

RESEARCH AND DEVELOPMENT

LEGAL BASIS

The survey is carried out in accordance with the Statistical Programme of Republika Srpska, for the period between 2009 and 2012 and pursuant to the Law on Statistics of Republika Srpska ("Official Gazette of Republika Srpska, No.85/03).

METHODOLOGICAL BASIS

AIM AND CONTENT

The aim of this statistical survey is to provide annual data on:

- 1) Number of organisations engaged in research and development: by type, field of science and sector of economic activity;
- 2) Employed and hired persons in research and development: by sex, level of education, occupation, type of employment, length of working hours, full-time equivalent (FTE) and by age;
- 3) Financial funds by type of research, sources of funding and purpose;
- 4) Results of scientific research: scientific research papers by type of research, purchaser and field of science;

OBSERVATION UNITS/REPORTING UNITS

The basic set of research and observation units of the statistical survey are all organisations engaged in research and development, regardless of these being their main activity or not.

COVERAGE

Reporting units of the survey are:

scientific-research and research and development institutes; independent scientific research organisations, business entities and institutions whose main or predominant activity is scientific research or research and development, research and development units in composition of a business entity or institution, higher education institutions and non-profit organisations, and government sector.

METHOD AND PERIOD OF DATA COLLECTION

The survey is carried out annually. Three questionnaires are used. The first one refers to business entities, the second to higher education institutions, while the third one refers to non-profit organisations and government sector. Reporting units fill out the R&D form in September of the current year, and data refer to the previous (reporting) year, that is, to the state at the end of the reporting year.

All data on the number of research organisations and employed persons refer to the state as on 31st December of the respective year, while data on research papers and costs refer to the entire year.

Main sources of data are: records of human resources departments on the distribution of employed persons engaged in R&D activities, accounting records on actual accrued income and accounted investments in R&D, as well as documentation of professional services on the results of research – projects, papers, registered patents, etc.

PROTECTION OF CONFIDENTIAL DATA

Only aggregate data on the level of Republika Srpska are published. Confidential data are protected pursuant to Articles 25 and 27 of the Law on Statistics of Republika Srpska (“Official Gazette of Republika Srpska”, No.85/03) and in accordance with the Rules of protection of confidential data.

DEFINITIONS OF MAIN FEATURES – INDICATORS

Sector of realisation is determined on the basis of an economic activity in which scientific research and research and development work is carried out. The following five sectors are identified:

- a) **Business sector** covers enterprises (economic entities) and organisations whose primary activity is the market production of goods and services and their sale at economically significant prices. This sector also covers private non-profit organisations serving the sector, as well as research and development units within enterprises.
- b) **Government sector** includes organisations, agencies and other bodies, excluding higher education, which provide the society with those free-of-charge common services which could not be obtained under market conditions, and which represent an expression of the economic and social society politics. According to the definition, this sector covers administration activities, defence and regulation of public order; health care, education, culture, recreation and other social services; promotion of economic development and living standard, and technological development. Legal, executive and institutional structure should be included in this sector, regardless of these structures being funded from the regular or from the extraordinary budget.
- c) **Non-profit organisation sector** includes non-market private non-profit organisations which provide households with services free of charge or at a low price. These organisations may be established by citizen associations, in order to provide goods and services for association members or for general purposes. This sector covers professional associations, charities, humanitarian aid organisations, trade associations, associations of consumers, etc.
- d) **Higher education sector** includes universities, faculties and academies, regardless of their funding sources and legal status. This sector comprises research institutes and clinics that are under the direct control or administration a higher education institution.
- e) **Foreign sector** includes organisations and individuals that are out of the political boundaries of the country, as well as corresponding land owned by these organisations. This sector also covers all international organisations, including their facilities on the domestic territory.

Employed persons

Researchers are professionals engaged in the creation of new knowledge, methods and systems, and also in the management of the research projects concerned.

Research associates are employees with completed higher education, who directly participate alongside researchers in the performance of research and development activities.

Technicians are employees who perform the technical part of the research and development task, under the supervision of researchers. Education level is generally secondary, but may be higher, depending on the standardisation of technical tasks.

Management refers to employees dealing mainly with managerial and organisational tasks. Otherwise, they should be classified in the category of “researchers” or “research associates”.

Other supporting staff are employees performing secretarial and other administrative tasks (administrative staff dealing mainly with financial and personnel matters and general administration), insofar as their activities are a direct service to research and development projects. This category includes also, under the same provisions, plant and machine operators, and industrial manufacturers and assemblers. Data on employed persons do not include security, canteen and cleaning staff, and all those performing similar tasks.

Research projects and studies: all papers completed in the period between 1st January and 31st December are collected, regardless of when they were initiated. Papers for which there were no purchasers are not taken into account.

Scientific research is theoretical or experimental work undertaken to acquire new scientific knowledge and to increase overall human knowledge. Scientific research covers basic and applied research.

Basic (fundamental) research includes research that increases the general fund of scientific facts and knowledge defining new areas of human knowledge and understanding, but whose results do not have or do not need to be practically applicable. Basic research reveals phenomena, processes, cause-and-effect relationships and laws of nature, society and human thinking, above all in order to advance human knowledge and create the knowledge base, and these further serve as the basis for applied research and development, without direct commercial objectives.

Applied research is carried out to determine possible uses for findings of fundamental research, considering its practical application, in order to determine new methods or ways of achieving specific and predetermined objectives. This type of research involves considering the available knowledge and its extension in order to solve particular problems.

Development (professional) research, that is, experimental development, is systematic work, based on the knowledge acquired through basic or applied research or practical experience, which is primarily focused on the introduction of new or significantly improved existing processes, products and services. These are all procedures that occur between invention and production: drawing experiments and development of prototypes, experiments, pilot projects, models, new solutions. This research has a very practical purpose, their main feature is clear purpose and direct benefit

achieved quickly and in a very narrow field. Developmental research is also called technological advancement.

Scientific research is a systematic creative activity which through the application of scientific methods provides new scientific knowledge, that is, it uses the existing knowledge in a creative way for new applications. It is creative work aimed at the acquirement of new knowledge, and its aim is to raise general level of civilisation of the society and to use this knowledge in all areas of socio-economic development. Scientific research is carried out by scientists and researchers selected in the appropriate scientific, educational and research positions.

Classification of industries based on R&D intensities (OECD standards): high-technology industries, medium-high-technology industries, medium-low-technology industries and low-technology industries.

LEVEL OF DATA REPRESENTATIVENESS

Data are representative for the level of Republika Srpska.

COMPLIANCE WITH INTERNATIONAL RECOMMENDATIONS AND STANDARDS

Data comply with the international standards established by the OECD and published in the Frascati Manual.

IMPLEMENTATION ORGANISATION

AUTHORITIES IMPLEMENTING THE STATISTICAL SURVEY

Authorised producer of data on research and development is the Republika Srpska Institute of Statistics.

Collection of data is carried out in regional offices of the Republika Srpska Institute of Statistics, with data entry and processing being carried out at the Institute.

OBLIGATION TO PROVIDE DATA

Reporting units are obliged to submit data to the Republika Srpska Institute of Statistics pursuant to the Law on Statistics of Republika Srpska.

IMPLEMENTATION FREQUENCY

Reporting units are obliged to submit data to the Republika Srpska Institute of Statistics until 5th September.

PUBLISHING

Data are published in the annual release “Research and Development”.

Only aggregate data on the level of Republika Srpska are published. Individual data are protected in accordance with the Law on Statistics of Republika Srpska (“Official Gazette of Republika Srpska”, No.85/03).