

BASt topics

Information from the Federal Highway Research Institute

Edition May 2014

Forum of European National Highway Research Laboratories (FEHRL)



FEHRL General Assembly in Berlin

On October 16th/17th, 2013, the General Assembly of the Forum of European National Highway Research Laboratories (FEHRL) took place in Berlin. Since 1989 FEHRL is an international association comprising now over 30 national research and technical institutes from across Europe. Moreover, associates from non-European countries provide FEHRL with links to the research capacity available globally (like ARRB, Australia, CSIR, South Africa, INRC, Israel and FHWA, USA). BASt is the German member of FEHRL.

FEHRL's objectives are

- to provide scientific input to Europe and national government policy on highway engineering and road transport matters.
- to create and maintain an efficient and safe road network in Europe.

- to increase innovation in European road construction and road-using industries.
- to improve the energy efficiency of highway engineering and operations
- to protect the environment and improve quality of life.

During the FEHRL General Assembly in Berlin BASt's president Stefan Strick was elected as the new president of FEHRL. He is supported by IFSTTAR's director H el ene Jacquot-Guimbal. He replaces Joris Al as the former FEHRL-president.

Beside the General Assembly BASt is cooperating in many ways with its international partners under the roof of FEHRL. Lutz Pinkofsky, Head of the Road Construction Innovations Group at BASt is representing BASt at the FEHRL Executive Committee.

Ursula Blume represents BASt among FEHRL's Research Coordinators.

A long list of common research projects documents the good international cooperation of the FEHRL-partners. ECOLABEL and ROSANNE are two ongoing projects to be mentioned as recent examples. Hopefully, more projects could be realized under the European Horizon 2020-program.

FEHRL's flagship-program Forever Open Road harmonizes on many aspects with the Federal German Program "Stra e im 21. Jahrhundert" aiming at the development of adaptable, automated and resilient roads. Now, FEHRL is moving a step forward by addressing multimodal aspects with the FOR x 4 – Program (Forever Open Roads, Railways, Runways and Rivers).



High-level scientific research gains more and more international

networking. BASt hereby is well established both on a bilateral and multilateral basis. Our collaboration with worldwide sister institutions enables an intensive exchange of scientific experience. With BASt topics we want to report on the global cooperation in the associations and with our partners in irregular intervals.

*Stefan Strick,
BASt & FEHRL-president*

Bridge Management System (BMS) for Brasilia

The governor of the Federal District Brasilia has made a request to the former called Federal Ministry of Transport and Urban Development (BMVBS) to sign a contract for a technical cooperation aimed at the development and implementation of a management system for bridges and other public buildings in Brasilia in June 2013.

From this, the implementation of two workshops has emerged as first steps.

The first workshop was held on 06./07.11.2013 at Federal Highway Research Institute (BAST), the second from 02./03.12.2013 in Brasilia.

The main topics were:

- Bridge/Structural inspection,
- Bridge/Structural data
- Non-destructive testing methods and
- Bridge management system.

Here, these issues were discussed with respect to the special Brazilian necessities. The next mandatory steps have been identified and taken into account from the Brazilian.



Signature ceremony at BAST, left Jürgen Krieger, Head of Bridges and Structural Technology, right Dr. Agnelo Queiroz, Governor of Brasilia

Following the 2nd workshop in Brasilia, bridges and other public buildings were visited on site, both to learn the static and structural needs of the constructions to take as well as to inspect typical damage.

By performing the necessary work on a management system in Brasilia, the city development company for Brazil's new capital (NOVACAP) has been commissioned by the Government of the Federal District of Brasilia.

The goal was to create the basis for the development of a management system for bridges and public buildings in the Federal District of Brasilia.

The first research projects will be initiated soon. The Federal Highway Research Institute (BAST) has offered to be part of an advisory board for NOVACAP and the Government of the Federal District and to organize a training course for Brazilian inspection engineers in Germany.



"Within the framework of cooperation between Brazil and Germany in the field of inspection and maintenance management for bridges, engineering structures and public buildings the opportunity to integrate research results obtained in Germany directly into a tailor-made solution for Brazil can be obtained.

The advantage of Brazil is that the development can be carried out on the basis of already tested and validated methods and procedures. The research and development work in Brazil will be accompanied comprehensively by the Federal Highway Research Institute, so that the Federal Highway Research Institute can benefit from the generated innovative approaches and procedures. By a successful cooperation in the field of inspection and maintenance management a benefit for both sides can be expected."

Jürgen Krieger, Head of Bridges and Structural Technology

German-Polish Transport Symposium

From March 12th to 14th 2014, a transport symposium took place at the Federal Ministry of Transport and Digital Infrastructure in Berlin. The meeting that was held within the framework of the German-Polish cooperation was the second of its kind and gathered, among other attendants, the Federal Highway Research Institute, the Polish General Directorate for National Roads and Motorways, representatives of the Ministries of Transport from both countries as well as those of the Road and Transportation Research

Association (FGSV). In 2012, the Federal Highway Research Institute signed a Memorandum of Understanding with the Polish General Directorate for National

Roads and Motorways that expresses the intention of both institutions to work together in the field of road construction and maintenance.



The German-Polish Transport Symposium

Bernd Lorenz is the new General Secretary of the EEVC



From April 2014 Bernd Lorenz, the head of BAST's unit "Passive Vehicle Safety and Biomechanics" will take over the position of the Secretary General of the European Enhanced Vehicle Safety Committee (EEVC) of his predecessor, Dr. Dominique Cesari.

The EEVC was founded in 1970 as a mirror organization to the American ESV program (Enhanced Safety Vehicle) and is a European research organization closely related to the national European governments.

EEVC focuses on regulation-related research. For example, the testing and verification of occupant protection in frontal and side impact tests and the components for pedestrian protection have been developed by the EEVC. In addition to the work on regulations at the United Nations Economic Commission for Europe in Geneva also numerous research results influenced the development of assessment procedures in Euro NCAP (European New Car Assessment Programme: www.euroncap.com).

Permanent International Association of Road Congresses: PIARC TC 1.4

On November 16th, 2013, the PIARC Technical Committee 1.4 organized an international seminar about the economic aspects of road networks and social development in the capital of Cameroon, Yaounde. The international seminar was attended by participants from Germany, Japan, Norway, South Korea and several African Countries. The event was prepared and hosted by the Ministry of Public Works in Cameroon.

Major topics of the seminar were the impacts of road works on growth and employment, the road within macroeconomic frameworks, approaches to maximize employment in given road projects and models for estimating road-work generated jobs.

With the seminar a milestone in the program of the PIARC TC 1.4 was successfully reached. The TC 1.4 is dedicated to "Road Transport System Economics and Social Development". Major tasks of the TC are to

- investigate new developments in the appraisal of economic and social aspects in decision-making

methodologies for transport projects, identifying where and how they have been applied and if this has induced changes to standard practices.

- investigate how post-project monitoring and long term evaluation are carried out for transport infrastructure projects, benchmark the institutional contexts, the methodologies and how the results are actually being used.

The TC 1.4 is chaired by BAST's Head of Research Controlling and Road infrastructure Assets, Karl-Josef Höhnscheid. Jan-Andre Bühne is the German delegate in this Technical Committee.

PIARC is an Association existing since 1909 to foster and facilitate global discussion and knowledge sharing on roads and road transport. The Association now boasts 120 government members worldwide and retains consultative status to the Economic and Social Council of the United Nations.



Cameroon's Secrétaire d'Etat Hans Nyetam Nyetam talking with TC-Chairman Karl-Josef Höhnscheid

BAST supports the German Ministry of Transport and Digital Infrastructure in fulfilling its cooperative tasks under the roof of PIARC. Beside the TC 1.4 BAST's Head of Bridges and Structural Technology, Jürgen Krieger is active in TC 1.5 Risk Management while Beata Krieger, Head of Smart Road Construction, Renewable Energy and Climate Change participates in TC 1.3 Climate Change and Sustainability. BAST has also joined TC 4.2 Road Pavements. BAST's president Stefan Strick is member of the PIARC Council.

"To provide the basis for innovations, international cooperation becomes more and more important in a globalised and interconnected world. International cooperation within PIARC provides a good approach to broaden the national horizon regarding all major issues in road transport. BAST is an active partner in the global discussion and knowledge sharing on roads and road transport. BAST perceives itself as a reliable and open-minded partner to share new methods and approaches concerning all road transport related issues with other countries."



Japanese delegate Hiroataka Sekiya and German delegate Jan-Andre Bühne at the seminar in Yaounde

eMAP project

Electric driven vehicles offer a solution to reduce greenhouse gas emissions and local air pollution, but their market penetration is still marginal. In order to identify the market potential as well as adjusting screws to overcome current obstacles for a further deployment of electric vehicles, the eMAP (electromobility – scenario based Market potential, Assessment and Policy options) project has been initiated within the ERA-NET Plus transnational call Electromobility+ in 2012.

The project eMAP, which has a duration of 33 months and consists of six different partners from Finland, Germany and Poland, concentrates on the analysis and assessment of the market penetration of electric vehicles and its socio-economic impacts. In this process feasible deployment paths of electric vehicles are investigated for the time horizon until 2025-2030. This is done by a scenario based market model which specifies the demand potential and market supply of electromobility. The socio-economic impact of the deployment of electromobility in terms of greenhouse gas and local emissions, transport costs, energy supply, employment and technological change in industry and economy is evaluated using different scenarios. Political support measures and strategies for electric

vehicles are identified and their impact on the deployment path is analyzed and evaluated. In the end, recommendations for optimized political strategies are derived.

As a major input for the scenario modelling and calculation of potential market penetration paths of electric vehicles until 2030, a consumer survey was completed by the end of 2013. In order to identify the demand-related obstacles and potential impacts of imperfect information a total of 6 000 online interviews were conducted in the European Union region: 1 000 interviews in Finland, Germany and Poland each, and additional 3 000 interviews in the most populated 14 EU countries. The topics of the online questionnaire were:

- socio-demographic background of the consumer
- cars within the household and present car use
- decision making process in car ownership and use
- consumer attitudes towards electromobility
- impacts of policy and other measures to car ownership and electromobility.

The results show high consumer awareness for electric vehicles and indicate that consumers are generally open-minded towards the technology. But the knowledge and experience with electric vehicles is rather low.

The information and experience gap is identified as one of the major obstacles besides the missing charging infrastructure and relatively high purchase costs.

Further information:
www.project-emap.eu



eMAP project meeting in Warsaw

Alexander von Humboldt German Chancellor Fellow

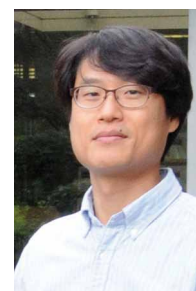


Keith Michael Platte, US citizen, civil engineer, is hosted by BAST for eleven months. He joined the team of cooperative traffic and driver assistance systems in October 2013.

Keith carries out a personally designed project, an “Examination of how Germany, and other European countries, develop and implement new innovations/technologies”.

Guest Researcher from Korea

Jin Seop Park from Korea, Automotive Engineer, was hosted by BAST from August 19th to November 14th, 2013. He is working as a senior researcher at KATRI, Korea,



and carries out projects on passive vehicle safety and crash tests.

AGEING AND SAFE MOBILITY

European interdisciplinary conference

Conference note

On the 27th and 28th November 2014 the international European conference „Ageing and Safe Mobility“ will be organized at the premises of BAST. The conference is a co-operation of FERSI, FEHRL, Euro NCAP, ECTRI, ETRA, Humanist and BAST.

The Conference will focus on road safety problems of elderly road users. The convention will aim at elaborating recommendations concerning implementation of available evidence based research results:

www.bast.de/ageingconference



Further information:
www.bast.de

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