



GUEST

INTERNATIONAL AND SCIENTIFIC ACTIVITIES OF THE LITHUANIAN
ROAD ADMINISTRATION ARE THE SOURCE OF EXPERIENCE

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Abstract. International cooperation and close relations with scientific institutions assist the Lithuanian Road Administration under the Ministry of Transport and Communications of Lithuania in implementing the policy of road network development, road building and maintenance, infrastructure development, and traffic safety organization. Fostering of cooperation in the region and abroad, exchange of best practices, improvement of professional skills, also the scientific research works and studies and dissemination of their results play an important role in the improvement of road infrastructure. The article outlines representation of Lithuanian Road Administration in international road organizations and the main fields of its scientific activities and research.

Keywords: Lithuanian Road Administration, PIARC, CEDR, BRA, TEM, international road organizations, scientific activities, research fields.

**1. Representation of Lithuanian Road Administration
in international road organizations**

The aims and tasks of Lithuanian road specialists in international organizations are inseparable from the common national foreign policy and long-term development strategic tasks: to foster cooperation in the region and further in Europe and the World, to become an effective member of the European Union, to strengthen the position of Lithuania in the world and to cherish the values of competence international scientific exchange and dialogue.

The Lithuanian Road Administration under the Ministry of Transport and Communications (LRA) is a member of the following international road organizations:

- **PIARC** (World Road Association) since 1994.
- **CEDR** (Conference of European Directors of Roads) since 2004.
- **BRA** (Baltic Road Association) since 1932, resumed since 1989.
- **TEM** (Trans-European North-South Motorway Project) since 1994.

PIARC is the World Road Association which unites national road organizations in 129 states. It is a non-policy-maker and non-profit seeking association which was

granted a consulting status at the Economic and Social Council of the United Nations in 1970.

PIARC is a world leader in technology exchange in road construction and maintenance sharing its best practices.

PIARC provides a possibility for its members to analyze and discuss numerous road transport-related issues in international forums, to find and develop the best practical solutions, to get access to international road information.

PIARC activities are divided into four year cycles. Committees of Strategic Planning, Finance, International Relations and Technology Exchange discuss various strategic topics such as traffic safety, road infrastructure quality and road transport system development. Road engineers from all over the world actively work in the committees, prepare seminars and publish articles. At the end of the cycle the World Road Congress is held, during which committees and commissions report on the works carried out in four years.

The members of the PIARC Council from Lithuania are Skirmantas Skrinskas and the Head of International Relations Division Algirdas Radauskas.

During the cycle of 2012–2015 due to financial constraints two instead of four people take part in the

activities of technical committees: Head of Road Division Zigmantas Perveneckas is working in the Road Pavement Committee and Deputy Director Egidijus Skrodenis in the Road Transport System Economic and Social Development Committee.

Skirmantas Skrinkas has been elected to the PIARC Executive Committee since 2011.

CEDR – Conference of European Directors of Roads. It is the Association of European Directors of Roads, the activities of which are carried out through Governing and Executive Boards. CEDR closely cooperates with the European Union institutions and assists in formulating the European transport policy. Lithuania is chairing this Association in 2012. The Governing Board is chaired by Skirmantas Skrinkas and the Executive Board is chaired by Deputy Director Algimantas Janušauskas. Currently, CEDR is finishing the Strategic Research Plan 2013–2017. Future Challenges of the Road Infrastructure and Its Financing will be discussed in September, 2012 Governing Board meeting in Vilnius.

BRA is a Baltic Road Association uniting road organizations of the three Baltic countries. The first meeting was held in 1932. It is the main road organization in the Baltic countries.

Intensive regional cooperation, its promotion and sharing positive experience are exceptional priority for Lithuanian road specialists.

Together with Vilnius Gediminas Technical University, Riga Technical University and Tallinn Technical University the Association has established a scientific journal

The Baltic Journal of Road and Bridge Engineering which has gained worldwide acknowledgment.

The activities are held through the Council (four members from each country) and technical committees.

BRA conferences are held every four years. They are open for road people from all over the world and receive a lot of attention from road specialists in the Nordic countries. The Conference ends four-year chairmanship. In August 2013, Vilnius will host the 28th International Baltic Road Conference with the motto Roads for Society, which will end up Lithuania's chairing of BRA: it will be taken over by Estonia.

It is difficult to overestimate the participation of LRA in the Baltic Road Association. What is important is communication with colleagues from other countries, exchange of information, and implementation of common goals. The Baltic Road Association is a good example of how cooperation can be done successfully. For instance, on the request of IRF and the World Bank, reports on the activities of the Association were presented in Bulgaria and Serbia. Meanwhile, PIARC has pointed out the common activities of the Baltic and Nordic Road Associations as an extremely successful model for organising international cooperation.

It was BRA that gave birth to the idea of the Via Baltica project.

TEM is a Trans-European Motorway project of the United Nations Economic Commission for Europe uniting countries which construct international European motorways in Central Europe. TEM Supervision Committee



Fig. 1. CEDR Governing Board members in the Olympic stadium in Athens in 2012

At the first row from the left: Maura Sabato (Italy), Fred Barry (Ireland), Dionysios Makris (Greece), Skirmantas Skrinkas (Lithuania), Jyri Riimaa (Estonia), Joseph Kunz (Germany), Lena Erixon (Sweden), Jan Hendrik Dronkers (Netherlands), Aingeal Flanagan (CEDR), Michel Egger (CEDR)
Second row from the left: Alberto Moreno (Portugal), Hreinn Haraldsson (Iceland), Graham Dalton (United Kingdom), Per-Erik Winberg (Sweden), Tom Roelants (Belgium (Flanders)), Stefano Granati (Italy), François Cazottes (France), Dirk de Smet (Belgium (Wallonia)), Gregor Ficko (Slovenia), Sylvia Meister (Switzerland), Rudolf Dieterle (Switzerland)
Third row from the left: Algimantas Janušauskas (Lithuania), Bojan Leben (Slovenia), Zsolt Völgyesi (Hungary), Joris Al (Netherlands), Ivars Pāže (Latvia), Mārtiņš Dambergs (Latvia), Simon Grima (Malta), Per Jacobsen (Denmark), Terje Moe Gustavsen (Norway), Raimo Tapio (Finland), Nicola Risley (CEDR)

meets twice a year. Lithuania is represented by Remigijus Lipkevičius, Head of Investment Division.

2. Scientific activities and research fields of LRA

In 2007, an experimental test road section containing 27 different pavement structures and having no analogues in the world was built in Lithuania. An experimental section was equipped with special transducers to measure road pavement structure. The most advanced research methods are used at this road section to determine pavement performance and its bearing capacity. An experimental road section is located at the prevailing natural environmental and traffic conditions. The research is aimed at identifying the most rational road pavement structures and the building materials to be used (Čygas *et al.* 2011; Laurinavičius *et al.* 2009; Skrinskas *et al.* 2010; Vaitkus 2010).

In 2011, a study on the efficient winter maintenance of roads of national significance was launched in Lithuania and has been currently continued. The study is aimed at identifying the most suitable materials and technologies for maintaining roads in winter. It is also necessary to assess climatic conditions in the different regions of Lithuania and their effect on winter road maintenance (Laurinavičius *et al.* 2011).

Considerable traffic safety improvements in Lithuania were recognised in Europe in 2011 by European Traffic Safety Council. From 2010 Lithuanian Road Administration is managing BALTRIS project, which is leading to improved safety of road infrastructure by developing tools for choosing the most cost-effective traffic safety engineering solutions.

In cooperation with the specialists of the Technical Research Centre of Finland (VTT) the methodology for predicting road traffic accidents was developed the use of which will help to eliminate black spots and to increase safety on the roads of Lithuania (Jasiūnienė *et al.* 2012; Ratkevičiūtė *et al.* 2011a; 2011b).

Feasibility studies are prepared for the development of innovative materials and technologies having effect on the sustainability of roads in Lithuania. The aim of the studies is to identify, evaluate and give proposals for the use of innovative materials and technologies in the road building of Lithuania. The search of innovative materials is related to the use of nanotechnologies for improving physical and mechanical properties of materials.

Technologies of the warm mix asphalt (WMA) and high modulus asphalt concrete (HMAC) have been successfully investigated and are currently implemented. WMA technologies enable to reduce formation of hazardous gases in the process of producing and laying asphalt mixes, thus, improving environmental situation and working conditions for the road builders (Kilas *et al.* 2010; Vaitkus *et al.* 2009).

To reduce the amount of gravel roads in the Lithuanian road network the technologies of surface dressing on aggregate base courses or base courses with hydraulically or organically bound mixtures have been evaluated



Fig. 2. Research of pavement structures in the experimental road

and started to be implemented. The use of technologies enables to improve the service conditions of roads, the living quality of people living close to those roads, and to reduce road maintenance and operation costs.

To solve the problems of bitumen adhesion to the mineral materials the investigation of bitumen properties is carried out for the bitumens supplied to the Lithuanian market. Analysis of the properties of different types of bitumen supplied in different periods is carried out, their change and differences depending on the manufacturer and their correspondence to technical requirements.

To take over the Swedish experience in 2012 the technology of soft asphalt was put into use. This technology is applied in the process of paving gravel roads and is distinguished for the “self-healing” properties.

In recent years the hot-on-hot asphalt laying technology has been successfully implemented on the roads of Lithuania where two asphalt layers are laid at the same time.

Currently, many normative documents in transport and communications sector are under preparation or in the process of renewal. The most important of them are the design rules of motorways, freeways and other roads essentially changing the concept of road design by implementing design requirements based on the road function.

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