



## ~ Methodology ~

# USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN ENTERPRISES

## LEGAL BASIS

The survey is carried out in accordance with the Law on Statistics of Republika Srpska ("Official Gazette of Republika Srpska", No. 85/03) and pursuant to the Statistical Programme of Republika Srpska for the period 2013-2017.

## METHODOLOGICAL BASIS

### *AIM OF THE STATISTICAL SURVEY*

The aim of this survey is to provide data on the presence and use of information and communication technologies in business entities in Republika Srpska. Data obtained through this survey may serve as a good basis for planning further development of information and communication technologies and are an important source for the implementation of policies in the field of information society in Republika Srpska.

### *REPORTING UNITS*

Reporting units are economically active enterprises from the Statistical Business Register.

### *COVERAGE*

In accordance with the Eurostat's methodology, the survey covers business entities with 10 or more employees, from 12 sections of economic activities of the KD BiH 2010 (NACE Rev.2), namely: Manufacturing, Construction, Wholesale and retail trade; repair of motor vehicles and motorcycles, Transportation and storage, Real estate activities, Professional, scientific and technical activities, Electricity, gas, steam and air-conditioning supply, Water supply; sewerage, waste management and remediation activities, Accommodation and food service activities, Information and communication. Administrative and support service activities, repair of computers, financial sector (banks and insurance companies).

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## ***METHOD AND PERIOD OF DATA COLLECTION***

The survey is carried out once a year, through telephone interviewing, using a representative sample. The sample is designed as a random sample, stratified by size and activity of enterprises. The reference period for most of the questions posed to enterprises is January of the current year, while certain questions refer to the previous year. Relevant persons who should provide information about the use and development of information and communication technologies in enterprises are IT professionals or system administrators employed in the enterprises. For enterprises that do not employ IT professionals, information is provided by external persons who maintain the ICT infrastructure. For small enterprises, information is provided by owners or directors, while the questions referring to e-commerce are answered by persons employed in accounting bureaus.

## ***PROTECTION OF CONFIDENTIAL DATA***

Pursuant to Article 27 and Article 28 of the Law on Statistics of Republika Srpska and in accordance with the Rules of protection of confidential data, the Institute is obliged to protect submitted confidential data. Thus, the Institute must not use data collected for statistical purposes for any other purposes nor publish them as individual data. Survey results are published in aggregated form and the confidentiality of individual data is fully guaranteed.

## ***DEFINITIONS***

**ADSL (Asymmetric Digital Subscriber Line):** Broadband digital transmission technology which uses the existing telephone line, allowing simultaneous transmission of data and voice calls.

**Bit:** The smallest unit of information in computing. It is shown in the binary representation as 1 or 0, or as true or false in the logical representation. A series of 8 bits is a byte.

**Broadband Internet connection:** A type of Internet connection which provides high-speed data transfer. It represents a communication system in which the transmission medium (e.g. optical fiber cable) simultaneously transmits multiplied data, while individual data are modulated on separate frequencies

**Browser:** A software solution used to search the Internet. It is a programme/application used to load web pages and other contents on the Internet. The best-known browsers are Internet Explorer, Mozilla Firefox, Google Chrome, etc.

**Dial-up connection:** A type of Internet connection which uses a telephone line to connect to the network.

**Digital products or services:** Goods and services that can be ordered and delivered via computer, that is, via the Internet (e.g. music, films, video games).

**Download:** The process of copying documents to the user's computer from another computer or from a computer within an Internet service.

**Digital Subscriber Line DSL:** A type of broadband Internet connection established using standard telephone lines.

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**Electronic commerce:** Purchase or sale of goods or services using the Internet.

**Electronic mail:** Electronic transfer of messages, including text and attachments, from one computer to another computer, via the Internet.

**GPRS (General Packet Radio Service):** A protocol which enables wireless transfer through GSM networks.

**3G network** refers to the third generation of mobile telephony, which enables transfer of text, sound and television images, offering speeds up to 14 Mb/s.

**Internet:** A global electronic communication system made up of many interconnected computer networks and devices that exchange information using a common set of communication protocols.

**Network:** A group of computers and other units that are connected and their mutual interaction is enabled. The Internet represents the largest network, as a collection of the world's networks.

**Virus** is a computer programme, whose running and loading damages or deletes data on a computer.

**WiFi** is a wireless network in which data between two or more devices are transmitted using radio frequencies and corresponding antennas.

#### ***DATA PROCESSING***

Control and processing of statistical material obtained through interviews are organised at the headquarters of the Republika Srpska Institute of Statistics.

When persons are interviewed as members of sampled households, data are entered into the BLAISE application directly. The application used for data entry includes controls which prevent computationally and logically incorrect data being entered into the database. These are "HARD" and "SOFT" controls that prompt and stop the entry until correct data are entered. Such method of data entry provides a database containing logically and computationally correct data.

Data collected from reporting units covered by the survey represent a basis for estimates of data for the entire population, through weighting. Initial weights are calculated as the reciprocal of the probability of selection of units within a stratum. After this, they are corrected based on the proportion of non-response per stratum. By means of the aggregation of weighted data across domains of interest, estimates of unknown population parameters are calculated.

After the database is formed, data are analysed, tabulated and published

#### ***COMPLIANCE WITH INTERNATIONAL RECOMMENDATIONS AND STANDARDS***

Survey on the use of information and communication technologies in enterprises fully complies with the Eurostat's methodology (Regulations of the European Parliament and the Council, No. 808/2004 and No. 1006/2006; Commission Regulation (EU), No. 1196/2014 and No. 2015/2003).

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## **ORGANISATION OF SURVEY IMPLEMENTATION**

### ***AUTHORITIES IMPLEMENTING THE STATISTICAL SURVEY***

Pursuant to the Statistical Programme of Republika Srpska for the period 2013-2017, the preparation, organisation and implementation of the survey, as well as the processing of collected data, are carried out by the Republika Srpska Institute of Statistics.

### ***OBLIGATION TO PROVIDE DATA***

The obligation to submit data to the Institute is based on Article 8 of the Law on Statistics of Republika Srpska ("Official Gazette of Republika Srpska", No. 85/03).

### ***PERIOD OF DATA COLLECTION***

Data collection through computer assisted telephone interviewing is carried out in March/April of the current year.

## **INSTRUMENTS**

The following methodological instruments were designed for the implementation of survey on the use of information and communication technologies in enterprises:

- List of sampled enterprises
- Questionnaire – IKT-PRED.

## **PUBLISHING**

Data on the use of information and communication technologies in enterprises are published for the Republika Srpska level, in an annual release, at the official website of the Institute [www.rzs.rs.ba](http://www.rzs.rs.ba). Interpretation of the published data is the sole responsibility of the Republika Srpska Institute of Statistics.

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### **Last updated:**

22<sup>nd</sup> February 2016