

The innovation imperative

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AmCham has been instrumental in Slovakia's economic transformation in the last decades and plays a role in addressing many of the current challenges. It is actively shaping the solutions by having founded the Slovak AI platform, advocating for stronger R&D spending and collaboration, and a series of its human capital pillar activities. Given the magnitude of structural challenges ahead of the Slovak economy, the Chamber's role is perhaps more important than ever before.

Digital transformation has become a popular narrative for corporates and governments alike - for a good reason. The average lifespan of companies listed on S&P index has decreased dramatically over the last decades and, statistically, it's likely that a large corporate will not outlive an average high school graduate if it does not adapt to the digital age. As for governments, those that invest into R&D and innovation tend to be economically more successful in the long run. Research of 28 countries over a 10-year period shows that for every 1% of GDP invested into R&D the real GDP growth rate increases by 2.2% (Mladenovic, 2016).

Even though Slovakia has been doing well economically in terms of GDP growth (European Commission, 2018), the country significantly lags behind the EU and V4 in almost all innovation indicators. In terms of R&D spending, Slovakia invests only 0.88% of its GDP compared to the current EU average of 2.07% and 2020 EU target of 3% (European Commission, 2019a). Moreover, Slovakia has the fewest EU patent applications out of the V4 countries - 9 per million people per year, with the EU average being 112 (Beauchamp & Skala, 2017). The latest European Innovation Scoreboard for 2019 confirms this gloomy picture, as Slovakia scored the worst in the areas of Intellectual Property and Financial Support (European Commission, 2019b). According to OECD, the divergences in innovation capacity between top and bottom EU innovators, such as Slovakia, have been growing since 2007.

There are two additional tendencies in play that provide reasons for concern over the future growth of our economy: first, OECD reports that Slovakia has the highest proportion of jobs threatened by automation and AI out of all OECD countries (OECD, 2018a). Second, the automotive industry will change more in the coming years than it has in the past hundred. Three trends - electric, shared and autonomous - will change the face of the sector with car manufacturing in Slovakia taking a heavy hit. Car makers are already cutting jobs in manufacturing and creating jobs in digital technologies (Kvasnak, 2019).

The time for a radical change is now

For Slovakia to remain competitive and mitigate a looming structural crisis, we need to focus on four imperatives:

- 1. Education, not only STEM** - Slovakia needs to be proactive in preparing its workforce for the impending disruption. In the short-term, people need to be re-skilled and up-skilled in order to be prepared to take on different, less automatable, jobs. In the long-term, the education system needs a revamp. As an OECD analyst puts it, "the employer cannot be tasked with teaching people how to think critically," (Nejedly, 2019). Decision making, reading comprehension and social perceptiveness top the lists of the most demanded skills by employers (OECD, 2017; OECD, 2018b).

- 2. R&D and public-private bridges** - we have to stop measuring the success of the economy by the number of cars produced and start measuring it by the number of patents. This translates into making funding primary and secondary research a top priority for the government. A new framework for cooperation between the academia and private sector can also help jumpstart innovation and private R&D spending.
- 3. Thriving innovation ecosystem, not cheap labor** - startups may initially provide few jobs themselves, but - together with excellent research at universities - they tend to lure R&D centers of large corporates. Labor costs play less of a role when attracting high added-value employers and jobs. For instance, Goodyear is planning to build their newest state-of-the-art factory close to its R&D center in Luxem-

bourg, one of Europe's most expensive countries. 'Home-grown' innovation is the solution for a competitive digital economy.

- 4. Leverage diaspora** - Slovaks living abroad represent one of the most underutilized assets Slovakia has and - at the same time - brain drain has been among the biggest threats for the future of the country. Only a structured process to attract them back home can help address these massive challenges. But in order to draw the most impactful highly skilled people back, we have to have something to offer - starting with adequate high-added value job opportunities.

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Increasing intra-European divergences in innovation capacity, 2007 - 2015

Majority of countries are steadily growing their capacity, while Slovakia is stagnant among the bottom innovators. The gap between the best and worst innovators is widening over time. The y-axis represents innovation capacity index, as measured by investments in intellectual assets.

