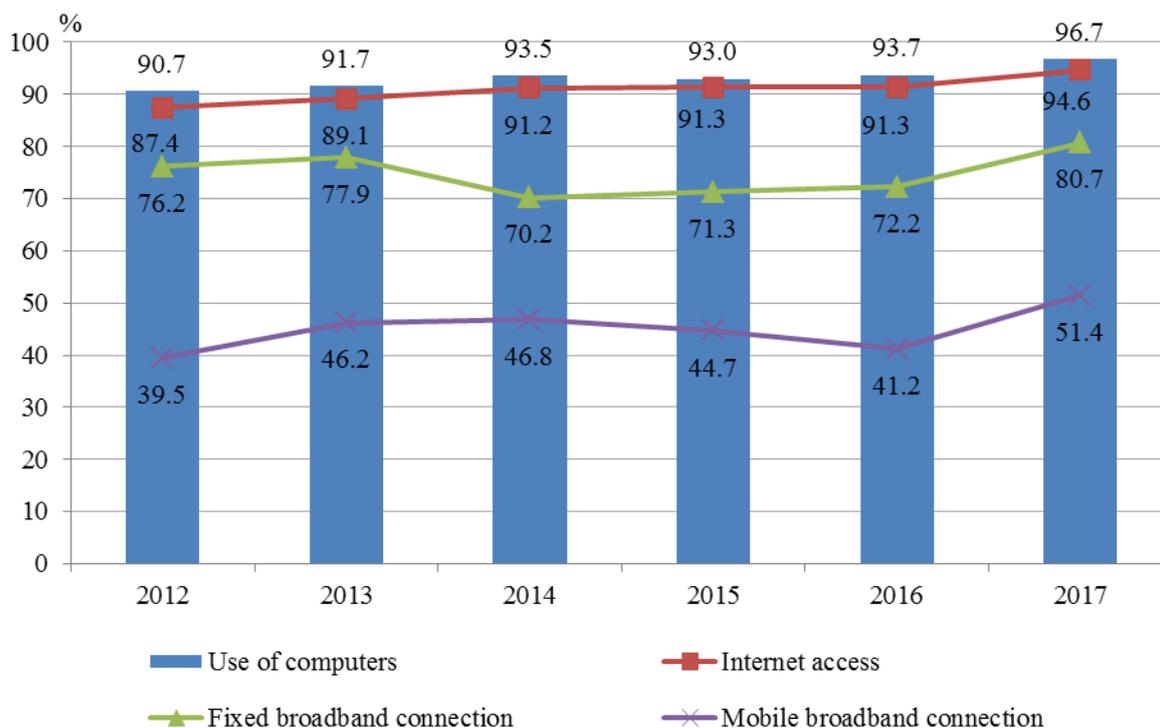




## MAIN RESULTS OF THE SURVEY ON THE INFORMATION SOCIETY IN ENTERPRISES IN 2017

The results of the 2017 survey showed that 96.7% of the enterprises with 10 or more persons employed used computers<sup>1</sup>, as among the big enterprises with 250 and more persons employed the relative share was 100.0%. High-speed and reliable internet access is a basic necessity for the enterprises and during the current year 94.6% of them had permanent connection with the global network. The enterprises mainly used DSL or other type fixed broadband connection (80.7%), and 51.4% of them used mobile broadband connection (Figure 1).

**Figure 1. Relative share of enterprises using computers, having internet access, fixed broadband connection and mobile broadband connection**



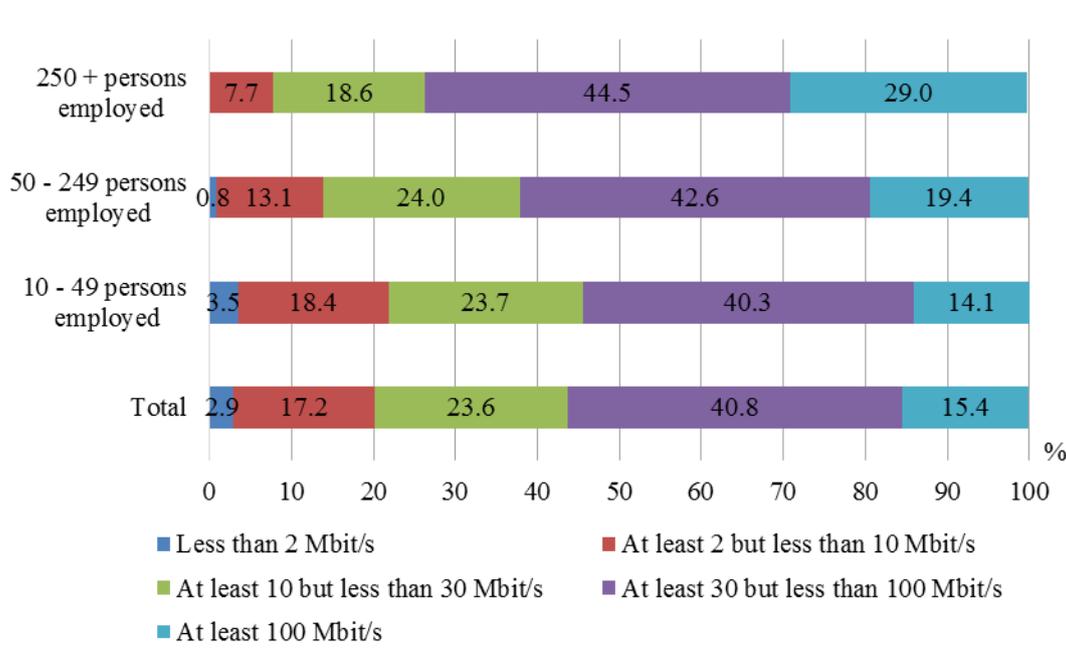
The results of the survey showed that 94.9% of the enterprises using fixed broadband connection considered its speed as usually sufficient for the actual needs of the enterprise and more than a half of them had a connection with maximum download speed more than 30 Mbps (Figure 2).

<sup>1</sup> Computers include personal computers, portable computers, tablets, other portable devices such as smartphones.



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**Figure 2. Structure of enterprises using fixed broadband connection by maximum download speed and size class in 2017**



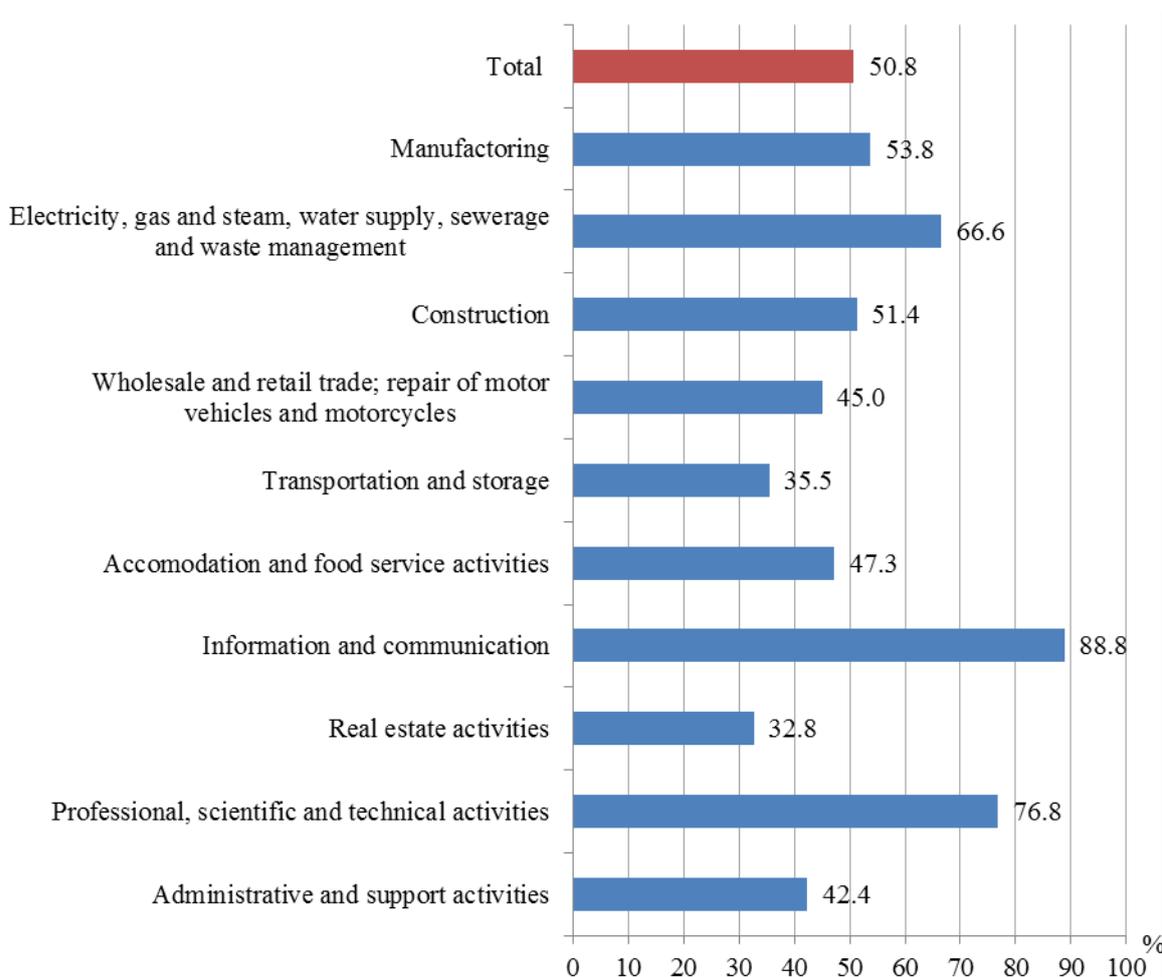
In 2017, 30.2% of persons employed used a computer every day for executing their work duties and 26.7% were granted access to the internet. More and more enterprises provided their employed persons with portable devices and during this year 10.5% of the employed used portable devices for business purposes, which was 1.9 percentage points more in comparison to the previous year.

More than a half of the enterprises (50.8%) maintained their own website, the highest proportion was in the group of enterprises with 250 and more persons employed (84.7%). Websites were mainly used for presenting goods or services (80.0%)<sup>1</sup>, links or references to the enterprise's social media profiles (34.2%), as well as offered possibility for online ordering or reservations of goods or services (26.2%). Most actively imposed their presence in the global network the enterprises in sectors 'Information and communication' (88.8%) and 'Professional, scientific and technical activities' (76.8%), and least enterprises took advantage of this functionality in sector 'Real estate activities' - 32.8% (Figure 3).

<sup>1</sup> The relative shares were calculated on the basis of enterprises having a website.



**Figure 3. Relative share of enterprises having website by economic activities in 2017**

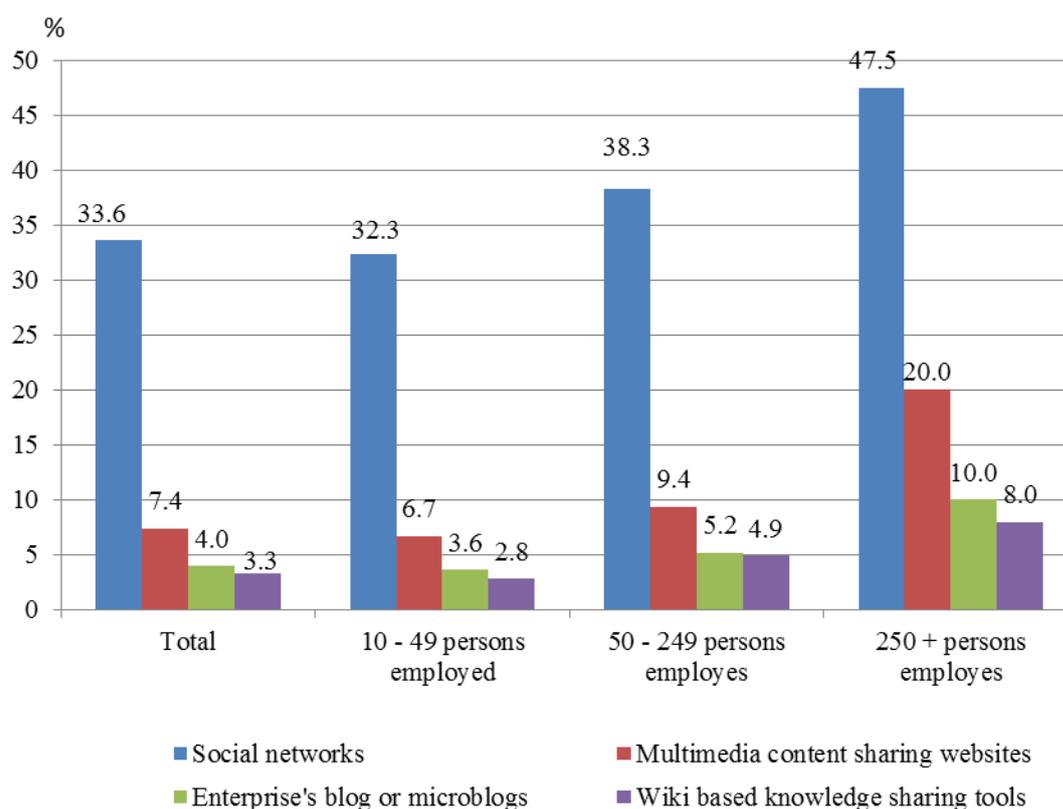


### Use of Social Media

In 2017, 34.4% of the enterprises used social media to develop their business activity and enlarge their internet presence. Most popular were social networks like Facebook, LinkedIn, Xing, Google+, DotBulgaria, and 47.5% of the enterprises with 250 and more persons employed maintained a profile on a social network. Large companies were the most active in the use of multimedia content sharing websites like VBox7, YouTube, Instagram, Flickr, SlideShare, with relative share of 20.0% while among the small enterprises with 10 - 49 persons employed the relative share was only 6.7% (Figure 4).



**Figure 4. Relative share of enterprises using social media by type of media and size class in 2017**



Main purposes for which the enterprises used social media were to develop the enterprise's image or market products (e.g. advertising or launching products, etc.) (71.7%)<sup>1</sup>, to obtain or respond to customer opinions, reviews, questions (61.2%) and to collaborate with business partners or other organizations (36.7%). Enterprises, which involve customers in development or innovation of goods or services, had the smallest relative share (17.3%).

### Use of cloud computing

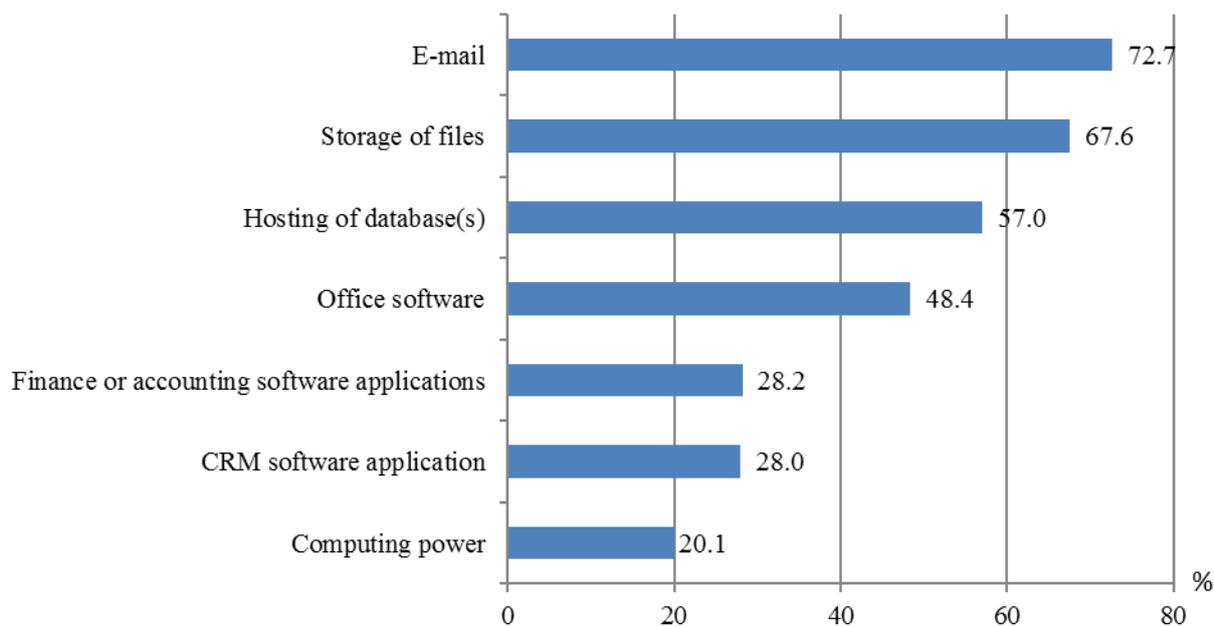
In 2017, 8.0% of the enterprises took advantage of the benefits of cloud technologies to optimize their business processes, as main users of the cloud computing services were large enterprises with 250 and more persons employed (28.6%). Main purpose for which the enterprises used the cloud solutions were e-mail services (72.7%)<sup>2</sup>, storage of files (67.6%) and hosting of database(s) (57.0%) (Figure 5).

<sup>1</sup> The relative shares were calculated on the basis of enterprises using social media.

<sup>2</sup> The relative shares were calculated on the basis of enterprises using cloud computing.



**Figure 5. Relative share of enterprises using cloud computing services by purposes in 2017**



### Integration of business processes

In the current year in order to share information electronically within the enterprise, 23.3% of the enterprises had an ERP software package used to manage resources by sharing information among different functional areas and 18.6% had CRM application for managing the information about customers. 17.3% of the enterprises exchange electronically all types of information with other enterprises either suppliers or customers on the Supply Chain Management. In the previous calendar year, more enterprises took advantage of non-paper technologies and 47.4% of them sent or received electronic invoices in a standardized format suitable for automated processing.

### ICT specialists

In 2017, every fifth enterprise (19.2%) had employees for whom the main job was to develop, operate or maintain ICT systems or applications. Large companies with 250 or more persons employed offered most jobs for ICT specialists (63.4%), while among the small enterprises with 10 - 49 persons employed the relative share was only 15.6%. E-skills are mandatory for the workers but only 8.9% of the employers provided some kind of training to improve the qualification of the employees in the ICT area.

During the previous calendar year, 8.1% of the enterprises recruited or tried to recruit ICT specialists and 48.2% of them had difficulties to fill the vacancies.

### Use of Radio Frequency Identification (RFID) technologies

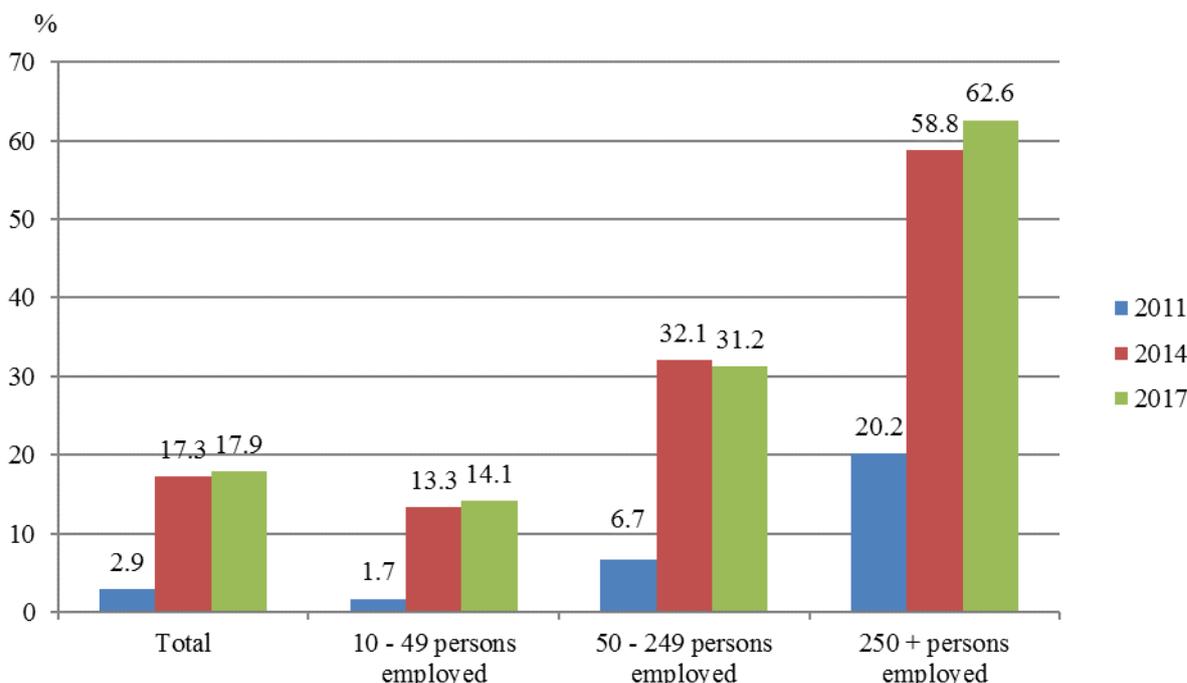
In 2017, a special module on the use of Radio Frequency identification (RFID) technologies was included in the survey. RFID refers to an automated identification method by the use of readers and



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tags that interact with each other via radio waves. The results of the survey showed that in the current year almost every fifth enterprise used RFID (17.9%) while in 2011 the relative share was only 2.9% (Figure 6).

**Figure 6. Relative share of enterprises using RFID technologies by size class**



The main purpose for which the enterprises made use of RFID instruments was person identification or access control (71.7%)<sup>1</sup>, as part of the production and service delivery process (42.8%) and for product identification after the production process (27.3%).

### Electronic commerce (e-Commerce)

E-commerce is the sale or purchase of goods or services conducted via computer networks by methods specifically designed for the purpose of receiving or placing orders. Its development is essential for cost reduction, market expansion and optimization of business processes. E-commerce include sales or purchases made via web-based technologies (e.g. website, internet shop, “apps”) or via automated data exchange (EDI type messages).

In the previous calendar year, 10.5% of the enterprises sold their goods or services online and the turnover of e-commerce was 5.4% of total turnover of the enterprises. The relative share of the enterprises, which performed web sales were 8.9% while only 2.1% used EDI-type messages.

Most of the enterprises which conducted web sales received orders for goods or services via their own website, internet shop or “apps” (88.6%) and 26.9% sold via an e-commerce marketplace used

<sup>1</sup> The relative shares were calculated on the basis of enterprises using RFID technology.



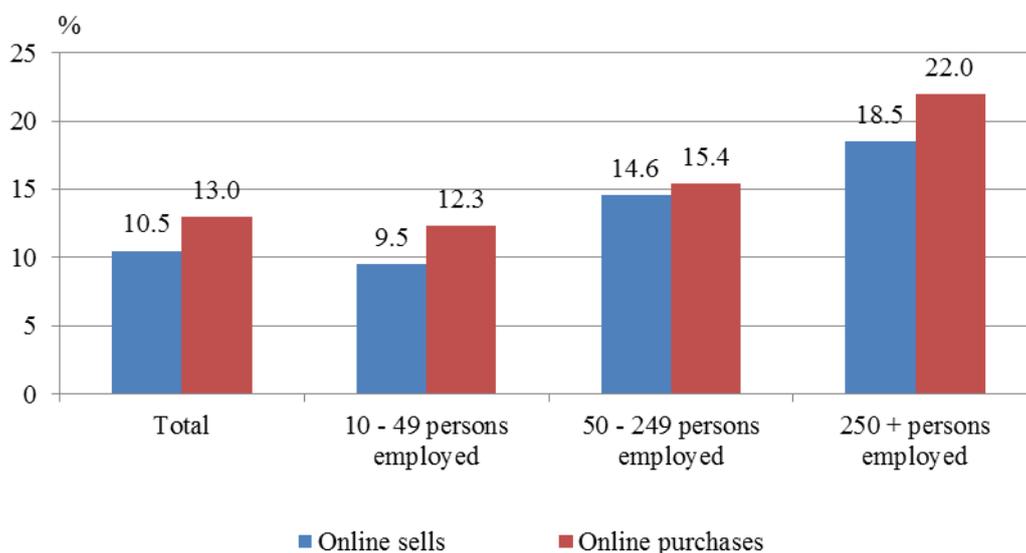
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by several enterprises for trading products (e.g. eBay, Amazon, Booking.com, eMAG). Most sales were made to customers in Bulgaria (95.4%) but many enterprises offer their goods or services to customers from other European countries (34.5%) or other non-EU countries (19.0%).

An increase was observed in the relative share of enterprises, which performed online purchases. In 2016, 13.0% of the enterprises purchased goods or services over the internet, which was 2.3 percentage points more than the previous 2015 year.

Most active in the use of e-commerce were the large enterprises, 22.0% of which sold over the internet and 18.5% purchased goods or services online (Figure 7).

**Figure 7. Relative share of enterprises conducting online sales or purchases of goods or services by size class in 2016**





## Methodological notes

The survey on Information 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 questionnaire for 2017 comprised several topics like availability and use of computers and internet by enterprises, use of cloud computing, social media, automated data exchange, e-commerce, RFID technologies, etc.

**Fixed broadband connection** include 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 broadband 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).

An **ERP (Enterprise Resource Planning)** is a software package used to manage resources by sharing information among different functional areas (e.g. accounting, planning, production, marketing, etc.). ERP integrate information and processes across the several business functions within an enterprise into a single information system.

**CRM (Customer Relationship Management)** refers to any software application for managing information about customers (managing the company's relationships with customers). CRM consists of a management methodology, which places the customer at the center of the business activity, based on an intensive use of information technologies to collect, integrate, process and analyze information related to the customers.

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'.