Round Table driving.digital 2019
SUMMARY
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Summary

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Investments into research and innovations have not supported Slovak economy yet

Education cannot be enforced it has to be connected to motivation

External pressure and demand culture are decisive for successful innovations

It will not work without end users

Conclusion

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Introduction

The Slovak economy and its labour market are built on open economy. For Slovakia, this has meant attracting foreign investors in the beginning. Car manufacturers, electro-technical industry and whole chain of sub-suppliers has started up thanks to government incentives and labour force, which is abroad considered productive and at the same time cheap. Security stability, the EU and Eurozone membership, solid infrastructure and human potential are at the core of the start-up and development of national economy, a model, from which Slovakia benefits until today.

Slovakia is an example of a country with impressive economic development, which has fastened after entering the European Union thanks to a synergy of supporting factors. However, the speed of the growth is gradually getting slower and in order to secure prosperity of the country for the future, it will be necessary to develop mostly instruments of strategic and investment needs of Slovakia including needs connected to education, innovations, infrastructure and energy technologies.

To increase productivity of Slovakia and maintain the convergence process, sustained investment efforts are needed in R&D, digital and transport infrastructure, and energy efficiency.

Country Report Slovakia 2019, EU COMMISSION STAFF WORKING DOCUMENT

Car and transportation industry are undergoing significant changes within global digital transformation. Today, Slovakia is a leader in the car production, but processes which have worked in the beginning do not necessarily have to be good enough over time. In order to keep and strengthen its position, it is therefore inevitable to move forward in terms of abilities to bring results, including in terms of research and innovations. This is the main message of the roundtable on Slovak contribution to global intelligent transport.

The search for the incentives for setting up long-term projections on working of research and innovation programs and questions leading to creation of effective partnerships, starting new projects in car and transportation sector. These were the topics of more than 6-hours long expert discussion, which proved to be more dominant in Slovakia compared to traditional, often repeated statements and reasons for the status of Slovak research.
The new platform for professional debate of experts and leaders of manufacturers, academics, research and public institutions with focus on development of Slovak research and innovation programs in terms of intelligent transportation system has become the Round Table driving.digital 2019, which has taken place as a part of conference on 15th October in X-Bionic Sphere in Šamorín.

In the panel discussion on the most serious questions in terms of research within car manufacturing and transportation industry in Slovakia has participated total amount of 15 guests from Slovakia and abroad together with tens of delegates from commercial businesses, research and public institutions. The possibility of open discussion and exchange of opinions has brought an agreement on questions of what should be dealt with, but in terms of questions of how things should be dealt with, there were major differences in opinions of Slovak and foreign debaters.

I do not think, that the major issue of Slovak research is lack of finances.

driving.digital 2019, Gilad Bandel, Arilou

The lack of financial and personal resources, bureaucratic obstacles and complicated creation of effective partnerships are the main barriers, which are slowing down the success of Slovak innovation and research programs according to Slovak participants. “Intelligent transport has a large support in the United Kingdom, we have 14 development centers supported directly by the government and we are open for cooperation with Slovakia,” reacted Martin Wood, a specialist on supplying systems in car transportation from the Ministry of International Trade of the United Kingdom. Effective partnership teams are the basis for examples of successful Slovak research, Matador Group and Slovak branch of Continental with its research centers in Zvolen, Púchov and Dolné Vestenice employing total of 500 research development employees. “We cannot do everything, that is why we focused on research in terms of logistics and design. These are the fields, which are at the core for our clients,” said Štefan Rosina, the president of the Matador Group.

When it comes to clients, the final recipients of benefits of research and innovations, Tereza Čížiková from Czech ministry of transport has provided comments. She sees the basis of the research activities in Czech transportation industry in them. The view was added also docent Luboš Magdolen from STU, when he talked about final owner and payers of the patents. “If we are supposed to bring more research from the USA, we have to change the patent policy,” reacted Mr. Rado Danilak, CEO of American-Slovak company Tachyum, successful Slovak, owner of a hundred patents, active in the USA and currently also in Slovakia. Tachyum is an example of successful investment of private capital and it shows also options of investment and managerial support of Slovak research, followed from reaction of Mr Peter Jakubička, COO of Slovak investment company IPM Group.
Topics of science, research and innovation in Slovakia are for a long time connected to the active role of state which was eventually confirmed also during the round table discussion. While part of the panellists accepted lack of finances, bureaucracy, readiness of students and other barriers ascribed mostly to the state, with concrete examples of successful projects, there were mostly final clients from industrial sector and effective management who stood behind its success.

The first year of the roundtable driving.digital has confirmed in the discussion, that uniqueness brings advantages in the competitive environment, professional guarantee and effective support from state are the basis of every successful project, where the research and innovation play crucial role.

Participation of companies, final recipients of the research results, partnership with research workplaces and high-quality project management - these are three key factors of success, which have to be quickly and priority taken into consideration when setting up strategies of Slovak innovation and research programs.

“Who will profit from the research findings at the end of the day? It should be companies, they must be in the lead and they have to create the pressure…” as reacted Mr Peter Varga from Slovak ministry of transport in the discussion. “The role of state is only supportive,” emphasized Mr Radoslav Repa and Peter Kárpáty from ÚPVII in their discussion remarks.

The share of the research on GDP is one of the indicators, which currently brings Slovakia to lower places in the ranking compared to other V4 countries or the EU. The Slovak government realizes the situation, but has not found an effective way, which would significantly improve this state. In the car manufacturing and transportation industry this means direct threat of loss of market position with negative impact on Slovak economy.

Effective strategies built on projects success factors, creation of conditions for working ecosystem and involvement of all relevant actors, setting of priorities and rules for accomplishable investments. These are the main attributes of state support, without their application the changes necessary for development of research and innovations in Slovakia will not be performable.
Investments into research and innovations have not supported Slovak economy yet

Theory and business reality confirm that further economic growth depends on the competitive ability and productivity in the long run. Similar to countries benefiting from natural resources can fall into poverty after their exhaustion also economies built on cheap labour force will not be able to take the pressure of further lowering of costs. It is necessary to start with structural changes on time in portfolio of creation of GDP benefiting production and services with higher added value. Investments to science, research and innovations, digital and transport infrastructure and energy effectiveness are direct measures, which move countries to knowledge-based economies with long term sustainable prosperity.

“What has to be changed in Slovakia?”

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Expenses from public sources to growing parts of state are in billions of Euros, but the view on the expected values, mostly compared to EU countries, cannot be satisfying.

Traditional discussion on low drawing of EU funds, bureaucracy, turn in priorities setting and lack of people has quickly moved to the main question, which were changes necessary to be done in Slovakia. Discussion later showed that the basis of successful approaching towards other EU countries will not be only in the lack of financials.

“The height of investments into research and the level of Slovak companies’ competitiveness are currently not in balance.”

driving.digital 2019, Emil Fitoš, ITAS

Measures and strategies of Slovak government indicate long-term interest in improving this situation. Laws on education, new law on ensuring quality of university education, strategy on digital transformation for Slovakia, financial instruments in total of 200% of super-subtraction and many financial packages are steps and instruments which were discussed mostly by panel guests from public sector.

Steps and measures of state were appreciated also by foreign guests, but the debate argumentation was more in terms of need to increase the participation of companies on research and development.

Examples from good practice from the EU in the form of digital innovation hubs (DIH) can be a source of positive synergy for Slovakia connecting knowledge and competence in project preparation as well as in creation of effective project partnerships. Structure of prepared DIH suggests inclusion of sectorial sub-domains, which is a good sign of implementation of necessary priorities within the investment portfolio. From the point of view of round table topics, it is also positive that intelligent transportation was included as well.

High importance, however, stays on the reasons for low participation of Slovak companies on the research projects. Increased interest of companies in participation in the research is a necessary way out to expected changes.

“Change the perception and motivate.”

driving.digital 2019, Martin Wood, DIT UK

Financing of science, research and innovation includes in its complexity various levels. Round Table guests’ voices show that simplicity, service attitude and clear rules must be included in the path towards the change if the results are supposed to have actual benefit for Slovak economy.
Education cannot be enforced, it has to be connected to motivation

Competitive ability of companies brings more short-term point of view into the topic of research and innovation in the intelligent transport. This was clear also from the discussion notes at the round table up until Ľuboš Magdolen hasn’t posed a simple, but fundamental question:

“Who will be making the research in Slovakia in a couple of years?” Discussion has moved into significantly more fundamental and long-term level in area of system and education quality.

“It is necessary to talk about the work resources availability.”

driving.digital 2019, Štefan Rosina, Matador Group

The state is aware of the situation and tries to come up with new measures and laws with goal to increase quality of university education based on European standards. A new independent system of accreditation is being implemented, talks are of numbers of universities, study programs; a new type of study field is being opened – interdisciplinary studies. The goal is to support orientation towards labour market and to increase the percentage of absolvents in fields of natural sciences, technologies, engineering and mathematics at least to the average level within the EU – 26%.

Legislative steps and further measures are definitely necessary for improvement of education, but in a long-term perspective, at least during last three decades it was shown that the state interventions do not bring required results and that the topic of education, mostly from point of view of labour market and Slovak economic structure, is much more fundamental. “What can be Slovak contribution to global research?” In transportation it is only ŠKODA, which has its own research,” argued Štefan Rosina, through which he has indicated the root cause of Slovak research and education issue.

“Come up with projects, try to be more attractive.”

Katrien Wyckaert, Siemens Mobility Belgium

Neither research, nor education can be forced. The key for which study the young student decide is only a question of awareness and personal motivation.

The young people interest today is largely formed by global phenomenon of social changes and culturally-valuable attitudes. These unfortunately motivate young people to excel and break through on social networks more than to look for employment in research centers with professional technologies. Reality of structure of Slovak companies, based on traditional industrial steps with low added value only decreases this state.

Structures of economy and system of education of the country have to be in long-term symbiosis, permanently supported by balance measures. Governments of the countries have to understand the process of creation of company values and its attitudes towards supportive and managerial activities should be set in balance.
Changes in car manufacturing and transportation industry are a chance for Slovakia to start with necessary changes. Concentrated innovation potential creates environment for concrete projects, focused on advantages in competitive ability of Slovak companies on domestic and international markets.

Project environment of universities and companies is also a space of grouping of creative young people. Real results from a good idea are a strong motivation bringing benefits for every single one project participant.

For a country this means to come, step by step, to working mechanism, which places the education/research and the needs of businesses into balance. Young people inspired by options of attractive environment and its evaluation find motivation in studies of technical majors seeing more sense in employment in their professional career.

„Create clusters of skilled people, they will bring ideas.”

driving.digital 2019, Rado Danilak, Tachyum

Companies active in field of Information and Communication Technologies are a proof of many positive Slovak examples with breakthrough to global markets. Application of working and successful models into other field including transport industry is a way to reach wanted results not only in education and research, but also in wider spectrum of society-wide affairs.
External pressure and demand culture are decisive for successful innovations

Topics of education, research and economy of a country are in society-wide space of Slovakia communicated in long-term from various points of view. Round Table discussion also brought many positions, remarks and opinions, what is the most important for improvement. More than a lack of finances was a problem in its accessibility, either due to bureaucracy blocking motivation to apply for public sources or unclear policy priorities bringing restrictions in its drawing. Each one of communicated restrictions or sometimes rather indicated restrictions was creating a picture of some kind of bewitched circle, where each argument of “why does it not work,” was the most important while it was clear to all the participants that the change is necessary.

„What is being done differently abroad?”

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Higher share of GDP on science and research, less bureaucracy, real priorities, system changes in schooling, these were key and essential measures, which were loudly discussed and wherein question of what should be changed, there was a common agreement.

The foreign guests’ comments, however, suggested that the path towards success leads with the same importance also through “soft” measures of mental attitude towards things, mostly when it was talked about lack of work force. Many countries with comparable size and at the end of the day also a few examples from Slovakia today supports the fact that being an important player internationally is possible. The notion of a small country without options to enter globally significant research topics is for Slovakia harming and baseless.

“We in Israel, speak of things openly as we see them. If you want success, you need to feel the pressure, there must be a demand culture” reacted Gilad Bandel from Israel to a question about necessary changes. Gilad has introduced many of ideas, which deserved applause of auditorium, mostly when speaking of ambitions to be a leader in own thoughts and ideas, not to be afraid of big goals and not to resign with first failures, which the culture of Israel takes as a driving engine towards reaching the success.

„You are smart and skilled, own ideas are better than outsourcing.”

driving.digital 2019, Gilad Bandel, Arilou

Slovak economy, built on car manufacturing industry, is under long-term competition pressure, but also unsustainability of internal standing of labour market, mostly when Slovak employers reject the attribute of cheap labour force. The state has to come up with vigorous system changes in all parts of support of science and research, today the most important tool to ensuring long-term growth and prosperity of a county. Significant increase in investment and real setting of priorities in line with economic priorities, but mostly the ability to perceive the role of a state as actually supportive, that is a way, with which majority of panellists has experiences in surrounding and comparable countries, which should inspire also Slovakia.

In the positively contributing conditions, Slovak industry and business sector will be able to find new opportunities not only in domestic, but also in foreign markets, at least in European, if not also in Global space. This will start the demand for competition-able solutions, increase interest for innovation and participation in research projects. Young people’s motivation will increase to become a part of more attractive environment, the interest in new technical majors and work in research centers will increase as well. The country will gain a credit of a state with developed knowledge-based economy, with permanently sustainable growth and potential for expansion and prosperity.
Long-term experience of Slovakia in research and innovation with view abroad will bring attention to a few differences, which were discussed at the Round Table either directly or it came up from the discussion indirectly. Three most discussed can be summed up as follows:

**Height of investments into science, research and innovation** – it is a fact that Slovakia does not figure at the top ranks and does not reach even the EU average levels.

**Focus and structure of education** – it is a fact that Slovakia lags behind the EU average in studying of technical fields and that universities were until now not focused on business environment of a country.

**Research findings** – it is a fact that current sources for science and research were directed mostly to infrastructure of scientific workplaces without higher effect in industrial sector.

The most important topic of the research, paradoxically, not so strongly discussed in Slovakia, is the role of business environment.

The real value of Slovak research and innovation programs linked to companies participating on co-financing, compared to foreign countries, was really highlighted only after question of **for whom is the research directed, who is supposed to benefit the most from it.**

Slovakia in research is in a long term in some kind of a “middle” road. It builds research infrastructure and looks for significant success, but from the discussion it is clear, that **real driving engine of research and innovation steps is industry and business environment.**

**„We are focused on a group of Czech and German car producers.‖**

**driving.digital 2019, Štefan Rosina, Matador Group**

The basis of the three pillars of research in car manufacturing industry in Czech – digitalization, electro mobility and autonomous transportation - are Czech car manufacturers. Mrs Tereza Čížiková from Czech ministry of transport was talking of their role in research in Czech Republic, when she informed about the companies own research in partnership with Czech and foreign universities and state.

Czech but also German car manufacturers are client basis for currently two representatives of Slovak research in segment, Matador Group in Dubnica and Continental Automotive Systems Slovakia in Zvolen research center, employing 500 research-innovative employees mostly from Slovakia.

Research in field of IT Security of new generation of car manufacturers and intelligent transportation would not be thinkable without research centers in Israel. They are relying on business environment of all developed countries and gradually start to build also in surrounding V4 countries.

**„We need leadership, we need clients, we need to start to work, opportunity lies in public transport.‖**

**driving.digital 2019, Peter Varga, Ministerstvo dopravy SR**

The driving engine of research and innovation processes with effort to better fulfil its goals is industry and business environment. In a structure of Slovak economic environment, this means build up the conditions and make the changes, whose result is increased motivation and a chance to make decisions about developmental projects. Trends in car manufacturing and transportation industry leading towards higher quality of public transport offer Slovakia a space for realization of necessary changes, they are an opportunity, which has to be taken.
Conclusion

The discussion has taken place in a form of panel discussion with participation of wider professional auditorium. On the event, there participated total of more than 70 Slovak and foreign participants from universities, research institutions, transportation and car manufacturing industry, associations and public sector.

Round table participants – panel guests:

- **ICT**: Emil Fitoš (ITAS), Milan Ištván (PPP), Gilad Bandel (Arilou)
- **Transportation**: Štefan Rosina (Matador Group), Janka Oršuliaková (QSC Mont), Martin Wood (DIT, UK)
- **Research and Innovation**: Daniel Straka (Slovak Organization for Research and Development activities), Luboš Magdolen (Slovak University of Technology), Gábor Kiss (Óbuda University), Rado Danilak (Tachyum), Peter Jakubička (IPM Group, Slovakia), Branislav Sitár (Faculty of Mathematics Physics and Informatics, Comenius University)
- **Public institutions**: Tereza Čižková (Ministry of Transport of the Czech Republic), Radoslav Repa (Office of the Deputy Prime Minister of the Slovak Republic for Investments and Informatization), Peter Varga (Ministry of transport and construction of the Slovak Republic)

The discussion brought up incentives on setting up long-term frame projections on working of new research program and creation of partnerships for starting of mechanisms for beginning of innovation projects in car manufacturing and transport area.

The most discussed topics:

- The volume and availability of investments into science, research and innovations
- Last of workforce/problem of education
- Involvement of business sector
- State support – priority, bureaucracy, support services and mechanisms

Incentives for change:

- Harmonization of research and economy
- Clients of research projects and innovations are companies
- Service attitude of state
- Motivation of technical education