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**STATISTICAL SERVICE** 1444 NICOSIA

### **CONFIDENTIAL**

## SURVEY ON ICT USAGE AND E-COMMERCE IN ENTERPRISES 2016

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S/N			
Legal Status			
Enterprise Size			
NACE			

## **GENERAL INFORMATION:**

- 1. The aim of the survey is to collect data about the use of information and communication technologies by the enterprises, the use of computers, the employment of ICT specialists, the access and use of the Internet, the use of cloud computing services, Big Data analysis, invoicing and e-commerce. These data are necessary for the implementation of policy programmes of both the Government and the Private Sector.
- 2. All requested information must be supplied by the **IT manager of the enterprise**. Regarding the enterprise's background information (Module X), these should be provided by the General Manager or by the Accountant or by any other person responsible.
- 3. An authorised employee of the Statistical Service will contact the IT manager of the enterprise by phone in order to arrange an appointment in order to fill 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 survey period (2016), unless the question refers to other specific period.
- The collection of data is carried out in accordance with the Statistics Law 15(I)/2000. The Statistical Service is bound by the Statistics Law to treat all information obtained as <u>CONFIDENTIAL</u>. Your responses will be used solely for statistical purposes.

G. Chr. Georgiou Director Statistical Service

	MODULE A: Use of Computers		
A1.	Does your enterprise use computers?	Yes	No
	Computers include Personal Computers, portable computers (e.g. laptops, notebooks, netbooks), tablets, other portable devices like Smartphones.		$\rightarrow$ Go to X1
A2.	Please answer (a) or (b): a) How many persons employed use computers for business purposes? or		
	b) Indicate an estimate of the percentage of the total number of persons employed who use computers for business purposes.		%

	MODULE B: ICT specialists and skills		
	(Scope: enterprises with computers)		
B1.	Does your enterprise employ ICT specialists?	Yes	No
	ICT specialists are employees for whom <b>ICT is the main job</b> . For example, to develop, operate or maintain ICT systems or applications.		
B2.	Did your enterprise provide any type of training to develop ICT		
	related skills of the persons employed, during 2015?	Yes	No
	a) Training for ICT specialists		
	Tick No if your enterprise didn't employ ICT specialists during 2015		
	b) Training for other persons employed		
B3.	Did your enterprise recruit or try to recruit ICT specialists, during 2015?	Yes	No
			$\rightarrow$ Go to B5
B4.	During 2015, did your enterprise have vacancies for ICT specialists that were difficult to fill?	Yes	No

	(beope. energines with computers)					
C1.	Does your enterprise have access to the Internet <sup>(18)</sup> ?	Yes	No			
			$\rightarrow$ Go to E1			
C2.	Please answer (a) or (b):					
	a) How many persons employed use computers with access to the Internet for business purposes?					
	or					
	b) Indicate an estimate of the percentage of the total number of persons employed who use computers with access to the Internet for business purposes.		%			
	Computers include Personal Computers, portable computers (e.g. laptops, notebooks, netbooks), tablets, other portable devices like Smartphones.					
	Use of a fixed broadband connection to the Internet for business purposes					
С3.	<b>Does your enterprise use DSL</b> <sup>(8)</sup> or any other type of fixed broadband connection to the Internet? (e.g. ADSL, SDSL, VDSL, fiber optics technology (FTTH), cable	Yes	No			
	technology (CableNet), satellite (Nova) etc.)		$\rightarrow$ Go to C5			
C4.	. What is the maximum contracted download speed of the fastest fixed Internet connection of your enterprise?					
	a) Less than 2 Mbit/s					
	b) At least 2 Mbit/s but less than 10 Mbit/s					
	c) At least 10 Mbit/s but less than 30 Mbit/s					
	d) At least 30 Mbit/s but less than 100 Mbit/s					
	e) At least 100 Mbit/s					

	Use of a mobile connection to the Internet for business purposes		
	A mobile connection to the Internet means the usage of portable devices connected telephone networks for business purposes. Enterprises provide portable device limit, the subscription and the use costs.	cting to the Internets and pay for all	net through mobile or at least up to a
C5.	Does your enterprise use a <u>mobile broadband</u> <sup>(23)</sup> connection to the Internet via a portable device using mobile telephone networks (3G or $4G^{(1)}$ )? e.g. via portable computers or other portable devices such as Smartphones	Yes	No
C6.	Does your enterprise use a <u>mobile broadband</u> connection to the Internet via the following <u>portable devices</u> using mobile telephone networks (3G or 4G)?	Yes	No
	a) via <b>portable computer</b> (e.g. notebook, netbook, laptop, tablet, etc.)		
	b) via <b>other portable devices</b> (e.g. Smartphones)		
С7.	<ul> <li>a) How many persons employed use a <u>portable device</u> provided by the enterprise, that allows Internet connection via mobile telephone networks, for business purposes?</li> <li>(e.g. portable computers, tablets or other portable devices like Smartphones)</li> </ul>		
	<ul> <li>b) Indicate an estimate of the percentage of the total number of persons employed who use a <u>portable device</u> provided by the enterprise, that allows Internet connection via mobile telephone networks, for business purposes?</li> </ul>	If C	% 27=0
<b>C8</b>	Does your enterprise provide the persons employed with portable	$\rightarrow$ G(	o to C9
	devices that allow mobile connection to the internet for business use to:	Yes	No
	a) access the enterprise's e-mail system?		
	b) access and modify enterprise's documents?		
	<ul> <li>c) use dedicated business software applications? (e.g. for orders or sales management, ERP (Enterprise Resource Planning) related applications etc.)</li> </ul>		
	Use of a Website		
С9.	Does your enterprise have a Website <sup>(34)</sup> ?	Yes	No
	If yes, give the address of your website:		$\rightarrow$ Go to C11
C10.	Does the Website of your enterprise have any of the following?	Voc	No
	a) Description of goods or services price lists	105	NU
	<ul> <li>b) Online ordering or reservation or booking (e.g. shopping cart)</li> </ul>		
	<ul> <li>c) Possibility for visitors to customise or design online goods or services</li> </ul>		
	d) Tracking or status of orders placed		
	e) Personalised content in the website for regular/recurrent visitors		
	f) Links or references to the enterprise's social media <sup>(29)</sup> profiles		
	h) Advertisement of open job positions or online job application		

	Use of Social Media <sup>(29)</sup>						
	Enterprises <b>using</b> social media are considered those that have a user profile, an account or a user licens depending on the requirements and the type of the social media.						
C11.	Does your enterprise use any of the following social media? (not solely used for paid adverts)	Yes	No				
	<ul> <li>a) Social networks <ul> <li>(e.g. Facebook, Linkedin, Xing, Viadeo, Yammer, etc.)</li> </ul> </li> <li>b) Enterprise's blog or microblogs <ul> <li>(m. The interpret of the start of the start</li></ul></li></ul>						
	<ul> <li>(e.g. 1 witter, Present.ly, etc.)</li> <li>c) Multimedia content sharing websites <ul> <li>(e.g. Youtube, Flickr, Picasa, SlideShare, etc.)</li> </ul> </li> </ul>						
	d) Wiki based knowledge sharing tools						
	Other use of the Internet						
C12.	Do any persons employed have remote access to the enterprise's e-mail <sup>(13)</sup> system, documents or applications?	Yes	No				
C13.	<b>Does your enterprise pay to advertise on the Internet?</b> (e.g. adverts on search engines, on social media, on other websites, etc.)	Yes	No $\rightarrow$ Go to D1				
C14.	Does your enterprise pay to advertise on the internet using any of the following targeted advertising methods?	Yes	No				
	a) Based on webpages' content or keywords searched by users						
	b) Based on the tracking of internet users' past activities or profile						
	c) Based on the geolocation <sup>(16)</sup> of internet users						
	d) Any other method of targeted advertising on the internet not specified above						

	MODULE D: Use of cloud computing services					
	(Scope: enterprises with access to the Internet)					
	<b>Cloud computing</b> refers to <b>ICT services</b> that are used <b>over the Internet</b> to access software, computing storage capacity etc.; where the services have all of the following <b>characteristics:</b>					
	- are delivered from servers of service providers					
	- can be easily <b>scaled up or down</b> (e.g. number of users or change of storage capacity)					
	<ul> <li>can be used <b>on-demand by the user</b>, at least after the initial set up (without human interaction with the service provider)</li> <li>are <b>paid</b> for, either per user, by capacity used, or they are pre-paid</li> </ul>					
	Cloud computing may include connections via Virtual Private Networks (VPN)					
D1.	Does your enterprise buy any cloud computing services used over the Internet?	Yes	No			
	(Please refer to the definition of cloud computing above, <u>exclude free of charge</u> <u>services</u> )		$\rightarrow$ Go to E1			
D2.	Does your enterprise buy any of the following cloud computing services used over the Internet?					
	(Please refer to the definition of cloud computing above, <u>exclude free of charge</u> <u>services</u> )	Yes	No			
	<ul> <li>a) E-mail (e.g. Email Enterprise, Microsoft Exchange Online / Office 365, etc.) (as a cloud computing service)</li> </ul>					
	<ul> <li>b) Office software<sup>(24)</sup> (e.g. word processors, spreadsheets (e.g. Microsoft Office Cloud), etc.)) (as a cloud computing service)</li> </ul>					
	c) Hosting the enterprise's database(s) (e.g. Enterprise DB, LongJump, Elustra, etc.) (as a cloud computing service)					
	<ul> <li>d) Storage of files (e.g. Dropbox, Amazon S3, EMC Mozy, Acronis Online, Diino, etc.) (as a cloud computing service)</li> </ul>					
	e) Finance or accounting software applications (e.g. StepStone, Hubwoo, SAP Business ByDesign, etc.) (as a cloud computing service)					
	<ul> <li>f) Customer Relationship Management (CRM<sup>(5)</sup>, software application for managing information about customers (e.g. Salesforce.com, Oracle CRM on Demand, etc.)) (as a cloud computing service)</li> </ul>					
	g) Computing power to run the enterprise's own software (e.g. Amazon EC2, Flexiscale, Joyent, etc.) (as a cloud computing service)					
D3.	Does your enterprise buy any cloud computing services delivered from:					
	(Please refer to the definition of cloud computing above, <u>exclude free of charge</u> <u>services</u> )	Yes	No			
	a) Shared servers of service providers					
	b) Servers of service providers exclusively reserved for your enterprise					

	MODULE E: Big data <sup>(3)</sup> analysis (Scope: enterprises with Computers)		
	<b>Big data</b> are generated from activities that are carried out electronically and from machine-tomachine communications (e.g. data produced from social media activities, from production processes, etc.)		
	Big data typically have characteristics such as:		
	Significant volume referring to vast amounts of data generated over time.		
	<u>Variety</u> referring to the different format of complex data, either structured or unstructured (e.g. text, video, images, voice, docs, sensor data, activity logs, click streams, coordinates, etc.).		
	<u>Velocity</u> referring to the high speed at which data is generated, becomes available and changes over time.		
	<b>Big data analysis</b> refers to the use of techniques, technologies and software tools for analysing big data extracted from your own enterprise's data sources or other data sources.		
E1.	During 2015, did your enterprise analyse big data from any of the following data sources? (Please refer to the definition of big data above; include big data analysis conducted by external service providers)	Yes	No
	<ul> <li>a) Enterprise's own data from smart devices or sensors (e.g. Machine to Machine -M2M- communications, digital sensors, Radio frequency identification tags RFID, etc.)</li> </ul>		
	b) Geolocation <sup>(16)</sup> data from the use of portable devices (e.g. portable devices using mobile telephone networks, wireless connections <sup>(35)</sup> or GPS) (in the context of big data)		
	<ul> <li>c) Data generated from social media (e.g. social networks, blogs, multimedia content sharing websites, etc.)</li> <li>(in the context of big data)</li> </ul>		
	d) Other big data sources not specified above		
	If E1 has at least one positive answer then continue to E2, else go to F1.		
E2.	During 2015, who performed big data analysis for your enterprise?	Yes	No
	a) Enterprise's own employees	l	
	(incl. those employed in parent or affiliate enterprises)	1	

b)

External service provider

	MODULE F: Invoicing						
	(Scope: enterprises with Computers)						
	There are invoices in <b>paper form</b> and <b>electronic form</b> . Invoices in <b>electronic form</b> are of two types:						
	<ul> <li>- eInvoices<sup>(11)</sup> in a standard structure suitable for automated processing.</li> <li>(e.g. EDI<sup>(9)</sup>, UBL<sup>(30)</sup>, XML<sup>(37)</sup>). They are exchanged either directly or via service operators or via an electronic banking system.</li> </ul>						
	(e.g. e-mails, e-mail attachment as pdf, images in TIF, JPEG or other format)						
F1.	During 2015, did your enterprise issue/send any type of invoices, whether in electronic or in paper form, to:	Yes		N	lo		
	a) other enterprises						
	b) public authorities						
	c) private consumers						
	If F1 has a) <u>or b</u> ) answered with "Yes" then continue, else go to F3						
F2.	F2. Of all invoices the enterprise issued / <u>sent</u> to other enterprises or public authorities during 2015, wh percentage <u>was isued / sent</u> as:						
	<ul> <li>a) Invoices in electronic form, in a standard structure suitable for automated processing (eInvoices)</li> <li>(EDI (e.g. EDIFACT), XML (e.g. UBL).</li> </ul>				%		
	<ul> <li>b) Invoices in electronic form not suitable for automated processing (e.g. emails, e-mail attachment as pdf, images in TIF, JPEG or other format)</li> </ul>				%		
	c) Invoices only in paper form				%		
	TOTAL	1	0	0	%		
F3.	Of all invoices the enterprise <u>received</u> during 2015, what percentage <u>was</u>	received as:					
	<ul> <li>a) Invoices in electronic form, in a standard structure suitable for automated processing (eInvoices) (EDI (e.g. EDIFACT), XML (e.g. UBL)</li> </ul>				%		
	<ul> <li>Invoices in paper form or in electronic form not suitable for automated processing (e.g. emails, e-mail attachment as pdf, images in TIF, JPEG or other format)</li> </ul>				%		
	TOTAL	1	0	0	%		

#### **Module G: e-Commerce**

(Scope: enterprises with Computers)

**e-Commerce**<sup>(12)</sup> 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 payment and the delivery of the goods or services do not have to be conducted online.

e-Commerce transactions **exclude** orders made by manually typed e-mail messages.

	e-Commerce Sales						
	In the following questions please report separately for web sales and EDI-type sales						
	Web sales <sup>(28)</sup>						
	Web sales are sales made via an online store (web shop) or via web forms <sup>(32)</sup>	on a website <sup>(34)</sup> o	or extranet <sup>(15)</sup> or				
	via"apps" <sup>(2)</sup> .						
G1.	During 2015, did your enterprise <u>receive</u> orders for goods or services	g 2015, did your enterprise <u>receive</u> orders for goods or services Yes No					
	(excluding manually typed e-mails)						
			$\rightarrow$ Go to G5				
G2.	Please state for 2015 (answer (a) or (b)):	€					
	a) The value of the turnover resulting from orders <u>received</u> that						
	were placed via a website or "apps" (in monetary terms, excluding VAT)						
	If you can't provide this value,						
	b) Indicate an estimate of the percentage of the total turnover						
	resulting from orders <u>received</u> that were placed via a website or "apps"		%				
G3.	Please provide a percentage breakdown of the turnover from orders						
	received that were placed via a website or "apps" in 2015 by type of						
	customer (esumates in percentage of the monetary values, excluding vA1)						
	a) <b>B2C</b> (Sales to private consumers)		%				
	b) <b>B2B</b> (Sales to other enterprises) <b>and B2G</b> (Sales to public authorities)		%				
	c) <b>TOTAL</b>	1 0	0 %				
G4.	Which of the following means of payment are accepted for sales via a						
	website or "apps"?	Yes	No				
	a) Online payment <sup>(25)</sup> , i.e. payment integrated in the ordering transaction						
	(e.g. credit, debit card, direct debit authorisation, via 3rd party accounts (e.g. ICC))						
	b) Offline payment, i.e. payment process is not included in the ordering transaction (e.g. cash on delivery bank transfer cheque payment						
	other not online payment)						

G5.	Did fro	any of the following obstacles limit or prevent your enterprise m selling via a website or "apps"?	Yes, I agree	No, I disagree
	a)	The enterprise's goods or services were not suitable for web sales		
	b)	Problems in web sales related to logistics (shipping of goods or delivery of services)		
	c)	Problems in web sales related to payments		
	d)	Problems in web sales related to ICT security or data protection		
	e)	Problems in web sales related to the legal framework		
	f)	The cost of introducing web sales was, or would have been, too high compared to the benefits		
	<b>ED</b> - ir - wi	<b>I-type sales</b> <sup>(10)</sup> are sales made via EDI-type messages (EDI: Electronic Date an agreed or standard format suitable for automated processing (e.g. EDII athout the individual messages being typed manually	ta interchange) m FACT, UBL, XM	eaning: L)
G6.	Du: pla	ring 2015, did your enterprise <u>receive</u> orders for goods or services ced via EDI-type messages?	Yes	No
				$\rightarrow$ Go to G8
G7.	Ple	ase state for 2015 (answer (a) or (b)):	€	
	a)	The value of the turnover resulting from orders <u>received</u> that were placed via EDI-type messages (in monetary terms, excluding VAT)		
	b)	If you can't provide this value, Indicate an estimate of the percentage of the total turnover resulting from orders <u>received</u> that were placed via EDI-type messages		%

e-Commerce<sup>(12)</sup> purchases

e-Commerce purchases are purchases made via any of the following ways:

- via an online store (web shop) or via web forms on a website or an extranet of another enterprise, via "apps",

or

- via EDI-type messages (EDI: Electronic Data Interchange) which means messages in an agreed or standard format suitable for automated processing (e.g. EDIFACT, UBL, XML etc.) without the individual messages being typed manually.

- Purchases of goods or services include the value of all goods and services purchased during the accounting period for resale or consumption in the production process, <u>excluding</u> capital goods the consumption of which is registered as consumption of fixed capital.

G8.	During 2015, did your enterprise <u>place</u> orders for goods or services via a website, "apps" or EDI-type messages? (excluding manually typed e-mails)	Yes	<b>No</b> $\rightarrow$ Go to X1
G9.	During 2015, did your enterprise <u>place</u> orders for goods or services via a <u>website or "apps"</u> ?	Yes	No
G10.	During 2015, did your enterprise <u>place</u> orders for goods or services via <u>EDI-type messages</u> ?	Yes	No
G11.	During 2015, was the value of the orders that your enterprise placed electronically <u>equal or more than 1%</u> of the total purchases' value? (in monetary terms, excluding VAT)	Yes	No

	MODULE X: Background information	
X1.	Main economic activity of the enterprise, during 2015 (description)	
X2.	Average number of persons employed, during 2015	
X3.	Total turnover (in value terms, excluding VAT), for 2015	€

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	MODULE J: General Information
J1.	If you have any comments about the survey, please write down below:
J2.	Name of the person who answered the questionnaire:
	Position in the enterprise:
	Telephone:
	Fax:
	E-mail:
J3.	Name of the person who completed the questionnaire:
	Time needed to fill out this questionnaire:
	Signature:
	Date:

## TO BE COMPLETED BY THE ENUMERATOR:

J4.	Completion of the questionnaire:
	a) The questionnaire is completed
	b) The enterprise has closed
	c) The enterprise can not be located
	d) The enterprise refuses to cooperate
	e) The enterprise was closed during the collection of the data
	f) Merged with another enterprise
	g) Other reasons for no completion
	Please specify:

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J5. Name of the person who checked the questionnaire:

# SURVEY ON ICT USAGE AND E-COMMERCE IN ENTERPRISES 2016 GLOSSARY

- 1 3G, 3rd 3G or 3rd Generation, is a family of standards for mobile telecommunications (W-CDMA, CDMA2000, etc) Generation defined by the International Telecommunication Union (ITU). 3G devices allow simultaneous use of speech 4G. 4th and data services and higher data transmission rates. Cellular mobile services were initially offered using Generation analogue radio technologies and these were considered as the first generation systems (1G). 2G technology replaced analogue radio networks with digital ones (2G networks) in the 1990's. 4G is the fourth generation of cellular wireless standards. It is a successor of the 3G and 2G families of standards. The ITU-R organization specified the International Mobile Telecommunications Advanced requirements for 4G standards, setting peak speed requirements for 4G service at 100 Mbit/s for high mobility communication (such as from trains and cars) and 1 Gbit/s for low mobility communication (such as pedestrians and stationary users). Source: http://en.wikipedia.org/wiki/; http://www.itu.int
- 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: http://en.wikipedia.org/wiki/Mobile app;

Source: http://www.techopedia.com/definition/2953/mobile-application-mobile-app

3 **Big data** The term "big data" refers to large amounts of different types of data produced with high velocity from a high number of various types of sources.Handling today's highly variable and real-time datasets requires new tools and methods, such as powerful processors, software and algorithms.

Source: Commission Communication COM(2014) 442 final "Towards a thriving data-driven economy"

Activities that are carried out electronically and machine-to-machine communications produce "big data" characterised by significant volume, velocity and variety, the usage of which is of important social and economic value. In the literature there is additionally mentioned a 5th "V" that stands for veracity.

Volume refers to vast amounts of data generated every second (e.g. Mega-, Giga-, Terra-, Peta-, etc. bytes of data). Data volume is the primary attribute of big data.

Velocity refers to the speed, at which data is generated, becomes available, is processed in real time and most importantly changes over time (e.g. annual, monthly, weekly, daily, hourly, real time data).

Variety refers to the different types (of electronic format) of data that becomes available, either structured or unstructured (text, video, images, voice, docs, sensor data, activity logs, click streams, coordinates, etc.).

Value refers to what happens after big data has been accessed and integrated. The use of big data for taking informative decisions eventually represents value for the enterprises - and not

only – that would be capable of exploiting them.

Veracity refers to trustworthiness of data with reference to quality, authenticity and accuracy including inherent uncertainty in data like a weather forecast.

4 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: http://en.wikipedia.org/wiki/Business process

5	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.
6	Data	Representation of facts, concepts, or instructions in a formalized manner suitable for communication, interpretation, or processing by humans or by automated means. Any representations such as characters or analogue quantities to which meaning is or might be assigned. Source: http://www.its.bldrdoc.gov/projects/devglossary/_data.html
7	Denial of service attack	A denial-of-service attack (DoS attack) or distributed denial-of-service attack (DDoS attack) is an attempt to make a computer resource unavailable to its intended users. Although the means to carry out, motives for, and targets of a DoS attack may vary, it generally consists of the concerted efforts of a person or persons to prevent an internet site or service from functioning efficiently or at all, temporarily or indefinitely. Perpetrators of DoS attacks typically target sites or services hosted on high-profile web servers such as banks, credit card payment gateways, and even root name servers.
		One common method of attack involves saturating the target (victim) machine with external communications requests, such that it cannot respond to legitimate traffic, or responds so slowly as to be rendered effectively unavailable. In general terms, DoS attacks are implemented by either forcing the targeted computer(s) to reset, or consuming its resources so that it can no longer provide its intended service or obstructing the communication media between the intended users and the victim so that they can no longer communicate adequately.
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: http://en.wikipedia.org/wiki/DSL
9	EDI, EDI- type	Electronic Data Interchange (EDI) refers to the structured transmission of 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-Commerce Orders initiated with EDI. 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

e-Invoice E-invoicing, comprises payment information exchanged between the parties – enterprises, public authorities - involved in commercial transactions, transmitted via the Internet or other electronic means. A structured e-invoice is an invoice where all data are in digital format and that can be processed automatically. A distinctive feature of a structured e-invoice is automation: a structured e-invoice will be transferred automatically in inter-company invoicing from the invoice issuer's or service provider's system directly into the recipient's financial or other application. The e-invoice data could be structured according to the XML, EDI or other similar format. Unstructured invoices in an electronic form are not suitable for automated processing (e.g. emails, e-mail attachment as pdf, images in TIF, JPEG or other format)

- 12 Electronic commerce (e-Commerce) An e-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, extranet or EDI and excludes orders made by telephone calls, facsimile, or manually typed e-mail. The type is defined by the method of making the order. Source: OECD, DSTI/ICCP/IIS(2009)5/FINAL
- **13 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.

#### 14 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.
- 15 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.

- 16 Geolocation Geolocation refers to the process of identifying the geographical location when accessing the internet by using information such as the IP address, the wireless network connection, the cell tower a mobile phone is connected to (independently of using the internet), or dedicated GPS hardware that receives latitude and longitude information from satellites.
- 17 Information 1) Facts, data, or instructions in any medium or form.

2) The meaning that a human assigns to data by means of the known conventions used in their representation.

(Source: http://www.its.bldrdoc.gov/projects/devglossary/\_information.html)

- 18 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 Relates to Internet Protocol based networks: www, Extranet over the Internet, EDI over the Internet, Internet-enabled mobile phones.
- **19 Intranet** An internal company communications network using Internet protocol allowing communications within an organisation.
- 20 Intrusion An intrusion is an attempt to bypass security controls on a information system. Means of intrusion can be eavesdropping, viruses, worms, trojan horses, logic or time bombs, brute force attacks, etc.
- 21 Intrusion detection Intrusion detection is a process with the purpose of detecting intrusions or attempts of intrusions into a computer or network to compromise the confidentiality, integrity or availability by observation of system, application and user activity as well as network traffic. Intrusion detection systems take preventive actions against intrusions without direct human intervention.
- 22 Message Any thought or idea expressed briefly in a plain or secret language, prepared in a form suitable for transmission by any means of communication. Source: http://www.its.bldrdoc.gov/projects/devglossary/\_message.html
- 23 Mobile Mobile broadband (Mobile connection to the Internet over telephone networks) is the name used to describe various types of wireless high-speed Internet access through a portable modem, telephone or other device. (viz. 3G) Source: http://en.wikipedia.org/wiki/Mobile\_broadband
- Office (automation) software is a generic type of software comprising (grouped together) usually a word (automation processing package, a spreadsheet, presentations' software etc.
   ) software
- 25 **Online** An online payment is an integrated ordering-payment transaction.
- 26 **Pharming** The term "pharming" connotes an attack to redirect the traffic of a website to another, bogus website in order to acquire sensitive information.
- **27 Phishing** Phishing is a criminally fraudulent attempt to acquire sensitive information such as usernames, passwords and credit card details by masquerading as a trustworthy entity in an electronic communication.

28 Sales via website A part of the e-Commerce activities, sales via website (web application) are orders made in an online store or filled in and sent by an electronic form on the www or extranet. 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-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

29 Social 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:

**Social networks or websites** are applications based on Internet technologies that enable users to connect by creating personal information profiles, share interest and/or activities, share ideas, invite others to have access to their profile and create communities of people with common interests.

**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 non-streamed 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.

**Wiki**: A wiki is a website that allows the creation and editing of any number of interlinked web pages via a web browser using a simplified markup language or a WYSIWYG text editor. Wikis are typically powered by wiki software and are often used collaboratively by multiple users. Examples include community websites, corporate intranets, and knowledge management systems.

30 UBL Universal Business Language (UBL) is a library of standard electronic XML business documents such as purchase orders and invoices. UBL was developed by an OASIS Technical Committee with participation from a variety of industry data standards organizations. UBL is designed to plug directly into existing business, legal, auditing, and records management practices. It is designed to eliminate the re-keying of data in existing fax- and paper-based business correspondence and provide an entry point into electronic commerce for small and medium-sized businesses.

Source: http://en.wikipedia.org/wiki/Universal\_Business\_Language

31	Web e- Commerce	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
32	Web form	A webform on a web page allows a user to enter data that is sent to a server for processing. Webforms resemble paper forms because Internet users fill out the forms using checkboxes, radio buttons, or text fields. For example, webforms can be used to enter shipping or credit card data to order a product or can be used to retrieve data. Source: http://en.wikipedia.org/wiki/Webform
33	Webserver	A Web server is a computer program that delivers (serves) content, such as Web pages, using the Hypertext Transfer Protocol (HTTP), over the World Wide Web. The term Web server can also refer to the computer or virtual machine running the program. http://en.wikipedia.org/wiki/Web_server
34	Website	Location on the World Wide Web identified by a Web address. Collection of Web files on a particular subject that includes a beginning file called a home page. Information is encoded with specific languages (Hypertext mark-up language (HTML), XML, Java) readable with a Web browser, like Netscape's Navigator or Microsoft's Internet Explorer.
35	Wireless (access - connection)	The use of wireless technologies such as radio-frequency, infrared, microwave, or other types of electromagnetic or acoustic waves, for the last internal link between users devices (such as computers, printers, etc) and a LAN backbone line(s) within the enterprise's working premises. It includes mainly Wi-fi and Bluetooth technologies.
36	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.
37	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: http://www.xml.com/