

DIGITAL TRANSFORMATION OF BUSINESS ENTITIES UNDER THE CURRENT CONDITIONS – REALITY OR UTOPIA?*

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ABSTRACT

In recent years, the topic of penetration of information and communication technologies (ICT) in every sphere of our functioning has been resonating in our society, not excluding the business sector. The topic of digitisation and digital transformation of business entities is highly topical. This is evidenced by a rapid increase of the so-called start-ups as well as business entities that are changing the way of their production, distribution, communication and also their focus of activity to innovate both outwardly and inwardly and compete with other entities in the EU single market. In practice, this is not so simple, and transforming businesses face many obstacles that need to be removed. The penetration of ICT into the business sphere creates a single market that has a digital attribute, putting entrepreneurship and commerce into a completely different dimension. The aim of this paper is to point out the constantly evolving technologies and systems that are changing the business. In the article we will also point out the problematic areas of digital transformation of business entities and possible ways of simplifying the transformation process. Finally, we answer the question of whether the digital transformation of business in the current conditions is a reality or a utopia.

Keywords: *Business, digital transformation, digital single market, information technologies*

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1. DIGITAL TRANSFORMATION OF BUSINESS ENTITIES

Modern technologies change business and become a sophisticated part of competition. Nowadays, the mastery of information and communication technologies has become an indispensable part of the success of an individual in the labour market, a business in a competitive environment, as well as a way to improve the conditions of public institutions and the competitiveness of the country itself.¹ Information and communication technologies (ICT) have already become an integral part of our daily lives. However, their actual potential has many new opportunities in the Slovak economy. We no longer use the Internet only as a source of information, but also as a means of communication. The Internet is becoming a platform on which vast amounts of data from various sources are transmitted from customers to manufacturers and vice versa. The ability of manufacturers to collect, process and send information into the production process has led to the emergence of the so-called Internet of Things – IoT. This phenomenon has an impact not only on the industry and the economy, but on society as such.²

Given globalisation and the extent of this impact, economies are forced to adapt to these trends and modernise their industries, business models and companies to remain competitive and use the trends of technological progress.³ In Slovakia, too, business entities increasingly use information technologies in order to establish themselves in the EU internal market as well as in the EU Digital Single Market. Changes in companies related to information technologies should be a priority if they want to remain competitive on both the domestic and international markets. More and more companies are developing or applying their digital strategy. Joining the EU single market and digital single market is essential if they want to be competitive and successful in the market.

According to the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Mid-Term Review on the implementation of the Digital Single Market Strategy of 10 May 2017, it is essential that EU businesses grasp the opportunities of digital technology to remain competitive at global level, that EU start-ups are able to scale up quickly, with full use of cloud computing, big data solutions, robotics and high speed broadband, thereby creating new jobs,

¹ Frendáková, A., *Význam a konkurencieschopnosť sektora IKT Slovenska*. Available at [http://www3.ekf.tuke.sk/mladivedci2011/herlany_zbornik2011/frendakova_andrea.pdf], accessed on 14. May 2020

² Smart Industry Concept for Slovakia, adopted in October 2016, available at [<https://www.mhsr.sk/inovacie/strategie-a-politiky/smart-industry>], accessed on 14. May 2020

³ See Sokol, P.; Benko, R.; Rózenfeldová, L., *Legal Issues of Deception Systems in the Industrial Control Systems*, Recent Developments on Industrial Control Systems Resilience. Cham, Springer Nature, 2020, p. 302

increased productivity, resource efficiency and sustainability.⁴ As stated in the Action Plan – Digital Single Market – Opportunity for Slovakia, the Digital Single Market initiative will serve as a necessary impetus to kick-start the development of the information society. This will contribute not only to the growth of the digital economy in Slovakia, but also of all industries that will undergo a fundamental transformation through information technologies. Entities that are able to create, besides common consumer goods, the highest quality digital content and to provide the best services will gain an enormous share in the market, taking advantage of the network effects and the zero marginal cost effect.⁵

In general, digital transformation can be understood as the complex rebuilding of any organisation so that information systems and software tools can work to an optimum extent, creating together a uniform, fully integrated environment. The benefits of digital transformation include:

- time saving because automation speeds up all processes and improves work performance,
- time reduction in implementing new services,
- quick response to customer requirements, flexibility,
- decision-making based on data is enabled by the system's ability to easily respond to the questions of commercial nature.⁶

As pointed by Novodvorský, digital transformation is not about converting paper documents into their digital version, as many people think. Digital transformation is a new industrial revolution and a unique opportunity to change or modify business models using available or emerging technologies.⁷

The new industrial revolution mentioned by Novodvorský in his study is to be understood as the so-called Fourth Industrial Revolution (Industry 4.0). As stated by

⁴ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Mid-Term Review on the implementation of the Digital Single Market Strategy of 10 May 2017, available at [<https://eur-lex.europa.eu/legal-content/SK/ALL/?uri=CELEX:52017DC0228>], accessed on 14. May 2020

⁵ See also Action Plan – Digital Single Market – Opportunity for Slovakia available at [<https://www.vicemier.gov.sk/wp-content/uploads/2019/10/AP-DT-English-Version-FINAL.pdf>], accessed on 14. May 2020

⁶ Maťovčík, D., *Digitálna transformácia*. [online] 2017. [cit. 2017-11-25], in: Danková, L.: Naščáková, J., *Digitálna ekonomika a digitálna transformácia*, Transfer informácií, vol. 36, 2017. Available at [<https://www.sjf.tuke.sk/transferinovacii/pages/archiv/transfer/36-2017/pdf/033-037.pdf>], accessed on 14. May 2020

⁷ Study of MICROSOFT, 2017, Slovenský biznis 4.0. Priekopníci digitálnej transformácie. [online] 2017, available at [https://info.microsoft.com/Slovenskybiznis4PriekopniciDigitalnejTransformacie_338975_01Registration-ForminBody.html], accessed on 14. May 2020

Jeck, the Fourth Industrial Revolution means the transition from a simple digitisation phase to innovation based on mutual combinations of material, digital and biological technologies. Information and Communication Technologies (ICT) are at the epicentre of the Fourth Industrial Revolution and are the factor of economic and social changes more than ever. In parallel, the Fourth Industrial Revolution technologies are gradually penetrating the Slovak economy.⁸

The Fourth Industrial Revolution⁹ also applies to the Smart Industry Concept for Slovakia, by which the Slovak Republic responds to the “tidal wave of Industry 4.0.”. According to that concept, Slovak entrepreneurs are inclined to a possibility to take the unique opportunity to gain a significant competitive advantage in applying the concept known internationally as Smart Industry or Industry 4.0. The implementation of that concept into practice is based on the efficient execution of business processes in development, production and sales that are directly related to international economic relations. The development of smart industrial processes is changing the Slovak industry. Its results should be based on the creation of added value from product and process innovation, thus creating a smart industry of the future as one of the pillars of the development of Slovakia’s economy with a significant impact on society.¹⁰

The Smart Industry Concept is aimed mainly at Slovak industrial enterprises as well as small and medium-sized enterprises, especially the suppliers of equipment, technologies and services, thanks to interconnected industrial production, which will be able to increase their competitiveness also towards larger enterprises.

The Fourth Industrial Revolution is changing the current form of Slovak industry. The implementation of automation and digital production, digitisation of control systems and the use of communication networks to ensure interoperability and flexibility of business processes are becoming a priority for industry.¹¹

⁸ Jeck, T., *Slovenská ekonomika a štvrtá priemyselná revolúcia: faktory a predpoklady*, Working papers, p. 4, available at [http://www.ekonom.sav.sk/uploads/journals/373_wp_4_priemyselna_a_sk_final.pdf], accessed on 14. May 2020

⁹ See also Hučková, R.; Sokol, P.; Rózenfeldová, L., *4th industrial revolution and challenges for european law (with special attention to the concept of digital single market)*, in: Duić, D.; Petraević, T. (eds.), *EU law in context – adjustment to membership and challenges of the enlargement*, Conference book of proceedings, Osijek, Sveučilište Josipa Jurja Strossmayera u Osijeku, 2018, available at [<https://hrcak.srce.hr/ojs/index.php/eclis/issue/view/313/Vol2>], accessed on 14. May 2020

¹⁰ Smart Industry Concept for Slovakia, available at [<https://www.mhsr.sk/inovacie/strategie-a-politiky/smart-industry>], accessed on 14. May 2020

¹¹ Smart Industry Concept for Slovakia, available at [<https://www.mhsr.sk/inovacie/strategie-a-politiky/smart-industry>], accessed on 14. May 2020

In addition to the Smart Industry Concept for Slovakia, the Action Plan for Smart Industry of the Slovak Republic was adopted in October 2018, which aims to support industrial enterprises, service and trade enterprises, regardless of their size, focusing on creating better conditions for implementing the digitisation, innovative solutions and increasing competitiveness by reducing bureaucratic burdens, changing legislation, defining standards, changing training programmes and the labour market, co-financing research and the like. The Action Plan provides a set of 35 measures to be implemented by the end of 2020.

According to the authors of the Action Plan for Smart Industry of the Slovak Republic, its fulfilment will create the basic prerequisite for a successful transformation of the Slovak economy responding to the digitisation of industry, with the assumption of starting the digitisation process in most businesses and thus the gradual connection of Slovak businesses to the EU Digital Single Market.

2. DIGITAL SINGLE MARKET

It should be noted at the outset that the single market was created in the European Union as an instrument to ensure economic growth by promoting four freedoms: the free movement of persons, goods, services and capital, thereby bringing benefits to all citizens of the European Union. However, the digital era adds the need for a new fifth freedom, which is the free movement of data.

The objective of achieving a Digital Single Market in the EU has been presented as one of the European Commission's key priorities. The key reason is the need for reaping enormous economic opportunities arising from the integration of digital technologies in all spheres of the economy and the removal of barriers, particularly in e-commerce. This creates a Digital Single Market where individuals and businesses can seamlessly access e-services and exercise online activities under conditions of fair competition and with a high level of consumer protection, irrespective of their nationality or place of residence.¹²

On 6 May 2015, the European Commission presented the Digital Single Market Strategy in Europe, in which it specified its objectives and intention to create and operate a Digital Single Market within the EU. It can be said that the Digital Single Market Strategy is based on three pillars:

1. Better access for consumers and businesses to online goods and services across Europe

¹² See also Action Plan – Digital Single Market – Opportunity for Slovakia, available at [<https://www.vicpremier.gov.sk/wp-content/uploads/2019/10/AP-DT-English-Version-FINAL.pdf>], accessed on 14. May 2020

2. Creating the right conditions for electronic networks and services and innovation to flourish
3. Maximising the growth potential of the European Digital Economy

Given that the rate of digitisation varies widely across the EU Member States and that there are barriers to smooth adaptation in the EU Digital Single Market in almost every Member State and between them, it is essential to break down the existing barriers within each of the above pillars in the first place.

The first pillar, *Better access for consumers and businesses to online goods and services across Europe*, requires the removal of differences between the online and offline worlds to break down barriers to cross-border online activity, such as e-commerce, consumer and entrepreneur trust in e-commerce, cross-border parcel delivery services, which should be affordable and of good quality, setting up copyright for better access to digital content, reducing VAT related burdens and obstacles when selling across borders, etc. In this context, it will be extremely important to prevent geo-blocking.

The second pillar, *Creating the right conditions for electronic networks and services and innovation to flourish*, requires high-speed, secure and trustworthy network infrastructures and electronic services related to the distribution of digital content. In this context, it is necessary to modernise telecommunications rules, to set up an appropriate regulatory environment for online platforms, intermediaries and the collaborative economy, as well as to reinforce trust and security in digital services and in the handling of personal data of data subjects.

The third pillar, *Maximising the growth potential of the European Digital Economy*, requires investment in ICT infrastructures and technologies such as Cloud computing and Big Data, and research and innovation to boost industrial competitiveness as well as better public services, which will promote the building of a data economy, boost competitiveness through interoperability and standardisation and build an inclusive e-society.

Online platforms stimulate innovation and growth in the digital economy. They play an important role in the development of the online world and create new market opportunities, especially for small and medium-sized enterprises (SMEs). At the same time, platforms have become key guardians of the Internet, facilitating access to information, content and online trading. As an overview, it should be noted that almost a half (42%) of SME respondents used online market places to sell their products and services in 2017. In addition, 90% of respondents to the

Commission's Business-to-Business (B2B) business panel survey used online social media platforms for business purposes.¹³

Also, new approaches in the financial sector enabled by digital technologies (the so-called FinTech) can improve the access of businesses to finance, boost competitiveness, bring benefits to consumers and stimulate the growth of start-ups.

If we look at the Digital Single Market from a real perspective as seen by entrepreneurs, it should be noted that the Digital Single Market should bring the following benefits to entrepreneurs:

- uniform and simplified business processes across the European Union
- reduction of transaction costs when delivering content and services across borders (thanks to uniform contractual rules and a well-established VAT tax regime)
- regulations adapted to the digital era that promote fair competition, solve digital monopoly problems and promote innovative business models
- effective electronic communication with the public administration, which will save time and money of entrepreneurs
- ICT standards for engaging in digital space
- funding to support business innovation and government-supported living labs, where innovative solutions can be tested in practice, further scaled and improved
- new opportunities for data use and processing as well as provision of the free movement of data as the fifth freedom of the EU internal market

The unification of rules in the European Union can also be expected to significantly increase competition, which brings many challenges and opportunities. In general, it can be expected that businesses that can innovate and digitise their processes, but in particular offer services and products with high added value, will succeed. It is therefore important that such businesses receive appropriate support.¹⁴

¹³ Ecorys/Kantar TNS European SMEs dealing with digital platforms/Európske MSP pôsobiacie cez digitálne platformy, January 2017, in COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on the Mid-Term Review on the implementation of the Digital Single Market Strategy A Connected Digital Single Market for All, available at [<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2017%3A228%3AFIN>], accessed on 14. May 2020

¹⁴ For more details see Action Plan – Digital Single Market – Opportunity for Slovakia, available at [<https://www.vicpremier.gov.sk/wp-content/uploads/2019/10/AP-DT-English-Version-FINAL.pdf>], accessed on 14. May 2020

3. WAY HOW BUSINESS ENTITIES OPERATE IN THE DIGITAL ENVIRONMENT

Business digitisation and digital transformation are also closely related to the way of operation of entrepreneurs, who are increasingly communicating and pursuing their business using information and communication technologies. When a company operates outwardly in the virtual world, the so-called virtual identity of a company is important. Like in the “classic” operation of a company outwardly such a company must identify itself in accordance with applicable legislation when pursuing its business, in the virtual world it is also essential for such a company to operate under its virtual identity and to be clearly identifiable. Until recently, only a few forms of validating a declared virtual identity with a true real identity were known. These were, for example, an electronic signature or an advanced electronic signature. With the adoption of Regulation (EU) No 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC (eIDAS Regulation), the possibilities of electronic identification of natural or legal persons have been expanded and improved. An advanced electronic signature has been replaced with a qualified electronic signature.¹⁵ The eIDAS Regulation is a first concrete step of the European Commission in the Digital Single Market Strategy to become a reality in the EU by 2020. The eIDAS Regulation aims to reinforce trust in electronic transactions in the internal market by establishing a common basis for secure electronic interactions between citizens, businesses and public authorities, which will increase the efficiency of public and private online services, e-business and e-commerce in the EU. To this end, the eIDAS Regulation creates the conditions for the mutual recognition of key cross-border means of communication, such as electronic identification, electronic documents, electronic signatures and electronic parcel delivery services. It is a quite revolutionary regulation with a significant impact, in particular in the area of private law procedures and the filing of documents in the processes of authoritative application of law.¹⁶

It should also bring benefits to many companies that will be able to participate more easily in public tenders in other EU countries without having to deal with any paper documents.

At present, public procurement contracts are perceived by entrepreneurs as a great opportunity for growth, but on the other hand, they are discouraged by a high ad-

¹⁵ For more details see Smejkal, V.; Kodl, J.; Uříčář, M., *Elektronický podpis podle nařízení eIDAS*, Revue pro právo a technológie, vol. 6, no. 1, 2015, p. 189 ff.

¹⁶ Polčák, R., *Nařízení eIDAS*, available at [<http://ict-law.blogspot.sk/2014/09/narizeni-eidas.html>], accessed on 14. May 2020

ministrative burden and a lack of transparency of the whole process. By simplifying the whole process and changing the setting of conditions, major opportunities for SMEs can be created¹⁷. On 18 April 2016, the Public Procurement Act¹⁸ entered into force in which the respective European Directive¹⁹ was transformed and which has a direct impact on the conditions of using electronic systems for public procurement. This is a major shift towards full and mandatory electronic communication at all stages of procurement (“eProcurement”). Another significant simplification may be downloading information from European linked registers (for example, from the Business Register or the Register of Contracts). Furthermore, the public administration plans to gradually accept electronic invoices for all commercial transactions by introducing the European “eInvoicing” system. Enabling the use of European interoperable solutions (including mobile solutions) for “eIdentification”, “eSignature” and “eDelivery” under the eIDAS Regulation²⁰ also in the private sector will lead to the acceptance of these instruments guaranteed by legislation by entrepreneurs and their gradual transition to paperless operations. Under the Action Plan – Digital Single Market – Opportunity for Slovakia, this should become a reality by the end of 2019.²¹

In order for business entities to be able to rapidly develop and transform themselves digitally and at the same time to prosper and be competitive in the Digital Single Market, it is essential for both the EU and the Member States to create the right conditions for business entities, particularly in terms of legislation, so that laws, directives and regulations not hinder this process, but push it forward, thus opening up new opportunities for business entities to succeed in the common internal market. An important moment is also an increase in competitiveness not only towards other actors in the internal market, but also towards “strong” business entities operating outside the EU market and trying to establish themselves in the EU internal market.

¹⁷ COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Europe’s next leaders: the Start-up and Scale-up Initiative, COM(2016) 733 final, available at [https://eur-lex.europa.eu/legal-content/SK/TXT/?uri=uriserv%3AOJ.C_.2017.288.01.0020.01.ENG&toc=OJ%3AC%3A2017%3A288%3ATOC], accessed on 14. May 2020

¹⁸ Act No. 343/2015 Coll. on public procurement, amending certain acts

¹⁹ Directive 2014/24/EU of the European Parliament and of the Council on public procurement

²⁰ Regulation (EU) No 910/2014 of the European parliament and of the Council on electronic identification and trust services for electronic transactions in the internal market

²¹ See the Action Plan – Digital Single Market – Opportunity for Slovakia, available at [<https://www.vicepremier.gov.sk/wp-content/uploads/2019/10/AP-DT-English-Version-FINAL.pdf>], accessed on 14. May 2020

For this reason, it is important to have an entrepreneurs' view of the conditions under which they are to be digitally transformed and succeed in the Digital Single Market. It is extremely important for business entities, especially SMEs, that market rules be set fairly so that their products and services can be sufficiently competitive on the online platforms. In addition, it is important for business entities, especially start-ups, that EU legislation be uniform and clear in all Member States, so that they do not encounter legislative obstacles in individual Member States. A serious issue is financial support through various forms of funding (different funds, projects, grants) and ensuring fair competition.

Given the fact that supply in the market is mainly driven by demand, it is also important to have a consumers' view appreciating the expansion of the supply of services and content, the flexibility and speed of the provision of services and the supply of goods in the digital market. On the other hand, the customers' satisfaction is based on the transparency, credibility of the market and the quality of goods and services and the protection of their personal data when using online platforms offered.

In connection with the above, it can be stated that online platforms bring great benefits and innovations to both consumers and suppliers resulting from digitisation and easy copying and distribution of content. Achieved technological and business innovations of the platform are welcome, but on the other hand it is necessary to set up the system so that concerns about the method of data collection and use and about the strong negotiating position of platforms compared to their customers use are sufficiently addressed. This strong position may be reflected in their discriminatory trading conditions, in particular for small and medium-sized enterprises, in the promotion of their own services to the detriment of their competitors, and in non-transparent pricing policies or restrictions regarding the setting-up of pricing and sales conditions.²²

From this point of view, the issue of electronic commerce within the single internal market (not only the digital one) and the operation of Slovak companies in the common EU market is no less important. The above-mentioned transformation of companies can move them further in terms of competitiveness. The issue of electronic commerce is addressed by Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market ("Electronic Commerce Directive"). The Directive was transposed into domestic law by Act No. 22/2004

²² See Action Plan – Digital Single Market – Opportunity for Slovakia, available at [<https://www.vicepremier.gov.sk/wp-content/uploads/2019/10/AP-DT-English-Version-FINAL.pdf>], accessed on 14. May 2020

Coll. on electronic commerce, amending Act No. 128/2002 Coll. on state control of the internal market in matters of consumer protection, amending certain acts, amended by Act No. 284/2002 Coll. (“Electronic Commerce Act”).

4. AND WHAT IS THE POSITION OF DATA AND THEIR PROTECTION?

In the recent period, especially under the influence of both Member States’ and the EU’s policies on the protection of personal data and privacy of data subjects, in this case consumers, it is essential that their personal data and privacy be protected when using online platforms. It is important for consumers to have an overview of how their data are handled and for what purposes they are used. As stated in the Action Plan – Digital Single Market – Opportunity for Slovakia, it is necessary to ensure that consumer data are transferrable between platforms in an open format. Thus, the consumer will not be locked in one platform, but can switch between different platforms with his data, which will increase the transparency and quality of services. Platforms should give consumers access to all the data which they collect about them in the unprocessed state, through Personal Information Management System (PIMS) tools. The consumer should have the right to decide how the data about him will be handled.²³

In the present era of the so-called fourth industrial revolution, data can also increase the competitiveness of business entities if they are able to use and apply them correctly, of course, in compliance with the legislative framework.²⁴ Entrepreneurs and the public sector need to learn how to make effective use of the data they have available to increase the added value of services for consumers and citizens. In this context, tools are emerging that allow the secure use of data that represent a significant economic value. Many innovative tools, such as Smart Disclosure, are also related to this²⁵, which enable consumers to make better decisions based on access to information and to use innovative data-based services and products. Smart Disclosure is an innovative tool that helps consumers make better decisions in their activities and helps them, in the virtual world, make better use of new products and services that use the collected data provided by the consumers.

²³ *Ibid.*

²⁴ Rózenfeldová, L.; Šajtyová, D., *General Data Protection Regulation - New Dimension of Personal Data Protection (with particular regard to Business)*, Miesto, úloha a význam vnútroštátneho práva pri zabezpečovaní plnenia záväzkov vyplývajúcich z medzinárodného práva a európskeho práva: zborník vedeckých prác doktorandov a mladých vedeckých pracovníkov, Košice, Univerzita Pavla Jozefa Šafárika v Košiciach, 2018, p. 383

²⁵ For example, American Smart Disclosure Policy, available at [<https://www.data.gov/consumer/smart-disclosure-policy>], accessed on 14. May 2020

It is about expanded access to data in machine-readable formats so that innovators can create interactive services and tools that enable consumers to make important decisions in sectors such as healthcare, education, finance, energy, transport and telecommunications. Of course, when using these data, it is necessary to follow the rules of anonymisation and pseudonymisation of the data of data subjects.

Due to frequent confusion between the terms anonymisation and pseudonymisation of data, it is necessary to clarify them at least briefly. Act No. 122/2013 Coll. on personal data protection, which preceded the current Act No. 18/2018 Coll. on personal data protection, defined the term anonymised personal data in its Section 4(3)(i), where anonymised data mean personal data adjusted in such a manner that they can no longer be attributed to a specific data subject. Anonymisation is therefore a process that deals with a change of personal data after which such personal data cannot be assigned to a certain identifiable individual at all, or only with a disproportionate effort in terms of time, cost and labour.

The current Act No. 18/2018 Coll. on personal data protection, in compliance with the GDPR, establishes and defines the term “pseudonymisation”. Under Section 5(h), *“pseudonymisation means the processing of personal data in such a manner that the personal data can no longer be attributed to a specific data subject without the use of additional information, provided that such additional information is kept separately and is subject to technical and organisational measures to ensure that the personal data are not attributed to an identified or identifiable natural person.”*

Section 39(1), which deals with the security of personal data processing, stipulates that *“taking into account the state of the art, the cost of implementation and the nature, scope, context and purposes of processing as well as the risks of varying likelihood and severity for rights of natural persons, the controller and the processor shall implement appropriate technical and organisational measures to ensure a level of security appropriate to the risks, including particularly a) the pseudonymisation and encryption of personal data.”* Also, Section 78(8) stipulates that *“where personal data are processed for archiving purposes, scientific purposes or historical research purposes or statistical purposes, the controller and the processor shall implement appropriate safeguards to protect the rights of the data subject. Those safeguards shall ensure that appropriate and effective technical and organisational measures are in place in particular in order to ensure respect for the principle of data minimisation and pseudonymisation.”*

The GDPR Regulation thus introduces essentially a completely new concept in European data protection law – pseudonymisation – for a process that handles data that are not anonymous, but also not directly identifying. As stated by Veselý, there are many discussions on the extent to which pseudonymised data can be re-iden-

tified. Re-identification is of crucial importance because it significantly determines whether or not a particular personal data processing operation will comply with the provisions of the GDPR Regulation which addresses the risk that data may reveal identifiable persons. The fundamental difference between pseudonymised data, which are directly regulated by the GDPR, and anonymous data, which are not regulated by the Regulation, but were regulated by Act No. 122/2013 Coll., is therefore whether or not personal data can be re-identified with a proportionate effort in terms of time, cost and labour.²⁶ To define the issue of re-identification of personal data, it is necessary to distinguish between direct and indirect identifiers. Direct identifiers can be defined as data that can be used to identify a person without additional information that directly reveal the person's identity, such as the name or contact information. Indirect identifiers are data that do not identify a person alone, but can reveal an individual identity in combination with other data, such as the date of birth, sex, and postal code. As a result, a person cannot be identified by his or her date of birth alone, but in combination with the sex and the postal code the selection can be narrowed down to a specific person. Thus, pseudonymisation includes the removal or masking of direct identifiers and, in certain cases, also indirect identifiers that could together reveal the identity of a specific person.²⁷

In the light of the above, it is apparent that the protection of personal data and other data is currently, besides other areas, one of the EU's priorities.²⁸ Finally, in one of the fundamental pillars of the Digital Single Market, one of the objectives is to reinforce the trust and security of digital services in processing the personal data of data subjects, and this must not be forgotten. The development of digital technologies goes hand in hand with the reinforcement of trust in these technologies and their use also by ordinary consumers active in the digital market.

It is also necessary to note only marginally that without addressing the issue of cybersecurity of digital technologies it will be impossible to build trust in the activities of business entities and consumers in the virtual world and in the Digital Single Market. The digital world is by definition a fast-moving environment where policy needs to adapt to changing circumstances. As new technologies be-

²⁶ See Berthoty J. *et al.*, *Všeobecné nariadenie ochrane osobných údajov*, Praha, C.H.Beck, 2018, or Methodological guideline no. 1/2013 on the concept of personal data, available at [https://dataprotection.gov.sk/uoou/sites/default/files/metodicke_usmernenie_c._1_2013_k_pojmu_osobne_udaje.pdf], accessed on 14. May 2020

²⁷ Veselý, P., *Pseudonymizácia a anonymizácia osobných údajov ako požiadavka GDPR*, available at [<https://www.zoou.sk/33/pseudonymizacia-a-anonymizacia-osobnych-udajov-ako-poziadavka-gdpr-uniqueid-mRRWSbk196FPkyDafLFWAJWc7pG-Xzb6XqJG803ba64/>], accessed on 14. May 2020

²⁸ See Methodological guideline no. 3/2014 for the purpose of processing personal data, available at [https://dataprotection.gov.sk/uoou/sites/default/files/metodicke_usmernenie_c._3_2014_k_ucelu_spracovania_osobnych_udajovpw.pdf], accessed on 14. May 2020

come mainstream, they can bring profound benefits to the economy and to our daily lives. However, it is essential that they be grounded in a set of rules to provide confidence to consumers and business alike. This means extending the Digital Single Market Strategy to keep up to date with emerging trends and challenges such as those related to online platforms, the data economy and cybersecurity.²⁹

Cybersecurity is a serious issue that must also be addressed by business entities, especially those that have decided to get on the path of innovation, transformation and modernisation in order to achieve a more competitive position in the internal market.³⁰ It is also necessary to pay attention to the technological area of the functioning of business entities that need to be cyber-protected, especially in terms of the protection of trade secret, the flow of information that “runs” between business partners and is exchanged online. The same also applies to the protection of personal data and privacy of the consumer, who enters the data and information about him or herself during online activities. Systems must be set up to be able to defend against various hacker attacks and subsequent data misuse.

5. FINAL NOTES

The paper points out the current trends in the development of the digital market as well as the state and necessity of digital transformation of business entities that wish to establish themselves in the EU Digital Single Market.

We have come to the conclusion that it is necessary for Slovak business entities to innovate both inwardly and outwardly and to transform themselves, especially using information technologies. The pace of technological change means that entrepreneurs who are unable to cope with the transition will fall behind. Digital transformation is also an opportunity, especially for start-ups and SMEs, to create new and better products and services at lower cost and with fewer resources, with the EU shaping its policies to help businesses get the most out of it. As stated in the Action Plan – Digital Single Market – Opportunity for Slovakia, our country wishes to approach the implementation of the Digital Single Market proactively.

²⁹ See COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on the Mid-Term Review on the implementation of the Digital Single Market Strategy A Connected Digital Single Market for all available at [<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52017DC0228>], accessed on 14. May 2020

³⁰ See Hučková, R.; Krunková, A., *Aspekty kybernetickej bezpečnosti - potreba ústavnej premeny? In: „Zmeny v chápaní práva: plurallita systémov, prameňov perspektív ...”*, Bratislava, SAP - Slovak Academic Press, 2019, p. 293

It will try to offer its capacities and competencies for a proposal of modern common rules suitable for the 21st century to the maximum possible extent.

In order to fulfil the objectives set by Slovakia in the Action Plan, it will be necessary to focus on the following areas, which must necessarily become a priority. These priorities will be:

1. Building a data economy for better use of data
2. Digitisation of public services for an inclusive information society (e-society)
3. Online platforms to support the digital economy and the Smart Industry
4. Modern tools for the development of the digital creative industry
5. Education and digital skills for modern times

At present, however, we can also perceive negative phenomena, which can also be described as obstacles that hinder the smooth digital transformation of business entities and can be seen not only in legislative shortcomings, but in businesses themselves, too. The problem appears to be, for example, the management of a business which is based on the traditional functioning of the market and rejects new opportunities to gain a foothold in the market using technologies, fear of change, budget constraints of a business entity, etc. As stated by Říha, businesses that were not established in the recent past or currently, at the time of the so-called “Cloud”, have deep-rooted systems, culture and skill sets that cannot be changed or replaced overnight.³¹

Excessive regulation of the market by individual Member States is also a negative phenomenon, which can be detrimental to business entities. The aim of the individual governments of the Member States, as well as of the EU itself, is to simplify and eliminate the current undesirable and unnecessary regulations wherever possible. It is also necessary to eliminate unnecessary and duplicate rules and to create new rules which should lead to the harmonisation and elimination of unnecessary regulations at the national level. As an answer to the question posed in the title of the paper whether the digital transformation of business entities under the current conditions is a reality or a utopia, it can be concluded that the digital transformation of business entities, whether in Slovakia or across the EU, is real and is indeed taking place. However, this process is not as smooth as it should be, not only for reasons on the part of the Member States and the EU, but, as mentioned above, on the part

³¹ Říha, I.; Danková, L.; Naščáková, J., *Digitálna ekonomika a digitálna transformácia. In. Transfer inovácií 36/2017*, available at [<https://www.sjf.tuke.sk/transferinovacii/pages/archiv/transfer/36-2017/pdf/033-037.pdf>], accessed on 14. May 2020

of the businesses themselves. If the obstacles pointed out were removed, the digital transformation of businesses would be a reality, not just a utopia.

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