# RelStat-2022

"RELIABILITY and STATISTICS in TRANSPORTATION and COMMUNICATION"
(RelStat-2022)

# Agenda

**Date:** 20-22 October 2022
**Time:** 9:00 – 18:00
**Organizer:** Transport and Telecommunication Institute

# Keynote Speakers



**DR. ENRIQUE ONIEVA**

Professor, Vice-Dean for International Relationships and Online Teaching, Deusto, Spain

Artificial Intelligence in Transport: state of the art and future trends

**PROF. DR. WALTER NEU**

Institute of Hyperloop Technology, Board of Directors, University of Applied Sciences Emden/Leer

CargoTube: Next generation sustainable transportation by Hyperloop technologies

**VLADISLAV CHASCHIN**

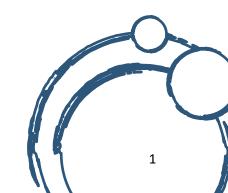Deputy Head of Technical Department, SJSC "Latvijas gaisa satiksme", Latvia

A paradigm shift in Modern Air Traffic Management: better now than never

**JELENA POPOVA**

Associate Professor, Transport and Telecommunication Institute, Latvia

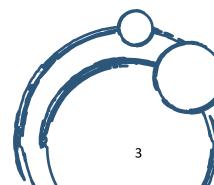Economic Substantiation of Smart City Dimensions

| Date | Time | Virtual room #1 (Aud.130) | Virtual room #2 (Aud. I) | Virtual room #3 (Aud. II) |
|---|---|---|---|---|
| 20.10.2022 | 09:00 – 10:00 | Registration for RelStat'22 | | |
| | 10:00 – 12:30 | Opening and Plenary Session (Aud.130) | | |
| | 12:30 – 13:30 | Lunch | | |
| | 13:30 – 15:30 | Parallel Sessions | | |
| | | Session 1 AI in Transportation | Session 2 Aviation | Session 6 Economics & Business |
| | 15:30 – 15:45 | Break | | |
| | 15:45 – 17:15 | Parallel Sessions | | |
| | | Session 7 Education and Training in Engineering | Session 2 Aviation | Special Session ePIcenter Project |
| | 18:30 | Dinner (Restaurant "LIDO") | | |
| End of day 1 | | | | |
| 21.10.2022 | 10:00 – 12:30 | Parallel Sessions | | |
| | | Session 3 Smart Logistics | Session 5 Smart Transport and Mobility | Session 4 Smart Technology |
| | 12:30 – 13:30 | Lunch | | |
| | 13:30 – 15:15 | Parallel Sessions | | |
| | | Session 6 Economics & Business | Session 4 Smart Technology | |
| | 15:30 – 16:00 | Closing remarks, end of the Conference | | |
| | 16:30 – 18:30 | Old Riga Town (Guided Walking Tour) | | |
| 22.10.2022 | 10:00 – 13:00 | Social Program (Riga Motor Museum) | | |

| PLENARY SESSION (AUD.130) | | |
|---|---|---|
| **Moderator:** | TTI Chairwoman of the Board, Prof. Irina Yatskiv (Latvia) | |
| 10:00 – 10:10 | Welcome speech | **Dr. sc. pol. Juris Kanels,** TTI Rector |
| 10:10 - 12:30 | Artificial Intelligence in Transport: State of the Art and Future Trends | **Prof. Dr. Enrique Onieva,** Vice-Dean for International Relationships and Online Teaching, Deusto (Spain) |
| | CargoTube: Next Generation Sustainable Transportation by Hyperloop Technologies | **Prof. Dr. Walter Neu,** Institute of Hyperloop Technology, Board of Directors, University of Applied Sciences Emden/Leer (Germany) |
| | Economic Substantiation of Smart City Dimensions | **Assoc. prof. Dr. oec. Jelena Popova,** Assoc. Prof. of Transport and Telecommunication Institute (Latvia) |
| | A Paradigm Shift in Modern Air Traffic Management: Better Now Than Never | **Vladislav Chaschin,** SJSC "Latvijas gaisa satiksme" Deputy Head of Technical Department (Latvia) |
| 12:30 - 13:30 | Break | |
| 13:30 – 17:15 | **Parallel Sessions** | |

| | THURSDAY, OCTOBER 20 | | |
|---|---|---|---|
| **Time** | **Session 1 (Aud. 130)** | **Session 2 (Aud. I)** | **Session 6 (Aud. II)** |
| 13:30 - 15:30 | **AI in Transportation**<br>Moderators:<br>*Prof. Dmitry Pavlyuk (Latvia)*<br>*Prof. Dr. Enrique Onieva (Spain)* | **Aviation**<br>Moderators:<br>*Prof. Igor Kabashkin (Latvia)*<br>*Prof. Aleksandr Grakovski (Latvia)* | **Economics & Business**<br>Moderators:<br>*Prof. Inna Stecenko (Latvia)*<br>*Prof. Irina Kuzmina-Merlino (Latvia)* |
| | Effect of Spatio-Temporal Granularity on Demand Prediction for Deep Learning Models - *Ken Koshy Varghese, Sajjad Mahdaviabbasabad, Guido Gentile (Italy)* | Value Entity Recognition Task in the Air Transportation on the Base of E-Texts Analysis- *Olga Zervina, Yulia Stukalina, Dmitry Pavlyuk (Latvia)* | Effective Change Management and Continues Improvements on Smart Governments - *Ioseb Gabelaia, Abdelrahman Sheri (Latvia; Egypt)* |
| | Autonomous Mobile Robot Navigation Issues in Terms of Obstacles Detection in Disrupting Operating Conditions Case Study - *Robert Giel; Sylwia Werbińska-Wojciechowska; Jakub Malewicz (Poland)* | Model of decision support system with artificial intelligence for aircraft fuselage damage assessment - *Irina Bodrova (Russia)* | Advances in the Research Domain of Crowdfunding: A Systematic Literature Review - *Oksana Adlere, Svetlana Saksonova (Latvia)* |
| | Contribution Determination of The Statistical Loading of The Crossroads by Means of The YOLO5 Neural Network - *Andrei Kazinski, Aliaksandr Puptsau (Belarus, Lithuania)* | Continuing Airworthiness Monitoring and Control as a Part of Aircraft Operation Ecosystem - *Leonid Shoshin; Vitalii Susanin (Russia) online* | The Impact of User-Generated Content on Customer Purchase Intensions of Online Shoppers - *Ioseb Gabelaia (Latvia)* |
| | Spatio-Temporal Attention Based Graph Convolutional Networks – a Systematic Review - *Jelena Larina, Dmitry Pavlyuk (Latvia)* | Factors Influencing Value Proposition in the Aviation Industry in the Context of Customer Centric Digital Economy - *Olga Zervina, Yulia Stukalina (Latvia)* | Internet Retailers' Valuation: Why Intangible Assets Matters and How to Assess Them - *Neli Abramishvili, Anthony Herman, Nadezhda Lvova, Nino Pailodze, Ekaterina Yanshina (Russia; Georgia)* |
| | Autonomous Cargo Bike Fleets-Approaches for AI-Based Trajectory Forecasts of Road Users - *Stefan Sass, Markus Höfer, Michael Schmidt, Stephan Schmidt (Germany)* | Drawbacks of Demand Accuracy Assessment Models on the Example of Slow Moving Spare Parts in Civil Aviation - *Danila Larin (Russia)* | Accounting Outsourcing: Increasing the Possibility of its Use in Latvia - *Natalia Konovalova, Ludmila Rozgina (Latvia)* |
| 15:30 -15:45 | **Break** | | |

| Time | Session 7 (Aud. II) | Session 2 (Aud. I) | Special Session ePIcenter (Aud. 130) |
|---|---|---|---|
| | **Session 7**<br>**Education and Training in Engineering**<br>*Moderators:*<br>*As. Prof. Juris Kanels (Latvia)*<br>*Prof. Aliaksandr Puptsau (Lihuania)* | **Session 2**<br>**Aviation**<br>*Moderators:*<br>*Prof. Aleksandr Grakovski (Latvia)*<br>*Prof. Dmitry Pavlyuk (Latvia)* | **Special Session**<br>**ePIcenter Project**<br>*Moderators:*<br>*Prof. dr. Walter Neu (Germany)*<br>*Prof. Irina Yaskiv (Latvia)* |
| 15:45<br>-<br>17:15 | Application of Project Management Principles When Adapting the Study Subject to the E-Learning Environment - *Olga Navickienė, Aidas Vasilis Vasiliauskas (Lithuania)* | Aircraft Intellectual Records Management System - *Vitalii Susanin, Leonid Shoshin (Russia)* | Relevance of Regulatory and Data Availability Issues to Transport and Logistics Processes, Based on the Insights of the ePIcenter Project - *Darius Bazaras, Viktor Skrickij, Algirdas Šakalys Raimondas Šakalys (Lithuania)* |
| | Blended Learning as one of the Factors for Attractiveness of Studies: Case Study of KTK - *Lina Girdauskiene; Giedre Adomaviciene; Judita Streimikiene (Lithuania)* | Impact of Unpredictable Major Events on Aviation Industry: Challenges, Benefits and Prospects for Recovery - *Iyad Alomar, Viktorija Gorodnicka (Latvia)* | Lessons Learned from EC-funded Projects in Earth Friendly Freight Transportation - *Irina Yatskiv, Thomas Brauner, Vladimir Petrovs, Aleksejs Vesjolijs (Latvia; Germany)* |
| | Online Collaborative Learning: Use and Efficiency Evaluation - *Ryhor Miniankou; Aliaksandr Puptsau (Lithuania)* | Jet Engine Health Assessment Using EGT Time Series - *Vladislav Zhdanov, Alexander Grakovski (Russia; Latvia)* | A Modelling System for Evaluating Options for Building and Using a Fleet of Battery Electric Trucks - *Irina Yatskiv (Jackiva), Vladimirs Petrovs, Jurijs Tolujevs, Aleksejs Vesjolijs (Latvia)* |
| | Human resources management and training in aviation - *Federico de Andreis (Italy)* | Opportunities and Challenges for Sustainable Aviation Development in Latvia - *Sandra Jekabsone, Ilze Sproģe (Latvia)* | |
| | Peculiarities of Implementation of Advanced Distributed Learning in Lithuanian Armed Forces - *Aidas Vasilis Vasiliauskas, Ieva Meidutė - Kavaliauskienė, Olga Navickienė (Lithuania)* | Option models in candidate's selection for predictive maintenance in maintenance, repairs, and overhaul organizations - *Roman Fedorov, Dmitry Pavlyuk, Lubov Rozhkova (Russia; Latvia)_* | |
| | Services Delivery Model for Education-as-a-Service Based Framework - *Boriss Misnevs, Igor Kabashkin (Latvia)* | | |
| 18:30 | **Dinner (Restaurant "LIDO")** | | |
| **End of day 1** | | | |

| | FRIDAY, OCTOBER 21 | | |
|---|---|---|---|
| **Time** | **Session 3 (Aud. I)** | **Session 5 (Aud. II)** | **Session 4 (Aud. 130)** |
| | **Smart Logistics**<br>Moderators:<br>*Prof. Gunnar Prause (Germany)*<br>*Ass. Prof. Dr. Berdymyrat Ovezmyradov (Sweden)* | **Smart Transport and Mobility**<br>Moderators:<br>*Prof. Irina Yaskiv (Latvia)*<br>*Prof. Paulius Skačkauskas (Lithuania)* | **Smart Technology**<br>Moderators:<br>*Prof. Boriss Misnevs (Latvia)*<br>*Prof. Jarosław Sugier (Poland)* |
| 10:00<br>-<br>12:30 | Impact of Stockout-Based Substitution on Optimal Inventory in Management Science and Microeconomic Implications - *Berdymyrat Ovezmyradov (Sweden)* | Comparison Analysis Between Pneumatic and Airless Tires by Computational Modelling for Avoiding Road Traffic Accidents - *Mykola Karpenko, Olegas Prentkovskis, Paulius Skačkauskas (Lithuania)* | Avatar: A Telepresence System for the Participation in Remote Events - *Dietrich Trepnau, Klaus Richter (Germany)* |
| | Classification of Inventory Management Methods Based on Demand Analysis in Supply Chains - *Valery Lukinskiy; Vladislav Lukinskiy, Darya Bazhina, Ekaterina Gazizova, Igor Bernadskii (Russia)* | A Single Level Formulation for Travel Demand Estimation Under Stochastic User Equilibrium - *Mohamed Eldafrawi, Guido Gentile (Italy)* | Improvement of the Feature Selection Method for Network Attacks Classification Using Machine Learning in Digital Forensics - *Boriss Misnevs, Aleksandr Krivchenkov, Alexander Grakovski (Latvia)* |
| | Stakeholder-Oriented Investment Activities for Sustainable Supply Chain Management - *Harald Kitzmann,    Gunnar Prause (Estonia; Germany)* | Bicycle sharing systems: a comparative analysis in Greece and Cyprus - *Georgia Savva; Giannis Adamos; Eftihia Nathanail (Greece)* | Autonomus Mobile Robot Study in the Context of Maintenance 4.0 - *Robert Giel, Alicja Dąbrowska (Poland)* |
| | Use of Operational Research in Car Transport Logistics - *Martin Jurkovic, Tomas Kalina, Piotr Gorzelanczyk, Maria Stopkova (Slovakia, Poland, Czechia)* | Reliability Model of Autonomous Transport with Life Support Systems Based on Closed Biotechnological Complexes - *Sergey Glukhikh (Russia)* | Scripting Complex Events and Behaviours in Computer Simulation of a Security Monitored Area - *Jarosław Sugier (Poland)* |
| | Reduction of Supply Chain Risks by Using Blockchain Technology - *Meike Schroeder, Gunnar Prause (Germany, Estonia)* | Assessing the Mobility Impact on the Corporate Social Responsibility - *Mahnaz Babapourdijojin, Guido Gentile (Italy)* | Development of a Reliable and Offline Capable Hard-And Software Technology for Long-Term Machine Data Acquisition, Data Storing and Data Exportation - *Nicolas Dolle, Christian Wilhelm, Kirill Anikin (Germany)* |
| | The Horns of the Uncertainty Dilemma as a Determination of Interrupted Supply Chains Reconfiguration - *Łukasz Marzantowicz (Poland)* | Detection of Edges in Transport Networks which are Critical for Public Service Systems - *Peter Czimmermann (Poland)* | Optimisation of Quay Crane Scheduling Problem at the Port of Algeria - *Hizia Amani; Linda Bouyaya; Rachid Chaib; Fatma Zohra Djekrif; Mouna Aizi (Algeria)* |
| | Efficiency Assessment System Based on Analytical Approach for Sustainable Development of Transport Logistics - *Anna Strimovskaya; Galina Sinko; Elena Tsyplakova (Russia)* | Smartphone Based Recognition of Trip Phase at Public Transport Stops VIA Machine Learning Models – *Seyed Hassan Hosseini, Guido Gentile (Italy)* | Anomaly Detection for Predictive Maintenence on the Example of an Induced Draft of a Waste Power Plant - *Nicolas Dolle, Christian Wilhelm, Kirill Anikin (Germany)* |
| 12:30<br>-13:30 | **Break** | | |

| Time | Session 6 (Aud. I) | Session 4 (Aud. 130) |
|---|---|---|
| 13:30 - 15:15 | **Economics & Business**<br>Moderators:<br>*Prof. Yulia Stukalina (Latvia)*<br>*Prof. Svetlana Saksonova (Latvia)* | **Smart Technology**<br>Moderators:<br>*Prof. Aleksandr Grakovski (Latvia)*<br>*Prof. Mihails Savrasovs (Latvia)* |
| | Using AI for scaling up a business in the age of digital Transformation - *Yulia Stukalina, Olga Zervina (Latvia)* | Smart Process Observer for Crane Automation - *Daniel Sopauschke, Erik Trostmann, Klaus Richter (Germany)* |
| | Assessment of the dependence of insurance volumes on various socio-economic factors of regional development in countries with a transitive economy - *Svetlana Saksonova, Evgenia Prokopjeva, Oksana Adlere (Latvia; Russia)* | Fast Timeline Based Multi Object Online Tracking - *Martin Hünermund, Maik Groneberg, Nils Brauckmann (Germany)* |
| | Possibilities and Barriers in Implementing of AI-Based Automation Techniques in Management - *Nicolas Dolle, Irina Kuzmina-Merlino (Germany, Latvia)* | Piezoelectric Films Application for Vibration Diagnostics - *Aleksey Mironov, Pavel Doronkin, Aleksejs Safonovs, Vitalijs Kuzmickis (Latvia)* |
| | Problems of Banking Stability and Efficiency: Comparative Analysis of Latvia and Turkey - *Natalia Konovalova, Mustafa Akan (Latvia; Turkey)* | LiDAR and AI based surveillance of industrial process environments - *Maik Groneberg, Olaf Poenicke, Chirag Mandal, Nils Treuheit (Germany)* |
| | Formation of the Insurance Market of the Region Taking into Account the Impact of Specific Risks **-** *Prokopjeva Evgenia, Saksonova Svetlana, Shibaeva Tatyana, Chezybaeva Natalya (Latvia; Russia)* | Analysis of Air Pollution Monitoring System in Lithuania - *Marius Mazeika; Darius Juodvalkis (Lithuania)* |
| | Aspects of Digital Manufacturing for Smart city - *Popova Yelena, Olegs Cernisevs, Surmach Andrey (Latvia)* | Investigation of Loads in the Company's Cable Network with Digital Oscilloscope - *Gediminas Daukšys (Lithuania)* |
| | | Training Environment for Rare Events Learning a Feasibility Study - *Przemysław Śliwiński, Jacek Mazurkiewicz, Jarosław Sugier, Tomasz Walkowiak (Poland)* |
| 15:30 -16:00 | **Closing remarks, and end of the Conference (Aud. 130)** | |
| 16:30 –18:30 | **Old Riga Town (Guided Walking Tour)** | |