

INFORMATION AND COMMUNICATION TECHNOLOGIES USAGE IN ENTERPRISES IN 2020

In 2020, 95.5% of the **non-financial enterprises with 10 or more persons employed** had internet access and among the big enterprises with 250 or more persons employed, the relative share was 100.0%. Fixed internet connection was available in 86.1% of the enterprises and the contracted maximum download speed in 78.6% was more than 30 Mbps. More than a half of the enterprises with 250 or more persons employed (51.7%) had download speed more than 100 Mbps.

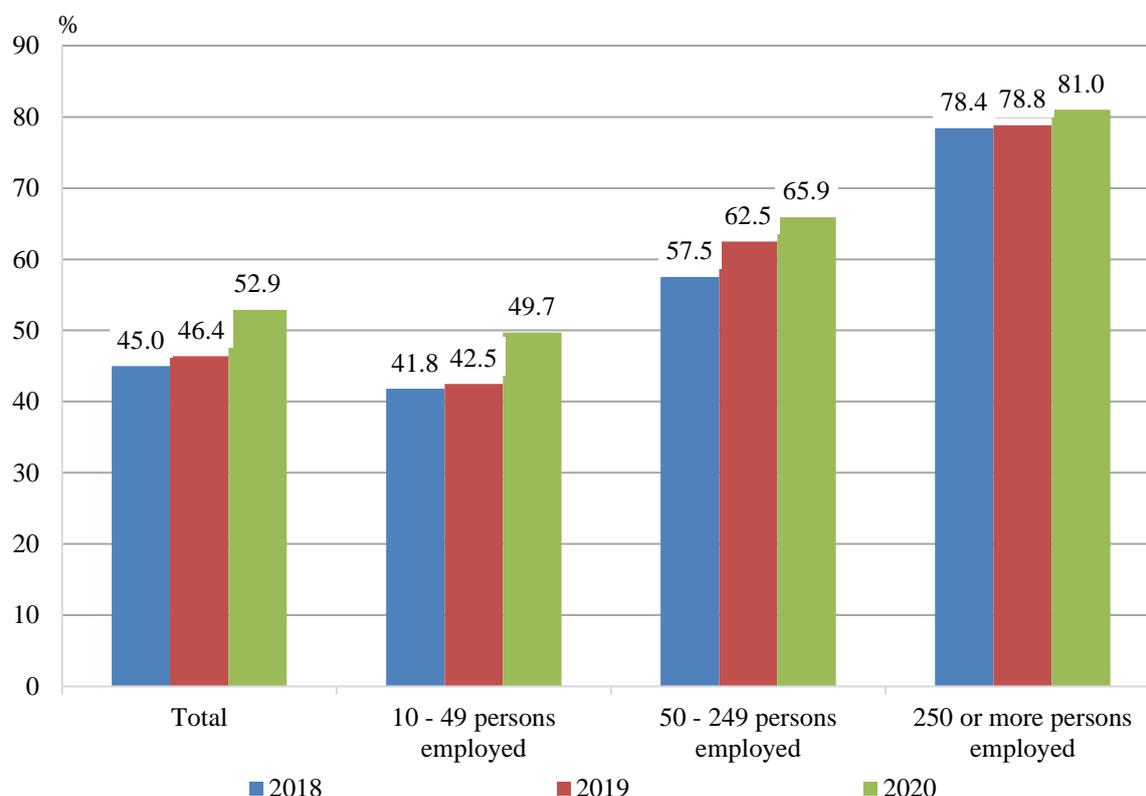
1. Share of enterprises with internet access by size class and economic activity in 2020

(Per cent)

	Internet access	Fixed connection	Download speed	
			≥ 30Mbps	≥ 100Mbps
Total	95.5	86.1	78.6	37.5
By size class				
10 - 49 persons employed	94.8	84.3	76.4	35.0
50 - 249 persons employed	99.0	94.1	88.5	48.4
250 or more persons employed	100.0	97.7	93.4	51.7
By economic activity				
Manufacturing	95.6	86.1	77.9	34.5
Electricity, gas and steam, water supply, sewerage and waste management	98.0	87.5	79.9	33.1
Construction	97.2	82.2	74.7	33.3
Wholesale and retail trade; repair of motor vehicles and motorcycles	95.4	87.6	79.0	34.4
Transportation and storage	97.6	85.8	80.9	39.9
Accommodation and food service activities	89.5	78.1	68.9	33.4
Information and communication	98.1	95.9	95.9	67.8
Real estate activities	100.0	96.8	84.8	39.9
Professional, scientific and technical activities	99.8	96.6	92.5	56.7
Administrative and support activities	93.7	82.1	75.9	39.3

In 2020, 52.9% of the enterprises provided their staff with portable devices that allow a mobile connection to the internet using mobile telephone networks, which was by 6.5 percentage points more compared to the previous year (Figure 1).

Figure 1. Share of enterprises providing persons employed with portable devices with mobile internet connection by size class



The relative share of the persons employed who had access to the internet was 33.7% and 14.3% used portable devices that allow a mobile connection to the internet for business purposes.

2. Share of persons employed in enterprises having internet access and using portable devices with mobile internet connection by size class in 2020

(Per cent)

Size class	Persons employed having internet access	Persons employed using portable devices with mobile internet connection
Total	33.7	14.3
10 - 49 persons employed	35.2	15.0
50 - 249 persons employed	32.3	14.8
250 or more persons employed	33.6	13.2

www.nsi.bg

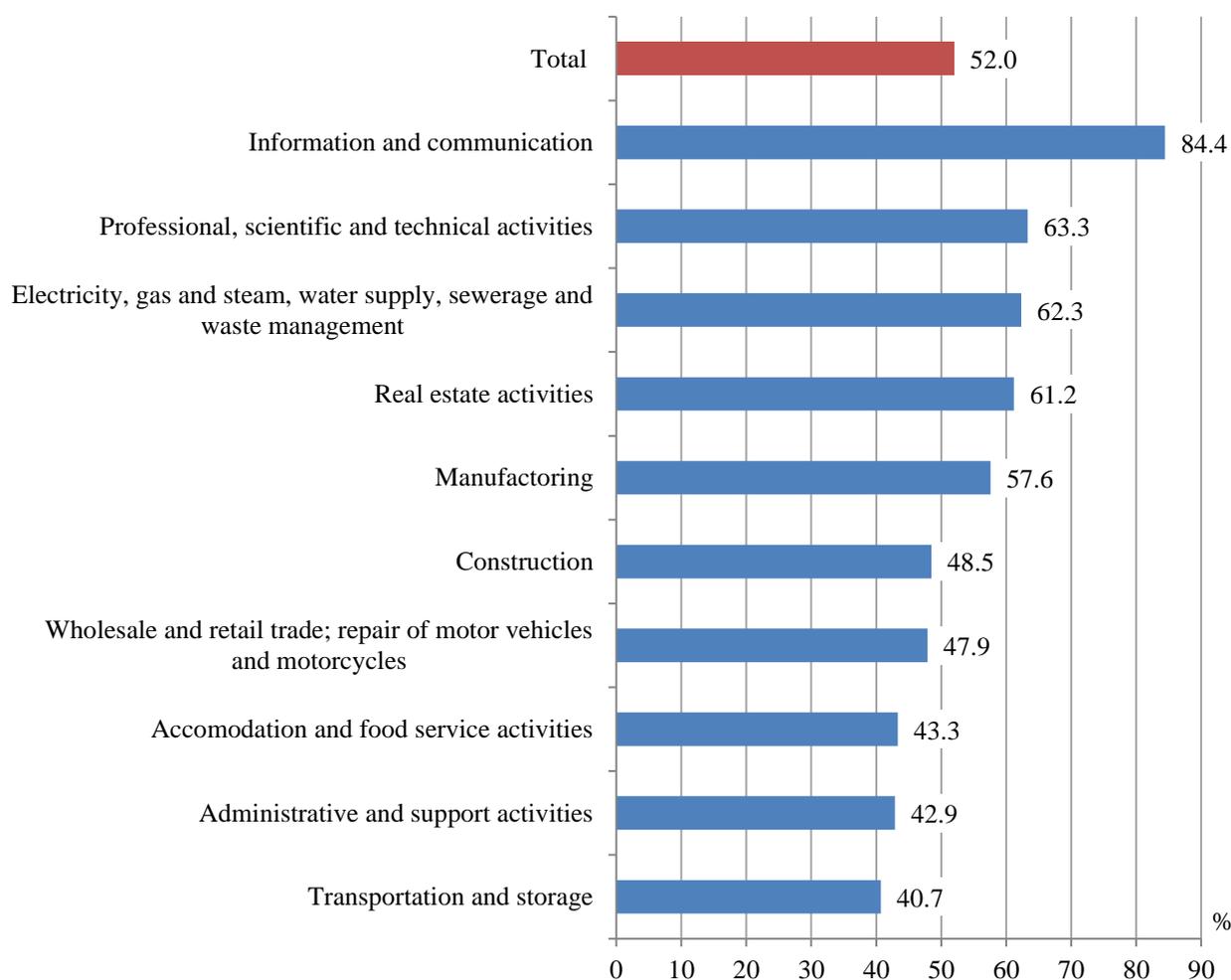
Use of a website

In 2020, 52.0% of the enterprises maintained their own website. Biggest relative share was observed among the enterprises in sector “Information and communication” (84.4%) and the smallest in sector “Transport and storage” - 40.7% (Figure 2).

Websites were mainly used for providing:

- description of goods or services - 78.4%¹;
- links or references to the enterprise’s social media profiles - 35.9%;
- possibility for online ordering or reservations of goods or services - 24.3%;
- tracking or status of orders placed - 14.2%.

Figure 2. Share of enterprises having a website by economic activity in 2020



The relative share of enterprises, which offered a chat service where a person replied to customers, was 9.9% and in 1.9%, a chatbot or virtual agent was replying to customers.

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

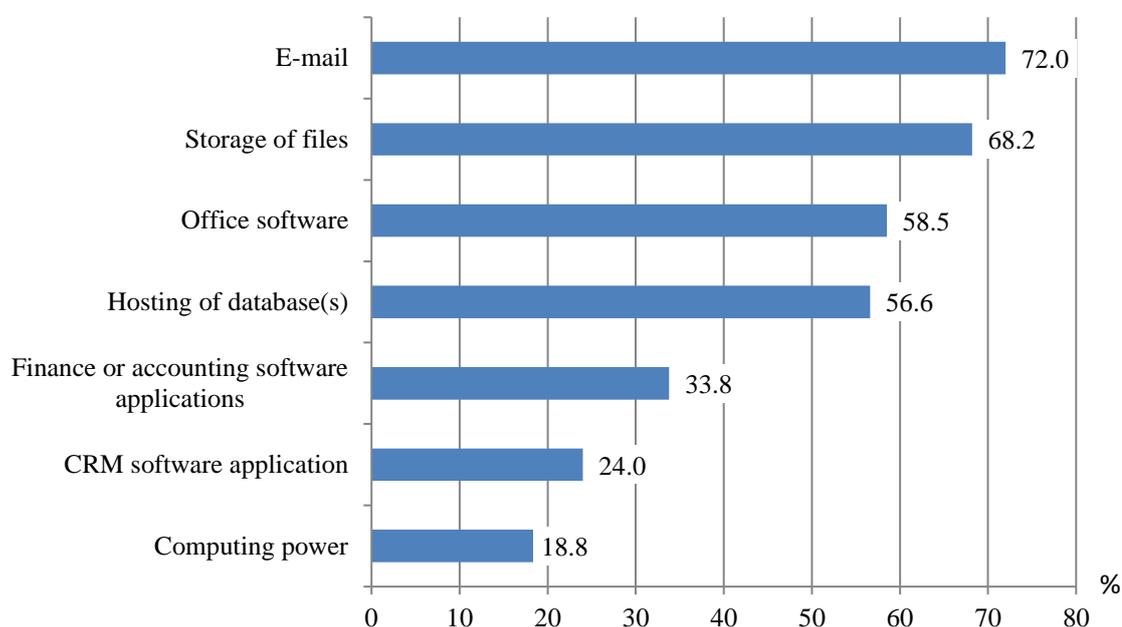
www.nsi.bg

Use of cloud computing services

In 2020, 10.9% of the enterprises used paid cloud computing services to optimize their business processes, as main users were large enterprises with 250 and more persons employed (39.3%). Main purposes for which the enterprises used the cloud solutions were:

- e-mail - 72.0%¹;
- storage of files - 68.2%;
- office software - 58.5%.

Figure 3. Share of enterprises using cloud computing services by purposes in 2020



Big data analysis

Big data refers to vast amounts of various data generated at high speed from a large number of different sources. In the previous 2019, 6.3%² of the enterprises perform big data analysis, as among the big enterprises with 250 or more persons employed the relative share was 21.4%. Enterprises performed big data analysis on the following data sources:

- geolocation data from the use of portable devices - 64.4%³;
- data generated from social media - 39.2%;
- data from smart devices or sensors - 31.6%.

¹ The relative shares were calculated on the basis of enterprises using paid cloud computing services.

² The big data analysis can be conducted by own persons employed or by external service provider.

³ The relative shares were calculated on the basis of enterprises which performed big data analysis.

www.nsi.bg

ICT specialists

In 2020, 15.9% of the enterprises had employees for whom the main job was to develop, operate or maintain ICT systems or applications. Biggest relative share was observed among the enterprises in sector “Information and communication” (67.2%) and the smallest in sectors “Construction” and “Accommodation and food service activities” - 9.3% (Table 3). In the previous 2019, 8.7% of the enterprises recruited or tried to recruit ICT specialists and 3.1% had difficulties to fill the vacancies.

3. Share of enterprises employing ICT specialists by size class and economic activity in 2020

(Per cent)

	Enterprises employing ICT specialists
Total	15.9
By size class	
10 - 49 persons employed	12.4
50 - 249 persons employed	28.2
250 or more persons employed	61.3
By economic activity	
Manufacturing	15.2
Electricity, gas and steam, water supply, sewerage and waste management	16.4
Construction	9.3
Wholesale and retail trade; repair of motor vehicles and motorcycles	13.3
Transportation and storage	9.3
Accommodation and food service activities	10.2
Information and communication	67.2
Real estate activities	13.6
Professional, scientific and technical activities	28.6
Administrative and support activities	14.1

www.nsi.bg

Internet of Things

Internet of Things (IoT) refers to interconnected devices, often called “smart” devices. They collect and exchange data and can be monitored or remotely controlled via the internet. In 2020, 12.3% of the enterprises used different types of interconnected devices or systems in order to optimize their business.

4. Share of the enterprises using interconnected devices by size class in 2020

(Per cent)

	Total	10 - 49 persons employed	50 - 249 persons employed	250 or more persons employed
Total	12.3	10.8	18.4	28.2
Devices to optimize energy consumption	3.0	2.3	5.5	13.7
Devices to improve customer service and to monitor customers' activities	4.1	3.3	7.2	12.0
Sensors to track the movement of vehicles or products	6.3	5.4	10.1	14.1
Devices to automate production processes and logistics	2.4	1.9	4.3	8.2
Other Internet of Things devices or systems	5.9	5.2	8.3	14.0

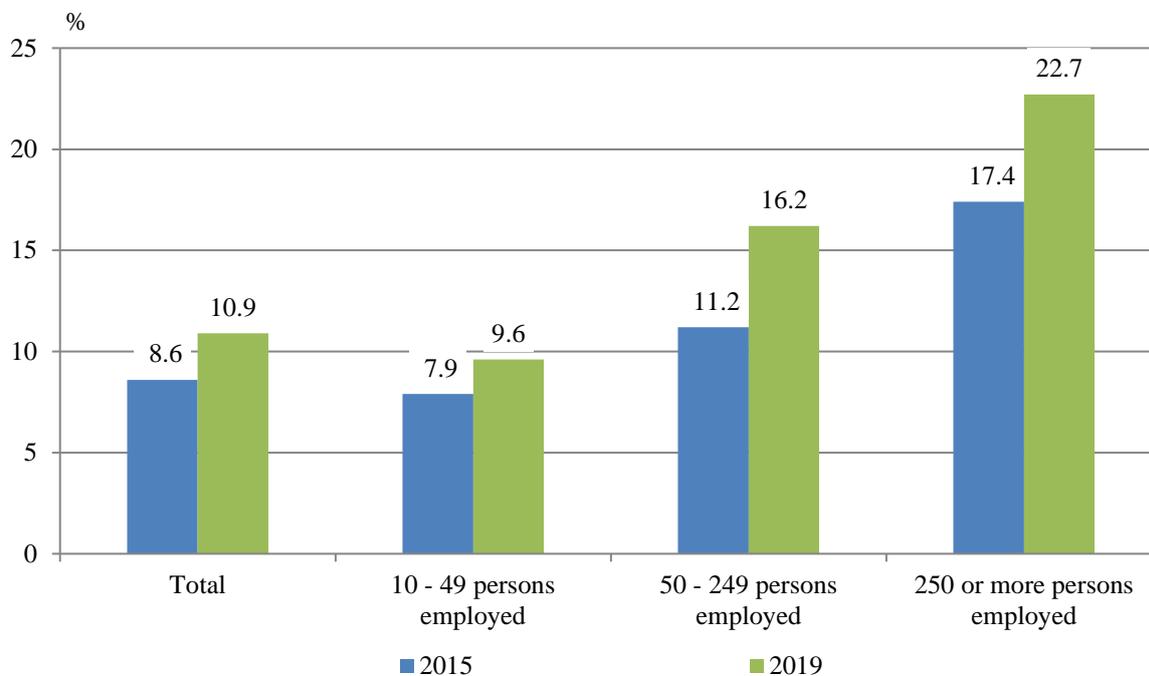
Electronic commerce (e-Commerce)

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).

In the previous 2019, 10.9% of the enterprises sold goods or services online and the turnover of e-commerce was 6.1% of total turnover of the enterprises. The relative share of the enterprises, which had web sales via their own website or app, was 7.6% and of those using e-commerce marketplaces used by several enterprises for trading goods or services - 4.7%. EDI-type sales of goods or services had 1.9% of the enterprises.

Over the last five-year period, the biggest increase of the relative share of enterprises selling online was observed among the big enterprises with 250 or more persons employed (by 5.3 percentage points), followed by the medium enterprises with 50 - 249 persons employed - by 5.0 percentage points (Figure 4).

Figure 4. 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. The 2020 questionnaire comprised several topics like availability of access to the internet by enterprises, use of a website, cloud computing services, big data analysis, Internet of Things (IoT), 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).

The **Internet of Things** (IoT) refers to interconnected devices, often called “smart” devices. They collect and exchange data and can be monitored or remotely controlled via the internet.

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

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 on the NSI’s website (<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&lang=en).