



Digital Transformation Monitor

Slovakia: Smart Industry

February 2018





Slovakia: SMART INDUSTRY

Fact box for Slovakia's SMART INDUSTRY policy initiative

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|  Policy Lever(s) | Rather top-down approach; public financing; technology-oriented. |
|  Funding Model | Funding model based on already-existing Operation Programmes, European funds and exploring further innovative funding options. |
|  Target audience(s) | Industry, SMEs, R&D organisations, education providers and civil society. |
|  Concepts & Focus Areas | Improving awareness and cooperation; R&D activities; Factories of the Future, access to finance; labour market, education and skills; legislative framework adjustments encouraging innovation. |
|  Key drivers | Active involvement of policy makers from key ministries, industry and business representatives, research and education institutions. |
|  Key barriers | Slow start, tight timeframe and no clear funding scheme. |
|  Implementation strategy | Creation of the Action Plan by a team of experts; awareness-raising activities; use of Smart Industry Platform (working group of different experts) as a coordinating body for the implementation process. |
|  Results achieved | No results available, the initiative is still in the early implementation stages. |
|  Budget | No additional budget earmarked for the purposes of this initiative; makes use of already existing financing mechanisms. |
|  Uniqueness factor | Creation of a coordinating body composed of multidisciplinary experts to implement the initiative |
|  Value-added for policy-makers | Active cooperation with different stakeholders, more awareness raising of initiatives and challenges in the public sphere. |
|  Expected Impact | Modernisation and digitisation of Slovak industry and companies; overall increase in competitiveness of Slovak industry. |

Source: Digital Transformation Monitor

Executive Summary

Inspired by similar initiatives implemented in Germany and the Netherlands, the Ministry of Economy first presented the Smart Industry concept for Slovakia at a high-level conference in March 2016. The government adopted the strategic direction of the paper on the 29th of October 2016, and with the decision to pursue the development of local smart industry. The Smart Industry Platform was established to act as a central authority coordinating the various efforts, and is comprised of a working group of multidisciplinary experts from industry, academic and government.

The Smart Industry Initiative aims to address the low levels of digital awareness amongst Slovak companies, and to bring the nation's business community – particularly industrial companies – closer to the principles of Industry 4.0. The focus is on collaborative R&D cooperation with industry, and eventually the deployment of more advanced technologies throughout the economy.

While driven primarily by the government, the technology-focus of the initiative requires the engagement of stakeholders from industry and academic, and the expertise they bring. At this stage, the Smart Industry initiative is being financed by existing funding mechanisms, with no new funding currently allocated. Instead, the initiative is exploring ways to streamline funds already allocated from the state budget and European Structural Fund into R&D support.

Smart Industry in Slovakia – a background

Smart Industry Slovakia is a response to the ongoing so-called fourth industrial revolution, where breakthroughs in digital technology are rapidly finding innovative applications in traditional industry and manufacturing. Industry represents approximately 25% of Slovakia's GDP and accounts for about 1 in every 3 jobs, but the country was only considered a 'moderate' innovator on the 2017 European Innovation Scoreboard. Given the substantial role played by industry in supporting the country's living standards¹, it's clear that steps must be taken to keep the country's economy competitive.

Currently, an action plan with a defined timeframe and clear medium and long-term objectives is being prepared, which will focus on the priority areas identified in the Smart Industry Concept. The indicative date for submission of the action plan for adoption by the government is June 2018³.

Boosting competitiveness

The overarching objectives of the Smart Industry initiatives are to strengthen the Slovak economy, foster Industry 4.0 thinking, and support the digital transformations of Slovak businesses. The initiative seeks to enhance the visibility and knowledge of digital technologies amongst Slovak firms by conducting activities designed to raise awareness about the potential such technologies hold.

The goal is to bring about a shift in the mindsets of both entrepreneurs and society as a whole, recognising that digitisation is inevitable while highlighting its benefits and opportunities and acknowledging the challenges it may pose.

Part of the rationale for the interdisciplinary character of the initiative relates to ensuring equal attention is given to R&D, the labour market and education, as the latter two affect almost all the country's residents and must be foremost considerations in policy-informing or policy-making exercises.

Top-down approach, technology focus

No specific budget has been allocated for Smart Industry initiatives; rather, it is expected that some of its specific measures will be financed out of existing industry funding pools and the European Structural and Investment Funds (ESIF). There are also several innovative, new funding mechanisms being considered and the possibility of additional funds being earmarked from future state budgets.

The initiative's actual content puts great emphasis on technology – indeed, Smart Industry is mainly aimed at transforming companies and wider-industry specifically by increasing the uptake of state-of-the-art technologies with a longer term view toward their use in digitising full production and operational processes. The initiative recognises that digitalisation will not replace employees, but rather will require different skills and abilities of them, and as such also includes a focus

Policy levers for Slovakia's Smart Industry



Source: Digital Transformation Monitor

on adapting the education system in order to begin preparing the workforce for the demands of future roles and positions.

The approach of the initiative leans more towards a top-down than bottom-up, despite the involvement of key industry and academic stakeholders, in that the concept was fully prepared by the Slovak Ministry of Economy, which is also responsible for the development of the action plan. Representatives from the involved government ministries are also included in the Smart Industry Platform, the stakeholder working group responsible for coordinating the various aspects of the program.

Slovak businesses in the spotlight

The initiative is marketed squarely at business, in the hope that it will help them most directly (as opposed to consumers) in adapting to Industry 4.0-related developments that have begun sweeping many European economies. In particular, small and medium-sized enterprises operating in traditional industries are targeted for assistance as they generally lack the resources of larger firms to adapt to global trends, especially in terms of changes to supply chains. The hope is that encouraging investment in cutting-edge technologies, and providing support in their deployment, will allow Slovak SMEs to be more efficient in production, creating higher value or lower cost products and services.

The trend toward interconnected manufacturing exemplified by the Industry 4.0 moniker will see benefits of technology adoption by Slovak firms flow through to the equipment, technology and service providers – ideally those based in Slovakia.

Key focus areas

Smart Industry Slovakia aims to build on global trends and technologies currently driving intelligent industry, and to raise awareness of their many benefits.

Analysis of Slovakia's current level of digitisation highlights the country's shortcomings so far in adapting to new trends and approaches currently in the spotlight, and informs the six key focus areas of the government's action plan:

1. Raising awareness and promoting cooperation amongst industry.
2. Promoting research orientated toward Smart Industry.
3. A focus on manufacturing and 'Factories of the Future'.
4. Improving access to finance.
5. Identifying the future needs of the labour market and guiding education and skills-development in that direction.
6. Enacting an innovation-focused legislative framework and eGovernment.

The above-mentioned analysis recognised that the introduction of advanced digital technologies is perceived by many workers as a threat to their livelihoods, and that as such there is a level of resistance to significant changes in the business environment. This is why the initiative prioritised awareness-raising activities – to help businesses and their employees better understand and respond to the changes occurring in key markets both in Slovakia and abroad.

Making use of existing funding mechanisms

For the time being, there is no budget allocated toward Smart Industry. Rather, the Ministry of Economy is counting on the use of operational programmes already in place. The Smart Industry initiative therefore includes specific work aimed at strengthening science and research, in particular the streamlining of existing funding mechanisms with the goal of shortening proposal development timelines and achieving faster, more coordinated R&D output. The main application of this idea involves the consolidation of all funding provided by the European Structural and

Investment Funds (ESIF) in line with the RIS3 strategy. The recommendations put particular emphasis on measures that combine public funding with private investment (PPP), while facilitating access to funding instruments available at national and EU level to support innovation, research and SMEs.

Moreover, the initiative is further exploring other innovative funding options related to procurement partnerships, financial instruments and the launch of large-scale pilot projects in the energy, transport, health and smart city fields.

The Smart Industry Platform & Action Plan

The Smart Industry Platform was formed as a first step in the implementation of the overall initiative, as a working group of experts designed to bring together representatives from key stakeholders. These included various ministries of the Slovak government, as well as industry associations (*IT Association, National Union of Employers, Federation of Employers' Associations, Automotive Industry association, Klub 500*), R&D agencies (*Slovak Innovation and Energy Agency*), academic and educational institutions (*Slovak University of Technology, Technical University of Kosice, Slovak Academy of Sciences*), businesses (*Embraco, Siemens, SOVA Digital, Matador, Microsoft, Volkswagen*), and industry clusters (*Cluster for Automation Technologies and Robotics AT+R*).

"Rich developed countries do not invest into the research and innovations because they are rich, but they are rich because they invest in research and innovations."

**Prof. RNDr. Pavol Šajgalík, DrSc.,
President of the Slovak Academy of Sciences**

The Platform was established with the purpose of defining priorities, facilitating cooperation between the private and public sectors and ensuring the integration of different thematic areas within the Smart Industry framework.

Furthermore, the initiative's small working group is actively contributing to the drafting of the Action Plan, which will propose concrete measures tailored for each sector. All members will have the opportunity to provide feedback and comment throughout this process. The Platform's role is to oversee the implementation of the action plan and proposed measures. The implementation timeline of the proposed measures forecasts completion around 2020.

Slow start to a smarter future

One of the main barriers in the implementation process was an initial slow start to the Platform's activities. As it was difficult to trigger fruitful discussions and find a consensus among the members, a smaller working group was set up to actively participate in the formulation of the Action Plan in cooperation with a team from the Ministry of Economy.

The lack of fresh funds for the initiative also represents a potential barrier, despite forcing some thinking to happen "outside the box" in terms of sourcing finance. Since the Action Plan has been delayed and will be delivered to Government for discussion and adoption only in June 2018, the earliest starting date will be in September 2018. Considering the timeframe foreseen in the concept is only up to 2020, the implementation of the proposed measures within the Action Plan will be under a relatively tight schedule.

References

- ¹ European Commission, DG Growth, European Innovation Scoreboard http://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards_en
- ² Ministry of Economy (2016) Konceptia inteligentného priemyslu; <http://www.economy.gov.sk/inovacie/strategie-a-politiky/smart-industry>
- ³ ATP Journal (2016) Štátna koncepcia Priemysel 4.0 je na svete; https://www.atpjournalsk/novetrendy/sta-tna-koncepcia-priemysel-4-0-je-na-svete.html?page_id=23116



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The Digital Transformation Monitor aims to foster the knowledge base on the state of play and evolution of digital transformation in Europe. The site provides a monitoring mechanism to examine key trends in digital transformation. It offers a unique insight into statistics and initiatives to support digital transformation, as well as reports on key industrial and technological opportunities, challenges and policy initiatives related to digital transformation.

Web page: <https://ec.europa.eu/growth/tools-databases/dem/>

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Authors: Demetrius Klitou, Johannes Conrads & Morten Rasmussen, CARSA and Laurent Probst & Bertrand Pedersen, PwC

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