Statistical Office of the Republic of Serbia ISSN 0353-9555

STATISTICAL RELEASE IR10

Number 156 • Year LXXIV, 27.06.2024.

Statistics of science, technology and innovation SRB156 IR10 2700624

Government budget appropriations or outlays for R&D, 2023/2024

− Research and development −

In 2023, RSD 31 770 047 thousand of budget funds were spent for research and development (R&D) activities in the Republic of Serbia, which is an increase of 15.8% compared to the previous year, 2022.

The share of total budgetary funds for R&D in GDP reached 0.4% in 2023.

The largest percentage of budget funds for R&D went to the government sector (54.6%), followed by the higher education sector (22.4%), then by funds from abroad with 17.8%, non-financial (business) sector with 4.8%, while 0.4% were allocated to the non-profite sector.

Regarding socio-economic objectives, most of the budget funds allocated for R&D were spent for the objective General advancement of knowledge – R&D financed from other sources – 22.6%, followed by the objectives General advancement of knowledge – R&D financed from general university funds with 20.6%, and Industrial production and technology with 15.1%. The least funds were spent for the objective Exploration and expoitation of the earth – 0.4%.

Funds planned for the R&D budget for 2024 (before the budget revision) amounted to 37 366 619 RSD thousand. Most funds, 22.5%, are planned for the goal General advancement of knowledge – R&D financed from other sources.

Graph. 1. Total expenditures for R&D in 2023, by sector, %

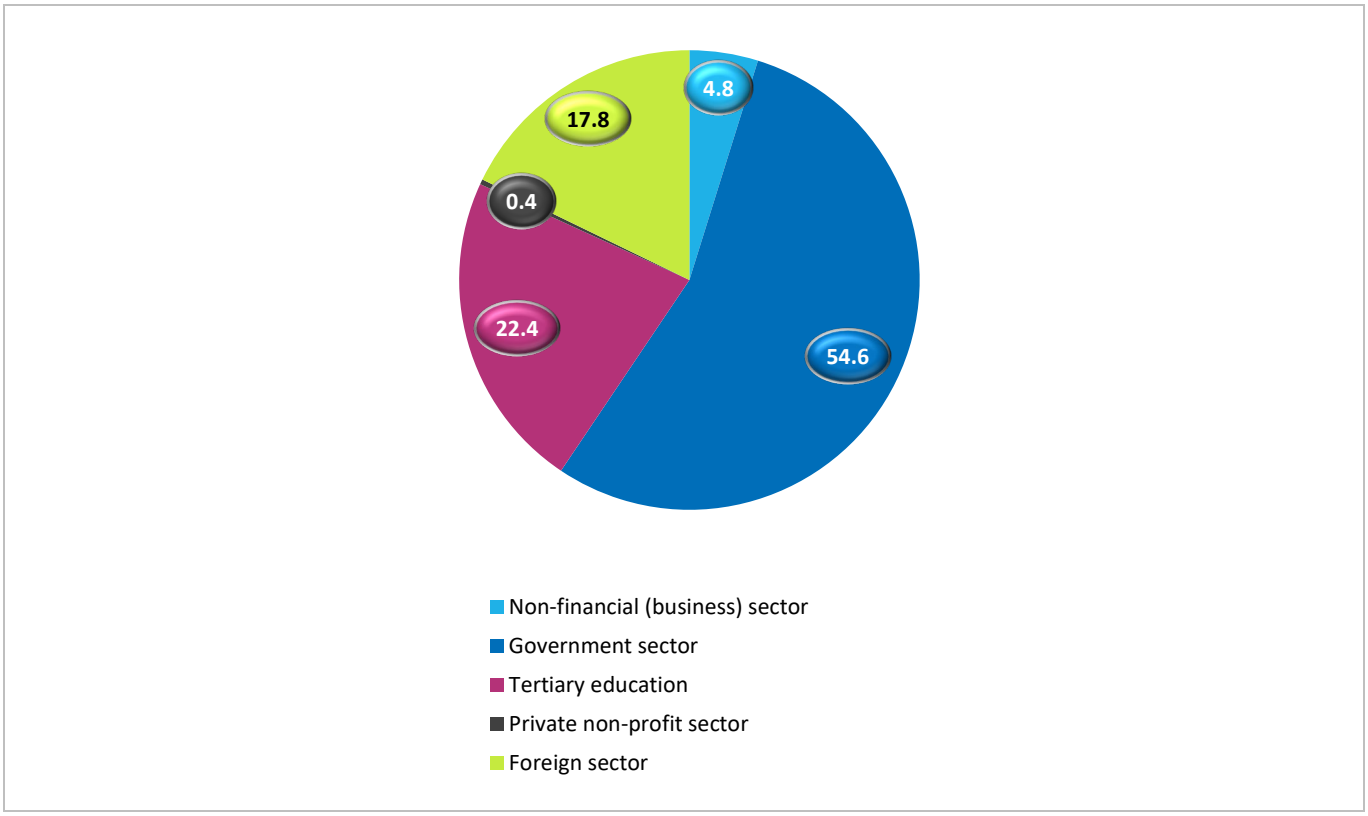
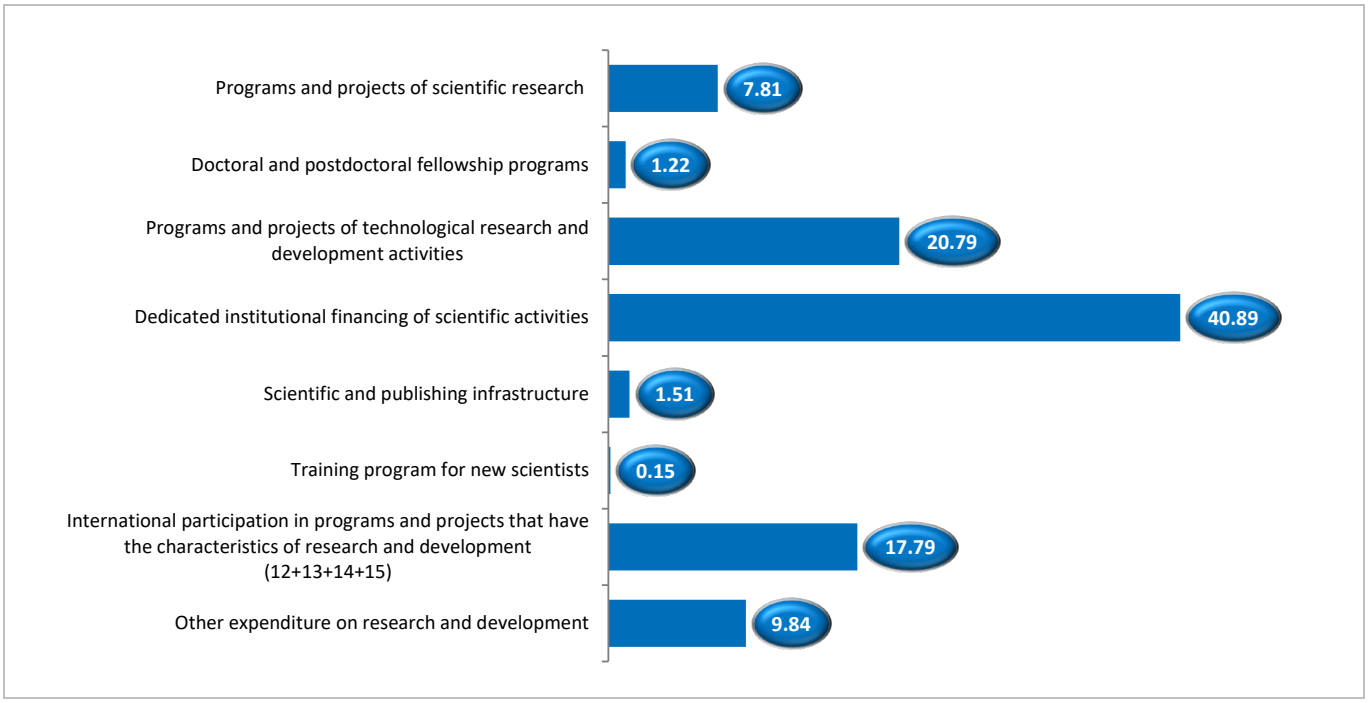


Table 1. Budgetary funds of the Republic of Serbia for R&D for R&D in 2023, by types of programmes and sectors

thous. RSD

Programmes	Total	Non-financial (business) sector	Government sector	Tertiary education	Private non-profit sector	Foreign sector[1]
TOTAL	**31770047**	**1529350**	**17347024**	**7127499**	**113036**	**5653138**
Programs and projects of scientific research	2480388	437430	1530353	486095	26600	-
Doctoral and postdoctoral fellowship programs	388692	-	385838	2854		-
Programs and projects of technological research and development activities	6604934	-	203172	6401762	-	-
Dedicated institutional financing of scientific activities	12989751	1086001	11753991	149759	-	-
Scientific and publishing infrastructure	479663	5919	327883	87118	58742	-
Training program for new scientists	47694	-	20000	-	27694	-
Scientific equipment and infrastructure	-	-	-	-	-	-
International participation in programs and projects that have the characteristics of research and development	5653138	-	-	-	-	5653138
- National contributions to transnational public R&D contractors	482167	-	-	-	-	482167
- National contributions to transnational public research and development programs across Europe	116444	-	-	-	-	116444
- National contributions to bilateral or multilateral public research and development programs established between the governments of EU countries, candidate countries and EFTA countries	74539	-	-	-	-	74539
- National contributions to other international programs and projects that have the characteristics of research and development	4979989	-	-	-	-	4979989
Other expenditure on research and development	2346687	-	2346687	-	-	-

Graph. 2 The share of budget funds for R&D in 2022 according to programs, %



[1] The foreign sector includes organizations and individuals located outside the political borders of the country, as well as appropriate land owned by these organizations. It includes all international organizations, including their facilities in the domestic territory. The foreign sector should not include general contributions to organizations such as the UN, OECD, EU, etc., and should include allocations for all other organizations such as, among others, CERN, ESA, CGIAR, ESRF, EMBO, IAEA, COST and EUREKA

Table 2. Budgetary funds of the Republic of Serbia for R&D (actual outlays) in 2023, by socio-economic objectives and sectors

thous. RSD

Socio-economic objectives of researches	Total	Non-financial (business) sector	Government sector	Tertiary education	Private non-profit sector	Foreign sector
TOTAL	**31770047**	**1529350**	**17347024**	**7127499**	**113036**	**5653138**
Exploitation and exploration of the earth	246157	32060	211197	2900	-	-
Environment	1061923	17923	1023280	16200	4520	-
Exploration and exploitation of space	130196	-	130196	-	-	-
Transport, telecommunications and other infrastructure	549631	37149	497362	15120	-	-
Energy	345549	7580	330569	7400	-	-
Industrial production and technology	4781015	545362	4209853	21500	4300	-
Health	3052364	8602	3006450	37313	0	-
Agriculture	2924529	349810	2557069	17649	0	-
Education	1482360	5919	840519	540887	95036	-
Culture, recreation, religion and mass media	1206837	2190	1170467	26500	7680	-
Political and social systems, structures and processes	1684413	1837	1641746	40830	-	-
General advancement of knowledge – R&D fincnace from General University Funds:	6555150	85678	74871	6394600	-	-
In natural sciences	1287080	6114	40784	1240182	-	-
In engineering and technology	2107790	64372	19175	2024243	-	-
In medical and health sciences	1053856	10213	11551	1032092	-	-
In agricultural sciences	466866	4979	-	461887	-	-
In social sciences	1192252	-	3361	1188891	-	-
In humanities	447306	-		447306	-	-
General advancement of knowledge – R&D financed from other sources	7171815	435240	1075337	6600	1500	5653138
In natural sciences	1014087	217620	314300	-	-	482167
In engineering and technology	5593678	43524	379183	-	-	5170971
In medical and health sciences	323648	87048	236600	-	-	-
In agricultural sciences	48524	43524	5000	-	-	-
In social sciences	83962	21762	58900	1800	1500	-
In humanities	107916	21762	81354	4800	-	
Defence	578108	-	548108	-	-	-

Graph. 3. The share of budget resources for R&D in 2023, by the socio-economic objectives (actual expenditure), %

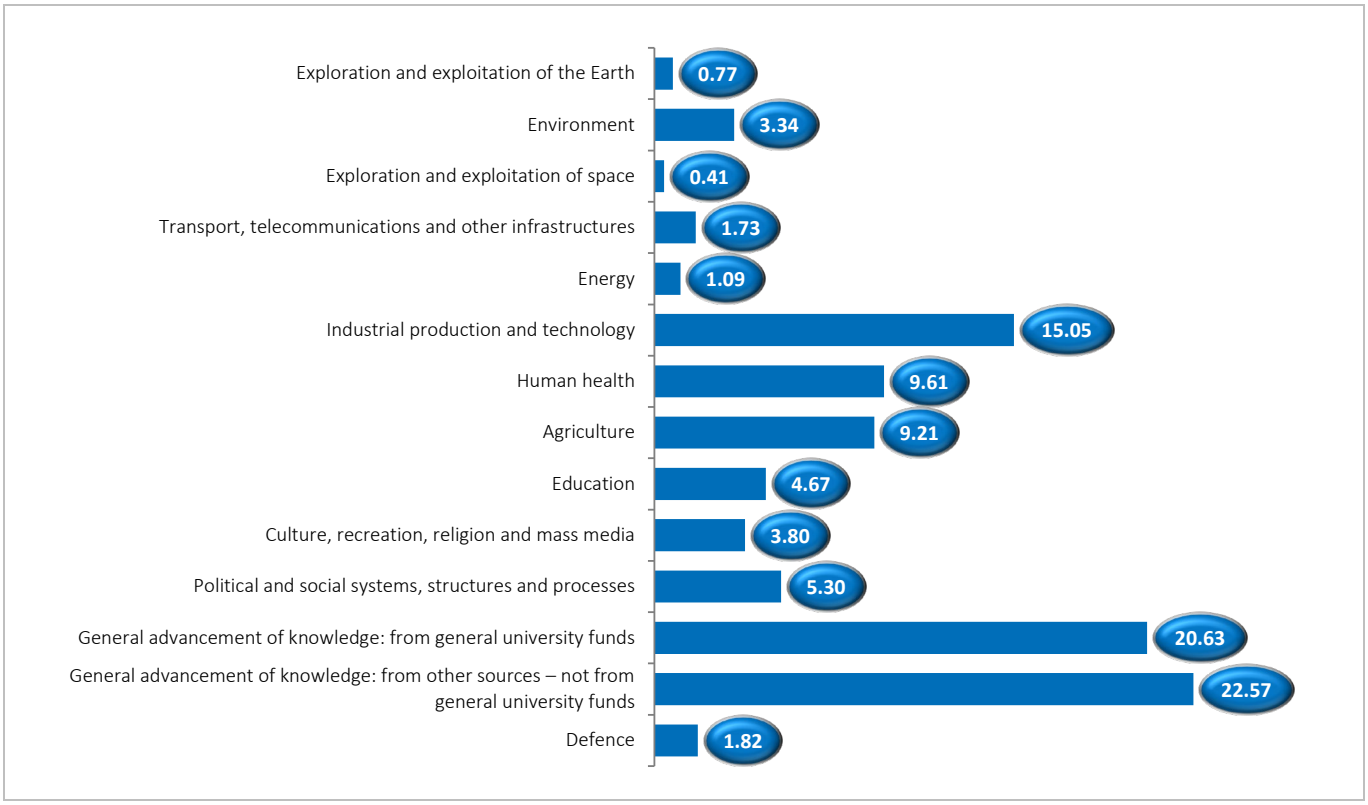
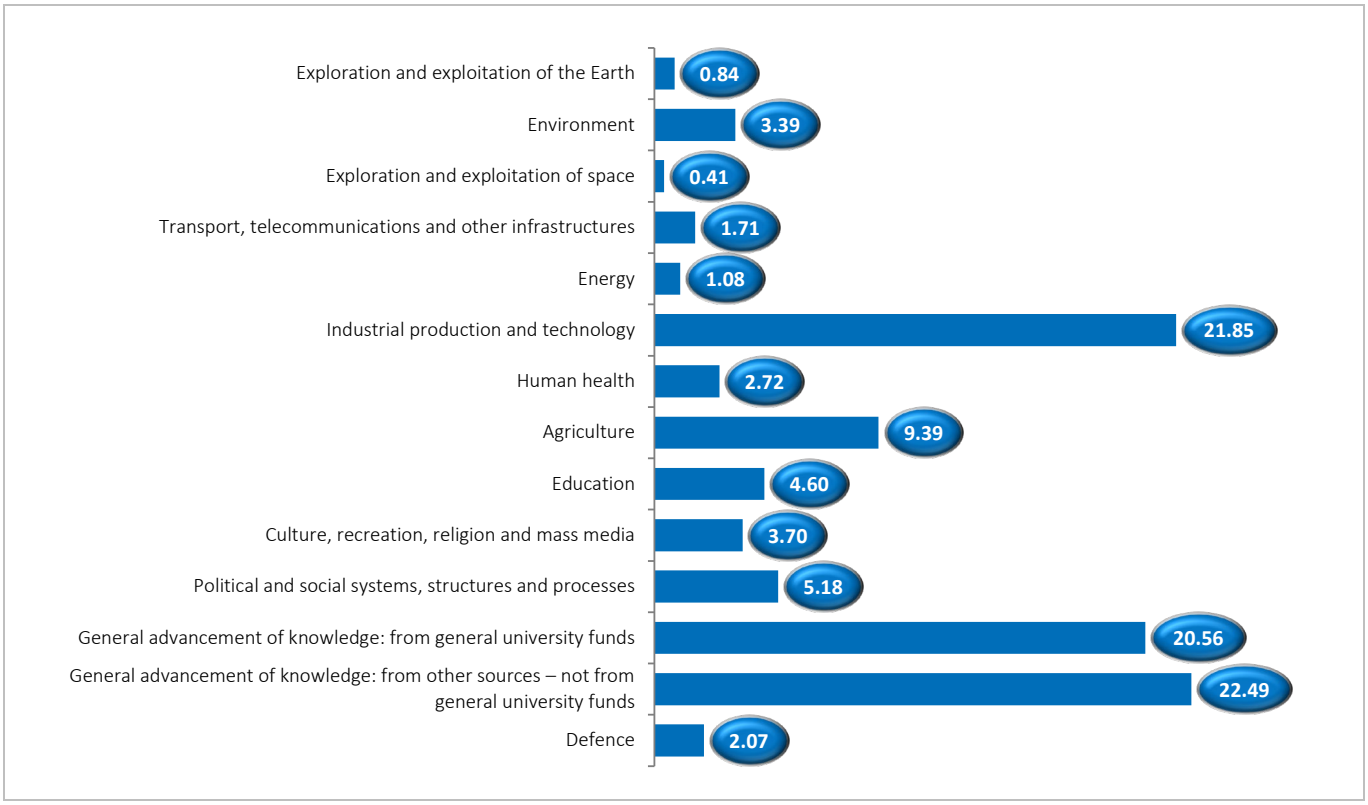


Table 3. Planned budgetary funds of the Republic of Serbia for R&D for 2024, by socio-economic objectives, (adopted budget, prior to budget adjustment) thous. RSD

Socio-economic objectives of researches	Planned budget for 2024
TOTAL	**37366619**
Exploitation and exploration of the earth	314538
Environment	1268493
Exploration and exploitation of space	152601
Transport, telecommunications and other infrastructure	638502
Energy	405100
Industrial production and technology	8163949
Health	1017592
Agriculture	3507703
Education	1718522
Culture, recreation, religion and mass media	1381488
Political and social systems, structures and processes	1935951
General advancement of knowledge – R&D fincnace from General University Funds:	7683198
In natural sciences	1508568
In engineering and technology	2470511
In medical and health sciences	1235210
In agricultural sciences	547207
In social sciences	1397421
In humanities	524281
General advancement of knowledge – R&D financed from other sources	8405216
In natural sciences	1188597
In engineering and technology	6556271
In medical and health sciences	379343
In agricultural sciences	56874
In social sciences	103108
In humanities	121023
Defence	773766

Graph. 4. The share of planned budget funds for R&D (adopted budget before adjustment), for 2024, by socio-economic objectives**, %**



METHODOLOGICAL EXPLANATIONS AND DEFINITIONS

DATA SOURCE

Data are the result of the survey on budgetary appropriations and outlays for R&D (IR) – BIN, carried out in 2023. The survey refers to institutions that finance the R&D activity, direct budgetary funds beneficiaries, which financed in 2023 or were expected to finance the R&D activity in 2024 – direct budgetary funds beneficiaries taking part in the allocation of financial resources for R&D in the Republic of Serbia.

COVERAGE AND COMPARABILITY

The survey is intended to collect data on budget appropriations and outlays for R&D by socio-economic objectives, including all financing of R&D international programmes or institutions abroad. The survey measures R&D government policy through its financing of R&D activities.

The methodology for the survey is harmonised with the international standards set up by OECD and published by the latter in the Frascati Manual *(The Measurement of Scientific and Technological Activities - Proposed Standard Practice for Surveys of Researchand Experimental Development - Frascati Manual).*

The Nomenclature for the Analysis and Comparison of Scientific Programmes and Budgets – NABS 2007, which is linked with the Frascati Manual, was used in monitoring the allocation of the Government Budget appropriations or outlays according to the socio-economic objectives. This Nomenclature classifies the spent funds for R&D in 14 categories.

DEFINITIONS OF THE MAIN CHARACTERISTICS

Science is a set of systematised and argument-based knowledge, i.e. facts, concepts, principles, data, information, theories, laws and patterns in a selected historical period about objective reality, i.e. nature and society, obtained through the application of objective scientific methods, and which main purpose and objective is to apprehend the laws and patterns about the past, the present and future of natural and social phenomena, as well as to improve efficient work in all fields of human activities.

Scientific research is theoretical or experimental work undertaken for acquiring new scientific knowledge and increasing human stock of knowledge. Scientific research implies basic and applied research.

Basic research implies research that increases the general stock of scientific facts and knowledge, and determines new fields of human knowledge and perception, but not involving or not necessarily involving any direct application of the obtained results.

Applied research is a theoretical or experimental work undertaken in order to acquire new knowledge, and directed towards resolving any practical task, i.e. achieving any practical objective.

Experimental (development) research is systematic work, based on knowledge acquired through basic or applied research, i.e. practical experience, which is primarily directed towards introducing new processes, products and services.

Scientific development work is a systematic activity which, through the application of scientific methods, brings new scientific knowledge, i.e. uses creatively existing knowledge for new applications. This is creative work on acquiring new knowledge, which is aimed to raise the general civilization level of society and touse that knowledge in all fields of socio-economic development.

EXPENDITURE ON RESEARCH AND DEVELOPMENT BY TYPES ARE DIVIDED INTO CURRENT COSTS AND CAPITAL EXPENDITURES.

Current costs include: labour costs; other R&D employees' remuneration costs, other current costs (material costs for R&D work – raw materials, supplies, energy; payments based on work by contract and work for hire; daily allowances, travel costs, representation, etc).

Capital expenditures include expenditures on land and buildings; machines and equipments; patents, licences, studies and projects; software and hardware (implying total expenditures related to the purchase of computers, devices, systems, components and equipment, as well as purchase costs or costs for software development for own account), and other expenditures.

Non-financial (business) sector includes business entities and organizations which primary activity is the market production of goods and services and theirs ale at economically significant prices, as well as R&D incorporated units.

Tertiary education includes higher schools and universities within corporate units, faculties, academies and R&D institutes, whatever the sources of finance and legal status. This sector covers also research institutes and clinics under the direct control or administration of a tertiary education organisation.

Government sector includes organisations, offices and other bodies, except tertiary education, furnishing to the community free common services which could not be provided under market conditions, and which reflect the economic and social policy of the society; by definition this sector covers the activities of the administration, defence and public order enforcement; health, education, culture, recreation and other social services.

Non-profit sector includes non-market private non-profit organisations serving households without charging or at a low price. Those organisations may be founded by citizens' associations, for providing goods and services to the members or for general purposes.

Sector abroad includes organizations and individuals being outside the politica lboundaries of a country, as well as corresponding land owned by those organisations. It covers also all international organisations, including their buildings on domestic territory. Are to be excluded from the sector Abroad general contributions to organizations such as: UN, OECD, EU, etc.

Contact: dusan.radovanovic@stat.gov.rs, tel.: 011 2410-414
Published and printed by: Statistical Office of the Republic of Serbia, Belgrade, Milana Rakica 5,
Phone: +381 11 2412922 ● Fax: +381 11 2411260 ● stat.gov.rs
Responsible: Branko Josipovic, Acting Director
Circulation: 20 ● Issued annually