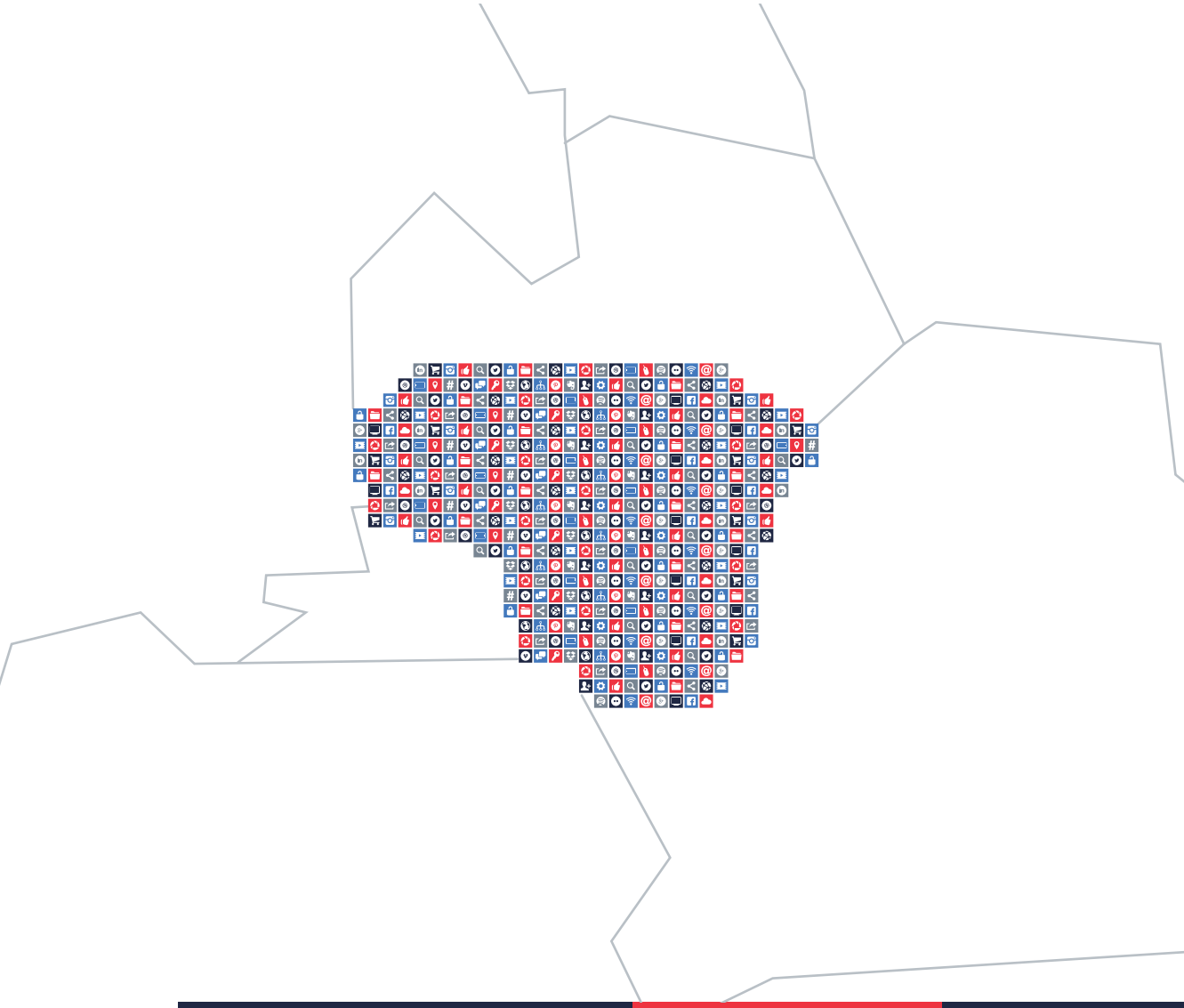
Digital Transformation of Small and Medium Enterprises in

LITHUANIA



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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
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
FTTP – Fiber to the Premise
ICT – Information Communications Technologies
Mbps – Megabits (Mb) per second
NGA - Next-generation access
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 level of digital transformation of SMEs in Lithuania in comparison to SMEs from other EU countries. We take into consideration both the digital business environment (digital infrastructure such as Internet availability and digital skills of human capital) and the adoption of digital technologies. The introduction of digital technologies such as websites, social media, e-commerce, electronic information sharing and cloud computing simplifies and accelerates decision making, allows effective brand building, facilitates transactions and makes it possible to reach new customers.

Why is it so important for SMEs to go digital?
Internet and digital tools become a must in the context of the Digital Single Market strategy. The regulations proposed within the DSM greatly enhance the opportunities stemming from successful digital transformation, as well as pose risks connected with losing markets and customers due to digital business illiteracy. Although the digital revolution affects both ICT and traditional businesses, it puts significant pressure on Small and Medium Enterprises (SMEs) that are relatively more sensitive to global competition occurring within the Internet compared to their stronger, bigger counterparts.

Are Lithuanian SMEs ready to compete in the Digital Single Market?
Our analysis suggests that Lithuanian SMEs are the among the leaders of digital transformation in the EU. They operate in a supportive digital environment, benefiting from the developed digital infrastructure. Most of them make full use of various digital technologies such as websites, social media, management and e-commerce tools. Nevertheless, to keep pace with the digital revolution, they need to invest more in the further improvement of the digital skills of their employees.

Definitions

Digital transformation of enterprises

Changes in the functioning of enterprises due to the adjustments in business environment associated with the new application of digital technologies

Digital business environment

The digital skills of human capital and the development of digital infrastructure enabling utilisation of digital technologies

Digital skills of human capital

Adoption and skillful utilisation of digital technologies by human capital

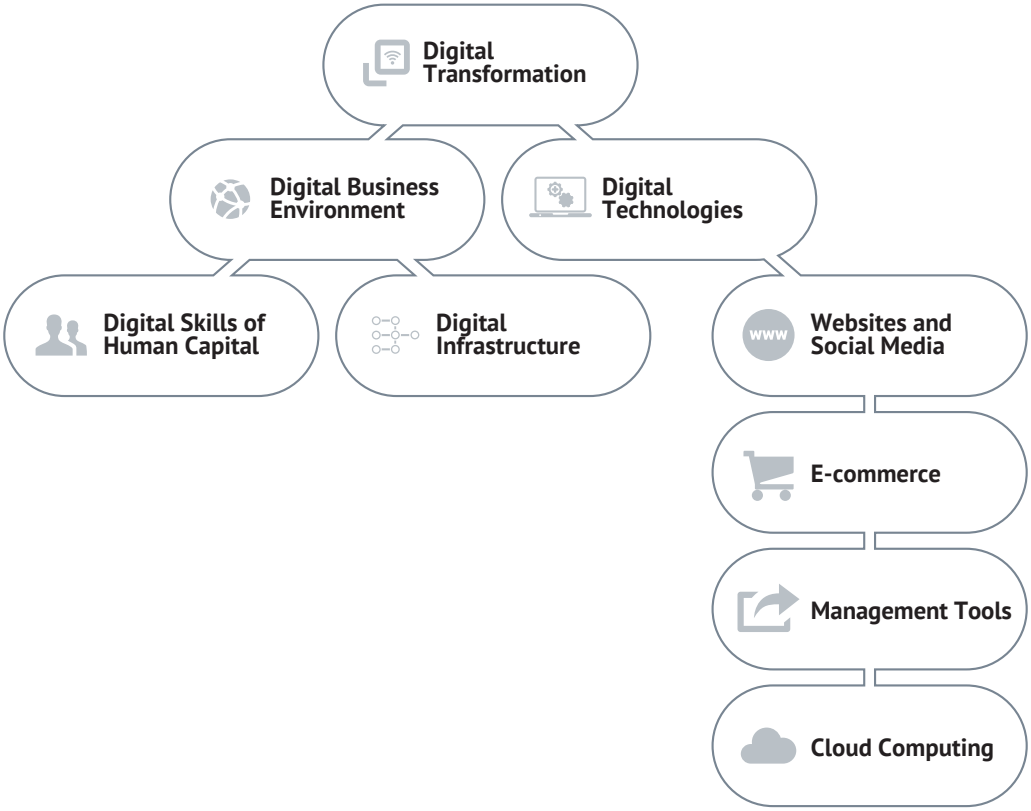
Digital infrastructure

Structure needed for adoption and utilisation of digital technologies; facilities to interconnect components of digital business environment

Digital technologies

Electronic tools, systems, devices and resources that generate, store or process data: websites, social media, e-commerce, management tools, cloud computing

Main Concepts



Digital transformation enables and accelerates the smart integration of products and services into the economy and society. Its strongest effect lies in the optimal combination of digital technologies with digital business environment.
The more developed the digital infrastructure and digital skills within a society, the better the utilisation of digital technologies. Similarly, the higher the utilisation of digital technologies, the higher the demand for human capital to employ and upgrade digital inventions. Digital tools enable smart economic integration of production and delivery of products and services to customers. Digitally aware SMEs find new market opportunities with greater ease, grow their business partner networks faster and obtain quality feedback from their clients through customer relation management tools.

Lithuania in a Nutshell

Key findings for SMEs in Lithuania

- Have access to fast and cheap broadband Internet
- Have access to a digitally skilled workforce
- Are advanced in usage of digital technology
- Provide websites and use social media to communicate with customers
- Lead in Internet sales

- Employ less ICT specialists than the regional average
- Do not often invest in upgrading the ICT skills of their employees
- Are relatively less likely to use cloud computing services
- Promote goods and services less often on websites or via social media

Lithuania in the EU28

- 7th in Connectivity
- 10th in Use of Internet
- 8th in Integration of Digital Technology
- 12th in Digital Public Services

- 19th in Human Capital

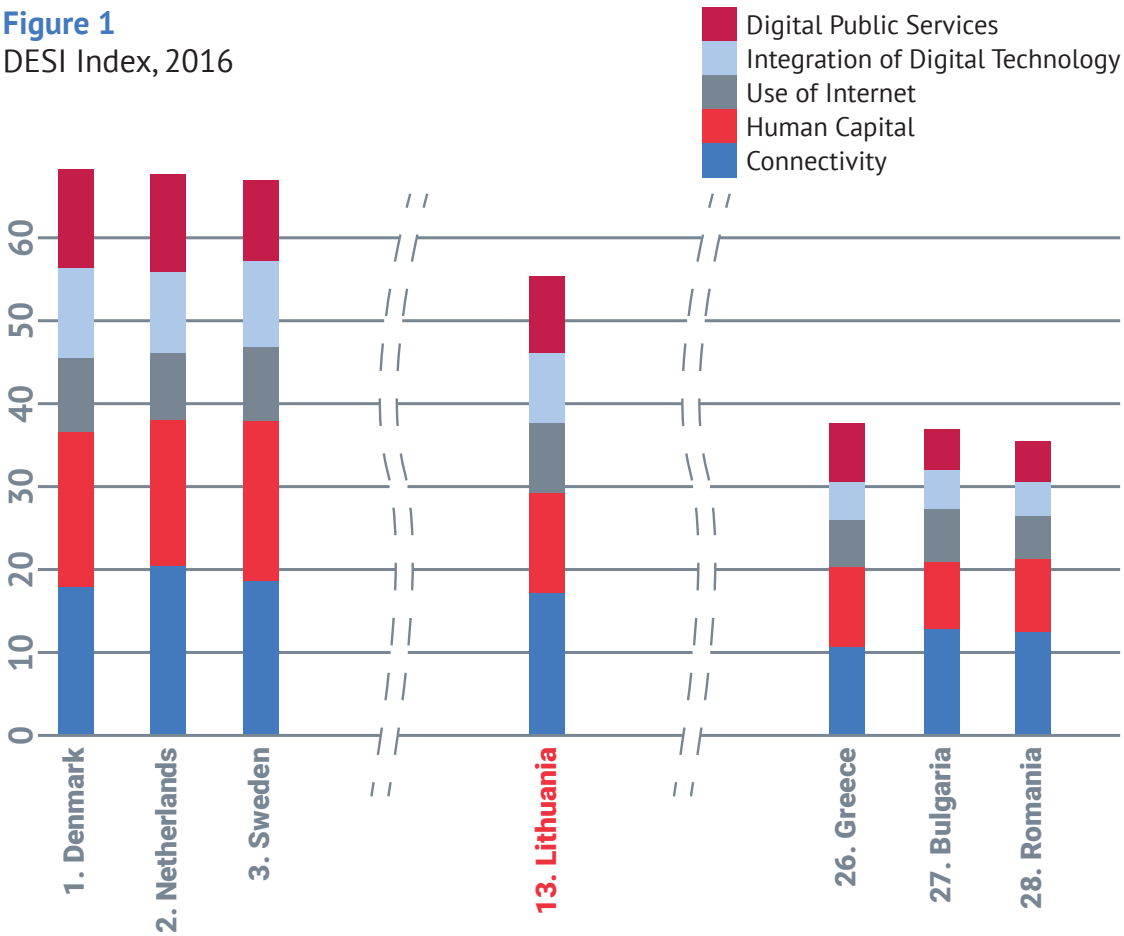
Digital Map: Lithuania in the EU28

"Digital Economy and Society Index" (DESI) measures the degree of digital transformation of the EU member states. Namely, the index reports the level of development in the following categories: access, speed and quality of Internet infrastructure (represented by "Connectivity"), digital skills of society ("Human Capital" and "Use of Internet"), digitalisation of businesses ("Integration of Digital Technology") and public e-services.

According to the DESI Index, Lithuania takes the 13th place in the EU, and surpasses almost all the NMS countries, except for Estonia. However, in terms of Human Capital, which measures the level of digital skills of the society, Lithuania ranks only 19th and lags behind most of the other EU countries. Moreover, Lithuania performs especially weakly considering the low share of ICT specialists in the labour force (26th position) and the low share of Internet users (21st position).

Lithuania performs remarkably well in terms of Connectivity (7th position), since it has one of the best (4th position) Next-generation access (NGA) coverage (which is mainly due to countrywide coverage of FTTP). Furthermore, Lithuanians are widely engaged in online activities, which is shown by the 10th position in the Use of Internet dimension. Moreover, Lithuanians are in first position for one online news, 2nd for online video calls, and they occupy a relatively good position (8th) for online banking. Lithuania also ranks high in Digital Public Services (12th country in the EU and 3rd result in the NMS13).

Figure 1
DESI Index, 2016

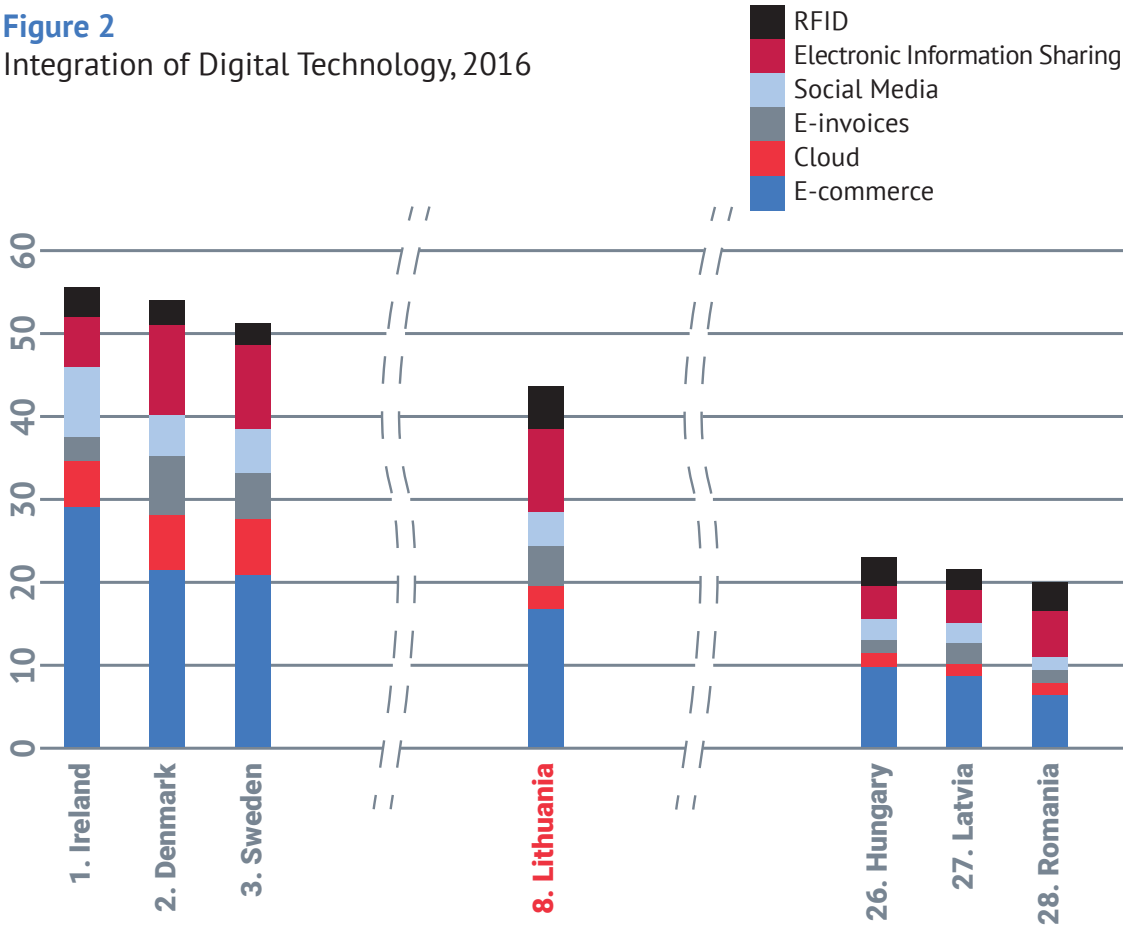


Source: Digital Agenda for Europe, DESI

Integration of Digital Technology represents the level of digital transformation achieved by enterprises (with more than 10 employees). It is measured by the adoption of digital tools, such as cloud computing services, and the engagement in e-commerce.

Lithuanian business is the 8th most digitalised amongst the EU member states, showing also the strongest performance among the NMS13. Among the NMS13, Lithuania leads in terms of the uptake of e-Invoices and is the second best in the usage of Radio-frequency identification (RFID). Furthermore, Lithuanians broadly utilise electronic information sharing services (i.e. apply digital management tools, 9th among the EU28), cloud computing services (11th) and social media (12th position). Lithuanian firms are also active in e-commerce: 10th in the EU in terms of the share of online sales, 8th in turnover share and 9th in cross-border e-commerce.

Figure 2
Integration of Digital Technology, 2016



Source: Digital Agenda for Europe, DESI

Digital Business Environment for SMEs

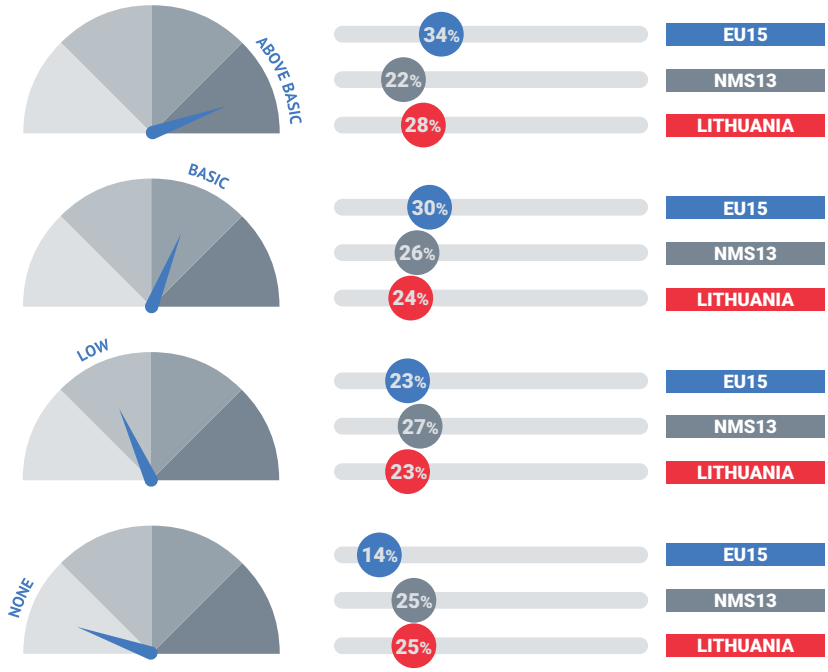
Digital Business Environment creates the common framework that enables SMEs to utilise digital technology and facilitates engagement of SMEs in the digital economy.

We assess Digital Business Environment by analysing the development of digital skills and digital infrastructure. More precisely, we consider the efforts of companies in hiring and training digitally skilled people (also, but not exclusively, ICT specialists) and we assess digital infrastructure by the access, affordability, speed and quality of the Internet.

Digital Skills

When it comes to digital skills, more Lithuanians report "above basic" digital skills than other NMS13 citizens. In spite of this relatively promising situation, 25% of Lithuanians report no digital skills, twice as much as the EU15 average. Moreover, Lithuanians lag behind individuals of the EU15 in all specific "above basic" skills. The gap is especially wide in problem solving skills (50% vs 61% in the EU15), and in software skills (34% vs 46% in the EU15). An improvement in these abilities would be a valuable asset for Lithuanian enterprises.

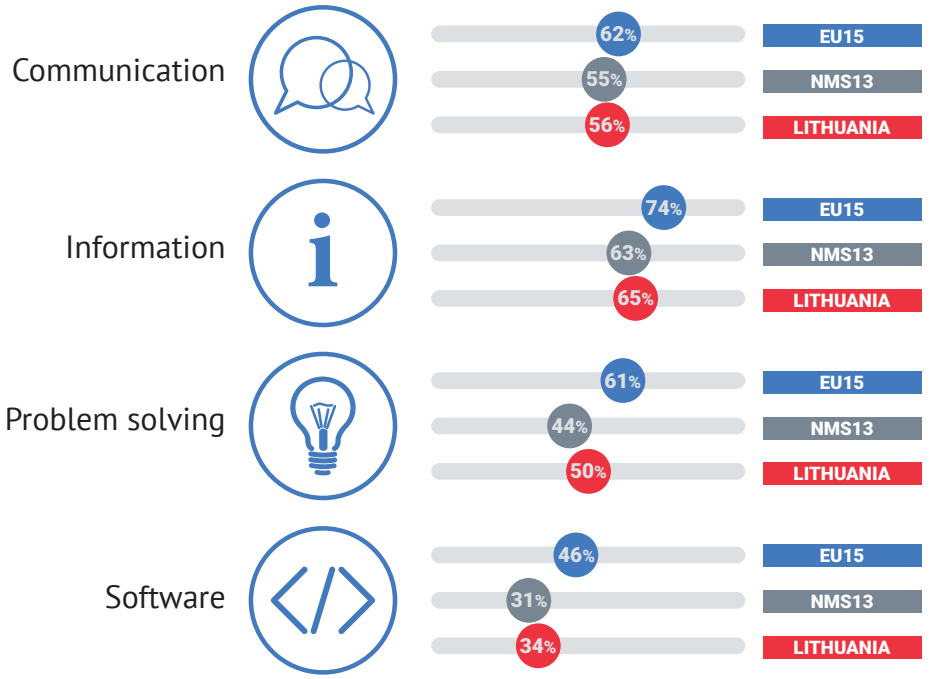
Figure 3
Levels of digital skills amongst individuals (%), 2015



Above basic skills refer to the ability to carry out most of the tasks in all of four general categories (Communication, Information, Problem Solving and Software)
Basic skills refer to the ability to carry out one specific task in each category
Low skills refer to users who are unable to perform any tasks in up to 3 categories
No skills refer to users who are unable to perform any tasks in all categories listed including those who have not accessed the Internet in the last 3 months

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

Figure 4
Individuals with "above basic" digital skills (%), 2015

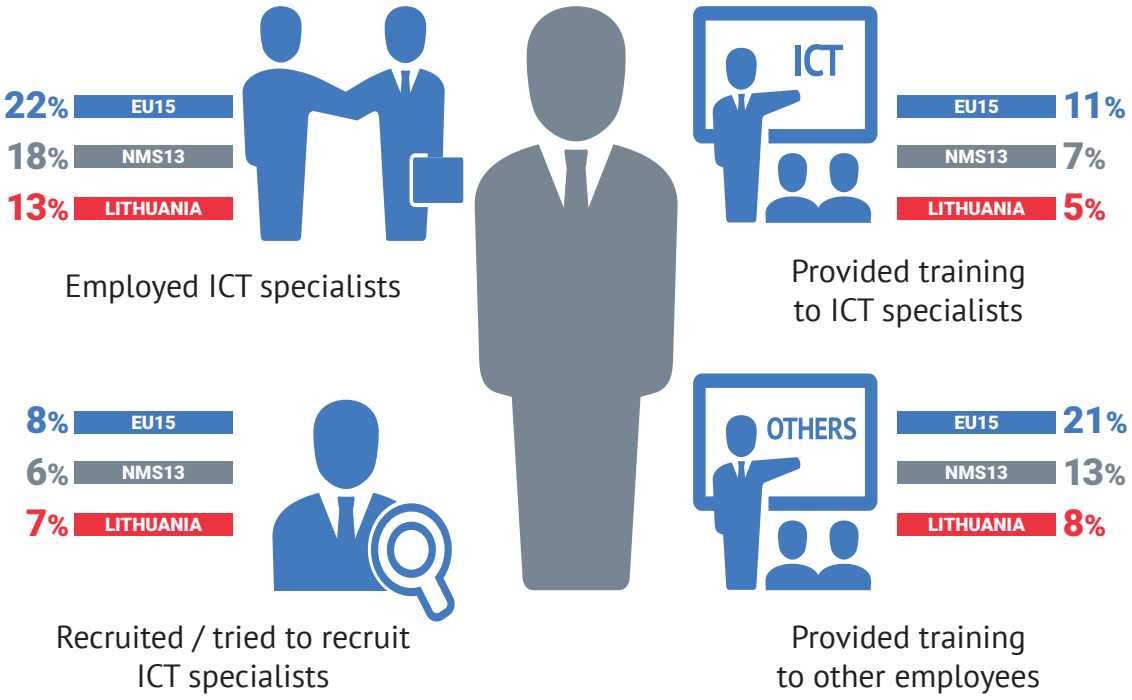


Communication skills include the ability to communicate online via e-mail, video calls or the social media
Information skills show the ability to find relevant information online
Problem solving skills represent the ability to manage files, change settings of software and use online services
Software skills include the ability to use word processing, spreadsheet and multimedia editing software

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

Lithuanian SMEs seem to succeed in profiting from the relatively high digital skills of their employees. They employ less ICT specialists than the regional average (13% compared to 18% in the NMS13 and 22% in the EU15) and see no need to invest in training for either the ICT specialists (5% compared to 11% in the EU15) or other employees (8% versus 21% in the EU15).

Figure 5
SMEs employing and training ICT specialists (%), 2015



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

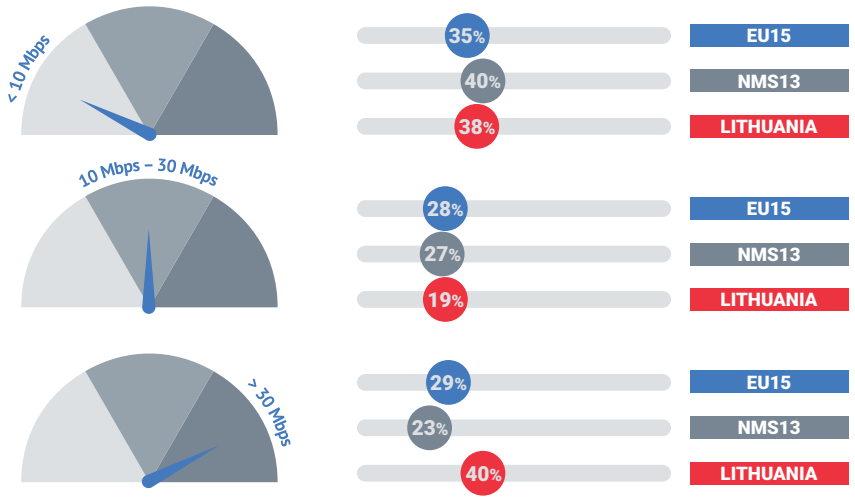
Digital Infrastructure

The access to high-speed Internet should be the cornerstone of digital infrastructure. In Lithuania virtually all of SMEs have access to the Internet, which is exceptional when compared to the regional average of SMEs without Internet access (above 5%).

Figure 6
SMEs with no Internet access (%), 2015

The share of enterprises with high-speed Internet access amounts to 40% and exceeds not only the regional, but also the EU15 level (average of 33%).

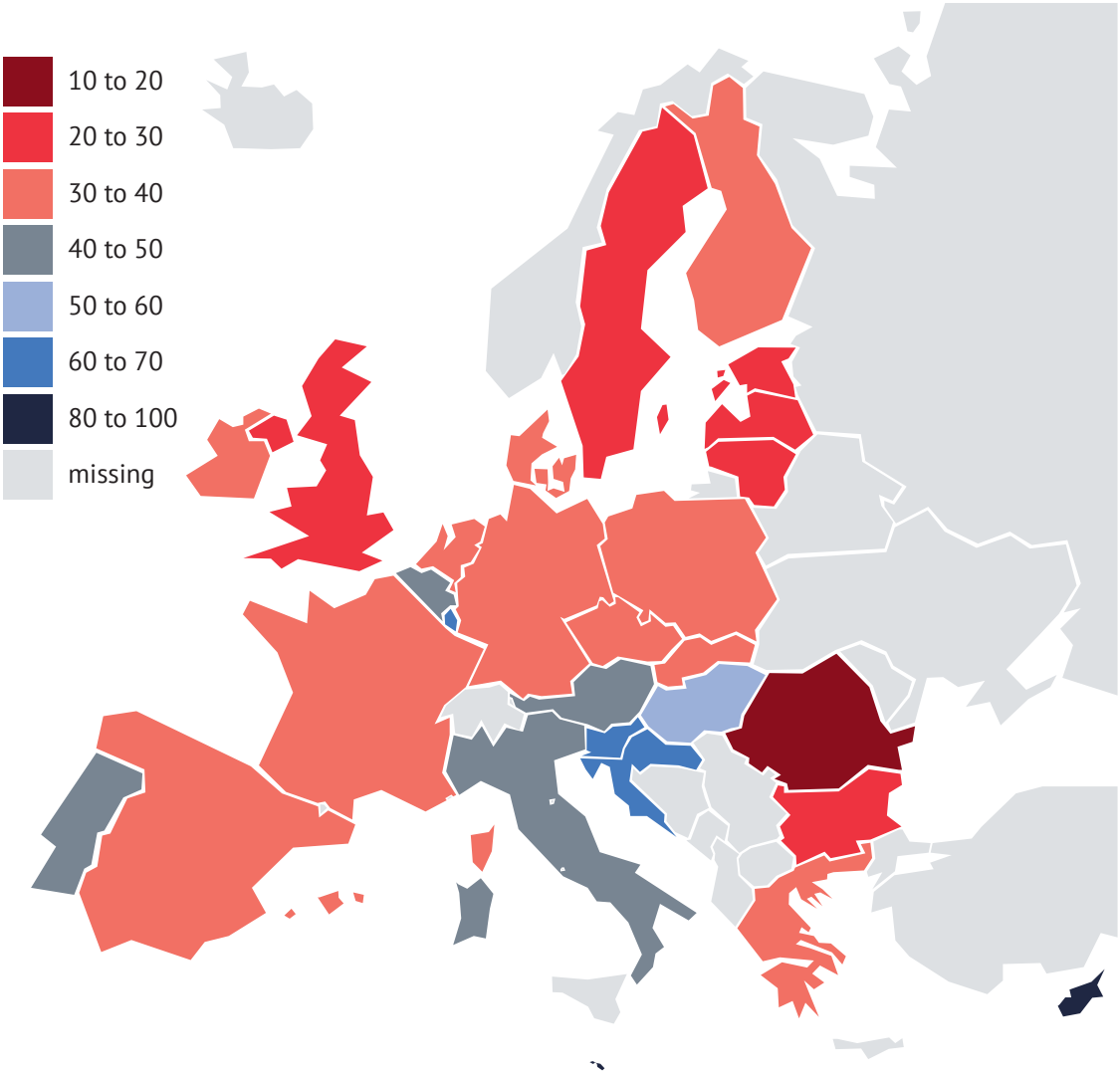
Figure 7
SMEs according to the speed of their fixed Internet connection (%), 2015



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

The median price of a monthly subscription to the Internet in Lithuania is the second cheapest among the EU28: while the EU15 average median price of monthly subscription reaches 37 euros, in Lithuania it amounts to 22 euros.

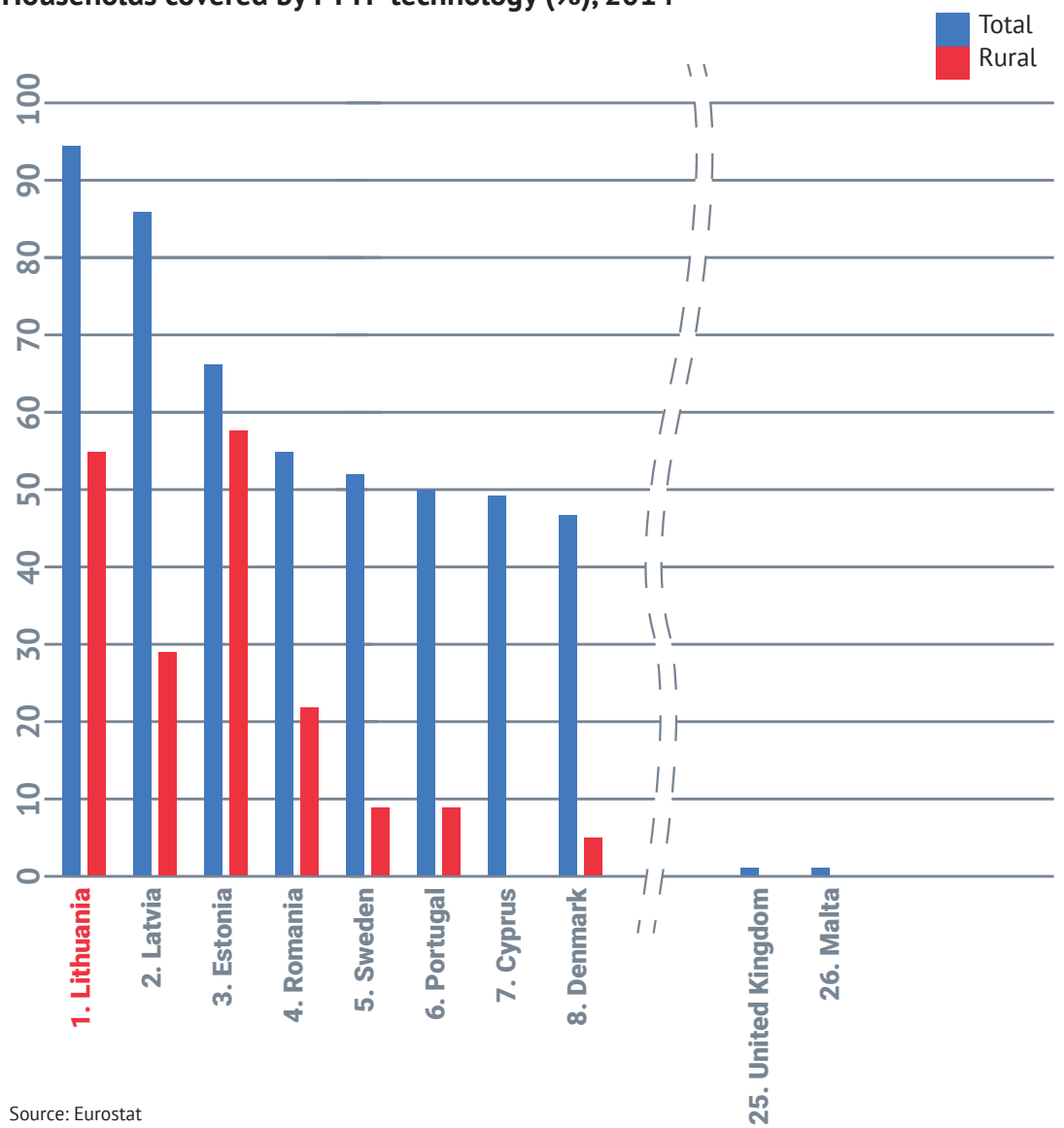
Figure 8
Median price of monthly subscription to the Internet (30-100 Mbps) in euros/PPP, 2015



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

Lithuania leads in total coverage of the most advanced broadband technology (FTTP, which is a pure fiber-optic cable connection, running from an Internet Service Provider directly to the user's home or business). In fact, almost every household (94%) could have an access to this type of connection. However, only 55% of the rural areas in Lithuania are covered by FTTP, which is still one of the best results in the EU.

Households covered by FTTP technology (%), 2014



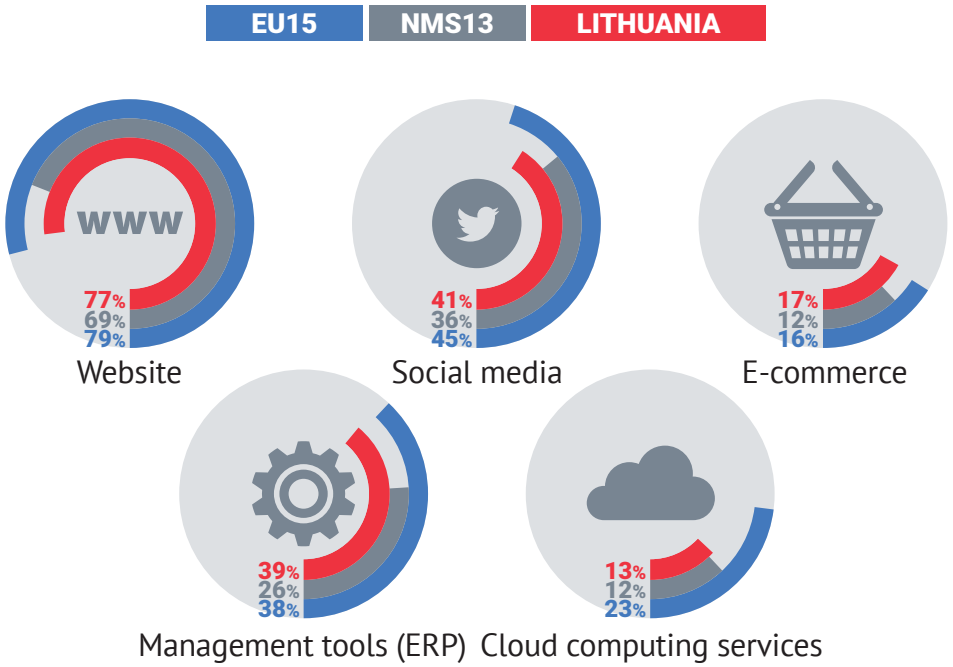
Source: Eurostat

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 the usage of five key technologies: websites, social media, e-commerce, management tools (like ERP) and cloud computing.

Lithuanian SMEs outperform the regional average in the uptake of digital technologies. Moreover, the share of enterprises that engage in online sales and utilise digital management tools exceeds the EU15 average. Lithuanian SMEs are lagging behind the EU15 only in Cloud Computing: 13% of SMEs employ some kind of paid Cloud Computing services, while the EU15 average is 23%.

Figure 9
SMEs using main digital technologies (%), 2015

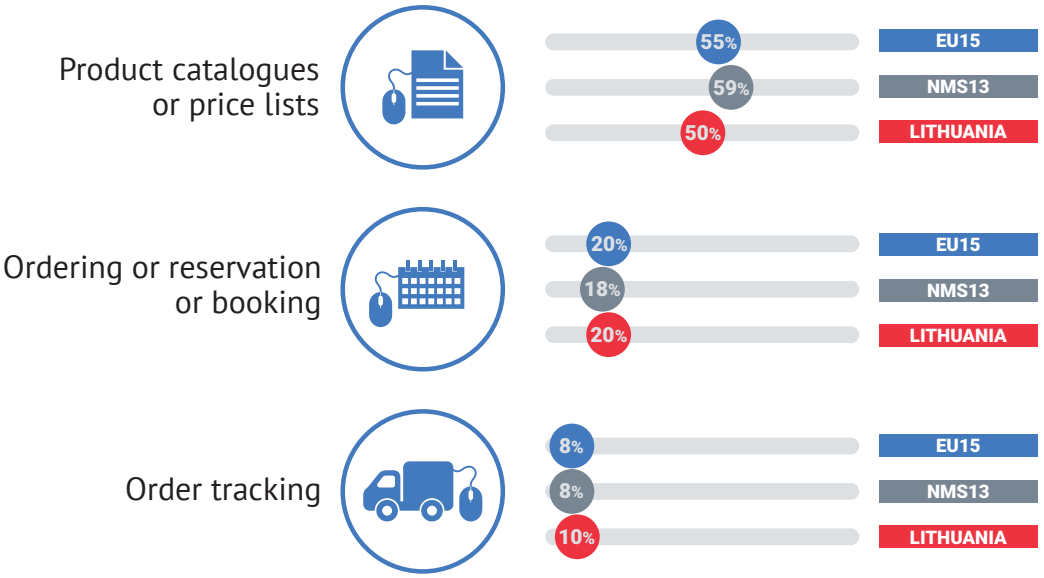


Source: DELab UW own calculations based on the data from Eurostat

Websites and Social Media

The share of Lithuanian SMEs providing websites is close to the EU15 average (77% of SMEs). They are mainly used to provide information about products and prices, just like firms in the other EU countries. Concerning the more advanced services, such as order tracking, Lithuanian business performs slightly better than the EU15 or the NMS13 average (8%).

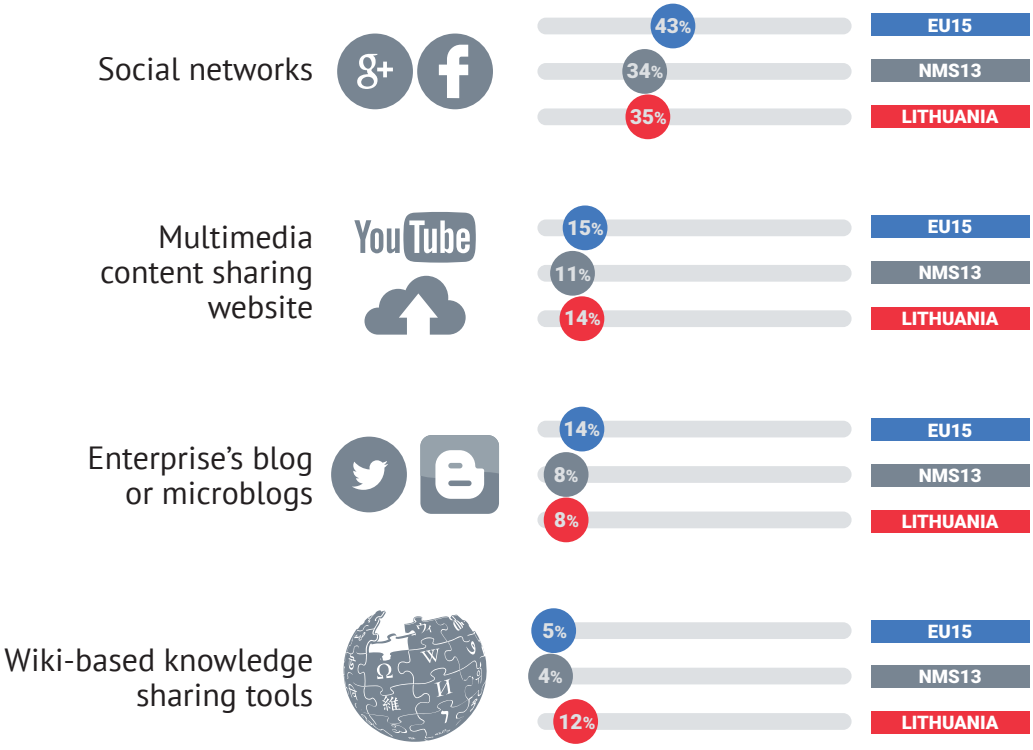
Figure 10
SMEs with websites providing selected services (%), 2015



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

Lithuanian SMEs seem to be aware of the potential of social media and microblogs that can be utilised for marketing and communication. Although the share of enterprises using social networks (35%) and microblogs (8%) is below the EU15 average (43% and 14%, respectively), Lithuanian SMEs are highly engaged in multimedia content sharing websites (e.g. YouTube) and outperform the rest of the EU in the usage of wiki-based sharing tools (12% of SMEs use them, while the EU15 average is only 5%).

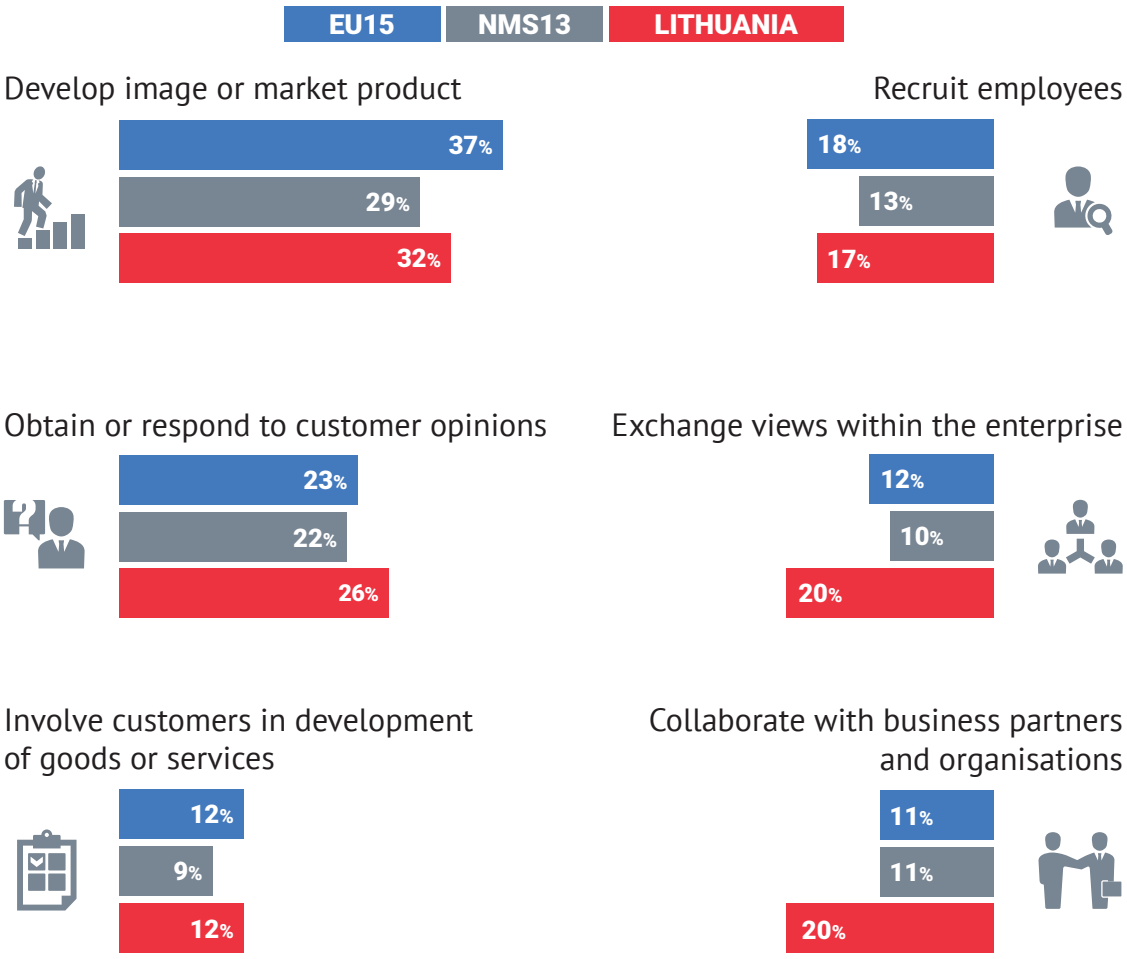
Figure 11
SMEs using social media services (%), 2015



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

Furthermore, in all selected categories of social media services, Lithuanian SMEs outperform the average regional level. They use social media for collaborating with business partners, obtaining customer's opinions and exchanging views within the enterprise more actively than the EU15 average. As an example, while in the EU15 only every tenth enterprise uses social media to collaborate with business partners and organisations, in Lithuania, every fifth SMEs does so.

Figure 12
Reasons for using social media services by SMEs (%), 2015



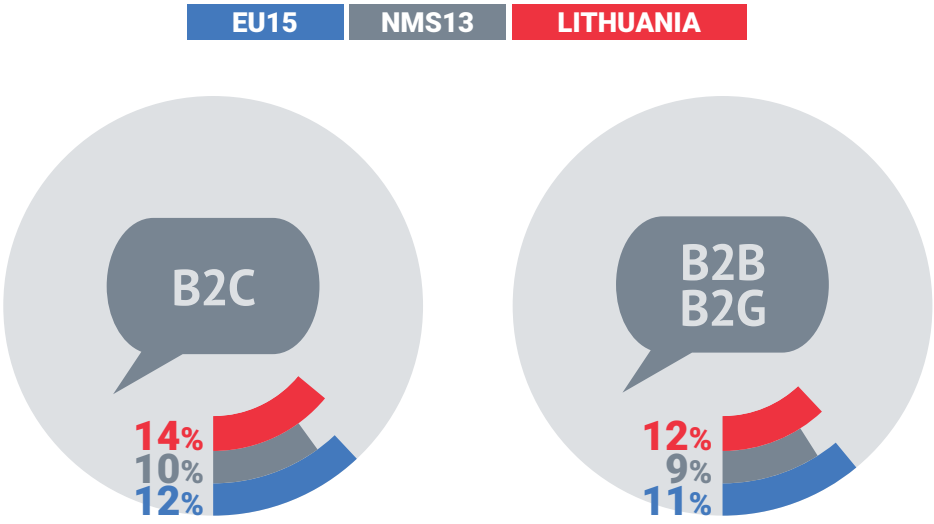
Source: DELab UW own calculations based on the data from Eurostat

E-commerce

An **e-commerce transaction** is the sale or purchase of goods or services conducted over computer networks
Business to Consumer (B2C) refers to sales to private consumers
Business to Business (B2B) refers to sales to other enterprises
Business to Government (B2G) refers to sales to public authorities

Up to 17% of Lithuanian SMEs sell online, similarly to the EU15 average of 16%. Furthermore, Lithuanian SMEs are strongly active both in selling to private consumers (B2C), as well as to other enterprises (B2B) and public authorities (B2G).

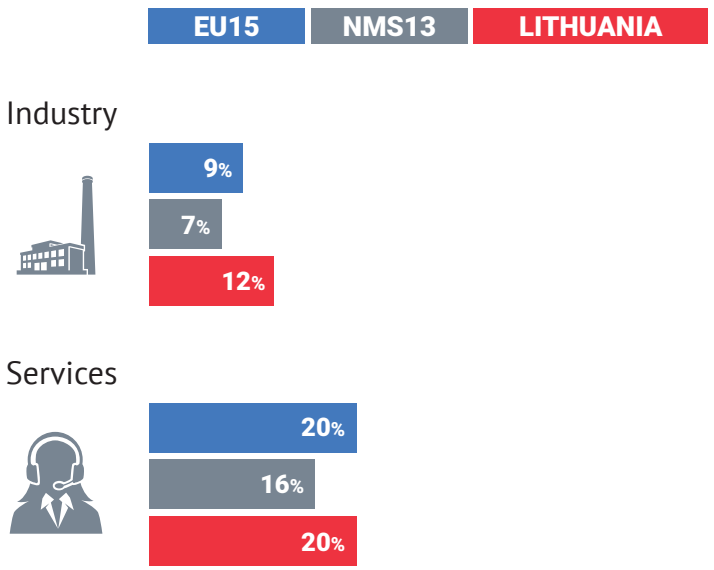
Figure 13
SMEs selling via a website or apps (%), by type of transaction, 2015



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

Lithuanian SMEs seem to outperform the enterprises in the EU15 in e-commerce due to the strong engagement in the industrial sector where 12% of the Lithuanian firms sell online compared to 9% in the EU15. Surprisingly, in services Lithuanian SMEs do not stand out in comparison to the rest of the EU. More specifically, the share of firms selling online is the highest in tourism (e.g. accommodation providers: 71%), in publishing activities (43%) and in the manufacturing of computers and other electronic products (33%).

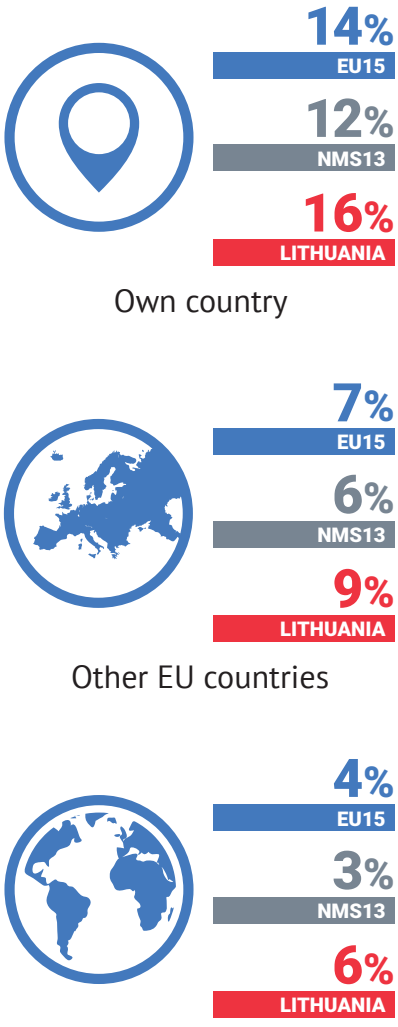
Figure 14
SMEs selling via a website or apps, according to sectors (%), 2015



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

SMEs in Lithuania are among the EU leaders in e-commerce. Not only do they exceed EU average in domestic e-sales, but they are also ahead of the other EU countries in cross-border e-commerce. Lithuanian SMEs outperform both the NMS13 and the EU15 in serving foreign markets, especially in exporting to countries outside the EU.

Figure 15
SMEs engaged in electronic sales (%), 2015



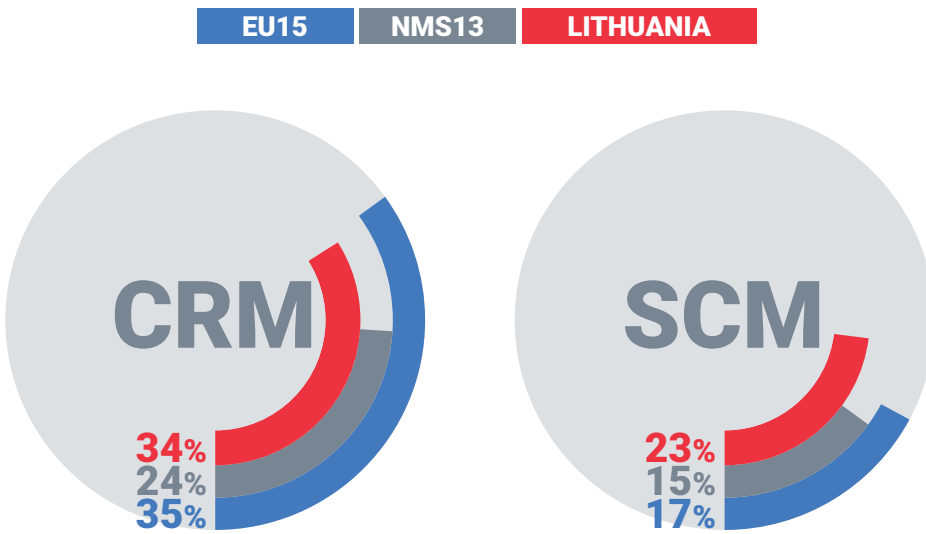
Source: DELab UW own calculations based on the data from Eurostat

Management Tools

Management tools (Enterprise Resource Planning - ERP) enable automatic flow of information between different business functions such as accounting, planning, production and marketing.
Supply Chain Management (SCM) means exchanging all types of information with suppliers and/or customers about the availability, production, development and distribution of goods or services.
Customer Relationship Management (CRM) is a management methodology which places the customer at the centre of the business activity, based on an intensive use of information technologies to collect, integrate, process and analyse information related to the customers.

SMEs in Lithuania are widely involved in the usage of management tools: the share of enterprises that employ ERP software (39%) slightly exceeds the EU15 average. Likewise, they implement CRM as often as in the EU15, which suggests an advanced level of customer information processing. Furthermore, Lithuanian supply chains are highly digitalised, which is shown by the high share of SMEs using SCM.

Figure 16
SMEs using CRM and SCM software (%), 2015



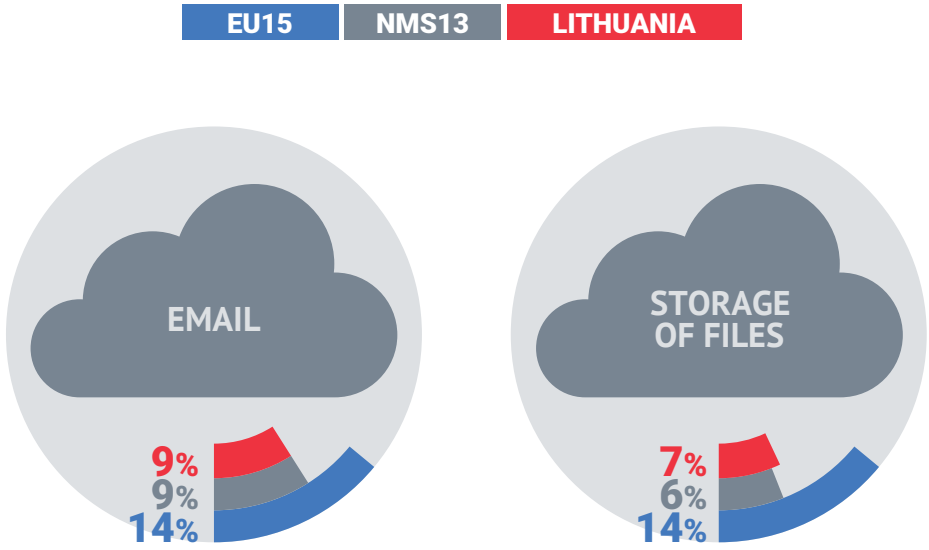
Source: DELab UW own calculations based on the data from Eurostat

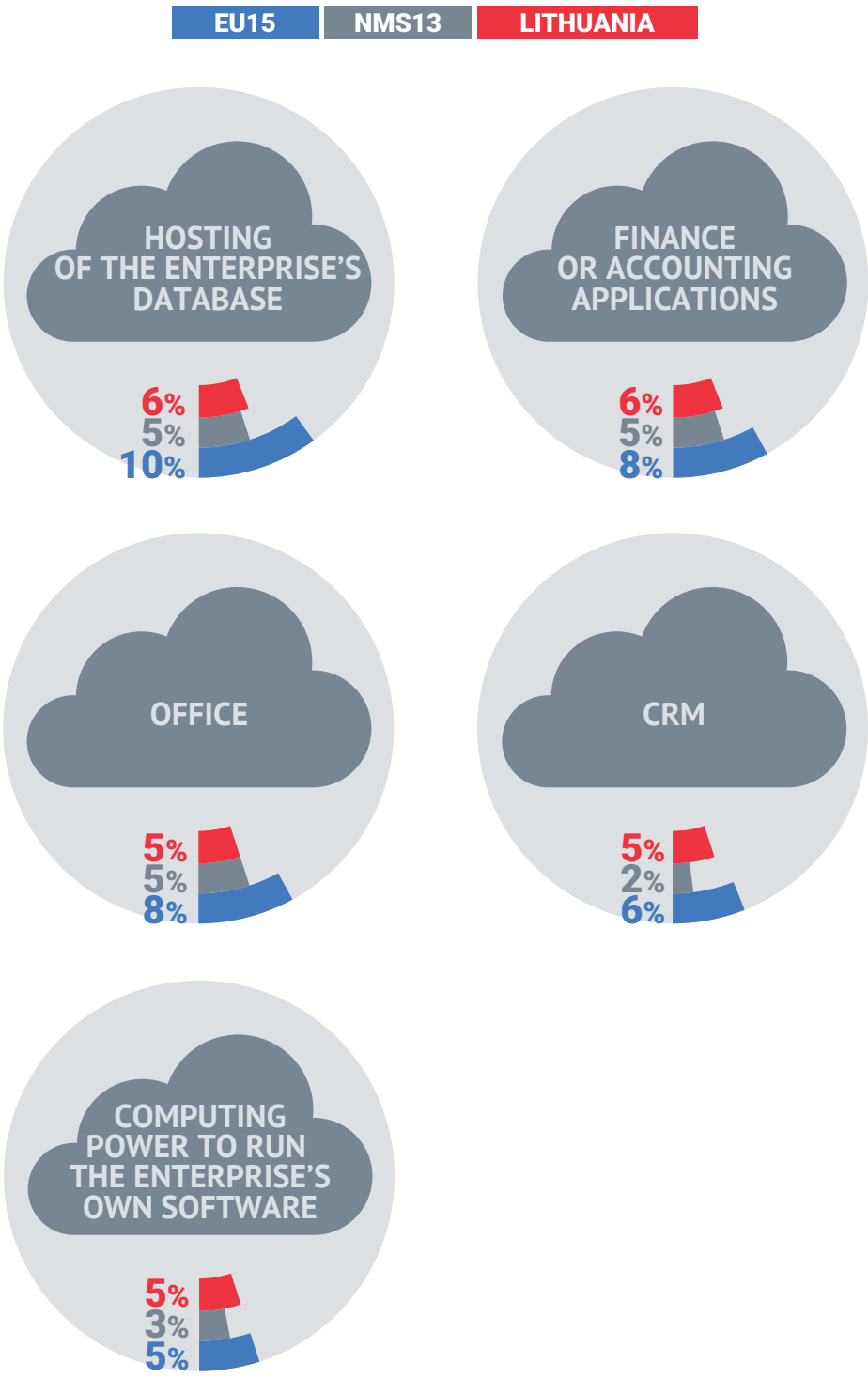
Cloud Computing

Cloud Computing (CC) refers to ICT services that are used over the Internet to access software, computing power, storage capacity, etc.

SMEs in Lithuania reveal a higher adoption of all cloud computing services than SMEs in the NMS13. Furthermore, they reach enterprises in the EU15 in terms of purchasing computing power for running software, and utilise cloud-based CRM software close to the EU15 level. However, Lithuanian SMEs need to increase their adoption of other cloud services, especially professional e-mail, storage of files and hosting of enterprise database.

Figure 17
SMEs buying selected Cloud Computing services (%), 2014





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

Conclusions

What have we found?

- Lithuanian SMEs are at the **forefront of digital transformation** as they have embraced digital technologies at a comparable level to the EU15.

- Lithuanian enterprises benefit from exceptionally good digital infrastructure – for example, virtually every SME has access to cheap high-speed Internet.

What are the challenges?

- Although more individuals in Lithuania report "above basic" digital skills than the regional average, Lithuania still lags behind the EU15.

- SMEs are recruiting relatively less ICT specialists and they do not invest sufficiently in ICT training for their employees.

- The usage of cloud computing is significantly lower than in the EU15.

What needs to be done?

- To ride the wave of digital opportunities the Lithuanian SMEs should invest in continuous development of digital skills in their workforce.

- The SMEs should intensify the usage of cloud computing and pay more attention to providing their products via websites and social media.

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.