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The 8th International Scientific and Practical Conference: Transport, Education, Logistics and Engineering, 27–28th of June 2025, Riga, Latvia

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Conference proceedings

Dear Colleagues!

It is a great honour for us to present the Proceedings of the International Scientific and Practical Conference. We hope that you will find it useful, interesting and inspiring.

The Proceedings contains the papers presented at the 8th International Scientific and Practical Conference: *Transport, Education, Logistics And Engineering 2025*, which was held at the Riga Aeronautical Institute (Riga, Latvia) on June 27–28, 2025.

The conference was attended by representatives of many countries, including universities in Europe and Asia. The aim of the conference was to promote the exchange of advanced knowledge, innovative ideas and practical experience between scientists and specialists in the field of transport, logistics, engineering and education.

Keywords

- higher education
- Industry 4.0
- innovation
- economy
- management
- transport
- logistics
- abstract

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The conference is aimed at developing scientific and applied solutions to improve the efficiency of transport systems, develop sustainable logistics technologies and improve the methods for training specialists in the field of engineering and transport.

We hope that the conference will also serve as a stimulus for the emergence of innovative ideas and will promote the development of research links and partnerships between different institutions.

Dr.sc. ing. Ibrahims Arandas
Chairman of the Conference Executive Committee

Selected articles, which are extended versions of conference papers, will be published in the journals Science, Technology and Innovation (https://journals.anstar.edu.pl/index.php/sti) and Problems of Economics and Law (https://journals.anstar.edu.pl/index.php/pel).

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SECTION 1. HIGHER EDUCATION MEETS INDUSTRY 4.0: A DIGITAL APPROACH TO PROFESSIONAL TRAINING

Integration of academic and European Union aviation safety agency professional requirements

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Over the next twenty years, the demand for qualified aviation personnel will need to be correlated to aircraft delivery plans. On the other hand, there is a tendency for students to prefer higher education rather than professional training, the reason being that an academic degree is necessary for furthering one's career; however, professional training is necessary to become certified aviation personnel, such as a certified mechanic and avionics personnel. In this article, the authors propose a combined method of aviation training, so that aviation personnel can obtain, at the end of the training process, a bachelor's degree within the country's Ministry of Higher Education and the necessary professional training in accordance with the requirements of the European Union Aviation Safety Agency (EASA). The analysis between academic and professional programs provided by the authors can be used by the National Aviation Authority (NAA) to grant examination credits in accordance with EASA regulations for those who have completed their studies at a higher education institution.

Higher education and industry

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To provide an overview of the interaction between higher education and industry, it is necessary to begin with

a common understanding of the role of universities and how it has evolved over the years. Fundamentally, the transformation of universities has been influenced by technological advancements. Currently, a significant challenge impacting university operations is the rapid development and integration of artificial intelligence tools, which are likely to enter nearly every industry. Since universities are directly invested in sustaining their successful, long-term operations, they need both to follow and to predict the development and future demands of existing and emerging industries, as well as those of the country or even wider regions. Observable correlations, which hold true across a broad spectrum of countries, exist between higher and professional education levels (the number of people with relevant education compared to the total population) and income, employment, and GDP. It is evident that a higher level of education correlates proportionally with income and GDP, and inversely with unemployment rates. When developing a model for national development, it is crucial to understand the sequence of causes and effects and to recognize the essential role of universities. Because of universities' naturally developed competencies and wide impact on society, it is crucial to include representatives from higher education institutions as the principal partners in the process of designing of development strategy of the country.

Perspectives of online teaching methods

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The learning process is considered successful when students are happy with the acquired skills and educators satisfied with the teaching quality. The opinion of students about teaching methods also plays a significant role in shaping learning outcomes. Recently, Rīga Aeronautical Institute successfully tested the online laboratory works of Physics in the computer classes and conducted a survey. Students were asked to rate the laboratory works on a 0–10 scale and explain their decision. The answers to the questions were based on the hopes and expectations of real students and shed light on the education of Physics from different perspectives. The average rating of Physics laboratory works was equal to 8.7. The lowest grade, 8, was explained as follows: "There were a few difficult parts and tasks"; "The work would be much more interesting if we could use real equipment"; and "The subject does not correlate very well with my future profession". Meanwhile, the highest grade, 10, received the following comment: "There is no need to perform a live experiment in a laboratory because everything was clear from a recorded experimental and a separate description". The opinions of students and their feedback were taken into account during the meeting on study methodology. After some discussion, the governing body of Rīga Aeronautical Institute decided to enlarge the teaching portfolio and to apply online teaching methods to other subjects. This action will improve the quality of special courses of the Engineering study program.

The advantages and drawbacks of online teaching methods

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The advantages of information technology allow people to communicate more efficiently. Seeking to improve teaching quality, Rīga Aeronautical Institute has decided to include online teaching elements in the education process. The laboratory work in Physics classes is being used for testing. Every instance of laboratory work includes a prerecorded experiment, uploaded to YouTube, and a detailed description. The purpose of the introduced laboratory work is to help students master the laws and phenomena of physics in their future professions. The laboratory work suits both synchronous and asynchronous learning modes. During the synchronous learning mode, all students learn the subject at the same time under the supervision of a lecturer, while during the asynchronous learning mode students learn the subject independently at the time most convenient to them. The first mode guarantees students professional feedback on their academic performance, while the second mode promotes the development of self-study skills that are becoming increasingly beneficial in the working environment after graduation..

The role of emotional intelligence in higher education

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This article presents information about emotional intelligence key competences, its main parts and role in educational processes. The article brings attention to the fact that, despite the importance of technological innovations, the key role in pedagogical activity continues to be played by the personality of the teacher/lecturer. In this context, the importance of the emotional intelligence of the teacher increases – their ability to empathize, understand, regulate and use emotions for the benefit of learning.

Contemporary problems of education quality

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In the context of global transformations and technological progress, ensuring the quality of education has become a fundamental priority in both national and international educational agendas. This thesis investigates the multifaceted nature of modern problems affecting educational quality and examines the root causes of inefficiency in contemporary teaching and learning environments. Among the most critical challenges identified are the misalignment of curricula with the requirements of the labor market, insufficient integration of innovative teaching methods, low levels of student motivation, disparities in access to digital technologies, and the inadequate professional development of educators.

The study is based on a comprehensive review of theoretical sources, statistical data, and policy documents from both developed and developing countries. A comparative approach was applied to analyze different education systems and their strategies for maintaining quality standards. The research also explores the role of digitalization and globalization in reshaping the educational landscape, especially in the post-pandemic period, where the need for adaptive and resilient systems has become more evident.

Findings suggest that quality education is not solely defined by academic outcomes but is strongly influenced by systemic, pedagogical, and technological factors. The implementation of competency-based learning models, learner-centered instruction, and continuous teacher training programs are highlighted as essential strategies to enhance educational quality. Moreover, the research emphasizes the importance of effective monitoring and evaluation systems to ensure consistent educational standards.

This thesis contributes to the scientific discourse by providing a structured overview of current educational challenges and offering practical recommendations for their resolution. It is of particular interest to educational policymakers, administrators, researchers, and practitioners seeking to improve the sustainability and relevance of education systems in the 21st century.

The transformative role of education in human capital development — a literature review

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This article examines how education enhances human capital and contributes to economic and social progress. By fostering skill development, knowledge transfer, and adaptability, education increases workforce productivity and supports innovation. Individuals with higher education levels tend to achieve better employment outcomes, higher earnings, and improved health and well-being. Education has broader societal benefits, such as promoting civic participation and reducing crime. However, unequal access to quality education can deepen income inequality. The paper highlights the importance of continuous learning and inclusive educational policies as essential tools for building a skilled, adaptable labor force and driving sustainable economic development.

The conceptual objective of this paper is to outline the original approach to the multifaceted role of education in the holistic shaping of human capital Justification of the long-term effects of educational reforms; the impact of education on labor market and social

integration; the significance of transversal skills in the digital economy; institutional and regional factors influencing educational outcomes are the tasks on the path to objective.

Critical analysis of a concept using the literature as data and hybrid descriptive method with narrative literature review were implemented for assigned tasks realization. Offered study positions education not only as a private investment but as a foundational driver of inclusive and sustainable socioeconomic development.

The reviewed literature provides robust evidence that education plays a transformative role in human capital development, but the magnitude and nature of its effects vary substantially depending on socioeconomic context, policy design, and institutional capacity. The activities described in this article point to the limitations of formal access-focused policies if they are not accompanied by targeted support mechanisms and institutional reforms.

Synergy of higher education and specialized courses, within the framework of licensing and certification of specialists

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This study explores the evolving synergy between higher education institutions and specialized training courses in Uzbekistan, particularly in the context of professional licensing and certification systems. As the nation transitions toward a competency-based economy, the demand for standardized and industry-aligned qualification frameworks has increased. The research identifies critical gaps in current institutional collaboration, the misalignment between academic curricula and practical skills, and proposes an integrated model combining university-level education with short-term certification programs. Statistical data from the Ministry of Higher Education, Science and Innovation and international benchmarks, including OECD and UNESCO, are utilized to substantiate findings.

New trends in higher education, STEM model, interdisciplinarity

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Higher education in 2025 is transforming: it becomes more digital, adaptable, multimodal and inclusive, with a clear emphasis on AI, sustainability, student support and practical links to the labour market.

This study, using the Latest Trends in Higher Education, examines the understanding of STEM and STEAM education as an interdisciplinary model in the context of RAI. The study has resulted in a development plan for RAI bachelor's programs SPUV and SPL for a lecturer within the framework of STEM and interdisciplinary studies, thus improving the quality of studies. The study was created over several years of observations, conversations with lecturers, participation in open lectures by lecturers, using student feedback, supervising and reviewing bachelor's theses.

Interdisciplinarity means the integration of different scientific fields to provide a comprehensive view of problems and solutions. Interdisciplinarity and STEM are deeply connected, where STEM education emphasizes the integration of disciplines – science, technology, engineering, and mathematics are combined in joint projects with the fields of economics, social sciences, the environment, and the humanities, creating a specialist with a broad, integrated perspective and practically applicable skills.

Information and methodological support for improving the management skills of deputy directors of preschool educational organizations

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This article analyzes the role and significance of information and methodological support in improving the managerial skills of deputy directors in preschool educational institutions. The article discusses information and methodological support, its role in the educational process, the effective use of information systems, and the implementation of digital technologies. Examples of legal documents, decrees, and decisions from the Republic of Uzbekistan in the field of education are provided, demonstrating the importance of developing managerial skills in preschool institutions. The article includes important recommendations for improving management processes, enhancing pedagogical skills, and modernizing the education system through information technologies.

INCLAVI: EU-funded training on accessible aviation and tourism

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INCLAVI (Inclusive Aviation) project (2022–2025), co-funded by the European Union under the Erasmus+ programme and coordinated by Haaga-Helia University of Applied Sciences (Finland), has focused on meeting the growing demand for inclusive practices in the aviation and tourism sectors.

The project has brought together a multidisciplinary consortium of higher education institutions (Haaga-Helia, Careeria, Ozyegin University, Yasar University, Breda University of Applied Sciences), global industry associations (International Air Transport Association IATA, European Network for Accessible Tourism ENAT), airport operators (IGA – Istanbul Grand Airport), and several associated and supporting partners such as Finavia – a state-owned operator of Finnish airports, SMAL – Association of Finnish Travel Industry, AirBaltic – a Latvian national airline, and Trafikverket – the Swedish Transport Administration.

During the course of the project, INCLAVI partners have collaboratively co-created, piloted, and validated a first-of-its-kind training curriculum, which focuses on accessibility and inclusion in aviation and targets aviation professionals and students whose work involves directly or indirectly Passengers with Reduced Mobility (PRMs) and Persons with Disabilities (PWDs).

The contents of INCLAVI courses cover a wide range of accessibility topics and are relevant for an extended list of occupational groups involved in planning and implementing customer service. For example, the contents cover universal design principles, legal and policy frameworks across Europe and globally, practical implementations of accessibility features across various passenger touchpoints (from booking to onward travel), and workplace-based case studies drawn from benchmarked airports and airlines.

The process of creating and reviewing the contents of the curriculum has involved a diverse team of aviation professionals, accessibility and inclusion experts, instructional designers, and vocational trainers, ensuring both pedagogical and operational relevance.

INCLAVI curriculum is hosted on HH Online, Haaga-Helia's WordPress-based learning management system, which offers a self-paced, free-to-register subscription to INCLAVI courses for at least three years after the competition of the project (August 31, 2025). The self-paced, modular learning design allows to supplement INCLAVI contents with tutor and peer support, digital interaction tools, and accessibility aids such as screen readers, subtitles, and mobile accessibility.

INCLAVI curriculum allows the learners to establish learning paths, i.e. select the courses that are relevant for their learning profiles – based on their occupations in the industry, levels of seniority or, in general, the areas of their interest. A distinctive feature of the INCLAVI curriculum is its scalability across academic institutions: INCLAVI courses are designed to be integrated into university curricula (HEIs and industry), based on the ECTS credit point system and micro-credentials. Additionally, industry partners can recommend INCLAVI courses to their employees as a part of their continuous professional development programmes.

With €1.5 million in EU funding (total project cost €1.8 million), INCLAVI has not only created a comprehensive

training curriculum but has also developed complementary outputs, such as a database of best practices, policy recommendations, and a Train-the-Trainer toolkit. These deliverables are meant to collectively support the advancement of accessibility in aviation and tourism.

The INCLAVI consortium has designed a multi-tiered quality assurance process to ensure content relevance, optimal instructional design, legal compliance, and the inclusion of feedback from learners. In May 2025, based on this quality assurance process and piloting results, the INCLAVI curriculum received an EOCCS (EFMD Online Course Certification System) certification, a globally recognised accreditation label for education programmes.

In conclusion, the INCLAVI project has demonstrated how a collaborative curriculum development, aligned with relevant legal frameworks and policies, coupled with academic research and industry practice, can add value to the training of aviation professionals across a diverse range of accessibility subjects.

The INCLAVI project has established a replicable project model for other initiatives which also aim at advancing the global inclusion of Persons with Disabilities safely and in a dignified manner. In this, the project is a milestone toward achieving barrier-free travel and embedding values of inclusivity into professional practice.

Combining specialised courses with higher education within the context of expert certification and licensing

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In the era of rapid technological advancement and evolving labor market demands, the integration of specialized training programs into higher education systems has become a critical prerequisite for enhancing graduate competencies and employability. This article explores the synergy between higher education and specialized certification and licensing programs for professionals in Uzbekistan. The study examines ongoing national reforms, statistical labor market trends, and recent policy shifts within the country's qualifications framework. It identifies institutional bottlenecks that hinder the systematic alignment of academic and professional standards and proposes a model for integrated development.

Employing a mixed-methods research design, the study combines policy analysis, labor market data, and international benchmarking to evaluate Uzbekistan's current approach to workforce development. The findings highlight discrepancies between higher education outcomes and the skillsets demanded by the contemporary job market, emphasizing the need for coordinated policy and institutional reforms. Special attention is paid to the role of national qualification standards, the certification mechanisms of professional expertise, and the evolving responsibilities of higher education institutions.

The proposed model outlines practical steps for bridging the gap between academic education and professional certification, advocating for a competency-based framework aligned with global best practices. Recommendations include strengthening intersectoral collaboration, establishing transparent pathways between academic degrees and certified qualifications, and adopting international validation mechanisms. By aligning Uzbekistan's education and certification systems with internationally recognized standards, the country can better prepare its workforce for participation in the global knowledge economy and ensure the long-term relevance and mobility of its graduates.

This research provides policymakers, educators, and institutional leaders with evidence-based insights and actionable strategies for integrating higher education and professional certification in a coherent, future-oriented system of national qualifications.

SECTION 2. INNOVATION, ECONOMY, AND BUSINESS MANAGEMENT

Managerial decisions and adaptation strategy of Riga Aeronautical Institute in the VUCA world

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Managerial decision-making in higher education institutions today occurs within the context of a VUCA environment—characterized by volatility, uncertainty,

complexity, and ambiguity—which shapes a unique framework for modern organizational and sociocultural realities. This article presents a case analysis of the Riga Aeronautical Institute (RAI), a private university in Latvia, focusing on the impact of the external environment and the development of an adaptive management strategy. Importantly, this case is not an isolated problem of a specific institution but serves as a model scenario illustrating systemic challenges faced by universities in a VUCA world, such as blurred internal regulations, a lack of sustainable procedures, and a high degree of external uncertainty. A mixed-methods approach was used to obtain a comprehensive and objective view of the current external environment and to identify key challenges and opportunities for institutional adaptation.

The analysis is grounded in the concept of bounded rationality, the "garbage can model," approaches to power and influence distribution, and behavioral economics with a focus on risk aversion. Key managerial bottlenecks and problems were identified, including unclear lines of authority among stakeholders, exclusion of certain actors from the decision-making process, limited experience in non-standard situations, and ambiguous organizational procedures.

The study employed a mixed-methods methodology, including expert evaluations from seven members of RAI's management team and content analysis of external factors—demographic, economic, regulatory, and global educational trends. The results indicate a moderately high level of uncertainty and ambiguity, underscoring the need for flexible governance models.

The article proposes a set of strategies for reducing managerial uncertainty and improving decision quality: problem decomposition, application of complex situation analysis techniques, increased stakeholder engagement, management of information flows, and prevention of groupthink. This study contributes to the development of management theory and practice under VUCA conditions by offering tools to build mature adaptation strategies for the Latvian higher education sector.

Strategic analysis of the business environment of the enterprise "Modesto Flowers" to strengthen its market position

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This paper presents a comprehensive strategic analysis of the business environment of the company Modesto Flowers, with a focus on its marketing department responsible for identifying and attracting suppliers. The study aims to enhance the company's marketing effectiveness by identifying internal and external factors influencing its performance and proposing targeted recommendations for improvement. Given the dynamic and competitive nature of the fresh flower industry, this research is particularly relevant for Modesto Flowers, a fast-growing enterprise offering a unique and in-demand product.

The research objectives include examining the theoretical foundations of strategic business environment analysis, assessing the current state of the company, identifying key challenges in marketing and supplier engagement, and evaluating the potential economic benefits of implementing proposed measures. The study concludes with a set of practical recommendations designed to strengthen the company's market position and optimize its supplier relations.

The findings highlight that strategic marketing and supplier management are critical success factors for business growth in the floral industry [1]. By refining its marketing approach and leveraging its financial resources, Modesto Flowers can improve its operational efficiency, expand its supplier network, and ultimately increase profitability and market share both domestically and internationally.

Investment project to increase the efficiency of business activities of JSC “Tallink Grupp”

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The paper provides the analysis of an investment project aimed at increasing the efficiency of business activities of JSC TALLINK GRUPP. The topic is highly relevant in the context of industrial transportation, which plays a vital role in supporting economic growth, enhancing trade, and boosting tourism flow. In the Baltic region, ferry logistics systems are still developing and often face challenges such as high operational costs and low efficiency.

The study emphasizes the strategic importance of investment as a key tool for enterprise development. Despite the risks and costs associated with investment policy, it remains essential for long-term profitability and competitiveness. The quality of the investment project and its alignment with business goals significantly influence the success of such initiatives.

The scientific article aims to analyze the economic activities of JSC TALLINK GRUPP, identify existing problems, and propose an investment solution to improve performance. The research also highlights the practical significance of the proposed measures, including the potential development of a new ferry route, which could increase the company’s operational efficiency and profitability in a competitive transport market.

Overcoming logistics and supply chain challenges in landlocked countries: Constraints and strategic solutions

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Landlocked countries face unique logistical challenges due to their lack of access to seaports, making international trade costlier and more complex. These nations depend on neighboring transit countries for trade routes, exposing them to geopolitical risks, high transport costs, and bureaucratic delays.

This paper explores the core constraints affecting logistics and supply chains in landlocked nations, including infrastructure deficits and institutional inefficiencies. It also highlights key strategies for improvement, such as regional cooperation, infrastructure development, digital innovation, and policy reform. Through practical examples, the article outlines a roadmap for enhancing trade performance and economic resilience in these contexts. It also explores strategic approaches for improvement, including regional cooperation, infrastructure development, digitalization, and policy reform, offering actionable pathways to enhance trade resilience and competitiveness.

Analysis of the logistics enterprise “Mile Logistics” and development of new transport directions in the period of unstable geopolitical situation

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This study provides a comprehensive analysis of internal and external factors influencing Mile Logistics amid ongoing geopolitical instability. Using factor analysis, four key risk components were identified: Macroeconomic and Financial Risks (1.928), Regulatory and Cybersecurity Risks (1.627), Trade Restrictions and Supply Chain Barriers (1.440), and Operational Costs and Resource Strategies (1.243). Major challenges for Mile Logistics include rising inflation, reliance on digital infrastructure, international sanctions, disruptions in global supply chains, and volatility in fuel prices. The research proposes a new cargo transportation strategy aimed at strengthening Mile Logistics’ market position and improving its ability to respond effectively to these risks. Employing a quantitative approach incorporating statistical and factor analysis, the study assesses the impact of geopolitical factors on logistics operations and develops strategic solutions

to enhance resilience and operational efficiency. This work addresses a gap in existing research by systematically classifying external influences on logistics management during times of geopolitical uncertainty, thereby offering practical recommendations for maintaining competitive advantage in a rapidly changing global market.

Factors affecting customer satisfaction in online banking

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This research examines the sophisticated impact of various determinants on customer satisfaction within the domain of online banking, with a specific focus on Pan Asia Bank in Sri Lanka. In an era characterized by digital transformation, understanding the gradation of customer satisfaction has become paramount for financial institutions striving to enhance their competitive advantage. The study aims to identify critical independent variables influencing customer satisfaction, particularly emphasizing perceived usefulness, perceived ease of use, perceived relative advantage, and compatibility. A quantitative research methodology was employed, utilizing a structured questionnaire distributed among 120 online banking customers, selected through a simple random sampling technique. This method allowed for the efficient gathering of data reflective of actual user experiences and perceptions. The data were meticulously analysed using IBM SPSS software, employing descriptive statistics and Pearson correlation analysis to establish vigorous relationships between the identified variables. The results indicate strong positive correlations between customer satisfaction and all four independent variables, with perceived usefulness demonstrating the most substantial relationship. These findings underscore the imperative for financial institutions to prioritize the enhancement of online banking services to elevate customer satisfaction levels. By focusing on these key determinants, financial institutions can build strategic, data-driven improvements to online banking platforms, paving the way for solutions that resonate with customer expectations. Furthermore, the findings contribute significantly to the existing body of literature on online banking by corroborating the relevance of these factors in the unique Sri Lankan context.

Increasing competitiveness of airlines in the European passenger transportation market

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This paper explores strategies for improving the competitiveness of airlines in the European passenger transportation market through a comparative economic analysis of leading carriers. Amidst rising financial pressure, uneven regulatory environments, and post-pandemic recovery efforts, European airlines face significant challenges [1]. This study identifies key performance indicators and evaluates structural and managerial differences among major market players. A detailed comparative framework is developed using three case studies: Turkish Airlines, TUI Group, and Ryanair Holdings [2–4]. The research reveals that fleet efficiency, hub structure, employee productivity, and customer service quality significantly influence airline competitiveness. In addition, this paper incorporates graphical comparisons and scoring models based on real operational data.

Revolutionizing business operations: Implementing AI for efficiency and growth

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The emergence of Artificial Intelligence (AI) has completely transformed the business industry across the globe. Organizations in various industries are implementing AI to automate workflows, enhance decision-making processes, personalize customer experiences. However, the process of AI integration in business remains complex, due to technological, organizational, and ethical barriers. This article explores the influence of AI on business process management (BPM), outlining strategic advantages, major challenges, industry implementations, and best ways of sustainable adoption.

The case study on a relationship between Latvian GDP growth and unemployment rate

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This study investigates the empirical relationship between Latvia's GDP growth and unemployment rate through the lens of Okun's Law. Drawing on data analysis using linear regression and ANOVA within the XLMiner environment, the research confirms a statistically significant and robust negative correlation between real GDP growth and changes in unemployment. The model explains approximately 81% of the variation in unemployment, supporting the theoretical assumptions of Okun's Law. Findings reveal that a 1% increase in GDP growth corresponds to a reduction in the unemployment rate, validating the relevance of Okun's coefficient for Latvia. Residual and standard residual analysis indicate a minimal overprediction bias and no presence of outliers, reflecting model reliability. Additionally, percentile-based probability outputs offer a nuanced risk assessment tool for forecasting unemployment scenarios. These outcomes provide Latvian policymakers with valuable insights to evaluate labor market conditions, estimate output losses, and formulate targeted strategies to stimulate economic growth and mitigate unemployment, particularly among vulnerable populations.

Liquidity issues and their consequences in the TSL sector

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This paper examines liquidity issues in the TSL (Transport, Spedition, and Logistics) sector, which particularly affect small and medium-sized companies. Despite growing demand for services, companies face payment delays, high operating costs, and limited access to financing. The analysis is based on a scenario-based cash flow analysis and a statistical analysis of payment delays. The first method revealed the impact of changing payment terms, rising fuel prices and customer losses on the profit and liquidity of a TSL company. The second method showed a high frequency of delinquencies and the importance of managing accounts receivable. It was found that TSL sector companies are vulnerable to external shocks due to low reserves and unstable cash flow. As a result, it was determined that there is a need for improvement in the category of financial forecasting, payment management, and customer base diversification to ensure the sustainability and stable growth of TSL sector companies.

Safety management of transport systems

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The importance of scientific research into the functioning and safety of transport systems cannot be overstated. Addressing scientific challenges in this field is essential for advancing a country's economic, technical, and technological development. Changes in the conditions and operational specifics of transport systems present new and complex challenges for research, particularly as the transport sector increasingly contributes to critical state functions such as humanitarian support, defense, and social services. This study presents a methodology for transport system safety management. The focus is on wartime conditions, since the risk values are significantly higher. The proposed methodology includes an assessment of the current state of transport system safety, risk forecasting and the definition of a comprehensive risk indicator. This work contributes to existing literature by expanding research on the management of transport system safety under high-risk conditions, characterized by a high probability of external interference and the presence of atypical operating environments.

Formation and development of mechanisms for economic security of the enterprise

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In today's volatile and competitive economic landscape, the concept of economic security is crucial for the sustainability and resilience of enterprises. This article explores the formation and development of mechanisms aimed at ensuring economic security, highlighting key components, risk factors, and strategies that enterprises can adopt to protect their assets and maintain stable growth.

The impact of artificial intelligence on consumer behaviour: A case study of Uzbek e-commerce brands

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This work investigates the influence of artificial intelligence (AI) technologies on consumer behavior within Uzbekistan's emerging e-commerce landscape. Grounded in a positivist paradigm, the research employs a quantitative methodology combining structured survey techniques with Structural Equation Modeling (SEM) to explore the relationships between AI-powered personalization tools and key consumer outcomes, including decision making, satisfaction, and loyalty. Data were collected from online shopping users across Uzbekistan using a Likert-scale instrument. The findings reveal significant positive correlations between the use of AI-driven features—such as personalized recommendation, chatbots, and targeted marketing—and enhanced consumer engagement, purchase intent, and loyalty. The study contributes to a growing body of literature on digital transformation in Uzbekistan and offers actionable insights for practitioners seeking to align technological innovation with national development strategies, such as the "Digital Uzbekistan – 2030" initiative. Limitations and directions for future research are also addressed.

Peculiarities of vehicle taxation in Latvia

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The article analyses peculiarities of vehicle taxation in Latvia. Currently, there are two main taxes related to the acquisition and use of motor vehicles in Latvia:

- Vehicle Operation Tax;
- Company Car Tax.

These two taxes are included in one general law – Law on the Vehicle Operation Tax and Company Car Tax. This Law was adopted on 20.12.2010 and entered into force on 01.01.2011.

This Law prescribes the objects of the Vehicle Operation Tax and the Company Car Tax, the payers, the procedures for the calculation, payment and administration of these taxes, as well as exemptions from tax payment and tax reliefs.

We should bear in mind that there are 4 more laws in Latvia, which specifically stipulate the rules of vehicle taxation:

- Value Added Tax Law;
- Natural Resources Tax Law;
- On Personal Income Tax Law;
- Enterprise Income Tax Law.

SECTION 3. ENGINEERING APPROACHES TO TRANSPORT, TECHNOLOGIES, AND LOGISTICS

Use of renewable sources in the industrial power system during military operations

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The article considers the possibilities of using renewable energy sources for distributed generation in the power system of Ukraine. The danger and possible scenarios of the occurrence of resonance phenomena on the circuits of powerful network solar stations are shown. The results of modelling the amplitude-frequency characteristics showed limiting ranges of resonance frequencies with variable changes in the number of STATCOM and parameters of power supply systems. The problem of electromagnetic compatibility of solar inverters with limited power of the centralized power system is studied. The effect of absorption of higher current harmonics with changes in the power of industrial load nodes is described. Studies of the electromagnetic traces of solar stations and industrial load are important for the further development of the theory of electromagnetic compatibility.

Research and development of CNC machine prototype for laser cutting and engraving

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Technological development of lasers evolved rapidly; lower cost, highly reliable, fibre lasers were used to accurately engrave, cut and mark parts. Use of laser across many industries has led to growth in quality and effectiveness of processes (5 Cutting Process for Metal in Manufacturing, 2021). CNC machines are tools that use a computerised numerical control system to execute a variety of production operations. Some of the most common ones are cutting and marking. Arduino, an open-source electronics platform, has emerged as an excellent entry point to explore the world of embedded and CNC systems. A CNC laser cutting and engraving machine is a 2D plotting machine that uses a laser to process the surface of any given solid material. We consider a way to improve the control of the laser throughout the time of its operation. Control occurs with end sensors and only at the initial stage of processing and calibration of information (CNC Machines: Precision and efficiency in Production, 2023).

Quality as the basis of flight safety

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The speed of technological development during the twentieth century was fully reflected in the aviation world, whether in terms of aircraft development systems for controlling air traffic or flight control systems. The fast pace of change continues today. Aircraft reliability and complexity have greatly improved over the past years, but nearly all accidents in civil aviation in recent memory have been the result of human error. At the early stage of aviation development the Human factor (HF) share in total reasons of Aviation accidents was 20 per cent, later is quadrupled, and at present it makes up about 80 per cent. It appears that the human part of the "Human–Aircraft" system is the most unstable, the most unreliable and the weakest link: humans may make mistakes and, moreover, the human has the right to be mistaken. No doubt, human errors prevention system must be developed. The challenge is to make flying safer. It will be discussed below.

Developing a conceptual simulation model to analyze and improve traffic flows of the multimodal terminal RIX and decision-making for the formation of a new transport hub

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The article explores the development of a simulation model as a decision support tool for the formation of a new multimodal transport hub at Riga International Airport (RIX), taking into account its integration with the "Rail Baltica" project. The research is relevant due to the growing importance of multimodality in enhancing connectivity, passenger service quality, and infrastructure efficiency at major air transport hubs. The air transport system, which includes both demand (passengers, freight) and supply (airports, airlines, air traffic control) components, has long faced capacity constraints, congestion, and environmental issues. These challenges persist and even intensify in the context of post-pandemic recovery.

The purpose of the study is to develop a conceptual simulation model to support tactical decision-making related to traffic flow optimization and infrastructure development at RIX. The research emphasizes complementarity in multimodal integration, particularly how rail transport can extend air connectivity to form a seamless "door-to-door" travel chain. Best practices in multimodality from Helsinki and Singapore airports are reviewed. The current state of infrastructure and intermodality at RIX is analysed, especially in light of its connection to the future Rail Baltica line.

A holistic approach to service level analysis is applied, incorporating both terminal and regional access components. Decision-making in such complex projects requires modern tools and model-driven approaches to evaluate alternatives and support planning. The proposed conceptual simulation model offers a methodological basis for evaluating multimodal passenger flows and supports strategic decisions on hub development and infrastructure optimization.

Problems in the methodology of assessing the value of the environment

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The aim of this study is to optimize existing ecological-economic models for assessing the value of the environment, integrating social and economic factors. Using a rigorous scientific methodology and system analysis, the author synthesizes known models of environmental valuation within the broader framework of global sustainable development. The proposed model incorporates mathematical algorithms that allow for a quantitative estimation of environmental damage, while also facilitating the development of effective strategies to reduce the rate of natural capital depletion by substituting it with alternative resources. The study reveals significant shortcomings in existing ecological-economic models, notably the omission of the social dimension and the failure to explicitly account

for critical natural capital as an essential component of total natural capital. Such omissions are scientifically unacceptable. The economic valuation model of natural capital proposed in this paper aims to refine and enhance existing methodologies through optimization.

A scientific examination of fleet air international's management system: Safety performance and regulatory compliance in early 2025

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This study critically examines the evolution and effectiveness of Fleet Air International's (FAI) Management System within the context of contemporary aviation safety regulation and operational demands. Emphasizing empirical data collected from January 2025, this research analyzes safety event trends, the management of organizational changes, audit outcomes, and corrective action efficacy. The work situates FAI's system against regulatory frameworks including (EU) Regulations 965/2012 and 1321/2014, providing evidence-based insights into risk assessment and mitigation strategies. The study concludes with recommendations to enhance safety performance indicators and procedural compliance, contributing to the broader field of aviation safety management.

Some aspects of CNC plotter machine based on Arduino Uno microcontroller research and development

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CNC (Computer Numerical Control) machines are tools used in various production operations (e.g. laser for surface treatment of any material) as a result of a computerised numerical control system. The steering or control of the operation is done by sensors and only at the initial stage of information processing or calibration.

The problem with modern machines (plotters as well as CNC) is that the tracking of the initial positions (i.e. the coordinates of the laser head), through calibrations, performing simulations, is not optimal.

Only the next time the programme is run, corrections will be made (there is no corrective action in the machine process). In this paper, an attempt is made to introduce changes to the intelligent operation of the machine so that the machine can correct the position of the effectors or the laser head during the execution of the programmes. For this purpose, additional information will be used by introducing additional sensors, and the corrective actions will be governed by oscillation equations at the controller level of the machine itself (e.g. a chip).

Entropy–probabilistic model for controlling the human factor in the system of ensuring the airworthiness of aircraft and their components

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The following issues are presented:

1. Mathematical model for controlling the human factor in the aircraft maintenance system, aimed at identifying priority tasks related to maintaining airworthiness under conditions of limited resources.
2. The model is developed using factor analysis under conditions of uncertainty, employing the entropy ranking method. For this purpose, "non-conformance" in the activities of technical personnel (violations and errors) are represented as a multidimensional random generalized factor

that includes a number of measurable specific factors. The task of the management system is to determine the entropy of the generalized factor based on the measurable specific ones.
3. The functional diagram of the control system is developed based on a systems approach, considering it as a dynamic system that, at each moment in time, is described by a set of physical variables (parameters).
4. Based on the processing of statistical data on "deviations" in the activities of airline technical personnel over a 10-year period, entropy indicators were obtained for a number of logically grouped factors—generalized indicators characterizing the main areas of management activity related to continuing airworthiness of the aircraft.
5. These results make it possible to identify the main areas of preventive activity within the airline aimed at reducing the negative impact of the human factor during aircraft maintenance, which is especially important under conditions of limited resources.

Development of Fibratech composite automotive wheel technology — wheel testing methods

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The development of composite technologies is being observed across numerous industrial sectors and is driven primarily by the need to enhance the functional properties of components and products.

Carbon fiber composite materials, once primarily utilized in the aerospace industry, are now increasingly adopted in other sectors such as the automotive industry. However, such intersectoral transfer entails a set of new requirements. In contrast to aerospace, the automotive industry imposes distinct constraints, including cost sensitivity in manufacturing, the necessity for serial production, and specific aesthetic expectations.

These factors—alongside the fundamental principle of lightweight design—were among the key challenges addressed by our Fibratech team in the design and development of composite automotive rims.

The following article focuses on the testing methodologies and strength-related assumptions adopted by Fibratech, which directly affected the development of the first rim prototypes introduced to the market.

Composite matrials and innovation technologies in aircraft industry

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Recent progress in aircraft materials and manufacturing has led to the development of advanced composites, including Al-, Mg-, and Ti-based alloys, ceramics, and polymers, offering excellent properties for aerospace use. However, these materials still face issues like limited mechanical strength, corrosion, and wear. Research has therefore focused on improving their performance and durability to enhance aircraft efficiency and reduce life cycle costs. Coatings play a vital role in protecting these materials, providing functions such as corrosion resistance, thermal insulation, anti-icing, and antimicrobial protection. Superalloys in turbine engines require specialized coatings like thermal barrier and abradable seal coatings, applied using techniques such as plasma spray, D-Gun, HVOF, cold spray, and warm spray. Other technologies include laser cladding and polymer-based paints. Functional coatings also offer UV protection, fluid resistance, and stealth capabilities. The integration of advanced materials and multifunctional coatings is a key area of aerospace innovation, with ongoing research addressing current challenges and future directions.

Logistics systems and supply chains in the context of globalization

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In the era of globalization, logistics systems and supply chains play a crucial role in enhancing the efficiency, competitiveness, and resilience of businesses and

economies. This article explores how globalization has transformed traditional logistics models into complex, internationally integrated networks. It highlights the key functions of logistics systems, the advantages and challenges of global supply chains, and the impact of digital technologies such as AI, IoT, and blockchain. The study concludes that strategic and innovative supply chain management is essential for navigating global risks and achieving sustainable development.

Influence of reinforcement architecture on mechanical properties of carbon-epoxy composites

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In this study, the influence of reinforcement architecture on the mechanical performance of carbon-epoxy composite laminates was thoroughly investigated through a combination of experimental testing and numerical simulation. The research focused on laminated composite plates fabricated from carbon fibre fabric and epoxy resin, aiming to assess how the number of layers, fibre orientation, and material configuration affect mechanical properties, independent of specific end-use applications.

Composite plates with thicknesses ranging from 2 to 4 mm were produced using 7 to 13 layers of fabric with grammages between 200 and 300 g/m^2. Samples were cut using water jet technology in three distinct in-plane fibre orientations and subjected to tensile and bending tests according to ISO standards.

The mechanical test results revealed a clear dependence of strength and deformation behaviour on reinforcement architecture. The highest tensile strengths, exceeding 600 MPa with strains below 1%, were observed in laminates with a higher number of layers and unidirectional fibre alignment parallel to the load axis. In contrast, samples oriented diagonally to the primary fibre direction demonstrated increased ductility but significantly lower tensile strength, not exceeding 200 MPa.

Numerical simulations performed using Finite Element Analysis (FEA) in Ansys complemented the experimental findings, highlighting stress concentration zones, especially near joints and interfaces. These areas were identified as critical under operational loading scenarios, reinforcing the importance of tailored reinforcement layout and precise control of layer orientation in composite design.

The results emphasize that the mechanical response of carbon-epoxy composites is highly sensitive to reinforcement architecture. Such findings are vital not only for optimizing structural components in lightweight transport systems—including bicycle frames, railway vehicle elements, or aerospace structures—but also for advancing the general understanding of composite material behaviour in demanding engineering applications.

Role of defects in materials and fatigue crack growth rate predictions methods

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Defects and cracks that arise, whether during production or operation, under the influence of fatigue loads become of fundamental importance. As part of the work, the capabilities of the developed program for calculating fatigue life during crack propagation - FM-TOOL - were demonstrated. A lug joint, which is commonly used in aircraft load-bearing structures, was selected as a demonstrator. An analysis of the fatigue crack growth period was carried out analytically and numerically using xFEM and the newly developed FM TOOL system. The results were compared with experimental data obtained for this type of lug joint. Good agreement between the experimental data and the FM-TOOL results was obtained. In addition, the influence of hardness (heat treatment) on fatigue life was analysed for the 42CrMo4 alloy. The FM TOOL system proved to be very useful for determining the fatigue life of cracked components.

This work was partly supported by the Academia Professorum Iuniorum programme (G. Lesiuk) and cooperation with the industrial sector.

Requirements and material technologies for the protection of strategic and civil aviation infrastructure

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Considering contemporary military and hybrid threats, the development of advanced material technologies for civil protection structures has become essential. The increasing intensity of artillery shelling and drone attacks has created a demand for shielding systems capable of withstanding blast waves, high-velocity fragments, and kinetic impacts [1]. A key role in this context is played by modern ultra-high-performance concrete (UHPC) mixes, reinforced with steel or polymer fibres, which exhibit enhanced ductility and energy absorption capacity under dynamic loads [2]. These materials can be effectively applied not only in civil defence infrastructure but also in the protection of military assets – such as runways, aircraft aprons, and hangars – as well as for the construction of protective barriers like T-walls used in operational zones.

The use of advanced constitutive models such as RHT (Riedel–Hiermaier–Thoma), CSCM (Continuous Surface Cap Model), MHJC (Modified Holmquist–Johnson–Cook), and K&C (Karagozian & Case Concrete Model) enables high-fidelity numerical simulations of material behaviour under ballistic and explosive loading conditions. These models incorporate relationships between principal stresses, hydrostatic pressure dependence, deviatoric asymmetry, strain rate sensitivity, and progressive material degradation. Their application allows for the design of reliable protective structures and precise optimisation of material properties to meet specific operational threat scenarios [3].

In this study, the researchers investigated which physical parameters and material composition a concrete mix should exhibit to be effectively used in protective structural applications. NATO standards, static and dynamic laboratory tests, and explicit numerical simulations using the Johnson-Holmquist constitutive model (JH) were employed to calibrate and validate the proposed material design. The obtained results confirmed that a properly formulated/modified mix, combined with calibrated JH parameters and validated through experimental-numerical methods, enables accurate modelling of damage mechanisms and can significantly improve the effectiveness of protective concrete structures subjected to ballistic impacts.

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Composite materials in the reinforcement of bent concrete elements

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Building elements and structures usually carry loads acting along the component's axis. These include columns, walls, and foundations. The main task of concrete is to withstand pressure and transfer it to the ground. Due to its high compressive strength, concrete is also used for ceilings and load-bearing beams. Such elements are also subject to bending moments. Traditional reinforcement methods involve placing steel reinforcement as reinforcing bars, strings, and dispersed reinforcement (fibre-reinforced concrete, i.e., concrete reinforced with dispersed fibres) in the element loaded along and across the component.

In recent years, reinforcing and renovating reinforced concrete structures using fibre-reinforced polymer composites has been recognized as one of the most

promising techniques for achieving structures' required reinforcement and service life. Concrete structures require maintenance and repair over time due to harsh conditions, natural disasters, changes in applied loads, reinforcement corrosion, and poor maintenance. In most cases, reinforcement is the most environmentally and economically effective solution compared to demolition and reconstruction. Structures made of low-strength concrete are inherently dangerous, so structures of this type of concrete must be reinforced using appropriate materials and techniques.

This study tests the bending strength of aerated concrete beams reinforced with FRP materials. The study presents a reinforced aerated concrete beam with an epoxy resin-based carbon fibre composite (FRP). For this purpose, three types of samples with dimensions of 40 × 40 × 200 mm were prepared: an aerated concrete beam, an aerated concrete beam coated with resin, and an aerated concrete beam with a single layer of carbon fibre and epoxy resin laminated by hand on the outside of the element. Based on the PN-EN 206-(1-6):2003 standard, the strength of the beams was determined in a bending test. The beams, placed on piles spaced 100 mm apart, were tested on a hydraulic press. The results obtained are very satisfactory. The beam with epoxy resin transferred 30% more load than the beam without reinforcement.

On the other hand, the beam with an additional layer of carbon fibre mat transferred 625% of the load compared to the beam without reinforcement. In the case of beams reinforced with carbon fibre mats, concrete cracking occurs more discretely, as the mat takes over the transfer of forces and, as a result, increases the strength of the beam. This work has demonstrated the usefulness of the presented method of concrete reinforcement in improving concrete strength. The technology can significantly increase a structure's load-bearing capacity without increasing its weight and can insulate concrete, protecting it from corrosion. However, more experiments are required to expand knowledge in this area, including load-bearing capacity, performance parameters, durability, and improvement of the material bonding technology itself.

The 8th International Scientific and Practical Conference
TRANSPORT, EDUCATION, LOGISTICS AND ENGINEERING — 2025
Riga Aeronautical Institute
27.06.2025—28.06.2025, 9 Mežkalna street, Riga, Latvia
On-site / On-line

Conference Schedule

Time	Topic / Activity	Speakers / Notes
	27.06.2025 (Day 1)	
09:30–10:45	Registration of participants	Technical tests
10:00–10:30	Plenary session (100 B). Managed by RAI External Relations Director Asnāte Venckava	
10:05–10:10	DSc Eng. Anatolijs Melnis (RAI Rektors)	
10:10–10:20	PhD Arturs Kokars, Director of Aviation department / Ministry of Transport	
10:20–10:30	MBA Zigmārs Vestfāls, Chief Executive Officer at Aviation Association of Latvia	
10:30–10:45	**Coffee break and joining the sections**	
10:45–15:00	Section 1 (100 B). **Higher Education Meets Industry 4.0: A Digital Approach to Professional Training** Conducted by DSc Eng. I. Arandas, DSc Eng. I. Blumbergs	
10:45–11:00	*Integration of academic and EASA professional requirements*	I. Arandas
11:00–11:15	*Higher education and industry*	I. Blumbergs
11:15–11:30	*Perspectives of online teaching methods*	R. Knizikevičius
11:30–11:45	*The advantages and drawbacks of online teaching methods*	R. Knizikevičius
11:45–12:00	*The role of emotional intelligence in higher education*	E. Sipola
12:00–12:15	*Contemporary problems of education quality*	G. Bahodirova
12:15–12:30	*The transformative role of education in human capital development: a literature review*	M. Romele, V. Reiskarts
12:30–13:00	**Coffee break**	
13:00–13:15	*Synergy of higher education and specialized courses, within the framework of licensing and certification of specialists*	M. V. Takhirovna
13:15–13:30	*New trends in higher education, STEM model, interdisciplinarity*	A. Tilļa
13:30–13:45	*Information and methodological support for improving the management skills of deputy directors of preschool educational organizations*	E. Maxamadaliyeva
13:45 – 14:00	*INCLAVI: EU-funded training on accessible aviation and tourism*	I. Berazhny, N. Sethi
14:00 – 14:15	*Combining specialised courses with higher education within the context of expert certification and licensing*	M. Djalilova
14:15	**Presentation of conference certificates**	I. Arandas, I. Blumbergs
15:00	**Coffee break. Discussion**	
10:45–15:00	Section 2 (118B). Innovation, Economy, and Business Management Conducted by PhD. Oec. K. Savenkovs, MA. A. Venckava	
10:45–11:00	*Managerial decisions and adaptation strategy of Riga Aeronautical Institute in the VUCA world*	K. Savenkovs, M. Sztorc
11:00–11:15	*Strategic analysis of the business environment of the enterprise "Modesto Flowers" to strengthen its market position*	K. Savenkovs, D. Zhukovskaia

Time	Topic / Activity	Speakers / Notes
11:15–11:30	*Investment project to increase the efficiency of business activities of JSC*	V. Pleiko-Iziks, K. Savenkovs
11:30–11:45	*Overcoming logistics and supply chain challenges in landlocked countries: constraints and strategic solutions*	R.A. Gafurov
11:45–12:00	*Analysis of the logistics enterprise "Mile Logistics" and development of new transport directions in the period of unstable geopolitical situation*	A. Mirdjamalov, K. Savenkovs
12:00–12:15	*Factors affecting customer satisfaction in online banking*	C. Dias, D. Edirisinghe
12:15–12:30	*Increasing competitiveness of airlines in the European passenger transportation market*	V. Reiskarts, I.M. Seidametovs
12:30–13:00	**Coffee break**	
13.00 – 13.15	*Revolutionizing business operations: implementing AI for efficiency and growth*	M. Dadajonova
13.15 – 13.30	*The case study on a relationship between Latvian GDP growth and unemployment rate*	K. Savenkovs, F. Giyasov
13.30 – 13.45	*Liquidity issues and their consequences in the TSL sector*	M. Bulakh, D. Baranovskyi
13.45 – 14.00	*Safety management of transport systems*	O. Baranovska, M. Bulakh
14.00 – 14.15	*Formation and development of mechanisms for economic security of the enterprises*	S.N. Khusniddinovna
14.15 – 14.30	*The impact of artificial intelligence on consumer behaviour: a case study of Uzbek e-commerce brands*	K. Galikhanova
14.30 – 14.45	*Improvements in trade relationships between China and Central Asian republics*	M. Batirshina
14.45 – 15.00	*Peculiarities of vehicle taxation in Latvia*	T. Andrejeva
15.00	**Presentation of conference certificates**	K. Savenkovs, A. Venckava
15.00 –	**Coffee break. Discussion**	
10:45–15:00	Section 3 (116B): **Engineering Approaches to Transport Technologies and Logistics** Conducted by DSc. Com. V. Reiskarts, DSc Eng. K. Nečvals	
10:45–11:00	*Use of renewable sources in the industrial power system during military operations*	Y. Papaika, O. Lysenko, M. Malyshko
11:00–11:15	*Research and development of CNC machine prototype for laser cutting and engraving*	V. Reiskarts, K. Nečval
11:15–11:30	*Quality as the basis of flight safety*	I. Petuhovs
11:30–11:45	*Developing a conceptual simulation model to analyze and improve traffic flows of the multimodal terminal "RIX" and decision-making for the formation of a new transport HUB*	K. Savenkovs, V. Reiskarts, S. Kostina
11:45–12:00	*Problems in the methodology of assessing the value of the environment*	D. Ulanovs
12:00–12:15	*A scientific examination of fleet air international's management system: safety performance and regulatory compliance in early 2025*	M. Ergle, K. Savenkovs
12:15–12:30	*Some aspects of CNC plotter machine based on ARDUINO UNO microcontroller research and development*	V. Reiskarts, K. Nechval
12:30–13:00	**Coffee break**	
13:00–13:15	*Entropy-probabilistic model for controlling the human factor in the system of ensuring the airworthiness of aircraft and their components*	I. Arandas, K. Klepackis, R. Kubulins

Time	Topic / Activity	Speakers / Notes
13:15–13:30	*Development of fibratech composite automotive wheel technology – wheel testing methods*	M. Sobolewski
13:30–13:45	*Composite materials and innovation technologies in aircraft industry*	M. Szala
13:45–14:00	*Logistics systems and supply chains in the context of globalization*	M. Kuchkorova
14:00–14:15	*Influence of reinforcement architecture on mechanical properties of Carbon-Epoxy composites*	O. Cudnik, B. Wolny
14:15–14:30	*Role of defects in materials and fatigue crack growth rate predictions methods*	G. Lesiuk
14:30–14:45	*Requirements and material technologies for the protection of strategic and civil aviation infrastructure*	K. Jamroziak
14:45–15:00	*Composite materials in the reinforcement of bent concrete elements*	D. Markuszewski
15:00	**Presentation of conference certificates**	V. Reiskarts, K. Nechval
15:00	**Coffee break. Discussion**	
	28.06.2025 (Day 2)	
09:30 – 11:00	Free discussion between conference participants	