INTERVIEW

Collaboration is the key to everything...

RONALD BLAŠKO
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A stronger focus on innovation is the path AmCham considers of critical importance for Slovakia, if it wants to stay competitive both regionally and globally. Many of AmCham's activities are aimed at helping to strengthen the innovative ecosystem in Slovakia. Innovation trends are also closely followed by AmCham's Executive Director Ronald Blaško, who has been very passionate about this topic for a long time. He shared some of his ideas and opinions on Slovakia's innovative potential in this interview.

How do you evaluate the level of innovations in Slovakia?
Until recently, the growth model of Slovakia's economy has been based on cheap labor force and attracting FDI mostly into manufacturing industries. This strategy has been successful mainly thanks to the automobile industry. However, its potential is slowly fading away and not only Slovakia but the entire Central and Eastern Europe will have to start looking for ways to increase its added value. This can only be achieved through innovations. We are analyzing the situation in countries which offer inspirational examples of how to apply innovations, such as Israel or the Baltic countries.

Two interesting figures were mentioned at our conference focused on innovations which took place earlier this year. The first one was 1 070 000 and the second one 18. The first one indicates the number of cars produced in Slovakia last year, while the second represents the number of patents registered in Slovakia during that same period. The second figure is frighteningly low.

To put it in perspective, Slovenia, with less than half of Slovakia's population, has registered three times as many patents. Another alarming figure indicates less than one percent (0,8%) of Slovakia's GDP invested in research and development, including R&D in private companies, universities and research and academic institutions. In addition, we often read about the inefficient distribution of these funds. A part of these funds ends up going to companies which can't use them effectively, as they don't have any R&D activities.

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The second issue is a lack of clearly defined goals and priorities. You have to understand that basic and applied research are interconnected. That is why companies involved in applied research can have good results in some cases but without quality basic research they are not likely to succeed in the long run. There's a lack of scientists and innovators in companies.

How does Slovakia fare in global comparison?
Poland and Hungary with 1% of GDP invested into R&D are at a similar level. In the Czech Republic, this number moves up to 1,5%. The country with the highest percentage of GDP invested into R&D is Israel (4,1%), followed by South Korea with 3,7%. The United States invests 3% of its GDP. Our goal in Slovakia is to reach 2%, which is the OECD average.

If we look at global companies active in Slovakia and in the Czech Republic, such as IBM, Cisco, Microsoft or Dell, the difference is in the scope of their activities in each country. In Slovakia, they have expanded their activities from call centers to shared services centers providing sophisticated services, but very few of these global companies realize any R&D activities in Slovakia.

It is not because people in Slovakia are less capable, but qualified and talented people willing to work in research mostly move to the Czech Republic or to a different country. Prague is not their only destination; Brno also offers big international R&D centers and hubs. Brain drain is not a concern only for Slovakia but in a wider context for Europe as a whole. The best minds relocate to the United States, even though OECD lists Germany as the most innovative economy worldwide. The US produces the biggest number of patents but Germany is faster at implementing new patents into production.

Should we blame our educational system or something else?
There's an adequate number of engineers in technical fields. For comparison, Israel, as one of the most innovative countries, has a lower ratio of graduates in technical fields to its population size than countries in Central and Eastern Europe. However, it is able to attract specialists from abroad. Intel has 12,000

BIOGRAPHY

Ronald Blaško served as GLOBSEC Vice President for corporate and strategic relations until 31 May 2018. He spent 10 years in various capacities at Slovenské elektrárne, including executive director of an engineering subsidiary corporation. Ronald served as external affairs representative at Foratom in Brussels for two years. He holds a master's degree in aviation and transportation from the University of Žilina and has a postgraduate degree in international economics from the Kiel Institute for the World Economy. Ronald Blaško has over 13 years of experience in public finances, management consultancy, insurance, European nuclear safety and energy sector risk management.

employees in Israel, out of which 9,000 work in production and 3,000 in research.

Not all criteria are equally relevant to assess the quality of specialists and their ability to find work in their field. Math engineers in Romania and Ukraine rank considerably higher in comparative math testing than their peers in Israel. This leads to a logical question - are Romania and Ukraine innovative countries? It's certainly not one of the first associations that come to mind. However, they have very skilled hackers and cybersecurity experts. The number of engineers in technical fields is important but it's not a key prerequisite for innovation. What matters more is their level of skills and the ability to apply them, as well as the entire ecosystem. In other words - is the country able to attract specialists from abroad and prevent the brain drain of its own talent pool?

An improvement in the area of R&D and also the implementation of investments can be achieved through two approaches - bottom-up or top-down. Everybody expects the government to solve the situation in the educational system, that high-schools and universities will have quality study programs, teaching materials and textbooks. Of course, all of this is important. On the other hand, blaming the unsatisfactory educational system for the lack of innovations is not completely right. Collaboration is the key to everything, as history proves. Great thinkers and innovators used to be rather isolated by geographical factors as well as the lack of communication technologies. Later, with the invention of postal service, these thinkers were able to communicate and exchange ideas, although at a very slow pace. These are the beginnings of what we call networking today. These early inventors worked for their own pleasure and self-fulfillment; they didn't have any specific assignments. From time to time a ruler might have placed an order with the alchemists or astrologers of his day. It was an age of non-market environment. Only later did inventors start to receive orders based on the needs and demands of the market. As the speed and quality of postal service improved, so did networking and the pace of innovations.

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In the previous century, the occurrence of an isolated invention became the exception. For example that something important and technologically advanced would be invented by a thinker from an African tribe living in real isolation. It simply doesn't work this way.

We can still discuss the quality of our educational system, we can consider it too rigid, but it is not the main problem. Even if it were, the internet offers a solution. A young person with a thirst for knowledge can easily sign up for one of the innumerable free of charge online courses at top universities around the world, like MIT. This student can enjoy access to all the information and study materials, all you need is the will and a clear idea of your desired path to knowledge or requalification. At the moment, these are the best options to study and gain knowledge, available to everyone and for free. So in this regard, a potential student from Rimavská Sobota, for example, has the same access to information as if he lived in Silicon Valley.

What partially inhibits innovations is the fact that young and talented people often move abroad to do what is well financially compensated, not what they are personally interested in, or what is important for our country's development. Many of them end up doing a well-paid, but not very innovative job, such as network administrator. This is true for students as well as teachers. We all know about their salary conditions in Slovakia. How many teachers have the time and the will to pay individual attention to talented students, if they need to work a second job in the evenings in order to make it and pay their loans?

What could help increase the pace of innovations?

For example role models, in the same way as they do in sports or arts. Do you know any Slovak scientist or inventor, who is a respected role model for the young? In the past it used to be Stodola or Murgaš, but that was a long time ago and these people can't serve as role models for today's young generation. How many among the young know Michaela Musilová, an internationally recognized scientist doing top-class research abroad? How many people in Slovakia knew the excellent scientist Roberta Mistrík, before the start of his presidential campaign? Of course, adequate financial compensation is a huge problem. It is no secret that top-class scientists and academics from around the world go to the United States, where they are paid well and allowed to fully focus on their research and results. Top scientists don't only work in the lab but also teach at universities to help bring up the next generation.

Why don't these top scientists do their research in Slovakia? Is it just a matter of financial compensation?

It is, of course, one of the main reasons, but not the only reason. There's also a lack of adequate social recognition, but, above all, if you want to do world-class science you cannot do it in isolation. You need a team of people around you to exchange ideas and experience. Few people realize that we lack the ecosystem to reach the desired pace of innovation. Yes, modern online communication technologies give you many options, but practical experience demonstrates that teams of specialists also need to meet in person. This fact is also taken into consideration by the architects designing workspaces for companies like Apple or Google, which include spaces for intentional or random daily meetings of employees.

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During lunch break you meet a colleague who is working on something completely different, you talk and you can inspire each other. For artists, cafes represent such a place for planned and random meetings and sharing of inspiration. Do you know of any place in Slovakia which would provide this function for scientists? If people don't have the opportunity to meet, these exchanges and interactions don't happen. Isolated islands of specialized individuals or small teams kill creativity. The conservative approach of older academics and university professors also inhibits creativity.

Innovations are becoming more and more associated with startups. Are these early-stage companies more innovative than traditional companies, and, if so, why?
If we think about where innovations come from, we realize it is seldom from established companies. What we called startups today used to be called garage companies. Apple or Microsoft were also garage companies. Many innovations, for example the computer mouse or the graphic user interface, came from Xerox and its research center in Melo Park, California. The company leadership on the East coast of the United States didn't recognize the potential of these innovations from Menlo Park. They didn't follow up on them and even let Apple or Microsoft adopt and use these inventions which they considered worthless.

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Or take Kodak, the traditional manufacturer of classic photography films and cameras. Kodak also manufactured the first digital camera but the company failed to recognize its potential and to monetize this invention. It seems they didn't trust their own invention. Or perhaps they were just trying to slow down the development of a new technology so they wouldn't cannibalize their classical photography products. One way or the other, they paid a high price and the company practically ceased to exist.

Startups possess the advantage of no stereotypes, and of looking at familiar things in a new, innovative way. They have no problem to challenge the established order. Slovakia also lags behind in this regard.

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Based on the nominations in Startup Awards we can estimate that there are about 50 to 100 functional startups in Slovakia. To compare, there are about 6000 active startups in Israel, with a population only one and a half times that of Slovakia. Why is it so? Recently I talked to students of international relations at the Faculty of Economy in Bratislava, When asked about their desired future occupation, the replies included international diplomacy, work in a global corporation... Not one of them was planning to start their own business.

What kinds of businesses are being started also matters. Most of them are advertising agencies, cafes, and so on. Technological startups are the exception. This is true for Europe in general. You also need to look at the company structure as well as the general approach to work. In France, people want a 35-hour work week, good wages, high pensions and five to six weeks of vacation. Europe desires to be a superpower when it comes to life quality. The situation is radically different in this regard in the US or in Israel. When people from these countries visit Europe, they admire its history, culture, cuisine and many other things; but they certainly don't come here to learn how to innovate or start a business. This problem is most apparent in France or Italy, not to mention Greece. Perhaps surprisingly, CEE countries are better off in this regard. The Baltic and Scandinavian countries should be the role models for the rest of Europe.

The determination of young people to do something on their own and take risks is crucial. However, this also implies that the number of startups is likely to fall in the future. Population ageing is the reason. Founders in their 40s or 50s are less willing to take risks.

How are areas of innovation and trends in innovation changing?
First of all, the pace of innovations is growing exponentially. The number of patents, inventions and new innovative products has never been as high as now. I think it is mainly because of the character of these innovations. Most innovations are perhaps no longer revolutionary inventions, but rather important - though only marginally - improvements. One particular innovation from ten years ago that has been life-changing for most of us serves as a good example. Yes, I am talking about the iPhone, which has later inspired other manufacturers. Apple simply connected already available technologies in the right way. Many of these were invented at the American agency DARPA (The Defense Advanced Research Project Agency), so they were a result of basic research. In this case, the innovation consisted in the right mix of technology, top design and, at last but not least, marketing strategy.

Lately, the core of innovation has shifted from the material to the immaterial, in the form of digital innovations. This trend became evident in the 1990s. Take the self-driving car. It involves no new technology - rather a mix of existing technologies, where software plays the key role. And it is not just software technologies or AI applications, but also economic models. Take the example of shared economy - Uber, Airbnb and many others. Digital innovations have different characteristics than physical innovations. Right timing also plays an important role. YouTube wouldn't make a big impact in the age of slow internet. Before many of these innovations were introduced, people had no idea that they needed them or that they soon wouldn't be able to imagine their lives without them.

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Europe has no such research center as DARPA, the military-industrial complex you mentioned. Is this a part of the problem?
You are right; the only European institution with a similar goal is JRC (Joint Research Centre). It's worth mentioning that it's led by a Slovak - Vladimír Šucha. This institution supports research, but it doesn't do any itself. When we mention Europe, we can't forget the top-class research facility CERN in Geneva. But something similar to DARPA - a research center whose results can be directly used by businesses - is lacking in Europe. It's also evident from the Fortune 500 list, where the highest placed European technological company SAP ranks around the 60th spot.

The full version of this interview in Slovak was originally published in PC Revue, March 2019.