The use of ICT technologies by SMEs in UKRAINE

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Acronyms

B2B  Business to Business
B2C  Business to Customer
B2G  Business to Government
CRM  Customer Relationship Management
DESI  Digital Economy and Society Index
EDI  Electronic Data Interchange
ERP  Enterprise Resource Planning
EU15  Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom
EU28  all EU member states
ICT  Information Communications Technologies
Mbps  Megabits (Mb) per second
NMS13  Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovak Republic, Slovenia
RFID  Radio-frequency identification
SCM  Supply Chain Management
SMEs  Small and Medium-sized Enterprises
Executive Summary

In this report we examine the digital transformation of Ukrainian society and business in comparison to the EU countries. We present the importance of digital development in the context of ongoing reform process in Ukraine, the current state of ICT infrastructure (fixed and mobile broadband Internet) and the usage of digital technologies by enterprises.

The presented statistics aim to demonstrate the usage of digital technologies in Ukraine in comparison to the corresponding indicators within the 'New Member States' of the EU (NMS13) and the 'Old Member States' (EU15) in 2015. The goal of this assessment is to identify the gaps and to project what needs to be done in order to achieve the average European level. The analysis is restricted to SMEs (firms with 10–250 employees). Furthermore, the selection of evidence is strongly limited by the availability of the methodologically comparable data of the State Statistical Committee of Ukraine.

This is the first study that compares and reflects on the existing gaps of business digitalisation in Ukraine and their European counterparts. It is crucial to attract attention to the digital transformation of SMEs in Ukraine, as they are often unable to finance costly investments by themselves, thus their developmental needs require more attention of Ukraine’s government and international aid donors.

Why is it so important for SMEs to go digital?

The Internet and the usage of digital tools became a must for businesses during the ongoing digital revolution. The European Union’s goal is to become the world leader in the digital economy by the realisation of the Digital Single Market (DSM) strategy, proposed by the European Commission. The regulations proposed within the DSM greatly enhance the opportunities stemming from successful digital transformation for citizens and enterprises, however, it also pose risks connected to losing markets and customers due to digital business illiteracy. The digital revolution affects both digital and traditional businesses, especially SMEs, which are relatively more sensitive to global competition compared to larger, well established firms.

The digital revolution is a chance for Ukrainian SMEs to close the technological gap towards more advanced countries and fully reap the benefits of the economic integration with the EU.
Are Ukrainian SMEs ready to compete on the European markets?

Ukraine has been coping with many challenges since the signing of the EU-Ukraine Association Agreement in 2014. Ukrainian firms not only have to adjust to the digital revolution, but also manage significant changes in the economic system including a tax reform or the partial elimination of duties on trade with the EU.

Overall, Ukraine is lagging behind the EU average in digital development, however, positive trends can be identified. The available ICT infrastructure is poorer than in the EU, especially regarding mobile broadband. Ukrainian labour market is characterised by a high and growing number of IT specialists, but the diffusion of digital infrastructure and skills among employees of SMEs is quite low in comparison to European level.

A modest share of Ukrainian SMEs run a website or use the social media when compared with the EU average. They do not take the full advantage of the potential that the digital tools unlock, e.g. to communicate with customers and partners, to promote the image of the company and its products or to build relations with the potential labour force, suppliers and financial institutions. Ukrainian SMEs should get on a stable path of persistent adoption of digital technologies in operations and digital skills among employees to face the challenges of competing on European markets.
Ukraine in a nutshell

Key findings for SMEs in Ukraine

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- Internet access is moderately priced (Median price of monthly broadband subscription (30–100 Mbps) is 22 EU/PPP, while the NMS13 median is 44 EUR/PPP)
- There is a significant and increasing number of IT specialists in the labour market (16 000 IT specialist graduates annually)
- 18% of Ukrainian SMEs use wiki based knowledge sharing tools—in comparison with only 4% in NMS13 and 5% in EU15
- The gender gap of Internet usage in Ukraine is comparable to EU levels (3 percentage points)

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- Ukrainian IT enterprises are integrated into the international production chains which is shown by the significant and growing value of exports (1668 mln USD in 2015, more than quadruple relative to 2010)
- The share of Ukrainian SMEs providing websites for receiving payments from clients (8%) is slightly above the EU15 (7%) and the NMS13 (5%) average
- Financial and governmental institutions seem to be fostering SMEs’ Internet’s usage: 87% of enterprises exchanged data with financial institutions online, 86% of SMEs send statistic forms to government institutions
- The level of Internet infrastructure development is low—the share of SMEs with fixed broadband access (62%) lags significantly behind the EU15 (94%) and NMS13 levels (90%)
- There is no 4G network in Ukraine
- Only 40% of Ukrainian firms have websites while the EU average is above 70%

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- While 93% of Ukrainian SMEs use Internet for business routine, only 35% of their employees actually use Internet at work
- The usage of social networks among Ukrainian SMEs is much less popular (16%), than in the EU15 (43%) and NMS13 (34%)
The Ukrainian economy is a lower middle-income service-based economy; exporter of raw materials and medium technology industrial goods. The main trade partner of the country is the EU; it accounts for 35% of the external trade, ahead of Russia (European Commission, 2016).

The current state of digital technologies is heavily affected by the level of economic development, the state of capital investment on infrastructure and policy agenda.

In terms of income level Ukraine is the weakest among both European developing and CIS countries: The Ukrainian GDP per per capita (PPP) is only 7,971 international dollars, which falls behind Armenia (8,468 dollars) and Georgia (9,630 dollars) (IMF, 2016). The low income makes the possibility of serious private sector investments in digital infrastructure difficult, as the households simply lack money to pay for acquiring digital skills and buying electronic devices, while companies have very low budgets, not enough to invest into employees’ professional skills and equipment.

Large scale public investment in economic and business infrastructure has been moderate since Ukraine gained sovereignty 25 years ago. Therefore, digital development has been based only on the good level of human capital and on private successes. A good example of a private initiative for digitalisation is Privatbank’s system of electronic payments among the private clients, that involved online and mobile banking at a high level of security. Privatbank is the largest Ukrainian bank with the largest network of business points across the country and cooperates closely with the telecommunication operators on information exchange standards in Ukraine.

The current economic policy agenda includes wide-range reforms to modernise the economy. The EU-Ukraine Association Agreement, signed in 2014, is a pioneering project: it is the first agreement based on political association with an Eastern Partnership country, and the number of areas covered and details of commitments are unprecedented. The Agreement supports core reforms for market economy and sustainable development in more than 30 areas, including energy, transport, industry or SMEs cooperation. Since the Maidan Revolution, an intensive reform process has been taking place, both institutional and economic. The institutional reforms include:
decentralisation reform for stronger self-governance at local level, media reform for greater transparency and pluralism, anti-corruption reform setting the institutional framework to fight corruption. Economic reforms mainly aimed at reaching stabilisation of the economy: cutting expenses for a balanced budget, privatisation and reforming public enterprises, such as Naftogaz. Among the more important reforms is the tax reform: doubling rent payments for natural resources, increasing excise taxes for alcohol and tobacco consumption, the introduction of progressive income tax (17%, 20%, 25%, 30%) instead of the former flat rate of 15%, just to name some of the elements. As a result of the reforms the tax base was extended, multiple preferential tax agreements were cancelled (which also supported corruption) while some taxes were decreased (Greta and Pakosz, 2016).

A crucial driver of economic reforms is the Deep and Comprehensive Free Trade Area (DCFTA), which is part of the Association Agreement with the EU. The DCFTA provides a framework for aligning Ukrainian economy to EU standards: harmonisation of laws, norms and regulations, removal of tariffs and quotas. The final goal of the DCFTA is to eliminate all barriers in the flow of goods, services and investments between the EU and Ukraine. The DCFTA has provisionally entered into force on 1 January 2016, eliminating import duties on traded products (more than 98% of goods) (European Commission, 2016). The implementation of DCFTA is actively assisted by the EU, which also includes the support of businesses, primarily SMEs. The aim of the program is to prepare Ukrainian enterprises for a successful functioning in the Free Trade Area: increase their competitiveness, improve the access to finance and facilitate the compliance to EU standards.

The development of digital economy is also a priority in the reform process, as digital technologies are commonly agreed to be the crucial factors of economic success. The civil officers which worked in the Digital Agenda initiative of Ukraine are the only ones who remained in government positions, as “the new blood” was flown into Ukraine’s public administration after Maidan revolution and adoption of Ukraine-EU Association agreement in 2014.

Launched in 2015 by the Parliament and the President Administration of Ukraine, the Digital Agenda is supposed to create the necessary digital infrastructure and spread it to private households and companies through government and education institutions. The Agenda includes an ambitious national broadband plan

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1 “New blood” are known to be young professionals from the private sector (large corporations, banks, international audit companies) of Ukrainian origin and foreign expats who were invited to high-rank government positions to implement reform projects in Ukraine. Most of them resigned on the ground of conflict with vested interests accusing their chefs of political corruption or lack of backing the real reforms in late 2014-2015.
(access for all households, 70% of access above 30 Mbps), a strategy to increase the digital skills of the society (digitalise education, evening school project), it supports the strengthening of e-commerce (legal framework), and includes a plan to boost digital government services (Ministry of Economic Development and Trade of Ukraine, 2016).

One of the paradigmatic public projects is the electronic public procurement platform called 'Prozorro' which substitutes all paper auction applications since 1 August 2016. Another significant project is the one called 'IGov', which is meant to digitalise government services. For example, now every citizen of Kyiv can receive information on private property registration, apply for civil marriage registration, obtain a certificate from the government online and inquire where it is possible to receive government service online or whether the electronic format of a service is still under construction. The initiative is supported by the regional political powers as two regional centres with a developmental position – Lviv and Odesa – took interest in regional e-government development. Lviv city council cooperates with Privatbank\textsuperscript{2} and Jaanika Merilo, Estonian “business angel” to create “electronic patients”-a file system for health institutions, creating Personal Lviv City Resident Cabinet online with the possibility of obtaining the city’s administrative services electronically.

The internal market of software and IT products is estimated to be low: almost 70% of all revenues for Ukrainian IT companies come from abroad. IT exports have been rising for the last decade, though the adoption of digital products inside the country remain low in comparison to European levels. The major regional centres for IT in Ukraine are Kyiv, Lviv, Odesa, Kharkiv.

\textsuperscript{2} Privatbank aims at implementing BankID technology for electronic identification of users.
The planned liberalisation of trade in services with the EU is likely to become a major engine for the Ukrainian digital economy. Furthermore, the Digital Single Market strategy of the European Commission facilitating a single market for digital services and e-commerce in the EU will mean an easier access to all EU member states for Ukrainian companies. The importance of digital cooperation is marked by such consultations as the Eastern Partnership Ministerial Meetings on the Digital Economy. Ukraine will also be included in an investment plan for the development of European digital infrastructure, initiated by the European Commission (Knolle, 2016).
Digital Map: Ukraine in comparison to the rest of the world

The Networked Readiness Index assesses the factors, policies and institutions that enable a country to fully take advantage of information and communication technologies (ICTs) for increased competitiveness and well-being. The Networked Readiness Index is calculated by the World Economic Forum and is published as a part of The Global Information Technology Report.

This assessment is based on an aggregation of 53 individual indicators grouped in four main components: Environment subindex (political and regulatory environment, business and innovation environment), Readiness subindex (infrastructure, affordability, skills), Usage subindex (individual, business, government) and Impact subindex (economic and social). The individual indicators use a combination of data from publicly available sources and the results of the Executive Opinion Survey, a global survey of 13,000 business executives conducted by the World Economic Forum in collaboration with its network of 160 Partner Institutes.

Ukraine is currently 64th among the surveyed 143 countries and is showing significant progress, as the country moved up from the 71th position held in 2015. Ukraine is ahead of a few EU member states: Romania (66th), Bulgaria (69th) and Greece (70th).

Ukraine is performing relatively well in the Readiness subindex (30th) due to the affordability of the Internet (6th position), while the educational system (33rd) or the infrastructure (51st) is showing problems. The country has especially improved in the Environment subindex comparing with 2015 (94th from 122nd), which shows the positive impact of reforms on both the regulatory and the business environment. Regarding Usage subindex (88th from last year’s 94th position), the Internet usage is growing considering all social agents: individuals, business and government. Finally, the Impact subindex is also showing a leap forward from 82nd position to 69th. This is mainly caused by the increase of Internet access in schools or the growing employment in knowledge-intensive sectors.

To sum up, Ukraine is showing a robust improvement in virtually all aspects of digital development, bypassing even some EU member states.
Figure 2 Network Readiness Index: EU countries and Ukraine in the Global Rank, 2016

Source: WFE Global Information Technology Report 2016

Methodology

The development of digital technologies and their adoption by Ukrainian enterprises is based on the available statistics from the State Statistics Committee of Ukraine (Ukrstat) reports on information society. The statistical bulletin “The use of ICT at Ukraine’s enterprises” contains methodologically comparable data on Ukrainian firms’ usage of Internet by type of industry and by size of an enterprise. This report only focuses on small (between 10 and 50 employees) and middle-sized Ukrainian enterprises (from 50 to 250 employees) and presents the situation for 2015.

41,561 Ukrainian enterprises with less than 250 employees filled in the survey, 33,303 small enterprises and 8,258 middle-sized enterprises. In context, the overall number of enterprises is: 1 915 046 in the case of small sized enterprises, and 16 618 in the case of medium sized enterprises (Ukrstat, 2014). This means the report covers a significant share of business population: around 50% of medium enterprises are included in the sample. Approximately 832,230 people were employed at these enterprises and used computers. These SMEs operate in all economic sectors.
Digital Infrastructure

We assess the digital infrastructure by analysing the share of SMEs having access to different types of Internet connection, examining the median price of broadband access and the usage of Internet by employees.

The access to high-speed Internet should be the cornerstone of digital infrastructure. The share of SMEs with Internet access equals to 93%, which is lower than in the NMS13 and in EU15 (98% and 95% correspondingly).

Figure 3 Share of SMEs without Internet connection, 2015 (%)

![Graph showing the share of SMEs without Internet connection in EU15, NMS13, and Ukraine in 2015.](image)

Source: DELab UW own calculations based on the data from Eurostat (2015) and Ukrstat (2015)

While the share of SMEs with Internet access is relatively close to the EU15 and NMS13 level, the access to broadband Internet is much more underrepresented. Only 62% SMEs in Ukraine have fixed broadband connection in comparison to 94% in EU15 and 90% in NMS13.

Figure 4 SMEs using DSL or other fixed broadband connection, 2015 (%)

![Graph showing the percentage of SMEs using DSL or other fixed broadband connection in EU15, NMS13, and Ukraine in 2015.](image)

Source: DELab UW own calculations based on the data from Eurostat and Ukrstat 2015
The gap is even bigger when concerning mobile broadband Internet. While among the EU15 two thirds of enterprises connect to Internet via a mobile broadband connection, less than a third of Ukrainian SMEs use that form of broadband connection. The development of 3G network has been stalled by unfavourable government policy in earlier years, as a result of which 3G licences were sold to telecom companies only in the beginning of 2015, thus Ukraine was the last European country to introduce fast mobile broadband (Krasnikov, 2015). Currently, the 3G coverage is increasing, but it is still limited to major cities. Vodafone is planning to extend its coverage for 50% of Ukrainian population by the end of 2016 (TeleGeography, 2016). On the other hand, there have been no licenses sold for the 4G network yet. The 4G network offers higher capacity, speed and latency in respect to 3G, covering 86% of EU households in 2015³.

Ukraine needs to continue improving the telecommunication infrastructure, as the rest of the world will be moving to 5G, which will be the foundation for such technologies like the machine-to-machine communication or the Internet of Things. This means it will not only improve the everyday usage of the Internet, but it is also going to transform key economic sectors, like manufacturing or transportation.

Figure 5 SMEs connecting to the Internet via a mobile broadband connection (3G or 4G), 2015 (%)

<table>
<thead>
<tr>
<th></th>
<th>EU15</th>
<th>NMS13</th>
<th>UKRAINE</th>
</tr>
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<tbody>
<tr>
<td>SMEs</td>
<td>67</td>
<td>58</td>
<td>28</td>
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Source: DELab UW own calculations based on the data from Eurostat and Ukrstat 2015

The price of broadband Internet is quite low in Ukraine in comparison to rates in NMS13 and EU15 states. According to our calculations, the median price of Internet with the speed up to 30 Mbps is 15.21 EUR (PPP) monthly in Ukraine, with the speed 30–100 Mbps – 21.76 EUR (PPP) (NMS13: 44,5 EUR; EU15: 37 EUR). In both cases the price is the 2nd lowest in Europe.

Figure 6 Median price of monthly subscription to the Internet (30–100 Mbps) in euros/PPP, 2015

Source: DELab UW own calculations based on the data from Eurostat
Digital Society

The positive side of the Ukrainian economy is the large number of IT specialists in labour force.

The Soviet education provided good mathematical background and strong mathematical schooling at the Ukrainian Universities which allowed easy adoption and further development of digital technologies among labour force.

According to the Ministry of Economic Development and Trade, Ukraine counts with 16,000 graduating IT specialists every year. The number of skilled labour has an upward trend forecast.

**Figure 7** The actual and prospective number of IT specialists in Ukraine, thousands

Source: Ministry of Economic Development and Trade, NBU
There is a lack of data on the digital skills of the Ukrainian society. However, judging by the low share of households with an Internet connection (below 50%), a much lower share of the society has the opportunity to become advanced users of digital tools than in the EU.

**Figure 8** Share of households with Internet, 2015 (%)
The gender gap in the access to the Internet is moderate in Ukraine: 3 percentage points (pp.) difference. In contrast, it is 6 pp. in Portugal or 9 pp. in Croatia. Still, the low share of Internet users is among the greatest obstacles for a thriving digital economy in Ukraine.

Figure 9 Share of individuals using the Internet by gender, 2015 (%)

Source: DELab UW own calculations based on the data from Eurostat and Ukrstat 2015
When we look at the use of Internet not in the dimension of enterprises, but in the dimension of employees of SMEs, a striking difference falls into light. While 93% of Ukrainian SMEs have Internet connection, only 34% of employees use Internet at their workplace. This fact suggests that the Internet does affect the operations of the SMEs in Ukraine to a large degree, but the number of employees involved in operations requesting digital technologies is rather small (only one third). It gives the impression that Internet technology involves only high-skill workers fulfilling administrative tasks at Ukrainian SMEs.

The relatively low gender gap in Ukraine is supported by this data as well: 34% of female employees and 35% of male employees perform operations involving Internet at Ukrainian SME.

**Figure 10** Share of SME employees using Internet by gender, 2015 (%)

Source: DELab UW own calculations based on the data from Eurostat and Ukrstat 2015
Digital Technologies

The usage of digital technologies simplifies and accelerates decision making processes within the enterprise; allows more effective business analyses; facilitates the communication with business partners; allows effective image and brand building; and supports the penetration of new markets as well as reaching new customers. To measure the adoption of digital tools we consider websites and the usage of social media.

The usage of digital technologies such as cloud computing or e-commerce will not be discussed, as there is no data available in the national statistical datasets. One can suppose that they play negligible role in Ukrainian SMEs’ everyday work.

51% of SMEs use the Internet to receive information about goods and services. Only 10% of SMEs use the Internet to receive educational services. The majority of SMEs in Ukraine use the Internet to communicate with government and financial institutions. 86% of SMEs send statistical forms and 85% of SMEs receive tax forms from the government. But when we look at more secure operations like receiving administrative services and sending application for electronic public auctions, only 48% and 15% of SMEs respectively practice this.

Figure 11 Reasons of SMEs to use the Internet, 2015 (%)

Source: DELab UW own calculations based on the data from Ukrstat (2015)
The online presence of Ukrainian firms is limited: only 40% of Ukrainian SMEs have own website against 79% in EU15 and 69% in NMS13. The share of Ukrainian SMEs with websites is less than in any EU member state, or in countries like Turkey and Macedonia.

**Figure 12** Share of SMEs providing website, 2015 (%)
16% of Ukrainian SMEs are present on social networks (e.g. Facebook, LinkedIn), in comparison to 43% in EU15 and 34% in NMS13. However, many NMS13 countries are at a similarly low level, such as Poland (20%) or Romania (23%).

**Figure 13** Share of SMEs using social networks, 2015 (%)

Source: DELab UW own calculations based on the data from Eurostat and Ukrstat 2015
Usage of Websites and Social Media

The reasons for using a website can throw some light on the causes of the low online presence of Ukrainian firms. Only 23% of Ukrainian SMEs provide product catalogues or price lists on their websites in comparison to 59% of NMS13 and 55% of EU15 firms. Even less—only 7% of Ukrainian SMEs actually maintain websites which provide online ordering or reservation or booking. The gap with EU15 and NMS13 is significant, but not as large as in the first case.

On the other hand, 8% of Ukrainian SMEs receive payments online, which is slightly above the level of EU15 (7%) and NMS13 (5%). Good electronic payments technologies for small-scale transfers offered by Ukrainian banks as well as successful cooperation of companies and banks may account for that.

Figure 14 Share of SMEs providing selected services on website, 2015 (%)

Source: DELab UW own calculations based on the data from Eurostat and Ukrstat 2015
Ukrainian SMEs use social networks, multimedia sharing websites and blogs to a lesser extent than in EU15 and NMS13. Only 16% of SMEs use social media like Facebook in the Ukraine, versus 43% in EU15 and 34% in NMS13. Online video is used at the level comparable to Europe: 10% of Ukrainian SMEs use content sharing websites, while 15% in EU15 and 11% in NMS13. Blogs and microblogs are underused when compared to the level of EU15 (at least 14%) and NMS13 (8%): only 5% of Ukrainian SMEs run blogs or use Twitter.

The usage of wiki based sharing tools is surprisingly high: 18% of Ukrainian SMEs use wiki based knowledge sharing tools in comparison to 5% in EU15 and 4% in NMS13. The reason may be that Ukrainian SMEs find low cost of using free sharing tools against the cost of secured platforms more beneficial.

**Figure 15** Share of SMEs using social media services (%), 2015

Source: DELab UW own calculations based on the data from Eurostat and Ukrstat 2015
Only 16% of Ukrainian SMEs use social media in everyday work. Examining the cases of uses, only 14% of SMEs use social media to promote image or market products of the company in comparison to 37% in EU15 and 29% in NMS13. It is striking since this task does not require constant update and sophisticated communication. Considerations to collect customers’ opinions, to involve customers into design, to recruit employees and to exchange opinions are rare reasons to use social media in Ukraine, but Ukrainian SMEs are not dramatically worse performers than SMEs in Europe in this category.

In contrast to Europe, Ukrainian SMEs use social media to collaborate with business partners more often (14%) than in EU15 (11%) and NMS13 (11%). Collaboration with partners or other organizations together with company image promotion remain the major reasons to use social media among Ukrainian SMEs.

**Figure 16** Reasons for using social media services (share of SMEs), 2015 (%)

Source: DELab UW own calculations based on the data from Eurostat and Ukrstat 2015
Conclusions

What have we found?

• We have demonstrated evidence that the adoption of digital technologies is lagging behind not only EU15, but also the average of NMS13 countries.

• We have presented the most important reasons to use major digital technologies and found gaps between the level of Ukraine and EU15 and NMS13.

What are the challenges?

• The major challenge comes from the state and private enterprise cooperation in Ukraine under the proclaimed reforms agenda related to EU-Ukraine Association Agreement.

• The challenge from the government comes from its ability to implement major developmental projects that can have a systemic impact on the spread of Internet among small and middle-scale enterprises.

• The challenge from small and middle-scale enterprises comes from their ability to involve digital technologies in their business strategies and spread digital skills among employees or to build survival plans and to reap the benefits from the national Digital Economy initiative.

• The challenge from international donors comes from their ability to support private initiative or regional governmental initiatives of implementation digital technologies at Ukrainian small and middle-scale enterprises.
What needs to be done:

• In case of Ukraine the first step on the way to digital transformation should be to develop the digital infrastructure. As Ukraine is among the countries with the least coverage of 3G and no 4G network at all, the development of mobile broadband should be a priority.

• Boosting digital skills of the SMEs must be improved by training employees in order to facilitate the adoption of ICT technologies.

• Implementation of a digital agenda into schools and Universities curriculum on a large scale to train future professionals with highly demanding digital skills.

• The initiatives included in the Digital Agenda need to be successfully completed, including the support for acquiring digital skills, the creation of a digital-friendly legal framework and e-government services.

• The further tasks are related to the strengthening of e-leadership in the case of the private firms that have already done a lot to diffuse the digital technologies and create digital infrastructure—for example systemic financial institutions.

• The business community needs to understand the benefits of digitalisation: the best way to do so is to spread the success stories of those small and medium enterprises that use digitalisation to simplify their functioning and reach new markets and new customers.
References

1. International Monetary fund, World Economic Outlook Database.
Digital Economy Lab (DELab) is a research centre established in 2014 within the University of Warsaw to accelerate the development of digital economy and society by providing high-quality research on the impacts of digital transformation and innovation. By application of data science methods DELab examines how digital markets, skills and societies build smart economies, businesses and governance. We deliver policy recommendations on how to better meet the challenges of global digitalisation. Our studies promote entrepreneurship and enhance society's awareness of the benefits of digital transformation. DELab's interdisciplinary team consists of professors and young researchers from various academic backgrounds including economics, sociology, law, administration, IT, European integration, philosophy, political sciences, globalisation, management and entrepreneurship.