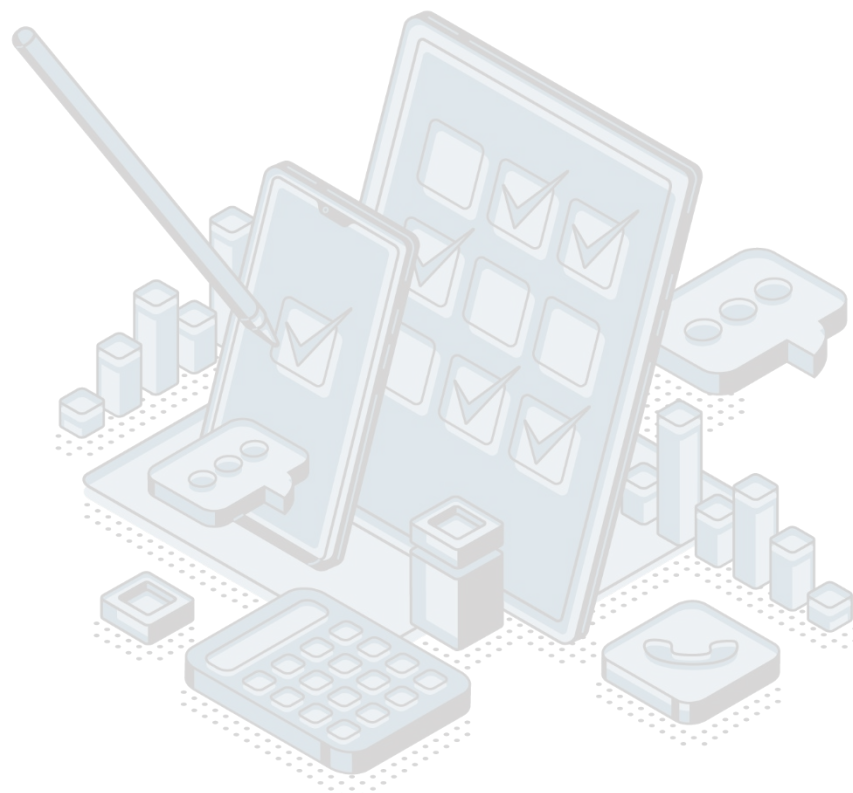


## QUALITY REPORT

# Use of information-communication technology in enterprises

2022



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## **1. Introduction – Basic information about the survey**

### **1.1 Purpose, goal and subject of the survey**

The main objective of the survey on the use of information and communication technologies in enterprises is to collect information from enterprises about the following characteristics:

- ICT systems and their use in enterprises;
- use of the Internet and other electronic networks by enterprises;
- e-commerce;
- e-business and organizational aspects;
- the use of ICT by information and services exchanges with public administration (e-government);
- ICT skills in enterprises and the need for ICT skills;
- barriers to the use of ICT, the Internet and others electronic networks, e-commerce and e-business processes;
- ICT costs and investments;
- ICT security, security and protection;
- use of ICTs and their environmental impact;
- access and use of the Internet and other network technologies to connect objects and devices;
- access and use technologies that allow you to connect to the Internet or other networks from anywhere at any time.

### 1.2 Legal basics

The Law on Official Statistics and Official Statistical System (Official Gazette of Montenegro No 18/12 and 47/19) defines provisions for collection, processing, and dissemination of data. The Law provides to the Statistical Office clear and wide legal powers to collect and access the data necessary for the implementation of Programme and Annual Plan. The Law gives a priority to the use of administrative data and right of access to individual data that are a result of survey of other official statistical producers. As an annex to legal provisions, Statistical Office has signed several memoranda on cooperation with administrative data providers.

### **1.3 Statistical units**

Enterprises that have 10 or more persons employed from certain sectors according to NACE Rev. 2.

### **1.4 Coverage and scope of survey**

#### **1.4.1 Sectors**

ICT usage in enterprises classified in the following sectors of NACE Rev. 2:

Section C - "Manufacturing"

Section D, E - "Electricity, gas and steam and air conditioning supply, water supply, sewerage, waste management

and remediation activities"

Section F - "Construction"

Section G - "Wholesale and retail trade; repair of motor vehicles and motorcycles"

Section H - "Transport and storage"

Section I - "Accommodation and food service activities"

Section J - "Information and communication"

Section L - "Real estate activities"

Divisions 69-74 - "Professional, scientific and technical activities, except veterinary activities"

Section N - "Administrative and support activities"

Group 95.1 - "Repair of computers and communication equipment"

#### **1.4.2 Statistical population**

The sampling frame is based on the data from the Business Register of the Statistical Office of Montenegro, which includes all enterprises from certain sectors according to the NACE Rev. 2 classification that have 10 or more persons employed.

#### **1.5 Referent geographical area**

Montenegro.

#### **1.6 Concepts and definitions**

GPRS standard for data transmission in mobile telephony is a transition to the 3G standard. GPRS allows faster data transfer, compared with the classical standard, but not so fast as in 3G.

Handheld computer -PDA (manual a computer) is a computer that can be used while holding and keeps in a small bag, or for example in your pocket. The personal digital assistants (PDAs) are another term for the hand PC. PDA uses a pen instead of a keyboard. Some PDAs can also be used for mobile telephony, ie. these PDA devices can be used for mobile phone, as well as for hand-held computer.

Modem (dial-up access over normal telephone line) connects households over a dial-up via analog modem. ISDN (dial-up access over normal telephone line) connects households via dial-up modem ISDN (Integrated Services Digital Network).

DSL (Digital Subscriber Line) is the designation for a technology that transports data at high speeds (eg. Equal to or greater than 144 kbit / s) over existing copper networks. DSL technology is a type of Internet connection that is significantly faster than dial-up and therefore indicates as broadband. Importantly DSL technologies include:

ADSL: This term is used for DSL which is given greater bandwidth for download from uploading (Asymmetric DSL).

SHDSL: The same speed download and upload (simmetrico DSL).

Cable Internet: This technology enables high-speed Internet access through cable television networks or cable systems. As DSL technology, data is transferred over existing copper networks.

The third generation (3G) mobile technology enables greater access speed compared to GPRS.

Tablet is computer with a touch screen, for example. Apple, iPad, Touch Screen PC. Speed of data transfer via the mobile phone is still limited, whereby the second generation (2G) mobile technology, such as GPRS (General Packet Radio Service), a low-capacity speed compared to 3G.

Frame Relay is a standardized wide area network technology that defines the physical and logical connection of layers of digital telecommunication channels, using switching methodology.

UMTS is a third generation (3G) mobile technology for networks based on the GSM standard.

CDMA200 belongs 3G mobile technology standards. It uses CDMA channel access for sending voice, data and signaling data between mobile phones and mobile sites.

HSDPA is a communication protocol used in mobile networks third generations as part of the HSPA family of communication protocols that networks based on UMTS technology enables an increase in the flow rate data and network resources.

GSM Global System for Mobile Communications is the most widely used standard for mobile phones.

EDGE - the goal of technology is to increase the transmission speed and capacity of the system and allow the new applications.

### **1.7 Classifications**

NACE Rev. 2.

### **1.8 Frequency of data collection**

Annually.

### **1.9 Frequency of data dissemination**

Data are annually published.

### **1.10 Methodology**

The methodology of Eurostat is used for conducting survey [Methodological manual for statistics on the Information Society](#) and regulation [Regulation \(EU\) No 2019/2152](#)

### **1.11 Base period**

Not relevant.

### **1.12 Unit of measure**

The unit of measurement in the survey are percentages (%).

### **1.13 Source of data**

Survey on ICT usage in households and by individuals is based on a sample. Size sample is on a annually basis 642 enterprises.

### 1.14 Method of data collection

Telephone interview (CATI data collection method).

## 2. Relevance – Data users

### 2.1 User needs

International users:

- ✚ Eurostat;
- ✚ World Bank;
- ✚ UN organizations;
- ✚ International Monetary Fund.

National users:

- ✚ Ministries and other public administration bodies;
- ✚ Local government, and other local government bodies;
- ✚ Central bank;
- ✚ Non-governmental organizations;
- ✚ Students;
- ✚ Researchers;
- ✚ Media.

### 2.2 User satisfaction

The Statistical Office has adopted the Quality Management Strategy, the Guidebook to the Implementation of the Quality Management Strategy, as well as the Plan for the Implementation of the Quality Policy. In order to measure the degree to which fulfills obligations towards users and within the new quality policy, the Statistical Office conducted User satisfaction survey. Data collection was realized through a web survey, in the period from September 1 to October 20, 2017. The results of the survey are available on the Statistical Office website, link:

<https://www.monstat.org/userfiles/file/KVALITET/lzvjestaj%20o%20zadovoljstvu%20korisnika.pdf>

## 3. Accuracy and reliability

### 3.1 Accuracy – Overall remark

In ICT usage survey results are based on the sample of population they are subject to the usual types of errors associated with sampling techniques and interviews, such as sampling errors, non-sampling errors, measurement errors, processing errors, and non-response.

### 3.2 Sampling error

Sample errors occur due to the analysis of the sample of a part of population. Sample error size may be controlled by the size and design of the sample. Significant sample errors may lead to the unreliable data

when related to some smaller domains (levels or data groups) that have insufficient number of units in the sample.

*Indicators of sampling error*

Indicator	Estimated proportion, %	Standard error, %	Confidence Interval (95%)	Coefficient of variance, %
Percentage of enterprises having a Website	85.0	0.01	84.98-85.01	0.01
Percentage of enterprises that provide descriptions of goods or services, price lists	74.5	0.03	74.48-74.51	0.01
Percentage of enterprises that use DSL and other fixed broadband Internet connections	98.8	0.01	98.78-98.81	0.03

**3.3 Non-sampling error**

Non sampling errors are following: over-coverage, under-coverage, measurement errors, processing errors, editing, imputation, and non-response errors.

**3.3.1 Coverage error**

Coverage error are: Over-coverage occur due to the inclusion of non-existent or uninhabited houses or the population that no longer lives in the country. Under-coverage is a problem that arises due to under-coverage or non-eligibility of the sample selection framework.

*Indicator of coverage error*

Not relevant.

**3.3.2 Error of measurement**

Measurement errors are usually due to questionnaire, survey mode, interviewers, response errors, data entry, data editing and imputation.

**3.3.3 Non response error**

Not getting an answer - it's often unavoidable to refuse or not contact. In this case, there is a difference between the data obtained from the collected data (usually part of the planned sample) and those that would calculate that the complete sample was realized.

#### *Unit non-response rate*

Non-response rate for 2022 is 47.9%.

#### *Item non-response rate*

Not available.

#### **3.3.4 Data processing error**

The collected data goes through a several process before the final evaluation, such as: encryption, data entry, editing, imputations, weighting, tabulation, etc. Errors made in these phases are called processing errors.

#### *Imputation rate*

Not applicable.

#### **3.4 Seasonal adjustments**

Not relevant.

#### **3.5 Data revision**

##### **3.5.1 Data revision policy**

Statistical Office has adopted the revision policy and it is available on the website:

<http://www.monstat.org/eng/page.php?id=1411&pageid=3>

##### **3.5.2 Data revision practice**

Published data are considered final except in the case of methodological changes and the introduction of new classifications, as a result which are subject to revision.

##### **3.5.3 Data revision - average size**

Not relevant.

## **4. Timeliness and punctuality**

### **4.1 Timeliness**

The final data are published 7 months after the end of the reference period. Timeliness of final data: T + 7 months after the end of the reference period. The data are published in accordance with Statistical Release Calendar (7 months after the end of the reference period).

#### *Time lag of the first results*

Not relevant.



### *Time lag of the final results*

The time lag of final results indicator represents time between the date of the last day of reference period and the date of publication of final data. The final data are published seven months after the completed reference year. Timeliness of final data: T + seven months after the end of the reference year.

## **4.2 Punctuality**

Accuracy indicator represents the time difference between Actual date of the effective provision of the statistics and Scheduled date of the effective provision of the statistics. Deadlines of dissemination of the ICT data at the website are defined in the Statistical Release Calendar. Indicator TP3 (punctuality) is 0, there is no difference between the planned and the actual publication. That means that the Release is published in accordance with Statistical Release Calendar.

## **5. Availability and clarity**

### **5.1 Statistical Release Calendar**

The Law on Official Statistics and Official Statistical System (Official Gazette of Montenegro No 18/12 and 47/19) stipulates that official statistical producers prepare, update, and publish Statistical Release Calendar. It is published on the website of Statistical Office not later than 20 December for the next year, for all official statistical producers that includes date of releasing statistical data. Any change in date of releasing in the Calendar is published in advance in accordance with the Procedure on Unplanned Revisions.

### **5.2 Access the data Release Calendar**

<http://www.monstat.org/eng/page.php?id=12&pageid=12>

### **5.3 Releases**

Releases are published annually and they are available at following links:

<http://www.monstat.org/eng/page.php?id=318&pageid=1>

### **5.4 Publication**

Statistical Office publishes the following regular publications:

1. Statistical Yearbook
2. Montenegro in Numbers

All publication published by Statistical Office are available at the following link:

<http://monstat.org/eng/publikacije.php>

### **5.5 On-line databases**

Not available.

### 5.6 Access to micro data

The Law on Official Statistics and Official Statistical System (Official Gazette of Montenegro No 18/12 and 47/19) regulates rules under which external users can obtain an access to individual data for needs of research. Article 58 defines types of scientific and research organizations that can obtain such data. Providing individual data without identifier is possible only upon a written request of scientific and research institutions, with purpose of performing scientific and research activities as well as international statistical organizations and statistical producers from other countries. Research entity signs the agreement with Statistical Office, and it signs the statement on respecting the confidentiality principle. Official statistical producers keeps a separate records on users and purpose of using the statistical data given to these users.

### 5.7 Metadata occupancy

Not available.

## 6. Comparability

### 6.1 Comparability - geographical

The data at the national level are comparable with countries that carry out the survey on the ICT usage according to the Eurostat methodology, Regulation (EU) 2019/2152 and EU Regulation which are changed in accordance on the year of survey.

### 6.2 Time comparability

The data from ICT usage survey in enterprises are comparable in the period from 2011 to 2022 year.

#### *Time comparability indicator*

Not relevant.