MINISTRY OF EDUCATION, SCIENCE, RESEARCH AND SPORT OF THE SLOVAK REPUBLIC

British Embassy Budapest

NATIONAL RESEARCH, DEVELOPMENT AND INNOVATION OFFICE

Cooperation between industry and research organizations – sharing practice from Slovakia

12 March 2018 | V4+UK round table | Budapest

National system of R&D governance

- National R&D policies are drafted, implemented and co-ordinated by the Ministry of Education, Science, Research and Sports (MINEDU).

MINEDU co-operates with other ministries (Ministries of Economy and Finance in particular), the Slovak Academy of Sciences, HEIs, and associations of employers, and industrial research organisations.

MINEDU is responsible for policy- and decision-making in the field of R&D.

MINEDU: Methods and instruments for policy making and co-ordination

- MINEDU in particular:

- drafts and consults all R&D and S&T policies with most important R&D policy stakeholders
- regularly evaluates the performance of state-funded R&D support schemes
- prepares final and interim reports on the performance of the S&T
- drafts 'Annual Report on R&D'
- sets and implements principles for competitive funding of the HEIs
- provides organisational, administrative and financial support to the Accreditation Commission
- manages network of funding and implementing agencies (VEGA, KEGA, SRDA), and professional support agencies (Slovak Centre of Scientific and Technical Information)

Slovak Government Council for R&D&I

- MINEDU also provides administrative support to the most important body for co-ordination of S&T and innovation policies - the Slovak Government Council for Research, Development and Innovation (SGCRDI).

SGCRDI is chaired by the Prime Minister and has 34 members (several ministers, chairman of the Slovak Academy of Sciences, president of the Slovak Rector Conference, and also representatives of employer associations and R&D associations)

The Statute of the SGCRDI states that the body is 'a permanent professional, advisory and co-ordinating body of the Slovak Government for science, technology and innovation'.

SGCRDI discusses and evaluates mainly conceptual, strategic and financial plans in science, technology and innovations designed for the Slovak Government, European Union bodies and international organisations'.

Selected Institutions of R&D Network

Institutions for Support of R&D

- Slovak Research and Development Agency (APVV)
- Slovak Innovation and Energy Agency (SIEA)
- The Research Agency of the MINEDU for the Structural Funds of EU
- Slovak Investment and Trade Development Agency (SARIO)
- Plenipotentiary for Startegic Projects and for R&I at Government of the SK

Clusters

- Automotive Cluster West Slovakia in Trnava
- The 1st Slovak Engineering Cluster in Banská Bystrica
- BITERAP cluster, Košice
- Electrotechnics cluster West Slovakia in Trnava
- Cluster AT+R in Košice
- IT Valley Košice in Košice
- Slovak Plastics Cluster in Nitra
- ICT Cluster Z@ict in Žilina
- Energetics Cluster West Slovakia in Trnava

Science and Technology Parks

- Science and Technology Park in Žilina
- CEPIT - Central European Park for Innovative Technologies in Bratislava
- Industrial and Technological Park of Trnava Town
- Science and Technology Park TECHNICOM in Košice

Centres of excellence

- Centre of ICT for Knowledge Systems
- CE in Computer Science and Knowledge
- CE for New Technologies in Electrical Engineering
- CE in SMART Technologies, Systems and Services
- CE in 5-axis Machining
- CE for Intelligent Transport Systems and Services

R&D Industrial Organizations

- Electrotechnical Research and Projecting Institute in Nová Dubnica
- Nuclear Power Plant Research Institute in Trnava
- The Research Institute of Petroleum and Hydrocarbon Gases – Slovnaft VÚRUP, a.s. in Bratislava
- Welding Research Institute-Industrial Institute of SR in Bratislava
- VÝVOJ Martin, a.s. (machine engineering) in Martin
- ZŤS VVÚ Košice, a.s. (machine engineering and robotics) in Košice
- VÚSAPL, a.s. (plastics research) in Nitra

Bottlenecks in system of R&D governance

- major bottlenecks for participation in FPs and the absorption of ESIF
- one of the poorest R&D&I systems in Europe
- fragmented governance system with no oversight of the system as a whole
- system generates duplications, lacks thematic focus, and has a rather high number of implementing agencies
- substantial disparity between schemes funded from the Structural Funds and from national resources
- industry and academia sectors do not develop strong links of cooperation

Main R&D policy challenges

Improve the R&D governance

- R&D reforms were implemented only partially

Increase private innovations outputs and R&D investments

- quality of the science base lags behind the EU average in terms of research outputs
- Slovak HEIs and Slovak Academy of Sciences have been also decreasing in international rankings over the last years

Improve the quality of the science base

- the European Innovation Scoreboard 2017 data indicate that Slovakia has low shares of innovative companies
- national support is low and the implementation of EU schemes behind schedule

Synergies between R&D and industry

Eurostat data on R&D funding indicate weak linkages between R&D&I and industry, confirmed by low levels of R&D&I commercial outputs

Slovakia has allocated resources to strengthen synergies between science and industry in the budget of the Operational Programme Research and Innovation (OPRI)

Slovak Government approved (in 2016) the Resolution on the SRDA Programmes designing a national programme for cooperation between academia and industry over the period 2016-2020

However, any of these initiatives have not been implemented yet!

Synergies between R&D and industry

Výskumná agentúra organizovala odborný okrúhly stôl so zástupcami výskumných inštitúcií

AKTUALITY 07. FEBRUÁR 2018 HODNOTENIE: ☆ ☆ ☆ ☆ ☆

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Výskumná agentúra a zástupcovia výskumných inštitúcií opäť za okrúhlym stolom

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Synergies between R&D and industry

Slovak Centre of Scientific and Technical Information - directly managed organisation of MINEDU

- specialised scientific library and national information centre for STI and education
- co-ordination and operation of national infrastructures for R&D&I and education

Mission:

- Building and development of information systems for R&D;
- Building and operation of library and information funds (including electronic information resources) to wider expert community and public;
- Methodical and analytical activity in area of managing and evaluating research, development and higher education;
- Preparation and implementation of projects supporting R&D and progressive education;
- Popularisation of science and technology in society;
- Technology transfer support on national level;
- Co-ordination of NCP network for Horizon 2020 and operation of Slovak Liaison Office for R&D in Brussels;
- Methodology and creation of information in education, educational statistics and operation of School Computing Centres.

Slovak Centre of S&T Information

Within OPRI Centre implements 5 national projects:

- **Mobilisation of knowledge and technology transfer from research institutions into practice**
- Research and development information system / access to databases for the purposes of research institutions
- Horizontal support of Slovakia´s involvement in the European Research Area *(H2020 + SLORD)*
- Supporting the national system for the popularisation of research, development and innovation
- Horizontal ICT support and central infrastructure for research and development institutions

Mobilisation of knowledge and technology transfer into practice

Further development and operation of the National Centre of TT of the Slovak Republic and development of local TT centres

Providing and development of support services in the process of TT for Slovak academic institutions

Establishing and further development of effective conduction of TT in Slovak Republic

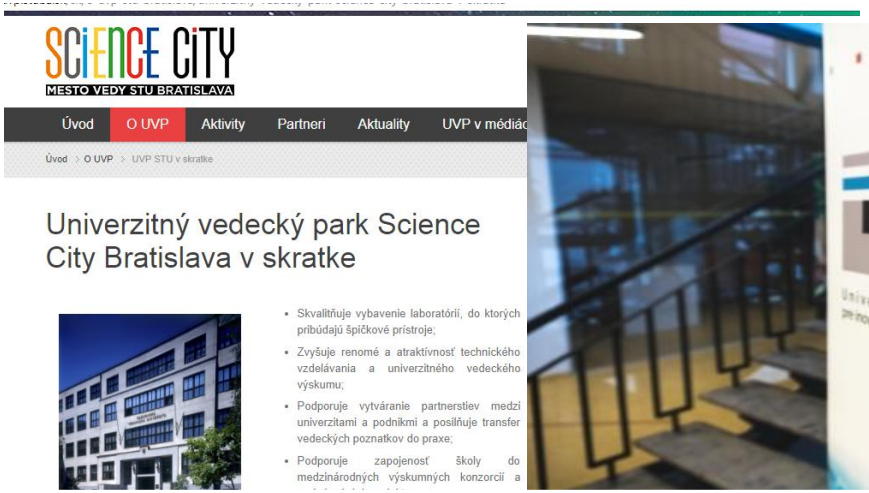
Commercialization through the setting-up of spin-off (start-up) companies

Projection, establishment and introduction of new structural elements of TT

Integration of accessible capacities of data and computing centres with software tools for complex support of technology transfer and its interaction with academic community

Cooperation between Slovak universities and companies

- Common study programs
  - Professional MBA Automotive Industry, Slovak University of Technology (STU) in Bratislava in cooperation with Vienna University of Technology
  - Study programs with focus on IT/IS developed by the Technical University of Košice in cooperation with cluster IT Valley Košice
- Know-How centre at the STU - transfer knowledge into the economy
- University R&D Parks create conditions for sustainable progress of R&D with continuous impact on TT and innovation practice on the regional and international levels



STU MTF
UNIVERSITY SCIENTIFIC PARK CAMBO

These initiatives are based on international projects founded by EU programs.

Selected R&D Projects in Slovakia

- Formula Student Electric (FSE)
  - Students from the STU in Bratislava supported by experts from E.ON created STUBA Green Team and participated in the FSE competition with their own prototype | www.stuba.sk
- Students Project ICAR 2010
  - Students of the Faculty of Mechanical Engineering from the Technical University of Košice designed a car prototype for the projects focused on design techniques, methodology and prototype manufacturing | www.tuke.sk
- Project Edison – Electro mobile
  - The result of the Project Edison at the University of Žilina should be a new prototype of an experimental electro mobile which shall enable the use of different settings, diagnostics, optimization of chassis and gears, programming of driving units, monitoring of components for future data processing as well as the trials of infrastructure of electro mobiles elements, e. g. different chargers, modes of charging, monitoring of the vehicle's movement, service and diagnostics | www.edison.uniza.sk

Selected R&D Projects in Slovakia

- Aluminium foam - new manufacturing technology
  - Scientists at the Institute of Materials and Machine Mechanics of Slovak Academy of Sciences have developed an original technology enabling the manufacturing of complex shape structural parts from aluminium foam at a reasonable cost.
  - In this way, for the first time worldwide, several unique components have been brought into serial applications, e.g. crash boxes for railway carriages (Gleich GmbH Kaltenkirchen), stiffeners for the side rail of Ferraris or bumpers for the separation wall in the Audi Q7 (Alulight GmbG Ranshofen).

"Our ability to present research results in real prototypes has led to intense collaboration with industry both in Slovakia and abroad. The successful applications of novel composites in the BMW engine (SAPA Profily a.s., Žiar nad Hronom, SHW GmbH Wasseralfingen), in sliding power contacts for locomotives (Elektrokarbon Topoľčany) or in novel batteries (Effpower Göteborg) have confirmed the importance of the tight relation between research and industry if the added value of the products is to be increased",

Thank you for your attention

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