

INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT) USAGE IN ENTERPRISES IN 2023

Access and use of the internet

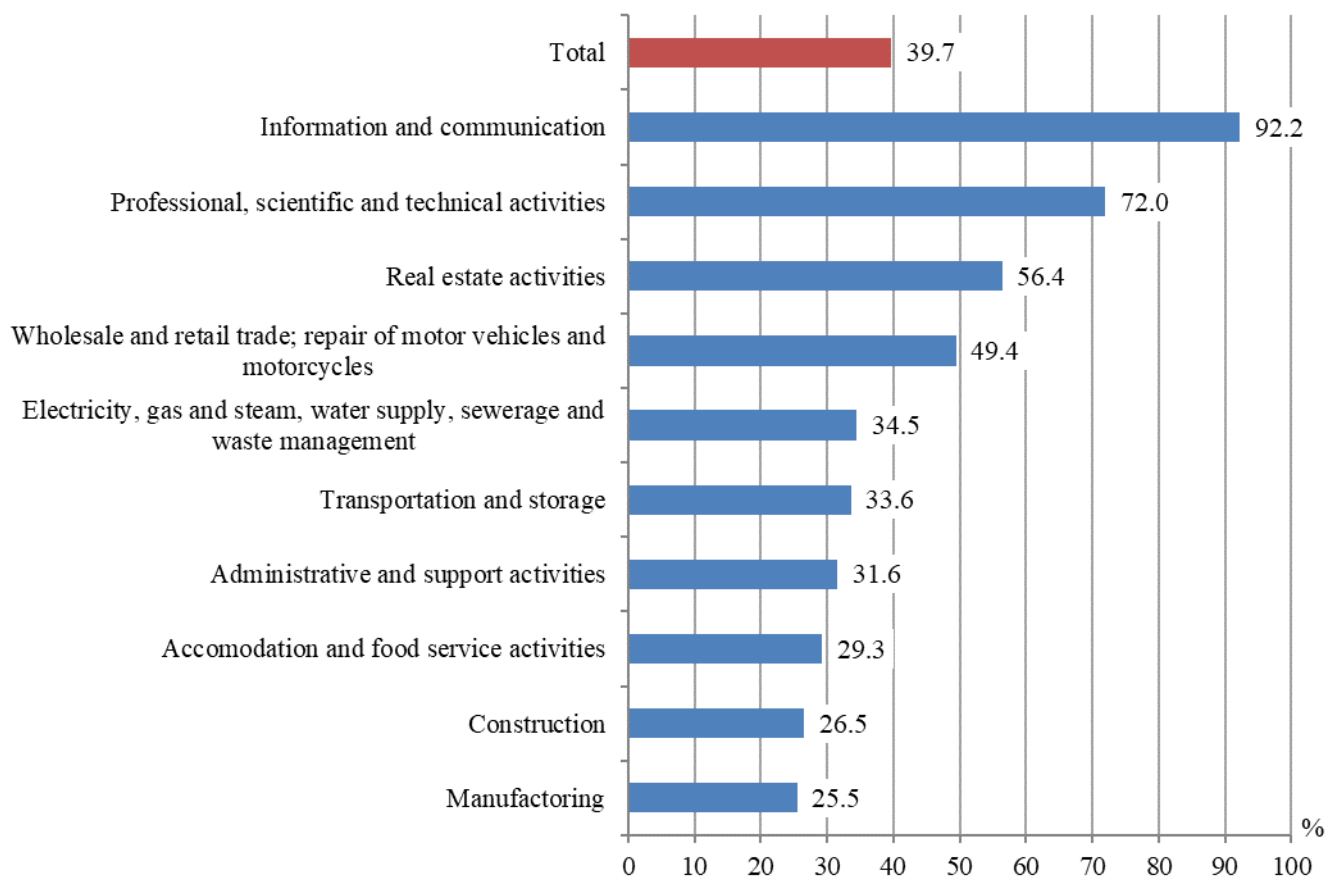
In 2023, 96.3% of the **non-financial enterprises with 10 or more persons employed** had internet access. Fixed internet connection was available in 89.2% of the enterprises and the maximum download speed in 46.6% was more than 100 Mbps. Almost three quarters (72.6%) of the enterprises with 250 or more persons employed had download speed more than 100 Mbps.

1. Share of enterprises with internet access by size class and economic activity in 2023

	(Per cent)		
	Internet	Fixed connection	Download speed ≥ 100 Mbps
Total	96.3	89.2	46.6
By size class			
10 - 49 persons employed	95.6	87.7	43.3
50 - 249 persons employed	99.3	96.2	60.1
250 or more persons employed	100.0	98.1	72.6
By economic activity			
Manufacturing	97.8	91.0	46.3
Electricity, gas and steam, water supply, sewerage and waste management	100.0	95.2	50.2
Construction	95.6	86.1	43.1
Wholesale and retail trade; repair of motor vehicles and motorcycles	94.8	89.0	43.7
Transportation and storage	97.6	87.5	46.1
Accommodation and food service activities	91.7	84.3	37.3
Information and communication	99.8	97.9	81.4
Real estate activities	100.0	97.0	53.3
Professional, scientific and technical activities	97.0	89.7	54.3
Administrative and support activities	99.0	88.4	44.1

The relative share of the persons employed who had access to the internet was 39.7%. The most persons employed who used the internet were found in sector 'Information and communication' (92.2%) and least - in sector 'Manufacturing' (25.5%) (Figure 1).

Figure 1. Share of persons employed having internet access by economic activity in 2023



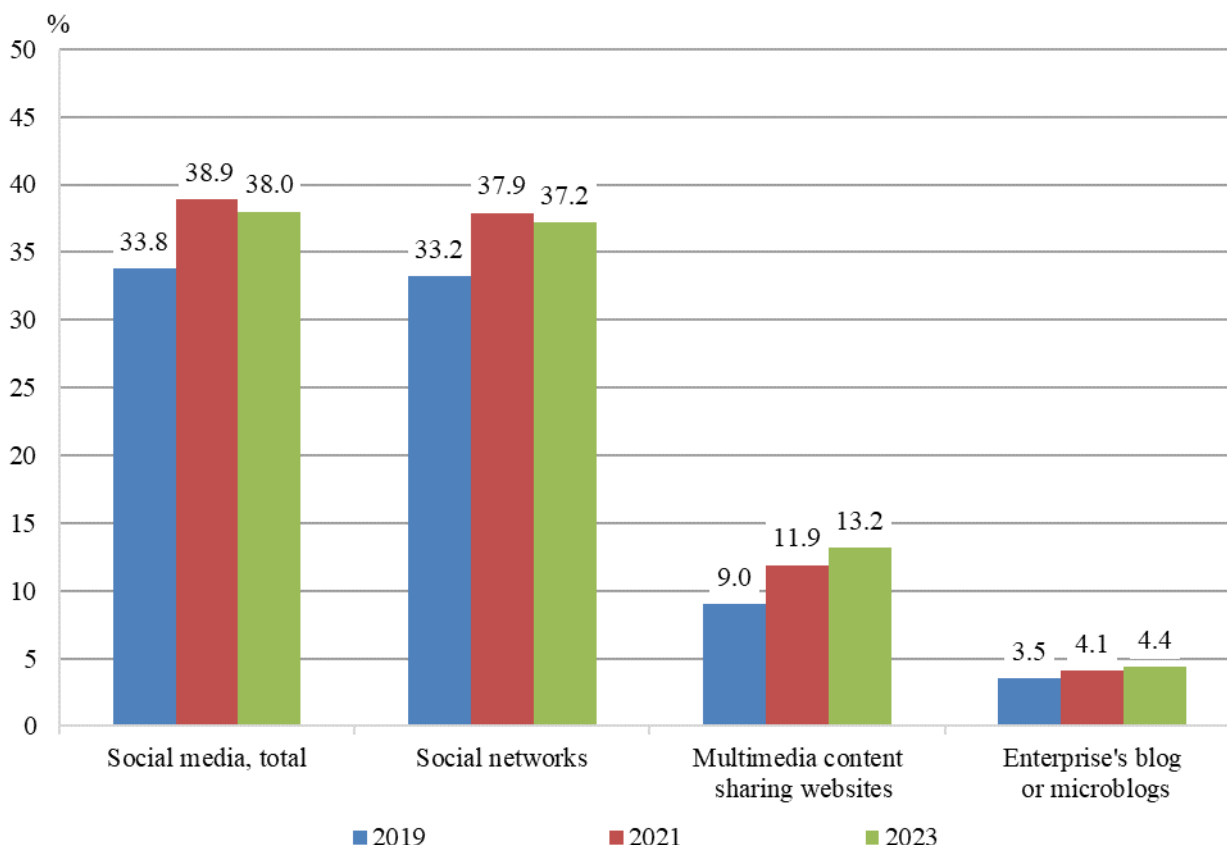
Every second enterprise (50.4%) had a website, and among the companies with 250 or more persons employed the relative share was 89.1%. On the website, enterprises most often provided users with description of goods or services and price information (37.9%), as well as website's content available in at least two languages - 23.3%.

2. Share of enterprises having a website by type of website's functionalities and size class in 2023

Functionalities	(Per cent)			
	Total	10 - 49 persons employed	50 - 249 persons employed	250 or more persons employed
Description of goods or services, price information	37.9	34.2	54.9	56.6
Content available in at least two languages	23.3	19.7	37.8	53.8
Online ordering or reservation or booking	13.9	12.8	18.7	20.7
Advertisement of open job positions or online job application	9.1	6.6	17.3	41.4
Tracking or status of orders placed	8.1	7.1	11.6	17.2
A chat service for customer support	6.7	6.0	10.1	11.5

38.0% of the companies used social media to develop their business activity and enlarge their internet presence. The most popular were the social networks (Facebook, LinkedIn, Xing, Yammer, Viadeo, etc.) and 37.2% of the enterprises maintained a profile on a social network, followed by multimedia content sharing websites or apps, such as YouTube and Instagram - 13.2%.

Figure 2. Share of enterprises using social media by type of social media



Main purposes for which the enterprises used social media were:

- develop the enterprise's image or market products - 77.1%¹;
- obtain or respond to customer opinions, reviews, questions - 54.2%;
- recruit employees - 35.9%;
- collaborate with business partners or other organizations - 29.8%.

Advertisement is important for any business and in 2023, 20.9% of the enterprises paid to advertise on the internet (e.g. adverts on search engines, on social media, on other websites or apps). Main advertising method used was targeted advertisement based on content or keywords searched by internet users - 81.9%². Fewer enterprises used advertisement based on the geolocation of internet users (42.9%) or on the tracking of internet users' past activities or profile - 28.9%.

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

² The relative shares were calculated on the basis of enterprises, which paid for advertise on the internet.

Use of business software, data analytics and artificial intelligence (AI)

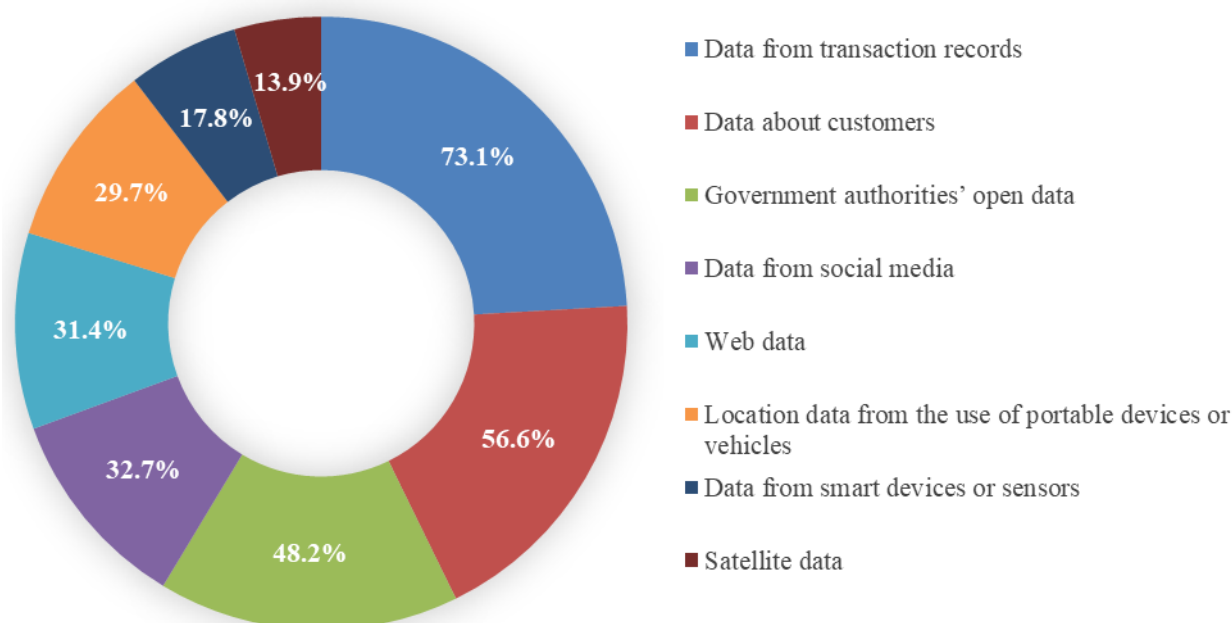
In 2023, 21.7% of the enterprises used enterprise resource planning (ERP) software. The share of companies that had a customer relationship management (CRM) application was smaller - 10.5%, as well as of those using business intelligence (BI) software - 4.2%.

3. Share of enterprises using business software by type of software and size class in 2023

	(Per cent)		
	ERP	CRM	BI
Total	21.7	10.5	4.2
By size class			
10 - 49 persons employed	17.4	7.5	2.3
50 - 249 persons employed	37.4	23.5	9.9
250 or more persons employed	68.1	30.5	30.9

Every fifth enterprise (21.9%) performed data analytics, and among the companies with 250 or more persons employed, the relative share was 53.1%. Businesses that preferred to have data analyzed by own employees were 17.6%, and in 7.6%, this activity was assigned to an external enterprise or organization. The main sources of data for analysis that enterprises used were: data from transaction records such as sale details, payment records (73.1%¹); data about customers such as purchasing information, location, preferences, customer reviews, searches (56.6%) and government authorities' open data - 48.2%.

Figure 3. Share of enterprises performing data analytics by sources in 2023



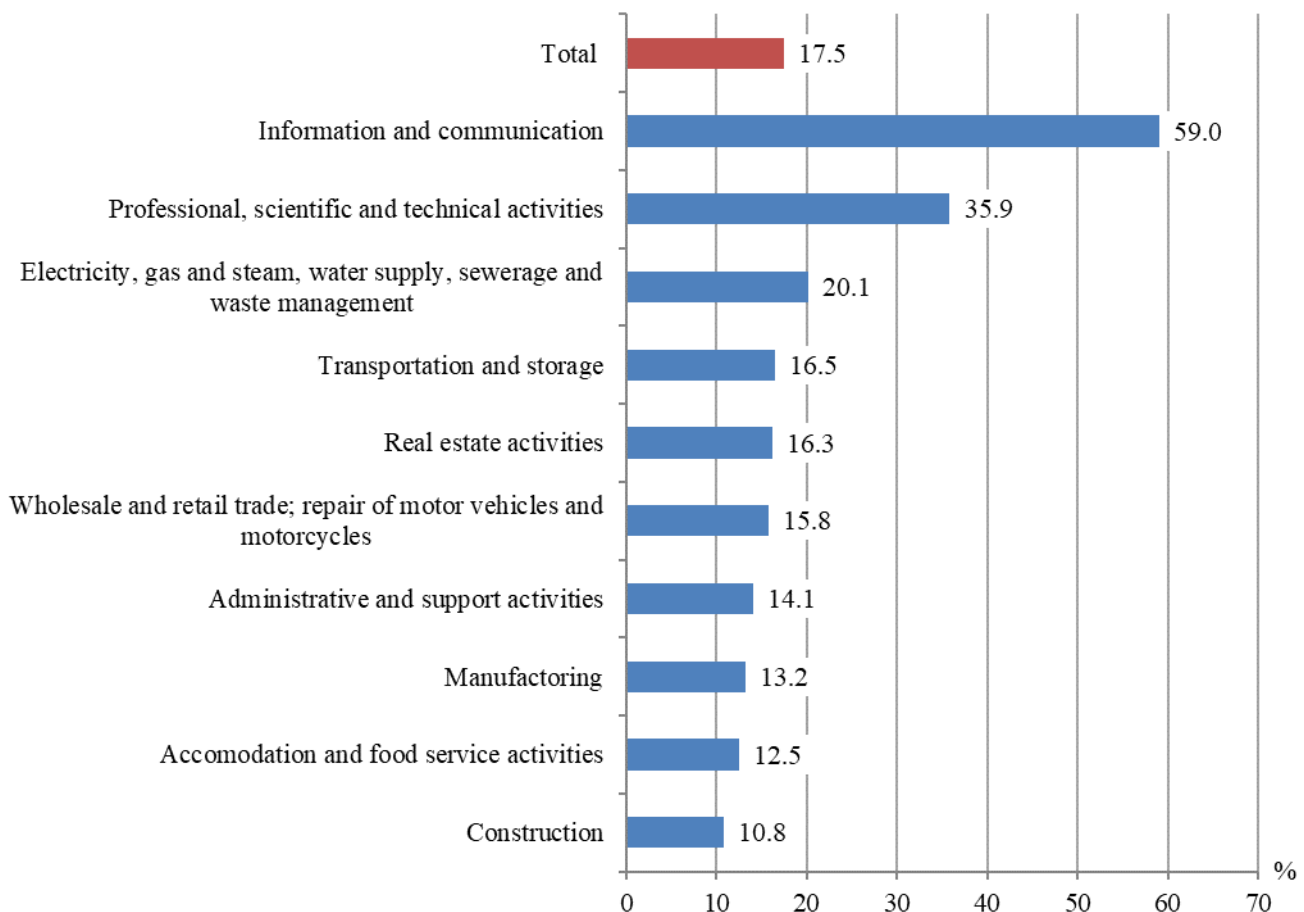
¹ The relative shares were calculated on the basis of enterprises performing data analytics by own employees.

Enterprises that used artificial intelligence (AI) technologies were 3.6% and the usage was more common in the companies with 250 or more persons employed (13.8%), than in medium ones with 50 to 249 persons employed and in small ones with 10 to 49 persons employed, 5.5% and 3.0% respectively.

Use of cloud computing services

In 2023, 17.5% of the enterprises used paid cloud computing services to reduce their hardware and software costs, and this share increased by 4.7 percentage points compared to 2021. Main users of cloud services were large companies with 250 and more persons employed (52.2%), as well as the enterprises in sector ‘Information and communication’ - 59.0%.

Figure 4. Share of enterprises using paid cloud computing services by economic activity in 2023



The most commonly used cloud computing service was the e-mail (84.1%¹), followed by:

- storage of files - 71.5%;
- office software - 62.3%;
- hosting of database(s) - 59.0%;
- security software applications - 52.8%;
- finance and accounting software applications - 36.2%;

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

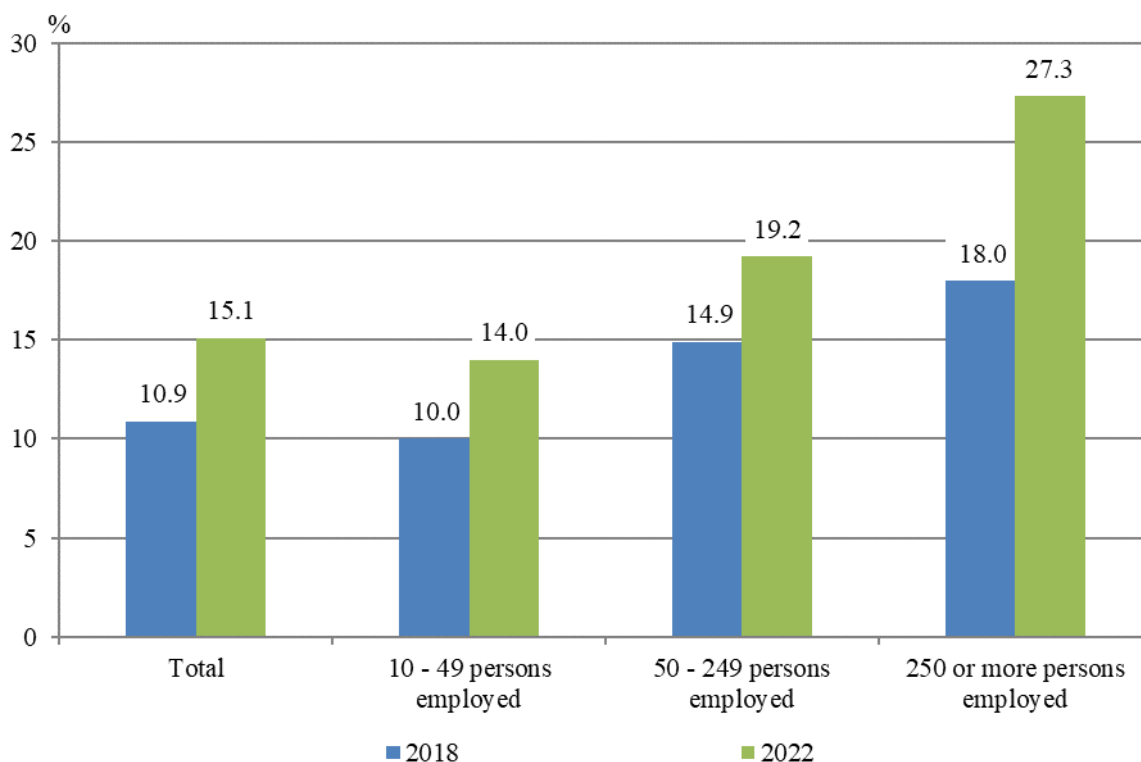
- ERP software - 27.8%.

Electronic commerce (e-commerce)

In the previous 2022, 15.1% of the enterprises sold goods or services over the internet and the turnover of e-commerce was 6.3% of the total turnover of the enterprises. The relative share of the enterprises, which had web sales via their own website or app, was 10.8%, and of those using e-commerce marketplaces for trading goods or services such as eBay, Booking.com, Amazon, Alibaba, eMAG, TimoCom, Glovo, Takeaway, etc. - 6.2%. E-commerce sales of goods or services via automated data exchange (EDI-type messages) had 1.7% of the enterprises.

Over a five-year period, the largest increase in the relative share of the enterprises that had e-commerce sales of goods or services was observed among large companies with 250 and more persons employed (by 9.3 percentage points) followed by medium enterprises with 50 - 249 persons employed - by 4.3 percentage points.

Figure 5. Share of enterprises having 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 according to the Commission implementing Regulation (EU) 2022/1344. The survey was jointly financed by the NSI and by the European Commission under a signed agreement between the two institutions. 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 method was an online questionnaire which enterprises were invited to complete by e-mail. The 2023 questionnaire comprised several topics like availability of access to the internet in the enterprises, e-commerce, data utilisation and analytics, use of cloud computing services, artificial intelligence, 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), etc.

ERP (Enterprise Resource Planning) is a software used to manage resources of the enterprise by sharing information among different functional areas (e.g. accounting, planning, production, marketing, etc.).

CRM (Customer Relationship Management) is a software for managing and facilitating communication with customers, analyzing customer information for marketing purposes, tracking their interests and purchasing habits.

BI (Business Intelligence) software accesses, transforms and analyses data and information from internal or external sources and presents analytical findings in reports, summaries, dashboards, graphs, charts and maps, to provide users with detailed insights for decision-making and strategic planning.

Artificial intelligence (AI) refers to systems that use technologies such as: text mining, computer vision, speech recognition, natural language generation, machine learning, deep learning, etc. to gather and/or use data to predict, recommend or decide, with varying levels of autonomy, the best action to achieve specific goals.

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 (<https://nsi.bg/en/content/2841/ict-usage-enterprises>) and in Information System 'Infostat' (https://infostat.nsi.bg/infostat/pages/module.jsf?x_2=241).