

BACKGROUND REPORT

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V4+

Digital Agenda



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Model V4+

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1 Introduction

It is no surprise that the rapid expansion of the Information and Communication Technologies (ICT) at the end of the 20th century is often being labelled as the third industrial revolution. Traditional means of communication are increasingly being replaced or supported by computers, mobile networks and internet, in a way which changes not just our personal lives, but our businesses and governments as well. With the steep growth of information technologies, it becomes clear that the upcoming digital era will benefit those who manage to adapt the fastest.

In the European Union, it is essential not only to adapt to these new conditions, but also to coordinate efforts amongst member states due to significant differences in digital development. With European population ageing, the European Commission outlines three options of how to deal with this unpleasant demographic outlook –we can either work harder, work longer or work smarter.¹ The solution to the problem could lie in information technologies and digitalization, enabling smarter work and saving both time and money to European people. In 2010, the European Commission has therefore included its vision of ICT development in its strategy called “Europe 2020”, naming it Digital Agenda.²

The fulfilment of the Digital agenda requires involvement of all members of the society - citizens, businesses and the public sector, as well as subsequent cross-border cooperation inside the EU. With so many stakeholders involved, it is a challenge for EU members to find an agreement on priorities and take a common approach to the issue.

2 ICT Sector in the EU

The Digital agenda deals with the ICT industry/sector both directly and indirectly, applying it as a fixed term with specific meaning. The EU and its institutions, such as Eurostat, use the industrial classification NACE (Nomenclature generale des Activites economiques dans les Communautés europeennes) of the OECD, which recognizes 12 subsectors in the ICT industry:³

¹ EUROPEAN COMMISSION: A Digital Agenda for Europe, p.4 [online]. [cit. 2016-25-1]. Available at: [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0245R\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0245R(01)&from=EN).

² EUROPEAN COMMISSION: Europe 2020 – Flagship initiatives for smart, sustainable and inclusive growth – European Commission [online]. [cit. 2016-25-1]. Available at: http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/flagship-initiatives/index_en.htm.

³ OECD: Glossary of Statistical Terms: NACE [online]. [cit. 2016-25-1]. Available at: <https://stats.oecd.org/glossary/detail.asp?ID=1713>.



ICT Manufacturing

- Manufacture of electronic components and boards
- Manufacture of computers and peripheral equipment
- Manufacture of communication equipment
- Manufacture of consumer electronics
- Manufacture of magnetic and optical media

ICT Services

- Repair of computers and communication equipment
- Data processing, hosting and related activities; web portals
- Telecommunications
- Computer programming, consultancy and related activities
- Software publishing
- Wholesale of electronic and telecommunications equipment and parts
- Wholesale of computers, computer peripheral equipment and software⁴

Currently, the ICT industry accounts for 4,8 % of EU's GDP and has employed over 8 million people (3,7 %) in 2014.⁵ By providing businesses from other sectors with communication and operational background, the spill-over effect of its expansion also contributes to the economy as a whole. The European Commission estimates that 75 % of the total value added by digital economy stems from traditional industries supported by ICT.

A study prepared for the European Commission in 2013 evaluated possible future courses of events. Depending on the rate of global economic growth and the integration of EU market, four scenarios were presented:

1. Single EU digital & services market:

- Rapid economic growth: *The digital rainforest*. Nation-based companies venture across borders and compete successfully in the global market. Customers benefit from lower prices and wide offer of services.
- Slow economic growth: *The digital glass door*. Nation-based companies venture across borders and become major regional players; however, do not compete

⁴ EUROPEAN COMMISSION: The EU ICT Sector and its R&D Performance – Digital Agenda Scoreboard 2015 [online]. [cit. 2016-25-1]. Available at: http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=9939.

⁵ EUROPEAN COMMISSION: Impressive growth in the employment of ICS specialists in the EU for 2014 [online]. [cit. 2016-6-2]. Available at: <https://ec.europa.eu/digital-agenda/en/news/impressive-growth-employment-ict-specialists-eu-2014>.



in the global market due to slow growth. Customers are facing a limited offer of services due to a shift towards protectionism.

2. Fragmented EU digital & services market:

- Rapid economic growth: *The digital savannah*. A fragmented EU market makes it difficult to grow beyond borders. Several growing firms aim for global opportunities; however, most of them are acquired by the U.S. or Chinese companies. Domestic consumers continue to face high prices due to insufficient competition on national markets.
- Slow economic growth: *The digital desert*. Contracting economic environment in which nation-based EU firms struggle. An occasional firm goes beyond national borders but cannot make it beyond the region. Such firms may be acquired by non-EU companies. Consumers are less incentivised to maximize utility of ICT products and services.⁶

With individual ICT industries growing and citizens increasingly acquainted with the services offered inside national borders, the EU framework of the past years resembles the *digital savannah*. Nevertheless, companies who break through are still being bought by non-EU firms. Worsening of the global economic situation could also shift the scales towards the *digital desert*. If the EU wants to break free from this unfavourable state, it must take action.

3 Digital Agenda for Europe

3.1 Origins

From 2005 to 2010, ICT policies in the EU were handled by a 5-years strategic framework called *i2010*. After the global economics crisis, re-focusing on the development of ICT was perceived as a way to put the European economy back on track. Digital policy was therefore included in the 10 years strategy "*Europe 2020*" as one of its seven flagship initiatives, bearing the name "*Digital agenda for Europe*".⁷

⁶ EUROPEAN COMMISSION: Unlocking the ICT growth potential in Europe: Enabling people and businesses Using Scenarios to Build a New Narrative for the Role of ICT in Growth in Europe [online]. [cit. 2016-28-1]. Available at: http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=4243.

⁷ EUROPEAN COMMISSION: Europe 2020 – Flagship initiatives for smart, sustainable and inclusive growth – European Commission [online]. [cit. 2016-28-1]. Available at: http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/flagship-initiatives/index_en.htm.



The Agenda sets 13 specific goals to be reached in years 2011 to 2020:

- the entire EU to be covered by broadband by 2013⁸
- the entire EU to be covered by broadband above 30 Mbps by 2020
- 50 % of the EU to subscribe to broadband above 100 Mbps by 2020
- 50 % of the population to buy online by 2015
- 20 % of the population to buy online cross-border by 2015
- 33 % of SMEs (small and medium enterprises) to make online sales/purchases by 2015⁹
- the difference between roaming and national tariffs to approach zero by 2015
- to increase regular internet usage from 60 % to 75 % by 2015, and from 41 % to 60 % among disadvantaged people
- to halve the proportion of the population that has never used the internet from 30 % to 15 % by 2015
- 50 % of citizens to use eGovernment by 2015, with more than half returning completed forms
- all key cross-border public services, to be agreed by Member States in 2011, to be available online by 2015
- to double public investment in ICT R&D to € 11 billion by 2020
- to reduce energy use of lighting by 20 % by 2020¹⁰

As for 2015, the only fully reached target was the basic broadband coverage in the entire EU. While most of the goals were missed by only a few per cents, some, such as online-selling SMEs, are not even halfway through yet.¹¹ The level of fulfilment in individual member states vary significantly.¹²

With the Digital agenda, the EU aims to eliminate obstacles in the so-called virtuous cycle of the digital economy. When new content is created or a service offered on the online market,

⁸ Broadband coverage is defined as xDSL, cable (basic and NGA), FTTP or WiMax networks. See: EUROPEAN COMMISSION: Digital Agenda key indicators[online]. [cit. 2016-29-2]. Available at: http://digital-agenda-data.eu/datasets/digital_agenda_scoreboard_key_indicators/indicators#broadband-take-up-and-coverage

⁹ EUROPEAN COMMISSION: What is an SME? [online]. [cit. 2016-30-1]. Available at: http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition/index_en.htm.

¹⁰ BUNDESRECHENZENTRUM: Digital Agenda for Europe [online]. [cit. 2016-28-1]. Available at: <https://en.brz.gv.at/news/digital-agenda-europe.html>.

¹¹ EUROPEAN COMMISSION: The EU 2014 Digital Scoreboard: how did you fare? [online]. [cit. 2016-30-1]. Available at: http://europa.eu/rapid/press-release_IP-14-609_en.htm.

¹² For information on individual states please see EUROPEAN COMMISSION: Digital Economy and Society Index[online]. [cit. 2016-9-3]. Available at: <https://ec.europa.eu/digital-single-market/en/progress-country>.



a consumer demand arises, which leads to a subsequent roll-out of new networks, enabling other services or content to be presented – and so the cycle continues.

The Digital agenda consists of 7 pillars:

- I. Digital Single Market
- II. Interoperability & Standards
- III. Trust & Security
- IV. Fast and ultra-fast Internet access
- V. Research and innovation
- VI. Enhancing digital literacy, skills and inclusion
- VII. ICT-enabled benefits for EU society¹³

The Digital Single Market (DSM) enjoys special recognition as one of the priorities of the Jean-Claude Juncker's Commission; nevertheless, Juncker's perception of DSM also encompasses features from other pillars.¹⁴

3.2 Content

Every pillar contains a set of concrete actions which can contribute to achieving the Agenda's goals and help to reach the full potential of digital economy. Their number slowly rises due to progress in ICT area, making 132 actions as for today (72 were already done in May 2014, such as publishing of the Code of EU online rights or complementing the Consumer Rights Directive).¹⁵ It is also worth noting that the pillars are interconnected – e.g. improving population's e-literacy can support trust in ICT services and cyber-security.

3.2.1 Digital Single Market

The Digital Single Market (DSM) is the vision of borderless European digital economy, where a business from one country can make a sales contract with a customer from other EU state just as easy as with consumers from its own state. Taking into account the current

¹³ EUROPEAN COMMISSION: Europe 2020 Strategy [online]. [cit. 2016-28-1]. Available at: <https://ec.europa.eu/digital-agenda/en/digital-agenda-europe-2020-strategy>.

¹⁴ EURACTIV.COM: Juncker defines 10 priorities for EU, seeks inter-institutional support [online]. [cit. 2016-30-1]. Available at: <http://www.euractiv.com/section/social-europe-jobs/news/juncker-defines-10-priorities-for-eu-seeks-inter-institutional-support/>.

¹⁵ EUROPEAN COMMISSION: The EU 2014 Digital Scoreboard: how did you fare? [online]. [cit. 2016-30-1]. Available at: http://europa.eu/rapid/press-release_IP-14-609_en.htm.

EUROPEAN COMMISSION: Action 13: Complementing the Consumer Rights Directive [online]. [cit. 2016-2-3]. Available at: <https://ec.europa.eu/digital-single-market/en/pillar-i-digital-single-market/action-13-complementing-consumer-rights-directive>.

EUROPEAN COMMISSION: Action 16: Code of EU online rights [online]. [cit. 2016-2-3]. Available at <https://ec.europa.eu/digital-single-market/en/pillar-i-digital-single-market/action-16-code-eu-online-rights>.



fragmentation of EU ICT market, the European Commission estimates that the DSM would contribute to EU GDP up to € 415 billion. Annually, it could contribute an additional 1 % to its GDP growth, and around 2,1 % in combination with other parts of the Agenda.¹⁶

The first part of the DSM is the promotion of cross-border e-commerce. Small and medium-sized enterprises represent 90 % of all businesses in the EU.¹⁷ However, the extra costs of selling cross-border for online SMEs climb up to €9 000 due to adapting to the national laws. Only 7 % of EU SMEs sells cross-border, but more than a half would start or increase their online sales to other EU member states if the same rules for e-commerce were applied everywhere.¹⁸ Firms also often mention a lack of innovation-friendly environment, which hinders the creation of new start-ups such as in the U.S. The U.S. dominance is obvious - the digital market of today is made up of U.S. based online services (54 %), followed by national online services (42 %), with EU cross-border online services representing only 4 %.¹⁹

Both customers and firms also struggle with additional costs of cross-border delivery, as cross-border transport price rates are often two to five times higher in comparison to intra-national trade.²⁰ These obstacles double when we consider the 14days return policies and reclamations, consumer protection measures set by EU directives – while the firm and the customer settle the original price, one side still has to pay for the return transportation.

Then, there are tax-related burdens. Currently, a business must be registered as a taxpayer in every state where it operates. In a perfect situation, a firm would only register to pay value-added tax in its national state, which would later distribute the taxes to other countries. A notable step forward in tax-related issues was the recent adoption of Mini One Stop Shop, which makes this option available to firms from several industries which provide transfers of electronic content, e.g. telecommunications.²¹

¹⁶ EUROPEAN COMMISSION: Commission Staff Working Document - A Digital Single Market Strategy for Europe - Analysis and Evidence p.5 [online]. [cit. 2016-30-1]. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015SC0100&from=EN>.

¹⁷ EUROPEAN COMMISSION: What is an SME? [online]. [cit. 2016-30-1]. Available at: http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition/index_en.htm.

¹⁸ EUROPEAN COMMISSION: A Digital Single Market Strategy for Europe, p.4 [online]. [cit. 2016-30-1]. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0192&from=EN>.

¹⁹ EUROPEAN COMMISSION: Why we need a Digital Single Market [online]. [cit. 2016-7-2]. Available at: https://ec.europa.eu/priorities/sites/beta-political/files/dsm-factsheet_en.pdf.

²⁰ EUROPEAN COMMISSION: Commission Staff Working Document - A Digital Single Market Strategy for Europe - Analysis and Evidence p.19 [online]. [cit. 2016-31-1]. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015SC0100&from=EN>.

²¹ FINANČNÍ SPRÁVA: DPH – zvláštní režim jednoho správního místa u služeb rozhlasového a televizního vysílání, telekomunikačních a elektronicky poskytovaných od 1. 1. 2015 [online]. [cit. 2016-30-1]. Available at: http://www.financnisprava.cz/assets/cs/prilohy/ms-mezinarodni-spoluprace-a-dph/MOSS_info.pdf.



Another barrier is the inaccessibility of certain services and content in other states of the Union, the so-called geo-blocking. Lack of legal harmonization in the EU makes cross-border copyrights unclear, and it is quite common that citizens find that the online content they look for is unavailable in their country. This may happen even when the service is already purchased from other EU state. Geographic localization is sometimes also misused on purpose, so that customers from different states see different prices on the same website.

3.2.2 Interoperability and Standards

The second pillar aims at coordinating standards and intellectual property rights in order to make ICT products and services interoperable in the whole EU. The current issue is that customers sometimes get „locked-in“ by the big market players who make their devices incompatible with products from other companies. Even governments can get similarly cornered when closing inflexible contracts preventing other companies to use or edit the purchased product. The pillar therefore also includes the promotion of open source ICT in public procurement.²²

3.2.3 Trust & Security

This pillar deals with processing of personal data, cyber-security and cyber-crime.

Only 22 % of EU citizens trust online search services and social networks regarding their personal data and over 70 % worry they are asked for too much information.²³ Nowadays, people are unsure which of the online content they see is personalized, and struggle to distinguish paid from original content in search engines. Customers are also often unaware of which authority to turn to when in doubt of how their data are managed.

A breakthrough measure was the adoption of the General Data Protection Regulation, which sets rules of processing personal data in the EU including the maximum time limit for business to inform customers about data breaches.²⁴ Businesses, however, perceive the Regulation as a burden that hinders the economy.

²² EUROPEAN COMMISSION: Guide for the procurement of standards-based ICT — Elements of Good Practice [online]. [cit. 2016-4-2]. Available at: http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=2326.

²³ EUROPEAN COMMISSION: A Digital Single Market Strategy for Europe, p.13 [online]. [cit. 2016-1-2]. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0192&from=EN>

²⁴ NETWORKWORLD.COM: Will the European Union's new General Data Protection Regulation impact your business? [online]. [cit. 2016-1-2]. Available at: <http://www.networkworld.com/article/3020031/security/will-the-european-unions-new-general-data-protection-regulation-impact-your-business.html>;
EUROPEAN COMMISSION: Agreement on Commission's EU data protection reform will boost Digital Single Market [online]. [cit. 2016-5-3]. http://europa.eu/rapid/press-release_IP-15-6321_en.htm.



There are unutilized opportunities, too. A full use of cloud computing could boost the EU cloud market to € 44, 8 billion by 2020, up to five times from 2013. In 2014, only 19 % of EU businesses used cloud computing, while the main reason for not using it was insufficient knowledge.²⁵

Cyber-crime also includes acts of interception, child pornography, hate speech, identity thefts or online payment frauds. The EU has recently tackled online payment conditions in a revision of Payment Services Directive, but other areas, such as the efficiency of reporting and removing illegal and hateful content, still pose a problem.²⁶

3.2.4 Fast and ultra-fast Internet access

EU member states have already provided their territory with Internet connection, reaching their 2013 target of full basic coverage.²⁷ Nevertheless, to achieve the aforementioned 2020 goal, high-speed networks need to be promoted further. Implementation of such technology is associated with high risk and unsure returns, making it difficult to attract investors. Innovators in this field could therefore use partial public funding, such as the EU structural funds. Public incentives will probably also be required to cover rural and remote areas which are often unprofitable for private enterprises.

3.2.5 Research and innovation

While the intellectual capital in the EU would be sufficient to create a global innovative ICT hub, total research and development expenditures of the EU are only a half of investments in the U.S.²⁸ ICT industry accounts for a quarter of the EU's businesses expenses in R&D but only 6,6 % of R&D governmental investments, compared to 9,1 % share in the U.S. and 7,9 % in Japan.²⁹ Since 2014, ICT innovators can make use of the biggest EU-coordinated investment program called "*Horizon 2020*" which plans to inject around € 80 billion to various industries.³⁰

²⁵ EUROPEAN COMMISSION: Cloud Computing[online]. [cit. 2016-7-2]. Available at: <https://ec.europa.eu/digital-agenda/en/cloud>;

TECHTARGET.COM: Definition: cloud computing[online]. [cit. 2016-4-3]. Available at: <http://searchcloudcomputing.techtarget.com/definition/cloud-computing>.

²⁶ EUROPEAN COMMISSION: Payment Services Directive: frequently asked questions [online]. [cit. 2016-3-2]. Available at: http://europa.eu/rapid/press-release_MEMO-15-5793_en.htm?locale=en.

²⁷ EUROPEAN COMMISSION: The EU 2014 Digital Scoreboard: how did you fare? [online]. [cit. 2016-3-2]. Available at: http://europa.eu/rapid/press-release_IP-14-609_en.htm.

²⁸ EUROPEAN COMMISSION: Pillar V: Research and innovation[online]. [cit. 2016-3-2]. Available at: <https://ec.europa.eu/digital-agenda/en/our-goals/pillar-v-research-and-innovation#Article>.

²⁹ EUROPEAN COMMISSION: ICT Research & Innovation[online]. [cit. 2016-4-2]. Available at: <https://ec.europa.eu/programmes/horizon2020/en/area/ict-research-innovation>.

³⁰ EUROPEAN COMMISSION: A guide to ICT-related activities in WP2016-17 [online]. [cit. 2016-3-2]. Available at: <https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/Guide%20to%20ICT-related%20activities%20in%20WP2016-17%20A4%20v8.pdf>.



Latest data show that ICT R&D public spending in the EU is still short 5 billion from the € 11 billion goal in 2020. The top public funder in total spending is Germany with over € 1,2 billion, while Sweden invests most intensively (15% share of total R&D funding), followed by Belgium and the Czech Republic. On the other side of the ICT priority scale is Cyprus, Malta and Portugal.³¹

3.2.6 Enhancing digital literacy, skills and inclusion

Almost 60 % of the Europeans now have at least a basic set of digital skills, but about 30 % still never used the internet.³² This primarily involves citizens over 64 years, less educated, low-income and unemployed people, but also citizens with disabilities.

Not only could these groups utilize e-skills as an advantage on the labour market, it would also incentivise them to use ICT in their daily life. A progress in digital literacy could thus boost the economy via e-commerce, ease bureaucratic necessities via eGovernment and possibly diminish the threat of cyber-crimes such as identity thefts or payment frauds.

There is a growing pressure to improve digital skills of already experienced workers, too. The demand for ICT experts exceeds the current supply, and without a decisive action, there can be a shortage of up to 825,000 specialists by 2020, which would especially impact SMEs.³³

A part of the Agenda is also a better inclusion of women who, lacking role-models and dissuaded by stereotypes, remain severely underrepresented in this sector. Only 19,2 % ICT workers have a female superior, compared to 45,2 % in other sectors. This hampers performance of ICT companies, because as studies show, firms including women in higher positions (30 % being the 'critical mass') achieve a 35 % higher return on equity compared to those who do not.³⁴

³¹ EUROPEAN COMMISSION: Sweden at head of pack on digital research funding[online]. [cit. 2016-3-2]. Available at: http://europa.eu/rapid/press-release_IP-14-635_en.htm.

³² EUROPEAN COMMISSION: Pillar VI: Enhancing digital literacy, skills and inclusion [online]. [cit. 2016-30-1]. Available at: <https://ec.europa.eu/digital-agenda/en/our-goals/pillar-vi-enhancing-digital-literacy-skills-and-inclusion#Article>; EUROPEAN COMMISSION: The Digital Economy & Society Index (DESI) [online]. [cit. 2016-3-2]. Available at: <https://ec.europa.eu/digital-agenda/en/desi>.

³³ EUROPEAN COMMISSION: Commission Staff Working Document - A Digital Single Market Strategy for Europe - Analysis and Evidence p.71 [online]. [cit. 2016-7-2]. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015SC0100&from=EN>.

³⁴ KLEIN, KAREN E., BLOOMBERG.COM: Women Who Run Tech Startups Are Catching Up [online]. [cit. 2016-5-2]. Available at: <http://www.bloomberg.com/bw/articles/2013-02-20/women-who-run-tech-startups-are-catching-up>.



3.2.7 ICT-enabled benefits for EU society

The last pillar involves topics such as environment, eGovernment, eHealth, or digitalization of Europe's cultural heritage.

In its 2020 strategy, the EU has set three climate and energy goals: 20 % reduction in greenhouse gas emissions, 20 % of EU energy from renewable resources, and 20 % improvement in energy efficiency.³⁵ The EU proposes replacement of standard electric grids with so-called smart grids and smart meters, which would significantly cut both emissions and total electricity consumption. ICT also help to create low-energy buildings, intelligent transportation systems and reduce lighting costs by transition to light-emitting diodes (LEDs) called the Solid-State Lighting (SSL).³⁶

The aforementioned term "eGovernment" stands for digitalisation of public services and communication with authorities. With public procurement representing around 19 % of EU GDP, better efficiency could lead to major savings in both public and private sector.³⁷ Some states, such as the UK, adopt a "*digital by default*" principle, which makes online processing of new services the primary way of communication, dissuading citizens from less efficient personal contact.³⁸ Digitalisation could also solve the problem with repetitive asking for citizens' information. Data available to authorities are re-used only in 48 % of cases, meaning that people have to disclose every second piece of information again and again.³⁹ Furthermore, combining this "*once-only*" principle with a cross-border database in the DSM could diminish this administrative burden in the whole EU.

eHealth symbolizes the use of information technologies for health and well-being. Public health expenditures were on average 7,2 % of the EU members' GDP in 2010, and it is expected that the number will steadily rise. Further implementation of ICT faces several barriers, such as a lack of interoperability of ICT solutions, insufficient legal framework and legal clarity (including cross-border rights) and high start-up costs for firms in the eHealth industry. Another problem

³⁵ EUROPEAN COMMISSION: 2020 climate & energy package [online]. [cit. 2016-5-2]. Available at: http://ec.europa.eu/clima/policies/strategies/2020/index_en.htm.

³⁶ TECHTARGET.COM: Definition: Solid-State Lighting [online]. [cit. 2016-5-3]. Available at: <http://whatis.techtargget.com/definition/solid-state-lighting-SSL>.

³⁷ EUROPEAN COMMISSION: A Digital Single Market Strategy for Europe, p.17 [online]. [cit. 2016-7-2]. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0192&from=EN>.

³⁸ GOV.UK: Digital by Default Service Standard [online]. [cit. 2016-5-2]. Available at: <https://www.gov.uk/service-manual/digital-by-default>.

³⁹ EUROPEAN COMMISSION: Commission Staff Working Document - A Digital Single Market Strategy for Europe - Analysis and Evidence p.74 [online]. [cit. 2016-7-2]. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015SC0100&from=EN>.



is the lack of awareness and trust in eHealth systems by both patients and health workers, which is fostered by insufficient transparency of data processing.⁴⁰

4 Digital Agenda in the V4+ Countries

Visegrad countries have combined their efforts after the topic of digitalisation was emphasized by the Slovak presidency in 2014. The talks resulted in a joint publication "*The V4 contribution on Digital Single Market*" which described the intersections of their interests and strategies. However, a paper "*Mapping digital agenda in the V4*", which was published by the Central European Policy Institute (CEPI), uncovers how diverse the conditions of Visegrad states really are.

National progress in V4+ countries is generally outlined by strategy documents which may comprise the Agenda as a whole (Germany's Digitale Agenda 2014-17) or divide it into smaller areas (Austria's "Breitbandstrategie 2020" and "efit21").⁴¹ At the EU level, digitisation is regularly discussed by so-called "*Digital Champions*", the ambassadors for the Digital agenda. Every country chooses one representative as its Champion, who then identifies and promotes Agenda's key issues in his country.⁴²

The Digital Champion of Austria is Meral Akin-Hecke, founder of Digitalks.at. Ondřej Felix serves as the Champion of the Czech Republic, where he designed the country's eGovernment service. In Germany, this role is held by a professor at the Berlin University of the Arts, GescheJoost. Hungarian Digital Champion is István Erényi, Senior Counsellor at the Ministry of National Development in Hungary. The ambassador for Poland is former deputy minister at the Ministry of Scientific Research and Information Technology Włodzimierz Marcinski and, last but not least, the Champion of Slovakia is Peter Pellegrini, the last Speaker of the National Council of the Slovak Republic.⁴³

As for the latest data from DESI index, which measures digital competitiveness, Austria and Germany currently perform above the EU average. At the same time, they progress at a faster

⁴⁰ EUROPEAN COMMISSION: eHealth Action Plan 2012-2020 – Innovative healthcare for the 21st century [online]. [cit. 2016-9-2]. Available at: http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=4188.

⁴¹ DIE BUNDESREGIERUNG: Digitale Agenda 2014 – 2017 [online]. [cit. 2016-5-3]. Available at: https://www.digitale-agenda.de/Content/DE/_Anlagen/2014/08/2014-08-20-digitale-agenda.pdf?__blob=publicationFile&v=6;
BUNDESMINISTERIUM FÜR VERKEHR, INNOVATION UND TECHNOLOGIE: Breitbandstrategie 2020 [online]. [cit. 2016-5-3]. Available at: <https://www.bmvit.gv.at/telekommunikation/publikationen/downloads/breitbandstrategie2020.pdf>

⁴² EUROPEAN COMMISSION: Digital Champions [online]. [cit. 2016-8-2]. Available at: <https://ec.europa.eu/digital-agenda/en/digital-champions>.

⁴³ Ibid.



pace than the average member state. On the other hand, Czech Republic, Hungary, Poland and Slovakia placed below the average in overall performance, as well as in actual growth rate.⁴⁴ However, even in Austria and Germany, there is still some space left for improvements. As for Austria, it holds a surprising 25th rank in the use of Internet by private individuals. Germany has ranked 9th in the DESI 2016, with main factor dragging it down being online public services. This also poses a problem for Czech Republic, which compensates for this weakness with its human capital and ICT integration. Hungarians are also well-educated in use of information technologies, however, struggle to integrate them in business processes. A surprising pioneer of e-Government is Poland, which ranks 22nd in overall ranking, but outperforms in digital public services. Unfortunately, that cannot be said about its southern neighbour Slovakia, which ranking third worst in this area and placed near the EU average only in the digital skills of its citizens.⁴⁵

Along with a more detailed analysis, each country's progress is made available for comparison on its profile on the Digital Scoreboard.⁴⁶

5 Conclusion

The ICT sector is one of the fastest growing industries today, bringing massive changes to virtually all parts of economy. Due to the spill-over effect and indirect fostering of every sector thinkable, money invested in digital technologies today may later return many fold. The EU aims to keep pace with latest trends and technologies with the strategy framework Digital agenda, but its wide scope forces states to set their priorities, ranging from lowering barriers for small businesses to digital education for the elderly.

The situation of the V4+ states is specific by involving actors with different levels of digital development who are also geographically close and already cooperate in other areas. In case of a mutual agreement, neighbouring V4+ states could create a global ICT hub in the very heart of Europe, and, with the right approach, maybe even form a single digital block as an initiating step towards all-European Digital Single Market.

⁴⁴ EUROPEAN COMMISSION: The Digital Economy & Society Index (DESI) [online]. [cit. 2016-10-2]. Available at: <https://ec.europa.eu/digital-agenda/en/desi>.

⁴⁵ EUROPEAN COMMISSION: Progress by country [online]. [cit. 2016-10-2]. Available at: <https://ec.europa.eu/digital-agenda/node/640>.

⁴⁶ Ibid.



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About Digital Single Market - http://ec.europa.eu/priorities/digital-single-market_en

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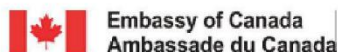
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Partner zahájení



Partneři Modelů



Mediální partneři

Hlavní mediální partner



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Mediální partner



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