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TRANSBALTICA XI: Transportation Science and Technology

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Preface

International Scientific Conference "Transbaltica: Transportation Science and Technology" is a continuing traditional event of the Faculty of Transport Engineering at Vilnius Gediminas Technical University and is organized in cooperation with partners since 2001 for every two years. The 11th Transbaltica Conference took place on 2–3 May 2019 in Lithuania. Authors from 33 countries presented their researches and covered wide areas of scientific problems in the field of transport engineering, transportation and logistics, and interdisciplinary sciences related to transport.

This proceedings represents the conference topics:

Topics related to **Transport Infrastructure** cover research areas related to transport system elements, its lifetime and the integration of different transport modes. Research in the field of **Transport Safety** present various solutions for the safety of roads, airports and railway transport. Presentations in the area of **Environment-Friendly Technologies** cover such topic like engine technologies and a new type of fuel mixtures usage in transport means. Research papers in the field of **Traffic Modelling and Control** presents the results of city transport problem solutions such as traffic congestions and emission reduction or integration of different transport modes. Research papers related to the topic of **Railway Systems** present various solutions in the area of wear reduction of wheel and track, vehicle dynamics, vibration and other scientific problems. Similarly, **Vehicle Engineering** cover related problems in areas like hydrodynamics, engine technologies, durability or drive train system research. **Logistics and Multimodal Transport** papers present the organization of transport flows, freight and passenger mobility, environmental impact, operations at transport and logistics companies, issues of safety and security, new circumstances affecting the carriage of goods and passengers. Presentations, related to **Autonomous Solutions** together with the usage of new sources of energy for transport in the cities, present the importance of making timely decisions and selecting the proper city transport modes.

The program committee of the 11th International Scientific Conference "Transbaltica: Transportation Science and Technology", the organizers and the editors of the proceedings would like to acknowledge the participation of all

reviewers who helped to refine the contents of this volume and evaluated conference submissions. Our thanks go to all members of the program committee:

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Thanking all the authors who have chosen "Transbaltica: Transportation Science and Technology" as the publication platform for their research, and we would like to express our hope that their papers will help in further developments in design and analysis of complex systems, offering a valuable and timely resource for scientists, researchers, practitioners and students who work in these areas.

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