INFORMATION AND COMMUNICATION TECHNOLOGIES USAGE IN ENTERPRISES IN 2019

The results of the 2019 survey showed that 95.7% of the enterprises with **10 or more persons employed** used computers[1] and among the big enterprises with 250 or more persons employed, the relative share was 100.0%. High-speed and reliable internet access is a necessity for the enterprises and 93.7% of them had permanent connection with the global network. The enterprises mainly used DSL or other type fixed connection (80.5%) and the speed of the fastest fixed internet connection in 64.8% of them was more than 30 Mbps.

1. Share of enterprises with internet access by size class and economic activity in 2019

(Per cent)

	Internet	Fixed connection	From them: with speed ≥ 30Mbps
Total	**93.7**	**80.5**	**64.8**
By size class			
10 - 49 persons employed	92.5	78.3	62.3
50 - 249 persons employed	98.8	89.7	73.8
250 or more persons employed	100.0	97.5	81.8
By economic activity			
Manufacturing	94.1	81.7	59.5
Electricity, gas and steam, water supply, sewerage and waste management	98.9	84.7	69.0
Construction	95.2	78.1	66.6
Wholesale and retail trade; repair of motor vehicles and motorcycles	93.8	80.7	59.7
Transportation and storage	95.6	78.2	58.8
Accommodation and food service activities	85.4	70.1	67.0
Information and communication	100.0	96.0	93.8
Real estate activities	97.5	87.1	75.6
Professional, scientific and technical activities	99.7	94.0	79.6
Administrative and support activities	87.3	73.7	71.1

In 2019, every third enterprise (36.5%) used voice or video call applications over the internet (e.g. Skype, WhatsApp, Facetime, Viber) for business purposes, and 46.4% provided their staff with portable devices that allow a mobile connection to the internet using mobile telephone networks.

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[1] Computers include personal computers, portable computers, tablets and other portable devices such as smartphones.

The relative share of persons employed who used a computer every day for executing their work duties was 32.1% and 28.7% were granted access to the internet. The persons employed who used portable devices that allow a mobile connection to the internet were 11.4%.

Figure 1. Share of persons employed in enterprises by type of devices used and size class in 2019
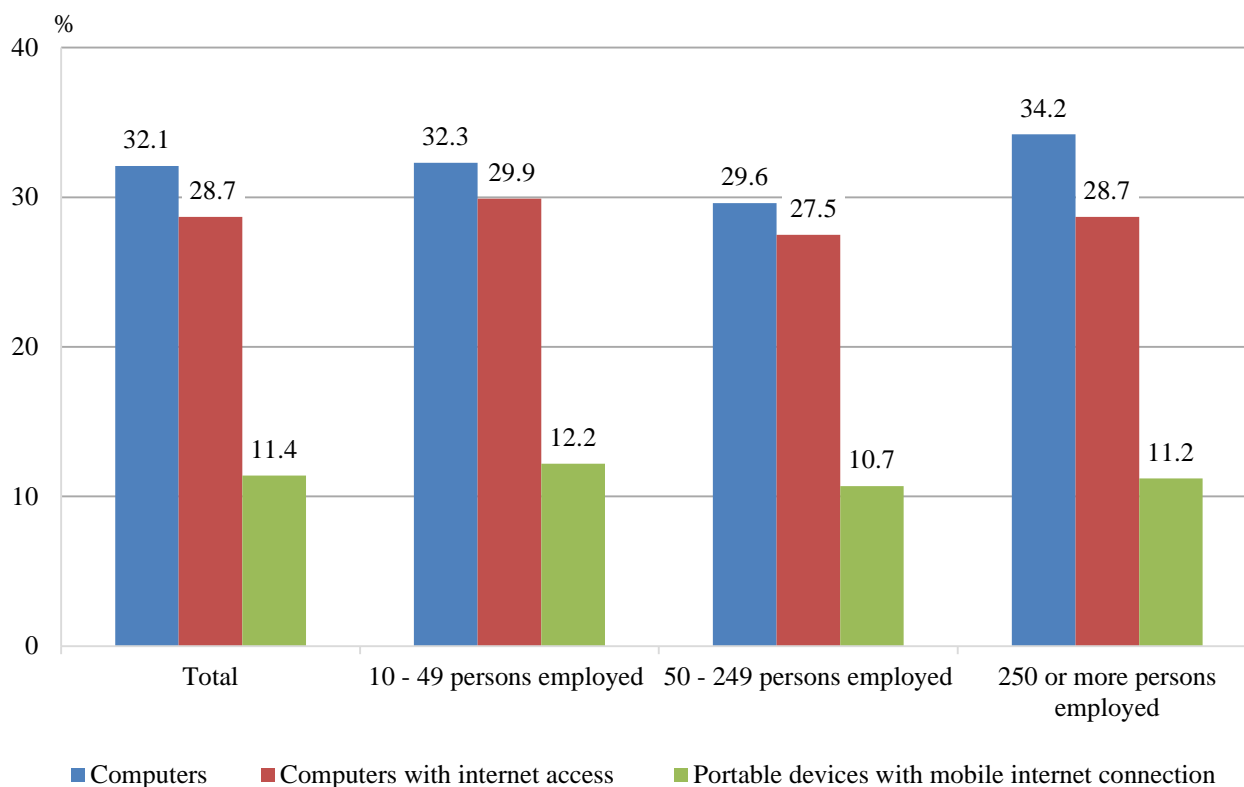
Half of the enterprises (50.7%) maintained their own website, as 12.6% stated that they used information about visitors' behaviour on the website (e.g. clicks, items viewed) for advertising or improving customer satisfaction (Figure 2.).

Websites were mainly used for providing:

- description of goods or services - 79.1%)[1];
- links or references to the enterprise's social media profiles - 34.5%;
- possibility for online ordering or reservations of goods or services - 26.3%;
- tracking or status of orders placed - 16.1%.

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[1] The relative shares were calculated on the basis of enterprises having a website.

Figure 2. Share of enterprises having a website by size class in 2019

Have a website   Use information about website visitors
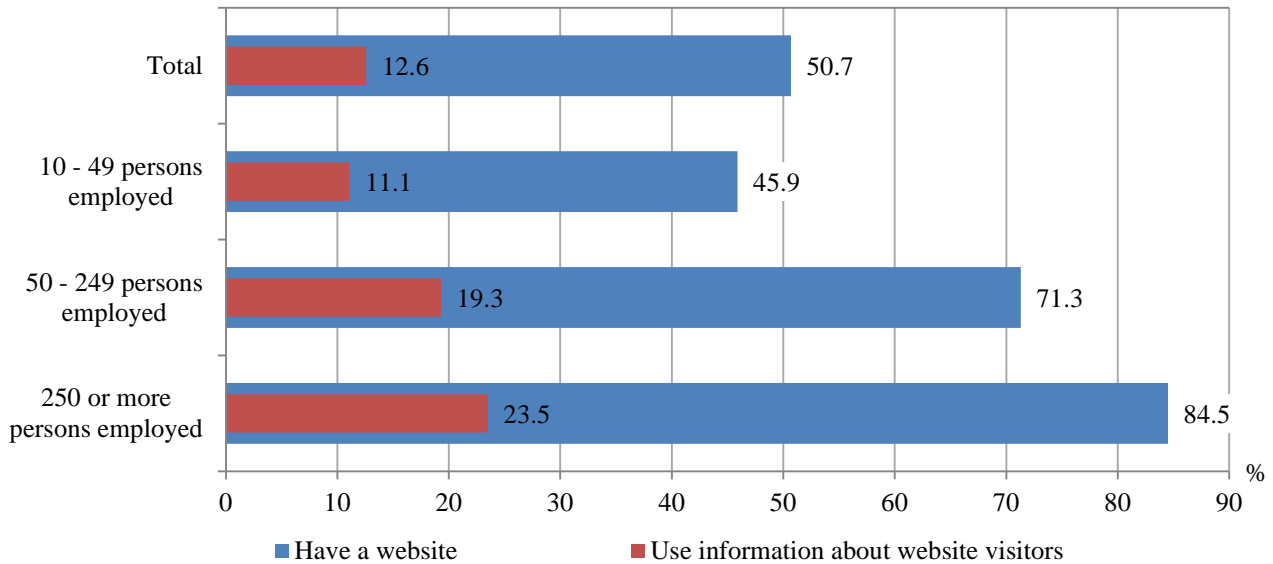
Use of Social Media

In 2019, 33.8% of the enterprises used social media to develop their business activity and enlarge their internet presence. The most popular were social networks (Facebook, LinkedIn, Xing, Yammer, Probook.bg, etc.) and 33.2% of the enterprises maintained a profile on a social network.

Figure 3. Share of enterprises using social media by type of media and size class in 2019

Social media, total   Social networks   Other social media
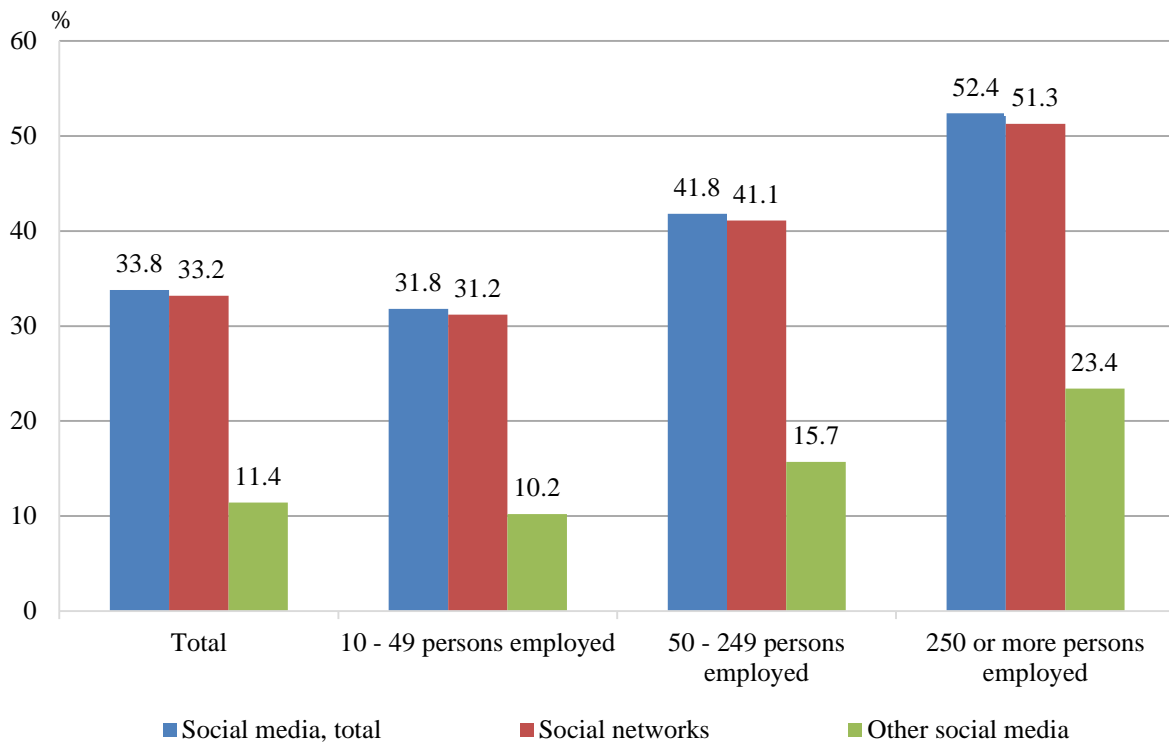
The main purposes for which enterprises used social media were:

- developing the enterprise's image or market products (advertising, launching products, etc.) - 73.9% [1];
- obtaining or responding to customer opinions, reviews, questions - 62.7%;
- recruit employees - 32.8%;
- collaborating with business partners or other organisations - 29.5%.

ICT specialists

In 2019, every fifth enterprise (20.1%) had employees for whom the main job was to develop, operate or maintain ICT systems or applications. During the previous calendar year, 10.0% of the enterprises recruited or tried to recruit ICT specialists and 41.6% of them had difficulties to fill the vacancies.

In order to improve the qualification of the employees, 10.1% of the employers provided training in the ICT area.

Figure 4. Share of enterprises employing ICT specialists and providing ICT training by size class in 2019
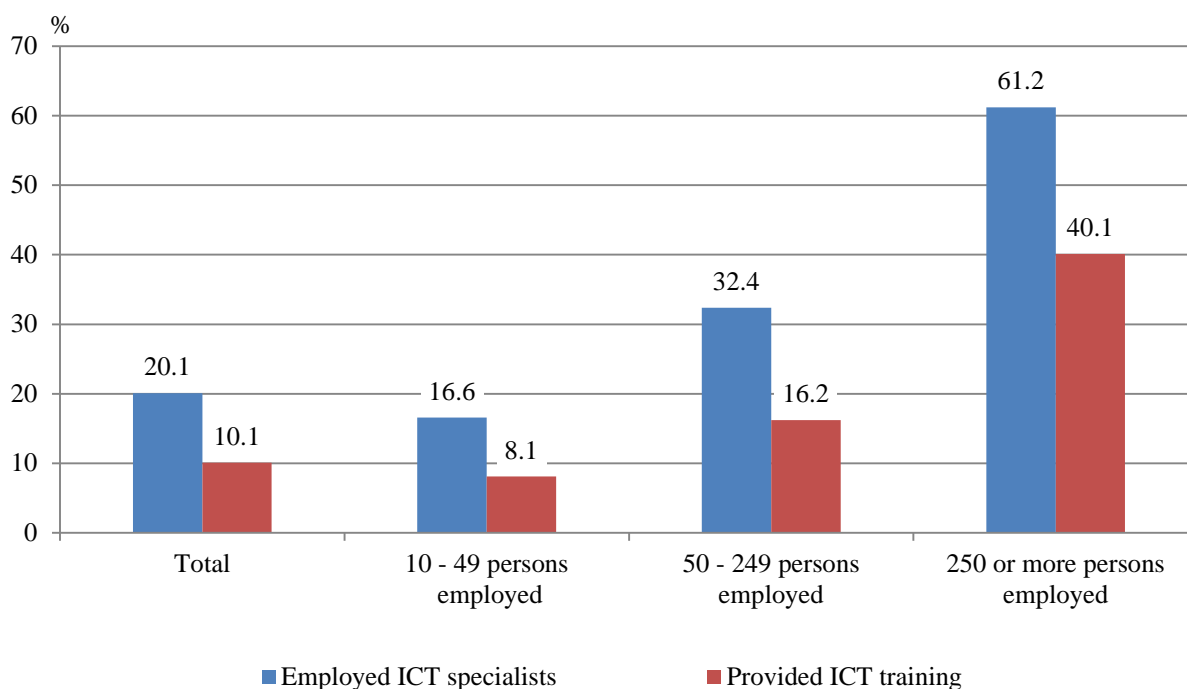
ICT security

ICT security means measures, controls and procedures applied on ICT systems in order to ensure integrity, authenticity, availability and confidentiality of data and systems. Results of the survey showed that 85.0% of the enterprises applied various ICT security measures. The most common

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[1] The relative shares were calculated on the basis of enterprises using social media.

measures were: keeping the software up-to-date (74.1%); strong password authentication (72.3%); network access control (51.1%); data backup to a separate location - 50.7%.

2. Share of enterprises by type of ICT security measures applied and size class in 2019

(Per cent)

Type of measures	Total	10 - 49 persons employed	50 - 249 persons employed	250 or more persons employed
Total	**85.0**	**83.0**	**93.7**	**98.1**
Keeping the software up-to-date	74.1	71.2	86.6	95.1
Strong password authentication	72.3	69.7	83.7	92.0
Network access control	51.1	46.6	69.8	87.6
Data backup to a separate location	50.7	46.6	68.3	83.2
Encryption techniques	33.1	29.6	46.4	67.3
Periodically assessment of risk	23.1	19.7	36.3	57.3
ICT security tests	22.7	19.2	36.2	57.2
Maintaning log files	22.7	18.1	40.5	68.4
Virtual Private Network (VPN)	21.8	17.2	39.1	70.7
Biometric methods for identification	3.5	2.9	5.3	13.9

Every second enterprise (51.0%) made persons employed aware of their obligations in ICT security related issues in the following ways:

- voluntary training or internally available information - 40.2%;
- by contract of employment - 23.5%;
- compulsory training courses or viewing compulsory material - 12.2%.

In the previous calendar year, 16.3% of the enterprises experienced problems due to ICT related security incidents, as 12.6% of the enterprises encountered unavailability of ICT services and 7.5% were affected by destruction or corruption of data.

The relative share of enterprises which had insurance against ICT security incidents was 2.8%.

**Electronic commerce (e-Commerce)**

E-commerce is the sale or purchase of goods or services conducted via the internet and includes sales or purchases made via website or "apps", or via automated data exchange (EDI-type messages).

Data from the 2019 survey showed that in the previous calendar year, 10.9% of the enterprises sold goods or services online and the turnover of e-commerce was 4.5% of total turnover of the enterprises. The relative share of the enterprises, which performed web sales were 10.0%, and of those which used EDI-type messages - 1.5%.

Over a ten-year period, the relative share of enterprises that conducted e-commerce sales of goods or services increased nearly three times.

Figure. 5. Share of enterprises conducting online sales of goods or services by size class
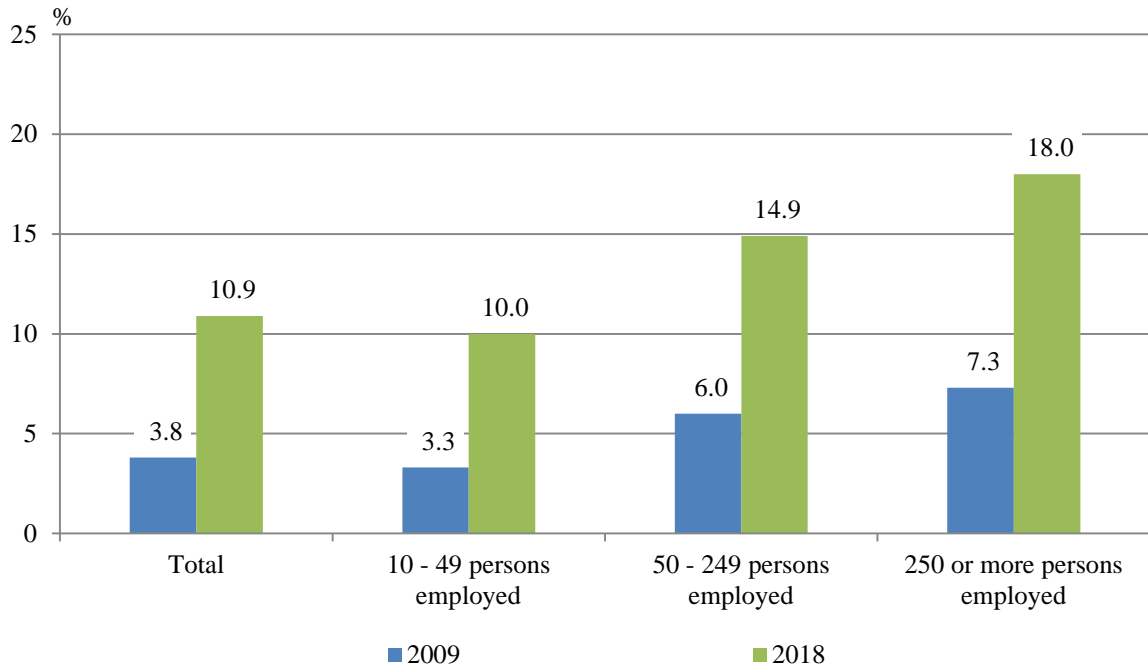
Methodological notes

The survey on Information and Communication Technologies (ICT) usage and e-commerce in enterprises is a part of the European statistical programme and has been carried out in Bulgaria since 2004 according to the Regulation (EU) No. 808/2004. The main purpose of the survey was to obtain reliable and comparable data which reflect the dissemination and usage of ICT at national and European level. The survey was representative as a stratified random sample of enterprises from **the non-financial sector with 10 or more persons employed** was used. The survey was conducted by means of online questionnaire, sent to the respondents by e-mail and by face-to-face interviews, carried out by NSI employees. The 2019 questionnaire comprised several topics like availability and use of computers and internet by enterprises, use of a website, social media, ICT security, e-commerce, etc.

Fixed internet connection includes ADSL, SDSL, VDSL, fibre optics technology (FTTH), cable technology, LAN, high capacity leased lines, fixed wireless access connections (e.g. satellite connection, public Wi-Fi connection, WiMax), etc.

A **mobile internet connection** to the internet means the usage of portable devices (portable computers, tablets or other portable devices such as smartphones) connecting to the internet through mobile telephone networks (3G or 4G).

ICT specialists are employees for whom the main job is to develop, operate or maintain ICT systems or applications.

VPN (Virtual Private Network) is a logically built computer network that creates a secure and encrypted connection between remote offices of the enterprise or remote users.

EDI-type e-commerce are sales or purchases made via **EDI-type messages** in agreed or standard format suitable for automated processing (e.g. EDIFACT, XML, UBL). Usually EDI-type e-commerce is operated between enterprises.

More information and data from surveys on Information and Communications Technologies usage in enterprises can be found at the NSI's web site (http://www.nsi.bg/en/content/6132/ict-usage-enterprises) and in Information System 'Infostat' (https://infostat.nsi.bg/infostat/pages/module.jsf?x_2=241).