



STATISTICAL SERVICE OF CYPRUS

This project is co-funded by the European Union

File No.: 5.27.006.024.001

SURVEY ON ICT USAGE AND E-COMMERCE IN ENTERPRISES 2025

GENERAL INFORMATION:

- 1 The purpose of this survey is to collect data about the use of information and communication technologies (ICT) by the enterprises, the access and use of the internet, e-commerce, data utilisation and analytics, the use of cloud computing services, artificial intelligence and ICT and the environment. These data are necessary for the implementation of policy programmes by both the public and the private sector.
- 2 The requested information must be supplied by the **IT manager of the enterprise**. Background information about the enterprise (Module X) should be provided by the general manager or by the financial controller or by any other responsible person.
- 3 An authorised employee of the Statistical Service will contact the IT manager of the enterprise by phone in order to arrange for filling in the questionnaire.
- 4 Definitions of the terms used in the questionnaire can be found in the glossary attached.
- 5 The reference period for the data is the current period, unless the question refers to another specific period.
- 6 The survey is carried out in accordance with the Official Statistics Law of 2021 (Law No. 25(I)/2021). The Statistical Service is bound by the Law to treat all information obtained as **CONFIDENTIAL.** Your responses will be used solely for statistical purposes.
- 7 The survey is partly financed by the EU and is carried out simultaneously in all Member States.

St. Karagiorgis Director Statistical Service

February, 2025

	Module A: Access and use of the Internet ⁽¹⁶⁾	
	(Scope: all enterprises)	
A1.	How many persons employed have access to the internet for business purposes?	
	(including fixed line, fixed wireless and mobile telephone network connection)	(Number)
	If you can't provide this value,	
	please indicate an estimate of the percentage of the total number of persons employed who have access to the internet for business purposes	If the value=0, go to F 1

	Use of a fixed connection to the internet for business pur	poses		
A2.	Does your enterprise use any type of fixed connection to the internet? (e.g. ADSL, SDSL, VDSL, fiber optics technology (FTTP), cable technology, fixed wireless)	Yes	No □ ->go to A4	
A3.	What is the maximum contracted download speed of the fastest fixed internet connection of your enterprise?			
	a) less than 30 Mbit/s]	
	b) at least 30 but less than 100 Mbit/s]	
	c) at least 100 Mbit/s but less than 500 Mbit/s			
	d) at least 500 Mbit/s but less than 1 Gbit/s]	
	e) at least 1 Gbit/s]	

	Use of a website ⁽³¹⁾		
A4.	Does your enterprise have a website?		
	If your enterprise is present on the website of the e.g. enterprise group or franchisor, you are also considered to have a website.	V -	No
	<u>If yes,</u> give the address of your website:	Yes 🗆	
A5.	Does the website have any of the following?	Yes	No
	a) Description of goods or services or price information		
	b) Online ordering or reservation or booking, e.g. shopping cart		
	c) Possibility for visitors to customise or design online goods or services		
	d) Tracking or status of orders placed		

e) Personalised content on the website for regular/recurrent visitors	
f) A chat service for customer support (a chatbot ⁽⁴⁾ , virtual agent or a person replying to customers in real-time)	
g) Advertisement of open job positions or online job application	
 h) Content available in at least two languages Please, consider a multilingual website within a single domain (e.g. ".com") or multiple domains of your enterprise in different languages (e.g. ".es", ".uk"). 	

Use of social media (26) A6. Does your enterprise use any social media (i.e. have a user profile or an account)? (e.g. Facebook, Instagram, X (formerly Twitter), Snapchat, YouTube, LinkedIn, TikTok, Xing, Viadeo) Yes □ No □

Module B: e-Commerce sales

(Scope: enterprises with access to the internet, i.e. if A1>0)

In e-commerce sales of goods or services, the order is placed via web sites, apps⁽¹⁾ or EDI-type messages (EDI: Electronic Data interchange) by methods specifically designed for the purpose of receiving orders.

The payment may be done online or offline.

e-Commerce **does not include** orders written in e-mail.

Please report web and EDI-type sales separately. They are defined by the method of placing the order:

- WEB sales: the **customer** places the order on a website or through an app;
- EDI type sales: an EDI-type order message is created from the business system of the customer.

Web sales ⁽²⁵⁾ of goods or services

Web sales cover orders, bookings and reservations placed by your customers via

• your enterprise's websites or apps:

- online store (webshop);
- web forms;
- extranet ⁽¹⁴⁾ (webshop or web forms);
- booking/reservation applications for services;
- o apps for mobile devices or computers;
- e-commerce marketplace websites or apps (used by several enterprises for trading goods or services).

Orders written in e-mail are **not** counted as web sales.

B1.	During 2024, did your enterprise have web sales of goods or services via:	Yes	No
	a) your enterprise's websites or apps? (including extranets)		
	 b) e-commerce marketplace⁽¹⁷⁾ websites or apps used by several enterprises for trading goods or services? (e.g. e-Bookers, Booking, hotels.com, eBay, Amazon, Amazon Business, Alibaba, Rakuten, TimoCom etc.) 		

If both B1 a) and B1 b) = "No" then go to B9

B2.	What was the value of your web sales? (please refer to the provided definition of web sales) Please answer to a) OR b)	
	a) What was the value of your web sales of goods or services, in 2024?	€
	OR b) What percentage of total turnover was generated by web sales of goods or services, in 2024? If you cannot provide the exact percentage an approximation will suffice.	⊔⊔⊔,⊔%

	Question B3 should be answered only if both B1 a) <u>and</u> B1 b) = "Yes"		
B3.	What was the percentage breakdown of the value of web sales in 2024 for the following:		
	a) via your enterprise's websites or apps? (including extranets)	⊔⊔⊔%	
	 b) via e-commerce marketplace websites or apps used by several enterprises for trading goods or services? (e.g. e-Bookers, Booking, hotels.com, eBay, Amazon, Amazon Business, Alibaba, Rakuten, TimoCom etc.) 	└ └ \ %	
	TOTAL	100%	

B4.	What was the percentage breakdown of the value of web sales in 2024 by type of customer:	
	a) Sales to private consumers (B2C)	
	b) Sales to other enterprises (B2B) and sales to public sector (B2G)	ЦЦЦ%
	TOTAL	100%

B5.	What was the percentage breakdown of the value of web sales in 2024 by type of products: (Please refer to value of web sales you reported in B2.)	
	a) Physical goods	ЦЦЦ%
	 b) Digital goods or services (digitally delivered) (e.g. software or other digital content as downloads or as a streaming services (e.g. software licences, e-books, e-newspapers, apps, online courses/webinars) 	⊔⊔⊔%
	c) Services not digitally delivered (e.g. accommodation, travel, maintenance or repair services)	ЦЦЦ%
	TOTAL	100%

B6.	During 2024, did your enterprise have web sales to customers located in the following geographic areas?		
		Yes	No
	a) Own country		
	b) Other EU countries		
	c) Rest of the world		

The following question (B7) should only be answered if at least two of the above possible responses in question B6 a), b) or c) are answered with "Yes", otherwise go to question B8

B7. What was the percentage breakdown of the value of web sales in 2024 to customers located in the following geographic areas? a) Own country L L L % b) Other EU countries L L L % c) Rest of the world L L L % TOTAL 1 0 0 %

The following question (B8) should only be answered if B6b) =Yes otherwise go to B9.

B8.	Regarding web sales to other EU countries: did your enterprise		
	experience any of the following difficulties during 2024?	Yes	No
	a) High costs of delivering or returning products when selling to other EU countries		
	b) Difficulties related to resolving complaints or disputes when selling to other EU countries		
	c) Adapting product labelling for sales to other EU countries		
	d) Lack of knowledge of foreign languages for communicating with customers in other EU countries		
	e) Restrictions from your business partners to sell to certain EU countries		
	f) Difficulties related to the VAT system in other EU countries (e.g. uncertainty regarding VAT treatment in different countries)		

EDI-type sales

EDI-type sales ⁽¹⁰⁾ cover **orders placed** by customers via EDI-type messages (EDI: Electronic Data interchange) meaning:

- in an agreed or standard format suitable for automated processing;
- EDI-type order message created from the business system of the customer;
- including orders transmitted via EDI-service provider;
- including automatic system generated demand driven orders;
- including orders received directly into your ERP⁽¹³⁾ system.
 Examples of EDI: EDIFACT, XML⁽³⁴⁾/EDI (e.g. UBL, Rosettanet).

В9.	During 2024, did your enterprise have EDI-type sales of goods or services?	Yes □	No □ -> go to C1

B10.	What was the value of your EDI-type sales? (please refer to the provided definition of EDI-type sales) Please answer to a) OR b)		
	a) What was the value of your EDI-type sales of goods or services, in 2024?	€	
	OR b) What percentage of total turnover was generated by EDI-type sales of goods or services, in 2024? If you cannot provide the exact percentage an approximation will suffice.	⊔⊔⊔,⊔%	

	Module C: Data utilisation and analytics		
	(Scope: enterprises with access to the internet, i.e. if A1>0)		
	Use of business software		
C1.	Does your enterprise use the following business software?	Yes	No
	a) Enterprise Resource Planning (ERP) ⁽¹³⁾ software Software used to manage resources by sharing information among different functional areas (e.g. accounting, planning, production, marketing,). ERP software can be off-the-shelf software, customised to the needs of the enterprise or self- created software.		
	b) Customer Relationship Management (CRM) ⁽⁷⁾ software Software for managing information about customers (e.g. relations or transactions), CRM facilitates communication with the customer and helps track customer interests, purchasing habits.		
	c) Business Intelligence (BI) software BI software accesses and analyses data (e.g. from data warehouses, data lakes) from internal IT systems and/or external sources and presents analytical findings in reports, summaries, dashboards, graphs, charts or maps, to provide users with		

SAP BusinessObjects, SAS, and Tableau)		detailed insights for decision-making or strategic planning. (e .g. Microsoft Power BI, SAP BusinessObjects, SAS, and Tableau)		
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Data analytics

Data analytics refers to the use of technologies, techniques or software tools for analysing data to extract patterns, trends and insights to make conclusions, predictions and better decision-making with the aim of improving performance (e.g. increase production, reduce costs). Data may be extracted from your own enterprise' data source or from external sources (e.g. suppliers, customers, government).

C2.	Does your enterprise perform data analytics by own employees?	Yes	No
	Please, consider internal and external data sources.		

If 'Yes' to question C2, then go to question C3, otherwise go to question C4.

C3.	Does your enterprise perform data analytics on data from the following sources?	Yes	Νο
	a) Data analytics on data from transaction records such as sale details, payments records (e.g. from Enterprise Resource Planning system (ERP), own webshop)		
	b) Data analytics on data about customers such as customer purchasing information, location, preferences, customer reviews, searches (e.g. from Customer Relationship Management system (CRM) or own website)		
	c) Data analytics on data from social media, incl. from your enterprise's own social media profiles (e.g. personal information, comments, video, audio, images)		
	 d) Data analytics on web data (e.g. search engine trends, web scraping* data) *use of computer program for extracting data from websites 		
	e) Data analytics on location data from the use of portable devices or vehicles (e.g. portable devices using mobile telephone networks, wireless connections or GPS $^{(15)}$)		
	f) Data analytics on data from smart devices or sensors (e.g. Machine to Machine (M2M) communications, sensors installed in machinery, manufacturing sensors, smart meters, Radio frequency identification (RFID) tags)		
	g) Data analytics on government authorities' open data (e.g. enterprise public records, weather conditions, topographic conditions, transport data, housing data, buildings data)		
	 h) Data analytics on satellite data (e.g. satellite imagery, navigation signals, position signals) Please, include data acquired from enterprise's own infrastructure or from externally provided service (e.g. AWS Ground Station) and exclude location data from the use of portable devices or vehicles using GPS. 		

C4.	Does an external enterprise or organisation perform data analytics for your enterprise?	Yes	No
	Please include data analytics based on data from internal and external sources.	□	□

	Module D: Use of cloud computing services		
	(Scope: enterprises with access to the internet, i.e. if A1>0)		
	Cloud computing refers to ICT services that are used over the internet to access software, computing power, storage capacity etc.;		
	where the services have all of the following characteristics:		
	 are delivered from servers of service providers; can be easily scaled up or down (e.g. number of users or change of storage can be used on-demand by the user, at least after the initial set up (withou the service provider); are paid for, either per user, by capacity used, or they are pre-paid. 	e capacity) ; t human inter	action with
	Cloud computing may include connections via Virtual Private Networks (VPN) (29)	·.	
D1.	Does your enterprise use any paid cloud computing services? (Please refer to the definition of cloud computing above, exclude free of charge services.)	Yes □	No □ -> go to E1
D2.	Does your enterprise use any of the following paid cloud computing		
	services? (Please refer to the definition of cloud computing above, exclude free of charge services.)	Yes	No
	a) E-mail ⁽¹²⁾ (e.g. Gmail Enterprise, Microsoft Exchange Online/ Office 365) (as a cloud computing service)		
	b) Office software ⁽²¹⁾ (word processors, spreadsheets (e.g. Microsoft Office Cloud, Google Workspace)) (as a cloud computing service)		
	c) Finance or accounting software applications (e.g. Proactis, SAP Business ByDesign, Twinfield, SAP Concur, Netsuite, Sage, Odoo, etc.) (as a cloud computing service)		
	d) Enterprise Resource Planning (ERP) software applications (e.g. ERPAG, Net Suite (Oracle), Odoo, Sage Intacct, Workday, E2 Shop System etc.) (as a cloud computing service)		
	e) Customer Relationship Management (CRM) software applications (e.g. salesforce.com, Oracle CRM On Demand, etc.) (as a cloud computing service)		
	f) Security software applications (e.g. antivirus program, network access control (Sophos Endpoint Protection, Webroot, Symantec Endpoint Protection, Comodo, Portnox.)) (as a cloud computing service)		
	g) Hosting the enterprise's database(s) (e,g, EnterpriseDB, Azure Cosmos DB) (as a cloud computing service)		
	h) Storage of files (e.g. Dropbox, Amazon S3, Carbonite, Acronis Online, Box, OneDrive for Business) (as a cloud computing service)		
	i) Computing power to run the enterprise's own software (e.g. Amazon, Microsoft Azure, Amazon EC2, Flexiscale, Joyent) (as a cloud computing service)		
	j) Computing platform providing a hosted environment for application development, testing or deployment (e.g. reusable software modules, application programming interfaces (APIs)) (e.g. AWS Elastic Beanstalk, Windows Azure, Heroku, Force.com, Google App Engine, Apache Stratos, OpenShift, Magento Commerce Cloud, IBM Bluemix, SAP Cloud Platform, etc.) (as a cloud computing service)		

	Module E: Artificial Intelligence		
	(Scope: enterprises with access to the internet, i.e. if A1>0)		
	Artificial intelligence refers to systems that use technologies such as: text mining ⁽²⁸⁾ speech recognition ⁽²⁷⁾ , natural language generation ⁽¹⁹⁾ , machine learning ⁽¹⁸⁾ , d use and/or produce data, for example to make predictions, recommendations, or d levels of autonomy.) , compute leep learnin lecisions, w	r vision ⁽⁵⁾ , g to gather ith varying
	Artificial intelligence systems can be purely software based, e.g.:		
	 systems that create content (generative AI); chatbots and business virtual assistants based on natural language processing face recognition systems based on computer vision or speech recognition systemes data analysis based on machine learning, etc.; 	⁽²⁰⁾ ; ms;	
	or embedded in devices , e.g.:		
	 autonomous robots for warehouse automation or production assembly works; autonomous drones for production surveillance or parcel handling, etc. 		
E1.	Does your enterprise use any of the following Artificial Intelligence (AI) technologies?	Yes	No
	a) AI technologies performing analysis of written language (e.g. text mining)		
	b) AI Technologies converting spoken language into machine-readable format (speech recognition)		
	c) AI Technologies generating written, spoken language or programming codes (natural language generation, speech synthesis)		
	d) AI Technologies generating pictures, videos, sound/audio		
	e) AI Technologies identifying objects or persons based on images or videos (image recognition, image processing)		
	f) Machine learning (e.g. deep learning) for data analysis		
	 g) AI Technologies automating different workflows or assisting in decision making (e.g. <u>AI based</u> software robotic process automation⁽²⁴⁾) 		
	h) AI Technologies enabling physical movement of machines via autonomous decisions based on observation of surroundings (autonomous robots, self-driving vehicles, autonomous drones)		

If E1 a) to h) = "No" then go to E4.

E2.	Does your enterprise use Artificial Intelligence software or systems for any of the following purposes?	Yes	No
	 a) Use of AI for marketing or sales some of the examples may be: customer profiling, price optimisation, personalised marketing offers, market analysis based on machine learning chatbots based on natural language processing for customer support autonomous robots for orders processing 		
	 b) Use of AI for production or service processes some of the examples may be: predictive maintenance or process optimization based on machine learning tools to classify products or find defects in products based on computer vision autonomous drones for production surveillance, security or inspection tasks assembly works performed by autonomous robots 		

 c) Use of Al for organisation of business administration processes or management some of the examples may be: business virtual assistants based on machine learning and/or natural language processing, e.g. for document drafting data analysis data or strategic decision making, e.g. risk assessment, based on machine learning planning or business forecasting based on machine learning or natural language processing, e.g. candidates' pre-selection screening, employee profiling or 	
d) Use of Al for logistics	
 autonomous robots for pick-and-pack solutions in warehouses for parcel shipping, tracing, distribution or sorting route optimization based on machine learning 	
 e) Use of AI for ICT security some of the examples may be: face recognition based on computer vision for authentication of ICT users detection and prevention of cyber-attacks based on machine learning 	
 f) Use of Al for accounting, controlling or finance management some of the examples may be: machine learning to analyse data that helps to make financial decisions invoice processing based on machine learning machine learning or natural language processing for bookkeeping documents 	
 g) Use of AI for research and development (R&D) or innovation activity (excluding research on AI) some of the examples may be: analysis of data for conducting research, solving research problems developing a new or significantly improved product/service based on machine learning 	

E3.	How did your enterprise acquire the Artificial Intelligence software or systems that it uses?	Yes	Νο
	a) They were developed by own employees (including those employed in parent or affiliate enterprise)		
	b) Commercial software or systems were modified by own employees (including those employed in parent or affiliate enterprise)		
	c) Open-source software or systems were modified by own employees (including those employed in parent or affiliate enterprise)		
	 d) Commercial software or systems ready to use were purchased (including examples where it was already incorporated in a purchased item or system) 		
	e) External providers were contracted to develop or modify them		

Question E4 is presented only to respondents who answered 'No' to E1a)-h) i.e. enterprises that did not use any of the Artificial Intelligence technologies listed in question E1.

	Has your enterprise ever considered using any of the Artificial Intelligence	Yes	No
E4.	technologies listed in question E1?		
			-> go to
			F1

E5.	What are the reasons for your enterprise not to use any of the Artificial Intelligence technologies listed in question E1?	Yes	No
	a) The costs seem too high		
	b) There is a lack of relevant expertise in the enterprise		
	c) Incompatibility with existing equipment, software or systems		
	d) Difficulties with availability or quality of the necessary data		
	e) Concerns regarding violation of data protection and privacy		
	f) Lack of clarity about the legal consequences (e.g. liability in case of damage caused by the use of Artificial Intelligence)		
	g) Ethical considerations		
	h) Artificial Intelligence technologies are not useful for the enterprise		

Module F: ICT and the environment

(Scope: all enterprises)

F1. Does your enterprise use ICT systems or solutions to reduce the energy consumption of the enterprise? some of the examples may be: automated system enhancing energy efficiency of machinery ٠ smart thermostat to monitor, control and optimize energy consumption Yes No ٠ smart lighting systems • remote monitoring or control system to manage energy consumption ٠ systems to detect anomalous consumption, voltage peaks or other non-• conformities Please do not take into account settings in the ICT equipment, e.g. sleep mode, turning the screen brightness down.

F2.	Does your enterprise use ICT systems or solutions to reduce the materials used (including consumables) or to enhance the use of recycled materials?		
	some of the examples may be:		
	 computer-aided design optimising material use 		
	3D printing for material efficiency	Yes	No
	 automatic sorting for better separation and recyclability of waste 		
	 monitoring systems supporting predictive maintenance of assets 		
	 flow sensor to reduce water consumption 		
	ERP systems for minimizing overstocking and reduce material waste		
	Please do not take into account paper consumption, e.g. amount of paper used for printing and copying.		

If F1 and/or F2 = "Yes" then go to F3. If F1 and F2 = "No" then go to F4.

F3.	Does your enterprise monitor and quantify the impact of using ICT systems or solutions on energy and/or material consumption?		
	Quantify the impact of using ICT systems or solutions means calculating what energy or material savings/efficiency gains are due to the ICT systems or solutions used by the enterprise. This can be done, for example, by.:		
		Yes	No
	 comparing energy consumption with and without a given digital energy- saving solution 		
	 comparing the amount of production waste with and without a given computer-aided design optimising solution 		
	 looking at energy invoice and calculating the share of the energy savings attributed to ICT solutions. 		
	Please refer to ICT systems or solutions considered in questions F1 and/or F2.		

F4.	4. What does your enterprise do with ICT equipment (e.g. computers, monitors, mobile phones) when it is no longer used?		No
	a) It is disposed of in electronic waste collection/recycling (incl. leaving it to the retailer to dispose of)		
	b) It is kept in the enterprise (e.g. to be used as spare parts, fear of sensitive information being disclosed)		
	c) It is sold, returned to a leasing enterprise, or donated		

	Module X: Background information	
X1.	Main economic activity of the enterprise, during 2024	
X2.	Average number of employees and self-employed persons (persons employed), during 2024	
X3.	Total turnover (in monetary terms, excluding VAT), for 2024	€

Glossary

1. App(s)	A mobile app, short for mobile application or just app, is application software designed for a specific purpose (e.g. entertainment, shopping, etc.), downloaded and used on computers depending on their operating system (e.g. portable devices such as tablets, Smartphones, etc.)
	Further information: <u>http://en.wikipedia.org/wiki/Mobile_app;</u> http://www.techopedia.com/definition/2953/mobile-application-mobile- app
2. Authentication methods	Authentication is a way to ascertain that a user is who they claim to be. This is usually performed by presenting one or more challenges to the user. There are three broad categories of challenges:
	1) Something the user knows. The user is asked for a secret, known only to her. Typical examples are passwords and PINs, but can also take the form of security questions.

2) Something the user has. The user is in possession of a unique token, like a key. In the case of computer tokens, this can take the form of an NFC tag, or a device.

3) Something the user is. Aka biometrics. The user is asked to present a part of her body that forms unique and repeatable patterns, like fingerprints, voice, or face recognition.

Source:https://www.enisa.europa.eu/topics/csirts-ineurope/glossary/authentication-methods

3. Business process A business process or business method is a collection of related, structured activities or tasks that produce a specific service or product (serve a particular goal) for a particular customer or customers. Business processes can be of three types: *Management processes* (e.g. corporate governance, strategic management), *Operational processes* (e.g. purchasing, manufacturing, marketing and sales etc) and *Supporting processes* (e.g. accounting, recruitment, technical support etc).

Source: <u>http://en.wikipedia.org/wiki/Business_process</u>

- **4. Chatbots or Virtual agent** A chatbot or virtual agent is a computer generated, animated, artificial intelligence virtual character that serves as an online customer service representative.
- **5. Computer Vision** Computer vision tasks include methods for acquiring, processing, analysing and understanding digital images, and extraction of high-dimensional data from the real world in order to produce numerical or symbolic information, e.g. in the forms of decisions.

Source: https://en.wikipedia.org/wiki/Computer_vision

6. Cloud computing is a model for enabling ubiquitous, convenient, ondemand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. There are three service models of cloud computing services: Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS).

> Source: <u>https://nvlpubs.nist.gov/nistpubs/Legacy/SP/nistspecialpublication800-</u> 145.pdf

7. CRM Customer Relationship Management (CRM) is a management methodology which places the customer at the centre of the business activity, based in an intensive use of information technologies to collect, integrate, process and analyse information related to the customers.

One can distinguish between:

1. Operational CRM – Integration of the front office business processes that are in contact with the customer.

2. Analytical CRM – Analysis, through data mining, of the information available in the enterprise on its customers. This aims to gather in depth knowledge of the customer and how to answer to its needs.

8. DSL Digital Subscriber Line (DSL) is a family of technologies that provides digital data transmission over the wires of a local telephone network. DSL is widely understood to mean Asymmetric Digital Subscriber Line (ADSL), the most commonly installed technical varieties of DSL. DSL service is delivered simultaneously with regular telephone on the same telephone line as it uses a higher frequency band that is separated by filtering.

Source: <u>http://en.wikipedia.org/wiki/DSL</u>

9. ED	I, EDI-	Electronic Data Interchange (EDI) refers to the structured transmission of
typ	e	data or documents between organizations or enterprises by electronic
		means. It also refers specifically to a family of standards (EDI-type) and
		EDI-type messages suitable for automated processing.

Source: http://en.wikipedia.org/wiki/Electronic Data Interchange

10. EDI e-
commerceOrders initiated with EDI-type messages. EDI (electronic data interchange)
is an e-business tool for exchanging different kinds of business messages.
EDI is here used as a generic term for sending or receiving business
information in an agreed format suitable for automated processing (e.g.
EDIFACT, XML, etc.) and without the individual message being manually
typed. "EDI e-commerce" is limited to EDI messages placing an order.

Source: OECD, DSTI/ICCP/IIS(2009)5/FINAL

11. Electronic commerce transaction is the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders. The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods or services do not have to be conducted online. An e-commerce transaction can be between enterprises, households, individuals, governments, and other public or private organisations. e-Commerce comprises orders made in Web pages or apps, extranet or EDI and excludes orders made by the method of making the order.

Source: OECD, DSTI/ICCP/IIS(2009)5/FINAL

- **12. E-mail** Electronic transmission of messages, including text and attachments, from one computer to another located within or outside of the organisation. This includes electronic mail by internet or other computer networks.
- **13. ERP** Enterprise Resource Planning (ERP) consists of one or of a set of software applications that integrate information and processes across the several business functions of the enterprise. Typically ERP integrates planning, procurement, sales, marketing, customer relationship, finance and human resources.

ERP software can be customised or package software. These latter are single-vendor, enterprise wide, software packages, but they are built in a modular way allowing enterprises to customise the system to their specific activity implementing only some of those modules.

ERP systems typically have the following characteristics:

- 1. are designed for client server environment (traditional or web-based);
- 2. integrate the majority of a business's processes;
- 3. process a large majority of an organization's transactions;
- 4. use enterprise-wide database that stores each piece of data only once;
- 5. allow access to the data in real time.
- **14. Extranet** A closed network that uses internet protocols to securely share enterprise's information with suppliers, vendors, customers or other businesses partners. It can take the form of a secure extension of an Intranet that allows external users to access some parts of the enterprise's Intranet. It can also be a private part of the enterprise's website, where business partners can navigate after being authenticated in a login page.

15.	GPS	The Global Positioning System (GPS) is a satellite-based radionavigation system. Is one of the global network of satellites that enable satellite navigation through GPS signals. GPS receiver anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites can determine location, time, and velocity using this information.
		Source: https://en.wikipedia.org/wiki/GPS signals
16.	Internet	The internet is a global system of interconnected computer networks that use the standard internet Protocol Suite (TCP/IP) to serve billions of users worldwide. It is a network of networks that consists of millions of private, public, academic, business, and government networks of local to global scope that are linked by a broad array of electronic and optical networking technologies. The internet carries a vast array of information resources and services, most notably the inter-linked hypertext documents of the World Wide Web (WWW) and the infrastructure to support electronic mail.
		Source: http://en.wikipedia.org/wiki/internet
		internet, EDI over the internet, internet-enabled mobile phones.
17.	Marketplace (e-Commerce marketplace)	The term "e-commerce marketplaces" refers to websites or apps used by several enterprises for trading products e.g. Booking, eBay, Amazon, Amazon Business, Alibaba, Rakuten, etc.). e-Commerce marketplaces are different from e-commerce platforms. The latter provide scalable, self- made online solutions for business that would like to set up their own e- commerce website.
18.	Machine learning (incl. deep learning)	Machine learning (e.g. deep learning) involves 'training' a computer model to better perform an automated task, e.g. pattern recognition.
19.	Natural language generation (NLG)	Natural language generation is the ability for a computer program to convert data into natural language representation.
20.	Natural language processing (NLP)	Natural language processing is the ability for a computer program to understand human language as it is spoken.
21.	Office (automation) software	Office (automation) software is a generic type of software comprising (grouped together) usually a word processing package, a spreadsheet, presentations' software etc.
22.	Online payment	An online payment is an integrated ordering-payment transaction.
23.	Robots - Robotics	According to their intended application, robots may be industrial or service robots. An industrial robot is an automatically controlled, reprogrammable, multipurpose manipulator programmable in three or more axes, which may be either fixed in place or mobile for use in industrial automation applications.
		A service robot is a machine that has a degree of autonomy and is able to operate in complex and dynamic environment that may require interaction with persons, objects or other devices, excluding its use in industrial automation applications.
24.	Robotic process automation (Artificial	Artificial Intelligence based robotic process automation refers to software that automates business processes (e.g. workflows automation) based on Artificial Intelligence technologies.

Intelligence based)

25. Sales via website (web sales)
Web sales are sales made via an online store (web shop), via web forms on a website or extranet, or apps. Web sales are distinguished from EDI sales. In particular, the type of e-commerce transaction is defined by the method of making the order. This approach should mitigate the interpretation problems where both types, EDI and Web, are used in the process. An example is a situation where an order is made by the customer through a web application but the information is transmitted to the seller as an EDI-type message. Here the type of selling application is however web; EDI is only a business application to transmit information about the sale. Web sales can be done by mobile phones using an internet browser.

Source: OECD, DSTI/ICCP/IIS(2009)5/FINAL

26. Social media In the context of the ICT usage survey, the central point of the social media is to establish and maintain social relationships within and around the enterprise. From that aspect we refer to the use of social media (as applications based on internet technology or communication platforms) and the use of Web 2.0 technologies and tools for connecting, conversing and creating content online, with customers, suppliers, or other partners, or within the enterprise. It is not simply the use of Web 2.0 platform (although it is the enabling technology) but the use of social media implies the development of new forms of collaboration and information management within the enterprises as well as helping employees, customers and suppliers to collaborate, to innovate, to share, and to organize knowledge and experiences.

The following are the main social media communication platforms and tools for enterprises:

Blogs: A blog is a website or a part of a website, that is updated frequently, either owned by individuals, interest groups of individuals or corporate (in the current context it is the blog of the enterprise and not other blogs to which employees contribute). An update (called an entry or a post) is usually quite short and readers can respond, share, comment or link to the entry online. Blogs can be used either within an enterprise (corporate blog) or for communicating with customers, business partners or other organisations.

Content communities offer the possibility of sharing media content between users. Photo and video services / Podcasting: A podcast (or nonstreamed webcast) is a series of digital media files (either audio or video in various file format e.g. .aiff, .wav, .midi etc for the former and .mov, .avi etc for the latter) that are released episodically. The mode of delivery differentiates podcasting from other means of accessing media files over the internet, such as direct download, or streamed webcasting. Presentation sharing websites offer the possibility to share presentations, documents and professional videos over the internet (share publicly or privately among colleagues, clients, intranets, networks etc). These websites offer the possibility to upload, update and access presentations and/or documents. Very often, presentation sharing websites are linked to blogs and other social networking services or websites.

Microblogging refers to the posting of very short updates about oneself. It is in contrast to long-form blogging, where there are usually at least a few hundred words. Microblog posts usually involve a few hundred characters or less. For example, in the context of microblogging services Tweets (Twitter) are text-based posts of up to 140 characters displayed on the user's profile page.

27. Speech recognition Speech recognition is the ability of a machine or program to identify words and phrases in spoken language and convert them to a machine-readable format.

- **28. Text mining** Text mining refers to the use of advanced techniques for automated detection of patterns in (large) texts.
- **29. VPN** A virtual private network (VPN) extends a private network across a public network, and enables users to send and receive data across shared or public networks as if their computing devices were directly connected to the private network. Applications running on a computing device, e.g., a laptop, desktop, smartphone, across a VPN may therefore benefit from the functionality, security, and management of the private network. Encryption is a common, though not an inherent, part of a VPN connection.

Source: <u>https://en.wikipedia.org/wiki/Virtual_private_network</u>

- **30. Web e-** Web (e-commerce) sales are sales made via an online store (web shop), via web forms on a website or extranet, or apps regardless of how the web is accessed (computer, laptop, mobile phone etc.)

 Source: OECD, DSTI/ICCP/IIS(2009)5/FINAL
- **31. Website** Location on the World Wide Web identified by a Web address (e.g.: http://www.). Collection of Web pages on a particular subject that includes a home page which normally allows the access to the other web pages. Information is encoded with specific languages (e.g. Hypertext mark-up language (HTML), XML, Java) readable with a Web browser, like e.g. Microsoft Edge, Internet Explorer, Google Chrome, Mozilla Firefox, Safari.

All publicly accessible websites collectively constitute the World Wide Web. There are also private websites that can only be accessed on a private network, such as a company's internal website for its employees.

An own website, created by the enterprise, allows this enterprise to customize the content, design and features of the website. It is irrelevant whether this website is made available via the enterprise's own or a third party's IT infrastructure.

- **32. Wi-Fi** Wi-Fi (or Wi-fi, WiFi, Wifi, wifi), short for 'Wireless Fidelity', is a set of ethernet standards for wireless local area networks (WLAN) currently based on the IEEE 802.11 specifications. New standards beyond the 802.11 specifications, such as 802.16 have been developed. Wi-Fi was intended to be used for wireless devices and LANs, but is now often used for internet access (one of the main international standards for wireless broadband internet access and networking, with widespread use in business, homes and public spaces). It is based on radio signals with a frequency of 2.4 GHz and theoretically capable of speeds of over 54 Mbit/s. It enables a person with a wireless-enabled computer or personal digital assistant to connect to the internet when close to an access point called a hotspot.
- **33. xDSL** Digital Subscriber Line. DSL technologies are designed to increase bandwidth available over standard copper telephone wires. Includes IDSL, HDSL, SDSL, ADSL, RADSL, VDSL, DSL-Lite.

34. XML The Extensible Markup Language is a markup language for documents containing structured information. Structured information contains both content (words, pictures, etc.) and some indication of what role that content plays (for example, content in a section heading has a different meaning from content in a footnote, which means something different than content in a figure caption or content in a database table, etc.). Almost all documents have some structure. A markup language is a mechanism to identify structures in a document. The XML specification defines a standard way to add markup to documents.

Source: <u>http://www.xml.com/</u>