



CONFERENCE

RESEARCH COOPERATION BETWEEN THE EUROPEAN COMMISSION'S JOINT RESEARCH CENTRE AND THE SLOVAK REPUBLIC

10 JUNE 2014

Hotel Bôrik
Bratislava, Slovak Republic

*The conference is co-organised by the **European Commission's Joint Research Centre (JRC)** and the **Ministry of Education, Science, Research and Sport of the Slovak Republic**.*

The event will present the cooperation activities between the JRC and Slovak partners including researchers, policy makers and business users. The objective will be to strengthen this cooperation in strategic areas, which will bring added value to Slovak science as well as help to integrate it even better within the European Research Area.

*In addition the partners will aim to identify areas, where cooperation between the JRC and the Slovak Republic will be complementary to the objectives of the national strategy "**Through knowledge towards prosperity - Research Innovation Strategy for Smart Specialisation of the Slovak Republic**" (RIS3 SK) approved by Slovak Government on 13 November 2013. This is relevant especially in areas where higher involvement of science and technology in solving economic and social challenges is called for.*

*The partners will build on traditional **strengths** of Slovak Republic's research and innovation system, such as highly qualified human resources and ability to attract business R&D investment from abroad.*

A special focus will be on integrating business and in particular Slovak industry in the discussions. The event will explore opportunities for strengthening the cooperation with business and education institutions in view of supporting a well-functioning knowledge triangle, greater effectiveness and attractiveness of investment in R&D and enhancing the innovation capacity of the Slovak economy.

The event will put specific focus on two thematic areas, which are identified as priorities by the Slovak Ministry of Education, Science, Research and Sport:

- **Sustainable transport, fuels and technologies**
- **Nuclear safety and nuclear decommissioning**

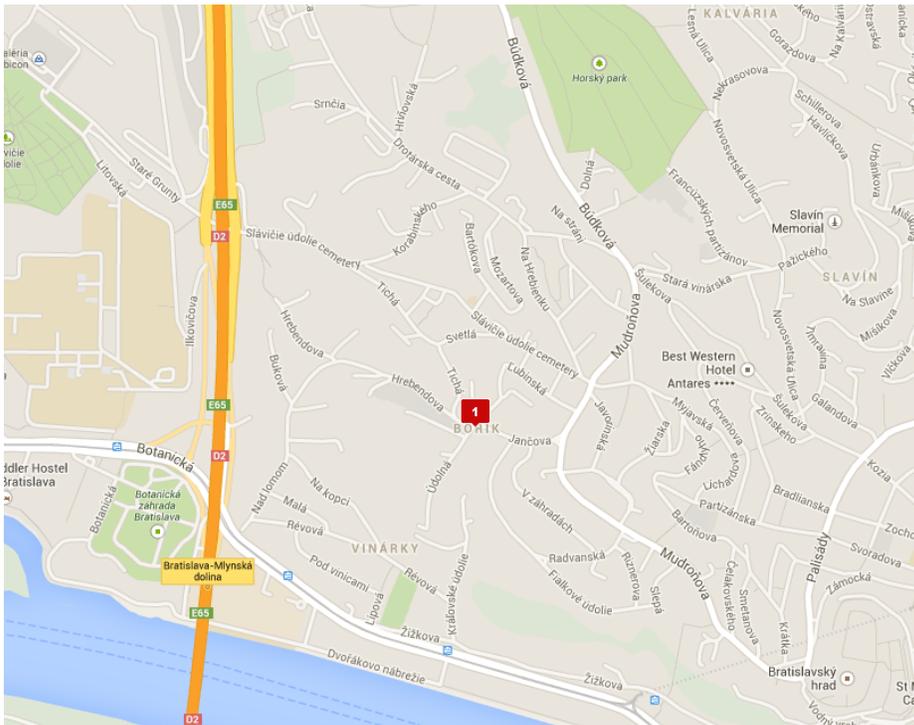
Language

The conference languages will be English and Slovak for the general sessions as well as for the thematic round table on Sustainable transport, fuels and technologies. For the thematic round table on Nuclear safety and decommissioning, there will be no interpretation and the working language will be English.

Venue of the Conference:

Hotel Bôrik

Bôrik 1628/15, 811 02 Bratislava - Staré Mesto



Contact

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PROGRAMME OUTLINE

<i>Time</i>	GENERAL PROGRAMME	THEMATIC ROUND TABLE SCIENTIFIC SUPPORT TO SUSTAINABLE TRANSPORT, FUELS AND TECHNOLOGIES	THEMATIC ROUND TABLE SCIENTIFIC SUPPORT TO NUCLEAR SAFETY AND DECOMMISSIONING
<i>08.30 – 09.00</i>	<i>Registration and welcome coffee</i>		
<i>09.00 – 10.00</i>	OPENING SESSION		
<i>10.00 – 10.30</i>	SETTING THE SCENE		
<i>10.30 – 10.45</i>	<i>Coffee break. Audience division in two thematic round tables.</i>		
<i>10.45 – 12.45</i>		THEMATIC SESSION I: EFFICIENT VEHICLES	THEMATIC SESSION III: NUCLEAR SAFETY
<i>12.45 – 14.00</i>	<i>Networking lunch</i>		
<i>14.00 – 16.00</i>		THEMATIC SESSION II: SCIENCE AND INNOVATION FOR REFINING COMPETITIVENESS	THEMATIC SESSION IV: SCIENTIFIC SUPPORT TO DECOMMISSIONING
<i>16.00 – 16.30</i>	CLOSING SESSION		

DRAFT PROGRAMME

GENERAL SESSIONS

OPENING SESSION

09.00 – 10.00

Speakers:

- **Dušan Čaplovič, Minister of Education, Science, Research and Sport of the Slovak Republic**
- **Tomáš Malatinský, Minister of Economy of the Slovak Republic (tbc)**
- **Ján Hudacký, Chairman of the Commission for Technological Development and Innovation of the National Council's Committee on Economic Affairs**
- **Vladimír Šucha, Director General, Joint Research Centre, European Commission**

SESSION: SETTING THE SCENE

10.00 – 10.30

Speakers:

- **Challenges and opportunities for Slovak science, technology and innovation system, Štefan Chudoba, State Secretary, Ministry of Education, Science, Research and Sport of the Slovak Republic**
- **Opportunities for cooperation between the Joint Research Centre and the Slovak Republic, Ulla Engelmann, Head of International, Interinstitutional and Stakeholders Relations, Joint Research Centre, European Commission**

CLOSING SESSION

16.00 – 16.30

Speakers:

- **Vladimír Šucha, Director General, Joint Research Centre, European Commission**
- **Štefan Chudoba, State Secretary, Ministry of Education, Science, Research and Sport of the Slovak Republic**

THEMATIC ROUND TABLES

SCIENTIFIC SUPPORT TO SUSTAINABLE TRANSPORT, FUELS AND TECHNOLOGIES

In cooperation with the European Forum for Science and Industry

The automotive industry is of strategic importance to the European economy, representing 12 million jobs, 4% GDP and 90 billion EUR trade surplus. Even though transport has become more energy-efficient and electric vehicles and biofuels have become part of the solution to Europe's **twin challenges of reducing carbon emissions and improving energy security**, the transport sector still depends on oil for 96% of its energy needs.

Oil, the main energy source for transport overall, supplying 100 percent of road transport fuels is currently expected to reach depletion around 2050. Additionally, oil will remain a key part of the global energy mix until at least 2040. The refinery sector has an important role to play in providing adequate supply corresponding to the energy needs of the market.

The coming decade is expected to lead to an increase in the number of cars in emerging countries, with **high pressure on oil prices, sustainability problems and increasing global competition**. The Slovak Republic is particularly concerned since it is the world leader in car production per capita with three major car makers, Volkswagen, Peugeot-Citroen and Kia having production facilities in the country.

The **Slovak Smart Specialisation Strategy** identifies the **automotive and mechanical engineering industry as the main area of economic specialisation of the country**. The strategy calls for better linking of the priority sectors to research and knowledge intensive services. It also points out that there is a need for more material research and nanotechnology focusing on new materials (especially lightweight structural materials and composites, organic materials, steel and special materials), surface treatment and diagnostic system for applications in the field of the Slovak economic specialisation, especially in the automotive industry.

In this respect the **JRC**, with its in-house vehicle testing facilities VELA and its analytical tools, **provides scientific/technical support to the automotive sector** through the development of test procedures, test cycles, analytical simulation tools and standards for the assessment of CO₂ emissions (fuel consumption) from light-duty and heavy-duty vehicles. These aim at improving environmental performance and energy efficiency of vehicles, which is of benefit to the EU car manufacturers in a global economy and thus of specific interest to the Slovak Republic. Scientific support is also necessary to identify where research and technical expertise should be targeted for the benefit of the EU refining industry. Overcoming these challenges requires a joint effort by all stakeholders at the various levels.

For accelerating EU growth, competitive technologies developed by science, research, innovation and common standards are needed. JRC dedicates a major part of its work to **supporting the standardisation system with pre-normative research, preparing harmonised methods, and developing reference measurements and methodologies**. This supports policy and ensures that standards take into account economic productivity and social needs, such as environmental sustainability, safety and security concerns. It ensures that standards are based on impartial, sound, balanced scientific evidence. The event will thus provide the opportunity to contact potential partners for future cooperation, while supporting the industry and internal market and reinforcing its position on the international scene.

This thematic round table aims to **stimulate debate and improve the science based understanding of the challenges for the automotive industry**. The thematic sessions will bring together stakeholders from the automotive and refinery industries, science, academia and policy-making to discuss the different perspectives of how science can contribute to facing these challenges. The **overall objective is to foster a dialogue on these issues and identify areas for scientific cooperation between the JRC and Slovak partners**.

THEMATIC SESSION I: EFFICIENT VEHICLES

10.45 – 12.45

Chairperson: **Giovanni De Santi**, Director, Institute for Energy and Transport, Joint Research Centre, European Commission

Key-note speaker: **Erik Jonnaert**, Secretary General, ACEA, European Automobile Manufacturers' Association (tbc)

Panellists:

- **Jaroslav Holeček**, President of the Slovak Automotive Industry Association (ZAPSR)
- **Oliver Moravčík**, Dean of Faculty of Material Technology, Slovak University of Technology, Trnava
- **Ján Lešínsky**, Faculty of Mechanical Engineering, Slovak University of Technology, Bratislava
- **The first Fit for Quality Academy Schaeffler worldwide**
Peter Tinka, INA, Kysucké Nové Mesto
- **Aeromobil**, **Štefan Klein**, Co-founder, Chief Designer, Aeromobil
- **Efficient cars and trucks: assessment of innovative technologies**, **Alois Krasenbrink**, Head of Sustainable Transport, Joint Research Centre, European Commission

Discussion

THEMATIC SESSION II: SCIENCE AND INNOVATION FOR REFINING COMPETITIVENESS

14.00 – 16.00

Chairperson: **Markus Maly**, Public Policy Issues and Advocacy, Business & Strategic Development, OMV

Key-note speaker: **Oszkár Világi**, Chairman of the Board of Directors and CEO, Slovnaft (tbc)

Panellists:

- **Lukasz Piotrowski**, Vice-Chairman of the Board of Directors and Chief Operational Officer, Czech Refineries (tbc)
- **Well-to-wheels (WtW): relevance of science-based analysis for policies**
Robin Nelson, Science Director, CONCAWE
- **Refining competitiveness / Fitness check**
Luis Delgado, Head of Sustainable Production and Consumption, Joint Research Centre, European Commission

SCIENTIFIC SUPPORT TO NUCLEAR SAFETY AND DECOMMISSIONING

The share of nuclear power generated electricity in the European Union is around 27 % (13 % worldwide). **Nuclear energy will continue to play a fundamental role in order to meet the EU targets to cut its greenhouse gas emissions** by 20% by 2020 and by 80-95% by 2050 in comparison to 1990 levels. **It is up to each Member State to decide whether or not to include the use of nuclear power in its electricity generation mix.** Currently, fourteen of them operate 131 nuclear power reactors.

The nuclear power plants in the EU have been operating safely for many years. However the Fukushima accident in March 2011 again revealed **the potential challenges of nuclear safety worldwide**. All EU Member States with operating nuclear power plants, plus Switzerland and Ukraine have undergone the EU **“Stress tests”** which had as major outcome the development of national action plans to significantly reinforce the reactor fleet safety with respect to accidents caused by extreme natural hazards (e.g. earthquake, flooding) and severe accidents.

The highest level of nuclear safety is also needed for research reactors and facilities and nuclear technology applications other than electricity generation. Indeed, all Member States have nuclear installations or make use of radioactive materials, particularly for medical, industrial and research purposes. There is a strong shared understanding among the 28 EU Member States that there is a need to invest in nuclear safety research, and crosscutting activities such as training and education.

Nuclear Safety is an utmost priority for the EU. The JRC provides assistance and direct research in the fields of nuclear safety, decommissioning, waste management radiological monitoring and emergency preparedness to both the Member States and the European Commission services.

It assists EU countries directly via the European Clearinghouse on Nuclear Power Plants Operational Experience Feedback (EU Clearinghouse) initiative, which analyses events in nuclear power plants worldwide. The overall objectives of the EU Clearinghouse is to facilitate efficient sharing and implementation of operational experience feedback to improve the safety of Nuclear Power Plants (NPP) and to establish European best-practice for assessment of NPP operational events, through the use of state-of-the-art methods, computer aided assessment tools and information gathered from different national and international sources, such as EU National Regulatory Authorities event reporting systems, Incident Reporting System (IRS) jointly operated by IAEA and OECD/NEA, etc.

The Slovak utilities have been very proactive in development and application of “in vessel retention” strategy to cope with reactor core melt scenarios and improve nuclear power plants safe operation. Currently at EU level there are several initiatives to investigate whether this is possible for reactors with power greater than 440/600 MWt(e). The JRC (Petten) is organising a benchmarking exercise on this subject, which will be relevant to Slovakia.

The **Generation IV** International Forum (GIF), where the JRC is the Euratom Implementing Agent, is a co-operative international endeavour organised to carry out the research and development (R&D) needed to establish the feasibility and performance capabilities of the next generation nuclear energy systems. Slovakia is supporting GEN IV research and is very active in supporting the Allegro reactor proposal.

In addition to ensuring the safety of the operating reactors, there is a need to carry out **nuclear decommissioning in a safe and sustainable manner**. About one third of the 131 operating reactors in the EU will attain their end-of-design life by 2025. Moreover, after the disaster in Fukushima, Germany, one of Europe's biggest operators of nuclear power, shut down 8 out of its 17 reactors and committed to close the rest by 2022.

The Slovak Republic has four reactors in operation (NPP Bohunice V2 - 2 reactors and NPP Mochovce 1&2). **Two new reactors** (NPP Mochovce 3&4) **are under construction**. **Two reactors** (NPP Bohunice A1 and V1) **are undergoing decommissioning**, with the partial financial support of the European Union. The Slovak Government has put in place a legal and governmental infrastructure which has set safety as the highest priority. The safety of nuclear power plants is also mentioned in the **Slovak Smart Specialisation Strategy** along with the Slovak experiences with construction, operation and decommissioning of nuclear power plants and the research and training capacities of the country. In particular, the Slovak utilities have gained a lot of experience with the safety upgrading of the nuclear power plants in 1990s' and are amongst the first ones in the world that have implemented sound severe accident management programmes.

The JRC fulfils the research and related policy support obligations of the Euratom Treaty. For over 50 years the **JRC has been conducting direct research in the nuclear fields** thus supporting nuclear safety and security research and providing expertise to complement training and education.

This thematic round table aims to **stimulate debate and improve the science based understanding of the challenges for nuclear safety and nuclear decommissioning**. It will build on the expertise of the JRC and Slovak partners and **identify areas for scientific cooperation**.

THEMATIC SESSION III: NUCLEAR SAFETY

10.45 – 12.45

Chairperson: Vesselina Rangelova, Operational Safety Section, International Atomic Energy Agency

Key-note speaker: Marta Žiaková, Chairperson, Nuclear Regulatory Authority of the Slovak Republic

Panellists:

- **Speaker**, DG Energy, European Commission (tbc)
- **Nuclear research and innovations as the effective tool for safety culture increase**
Vladimír Slugeň, Director, Institute of Nuclear and Physical Engineering
- **Vladimír Jurina**, Head of Radiation Protection Department, Public Health Authority of the Slovak Republic
- **Vladivoj Řezník**, Director, Slovenské elektrárne, a.s.
- **Eugenijus Uspuras**, Lithuanian Energy Institute, Member of the EASAC (European Academies Science Advisory Council) Energy Steering Panel
- **JRC activities to support nuclear safety (EU Clearinghouse)**
Michel Bieth, Head of Nuclear Reactor Safety Assessment, Joint Research Centre, European Commission (tbc)

Discussion

THEMATIC SESSION IV: SCIENTIFIC SUPPORT TO DECOMMISSIONING

14.00 – 16.00

Chairperson: Marta Žiaková, Chairperson, Nuclear Regulatory Authority of the Slovak Republic

Key-note speaker: Miroslav Božik, Nuclear and Decommissioning Company, plc. (JAVYS a.s.)

Panellists:

- **Peter Liška**, Director of Nuclear Safety Division, VÚJE
- **František Janíček**, Director, Institute of Elektroenergetic and Applied Elektrotechnik (EAE)
- **Slovak and European Decommissioning Academy**
Vladimír Slugeň, Director, Institute of Nuclear and Physical Engineering

- **JRC activities to support nuclear decommissioning,**
Pierre Kockerols, Acting Head of Nuclear Decommissioning, Joint
Research Centre, European Commission

Discussion