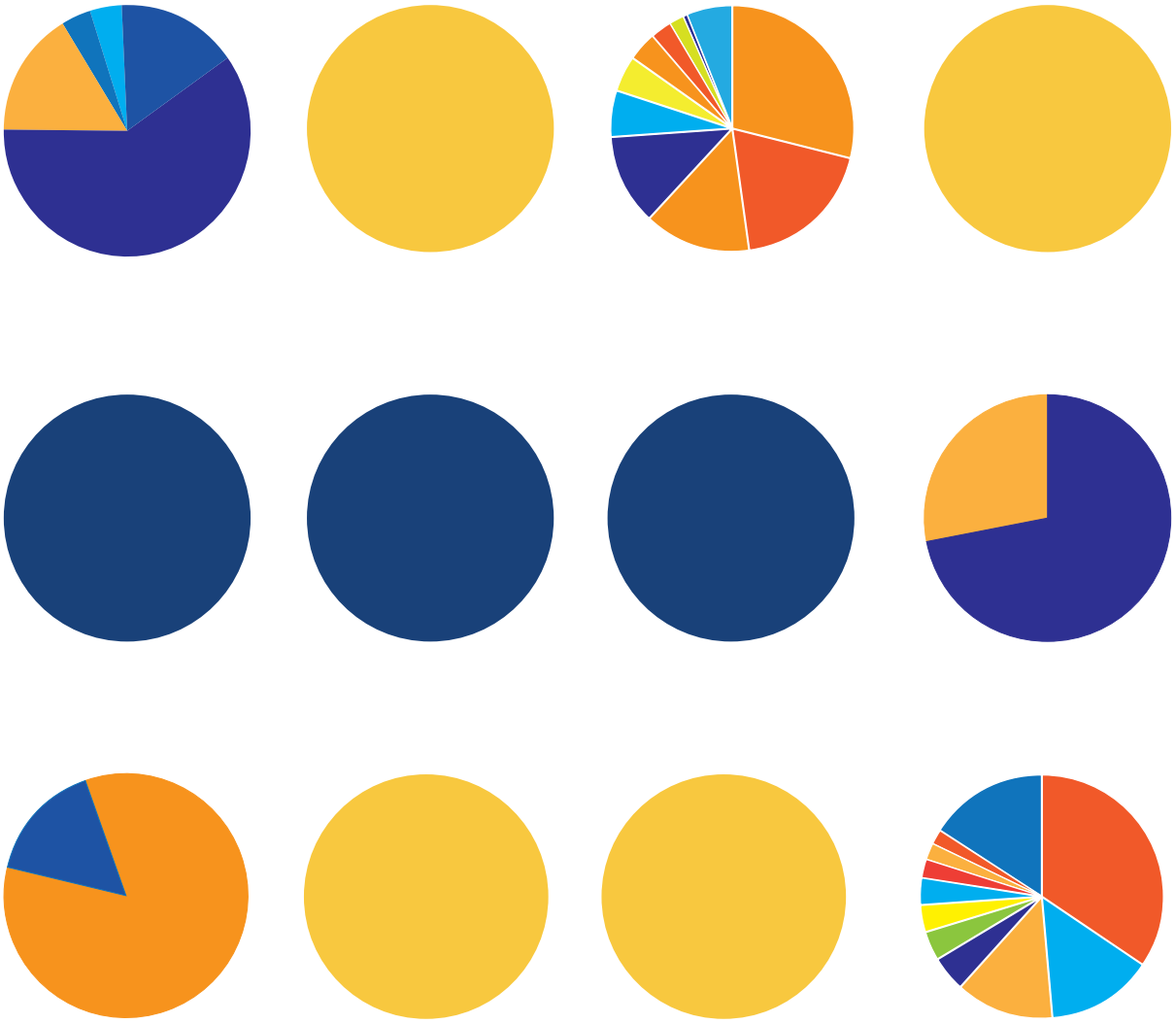
Funded by the
Erasmus+ Programme
of the European Union

ME-commercer
A new VET professional
profile for Micro Enterprises

E-commerce: report in progress

The Me-commercer: a new VET professional profile for Micro Enterprises
Project number 2016-1-LT01-KA202-023175



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This document is the starting point of the Me-commercer project: a new VET professional profile for Micro Enterprises.

The project, approved by the Lithuanian National Agency in the field of strategic partnership in the VET (Vocational and Educational Training) area, has as its main objective the creation of a new professional in the e-commerce sector, specialized in the management of online promotion and sale tools for small and micro companies. The project idea arises from the analysis of e-commerce data at international and European, national and local level, and from the analysis of the data on digitalization levels and the adoption of new models of economic development by micro and small businesses.

The economic framework of the European Union, even if there are distinctions among individual countries, is predominantly represented by companies under 250 employees, where micro enterprises - those with fewer than ten employees - account for 92.8% of the total; small companies -10 to 49 employers - account for 6% of the total and the average ones - 50 to 250 employers -1%. These companies often lack the internal resources necessary to face the challenge of a global digital market: the data analysis carried out by Eurostat in 2014 on the use of Information and Communication Technologies and e-commerce notes that only 16% of small businesses carry out e-commerce activities. On the other hand, they often have great resources in terms of the quality of the product or service they offer and in terms of tradition and competence. At the same time they are responsible for more than two thirds of the workforce in the European Union area (ESBA) and represent a fundamental resource for our economy that has great potential in e-commerce development. Growth in the use of e-commerce, both by consumers and by businesses, is one of the most significant economic trends of recent years and it is currently developing thanks to a progressive digitalization of the economic system as a whole, to the policies supported by the European Union and the Member States and also to the improvement of people's skills.

Digitalization of businesses, considered crucial to increase productivity potential and future growth prospects - as stated in Directive 2000/31 / EC of the European Parliament and of the Council of 8 June 2000 - the success of policies aimed at the creation of Digital The Single Market, the positive impact of SME actions in Europe and the policies aimed at improving human capital skills are redefining the economic and social profile of the EU and the EU itself. The alliance between politics, training institutions, companies and people is, in this context and in a transnational perspective, a priority objective for all those who want and can contribute to the economic and social development of the countries which they live in and of the Union which they belong to.

The Me-commercer project, combining, under common objectives, four organizations that belong to the private and public education and economy world, in four very different Union countries, is an example of joint collaboration and effort in this direction. As anticipated, starting with a collection of documents, statistics, recent trends and trends data, in a perspective that combines evaluation elements at the international and local level, the project intends to define, create and test a new profile of a professional who can help micro and small companies to support their e-commerce projects.

The report we are presenting on the following pages is the result of the collection, selection and evaluation of what we considered to be the necessary elements to begin this journey with: as in a photographic exhibition the document is a collection of shots, some made using a wide angle, others a macro lens, others still following the guide of authoritative suggestions, all on a path that we invite you to share while awaiting the next steps.

Summary

Digital technology has profoundly changed the society and the economy of our time; it has been doing it challenging the innovation capability of economic and political structures and people's ability to react to the change.
Technology interprets our needs and, at the same time, it creates new expectations by moving the limit of possible every day forward: what seemed like science fiction a few years ago, today it seems to be simply a new possible challenge.

In this context, e-commerce is one of the many aspects of a development that involves politics, economy and people in a flow of continuous and progressive change.
The world of e-commerce is undergoing an unprecedented wave of change. New business models are appearing that will have a strong influence across the e-commerce and wider retail value chain. At the same time, consumer behaviours and expectations are evolving.

The data that capture the phenomenon are constantly evolving, and although vulnerable, and sometimes difficult to decode, the objectivity of numbers detects a general tendency of growth of its potential and its crosscutting by a geographical, social, generational and cultural point of view.
The report jointly presented on June 26, 2006 in Brussels by Ecommerce Europe, EuroCommerce and Ecommerce Foundation confirms this trend - for the 2017 European B2B B2C turnover is expected to reach 602 billion euros, with a growth rate of around 14% - and completes, albeit provisionally - the data and numbers are, as in a time-varying flow, constantly changing - the picture we outline by exploring the Internet and the infinite amount of network data on this subject.

In Europe, the main reference context of this document, the digitization of society and the economy, as outlined through the DESI and its indicators - connectivity, human capital, use of the Internet, digitization of public administration and integration of digital technologies in businesses - is currently a well-established path, and even if there are great differences among individual countries, it is emerging as a compulsory one, but also, and above all, as a common and shared tool for development and growth.
Beyond a superficial uniformity, however, the overall picture is, in fact, multi faceted; exploring the numbers in detail, behind the apparent and general effervescence, the landscape reveals great differences between individual countries and persistent barriers: legal, logistic, connectivity, but also cultural and social.
In this context the role of the European Union is decisive as it is the role it can play in breaking down the barriers. The Union's potential market is huge - the current European population is about 500 million people - and, in a view to harmonization between countries, not only economic, the creation of a single digital market is a crucial objective.
Although a big progress has been made in this area and the Digital Single Market policy has achieved remarkable results, much remains to be done, above all in the micro, small and medium-sized business sector which, as evidenced by the Small Business Act data, despite their structures that are flexible and receptive to change, have experienced difficulties in recent years of economic crisis and demonstrate a general, inadequate capacity for technological innovation that limits not only the development of new products or services, but also the potential for developing activities in the field of electronic commerce.

The economic fabric of the European Union countries is based on micro, small and medium-sized enterprises - 99.8% of all economic activities in the EU belong to this business segment - and therefore it is clear that to support these enterprises and specific policies tailored to their needs is a priority for the development of the Union itself, for its economic growth and its social and cultural development. The promotion of entrepreneurship as a tool for growth and development, both of the economy and of people - human capital on which the strength of a country and of society is based - is another of the priorities of the European Union which has recently launched a number of positive actions in this direction, now measurable by a progressive change in the internal policies of individual EU countries and in the overall positive perception of entrepreneurship and self-entrepreneurship.

The promotion of these principles, the definition of shared common rules and the support to European companies operating on the market, both at local, national and international level, companies that make Europe an economic reality potentially able to compete with major international competitors are the shared political tools that every single country in the Union today has the duty to support and the opportunity to develop, together with a policy of innovation in the educational system, considering it as a key element in transforming into economic growth and renewal the opportunities that technological development and the mainstreaming of digital technologies, including e-commerce, offer to Europe, to its countries, to its citizens.

However, economic growth can not derogate from cultural growth and from the development of personal,entrepreneurial and social competences and the wellbeing of all individuals in the society: it is through the development and innovation of the training sector that we must, and we can, find the tools for economic growth, in harmony with the needs of people and the social fabric as a whole.

Every single country in the Union has its own educational system and the path of harmonization designed to the definition of a common framework is undertaken, but it is certainly not over. Just as it is not over yet the iter of alignment between labor market needs and training offerings, that, despite some positive signs, both in VET and university contexts, reveals the gaps and the inability to design the future by anticipating the demands of companies.
The awareness that new skills, first of all those cross-cutting skills that enable us to successfully face every new challenge, are needed is widespread and widely recognised: entrepreneurs, training institutions, job seekers and people as well are well aware of this.

Thanking them for the proactive suggestions they gave us and we reported through the only apparent neutrality of the numbers; thanking them for stimuli and questions, for the frankness with which they revealed their weakness and their desire for change
we dedicate this document to them.

Looking at the future, thinking European, proud to be (European).

The digital economy and society: state of the art and trends

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01010100 01101000 01100101 00100000
01010111 01101111 01110010 01101100
01100100 00100000 01010111 01101001
01100100 01100101 00100000 01010111
01100101 01100010*

* The binary code translation of the following text: WWW - the World Wide Web.

Twenty-eight years ago, in 1989, Tim Berners-Lee invented the World Wide Web. On August 6, 1991, the first site of our history - info.cern.ch - was online. In 1993, CERN made the World Wide Web available through an open license to promote its dissemination and enable the network to emerge as a new tool for working, researching and communicating: and it did it, incredibly fast, and - using a keyword of the digital language - virally.
The World Wide Web has changed the world as a few other inventions in the human history. The people who are surfing the net today are billions all around the world and they do it increasingly using diversified tools and making the network a driving force for development and change.
Even though there are not only lights in this sky - and Sir Tim Berners-Lee himself supports it - thanks to the network we can now think of realizable ideas and projects that would otherwise not be.
Certainly, the landscape is not uniform and certainly it is constantly evolving: the data you will find in this document, as in all the documents you can find on the net, have already been updated in the present, by people and the market.

The purpose of the pages we present in this first section is to outline the context within which the Me-commercer project is located, going to explore - beyond the numbers - some data globally, then focusing attention at European level and national level of the four partner countries: Lithuania, Italy, Spain and the Czech Republic.
The international framework presents a selection of data provided by Statista.
The European framework has been outlined by selecting some of the many data provided both for citizens and businesses by DESI - Digital Economy and Social Index - in the framework of European economic policy of the Digital Single Market.
The national landscape presents the profile of the four partner countries, the various levels of digitalization of their economies and society, a brief overview of e-commerce legislation in the particular countries and a collection of ideas, suggestions, success stories gathered by individual partners as a starting point to deepen what will be the next project activity: the online course for Me-commercers.

Statista is one of the leading statistics companies on the Internet. With a team of over 250 statisticians, database experts, analysts, and editors, Statista provides users with an innovative and intuitive tool for researching quantitative data, statistics and related information. The product is aimed at business clients and academics of any size. Consultant firms and media agencies license our services as well as strategy and marketing departments in large corporations from a variety of industries. Their client base includes a wide range of globally active companies and premier academic institutions. Since the launch of the platform in 2008, more than 1.000.000 users have registered with Statista.

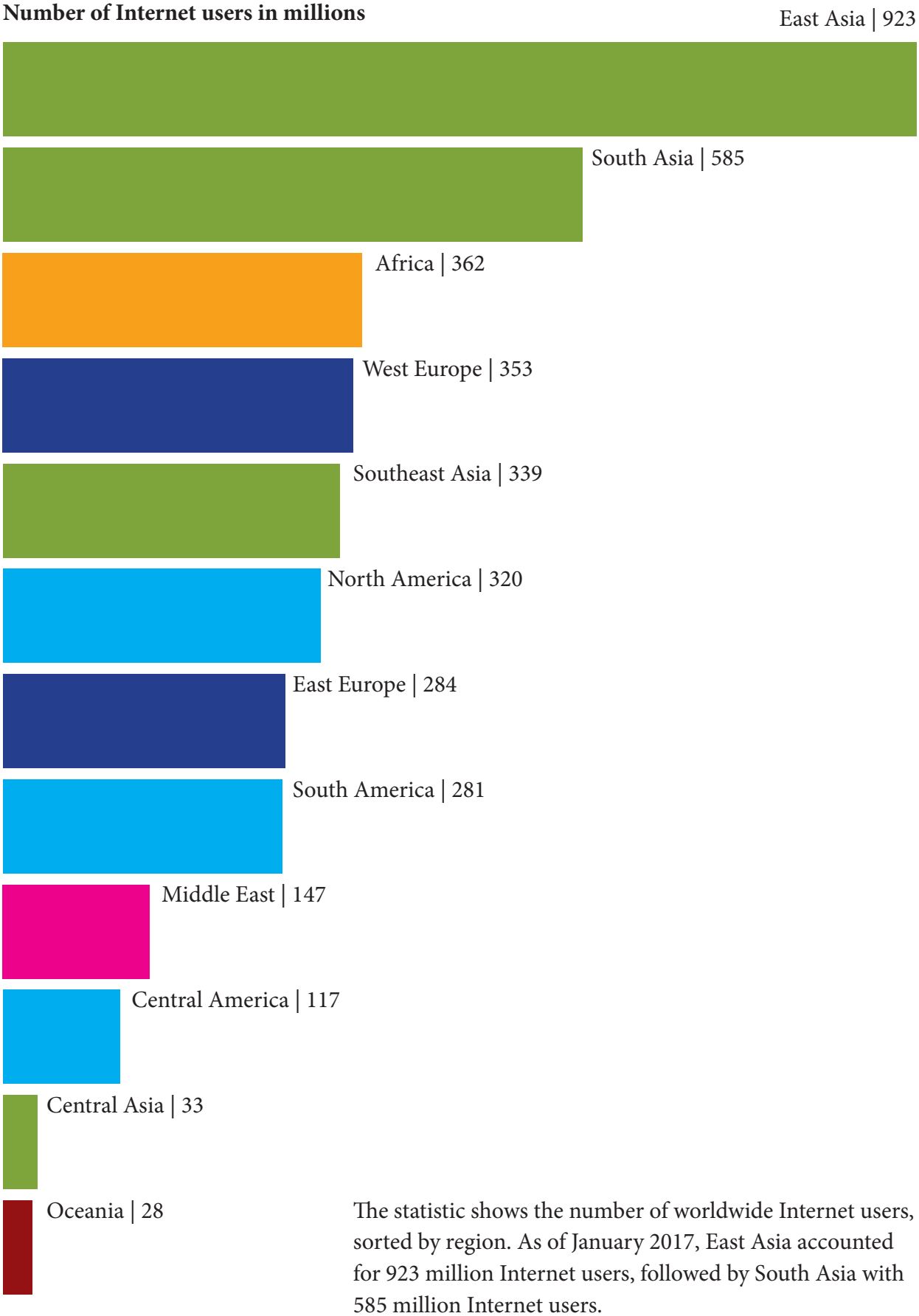
The digital economy and society: state of the art and trends

Global framework

Easier access to computers, the modernization of countries around the world and an increased utilization of smartphones has given people the opportunity to use the Internet more frequently and with more convenience. However, Internet penetration often pertains to the current state of development regarding communications networks. As of January 2016, there were approximately 680 million total Internet users in China and 282 million total Internet users in the United States. However, broadband Internet usage is not equally present in many countries and due to infrastructure reasons, developing online markets rely strongly on mobile connections. As of 2015, 52.7% of the global mobile phone population accessed the Internet from their mobile device. Subsequently, global mobile data traffic is set to surpass 30.6 exabytes per month in 2020, up from 3.7 exabytes per month as of 2015.

Social networking is one of the most popular online activities and Facebook is the most popular online network based on active usage. As of the fourth quarter of 2015, there were a total of roughly 1.59 billion monthly active Facebook users, accounting for almost half of Internet users worldwide. Connecting with family and friends, expressing opinions, entertainment and online shopping are amongst the most popular reasons for Internet usage. The most active online users were Millennials aged between 18 and 32 years with an average of 7.43 hours online every day.

Number of Internet users in millions



The statistic shows the number of worldwide Internet users, sorted by region. As of January 2017, East Asia accounted for 923 million Internet users, followed by South Asia with 585 million Internet users.

Statistics and facts about global e-commerce

For private consumers around the globe the most well-known form of e-commerce falls into the business to consumer (B2C) category, which includes online retail or online shopping. It refers to online purchases from bricks-and-mortar retailers, such as Walmart, as well as from web-only online retailing corporations such as Amazon.com or Rakuten. In 2016, an estimated 1.61 billion people worldwide purchased goods online. In 2016, global e-retail sales amounted to 1.9 trillion U.S. dollars and projections show a growth of up to 4.06 trillion U.S. dollars by 2020. In Asia Pacific, e-retail sales accounted for 12.1% of retail sales in 2016 but only for 1.8% of retail sales in the Middle East and Africa.

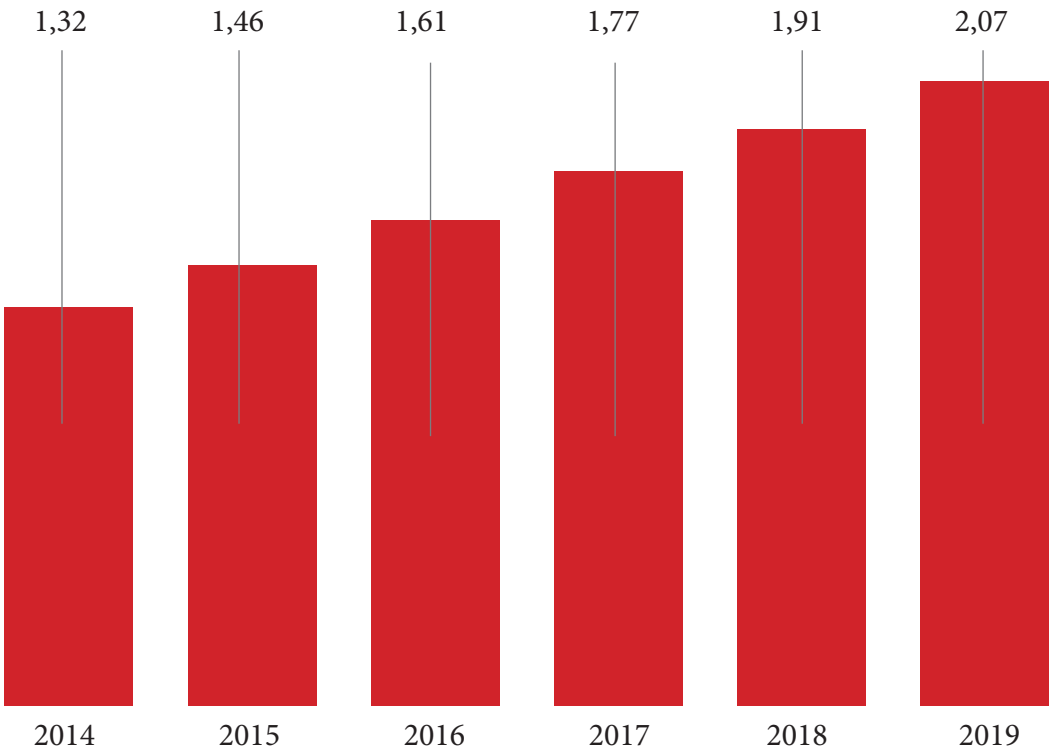
In recent years, mobile shopping has been on the rise, with customers increasingly using their mobile devices for various online shopping activities. According to a March 2016 study regarding mobile shopping penetration worldwide, 46% of Internet users in the Asia Pacific region and 28% of those in North America had purchased products via a mobile device, whether smartphone or tablet computer. As of the fourth quarter of 2016, desktop PCs still accounted for the majority of global e-retail orders but smartphones are the number one device in terms of retail website visits. During a 2017 survey, 11% of online shoppers stated that they shopped online via smartphone on a weekly basis.

The average online shopping and purchase intention rates among online shoppers also vary strongly by product category - a total of 53% of online shoppers had purchased books or music online in the past 12 months but only 5% of shoppers had bought artwork online. The average number of annual online transactions per capita is also not uniform - Asian shoppers made an average of 22.1 online transactions whereas shoppers in Latin America online made 9.2 e-retail purchases.

Amazon.com is one of the most popular and well-known example of an online shopping platform. Founded in 1995, the Seattle-based site started out as an online bookstore, but soon began expanding its product range towards other retail goods and consumer electronics. As of 2015, Amazon is the worldwide leading e-retailer, as well as the number one web-only retailer globally.

Digital buyers worldwide

Purchasing goods and services online has become a common practice among many people around the world. Some choose to make online purchases for convenience, others because of the competitive price offered by some e-commerce platforms. Digital buyers can also be influenced by a range of digital resources when shopping, such as brand emails and product reviews. Regardless of the reasons for purchase, the number of digital buyers is on the rise. PayPal is the preferred payment method amongst online shoppers worldwide, as more than 40% of online shoppers affirmed using this method. The traditional credit card ranks second with a 31% usage rate, followed by debit cards. The range of devices with Internet connections available to online shoppers allows products to be purchased almost anywhere from any device. During the last quarter of 2016, online orders which were placed from a tablet had an average value of 106.98 U.S. dollars, while orders from PC devices averaged 143.35 U.S. dollars. In the U.S., online shopping is expected to remain popular in the future, as the country is one of the leading online retail markets with prospects to grow in the next years. About 80% of Internet users in the U.S. are expected to make at least one purchase online during the calendar year in 2019, a significant increase from 2013, when this share stood at 73%

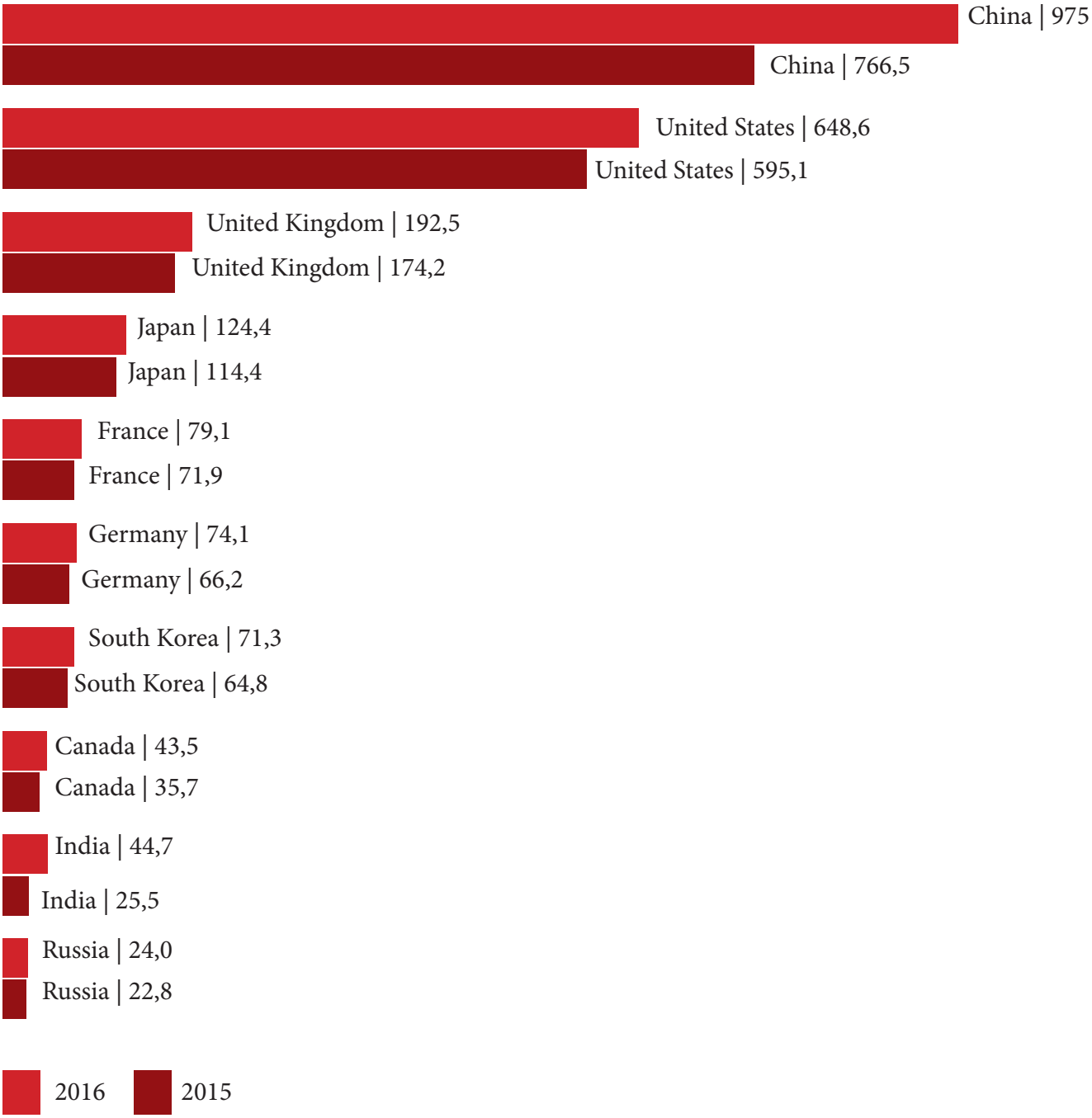


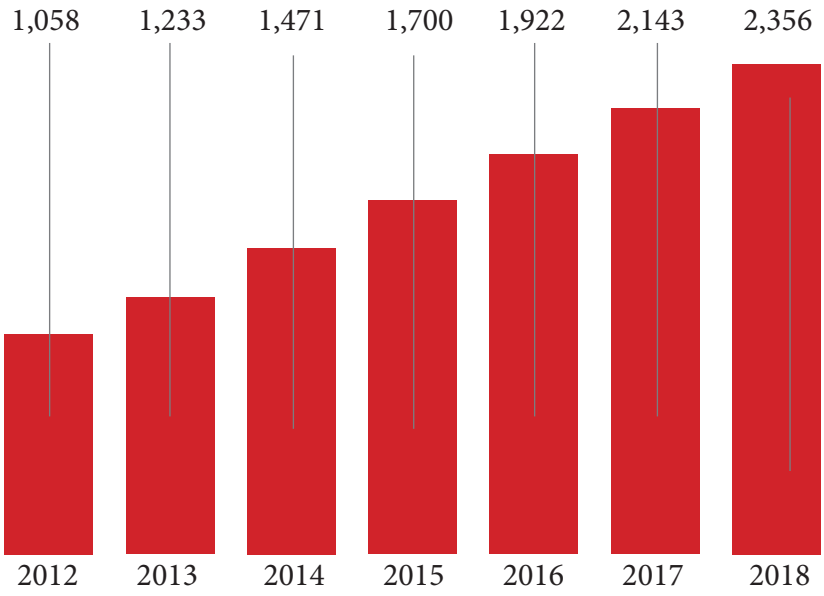
Number of digital buyers worldwide from 2014 to 2019 (in billions)

This timeline displays the trend of the number of digital buyers worldwide from 2014 to 2019. In 2019, over 2 billion people worldwide are expected to buy goods and services online, up from 1.46 billion global digital buyers in 2015.

Countries with the largest B2C e-commerce markets in 2015 and 2016 (in billion U.S. dollars)

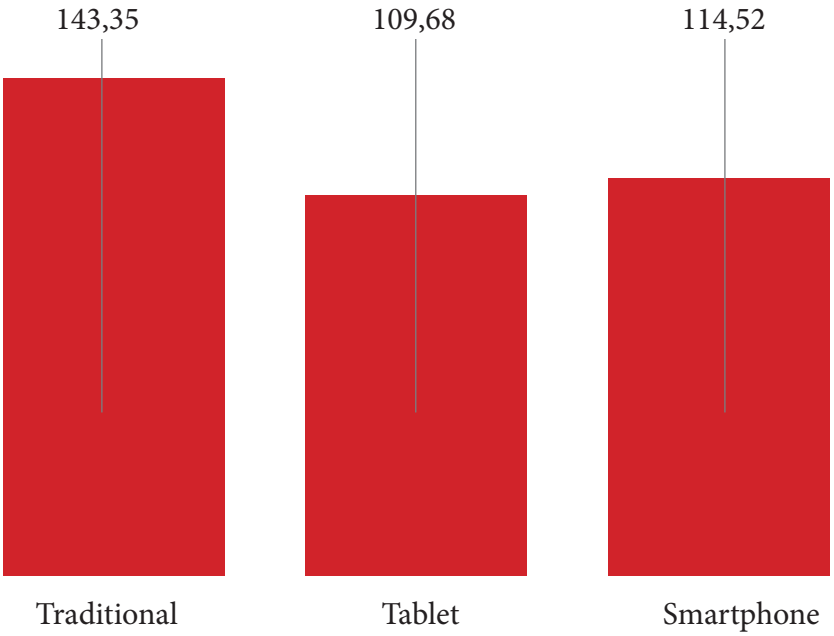
The figure shows the size of the largest B2C e-commerce markets in 2015 with estimates regarding 2016. The source valued China's B2C e-commerce market at 766.5 billion U.S. dollars. The United States were ranked second with a 595 billion U.S. dollar e-commerce turnover during that year.





B2C e-commerce sales worldwide from 2012 to 2018 (in billion U.S. dollars)

This statistic shows the estimates on B2C e-commerce sales worldwide until 2018 as expected in 2013.



Average value of global online shopping orders as of 4th quarter 2016, by device (in U.S. dollars)

This statistic provides information on the average order value of online shopping orders worldwide in the fourth quarter of 2016, differentiated by the type of device from which the order was made. During that quarter, online orders which were placed from a smartphone had an average value of 114.52 U.S. dollars while online orders which were generated via direct traffic had an average value of 129.92 U.S. dollars. Smartphones may have overtaken desktop devices in terms of retail site visits but still lag behind in terms of revenue - during the fourth quarter of 2016, smartphones accounted for 52% of retail website visits worldwide but only generated 30% of e-retail shopping revenues.

The digital economy and society: state of the art and trends

European Union

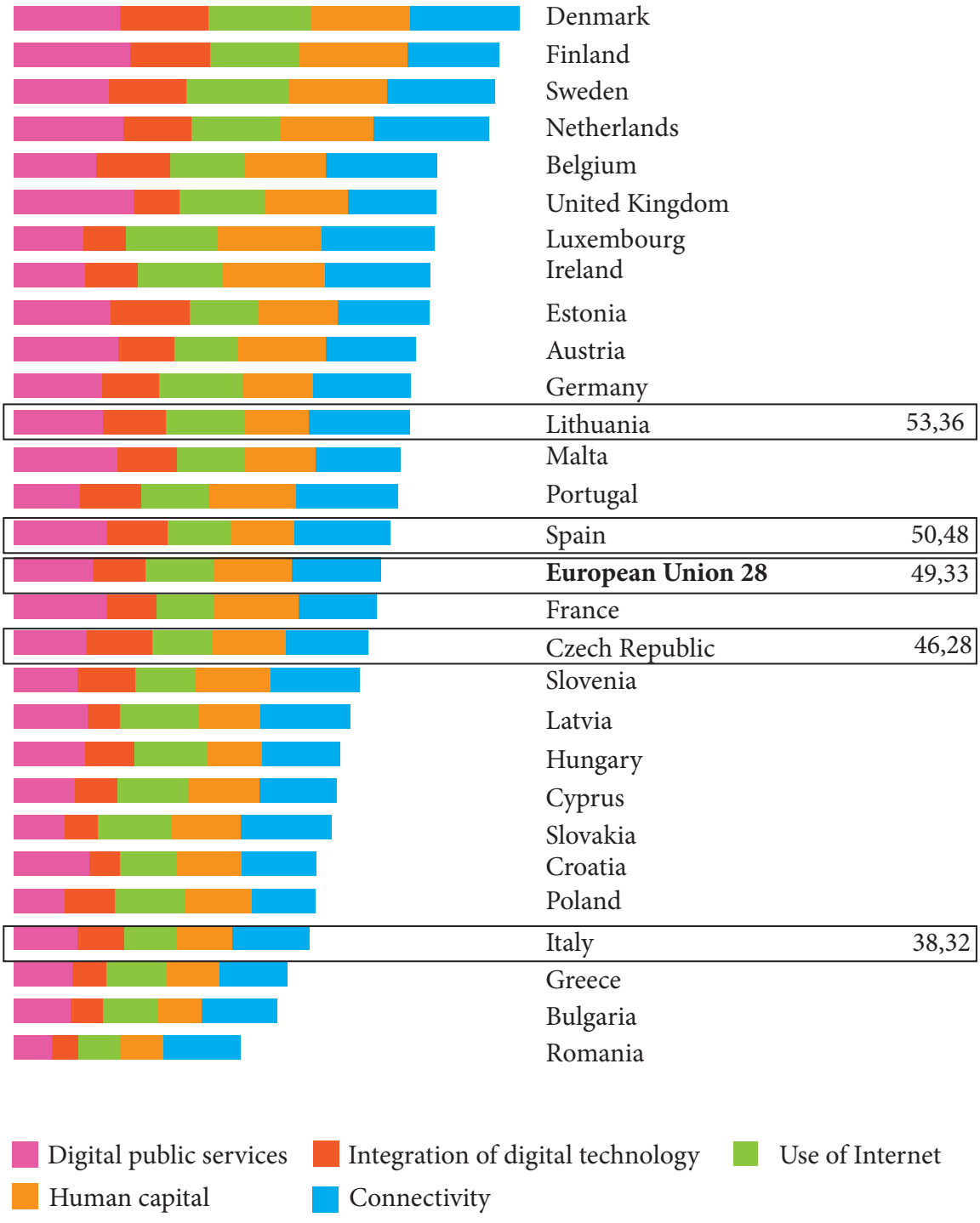
To outline the *digital profile* of the European Union and the profile of the four partner countries we referred to the data presented by The Digital Economy and Society Index (DESI): a composite index that summarises some 30 relevant indicators on Europe's digital performance and tracks the evolution of EU Member States, across five main dimensions: Connectivity, Human Capital, Use of Internet, Integration of Digital Technology, Digital Public Services.

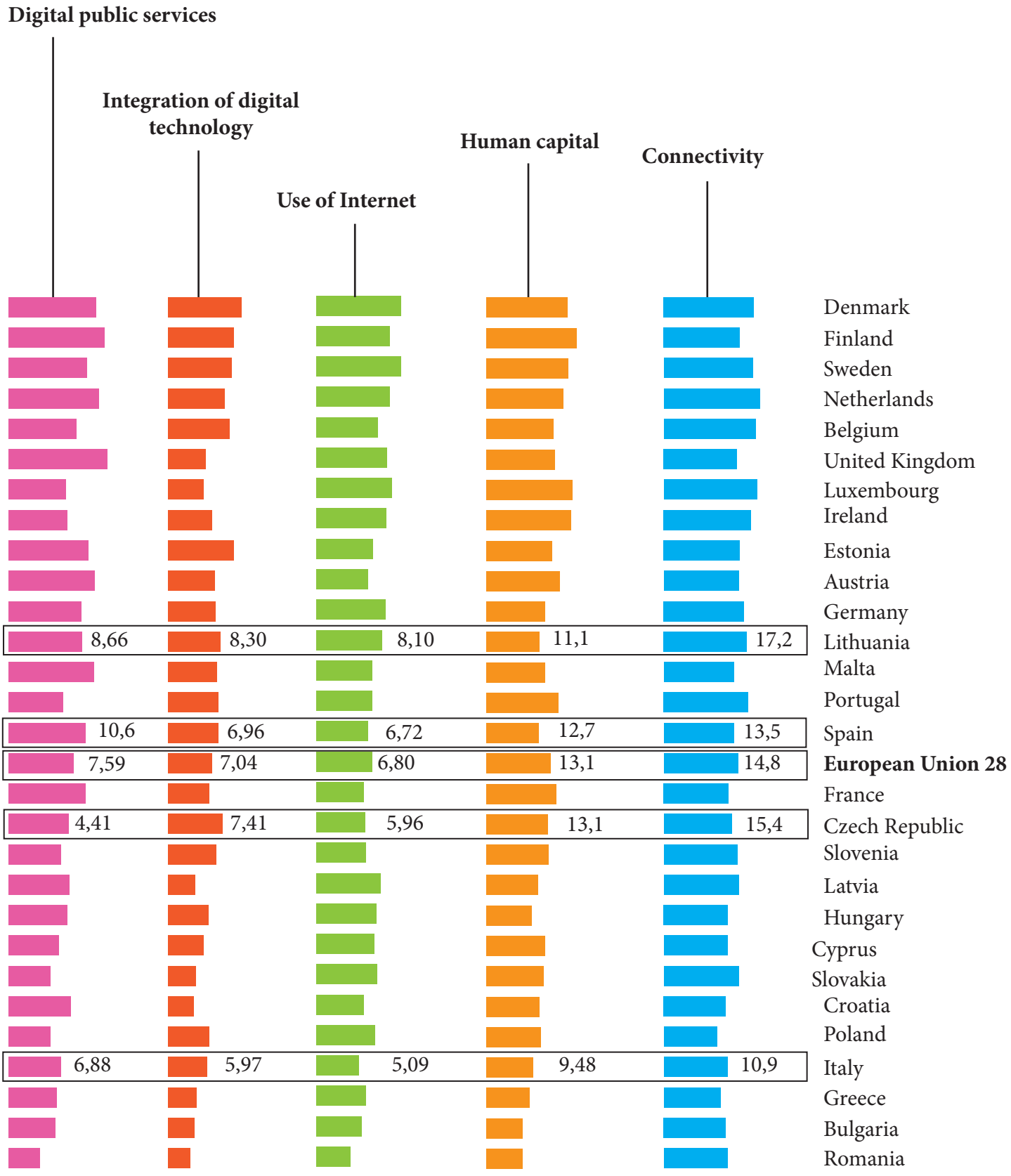
The digital economy and society: state of the art and trends

European Union - DESI data

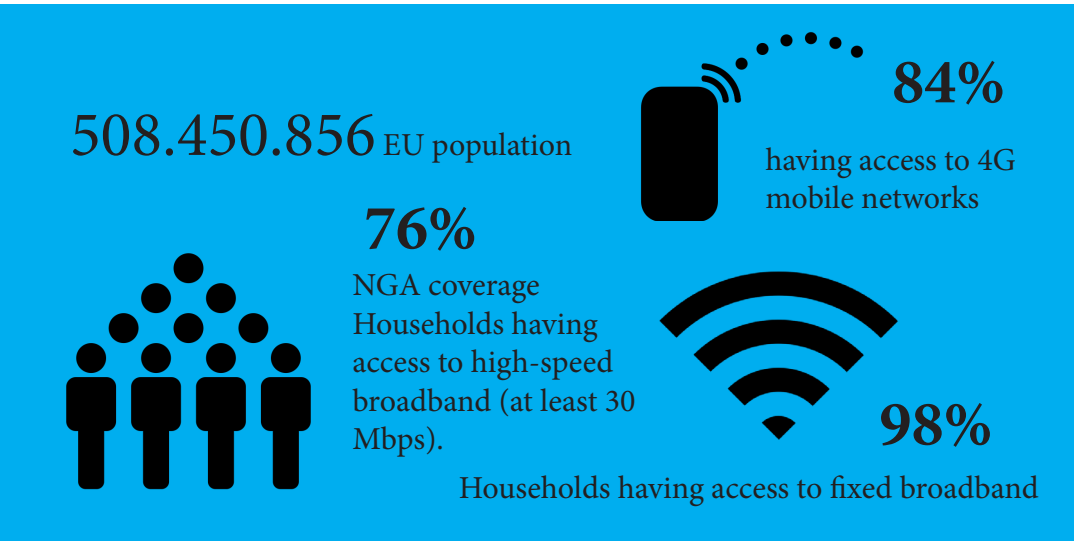
Digital Economy and Society Index

The following bar chart shows the situation of EU 28 in 2017.
Further, within this section, you can find each single partner's country data.



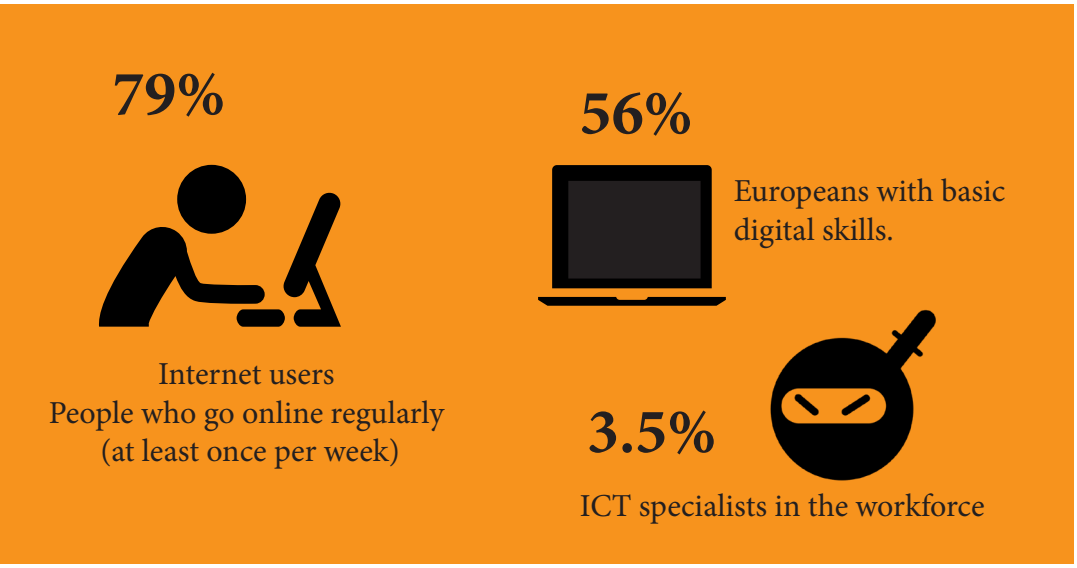

Digital public services
Integration of digital technology
Use of Internet
Human capital
Connectivity
Denmark
Finland
Sweden
Netherlands
Belgium
United Kingdom
Luxembourg
Ireland
Estonia
Austria
Germany
8,66
8,30
8,10
11,1
17,2
Lithuania
Malta
Portugal
10,6
6,96
6,72
12,7
13,5
Spain
7,59
7,04
6,80
13,1
14,8
European Union 28
France
4,41
7,41
5,96
13,1
15,4
Czech Republic
Slovenia
Latvia
Hungary
Cyprus
Slovakia
Croatia
Poland
6,88
5,97
5,09
9,48
10,9
Italy
Greece
Bulgaria
Romania

Connectivity



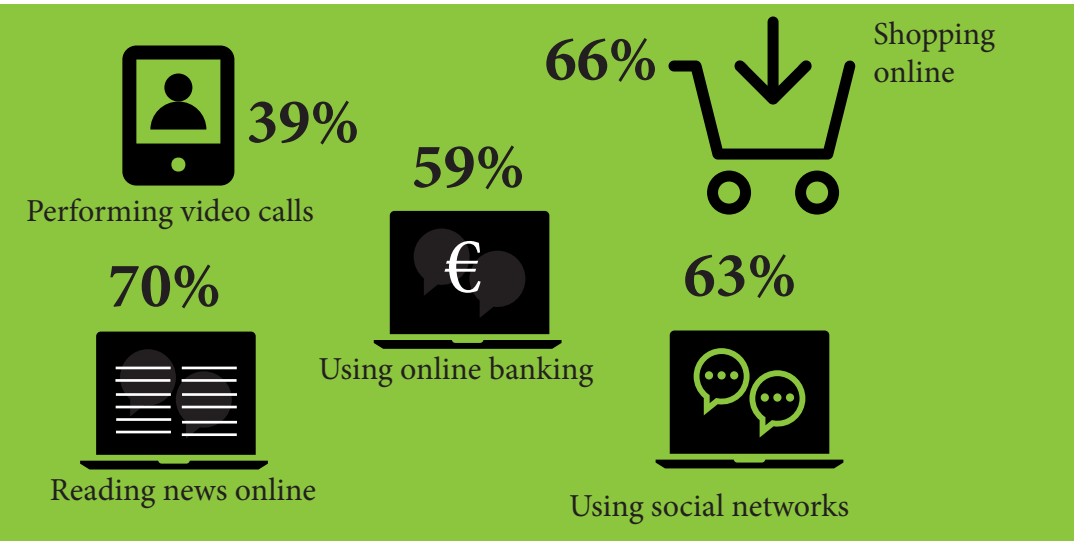
The Connectivity dimension measures the deployment of broadband infrastructure and its quality. Access to fast broadband-enabled services is a necessary condition for competitiveness.

Human capital /Digital skills



The Human Capital dimension measures the skills needed to take advantage of the possibilities offered by a digital society. Such skills go from basic user skills that enable individuals to interact online and consume digital goods and services, to advanced skills that empower the workforce to take advantage of technology for enhanced productivity and economic growth.

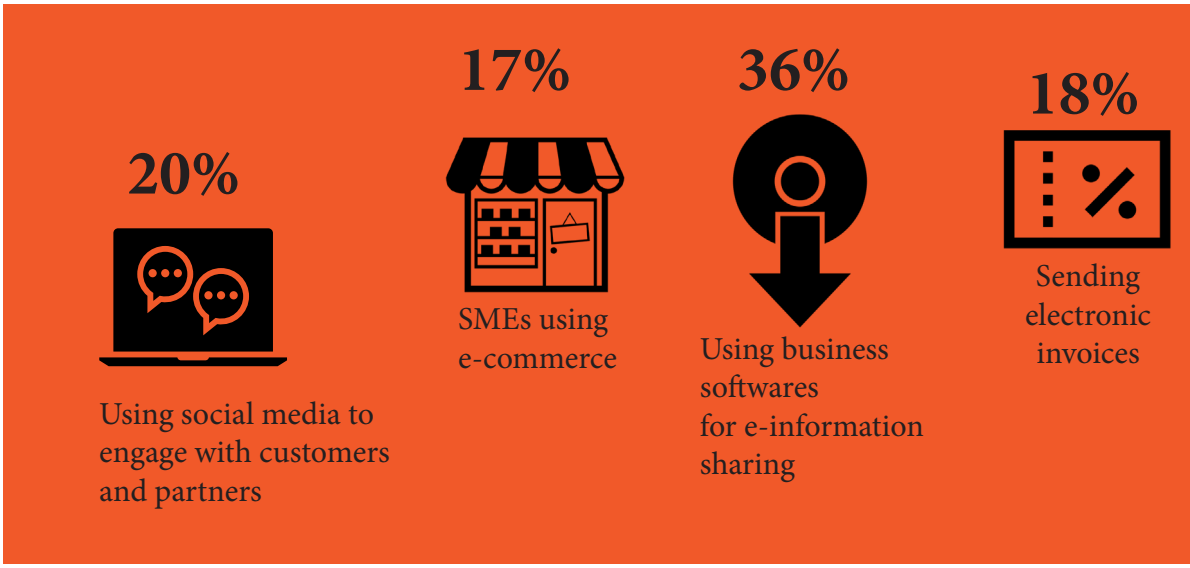
Use of Internet by citizens



The Use of Internet dimension accounts for the variety of activities performed by citizens already online. Such activities range from consumption of online content (videos, music, games, etc.) to modern communication activities or online shopping and banking.

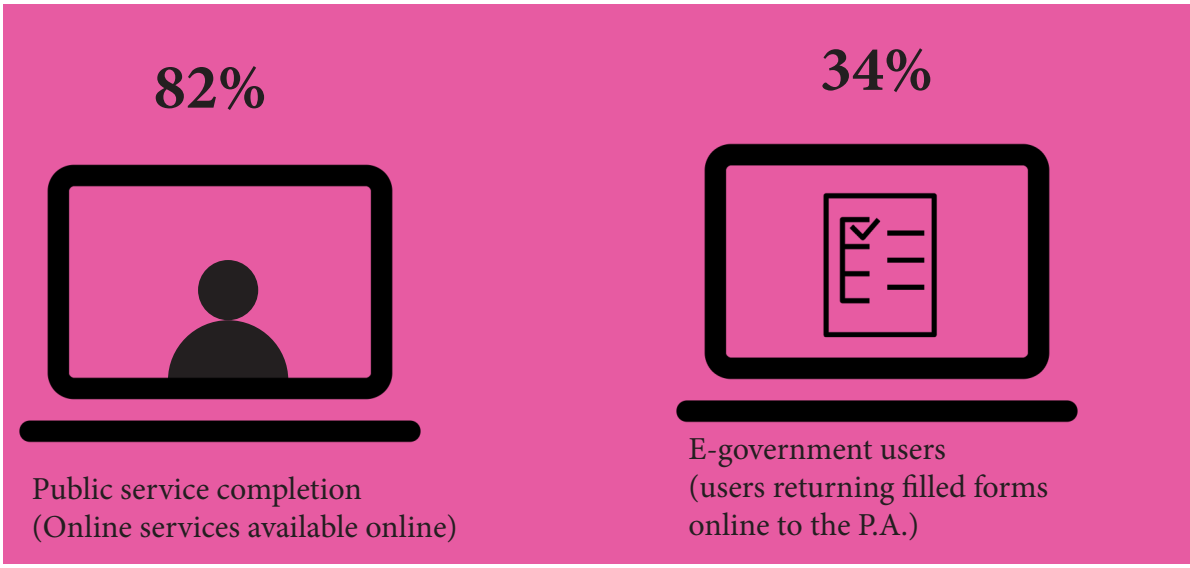
Integration of Digital Technology by enterprises - Europe

The Integration of Digital Technology dimension measures the digitisation of businesses and their exploitation of the online sales channel.



Digital Public Services - Europe

The Digital Public Services dimension measures the digitisation of public services, focusing on eGovernment.



The digital economy and society: state of the art and trends

European Union - Regulatory framework

The 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 ('Directive on electronic commerce') has created the basic legal framework for online services, including electronic commerce in the Internal Market. The purpose of the Directive is to remove obstacles to cross-border online services in the European Union and provide legal certainty to business and citizens in cross-border online transactions.
The Directive on the electronic commerce, adopted in 2000, sets up an Internal Market framework for electronic commerce, which provides legal certainty for business and consumers alike.
The Directive establishes harmonised rules on issues such as the transparency and information requirements for online service providers, commercial communications, electronic contracts and limitations of liability of intermediary service providers. It also enhances administrative cooperation between the Member States and the role of self-regulation.

After the adoption of the directive reports, studies and public consultations were released by the European Commission.
The following are the main ones:

1. 2003 Report on the application of the Directive
Article 21 of Directive 2000/31/EC provides that in 2003 and thereafter every two years, the Commission shall submit to the European Parliament, the Council and the Economic and Social Committee a report on the application of the Directive accompanied, where necessary, by proposals for adapting it to legal, technical and economic developments in the field of information society services.
The report provides the first assessment of the transposition and application of the Directive and its impact. The report is the first stage in a continuous process to ensure that Europe stays in the frontline of development in electronic commerce with a maximum level of legal certainty both for business and consumers.
2. 2007 Studies
In the context of the application of the e-commerce Directive, the EC commissioned two studies respectively on its economic impact and on the application of the provisions on the liability of Internet intermediaries.
The first study was carried out by Copenhagen Economics and finalised in September 2007; the second one, was undertaken by the ULYS consortium.

3. 2012 Communication *A coherent framework to build trust in the Digital single market for e-commerce and online services.*
On January 11, 2012, the European Commission adopted the Communication on e-commerce and other online services. Based on an in-depth public consultation, this Communication sets out the Commission's vision for the potential represented by online services in growth and employment, identifies the principal obstacles to the development of e-commerce and online services, and establishes 5 priorities, accompanied by an action plan: develop the legal and cross-border offer of online products and services; improve operator information and consumer protection; reliable and efficient payment and delivery systems; combating abuse and resolving disputes more effectively; deploy high-speed networks and advanced technological solutions.

4. Commission staff working document *Report on the implementation of the e-commerce action plan* – 23/04/2013
The Commission published a report on progress made in the implementation of the e-commerce action plan.
The report shows that many important actions foreseen in the action plan have already been initiated.

5. Public consultations
2010 – The future of electronic commerce
The public consultation was conducted to analyse the reasons why electronic commerce remains limited to low percentage of total retail service sales in the EU over 10 years after it started. Issues covered in the consultation included: commercial communications of regulated professions such as pharmacists and lawyers; the development of the online press; the issue of the liability of Internet intermediaries; administrative cooperation; on-line dispute resolution, etc.
420 responses were received: they have been summarised in a summary report.

2012 - Procedures for notifying and acting on illegal content hosted by online intermediaries: A clean and open Internet
On June 4, 2012, the European Commission launched a public consultation on procedures for notifying and acting on illegal content hosted by online intermediaries. The Commission wants to collect comments from all stakeholders on how this can best be achieved. The summary of the result are available.

Read more:
Full text of the Directive

The digital economy and society: state of the art and trends

European Union - Other interesting facts
Strategy for the EU Digital Single Market

Digital technologies are going into every aspect of life. All they require is access to high speed Internet. We need to be connected, our economy needs it, people need it.

Jean-Claude Juncker, State of the Union Address - European Parliament, 14 September 2016

Bringing down barriers to unlock online opportunities

The digital single market strategy is made of three policy areas or *pillars*:

1. better access for consumers and business to online goods helping to make the EU's digital world a seamless and balanced marketplace to buy and sell;
2. the right environment for digital networks and services designing rules which match the pace of technology and support infrastructure development;
3. economy and society ensuring that economy, industry and employment in Europe take full advantege of what digitization offers.

At present, only 7% of EU small and medium-sized businesses sell cross-border.
It is the aim of the European Commission to create a true digital single market, where the free movement of goods, persons, services and capital is ensured — and where citizens and businesses can seamlessly and fairly access online goods and services: whatever their nationality is and wherever they live.

The Digital Single Market could greatly contribute to the European economy, boosting jobs, growth, competition, investment and innovation. It can expand markets and foster better services at better prices, offer more choice and create new sources of employment. It can create opportunities for new start-ups and allow existing companies to grow and profit within a market of over 500 million people.

Since May 2015, the European Commission has delivered 35 legislative proposals and policy initiatives as announced in its Digital Single Market strategy. The focus is now on obtaining political agreement with the European Parliament and the Council on all proposals, above all the updated EU telecommunication rules which will boost investments in high-speed and quality networks, which are critical for the full deployment of the digital economy and society.

The Digital Single Market strategy has also delivered key legislative proposals such as boosting e-commerce, modernising copyright, audiovisual and ePrivacy rules, harmonising digital rights, guaranteeing affordable parcel delivery and harmonising VAT rules.

In order to ensure a fair, open and secure digital environment, the Commission has identified three main areas where further EU action is needed:

- to develop the European Data Economy to its full potential;
- to protect European assets by tackling cybersecurity challenges;
- to promote the online platforms as responsible players of a fair Internet ecosystem.

In addition, the Commission will present various non-legislative areas on digital skills, digitising industry and services, modernising public services, health and care, as well as the global dimension of the Digital Single Market.

On May 10, 2017, the Commission published the mid-term review of the Digital Single Market Strategy. It shows the progress made in implementing the Strategy since 2015 and where further actions are needed.

Read more

The digital economy and society: state of the art and trends

European Union - Other interesting facts
ECommerce Europe

Ecommerce Europe is the association representing more than 25.000 companies selling goods and/or services online to consumers in Europe.

Ecommerce Europe is the voice of the e-commerce sector in Europe. Through its 20 national associations, Ecommerce Europe represents over 25,000 online shops across Europe. Its mission: boost the e-commerce industry by helping decision makers shape policies fit for future sustainable growth. To do so, Ecommerce Europe takes initiatives to come up with innovative market solutions and provides a platform for expert discussion, connect online retailers with relevant stakeholders. It also highlights the importance of e-commerce to the economy through the provision of in-depth research on the European and global markets. Additionally, Ecommerce Europe stimulates the industry by developing initiatives like its *European Trustmark label*: – provided for free to more than 10,000 certified online shops across Europe.

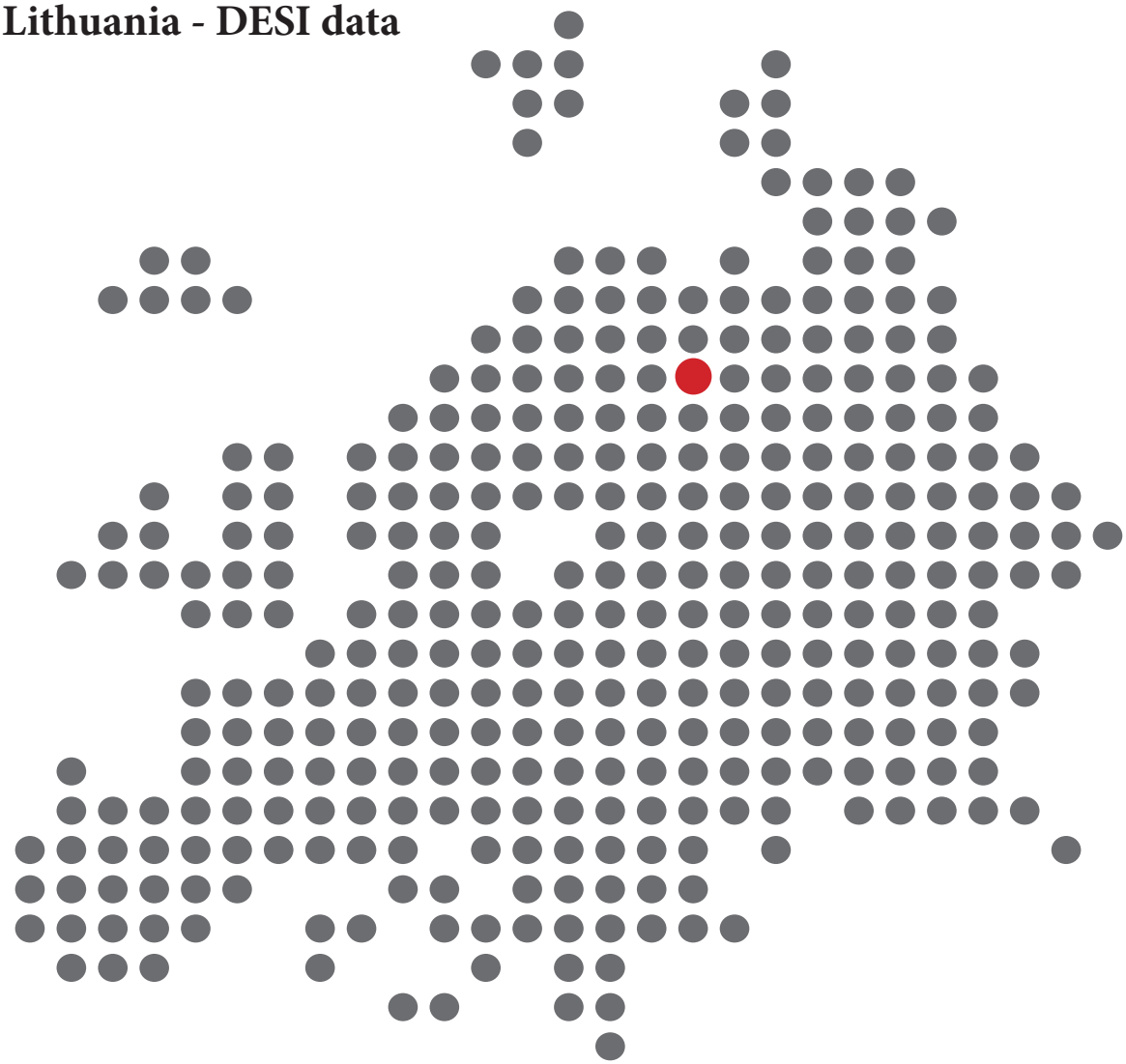
The following national associations are part of Ecommerce Europe - June 2017:

ACEPI - Portugal
adigital - Spain
APEK - Czech Republic
ARMO - Romania
be commerce - Belgium
E-commerce Association - Bulgaria
Verkkoteollisuus - Finland
e-COMMERCE POLAND - Poland
eCOM.lu - Luxembourg
FDIH - Denmark
fevad - France
KAUPPA.FI - Finland
GRECA - Greece
Händlerbund - Germany
netcomm - Italy
netcomm suisse - Switzerland
Retail Excellence - Ireland
SzEK.org - Hungary
Thuiswinkel.org - Netherlands
VIRKE - Norway

The Lithuanian national association dealing with e-commerce is Elkoma.
The association has not been included in the list because it was not officially part of the ECommerce Europe network when this document was written.

The digital economy and society: state of the art and trends

Lithuania - DESI data



Significant growth of e-commerce coverage is recorded in Lithuania. Digital environment provides increasingly important business opportunities for small and medium-sized companies. Business experts by AB Swedbank state that entrepreneurs nowadays should not consider *if* to start e-commerce activities, but deliberate *what* wares or services should be placed in online store. Repesentative of e-commerce association of Lithuania - Chairman of the board for ELKOMA - Vytautas Vorobjovas says: *Each entrepreneur, considering to start or not the e-commerce activities, has to know that: all questions, worries and barriers, might appear to, were already worked out and solved. All solutions, actual for business, already exist, so the most important thing for the entrepreneur is to make a decision and go on with it.*

Lithuania ranks 13th out of the 28 EU Member States in the European Commission Digital and Society Index 2017.

Lithuania's DESI score is above the EU average but overall the country has developed slower than the EU over the last year. Lithuania performs particularly well in Connectivity and Integration of Digital Technology. Lithuania is below the EU average for Human Capital, which is largely due to a drop in the share of STEM Graduates and the persisting low share of ICT specialists as a fraction of employed individuals.

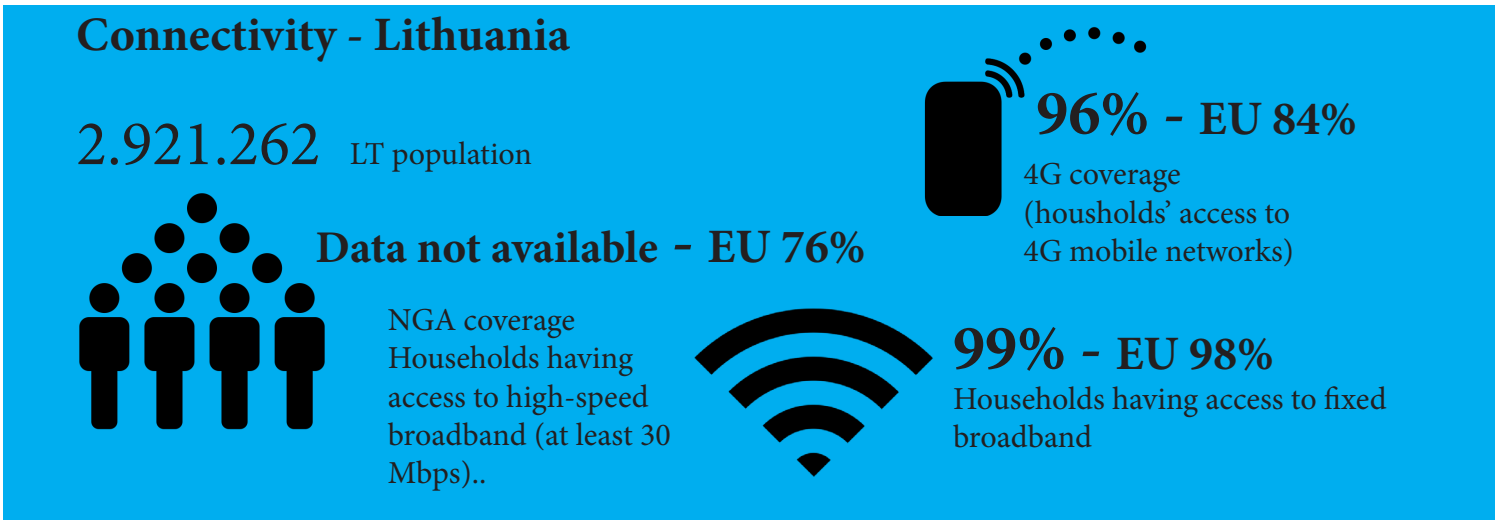
Lithuanian Internet users are very active online in using new services over mobile, e.g. payment instruments, mobile e-signature, car parking, banking services, etc.

Concerning Digital Public Services, Lithuania is above EU average and has made continuing progress towards increasing its uptake of eGovernment, compared with previous years.

Lithuania belongs to the Medium performing cluster countries including Latvia, Czech Republic, Slovenia, France, Portugal, Spain, Malta, Germany and Austria.

Connectivity

Lithuania performs well and is making progress in the Connectivity dimension, keeping its 8th place in the EU ranking. While Lithuania is still performing below EU average in the take-up of fixed broadband, possibly due to relatively low Internet skills, subscriptions to fast broadband are increasing. Demand for these services is almost the double the EU average and demonstrates year-on-year growth. Lithuania has one of the highest levels of 4G coverage, and is well above the EU average. Even though mobile broadband take-up has considerably improved, it has not risen enough to catch up with the EU average. In line with its 2014 Programme on the Information Society Development for 2014–2020 Digital Agenda for the Republic of Lithuania, the Lithuanian government is planning to develop the high-speed broadband communication infrastructure in areas where the development of the infrastructure and the provision of electronic services cannot be ensured by the market, and to promote competition in the market for broadband communication as well as for the use of the broadband communication services. In order to achieve the objectives mentioned above, the following targets have been set by 2020: 50% of households in Lithuania should use 100 Mb/s or faster broadband communication, while 30 Mbps and faster broadband communication should be accessible, i.e. cover 100% of households throughout the territory of the country; 50% of total Lithuania's households users should have subscriptions for 100 Mbps and faster broadband connection; and 95% of Lithuania's enterprises should use the high-speed Internet. High-speed mobile broadband communication is rolling out across the country thanks to increasing 4G network coverage. Lithuania launched a public funded project based on the direct investment model in 2015. The model was chosen as the most effective approach to achieve open access, pricing and affordability. Prices of services provided by PE Plačiajuostis Internetas are set by the Ministry of Transport and Communications. This scheme ensures that prices are set in transparent, non-discriminatory way, through draft legal acts made available for public consultation in the official Register of Legal Acts of the Republic of Lithuania. Lithuania has reported that over 2016 a public consultation with market players took place and as a result, a consultant was chosen to map the existing NGA infrastructure. The study will be ready in the 1st trimester of 2017. Selection of the most advantageous technologies to meet NGA goals in *white* areas will be carried out once the existing NGA infrastructure has been mapped. As a result, per the model, sustainable investments in NGA infrastructure are ongoing with an estimated cost of around 46 million Euros. The mobile operators plan to replace, at their own cost, current base stations in cities, district centres and areas where mobile communication network masts have been installed with Long Term Evolution technology If Lithuania is really intending to develop the next generation access infrastructure in white areas, more state investment in fibre networks will be necessary alongside private investment. Moreover, demand-side measures.



Human capital

On Human capital, Lithuania is below the EU average and has kept the same position compared with last year, ranking 20th among EU countries. The share of regular Internet users is also below the EU average but unlike in previous years, 2016 has seen an improvement. Barely half of Lithuanians have basic digital skills. On the positive side, the number of Lithuanians who have never used the Internet has decreased from 24.6% to 21.8%, although this level is still significantly worse than the EU average. As in other EU countries, this figure is higher among seniors and lower educated citizens. The share of ICT specialists as a percentage of employed individuals is the second lowest in the EU. Although it is a positive sign that Lithuania has a relatively high share of STEM graduates (Science, Technology, Engineering, Mathematics), the numbers are significant lower than in the previous year.

A very high number of skilled people are leaving the country to be employed abroad and skills shortages continue to be high and risk becoming an important bottleneck for Lithuania's growth. The Digital Agenda Strategy recognises that addressing this remains crucial to support digital transformation and sets out some important steps to reinforce the investment in human capital, notably boosting the quality of teaching, labour market relevance of education, improving the employability of the low-skilled and promoting adult and work-based learning. The strategy sets an objective to attract more young people to choose ICT and other science studies and professions in order to ensure the acquisition of digital skills when learning other professions.

In order to improve the planning process and policy design in education, a national human resources monitoring framework to observe labour market outcomes for graduates and forecast future skills has been set up. There are also various programmes to support researchers' career development, promote top-performing international researchers, encourage researcher and student mobility, develop skills training and disseminate knowledge about science and technology among students. In addition, the Agency for Science, Innovation and Technology has implemented several new projects for the promotion of innovative startups and spin-offs to encourage the commercialisation of research results and to create opportunities for young researchers to develop their ideas and establish new technological businesses in Lithuania.

The timely implementation of the above mentioned strategy will help increase the digital skills of the general population and close the missing competencies gap in the Lithuanian labour market.

Digital skills - Lithuania

72% - EU 79%

Internet users - people who go online regularly
(at least once per week)

52% - EU 56%

Europeans with basic digital skills

2.1% - EU 3.5%

ICT specialists in the workforce

Use of Internet

In terms of the propensity of individuals to use Internet services, Lithuania has made progress and moved up one positon in the ranking. Lithuanian Internet users are the EU leading EU consumers of online news content and in 3rd position for interaction via Video Calls over the Internet. They are comparable or above the EU average in exploiting most other Internet services, such as banking, social networks, music, videos and games. However, Lithuanian Internet users barely consume any Video on Demand despite an offer of VoD services similar to that of the country ranking first (Denmark).

Lithuanians continue to be relatively reluctant to shop online as compared with other Europeans.

Internet users - Lithuania

69% - EU 39%

Perform video or audio calls

73% - EU 59%

Using online banking

93% - EU 70%

Reading news online

68% - EU 63%

Using social networks

44% - EU 66%

Shopping online

Integration of Digital Technology

In Integration of Digital Technology by businesses, Lithuania continues to perform well-above the EU average. Lithuanian enterprises have been steadily embracing the opportunities offered by various digital technologies. Even though the progress has been slower than in previous years, there has been overall an increase for most of the indicators. This improvement is most evident in the number of companies using eInvoices, up by 4%. Turnover resulting from SMEs selling online has also improved.

The Digital Agenda recognises the benefits of increased online sales and the adoption of digital technologies by businesses in general and has set ambitious targets. Measures to support digital businesses include the e-Business LT, e-Verslas LT, which supports investment in e-business solutions and innovative ICT solutions to enhance a number of business processes. Another important goal of the strategy is to promote the application of ICT in the development of e-business. The strategy aims to increase the share of companies selling online to 45% by 2020. SMEs should roughly double their eCommerce turnover to 20%. On the demand side, by 2020 a minimum 70% of the population should have purchased goods via the Internet. Successful implementation of the strategy will contribute to improving the digital transformation of the economy by for example, offering SMEs and citizens the access to a much larger market.

By 2020 a minimum 70% of the population should have purchased goods via the Internet.

Integration of Digital Technology by enterprises - Lithuania

19% - EU 20%

Using social media to engage with customers and partners

18% - EU 17%

SMEs using e-commerce

40% - EU 36%

Using business softwares for e-information sharing

24% - EU 18%

Sending electronic invoices

Digital Public Services

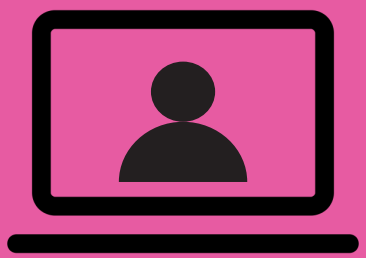
Lithuania further improved its online public services and kept performing above the EU average in this chapter. The share of businesses and citizens that use e-government services remains solidly above the EU average. Lithuania has further enhanced the availability and sophistication of existing online services and has made continuing progress towards increasing its uptake of eGovernment. The latest EU survey on eGovernment reflects this improvement, placing Lithuania among the accelerator Member States with growth and an absolute score above the EU average (European Commission, 2016). However, it is still lagging behind in promoting open data and performs below the EU average despite its significant increase compared with last year.

Lithuania is implementing the Programme for the Improvement of Public Administration 2012-2020 with the objective of increasing the availability of e-services provided to the public and enhancing their quality. Besides the priorities and tasks defined in terms of Human Capital, the programme envisages the extensive digitisation of the administrative services through a unique access point and the development of e-services on international level and the promotion of more active participation. Additional tasks to meet the objective include the creation and development of health-related e-services and ICT products and the installation of ICT solutions which increase the openness of public management processes.

Lithuania has effective tools for digital service transformation, such as a catalogue of public services, a register of information systems or standards for project management. However, the country lacks a more strategic vision of how these individual and mostly uncoordinated elements can work together to create a modern, open, responsive and data-driven public sector. In order to further improve the performance, public sector institutions could work more closely with each other and develop more advanced and fully interactive services.

Digital Public Services - Lithuania

92% - EU 82%



Public service completion
(Online services available online)

43% - EU 34%

e-government users
(users returning filled forms online to the P.A.)

The digital economy and society: state of the art and trends

Lithuania - Regulatory framework

The main e-trade legislation principles are stated in Lithuanian Civil Code:

- contracts concluded by electronic means;
- laws and regulations for advertising;
- laws related to intellectual property and unfair competition;
- consumer-related laws,
- data protection law,
- electronic communication law
- other regulations related to usual trade activities*.

** Enterprises selling on-line works under e-commerce regulations firstly, but some of business areas are usual for both - direct and e-businness activities.*

The national legislation distinguishes between B2C and B2B contracts.
Business-to-business contracts allow contractual deviation from some obligations - payment issues, data protection, logistic issues - and encompass the risk sharing.
Legislation on business-to-consumer contracts specifies a comprehensive duty on the seller to provide information to the consumer and enshrines more rights for consumers as a weaker contracting party. The consumer has the right to withdraw from the sale within seven days. The prohibition of unfair business-to-consumer commercial practices is imposed by the Law on Prohibition of Unfair Business-to-Consumer Commercial Practices.
Fair and safe treatment of e-commerce users is one of the important development trend in Lithuanian legal policy. National Consumer Rights Protection Council initiated joining the International Consumer Protection and Enforcement Network (ICPEN), and become its official member in 2005.
Thanks to the active Lithuanian position at ICPEN Lithuanian customers can protect their rights when buing in ICPEN members countries and also people from other ICPEN countries can safely buy in Lithuania.
Domain, server, webpage, system of the on-line payment are the main steps to open the e-shop in Lithuania.
Regulation on domain names, provision of information to the public and advertising, intellectual property and legal protection of personal data does not provide comprehensive legal regulation but anchors e-business, e-commerce and e-trade as equal part in general commerce legislation system.

E-business, e-commerce and e-trade, using the most appropriate means of communication for the contracting the buyer, has to provide clear information about:

- information about the company (legal name, address, contacts, company code);
- name of the item/service;
- price of the item and its delivery;
- payment, delivery or fulfillment of the order;
- the rights of the customer to withdraw from the contract.

National Consumer Rights Protection Council identifies the most common violations in e-commerce, caused of non-observance of requirements, mentioned above:

- received items differ from the ordered;
- e-seller provides incomplete information about the selling company (not clear information where and how the consumer has to refer for refund).

National Audit office of Lithuania report 2015 states, that:

- control of e-sales cash-flow, taxation and safety;
- communication between e-sales control institutions;
- personal data protection;

are the main problems to solve in the nearest future.

Republic of Lithuanian Civil Code, articles 6.228(7) - 6.228(11)

Republic Of Lithuania Law On Consumer Protection

General requirements for the organisation of retail trade in the Republic of Lithuania:

Republic of Lithuania Law on the Prohibition of Unfair Business-to-ConsumerCommercial Practices

Republic of Lithuania Law on Legal Protection of Personal Data

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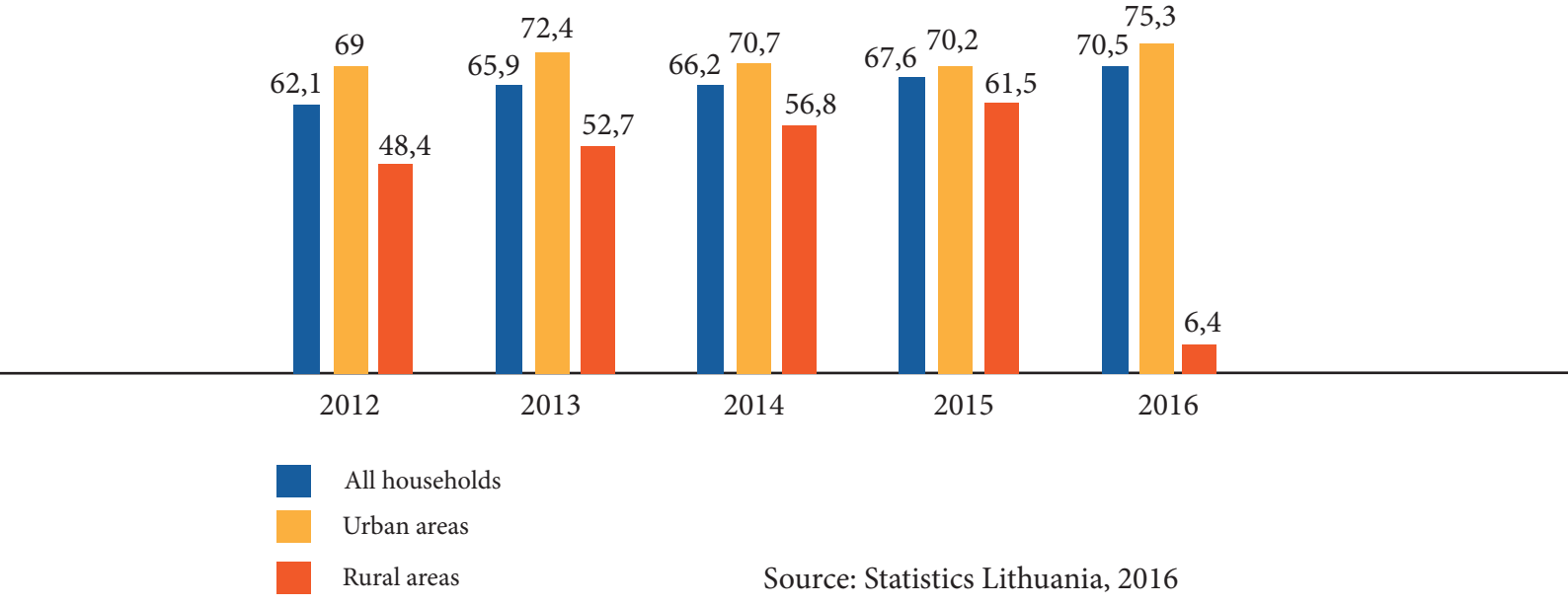
Lithuania - Other interesting facts
FTTH penetration

Lithuania has the highest FTTH (fibre to the home) penetration rate in Europe and is among the highest in the world.
This fact declares countries government's initiative, therefore demonstrates that Lithuanian government considers internet related issues as a major economic, cultural and social drive, which already has a huge impact on national economy.
The fast development of informational technologies, the increasing use of the Internet in various areas, e.g. activities of enterprises have a profound impact on both the sales of products and services over the Internet. This shifts the traditional marketing to an electronic medium, thus ensuring low costs and gaining competitive advantages.

Households with personal computers in Lithuania 2012-2016



Source: Statistics Lithuania, 2016

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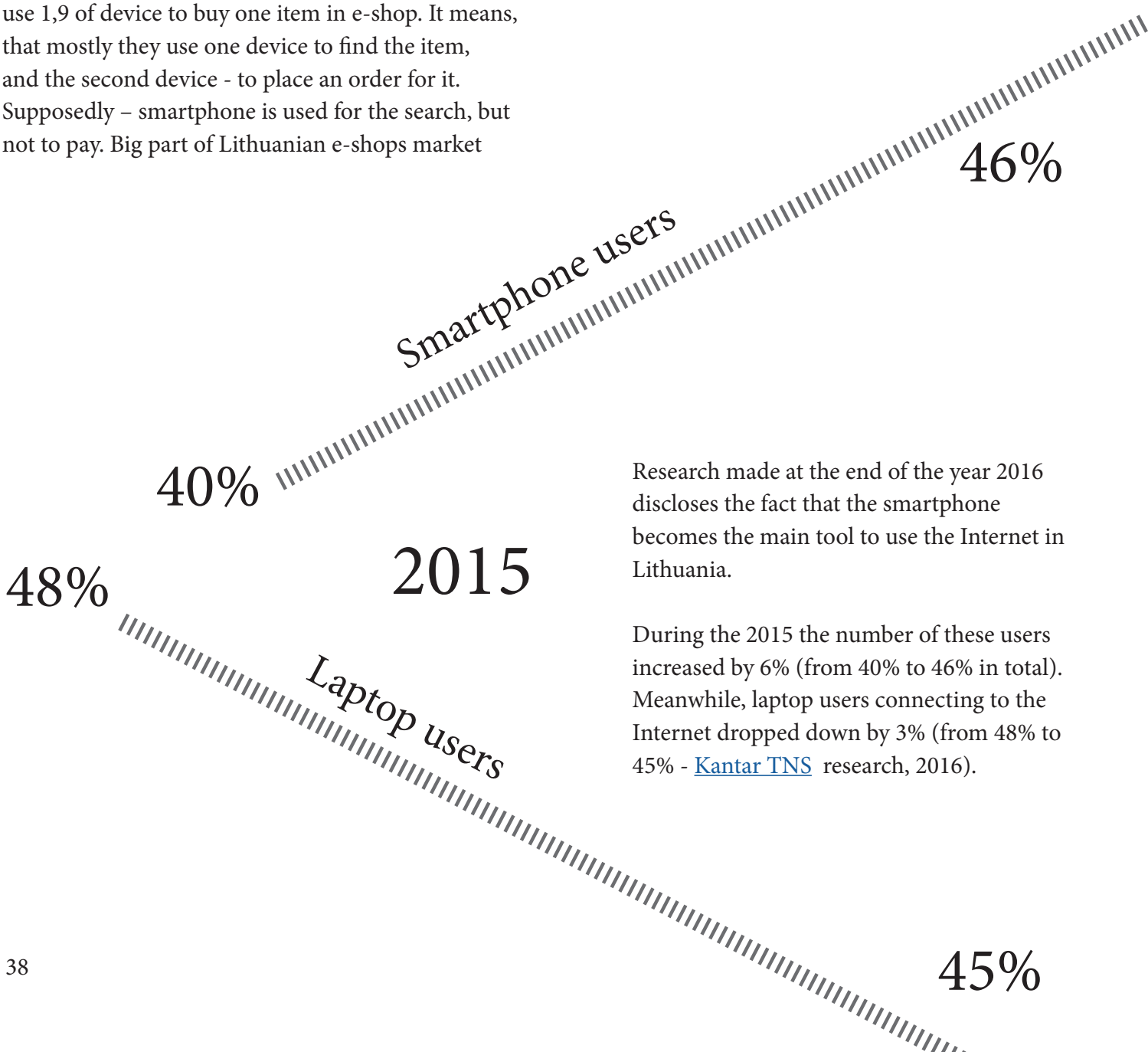
Lithuania - Other interesting facts
Smartphone or laptop? Both please

5% – is an average number of Europeans that had ever purchased in the e-shop using the smartphone. This index in Lithuania is much bigger – 46%. The most popular device to buy at e-shop for Lithuanians is laptop. 67% of Lithuanians use it for buying in the e-space. On the second place there is a desktop computer (48%), then smartphone (46%) and tablet PC (23%). (E-shopper barometer Global report, 2017). It is important to mention that Lithuanians use 1,9 of device to buy one item in e-shop. It means, that mostly they use one device to find the item, and the second device - to place an order for it. Supposedly – smartphone is used for the search, but not to pay. Big part of Lithuanian e-shops market participants prefer to pay in cash or credit/debit card at delivery time (DPD Lithuania research data). E-shop webpage have to be adapted for these multichannel habits of the clients, and user friendly for the smartphone either computers holders. The statistic says that today it is difficult to define the customers, their habits and to understand the possibility for them to become e-buyers.



Research made at the end of the year 2016 discloses the fact that the smartphone becomes the main tool to use the Internet in Lithuania.

During the 2015 the number of these users increased by 6% (from 40% to 46% in total). Meanwhile, laptop users connecting to the Internet dropped down by 3% (from 48% to 45% - Kantar TNS research, 2016).

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Lithuania - Other interesting facts
The key players for the e-shoppers' choice

Research made by Lithuanian Information Society Development Committee under the Ministry of Transport and Communications, maintains around 1200 e-shops in Lithuania, but this number is variable, as to open e-shop or back out with it from the market takes only few days in Lithuania. Research made in the 1st quarter of 2016 (AB Swedbank) explores, that the biggest part of e-commerce business was located in Vilnius and Kaunas counties. The leader – Vilniaus county, fixes more than a half of all Lithuanian e-commerce companies (52%). Kaunas county entrepreneurs established 24% of Lithuania e-shops. Further goes Klaipėda (8%), Šiauliai (5%) and Panevėžys counties (3%). Latest e-commerce lining fixed in Tauragė, Telšiai and Utena counties (1%).
The ten most popular Lithuanian e-shops among users (Similarweb data, January 2017) are:

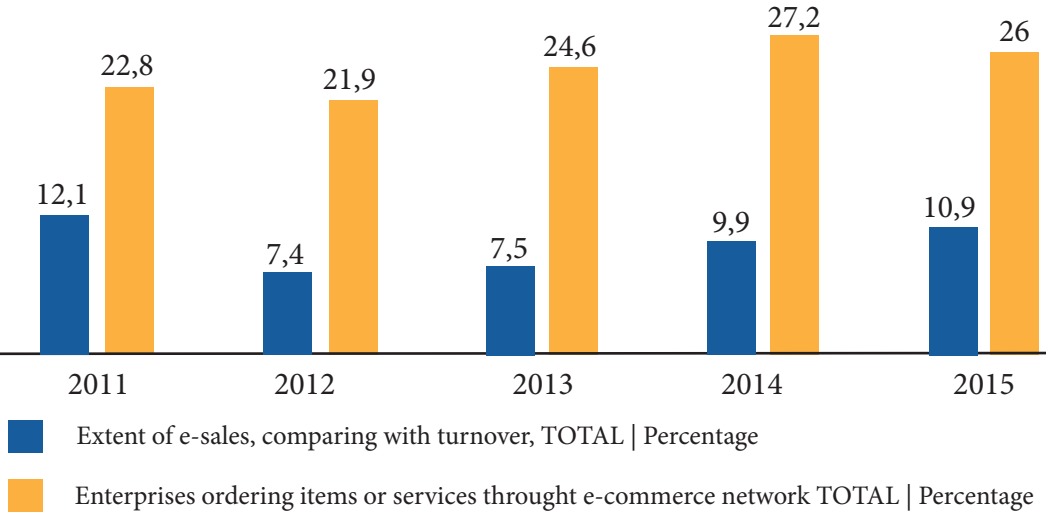
1. www.pigu.lt
2. www.senukai.lt
3. www.knygos.lt
4. www.varlė.lt
5. www.skytech.lt
6. www.tele2.lt
7. www.topocentras.lt
8. www.1a.lt
9. www.omnitel.lt
10. www.rde.lt

Tentative steps of Lithuanian retailers also can be maintained, such e-commerce giant Amazon counts about 10 big Lithuanian companies and about 100 smaller ones (2016). Introducing Etsy platform during the seminars also shows the interest of our retailers. Global Lithuanian platform – start-up known as vinted.com also attracts the attention of the retailers to venture to the global markets.
E-shopper barometer Global report, 2017 reveals the data, that buyers look for clothes, jewelry, accessories, what can be named in one word – fashion,- in the internet mostly. More than a half of internet buyers – 51% had purchased these goods online, 16% of internet buyers place an order for it once a months. Cosmetics (38%) was ranked to the second place, the third – electronics and ICT (35%).
It is mostly a better range of goods and competitive prices that lead Lithuanians to e-shops. Regular clients come back to e-shops due to positive e-buying experience, the ability to save some money and spent time for this.

Mastercard announced the research Masterindex 2017, stating, that 6% Europeans – internet users buy from e-shops every day. It can be surprising, but most of the every day shoppers (9%) live in Lithuania and Poland.
The numbers certainly state that group of people, particularly using e-commerce services, have grown up. Also, no doubts – it is an optimistic trend, however this group is not big, and significantly grown away from other internet users.
Analysis of the other statistical data – clients who buy in e-shops, not every day, but more than several times a week - does not provide very optimistic picture about the habits of the Lithuania e-shoppers.
It also can explain that Lithuania has a strong and representative group of people, who has a close relations to e-commerce business, also a big part of e-buyers, who use it rarely. It also explains, that e-commerce business in Lithuania has to deal with completely different client groups and of course it is a challenging experience.

Enterprises engaged in e-commerce in 2010-2015 in Lithuania

At present, successful business development cannot be imagined without the active use of cutting-edge information technologies and the Internet. Otherwise, official statistic shows, that e-sales percentage makes only small part in the enterprises total turnovers. Also using e-commerce services for the buying items and services makes up to a quarter of total expenditures of the business in Lithuania.

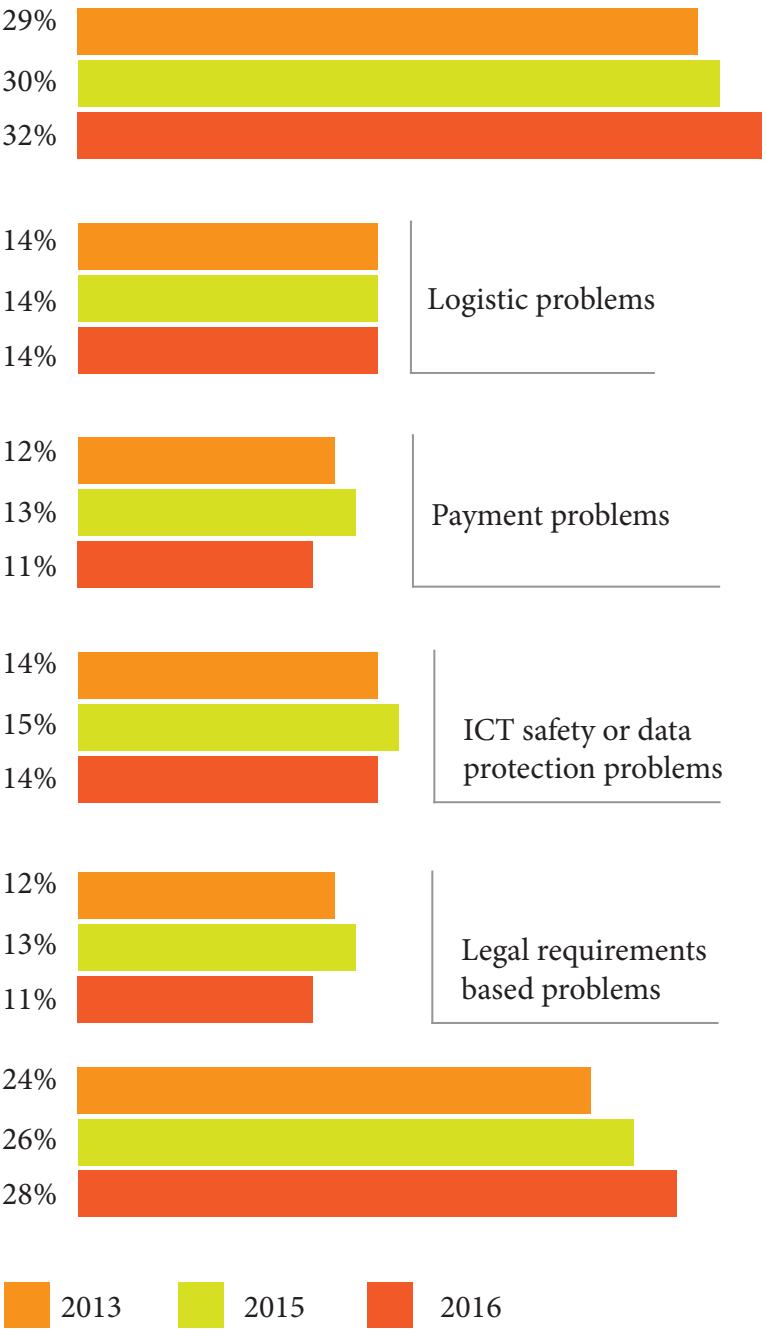


Source: Statistics Lithuania, 2016

The digital economy and society: state of the art and trends

Lithuania - Other interesting facts
Problems

Enterprises problems related to e-sales | Percentage



Source: Statistics Lithuania, 2016

Belief, that only some items can be sold on the internet and the expenditures are too big for it, are the main courses, why the owners of the enterprises take a decision not to start business in the internet.

Also it is important to look through official statistic, exploring the possibilities and habits of the Internet users. Official statistics data (Statistics Lithuania) shows that in 2016, 71% of households had personal computers, 72% – Internet access at home. Over the year, the said proportions increased by 3 and 4 percentage points respectively. Urban and rural households having computers at home accounted for 75% and 61%, Internet access – for 76% and 63% respectively. Almost all (99% households with Internet access at home used broadband connection. 88% of households having Internet access at home used broadband wired or wireless fixed connection, 41% – mobile networks. 60% of households, who do not have Internet access at home, indicated that they did not need it.

Other reasons for not using the Internet at home were lack of skills, expensive equipment, high fees, or a possibility to use the Internet elsewhere.

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Lithuania - Other interesting facts
Lack of e-shop software? No, just optimistic perspective

Screen of the habits of e-shop buyers shows, that only a small part of smartphone or tablet PC users prefer the programs, offered by the e-shops. Research data shows, that these programs are actual for about 18% smartphone and tablet PC holders, 48% of them find the items through internet browsers, 34% choses both – internet browsers and e-shops programs.

World tendencies show, that popularity of special e-shop programs, intensity of the use becomes more and more visible among the e-buyers. The gap between e-shoppers using smartphones or tablet PC with the special programs and internet browsers can be determined by Lithuanian market features – the market is not big and the payback for this program expenses is not clear. Never the less, it is a chance for ICT specialists and e-shops interested to expand their business.

Tendencies also show, that proficient, regular clients uses e-shops programs mostly, while rarely e-shop visiting clients chose browsers for shopping in the internet.

The digital economy and society: state of the art and trends

Lithuania - Other interesting facts
Payment and logistic options influences the habits of e-buyers

Interesting fact about Lithuanian e-buyers tendencies was observed in Lithuania. West Europe and Scandinavian countries count only few percent of payments in cash at delivery time of total e- sales. Research states, that it is influenced by general e-shoppers sophistication, mentality, habits to use ICT and also confidence in e-shops. 30% of Lithuanians e-buyers chose to pay in cash or debit/credit card during delivery time. Most of them do not trust in e-shops, because the policy of money return/ replacement is not stable yet. That is why big part of e-customers feel safer paying to the currier, but not by e-banking. Older people also have doubts about the safety of e-banking. They are already active and quite proficient e-buyers, but still have some doubts about it. Lithuanians often use payment by cash or credit/ debit card at delivery time, but not the e-bank, using direct bank link in the webpage.

What are the necessary steps for e-sellers in this situation – accommodation to it. Every entrepreneur has to be able to recognize and meet the needs of the clients. A wide range of payment options is one of the means allowing to retain the client, visiting the e-store. The main thing - to allow the clients to choose what is most suitable for them. It is considered to be the most reliable unlimited, not defined in period, and all items accepting back with the no questions asked money back policy e-shop, which could be a successful step in e-commerce example in Lithuania.

The digital economy and society: state of the art and trends

Italy - DESI data

Italy ranks 25th out of the 28 EU Member State in the European Commission Digital and Society Index 2017.

Overall, it progressed a little faster than the EU average over the last year.

Policy initiatives undertaken in the course of 2015-2016 start showing impact: the compulsory eInvoicing to public authorities drove up eInvoicing adoption to 30% of enterprises (5th rank in the EU); the adoption of the ultra-fast broadband plan spurred both public and private investments in NGA (Next Generation Access) ensuring 72% coverage in 2016, up from 41% in the previous year.
Italy's slow performance is mainly driven by the usage side: low levels of digital skills translate in low levels of a range of indicators: the uptake of broadband, the number of Internet users, the engagement in a variety of Internet activities (including eGovernment), the use of eCommerce and the number of digital curricula (i.e. STEM degrees and ICT specialists).
Italy belongs to the low performing cluster of countries together with Romania, Bulgaria, Greece, Croatia, Poland, Cyprus, Hungary and Slovakia.

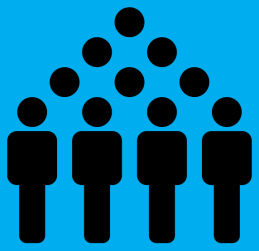
Connectivity

Italy performs slightly better than the EU average with regard to mobile broadband take-up (85 subscriptions per 100 people) but progress in connectivity over the past year has mainly been driven by improvements in NGA coverage - from 41% of population in 2015 to 72% in 2016, mostly in urban areas - although still below the EU average. While fixed broadband take up slightly increased, as well as the share of subscriptions to fast broadband (from 5% in 2015 to 12% in 2016), Italy is still lagging behind.

In the context of the 2015 Italian ultra-broadband plan, in 2016 the Italian government adopted a national state aid scheme (endorsed in June 2016 by the European Commission) aiming at promoting the deployment of passive access infrastructure enabling the development of NGA broadband networks in white areas (identified as clusters *C* and *D* in the Italian ultra-broadband plan). The scheme aims at providing: in clusters C 70% of households with access to an infrastructure able to supply at least 100 Mbps download speed and 30% of the households with access to an infrastructure able to provide at least 30 Mbps; in clusters D, 100% of the households with access to an infrastructure able to provide at least 30 Mbps. The overall estimated (maximum) budget of the measure (will run until 31 December 2022) is about EUR 4 billion, funded by the Development and Cohesion Fund (DCF) and EU funds (ERDF and EAFRD). In this context, two calls for tenders of respectively 1.4 billion Euros and 1.2 billion Euros were launched in 2016. In march 2017, the first tender has been assigned covering Abruzzo, Molise, Emilia Romagna, Lombardia, Toscana, Veneto regions. The second tender is still in process following the formalities related to judicial proceeding required by law. In Italy 65% of the spectrum harmonised at EU level for wireless broadband was assigned. In absolute terms this means 706 MHz, slightly below the EU average of 737.8 MHz. Italy was the first EU country to transpose the Broadband Cost Reduction Directive. Effective implementation of the Ultra-broadband National Plan is essential in order to facilitate the progress with NGA coverage in Italy. The finalisation of the ongoing tendering procedures in a timely fashion and a more coordinated approach between existing initiatives, e.g. coordination among the different mapping exercises, are both important for achieving this outcome, especially in rural areas.

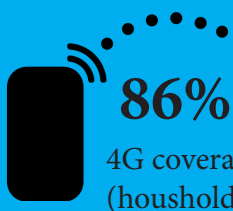
Connectivity - Italy

60.795.612 IT population



72%-EU 76%

NGA coverage
Households having access to high-speed broadband (at least 30 Mbps)..



86%-EU 84%

4G coverage
(housholds' access to 4G mobile networks)

99% -EU 98%

Households having access to fixed broadband

Human capital

In the Human Capital dimension, Italy is performing well below the average and is making little progress. Regular use of Internet among the population has grown by 4 percentage points, although still among the EU lowest and inadequate to the needs of a large and advanced economy like Italy. Indeed, the two stagnant indicators of ICT specialists and STEM graduates show that the supply of digitally skilled labour is constrained, limiting the possibilities of the Italian economic system of moving up the global value chain by converting to digital business models. The national Coalizione per le Competenze Digitali (coalition for digital competences) set up in early 2015 has coordinated 106 projects to develop digital competences for citizens, entrepreneurs, job holders and civil servants. However, it stopped existing, leaving promising projects such as *Crescere in digitale* and *Eccellenze in digitale*) as one-off experiments without scaling up. The Digital School National Plan, Piano Nazionale Scuola Digitale, envisages actions aimed at inserting coding and computational thinking in primary school curricula. Other actions encourage digital entrepreneurship experiences in school as well as stages in digital companies for upper secondary students. This effort is not always systematic and suffers from shortage of resources (especially of digital skills among the teaching staff) but is going in the right direction. Finally, the new Italian Industry 4.0 plan has foreseen EUR 220 million Euros for the development of Industry 4.0 related curricula for post-secondary schools (Istituti Tecnici Superiori), undergraduate and graduate courses (both Masters and Ph.Ds). As one of the initiatives for the European Code Week (a grassroots movement promoting coding), Prof. Alessandro Bogliolo (the coordinator of its Italian branch) is airing a coding course on the educational channel of Italian national television intended for both students and teachers of primary and secondary schools. The Italian strategy looks adequate for providing digital skills to the young, although its effectiveness will depend much on the coordination with the needs of the enterprises (and the implementation of the Industry 4.0 strategy). On the other hand, there seems to be a shortage of strategic planning for addressing the digital skills' gap of the older generations.

The Italian strategy looks adequate for providing digital skills to the young, although its effectiveness will depend much on the coordination with the needs of the enterprises.

Digital skills - Italy

67% - EU 79%

Internet users
People who go online regularly
(at least once per week)

44%- EU 56%

Europeans with basic digital skills.

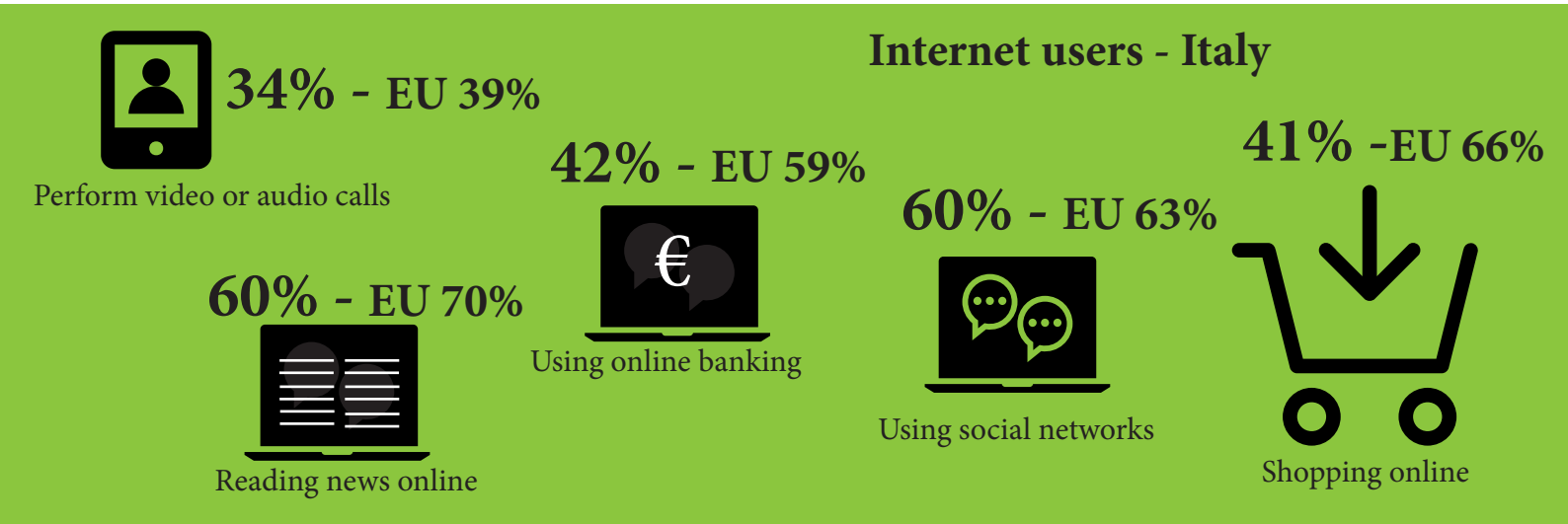
2.5%- EU 3.5%

ICT specialists in the workforce

Use of Internet

In terms of the propensity of individuals to use Internet services, Italy ranks one from bottom in the EU28 ranking and very little progress has been made since last year. Italian Internet users are still tepid users of advanced services like eCommerce and eBanking, the latter despite high costs of banking services and the reduction in the number of local branches experienced in the last years. The only Internet activity above the average is digital content consumption: listening to music, watching videos and playing games online (79%).

Italian Internet users are still tepid users of advanced services like eCommerce and eBanking.



Integration of Digital Technology

Italy has made some progress in this dimension, Integration of Digital Technology by businesses, although it still remains below average.

Italian firms are among the leaders in the use of eInvoices, thanks mainly to the obligation of using them for contracts with the public administration. Also the use of RFIDs and the adoption of software to integrate different functional areas of the enterprise (i.e. ERP) are rather widespread among Italian enterprises. Given that the cost of IT solutions can be huge for Italian enterprises, mostly of small size, the use of cloud solutions has proven quite popular. Engagement with social media has been gaining traction quite rapidly among Italian firms. However, this doesn't seem to correspond to an integrated sales strategy given that eCommerce remains relatively unexploited and Italy is losing ground with respect to other countries, where firms are starting to sell online in greater numbers.

Italy has launched an Industry 4.0 strategy in September 2016, with the aim of modernising Italy's manufacturing sector, mainly through the adoption of digital technologies and digital business models. The multi-pronged strategy foresees, first of all, corporate tax deductions, for investments started by end of 2017 for new equipment, ICT goods and high tech instrumental goods, the tax credit for R&D expenditures has been strengthened. Those tax deductions will constitute the great majority of the EUR 18 billion allocated to the Industry 4.0 strategy. Additional measures include tax deductions for equity investments in innovative start-ups and other innovative financial solutions to support innovation and industry 4.0 investments: venture capital funds for Industry 4.0 start-ups, investment funds dedicated to exploiting intellectual property, start-up accelerators. Another pillar of the strategy centres on the creation of digital innovation hubs and competence centres. The former, organised by the employers' associations, will raise firms' awareness - especially at SME level - about the possibilities offered by the digital economy and help locating funding opportunities for innovative investments. The competence centres will give technological advice to companies, particularly SMEs on Industry 4.0 solutions also through live experimentations of digital production processes and demos of new technologies. They will be built through the collaboration of the top universities and other stakeholders, like private research centres, start-ups and large and medium sized companies.

The Italian Industry 4.0 plan is a major step toward the objective of moving the Italian industrial sector higher in the global value chain. But some critical issues remain: only some of the planned digital innovation hubs are operational and the competence centers won't be activated before the second half of the year with the risk that an important share of tax deductions could be misallocated. The capacity to raise awareness among SMEs of the opportunities offered by digital technologies, and ultimately the success of the Industry 4.0 strategy, will rely on the successful coordination between the various actors, that is, the government, the higher education sector and the owners' associations.

Integration of Digital Technology by enterprises - Italy

16% - EU 20%

Using social media to engage with customers and partners

7% - EU 17%

SMEs using e-commerce

36%-EU 36%

Using business softwares for e-information sharing

30%-EU 18%

Sending electronic invoices

Digital Public Services

Italy has a lower than average performance in the Digital Public Services dimension and it has slipped down the ranking over the past year. On the supply side, the availability of public services online - online service completion - is above the EU average; but it hasn't kept pace with the improvement of eGovernment services in other countries. Also, public administration databases are not yet sufficiently inter-connected to allow for pre-filling of forms through the re-use of personal information. On the demand side, usage statistics, confirm that Italians are not heavy users of complex online services.

The Italian eGovernment strategy, whose main initiatives are included in the administrative simplification package, Agenda Semplificazione 2015-2017, witnesses some initiatives substantially on track while others experience significant delays. The Italian eIdentity system, compliant with EIDAS regulation, known as SPID, Sistema Pubblico di Identità Digitale, can now be used to access more than 4.000 public services. From 2017, the government plans to start also the certification of attribute providers, that is, those institutions that can add qualifications, e.g. academic certificates or inscription to a professional register, to the citizen's eID. This expansion and the possible adoption of SPID also by private providers, notably banks, could speed up take up of SPID by citizens, at the moment counting only 1.2 million users, well below government targets. The system for online payments to the public administrations (PagoPA), from education enrolment to driving fines, is rapidly recruiting new administrations, and now comprises 66% of the total. The number of transactions is still limited, with only 1.3 million so far but things are improving: half of the transactions have been made in the last three months, per available data. On the other hand, the consolidation of the local population registries (Anagrafe Nazionale Popolazione Residente, ANPR) is severely delayed as, for the time being, only three municipalities out of 7983 are operational within the national database and another (totalling 11% of the Italian population) are in an experimental phase.

Given the low level of digital skills of the Italian population, it is as important as ever that eGovernment services offer a smooth experience to the user. Key to this user-friendliness is the flawless deployment of key systems like PagoPA, SPID and ANPR. The rationalisation of the population registry is particularly important since the data it contains provide the basis for the correct functioning of a wide number of public services.

Digital Public Services - Italy

84%- EU 82%

Public service completion
(Online services available online)

16%- EU 34%

e-government users
(users returning filled forms online to the P.A.)

Italians are not heavy users of complex online services.

The Italian eIdentity system, compliant with EIDAS regulation, can now be used to access more than 4.000 public services.

It is as important as ever that eGovernment services offer a smooth experience to the user.

The digital economy and society: state of the art and trends

Italy - Regulatory framework

In Italy, the legislative reference document is the Legislative Decree n. 70 - April 9, 2003 - which transposed the Community Directive n. 2000/31 / EC - the so-called Directive on e-commerce - within the Italian legislative system.
The Legislative Decree n. 70 is a general rule for any kind of non-remunerated service provided electronically in both the B2C (Business to Consumer) and B2B (Business to Business) sectors. C2C (Consumer to Consumer) is excluded.

Legislative Decree 70/2003 applies, on the one hand, to all lenders of electronic commerce services, understood as any natural or legal person providing an information society service and, on the other hand, to any recipient of the service, understood as the *person who, for professional or other purposes, uses an information society service, in particular to seek or make accessible information* (Article 2).
Some specific activities, such as gambling, relationships with financial administration, personal data processing in the telecommunications sector (Article 1) are excluded from the scope of application.

The Legislative Decree 70/2003 introduced the obligation to include some general information on the website, some rules on advertising, certain rules on telecommunications bargaining and some principles on provider liability.
For further information, see the full text of the regulation (only Italian).

In addition to the general civil rules ant to to specific e-commerce rules, ecommerce is subject to consumer protection specific standards contained in the Consumption Code (Legislation Decree - 6 September 2005 n. 206). For further information, see the full text of the regulation (only Italian).

Commercial communications
The Legislative Decree 70/2003 also regulates electronic commerce communications as *all forms of communication intended, directly or indirectly, to promote goods, services or image of an enterprise, organization or person who carries out an agricultural, commercial, industrial, craft or a freelance profession.*
Commercial communications must be clearly identifiable and, from the first submission, they must contain, in a clear and unambiguous manner, a specific information to indicate: that it is a commercial communication, the natural or legal person on whose behalf it is, the promotional offers of any kind (eg discounts, prizes, etc.) and the terms and conditions of the competitions or promotional games and the terms of participation.
The article n. 9 of the Legislative Decree 70/2003 provides that unsolicited commercial communications must be clearly identifiable as such from the time the recipient receives and that they must contain the indication that the recipient of the message may object to the future reception of such communications (Opt-out cd system).
The specific disciplines provided by the Privacy Code and the Consumer Code remain, however, as prevalent.

The telematic contract

As far as contracts are concerned, e-commerce rules provide for a number of information and operational information obligations to be met when completing the telematic contract.

Such discipline can only be derogated from in the case of relationships between entrepreneurs, while it is absolutely indefinable if the recipient of the service is a consumer (Articles 12 and 13). The consumer has the right to withdraw without any penalty and without specifying the reason (Article 64 Consumption Code). Provided that all information requirements have been met, the consumer may withdraw within ten working days of receipt of the goods or the conclusion of the contract for the provision of services.

The valid exercise of the right of withdrawal involves the resolution of all obligations (Article 66 Consumption Code). For all civil disputes relating to the conclusion of distance contracts, the court of the place of residence or domicile of the consumer is competent if they are located in the territory of the State (Article 63 Consumption Code).

The extra-contractual liability of the provider

Generally, the relationship with the providers is framed in the service contract.

The Legislative Decree 70/2003 specifically defines the responsibility of ISPs (Internet Service Provider) who service:

- mere conduit - transmission of information on the communication network or provision of access to the communication network;
- caching - intermediate and temporary storage of information transmitted over the Internet, carried out in order to make the subsequent forwarding to other recipients more effective;
- hosting - providing part of the resources of a digital storage space (hard disk) contained within a server permanently connected to the Network in order to make the content of a website accessible on the Internet.

Unless it participates in some way in the management, the provider is not responsible for the content posted on the site. If a caching or hosting provider becomes aware of any unauthorized use of the information handled, it must promptly activate to remove the access to the information.

To know more:

E-commerce: scenario di riferimento e quadro normativo. Proposte, indicazioni e priorità per uno sviluppo sostenibile - Consorzio netcomm

(E-commerce: reference scenario and regulatory framework. Proposals, indications and priorities for a sustainable development).

Start an e-commerce business

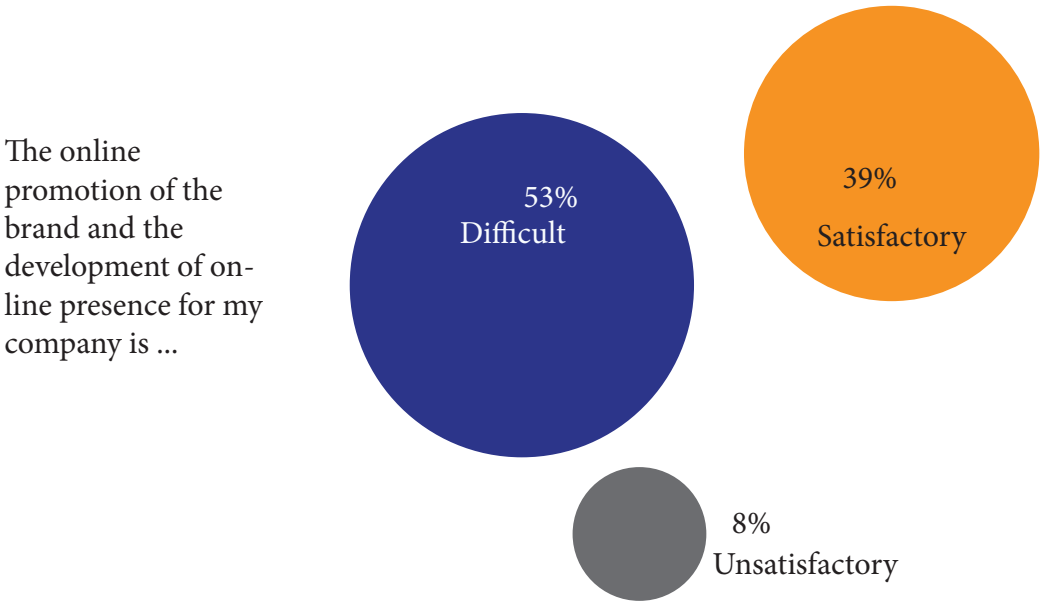
A serie of informative articles by PMI: an Italian web portal that deals exclusively with ICT and Business information addressed to small and medium businesses.

A video testimonial by the *Camera di Commercio di Milano*

The digital economy and society: state of the art and trends

Italy - Other interesting facts
The online promotion

Despite the development and growth of the Italian companies on the Internet, according to a survey conducted by Casaleggio Associati[1] the online promotion of the brand and the development of on-line presence are still a tricky task for the majority of Italian companies (53% of the sample).
The percentage is higher than that recorded in 2015 (51%), and 2014 (45%).
Companies that say they are satisfied - 39% - remain constant compared to the previous year. Companies that consider unsatisfactory the online promotion are 8% of the sample (with a slight decrease compared to 10% in 2015).

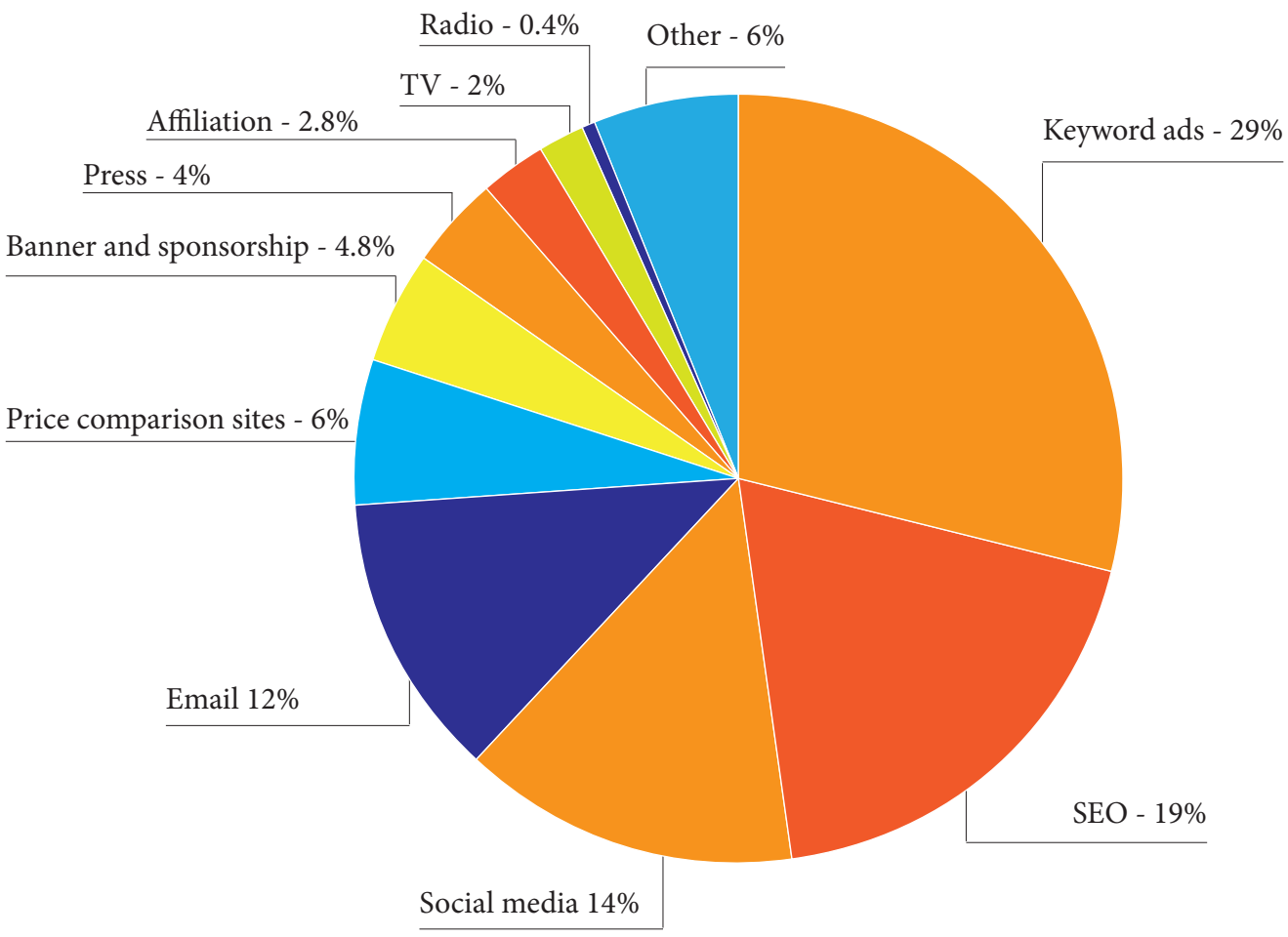


The keyword advertising has been confirmed as the activity where most of the advertising budget is spent.
Keyword advertising, for several years, in first place, and on average receives 29% of the available resources, as already reported in 2015 (23% in 2013, 28% in 2014).
In second place are positioned the SEO activities to which go 19% of marketing investments, with a slight decline from 21% in 2015.
Investment in social media started to increase, which collect on average 14% of the budget (12% in 2015 and 15% in 2014).
The e-mail marketing activities represent on average, as in 2015, 12% of total investment, after declining from 15% in 2014 and 17% in 2013.

1 The Report - ECommerce in Italy 2016 - was conducted through an online survey and in-depth interviews with some of the major market players. The companies involved in the analysis were more than 3.000, and more than 400 have actively contributed to filling in the questionnaire or by direct interview. The people involved were company owners, managing directors, general managers, marketing managers, country managers, e-commerce and Internet managers.
The companies surveyed are Italian or Italian subsidiaries of multinational groups. All data presented refers to the Italian business to consumer e-commerce market.

There was a slight decline of the comparators sites and shopping areas, which receive 6% of the budget (7% in 2015 and 11% in 2014).
Investments in banners and sponsorships remain stable (4.8% versus 5% in 2015 and 4% in 2014). Small decline in the budget for the affiliate programs, receiving 2.8% (compared to 4% in 2015 and 2014).
The offline media altogether collects 6.4% of the budget, mainly due to increased investment in the press that receives 4%, up from 2% in 2015. The television accounts for 2% of the investment (1.8% in 2015) and the radio 0.4% (0.2% in 2015).

Marketing activities - Investiments spread 2015



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Italy - Other interesting facts
The Made in Italy e-store - Hundreds of products to live the Italian style

Made in Italy at Amazon
Launched in 2015, the Made in Italy showcase in Amazon is home to Italian products conceived and made by local artisans and small Italian companies and foodstuffs marked with a protected designation of origin (DOP, IGP, DOCG) and selected by operators specializing in the valorisation of Made in Italy that guarantee Italian origin and quality.
The Made in Italy store is open to sellers based in Italy offering products that are manufactured in Italy and it is available on Amazon.it, Amazon.co.uk, Amazon.fr, Amazon.de, Amazon.co.jp and Amazon.com.

Amazon's Made in Italy store showcases Italian products made by local artisans and small Italian companies. The unique styles of Italian regions and cities are recognisable in every artisan or small company boutique, and you can find out more about each of them browsing Italian cities or local Italian boutiques. In each city page you will find boutiques from that city and you will have the opportunity to immerse yourself in the history and lifestyle of the city. In each Made in Italy boutique you will feel like you are in the city, the street and the particular shop, talking to the owner, immersing yourself in the daily life of the master and discovering the story of the piece you are buying.

In the Made in Italy store you will be able to browse by categories. You will find Italian excellence in Home, Fashion, Jewellery, Shoes, Ceramics, Stationery Supplies, Baby, Bags.

In Made in Italy Home you will find furniture for your bedroom, living room, kitchen, bathroom, as well as all your living spaces being it your office, your kids playroom or studio. You will also find ornaments like picture frames and mirrors, table decorations and tableware and home textiles. In Ceramics there is a collection of products made using traditional materials, ranging from plates to fine porcelain dolls. Fashion Made in Italy is known worldwide for its unique style, top quality manufacture and excellence. We can help you dress with style or find a unique present for a friend. Browse the wide array of clothing, scarves, sunglasses and other fashion accessories. You can complete your Italian style outfit by browsing Made in Italy Shoes where you will find top quality leather goods among other materials. In Made in Italy Jewellery you will discover traditional, hand-crafted Italian gold and precious materials and help surprise your loved ones with unique rings, necklaces, bracelets and brooches.

The digital economy and society: state of the art and trends

Italy - Other interesting facts
The logistic system

In 2016, Italy was ranked 21st in the World Bank Logistics ranking, making it among the easiest countries to deliver to in the world. 69% of Italy's population reside in urban areas, and international retailers can rest assured that the infrastructure and logistics are in place to deliver to rural areas. Currently, in Italy, the channels through which online orders are delivered are the following.

Home delivery
It is the traditional channel, currently the most used both by merchants and by Italian e-shopper. The delivery process normally provides that in the absence of the recipient the stock is opened at the local courier store. The customer has the option, within a certain period of time, to unlock the inventory or to activate a new home delivery attempt or by withdrawing the order at the deposit point as the drop point.

Property stores
This is the channel used by the so-called *bricks and clicks* companies, integrating online presence with a network of traditional physical property stores. This allows them to profile their customers and offer more customized shopping experiences, as well as increase touch points through which the company can interact with the consumer. Just think of cross-selling and up-selling opportunities that can emerge from knowledge of the customer entering the store to retrieve an order made online.

Third-party shops
This channel is opened up to an agreement between a company operating on the web and one company that has physical stores. In this way, the merchant offers his customers close points for the withdrawal of orders, while the retailer can accommodate a potential new customer in his store. Depending on the type of the two companies and their agreement, this channel can also generate the benefits already mentioned in the case of its own stores.

The drop point networks are more or less specialized networks that exploit their capillary territory to become proximity retention points. They can be newsstands, bars or, in some cases, the developed proximity points of logistic operators. As with its own stores or third parties, the merchant has the opportunity to expand the mode of receiving the goods offered to the customer, while on the other hand the operator exploits network economies. For logistic operators, the Drop Point Network not only enriches the service offering for merchants, but also provides a more efficient solution than delivering it to the consumer's home.

Post offices
Post offices have become points of withdrawal of online purchases because of their extreme capillarity in Italian territory and the fact that they can be reached within a radius of a few kilometers from the majority of the Italian population.

Locker
The lockers are automatic vending machines opened 24 hours a day, 7 days a week. The customer can proceed with the withdrawal of the asset through a pin or transaction code by signing a receipt. The main advantages for the merchant is to provide the customer with a highly flexible withdrawal service in terms of time and proximity (they can be placed at high traffic locations such as service stations, shopping malls, etc.). Lockers can be also used as a delivery point for returns and allow the user to make payments by credit card or bank card. They also guarantee efficiencies on parcel handling costs. However, lockers require a rather high installation and management cost for the service manager, which, for a repayment, requires a high occupancy rate and spin rotation. In addition, lockers can be used only in the case of products with specific dimensions and the maximum stay time of an order is rather limited.

The digital economy and society: state of the art and trends

Italy - Other interesting facts
The e-commerce ranking

E-commerce Ranking represents the popularity of e-commerce sites and it is indicative of the strength relationships between the various players.
Alexa - an American company owned by Amazon.com that deals with Internet traffic statistics - regularly classifies these rankings globally and by country.
The ranking is updated monthly and the assigned score, and consequently the position of a domain in the rankings, is calculated using a combination of data including the average number of daily visitors and the number of pages displayed in the previous month.

Among the first twenty most popular e-commerce sites in Italy we find the following:

Google.it - Italian version of the popular search engine Google.com. It enables users to search the world's information, including webpages, images and videos.
Youtube.com - User-submitted videos with rating, comments and contests.
Facebook.com - A social utility that connects people, enable people to keep up with friends, upload photos, share links.
Amazon.it - Provides a catalogue of books, digital music and movie media, consumer electronics products, home appliances, toys, food, etc.
Wikipedia.org - A free encyclopedia built collaboratively using wiki software.
Yahoo.com - A major Internet portal and service provider offering search results, customizable content, chatrooms, free e-mail, clubs and pager.
Repubblica.it - Online newspaper.
Ebay.it - Trading Community to perform online transactions without intermediaries.
Libero.it - Online newspaper.
Live.com - Search engine by Microsoft.
Subito.it - Selling ads for private and business sales by region.
Corriere.it - Online newspaper.
Linkedln.com - A networking tool to find connections to recommended job candidates, industry experts and business partners.
Blastingnews.com - Online newspaper.
Instagram.com - A social networking app made for sharing photos and videos.
Mymovies.it - International movie database with thematic schedules, reviews and user comments.
Tim.it - Connectivity and mobile telephony.
Poste.it - Postal, insurance and financial services.

The digital economy and society: state of the art and trends

Italy - Other interesting facts
Cross border, cross device and cross channels

The 2016 was an important year for e-commerce, during which new business models driven by the concept of the cross have been established.
Cross border, cross device and cross channels: these are the new terms of e-commerce, telling the evolution starting from the new ways of behavior of shoppers.
Buyers buy from Italian and foreign sites, comparing products both in the physical channel and in the digital ones and make it through smartphones and PCs.
The digital export remains an opportunity that Italy fails to grasp because of the small size of their businesses that fail to attack foreign markets.

Roberto Liscia, Netcomm president

Read more
only Italian

Netcomm is the Italian electronic e-commerce consortium: the reference point for e-commerce in the national and international landscape. Born in 2005, Netcomm has among its subsidiaries more than 200 companies representing both international and small and medium-sized companies of excellence. Netcomm is among the founding countries of Ecommerce Europe, the European Electronic Commerce Association.

The Consortium works with the goal of promoting initiatives that contribute to the knowledge and dissemination of e-commerce, generating value for the entire industry chain. Through a set of joint initiatives of different nature, Netcomm supports businesses in their digital evolution for the benefit of consumers and the entire country system. All this is accomplished by:

- stimulating collaboration between companies and institutions through a representation activity at national and international level;
- promoting, independently or in collaboration, all initiatives that can contribute to the knowledge and dissemination of topics, services and technologies related to online commerce;
- supporting the creation of a regulatory environment that facilitates the development of the digital market;
- working in the media for proper communication on the issues of the sector;
- defining how to recognize the quality of the services offered by e-commerce operators, both in order to enhance the best practices and to support the consumer in its purchasing process.

Read more

The digital economy and society: state of the art and trends

Spain - DESI data

Spain ranks 14th out of the 28 EU Member State in the European Commission Digital and Society Index 2017.

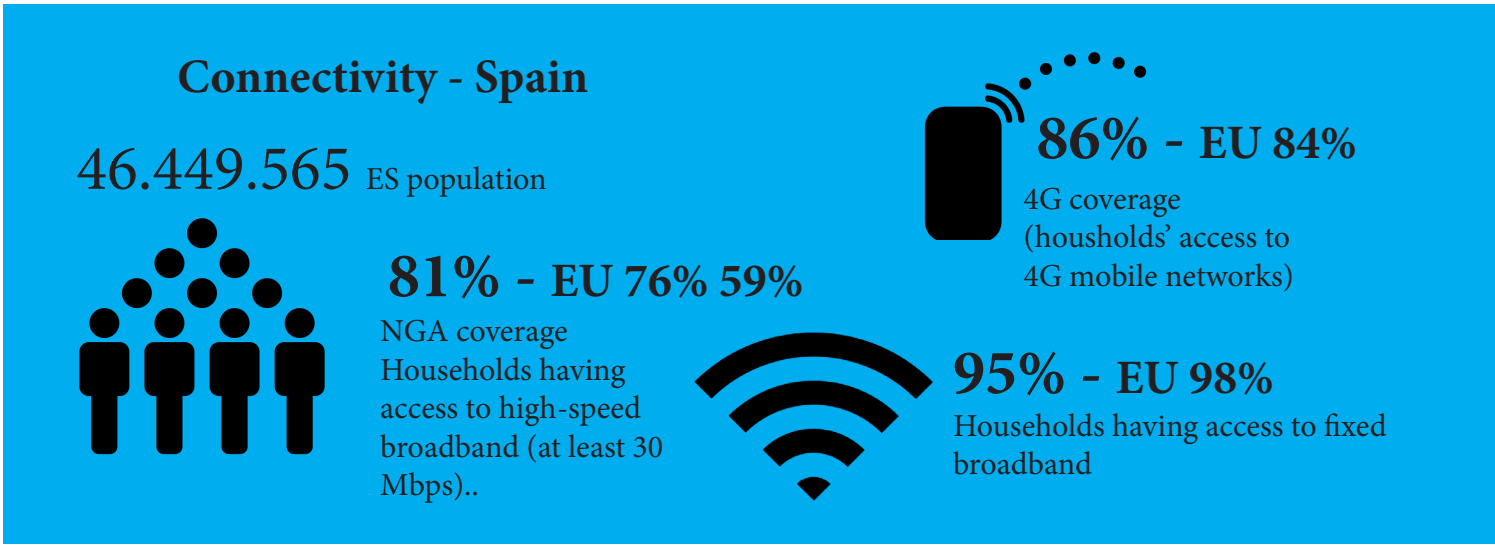
Overall, Spain has improved its score on all of the dimensions measured with the exception of Human Capital, where it scored lower than last year, in spite of its solid growth in STEM graduates. Its performance is especially remarkable in Digital Public Services, although Spain made most progress in the Integration of Digital Technology dimension. Although Spanish public and private sectors are quickly progressing in the integration of digital technologies, in general, some indicators seem to point to a weak demand on the user side, with lower levels of growth on digital skills that hamper development in the Human Capital dimension.

Spain belongs to the medium performance cluster of countries including Latvia, Czech Republic, Slovenia, France, Portugal, Lithuania, Malta, Germany and Austria.

Following the June 2016 elections, the new Government set up the Minister of Energy, Tourism and Digital Agenda in November. An updated version of the Digital Agenda with even more ambitious targets is expected in the near future.

Connectivity

Spain performs particularly well in terms of fixed NGA coverage. Currently, 81% of households have access to fast broadband networks capable of providing at least 30 Mbps, although with significant differences between regions and between urban and rural areas. Growth in coverage is particularly strong in networks supporting access at 100 Mbps or more which are available to 79.1% of the population. The deployment of fibre networks (FTTP) continues to be an important present and future asset of the Spanish digital society, covering 62.8% of population. Yet this percentage drops to 9.7% in the much less populated rural areas. Mobile broadband and fixed broadband take-up ratios are the two main sources of improvement in the DESI, although fixed broadband take-up remains still below the EU average. This said, subscriptions to fast broadband have progressed significantly (from 29% to 49%), well above the EU average (37%). As far as fixed broadband subscriptions are concerned, 49% offer speeds of at least 30 Mbps and 22% are already providing 100 Mbps or more. Stand-alone prices for fixed broadband remain among the highest in Europe. While pricing of stand-alone prices even increased during the reporting period, it should be noted that bundling of broadband with mobile and pay TV services, a major trend in the Spanish market, makes assessment more complex. In terms of mobile services provided via spectrum, Spain ranks relatively low (20th) in terms of 4G coverage and spectrum harmonization (13th). Spain is the only country in the EU which gathers all spectrum related competences within the Ministry. The connectivity objectives of the Digital Agenda for Spain (DAS) and its implementation Plan for telecommunications and high-speed networks are aligned with the objectives of the Digital Agenda for Europe but set initially only intermediate objectives for 2015. These objectives need to be updated in the context of the forthcoming review of the DAS and its plans and should take into account the needs for 2025 in line with the EU *Gigabit Society Strategy*. The differences in NGA deployment between regions and between urban and rural areas have been addressed through a number of measures, including the allocation of public aid for NGA extension, but should continue to be a priority for the coming years. The solid performance of Spain in the deployment of networks supporting access at 100 Mbps or more (NGA in Spain is already heavily supported by FTTH deployment currently covering 63% of the population) should play an important role in the context of the more ambitious goals proposed by the European Commission for 2025. Spain has transposed the Cost Reduction Directive. Based on the relatively well deployed fibre networks, Spain would be well positioned to deliver further important policy innovations so that all Spanish citizens will benefit from the digital economy. Spain should tackle, within the context of ultrafast broadband technology; the interrelated broadband pricing and take-up issues, keeping an eye on the evolution of the convergent bundling trend; the issue of rural areas; and spectrum. The full release of the socio-economic potential of fibre networks and 5G will depend on a strategy that addresses above-mentioned problems in the new technological context.



Human capital

Spain ranks 16th among EU countries and below the EU average. Despite an increasing number of Spaniards going online, basic and advanced digital skills levels remain below the EU average. Only 53% of individuals between 16 and 74 years old have basic digital skills (56% in the EU) and ICT specialists represent a lower share of the workforce (2.4% compared to 3.5% in the EU). Spain is performing well as regards graduates holding a STEM (Science, Technology and Mathematics) degree with 21 graduates per 1000 individuals.

As part of the measures to improve skill match and integration of university graduates to the productive sector, the Ministry of Education, Culture and Sports (MECD) in collaboration with the Social Security authority launched an Employability Map as a tool to match supply and demand. This *Employability and Employment of Spanish Graduates Map* crossed data registration with Social Security records. Additionally, a Survey of Labour Access of University Graduates (EILU) was published recently analysing the university and job transition process. Regarding teachers' digital competences, the Digital Skills and Competence Framework based on the Digital Culture plan have been launched. Spain has also promoted the development of massive open online courses (MOOCs) and innovative teaching methods in higher education. Spain has put in place Erasmus+ to promote student-centred learning and soft skills. The Spanish National Coalition for Digital Skills and Jobs is expected to finally become operational during the second quarter of 2017. Increasing the number of Spanish ICT specialists but also re-skilling the labour force is of the utmost importance to tap the full potential of the Digital Economy.

In order to match the offer of STEM professionals and the demand of specialists that reflects the strong growth of the adoption of digital technologies in Spanish public and private sector, by the end of 2016 the Ministry of Energy, Tourism and Digital Agenda has launched an aid program to promote training and employment of young people in the Digital Economy. The program is endowed with 20 million euros and aims, on the one hand, to offer training to young people that meets the requirements of the digital industry and new business models, and on the other, facilitate their access to jobs related to these subjects.

Digital skills - Spain

76% - EU 79%

Internet users
People who go online regularly
(at least once per week)

53%- EU 56%

Europeans with basic digital skills.

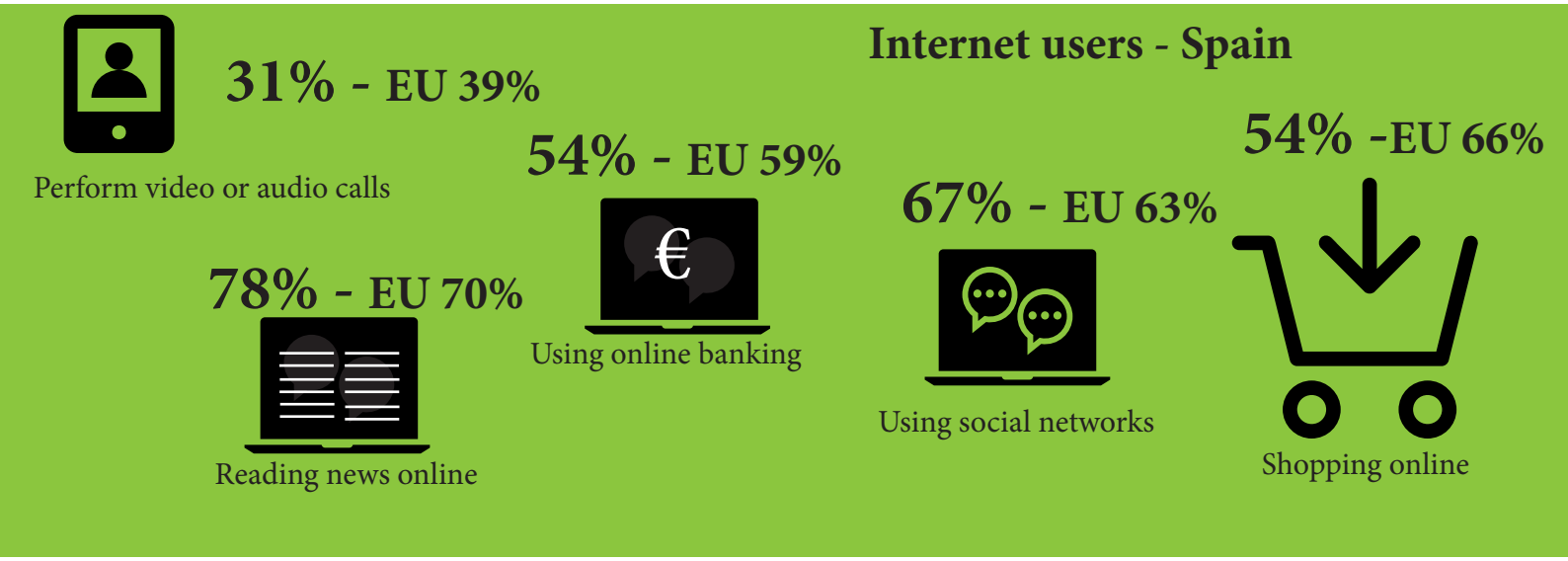
2.4%- EU 3.5%

ICT specialists in the workforce

Use of Internet

Spanish citizens are keen to engage in a variety of online activities in line with the rest of European citizens. However, Spain made little progress and fell back from rank 16 to rank 17. 78% of Spanish Internet users read news online (70% in the EU) and listen to music, watch videos and play games online (83% compared with 78% at EU level). Spaniards are above the EU average when watching films (27% and 21% across the EU), but they made less use of video calls over the Internet than the rest of the EU (31% compared to 39%). The Spanish used social networks (67%), above the EU average, but the use of online banking and online shopping (54% for both indicators) is below EU average (59% and 66%, respectively).

The Spanish used social networks (67%), above the EU average.



Integration of Digital Technology

Spain made good progress in the dimension Integration of Digital Technology by business over the last year. Spanish enterprises are increasingly taking advantage of the possibilities offered by online commerce: 19% of SMEs sell online (above the 17% of the EU average) and more and more SMEs are actively selling online (19% with a 9.4% of their turnover coming from the online segment). Furthermore, one quarter of SMEs use eInvoicing, well above EU average. Spain has put in place Industry 4.0 initiatives, such as Industria Conectada 4.0, Basque Industry 4.0. At regional level, Tecnalia is the biggest research and technology organization which provides technology transfer and consulting services to all types of companies, whether active in traditional or technological domains. At national level, Industria Conectada 4.0 was announced in 2015 aiming to digitise and enhance the competitiveness of Spain's industrial sector. The initiative promoted digitisation among SMEs with a budget of € 97.8 Million focused on credit loans for projects aimed at (i) innovations in organisation and processes or (ii) industrial research. Additionally, € 68 Million (loans and direct aid) for ICT companies and €10 million for innovative clusters were allocated. The Industria Conectada 4.0 initiative is driven by the General Secretariat of Industry and SME and the Secretary of State for Information Society and Digital Agenda. Apart from the main industrial players experts belonging to tech companies, research and civil society are also involved in Industry 4.0. This strategy includes a self-assessment tool for industrial digital readiness for business to support SMEs. The Ministry has also put in place a programme to assess SMEs - up to 25 - with 50-hours of consultancy services in different areas of digitisation. Their target is to reach 100 SMEs with € 97.5 Million and a minimum investment of € 150 K. This should take into account the high concentration of small and medium-sized firms in the Spanish industrial structure, mostly operating in low-tech traditional sectors.

Regarding the business sector, internationalisation of innovative firms remains an area of concern. Empresa Nacional de Innovacion (ENISA) finances SMEs' internationalization process through a competitive programme. The expected new Digital Agenda 4.0 for 2017-2020 will provide further policy guidance within this strategic area.

In order to boost the digital transformation of Spanish economy, it is important to raise awareness of the relevance of digital strategies both top-down and bottom-up. This approach will capture the full range of SMEs needs.

Integration of Digital Technology by enterprises - Spain

24% - EU 20%

Using social media to engage with customers and partners

19% - EU 17%

SMEs using e-commerce

35% - EU 36%

Using business softwares for e-information sharing

25% - EU 18%

sending electronic invoices

Digital Public Services

This is the dimension where Spain is performing best. Spain ranks 6th among EU countries, with a slightly increased score over last year's. Indeed, Spain scores the highest in Open Data and it is one of the EU countries with the highest online interaction between public authorities and citizens. The reason for the good results in Open Data is linked to the law 18/2015 which ensured data re-use and data transparency and the solid base provided by the Aporta Project that was established in 2009 and has promoted the open data culture within the Spanish Public Sector. 40% of Spanish online users actively access eGovernment services. However, other Member States are progressing fast and Spain ranks this year lower than in last one in the indicators concerning pre-filled and completion eGovernment information. These two indicators are the re-use of information across administrations to make life easier for citizens (Pre-filled Forms indicator) and the sophistication of services (Online Service Completion indicator), where Spain now ranks 10th and 11th, respectively.

Despite Spain's decentralised structure, with central, regional and local government entities, posing challenges in establishing coherent and nationwide eGovernment services, the Digital Transformation Plan for the General Administration and Public Agencies (ICT Strategy 2015-2020) with two new legal instruments is now bearing fruit, having delivered a global strategic framework for the transition to full eAdministration by 2018, as evidence in DESI shows. Full implementation of the strategic plan, together with the legal instruments, could lead the way to even more significant improvements in the area of Digital Public Administration.

Digital Public Services - Spain

89% - EU 82%

Public service completion
(Online services available online)

40% - EU 34%

e-government users
(users returning filled forms online to the P.A.)

Spain is one of the EU countries with the highest online interaction between public authorities and citizens.

40% of Spanish online users actively access eGovernment services.

The digital economy and society: state of the art and trends

Spain - Regulatory framework

Under article 1 of Law on Services of the Information Society and Electronic Commerce:
Is object of the present law the regulation of the legal regime of the society of information and hiring services to electronic way, in the reference to obligations of the services.

According to Art. 1 of this law: *This Law is subject to the regulation of the legal regime of the services of the information society and of electronic contracting, in relation to the obligations of providers of information. Services including those acting as intermediaries in the transmission of content by telecommunication networks, electronic communications, pre and post electronic contract information, conditions relating to validity and effectiveness, and the applicable penalties to service providers of the information society.*

For the determination of the law applicable to electronic contracts, the rules of private international law of the Spanish legal system shall be in accordance with the provisions of Articles 2 and 3 of this Law.

Law 34/2002, on services of the information society and electronic commerce, is the regulatory standard for electronic commerce and other Internet services when they are part of an economic activity. It establishes certain information obligations for those companies that carry out electronic commerce and, also, regulates the advertising activity by electronic means. These information obligations are extended for companies that enter into contracts electronically, in order to reduce the legal uncertainty of the operation. In addition, there are other rules that regulate the commercial activity in Internet. They are the following:

- Law 7/1996, of January 15, on Retailing.
- Law 7/1998, of April 13, of General Contracting Conditions.
- Royal Legislative Decree 1/2007, of 16 November, approving the consolidated text of the General Law for the Defense of Consumers and Users
- Other complementary laws.

Law 34/2002, on services of the information society and electronic commerce
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They are the following:
Law 7/1996, of January 15, on Retailing. The commercial activity is exercised under the principle of freedom of enterprise and in the framework of the market economy The main purpose of this Law is to establish the general legal regime for retail trade, as well as to regulate certain special sales and commercial promotion activities, without prejudice to the laws issued by the Autonomous Communities in the exercise of their powers in this matter.

Law 7/1998, of April 13, General Conditions of Contract. Shall apply to contracts containing general conditions concluded between a professional and any natural or legal person. However, it shall not apply to administrative contracts, contracts of employment, contracts of incorporation, family relations and succession contracts.

Royal Legislative Decree 1/2007, of 16 November, approving the consolidated text of the General Law for the Defense of Consumers and Users

As for General Law for the Defense of Consumers and Users, (this law is updating currently), in first time, for the purposes of this rule and without prejudice to the provisions expressly in its third and fourth books, consumers or users are individuals who act with a purpose other than their commercial activity, business, trade or profession.

Consumers for the purposes of this rule are also legal persons and entities without legal personality that act non-profit in an area outside a commercial or business activity.

Through art. 8. we see the basic Rights of consumers and users:

A. Protection against risks that may affect your health or safety.

B. The protection of their legitimate economic and social interests; Against unfair commercial practices and the inclusion of unfair terms in contracts.

C. Compensation for damages and compensation for damages suffered.

D. Correct information about the different goods or services and education and dissemination to facilitate knowledge about their proper use, consumption or enjoyment.

E. The hearing in consultation, participation in the process of elaboration of the general provisions that affect them directly and the representation of their interests, through associations, groups, federations or confederations of consumers and legally constituted users.

F. The protection of their rights through effective procedures, especially in situations of inferiority, subordination and defenselessness

Law 34/2002, of 11 July, on services of the information society and electronic commerce.

Law 7/1998, of April 13, on general contracting conditions.

Royal Legislative Decree 1/2007 of 16 November Approves the consolidated text of the General Law for the Defense of Consumers and Users and other complementary laws.

Law 7/1996, of January 15, on Retailing.

The digital economy and society: state of the art and trends

Spain - Other interesting facts
Logistics in Spanish e-commerce success stories

E-commerce is a business model that increases year-on-year its market share towards traditional trading systems. The elements that determine its failure or, on the contrary, its success are many: one of these is the logistics. Delivery times, both in terms of flexibility and quality, cost containment, transparency, customer assistance within the delivery phase are crucial to the ultimate consumer satisfaction and to ensure his/her next online purchase.
To better understand the crucial role that logistics plays within the online commerce system, we present some of the case studies selected by Adigital within the report on trade logistics in Spain: five success stories.

Case 1 / Pompeii
Sneakers made in Spain: a project created by Nacho and Jorge Vidri, Cosme Bergareche and Jaime Garrastazu. The initiative was born as a university project and became a real e-commerce business in 2014. The core business is in the marketing of sneakers designed by and for digital natives: a growing business that could soon cross national boundaries.
The growth of the shop online has been accompanied by an evolution of the logistic model: starting from the store of Alcorcón (Madrid) the company has implemented complex systems of management - ERP and SGA - which have enabled to switch from a fully manual process to an automated model for rationalizing time and cost.
In terms of customer care, the company pays particular attention to the customer, especially during the delivery phase. In line with the company profile, the headline in the Contact area says: *Contact us with happiness.*

Case 2 / Ulabox
Ulabox is a company founded in 2010 by three young entrepreneurs - Jaume Goma, David Baratech and Sergi de Pablos- to respond to the dissatisfaction of shopping experience in traditional supermarkets and in their online variants. Ulabox allows to make online purchases by choosing from a catalog with more than 13.000 products and carrying out more than 10.000 shipments per month. For the e-commerce business in this sector, the positive customer experience is crucial to the success: Ulabox reaches a 17% conversion ratio. In the online supermarket sector, logistics is very complex as the number of products is huge and many products require specific temperature treatments. Ulabox's logistical strategy, in dealing with the registered growth, is based on the division of areas of interest in two sectors: the metropolitan area of Barcelona and the area that includes the rest of the country. The area of Barcellona represents 60% of the market of Ulabox. In this area, the company has developed an efficient net of last mile and is able to supply both dry products and products that require refrigeration and freezing. In the rest of Spain, sales have lower volumes due to network constraints that only allow the delivery of dry products. The model applied to the Barcelona area is expected to be expanded to the Madrid area, which represents a significant basin of users.

Case 3 / PromoFarma

PromoFarma - founded in 2012 by David Masó, Adrià Carulla and Jose Miguel Pulido - PromoFarma is a marketplace for Internet Pharmacy. In this area, customer confidence and reliability are the key for the success. The PromoFarma's operating mechanism is the following: by entering the site, the customer has access to a large catalog of items offered by different pharmacies. After the products are chosen and the order sent, PromoFarma uses a math algorithm to identify the pharmacy that offers a better price for the products required by the customer, including shipping costs. Following this assessment, the selected pharmacy - of about 300 - receives the order and has 24 hours to prepare and inform the carrier, managed by PromoFarma, that will deliver the purchased goods within 48 hours.

In this business model, logistics efficiency is crucial: 50% of the success depends on the delivery factor. To ensure the efficiency of the described model, PromoFarma has made important technological investments and has developed an effective co-ordination system with the selected partner for delivery. Looking to the future, PromoFarma has the following goals:

1. to direct the transport system towards a policy of energy saving and use of green technologies;
2. to further reduce delivery times by opening small warehouses distributed within the territory. The goal is to ensure one day delivery - one day following the order or on the same day of purchase - including deliveries within two hours, for emergencies.

Case 4 / eShop Ventures

EShop Ventures is a Spanish group of online shops founded by Alfonso Merry del Val and Rafael Garrido featuring a serie of thematic sites: mimub.com, mamuky.com, nonabox.es, elarmariodelatele.com, todovino.com, exprit.es, enolobox.com and chicplace.com.

In 2012, the group launched the first online store, mimub.com, focused on selling home and decorating items. The logistics system - in which the group has made important investments - is for eShop Ventures a key element, both to ensure customer satisfaction and to guarantee an effective warehouse management and storage. The distribution system, increasingly attentive to consumer needs, tends to reduce delivery times, offering customers a messaging system for variations and changes in delivery dates and times and for potential return of purchased goods.

Case 5 / Wifiaway

Founded at the end of 2014 by Miguel Moral, the company provides Internet connection services on wifi, in the Iberian Peninsula and in the Balearic Islands.

The activation modalities of the service are the following: the user must fill in a form and pay through the website; Wifiaway receives the request and sends to the indicated address a small device capable of handling up to 20 Gb of data, in less than 24 hours at any location within the served areas.

For this kind of business model - strongly influenced by seasonal factors - logistics is one of the key factors of success; indeed, the dispatch and the return of the devices represent the two structural elements of the model. For the delivery, Wifiaway uses Packlink's services: an online price and transit time comparator offering national and international delivery solutions with express couriers and postal operators. The use of the site is free, does not require registration and it is available for both private and business users.

The digital economy and society: state of the art and trends

Spain - Other interesting facts
The best selling online stories in Spain

These are the 15 most popular online shops in Spain:

1. Amazon - Even in Spain, as in the world, Amazon is the leader in online shopping. On the Spanish website you can find the latest news and almost everything you can imagine in terms of technology, books, small household appliances and computers. In Spain, Amazon has just opened its music store and Cloud Player service.

2. Zara - The Spanish clothing company owned by Inditex Group - which also owns brands such as Massimo Dutti, Pull and Bear, Oysho, Uterqüe, Stradivarius and Bershka, Zara is based in La Coruña, Galicia; it has a total of 900 stores, distributed in 73 countries all over the world, where it sells clothes and accessories for women, men and children. Zara entered the online market in 2010 (Source: Sole24 ore February 2016); it has about 21 million followers on Instagram, about 26 million on Facebook. Also featured on Twitter, Pinterest and Youtube.

3. El Corte Inglés - A chain of department stores spread all over the country - as Inditex it has entered the online market relatively late, without losing its distinctive profile: a unique format in which it sells everything from clothing to cars.

4. Privalia - Privalia is an online outlet offering over 3.000 brands among fashion women, men and toddlers, beauty and design (Source: Sole24 ore - March 2015).

5. Aliexpress - AliExpress is an e-commerce platform, easily accessible both by desktop and mobile, where thousands of products, divided into different categories, can be bought. The portal is owned by the Asian Alibaba group and the proportion of made in China items is overwhelming.

6. asos - ASOS.com is an international fashion and cosmetics marketplace with over 50,000 products for women and men (including clothing, shoes, accessories, jewelery and cosmetics). ASOS has websites located in Great Britain, United States, France, Germany, Spain, Italy and Australia and has its own main distribution center in Great Britain.

7. Carritus - Carritus is a comparison shopping engine through which you can compare the prices of different supermarkets, make online shopping and receive the goods directly at home.

8. Dealextreme - DealExtreme is an active online store opened in 2005. It is based in Hong Kong and it is one of the world's leading low-cost shopping giants.

9. El armario de la tele - El armario de la tele is a multibrand online shop that offers trendy clothing for both men and women: according to what they state on the Facebook page, the shop offers 80 national and international brands.

10. Lightinthebox - LightInTheBox is a global online retailer able to offer its products directly to consumers all over the world. Founded in 2007, LightInTheBox offers customers a wide range of products in the three main categories of clothing, small accessories and home and garden gadgets. The store also offers personalized products, such as wedding dresses and evening dresses.

11. Mercadona - Mercadona is a Spanish distribution company based in Valencia. It offers online shopping and delivery: you can also place orders in English.

12. Perfumesclub - Perfume's Club was born in 2009 as a marketplace dedicated to the beauty sector: today it is the leader in the field in Spain.

13. Pixmania - Online sales portal that offers products in the following categories: large household appliances, computers, DVDs, video games, musical instruments, garden, toys, home, watches, small household appliances, photo, childcare, audio, sports (except textile products), telephony, TV/video.

14. Zalando - Zalando is considered one of the pioneers of online stores. It was born in 2008 in Berlin with the name Ifansho and quickly conquered the European market thanks to a widespread marketing campaign. The first steps are in the world of footwear for big brands, but soon the success leads to the expansion of the offer and today it allows to buy clothes and accessories of both big brands and lesser-known brands. To date, it offers more than 1500 brands.

15. Zacaris - Marketplace offering shoes, bags, accessories and jackets of about 200 business brands.

The digital economy and society: state of the art and trends

Czech Republic - DESI data

The Czech Republic ranks 18th out of the 28 EU Member State in the European Commission Digital and Society Index 2017.

Over the last year the country progressed in Digital Public Services, remained stable in Human Capital and worsened its ranking in the other dimensions. The country performs best in Integration of Digital Technologies by Businesses, mostly because many SMEs embrace eCommerce. The Czech Republic is well positioned in terms of 4G coverage (94%), but overall performance in the Connectivity dimension is stagnating. The country's greatest challenge is to improve the use of Internet services, in particular for eGovernment, entertainment and social purposes.

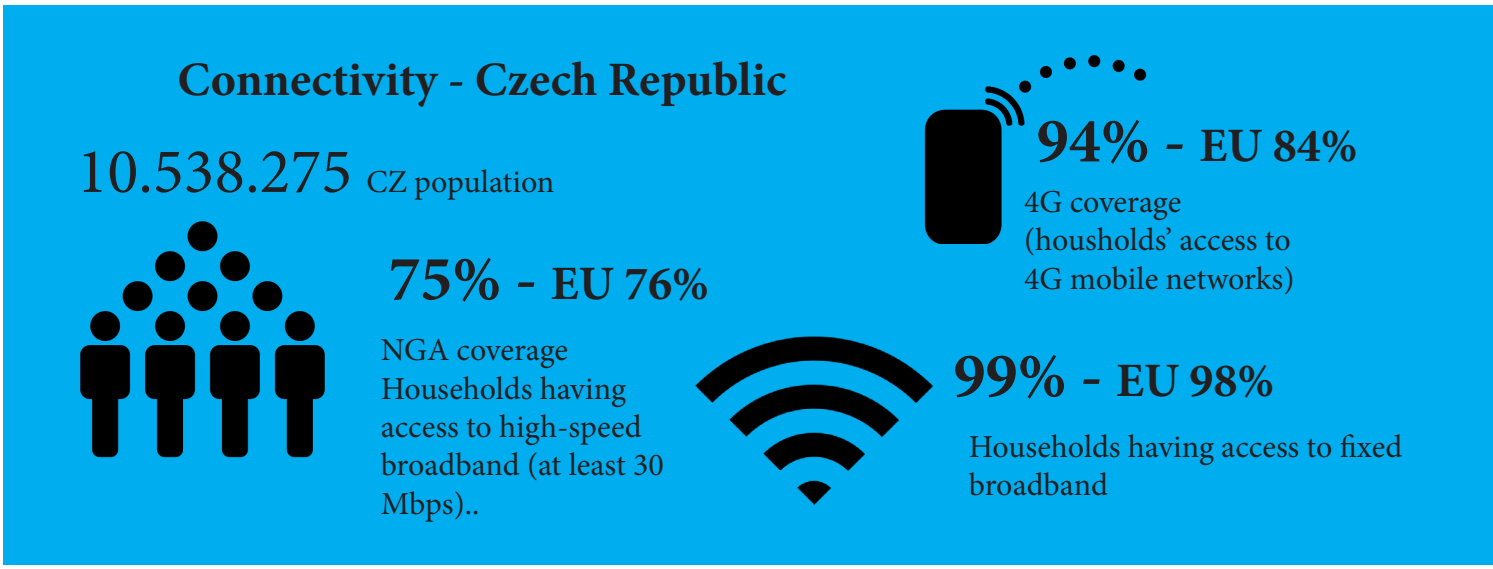
The Czech Republic belongs to the Medium performing cluster including Latvia, Slovenia, France, Portugal, Spain, Lithuania, Malta, Germany and Austria.

In 2016 the Czech Republic updated its Action Plan on the *Development of Digital Market*. The plan includes five priorities (eSkills, eCommerce, eGovernment, eSecurity and General Data Protection Regulation, sharing economy and open data) and the horizontal priority Society 4.0. The main novelty is the establishment of a coordination mechanism for the digital agenda under the responsibility of the Office of the Government. While the responsibilities remain with the competent Ministries, the coordinator's role is to manage government activities and communication among the Ministries and other central governmental institutions. This initiative is an important step to unify activities in the field of the digital agenda and signals that the digital agenda is a national priority.

Connectivity

The Czech Republic's overall performance in the Connectivity dimension has been stagnating relative to the EU average, with very limited progress since the previous year. While the fixed broadband full coverage target has almost been met, NGA coverage has not improved much, keeping the Czech Republic in 20th position across the EU. The relative increase of the fixed broadband price might explain the decreasing number of fixed broadband subscriptions. On a more positive note, the country is well positioned in terms of 4G coverage (9th place) and progress in the assignment of harmonised spectrum is promising in this respect. Take-up is growing more slowly. The growth of subscriptions to fast broadband is achieved mainly in the (well-developed) urban areas. In the rural areas the lack of infrastructure is expected to be tackled through structural intervention co-financed with EU funds within the Operational Programme Enterprise and Innovations for Competitiveness (OPEIC).

This OPEIC was approved by the Commission in April 2015 to support NGA roll-out in rural areas where market mechanisms cannot be relied upon to deliver NGN infrastructure. European Structural and Investment Funds (ESIF) will support this OPEIC objective with approximately EUR 521 million (CZK 14 billion). Thanks to this programme, there should be 500.000 additional households with broadband access of at least 30 Mbps by 2023. The National Plan for the Development of Next Generation Networks was updated by the Government on 5 October 2016 in order to improve the effective deployment of this objective. The first call for proposals was published on 31 March 2017. The main beneficiaries will be providers of telecom networks and services.
More generally, however, the actual level of competition has hardly stimulated FTTB/FTTH8 deployment. While ESIF funds are used for deployment of NGA in rural areas, it remains to be seen whether the current approach is sufficient to achieve Digital Agenda targets. The regulatory support to NGA deployment is not fully in place as the transposition of the Cost Reduction Directive is subject to significant delays. Finally, next to funding in areas of market failure, targeted policies and measures might also be useful in order to increase user demand.



Human capital

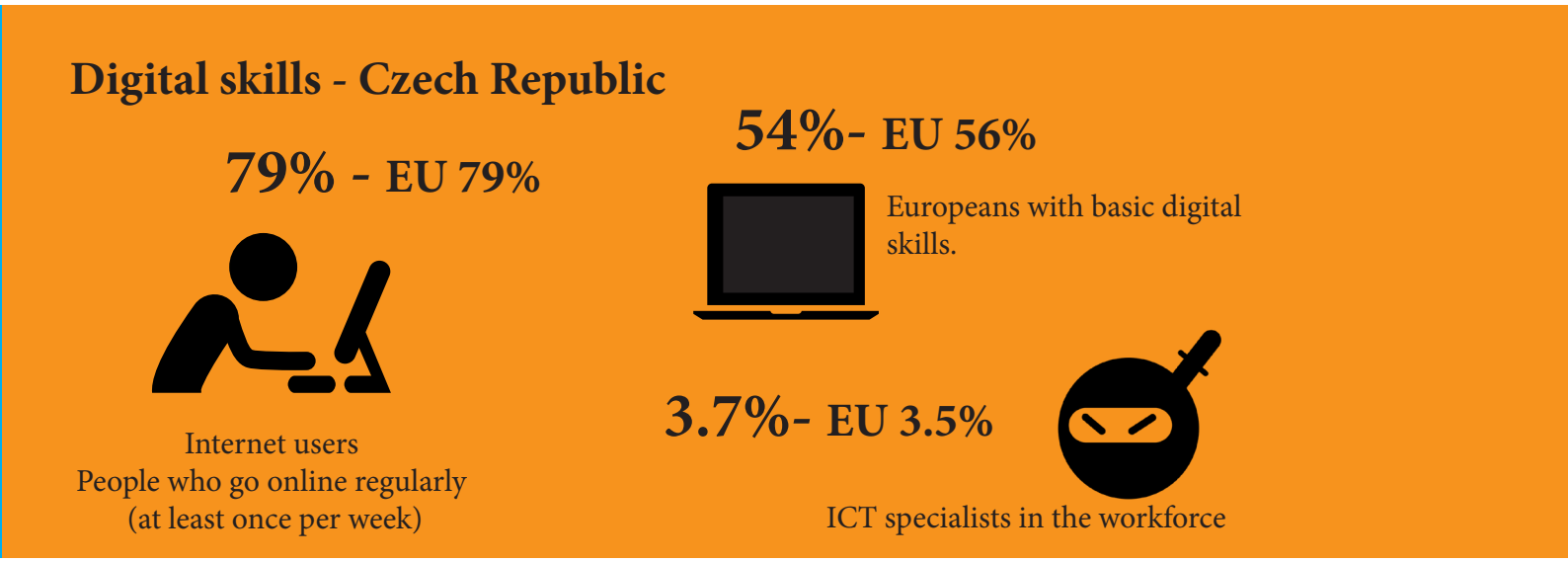
In the Human Capital dimension, the Czech Republic ranks 13th, a stable position compared with last year. In 2016, more people are online and use Internet regularly compared to 2015. However, there is a slight decline in the level of the population's digital skills.

In an economy close to full employment and where demand for technical profiles is high, recruitment of ICT specialists is increasingly difficult: in 2016, 66% of enterprises reported having had difficulties in hiring ICT specialists, the highest level in the EU and up from 47% in 2012.

The Czech Republic has in place a Digital Education Strategy aimed at opening education to new methods and ways of learning through digital technologies, improving students' competencies in working with information and digital technologies and developing students' computational thinking. Beyond formal and informal training, digital literacy of Czech citizens is also promoted through the Digital Literacy Strategy for 2015-2020 so as to prepare people to exploit the potential of digital technologies for their lifelong development. The Action Plan of the Digital Literacy Strategy 2015-2020 was approved in 2016 and it details the thematic actions to be implemented by the end of 2020. These include equipping workers with the digital competences needed to enter the labour market and retraining employees facing changes due to digitisation and globalisation. Actions also target training of employees of SMEs and self-employed, civil servants, as well as employers for the introduction of teleworking and remote work. The Digital Literacy Strategy, and in particular its strategic competitiveness goal, counts on employers' active collaboration for the implementation of the measures.

On 24 October 2016 the *National Coalition for Digital Jobs* was signed by the Ministries of Education, Labour and Social Affairs, Industry and Trade the Office of the Government (vice-prime minister for Science, Research and Innovation and the coordinator for digital agenda) and the Czech ICT alliance (ICT sector representatives).

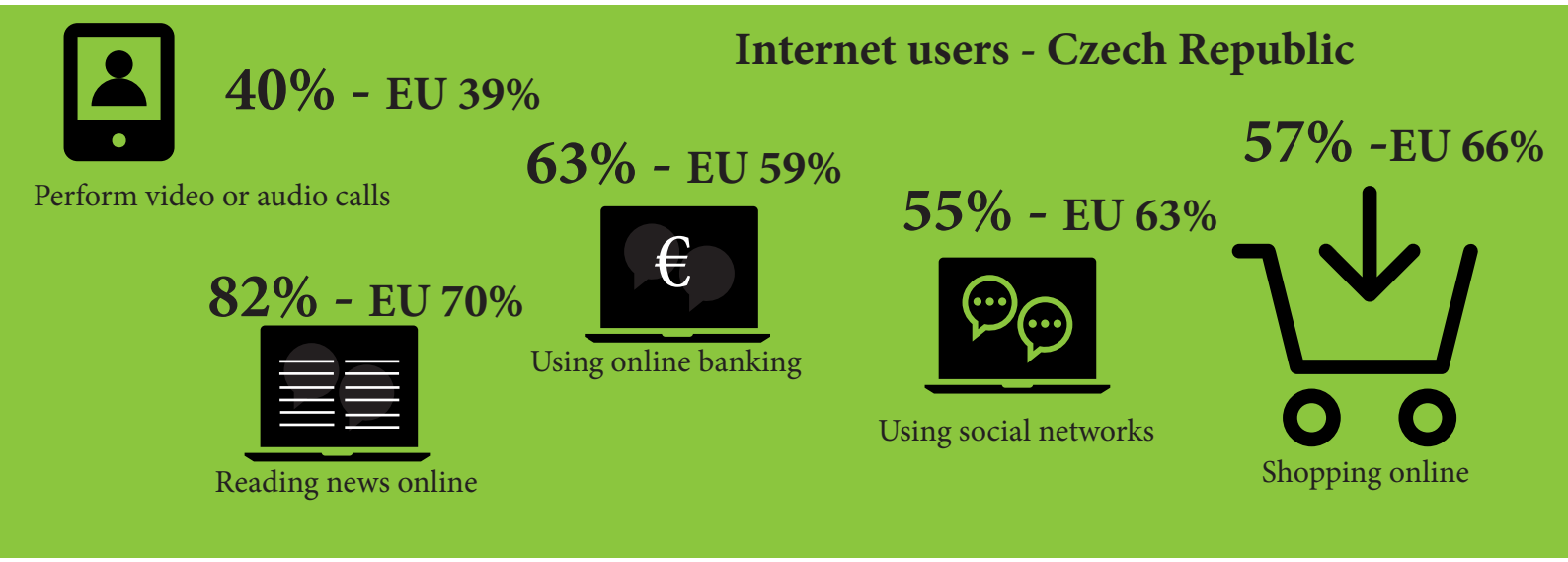
The successful implementation of the actions above will greatly benefit the country's human capital.



Use of Internet

In terms of the propensity of individuals to use Internet services, the Czech Republic over the last year made little progress and fell from rank 21 to rank 22. Although well above the EU average, in 2016 there were fewer Czech Internet users reading news online (82%) than in 2015. Czech Internet users performed banking transactions online more than other Europeans (63% compared to 59%) and increasingly shopped online, although still not in line with the EU average (57% compared to 66%). They used Internet for entertainment (music and video) and communication (social networks) less than the average European. Video on demand use was especially low, placing the country at the bottom of the ranking in the EU.

Czech Internet users performed banking transactions online more than other Europeans: 63% compared to 59%



Integration of Digital Technology

The Czech Republic over the last year made little progress in the dimension concerning the Integration of Digital Technology by businesses. However, this is the dimension where the country performs best. Czech enterprises increasingly take advantage of the possibilities offered by on-line commerce: one quarter of SMEs sell online, half of them cross border, and they are second in the EU for eCommerce turnover. However, RFID, use of eInvoices, social media and cloud is below EU average.

The Industry 4.0 initiative prepared by the Ministry of Trade and Industry was approved by the government in August 2016. The initiative maps the challenges of the Fourth Industrial Revolution and explores possible measures to address them. While the implementation plan is being defined, the principles of Industry 4.0 are being already applied in a few big companies. In order to support SMEs to catch up with digital technologies, an open laboratory-testing facility will be established at the Czech Technical University (CTU), in collaboration with the German Research Centre for Artificial Intelligence (DFKI). For an industrial country like the Czech Republic, Digital Technologies and the Fourth Industrial Revolution represent an opportunity and should be taken advantage of.

Integration of Digital Technology by enterprises - Czech Republic

12% - EU 20%

Using social media to engage with customers and partners

26% - EU 17%

SMEs using e-commerce

30% - EU 36%

Using business softwares for e-information sharing

13% - EU 18%

sending electronic invoices

Digital Public Services

This is the dimension where the Czech Republic has progressed the most, although it is still below average in all indicators: it ranks 22nd among EU countries. Online interaction between public authorities and citizens is one of the lowest in the EU: only 15% of Czech Internet users actively engage in the use of eGovernment services, although this figure has improved. The increase in the use of eGovernment services suggests that measures taken to improve their supply are having a positive impact: the availability of pre-filled forms and the level of online service completion have indeed also increased.

The Czech government has launched in 2016 the 'Initiative 2020', which aims to make the Czech Republic one of the top 20 countries in Europe for the use of eGovernment services by 2020. The initiative - jointly run by the private sector and the Czech authorities - focuses on the promotion of existing eGovernment services and on support for the development of new services. Increased availability of eGovernment services is also one of the objectives of the Strategic Framework for the Development of Public Administration for 2014-2020. The evaluation report indicated that some individual measures have not yet been initiated and most are still 'work in progress'. Introduction of the national e-ID, which should serve as key enabler for eGovernment services, is planned for January 2018.

Despite the progress in both demand and supply of eGovernment services over the past year, the performance of Czech Digital Public Services remains below EU average. In addition, the drawdown of available EU funds for the development of eGovernment services has been low so far. The actions put in place by the country to improve availability, quality and promotion of eGovernment services could contribute to improvements in this dimension.

Digital Public Services - Czech Republic

77% - EU 82%

Public service completion
(Online services available online)

15% - EU 34%

e-government users
(users returning filled forms online to the P.A.)

The digital economy and society: state of the art and trends

Czech Republic - Regulatory framework

The key drivers from the business perspective are high quality goods, customer service, technologies and marketing. But there are also legal and tax aspects that shall be observed and set up in a right way. A brief overview of the challenges that an e-shop will come across during establishment and while carrying out its daily activities, such as:

Legal requirements

- Formal establishment
- Legal system governing the contract
- Consumer protection (information duty, e-commerce contract conclusion and its content)
- Personal data processing

Tax requirements

- Tax Registrations
- Corporate income tax registration and filing obligations
- VAT registration, filing obligations
- VAT identified person
- Other tax registrations
- Acquisition of goods
- Acquisition of goods in the Czech Republic
- Acquisition of goods from the EU
- Acquisition of goods from 3rd countries – import of goods
- Sale of goods to customers
- Tax documents declaring sale of goods to Czech customers
- Goods delivered within the Czech Republic
- Goods transported from EU
- Goods transported from 3rd country

Read more

The main legal aspects of e-commerce are included in the Civil Code:
and the Act about business corporations.

The complete list of laws and regulations regarding the electronic commerce is provided by BusinessInfo.cz portal managed by CzechTrade and can be found at:

The digital economy and society: state of the art and trends

Czech Republic - Other interesting facts

Google, which has called the Czech Republic 'the Internet tiger of Central and Eastern Europe', reports a smaller number of online businesses. Dominant on-line shops include:

- www.alza.cz,
- www.mall.cz,
- www.kasa.cz,
- www.CZC.cz,
- www.123shop.cz.

U.S. e-retailers are generally absent from the Czech market, although some, like eBay, have Czech language sites that mainly list items located in the UK or elsewhere in Europe.

E-commerce in the Czech Republic is rapidly gaining popularity and online sales turnover is increasing continuously year by year. That happens because the majority of people nowadays prefer buying online to actually going out shopping, opting for bigger choice, less hassle and more comfort. Thus, according to Heureka.cz, in 2015 Czechs spent a record CZK 81 billion on online purchases, that is 21% more than the preceding year.

Trying to keep up with the industry, companies move their business to the Internet, shifting to a more interactive way of selling. And while some of them also continue selling offline or at least keep a shop as a showroom, others don't even have a physical store, concentrating fully on the online. The reality is that with e-commerce coming to the forefront the number of such companies will be increasing dramatically with the months going by. And the statistics is eloquent of it.

In 2015 the share of online stores in the Czech retail market increased by 1% and reached the level of 8.1%. As claimed by the experts from the Association for Electronic Commerce in the Czech Republic (APEK), by the next two years it is predicted to reach 10%. On this indicator the Czech Republic is now roughly on par with Germany (7.3% in 2014) and Austria (7.2%). For comparison, the share of online stores in the retail market in Hungary is 3.7% only and in Poland is 5.4%.

Insights into the growth of Czech Republic e-commerce

Economy

The Czech Republic is home to just over 10.6 million people with a total GDP of 182 billion USD. GDP per capita is currently 17.543 USD and expected to reach 18,415 USD by 2021. It's ranked as the 50th richest country in the world by the World Bank's GDP per capita ranking.

Digital User Insights

There are currently 4.8 million e-commerce users in the Czech Republic with almost 500,000 new users shopping online by 2021. There will be 5.3 million e-commerce users by 2021, this will represent 59.2% of the total population. The average user spends 496 USD online, which will grow to 639 USD by 2021.

In 2016, males outnumber female shoppers, with 300.000 more male shoppers than female shoppers in the 25-34 year old age group. Younger shoppers are also more likely to shop online, with 2.4 million shoppers under the age of 35, representing 50% of the market.

In 2021, the ratio of male to female shoppers is expected to remain the same, with new shoppers spread across all age groups. Shoppers in the 25-34 year old age group will account for the biggest market share, with almost 1.5 million shoppers falling into this category.

Product Categories
Total e-commerce revenue across all product categories is 2.4 billion USD, expected to reach 3.4 billion by 2021. Fashion is currently the leading product category accounting for 770 million USD market share. Electronics is the second leading product category accounting for 750 million USD.
By 2021, fashion will continue to lead the charge, valued at 1.2 billion USD. Electronics will remain in second place, reaching 922 million USD.

Logistics
In 2016, the Czech Republic ranked 26th in the World Bank Logistics ranking. 73% of the Czech Republic's population reside in urban areas, this is expected to grow in coming years.

Preferred Online Payments
The Czech Republic uses similar online payment methods to the rest of Europe. Credit cards are popular, with all major credit cards used online in the last year. Alternate payment methods include SEPA, ecoPayz, paysafe card, and Mobiamo.

Where does the Czech Republic buy from?
Germany supplies the Czech Republic with 40.3% of its imports. Other key import partners are China (17%), Poland (12.2%), Slovakia (8.63%) and Italy (6.32%).

Internet and Device Usage
Internet penetration in the Czech Republic is currently at 77%, and should reach 81% by 2021. Smartphone penetration is 54% and is projected to grow to 68% by 2021.
93% of online shoppers in the Czech Republic shop online via desktop. 3% of shoppers make purchases via smartphone, and just 2% made their most recent purchase via tablet.

Marketing
Total Marketing spend in the Czech Republic has risen steadily in recent years with brands increasingly turning to digital. TV has fallen to 310 million USD market spend and leads the advertising spend categories. Digital market spend has grown slowly and steadily year-on-year since 2010, and is currently at 237 million USD market spend.

Social Media
The Czech Republic's social media penetration is expected to reach 50.85% by 2021. Popular networks include Facebook and LinkedIn as well as a local channel called Seznam.

Read more

Digital single market: comparison between partner countries

ECommerce

ICT sector Security and privacy

EU research and development Programs

Background variables

EHealth ICT in education ...

The European Commission's Internet area dedicated to issues related to the Digital Single Market offers the opportunity to explore the digital profile of each individual country in the Union, compare the countries, analyze trend values, discover the evolution over time of the indicators. It also provides information on individual indicators through a map of easy and intuitive reading.

The measured macro indicators are the following:

- Telecom sector
- Broadband take up and coverage
- Broadband speed and prices
- Mobile market
- Internet usage
- Audiovisual and media content
- Take up of Internet services
- EGovernment
- ECommerce
- EBusiness
- Digital skills
- ICT specialist
- ICT in education
- EHealth
- Security and privacy
- ICT sector
- EU research and development Programs
- Background variables

Each macro indicator shows a serie of thematic indicators.
In relation to the objectives of the project, the partnership has decided to focus its attention on the e-commerce and e-business for which the details can be found on the following pages.

List of indicators

Digital single market: Comparison among partner countries

E-commerce

E-commerce performance are measured by the following indicators:

1. **individuals ordering goods or services on line** (Individuals carrying out this activity over the Internet in the last 12 months, for private use).

2. **Individuals ordering goods or services online, from sellers from other EU countries** (Individuals that ordered goods or services for private use over the Internet in the last 12 months from sellers from other EU countries).

3. **Individuals ordering physical goods online** (individuals that have ordered online any of the following physical goods: food/groceries, household goods, medicine, clothes/sports, computer hardware, electronic equipment.

4. **Individuals ordering services online** (individuals that have ordered online any of the following services: telecommunications services, share/insurance/financial, holiday accomodation, travel arrangements, tickets for events).

5. **Individuals ordering content or software that were delivered or upgraded online** (the online content and software include: films, music, books, magazines, e-learning material, computer software, video games, that were ordered/bought over the Internet in the last 12 months, for non-work use).

6. **Individuals ordering content or software delivered online or offline** (online purchases: films/ music or books/magazines/e-learning material or computer software).

7. **Individuals selling goods or services online** (Individuals have used Internet, in the last 3 months, for selling goods and services (e.g. via auctions).

8. **Individuals who had no problems buying/ordering goods or services over the Internet for private use** (Individuals who did not encounter problems when buying/ordering goods or services over the Internet for private use).

9. **Enterprises selling online** (enterprises using any computer network for sales - at least 1%. The sales realised, during the previous calendar year, via any computer networks should represent at least 1% of the total turnover value - in monetary terms, excluding VAT. Computer networks include websites, EDI-type systems and other means of electronic data transfer, excluding manually typed e-mails).

10. **Turnover from e-commerce** (total electronic sales by enterprises, as a % of their total turnover - The value of sales realised, during the previous calendar year, via any computer networks in % of

the total turnover value - in monetary terms, excluding VAT. Computer networks include websites, EDI-type systems and other means of electronic data transfer, excluding manually typed e-mails).

11. **Enterprises selling cross-border to other EU countries** (enterprises having done electronic sales to other EU countries in the last calender year - The sales have been realised, during the previous calendar year, via any computer networks - in monetary terms, excluding VAT. Computer networks include websites, EDI-type systems and other means of electronic data transfer, excluding manually typed e-mails).

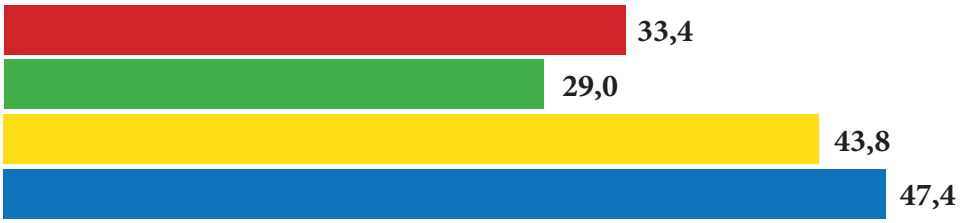
12. **Enterprises exploiting B2C opportunities of web sales** (enterprises where web sales are more than 1% of total turnover and B2C web sales more than 10% of the web sales - Enterprises with 10 or more persons employed. All manufacturing and service sectors, excluding the financial sector).

In the following pages you can find the comparative analysis between the four project partner countries in relation to the above mentioned items and a comparative trend analysis on the following four indicators:

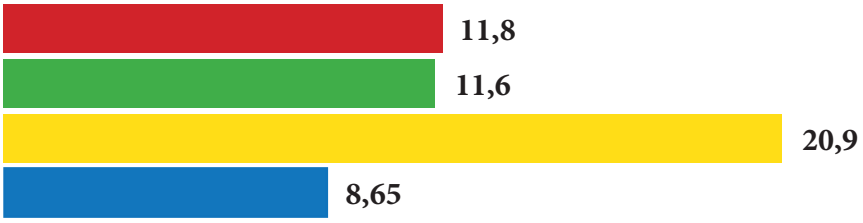
- turnover from e-commerce;
- individuals ordering goods on line;
- individuals ordering services on line;
- enterprises exploiting the B2C opportunities of websales.

To find out more about the issue and explore the other indicators, open the link.

1. Individuals ordering goods or services on line
(% of individuals aged 16-74)- 2016

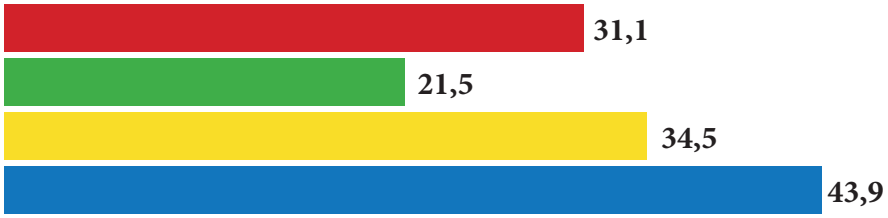


2. Individuals ordering goods or services online, from sellers from other EU countries
(% of individuals aged 16-74) - 2016

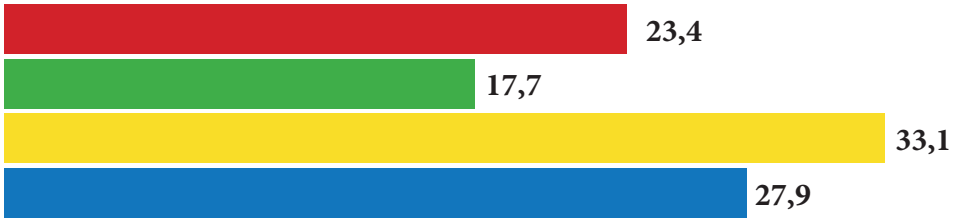


Lithuania Italy Spain Czech Republic

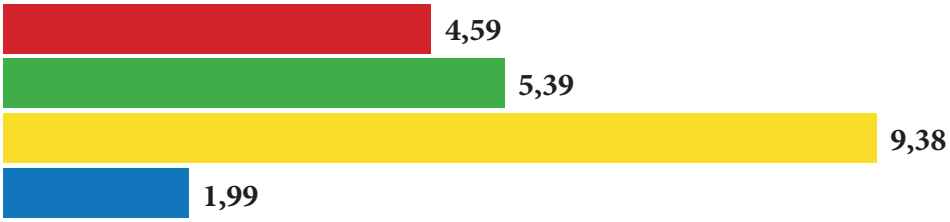
3. Individuals ordering physical goods online
(% of individuals aged 16-74)- 2016



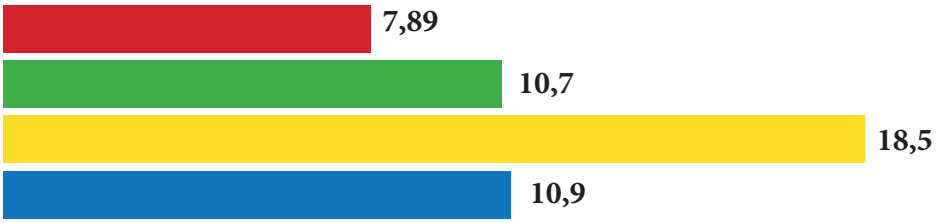
4. Individuals ordering services online
(% of individuals aged 16-74) - 2016



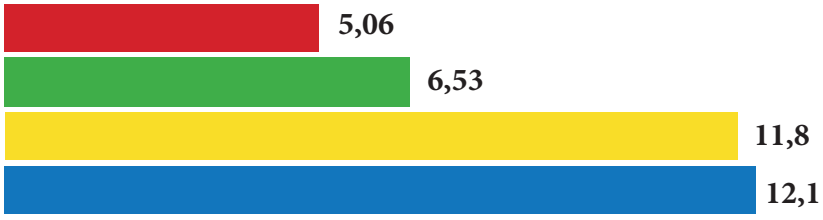
5. Individuals ordering content or software that were delivered or upgraded online
(% of individuals aged 16-74) - 2014



6. Individuals ordering content or software delivered online or offline
(% of individuals aged 16-74) - 2016



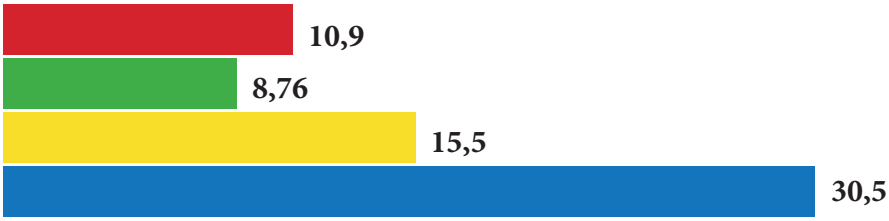
7. Individuals selling goods or services online (e.g. via auctions)
(% of individuals aged 16-74) - 2016



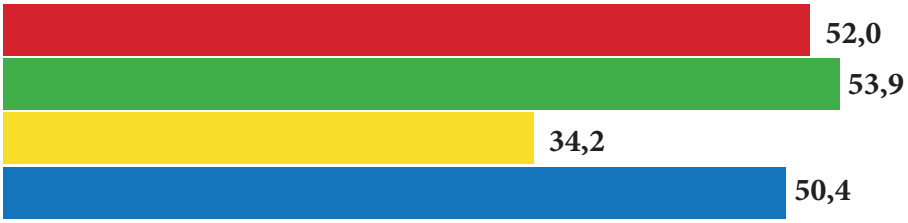
8. Individuals who had no problems buying/ordering goods or services over the Internet for private use (% of individuals aged 16-74) - 2016

9. Enterprises selling online (% of enterprises with 10 or more persons employed. All manufacturing and service sectors, excluding the financial sector) - 2016

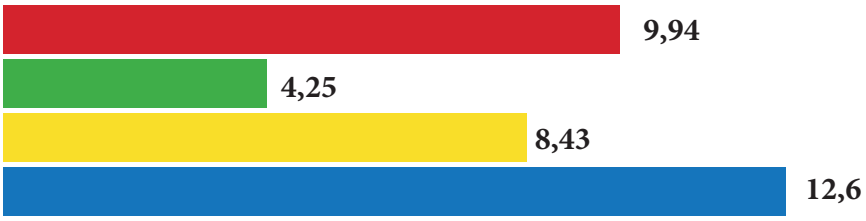
10. Turnover from e-commerce
(% of all enterprises, without financial sector - 10 persons employed or more) - 2016



11. Enterprises selling cross-border to other EU countries
(% of all enterprises, without financial sector with 10 persons employed or more) - 2015

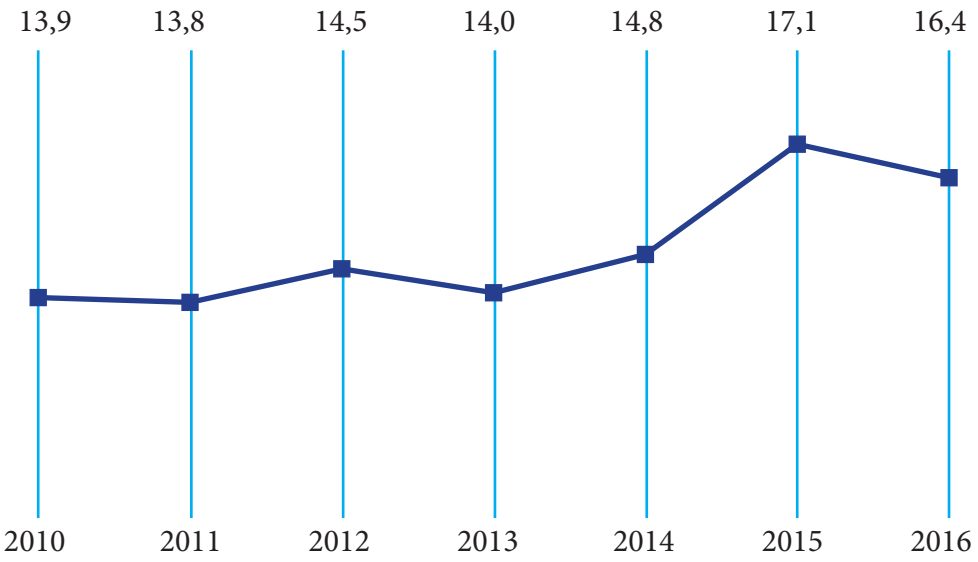


12. Enterprises exploiting B2C opportunities of web sales
(% of all enterprises, without financial sector with 10 persons employed or more) - 2016



Digital single market: Comparison among partner countries

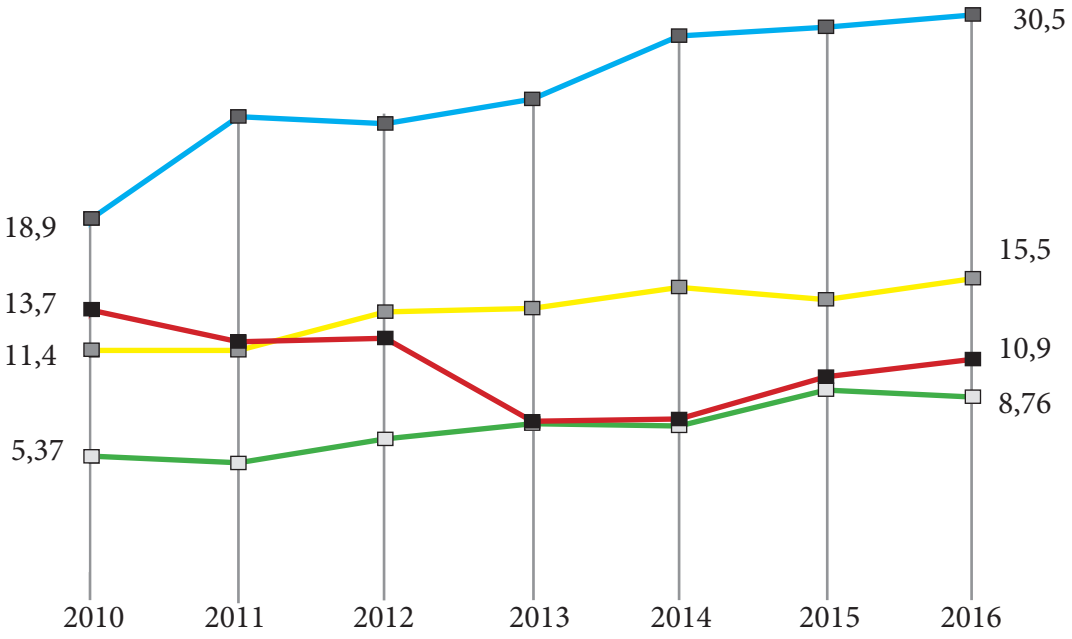
E-commerce trends



Turnover from e-commerce | Total electronic sales by enterprises, as a % of their total turnover

Data regarding European Union

European Union - 28

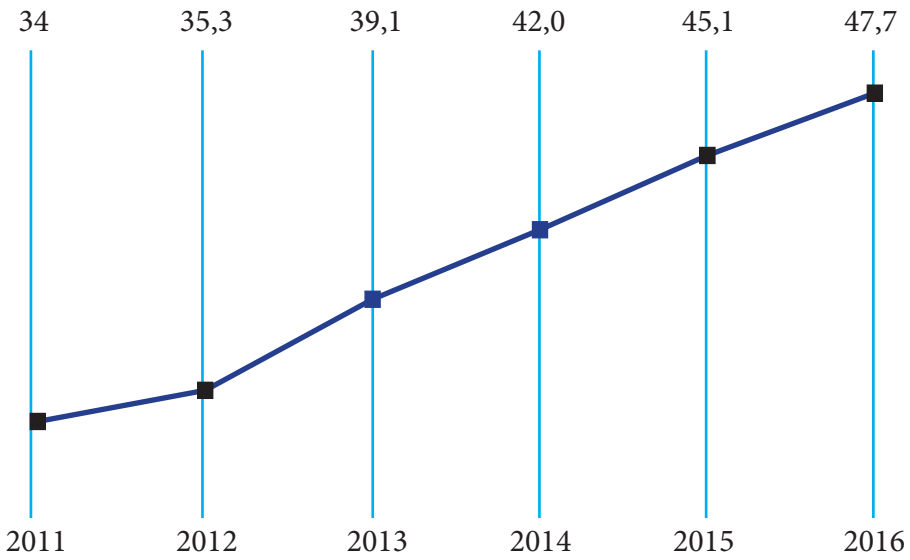


Turnover from e-commerce | Total electronic sales by enterprises, as a % of their total turnover

Data regarding the partner countries

Lithuania Italy Spain Czech Republic

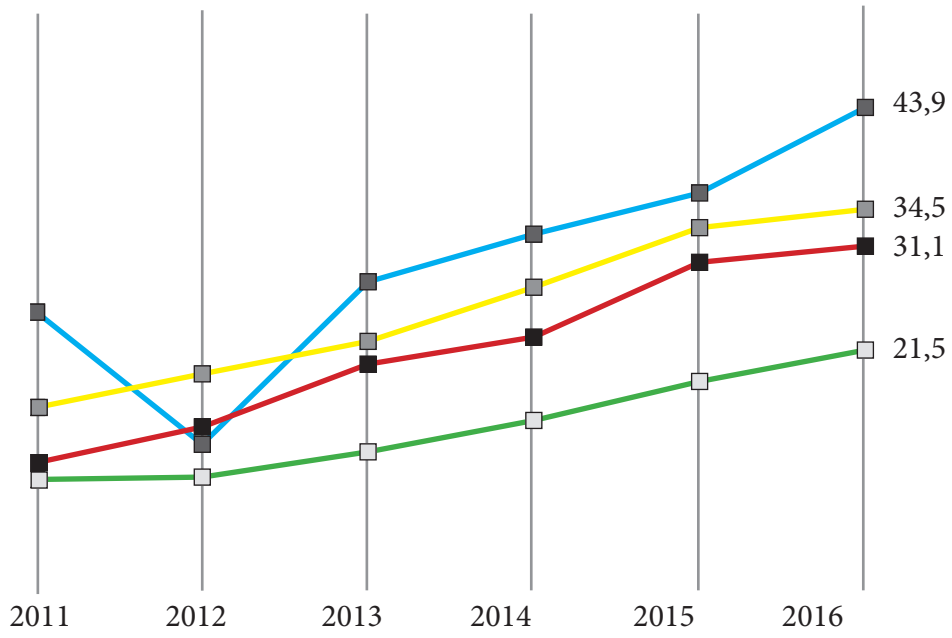
	Lithuania	Italy	Spain	Czech Republic
2010	13,7	5,37	11,4	18,9
2011	11,9	4,99	11,4	24,7
2012	12,1	6,36	13,6	24,3
2013	7,36	7,23	13,8	25,7
2014	7,49	7,10	15,0	29,3
2015	9,90	9,16	14,3	29,8
2016	10,9	8,76	15,5	30,5



Individuals ordering physical goods online, as % of individuals aged 16-74

Data regarding European Union

European Union - 28

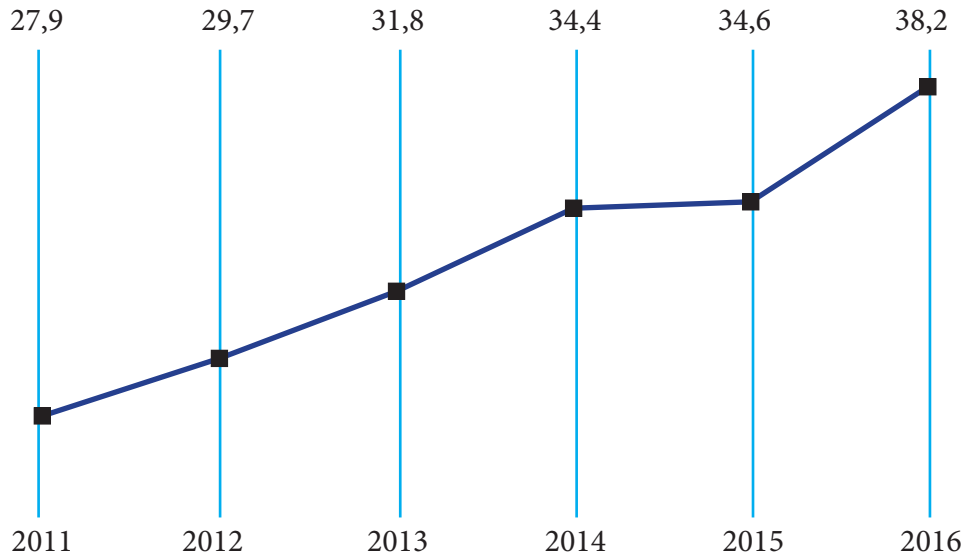


Individuals ordering physical goods online, as % of individuals aged 16-74

Data regarding the partner countries

Lithuania Italy Spain Czech Republic

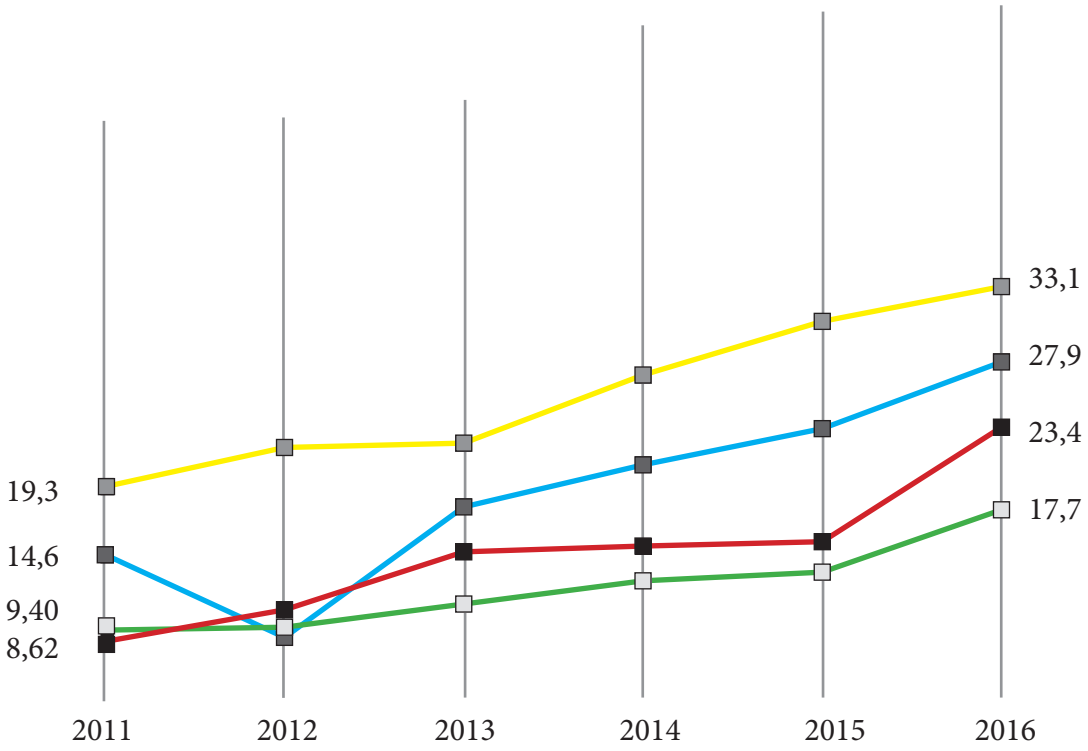
	Lithuania	Italy	Spain	Czech Republic
2011	11,1	9,55	16,2	25
2012	14,4	9,77	19,3	12,8
2013	20,2	12,1	22,3	27,8
2014	22,7	15	27,3	32,2
2015	29,6	18,6	32,8	36
2016	31,1	21,5	34,5	43,9



Individuals ordering services online, as % of individuals aged 16-74

Data regarding European Union

European Union - 28

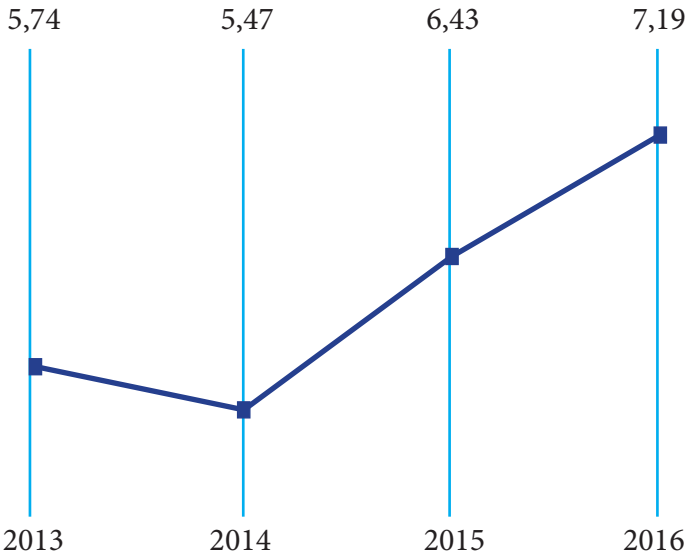


Individuals ordering services online, as % of individuals aged 16-74

Data regarding the partner countries

Lithuania Italy Spain Czech Republic

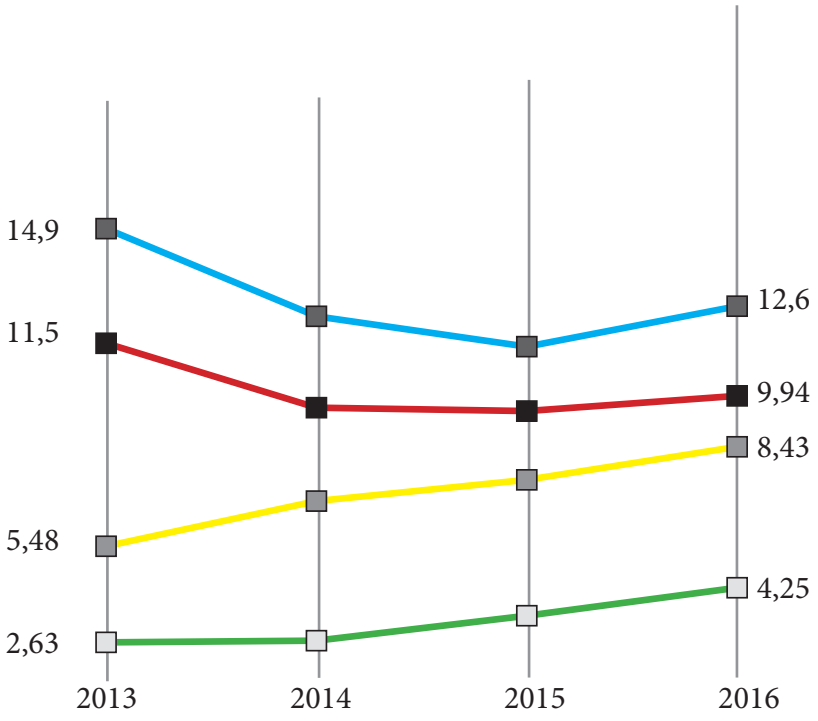
	Lithuania	Italy	Spain	Czech Republic
2011	8,62	9,40	19,3	14,6
2012	10,8	9,60	22,0	8,9
2013	14,8	11,2	22,3	17,9
2014	15,2	12,8	27	20,8
2015	15,5	13,4	30,7	23,3
2016	23,4	17,7	33,1	27,9



Enterprises exploiting the B2C opportunities of websales as % of all enterprises, without financial sector with 10 persons employed or more

Data regarding European Union

European Union - 28



Enterprises exploiting the B2C opportunities of websales, as % of all enterprises, without financial sector with 10 persons employed or more

Data regarding the partner countries

Lithuania Italy Spain Czech Republic

	Lithuania	Italy	Spain	Czech Republic
2013	11,5	2,63	5,48	14,9
2014	9,59	2,68	6,82	12,3
2015	9,49	3,42	7,45	11,4
2016	9,94	4,25	8,43	12,6

Digital single market: Comparison among partner countries

E-business

Under the heading *e-business* are grouped twenty-two indicators that measure the digitization level of businesses in terms of digital technology integration, network visibility, equipment availability and the use of advanced software. Among all of them we have selected seven indicators for benchmarking among the four partner countries:

1. **Enterprises paying to advertise on the Internet** (enterprises with 10 or more persons employed. All manufacturing and service sectors, excluding the financial sector).

2. **Enterprises providing portable devices to more than 20% of their employed persons** (the devices: portable computers, tablets, smartphones, PDA phones, etc. should be provided for business use and the enterprises pay for all or at least up to a limit the subscription and the use costs - Enterprises with 10 or more persons employed. All manufacturing and service sectors, excluding the financial sector).

3. **Enterprises sending e-invoices** (The indicator refers to sending invoices in an agreed standard format - as EDIFACT, XML, etc - which allows their automatic processing, without the individual message being manually typed. All enterprises, without financial sector with 10 persons employed or more).

4. **Enterprises having a website with some sofisticated funcionality** (Website having at least one of the following four functionalities: product catalogues or price lists webacc- possibilities for visitors to customise or design the products - webctm - order tracking available online - webot - or personalised content in the website for regular/repeated visitors - webper - All enterprises, without financial sector (10 persons employed or more).

5. **Enterprises buying cloud computing services** (Cloud computing refers to purchased ICT services that have all of the following characteristics: are delivered from servers of service providers; can be easily scaled up or down; can be used on-demand by the user without human interaction with the service provider; are paid for, either per user, by capacity used, or they are pre-paid. All enterprises, without financial sector with 10 persons employed or more).

6. **Enterprises using social media** (Enterprises using at least one of the following social media: social networks, enterprise's blog or microblog, multimedia content sharing websites, wiki based knowledge sharing tools. Using social media means that the enterprise have a user profile, an account or a user license depending on the requirements and the type of the social media. All enterprises, without financial sector with 10 persons employed or more).

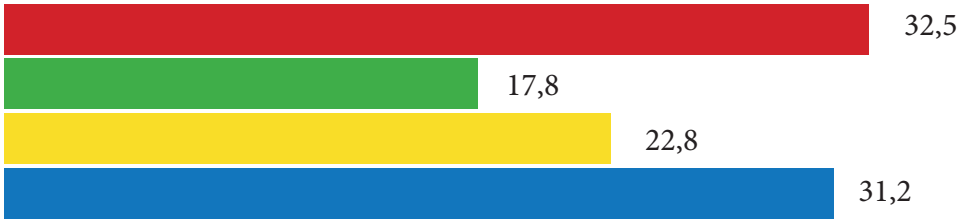
* The 2015 list of technologies includes: usage of Internet by a majority of the workers; access to ICT specialist skills; availability of fixed broadband speed > 30 Mbps; mobile devices used by more than 20% of employed persons; availability of website; sophisticated functions on the website; presence on social media; e-sales for at least 1% of turnover; exploitation of the B2C opportunities of web sales; use of an ERP software; use of a CRM software; share electronically supply chain management information. In 2016 the last 3 indicators have been replaced with: pay to advertise on the Internet; purchase cloud computing advanced services; send eInvoices.

7. **Enterprises with high levels of digital intensity** (the Digital Intensity score is based on counting how many out of 12 technologies* are used by each enterprise. High levels are attributed to those enterprises using at least 7 of the listed digital technologies. All enterprises, without financial sector with 10 persons employed or more).

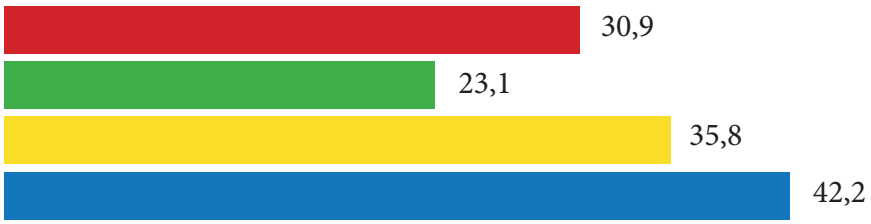
For the comparative trend analysis we have chosen the following items:

- enterprises that pay for advertising on the Internet;
- enterprises using social media.

1. **Enterprises paying to advertise on the Internet** (% enterprises with 10 or more persons employed. All manufacturing and service sectors, excluding the financial sector) - 2016

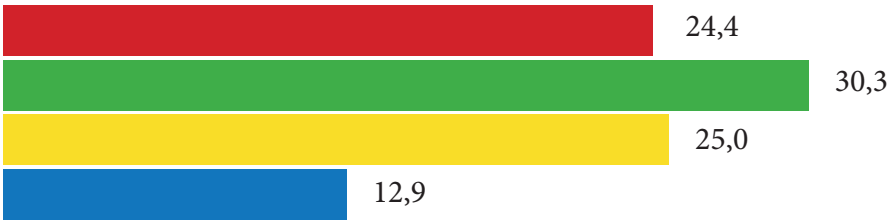


2. Enterprises providing portable devices to more than 20% of their employed persons
(% of enterprises with 10 or more persons employed. All manufacturing and service sectors, excluding the financial sector) - 2016

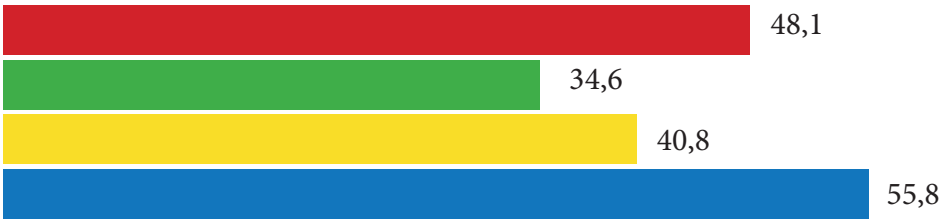


Lithuania Italy Spain Czech Republic

3. Enterprises sending e-invoices
(% of all enterprises, without financial sector with 10 persons employed or more) - 2016



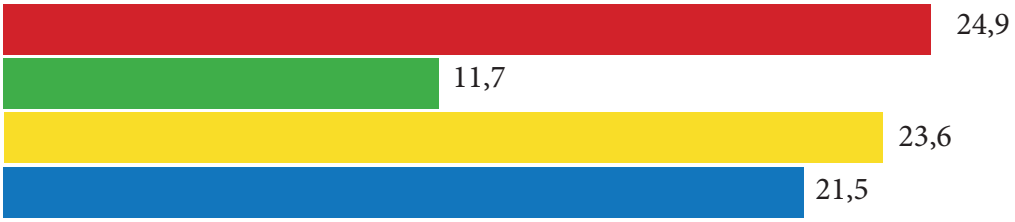
4. Enterprises having a website with some sofisticated funcionality
(% of all enterprises, without financial sector (10 persons employed or more) - 2016



5. Enterprises buying cloud computing services
(% of all enterprises, without financial sector with 10 persons employed or more) - 2016

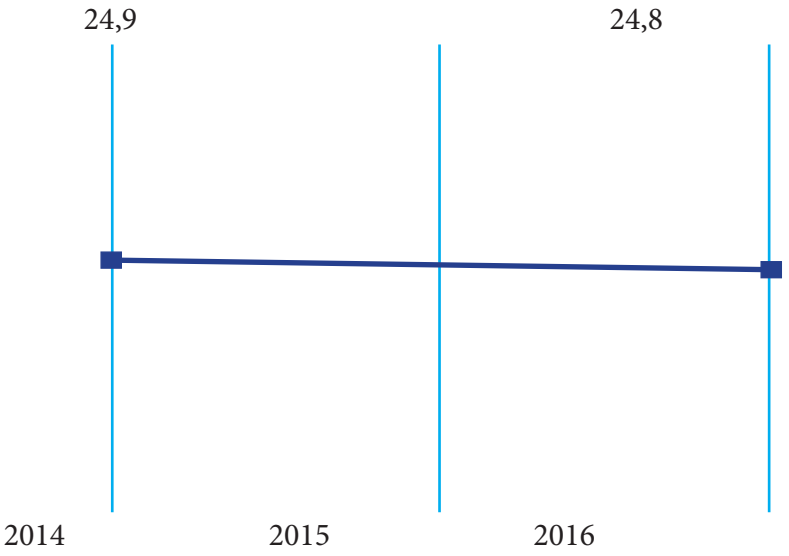
6. Enterprises using social media
(% of all enterprises, without financial sector with 10 persons employed or more) - 2016

7. Enterprises with high levels of digital intensity
(% of all enterprises, without financial sector with 10 persons employed or more) - 2016



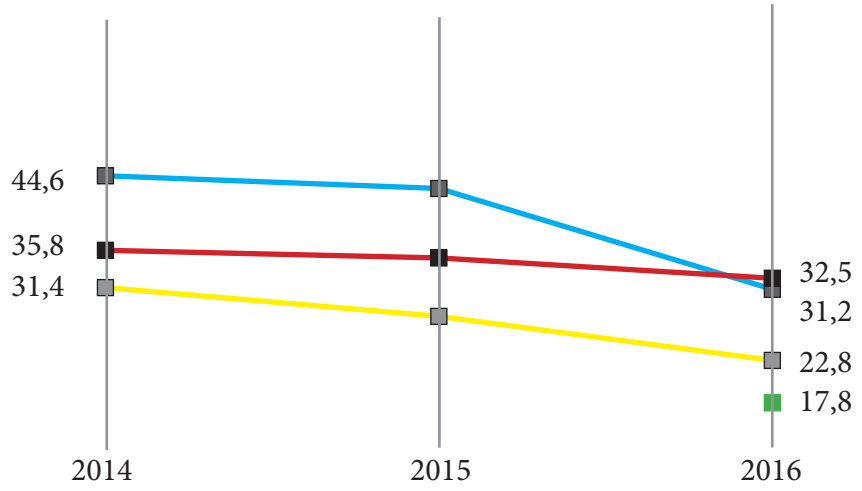
Digital single market: Comparison among partner countries

E-business trends



Enterprises paying to advertise on the Internet, as % enterprises with 10 or more persons employed: all manufacturing and service sectors, excluding the financial sector. Data regarding European Union

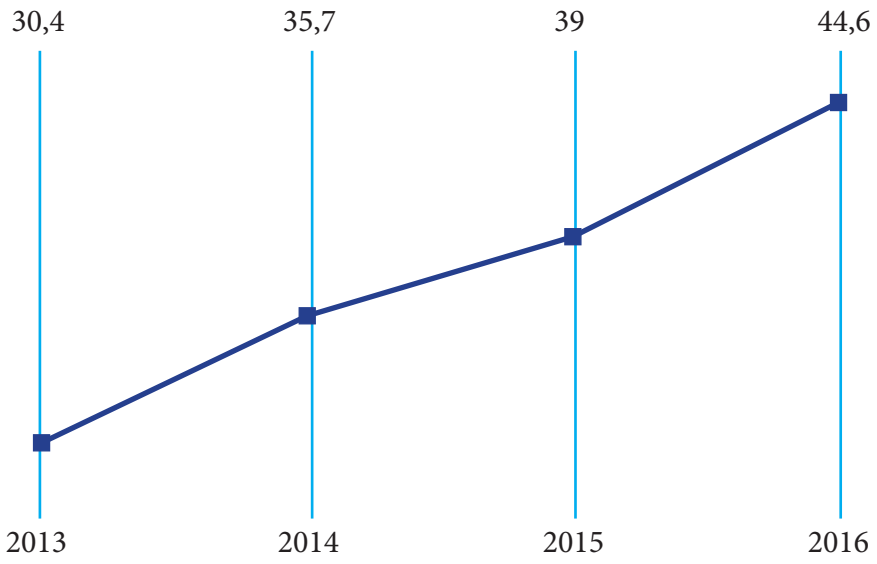
European Union - 28



Enterprises paying to advertise on the Internet, as % enterprises with 10 or more persons employed: all manufacturing and service sectors, excluding the financial sector. Data regarding the partner countries

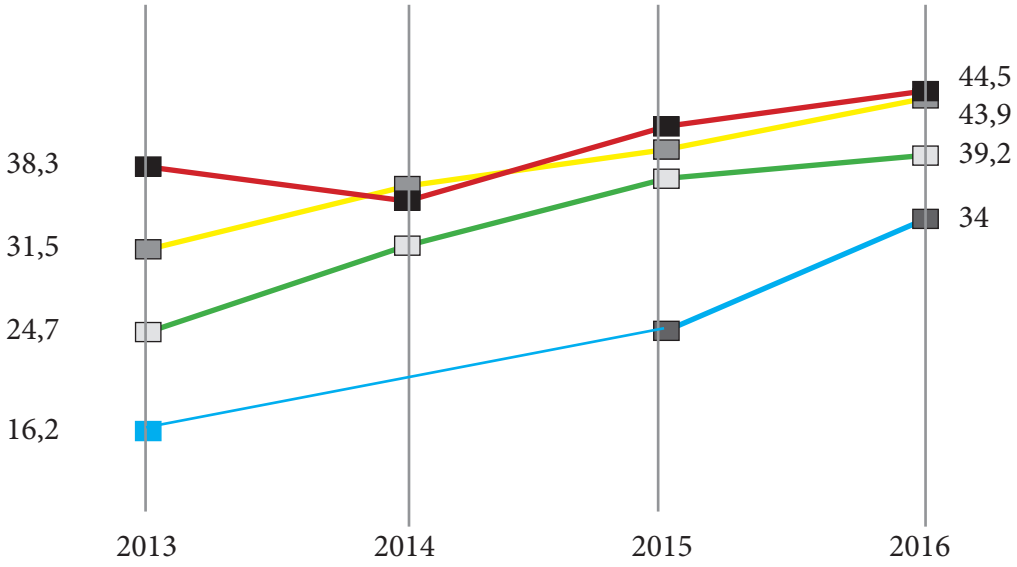
Lithuania Italy Spain Czech Republic

	Lithuania	Italy	Spain	Czech Republic
2014	35,8		31,4	44,6
2015	34,9		28	43,1
2016	32,5	17,8	22,8	31,2



Enterprises using social media, as % of all enterprises, without financial sector with 10 persons employed or more.
Data regarding European Union

European Union - 28



Enterprises using social media, as % of all enterprises, without financial sector with 10 persons employed or more.

Data regarding the partner countries

Lithuania Italy Spain Czech Republic

	Lithuania	Italy	Spain	Czech Republic
2013	38,3	24,7	31,5	16,2
2014	35,5	31,8	36,7	N/A
2015	41,6	37,3	39,7	24,8
2016	44,5	39,2	43,9	34

Focus on SMEs: state of the art and trends

Entrepreneurship is not the last resort for the unsuccessful people, but the first option
for the most competent ones.

Source: Association of small and medium-sized enterprises and crafts of the Czech Republic

The proposed data, outlining performance, priorities, SME developments in the four partner countries, have been derived from the Fact sheets and the Final Report 2015-2016 produced within the Small Business Act for Europe (SBA), *flagship policy initiative* of the European Union aimed at supporting small and medium-sized enterprises.

The SBA is a tool defining the lines of action that the European Union intends to take in favor of SMEs so that they can develop and create employment.
In the full implementation of the Think Small First principle, the general objective of the Small Business Act is to improve the overall political approach to entrepreneurship.
Decision-making processes - from the formulation of rules to public service - must incorporate this principle in order to promote the growth of SMEs and to help them tackle the problems that limit their development. At the heart of the SBA for Europe, there is the belief that a truly favorable environment for SMEs depends first of all on the recognition of entrepreneurs by society. The general climate in society has to lead individuals to look attractive to starting their own business and to recognize that SMEs make a substantial contribution to employment growth and

economic prosperity. The entrepreneurial spirit and the willingness to take risks associated with it should be stimulated and supported by policy makers and administrations. The Small Business Act consists of ten principles aimed at guiding the formulation and implementation of policies both at European level and within individual Member States.
These principles can be summarized as follows:

- create a context for the enhancement of the concept of entrepreneurship;
- create the conditions for honest entrepreneurs who have experienced insolvency can have a second chance;
- formulate rules that conform to the Think Small First principle;
- make public administrations permeable to the needs of SMEs;
- adapt public policy intervention to SME needs: facilitate SME participation in public procurement and better use of state aid facilities for SMEs;
- facilitate access of SMEs to credit and develop a legal and economic context that fosters timely payments in commercial transactions;
- helping SMEs benefit from opportunities offered by the Single Market;
- promote skills upgrading in SMEs and all forms of innovation;
- allow SMEs to transform environmental challenges into opportunities;
- encouraging and supporting SMEs to benefit from market growth.

The information sheets and the SME Performance Review are the main tools used by the European Commission to monitor and evaluate progress within the European Union as a whole and within the individual countries in the implementation of the Small Business Act.
The SBA profile presented in the information sheets analyzes the performance of SMEs by measuring the following topics:

1. Entrepreneurship
2. Second Opportunity
3. Responsible administration
4. State aid and public procurement
5. Access to finance
6. Single market
7. Skills and innovation
8. Environment
9. Internationalization

By getting the data from the information sheets regarding the four partner countries, in this document we propose to you the general picture of each single sheet, which summarizes three key elements:

1. past and future results of SME activities;
2. the implementation levels of the Small Business Act;
3. political priorities.

In addition, in line with the project's objectives, we present the data on *Competences and Innovation*, which includes, inter alia, e-commerce data (number of SMEs selling and/or purchasing through the network) and the data on *Training* (number of companies investing in internal training and number of ICT specialists).

Focus on SMEs: state of the art and trends

Lithuania

Key points

Past & future SME performance

In 2010-2015, SME value added increased by more than 50% and SME employment increased by almost 20%. As a result, SME value added in 2015 was 9% above, but SME employment almost 7% below its pre-crisis level in 2008. In 2015, 8.274 new SMEs were registered, a drop of 32% from 2014, while 5.598 SMEs were removed from the register: an increase of 13%. The outlook for SMEs is mixed. Value added is expected to grow by 5% annually in 2015-2017. Employment is predicted to remain static and not to return to its pre-crisis level by 2017.

Implementing the Small Business Act for Europe (SBA)

Overall, Lithuania's SBA profile scores well. The country performs above the EU average in the principles Entrepreneurship, Responsive administration, State aid & public procurement and Environment, while it is in line with the EU average in Access to finance and Single market. Its results are below those of most of the EU countries in c Since 2008, the largest improvements occurred in Entrepreneurship, Single market and Environment, while the results for Second chance and Skills & innovation have been steadily deteriorating. In 2015 and the first quarter of 2016, Lithuania has adopted 16 policy measures addressing nine SBA principles, the most important and numerous ones in the fields of Responsive administration, Skills & innovation and Entrepreneurship.

SME policy priorities

In Second chance, more emphasis should be given to measures aiming to encourage honest entrepreneurs to re-start. In Skills & innovation, despite the efforts of the government, low innovation and lack of ICT skills remain the weakest points of SMEs. More investments in human capital are needed. Skills shortages should be addressed by more labour market relevant education. In addition, the uptake of new technology should be strengthened by a better coordination of innovation policies and alternative means of financing. In Single market and Internationalisation, the recent market shocks should be absorbed by facilitating market entries to other countries.

SME's basic figures

Class size	Lithuania	EU28
Micro	91.5%	92.8%
Small	6.9%	6.0%
Medium sized	1.3%	1.0%
SMEs	99.8%	99.8%
Large	0.2%	0.2%

Source: European Commission, 2016 SBA Fact Sheet

As in most EU Member States, SMEs play a very important role in the 'non-financial business economy'. They generate more than 70% of value added and constitute more than three quarters of total employment in the 'non-financial business economy'. Medium-sized firms contribute almost 30% to value added, which is approximately 10 percentage points more than the EU average. SMEs in the transportation sector are more important than in the EU as a whole, as they account for more than 12% of SME value added, compared with an EU average of 6%.

In 2010-2015, SME value added increased by more than 50% and SME employment increased by almost 20%. As a result, SME value added in 2015 was 9% above its level before the financial crisis. However, SME employment has not yet fully recovered, being almost 7% below its level in 2008, although SME's have recovered more quickly than the 'non-financial business economy' as a whole.

SME value added in the construction sector more than doubled in 2010-2015, while employment increased by more than 40%. This growth was supported by measures aimed to improve the energy efficiency of residential housing. These construction works were supported by the government with the help of the European structural funds. However, the strong growth is deceptive, as it is due mostly to an upswing in the construction sector from the massive downturn it experienced during the financial crisis, from which construction SMEs have not yet fully recovered.

SME value added remains more than 20% below its level in 2008.

In 2008-2015, SME value added in the information and communication sector increased by a quarter, and employment increased by almost a third. A large part of this increase was due to foreign direct investment and growing demand. Another factor was the increasing adoption of new generations of broadband wireless networks. For example, the number of 4G base stations increased rapidly, so that 80% of the population had access to 4G services by the end of 2014.5 In addition, the penetration rate of retail web access services has more than doubled, from 21% in 2008, to 43% in 2014.

Another sector that has done well in recent years is manufacturing. SME value added in this sector increased by almost a third in 2010-2015 and employment increased by 19%. Part of the reason for this strong growth is an increase in exports. Demand in general has improved. Whereas in 2010 more than 60% of manufacturers thought that a lack of demand was limiting production levels, only slightly more than 40% of manufacturers thought so in 2014.

In 2015, 10.088 companies were newly registered in Lithuania, which is 27% less than in 2014. 12% more companies were removed from the register than in 2014, a total of 5.841 de-registrations. The majority of newly registered companies - 8 274 - were SMEs, a drop of 32% from 2014, while 5 598 SMEs were removed from the register: an increase of 13%.11 The majority of registered and de-registered companies were reported in wholesale and retail trade, repair of motor vehicles & motorcycles, and construction.

One reason for fewer business registrations is the improving employment situation which reduces the attractiveness of self-employment. Another reason is the diminished availability of financial support for start-ups as funding programmes came to an end.

The number of active businesses in 2015 grew faster than in the previous year. The number of companies reporting revenue or employees on 1 January 2016 was 99.200: 44% of all registered companies. This is 7% higher than on 1 January 2015 when there were 93.017 active companies (an increase of 2.5% compared with 2013).

The outlook for SMEs is mixed. On the one hand, value added is expected to grow by 5% annually in 2015-2017. On the other hand, employment is predicted to remain static and is therefore not expected to return to its pre-crisis level by 2017. Employment in micro firms is forecast to grow by 4% by 2017, whereas employment in small and medium-sized companies will presumably fall.

Focus on SMEs: state of the art and trends

Italy

Key points

Past & future SME performance

The Italian 'non-financial business economy' has still not fully recovered its pre-crisis levels. In 2010-2015, the total value added of SMEs fell by less than 2%. Concurrently, SME employment fell by more than 7% compared to a drop in general employment of around 6%. It is expected that 2016 and 2017 will remain at the current economic level with SMEs generating about the same value added as in 2015, but with slightly regressing job figures.

Implementing the Small Business Act for Europe (SBA)

Italy's SBA profile is weaker than that of most other EU countries. Only in Internationalization does the country score above and in Skills & innovation in line with the EU average. In all other SBA domains Italy scores below the EU average. On the positive side, since 2008, the country has made progress in the areas of Single market, Responsive administration, Internationalization and Skills & innovation.

SME policy priorities

To lift the administrative burden from SMEs, the reform of the public administration should be continued, with particular focus on the management of human resources as well as on local public enterprises and services. In 'Second chance', the framework for insolvency and debt collection should be further improved. The country has made consistent efforts to solve the historical problem of its public administration's payment behavior. Improvements were noted; however, the average payment period remains among the longest in the EU. Therefore, additional measures need to be taken in a stricter and more consistent way. Continuity of policies in support of SMEs' innovation and Internationalization should be ensured.

SME's basic figures

Class size	Italy	EU28
Micro	95.1%	92.8%
Small	4.3%	6.0%
Medium sized	0.5%	1.0%
SMEs	99.9%	99.8%
Large	0.1%	0.2%

SMEs are especially important for the Italian non-financial business economy as they generate almost 70% of total value added and almost 80% of employment. The proportion of SME value added and employment is more than 10 percentage points higher than in the rest of the EU. Italy also differs from the EU average in the importance of micro firms, which are responsible for 47% of employment in the 'non-financial business economy. The productivity of micro firms is only 80% of the European micro firm average. Therefore productivity of SMEs is 10% lower than the European average, despite larger firms having higher productivity when compared to the EU average. Moreover, SMEs in the manufacturing sector are particularly important as they generate almost a third of all SME value added. In contrast, manufacturing is only responsible for a fifth of SME value added in the rest of the EU.

The Italian non-financial business economy has still not fully recovered its pre-crisis levels of value added and employment. Even in 2010-2015, total value added fell by more than 3%. SMEs performed somewhat better, as value added fell by less than 2%. This decline was mirrored by a fall in employment numbers. However, SME employment fell by more than 7% compared to a drop in general employment of around 6%.
The value added of SMEs in wholesale and retail trade fell by more than 3% in 2008-2015. Employment also dropped by more than 7%. In contrast, larger companies in the same sector experienced growth of more than 50% in value added and 10% in employment. This can be explained by structural change in the food retailing industry. The growth of larger retailers and the entry of foreign operators have put pressure on smaller retailers, leading to reductions in value added and employment. Another factor is the new Stability Law, which was introduced in 2015 with the intention of helping firms to create additional permanent jobs. As a consequence in the retail sector, temporary employment contracts have been replaced by a voucher payment system, which does not require any contract at all. The rise in the use of vouchers had a positive impact on the job market, but it also resulted in some employers misusing the voucher system.
In 2010-2015, SME value added in the manufacturing sector increased by almost 3%, while employment fell by almost 8%. One of the factors responsible for these diverging figures is outsourcing, which has become more prevalent in manufacturing firms, contributing also to an increase in labour productivity. However, these overall totals conceal strong differences within different sectors of the manufacturing industry. For example, SME value added in the manufacture of leather products has grown by 11%, whereas value added in motor vehicle manufacturing fell by roughly 5%. For manufacturers of leather goods, the export market is particularly important, a market which has been traditionally more challenand services ging for smaller companies. However, government efforts to promote the 'Made in Italy' label seem to have helped SMEs to compete in export markets. Recently, however, there has been an upward trend, with new car registrations in Italy projected to increase by more than 15% in 2014-2015. This highlights that Italy is still in the process of recovering from the crisis. SMEs in the accommodation and food services sector are very important as they provide approximately 25% of all jobs in Italian SMEs. Value added by SMEs increased by around 5% in 2010-2015, while employment growth has been more subdued at almost 2%. This growth was driven primarily by an increase in value added in food and beverage services which grew by 7%, while the value added of the accommodation sector stagnated. One underlying factor driving growth in the food and beverage services sector is population habits. Despite the general economic downturn during the crisis, Italians have continued to dine out. As a result, the decline of the food service sector during the crisis was less severe, allowing the sector to recover more quickly from the crisis.
In 2015, there were 371.705 business registrations and 326.524 de-registrations, resulting in a net gain of over 45.000 companies. The number of de-registrations is progressively falling, with the lowest recorded figures since 2007, while the number of new registrations has grown for the first time after two consecutive annual drops. New business registrations with founders aged under 35 grew by 10%, and those registered by foreign founders grew by 6%. Such data suggest a new trend, with growth driven by new entrepreneurship initiatives, especially among young people and foreign citizens.
Another important aspect of the business demography is that the number of innovative start-ups has been growing since 2012, facilitated by the introduction of new legislation aimed specifically at innovative start-ups. By the end of June 2016, the total number of innovative start-ups was 5.862, mainly concentrated in the service sector (73%). Predominant areas of activities were software and IT consultancy, R&D services and electronic and machinery production.
It is expected that 2016 and 2017 will be characterised by weak economic recovery. SMEs are expected to generate about the same value added as in 2015, with a projected increase of only 0.1% p.a. in 2015-2017. However, slightly regressing job figures are expected.

Focus on SMEs: state of the art and trends

Spain

Key points

Past & future SME performance

Despite recent improvements, Spanish SMEs in the non-financial business economy have not yet recovered from the crisis. SME value added and employment in 2015 are still 28% and 22% respectively below their 2008 levels. However, Spain came out of recession in 2014 and the SME sector experienced growth for the first time since 2008. Value added in 2015 was 3% higher than in 2013, while employment increased by 5% during the same period. SMEs are expected to grow by 5% in value added and 3% in employment between 2015 and 2017, creating around 240 000 new SME jobs.

Implementing the Small Business Act for Europe (SBA)

Second chance is the only SBA area for which Spain remains above the EU average. There are three areas in which Spain performs in line with the EU average: Skills & innovation, 'Responsible administration' and Internationalization. Spain's weakest performances were for State aid & public procurement and Environment. Its performance on 'Responsible administration' improved on the previous year.

SME policy priorities

While a multitude of crucial SBA-related policy measures have been adopted in the past several years, it is essential that these measures are implemented properly. Spain needs to still put into force a law adopted in 2015 introducing the 'SME test' and regulatory impact assessments (RIAs). Moreover, given the poor performance of Spanish SMEs in innovation, new support measures need to be implemented. These measures should boost innovative products and services, taking into account the need for improvement in infrastructure and resources, while also providing incentives for cooperation between universities, firms and research. There is still room for improvement on Access to finance and particularly on late payments. In addition, control mechanisms for public procurement and coordination of procurement policies across the different levels of government also need to be improved.

SME's basic figures

Class size	Spain	EU28
Micro	94.8%	92.8%
Small	4.5%	6.0%
Medium sized	0.6%	1.0%
SMEs	99.9%	99.8%
Large	0.1%	0.2%

SMEs play an important role in Spain's non-financial business economy. More than 60% of value added and almost three quarters of employment is provided by SMEs, a figure higher than the EU average. Micro-firms are particularly important as they account for a quarter of value added and 41% of employment in the non-financial business economy. By contrast, the EU averages for these two statistics are only one fifth and 30% respectively. As in the rest of the EU, wholesale and retail trade and manufacturing are the most important SME sectors, with value added shares of 24% and 21% respectively. The accommodation and food services sector accounts for 14% of total SME employment, which is four percentage points above the EU average.

As with the Spanish non-financial business economy as a whole, SMEs in Spain have not yet recovered from the crisis. SME value added and employment in 2015 are still 28% and 22% respectively below their 2008 levels. However, Spain came out of recession in 2014 and for the first time since 2008 the SME sector experienced growth. Value added in 2015 was 3% higher than in 2013, while employment increased by 5% during the same period.

This recent SME growth mirrors the overall economic recovery in Spain.2 Reforms focused on business creation and access to finance may have positively influenced SME performance3,4,5. In particular, the 2014 Entrepreneur Act provides a comprehensive set of measures targeting SMEs, including a change to the VAT regime to allow the payment of VAT to be deferred. Additionally,labour market reforms have introduced more flexibility in collective bargaining. Policies such as the Market Unity Act, which aims to reduce bureaucracy between regional administrations, have also improved the legal environment for SMEs.

The manufacturing sector has benefited greatly from rising exports since 2013. SMEs have participated in this upswing, increasing their value added by 5% in 2013-2015. However, employment has stagnated. Despite the recent upswing, SMEs in this sector continue to struggle with the consequences of the crisis: employment in 2015 was still 29% below its 2008 level and value added was still 25% lower than in 2008.

SMEs performed particularly well in the accommodation and food service sector. In 2013-2015, SME value added grew by 7% and employment by 6%. While value added remained 5% lower than in 2008, SME employment reached its pre-crisis level in 2015. This positive development can be attributed to the rising number of visitors to Spain. In 2014, the total number of foreign visitors was more than 107 million, 4% more than in 2013. Of these visitors, 65 million were tourists, an increase of 7% on 2013 and representing 14% cumulative growth since 200810. Spain's economic recovery is also evident in recent business demographics. According to the Spanish National Statistical Institute, 399.458 new companies were registered in 2015, an increase of 16% on the previous year11. At the same time 329.304 companies were deregistered, a fall of 13%. An even sharper fall can be observed in the number of bankruptcies, which is a quarter lower than in 2014. This is likely to be the result of a reform of the bankruptcy law in 2014 aimed at helping companies in financial difficulty to avoid liquidation.

The positive trend for SMEs which started in 2014 is predicted to continue into 2015 and beyond. In 2015-2017, SMEs are expected to grow by 5% in value added and 3% in employment, creating around 240.000 new SME jobs.

Focus on SMEs: state of the art and trends

Czech Republic

Key points

Past & future SME performance

In 2015 the number of SMEs grew by 1% from the previous year, representing approximately 10.000 companies. Czech SMEs started increasing their output while keeping employment roughly. Both parameters remained below their pre-crisis levels though. The SME value added in 2015 grew by 6% from the previous year, reaching 97% of its 2008 level. SME employment increased slightly from 97% to 98% of its 2008 level (with 26.000 new jobs in absolute terms). The outlook for the next two years is mixed. SME value added is expected to grow by 4% p.a., while employment is forecast to remain stable.

Implementing the Small Business Act for Europe (SBA)

The Czech Republic's SBA profile shows mixed results. The country's strengths include State aid & public procurement and Environment. Notably, the result for public procurement is significantly influenced by a single indicator, measuring the participation of SMEs in public tenders. At the same time, the European Semester process has identified further quality enhancements to the public procurement process as necessary. Average scores were recorded in the areas of Entrepreneurship, 'Second chance', Access to finance, Single market, and Skills & innovation. The performance in 'Responsive administration' and internationalization was below average. Since 2008 the country has made moderate progress implementing the Small Business Act. Policy measures put in place have addressed all SBA areas, although a number of individual SBA recommendations have yet to be implemented. The fastest progressing areas include State aid & public procurement, 'Second chance', Single market and 'Responsive administration'. Significant policy efforts went to better anchor the 'Think Small First' principle in the policy-making process. Performance in the areas of Entrepreneurship, Skills & innovation, and Internationalization actually deteriorated compared to 2008.

SME policy priorities

Challenges remain unchanged from the previous year. It is necessary to raise the profile and public appeal of Entrepreneurship. The application of the 'Think Small First' principle needs to be strengthened, in particular by systematically applying the SME test to new legislative proposals. Developing e-government solutions is extremely important to create a more favorable business environment and public administration needs to be made more responsive to SMEs' needs. Last but not least, international trade, both in the Single market and with non-EU countries, appears to be the area where short-term gains should be the easiest to accomplish.

SME's basic figures

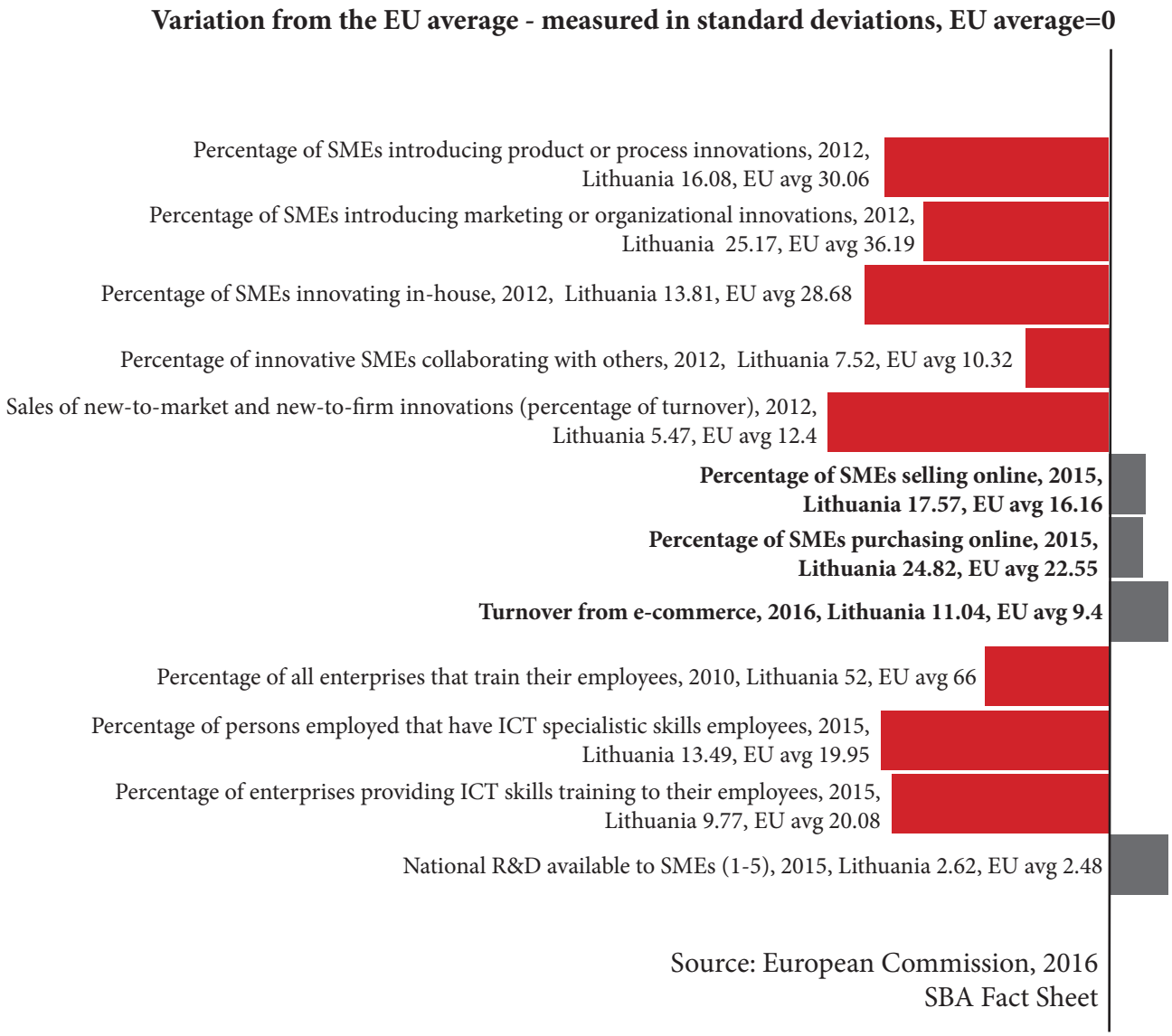
Class size	Czech Republic	EU28
Micro	96.1%	92.8%
Small	3.1%	6.0%
Medium sized	0.6%	1.0%
SMEs	99.8%	99.8%
Large	0.2%	0.2%

SMEs in the 'non-financial business economy' play an equally important role in the Czech Republic as they do in the EU — in both cases they represent 99.8% of all businesses. Czech SMEs account for 55% of total value added and 68% of total employment, both of which are similar to the respective EU averages. Among Czech SMEs, medium-sized firms produce the highest share of value added (20%), while micro

firms account for the largest share of jobs (32%).
The single most important sector for SMEs is manufacturing, accounting for 29% of both SME value added and SME employment. Wholesale and retail trade contributes the second highest shares of SME value added and employment, each share slightly exceeding 20%. In 2015, the Czech 'non-financial business economy' got back to its 2008 level of value added. And yet, the recovery was not evenly spread across different size-classes. The total SME value added in 2015 was 3% below its 2008 level. Small companies delivered only 90% of the value added they created back in 2008, while medium-sized firms slightly exceeded their 2008 level of output. In 2015, overall SME employment was 2% lower than in 2008, with no significant volatility during the preceding two years. Total SME employment appeared to be largely unaffected by the crisis. Job losses that affected small and medium-sized firms were largely absorbed by increasing employment in microenterprises, which in 2015 employed 8% more people than in 2008. Employment in small companies and in medium-sized businesses was 10% below its pre-crisis level. SME value added in most sectors has fallen since 2008. Notable exceptions to this trend included real estate activities and accommodation and food service activities sectors. SMEs in real estate activities performed strongly and delivered an increase of 26% between 2008 and 2015, despite high volatility of results. SME employment has similarly increased: by 12% in the same period. Several factors contributed to the growth of this sector, among which the gradual deregulation of rents from 2006 onwards.The resulting rent increases led to a revival of the real estate market. The low interest rates that prevailed during the post-crisis period also boosted the market for real estate transactions. At the same time the low interest rates strengthened the preference of Czech people for ownership rather than renting. Furthermore, home ownership became more affordable following the increases in disposable household incomes over the past two decades.
Another sector which outperformed the wider Czech economy was accommodation and food service activities. SME value added in this sector grew by 24% in the years 2010-2015, compared to 9% in the overall 'non-financial business economy' during the same period. One significant growth driver was the strong increase in tourism and travel, reflected in a 25% rise in international tourists to the Czech Republic in 2010-2014. The Czech National Bank supported this growth since 2013 with exchange rate interventions which stimulated foreign demand by artificially weakening the local currency. This sector also benefited from a rise in domestic demand, which usually accounts for approximately half of the total output of this sector.Despite the strong growth of SME value added in accommodation and food service activities, SME employment fell by 4% in the years 2010-2015. This was due to the more competitive environment, which put pressure on companies to increase productivity. In 2012 productivity was significantly lower in this sector than in other sectors, and therefore offered considerable possibilities for improvement. Despite the inconsistent pattern of evolution in business registration and de-registration, the number of registered companies rose consistently by roughly 5% from 2008, to a total of 430.992 in 2015. Business registrations increased by 2.083 to 26.953 in 2014-2015. Since 2012, registrations have continued to rise, particularly in 2013-2015, when there was a sizable increase of more than 8% annually. In 2014-2015, business de-registrations also increased, by 44%, to 7.312. This was the highest total number of de-registrations in recent years. However, the annual number of de-registrations has fluctuated widely since 2008, ranging from decreases of 50% to increases of 60%. The most important factor leading to this steady growth in the number of registrations was the introduction of various government policies aimed at promoting new business ventures. These included the 2015 launch of programmes to provide consultancy services to SMEs, and to fund new micro firms' investments in technological improvements. The high number of de-registrations can be partly explained as a consequence of increased competition as more new businesses entered the market, which exerted strong pressure on existing firms, forcing those with the lowest productivity out of business.
The 2016-2017 forecast for SMEs is for moderate growth, in line with the 'non-financial business economy' as a whole. While SME employment is expected to continue to stagnate, SME value added is expected to grow by 4% annually in 2016-2017.

Focus on SMEs: skills and innovation

Lithuania



In Skills and Innovation area, Lithuania scores under the EU average. The latest available data see the innovation part as a clear weakness. Over time the country has been losing track and will have serious difficulties to catch up with the other EU countries if this trend continues. By contrast, the three indicators on e-commerce, shares of SMEs selling and buying online, and share of total turnover from e-commerce are all in line with the performance of most other EU states. Particularly the results in purchasing online and turnover by e-commerce have improved compared to last year. But this stands in contrast to the low investments in ICT skills and ICT specialists.
Although many measures have been taken since 2008, they have not yet delivered sufficient results. SMEs were able to benefit from the availability of measures stimulating R&D and innovation activity in companies (2008), enhanced protection of intellectual property (2010) and the innovation voucher scheme (2010), which facilitates cooperation between public research organisations and SMEs. Measures are also available for training and skills development, such as subsidies for companies to train employees. These initiatives were very popular among SMEs and were marked by high competition from applicants. However, the low innovation rate remains a major challenge for Lithuania.

Policy-wise, the progress was substantial during 2015 and the first quarter of 2016, with two significant measures launched.

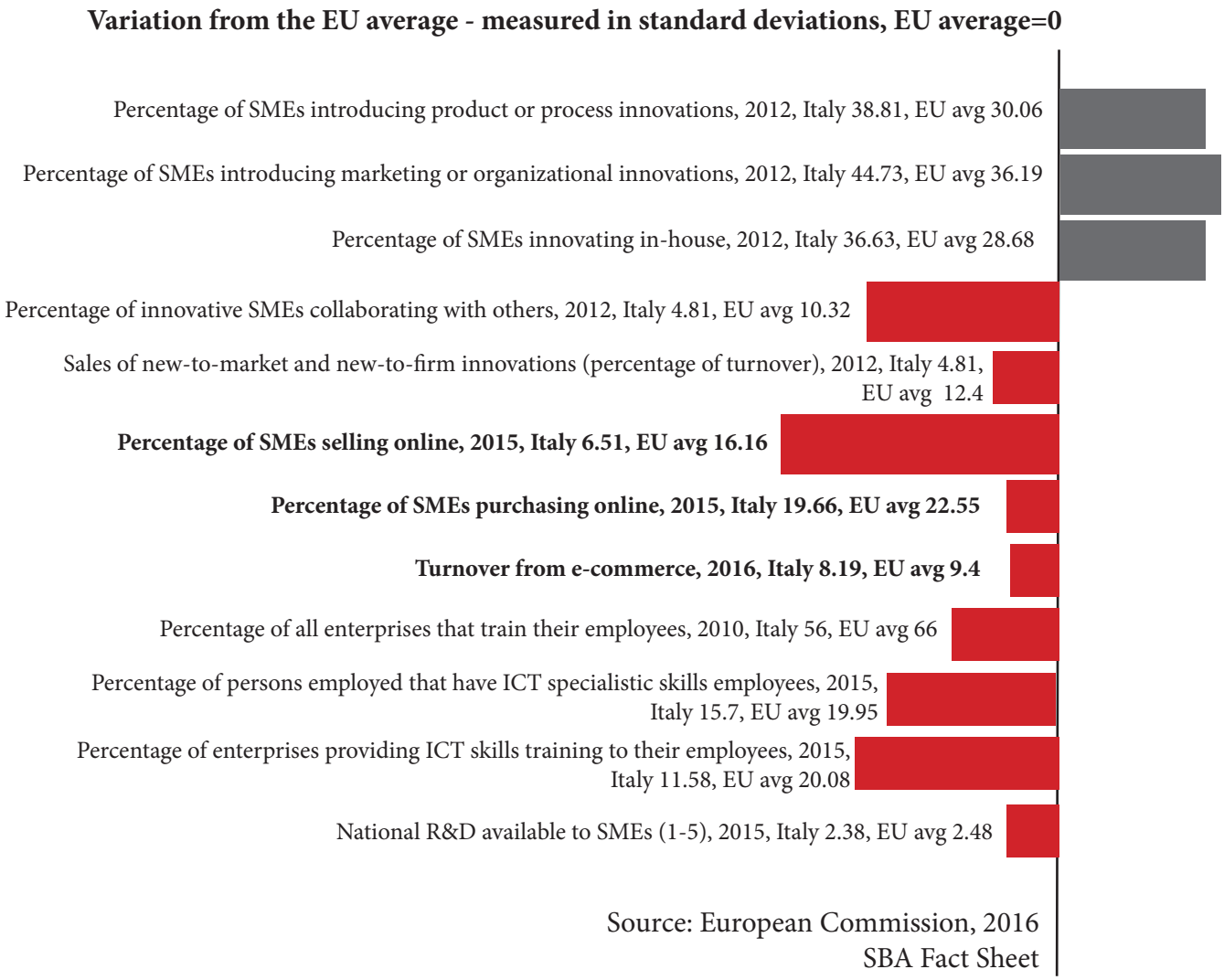
- 'Intellect LT. ' Joint Research - Business Projects' (Intelektas. Bendri Mokslo — Verslo Projektai) is designed to stimulate private investment in R&D, in accordance with the Lithuanian Smart Specialisation priorities. It supports research, development, initial investment or enhancement of R&D infrastructure in companies and certification of new products and technologies. Collaboration and partnership is also encouraged. Applicants are private for-profit legal entities or non-profit research organisations, except research and education institutions. Contrary to previous similar measures, the programme can support capital investment and research activity in the same project. The maximum public contribution is EUR 4.200.000.
- Process LT' (Procesas LT) aims to increase SMEs' productivity by supporting the introduction of innovative management methods and management systems complying with international, European or national standards.

It supports investments into standard software, including configuration and programming to adapt to company needs, and certification/accreditation of innovative management methods and systems. The maximum amount funded is EUR 70.000, covering up to 50% of eligible expenses.

In addition, ten new measures were announced in the reference period aiming to support the protection of inventions ('Innopatent' - Inopatentas), cluster (innovation group) activity ('Innocluster LT' - Inoklaster LT), the innovation support services (Inogeb LT - Inogeb LT), international innovation activity of SMEs ('Innoconnect' — Inoconnect) and design innovation ('Design LT' - Dizainas LT). Out of the nine measures, four measures will support skills development in SMEs: 'Competence Voucher' (Kompetencijų vaučeris), 'Innotraining' (Inomokymai), 'Competence LT' (Kompetencija LT,) 'Apprenticeship' (Pameistrystė), and the Innovation demand side measure 'Pre-commercial procurement LT' (Ikiprekybiniai pirkimai LT).

Focus on SMEs: skills and innovation

Italy



In Skills and Innovation area, Italy's performance is in line with the EU average. In addition, the trend since 2008 is strongly positive. However, compared to last year (2015), the overall performance is broadly stable. Innovation in SMEs happens quite frequently. **A more pressing issue is the low rate of online sales** due to low investments in ICT technology and ICT training. This policy area has received great attention in recent years. Since 2008, the government has adopted a substantial number of policy measures to encourage SMEs to innovate. Some major examples of policy initiatives undertaken are fiscal incentives for investments in new equipment and utilisation of intangible assets, and tax credits for R&D for the 2014-2016 period. Innovation vouchers (up to EUR 10.000 each) have been launched targeting SMEs specifically to help them make small investments in services and infrastructures. In 2012, Italy launched a solid and comprehensive national strategy to support innovative start-ups and SMEs. This involved fiscal benefits and incentives for the first four years, reduced administrative burden, access to alternative forms of financing such as stock options and work for equity. The Agency for the Digital Agenda[1] was established to carry out a comprehensive national digital agenda strategy.

An area in which there is still room for improvement is SMEs' access to training and skilled employees. The Excelsior initiative, conducted on an annual basis by Unioncamere, collects statistical data on needs and skills of national enterprises. Many programmes and initiatives are in place at regional level to help people improve their skills. As an example, in the last three years, Unioncamere, in cooperation with the Ministry of Labour and Social Policies and Google, has carried out a support programme - Eccellenze in digitale[2] - to encourage young people to create opportunities for digital skills enhancement, digital carriers and placement in SMEs.

1 www.agid.gov.it/

2 www.eccellenzeindigitale.it/home

Eccellenze in digitale - Digital excellencies

Made in Italy is still little present on the web: this is why Google, together with the Ministry of Food and Forestry Policies, and Unioncamere, has created the google.it/madeinitaly platform, managed by Google Cultural Institutes.

The initiative is called *Made in Italy: eccellenze in digitale* and aims to bring Italian companies and their products to the network, trying to exploit its great economic potential. Another important goal is to enhance young people as promoters of the transition of the Italian economy to the digital economy. The initiative also seeks to help businesses, especially small and medium-sized, to seize the economic benefits of the Internet.

Thanks to the partnership between Google and Unioncamere, the project envisages a series of free training seminars at Chambers of Commerce to help SMEs exploit the opportunities of the web and offers a full and free online course on digital tools for SMEs.

Google's digital education consists of 23 topics: social media strategies, online advertising tools, how to create an online store, how to expand your business internationally, etc.

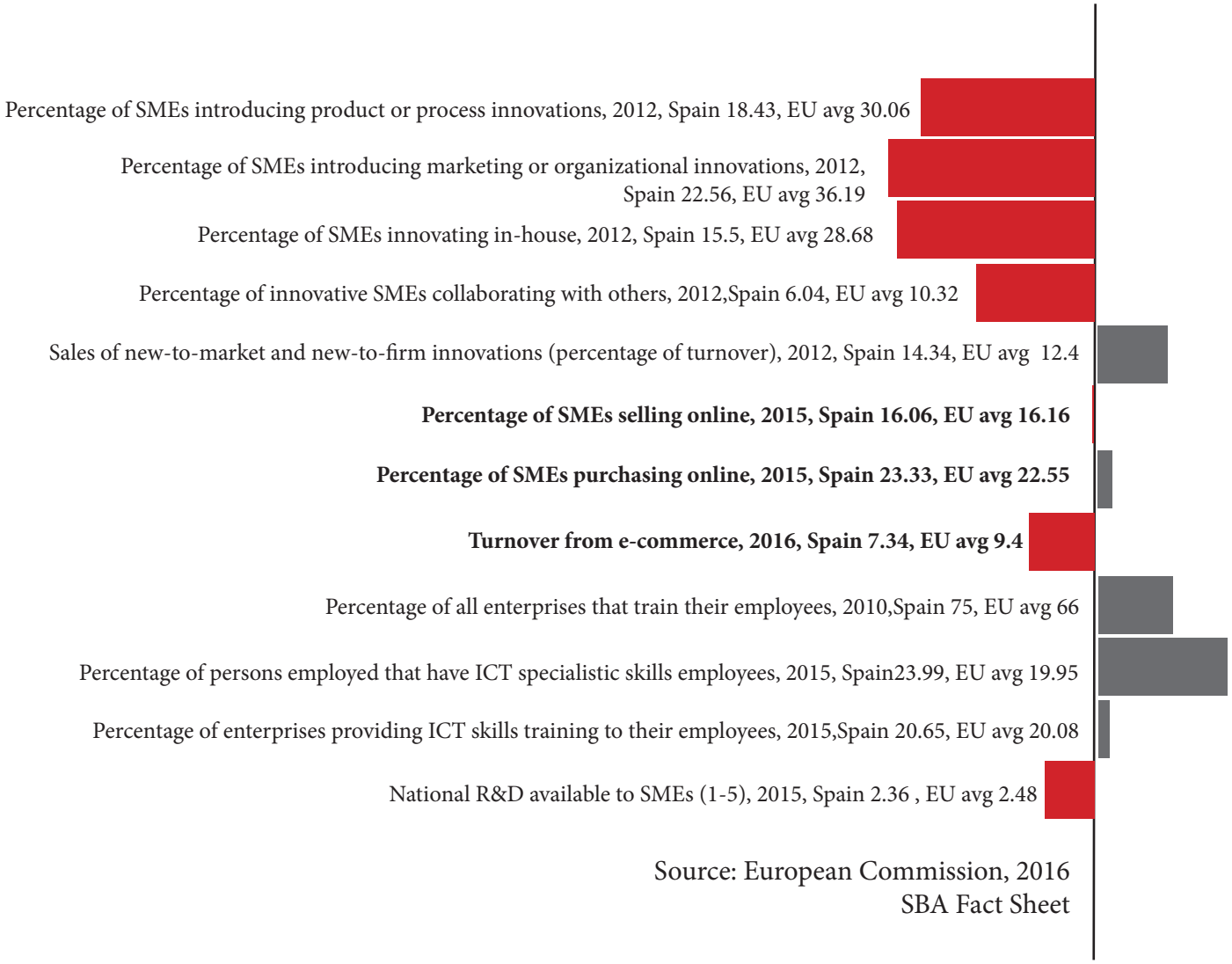
At the end of the course a certificate of participation is issued that is not valid for university or state purposes, but merely rewards the course.

Read more

Focus on SMEs: skills and innovation

Spain

Variation from the EU average - measured in standard deviations, EU average=0



Source: European Commission, 2016
SBA Fact Sheet

Spain' performance on Skills & innovation is broadly in line with the EU average. As compared to the preceding year, not much has changed in the individual indicators under this principle. The percentage of SMEs selling and purchasing online has slightly decreased. However, the new indicator on the percentage of employed persons with ICT specialist skills puts Spain among the best performers in the EU.

In the past, budget cuts have been a characteristic of policies in this SBA area. However, Spain's recent economic recovery is steadily boosting investment in R&D projects. The CDTI invested EUR 170 million in 2014 to stimulate cooperation between research centers and technological firms in the form of 'collaboration networks'. The CDTI also committed to invest EUR 900 million in innovation activities, with a focus primarily on SMEs. Furthermore, the 'Direct line for innovation', managed by the CDTI, allocated EUR 150 million, using EU structural funds, to SMEs to support their adoption of new technologies and innovative procedures.

New measures during the reference period:

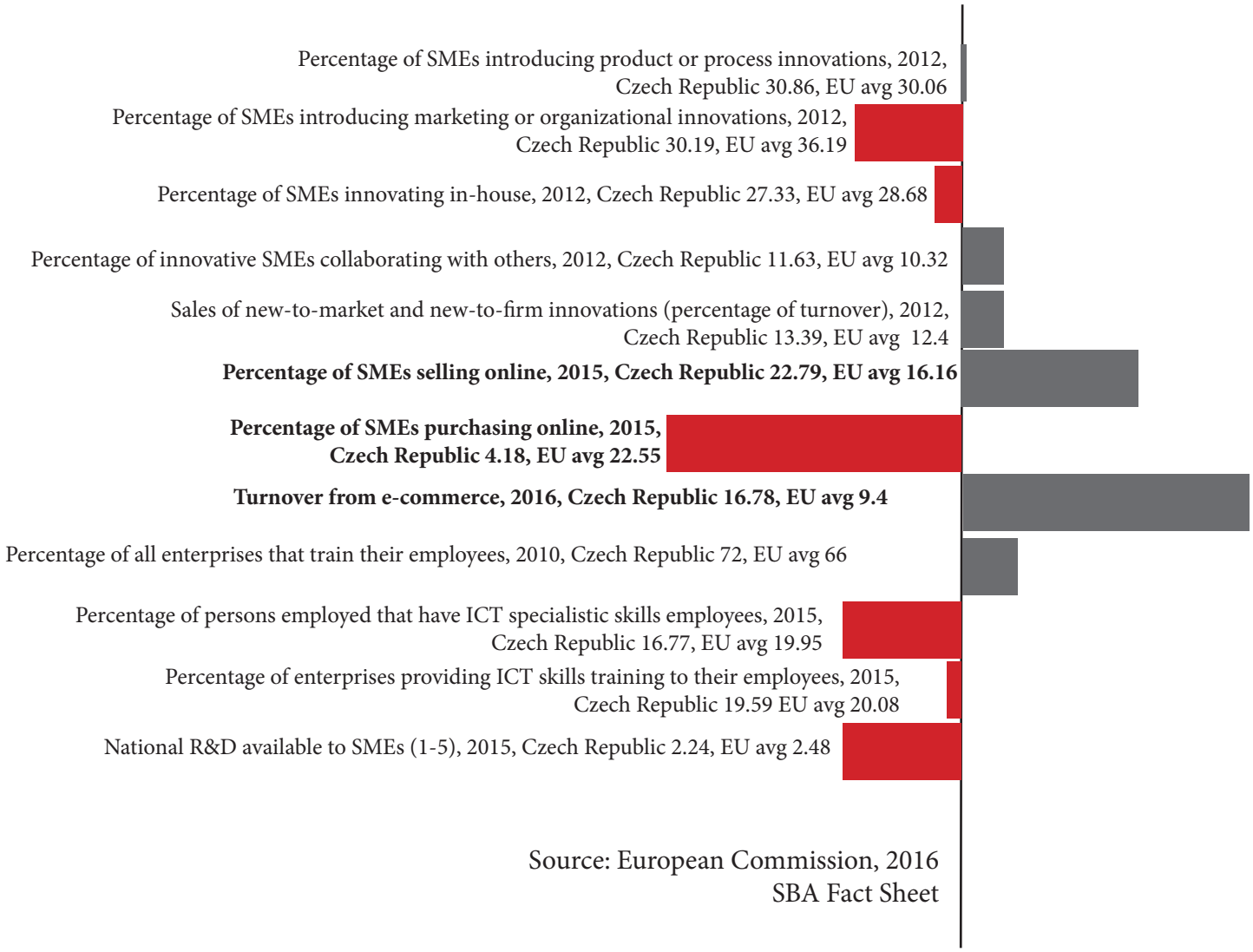
- in September 2015 the CDTI adopted a Resolution which addresses the direct grants for the development of industrial technology;
- the measure of July 2015 by 'Red.es' is the resolution aimed to encourage SMEs to adopt cloud-based solutions;
- in November 2015, the State Agency for Research was incorporated. The Agency aims to ensure efficient management of public R&D and innovation funding.

Overall, the 2015 EU Innovation Scoreboard classifies Spain among the moderate innovators. On skills, the country's high level of qualifications is an asset, but its persistent skills mismatch remains a significant obstacle.

Focus on SMEs: skills and innovation

Czech Republic

Variation from the EU average - measured in standard deviations, EU average=0



Source: European Commission, 2016
SBA Fact Sheet

Results achieved in Skills & innovation were in line with the EU average. The country's performance in this field has deteriorated since 2008, although there was little change compared to the scores recorded last year. Notably, half of all indicators have not been updated since the previous edition of the fact sheets (the first five from the top of the graph above and the percentage of enterprises that train their employees).

The newly introduced indicators measuring the level of ICT competence in SMEs and the availability of R&D to SMEs illustrate below-average performance. At the same time, Czech SMEs invested in the development of their employees' ICT skills to the same degree as was average in the EU. The three e-commerce indicators (SMEs buying online, selling online and turnover from e-commerce) were subject to methodological changes, and have been made more SME-specific. Since 2008, a broad range of measures have been implemented to support developments in Skills & innovation. The measures addressed almost all SBA recommendations in the area and included the Technology Agency, programs coordinated by the CzechInvest State Agency and a wide range of activities implemented by the Centre for Technology of the Academy of Sciences. Successful examples include the achievement of good quality research and innovation in mechanical engineering, including in Czech suppliers to the automotive sector, many of whom currently run their own R&D departments.
Two SBA recommendations in the area have so far remained unaddressed: there was no network of training providers and no specific measures existed for high-growth innovative companies.
During the reference period for this fact sheet, one important measure was implemented. Knowledge transfer partnerships supports building partnerships between SMEs and research organizations to enable the transfer of knowledge, technologies and skills, which would otherwise be inaccessible to SMEs. To facilitate knowledge transfer, post-graduate students carry out assignments in SMEs under the surveillance of an expert. The whole project must be of strategic importance to an SME and must be focused on at least one of the following activities:

- manufacturing process improvement;
- development and/or innovation of new products and services;
- process innovations in relation to the development and introduction of new products and services;
- business process improvement, including product certification processes.

One measure was announced during the reference period for the fact sheet: The Innovation Vouchers SME Support Programme. Under the scheme, SMEs will receive vouchers that will help them purchase research and innovation-related consulting, expert and support services. The eligible types of service include measuring, testing, computing, consulting, cooperation with post-graduate students, procurement and the transfer of intellectual property.

Stakeholders believe that there is insufficient coordination among the many bodies and institutions involved in running the Czech science, research and innovation system. They would welcome efforts to centralize the management of the system at ministry level. That would help better coordinate, monitor and assess research and innovation programs and activities, including applied research and SME support programs.

Another important challenge is to align the priorities of the Czech vocational and technical education system better with current labour market demand for skills and competences.

Focus on micro enterprises: the Me-commercer survey

For micro and small businesses, the web is the ideal tool to promote and sell products and services. In fact, compared to the traditional sale, the web tells a story and gives life to a customer experience, capable of generating an emotional involvement and enhancing the uniqueness and quality of the product.

Andrea Granelli, co-founder and chairman of the consulting firm Kanso, an Italian representative within the Epson Business Council

Given the substantial lack of specific reference data for the micro-enterprise sector, it was decided, during the first project transnational meetings, to conduct a local survey in the areas of activity of the partners.
The survey was conducted through an on-line survey tool sent by project partners to a database of 800 companies. The tool chosen for submitting questionnaires is the one provided by Google Form[1] that allows data collection both in aggregate form and through an excel spreadsheet. Personal interviews and individual interviews were also carried out for the collection of data. The survey was conducted early in 2017, in January and February. The following pages show aggregate data collected by partners in Lithuania, Italy, Spain and the Czech Republic and the analysis of the most interesting data followed by the individual country data.
Although the sampling was made with careful reference to the targets, the limited number - 100 responses in total - of the collected questionnaires does not allow the deduction of statistically relevant data; however, the collected data have allowed to highlight the potentialities and criticalities that confirm the premises from which the project was outlined: on one hand, the interest of micro-enterprises on digital communication and e-commerce tools and, on the other, their substantial lack of resources, both in terms of skills and time, in implementing innovative marketing and sales policies to successfully address the challenges of a market that, starting from the local context, can turn to the global one.

The questionnaire was also an instrument by which to present the project, actively involving the local enterprises as project stakeholders.

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1 The technique proposed route of administration for this survey provides for the use of the Google modules because they consent the following advantages:

- immediate editing
- graphical reports with intersections
- widget to embed your questionnaire in blogs and sites
- unlimited fields to be included in the module

Focus on micro enterprises: the Me-commercer survey

The questionnaire

In line with the project goals and the goals of this document, first of all, the target audience profile has been defined: owners, managers or contact persons of companies with a workforce of less than 10 units, distributed at local and/or regional level. After having defined the target audience, the strategies to find effective databases containg the e-mail references and/or telephone contacts have been designed.

A list of crucial information has been drawn up: the goal of this phase of activity was to answer the following questions: what are we going to know? What are the data of interest for our investigation?
Having defined the needed data and information we composed the survey questions.

Questions have been included in the questionnaire in sequence: in the first section the project, its objectives and future developments have been described and presented. The questions were organized in a logical order, grouped into topics of sequential and progressive deepening. Most questions are closed; some open-answer questions have been asked where it has been considered necessary.

The time required for the compilation of the questionnaire was verified - through an internal test - and indicated at the opening of the questionnaire.

An external test was done. A sample of twelve people - representative of the final target - was selected for the test phase. The test objectives were as follows:

- verifying the adequacy of the applications in relation to the objectives;
- verifying the suitability of the questions order;
- verifying the level of comprehensibility and clarity of the questions;
- verifying the appropriateness of the instructions.

The final version of the questionnaire was developed and sent to a sample of 800 companies in order to obtain a minimum of 100 responses.

To facilitate the partner task and, above all, to establish a common base for each phase of the activity, one of the partners, the IO1 leader, shared two short guides:

- *Making a micro enterprises database-guidelines*
- *Administration of the questionnaire-guidelines.*

The first document - *Making a micro enterprises database - guidelines* - fixes the common rules to build a database focused on the project profile and on the dimension of the reference area. The minimun number of micro-enterprises for the database of each single partner was fixed at 200.
The second document - *Administration of the questionnaire - guidelines* - collects the relevant common rules to conduct the survey: the mode and times of the administration and strategies to prevent and solve the risks connected to the activity.

The questionnaire is divided into 14 sections.
All the pages of the questionnaire quote the Erasmus+ logo, the project logo and each partner's logo.

The first section presents the questionnaire and its connection to the project.

Dear Respondent,
please take your time to fill the following questionnaire. It will help us to meet your needs by designing a new professional profile - e-commerce expert. On-line training programme will be shaped on Micro Enterprises needs, complementing their conventional commercial activities for selling and buying, enhancing their performance supporting them in getting deep awareness of opportunities of EU-external trade.

Survey is implemented by Erasmus + programme project ME-commercer: a new VET professional profile for Mircro Enterprises; partners from Lithuania, Spain, Italy and Czech Republic.

The second section is focused on the collection of company's data and it contains some questions related to the respondent's profile.
The questions are the following:
1. Main sector of your company activity.
2. Years of activity.
3. Your position in the company.
4. How do you evaluate your ICT skills?
5. Do you use the Internet for your company promotion?

After question n.5 *Do you use the Internet for your company promotion?* the questionnaire opens the thirth section and it is at a crossroads: if the respondent says NO, the questionnaire asks him/her why and refers him/her to complete the section 13.

If you answered NO in the previous question, explain why.

- *I don´t find it necessary*
- *I don´t know how to do it*
- *I haven´t thought about it yet*
- *It isn´t a good channel to promote my company*
- *I don´t have time for it*
- *Other*

If the respondent answers YES, the questionnaire gets on the following sections.

Sections four and five are focused on ICT tools.
The questions are the following:

Do you use social networks for your company promotion?
If yes, which social networks do you use for your company promotion?

More than one option is possible and the choice is among the following social media: Facebook, Twitter, LinkedIn, Instagram, Pinterest, Youtube, Google+, Other.

How often do you update it/them?
The possible option are: everyday, twice a week, once a week, once a month, once a year.
Are you happy with the results?
Why?
The answer is open.

Sections six and seven are focused on the company website.
The questions are the following:

Has your company got a website?
If yes, how often do you update it?
The possible options are: everyday, twice a week, once a week, once a month, once a year.

Are you happy with the results?
Why?
The answer is open.

Sections eight, nine and ten are focused on e-platforms for commerce.
Do you use e-platforms for commerce?
If yes, which ones?

More than one option is possible and the choice is among the following: Shopify, WooCommerce, Bigcommerce, osCommerce, Volusion, Wix, BigCartel, Weebly, 3DCart, Prestashop, 1&1, Other.

How often do you update it/them?
The possible options are: once a day, once a week, twice a week, once a month, once per 6 months.

Are you happy with the results?
Why?
The answer is open.

Sections eleven and twelve are focused on Advertisements on the Internet.
The questions are the following:

Do you use advertisements in the Internet?

If yes, how often do you update it/them?
The possible options are: once a day, once a week, twice a week, once a month, once per 6 months.

Are you happy with the results?
Why?
The answer is open.

Section thirteen is focused on Management of the ICT tools.
The questions are the following:

Who is managing your ICT tools?
The possible option are: company owner/ director, other internal resources, outsourcing resources, nobody.

Would you like to update your knowledge about e-commerce?
The possible answers are: yes, no, I don't know.

What knowledge you would like to develop in e-commerce area?
The possible answers are: legal requirements of e-commerce, ICT knowledge for e-commerce, marketing, Search for information, networking, other.

What other knowledge of e-commerce you would like to develop by yourself?
Open answer.

Would you be interested in participating in a practical experience with new professionals to manage your company promotion in the Internet?
The possible answers are: yes, no, I don't know.

Would you like to contract professional services for managing your company promotion in the Internet?
The possible answers are: yes, no, I don't know.

Which tasks could be appointed to this specialist?
The possible answers are: update of social networks, Webpage maintenance, Active marketing promotion in the Internet, E-commerce platform maintenance, Other.

Which e-commerce services are you interested in?
The possible answers are: representing company, selling products, finding suppliers, communicate with clients, Other.

Focus on micro enterprises: the Me-commercer survey

The aggregate data

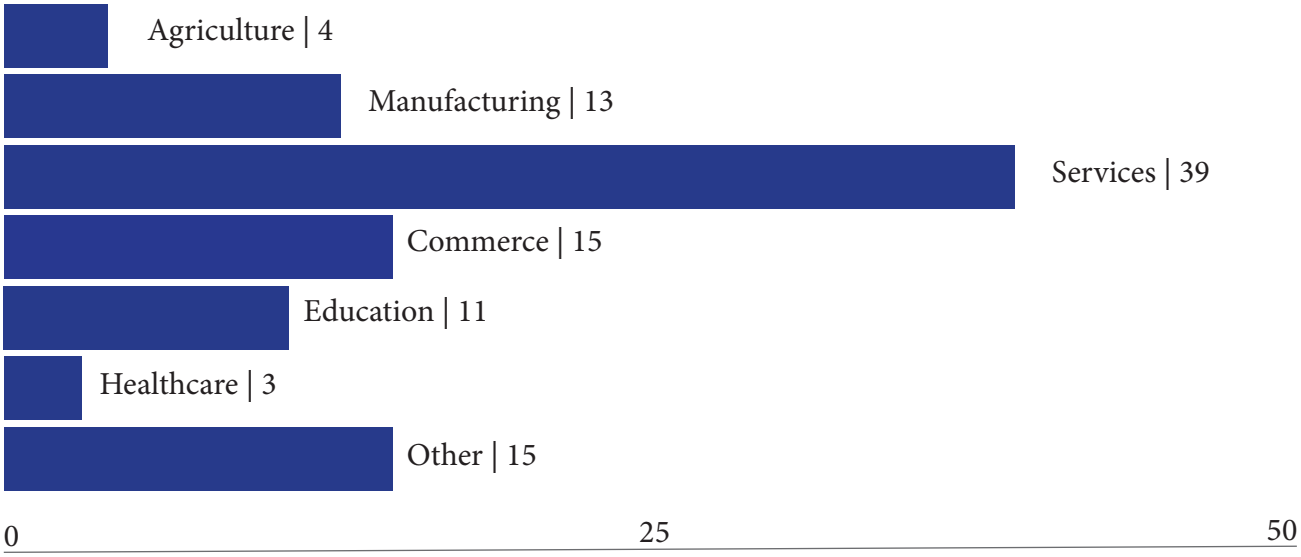
An e-commerce training program for micro companies like mine? That's exactly what I need.

Rinaldo, artisan in the ceramic sector in the Canavese area (Piedmont - Italy) during the questionnaire interview.

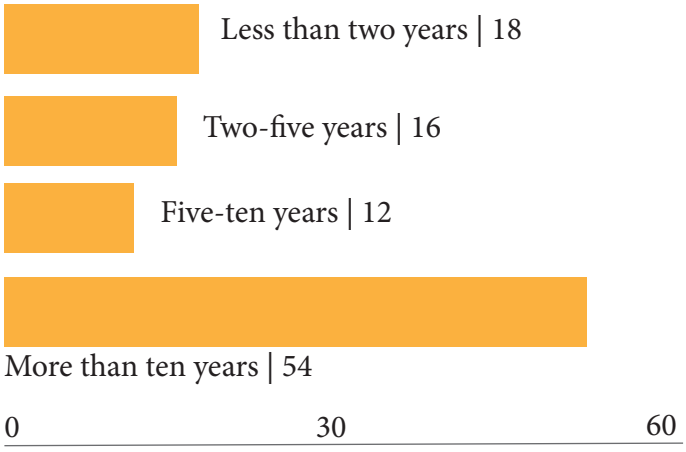
Profile of respondents

The main target group of the survey were the enterprises up to 10 employees. Each partnering country: Lithuania, Czech Republic, Italy and Spain invited 25 business representatives to participate in the survey. 7 economic sectors were defined during the survey in order to bring in representative feedback about the needs of particular enterprises. The majority of the target group representatives works in the service area – this answer was marked by 39 respondents, 15 respondents represent commerce sector, 15 respondents could not assign themselves to the offered economical activity groups, 13 respondents work in manufacturing, 11 – education, 4 – agriculture, 3 respondents – healthcare sector.

Main sector of respondents' business activity | Number of respondents

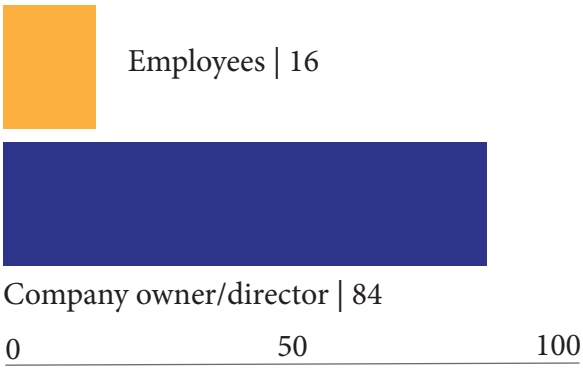


Years of activity | Number of respondents



The number of years of activity is also important indicator defining the target group needs for the e-commerce training programme preparation. The 4 groups were defined in the survey questionnaire: new enterprises with less than 2 years odf activity; enterprises with 2-5 years of activity; 5 -10 years; enterprises with more than 10 years. of activity. Summarized data show that 54 survey participants are economically active for more than 10 years, 18 business representatives stated that they are active economically for less than 2 years, 16 representatives are active 2-5 years, 12 survey participants already work for 5-10 years.

Respondent position at the company | Number of respondents

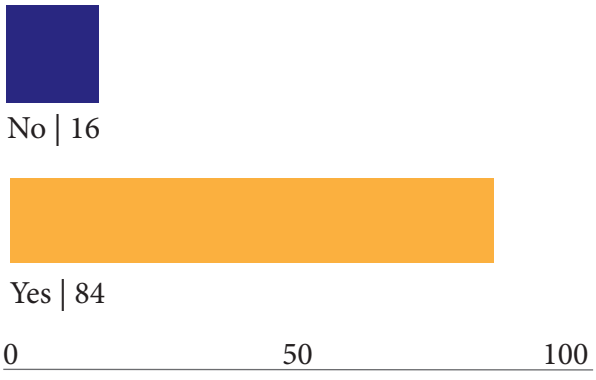


Decisions related to the company development plans are linked to the owners/managers of the companies. Project partners aimed to interview owners/directors of the companies, but the opinion of the employees related to the strategical decisions/willingness to learn new things is also very important. 84 respondents of the survey are the owners, 16 respondents are the employees of the companies.

In order to define the current level of familiarity with the online tools of the respondents, they were asked to evaluate their skills in ICT sector. Perfect (18 respondents), good (26 respondents) and average (31 respondents) knowledge level makes a majority of the target group. Poor skills in ICT was self-assessed by 23 respondents, 2 target groups representatives stated that they do not have ICT skills at all.

Self-evaluation of ICT skills | Number of respondents

Internet use for company promotion | Percentage of respondents



The respondents' profile section ends with the question about the general use of the Internet tools for the company promotion and enables further to divide the participants into two main target groups:

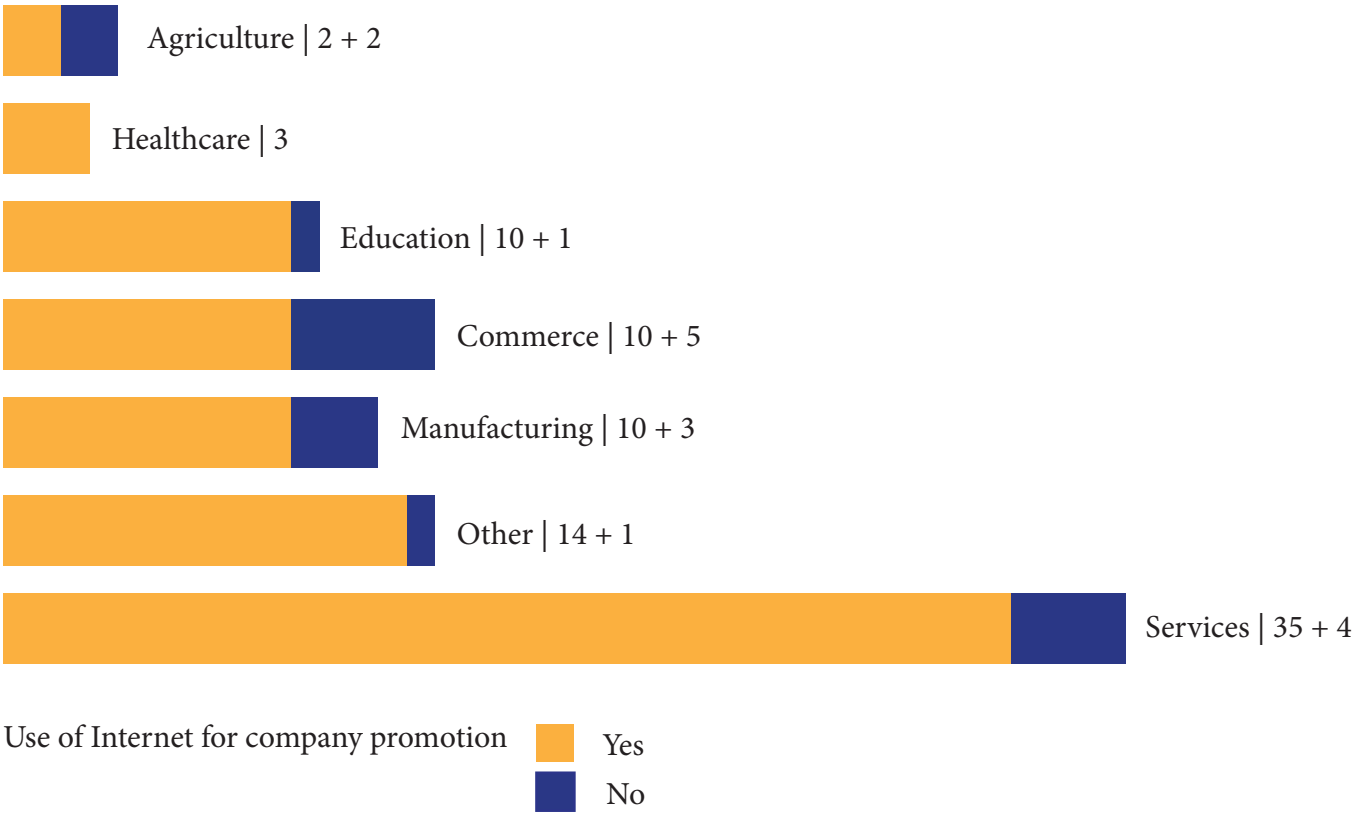
1. enterprises already using Internet for the company promotion;
2. enterprises that are not familiar with the Internet opportunities to promote the company.

In order to explore the target group's point of view about Internet advantages for the company promotion, the companies were asked to provide the answer to the question *Do you use the Internet for your company promo*tion? The summarized survey results confirm the fact that nowadays the majority of the business representatives - 84% of survey participants - use the Internet as a tool for the company promotion and 16% of the survey participants are not familiar with it.

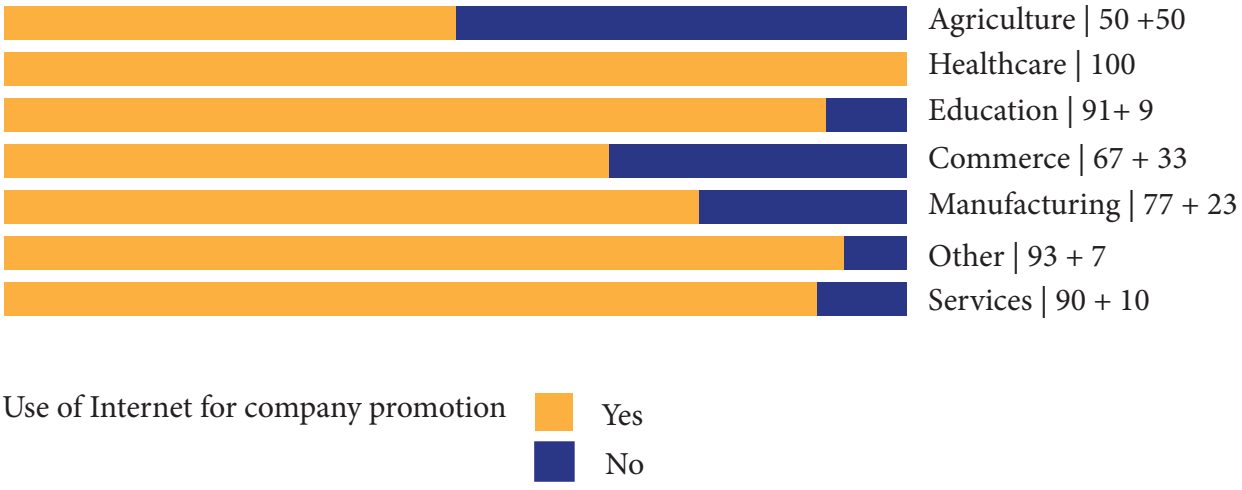
Use of the ICT tools for the company promotion

Official national statistics sources state that some companies do not use the Internet for the company promotion because their goods and services are inadequate for this. The answers to this question were filtered by the economic sectors during the survey result analysis. The results show that the agriculture sector is the least active in the company promotion on the Internet. Also, surprisingly, the commerce is the second least active sector in terms of the company promotion on the Internet.

Use of Internet - division of the respondents by the economic sector
Economical sector | Number of respondents



Use of Internet - division of the respondents by the economic sector
Economic sector | Percentage



The companies, who chose the answer *No, I don't use Internet for the company promotion* were asked to name the reason for it. The most common reasons for that are listed below:

- It's not an appropriate way to promote my company
- I don't have time for it
- I have no time
- It's not my job
- It isn't a good channel to promote my company
- I don't have skills for it
- It's not my work.

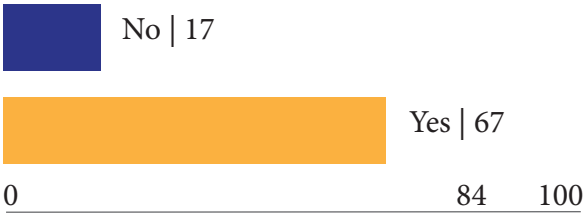
Further, the respondents who chose the answer *Yes, I use the Internet for the company promotion* where asked to provide the information about the use of different ICT tools for the company promotion:

- Social networks
- Webpages
- E-commerce platforms
- Ads in the Internet

The respondents were asked to provide the information for the question:
Do you use social networks for your company promotion?

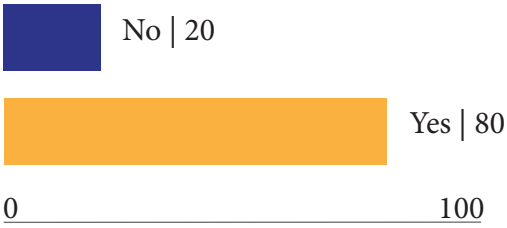
The majority of respondents – 67 individuals (80%) – states, that they are the users of social media for the company promotion. Facebook (67 respondents), Instagram (18 respondents) and Youtube (13 respondents) channels are the most popular among them.

Use of the social networks for company promotion | Number of respondents

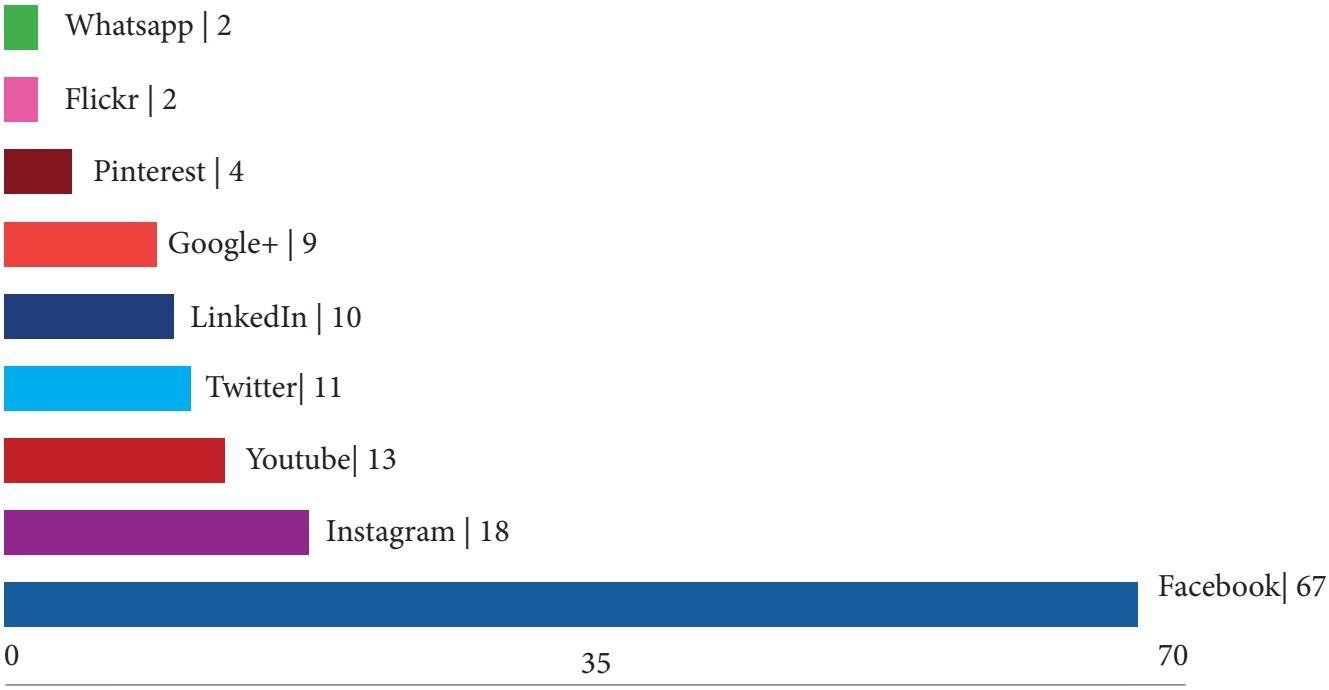


Percentage distribution of respondents who stated that they use the Internet for the company promotion (84 respondents in total).

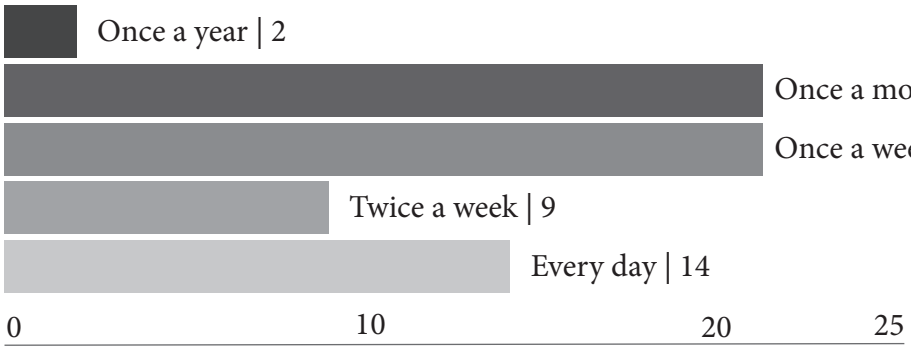
Use of the social networks for company promotion | Percentage of respondents



Companies profiles in the social networks for company promotion | Percentage of respondents



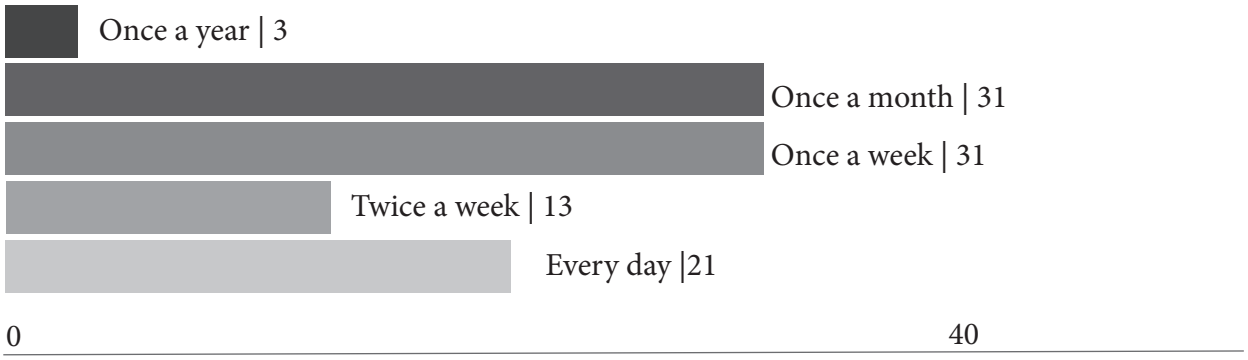
Frequency of social media profiles update | Number of respondents



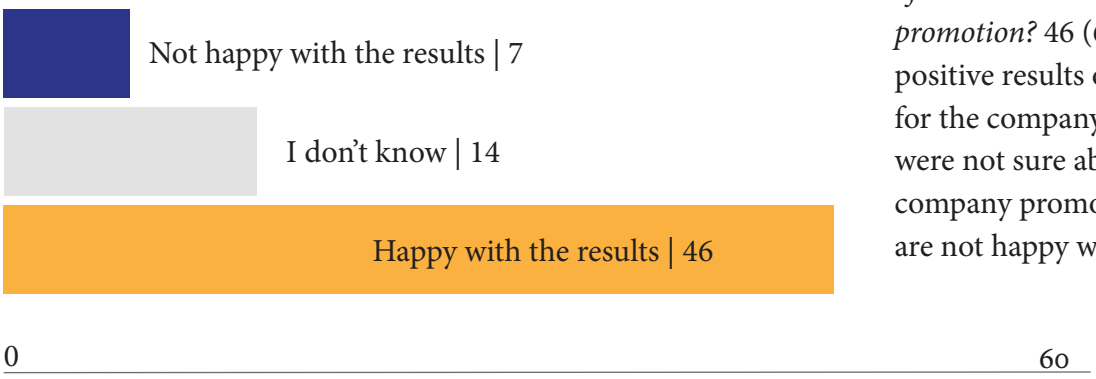
The survey respondents – users of the social media, find necessary to update the information in the social media once a week or even only once a months – this answer was presented by 21 respondents (31%) in each group, 14 respondents (21%) update the company social profile every day, 9 respondents (13%) – twice a week, 2 respondents (3%) find necessary to update social media profile once a year.

Percentage distribution of respondents who stated that they use social media profile for the company promotion (67 respondents in total).

Frequency of social media profiles updates | Percentage of respondents



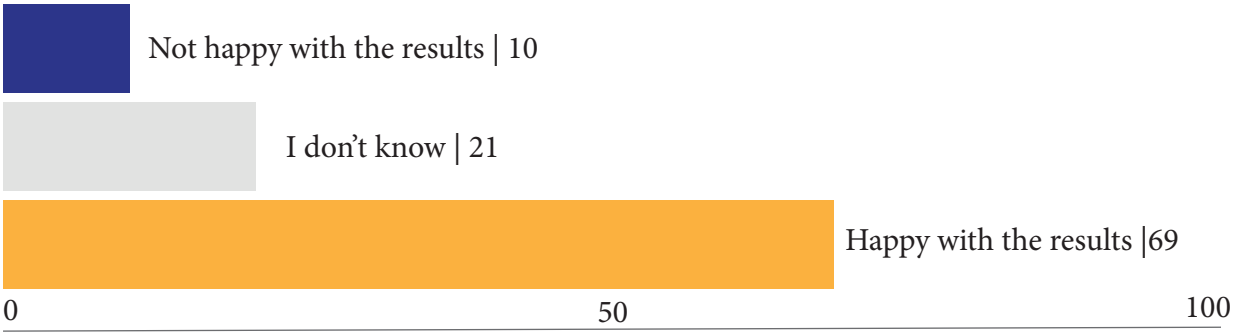
Respondents opinion about the influence of social media use for the company results | Number of respondents



Considering the fact, that activity in the social media is directly related to the satisfaction of the enterprises about the results of social media use for the company promotion, the survey participants were asked to answer the question *Are you happy about the results of the social media use for your company promotion?* 46 (69%) respondents stated positive results of the social media use for the company promotion, 14 (21%) were not sure about its influence on the company promotion, 7 (10%) respondents are not happy with the results.

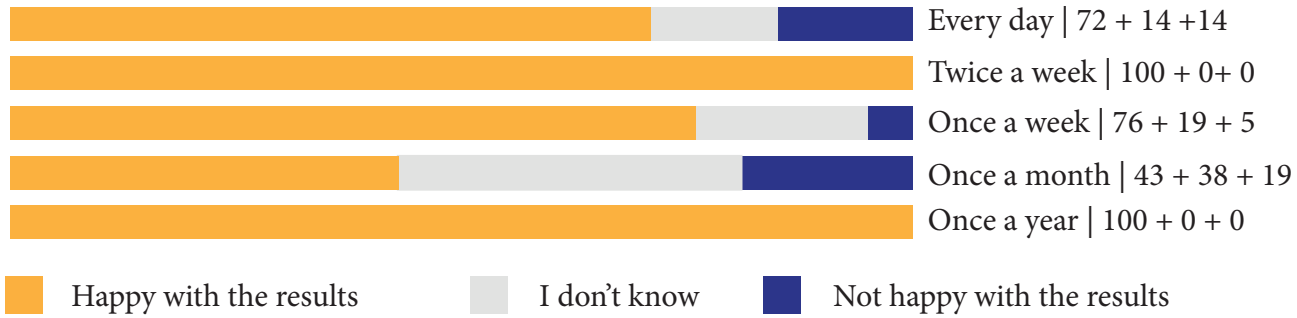
Percentage distribution of respondents' answers, who stated, that they use social media profile for the company promotion (67 respondents totally).

Respondents opinion about the influence of social media use for the company results | Percentage of respondents

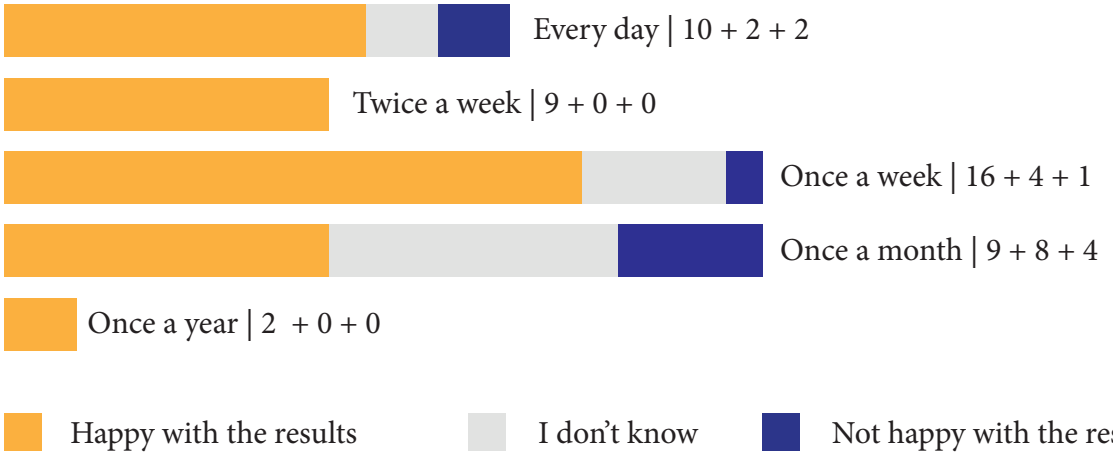


The results were correlated with the previous question results about their activity in the social media. Business representatives participating in the survey, who update social media profile twice a week (100%), once a week (78%), or every day (75%) are the happiest about promotion activities in social media results. It is also important to mention that there were 2 respondents, who chose the answer *update of the information in the social media profile once a year* and stated that they are *happy about it results.* However the further analysis of the survey results show that it is an exception and cannot be considered a rule.

Satisfaction with the results of the use of social media
Frequency of the social media profile update | Percentage

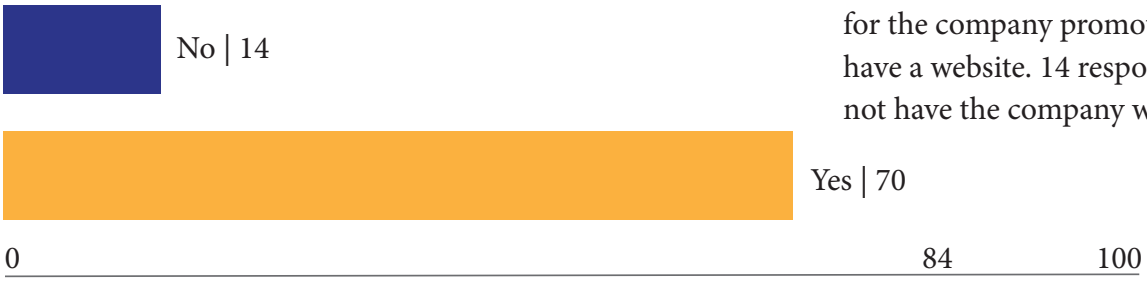


Frequency of the social media profile update and satisfaction with the results|Number of repondents



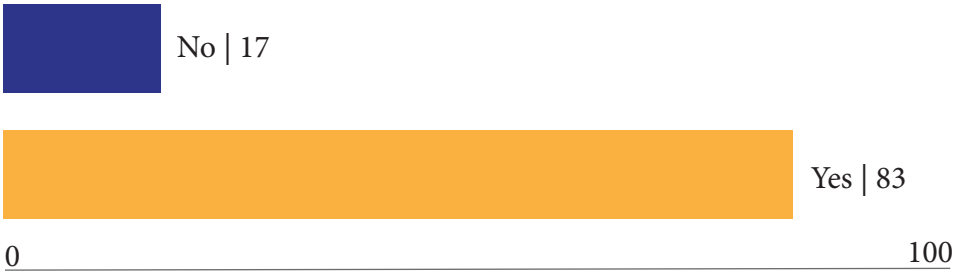
Use of the Internet website for the company promotion | Number of respondents

Company website can be used as a tool for communication, information concerning the identification and spotlight of the company, but in the same time can be used as a marketing tool promoting the business, addressing more customers, helping to expand the business or serving as a virtual shop. The 70 survey participants (83%), who identified themselves as Internet users for the company promotion, stated that they have a website. 14 respondents (21%) do not have the company website.

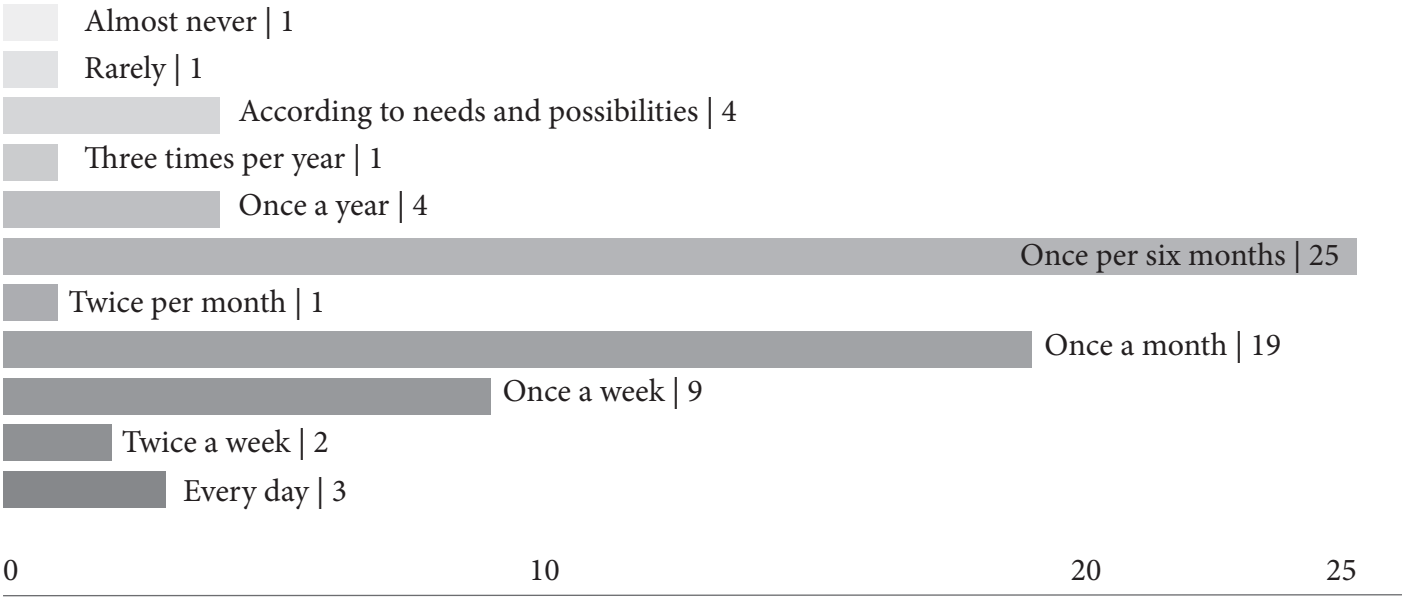


Percentage distribution of respondents who stated that they use the Internet for the company promotion (84 respondents in total).

Use of the Internet website for the company promotion | Percentage of respondents

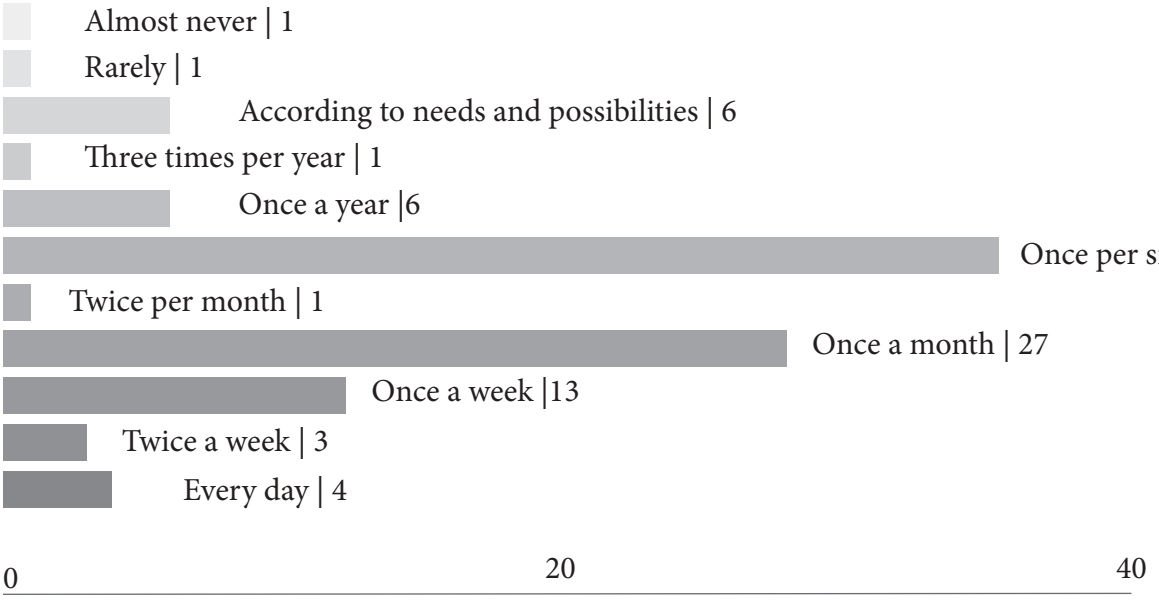


Update of the webpage | Number of respondents



Percentage distribution of respondents who stated that they use the webpage for the company promotion (70 respondents in total).

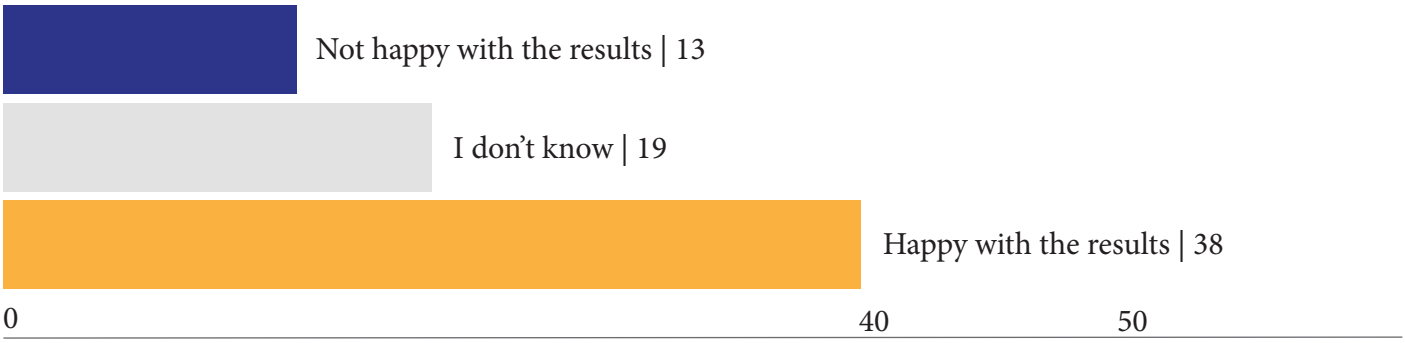
Update of the webpage |Percentage of respondents



25 of the respondents stated, that they update the information in the webpage once per 6 months (36%), 19 of the respondents (27%) update it once a months, 9 respondents (13%) update it every week. 3 respondents (4%) find necessary to update the webpage information every day, 2 respondents (3%) – twice a week, 8 respondents update it not so often: 4 of them (6%) do it once a year, 1 repondent (1%) three times per year, 1 repondent (1%) twice per month, 1 (1%) repondent rarely and 1 repondent almost never.

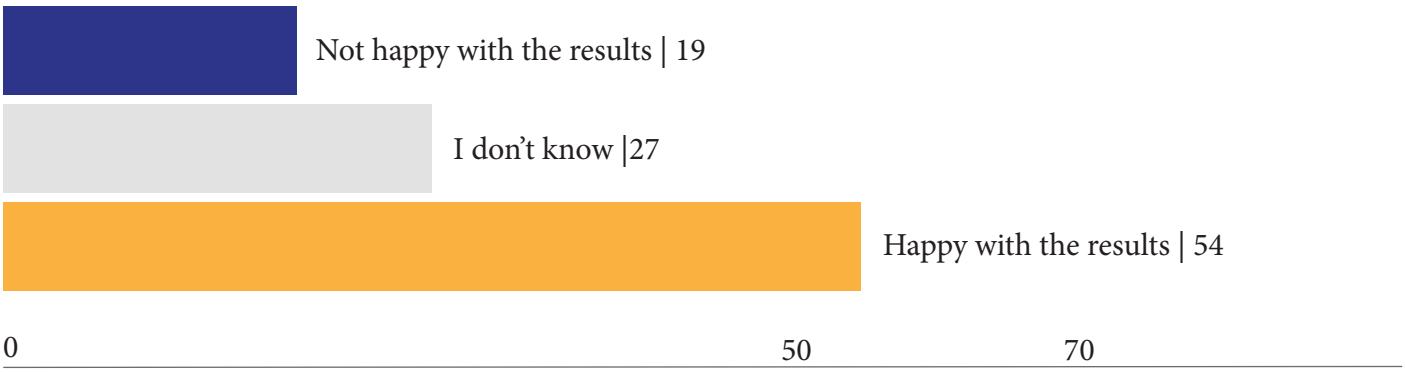
Concerning the fact that the webpage update is closely related to the results expected from this promotion activity, we asked the following question: *Are you happy with the results?* 38 (54%) respondents stated that the company website results meet their needs, 19 (27%) are not sure about it, and 13 (19%) of them are not happy about the results of the company website.

Satisfaction with the results of the use of the company webpage|Number of respondents



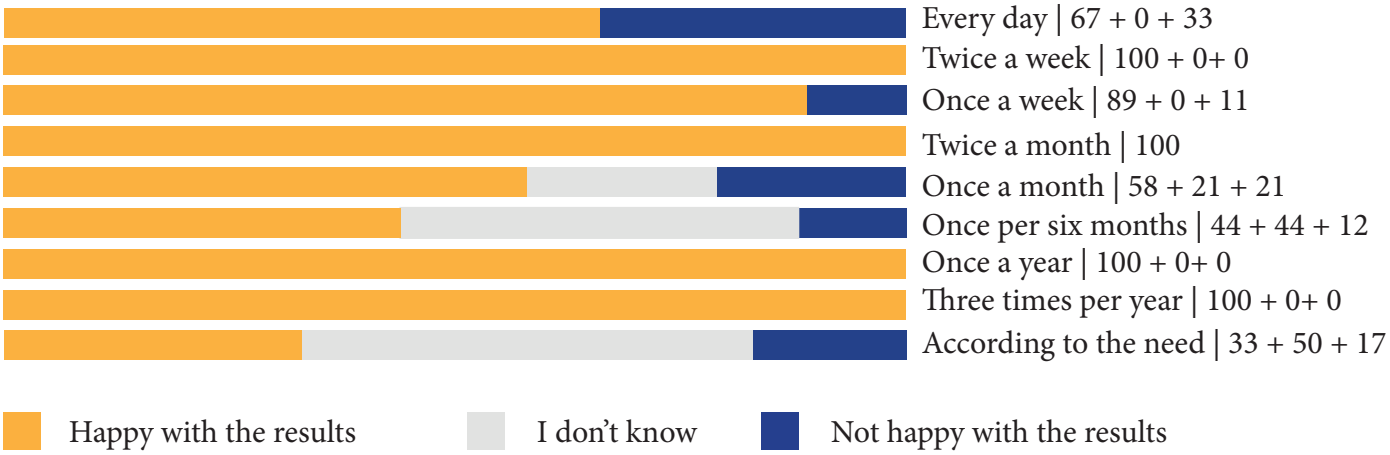
Percentage distribution of respondents who stated that they use the company website for the company promotion (70 respondents totally).

Satisfaction with the results of the use of the company webpage|Percentage of respondents

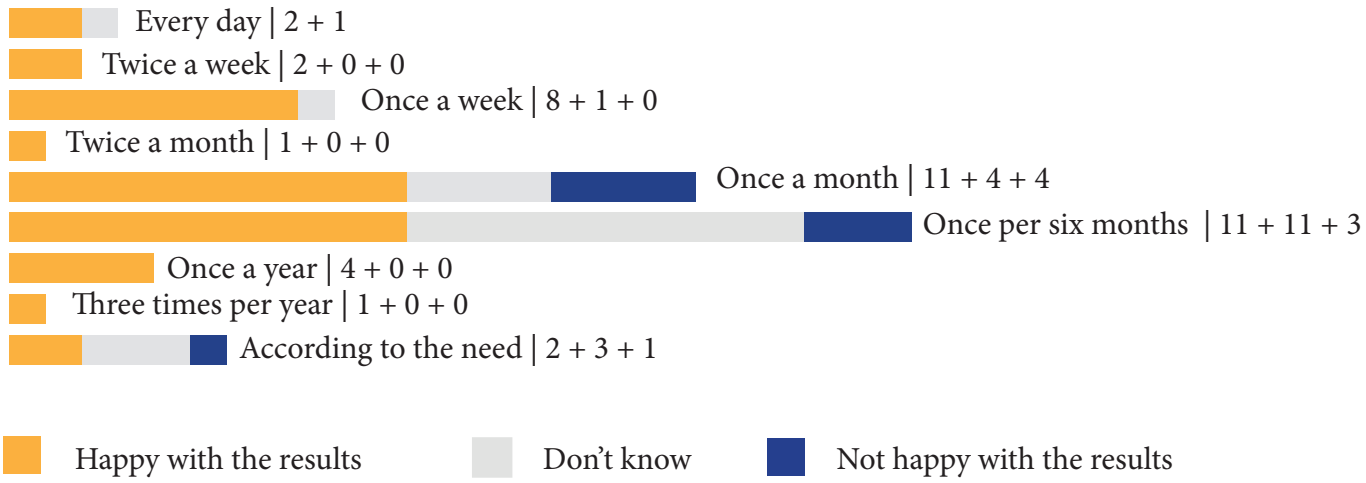


The more often companies update the information in the website the more happy they are about the results of it, as shown in the summarized results of the survey. 100% of respondents updating company website twice a week or once in a month are happy with the results. At the same time the full satisfaction with the results is declared by 90% of respondents updating the webpage once a week. As explained above, there are different reasons and purposes for the use of the website in the companies. Only one respondent stated that their webpage is being updated 3 times per year while they consider is satisfactory.

Frequency of the webpage update and satisfaction with the results | Percentage of the respondents



Frequency of the webpage update and satisfaction with the results | Number of respondents

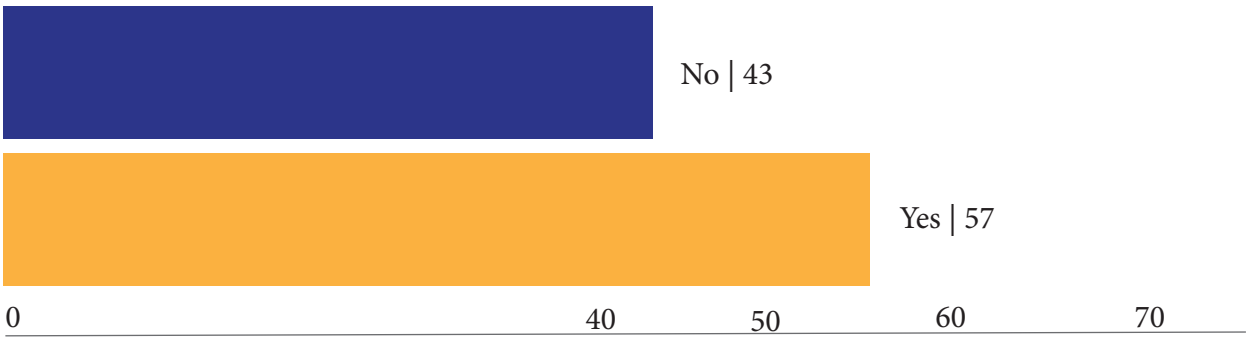


In order to define the respondents' familiarity with the e-commerce platforms, the respondents were invited to give the answers to the question *Are you familiar with e-commerce platforms?* 48 respondents (57%), using the Internet for the company promotion, stated that they are familiar with e-commerce platforms. 14 of them (29%) are the users of e-platforms for commerce. 36 target representatives (43%) are not familiar with the e-commerce platforms, 34 (71%) respondents do not use any e-commerce platforms at all.

Familiarity with e-commerce platforms | Number of respondents

Percentage distribution of respondents who stated that they use the Internet for the company promotion (84 respondents in total).

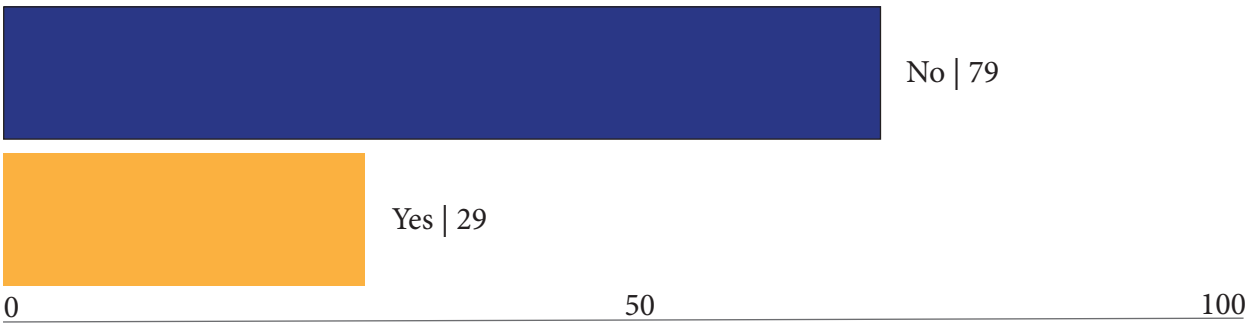
Familiarity with e-commerce platforms | Percentage of respondents



Use of e-platforms for commerce | Number of respondents

Percentage distribution of respondents who stated that they are familiar with e-commerce facilities (48 respondents in total).

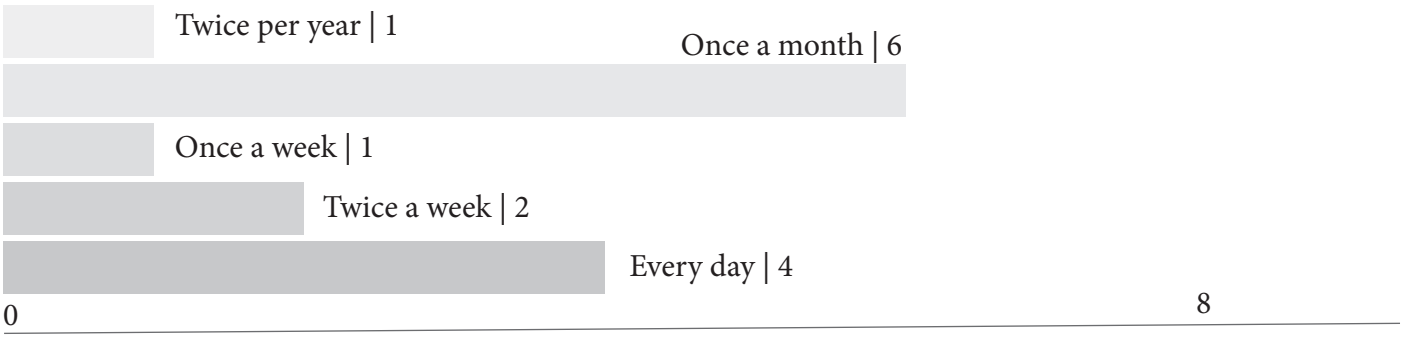
Use of e-platforms for commerce | Percentage of respondents



The most popular e-platforms among the survey participants are listed below:

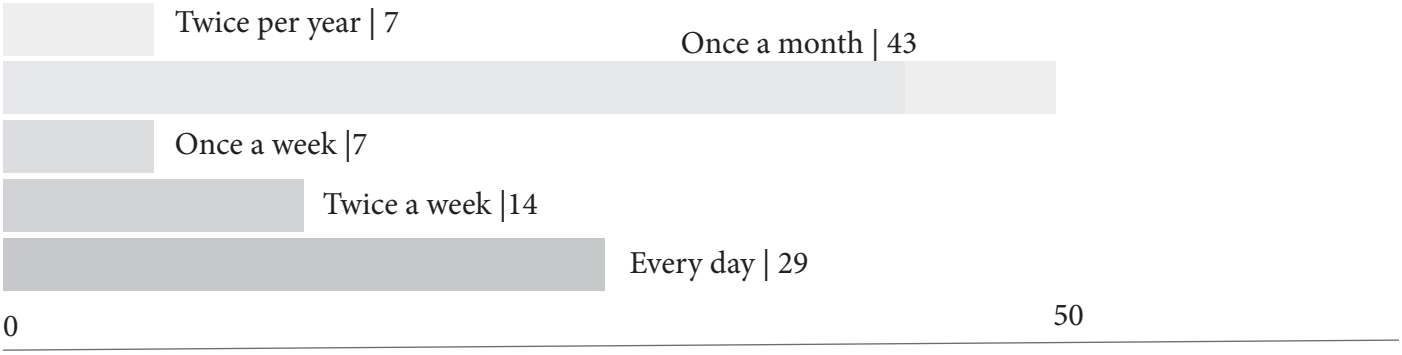
- Prestashop
- Shopify
- WooCommerce
- BigCommerce
- Shoptet
- osCommerce
- FLER
- Webmium
- E-commerce platform powered by CNA Torino for business associates (CNA Association represents the world of crafts, commerce and small and medium-sized enterprises)
- Virtuemart + joomla
- Customized developement; in disuse

Frequency of e-platform update | Number of respondents



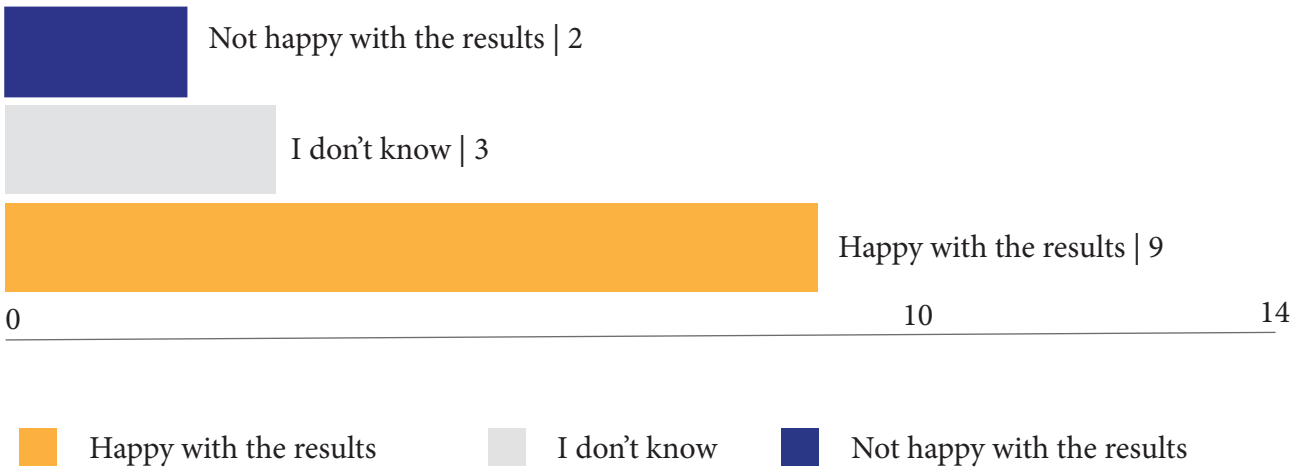
Percentage distribution of respondents who stated that they use e-platforms for commerce (14 respondents in total).

Frequency of e-platform update | Percentage of respondents



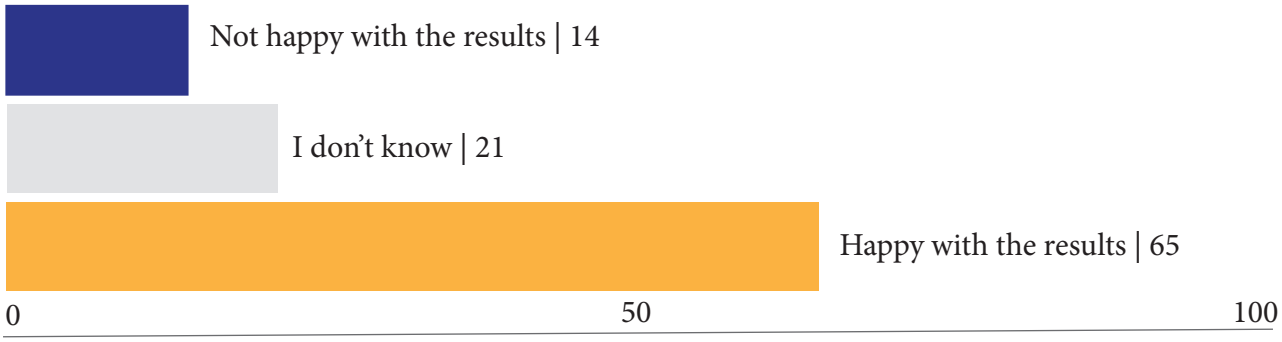
There is no dominant group of responses to this question: 6 respondents (43%) update it once a month, 4 (29%) - every day, 2 (14%) - twice a week, by 1 (7%) - once a week or twice per week.
9 of them (65%) are happy about the results of them, 3 respondents (21%) do not have opinion about that, 2 respondents (14%) are not satisfied with the results of the e-commerce platforms use results.

Satisfaction with the results of the use of the e-commerce platform | Number of respondents



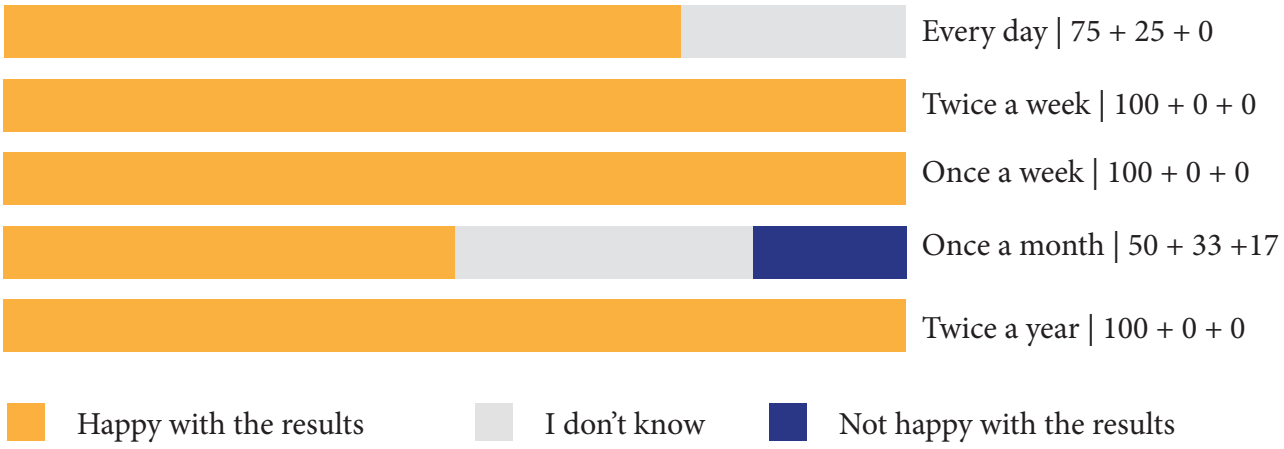
Percentage distribution of respondents who stated that they use e-platforms for commerce (14 respondents in total).

Satisfaction with the results of the use of the e-commerce platform | Percentage of respondents

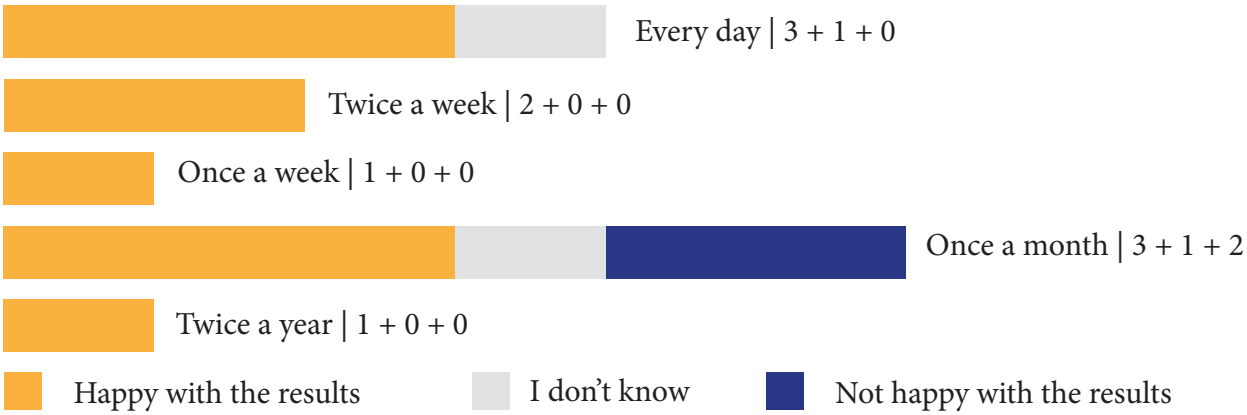


Satisfaction with the results of the e-platform performance in relation to the frequency of the update | Percentage of the respondents

The disproportionate correlation between the frequency of update and satisfaction from the e-platform performance shows that an update twice per week or even twice per year also can affect satisfactory results.

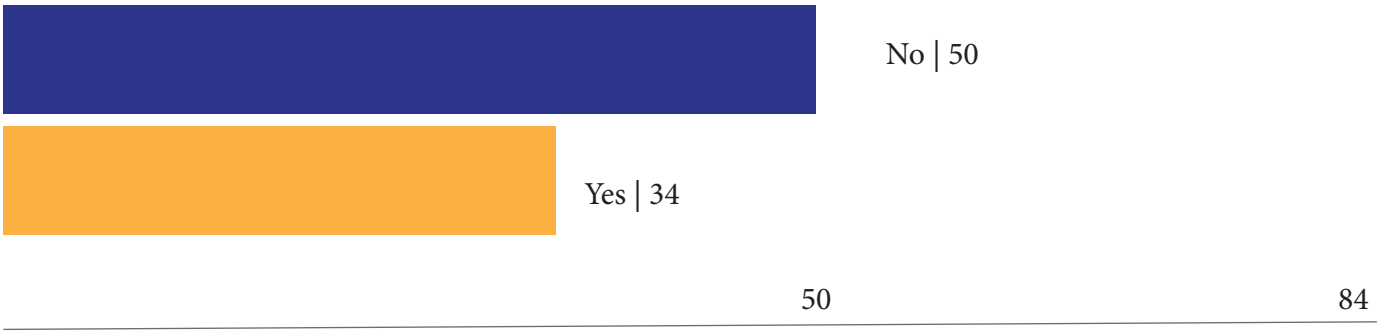


Frequency of the e-platform update and satisfaction with it | Number of respondents



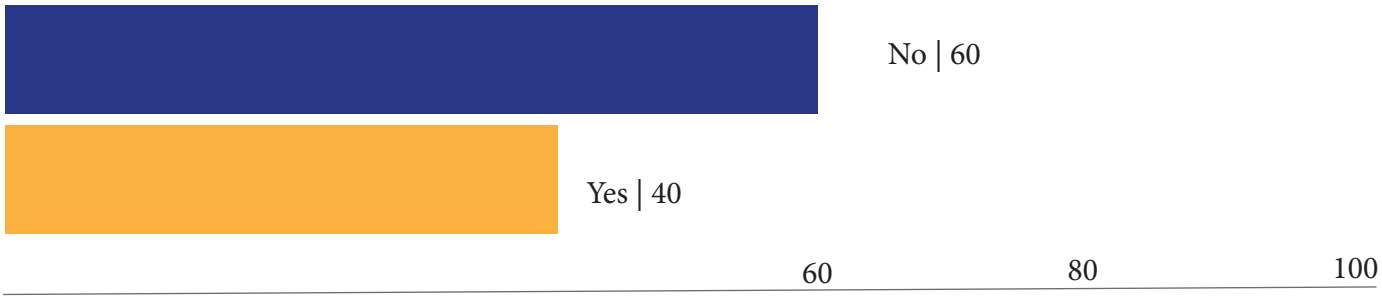
The survey representatives were asked to provide the information about the use of the ads in the Internet. The results show that the advertisement in the Internet is not so popular among the survey participants - only 34 respondents (40%) stated that they use ads in the Internet, 50 respondents (60%) do not use this tool for the company promotion. 20 respondents (59%) stated that they are happy about the results of this company promotion tool, 5 respondents (15%) stated that the results are not satisfying, 9 respondents (26%) did not have any opinion about it.

Use of the internet advertisement for the company promotion | Number of respondents

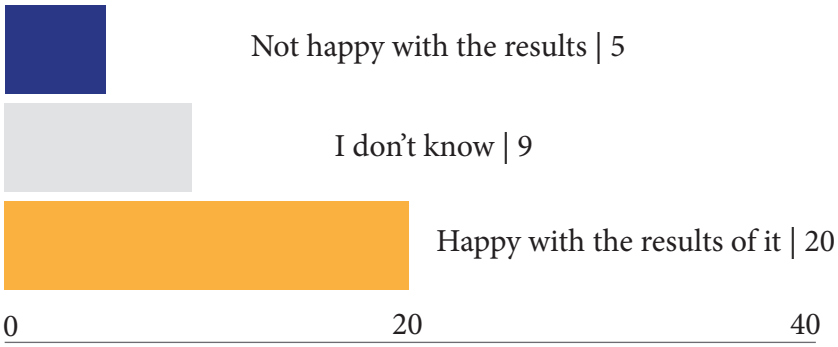


Percentage distribution of respondents who stated that they use the Internet for the company promotion (84 respondents in total).

Use of the internet advertisement for the company promotion | Percentage of respondents

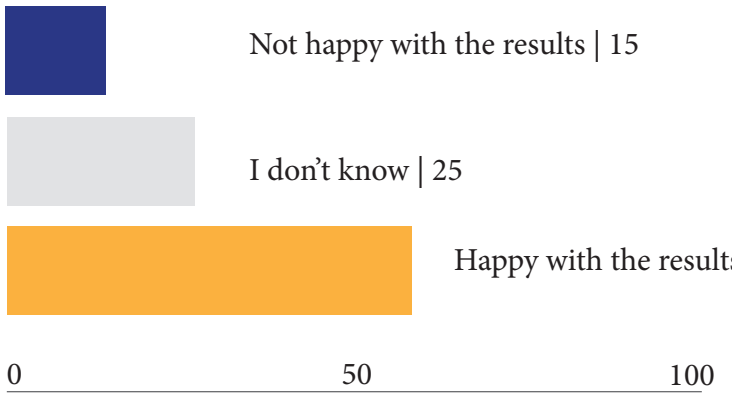


Satisfaction with the internet advertisement results | Number of respondents



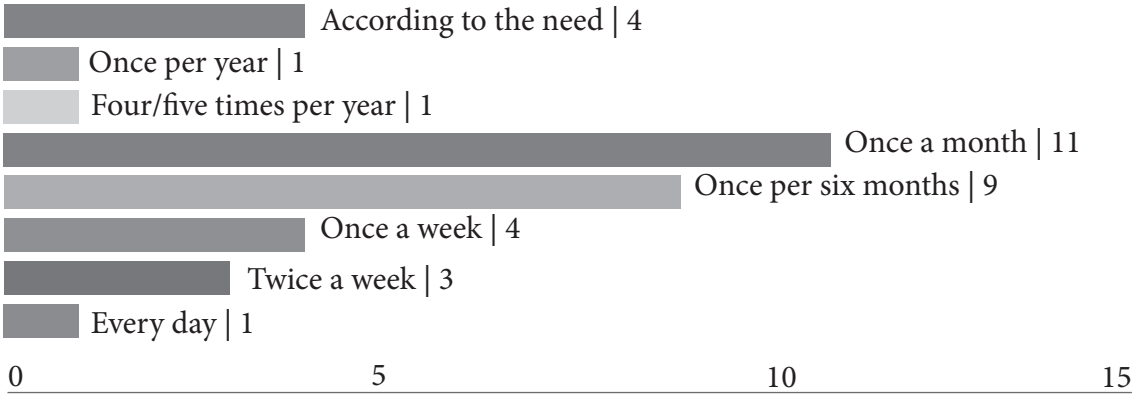
Percentage distribution of respondents who stated that they use Internet advertisement for the company promotion (34 respondents in total).

Satisfaction with the internet advertisement results | Percentage of respondents



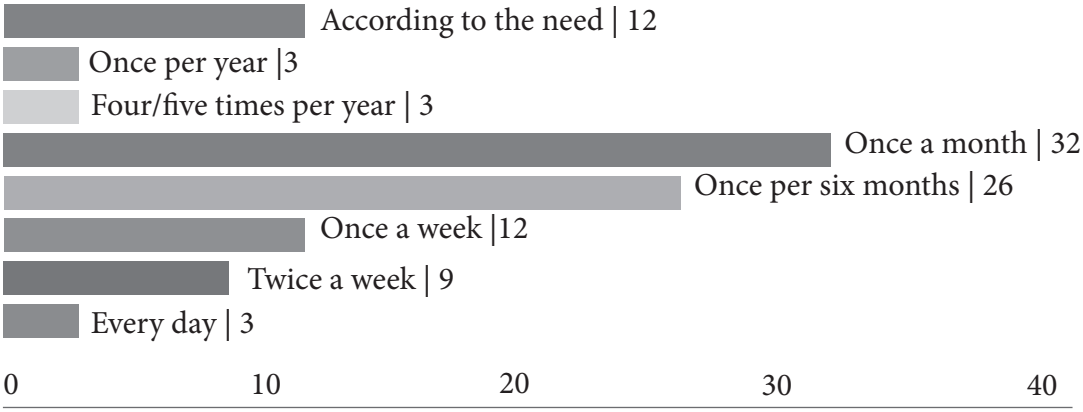
Frequency of advertisement in the Internet| Number of respondents

The responses about the update of ads in the Internet were divided variously - once a months – 11 respondents (32%), 9 (26%) - once per 6 months, 4 (12%) - once a week or according the need, 3 (9%)- twice a week, 1 respondent - every day, 1 (3%) respondent - 4-5 times a year, 1 respondent once a year.

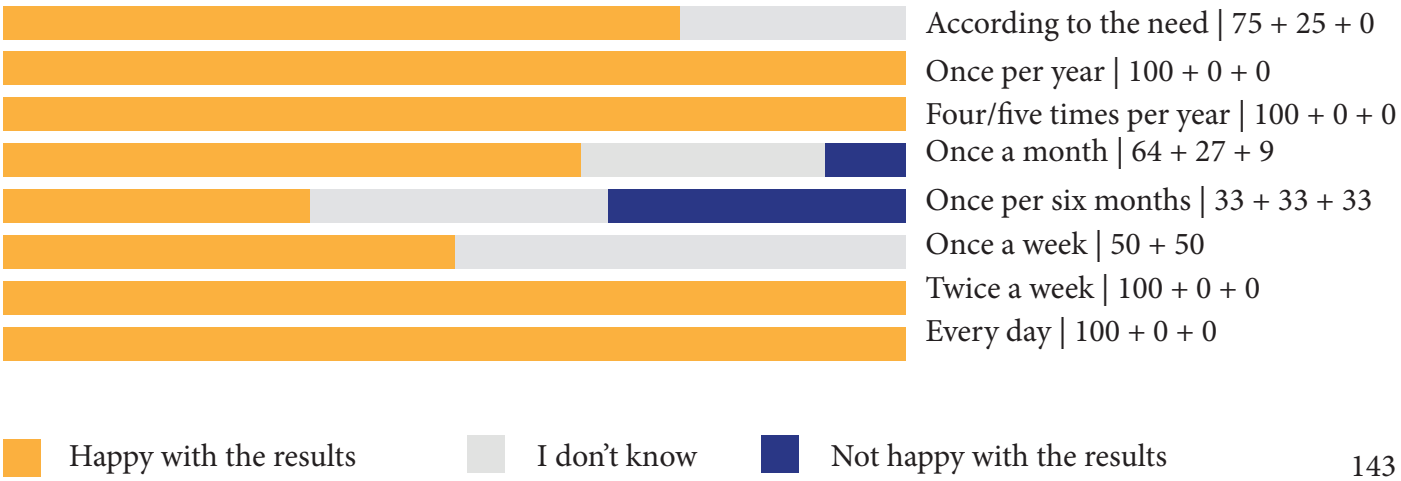


Percentage distribution of respondents who stated that they use Internet advertisement for the company promotion (34 respondents in total).

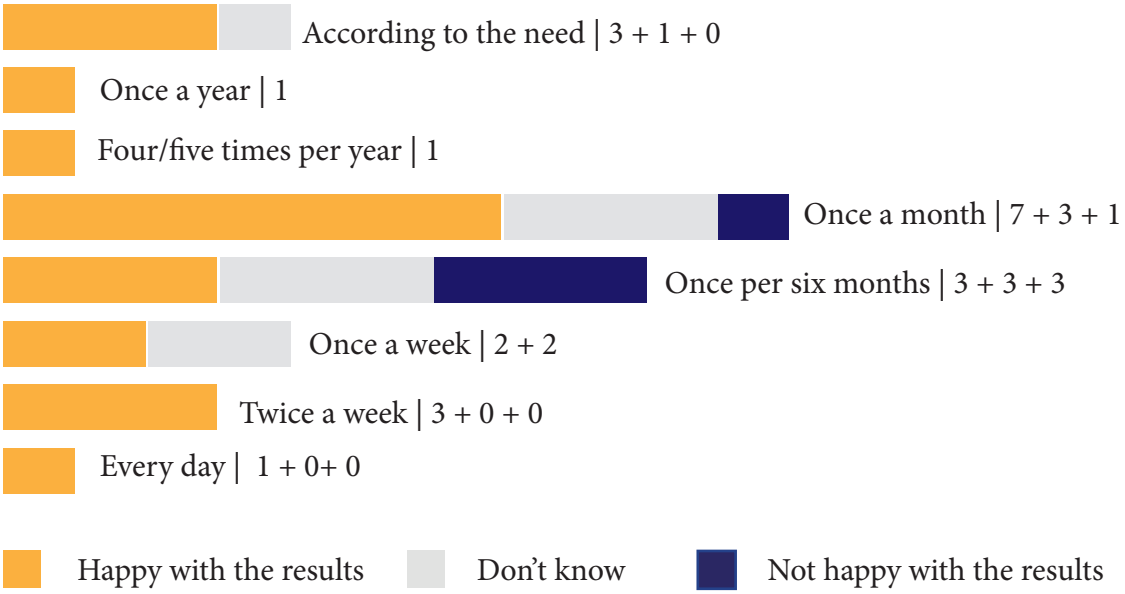
Frequency of advertisement in the Internet| Percentage of respondents



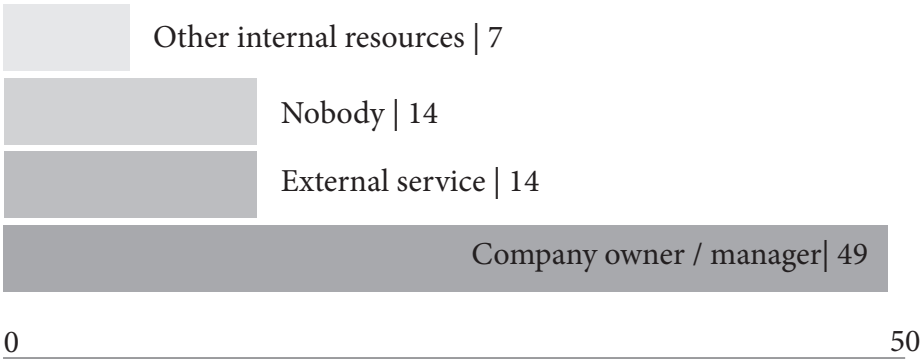
Frequency of advertisement in the Internet and satisfaction with the results | Percentage of respondents



Frequency of advertisement in the Internet and satisfaction with the results | Number of respondents

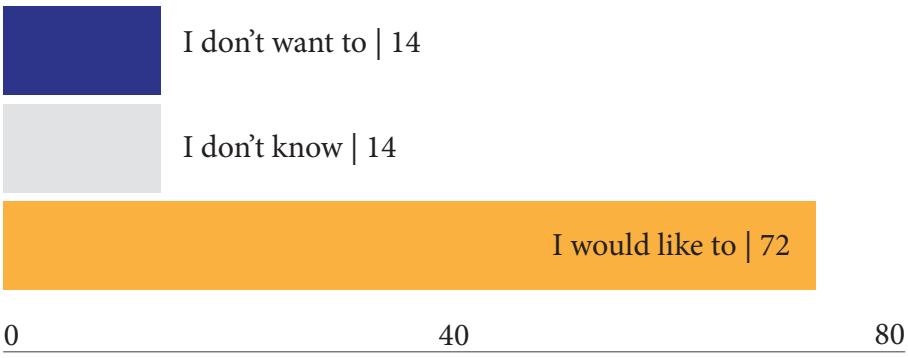


Managers of the ICT tools for the company promotion | Percentage of respondents



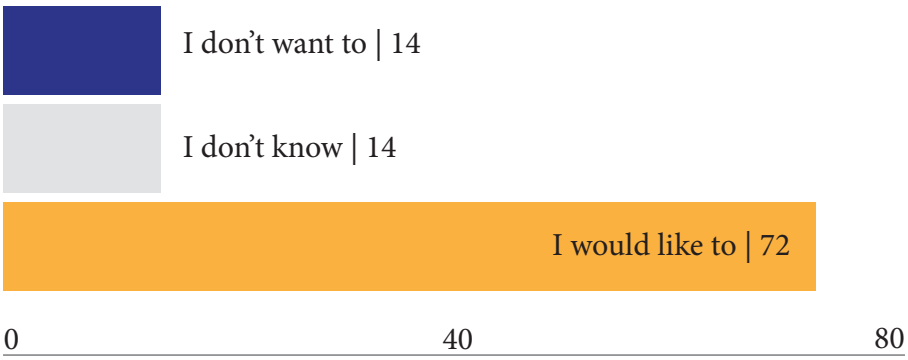
This question of the survey finds out the need of the business representatives to develop their knowledge of e-commerce. The chart shows different kind of persons managing the ICT tools for the company promotion. 49% of the respondents stated that it is a company owner/ manager who manages the ICT tools, 14% respondents outsource this service, 14% do not manage their ICT tools at all. 7% of the respondents use other internal resources.

Willingness to update the knowledge about e-commerce possibilities | Number of respondents



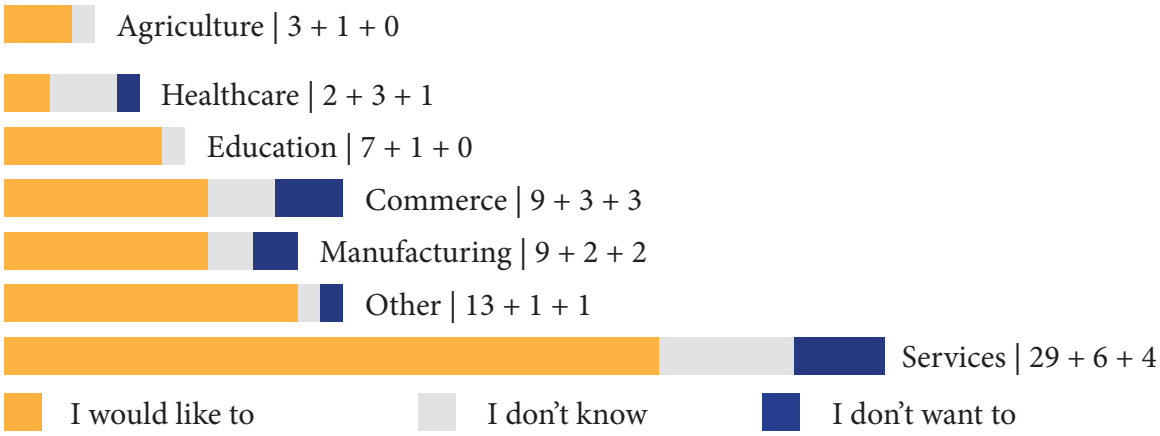
Percentage distribution of respondents who stated that they are willing to update their knowledge about e-commerce possibilities (100 respondents in total).

Willingness to update the knowledge about e-commerce possibilities | Percentage of respondents

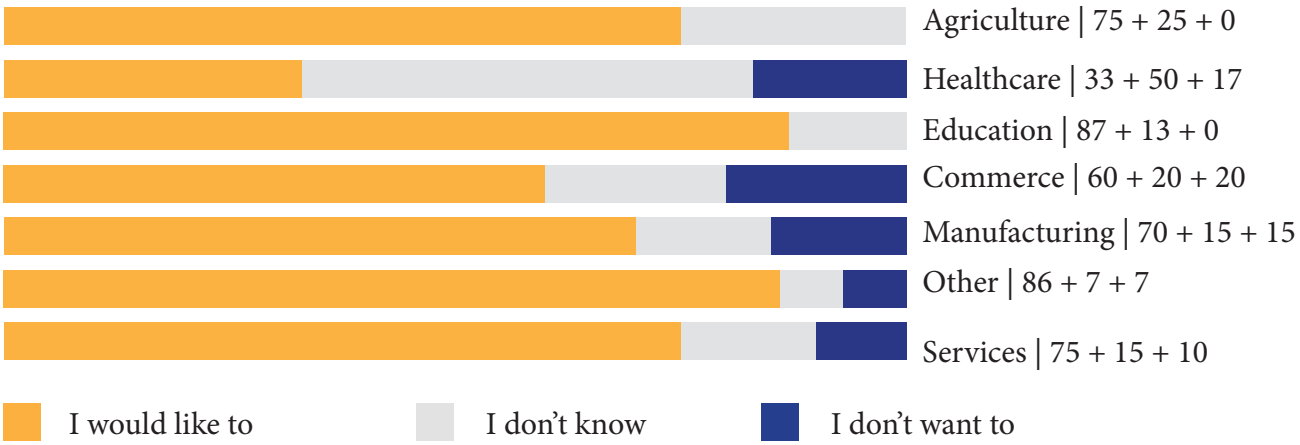


The answer for the main survey question – *could an e–commercer programme be useful for the target group representatives* - is encouraging: 72 respondents stated that they would like to update their knowledge in e-commerce area. The breakdown by the economic sector is as follows: services - 29 respondents, manufacturing and commerce each 9 respondents, other activities - 13 respondents.

Willingness to update the knowledge about e-commerce possibilities according to the represented economic sector | Number of respondents

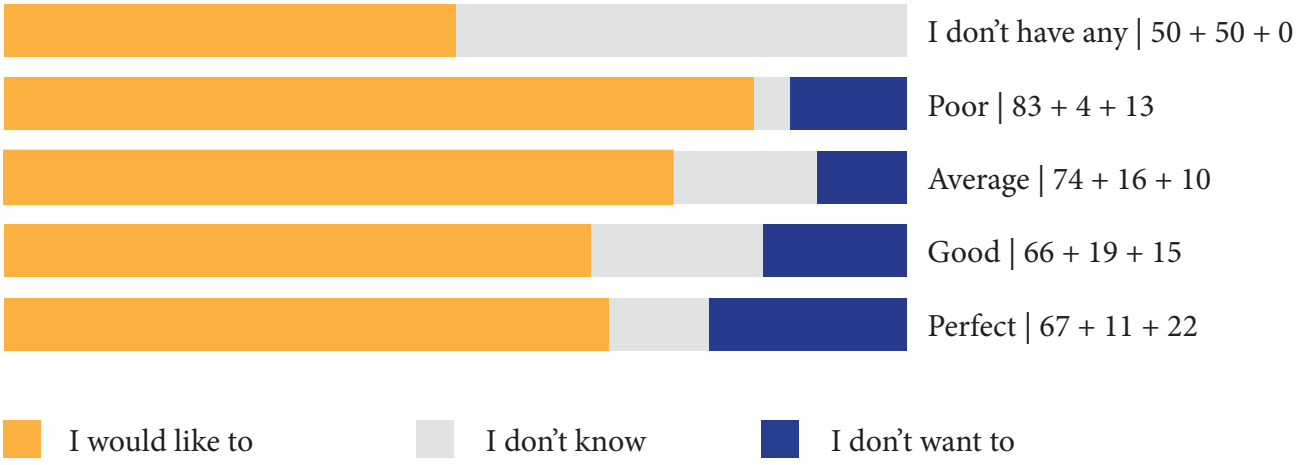


Willingness to update knowledge about e-commerce possibilities according to the represented economic sector | Percentage of respondents

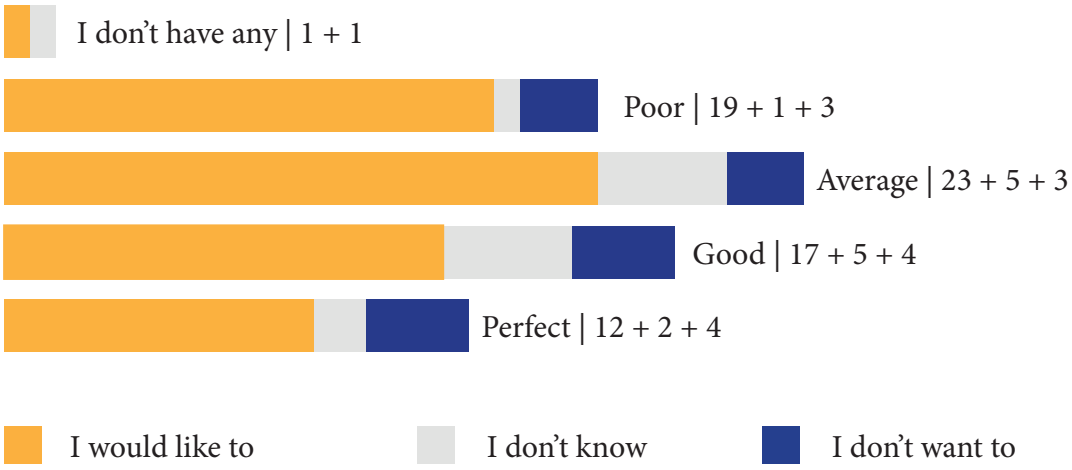


The respondents that evaluated themselves as having an average (23 respondents), poor (19 respondents) and good (17 respondents) ICT knowledge are the most eager to develop their knowledge in e-commerce area.

Willingness to update the knowledge about e-commerce in relation to the ICT knowledge of respondents| Percentage of respondents



Willingness to update knowledge about e-commerce possibilities in relation to the ICT knowledge of respondents | Number of respondents



Correlation of the results also reveals the fact that the companies already using different ICT tools for the company promotion are interested in developing their knowledge in the ICT area.

Willingness to update the knowledge about e-commerce in relation to the use of the Internet for the company promotion | Percentage of respondents

Respondents who do not use the Internet for the company promotion | 50 + 31 + 19

Respondents who use the Internet for the company promotion | 76 + 13 + 11

I would like to I don't know I don't want to

Willingness to update knowledge about e-commerce possibilities and use Internet for company promotion | Number of respondents

Respondents who do not use the Internet for the company promotion | 8 + 5 + 3

Respondents who use the Internet for the company promotion | 64 + 11 + 9

I would like to I don't know I don't want to

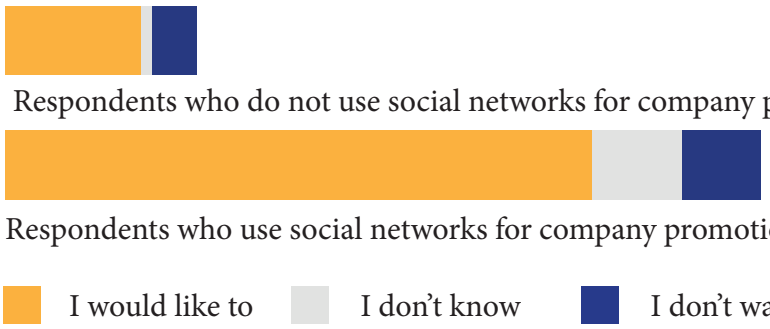
Willingness to update knowledge about e-commerce possibilities and use social networks for company promotion | Percentage of respondents

Respondents who do not use social networks for company promotion | 71 + 6 + 23

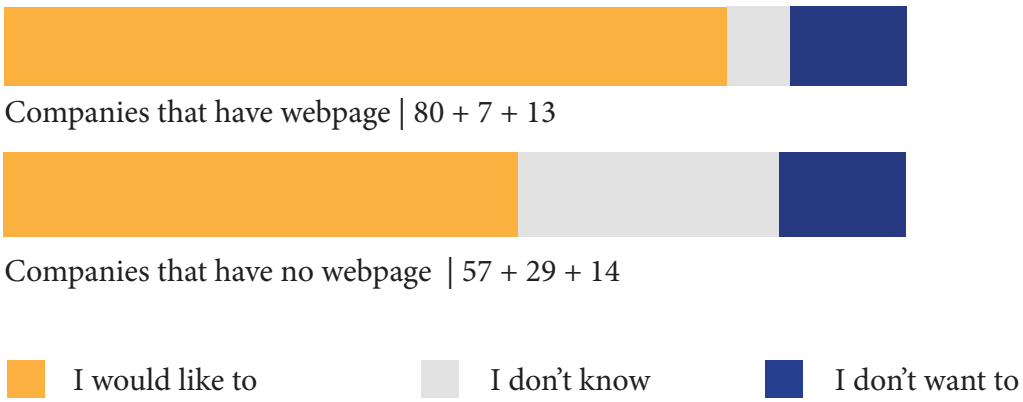
Respondents who use social networks for company promotion | 78 + 12 + 10

I would like to I don't know I don't want to

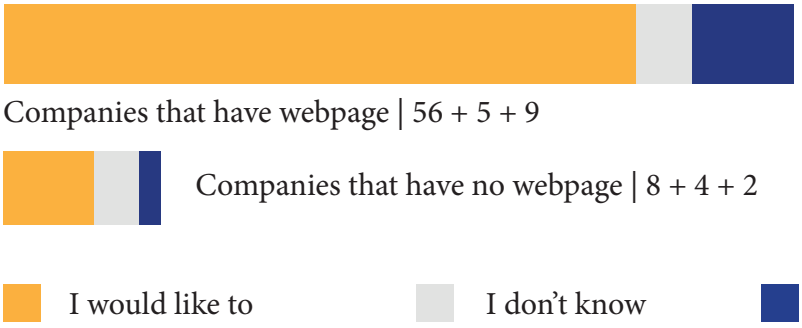
Willingness to update knowledge about e-commerce possibilities and use social networks for company promotion | Number of respondents



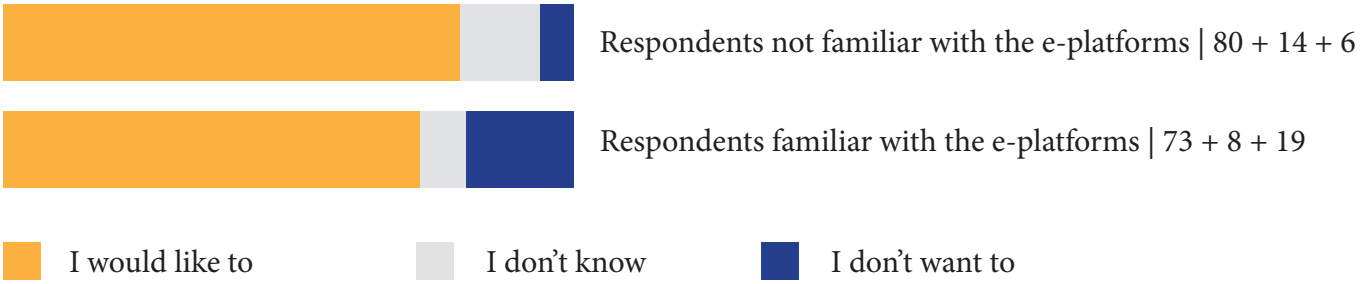
Willingness to update the knowledge about e-commerce in relation to the use of the webpage for the company promotion | Percentage of respondents



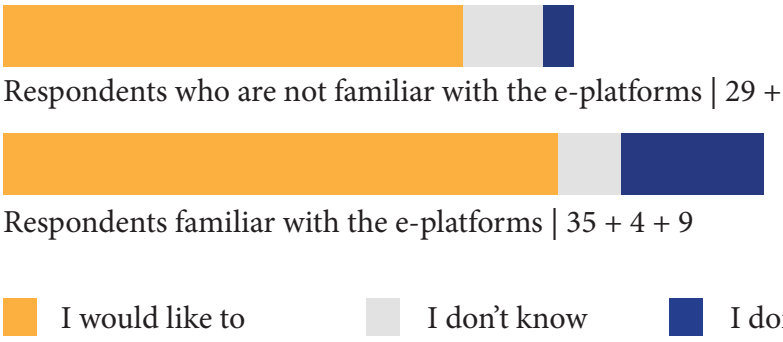
Willingness to update the knowledge about e-commerce in relation to the use of the webpage for the company promotion | Number of respondents



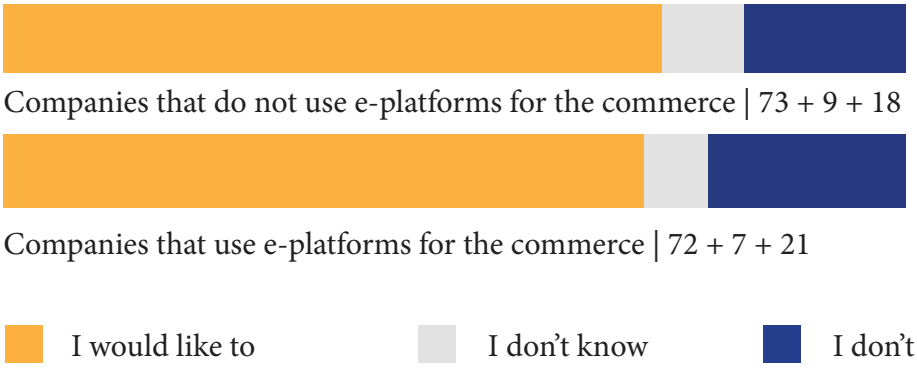
Willingness to update the knowledge about e-commerce in relation to the familiarity with the e-platforms | Percentage of respondents



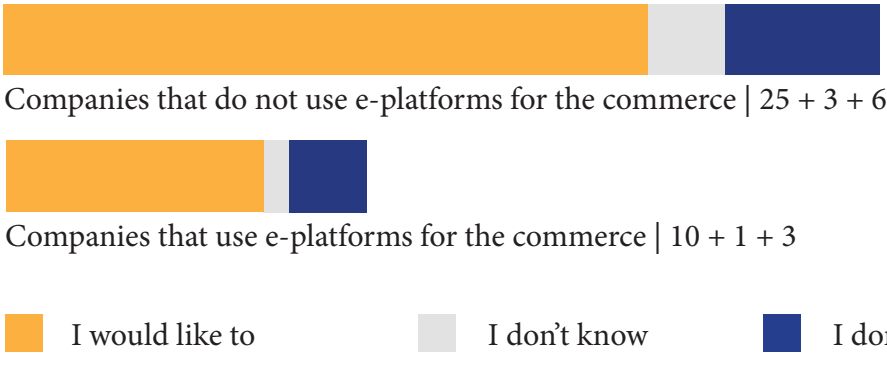
Willingness to update the knowledge about e-commerce in relation to the familiarity with the e-platforms | Number of respondents



Willingness to update the knowledge about e-commerce in relation to the use of the e-platforms for the company promotion | Percentage of respondents

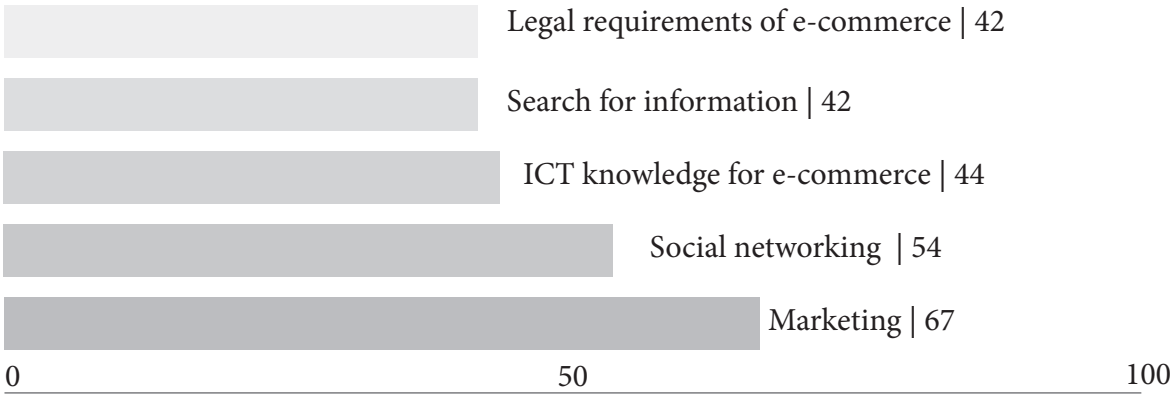


Willingness to update the knowledge about e-commerce in relation to the use of the e-platforms for the company promotion | Number of respondents



It is important to reflect the interest of the target group in development of their knowledge in various e-commerce topics. The analysis of the results shows that businesses rely on e-commerce as a tool for enhancing the range of their customers: marketing activities are interesting for 67% of the respondents, 54% of them are interested in social networking, 44% would like to develop their ICT knowledge in e-commerce, 42% would like to improve their knowledge in search of information or legal requirements of e-commerce.

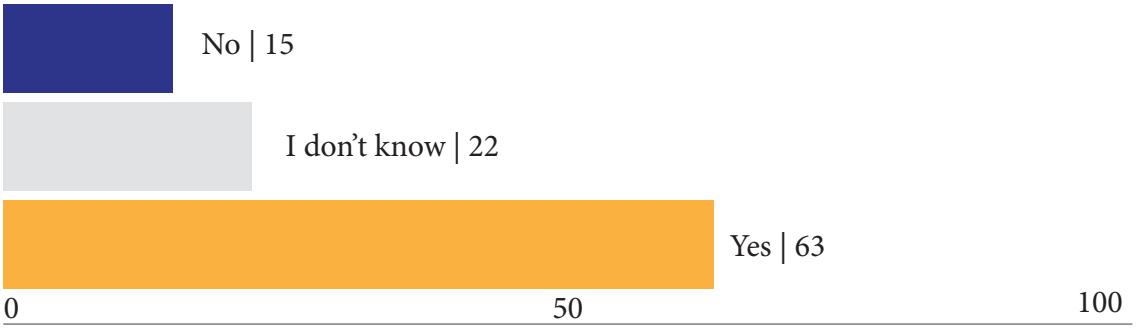
E-commerce areas in which the respondents need to improve their knowledge | Percentage of respondents



Practical training

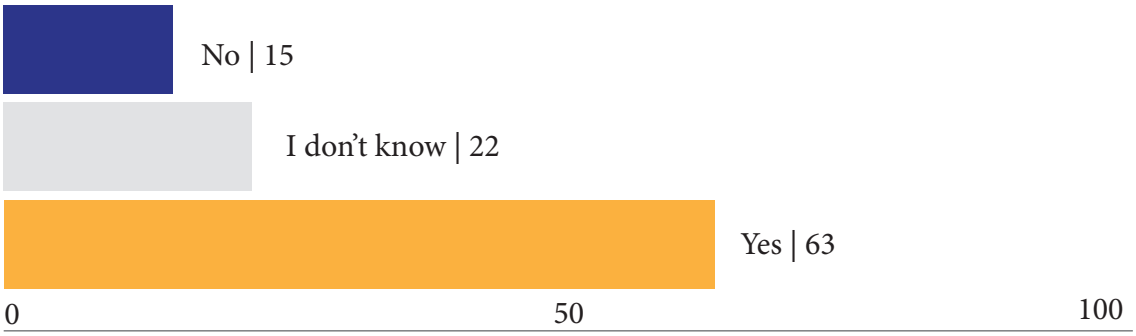
63 respondents (63%) expressed their interest to participate in practical e-commerce trainings, to learn how to present their companies in the Internet, 22 respondents (22%) are not sure about it, 15 respondents (15%) are not interested in this possibility.

Interest of respondents in participating in a practical training aimed at management/ development of the company promotion in the Internet | Number of respondents



Percentage distribution of respondents who stated that they are interested to be involved in a practical training aimed at management/development of the company promotion in the Internet (100 respondents in total).

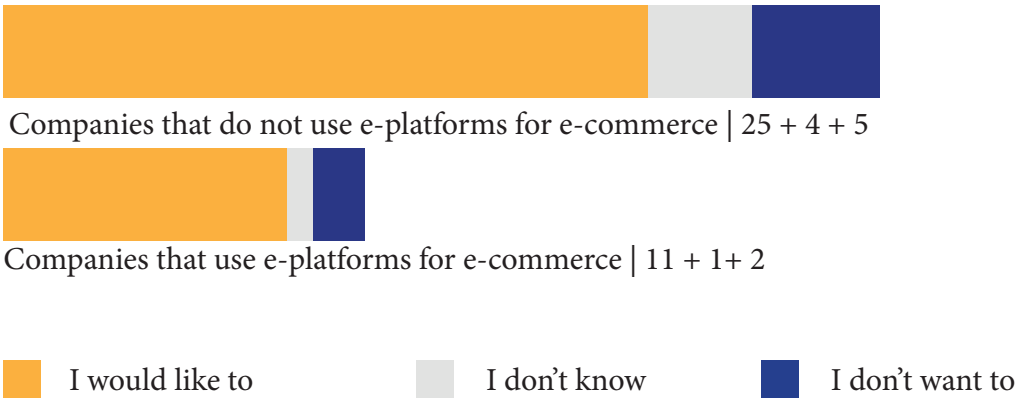
Interest of respondents in participating in a practical training aimed at management/ development of the company promotion in the Internet| Percentage of respondents



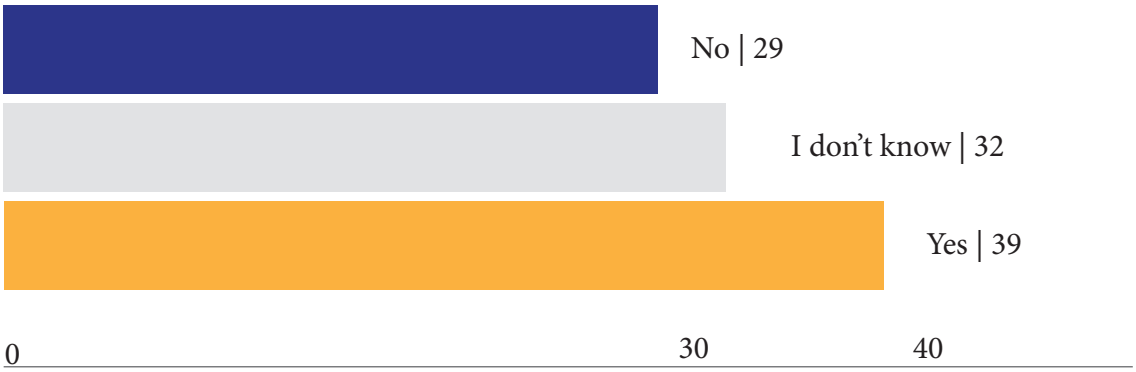
Interest in participating in a practical training in relation to the use of e-platforms for company promotion | Percentage of respondents

I would like to I don't know I don't want to

Interest in participating in a practical training and use of E-platforms for company promotion | Number of respondents



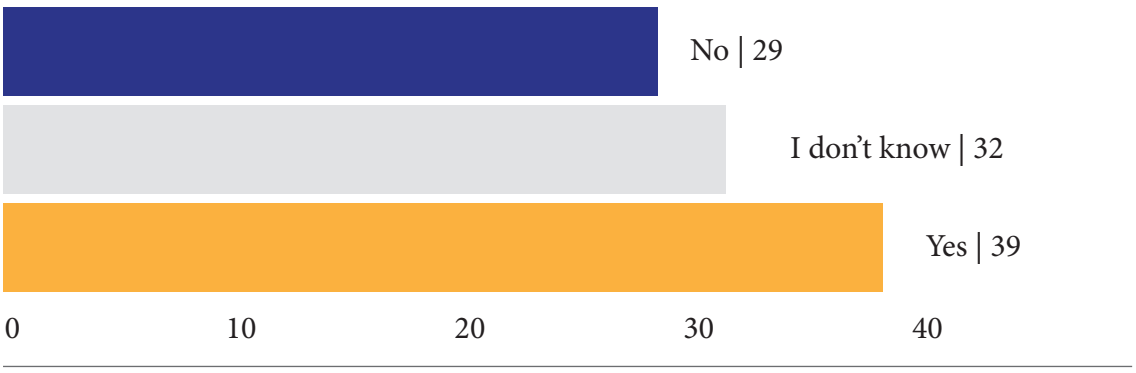
Interest in contracting professional services for managing company promotion in the Internet | Number of respondents



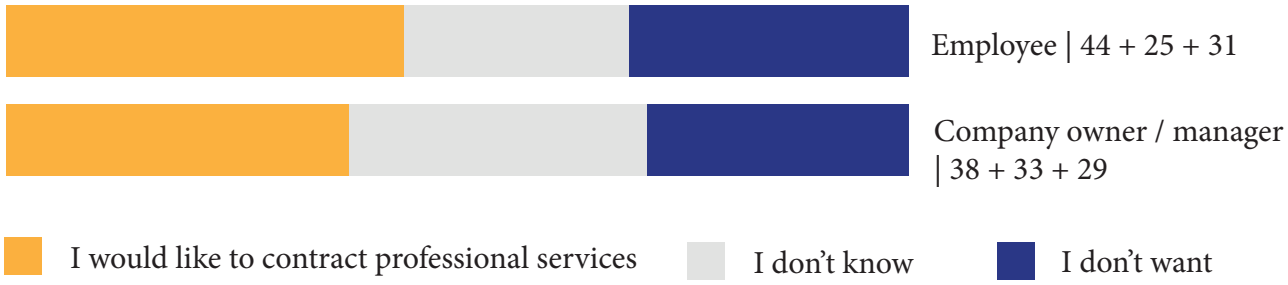
The aim of this survey is to create the new VET profile for the e-commerce professional, able to manage promotional activities of the company in the Internet. The respondents were asked to provide their opinion about the interest to contract these services externally. 39 respondents would be interested in it, 32 respondents are not sure about it and 29 respondents would not be interested in this possibility.

Percentage distribution of respondents interested in contracting professional services for managing their company promotion in the Internet (100 respondents in total).

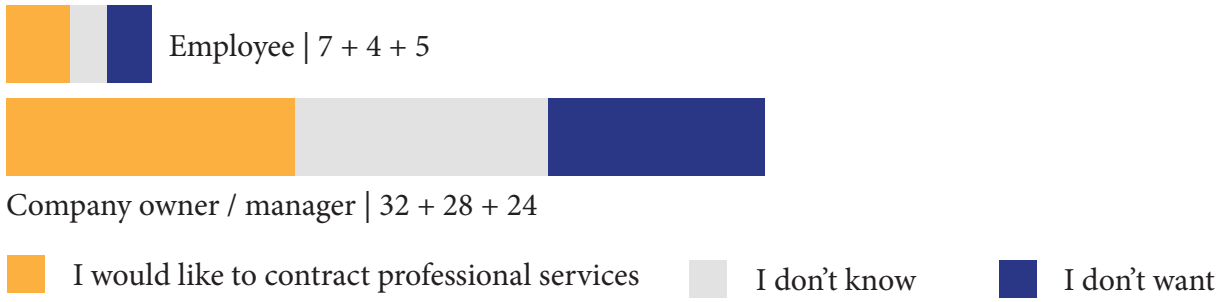
Interest in contracting professional services for managing company promotion in the Internet | Percentage of respondents



Interest in contracting professional services for managing company promotion in the Internet in relation to the role/position within the company | Percentage of respondents

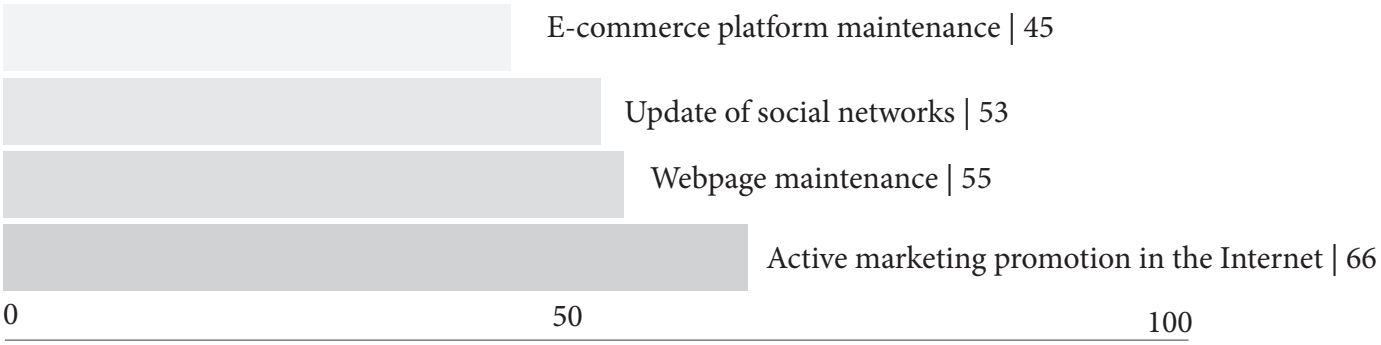


Interest in contracting professional services for managing company promotion in the Internet in relation to the role/position within the company | Number of respondents



Tasks that could be appointed to the e-commerce specialist

From among the tasks that could be appointed to the e-commerce specialist, the active marketing promotion is the most demanded: 66% of the respondents chose this answer, 55% of respondents would appreciate the webpage maintanace, 53% the update of the social networks and 45% the maintenence of e-commerce platform.

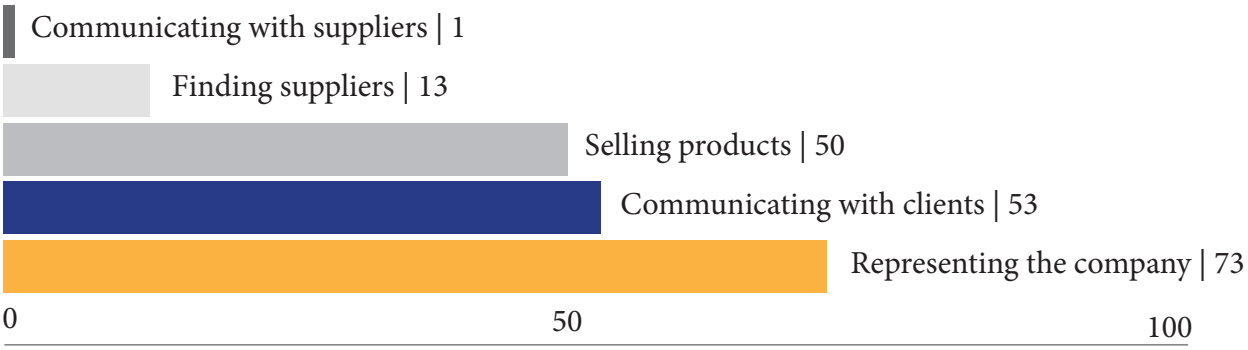


Additional tasks for the e-commerce specialist

Companies also expressed their interest to appoint other tasks to the e-commerce specialists:

- All ICT tools management
- Training of the staff to use the ICT tools for the company promotion
- Technical management
- Implementation of the web page
- Creation of the qualified content of the company representation in the Internet

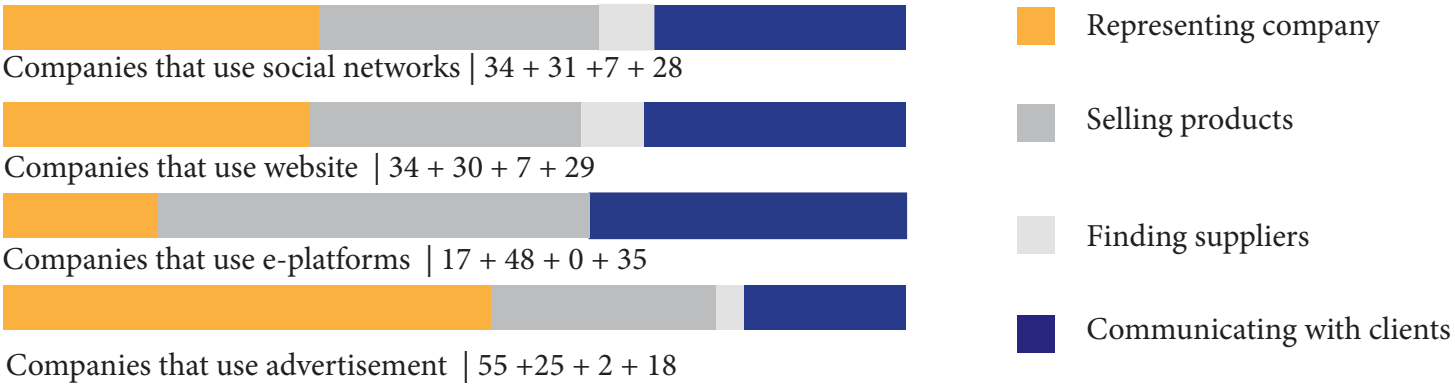
Interest in e-commerce services that could be contracted | Number of respondents



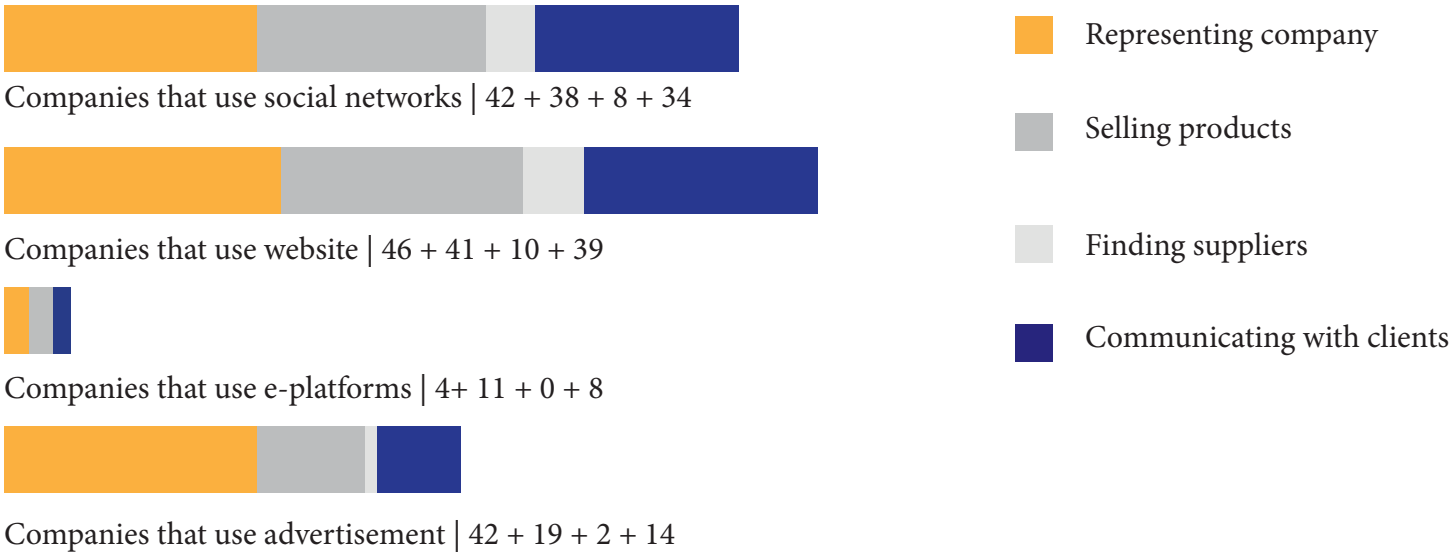
Respondents recommended some other services they might be interested in:

- meeting new suppliers;
- communicating a new, modern, efficient image of the company.

Interest in e-commerce services that could be contracted in relation to the use of the Internet promotion tools | Percentage of respondents



Interest in e-commerce services that could be contracted in relation to the use of the Internet promotion tools | Number of respondents

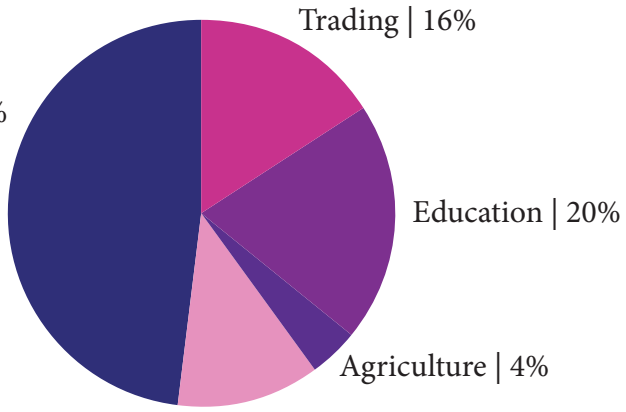


Focus on micro enterprises: the Me-commercer survey

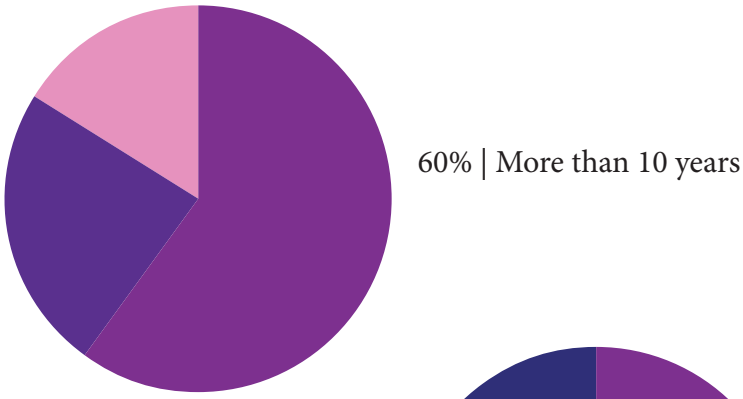
Lithuanian results

The profile of companies and people

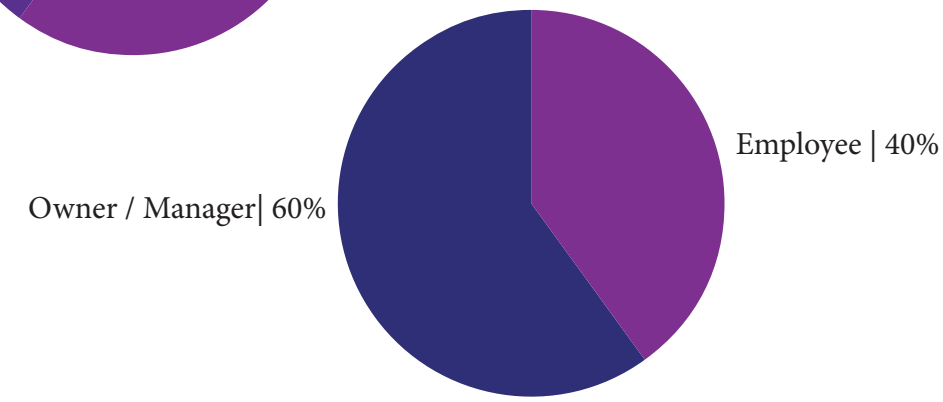
Main sector of your company activity



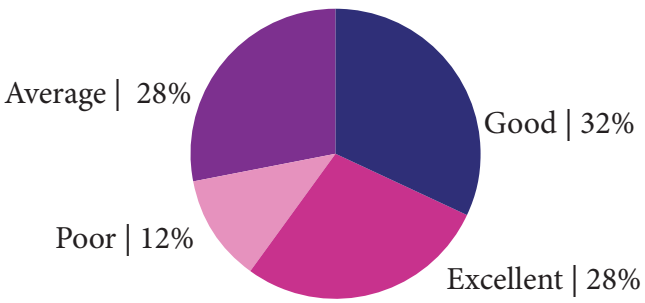
Years of activity



Your position in the company

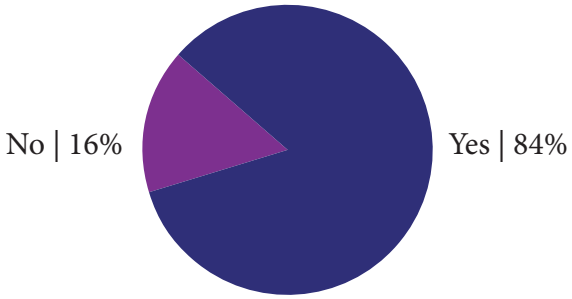


How would you assess your ICT skills?

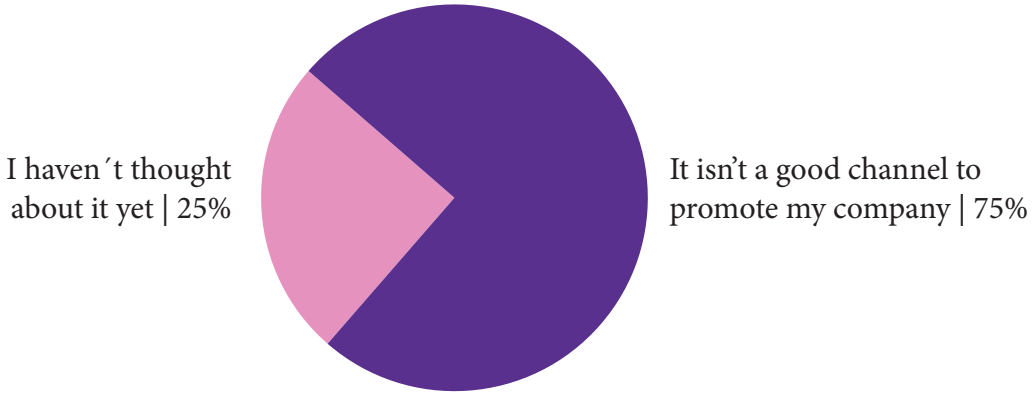


How would you assess your ICT skills?

Do you use the Internet for your company promotion?

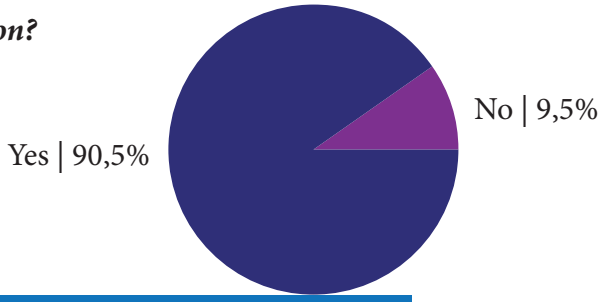


If you answered NO to the previous question, explain why

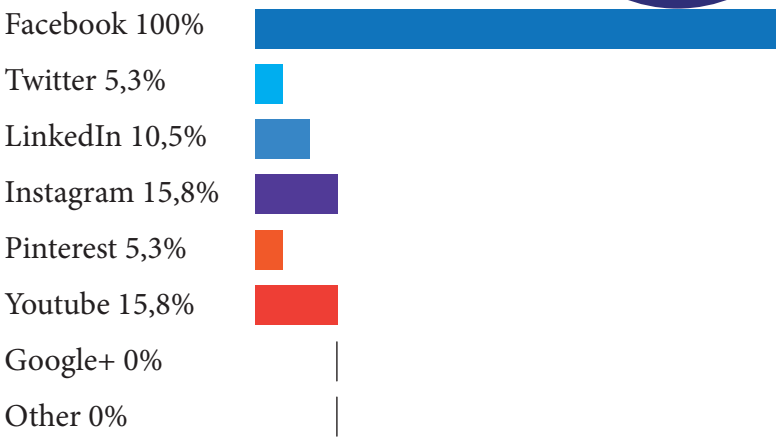


ICT tools

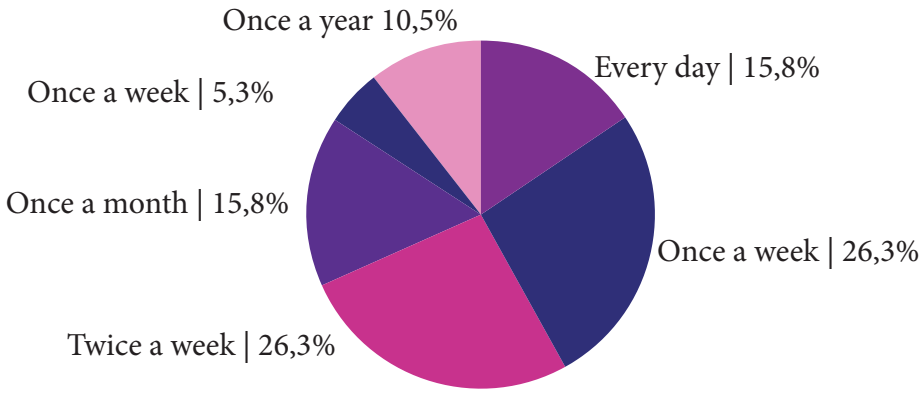
Do you use social networks for your company promotion?



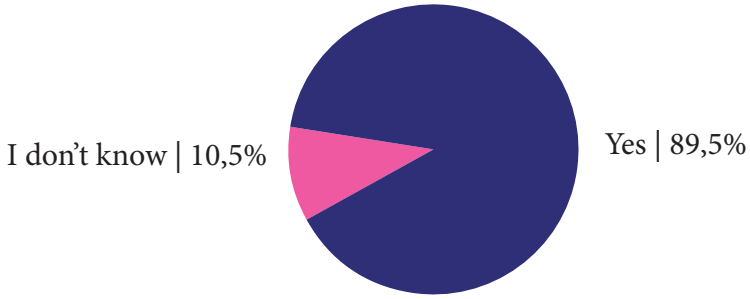
Which social networks do you use for your company promotion?



How often do you update it/ them?



Are you happy with the results?

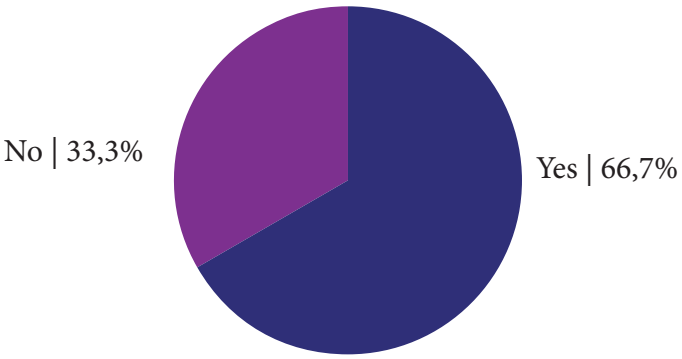


Why? *Satisfied users:*

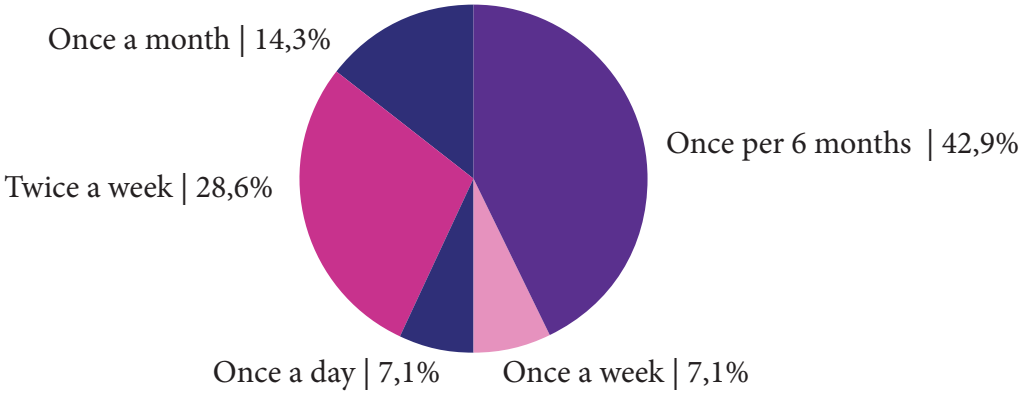
- They enable a quick provision of information.
- The social media let us to be visible.
- My products can be reached by a huge number of people.
- Social networks enable us to reach a large market.
- It's a way to get in touch with young people.
- Using social media we attract more clients.
- They are effective promotional tools.
- We use them to get visibility and disseminate information.
- They let us to get feedbacks.

Company website

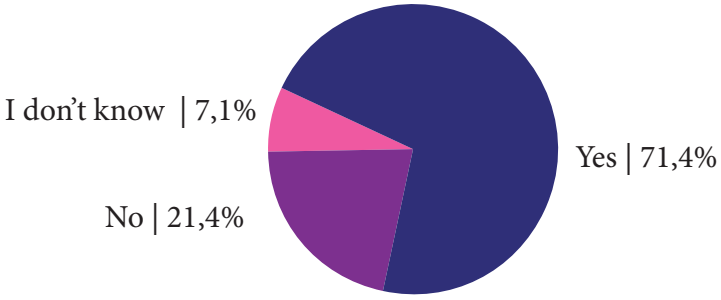
Has your company got a website?



How often do you update it?



Are you happy with the results?



Why?

Unsatisfied users:

- The required updating is a critical issue
- In our type of business clients rely on recomendations more than on information they can find online.

Satisfied users:

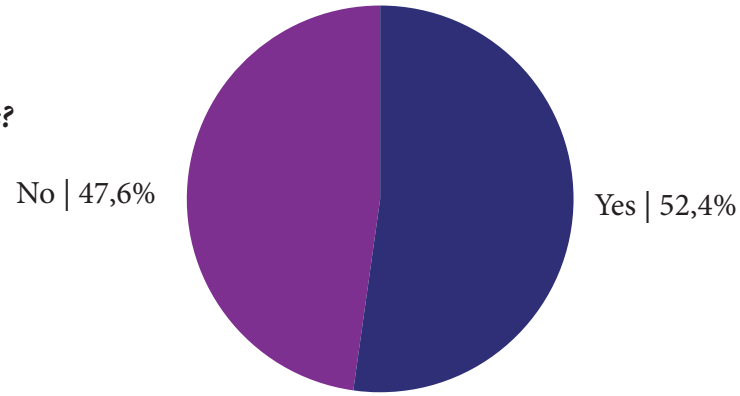
- Through the website we can fully provide information about our organization.
- The website let us to present our services effectively.
- Through the website I am visible.
- It spreads information about our company.

"I don't know"users:

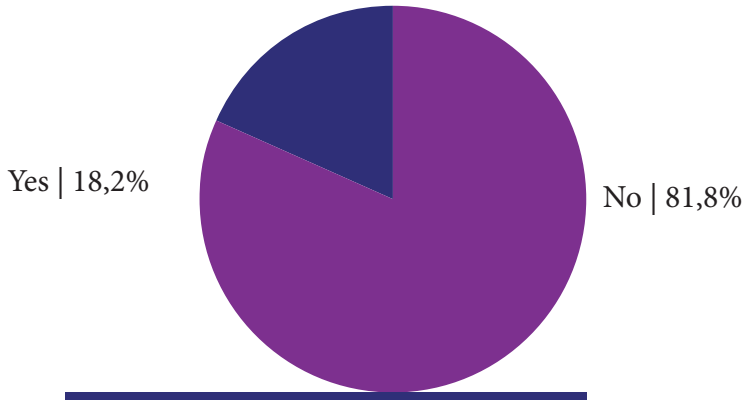
- It's difficult for us to monitor the implementation

E-platform for commerce

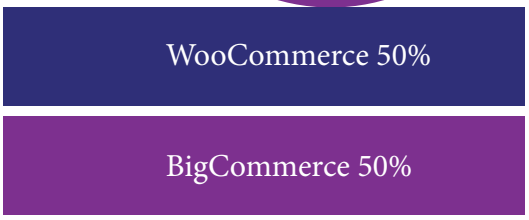
Are you familiar with e-commerce platforms?



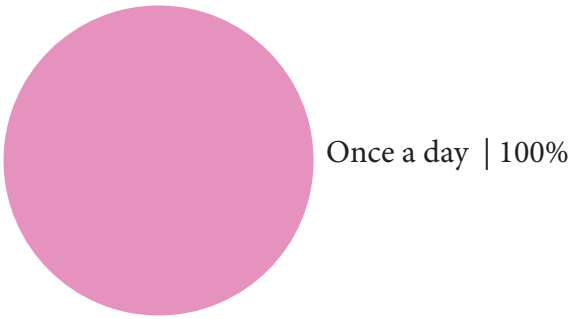
Do you use E-platforms for commerce?



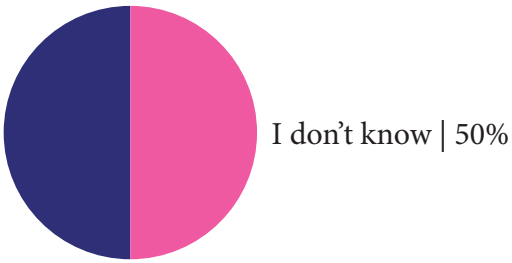
Which ones?



How often do you update it?



Are you happy with the results?

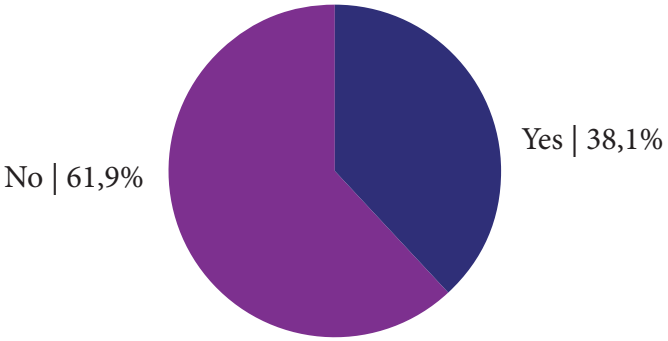


Why?

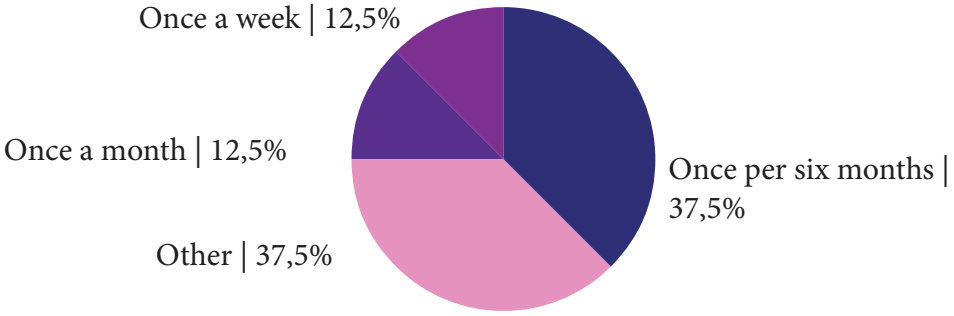
No response for this question.

Advertisement in the Internet

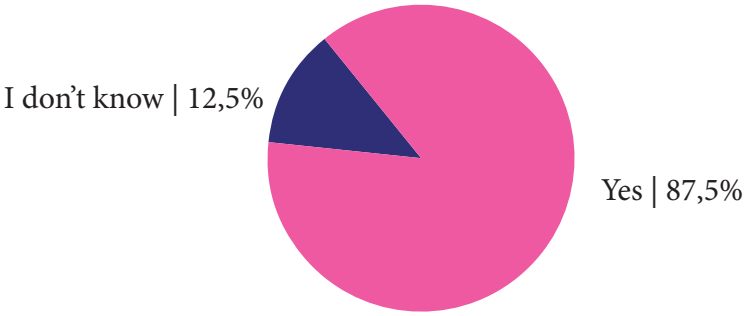
Do you use advertisement in the Internet?



How often do you use them?



Are you happy with the results?



Why?

Satisfied users:

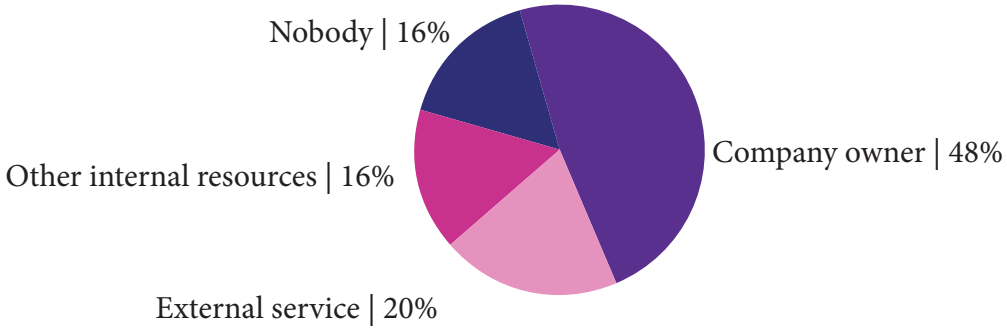
- They let me to be visible.
- To get clients it is easier using ads.
- They are effective: we registered more active sale of our services.
- It's an effective tool.
- They meet our needs.

"I don't know"users:

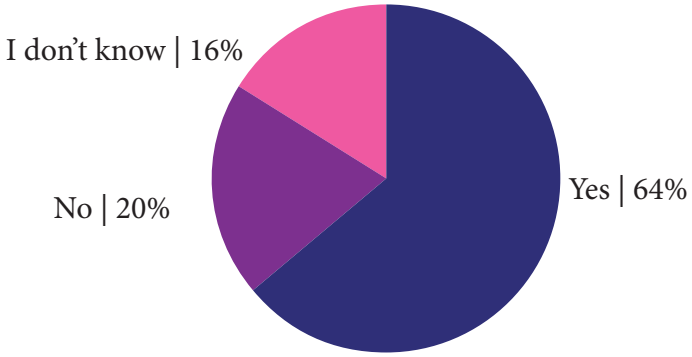
- It's difficult for us to monitor the implementation

Management of the ICT tools

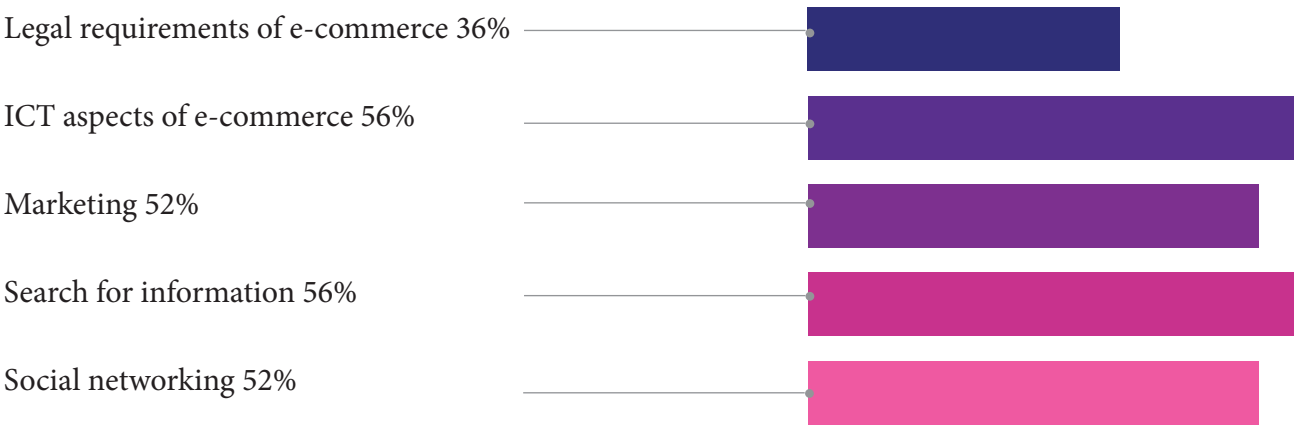
Who is managing your ICT tools?



Would you like to update your knowledge about e-commerce?



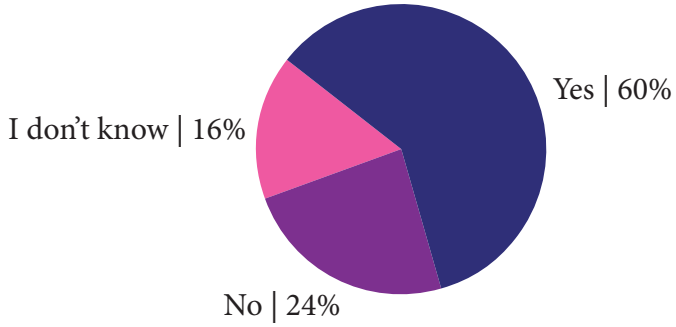
What e-commerce knowledge you would like to develop yourself?



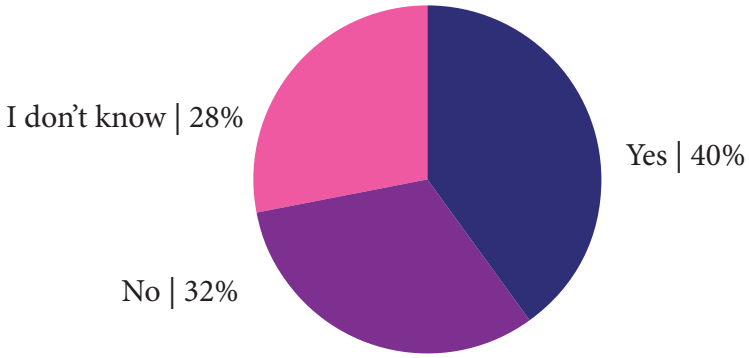
What other e-commerce knowledge would you like to develop yourself?

- Strategies for brand building.
- IT management in e-commerce.

Would you be interested in participating in a practical experience with new professionals to manage your company promotion in the Internet?



Would you like to contract professional services for managing your company promotion in the Internet?



Which tasks could be appointed to this specialist?

Which e-commerce services are you interested in?

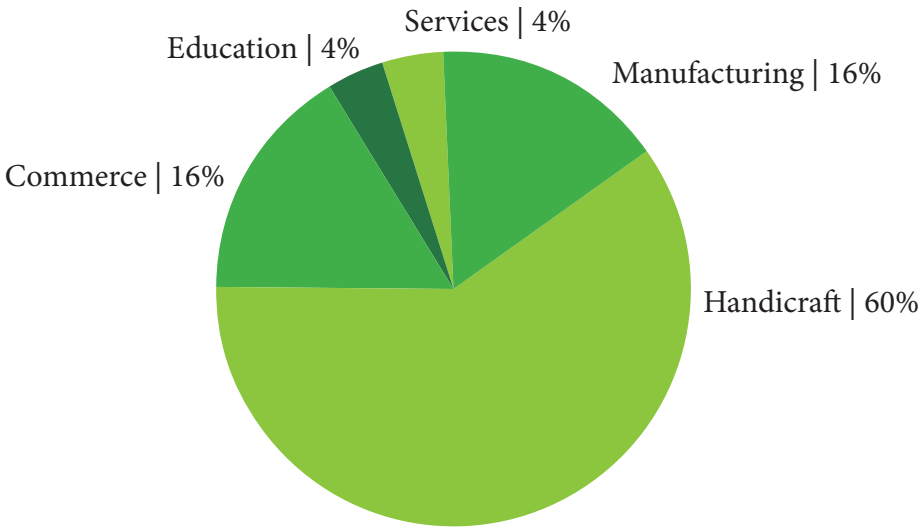
Focus on micro enterprises: the Me-commercer survey

Italian results

The profile of companies and people

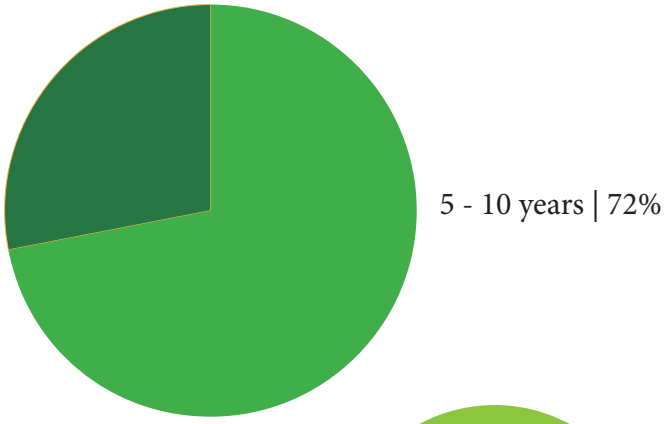
Main sector of your company activity

As regards the focused area (Torino metropolitan area and its surroundings), the majority of respondents - 60% - operates in the handicraft sector. The other relevant 16% belong to manufacturing and another 16% represent trading companies.



Years of activity

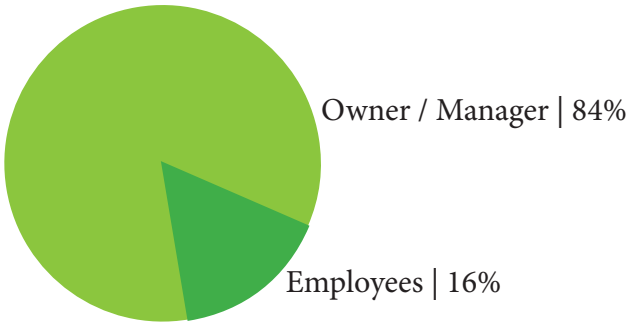
More than 10 years | 28%



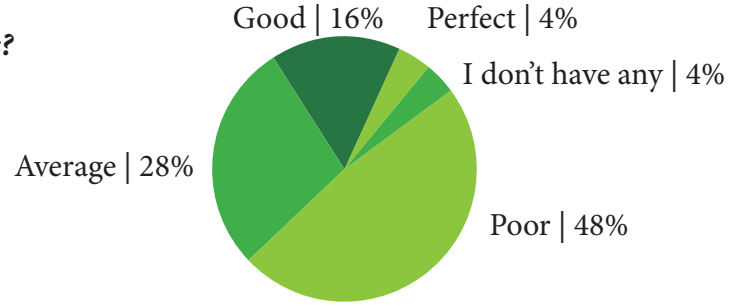
Number of respondents that own or work for a company for more than 5 years. The 28% of the these companies have been on the market for more than 10 years.

Your position in the company

As a consequence of the micro dimension of the interviewed companies, the great majority of the respondents - 84% - play a leadership position. Only 16% of the respondent are employees.

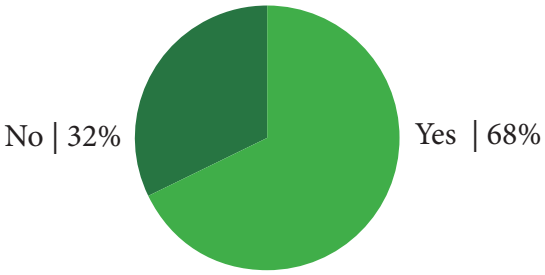


How do you assess your ICT skills?

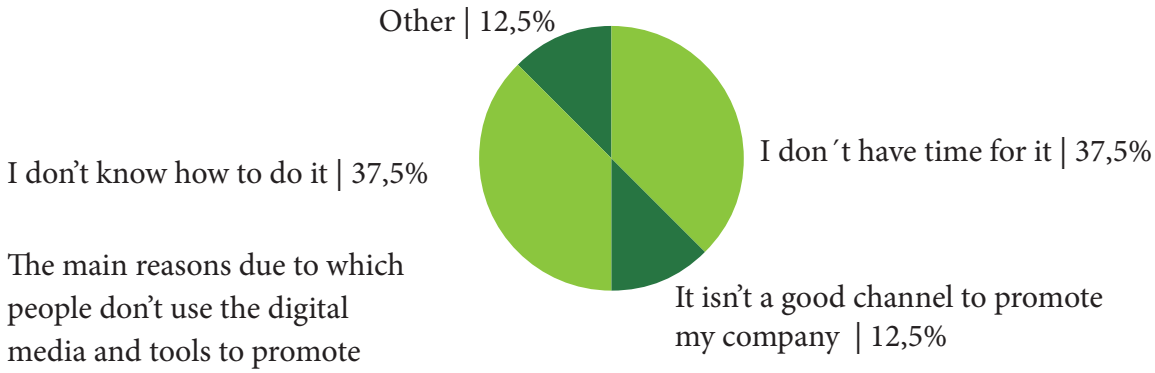


Use of the Internet for company promotion

Do you use the Internet for your company promotion?



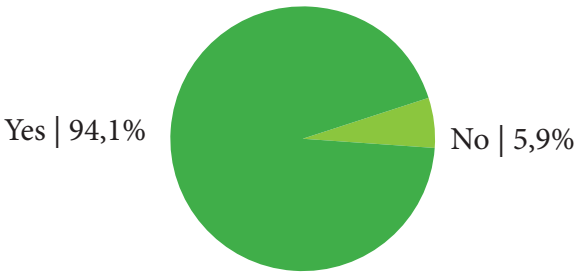
If you answered NO to the previous question, explain why



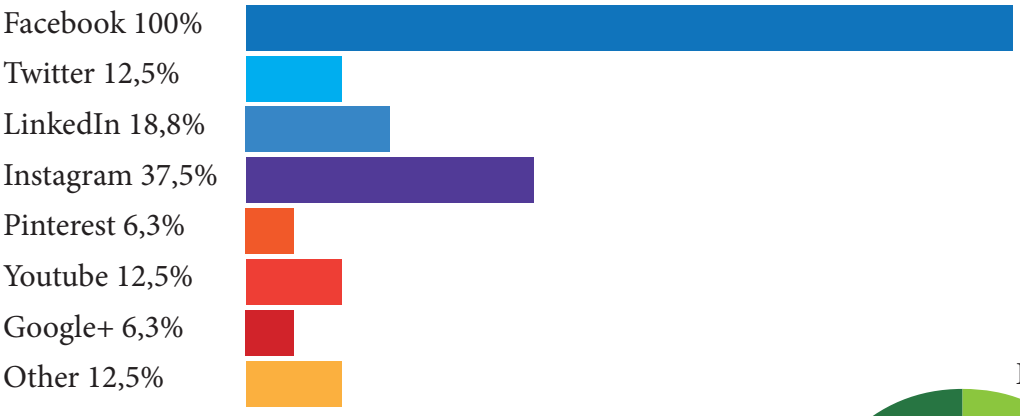
The main reasons due to which people don't use the digital media and tools to promote the company are the lack of competencies and lack of time. Only 12,5% of them declare Internet is not a proper channel to promote their company.

ICT tools

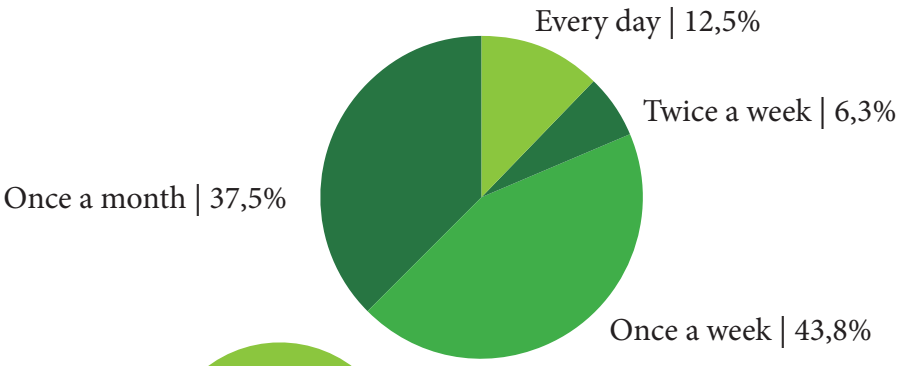
Do you use social networks for your company promotion?



Which social networks do you use for your company promotion?



How often do you update it/them?



Are you happy with the results?

Why?

Not satisfied users:

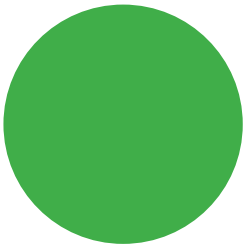
- I can not understand the benefits that I draw
- I can not control them
- I can not find out what the feedback is
- I could do more ...

Satisfied users:

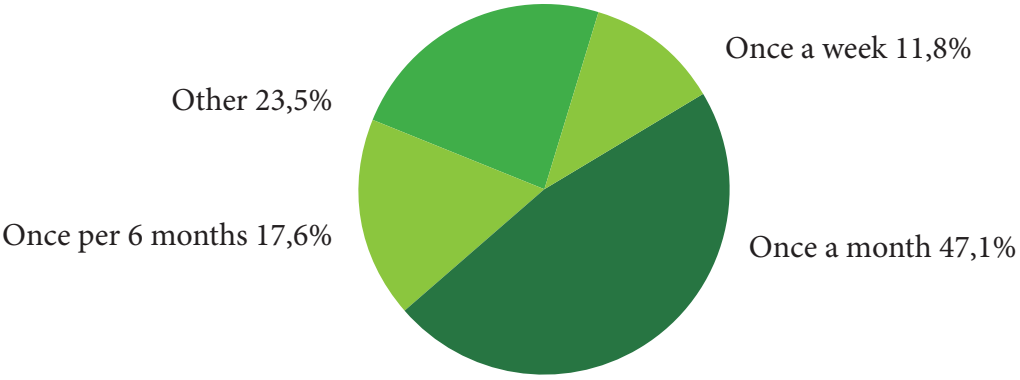
- I always get compliments from colleagues and friends about the site and social setting
- They allow me to spread the company brand in order to have more lead acquisition opportunities
- They give me positive results
- The website brings a lot of people
- Thanks to the posts I get results
- I see that if I post anything interesting then people just contact me.
- It seems to me that the Internet, as a tool, works right
- I noticed a slight increase in sales

Company website

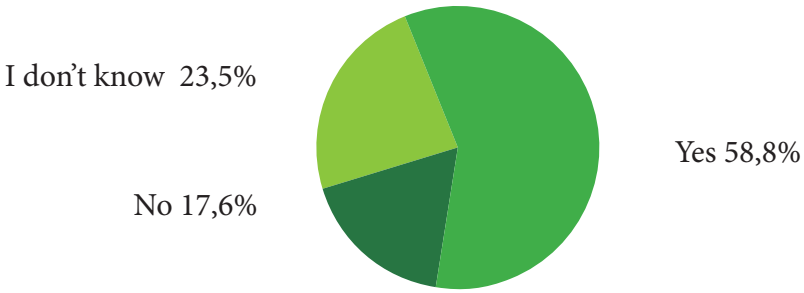
Has your company got a website?



How often do you update it?



Are you happy with the results?



Why?

Not satisfied users:

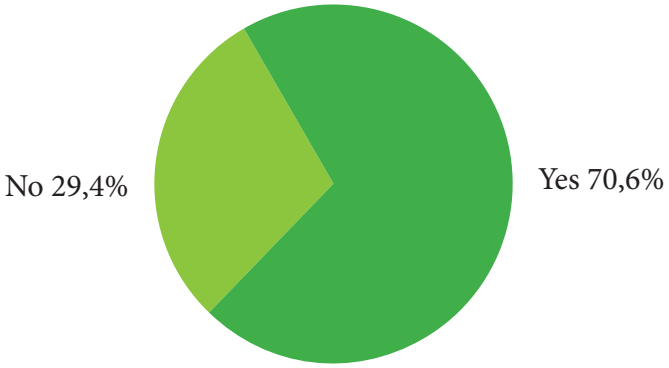
- The site is nice but I get a few mails
- I could do more
- I can not control them

Satisfied users:

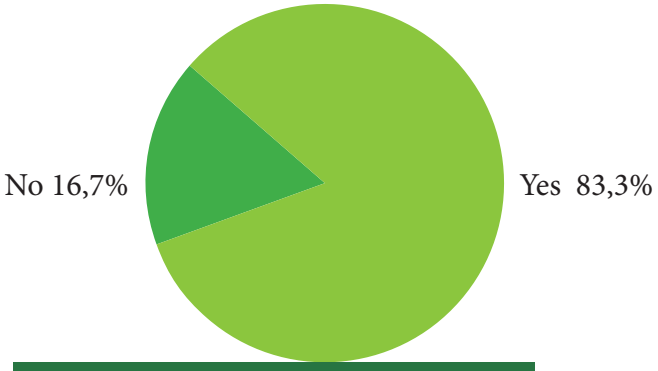
- The site is very visited
- They give feedback, customers have found us via the Internet
- I see answer earlier
- People often say they found us on the Internet
- Someone refers to us through the Internet
- I noticed a slight increase in sales

E-platform for commerce

Are you familiar with e-commerce platforms?

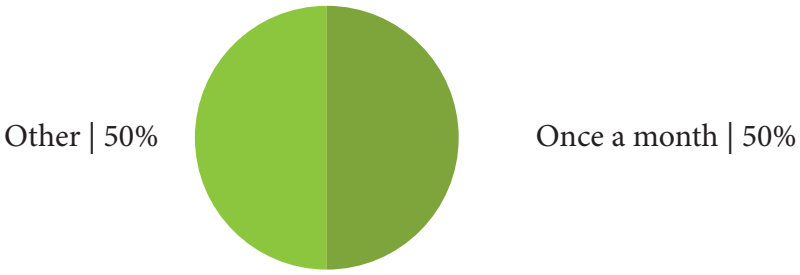


Do you use e-platforms for commerce?

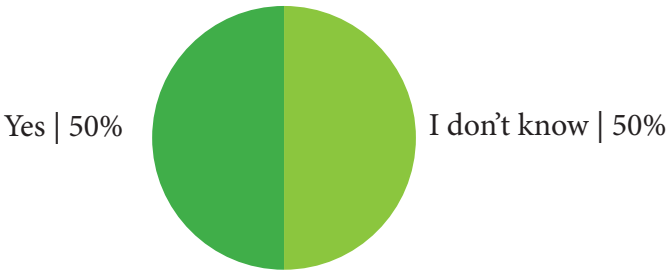


Which ones?

How often do you update it?



Are you happy with the results?



Why?

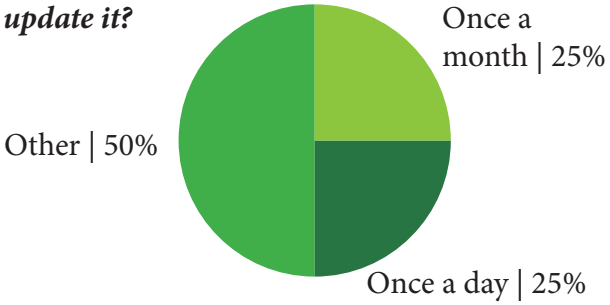
"I don't know"users

- My trade project has just started

Advertisement in the Internet

Do you use advertisement in the Internet?

How often do you update it?



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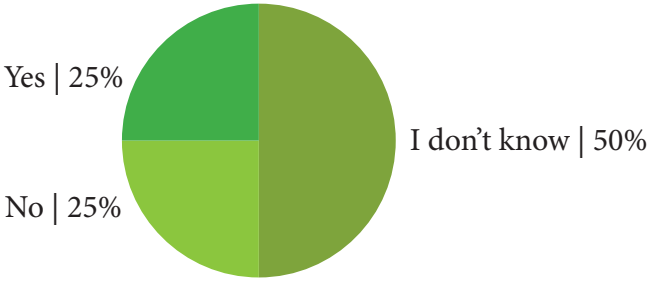


Why?

Not satisfied users:

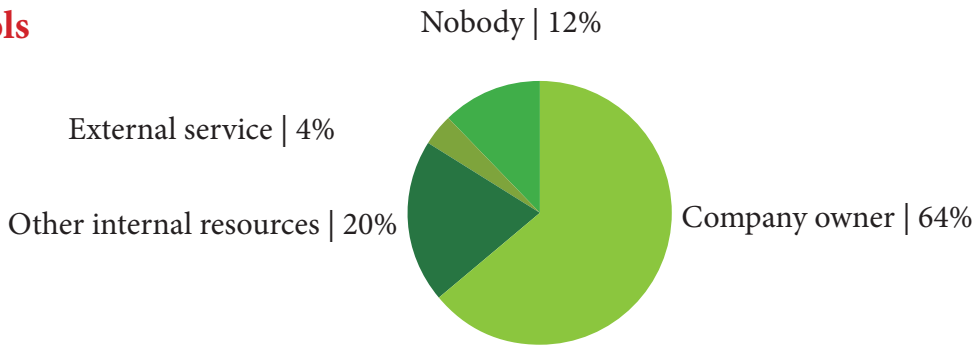
- I did not have time to manage it

"I don't know" users

- I do not know what the return is, in terms of profit and image

Management of the ICT tools

Who is managing your ICT tools?



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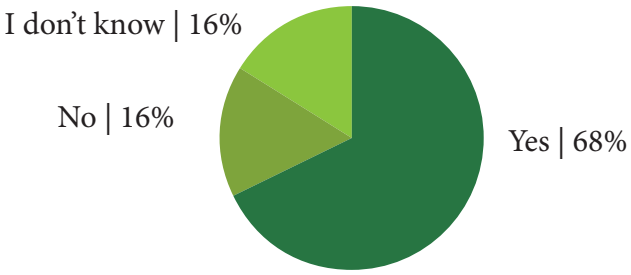
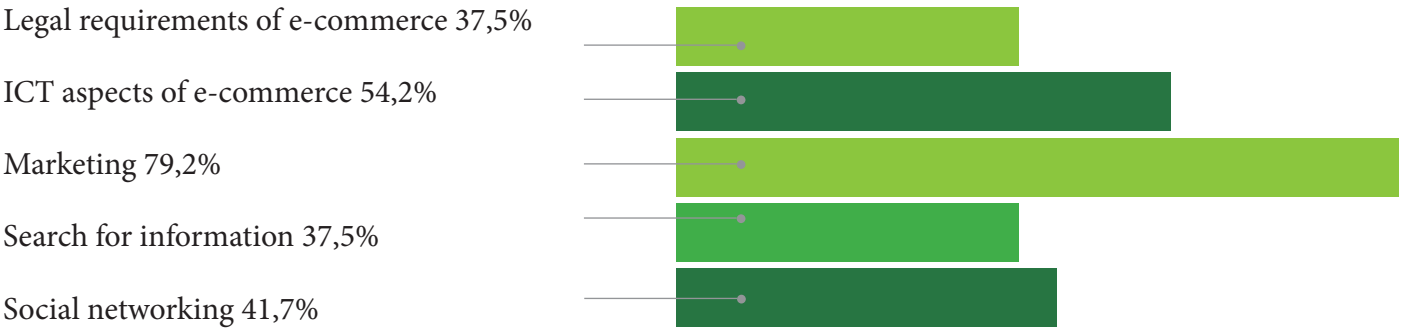


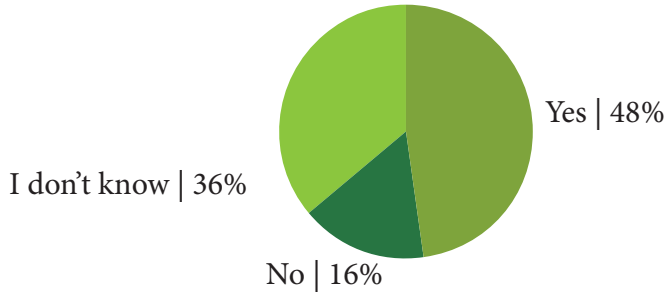
What e-commerce knowledge you would like to develop yourself?



What other e-commerce knowledge would you like to develop yourself?

- Nothing else
- I would like to know where to start from
- The bases for selling
- How they work
- All expressed

Would you be interested in participating in a practical experience with new professionals to manage your company promotion in the Internet?



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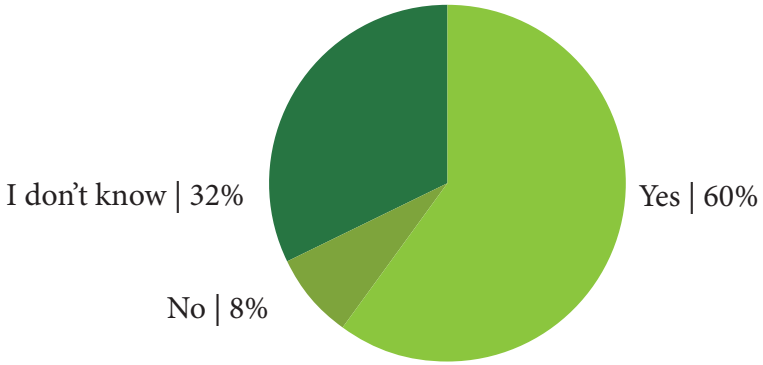

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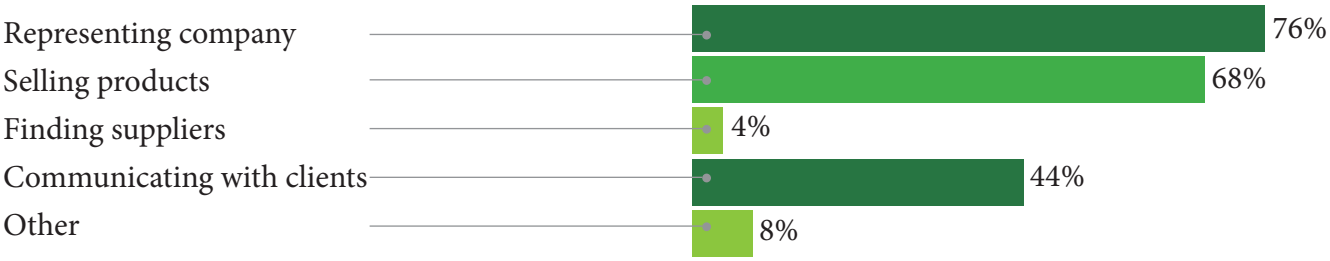
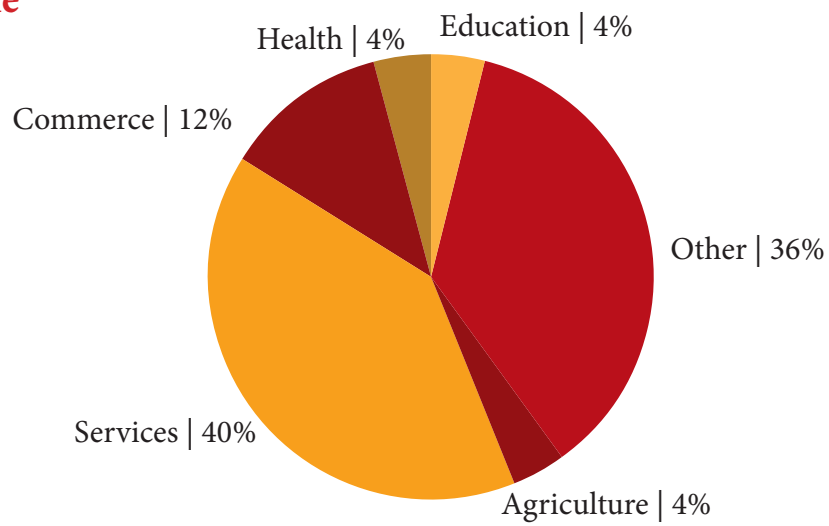


Focus on micro enterprises: the Me-commercer survey

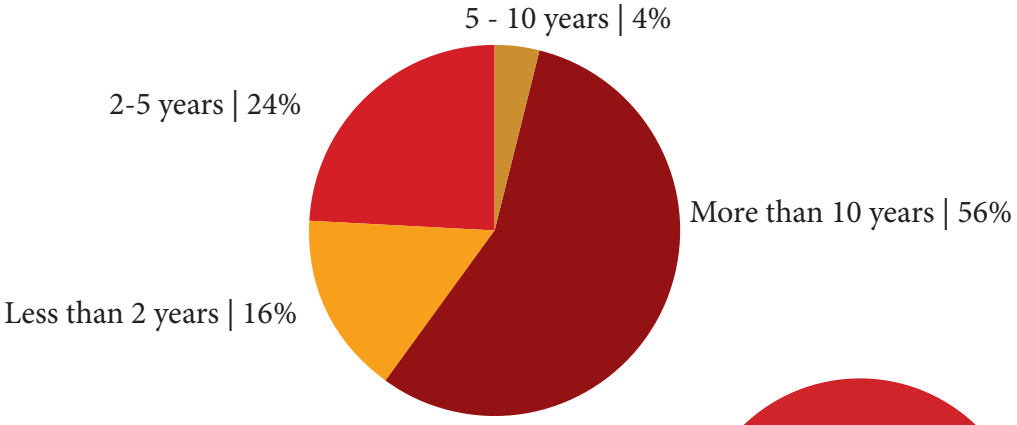
Spanish results

The profile of companies and people

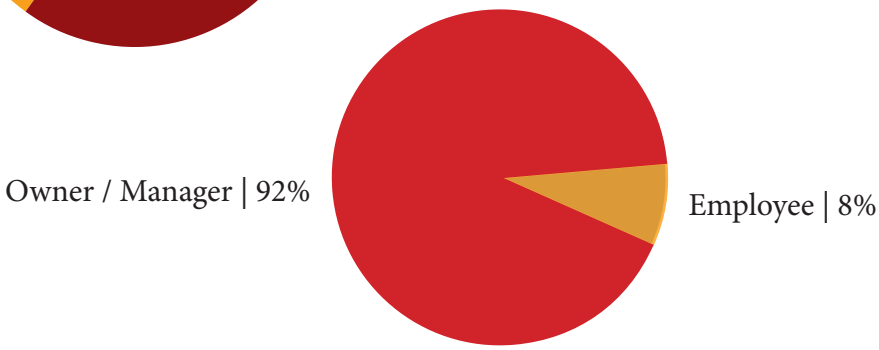
Main sector of your company activity



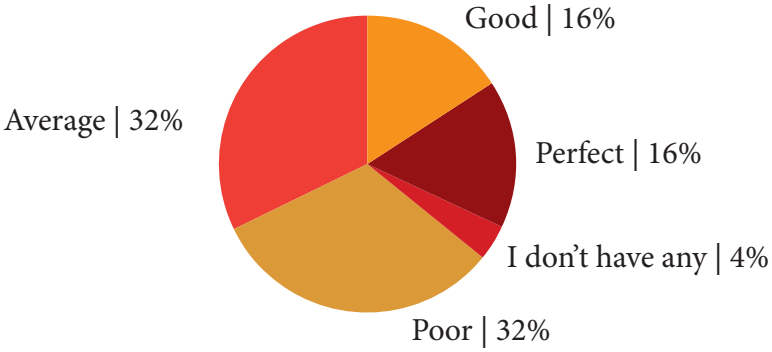
Years of activity



Your position in the company

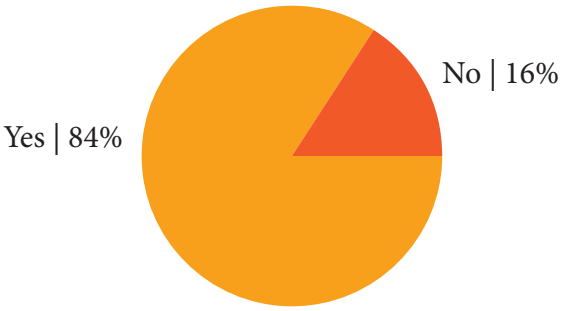


How do you assess your ICT skills?

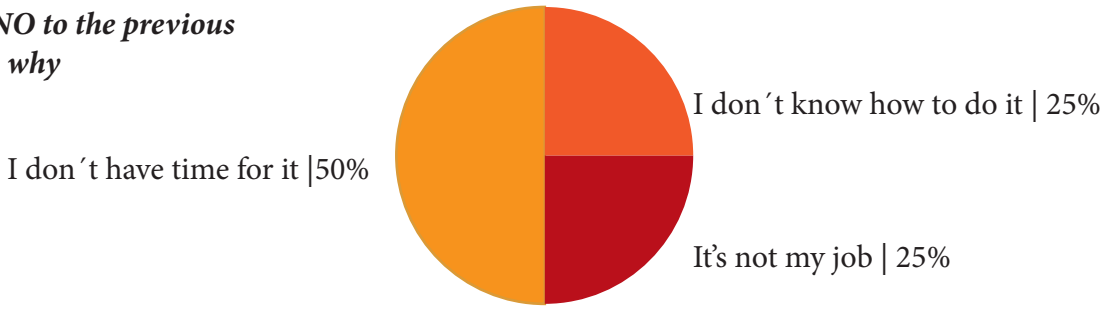


Use of the Internet for company promotion

Do you use the Internet for your company promotion?

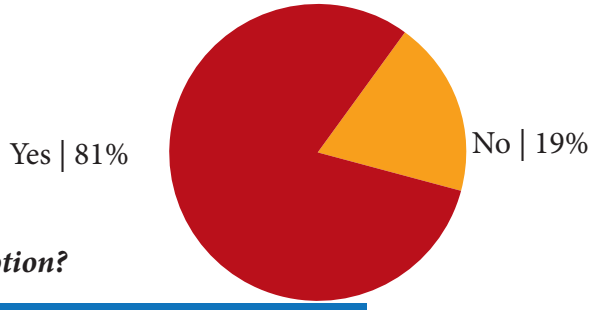


If you answered NO to the previous question, explain why

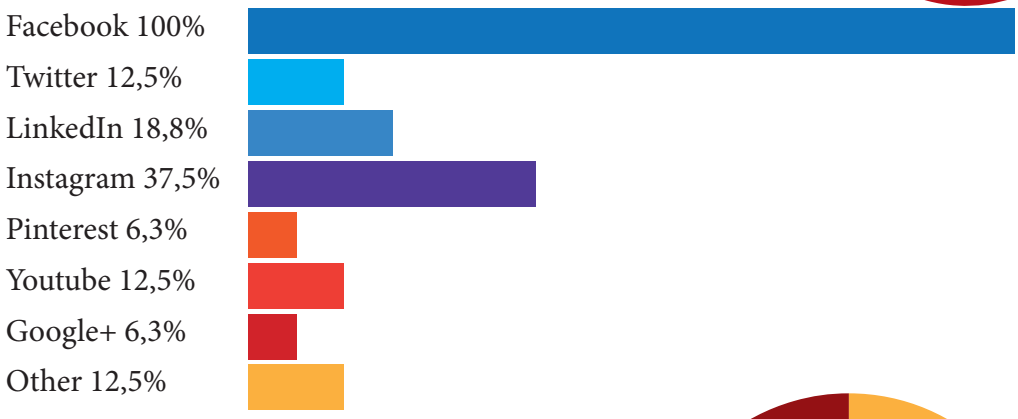


ICT tools

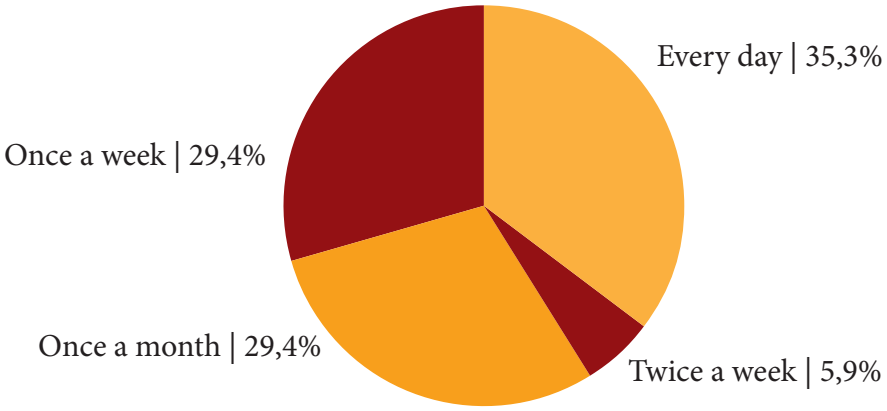
Do you use social networks for your company promotion?



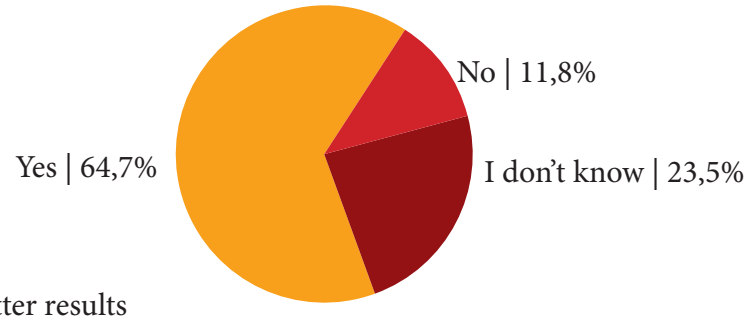
Which social networks do you use for your company promotion?



How often do you update it/them?



Are you happy with the results?



Why?

Not satisfied users:

- I would like to get better results
- There are no sales increases
- I do not have time to update content as I would like

Satisfied users:

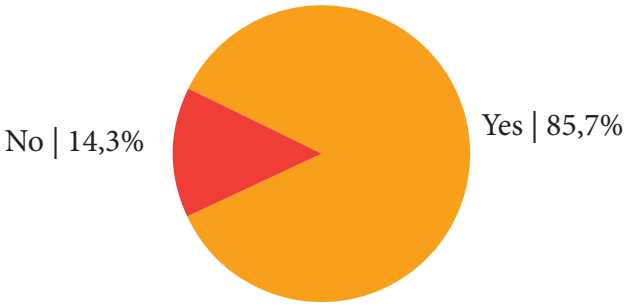
- They reinforce the image of the company and generate links with users
- They gives us a lot of visibility
- We have just started, but we detect visits, calls, consultations...
- We are reaching potential customers who we could not reach by other tools

"I don't know" users

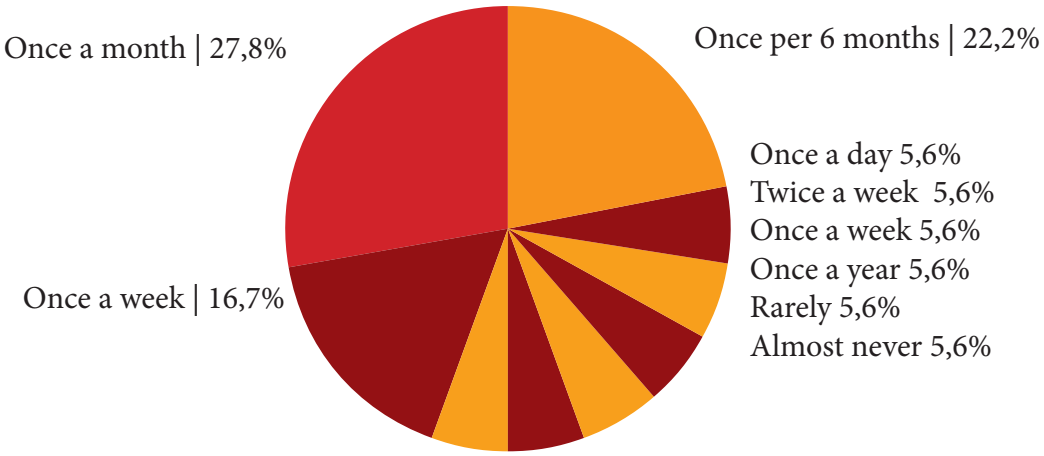
- I am at the opening and it is soon to decide results
- I'm not measuring them

Company website

Has your company got a website?



How often do you update it?



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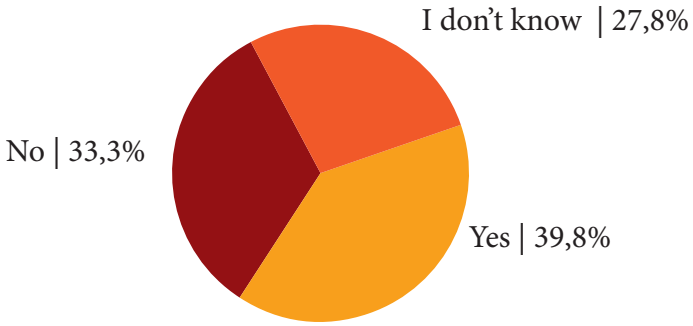


Why? *Not satisfied users:*

- I would like to do better
- No sales increase
- I'm not well positioned, now I'm working on this
- We do not have time to update it as we would like
- We have not enought time to manage it

Satisfied users:

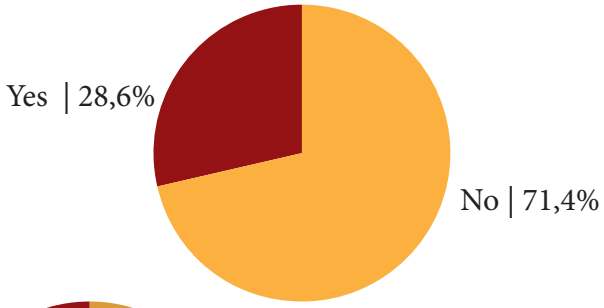
- I always like to hear opinions
- People visit it
- Some customers check products before calling
- We are in the initial phase

"I don't know"users

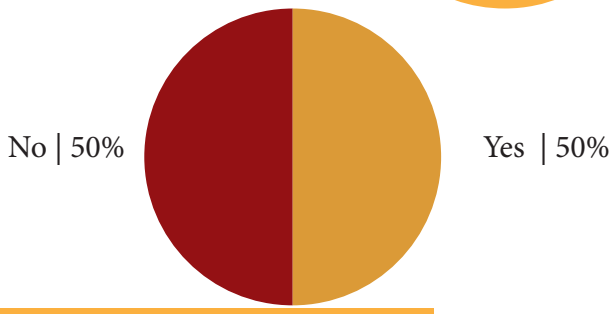
- Because I do not analyze the results

E-platform for commerce

Are you familiar with e-commerce platforms?



Do you use e-platforms for commerce?



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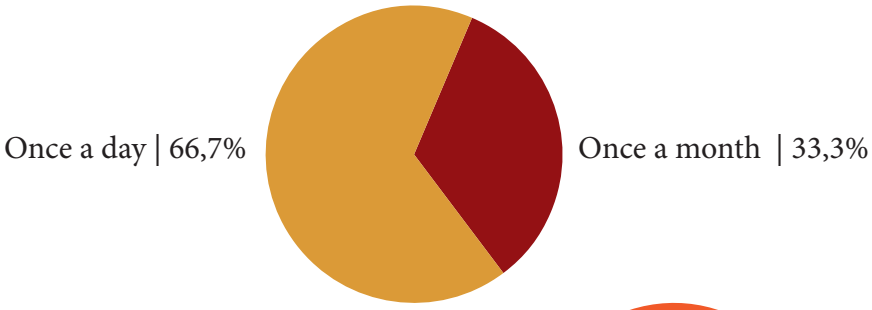

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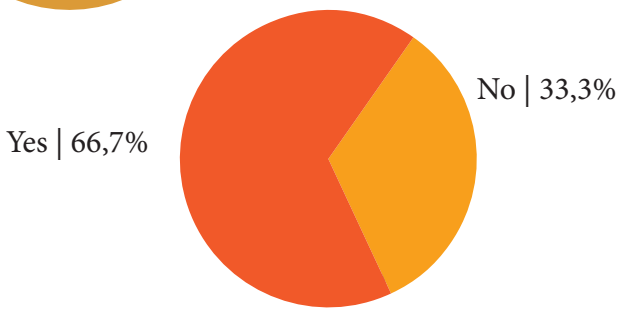


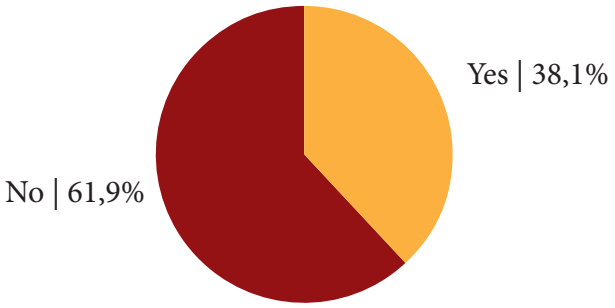
Why?

Not satisfied users:

- We didn't get the results we hoped for

Advertisement in the Internet

Do you use advertisement in the Internet?



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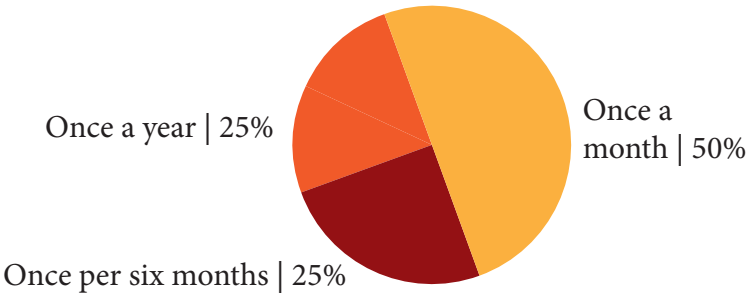

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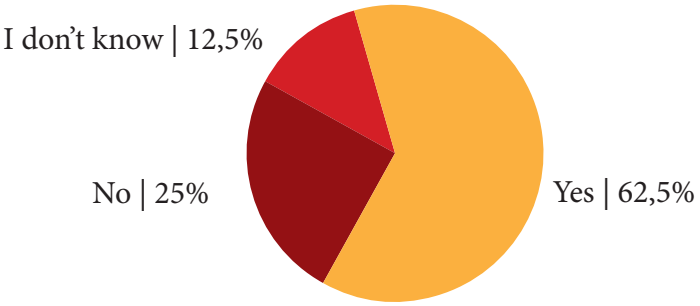


Why?

Not satisfied users:

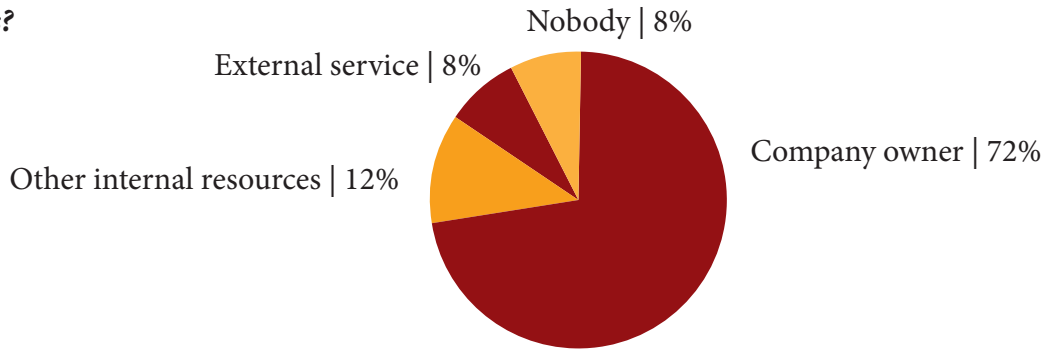
- Too little return

Satisfied users:

- We got the goal
- The result is measurable

Management of the ICT tools

Who is managing your ICT tools?



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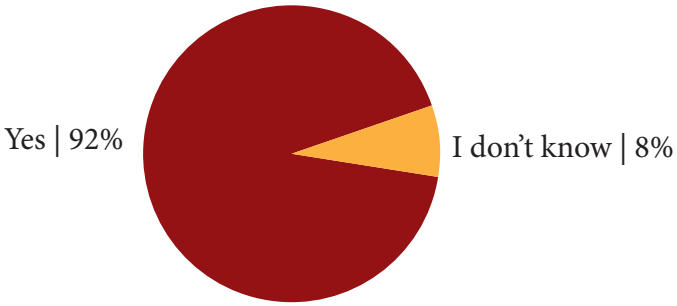
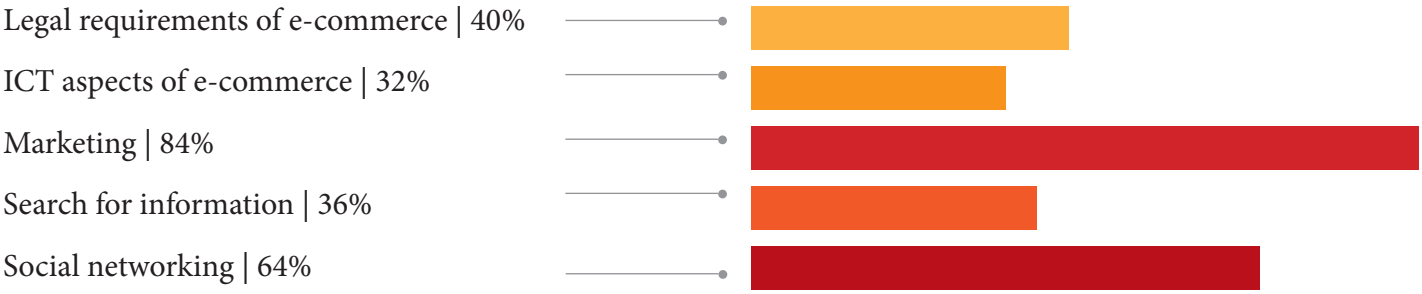


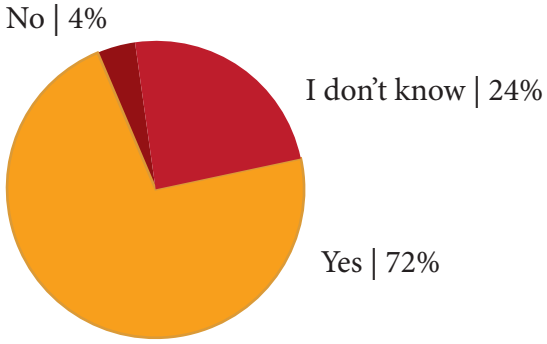
What e-commerce knowledge you would like to develop yourself?



What other e-commerce knowledge would you like to develop yourself?

- The basic elements
- Financing
- Risks
- Automation, smart and efficient management of profiles and pages in RRSS
- How can I use it in my activity

Would you be interested in participating in a practical experience with new professionals to manage your company promotion in the Internet?



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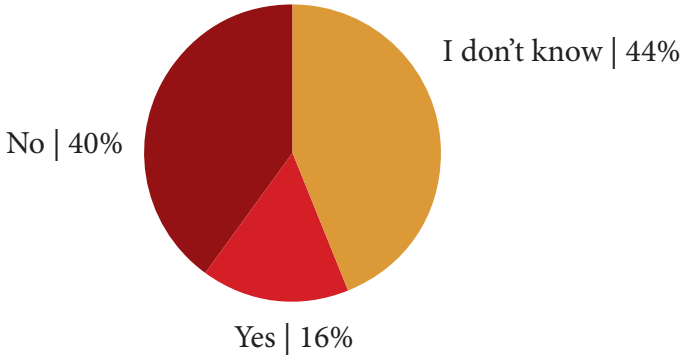

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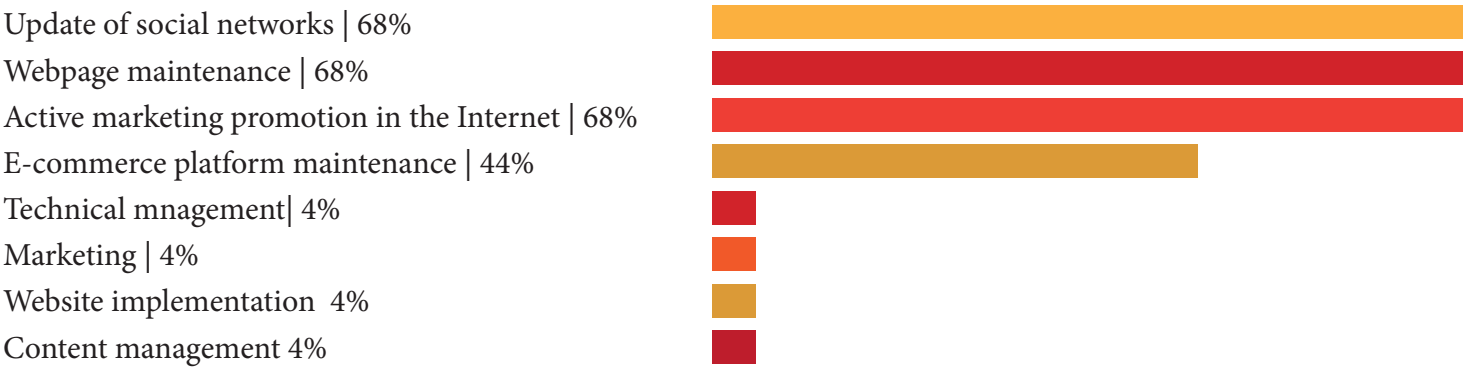

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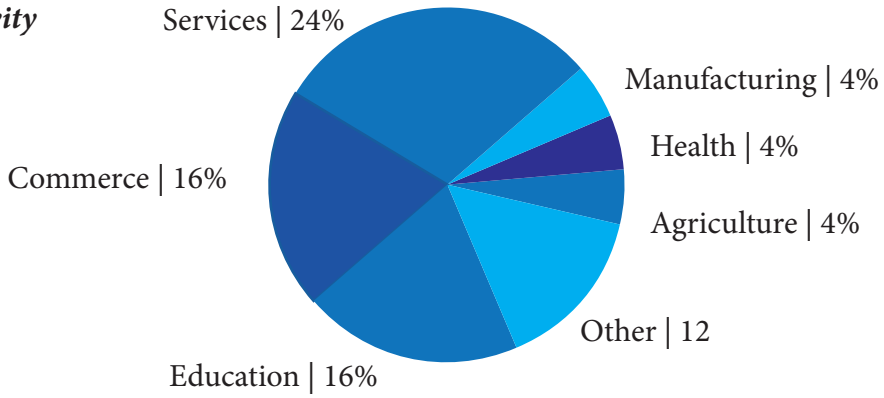
Focus on micro enterprises: the Me-commercer survey

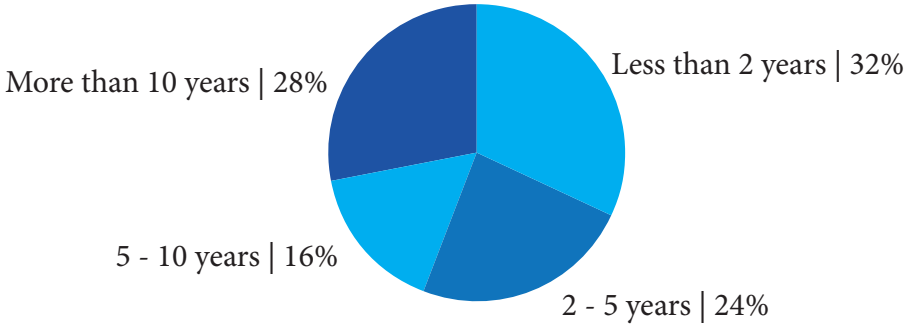
The Czech Republic results

The profile of companies and people

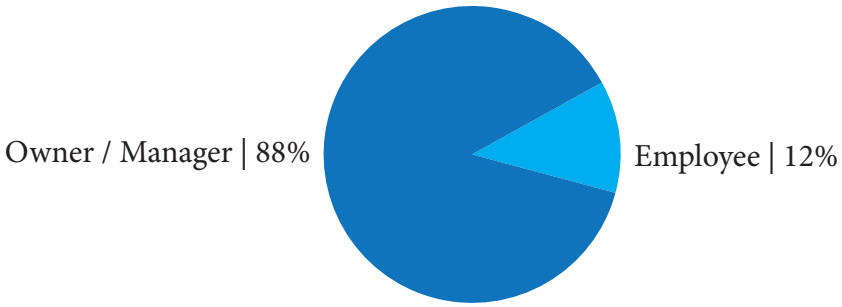
Main sector of your company activity



Years of activity



Your position in the company



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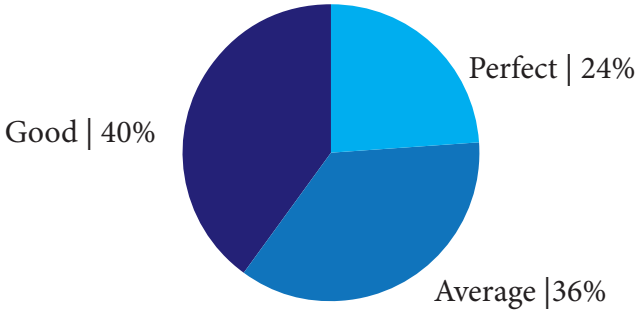
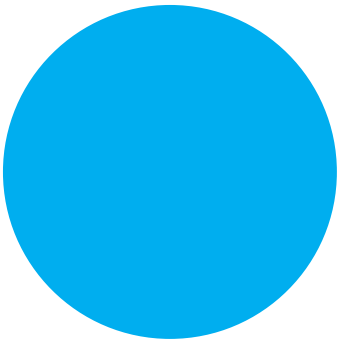


Use of the Internet for company promotion

Do you use the Internet for your company promotion?

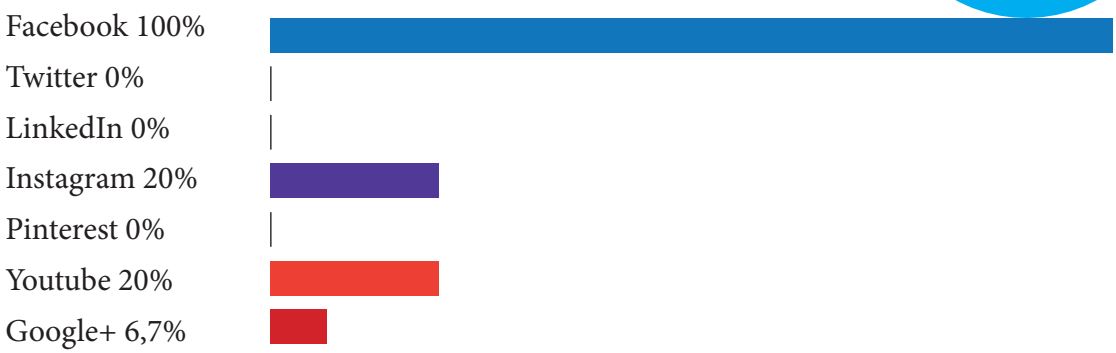


Yes | 100%

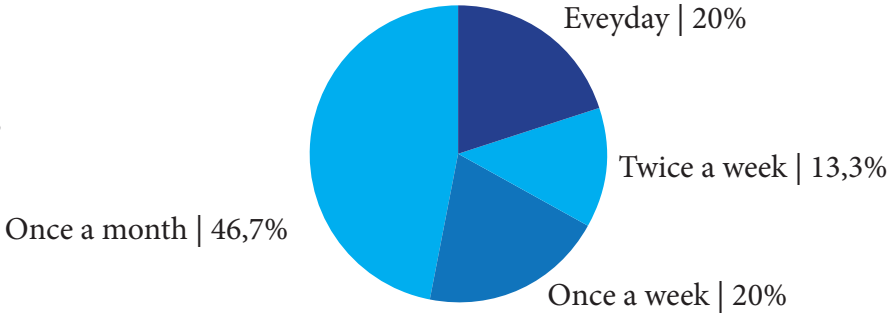
ICT tools

Do you use social networks for Your company promotion?

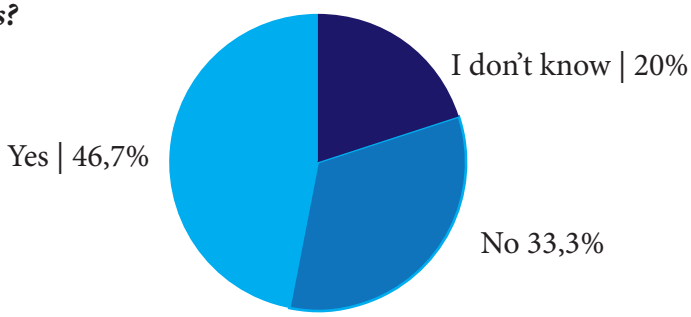
Which social networks do you use for your company promotion?



How often do you update it/them?



Are you happy with the results?



Why?

Not satisfied users:

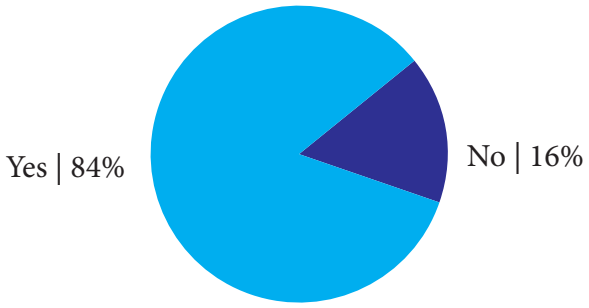
- I dont dedicate enough time to this channel, I think its eficacy is low anyway.
- I would like to have more followers.
- I update it rarely so the results is not at maximum.
- Facebook is good just for the public relations, not for the business.
- I am not using it for the search for new customers, just for informing the interested parties.

Satisfied users:

- Our company is prosperous.
- During the advertisement campaigns on Facebook the number of orders increases.
- Considering the little time I dedicate to it, I am happy with the results. I would need one more cooperating person who would work only on the marketing.

Company website

Has your company got a website?



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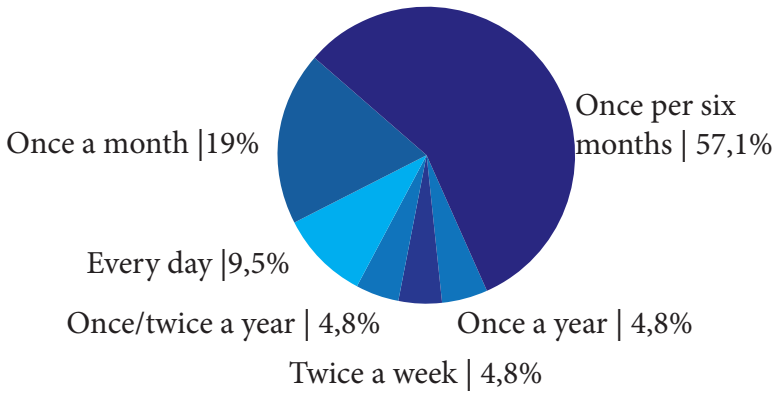

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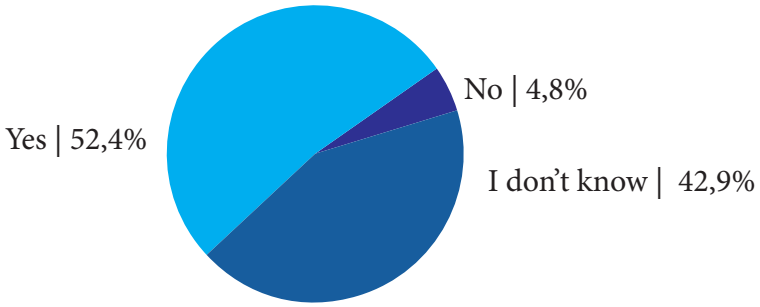


Why?

Not satisfied users:

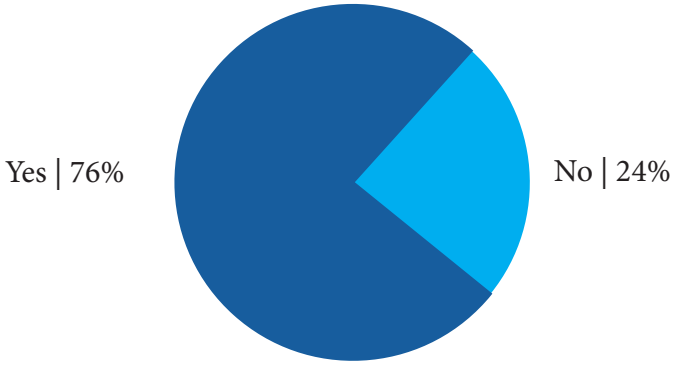
- I am not able to measure the impact of the webpage on the commercial results of the company.

Satisfied users:

- I think my webpage provides the correct information.
- Our webpage is well accessible through the search engines, it appears on the first page, which increases the attendance to my courses.
- My clients have all necessary information at one place.
- It helps me to get grants from the European social fund.

E-platform for commerce

Are you familiar with e-commerce platforms?



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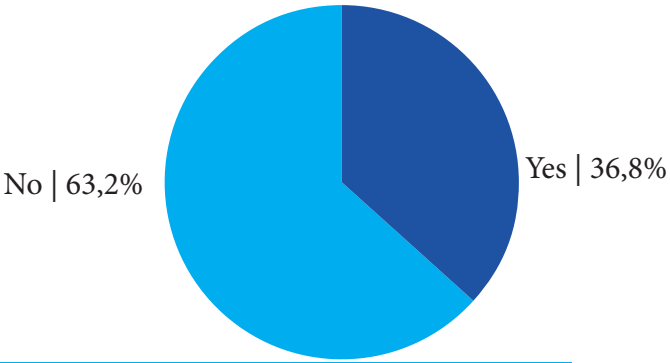
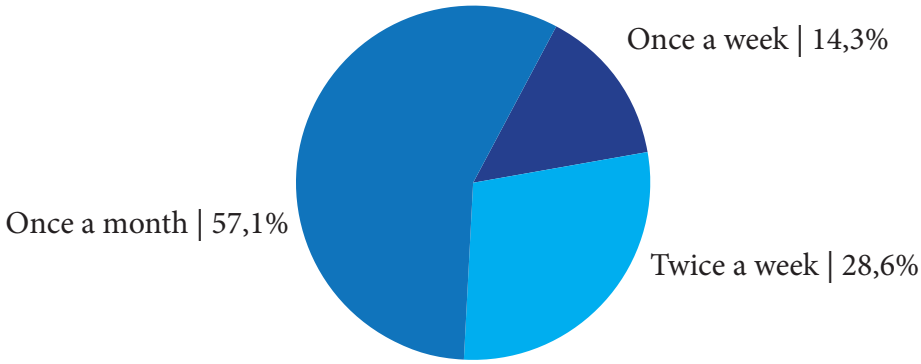


Which ones?

How often do you update it?



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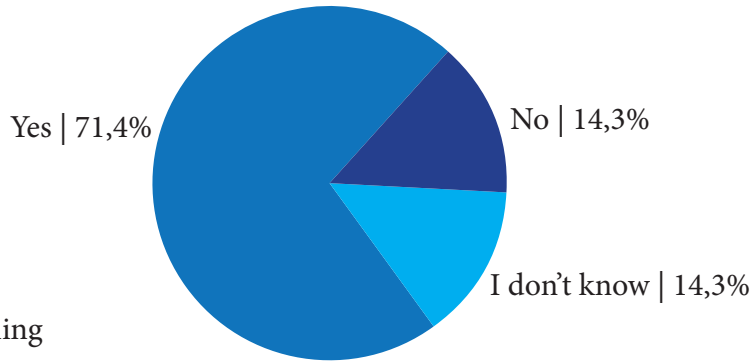


Why?

Not satistied users:

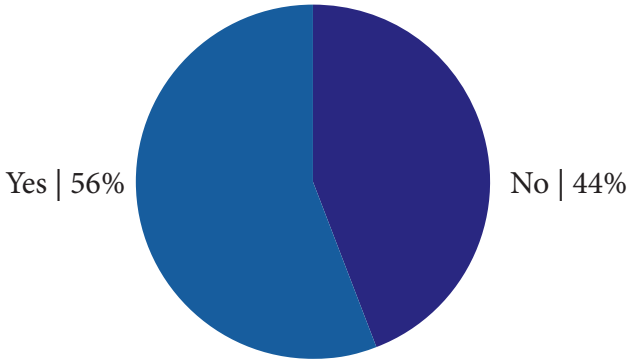
- No sales

Satisfied users:

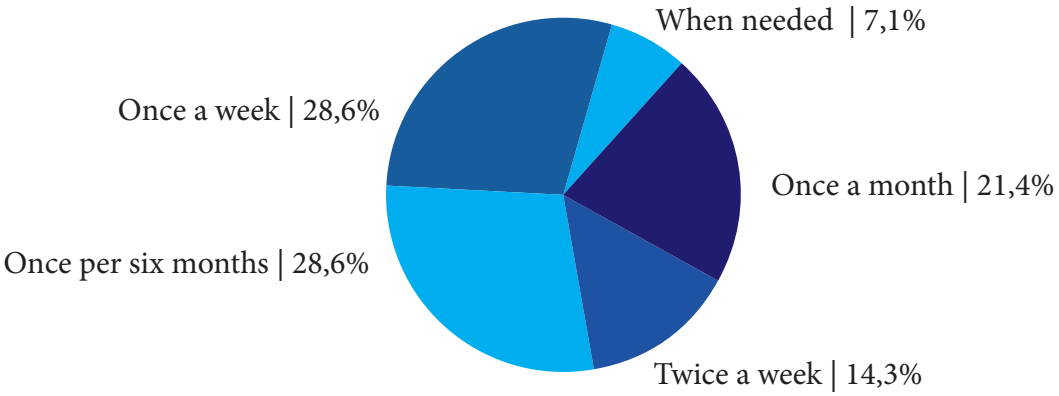
- The e-shop looks pretty and is functioning

Advertisement in the Internet

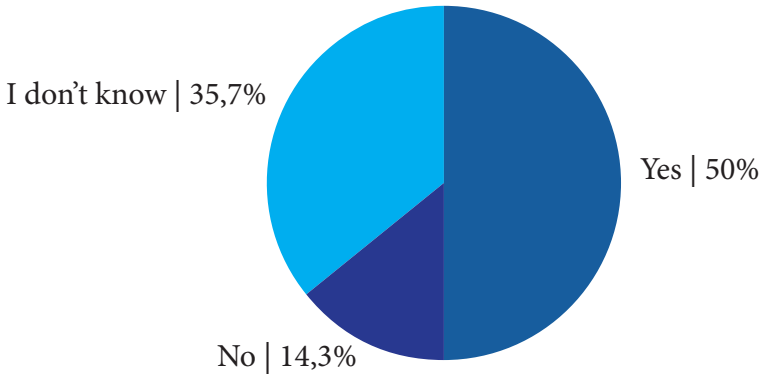
Do you use advertisement in the Internet?



How often do you update it?



Are you happy with the results?



Why?

Not satisfied users:

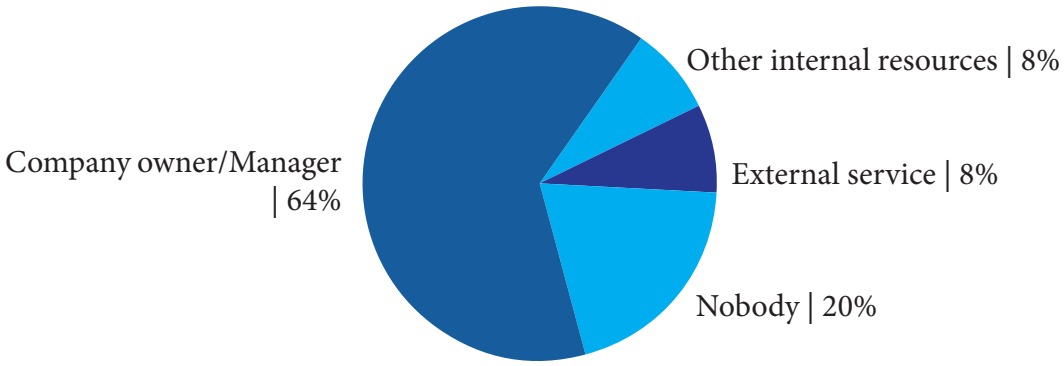
- I am getting just a few answers
- I am not able to measure the efficacy of it
- I can not tell

Satisfied users:

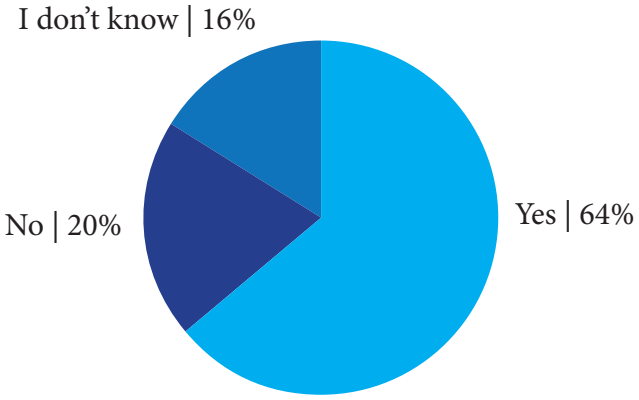
- Advertisement is the only way to sell my products, although the cost make around 1/3 of my turnover

Management of the ICT tools

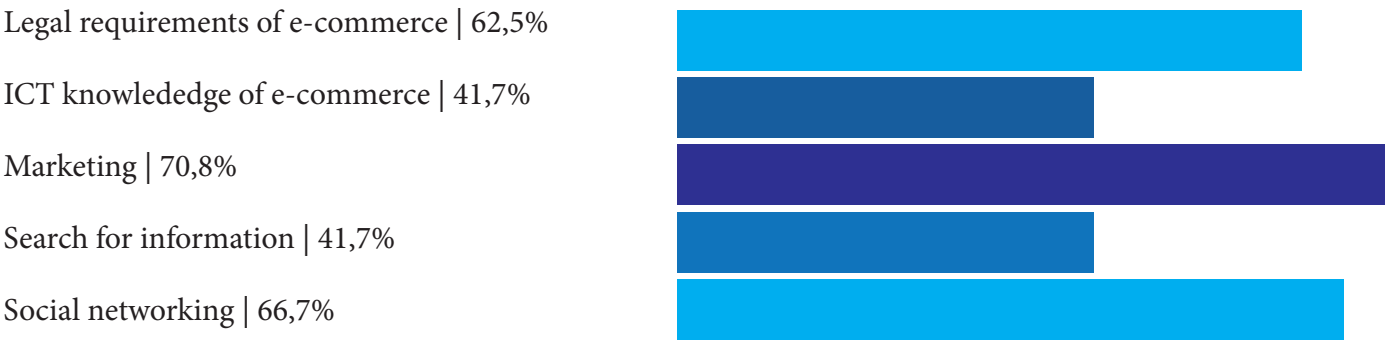
Who is managing your ICT tools?



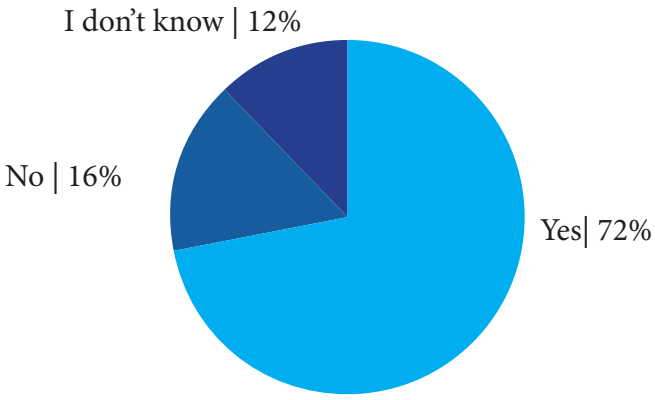
Would you like to update your knowledge about e-commerce?



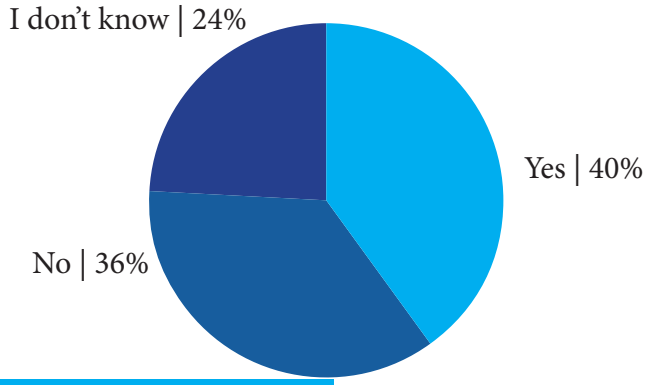
What other e-commerce knowledge would you like to develop yourself?



Would you be interested in participating in a practical experience with new professionals to manage your company promotion in the Internet?



Would you like to contract professional services for managing your company promotion in the Internet?



Which tasks could be appointed to this specialist?

Which e-commerce services are you interested in?

The VET offer on e-commerce: a starting point

We want to see a Europe (…) where education and training systems propose innovative and equitable approaches such as flexible learning pathways, and focus on developing essential skills as well as intellectual and job-specific skills.

New Skills for New Jobs: Action Now – A report by the Expert Group on New Skills for New Jobs prepared for the European Commission

Based on the Copenhagen Process, the European Commission, in partnership with national governments, entrepreneurs and workers groups and with the cooperation of countries outside the EU, has implemented and is developing policies aimed at:

- improving the quality of training;
- improving the quality of teachers, trainers and professionals;
- make training courses adequate to the labor market's needs.

In doing so, the alliance between the VET system, the education system as a whole and the labor market is a key strategy.

The Me-commercer project follows this strategy, looking at the trends within the global economy - in particular at the opportunities that e-commerce offers to enterprises - and contributing to the updating of the VET training system through the implementation of a course closely related to the needs of businesses: an opportunity for VET sector, for companies and for people who, at the end of the course, will get the chance to start an independent consulting activity or propose their new skills to the labor market.

To achieve this goal, as anticipated, the project conducted a survey among micro-enterprises in the four partners' areas of relevance, through which the interest of micro-enterprises, in undertaking e-commerce strategies, has been detected. Meanwhile, the survey observed also a general lack of skills, competences and human resources in this area.

Small and micro-enterprises, more than the medium-large ones, seem to need - in facing the e-commerce challenge on the global market - of professionals having technical and transversal skills crucial to respond to their needs with a tailor made approach.

In the following pages we present the investigation we conducted in designing the current framework in Europe and in the four partner countries: a path that emerges through the analysis of the existing training offer and by an investigation of the labor market demand in terms of professionals, competences and skills required.

The VET offer on e-commerce: a starting point

European Union

This chapter describes the main EU VET policy trends meeting the challenges and opportunities of rapidly growing e-commerce market and the present state of the VET offer on e-commerce in Europe.
The labour market has never been static. It has always been moved by economic winds and technology. People in the labour force have continually adapted to its changing needs. Today the challenge is not the change, but its speed. The telephone took 75 years to have 50 million users; after 20 years the mobile phone has 2 billion. The World Economic Forum estimates that two thirds of children entering primary school today will work in jobs that do not yet exist. Without nurturing skills, people and enterprises are in danger of being left behind (Cedefop, 2017).

These labour market challenges are closely related to the challenges of VET in all Europe.
The start of the EU cooperation for the VET development was the Copenhagen Process, launched by the **Copenhagen Declaration**, approved on 30 November 2002 by ministers responsible for vocational education and training in the Member States, candidate countries, EFTA-EEA countries, the European Social Partners and the European Commission.
Priorities and strategies for the promotion of mutual trust, transparency and recognition of competences and qualifications in order to increase mobility and facilitate access to lifelong learning was agreed. The Declaration calls for enhancing European cooperation in VET across Europe.
It focuses on the contribution of vocational education and training to the challenges identified in the Lisbon strategy:

- strengthen the European dimension of VET;
- improve transparency, information and guidance systems;
- recognize competences and qualifications - including non-formal and informal learning;
- promote cooperation in quality assurance.

Following Copenhagen, the Education Council reached political agreement on a number of concrete results, in particular:

- principles for the identification and validation of non-formal and informal learning;
- cooperation for the development of a shared framework for quality assurance in VET;
- a single framework for the transparency of qualifications and competences – EUROPASS;
- a resolution on guidance/counselling within a lifelong learning dimension.

The first review of the Copenhagen process took place in December 2004 at a ministerial meeting in Maastricht, where it was acknowledged that substantial progress had been made. The Maastricht Communiqué set out priorities for the next phase of the Copenhagen process. The **Maastricht Communiqué**, linked more firmly with the **"Education and Training 2010"** work programme, for the first time, introduced national priorities:

- raise awareness, implement and use agreed instruments;
- improve public / private investment, including training incentives through tax and benefit systems and use of EU Funds;
- address the needs of groups at risk - low skilled, older workers, early school leavers, migrants, persons with disabilities, unemployed;
- develop open learning approaches and flexible more individualized pathways to enhance progression;
- strengthen planning of VET provision, including, partnerships and early identification of skills needs develop pedagogical approaches and the learning environment in training organizations and at work;
- enhance competence development for VET teachers & trainers.

At European level, priorities included the European Qualifications Framework (EQF) and the European credit transfer system for VET (ECVET). The other priorities were:
- consolidate existing Copenhagen priorities;
- examine the specific learning needs of VET teachers and trainers;
- improve the scope, precision and reliability of VET statistics.

EQF and ECVET - key tools towards EU cooperation in education and training.
Based on this political mandate, a Working Group on basic skills, established in 2001 in the context of Education and Training 2010 work programme, has developed a framework of key competences needed in a knowledge society and prepared with a number of recommendations on ensuring that all citizens can acquire them. The Framework of Actions for the Lifelong Development of Competences and Qualifications, adopted by the European social partners in March 2002, stresses the need for businesses to adapt their structures more and more quickly in order to remain competitive. Increased team-work, flattening of hierarchies, devolved responsibilities and a greater need for multi-tasking are leading to the development of learning organizations. In this context, the ability of organizations to identify competences, to mobilize and recognize them and to encourage their development for all employees represent the basis for new competitive strategies.
Recommendation 2006/962/EC on key competences for lifelong learning urges EU governments to make teaching and learning of key competences part of their lifelong learning strategies. The recommendation identifies 8 key competences that are fundamental for each individual in a knowledge-based society.

Key points
The 8 key competences are the following:
1.**Communicating in a mother tongue:** ability to express and interpret concepts, thoughts, feelings, facts and opinions both orally and in writing.

2.**Communicating in a foreign language:** as above, but includes mediation skills (i.e. summarizing, paraphrasing, interpreting or translating) and intercultural understanding.

3.**Mathematical, scientific and technological competence:** sound mastery of numeracy, an understanding of the natural world and an ability to apply knowledge and technology to perceived human needs (such as medicine, transport or communication).

4.**Digital competence:** confident and critical usage of information and communications technology for work, leisure and communication.

5.**Learning to learn:** ability to effectively manage one's own learning, either individually or in groups.

6.**Social and civic competences:** ability to participate effectively and constructively in one's social and working life and engage in active and democratic participation, especially in increasingly diverse societies.

7.**Sense of initiative and entrepreneurship:** ability to turn ideas into action through creativity, innovation and risk taking as well as ability to plan and manage projects.

8.**Cultural awareness and expression:** ability to appreciate the creative importance of ideas, experiences and emotions in a range of media such as music, literature and visual and performing arts.

The European Commission:
- contributes to national efforts to develop education and training systems;
- uses the 8 key competences to encourage peer learning and exchange of good practices;
- promotes wider use of the 8 key competences in related EU policies;
- reports every 2 years on the progress made.

On 7 December 2010, European Ministers for vocational education and training (VET), the European Social Partners and the European Commission adopted the Bruges Communiqué on enhanced European cooperation in VET for 2011-2020. The Bruges communiqué reflects objectives of the Education and training 2020 framework:
• making VET more attractive and relevant and encouraging quality and efficiency;
• making lifelong learning and mobility a reality in VET;
• encouraging creativity, innovation and entrepreneurship in VET;
• making VET more inclusive. To help realize these overall objectives, the Bruges communiqué was supported by a series of actions (short term deliverables) that participating countries worked on over the period 2011-14.

Education and training 2020 (ET 2020) is the framework for cooperation in education and training. ET 2020 is a forum for exchanges of best practices, mutual learning, gathering and dissemination of information and evidence of what works, as well as advice and support for policy reforms.
In order to ensure the successful implementation of ET 2020, Working Groups composed of experts nominated by member countries and other key stakeholders work on common EU-level tools and policy guidance.
The 4 strategic objectives for the VET system development are agreed in 2015 of ET 2020:
1. Lifelong learning and mobility need to become a reality with education and vocational training systems being more responsive to change and to the wider world.
2.The quality and efficiency of education and training need to be improved by paying greater attention to raising the levels of basic skills such as literacy and numeracy, making mathematics, science and technology more attractive and strengthening linguistic abilities.

3. Equity, social cohesion and active citizenship need to be promoted so that all citizens, irrespective of their personal, social or economic circumstances, can continue to develop job-specific skills throughout their lifetime.
4. Creativity and innovation, including entrepreneurship, should be encouraged at all levels of education and training since these are key drivers of sustainable economic development. In particular, individuals should be helped to become digitally competent and to develop initiative, entrepreneurship and cultural awareness.
While all these EU documents leaves each country responsibility for its own education and training systems, EU also takes role to design various policy documents to support national action and help address common challenges, such as ageing societies, skills deficits in the workforce, technological developments and global competition.
Based on Recommendation 2006/962/EC on key competences for lifelong learning the detailed framework for the development of digital competence of all citizens was presented (2013).

The Digital Competence Framework identifies the key components of digital competence in 5 areas:

1. **Information and data literacy:** to articulate information needs, to locate and retrieve digital data, information and content. To judge the relevance of the source and its content. To store, manage, and organize digital data, information and content.
2. **Communication and collaboration:** to interact, communicate and collaborate through digital technologies while being aware of cultural and generational diversity. To participate in society through public and private digital services and participatory citizenship. To manage one's digital identity and reputation.
3. **Digital content creation:** to create and edit digital content To improve and integrate information and content into an existing body of knowledge while understanding how copyright and licences are to be applied. to know how to give understandable instructions for a computer system.
4. **Safety:** to protect devices, content, personal data and privacy in digital environments. To protect physical and psychological health, and to be aware of digital technologies for social well-being and social inclusion. To be aware of the environmental impact of digital technologies and their use.
5. **Problem solving:** to identify needs and problems, and to resolve conceptual problems and problem situations in digital environments. To use digital tools to innovate processes and products. To keep up-to-date with the digital evolution.

These EU policy priorities work as directions for the each member country to develop the VET system legislation, also has a close relation with the e-commerce engaged business needs. **Statistical data, revealing the challenges of the e-commerce market also reflect the need of the further VET system development and digitalization in EU level.**
Demand for digitally skilled employees is growing by around 4% a year. Shortages of ICT professionals in the EU could reach 825.000 in filled vacancies by 2020. Digital skill levels need to be raised among employees in all economic sectors and among job seekers to improve their employability. Change is needed in the way education and training systems adapt to the digital revolution.
The responsibility for curricula lies with the Member States which need urgently to address the lack of essential digital skills. In this context, **The new Skills Agenda for Europe** - a crucial point of reference for VET in Europe - establishs a number of actions to ensure that

the right training, the right skills and the right support is available to people in the European Union. The European Commission seeks to create the mechanism to enhance the recognition of digital skills and qualifications and increase the level of ICT professionalism in Europe.
In a fast changing global economy, skills will significantly determine citizens' competitiveness and capacity to drive innovation. They are also a pull factor for investment and a catalyst for job creation and growth.
Official statistic fixes 40% of the EU population lack a sufficient level of digital skills. This puts them at high risk of unemployment, poverty and social exclusion. On the other hand, 40% of European employers report than they cannot find people with the right skills to grow and innovate.
The New Skills Agenda for Europe aims to improve the teaching and recognition of skills – from basic to higher skills, as well as transversal and civic skills – and ultimately to boost employability.

Members of the European Parliament (MEPs) from the Committee on Employment and Social Affairs (EMPL) and from the Committee on Culture and Education (CULT) held a joint meeting on 27 February (2017) to discuss a series of points, including the own-initiative report on the Commission Communication for a New Skills Agenda for Europe. **The new skills agenda is an essential step also in the e-commerce sector.** In fact, among the many barriers to the digital economy, one can identify Europe's shortage of ICT-skilled human capital or "e-skills". This lack of knowledge on IT-related matters represents also a problem in the e-commerce as it may lead to a lack of further growth in the sector. Therefore, e-commerce education is a key to pave the way towards the development of e-skills, developing e-commerce and the cross-border provision of services which make the online sales sector grow. Given the great importance of developing digital skills, many national e-commerce associations, members of Ecommerce Europe, were decided to launch digital academies to form digital talents to meet the growing needs of e-business.
According to experts from Prologis (the leading owner, operator and developer of industrial real estate, with Rakuten, Tesco and Amazon among its clients), e-commerce in Europe will grow strong in the next five years. There are about 200.000 extra jobs needed in order to process all orders in distribution centres across Europe, mainly in United Kingdom, Germany and France, but in Poland, the Czech Republic and the Netherlands too.
The question is if companies will find appropriate workers for this, because e-retailers are looking for more specialized employees, and it could be difficult to find good people, especially outside the big cities.
Emphasizing vocational education to bridge the gap between the skills possessed by college or high-schools graduates and skills required by the labor market, with particular attention to engineering and science qualifications, it is a requirement for the successful ICT strategy. In addition, development human resources is fundamental to putting the country on the right ICT track. There is a broad consensus that schools and the educational system are the basic tools needed to provide a greater gradual conformity with the digital environment (The Diffusion of E-commerce in Developing Economies).

The present situation divides e-commerce jobs into three fields:

1. Market Research Analysts, who have the following responsibilities:

- research and analysis of needs from both the user and business perspectives;
- monitoring of the companies' website performance and determining the site´s search engine optimization (SEO) value;
- monitoring competitors and completing trend analysis work;
- working with advertisers.

2. Programmers, who are the e-commerce software builders (including web and e-shop designers)

3. Web administrators, who manage the daily maintenance and support of the e-commerce site´s servers. According to the "Employment and Skills Aspects of the Digital Single Market Strategy", a study conducted by European Parliament defining employment and skills aspects of the Digital Single Market Strategy, concludes that "the e-Commerce sector is a very competitive market with large fluctuations in activity. This could have an impact on working conditions, for example a growing share of part-time work or temporary jobs. Jobs in the e-Commerce are characterized by atypical hours, flexible contracts, on average lower wages and perceived quality of work, a high pressure on wages and working times and a high turnover. With the new jobs also come new skills requirements. The study highlights the growing importance of a combination of hard skills (e.g. programming) and soft skills (e.g. communication)".

The further chapters will overview the implementation of EU policy documents and VET offer on e-commerce in project partner countries.

The VET offer on e-commerce: a starting point

Lithuania

The demand for the e-commerce market: skills and competences required

The review of the Lithuanian job search websites shows that companies assign e-sales role to the marketing / sales specialist mostly. Also ICT specialist for the e-sales database creation / maintenance/development is required. Official Labour Market Prognosis for 2017 (Lithuanian Labour Exchange) states that sales specialists for the retail sector are the most wanted specialists in the labour market in the last years.

Lithuanian companies, advertising job ads, mark these necessary competences and skills of the e-specialists:

- proficiency in ICT;
- ability to manage and develop e-shop activities;
- marketing/design skills necessary to prepare wares and services for the exposure in the e-shop;
- understanding of warehouse management principles;
- ability to plan / fulfil orders of the e-sales;
- fluent communication skills;
- attainment of the creation and realization of the client service standards.

E-commerce: an overview on the VET offer

Courses and competences

Development of VET training programmes making them up to date refers to the competences of the VET teachers – legislation of the VET system allows the school make adjustments of the training programs up to 15 percent of total content.

Lithuanian VET training programmes offer 2 possibilities to develop competences in e-commerce:

- to participate in e-commerce VET training programme;
- to participate in VET training programme, including subjects of e-commerce.

The student, eager to find the training programme corresponding his skills, expectations and needs, can use AIKOS - an open Lithuanian vocational information, counselling, and guidance system providing a wide range of users with information based on public, departmental, and other databases and registers. The filter of Register of Study and Learning Programmes identifies these e-commerce related programmes:

- c-commerce sales agent programme;
- business enterprise computer specialist programme;
- trade consultant programme;
- electronic publishing breadboards programme;
- trade companies' assistant manager programme;
- training programme for marketing department worker.

Lithuanian VET programs for the e-commerce specialists include general knowledge about e-commerce systems, collection, processing and providing information on the sale of wares

and services, marketing in virtual space providing information on the acquisition of goods and payment for these procedures to create the purchase and sale agreement in an electronic environment, logistics bases, the use of information and communication technologies, communication in Lithuanian and foreign languages. ICT knowledge about the structure and maintenance of computers, computer networks, programming, telecommunications, graphics, engineering of various medias also is included in the Lithuanian VET training programmes content.

The programs content analysis defines these main competences of the e-commerce specialist in Lithuania: e-commerce specialist has to be able to use various modern e-sales forms and programs, collect, classify and present information about wares and services for the client.
E-commerce specialist has to be confident in ICT use and has to be able to provide the information for the client about the routine of e-purchase process. Knowledge in e-sales legislation, contracting and logistical issues are considered to be the main competences of the e-commerce specialist.
Furthermore, the programmes identifies the most relevant social skills the e-sales specialist should master: effective communication organizational and planning skills. Entrepreneurship, social networking, self-confidence and flexibility and susceptibility strengthens the e-sales specialist professional success in the labour market.
The analysis of the Lithuanian VET programmes teveals that today there is no offer of the VET training programmes concentrated on the micro enterprise's needs.

Self employment and ICT:
an overview on the VET offer

The Law on education (2015) prioritizes the development of key competences by the aims developing values enabling to become an honest, knowledge-seeking, independent, responsible and patriotically-minded human being; cultivating the communication skills important in modern life; assisting in internalizing the information culture characteristic of the knowledge society by providing for command of the state language, foreign languages and the native language, information literacy as well as modern social competence and the skills to shape one's own life independently and to live a healthy lifestyle.
When implementing VET curricula, VET institutions follow generic training plans that are annually approved by the Minister for education. They define what subjects in three areas of training (general education subjects, vocational subjects and general vocational subjects) should be offered and their duration. Key competences are part of curricula in all three subject areas.

In the area of general vocational subjects, key competences are covered by fundamentals of economics and business, Lithuanian language culture and occupational language, civil security and occupational information technologies subjects. Three of these subjects (fundamentals of economics and business, Lithuanian language culture and occupational language and occupational information technologies) can be integrated into other subjects.
Screen of the VET programs content brings out the need to inform the representatives of the Lithuanian VET schools - developers of the training programmes, teachers and stakeholders of the VET system - about the e-sales. VET schools today use formal training programs, which were prepared some years ago. Entrepreneurial topics include general knowledge about business plan preparation, marketing complex, missing the ability to get the necessary knowledge about concrete steps to get into the market, practical usage of the modern technologies and the market

trends. Entrepreneurial competence is developed through the subject of fundamentals of business and economics. Many VET schools supplement their school training programmes with subjects for acquisition of this competence. Examples of courses: practical business training, fundamentals of business management, marketing and management of services, business ethics, fundamentals of accounting. One of the tools for entrepreneurship is participation in practice firms and students companies. Skills competition 'young entrepreneur' is popular activity among VET students. VET institutions organize career events, entrepreneurship weeks, school or regional competitions for the best business idea. E-commerce competence isn't marked as necessary in any VET training programme for the VET specialities related to self-employment. Digital competence is developed through general education and VET subjects of information technologies. Content of occupational information technologies course differs by school. For example, students practice working with Microsoft Word, Excel and other software, apply them in their subject area, develop websites, etc. Generally speaking, digital competence is a part of everyday learning where students search information, use IT to accomplish tasks, prepare and present their projects. At the moment, when developing new training materials, a priority is given to digital resources. In 2012-2015, training tools packages (online training tools and digital manuals) were designed for 14 educational areas and disseminated to VET providers to assist their training process.

E-commerce:
an overview on the university and private offer

The Lithuanian Government has a high priority for strengthening the economy innovativeness. In this context, VET can support innovative performance. However, the national policy for innovation is currently focusing on the higher education.

VET learners can be supported in acquiring skills that are needed for creativity and innovation by:

- participation of VET institutions at clusters;
- involvement of companies with new opportunities in apprenticeship training form to foster and support skills for innovation;
- usage of digital technologies to open up new opportunities and implement virtual, open learning innovations.

University and private online courses usually are more flexible and acquainted to the innovations and labor market needs. Supply analysis shows that students can get knowledge in e-sales processes during logistic, international trade and marketing direction programs, however mostly are aimed to prepare specialists for the big international companies or specialists able to develop business idea by themselves. Micro enterprises usually stay behind these programs' content ascertaining that they need special attitude to be competitive in the global e-market. Wide offer of the various private courses do not offer necessary basic information for pre-entrepreurs interested in e-commerce offering concrete topic related to e-sales systems e.g. sales on Amazon market place/Etsy, usage of the e-commerce platforms (provided by concrete platform developers), annual national conference on e-commerce. Ability to get the necessary fully developed information about the e-sales business development for the micro enterprises from A to Z is open opportunity and important need in the Lithuanian today.

The VET offer on e-commerce: a starting point

Italy

The demand for the e-commerce market: specializations and skills required

Progressive digitalisation of the economy and society has a major impact on the demand for specialized professionals in ICT and e-commerce. Although, as we have seen in the previous pages, the DESI (Digital Economy and Social Index) puts Italy at the last places among the countries of the European Union - while recording for some specific indicators the commitment of the Italian country system to face the problem and overcome the existing gap - in the context of the labor market, the demand for specialists in this field is numerically significant and demonstrates, on the one hand, the willingness of companies to seize the opportunities that the e-commerce system potentially offers them, and on the other hand the need to adapt the skills of the workforce.

According to Experis, the Manpower Group's Talent Company, the demand for professional work positions such as Web Marketing Manager, SEM and SEO Manager, mobile marketing manager is constantly increasing. Among the requested positions is also the mobile marketing manager, a professional specialized in the development techniques of selling and managing advertising campaigns through the mobile channel.
With reference to the needs expressed by its customers, Experis, besides defining the technical and specific skills required by companies, identifies the transversal skills required for these professionals: the most important ones are the skill to recognize and interpret the needs of their customers; the skill to work for goals; the skill to decode the complexity of the market, anticipating its evolution.

A similar framework of reference is outlined by Kelly Services Italia: in 2015, the company published - based on the data collected through the analysis of its customers' requests - a research showing that, in the ICT sector, the professionals most sought by Italian companies - e-commerce managers, digital strategists, digital project managers, social media managers, social media analyst and community managers - are those expressed by the marketing and communication sectors.
The research underlines the fact that, apart from the specific and technical competences that each of these professionals must have, the common elements must be the followings :

- knowledge and competence on the diverse forms of web advertising,
- knowledge and competence on SEO techniques,
- knowledge and competence on SEA (Search Engine Advertising, example Google Adwords).

Who deals with web marketing and sales must then be able to use:

- Crm (Customer Relationship Management) and Cms (Content Management System, Site Content Management) tools;
- analysis tools (such as, for example, Google Analytics);
- marketing automation platforms (such as, for example, email marketing).

In addition, Kelly Services' research underscores that web professionals must demonstrate a

strong attitude to lifelong learning and updating, as market and technology developments in this area are constantly evolving.
In ranking the current most sought roles in the sector, the research identifies the following professionals:

- **E-commerce manager**, a professional who deals with strategy implementation (project evaluation, planning and development) for the launch of a product or a service and is responsible for the online sales.
- **Digital strategist**, a professional able to define web and social media marketing strategies to promote a brand and its products.
- **Digital project manager,** a professional who manages the entire lifecycle of a digital communication project.
- **A social media manager,** who adapts marketing strategies to different social channels, with the goal of optimizing product and service communication, and manages the company's presence on social networks.
- **Social media analyst,** whose job consists in studying the return on investment through social media by analyzing performance data across multiple channels.
- **Community professional manager** who manages the relationship between communities and the company.

An overview on the VET system offer

Courses and competences

In Italy, the system of vocational education and training is characterized by a "multilevel" governance - as described in *CEDEFOP Uno sguardo d'insieme - Italy 2014* - involving a wide number of national, regional and local players' network aimed at managing and planning the training offer as a whole, in order to improve the flexibility and cooperation with the labor market.

The term Formazione Professionale (Vocational Education and Training) refers to specific programs and actions whose formulation falls under the competence of the Ministry of Labor and Social Policies, the Regions and the Autonomous Provinces. The courses offered by the technical and professional institutes are, however, considered part of the education system: specific competence of the Ministry Education, University and Research. The training provision of the Regions is still characterized by a marked heterogeneity. In order to ensure greater transparency and flexibility in the training paths-proposed and implemented at regional level - a specific agreement between State and Regions has been signed. The agreement fixes, at national level, the minimum standards of education and training required for accessing National professionals and their qualifications included in the National Qualifications Register created in 2011.

With reference to the second cycle of education, in Italy the VET paths available are the followings:

- **Five-year programs offered by technical institutes** providing knowledge, skills and competences for pursuing technical and administrative professions and by professional institutes that provide both theoretical and practical preparation for qualified professional roles in productive sectors considered strategic for the country's development. Graduates acquire a 4th EQF level (or qualification) and have access to higher education.
- **Three-year and four-year VET programs organized by the Regions (IeFP**), structured in modules, enabling to acquire basic, transversal and technical-professional skills, including work-based learning experiences (mainly through internships). The qualifications of 3rd and 4th level of the EQF provided are recognized at national level.
- **Apprenticeship of three years**, finalized to achieve the professional qualification - corresponding to the 3rd EQF level - or four years of apprenticeship for achieving the professional qualification - corresponding to the 4th EQF level. The minimum age for accessing - to the first level of apprenticeship- is 15 years. Apprenticeship is a working relationship and includes both on-the-job training and classroom training.

Post-secondary level includes many training alternatives, all comprising internship or apprenticeship paths:

- **IFTS** (Higher Education and Training), that enables to achieve a 4th EQF qualification.
- **ITS** (High Tech Institutes) that allows to achieve a 5th EQF qualification and provide non-academic training in professional areas considered strategic for the country's development. Access to ITS requires a high school diploma.
- **Post-IePP** and other pathways aimed at the acquisition of theoretical knowledge and technical and managerial skills, including worked-based learning, allowing qualifications recognized at regional level. These courses are generally addressed to young unemployed, adults, migrants and disabled people.

The reference point for a comprehensive framework of the training offer is the **Repertorio nazionale dei titoli di istruzione e formazione e delle qualificazioni professionali (National Register of Education and Training and Professional Qualifications).**
The tool is devoted to four different educational levels:

- University
- Secondary school
- Education and Vocational Training (three-year and four-year education and training - IeFP; higher education - ITS).
- National framework of regional qualifications.

In the areas of secondary education and vocational education and training, no specific e-commerce training courses have been identified, while within the framework of the National Qualifications Framework, the topic has been recently introduced and some italian regions offer specific courses on it.
For example, as regards Piedmont, the Register includes the course for E-commerce Technician: a 600-hour course for high school and university graduates with knowledge of the Office package; Internet usage skill; verbal and writing communication skills.

The knowledge acquired at the end of the training course comprise the civil and fiscal regulations of the online commerce and consumer rights, the e-commerce techniques; the networking techniques, the design of e-commerce solutions; while the acquired skills at the end of the training course are defined as follows: ability to contextualize e-commerce regulations; ability to identify solutions for the implementation of dedicated sites in line with corporate strategy, networking techniques for communication, tools and methodologies for defining a solution in terms of requirements, constraints, resources and scheduling; ability to design e-commerce solutions.
Read more

In Piedmont, at regional level, it is also possible to refer to **La Banca Dati delle Opportunità della Formazione Professionale (Opportunities Database of Professional Training)**, a service promoted by the Piedmont Region, which allows to find active training courses within the territory. The service allows to search for courses by combining multiple search criteria. It is aimed at both citizens who have training requirements linked to employment in the workplace and to the operators of the Employment Centers who are called upon to play the role of guidance within the extensive training offer in Piedmont.
Read more

Self employment: an overview on the VET offer
Courses and competences
In Italy, training for entrepreneurship is not included in vocational education and training programs recognized at national level. However, Italian legislation invites schools to promote relationships with companies and labor market through collaborations and exchanges. In this context, the **Alternanza Scuola Lavoro (work-based training)** - governed by law 107/2015 - is a significant example.
Read more

The work-based training - which provides for 400 mandatory hours for technical and professional institutes and 200 hours for high schools - is an innovative educational format that aims to align the needs of the world of education with those of the external world and labor market, allowing students a work experience parallel to their school path. In this system, companies, but also cultural institutions, professional orders, sports and volunteering associations become educational partners of the school. **The mini-companies** are included as part of the work-based training activities, mini-companies run by students aim to develop small-scale real-world business or to simulate real-world business. While doing their business in a protected environment and for pedagogical purposes, many student-companies often manufacture and sell real products or services. Over the last two years, over 31,000 students across Italy have participated or are participating in this entrepreneurship education program.

Through this training path, that lasts 80/120 hours, which typically takes place during one or two years of schooling, a group of students of the same class or an interclass-group realizes a mini-company - from the idea of the business to the marketing campaign - acquiring skills and knowledge to enter the job market and make targeted career choices through a path that encourages their entrepreneurial attitude, promotes creativity, resource conscious use, courage, and responsibility for risk.

The mini-student company can operate on the market (even though on a very small scale) through the sale of a product or the provision of a service. With the support of a tutor (selected within the school) and a dream coach - a company volunteer expert - student groups work to develop a product/service idea, to realize a business plan and a production plan, to define marketing strategies, to manage a budget (social capital), to sell their product at local fairs or school events, until the closure of activities.

The tutor has the task of organizing the didactical activities and encouraging students to work within the new learning methodology. The tutor is then assisted by an expert: a dream coach. The dream coach supports the class in all mini-company activities. Through his/her professional and personal experience, he/she encourages and motivates students, giving the right counsel to the class to plan, find resources, face challenges and problems, help re-read each experience, including failures. For its concreteness and closeness to reality, the mini-companies represent a unique training experience for those who are part of it, effectively achieving that "contamination" of content, methodologies and skills required by both school and business.

After a skill assessment, students apply to cover the managerial roles of a modern enterprise, experimenting, within the whole lifecycle of the program, responsibilities, duties and competencies. In this way, they have the opportunity to develop and enhance some transversal skills that are particularly appreciated by the labor market and considered necessary for personal fulfillment, social integration, active citizenship and employment.

E-commerce:
an overview on the university and private offer

The university and private training provision in Italy is constantly evolving in this area: there is a number of universities offering specific training and master courses, while some universities offer students specific courses on e-commerce, integrating them into traditional training courses offered under the Economics study programs.
By way of example, we have selected the training proposals of the Bocconi University of Milan, the University of Suor Orsola Benincasa of Naples and the University of Sannio, the University course of the faculty of Economics of Parma and the one proposed by the IED in Florence.

1.MiMeC - Master in Marketing e Comunicazione - Università Bocconi.

The MiMeC - Master in Marketing and Communication - is a full-time training program aimed at young graduates from all disciplines. The Master intends to form professional figures capable of leading the main functions of Marketing and Communication, from a strategic and operational perspective. These include Brand and Product Management, Retailing, Trade Management, Sales Management, Marketing Research, Marketing Communication and PR, Event Management, E-Commerce, Digital and Social Media Marketing.

The MiMeC is offered in two annual editions - one beginning in September and one beginning in January - and lasts 14 months, including the internship or field project period. The courses are mainly in Italian and allow up to 60 participants per edition.

Requirement for admission is the possession of a minimum three-year degree, of any university, Italian or foreign equivalent. They also represent preferential elements for admission: a good curriculum of studies, not older than 27, a minimum working experience (ideally between 3 and 12 months) and a good knowledge of English. From the attitudinal point of view, MiMeC looks for students with strong motivation and initiative, relational skills, constructive attitudes, passion for the profession.

2. Master in e-commerce management - University of Suor Orsola Benincasa of Naples and University of Sannio

The Master in Ecommerce Management offered by the University of Sornio Orsola Benincasa of Naples together with the University of Sannio and with the collaboration of Netcomm aims to train professional with targeted and specific skills in e-commerce to support enterprises who want to improve their performance in the Internet. The course has limited enrollment; the number of eligible candidates is approximately set at thirty; people holding a Bachelor's degree and a Diploma can have access to the training course.

3. E-business and e-commerce - University of Parma

The E-business and e-commerce course offered by the University of Parma under the Economics and Management study program.

4. Advanced E-commerce - Design and Management course - IED (Istituto Europeo di Design - European Institute of design) Firenze.

The Advanced E-commerce - Design and Management course examines the current e-commerce offer in Italy and abroad, with a look at the future developments of the industry, starting with the critical design and analysis of new and pre-existing platforms / marketplace. At the end of the course, the participants are able to actively and comprehensively manage the different resources involved in the structure and management of an e-commerce, meeting the current market needs. At the end of the course, the participant can find work as Project Manager in e-commerce at companies, agencies, and commercial realities.

In addition, as we have seen before, since 2008 the government has adopted a substantial number of policy measures to support the labour market.
Many programmes and initiatives take place at regional level to help people improve their skills. As an example, in the last three years, Unioncamere, in cooperation with the Ministry of Labour and Social Policies and Google, has carried out a support programme - Eccellenze in digitale: a plan of free lessons to learn about the opportunities of the Web, with video tutorials ranging from social media marketing strategies for search engines, as descibed before.
Another national programme for training is Crescere in digitale: an online training course for all members of Youth Guarantee (people aged 18-29). The programme is supported by internships to support the digitization of Italian companies and accompany them in the digital world.

Crescere in digitale - Digital Growth
Crescere in digitale is a project implemented by Unioncamere in partnership with Google, promoted by ANPAL, which was replaced by January 2010 by the Directorate-General for Active Policies, Labor Services and Training of the Ministry of Labor And Social Policies in PON Management) on the resources of the National Operational Program *Youth Employment Initiative*.
Crescere in digitale aims to promote, through the acquisition of digital skills, the employability of young people who do not study and do not work and invest in their skills to accompany businesses in the Internet world. The first part of the project consists of a 50 hour course and a test, both completely online. After passing the test people will be invited to participate in the laboratories on the territory and then to the 3000 internships or to access paths for self-employment and self-employment.
The project was launched on September 9, 2015 According to what it is currently envisaged it will be completed by June 30, 2018.

The VET offer on e-commerce: a starting point

Spain

The demand for the e-commerce market: specializations and skills required

Spring Professional, a company dedicated to the selection of executives and middle managers, belonging to the Adecco Group, advances its forecast on the most demanded and most wanted profiles of the Spanish labour market in 2016 in its "XI Most Demanded" report.

All these professionals have a common denominator: to be strategic for the sectors that claim them. They are also required a profile of great versatility, analytical capability and focused on results; As well as a strategic vision, proactivity and adaptation to change.

Last but not least, they are required good languages skills and international experience is valued. On the part of companies, they will be increasingly required to bet and retain the best talent as possible. Employees have become the key to the competitiveness of companies.

The most wanted professionals and middle managers by sectors will be the following ones:

ITC sector (new technologies)

Specialist in "Big Data" or data analyst is the profile most wanted in this field, because data and trends analysis are the most important indicators to manage corrective measures within the frame where companies operate. He is required to have an Engineering or Mathematics degree. These profiles receive a remuneration ranging from 50,000 to 60,000 euros.

The best paid profile in the sector of the new technologies, meanwhile, is IT security and information data expert. Among the functions of these professionals specialized in cybersecurity are the design of systems and corporate solutions related to architecture, security and information patterns, deploying security policies and coordinating the different business areas and suppliers involved in this process. They are graduated in Computer Engineering, Information Systems, Telecommunications or similar. The salary band of this type of profiles is between 60,000 and 90,000 gross euros per year.

Sales and Marketing

The "business developer" of the digital company is the most sought-after professional in this area. These profiles are different than the usual salesman because they are oriented to a consultative type of sale, but they must have a strong adaptation capacity to different environments and interlocutors, besides the indispensable orientation to the client and innovation capacity. They are asked to have a university degree in Marketing, Advertising, Public Relations and / or Business Administration. It is also valuable to have a Master in Digital Marketing. They earn from 35,000 to 50,000 gross annual euros of fixed salary plus a percentage of variable.

The most quoted would be the "growth hacker" or expert in web positioning, a profile that stands out thanks to the rise of electronic commerce. Its responsibility in start-up companies is focused on increasing the monetary value of the brand through a combination of analytics, creativity and curiosity to grow the number of users inside. They must have a degree in Computer Engineering, Advertising or Marketing with a specialty in digital marketing and Google certifications. Its salary range goes from 45,000 to 70,000 gross euros per year.

Industry

According to Spring Professional consultancy, this year the quality and cost assurance engineer will become a highly relevant profile due to the interest of the large companies of EPC projects (Engineering, Procurement and Construction). This candidate must be able to apply quality plans correctly according to the current regulations within the construction area. The objective of its functions is to be able to satisfy the quality control of the client while project costs and objectives scored are attended. The salary of these profiles ranges from 65,000 to 90,000 gross euros per year.

The best paid profile is responsible for cogeneration projects, who must have an Industrial Engineering degree. This role has to ensure efficiency within energy companies while leads a multidisciplinary technicians team. It is also responsible for supervising and coordinating the engineering, construction and commissioning activities. These professionals gain from 75,000 to 100,000 gross euros per year.

Telecommunications

The video engineer is the most sought-after professional in this sector. The importance of this position arises as the continuous evolution of communication companies focused on digital, mobile technology and video. They must have a Telecommunications engineering degree. Its annual salary can go from 35,000 to 45,000 gross euros. The most quoted in this area is the "Radio Solution Manager", who must ensure the strategy of growth and expansion of companies by offering solutions in the area of R & D. They must have studied engineering in Telecommunications and their annual salary can reach the 75,000 gross euros depending on their experience.

Logistic sector

The most wanted will be the Logistics engineer, a profile responsible for optimizing the traffic of the company's merchandise and the routes and logistical flows. It will monitor the inflow and outflow of goods considering times and places and the adaptation of work procedures to achieve maximum efficiency and quality of service. They must have a higher university degree. The salary of these profiles covers a fork of 35,000 to 40,000 gross fixed annual euros plus a percentage of variable.

The best paid is the "key account manager logistic", a professional in charge of reinforcing sales in large logistic corporations. They are required to be able to provide experience in logistics services with an international character in any type of transport. They have to attract customers and collaborate with the Marketing area to achieve the company's strategy. It must have a university degree and its salary band is between 50,000 and 70,000 euros.

Financial

The profile most demanded by companies is a person in charge of financial control or "controller", a strategic figure within the organizations that is in charge of controlling their management. Its responsibility is based on the internal control of both economic and financial management, it draws up the budgets and analyses their deviations in addition to making future forecasts. He is required to have a university degree, preferably Administration and Management of companies, Economics or Business Sciences. Their salary remuneration is around 45,000 euros gross per year.

The professional who collects the most amount in this area is the audit and control manager, who must have a solid experience in internal and external audit, becoming one of the strategic profiles of any company. They are usually licensed in Business Administration and Management, Economics or Business Sciences. Its salary band is between 65,000 and 75,000 gross annual euros of fixed salary plus a part of variable.

«Retail»
The most sought after is the "area manager", who is responsible for increasing sales through the development of the team and to achieve a good strategy of location of sale points. They must have an university degree in Marketing and / or Advertising and Public Relations or Business Administration and Management. These profiles receive a remuneration ranging from 35,000 to 50,000 gross annual euros of fixed plus a part of variable.
Within the "retail" sector, professionals with highest salary are the directors of expansion. They are responsible for identifying new business opportunities and rethinking current models to grow sales both nationally and internationally. They are graduates in Economy or Business Administration and Management and they charge from 60,000 to 70,000 euros per year.

E-commerce:
an overview on the VET offer courses and competences

E-commerce is a platform used not only to create new online businesses, but also as an option for traditional companies to expand their business possibilities and bring them to a much greater reach. In Spain, this type of course is aimed to equip students with necessary skills, knowledge, and attitudes to understand the processes of communication and promotion of companies through the Internet. In this area, it also teaches how to carry out the purchase and sale on the Internet correctly and safely.

The Government of Spain is aware of the importance of education in general and professional training have in the development of a model of sustainable society both economically and socially, so that it can respond to legitimate Expectations of citizenship regarding their insertion in labour market and their participation as active elements of society.

On the other hand, the financial and economic crisis that has been suffered during the last years has evidenced that the best formed companies are able to respond better in periods of crisis. In this sense, Europe has firmly committed to education and training as the basic pillars of its economic and social model, and this is recognized in Strategy 2020, whose principles and objectives were approved in 2010, coinciding with the Spanish presidency of the EU, and to which Spain contributed decisively.

With these data, we can see the importance that a good program of training offers in the Vocational and Educational Training System will have in the medium and long term in increasing the activity of our young people, allowing them to face their work and personal future with better Guarantees of success.

The eCommercre training program is designed to entrepreneurs and/ or leaders of SMEs with representation in e-business market and with interesting in eCommerce.

It will be combined the theories and practices aspects better model, getting next competences:

- to develop business cases applicates to SMEs and entrepreneurs;
- to provide a full vision of online business models development until it arrives the current world situation;
- to identify and to advice the minimal requirements to carry out eCommerce;
- to disseminate good practices examples.

The e-business is a new enterpreneur model.
Within the e-business, the eCommerce are, principally, the transactions and contacts that occur between businesses (B2B) or between businesses and consumers (B2C).
Enterprises as ORACLE, Telefónica Digital, AXA, ESADE, IE Business School o Google performs training of eCommerce and online business.
The creation and impartation of business online training in enterprises and business college is one of the more required training lines.

ESADE – Keys to use online channel like business generator.
How to use the possibility of the online ecosystem to generate new business models, to capture an audience, to generate transmission and achieve profitability in eCommerce projects and online business.
The aim in this training action has been the transmission of the more important designs that are necessary to generate new businesses based on the digital ecosystem: web, social networks, eCommerce apps, mobility and context.
The 5 critical factors success to online business are: proposal value, audience capture, generation transmission, rentability and effect of the technology.

ORACLE – Cloud Transformation. Optimization of sales in the new digital environment.
How to focus the marketing effort in the CLOUD stage, where technology behind the solutions is clear to customer, that judge and understand only the quality of received service, without to concern of the traditional problem of IT sector.
This new stage of sales requires a previous job of analysis of new business models that are arising, to understand how the marketing process change when the entry or exit barriers disappears, when the regulation or framework changes, when an outdated technology start or when customer claims some new solutions.

AXA – Generation of online business opportunities in the insurance sector.
The aim of this training action is the display, analysis and understanding of tools, channel and methodologies that exit to generate online business supported by online channels: web, mobile displays, smartphones, online platform, social networks, marketplaces, communities, applications and M2M.
During this training, necessary concepts to analyze and understand the key success factors in the actions that they want to carry out in the digital environment as part of the promotion of their business from the insurance agency or company are worked out in depth.

Telefónica Digital – Analysis and generation of new business models in the digital world.
The aim of this training action is the display, analysis and understanding of tools, channel and methodologies that exit to generate online business supported by online channels: web, mobile displays, smartphones, online platform, social networks, marketplaces, communities,

applications.This course overviews main concepts and methodologies of analysis of the new business models in digital places.
Across theory and examples (Business Case), success business keys that are shaking the online world and changing models are sought. Across four "Business Case" start-ups and enterprises that are leading the revolution in digitals business are analysed in depth, to understand and to anticipate changes of business that are produced in near future.

Universidad Ecommerce – Keys of the process of the optimization of the conversion in eCommerce.
The goal is to rise more sales whit the same marketing effort, increasing the profitability per order and reducing customer acquisition costs.
The areas of work that are influencing in higher degree in conversion improvement processes are:

- Technology
- Desing
- Usability
- Contact
- Purchase process
- Trustworthiness

IE Business School - Workshop about digital transformation strategy.
The objective of this training action is the display, analysis and understanding of tools, channels and methodologies that currently exist to generate online business based on the active presence in the online channels: web, mobile displays, smartphones, online platform, social networks, marketplaces, communities, applications.
Workshop about the importance of the adaptation of the organizations to new digital environment. This transformation requires an intelligent use of the technology, specially a shared vision by management team, a clear orientation to business and redesigning of processes and organizational set-ups. It is necessary to create a digital culture within the organization.
An ideal activity to do with management team, sharing interactively the vision on how social networks, mobile devices, cloud or collaborative revolution can change the business and activity of any sector, understanding the time and the reach of this changes, and identifying the actors and significant alliances to their development.

Self employment and ICT: an overview on the VET offer

The technological sector is still booming and is expected to continue in this line to address the innovations that will host the labour market in the coming years. Against this background, IT jobs will continue to grow, but they may experience a change in the modalities of work from the point of view of supply and demand.
This is indicated by the technological talent company Nubelo after analyzing the data extracted from the platform between a total of 68,055 offers and 55,603 published job demands. The study shows that the modalities of technological work offered and demanded in Spain are moving at different rates. While the demand for paid employment exceeds the number of offers (5,907 applications compared to 1,846 positions offered), the supply of freelance jobs exceeds demand (25,354 offers versus 7,022 freelance job applications). These are jobs, in the clear majority, in the short term, so they have a lower cost for the company compared to the jobs for others. Despite

these data, experts from Nubelo explain that in general, IT jobs continue to grow as well as the search for professionals to work in a relationship.

"This is leading companies to be more flexible when deciding on the type of hiring they want to collaborate with," said Anna Cussó, Director of Business at Nubelo. "We should start to consider these IT profiles as talent, not as traditional profiles that will be applied to one of our offers and that we can hire directly. Let them choose and see what value they can bring and how they can make us grow. This is the thinking that we must keep in mind in all the companies that need to hire this type of professionals in the next years ", he adds. IT professionals are difficult to find because of the demands of customers and the market. They need to know specific technologies, have fluent English, proven experience and often a high degree of seniority.

E-commerce:
an overview on the university and private offer

Electronic Commerce is governed by rules that are totally different from those of traditional businesses and, therefore, the starting point, the keys to success and control of the same is based on existing disciplines but appropriately adapted to the medium or in other of new appearance and specific to the environment.

The digital marketing professional must be proactive, self-taught, curious and focused on selling and converting. It must also understand that, although all reports and studies place e-commerce as one of the sectors with the most growth, it is necessary a continuous training to stay up to date and not fall again in another bubble. Year 2000. Despite all this, from the need to monetize ideas on the Internet, public and private universities did not contemplate, until recently, training programs on ecommerce and digital marketing.

Moreover, it seems that in Spain while we are in university we live outside the world of business, as if it were something that will come in the future, something from outside, from the real world, instead of integrating into the training itself, instead to learn while being or pretending to be in a company. The company - university union is trying to achieve, but always outside the formative curriculums and the curricula, by means of ascribed entities. Almost all of them have had to live near a transition to the "new plan", being this "new plan" alien to the labor market reality, which is what it is about. Without being aware of this, many universities will survive thanks to ecommerce, for example, accepting the use of peerTransfer as payment method (incidentally, Spanish startup case of internationalization success).

The ecommerce and digital business sector changes so fast that schools and universities do not have time to update and take content a day since what is new and trending now, ceases to be in a few months. For a professor of the online world, "amortizing" the slides is more expensive than another that is dedicated to training on more classic subjects, since each year has to modify and readapt them. It is not the same to prepare a good class on Laplace integral or Fourier series, which can "serve" for a lifetime of teacher, to prepare one of Google Analytics on ecommerce KPI, since it is known that in all A few years ago the interfaces and the users themselves changed. For this reason, for a school and its heads of study, it is difficult to make a "profitable" curriculum that changes little and is constant (and optimized) over time.

The VET offer on e-commerce: a starting point

Czech Republic

The demand of the e-commerce market: skills and competencies required

The position of the Czech Republic in terms of its prospects to become an important player in e-commerce in the Central Europe is questionable. The main reasons for this are as follows:

- Economic prospects. The Czech Republic lacks a clear definition of priorities for the development of some sectors and skilled labour.
- Co-operation between tertiary institutions and the business sector. At present educational institutions only operate as "factories producing labour" for companies. A good link between research, science and the business sector is still an exception
- Previous two factors are closely linked to the issue of quality in education. As in other sectors (including industry) educational institutions fall short of meeting industry requirements.
- Marketing and trade "spirit" of Czech ICT companies and developers. One of the most severe "ailments" of Czech specialists and scientists is their poor sense of the potential application of ideas in business and the poor capacity to think in market terms

Despite the above mentioned facts the labour market with the e.commerce related jobs is rather busy and more and more companies seek to employ a professional with a certain set of skills in order to carry out the full range of e-commerce activities. Most demanded skills and competencies in the Czech environment are:

Skills:

- To implement, manage and analyze an e-copmmerce campaigns in the Czech republic and Slovakia and evaluate their performance
- To manage the PPC campaigns in Seznam Sklik, Google AdWords, Facebook etc.
- To manage the shopbots (Comparison shopping web-sites)
- To design and prepare e-mailing activities and work with databases
- To do reporting and performance analysis
- To optimalise the converse rates
- To know SEM/SEO, Affiliate marketing
- To follow the trends
- To seek new opportunities in PPC and other channels

Basic competences:

- Excellent Czech language
- Slovak language is always an advantage

Transversal Competences:

- Creativity
- Initiative
- Orientation on customer
- Independence
- Team leading

Technical competences:

- Knowledge of the internet B2C commerce
- Ability to work withthe data analysis and to evaluate campaigns
- Ability to do marketing based on customer's LTV and ROI
- Performace marketing and re-marketing

E-commerce: an overview on the VET offer

Courses and competences

In the Czech Republic there is a traditionally high attainment of upper secondary education (ISCED 3), in particular of vocational education. Vocational education accounts for three quarters of all upper secondary education graduates. This type of education is either concluded by a maturita examination (ISCED 3A – 47% of all upper-secondary graduates) enabling further studies at tertiary education level or graduating without maturita (ISCED 3C – 29%). The latter is intended mainly for direct entry into the labour market. For a long time there has been a decline in interest for vocational secondary education and rising interest for general secondary education. Pupils also chose more often secondary education with maturita rather than without maturita examination. While the young population decreases, the absolute numbers of study places at the secondary general schools (gymnázia) remain stable which results in a declining proportion of learners in vocational education.

Most of the re-qualification educational programs aimed at self-employment (like Basics of entrepreneurship, How to set up the business etc.) are rather old-fashioned and do not follow the fast changing trends in e-commerce at all. There is no evidence of e-commerce classes or subjects in most (80%) of the available requalifications on the market with educational services in the Czech Republic. (Note: re-qualification programs need an accreditation from the Ministry of Education). The few courses that have the e-commerce subjects implemented in the curricula have the information limited to the web-page, social networks and business presentation in the Internet issues.

Most of the general courses for enterpreneurs provide only a very basic training on ICT using, it is mostly just the Excel on the basic level and web search. Higher level skills can be gained on the specialised courses provided by the specialised consultancy companies.

There is no VET offer for e-commerce focused at micro-enerprises in the Czech republic, however the demand is obvious.

Self employment and ICT:
an overview on the VET offer

The ICT labour market is currently facing problems that are similar to those faced by other technology and knowledge intensive sectors of the Czech economy. The dynamic development of ICT services in the CR (influenced, above all, by the inflow of foreign investment) has exhausted nearly the entire labour market capacity. In certain occupations this has even resulted in "salary inflation" – companies overpay employees in occupations that are of key importance for their development and competitiveness.

At present the education system fails to "supply" a sufficient number of graduates. In the short term this may be offset by active support aimed at outsourcing the e-commerce specialists and by retraining. In the long term, however, more radical changes and reforms in the academic sector must be implemented in order to ensure that supply responds to demand in a flexible manner – not only in terms of numbers, but also in terms of the structure of the required knowledge and skills. The third possibility consists in optimising the occupational and qualification structure of employees, for which it is necessary to define future labour market needs.

A specific feature of e-commerce is the pace of development of new technologies to which schools and educational institutions in the CR are not able to respond in a flexible manner. Some programmes are entirely lacking in the provision of Czech schools. Companies are usually forced to subcontract a specialist for a certain kind of service they need. Adoption of appropriate measures in the education system is an absolute necessity if employment in this area is to be maintained.

E-commerce:
an overview on the university and private offer

At tertiary level, the content of study programmes is developed by the institutions (VOŠ and VŠ) themselves. The MŠMT approves the programmes based on a recommendation issued by the Accreditation commission for tertiary professional education or the Accreditation commission for higher education. The commissions are set up by the Government.

Study programmess – both bachelor's degree and marster's degree (Business, Economy and Management) usually contain certain general information about e-commerce as a part of the curricula, but the information does not include the practical training of skills needed for the e-commerce specialist.

As an exception from the above mentioned situation we can mention the Czech college. The college provides several digital communication programs that train students to create and use technologies for computers, mobile devices and broadcasting. Students in this field may choose to focus their efforts in one or more specific areas, including Web Development and E marketing.
At present Czech College offers 4 programmes in the area. They are:
BSc Multimedia – Web development and E-business
BSC Multimedia - Digital Communication
Masters in Web development and E-business
Masters in Digital Communication.

Continuing (vocational) education programmes provided outside of the formal school system usually respond directly to the demand of the market. Upon development of programmes existing national registers may be consulted, e.g. the National Register of Occupations or the National Register of Vocational Qualifications. Since 2009, the providers of the retraining programmes must link the content of these courses to the National Register of Vocational Qualifications, thus, the successful participants can get a nationally recognised certificate.

Relatively the most relevant and professional education and training regarding the e-commerce is available within the further education provided by the private entities, mostly by the consultancy and training organisations that offer the full range of services related to the e-commerce. The offer of this kind of training activities is rather wide and either focused on some certain sklil or on the e-commerce as a whole, however the approach is always highly practical and focused on the proper delivery of the particular skill/competence.

Conclusion and recommendations

The world of e-commerce is undergoing an unprecedented wave of change. New business models are appearing that will have a strong influence across the e-commerce and wider retail value chain. At the same time, consumer behaviors and expectations are evolving.
In order to reflect this trend with the aim to help the small entrepreneurs face the situation, a group of professional institutions from four European countries (Lithuania, Italy, Spain and the Czech Republic) prepared the project in which a new educational program for micro-enterprises dealing with e-commerce will be designed, tested and put into use. The project: The Me-commercer: a new VET professional profile for Micro Enterprisese is realized under Erasmus+ program of European Commission.
The demand for an educational opportunities where small businesses, especially micro-enterprises could gain the respective competencies, was anticipated already in the application phase of the project. The team expected this assumption to be confirmed by the extensive study of all up-to-date information related to e-commerce in EU as well as in the four partner countries.
European e-commerce turnover increased by 15% to €530 billion in 2016. For 2017, the European B2C e-commerce turnover is forecasted to reach around €602 billion, at a growth rate of nearly 14%. Key trends show that the proportion of european companies with more than 10 employees having a website is continuously growing – from 67% of all retail companies in 2010 to 77% in 2016. Yet only 18% of them sell through their website. However, the pace of this growth varies regionally across European markets. Western European countries continue to lead the way, as the largest market for e-commerce, with the UK topping the list with approximately 33% of the European online sales. In the mature e-commerce markets, the proportion of consumers shopping online is highest, 87% in the UK, 84% in Denmark and 82% in Germany for 2016. In contrast, the share of people shopping online is the lowest in Romania, Macedonia and Bulgaria.
Nonetheless, Central and Eastern European Countries achieved the highest e-commerce sales growth in 2016; in Romania sales increased by 38%, and the market in Slovakia and Estonia grew by 35%, Ukraine saw a growth of 31%, and Poland and Bulgaria grew by 25%. Ecommerce, combined with the EU Single Market, is an opportunity to sell and shop across border without travelling or setting up shop in another country. 33% of online shoppers purchased abroad in 2016, with Luxembourg, Russia and Switzerland topping the list of cross-border online purchases (each over 60%).
Online purchasing is more popular with the younger generation: two-thirds of 16-24 year olds purchase online frequently, in comparison to one-third of the 55-74 year olds.
The above mentioned data were published in the European Ecommerce Report in June 2017 and confirm the general trends, facts and figures presented in the survey as well as the fundamental assumption our project was based on: the e-commerce potential is rapidly growing and this trend is expected to increase in strength.
Although all project partner countries (Lithuania, Italy, Spain, Czech Republic) are subject to the general EU regulations (especially the Directive “Directive on electronic commerce” 2000/31/EC), there are still some critical underlying problems, such as legal fragmentation. It seems that the real problems in e-commerce are related to the fact that we still haven’t attained a real, fully harmonized Single Market. Neither offline nor online. Therefore, the

national legislative initiatives should focus more on removing the remaining barriers to cross-border trade that are, for instance, the intrinsic causes of geoblocking practices and inefficient parcel delivery, rather than solely trying to tackle its consequences.
The European Commission published its new proposal regarding online business on 25th May 2016 delivering on its Digital Single Market and Single Market strategies. The proposal contains new rules with the objective of facilitating electronic commerce regarding goods and services within the EU io it more accessible for companies and consumers. According to the Commission's proposal on geo-blocking, foreign consumers will be allowed to "shop like locals", under certain conditions, of course. It means, in practice, that when an online shop is not directing its sales to a specific country, this will always be treated as a passive sale, so the shop will be allowed to apply their home country rules and laws. Overall, online merchants are pleased to see that the proposal will not impose an obligation to deliver to all EU Member States and that they are free to set their pricing policies.
The quality of delivery among the competing delivery operators will have opportunity for improvements thanks to the parcel delivery regulation which will allow swift action and avoid further regulatory fragmentation. It is necessary to come closer to a global level playing field accessible to all players through the use of open information and label standards. Only when standards and interfaces are interoperable across providers and across borders, the burdens and costs for merchants can be reduced and innovation in the delivery value chain increased.
The European e-commerce got a relatively late start - in 1995 (Brown, 2010), but the market potential is huge. The development of e-commerce comes hand in hand with the development of electronic literacy, technology and general services.
As obvious from the DESI index of EU countries on the digital performance in five major areas (Connectivity, Human Capital, Use of Internet, Integration of Digital Technology and Digital Public Services), Denmark, Finland, Sweden and the Netherlands have the most advanced digital economies in the EU followed by Luxembourg, Belgium, the UK and Ireland. Romania, Bulgaria, Greece and Italy have the lowest scores on the DESI. The performance of the other 3 partner countries – Spain, Lithuania and the Czech Republic – can be found close to the EU average level. In 2016, all Member States improved on the DESI. (The Digital Economy and Society Index, 2016).
Although the European e-commerce applications reached a very high level, there is still a big space for development, especially for small and medium-sized enterprises. While smaller businesses tend to be more flexible and quick to change than larger corporates, they are much more vulnerable to deterioration in the business environment. They are also more sensitive to harassment from government institutions and have fewer resources to draw on when times are hard.
European SMEs still have lower productivity and grow more slowly than their counterparts in the United States. In the US, surviving firms on average increase their employment by 60% by their seventh year, while employment gains among surviving firms in Europe are in the order of 10% to 20%. SMEs still face market failures undermining the conditions in which they operate and compete with other players in areas like finance (especially venture capital), research, innovation and the environment. For example, about 21% of SMEs indicate that accessing finance is a problem, and in many Member States the percentage is much higher for micro-enterprises. Also, fewer European SMEs innovate successfully when compared to large businesses. The situation is worsened by structural difficulties such as the lack of

management and technical skills, and remaining rigidities in labour markets at national level. Being SME-friendly should become mainstream EU policy, based on the conviction that rules must respect the majority of those who will use them: the ”Think Small First” principle. This is why the “Small Business Act” aims to improve the overall policy approach to entrepreneurship, to irreversibly anchor the “Think Small First” principle in policy-making from regulation to public service, and to promote SMEs’ growth by helping them tackle the remaining problems which hamper their development.

SMEs represent 99.8% of all businesses in the EU in average and in all partner countries the rate is the same. Consequently, micro-enterprises represent 92.8% of all businesses in the EU in average, while in three of the partner countries the rate is even higher (Italy 95.1%, Spain 94.8%, Czech Republic 96.1%), in Lithuania it is 91.5%. (Small Business Act for Europe).

The general performance of the SMEs in the project partner countries vary in all of the monitored indicators and this variation depends on the local (national) conditions, DESI performance, national legislation etc. The national overviews contain a series of recommendations for the performance improvements set into the national context and they may serve as a reference level for the e-commercers planning to set up or improve their businesses.

The survey conducted among 100 micro enterprises (up to 10 persons employed) in all four partner countries was aimed at obtaining an insight into their inner processes, at mapping their true situation and requirements in ecommerce. The survey provided interesting facts that can be used as a starting base and an inspiration for the future activities for SMEs development.

84% of respondents use the internet for the company promotion. From the data gathered it is obvious that there is a big gap between the expectations from the use of Internet for the company promotion and actual satisfaction with the results - approximately just ⅓ of the particular marketing tool users are happy with the results obtained. The reasons for the dissatisfaction are most probably rooted in the low level of competencies for the full exploitation of the Internet opportunities, because 72% of all respondents state that they are willing to improve their level of ICT competencies, especially those who already have some skills, but they are either poor or average. Companies that already have experience with the use of Internet for the company promotion are more willing to upgrade their competencies than those that have no previous experience. This finding is very motivating and shows the belief of the satisfied users to continue with their effort. The most demanded competencies are: marketing, social networking, general ICT knowledge for e-commerce, search for information and legal requirements of e-commerce.

16% of respondents stated that they do not use internet for the company promotion, mostly motivating it as inappropriate way to promote the company, and 50% percents of the respondents, who defined their knowledges as poor are not sure they want to upgrade they knowledges in ICT. It also could draw a trend line for the education policy makers and providers to ensure successful SME competition in the global market.

63% of respondents would welcome the chance to get involved in a practical training on the company promotion in the internet. However, 39% of respondents would consider outsourcing of this service.

These results could show where to focus the interest of the future e-commercers as well as the providers of the vocational training for these specialists within the partner countries.

The Bruges Communiqué on enhanced European Cooperation in Vocational Education

and Training for the period 2011-2020 reinforces the main VET development directions established within the Copenhagen Process. The measures that have been identified will make the vocational training more accessible and more adapted to the needs of the labour market.

Our survey found out that there are very limited options for the vocational education and training in the e-commerce within the formal education in all partner countries, and practically no education and training available that would be focused on the needs of micro-enterprises. At the same time the demand for this kind of specialists are increasing: e-retailers are looking for more specialized employees.

The e-commerce specialists need to keep track with trends, to know what the consumers will require and work hard to stay ahead of the game. The survey research results show that the education provided by the upper secondary level, post-secondary non-tertiary level and short-cycle tertiary level (ISCED 2011, levels 3 - 5) that are practically-based, occupationally-specific and prepare the graduates for work do not reflect the labour market requirements. Obviously there are private commercial educational courses available on the market with educational services (provided mostly by consultancy companies in e-commerce or by universities within the non-formal education), however the demand for these skills is so significant that it would deserve a system approach within the formal education system. These competencies should be implemented already in the curriculum (of the upper secondary, post-secondary non-tertiary and short-cycle tertiary levels) to ensure the new graduates of business schools will be able to fully implement and use the e-commerce features in their business.

It is important to mention that in many european countries the universities define a general trend in the development of the educational services. From among the project partner countries this is the most obvious in Italy with a relatively large scale of the educational opportunities provided on the tertiary level.

The information gathered in this report will be used as a base for the design of the online educational program for a new vocation - me-commercer, which represents the second phase of the project. The program is expected to reflect the true need of micro-enterprises in order to prepare the graduates accordingly. After the educational program has been tried and tested in a group of micro-entrepreneurs in all partner countries, the course will be available also in national language versions as an open source for educators interested in the e-commerce and related subjects.

The educational program will be preparing the “me-commercers”, a highly skilled professionals, who will be able to help micro-businesses to overcome all obstacles in the world of e-commerce and help their businesses grow.

Glossary

4G
4G is the fourth generation of mobile telecommunications technology, succeeding 3G. A 4G system must provide capabilities defined by ITU in IMT Advanced. Potential and current applications include amended mobile web access, IP telephony, gaming services, high-definition mobile TV, video conferencing and 3D television.

ANPR - National Registry of Resident Population
ANPR is italian centralised database which gradually replaces over 8051 Municipal Registers and the Register of Italian Citizens Living Abroad to overcome the existing fragmentation. This project is key to allow further innovations linked to citizens' identity and their relationship with public administration.

Broadband
In the context of Internet access, broadband is used to mean any high-speed Internet access that is always on and faster than traditional dial-up access.

Cloud computing
Cloud computing is a type of computing that relies on sharing computing resources rather than having local servers or personal devices to handle applications.
In cloud computing, the word cloud (also phrased as "the cloud") is used as a metaphor for "the Internet," so the phrase cloud computing means "a type of Internet-based computing," where different services — such as servers, storage and applications —are delivered to an organization's computers and devices through the Internet.

Cloud player (Amazon)
Cloud player is an Internet-based service that allows to store up to 5GB of music and access that music from a Web browser, Android device, and—if you know the trick—an iOS device.

Digital economy
Digital economy refers to an economy that is based on digital computing technologies. The digital economy is also sometimes called the Internet Economy, the New Economy, or Web Economy. Increasingly, the "digital economy" is intertwined with the traditional economy making a clear delineation harder.

E-commerce marketplace
Online e-commerce marketplace is a type of e-commerce site where product or service information is provided by multiple third parties, whereas transactions are processed by the marketplace operator. Online marketplaces are the primary type of multichannel e-commerce and can be described as a "simple and convenient portal" to streamline the production process. **E-government**
E-government is a generic term that refers to any government functions or processes that are carried out in digital form over the Internet. Local, state and federal governments essentially set up central Web sites from which the public (both private citizens and businesses) can find public information, download government forms and contact government representatives.

Enterprise Resource Planning (ERP)
Enterprise Resource Planning is business process management software that allows an organization to use

a system of integrated applications to manage the business and automate many back office functions related to technology, services and human resources. ERP software integrates all facets of an operation — including product planning, development, manufacturing, sales and marketing — in a single database, application and user interface.

Fourth Industrial Revolution
See Industry 4.0

FTTX
Fiber to the x (FTTX) is a generic term for any broadband network architecture using optical fiber to provide all or part of the local loop used for last mile telecommunications. As fiber optic cables are able to carry much more data than copper cables, especially over long distances, copper telephone networks built in the 20th century are being replaced by fiber.
FTTP - (fiber-to-the-premises): This term is used either as a blanket term for both FTTH and FTTB, or where the fiber network includes both homes and small businesses.
FTTH - (fiber-to-the-home): Fiber reaches the boundary of the living space, such as a box on the outside wall of a home.

Heavy ebuyer
Heavy buyers, also known as heavy users, high rollers, big spenders represent the lion's share of e-commerce sales. There are no specific values to define the target.
Example: according to the E-shopper barometer Global report – November 2016 conducted by the dpd group, heavy e-buyers are people whose annual purchases online are more than ten.

Industry 4.0
Industry 4.0 is the current trend of automation and data exchange in manufacturing technologies. It includes cyber-physical systems, the Internet of things, cloud computing and cognitive computing. Sometimes it is referred to as Fourth Industrial Revolution.

International Consumer Protection and Enforcement Network (ICPEN)
ICPEN is an organisation composed of consumer protection authorities from over 60 countries.

Last mile
The last mile or last kilometer is a colloquial phrase widely used in the telecommunications, cable television and internet industries to refer to the final leg of the telecommunications networks that deliver telecommunication services to retail end-users (customers).

Millennials
Millennials (also known as Generation Y) are the demographic cohort following Generation X. There are no precise dates for when this cohort starts or ends. Demographers and researchers typically use the early 1980s as starting birth years and the mid-1990s to early 2000s as ending birth years.

Next-generation access (NGA)
Next-generation access describes a significant upgrade to the Broadband available by making a step change in speed and quality of the service. This is typically thought of as asymmetrical with a download speed of 24 Mbit/s plus and a fast upload speed.

One-stop shop
A one-stop shop is a company or a location that offers a multitude of services to a client or a customer. The

idea is to provide convenient and efficient service and also to create the opportunity for the company to sell more products to clients and customers.

PagoPA
The system for online payments to the public administrations.

Pay-per-click (PPC)
PPC is an internet advertising model used to direct traffic to websites, in which an advertiser pays a publisher (typically a website owner or a network of websites) when the ad is clicked.

Public administration (P.A.)
Public administration is the implementation of government policy.

Radio-frequency identification (RFID)
Radio-frequency identification uses electromagnetic fields to automatically identify and track tags attached to objects. The tags contain electronically stored information.

Search engine marketing (SEM)
Search engine marketing is a form of Internet marketing that involves the promotion of websites by increasing their visibility in search engine result pages primarily through paid advertising. SEM may incorporate search engine optimization (see SEO), which adjusts or rewrites website content and site architecture to achieve a higher ranking in search engine results pages to enhance pay per click (see PPC) listings.

Search engine optimization (SEO)
Search engine optimization is the practice of increasing the quantity and quality of traffic to the website through organic search engine results.

Second chance
The second chance policy enables formerly bankrupt entrepreneurs restart and represents one of the most promising and under exploited policy options for company creation and job growth.
It aims to prevent bankruptcy, to simplificate the bankruptcy procedures and to support e fresh re-start.

Service Profile Identifier (SPID)
A Service Profile Identifier is a number issued by ISDN service providers in North America that identifies the services and features of an ISDN circuit. Service providers typically assign each B channel a unique SPID. A SPID is derived from the telephone number assigned to the circuit, and in the U.S. it typically follows a generic, 14-digit format.

SGA (Sistema Gestionale Avanzato)
SGA is a Warehouse Management System that allows the use of radio frequency terminals or other technologies, manage real time information flows associated with warehouse logistics operations and to integrate it into the management information system.

Small Business Act (SBA)
The Small Business Act is an overarching framework for the EU policy on Small and Medium Enterprises (SMEs). It aims to improve the approach to entrepreneurship in Europe, simplify the regulatory and policy environment for SMEs, and remove the remaining barriers to their development. The Small Business Act was adopted in June 2008 and was a milestone in the European policy for small and medium-sized enterprises. It recognises the central role of microenterprises and SMEs to the promotion of growth, innovation, social inclusion and employment in the European economy.
SME test
The SME Test analyses the possible effects of EU legislative proposals on SMEs. By assessing the costs

and benefits of policy options, it helps implement the 'Think Small Principle' and improve the business environment.

STEM
STEM is a curriculum based on the idea of educating students in four specific disciplines — science, technology, engineering and mathematics — in an interdisciplinary and applied approach. Rather than teach the four disciplines as separate and discrete subjects, STEM integrates them into a cohesive learning paradigm based on real-world applications.

Stock Option
Stock Options are a particular form of distribution of the share capital that entitles the beneficiaries to subscribe shares or future shares of the company at a predetermined price. Innovative Startups can give it to their employees free of charge, though they can not be exercised by the latter before a given date (vesting date).

Window shopping
"Window shopping" is a term referring to the browsing of goods by a consumer with no intent to purchase, either as a recreational activity or to plan a later purchase.

Work for equity
Work for equity or equity-based pay is often used by the founders of young startups who want to grow their businesses but cannot offer big salaries to qualified professionals. Typical arrangements seek to either partially or fully compensate service providers with stock in the company in exchange for hard work.

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