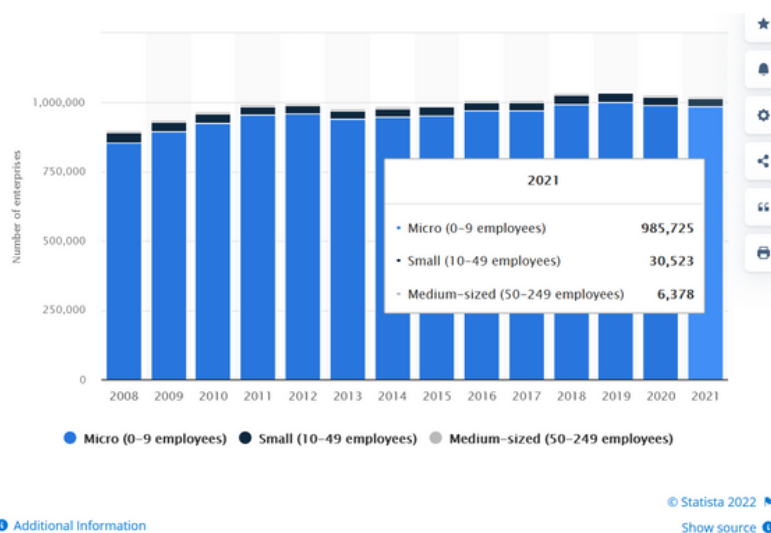


## COUNTRY FINDINGS: CZECHIA

The whole society is currently facing the negative impacts resulting from the Covid-19 pandemic, the war in Ukraine, or the rising inflation. The upcoming period is a huge challenge, especially for SMEs. SMEs play a crucial role in Czechia's economic development or jobs creation. As we can see in Graph 1, the number of SMEs was increasing until 2020 and the start of the pandemic. According to the OECD Scoreboard<sup>1</sup>, the value added by SMEs constantly grows on a yearly basis. The share of SMEs that directly export is lower than that of big companies, due to the fact that SMEs are mostly in the role of subcontractors to these companies.



The adoption of digital technologies brings new opportunities and many benefits for the whole society, and SMEs in particular. Digitalization is closely linked to a company's growth and productivity, impacting its sustainability or profitability. As digital transformation is one of the key drivers of productivity growth, the common goal should be to enable SMEs a fast, efficient and transparent process of digitalization. The government, SMEs and big companies, academia or NGOs each have a role to play in this process.

GRAPH 1. NUMBER OF SMES IN CZECHIA BY SIZE  
SOURCE: [HTTPS://WWW.STATISTA.COM/STATISTICS/879021/NUMBER-OF-SMES-IN-CZECHIA/](https://www.statista.com/statistics/879021/number-of-smes-in-czechia/)

This paper maps SMEs in Czechia with a focus on the level of implementation of digital technologies in their businesses and connected areas. With reference to the discussions and working groups organised under the umbrella of the League for Digital Boost, we bring a summary of the main challenges of the Czech SMEs and the ecosystem and we also introduce key policy recommendations and success stories as an inspiration.

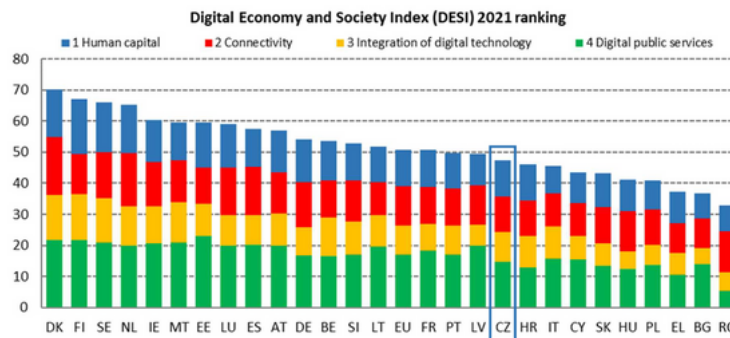
As displayed in Graph 2, Czechia ranks 18th of 27 EU Member States in the Digital Economy and Society Index 2021 or DESI with a score of 47,4. In comparison, the score of the EU is 50,7<sup>2</sup>. When we look into the evolution of the country profile in DESI rankings, overall, the country is not far behind the EU average. The level of the increase over time is displayed in Graph 3. In Human capital, it ranks 15th with a score of 47,2 while the EU average score is 47,1. The country ranks 22nd in Connectivity with a score of 44,6 in comparison to the EU average score 50,2. With regards to the Digital public services, the country ranks 20th with a score of 58,6, lagging behind the EU average of 68,1. And finally, coming to the integration of digital technology, it stands in 15th position with a score of 39,1 which is higher than the EU average score of 37,6. According to their data, more than 50% of SMEs have at least a basic level of digital intensity. It is also interesting to note that in the DESI 2020 ranking<sup>3</sup> Czechia ranked 9th in the integration of digital technology dimension. The decline in the following year could have been caused by a slower integration of new technologies during the pandemic in Czechia in comparison to other countries.

<sup>1</sup> <https://www.oecd-ilibrary.org/sites/6a100d63-en/index.html?itemId=/content/component/6a100d63-en#chapter-d1e122559>

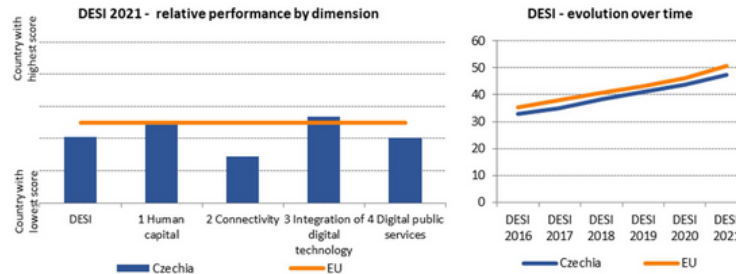
<sup>2</sup> <https://digital-strategy.ec.europa.eu/en/policies/desi-czech-republic>

<sup>3</sup> <https://digital-strategy.ec.europa.eu/en/policies/desi-czech-republic>

GRAPH 2. DIGITAL ECONOMY AND SOCIETY INDEX 2021  
SOURCE:  
[HTTPS://DIGITAL-STRATEGY.EC.EUROPA.EU/EN/  
POLICIES/DESI-CZECH-REPUBLIC](https://digital-strategy.ec.europa.eu/en/policies/desi-czech-republic)



GRAPH 3. DESI - EVOLUTION OVER TIME  
SOURCE:  
[HTTPS://DIGITAL-STRATEGY.EC.EUROPA.EU/EN/  
POLICIES/DESI](https://digital-strategy.ec.europa.eu/en/policies/desi)



### Strengths:

Czechia is known to be among European leaders in e-commerce. It is one of the countries which have the most e-shops per capita and their number keeps growing. Among the most known are Rohlík.cz,<sup>4</sup> Pilulka.cz or zasilkovna.cz. The DESI data shows that 29% of SMEs are selling their products online, 19% of these sell online across borders. The country also has the highest share of enterprises which use AI in the EU reaching 40% compared to the EU average of 25%. According to the World Robot Federation, the country is the world's 15th largest market for industrial robots.<sup>5</sup>

Czechia benefits from technological education and a strong base of industrial companies in the automotive sector. These companies have pioneered innovative approaches and attracted renowned software companies. This trend helped the country become a home to research centres of major ICT companies. The rest of the business environment benefited from the sharing of know-how and talent within the economy. Other strengths which favour SMEs digitalization in Czechia include a high level of economic predictability, stable public finances, experience with using stock markets to finance technological progress, high quality of higher education and research or its 4th place in National Cyber Security Index Score.<sup>6</sup> The indicators over time of the adoption of digital technologies in business are also displayed in Graph 4.

### Weaknesses:

The development of digital technologies in SMEs is often blocked or delayed by different factors. These include limited access to finance, lack of knowledge about the technologies, or a lack of business strategy and innovation mindset. The growth of digital transformation is limited to cities and the success of the ICT sector does not translate to the digital boost of ordinary SMEs. Moreover, the current presence of research centres and major ICT companies does not guarantee a business environment suitable for innovations. SMEs struggle to find ICT specialists as the supply of qualified labour is insufficient, leading to increasing labour costs.<sup>7</sup> It is estimated that the country is currently missing approximately 15 000 IT specialists on the market. The expected demographic crisis, insufficient preparedness in digital lifelong learning, low awareness of the need to reskill current employees, insufficient investments in telecommunication and inflexible business legislation are considered to be long-term weaknesses if the country does not face them and does not start to act quickly.

### Opportunities:

There are several opportunities which could serve as a base for a further digitalization boom among SMEs, such as a strong performance in progressive forms of business finance for technological development, good quality of the technological framework for the uptake of new solutions and business models, use of robots and advanced technologies among the large companies, R&D and universities with know-how transferable to SMEs.

### Threats:

On the other hand, the lack of entrepreneurial culture, the low rate of women entering research positions which diminishes the potential talent pool also for SMEs, or the general attitudes to globalisation all count among the biggest threats and challenges that could slow down the digitalization process.

<sup>4</sup> Rohlík.cz is the largest e-grocery store in the country. During the pandemic, it expanded its logistics capabilities, hired drivers from other industries or partnered with taxi companies to be able to deliver orders effectively.

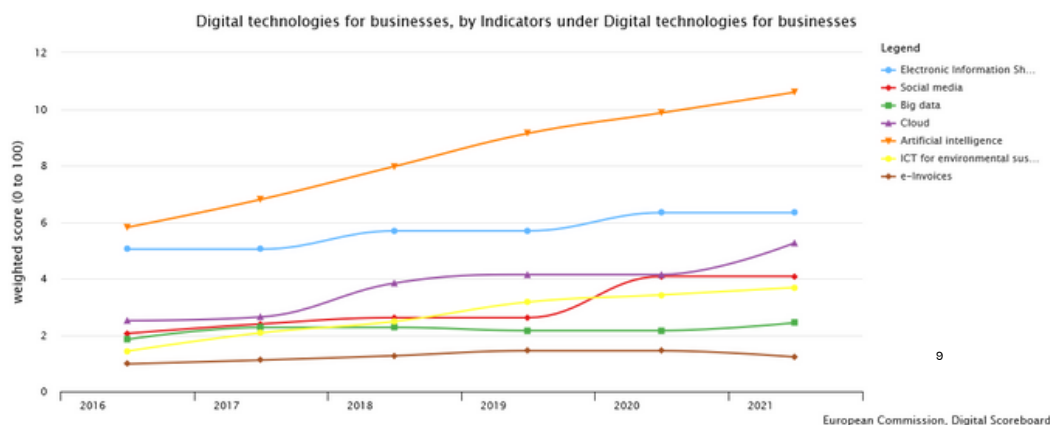
<sup>5</sup> <https://digital-strategy.ec.europa.eu/en/policies/desi-czech-republic>

<sup>6</sup> <https://ncsi.ega.ee/ncsi-index/?order=rank>

<sup>7</sup> Natrass, W. (2021) "High demand for employees in Czech IT sector leads to impressive wage growth", Expats.cz, 29th September 2021, at <https://www.expats.cz/czech-news/article/companies-in-the-czech-it-sector-are-struggling-to-find-employees-pushing-up-wages>

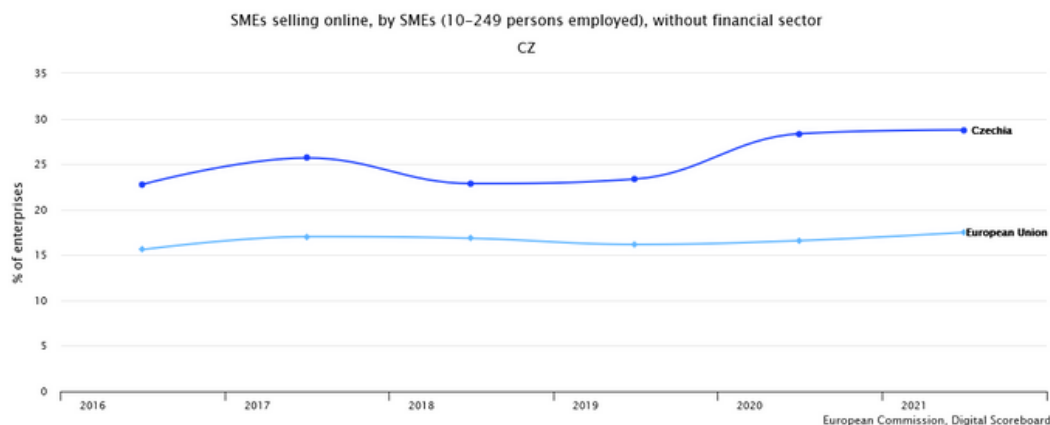
The Czech National Recovery and Resilience plan is structured around six pillars: digital transformation (€1.12 billion; or 14%); physical infrastructure and green transition (€3.59 billion; or 45%); education and labour market (€1.62 billion; or 21%); effective public administration (€463 million; or 6%); research, development and innovation (€522.8 million; or 7%); and strengthening of health care system (€590.3 billion; or 7%). Overall, however, in its assessment of Czechia's plan, the Commission states that Czechia devotes 22% of the funds allocated to it to measures that support the digital transformation. The plan envisages investments in digital infrastructure, digitalization of public administration, including the areas of healthcare, justice and building permit management. An amount of almost €500 million allocated to the digital transformation of SMEs (direct support of approx. €200 million plus other indirect tools), the rest is allocated to projects of the state sector and public administration.

The plan supports the digitization of businesses and digital projects in the cultural and creative industries. It includes measures to improve digital skills at all levels, as part of the education system and through training and retraining programs, so it is basically covering all areas which are indispensable to improve in order to boost the SMEs digital transformation.<sup>8</sup>

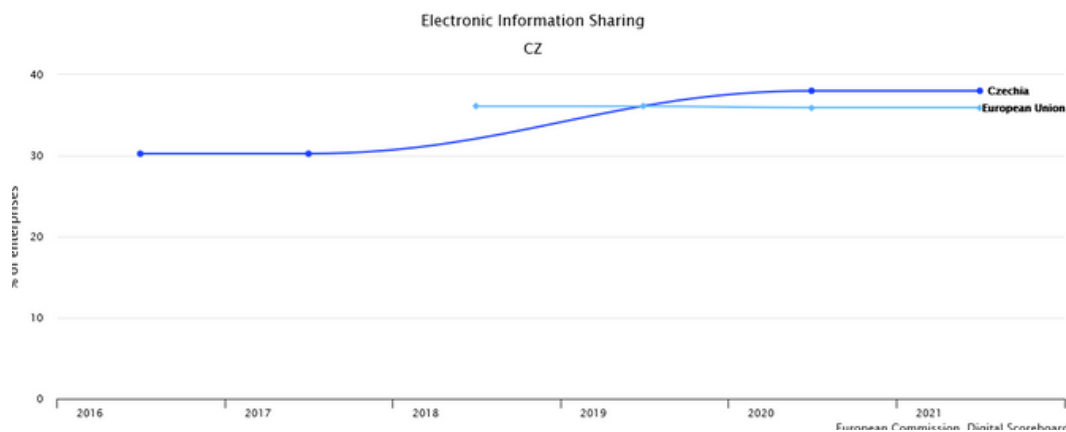


GRAPH 4. DESI 2021 COMPARE COUNTRIES PROGRESS: DIGITAL TECHNOLOGIES FOR BUSINESS  
SOURCE: [HTTPS://DIGITAL-AGENDA-DATA.EU/DATASETS/DESI/VISUALIZATIONS](https://digital-agenda-data.eu/datasets/desi/visualizations)

During the last two pandemic years, we have witnessed that SMEs which used advanced mechanisms have been able to adjust their business models and therefore survive. To the contrary, companies which were not digitalized and demonstrated no willingness to adapt and enter the online world, were severely affected or closed. When we look closer at one of the DESI indicators displayed in Graph 5 and Graph 6, we can see that the number of SMEs selling online is constantly higher than the EU average, with almost one third of SMEs selling online. Graph 6 displays that electronic information sharing among Czech SMEs is also higher than the EU average.



GRAPH 5. DESI 2021 COMPARE COUNTRIES PROGRESS: SMES SELLING ONLINE  
SOURCE: [HTTPS://DIGITAL-AGENDA-DATA.EU/DATASETS/DESI/VISUALIZATIONS](https://digital-agenda-data.eu/datasets/desi/visualizations)



GRAPH 6. DESI 2021 COMPARE COUNTRIES PROGRESS: ELECTRONIC INFORMATION SHARING  
SOURCE: [HTTPS://DIGITAL-AGENDA-DATA.EU/DATASETS/DESI/VISUALIZATIONS](https://digital-agenda-data.eu/datasets/desi/visualizations)

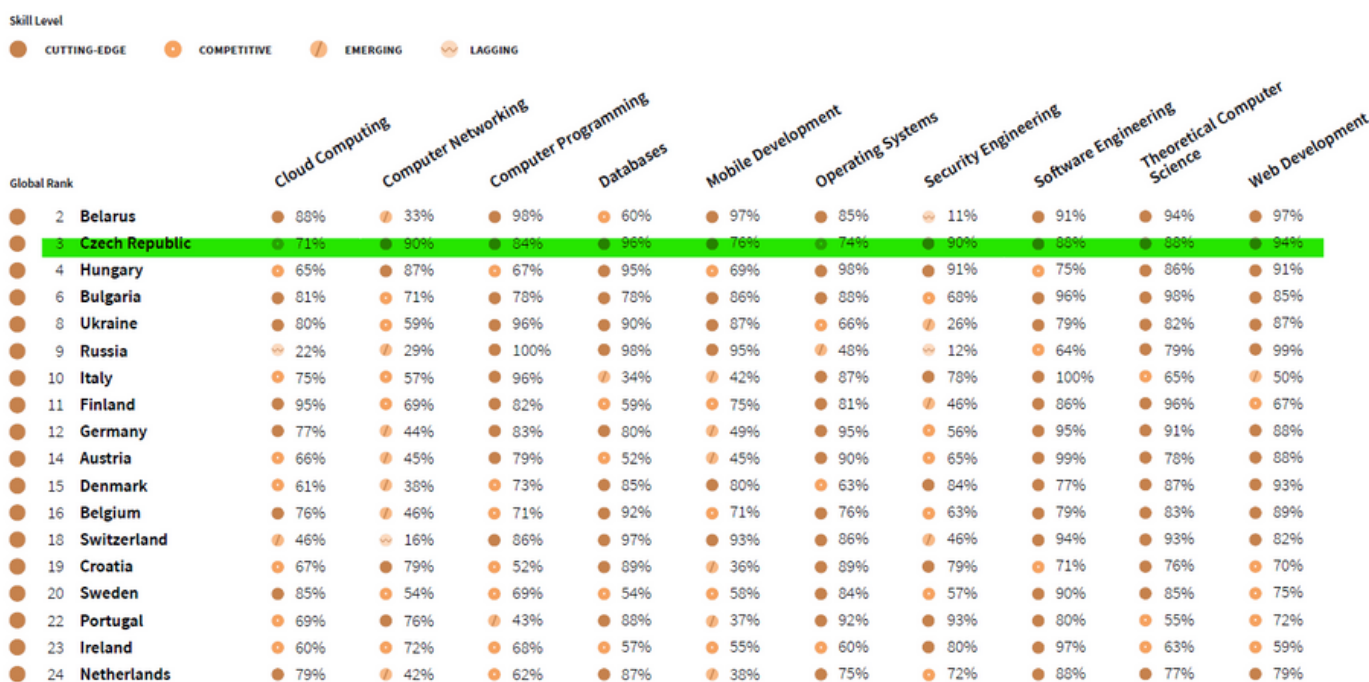
<sup>8</sup> Plán Obnovy ČR (2021) Next Generation EU, Národní plán obnovy, Ministerstvo průmyslu a obchodu, at <https://www.planobnovy.cz/nextgenerationeu>

Digital Innovation Hubs (DIH) have been mentioned several times during the discussions as one of the key platforms that could help SMEs. DIHs play an indispensable role in the digitalization of businesses in every country. They could help SMEs to develop or test products before large-scale production and introduction to the market. DIHs also provide support in terms of advising SMEs and entrepreneurs about the use of new technologies, implementation of digital infrastructure, strategies and processes. There are eight fully operational DIHs in the country and an additional four are in preparation.<sup>9</sup> This potential should be used to its fullest to help SMEs digitalize.



The mindset of the CEOs is not enough, though. Bearing in mind the existence of some funding possibilities, structures and schemes, the lack of digitally skilled employers and employees becomes one of the key challenges for SMEs. A world-known platform for online learning, courses and certificates, Coursera, publishes a Global Skills Index and the Global Skills Report<sup>10</sup> each year, based on the platform data and research.

When we look into Graph 7, we see that skills within the Technology dimension are strong. The cloud computing and operating systems skills are at a competitive level, compared to the world-class skill level for computer networking and programming, databases, mobile development, security engineering, software engineering, theoretical computer science or web development. These skills and knowledge present a huge source of skilled workforce that could serve as a backbone for SMEs on their way to becoming digital.



GRAPH 7. GLOBAL SKILLS REPORT 2021:EUROPE TECHNOLOGY SKILLS<sup>10</sup>

### Among our key recommendations, we bring the following:

The starting point for SMEs is to know what digitalization is, how it could help them and why they should pursue it. Based on inspiration from Finland and Estonia, we see a strong need to create an online platform that would help SMEs with all aspects of the digital transformation, including a single system listing all opportunities of financing, including national, regional or european, which would ease the processes and also the willingness to apply for financing. Such a project is, however, a part of the National Recovery and Resilience Plan, therefore, we would like to underline the importance of its creation.

One of the driving forces of Czech SMEs is e-commerce. We suggest the creation of a scheme of support to SMEs from the government, large companies and the third sector to help them with the implementation of new technologies or regular audits and updates. The National Cyber and Information Security Agency is providing education, support and advice focused on potential cyber risks and on how to predict such threats by implementing correct processes and strategies and is sharing the importance of cybersecurity.

<sup>9</sup> <https://digital-strategy.ec.europa.eu/en/policies/desi-czech-republic>

<sup>10</sup> To develop the Report, Coursera uses the data collected on their platform, including more than 77 million learners, 4000 campuses, 2000 businesses, more than 100 governments, workers, graduates and individuals. [https://pages.coursera-for-business.org/rs/748-MIV-116/images/coursera-global-skills-report-2021.pdf?mkt\\_tok=NzQ4LUJViOxMTYAAAGDB-NfKn\\_gxiCDnsuCef2zv5cIN-FlnXEqCH-KicjlvVONw3Ob7gMz0-7tqXiwU-uvPYOj9l5wQxF7gb3NMFGRI7WB27CtMtYZh\\_lskJgsrUmlhQ](https://pages.coursera-for-business.org/rs/748-MIV-116/images/coursera-global-skills-report-2021.pdf?mkt_tok=NzQ4LUJViOxMTYAAAGDB-NfKn_gxiCDnsuCef2zv5cIN-FlnXEqCH-KicjlvVONw3Ob7gMz0-7tqXiwU-uvPYOj9l5wQxF7gb3NMFGRI7WB27CtMtYZh_lskJgsrUmlhQ)

We also see the education of the state apparatus in digital topics for a better understanding of the context and problems of the market, as well as the transfer of experience and best practices from abroad as big opportunities that could help speed up the processes. In order to increase the awareness about the topic in general, we would also recommend a closer cooperation of the government with the business associations which could share experiences, visit SMEs in their regions and discuss their needs and problems with them.

The communication between state authorities and SMEs should be driven through electronic tools that enable users to collaborate or interact digitally and save time. The most effective and least bureaucratic procedure would be to be able to communicate with every authority online, including the Tax Office, Social or Health Insurance and others. We recommend full availability of electronic communication of the government towards SMEs and vice-versa, e.g. strengthening platforms like Portál podnikatele. The same goes for Employment Relations as it would definitely ease the process of management of SMEs.

Digital Innovation Hubs are already well established in the country and the same is true also for other innovation and research centres like INTEMAC. The government should support these centres and platforms which provide SMEs with diagnostics, knowledge or solutions as they often serve as one-stop shops and help SMEs with the implementation of digital technologies. A network of devoted SMEs coordinators would be recommended.

In order to be digital, the development of digital infrastructure is key. Our recommendation is to bring more attention to the development of the network of high speed internet and telecommunication infrastructure. The infrastructure is also connected to the development of new services and solutions for making available more data from the state sector and self-governing regions. The creation of shared digital maps which would provide data to SMEs, e.g. for the automotive sector, would simplify their daily routine.

- When we look at Nordic countries, we see that regulation is really important for SMEs. Finland and Sweden were among the early experimenters in this field. 70% of SMEs in Europe are in the countryside. Finland has legislated a mandate for network providers to provide broadband within the whole country. It means you can communicate from home or school in the woods. Businesses should have easy access to the internet.

As the country already has a good base of technical skills of students, it is necessary to continue with the skills investments that support innovation and to continue with the development of new products and services on the technological frontier. There is already a vast number of platforms and organisations which help SMEs with reskilling, digital marketing, and other aspects of becoming more digital. These platforms often run on their own without any form of support and run effectively. We would recommend creating a system of collaboration with them or among them and to communicate their activities from the governmental level.

We believe that all actors of the ecosystem have their key role to play in order to boost the level of digital transformation of SMEs and that we will succeed only if we work together. The government provides education and regulation, big companies bring new solutions to the market, NGOs connect various stakeholders and create knowledge sharing platforms, universities contribute to generating innovative mindsets. After all, that is what the success stories of countries with a highly digitalized economy teach us. We have to realise that by helping SMEs to digitalize, we will help not only the businesses, but to the society, organizations, or individuals. All the investments into digitalization will produce returns across the economy.

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## Contact us:



[www.sapie.sk/ldb](http://www.sapie.sk/ldb)



[lucia@sapie.sk](mailto:lucia@sapie.sk)

The vision of the League is to create a broad coalition of the key actors in the field of digital economy and to launch and drive a sustainable format of a long-term cooperation in the implementation of digital transformation in SMEs.



**Lucia Colníková**  
The League for Digital Boost Lead

## Next steps:



Addressing specific policy recommendations to governments



Preparation of a digital handbook for SMEs



Connecting key stakeholders



Raising awareness through different set of activities

Under the Auspices of:

Founded & Led by:

Partners:

