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STATISTICAL SERVICE
1444 NICOSIA

STRICTLY CONFIDENTIAL

SURVEY ON ICT USAGE AND E-COMMERCE IN ENTERPRISES 2009

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	S/N	⌊_⌊_⌊_⌊_⌋
	Legal Status	⌊_⌊_⌋
	Enterprise Size	⌊_⌋
	NACE Rev1.1	⌊_⌊_⌊_⌊_⌋
	NACE Rev2	⌊_⌊_⌊_⌊_⌋

GENERAL INFORMATION:

1. The aim of the survey is to collect data on ICT usage, Internet usage and electronic commerce in enterprises. 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 a visit for the completion of 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 **January 2009**, unless the question refers to other specific period.
6. 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 **STRICTLY CONFIDENTIAL**. Your responses will be used solely for statistical purposes.

G. Chr. Georgiou
Director
Statistical Service

7 January, 2009

Module A: Use of computers and computer networks		
A1. **Did your enterprise use computers, in January 2009?**	**Yes** ☐	**No** ☐ → Go to X1
A2. **Please answer (a) or (b)** **a) How many persons employed used computers at least once a week, in January 2009?** If you can't provide this value, **b) Please indicate an estimate of the percentage of the number of persons employed who used computers at least once a week, in January 2009.**	☐☐☐☐ ☐☐☐ %	
A3. **Was your enterprise using an internal computer network(1) (e.g. LAN - Local Area Network) in January 2009?**	**Yes** ☐	**No** ☐ → Go to A5
A4. **Did your enterprise use wireless access(2) within its internal computer network (e.g. wireless LAN), in January 2009?**	**Yes** ☐	**No** ☐
A5. **Did your enterprise have in use an internal home page (Intranet(3)), in January 2009?**	**Yes** ☐	**No** ☐
A6. **In January 2009, did your enterprise have an extranet(4) (a website or an extension of the Intranet with access restricted to business partners)?**	**Yes** ☐	**No** ☐
A7. **Did your enterprise have in use, in January 2009, third party free or open source operating systems(5), such as Linux ?** (i.e. with its source code available, no copyright cost, and the possibility to modify and/or (re)distribute it)	**Yes** ☐	**No** ☐

Module B: Access and use of the Internet(6) (Scope: enterprises with Computers)		
B1. **Did your enterprise have access to the Internet, in January 2009?**	**Yes** ☐	**No** ☐ → Go to C1
B2. **Please answer (a) or (b)** **a) How many persons employed used computers with access to the World Wide Web at least once a week, in January 2009?** If you can't provide this value, **b) Please indicate an estimate of the percentage of the number of persons employed who used computers with access to the World Wide Web at least once a week, during January 2009.**	☐☐☐☐ ☐☐☐ %	

B3.	**Did your enterprise have the following types of external connection to the Internet, in January 2009?**	**Yes**	**No**
	a) Traditional Modem[7] (dial-up access over normal telephone line) or ISDN[8] connection	☐	☐
	b) DSL[9] (xDSL[10], ADSL, SDSL etc) connection	☐	☐
	c) Other fixed internet connection (e.g. cable, leased line (e.g. E1 or E3 at level 1 and ATM at level 2), Frame Relay, Metro-Ethernet, PLC - Powerline communication, etc.), fixed wireless connections)	☐	☐
	d) Mobile connection (e.g. analogue mobile phone, GSM, GPRS, UMTS, EDGE, CDMA2000 1xEVDO)	☐	☐
B4.	**Did your enterprise use the Internet for the following purposes, in January 2009?** **(as <u>consumer</u> of Internet services)**	**Yes**	**No**
	a) Banking and financial services	☐	☐
	b) Training and education	☐	☐
B5.	**Did your enterprise use the Internet for interaction with public authorities, during 2008?**	**Yes** ☐	**No** ☐ → Go to B7
B6.	**Did your enterprise use the Internet to interact with public authorities in the following ways, during 2008?**	**Yes**	**No**
	a) For obtaining information	☐	☐
	b) For obtaining forms, e.g. tax forms	☐	☐
	c) For returning filled in forms, e.g. provision of statistical information to public authorities	☐	☐
	If yes to c) c1) To which services? ……..……..……..		
	d) For treating an administrative procedure (e.g. declaration, registration, authorisation request) completely electronically without the need for additional paper work (including payment if required)	☐	☐
	If yes to d) d1) To which services? ……..……..……..		
	e) For submitting a proposal in a public electronic tender system (e-procurement) (in the system itself and not by e-mail[11])	☐	☐
	If yes to e) e1) To which services? ……..……..……..		
B7.	**Did your enterprise have a Website[12] or Home Page, in January 2009?**	**Yes** ☐	**No** ☐ → Go to B9
	<u>If yes</u>, give the address of your website:		

		Yes	No
B8.	**Did the Website or Home Page have any of the following facilities, in January 2009?**		
	a) A privacy policy statement, a privacy seal or certification related to website safety	☐	☐
	b) Product catalogues or price lists	☐	☐
	c) Possibility for visitors to customise or design the products	☐	☐
	d) Online ordering or reservation or booking, e.g. shopping cart	☐	☐
	e) Order tracking available on line	☐	☐
	f) Personalised content in the website for regular/repeated visitors	☐	☐
	g) Advertisement of open job positions or online job application	☐	☐
B9.	**Was your enterprise, in January 2009, using a digital signature[13] in any message sent, i.e. using encryption methods that assure the authenticity and integrity of the message** (uniquely linked to and capable of identifying the signatory and where any subsequent change to the message is detectable)**?**	**Yes** ☐	**No** ☐

	Module C: Automated Data Exchange with systems outside the enterprise (Scope: enterprises with Computers)		
	Automated data exchange between ICT systems means: - exchange of messages (e.g. orders, invoices, payment transactions or description of goods) - via the internet or other computer networks - an agreed format which allows its automatic processing (e.g. XML, EDIFACT etc.) - without the individual message being manually typed		
C1.	**In January 2009, was your enterprise using such automated data exchange with ICT systems outside the enterprise?**	**Yes** ☐	**No** ☐ → Go to D1
C2.	**Was automated data exchange used for the following purposes?**	**Yes**	**No**
	a) Sending orders to suppliers	☐	☐
	b) Receiving e-invoices[14]	☐	☐
	c) Receiving orders from customers	☐	☐
	d) Sending e-invoices[14]	☐	☐
	e) Sending or receiving product information (e.g. catalogues, price lists, etc.)	☐	☐
	f) Sending or receiving transport documents (e.g. consignment notes)	☐	☐

Module D: Sharing electronically information on the Supply Chain Management

(Scope: enterprises with Computers)

Sharing electronically information on the supply chain management means:

- exchanging all types of information with suppliers and/or customers in order to coordinate the availability and delivery of products or services to the final consumer;

- including information on demand forecasts, inventories, production, distribution or product development;

- via computer networks, not only the Internet but also other connections between computers of different enterprises.

- it can be from you to your suppliers/customers or the other way around.

This information may be exchanged via websites or via automated data exchange (recall definition in module C), but it excludes normal e-mail[11] messages manually written.

		Yes	No
D1.	**In January 2009, was your enterprise regularly sharing electronically information on the supply chain management with your suppliers or customers?**	☐	☐ → Go to E1

		Yes	No
D2.	**Was your enterprise regularly sharing electronically the following information with its <u>suppliers</u>, in January 2009?**		
	a) Inventory levels, production plans or demand forecasts	☐	☐
	b) Progress of deliveries (i.e. distribution of raw materials or finished products)	☐	☐

		Yes	No
D3.	**Was your enterprise regularly sharing electronically the following information with its <u>customers</u>, in January 2009?**		
	a) Inventory levels, production plans or demand forecasts	☐	☐
	b) Progress of deliveries (i.e. distribution of raw materials or finished products)	☐	☐

		Yes	No
D4.	**Were the following methods used for the electronic exchange of this information, in January 2009?**		
	a) Websites (yours, those of your business partners or web portals)	☐	☐
	b) Automated data exchange (XML, EDIFACT, etc.)	☐	☐

Module E: Automatic share of information within the enterprise

(Scope: enterprises with Computers)

Sharing information electronically and automatically between different functions of the enterprise means any of the following:

- Using one single software application to support the different functions of the enterprise;
- Data linking between the software applications that support the different functions of the enterprise
- Using a common database or data warehouse accessed by the software applications that support the different functions of the enterprise;
- Automated data exchange between different software systems (recall definition in module C);

E1. In January 2009, when your enterprise <u>received</u> a sales order (either electronically or not), was the relevant information about it shared electronically and automatically with the software used for the following functions?

	Yes	No
a) Your management of inventory levels	☐	☐
b) Your accounting	☐	☐
c) Your production or services management	☐	☐
d) Your distribution management	☐	☐

E2. In January 2009, when your enterprise <u>sent</u> a purchase order (either electronically or not), was the relevant information about it shared electronically and automatically with the software used for the following functions?

	Yes	No
a) Your management of inventory levels	☐	☐
b) Your accounting	☐	☐

E3. In January 2009, did your enterprise have in use an ERP[(15)] software package to share information on sales and/or purchases with other internal functional areas (for example, finance, planning, marketing, etc.)?

Yes	No	Don't know
☐	☐	☐

E4. In January 2009, did your enterprise have in use any software application for managing information about clients (so called CRM[(16)]) that allows it to:

	Yes	No
a) Capture, store and make available to other business functions the information about its clients?	☐	☐
b) Make analysis of the information about clients for marketing purposes (setting prices, make sales promotion, choose distribution channels, etc.)?	☐	☐

Module F: e-Commerce[17]

(Scope: enterprises with Computers)

e-Commerce means:

- the placement of orders, where an order is a commitment to purchase goods or services, via computer networks, not only the Internet but also other connections between computers of different enterprises, where payment and delivery does not have necessarily to be done via computer networks.

- e-Commerce may be done via websites or via automated data exchange between enterprises or organisations, (recall definition in module C), but it excludes normal e-mail[11] messages that are manually typed.

- Sales via website[18], i.e. orders made at an online store or via web forms on the Internet or extranet.

Orders received via computer networks (Sales)

		Yes	No
F1.	**Did your enterprise receive orders for products or services via computer networks (excluding manually typed e-mails), during 2008?**	☐	☐ → Go to F8

F2. Please indicate what percentage represented orders received via each one of the following ways, out of total turnover, in 2008.

a)	via a website	___ %
b1)	via automated data exchange using Internet	___ %
b2)	via automated data exchange using other networks	___ %

F3. Please answer (a) or (b)

a) Please state the value of the turnover resulted from orders received electronically (in monetary terms, excluding VAT), in 2008.

€ _____

If you can't provide this value,

b) Please indicate an estimate of the percentage of the total turnover resulted from orders received electronically, in 2008.

___ %

F4. Please provide a percentage breakdown of all electronic sales in 2008, by destination.
(estimates in percentage of the monetary values)

a)	Cyprus	___ %
b)	Other EU countries	___ %
c)	Rest of the world	___ %
	TOTAL	100 %

F5.	**Which of the following means of payment were accepted for sales via a website in January 2009?**	**Yes**	**No**
	a) Online payment[19] i.e. payment integrated in the ordering transaction (e.g. Credit, debit card, direct debit authorisation, via 3rd party accounts)	☐	☐
	b) Offline payment, i.e. payment process is **not** included in the order transaction (e.g. Cash on delivery, bank transfer, cheque payment and other non-online payment)	☐	☐
F6.	**For the reception of orders via Internet, was your enterprise using a secure protocol, such as SSL[20] and TLS[20], in January 2009?**	**Yes** ☐	**No** ☐

Effects of and barriers to electronic sales

F7.	**Has the adoption of electronic sales by your enterprise had favourable effects according to the following categories?**	**Yes**	**No**
	a) Access to new markets, increasing sales potential	☐	☐
	b) Lower transaction costs	☐	☐
	c) Increased turnover	☐	☐
	d) Other	☐	☐
F8.	**Please indicate if any of the following problems or barriers to electronic sales are currently important to your enterprise.**	**Yes (a barrier)**	**No (No barrier)**
	a) Products or services not suitable for e-commerce	☐	☐
	b) Customers do not want to buy via e-commerce	☐	☐
	c) Security concerns (related to payments or transactions)	☐	☐
	d) Problems related to logistics (shipping of goods or delivery of services)	☐	☐
	e) Uncertainty about legal framework	☐	☐
	f) Technical issues in implementing e-commerce	☐	☐
	g) The need to reorganise business processes for e-commerce	☐	☐
	h) Adverse experiences with electronic sales in past	☐	☐
	i) Language problems related to international e-commerce	☐	☐

Orders placed via computer networks (Purchases)

F9. **Did your enterprise send orders for products or services via computer networks, during 2008 (excluding manually typed e-mails)?**

Yes	No
☐	☐ → Go to G1

F10. **a)** **Please indicate for 2008 the percentage of orders that were sent electronically in relation to the total purchases' value (in monetary terms, excluding VAT).**

Less than 1%	☐
1% or more and less than 5%	☐
5% or more and less than 10%	☐
10% or more and less than 25%	☐
25% or more and less than 50%	☐
50% or more and less than 75%	☐
75% or more	☐

Alternative Question:

b) **Please state the value of the purchases resulted from orders that were placed electronically (in monetary terms, excluding VAT), in 2008.**

€ _____

If you can't provide this value

c) **Please indicate an estimate of the percentage of the total purchases that resulted from orders placed electronically, in 2008.**

_____ %

F11. **In 2008, did your enterprise regularly send e-commerce orders via computer networks to suppliers located in the following geographic areas?**

	Yes	No
a) Cyprus	☐	☐
b) Other EU countries	☐	☐
c) Rest of the world	☐	☐

Module G: Use of Radio Frequency Identification[21] (RFID) technologies

(Scope: enterprises with Computers)

Radio Frequency identification technologies (RFID) means:
- an automatic identification method to store and remotely retrieve data using RFID tags or transponders,
- a RFID tag is a device that can be applied to or incorporated into a product or object and transmits data via radiowaves.

		Yes	No
G1.	**Does your enterprise make use of Radio Frequency Identification instruments?**	☐	☐ → Go to X1

G2. For what purposes does your enterprise use RFID?

		Yes	No
a)	Product identification (e.g. to prevent counterfeiting, theft control)	☐	☐
b)	Monitoring and control of industrial production	☐	☐
c)	Supply chain and inventory tracking and tracing	☐	☐
d)	Service and maintenance information management, asset management	☐	☐
e)	Payment applications (e.g. highway tolls, passenger transport)	☐	☐
f)	Person identification or access control	☐	☐

Module X: Background information

X1.	**Main economic activity of the enterprise, during 2008** (description)	…… …… …… ……
X2.	**Average number of persons employed, during 2008**	☐☐☐
X3.	**Total purchases of goods and services (in value terms, excluding VAT), for 2008**	€ ☐☐☐☐☐☐☐☐☐
X4.	**Total turnover (in value terms, excluding VAT), for 2008**	€ ☐☐☐☐☐☐☐☐☐

	Module Z: General Information
Z1.	**If you have any comments about the survey, please write down below:**
	.....
	.....
	.....
	.....
Z2.	**Name of the person who answered the questionnaire:**
	Position in the enterprise:
	Telephone:
	Fax:
	E-mail:
Z3.	**Name of the person who completed the questionnaire:**
	Time needed to fill out this questionnaire:
	Signature:
	Date:

TO BE COMPLETED BY THE ENUMERATOR:

Z4.	**Completion of the questionnaire::**
	a) The questionnaire is completed…… 1
	b) The enterprise has closed……..……...……..…… 2
	c) The enterprise can not be located……..…… 3
	d) The enterprise refuses to cooperate……...……..... 4
	e) The enterprise was closed during the collection of the data……..…… 5
	f) Merge with another enterprise……..…..…… 6
	g) Other reasons for no completion …… 7
	Please specify:
	.....
	.....
	.....

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Z5.	**Name of the person who checked the questionnaire:**

GLOSSARY

(1) Internal computer network

An internal computer network is a group of at least two computers connected together using a telecommunication system for the purpose of communicating and sharing resources within an enterprise. It typically connects personal computers, workstations, printers, servers, and other devices. It is used usually for internal file exchange between connected users; intra business communications (internal e-mail, internal web based interface etc), shared access to devices (printers etc) and other applications (databases) or for joint business processes.

LAN (Local Area Network) - A network for communication between computers confined to a single building or in closely located group of buildings, permitting users to exchange data, share a common printer or master a common computer, etc.

(2) Wireless access

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.

(3) Intranet

An internal company communications network using Internet protocol allowing communications within an organisation.

(4) 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.

(5) Free / Open Source operating systems

Open source operating system software refers to computer software under an open source license. An open-source license is a copyright license for computer software that makes the source code available under terms that allow for modification and redistribution without having to pay the original author. Such licenses may have additional restrictions such as a requirement to preserve the name of the authors and the copyright statement within the code.

Related to the Open Source Definition is the Free Software definition by the Free Software Foundation, which attempts to capture what is required for a program license to qualify as being free-libre software. In practice, licenses meet the open source definition almost always also meet the Free software definition. All licenses reported to meet the free software definition as of 2005 also meet the open source definition.

(6) Internet

Relates to Internet Protocol based networks: www, Extranet over the Internet, EDI over the Internet, Internet-enabled mobile phones.

(7) Modem

Device that modulates outgoing digital signals from a computer or other digital device to analogue signals for a conventional copper twisted pair telephone line and demodulates the incoming analogue signal and converts it to a digital signal for the digital device.

(8) ISDN

Integrated Services Digital Network.

(9) DSL

DSL technologies designed to increase bandwidth over standard copper telephone wires; includes ADSL (Asymmetric Digital Subscriber Line) etc.

(10) **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.
(11) **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.
(12) **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.
(12) **Digital Signature**	A digital signature is some kind of electronic information attached to or associated with a contract or another message used as the legal equivalent to a written signature. Electronic signature is often used to mean either a signature imputed to a text via one or more of several electronic means, or cryptographic means to add non-repudiation and message integrity features to a document. Digital signature usually refers specifically to a cryptographic signature, either on a document, or on a lower-level data structure. For either of them to be considered a signature they must have a legal value, otherwise they are just a piece of communication. Some web pages and software EULAs claim that various electronic actions are legally binding signatures, and so are an instance of electronic signature. For example, a web page might announce that, by accessing the site at all, you have agreed to a certain set of terms and conditions. The legal status of such claims is uncertain. An electronic signature can also be a digital signature if it uses cryptographic methods to assure both message integrity and authenticity. Because of the use of message integrity mechanisms, any changes to a digitally signed document will be readily detectable if tested for, and the attached signature cannot be taken as valid. It is important to understand the cryptographic signatures are much more than an error checking technique akin to checksum algorithms, or even high reliability error detection and correction algorithms such as Reed-Solomon. These can offer no assurance that the text has not been tampered with, as all can be regenerated as needed by a tamperer. In addition, no message integrity protocols include error correction, for to do so would destroy the tampering detection feature. Popular electronic signature standards include the OpenPGP standard supported by PGP and GnuPG, and some of the S/MIME standards (available in Microsoft Outlook). All current cryptographic digital signature schemes require that the recipient have a way to obtain the sender's public key with assurances of some kind that the public key and sender identity belong together, and message integrity measures (also digital signatures) which assure that neither the attestation nor the value of the public key can be surreptitiously changed. A secure channel is not required. A digitally signed text may also be encrypted for protection during transmission, but this is not required when the digital signature has been properly carried out. Confidentiality requirements will be the guiding consideration.
(14) **e-Invoice**	An e-invoice is an invoice where all data is in digital format and it can be processed automatically. A distinctive feature of an e-invoice is automation. 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 transmission protocol might be XML, EDI or other similar format.

(15) 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.

(16) 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.

(17) Electronic commerce (e-commerce)

Transactions conducted over Internet Protocol-based networks and over other computer-mediated networks. The goods and services are ordered over those networks, but the payment and the ultimate delivery of the good or service may be conducted on or off-line. Orders received via telephone, facsimile, or manually typed e-mails are not counted as electronic commerce.

(18) Sales via website

A part of the e-commerce activities, sales via website are orders made in an online store or filled in and sent by an electronic form on the Internet. Sales in Extranet following the same criteria are included.

(19) Online payment

An online payment is an integrated ordering-payment transaction.

(20) SSL/TLS

Secure Sockets Layer (SSL) and Transport Layer Security (TLS) are cryptographic protocols which provide secure communications on the Internet. SSL provides endpoint authentication and communications privacy over the Internet using cryptography. In typical use, only the server is authenticated (i.e. its identity is ensured) while the client remains unauthenticated; mutual authentication requires PKI deployment to clients. The protocols allow client/server applications to communicate in a way designed to prevent eavesdropping, tampering, and message forgery.

(21) RFID

Radio-frequency identification (RFID) is an automatic identification method, relying on storing and remotely retrieving data using devices called RFID tags or transponders.

An RFID tag is an object that can be applied to or incorporated into a product for the purpose of identification using radiowaves. Some tags can be read from several meters away and beyond the line of sight of the reader.