzmina-Merlino I. and Savina, S. (2015) Assessing the Effectiveness of Improved Financial Management System using Expertise-oriented Approach. *11th International Strategic Management Conference,* Book Series: Procedia – Social and Behavioral Sciences, Vol. 207, pp. 833-842. (**Web of Science)**
20. Guseynov, S.E., Medvedev, A.N., Guseinovs, R. and Baranova, L. (2015) Investigation of one macro-level model of distribution logistics. *Advanced Materials Research,* Vol. 1117*,* pp. 311-316. (**Web of Science)**
21. Nechval, N.A. and Nechval, K.N. (2015) Improved Planning In-Service Inspections of Fatigued Aircraft Structures Under Parametric Uncertainty of Underlying Lifetime Models. In: *Numerical Methods for Reliability and Safety Assessment: Multiscale and Multiphysics Systems*, S. Kadry and A. El. Hami (Eds.), Springer International Publishing Switzerland, pp. 647–674. (**Scopus)**
22. Graurs, I., Laizans, A., Rajeckis, P., Rubenis, A. (2015) Public bus energy consumption investigation for transition to electric power and semi-dynamic charging. *Engineering for Rural Development*, 14 (January), pp. 366-371. (**Scopus)**

2.3. Lists of other publications by academic personnel

1. Andronov, A. and Jurkina, T. (2015) Надёжность цепи поставок в случайной среде. *Автоматика и вычислительная техника*, pp. 28-36.
2. Pticina, I. and Yatskiv, I. (2015) Weighting the urban public transport system quality index (UPTQI) using the analytical hierarchy process. *International Journal of Society Systems Science*, Vol. 7, pp. 107 - 126. **(Inspec, Google Scholar)**
3. Stukalina J. and Zervina, O. Management in Higher Education: Thinking and Planning More Strategically. *Journal of Business Management*, pages 70-79 (**EBSCO)**
4. Vishnevskaja, A. and Tsaurkubule, Zh. (2015) Some aspects of economic development of the Latvian market during 10 years of its membership in the European Union. In: *Research papers of Wroclaw University of Economics,* № 380, Wroclaw, pages 82-93. Available at: http://www.adamambroziak.eu/text/2015_AAAmbroziak_Prawne_i_ekonomiczne_aspekty_pomocy_regionalnej_WWW_UEW.pdf (**EBSCO)**
5. Kuzmina-Merlino, I. and Pavlovska, O. (2015) Functions and Features of Controlling in Multinational Corporations. *Journal of Business Management*, Issue No.10, pages 28-36 (**EBSCO)**
6. Kabashkin, I. (2015) Reliability of Bidirectional V2X Communications in the Intelligent Transport Systems. In: *Proceedings of the IEEE International Conference "Advances in Wireless and Optical Communications (RTUWO)"*, 5-6 November 2015, pp. 159-163.
7. Mironov, A., Doronkin, P., Priklonsky, A. and Kabashkin, I. (2015) Operational Modal Analysis (OMA) Application for Condition Monitoring of Operating Pipelines. In: *Proceedings of the 15th International Conference Reliability and Statistics in Transportation and Communication (RelStat'15),* 21–24 October 2015, Riga, Latvia, pp. 6-17.
8. Kamenchenko, S. (2015) *Increasing the level of information security of intelligent transport systems by making modernization of cryptographic methods used in information protection over data transmission channels: Summary of the promotion work.* Transport and Telecommunication Institute.
9. Krebs, V. (2015) *Research on localization methods of transportation networks objects using spatial databases: Summary of the promotion work*. Transport and Telecommunication Institute.
10. Krivchenkov, A. and Sedykh, D. (2015) The Performance Analysis of Wireless Data Networks Used in Automation Systems. In: *Proceedings of the 15th International Conference Reliability and Statistics in Transportation and Communication (RelStat'15),* 21–24 October 2015, Riga, Latvia, pp. 147-158.
11. Krivchenkov, A. and Saltanovs, R. (2015) Analysis of wireless communications for V2G. In: *Proceedings of the 56th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON),* pp. 175-178.
12. Lancovs, D. On Sharing of Uncontrolled Airspace for Low Flying Unmanned Aerial Vehicle Systems. In: *Proceedings of the 15th International Conference Reliability and Statistics in Transportation and Communication (RelStat'15),* 21–24 October 2015, Riga, Latvia, pp.214-222.

13. Muravjovs, A. (2015) *Inventory control system analysis using different simulation modelling paradigms: Summary of the promotion work*. Transport and Telecommunication Institute.
14. Orlov, S. and Vishnyakov, A. (2015) Criteria Importance Theory for Architecture Selection of Logistics and Transport Software. In: *Proceedings of the 15th International Conference Reliability and Statistics in Transportation and Communication (RelStat'15),* 21–24 October 2015, Riga, Latvia.
15. Pavlyuk, D. *Study of European airports' efficiency on the basis of multiple spatial stochastic frontier analysis: Summary of the promotion work*. Transport and Telecommunication Institute.
16. Pozdnyakova, O. and Pozdnyakov, A. (2015) Психолого-педагогические аспекты использования интерактивных методов обучения в вузе. In: *VI Международная научно-практическая конференция на основе интернет-форума «Психологическое сопровождение образования: теория и практика». 24-26 декабря, 2015.*
17. Pticina, I. (2015) *Integral estimation of urban public transport system service quality from the end-users point of view: Summary of the promotion work*. Transport and Telecommunication Institute.
18. Spiridovskaya, N. (2015) *Nontraditional regression models in transport planning and modeling: Summary of the promotion work*. Transport and Telecommunication Institute.
19. Zvirgzdiņa, B. and Tolujew, J. (2015) Logistics Systems Optimization Via Mesoscopic Modelling. In: *Proceedings of the 15th International Conference Reliability and Statistics in Transportation and Communication (RelStat'15),* Riga, Latvia, pp. 92-99.
20. Yunusov, S., Labendik, V. and Lekanov, N. (2015) *Изучение процедур запуска и опробования газотурбинного двигателя с использованием тренажера самолета Airbus A320.* Riga: Transporta un sakaru insitūts.
21. Stukalina, J. and Zervina, O. (2015) Teaching Professional English at a Modern University: Preparing Students for the Global Labor Market. *Sustainable Multilingualism: Biannual Scientific Journal*, pp. 126-144.
22. Stukalina, J. (2015) Management of Higher Education Institutions: Searching for the Ways to Gain Competitive Advantage. *Economics and Culture*, Vol. 12, pp. 87-98.
23. Vishnevskaja, A. (2015) Использование Product Placement & Life Placement в современных маркетинговых коммуникациях. *Научные труды Белорусского государственного университета*, Vol. 8, pp. 45-51.
24. Ishmuhametov, I. (2015) О вопросе повышения квалификации преподавателя современной высшей школы. *Психологическое сопровождение образования: теория и практика*, pp. 280-287.
25. Podolyakina, N. (2015) Особенности формирования компетенций современного бухгалтера в вузах. *Материалы научно-практической конференции, Московский университет имени С.Ю.Витте, pp.* 730-742.
26. *Popova, Y. (2015)* Transformation of Human Capital in Contemporary Global Environment. In: *Proceedings of the International Conference "Transformation of Regional Economies: Sustainable Development And Competitiveness", pp*. 93-101.
27. *Popova, Y. (2015)* TNCs Impact in Global Economy. In: *Proceedings of the International Conference Transformation of Reginal Economies: Sustainable Development And Competitiveness,* pp.101-107.
28. Roliks, J. (2015) Анализ основных экономических показателей работы ветроустановок по результатам опыта коммерческой эксплуатации ветропарков Латвии. *Известия высших учебных заведений и энергобъединений СНГ*, pp. 88-94.
29. Skorobogatova, O. (2015) Международный маркетинг и коммуникационная политика в деятельности современных организаций. *Научные исследования от теории к практике*, Vol. 5, pp. 366-368.
30. Skorobogatova, O. (2015) Учет географических аспектов при анализе развития рынка жилой недвижимости Германии. *Инновационные технологии в науке и образовании*, Vol. 3, pp. 331-333.
31. Skorobogatova, O. (2015) Интерактивные методы при организации самостоятельной работы студентов. *Научная дискуссия: вопросы педагогики и психологии*, Vol. 42, pp. 39-44.
32. Labendik, V., Yunusov, S. (2015) A New Approach to the Classification of Technical Condition of Aircraft Gas Turbine Engines in the Course of their Life Cycle. In: *Proceedings of the III International Scietifical Technical Conference "Technics. Technolgies. Education. Safety 15".* Vol. 1, pp.40-42.

33. Yunusov, S., Labendik, V. (2015) Use of the Diagnostic Matrix to Train the Neural Network to Recognize Technical State of Gas Turbine Engine. In: *Proceeding of the 15th International Conference "Reliability and Statistics in Transportation and Communication (RelStat'15)",* Riga, Latvia, pp. 223-228.
34. Medvedev, A. and Duseingaliev, D. (2015) Актуальность подготовки авиационных специалистов с учетом общеевропейских требований. *Материалы заседания Координационного совета при МАК по подготовке авиационных специалистов государств-участников Соглашения о гражданской авиации и об использовании воздушного пространства,* pp. 42-47.
35. Medvedev, A., Alomar, I. and Augustin, S. (2015) Генеральные перспективы в области управления движением на территории аэропорта. *Материалы заседания Координационного совета при МАК по подготовке авиационных специалистов государств-участников Соглашения о гражданской авиации и об использовании воздушного пространства*, pp. 67-72.
36. Nechval, N.A. and Nechval, K.N. (2015) Efficient Approach to Pattern Recognition in the Case of Two Classes Based on Minimization of Misclassification Probability. In: *Proceedings of the 13th International Conference on Information Technologies and Management'2015*, pp. 57-58.
37. Nechval, N.A. and Nechval, K.N. (2015) Efficient Approach to Pattern Recognition in the Case of Several Classes Based on Minimization of Misclassification Probability. In: *Proceedings of the 13th International Conference on Information Technologies and Management'2015*, pp. 59-60.
38. Nechval, N.A. and Nechval, K.N. (2015) Novel Approach to Dose Estimation in Drug Development. In: *Proceedings of the 13th International Conference on Information Technologies and Management'2015*, pp. 61-62.
39. Nechval, N.A. and Nechval, K.N. (2015) Pattern Recognition Technique Based on Minimization of Misclassification Probability. In: *Proceedings of the 15th International Conference "Reliability and Statistics in Transportation and Communication" (RelStat'15),* Riga, Latvia, pp. 113–119.
40. Nechval, N.A. and Nechval, K.N. (2015) Innovative Technique for Constructing Tolerance Limits on Future Order Statistics Coming from the Two-Parameter Exponential Distribution. In: *Proceedings of the 15th International Conference "Reliability and Statistics in Transportation and Communication" (RelStat'15),* Riga, Latvia, pp. 128–136.
41. Gromovs, G. and Netesovs, M. (2015) Green Terminal Technology. In: *Proceedings of ICERE 2015*, Vienna, Austria.
42. Apsalons, R. and Gromovs, G. (2015) Использование логистических принципов при сборке товаров на складах железной дороги. In: *Proceedings of the I International Conference «Развитие инфраструктуры и логистических технологий в транспортных системах, РИЛТРАНС-2015".*
43. Kuzmina-Merlino, I. and Kozlovska, I. (2015) The Impact of evaluation approaches of long-lived non-financial assets on a company's financial performance. In: *Proceedings of the International Scientific-Practical Conference 'Business Strategy: Performance in Systemic Transformations Conditions'*, Kiev, Ukraine, p. 329-331. Available at: http://conference.spkneu.org/wp-content/uploads/2015/11/conf-sp-kneu-2015.pdf

2.4. Patents

Title	Inventor	Applicant	Nr./Year
Method and device for transporting long wind turbine blades	Jurijs Roliks	TTI	LV15052 (A) 2015-09-20
Device for registration of magnetic field in electric facilities	Jurijs Roliks	TTI	LV15042 (A) 2015-07-20
Road vehicle weigh-in-motion method, system and apparatus	Grakovski Alexander; Kabashkin Igor; Krasnitsky Yury; Laksa Igor; Petersons Elmars; Pilipovecs Alexey; Truhachov Victor	TTI	EP2878935 (A1) 2015-06-03

3. DOCTORAL TRAINING

3.1. Number of students

	2015
Completed their Master degree	37
Enrolled in doctoral studies	1

3.2. List of doctoral dissertations defended in 2015

Name (given name and family name)	Topic of dissertation	Year of completing the degree	Present employment (job description, organisation)
Sergey Kamenchenko	Increasing the level of information security of intelligent transport systems by making modernization of cryptographic methods used in information protection over data transmission channels	2015	IT System Solutions Ltd, Head of information security unit
Nadezda Spiridovskaya	Nontraditional regression models in transport planning and modeling	2015	TSI, docent
Dmitry Pavlyuk	Study of European airports' efficiency on the basis of spatial stochastic frontier analysis	2015	TSI, docent, head of department
Irina Pticina	Integral estimation of urban public transport system service quality from the end-users point of view	2015	TSI, docent, head of department
Victor Krebs	Research on localization methods of transportation networks objects using spatial databases	2015	Complete Payment Systems Ltd, project manager
Aivars Muravjovs	Inventory control system analysis using different simulation modelling paradigms	2015	Riga Stradins University, head of IT infrastructure management unit

4. NATIONAL AND INTERNATIONAL COLLABORATION

4.1. National collaboration

Organisation Universities	Type of collaboration	Field of science
Riga Technical University	Common projects (VPP NextIT, EDU-RAIL), Common conferences (TSI RaT_SiF-2015)	Electrical Engineering&IT
Vidzemes Augstskola	Collaboration Agreement in scientific and academic activities (Design of Doctoral program, researcher mobility, etc.) Doctoral research and reviewing, Common conferences (TSI RaT_SiF-2015)	Management, Electrical Engineering&IT
Latvijas Lauksaimniecības universitāte (LLA)	Collaboration Agreement in scientific and academic activities (Design of Doctoral program, researcher mobility, etc.)	Management Logistics
Public research institutes		
Institute of Electronics and Computer science (EDI)	ERDF project (master's scientific practice, doctoral research and reviewing)	Electrical Engineering&IT
Institute of Physical Energetics (FEI)	ERDF project	Electrical Engineering&IT
Jūras akadēmija (JuA)	Collaboration Agreement in scientific and academic activities (Design of Doctoral program, researcher mobility, etc.)	Management
Public sector		
State Education Development Agency (VIAA)	Project "Development of institutional capacity of TSI Scientific Institution" Project Nr. 2.DP/2.1.1.3.3./15/IPIA/VIAA/006. 01.05.2015.-31.12.2015.	Management
Latvian Transport Development and Education Association	Estonia – Latvia – Russia Cross Border Cooperation Programme Within European Neighbourhood and Partnership Instrument 2007-2013 for the Implementation of the Project ELRII-465 Logistics and Overland Transport Network for Training "Blue Collars" (LogOnTrain)	Transport Education
Enterprises		
SAF Tehnika	Invited lectures, common research	Electrical Engineering&IT
X Infotech	Invited lectures, common research	Electrical Engineering&IT
Exigen Services Latvia	Invited lectures, common research	Electrical Engineering&IT
C.T.Co	Invited lectures, common research	Electrical Engineering&IT
Accenture Latvia	Invited lectures, common research	Electrical Engineering&IT
National conferences, workshops and seminars organised by the institution/unit		
Research and Academic Conference ***Research and Technology – Step into the Future***, *Riga, April, 2015*		
Research and Academic Conference ***Research and Technology – Step into the Future***, *Riga, December, 2015*		
Inter-higher School Scientific and Educational Conference. ***Actual Problems of Education***, *MIP 2015 26 - 27 February, 2015*		
Workshop ***Sustainable urban mobility and transportation planning***, *21 October, 2015 (in frame of ENDURANCE project)*		

4.2. Visits abroad (minimum duration of visit: one month)

Name	Target organisation	Country	Purpose of the visit	Duration in months
I. Kabashkin	Immanuel Kant Baltic Federal University	Russian Federation	Guest lectures	2 **months**
I. Kabashkin	TTK University of Applied Sciences	Estonia	Guest lectures	1 **month**

4.4. Most important foreign collaborators

Name and Organisation Universities	Type of collaboration	Country
Wroclaw University of Technology	• Cross-participation in conferences (RelStat'2015, DepCoMex-2015) • Collaboration Agreement in scientific and academic activities	Poland
Tallinn University of Technology (TUT)	• Collaboration Agreement in scientific and academic activities • Common Project (EDU-RAIL)	Estonia
University of Zilina	Researcher and academic mobility	Slovakia
The University of Thessaly, Greece (Tesālijas Universitāte)	Collaboration Agreement in scientific and academic activities (Design of Doctoral program, proposal EU Project Horison-2020, PhD reviewers etc.)	Greece
Kyiv National Economic University named after Vadym Hetman; department of Strategic Management	Organizing committee of the International scientific-practical conference, since from 2011	Ukraine
Bulgarian Association for Management Development and Entrepreneurship, BAMDE	Membership of the Advisory Committee of the Annual International Scientific conference, since from 2006	Bulgaria
VSEI of Lublin	Researcher and academic mobility	Poland
Vilnius Gedeminus Technical University (VGTU)	Researcher and academic mobility	Lithuania
University of Murcia	Common Project (iSecret)	Spain
Kaunas Technological University	Common Project (iSecret)	Lithuania
University of Economy in Bydgoszcz	Common Project (iSecret)	Poland
Research Institutes		
FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Collaboration Agreement in scientific and academic activities (Design of Doctoral program, researchers' mobility in EU Project Horison-2020, etc.)	Germany
Enterprises		
Training Center "Aviator"	Common project	Russia
International conferences, workshops and seminars organised by the institution/unit		
The international Conference ***"Reliability and Statistics in Transportation and Communication"***, (RelStat'2015), TTI, Riga, Latvia, 2015.		

4.5. Most important outcomes of the visits and collaboration contacts

- It was held the Kick-off meeting and familiarity with key partner in the EDU-RAIL project Tallinn University of Technology (Estonia) November 2015, where the targets and timetables were indicated, distributed tasks and responsibilities of the partner's area were identified.
- The partners from Fraunhofer and UTH prepared the Project for Horizon2020 Twinining Programme, which was funded by EC. The grand agreement between TTI and EC was signed by end of December.
- Prof. E.Nathanail from UTH (Greece) served as the official reviewer of the doctoral thesis of TTI student I. Pticina defence (13.07.2015).

  In frame of COST TU1004: Modelling public transport passenger flows in the era of intelligent transport systems, (2011-2015) the monography was prepared and accepted by Springer. Prof. Irina Yatskiv was a coauthor of the one chapter of the monography (Friedrich, M., Leruent, F., Jackiva, I. et al. From Transit Systems to Models: Purpose of Modelling. In book: Modelling Public Transport Passenger Flows in the Era of Intelligent Transport Systems. Gentile and Noekel. (Eds.). Published by Springer, 641p. DOI:10.1007/978-3-319-25082-3, ISBN978-3-319-25080-9).
- Last year the partners from Wroclaw University of Technology (Poland) take participation, as well as TTI staff in two International Conferences organisation: DepCoMex-2015 (July, 2015, Brunov Palace, Poland) and RelStat'2015 (October 2015, Riga, Latvia). Additionally, prof. J.Sugier from Wroclaw University of Technology served as the official reviewer of the doctoral thesis of TTI student S.Kamenchenko defence (22.12.2015).
- The Institute of Electronics and Computer science (EDI) according to the prepared common collaboration plan provide the scientific practice for 3 master students of TTI MSc programme in Electronics, as well as the EDI staff served as the official reviewers of the doctoral thesis of TTI students S.Kamenchenko (22.12.2015) and Viktors Krebss (09.07.2015) defence. The scientific director of EDI prof. M.Greitans as the invited speaker was presented his lecture "Original Signal Processing - a Key Component for IECS Success Stories" for the participants of the Conference "Research and Technology – Step into the Future", Riga, December 11, 2015.
- The researchers from FEI took part in International Conference RelStat'2015 (October 2015, Riga, Latvia)
- It was continued helpful collaboration with the Riga Technical University (RTU) in common participation in the conferences, Promotion Council, doctoral thesis reviewing, editorial boards of scientific journals, as well as common researches in frame of VPP NextIT project (meetings, presentations, preparation of first part of the monography "Sensor networks and signal processing applications in national economy (smart-city concept)" etc.
- It was organised the visit of TTI staff group to the IT enterprise "Accenture Latvia" (lectures, problems, round table, direct contacts, 19.03.2015) as well as the introduction lectures of "Accenture Latvia" in TTI, and study course "programming Java" for TTI students (July-September, 2015). The same and analogous activities were achieved in collaboration with other domestic enterprises (SAF Tehnika, X Infotech, Exigen Services Latvia, C.T.Co).
- In September 2015 the faculty of Management and Economics started to work under preparation of joint Doctoral study program in Management with participation of Vidzemes Augstskola, Latvia University of Agriculture, and Latvian Maritime Academy in this program design. The main results of the collaboration are following:
  - The Plan of Activities for programme preparing has been developed.
  - The universities are going to involve The University of Thessaly, Greece as an international partner into this program etc.
- Consultations with WSEI of Lublin about joint program design in a field of transport.

4.6. Non-academic collaboration

Name and Organisation	Type of collaboration	Country
Latvian Electrical Engineering and Electronics Industry Association (LETERA)	Membership, invited lectures, common research	Latvia
Latvian Information and Communications Technology Association (LIKTA)	Membership, invited lectures, common research	Latvia
Latvian Telecommunication Association (LTA)	Membership, invited lectures, common research	Latvia
Informatics Europe	Membership, information exchange	Switzerland
European Conference of Transport Research Institutes (ECTRI)	Membership, information exchange, reviewing	Belgium
The European Council for Small Business and Entrepreneurship, ECSB	ECSB Country Vice President for Latvia till 2014 (Kuzmina I.) The Network of the ECSB – more than 30 countries.	International Network; Secretariat in Turku, Finland www.ecsb.org
Association Latvijas Auto	Consultation	Latvia
Scientific Training Consultation Center of Transport and Logistics (ZMKTLC)	Consultation	Latvia
Association of Paneuropa Coach Terminals	Member of Expert Board	Germany
Other organisations		
Ltd. LEO Research Centre	Membership, invited lectures, common projects	Latvia
LVCA (Latvian Venture Capital Association)	Scientific experience exchange; seminar (15 December 2015) for TSI staff "Personal Brand development in scientific and pedagogical fields" (author A.Prohorovs, member of the Board); TSI students' Master thesis supervision.	Latvia

5. OTHER SCIENTIFIC AND SOCIETAL ACTIVITIES

5.1. Invited presentations in scientific conferences

Name	Topic of presentation	Name and time of the conference
Igor Kabashkin	Transport and logistics: the interaction of business and education	XVIII International Conference "TransBaltica-2015", June 4-5, 2015
Igors Graurs	Transit: collaboration between business and higher education	XVIII International Conference "TransBaltica-2015", June 4-5, 2015
Igors Graurs	Competition of Latvian higher education	International Conference "Creating Shared Value in Knowledge Based Society: Expertise, Innovation, Continuity", University College of Economics and Culture (UCEC), April 16-17, 2015

5.2. Memberships in editorial boards of scientific journals

5.2.1. Memberships in editorial boards of scientific journals

Name	Journal	Period
Igor Kabashkin	• Computer Modelling and New Technologies" (ISSN 1407-5806), Latvia • Transport and Telecommunication (ISSN 1407-6160), Latvia, • Journal of Air Transportation (ISSN 1093- 8826), USA, University of Nebraska at Omaha • Transport (ISSN 1392-1533), Lithuania, Lithuanian Academy of Science • Technological and Economic Development (ISSN 1392- 8619), Lithuania, Vilnius Gediminas Technical University • Aviation" (ISSN 1392-1534), Lithuania, Vilnius Gediminas Technical University • Journal "Transactions on Transport Sciences" (ISSN 1802-971X), Czech Republic, Ministry of Transport • Sustainable Spatial Development" (ISSN 1691-6174), Riga Technical University • Journal of Aviation Technology and Engineering" (ISSN 2159-6670), published by Purdue University Press, USA • Baltic Journal of Modern Computing (ISSN 2255-8950 electronic; ISSN 2255-8942 paperback), Estonia-Latvia-Lithuania	1997-present 1999- present 1999 – present 1999 – present 2002 – present 2002 – present 2007 – present 2010 – present 2011 – present 2012 – present
Irina Yatskiv	• Transport and Telecommunication (ISSN 1407-6160), Latvia • Mathematics in Engineering, Science and Aerospace (ISSN 2041-3165) • Maintenance and reliability, Polish Maintenance Society (Warsaw) • Transport" (ISSN 1392-1533), Lithuania, Lithuanian Academy of Science • Member of the Editorial Board, International Journal "Economics of Development", Kharkiv National University of Economics	2005 – present 2005 – present 2011 – present 2012 – present 2014 – present
Alexander Grakovski	• Transport and Telecommunication (ISSN 1407-6160), Latvia	2015 – present
Juri Tolujew	• Transport and Telecommunication (ISSN 1407-6160), Latvia	2012 – present
Alexander Andronov	• Automatic Control and Computer Sciences (ISSN 0146-4116), Latvia	2005 – present
Stetjuha Aleksander	• Economic Alternatives", ISSN 1312-7462 University of National and World Economy, Sofia, Bulgaria http://www.unwe.bg/eajournal/en	From 2010
Kuzmina-Merlino Irina	• International Management Journals, United Kingdom, London. ISSN: 1742-528X (on-line Journals), IMJ Editorial Advisory Board (from 2005)http://www.managementjournals.com/editorialteam.htm	From 2005

	• The Clute Institute, Journal of Business Case Studies, ISSN 1555-3353 (print); ISSN 2157-8826 (online) Reviewers' team http://journals.cluteonline.com/index.php/JBCS/about/displayMembership/39 • Emerald Emerging Markets Case Studies Journal, Reviewer http://www.emeraldgrouppublishing.com/reviewers/index.htm	From 2012 From 2015
Aleksandr Medvedev	• Journal of Traffic and Transportation Engineering. David Publishing Company. New York, USA – editorial board member • Interstate aviation committee member of Coordinating Council	From 2015 From 2014

5.2.2. Memberships in Programme Committee of scientific conferences

Name	Journal	Period
Igor Kabashkin	• Member of the Programme and Organization Committee of the International Conference "Reliability and Statistics in Transport and Communication", (RelStat), Riga, Latvia • Member of the Programme Committee of the International Conference "European-Asian Transport Corridors: Trends. Strategies. Practices", 23-24 April 2015, Riga, Latvia • Member of the Programme and Organization Committee of the Conference "Research and Technology – step to the future, Riga, Latvia • Member of the Programme Committee of the Conference "Actual Problems of Education", Riga, Latvia • Member of the Programme Committee of the International Conference on Dependability and Complex Systems (DepCoS-RELCOMEX), Wroslaw, Poland	1999 – present 2015 – present 2006 – present 2009 – present 2012 – present
Irina Yatskiv	• Member of the Programme and Organization Committee of the International Conference "Reliability and Statistics in Transport and Communication", (RelStat), Riga, Latvia • Member of the Programme Committee of the International Conference on Dependability and Complex Systems (DepCoS-RELCOMEX), Wroslaw, Poland • Member of the Programme and Organization Committee of the 16 International Conference for junior researchers «Science-Future of Lithuania. Transport", VGTU (Lithuania) • Member of the Organization Committee of the XI International Conference "СОВРЕМЕННЫЕ ПРОБЛЕМЫ ИСПОЛЬЗОВАНИЯ ПОТЕНЦИАЛА МОРСКИХ АКВАТОРИЙ И ПРИБРЕЖНЫХ ЗОН", Московский университет им. С.Ю. Витте, Россия, Москва, 26.03.2015 • Member of the Programme and Organization Committee of the Conference "Research and Technology – step to the future, Riga, Latvia. • Member of the Programme Committee of the Conference "Actual Problems of Education", Riga, Latvia	1999 – present 2012 – present 2013 – present 2015 – present 2006 – present 2009 – present
Alexander Grakovski	• Member of the Programme Committee of the International Conference "Reliability and Statistics in Transport and Communication", (RelStat), Riga, Latvia • Member of the Programme and Organization Committee of the Conference "Research and Technology – step to the future, Riga, Latvia. • Member of the Programme Committee of the Conference "Actual Problems of Education", Riga, Latvia	2014 – present 2009 – present 2012 – present
Juri Tolujew	• The Winter Simulation Conference 2014, Savannah, GA, USA, December 7-10. Track «Logistics, SCM and Transportation». • Member of the Programme and Organization Committee of the	2014 – present

	International Conference "Reliability and Statistics in Transport and Communication", (RelStat), Riga, Latvia. • The 16th ASIM Dedicated Conference on Simulation in Production and Logistics, 23rd - 25th September 2015, Dortmund, Germany.	2014 – present 2015 – present
Boriss Mishnevs	• Digital Life Environment (DLE2015) conference, Istanbul, Turkey, 4-5 May 2015 • Member of the Programme and Organization Committee of the Conference "Research and Technology – step to the future, Riga, Latvia. • Member of the Programme Committee of the Conference "Actual Problems of Education", Riga, Latvia	2015 – present 2009 – present 2012 – present
Irina Kuzmina-Merlino	• International Strategic Management Conference, Turkey, Member of the Peer review committee, *Procedia Social Behaviour Science* • Bulgarian Association for Management Development and Entrepreneurship; Member of the Advisory Committee of the Annual International scientific conference • Scientific-Practical Conference *Business Strategy: Performance in Systemic Transformations Conditions*, SHEI Kyiv National Economic University named after Vadym Hetman 19-20 November, 2015, Kiev, Ukraine. Organizing committee. • International Scientific Symposium *Economics, Business & Finance*, Jurmala, Latvia, July 7 – 11, 2015. Scientific committee	2013 – present 2006 – present 2012 – present 2015
Aleksandr Medvedev	• Member of the Programme Committee of the Conference "Actual Problems of Education", Riga, Latvia • Research and technology – step into the future. TTI Research and academic conference – programme committee member • The international scientific – practical conference "European – Asian transport corridors: trends. Strategies. practices" – programme committee member	2012 – present 2012 – present 2015
Georgs Utehins	• Member of the Programme and Organization Committee of the Conference "Research and Technology – step to the future, Riga, Latvia • Member of the Programme Committee of the Conference "Actual Problems of Education", Riga, Latvia	2011 – present 2011 – present

5.3. Prizes awarded to researchers, honours and scientific positions of trust

Name	Prize, position etc.
Jurijs Roliks	The World Intellectual Property Organisation (WIPO) Award; The WIPO Medal for Inventors 17 December 2015.

5.4. Memberships in committees and in scientific advisory boards of business companies or other similar tasks of no primarily academic nature

Name	Tasks	Period
Igor Kabashkin	Scientific supervisor of Latvian Centre of Competence in Transport, Energy and Manufacturing	2015 - present
Irina Yatskiv	External expert in Association of Paneuropian Coach Terminals	2014 - present
Alexander Grakovski	Member of Council of expert working group of the electronic communications sector (Latvian Ministry of Transport)	2009 - present
Aleksandr Medvedev	Telemātikas un loģistikas institūts Ltd. – board member	2014 - present
Aleksandr Medvedev	Aviation Research Center Ltd. – board member	2014 – present

6. Participation in projects

Other EU Framework Program projects:

1. INTERREG: Harmonised and Modernised Multidisciplinary Railway Education (EDU-RAIL), (01.10.2015 - 30.09.2018)
2. COST TU1004: Modelling public transport passenger flows in the era of intelligent transport systems, (2011-2015)
3. COST Action TU1208: Civil Engineering Applications of Ground Penetrating Radar, (2013-2017)
4. COST TU1306: Fostering knowledge about the relationship between Information and Communication Technologies and Public Spaces supported by strategies to improve their use and attractiveness (CYBERPARKS), (2014-2018)
5. COST TU1408: Air Transport and Regional Development (ATARD), (2015-2019)
6. ENDURANCE "EU-wide establishment of enduring national and European support networks for sustainable urban mobility", (2013-2016)
7. Implementation of Software Engineering Competence Remote Evaluation for Master Program Graduates (iSecret) – ERASMUS+ 2015-1-LV01-KA203-013439, (01.09.2015.-31.08.2017)
8. Project „Learning with ICT use" (Project Nr. 2014-1-PL01-KA200-003353) (1.10.2014-1.10.2017)
9. Project "Development of institutional capacity of TSI Scientific Institution" Project of State Education Development Agency (VIAA) Nr. 2.DP/2.1.1.3.3./15/IPIA/VIAA/006. Period: 01.05.2015.-31.12.2015.

Contract research

10. Highway P133 and Ziemelu street intersection simulation and capacity estimation, (09.2015 – 12.2015)
11. Kemek Engineering Ltd. Vehicle weight measurement station software development, (05.12.2014-31.12.2015)
12. JSC Riga International Coach Terminal. Public transport and passenger traffic operation simulation model development, (01.01.2015-28.02.2015)
13. RS-factor Ltd. Study on wireless energy transfer methods for objects in motion, (30.01.2015 – 15.07.2015)
14. Eastern Executive Board of Riga City, and JSC Road Administration. Mazjumprava manor centre ruins radar surveying (finding hidden objects), (15.04.2015 – 25.05.2015)

The Figure below demonstrates number of the projects in different programmes starting from 2014 and the ending by the 2015.

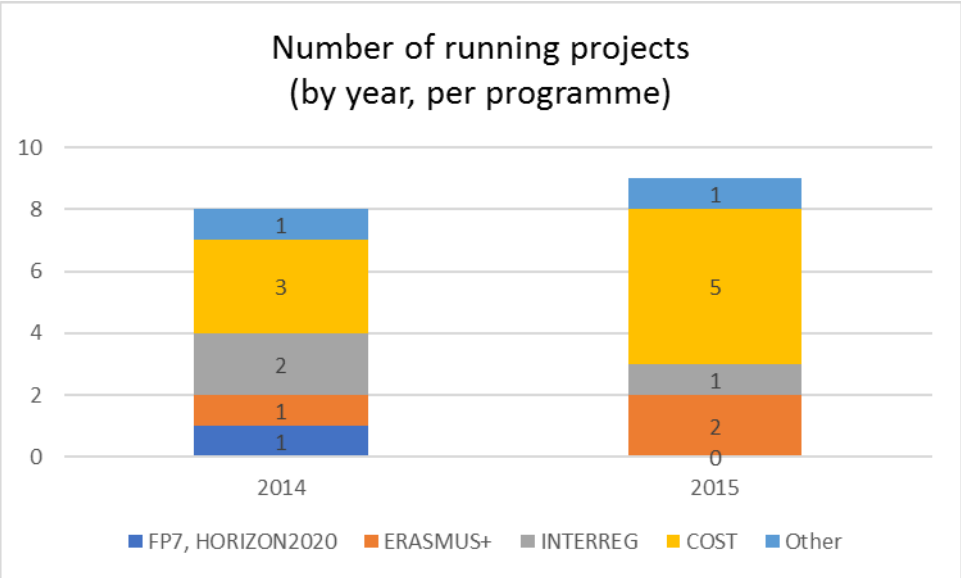

Figure 4. **Number of running projects**