ENHANCING RESEARCH AND INNOVATION IN EUROPE:
THE ROAD SECTOR EXPERIENCE

Organised by

Tuesday, 12 September 2017
Madrid, Spain

EUROPEAN COMMISSION REPRESENTATION IN SPAIN

Paseo de la Castellana, 46
28046 – Madrid (Spain)

In collaboration with :

Comisión Europea

MORNING SESSION: Current scenario for the research in Europe

Moderated by:

Professor Daniel Castro (University of Cantabria) & ***Jesús Rodríguez*** (Spanish Construction Technology Platform)

9.30 – 9:40 Welcoming remarks

European Commission Representation in Spain

9:40 – 11.00 Promoting innovation in road infrastructure sector in Europe

- *The European Union Research Strategy,* **William Bird (European Commission)**
- *Latest technological trends in the asphalt sector,* **Juan José Potti (EAPA)**
- *The Use of End-of-Life Materials, Waste and Alternative Binders.* **Livio Trussardi & Matteo Bacchi (ALTERPAVE)**
- *The SustainEuroRoad Software to assess environmental performance during road construction,* **José Luis Peña (ASEFMA)**
- *The promotion of self-healing asphalts: HEALROAD Project*, **Breixo Gómez (University of Nottingham)**
- *Biomass incorporation in asphalt manufacturing towards less emissions of CO2: Battle-CO2 Project,* **Alberto Moral (CARTIF)**

11.00 – 11.15 Coffee Break

11.15 – 12.45 DURABROADS case study

- *Assessment of main gaps in road materials and procedures,* **László Gáspar (KTI)**
- *Bitumen modified with nanotechnologies to extend durability and resilience,* **Raquel Casado (Acciona)**
- *Development of a more resource-efficient construction: increasing by-products and RAP, optimizing material transportation, promoting low temperature asphalts*, **Pedro Lastra & Irune Indacoechea (University of Cantabria)**
- *Adaption of asphalt pavements to climate change and freight transport through design,* **Pablo Pascual (University of Cantabria)**
- *Validating Economic and Environmental feasibility of the DURABROADS Asphalt Mixtures,* **Divya Deepankar (BSRIA)**

12.45 – 13.30 Accelerating the implementation of sustainable and innovative road solutions: Green Public Procurement

- *Rationale and Development of the GPP Criteria,* **Elena Garbarino (Joint Research Center – European Commission)**

- *Deployment of GPP by Public Authorities,* **Gorane Ibarra (Basque Country Government)**

AFTERNOON SESSION: Promoting EU & US research collaboration

14.30 – 14.35 Welcome

Representative European Commission

14:35 – 15:30 A successful collaboration case study: the twinning experience in collaborative projects

- *The European Union vision in transport research,* **Bill Bird (European Commission)**

- *The US approach towards present and future partnerships,* **Sean Li (Federal Highways Administration)**

- *The EU vision from the European academic perspective,* **Daniel Castro (University of Cantabria)**

- *The LCE4ROADS experience: A research project promoting sustainability through greener certificates*, **Aquilino Álvarez (Acciona)**

15:30 Conclusions (University of Cantabria)

Speakers

Aquilino Álvarez-Castro is a Civil Engineer from Politecnico di Milano and MBA from IESE Business School.

His works as a Project Manager in Acciona Construction and his current activities are principally related to Project Management of Innovation projects, Business Development initiatives and Technology Transfer activities for innovative products and services for the construction sector. He has been involved in several research initiatives related to improving efficiency in construction operations, product development for several geotechnical applications, one of them patented, sustainability approaches for road projects and application of self-healing materials for road and railways. He is also a member of the TRB's Standing Committee on Technology Transfer (ABG30).

Ing. Matteo Bacchi - M.Sc. degree in Civil Engineering, Transport Infrastructures, and Ph.D. in Geomatics and Infrastructures Engineering.

Main areas of expertise, developed through to continuous cooperation with Prof. Eng. Maurizio Crispino's academic and professional activities, include design, construction and maintenance of roads, railways and airport infrastructures. He has collaborated to research projects concerning transport infrastructures (innovative materials and pavements, maintenance and rehabilitation techniques and treatments, design methods, new technologies for road monitoring, etc.), specifically in airports as well as in roads and highways. Presently, co-worker of Prof. Eng. Maurizio Crispino and MCI Infrastructures Engineering Srl's shareholder

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William Bird spent the first twenty years of his career at British Rail, working in the Rolling Stock Department before becoming European Policy Manager at British Rail's International Policy Office.

He then joined the European Rail Research Institute in Utrecht, The Netherlands, as a Project Advisor, focussing on noise projects, and subsequently became the Personal Assistant to the Managing Director. In 2001 he began working at the European Commission, in the Sustainable Surface Transport Unit of DG Research, and was initially responsible for railway research and, more latterly, road infrastructure and automotive manufacturing. After working in DG MOVE's Single European Rail Area Unit, he returned to DG RTD, and, as a Senior Expert, is now responsible for road safety, the infrastructure twinning projects, Member State co-funding and the Shift2Rail railway research programme.

Mr Bird is a graduate of Oxford University, a member of the Institution of Mechanical Engineers and of the Institution of Logistics and Transport.

Raquel Casado Barrasa - Degree in Chemistry. Project manager and researcher at the R&D Department of Acciona Construcción.

Experienced in the development of advanced materials for the road sector, as well as, managing national and international research projects. Main topics of research are: nanotechnology, self-healing, use of alternative and more sustainable materials and photocatalysis for road applications. She has contributed in several international congresses and seminars in the field of materials science.

Daniel Castro - PhD Civil Engineer since 2001 and presently Professor at the University of Cantabria. Head of the Department of Transport and Technical Director of GITECO (Construction Technology Applied Research Group).

Principal researcher in 13 projects at European and Spanish level obtaining 21 patents. He has more than 70 publications in Peer Reviewed journals, has coordinated 20 PhD thesis and participated in 59 congresses.

Divya Deepankar - Civil Engineer and recent Graduate from the University of Oxford having completed the degree of MSc in Environmental Change and Management.

Over the last four years, Divya has diversified work and study experience in academia, environmental education, construction and building services industry. Through the course of her degree towards MSc in Environmental Change and Management at the University of Oxford, her research on the Clean Ganga Mission project in India was an eye-opener on understanding the local, national and global environmental challenges in the developing and developed countries which has been strengthened by her industrial experience in European research projects and energy policy research within the building services and construction industry over the last two years. At BSRIA, Divya has been principally working on the EU research projects focusing on life cycle assessment and whole life costing analysis, environmental assessment, building stock studies and energy policy research. In DurabRoads, BSRIA's research team has studied the environmental and economic feasibility of the asphalt pavement mixtures to report on the most suitable mix developed in the project.

Elena Garbarino graduated in Environmental and Geo-Engineering at the Polytechnic of Turin. She has a PhD in Geo-Environmental Engineering.

She worked as a postdoctoral researcher and as an officer in a Competent Authority. Since 2012 she is a scientific officer at the Joint Research Centre of the European Commission, in the Circular Economy and Industrial Leadership Unit. She has carried out techno-economic and environmental studies supporting the implementation of sustainable production policies, such as the Green Public Procurement. She particularly worked on the revision on the EU GPP criteria for road design, construction and maintenance. She is currently carrying out and coordinating an exchange of technical information on best practices in the framework of the circular economy and the Directive on the management of waste from extractive industries.

Dr. habil. László Gáspár - MSc in civil engineering and economic engineering, PhD and DSc in transport engineering, serves as research professor at KTI Non-Profit Ltd., Budapest, and professor emeritus at Széchenyi University, Győr.

His main areas of activity: road asset management, road maintenance, road operation, pavement management, bridge management, highway economy, performance based specifications and contracts, pavement condition evaluation, asphalt technology, pavement structural design, climate change and road pavements, lifetime engineering. He has been a member of 9 EU-sponsored projects and 7 COST Actions. He has 418 publications (128 in English) with 419 independent citations, delivered 528 presentations and lectures.

Breixo Gómez-Meijide carried out a PhD in Civil Engineering at the University of A Coruña being granted with the Doctorate Extraordinary Award 2016. Since then, he works as a Research Fellow at the Nottingham Transportation Engineering Centre (NTEC), in UK.

Currently involved in HEALROAD Project (Infravation ERA-NET Plus on Infrastructure Innovation), he supervises 4 PhD Students on topics related to sustainable materials and self-healing roads. Author of more than 20 publications on the topic, he is also member of the RILEM Technical Committee "Crack-healing of asphalt pavement materials (CHA)".

Gorane Ibarra - Degree in Chemical Sciences (University of Basque Country) and Master in Work Health and Safety specialized in industrial hygiene, ergonomic and psycho-sociological conditions

Presently working at IHOBE, the Basque Environmental Performance and Innovation Agency, since 1999, with the mission of enabling the environmental policy and promoting the sustainability culture within the Basque region.

Gorane´s main role is to develop technical and executive actions for the Green Public Purchasing. Additionally, she facilitates the implementation of EU ECOLABEL within the Regional Government and promotes the daily-work of the Basque Ecodesign Center.

Irune Indacoechea received her MSc in Chemical Engineering from the University of Valladolid.

Presently, she is in charge of the day to day management of several European R&D projects related to asphalt pavements, as well as for the elaboration of new R&D proposals within the Construction Technology Applied Research Group (GITECO) of the University of Cantabria. Prior to her current position, she worked first as R&D engineer and later as Project Manager on projects related to high-energy materials at EXPAL (MAXAM group).

Pedro Lastra holds a MSc in Civil Engineering from the University of Cantabria. He received a Master's Degree in Civil Engineering Research from this university, and he is currently doing his doctoral degree.

Presently, he is working as researcher in the technical development of European R&D projects related to asphalt pavements, as well as in the elaboration of new proposals. Prior to his current position, he worked in the private sector in road maintenance.

Sean (Xinjun) Li earned his B.S. and M.S. degrees from Tongji University (Shanghai) and Ph.D. from University of Minnesota, all in Civil Engineering.

As a registered Professional Engineer, Sean is currently working as a contract research engineer/laboratory manager at FHWA's Turner-Fairbank Highway Research Center (TFHRC). He is responsible for managing and conducting in-house research projects and day-to-day operations of the Bituminous Mixtures Laboratory (BML) at TFHRC. Prior to join TFHRC, he worked for two years at Iowa State University as a research associate. Sean has initiated, managed and conducted numerous research projects with a primary focus on improving the performance and sustainability of asphalt materials and pavements from both full scale accelerated testing and laboratory performance testing.

Alberto Moral obtained his Ph.D. in Environmental Engineering (University Alfonso X) developing a study about Life Cycle Assessment in different Spanish Pavement sections. MSc in Chemistry and Master on Chemistry and Laboratories by the University of Valladolid.

Since 2003, Alberto works in the Sustainable Management area of the CARTIF Technology center. Responsible of the environmental assessment of different FP7 and H2020 projects related to the smart cities and building efficiency, his work is mainly focused on LCA and LCC in infrastructures. Project coordinator of the LIFE BATTLE CO2.

José Luis Peña holds a Degree in Chemistry from Complutense University of Madrid, as well as a Master of Science in Polymer Technology (Loughborough University) and a MBA (Instituto de Empresa).

Currently, manages the Spanish Road Technology Platform and provides technical support at the Spanish Asphalt Producers Association (Asefma). He is member of CEN standardisation committees, and participates in a wide number of technical groups. For further details, his profile can be found in Linked In and Twitter.

Pablo Pascual is a research engineer and lecturer at the Construction Technology Applied Research Group (GITECO, in its Spanish initials).

He received his PhD degree from the University of Cantabria in 2012. His research interests include evaluation of sustainable construction materials, energy and resource efficiency or the sustainable energy infrastructures, among other. In the last few years he has published more than 25 articles and conference papers and has participated in several national and international projects.

Juan José Potti - Graduate in Chemical Sciences and Ph. Doctor in Chemical Engineering with Cum laude award (University Complutense of Madrid). At European level, he is Member of the Board at EAPA (European Asphalt Paving Association), holding in Spain several positions presently like President of ASEFMA (Spanish Association of Manufacturers of Asphalt Mixtures) and the Spanish Technology Platform.

Throughout his professional career, he has held several positions in the private sectors and as well involved at the CEN TC227 WG1 “Bituminous mixtures” at different Technical Committees. He has presented more than 200 technical publications in several languages and more than 250 conferences at European and International level.

Jesús Rodríguez - Doctor Civil Engineer, Managing Director of Spanish Construction Technology Platform PTEC (www.plataformaptec.es); Associated professor in concrete structures at ETSAM-UPM (www.upm.es); Chairman of UNE CTN140/SC2 Eurocode 2; Evaluator of R&I projects (H2020 and Spanish programs); R&I director in Dragados, ACS Group (www.grupoacs.com) (2007-2012); chairman of ECTP SG (www.ectp.org) (2004-2007) and President of ENCORD (www.encord.org) (2002-2007).

Background on management of R&D projects, Technology Platforms and other European R&D Groups; Design and construction of concrete structures including evaluation and upgrading of the existing ones; Lecturing on concrete structures; Construction processes: buildings, bridges, tunnels, ports, motorways, etc.; Standardization works in Eurocode No.2 Concrete structures.

Livio Trussardi - Civil Engineering degree with specialization in transport infrastructure at the Politecnico di Milano.

Now, responsible for research and development of Impresa Bacchi srl and responsible for the laboratory LPM accredited ACCREDIA LAT n. 1554. Using laboratory in collaboration with prestigious Italian institutes and universities led to the development of new and innovative technologies. The Impresa Bacchi program for Research and Development focuses on several aspects such as: antismog photocatalytic treatment (Coverlite ®), high resistance floor coverings (Coverfull ®), intelligent road and pavement control systems (Coverspy ®), sustainable flooring (LCA) , Low Temperature asphalt mix (CMA and WMA), innovative Porous Asphalt and sound absorbing mixtures. Involved in various research projects: collaborations / partnerships with some Italian universities (Politecnico di Milano), with some sectoral associations at national level (Legambiente and Siteb - "La strada Green") and international level for innovation, sustainability and road safety (Infraviation - ALTERPAVE). Lastly, he participates in working groups on the research and development of road pavements (aggregated for foundations and road underfloor and bituminous conglomerates) with particular attention to sustainability.
