Development of Additional Professional Program “Analytics for Transport Digital Transformation” for Sustainable Development Asian Highways, Trans-Asian Railways and Sea Ports

Prof. Valentina N. Tarasova,
Head of the Department of Innovation Management in Transport, Russian University of Transport – MIIT
Conditions for Regional Connectedness in Asia

- Optimizing communication networks and transport logistics as the basis for multimodal transport
- Reducing negative impact of transport on regional ecology based on common environmental requirements
- Development of common policy of transport tariffs and transaction costs, transition to omnichannel logistics
- Increasing throughput and productivity of transport corridors, including transition to intelligent methods of integrated operational management and application of unmanned vehicles
- Increasing the speed of transportation while ensuring the safety of vehicle operation
- Ensuring correspondence between directions and intensity of cargo and passenger flows to the topology and operational parameters of the transport infrastructure, differentiation and customization of transport and logistics services
- The transition to an intelligent paperless document flow for borders' crossing by transport, harmonization of tax and customs legislation in relation to transit traffic
Modern trends in Economy

• New trends on global markets, transition from ownership to access (developing sharing economy)
• Emergence of new strong competitors (“national champions” or “unicorns”);
• Changes in demographic situation, migration processes, growing human mobility, etc.;
• Urbanization and growing demands of the population for the quality of life;
• Progress in science and technology;
• Resource constraints and global climate change

Digital transformation is becoming a major trend in transport business development
Digital Transformation Goals

- Reducing costs
- Improving quality
- Adding value (use value and utility)

- Increased customer satisfaction and attractiveness

- Ensuring customer or consumer loyalty
Features of Digital Innovation at Transport Companies

- Most digital innovations are aimed at infrastructural objects which are “invisible” to the consumers / clients
- Even with digitalization, Infrastructure and technological transport facilities retain their high cost and have a long service life, while digital technologies change quite often (about 10 times more often)
- Digital innovation starts with real physical objects that are created in the real sector of the economy (outside the service sector of economy)
Hard и Soft in Digital Transformation of Transportation

Urban Air Mobility

Moscow Central Ring as a new Transport Complex
Main Trends of Innovations in Transport in the Context of Digitalization

- Multimodality
- Uberization
- Smart transport technologies and intelligent transport and logistic services
- Intelligent management systems

New Approaches to Decision Making

New Methods and Tools of Analysis

New Analytical Competencies
New Additional Professional Program “Analytics for Transport Digital Transformation”

The Program aims to training of personnel of transport companies who will be able to designing, commissioning, and accompanying intelligent transport systems.

Their core competence is knowledge of modern information and communication technologies and tools corresponding to the Industry 4.0 paradigm:

- big data analysis,
- machine learning,
- computer vision,
- parallel and distributed (cloud) computing,
- blockchain technologies,
- modeling and optimization of complex and dynamic systems,
- digital twins and digital shadows,
- cyber-physical systems,
- etc.
Common (basic) Track

- Databases and Knowledge Bases
- Intelligent Digital Models of Transport Companies
- Machine Learning and Big Data Analysis
- Trends in Technological Development of Transport Technics and Transport Systems
- Main Technologies of Industry 4.0
- Transport Digital Transformation Technologies
- Modeling and Optimization of Transportation and Logistics
## Specializations Tracks

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Contacts

- Prof. Valentina N. Tarasova
- Head of the Department of Innovation Management in Transport
- Russian University of Transport – MIIT (Moscow, Russia)
- Phone: +7 (499) 972-6308
- E-mail: tarasovavn@mail.ru