



Statistical Office of the Republic of Serbia



ISSN 0354-3641

# BULLETIN

Research and development in  
the Republic of Serbia, 2018

648

Belgrade  
2019

# **Research and development in the Republic of Serbia, 2018**

Belgrade, 2019

Bulletin: Research and development in the Republic of Serbia, 2018

Published by: Statistical Office of the Republic of Serbia, Belgrade, 5 Milana Rakića St  
Person responsible: Dr Miladin Kovačević, Director

Prepared by: Sunčica Stefanović, Jasmina Krstić and Tatjana Žarić

Editorial board

Chief editor: Vladimir Šutić

Members: Selena Marković, Tatjana Savić, Jasmina Kostić Simov, Jelena Milaković and Sonja Radoičić

Design and press preparatory operations: Computerized press and dissemination division

© Use of data published in this publication is authorized provided the source is acknowledged.

## Preface

The Statistical Office of the Republic of Serbia publishes the results of the regular annual statistical survey on research and development organizations entitled “Annual Report on Research and Development – Form IR”. The results refer to 2018, the territory of the Republic of Serbia, Srbija – sever, Srbija – jug and to the regions: Beogradski region, Region Vojvodine, Region Šumadije and Zapadne Srbije, and Region Južne i Istočne Srbije.

R&D organizations and their activity are classified according to the type, size class and scientific field. Employees in the R&D activity are shown by occupation, scientific qualifications, type of employment and working hours, as well as by full-time equivalent (FTE). The data on research personnel, by age, have been published annually since 2007. In tables on research projects, finalised and non-finalised works are shown by type, ordering party and scientific field, while published works, inventions and patents are presented by publishing destination, i.e. sale, and by scientific field. The bulletin contains a tabulated presentation of funds for R&D work by origin, costs by source and use, as well as a presentation of investments in the R&D activity

Statistical data in this bulletin are available on the level of scientific fields in which R&D organizations are classified, i.e. on the level of the scientific field of R&D works or inventions. All the data are available on the level of scientific field, both for R&D organizations and R&D projects.

The survey data have been published since 1965 in statistical bulletins of the Federal Statistical Office, and since 2002 by the Statistical Office of the Republic of Serbia.

Belgrade, 2019

the Director  
Dr Miladin Kovačević



## Table of content

Preface .....	3
METHODOLOGICAL EXPLANATIONS .....	7
1.1. R&D organizations by sectors and fields of science, 2018 .....	12
2.1. Full-time employees engaged in R&D activities, by sectors, fields of science and sex, 2018 (head count) .....	13
2.2. Full-time and part-time employees engaged in R&D activities by sectors, fields of sciences and sex, expressed in full-time equivalent, 2018.....	16
3.1. Full-time and part-time researchers, by academic titles, sectors, field of science and sex, 2018 (head count) .....	19
3.2. Full-time and part-time researchers, by academic titles, sectors, fields of science and sex, expressed in full-time equivalent, 2018 .....	26
4.1. Full-time and part-time researchers and assistant researchers, by age and sex, 2018 .....	33
5.1. Full-time and part-time assistant researchers, by academic titles, sectors, fields of science and sex, 2018 (head count) .....	39
5.2. Full-time and part-time assistant researchers, by academic titles, sectors, fields of science, expressed in full-time equivalent, 2018 .....	41
6.1. Engaged on the basis of work on contract and author contract (head count), 2018 .....	44
6.2. Engaged on the basis of work on contract and author contract, expressed in full-time equivalent, 2018 .....	46
7.1. Research works (projects and studies), by sectors and territories, 2018 .....	48
7.2. Research works (projects and studies), by sectors and fields of science, 2018.....	49
8.1. R&D works, by ordering parties, fields of science and type of research, 2018 .....	53
9.1. Published R&D works, inventions and patents, by fields of science, 2018.....	58
10.1. Inventions and patent by R&D intensity, 2018 .....	60
11.1. Gross domestic expenditure for R&D, by sectors and fields of science, 2018.....	62
12.1. Sources of funds spent on R&D activities, 2018 .....	65
12.2. Sources of funds for R&D, 2018.....	67
13.1. Gross domestic expenditure on R&D by groupings of activities, 2018 .....	70
Annex .....	73



## METHODOLOGICAL EXPLANATIONS

### Legal basis

The survey "Annual Report on Research and Development" is carried out on the basis of the Law on Official Statistics ("Official Journal of the RS", number 104/2009).

### Methodological basis

#### Objective and scope of the statistical survey

The R&D activity, as an activity of particular importance for the Republic of Serbia, is an integral part of the international, scientific, education and cultural world. R&D is an activity of particular importance for the complete development of the Republic of Serbia based on knowledge, and combined with tertiary education is the principle factor and catalyst of economic and social growth.

R&D is a systematic creative work undertaken in view of discovering new stock of knowledge, in order to raise the general civilization level of the society and to use the knowledge in all social fields. The Annual Report on Research and Experimental Development (hereinafter: R&D) provides data on the scientific potential:

- number of organizations and units engaged in the R&D activity: by type, scientific field and section of economic activity;
- personnel: by sex, educational attainment, occupation, type of employment, working hours, full-time equivalent (FTE) and age;
- funds (receipts, expenditure and investments): by type of research, funding sources and use;
- results of R&D work: R&D works (finalised works, on-going works and published works): by type of research, ordering party and scientific party;
- inventions and patents: by scientific fields and R&D intensity.

#### Reporting units, statistical units

The population of the research and unit of observation of the statistical survey are all organisations engaged in the R&D activity, whether the latter is the principal activity or not.

#### Survey coverage

The reporting units of the survey are:

- R&D institutes and institutes of national interest for the Republic of Serbia; independent R&D organisations, business entities and institutions which principal or predominant activity is R&D.
- R&D units incorporated in enterprises or institutions.



- Tertiary educational institutions (faculties and arts academies), which activity, pursuant to the Law, is education and R&D-related, have been covered by this survey since 1978;
- Non-profit organisations – associations engaged in this activity. Excluded are R&D organisations created by the Ministry of the Interior and Ministry of Defence. The new Law on the R&D Activity anticipates the monitoring of these organisations.

### **Method, timetable and sources for data collection**

The survey is conducted annually and the questionnaires are sent to reporting units the second week of March. Three questionnaires are used for that purpose, the first relating to business entities and centres of excellence (technology and business incubators, science and technology parks), the second to faculties and institutes, and the third to non-profit organisations – associations. The reporting units fill in the R&D questionnaire in April of the current year, and the data refer to the previous (reference) year, i.e. they are shown as of the end of the reference year. Data on the R&D activity are collected on full coverage: all faculties/academies, whatever the ownership, all R&D institutes, business entities and non-profit organisations/associations. All data on the number of R&D organisations and employees are shown as of 31 December of the reference year, while those on R&D works, receipts and expenditure refer to the whole year.

The main data sources are: human resources records on employees appointed to R&D, accounting records on realised receipts and calculated investments in R&D, as well as records of specialised services on the result of R&D activities – projects, works, patents pending, etc.

### **List and definitions of main concepts - indicators**

**Type of R&D organisation:** R&D organisations are institutions and other legal entities, as well as units incorporated in business entities and institutions, which activity is completely or predominantly R&D-related. All the organisations are classified into:

- independent R&D institutes;
- Centres of excellence: the status of the centre can be acquired by an institute, i.e. tertiary education institution or their organisational part(s) if they have achieved in a five-year period ultimate and internationally recognised scientific and professional results in a specific scientific discipline based on what they have an extended international scientific, technical and technological co-operation.
- Tertiary education institution
- R&D units of business entities;
- Non-profit organisations/associations.

**Sector of performance** is determined according to the division of the economic activity in which R&D is performed. There are five sectors:

- Business sector covers business entities and organisations which primary activity is the market production of goods and services, and their sale at economically significant prices.
- This sector includes also private non-profit organisations, as well as incorporated R&D units.
- Government sector includes organisations, department offices and other bodies furnishing common services, other than tertiary education, which cannot be provided under market conditions and reflects the economical and social policy of the society. By definition, this sector covers: activities of the administration, defence and public order; health, education, culture, recreation and other social services; promotion of economic growth and living standard, and technological development. The legal, executive and institutional structure should be included in this sector, whether these are funded from regular or extraordinary budget.
- Non-profit sector covers non-market, private non-profit organisation serving households free of charge or at low cost. These organisations may be created by citizens' associations in order to provide goods and services to the

members of the association or for general purposes. This sector includes professional associations, humanitarian organisations, trade associations, consumers' associations, etc.

- Tertiary education sector covers universities, faculties and academies, whatever their funding sources and legal status. This sector includes R&D institutes and clinics operating under the direct control of or administered by the tertiary education organisation.
- Sector "abroad" covers organisations and individuals located beyond the political boundaries of the country, as well as related land owned by these organisations. It also includes all international organisations, including their facilities on the national territory.

#### **Personnel:**

- **Researcher** is a person with at least tertiary educational attainment, i.e. having at least completed undergraduate academic studies and who is engaged in R&D work and holding the title pursuant to the Law. Depending on realised results in R&D, the researcher can acquire the research title: researcher-apprentice and researcher-associate, and the scientific title: senior scientific associate and scientific advisor.
- **Assistant-researchers** do not hold any research title; work directly with researchers in carrying out professional or technical works relative to R&D (laboratory technicians, engineers and technicians of technical sciences, designers, librarians, information assistant, computer experts, language editors, etc.).
- **Administrators** carry out exclusively or predominantly organisational, clerical, legal, administrative or financial work (treasurer, secretaries, jurists, etc.).
- Other personnel carry out supporting activities in R&D organisations (employed in workshops, on agricultural land, couriers, switchboard operators, maintenance workers, drivers, suppliers, etc.).
- Excluded are personnel engaged in protection and security, restaurants, hygiene maintenance, and related (guards, desk clerks, charwomen, etc.).

**R&D projects and studies:** shown are works completed from 1<sup>st</sup> January to 31<sup>st</sup> December, whatever their beginning. Works not being ordered by ordering parties are excluded.

- **Basic research** is a creative, systematic activity focused on acquiring new knowledge on the origin and causes of phenomena and facts, without any particular application or use in view. The results of a basic research are often formulated as general principles, theories or rules.

- **Applied research** is undertaken whether to establish a possibility to use the results of a research, having in mind its practical application, or to find new methods or ways that facilitate the achievement of a particular objective set in advance. This survey starts from existing knowledge and examines it thoroughly in view of solving specific issues.

- **Experimental (development) research** is a creative systematic activity based on the results of the basic and applied research, and practical knowledge directed towards introducing new materials, products, devices, processes and methods.

**Inventions and patents:** an invention is a new technological solution to a specific problem that involves inventiveness and applicability. A patent is the right that protects an invention. Patent and patent rights are acquired after recognition and registration of a granted right in the corresponding register.

**Industry classification according to R&D intensity (based on OECD standards):** high technology, medium-high technology, medium-low technology and low technology.

#### **Level of data representativeness**

All data are available for R&D organisations, scientific fields, type of research, type of employment and personnel's working hours, level of certain activity classes (2010 CA) and according to the territorial principle (up to *NSTJ* 2 level).

## Survey organisation

The Statistical Office of the Republic of Serbia, with the help of the Ministry of Education, Science and Technological Development, prepares and carries out the survey on R&D organisations.

The Office defines and produces uniform methodological basis and tools for the survey, compiles address records of reporting units, prints the questionnaires and other materials for the carrying out of the survey, sends the questionnaires to the reporting units, collects the questionnaires, controls the coverage, response accuracy and data completeness, transmit data electronically, makes calculation and logical controls, processes the data and publishes the results for the Republic of Serbia in the “Statistical Yearbook of Serbia”, as well as in this bulletin.

## Harmonisation with international recommendations, standards and practice

The methodology for this survey is harmonised with international standards to the greatest possible extent (as much as allowed by our laws), methodological recommendations from the Frascati Manual, with the exception of some financial indicators, which are difficult to present due to differences in financing the R&D work of our country in relation to most of EU member countries and other international organisations.

## SURVEY TOOLS

### Questionnaires and instructions for filling the questionnaires

- questionnaires: IR-1, IR-2 and IR-3;
- instructions for filling in the questionnaires;
- Questionnaires are available on the website of the Statistical Office of the Republic of Serbia [www.stat.gov.rs](http://www.stat.gov.rs).

### List of nomenclatures and classifications used in the survey

- Classification of Activities – CA (“Official Journal of the RS”, number 54/2010)
- Nomenclature of statistical territorial units NSTJ (“Official Journal of the RS”, number 109/09 and 46/10)
- Fields of Science and Technology Classification, OECD 2006, Frascati Manual
- International Standard Classification of Education 2011 (the classifications and nomenclature are available on the website of the Statistical Office of the Republic of Serbia, [www.stat.gov.rs](http://www.stat.gov.rs))

### Previous editions

Data on R&D organizations for previous years are available in the bulletins of the Federal Statistical Office, and since 2002 they have been published by the Statistical Office of the Republic of Serbia.

### Symbols

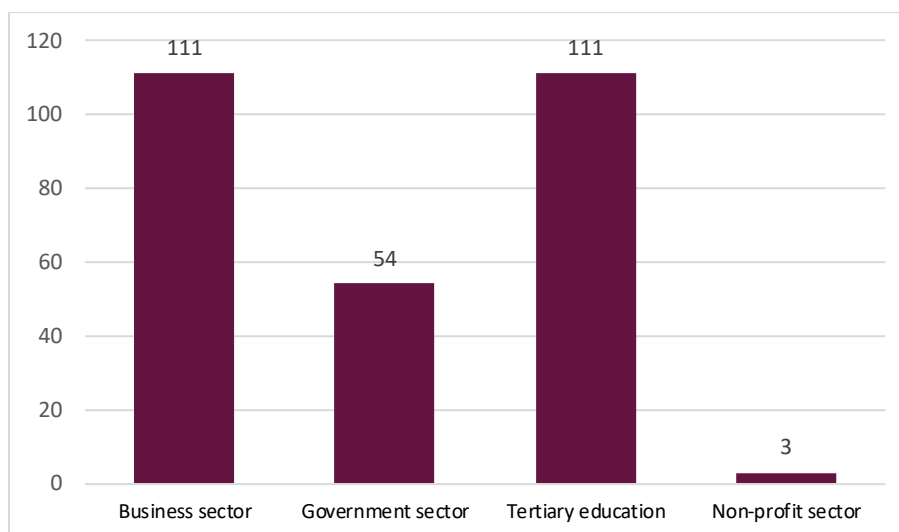
- = nil
- ... = data not available
- 1) = footnote
- 0 = data value under 0.5 of measurement unit



# Research and development, 2018

## 1.1. R&D organizations by sectors and fields of science, 2018

	Total	Business sector	Government sector	Tertiary education	Non-profit sector
<b>REPUBLIC OF SERBIA</b>	<b>279</b>	<b>111</b>	<b>54</b>	<b>111</b>	<b>3</b>
Natural sciences	54	26	11	16	1
Engineering and technology	99	67	9	22	1
Medical and health sciences	17	6	3	8	-
Agricultural sciences	27	10	11	6	-
Social sciences	59	2	9	47	1
Humanities	23	-	11	12	-
<b>SRBIJA – SEVER</b>	<b>221</b>	<b>86</b>	<b>52</b>	<b>80</b>	<b>3</b>
Natural sciences	47	21	11	14	1
Engineering and technology	71	50	8	12	1
Medical and health sciences	15	6	3	6	-
Agricultural sciences	22	7	10	5	-
Social sciences	46	2	9	34	1
Humanities	20	-	11	9	-
<b>Beogradski region</b>	<b>171</b>	<b>65</b>	<b>47</b>	<b>57</b>	<b>2</b>
Natural sciences	36	13	11	12	-
Engineering and technology	53	39	5	8	1
Medical and health sciences	12	6	3	3	-
Agricultural sciences	17	5	8	4	-
Social sciences	35	2	9	23	1
Humanities	18	-	11	7	-
<b>Region Vojvodine</b>	<b>50</b>	<b>21</b>	<b>5</b>	<b>23</b>	<b>1</b>
Natural sciences	11	8	-	2	1
Engineering and technology	18	11	3	4	-
Medical and health sciences	3	-	-	3	-
Agricultural sciences	5	2	2	1	-
Social sciences	11	-	-	11	-
Humanities	2	-	-	2	-
<b>SRBIJA – JUG</b>	<b>58</b>	<b>25</b>	<b>2</b>	<b>31</b>	<b>-</b>
Natural sciences	7	5	-	2	-
Engineering and technology	28	17	1	10	-
Medical and health sciences	2	-	-	2	-
Agricultural sciences	5	3	1	1	-
Social sciences	13	-	-	13	-
Humanities	3	-	-	3	-
<b>Region Šumadije i Zapadne Srbije</b>	<b>28</b>	<b>12</b>	<b>1</b>	<b>15</b>	<b>-</b>
Natural sciences	3	2	-	1	-
Engineering and technology	12	8	-	4	-
Medical and health sciences	1	-	-	1	-
Agricultural sciences	4	2	1	1	-
Social sciences	7	-	-	7	-
Humanities	1	-	-	1	-
<b>Region Južne i Istočne Srbije</b>	<b>30</b>	<b>13</b>	<b>1</b>	<b>16</b>	<b>-</b>
Natural sciences	4	3	-	1	-
Engineering and technology	16	9	1	6	-
Medical and health sciences	1	-	-	1	-
Agricultural sciences	1	1	-	-	-
Social sciences	6	-	-	6	-
Humanities	2	-	-	2	-
<b>Region Kosovo i Metohija</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>



## 2.1. Full-time employees engaged in R&D activities, by sectors, fields of science and sex, 2018 (head count)

	Total		Researchers		Assistant researchers		Technicians		Management		Other personnel	
	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women
<b>REPUBLIC OF SERBIA</b>	<b>22971</b>	<b>11645</b>	<b>16213</b>	<b>8329</b>	<b>1527</b>	<b>733</b>	<b>3031</b>	<b>1542</b>	<b>664</b>	<b>253</b>	<b>1536</b>	<b>788</b>
Natural sciences	5207	2786	3676	2135	381	155	515	229	192	71	443	196
Engineering and technology	6900	2764	4553	1839	581	210	1074	421	227	66	465	228
Medical and health sciences	2819	1694	2483	1454	74	53	91	68	57	38	114	81
Agricultural sciences	2425	1227	1142	588	144	78	748	402	73	23	318	136
Social sciences	3761	2061	2867	1470	186	120	452	308	91	43	165	120
Humanities	1859	1113	1492	843	161	117	151	114	24	12	31	27
<b>Business sector</b>	<b>3186</b>	<b>1110</b>	<b>1266</b>	<b>506</b>	<b>707</b>	<b>222</b>	<b>642</b>	<b>194</b>	<b>288</b>	<b>89</b>	<b>283</b>	<b>99</b>
Natural sciences	1068	332	317	115	251	72	229	83	135	41	136	21
Engineering and technology	1946	681	885	350	410	121	378	94	131	40	142	76
Medical and health sciences	24	17	-	-	16	12	1	-	7	5	-	-
Agricultural sciences	94	42	27	13	18	10	31	14	13	3	5	2
Social sciences	54	38	37	28	12	7	3	3	2	-	-	-
<b>Government sector</b>	<b>5420</b>	<b>3019</b>	<b>3112</b>	<b>1906</b>	<b>210</b>	<b>112</b>	<b>1229</b>	<b>603</b>	<b>176</b>	<b>67</b>	<b>693</b>	<b>331</b>
Natural sciences	1983	1224	1538	997	49	23	139	58	40	20	217	126
Engineering and technology	1240	573	398	213	105	54	429	186	70	16	238	104
Medical and health sciences	216	161	172	125	5	5	11	11	24	17	4	3
Agricultural sciences	1213	609	343	206	40	22	579	287	38	13	213	81
Social sciences	331	181	274	135	10	7	40	34	2	1	5	4
Humanities	437	271	387	230	1	1	31	27	2	-	16	13
<b>Tertiary education</b>	<b>14363</b>	<b>7514</b>	<b>11833</b>	<b>5915</b>	<b>610</b>	<b>399</b>	<b>1160</b>	<b>745</b>	<b>200</b>	<b>97</b>	<b>560</b>	<b>358</b>
Natural sciences	2156	1230	1821	1023	81	60	147	88	17	10	90	49
Engineering and technology	3714	1510	3270	1276	66	35	267	141	26	10	85	48
Medical and health sciences	2579	1516	2311	1329	53	36	79	57	26	16	110	78
Agricultural sciences	1118	576	772	369	86	46	138	101	22	7	100	53
Social sciences	3374	1840	2554	1305	164	106	409	271	87	42	160	116
Humanities	1422	842	1105	613	160	116	120	87	22	12	15	14
<b>Non-profit sector</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Social sciences	2	2	2	2	-	-	-	-	-	-	-	-
<b>SRBIJA – SEVER</b>	<b>19167</b>	<b>9658</b>	<b>13074</b>	<b>6729</b>	<b>1373</b>	<b>652</b>	<b>2705</b>	<b>1332</b>	<b>614</b>	<b>229</b>	<b>1401</b>	<b>716</b>
Natural sciences	4703	2483	3226	1860	367	149	490	213	184	66	436	195
Engineering and technology	5632	2232	3613	1480	507	179	945	343	207	60	360	170
Medical and health sciences	2121	1310	1856	1113	33	26	61	52	57	38	114	81
Agricultural sciences	2322	1174	1065	552	142	77	730	389	72	23	313	133
Social sciences	3074	1695	2269	1161	186	120	395	269	77	35	147	110
Humanities	1315	764	1045	563	138	101	84	66	17	7	31	27
<b>Business sector</b>	<b>2998</b>	<b>1028</b>	<b>1141</b>	<b>449</b>	<b>699</b>	<b>221</b>	<b>607</b>	<b>178</b>	<b>270</b>	<b>83</b>	<b>281</b>	<b>97</b>
Natural sciences	1031	309	285	95	251	72	227	82	132	39	136	21
Engineering and technology	1825	639	809	321	402	120	356	87	117	36	141	75
Medical and health sciences	24	17	-	-	16	12	1	-	7	5	-	-
Agricultural sciences	64	25	10	5	18	10	20	6	12	3	4	1
Social sciences	54	38	37	28	12	7	3	3	2	-	-	-
<b>Government sector</b>	<b>5216</b>	<b>2897</b>	<b>3037</b>	<b>1860</b>	<b>186</b>	<b>101</b>	<b>1205</b>	<b>583</b>	<b>176</b>	<b>67</b>	<b>612</b>	<b>286</b>
Natural sciences	1983	1224	1538	997	49	23	139	58	40	20	217	126
Engineering and technology	1062	466	343	180	83	44	407	166	70	16	159	60
Medical and health sciences	216	161	172	125	5	5	11	11	24	17	4	3
Agricultural sciences	1187	594	323	193	38	21	577	287	38	13	211	80
Social sciences	331	181	274	135	10	7	40	34	2	1	5	4
Humanities	437	271	387	230	1	1	31	27	2	-	16	13
<b>Tertiary education</b>	<b>10951</b>	<b>5731</b>	<b>8894</b>	<b>4418</b>	<b>488</b>	<b>330</b>	<b>893</b>	<b>571</b>	<b>168</b>	<b>79</b>	<b>508</b>	<b>333</b>
Natural sciences	1689	950	1403	768	67	54	124	73	12	7	83	48
Engineering and technology	2745	1127	2461	979	22	15	182	90	20	8	60	35
Medical and health sciences	1881	1132	1684	988	12	9	49	41	26	16	110	78
Agricultural sciences	1071	555	732	354	86	46	133	96	22	7	98	52
Social sciences	2687	1474	1956	996	164	106	352	232	73	34	142	106
Humanities	878	493	658	333	137	100	53	39	15	7	15	14
<b>Non-profit sector</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Social sciences	2	2	2	2	-	-	-	-	-	-	-	-

**2.1. Full-time employees engaged in R&D activities, by sectors, fields of science and sex, 2018 (head count)**  
(continued)

	Total		Researchers		Assistant researchers		Technicians		Management		Other personnel	
	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women
<b>Beogradski region</b>	<b>13242</b>	<b>6726</b>	<b>9084</b>	<b>4718</b>	<b>1033</b>	<b>491</b>	<b>1843</b>	<b>892</b>	<b>389</b>	<b>149</b>	<b>893</b>	<b>476</b>
Natural sciences	3582	1992	2657	1533	277	129	331	159	83	41	234	130
Engineering and technology	3795	1424	2112	838	419	140	787	260	151	37	326	149
Medical and health sciences	1358	845	1210	736	33	26	59	50	36	24	20	9
Agricultural sciences	1373	713	717	381	110	58	317	180	42	12	187	82
Social sciences	1930	1048	1414	702	64	41	291	196	64	28	97	81
Humanities	1204	704	974	528	130	97	58	47	13	7	29	25
<b>Business sector</b>	<b>2051</b>	<b>744</b>	<b>826</b>	<b>337</b>	<b>559</b>	<b>180</b>	<b>404</b>	<b>119</b>	<b>125</b>	<b>42</b>	<b>137</b>	<b>66</b>
Natural sciences	507	194	181	67	161	52	114	56	38	18	13	1
Engineering and technology	1421	481	602	240	359	103	272	57	66	16	122	65
Medical and health sciences	24	17	-	-	16	12	1	-	7	5	-	-
Agricultural sciences	45	14	6	2	11	6	14	3	12	3	2	-
Social sciences	54	38	37	28	12	7	3	3	2	-	-	-
<b>Government sector</b>	<b>4356</b>	<b>2463</b>	<b>2784</b>	<b>1715</b>	<b>130</b>	<b>70</b>	<b>820</b>	<b>396</b>	<b>149</b>	<b>57</b>	<b>473</b>	<b>225</b>
Natural sciences	1983	1224	1538	997	49	23	139	58	40	20	217	126
Engineering and technology	828	326	204	96	42	24	371	142	67	15	144	49
Medical and health sciences	216	161	172	125	5	5	11	11	24	17	4	3
Agricultural sciences	561	300	209	132	23	10	228	124	14	4	87	30
Social sciences	331	181	274	135	10	7	40	34	2	1	5	4
Humanities	437	271	387	230	1	1	31	27	2	-	16	13
<b>Tertiary education</b>	<b>6833</b>	<b>3517</b>	<b>5472</b>	<b>2664</b>	<b>344</b>	<b>241</b>	<b>619</b>	<b>377</b>	<b>115</b>	<b>50</b>	<b>283</b>	<b>185</b>
Natural sciences	1092	574	938	469	67	54	78	45	5	3	4	3
Engineering and technology	1546	617	1306	502	18	13	144	61	18	6	60	35
Medical and health sciences	1118	667	1038	611	12	9	47	39	5	2	16	6
Agricultural sciences	767	399	502	247	76	42	75	53	16	5	98	52
Social sciences	1543	827	1101	537	42	27	248	159	60	27	92	77
Humanities	767	433	587	298	129	96	27	20	11	7	13	12
<b>Non-profit sector</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Social sciences	2	2	2	2	-	-	-	-	-	-	-	-
<b>Region Vojvodine</b>	<b>5925</b>	<b>2932</b>	<b>3990</b>	<b>2011</b>	<b>340</b>	<b>161</b>	<b>862</b>	<b>440</b>	<b>225</b>	<b>80</b>	<b>508</b>	<b>240</b>
Natural sciences	1121	491	569	327	90	20	159	54	101	25	202	65
Engineering and technology	1837	808	1501	642	88	39	158	83	56	23	34	21
Medical and health sciences	763	465	646	377	-	-	2	2	21	14	94	72
Agricultural sciences	949	461	348	171	32	19	413	209	30	11	126	51
Social sciences	1144	647	855	459	122	79	104	73	13	7	50	29
Humanities	111	60	71	35	8	4	26	19	4	-	2	2
<b>Business sector</b>	<b>947</b>	<b>284</b>	<b>315</b>	<b>112</b>	<b>140</b>	<b>41</b>	<b>203</b>	<b>59</b>	<b>145</b>	<b>41</b>	<b>144</b>	<b>31</b>
Natural sciences	524	115	104	28	90	20	113	26	94	21	123	20
Engineering and technology	404	158	207	81	43	17	84	30	51	20	19	10
Agricultural sciences	19	11	4	3	7	4	6	3	-	-	2	1
<b>Government sector</b>	<b>860</b>	<b>434</b>	<b>253</b>	<b>145</b>	<b>56</b>	<b>31</b>	<b>385</b>	<b>187</b>	<b>27</b>	<b>10</b>	<b>139</b>	<b>61</b>
Engineering and technology	234	140	139	84	41	20	36	24	3	1	15	11
Agricultural sciences	626	294	114	61	15	11	349	163	24	9	124	50
<b>Tertiary education</b>	<b>4118</b>	<b>2214</b>	<b>3422</b>	<b>1754</b>	<b>144</b>	<b>89</b>	<b>274</b>	<b>194</b>	<b>53</b>	<b>29</b>	<b>225</b>	<b>148</b>
Natural sciences	597	376	465	299	-	-	46	28	7	4	79	45
Engineering and technology	1199	510	1155	477	4	2	38	29	2	2	-	-
Medical and health sciences	763	465	646	377	-	-	2	2	21	14	94	72
Agricultural sciences	304	156	230	107	10	4	58	43	6	2	-	-
Social sciences	1144	647	855	459	122	79	104	73	13	7	50	29
Humanities	111	60	71	35	8	4	26	19	4	-	2	2
<b>SRBIJA – JUG</b>	<b>3804</b>	<b>1987</b>	<b>3139</b>	<b>1600</b>	<b>154</b>	<b>81</b>	<b>326</b>	<b>210</b>	<b>50</b>	<b>24</b>	<b>135</b>	<b>72</b>
Natural sciences	504	303	450	275	14	6	25	16	8	5	7	1
Engineering and technology	1268	532	940	359	74	31	129	78	20	6	105	58
Medical and health sciences	698	384	627	341	41	27	30	16	-	-	-	-
Agricultural sciences	103	53	77	36	2	1	18	13	1	-	5	3
Social sciences	687	366	598	309	-	-	57	39	14	8	18	10
Humanities	544	349	447	280	23	16	67	48	7	5	-	-
<b>Business sector</b>	<b>188</b>	<b>82</b>	<b>125</b>	<b>57</b>	<b>8</b>	<b>1</b>	<b>35</b>	<b>16</b>	<b>18</b>	<b>6</b>	<b>2</b>	<b>2</b>
Natural sciences	37	23	32	20	-	-	2	1	3	2	-	-
Engineering and technology	121	42	76	29	8	1	22	7	14	4	1	1
Agricultural sciences	30	17	17	8	-	-	11	8	1	-	1	1
<b>Government sector</b>	<b>204</b>	<b>122</b>	<b>75</b>	<b>46</b>	<b>24</b>	<b>11</b>	<b>24</b>	<b>20</b>	<b>-</b>	<b>-</b>	<b>81</b>	<b>45</b>
Engineering and technology	178	107	55	33	22	10	22	20	-	-	79	44
Agricultural science	26	15	20	13	2	1	2	-	-	-	2	1

**2.1. Full-time employees engaged in R&D activities, by sectors, fields of science and sex, 2018 (head count)**  
(continued)

	Total		Researchers		Assistant researchers		Technicians		Management		Other personnel	
	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women
<b>Tertiary education</b>	<b>3412</b>	<b>1783</b>	<b>2939</b>	<b>1497</b>	<b>122</b>	<b>69</b>	<b>267</b>	<b>174</b>	<b>32</b>	<b>18</b>	<b>52</b>	<b>25</b>
Natural sciences	467	280	418	255	14	6	23	15	5	3	7	1
Engineering and technology	969	383	809	297	44	20	85	51	6	2	25	13
Medical and health sciences	698	384	627	341	41	27	30	16	-	-	-	-
Agricultural sciences	47	21	40	15	-	-	5	5	-	-	2	1
Social sciences	687	366	598	309	-	-	57	39	14	8	18	10
Humanities	544	349	447	280	23	16	67	48	7	5	-	-
<b>Region Šumadije i Zapadne Srbije</b>	<b>1667</b>	<b>885</b>	<b>1370</b>	<b>711</b>	<b>73</b>	<b>41</b>	<b>144</b>	<b>92</b>	<b>27</b>	<b>14</b>	<b>53</b>	<b>27</b>
Natural sciences	260	164	209	138	14	6	24	15	6	4	7	1
Engineering and technology	329	107	282	89	6	-	10	3	8	2	23	13
Medical and health sciences	352	194	287	155	35	23	30	16	-	-	-	-
Agricultural sciences	83	43	66	32	2	1	9	7	1	-	5	3
Social sciences	433	240	356	189	-	-	47	33	12	8	18	10
Humanities	210	137	170	108	16	11	24	18	-	-	-	-
<b>Business sector</b>	<b>67</b>	<b>24</b>	<b>39</b>	<b>15</b>	<b>4</b>	<b>-</b>	<b>13</b>	<b>5</b>	<b>10</b>	<b>3</b>	<b>1</b>	<b>1</b>
Natural sciences	5	4	3	3	-	-	1	-	1	1	-	-
Engineering and technology	52	13	30	8	4	-	10	3	8	2	-	-
Agricultural sciences	10	7	6	4	-	-	2	2	1	-	1	1
<b>Government sector</b>	<b>26</b>	<b>15</b>	<b>20</b>	<b>13</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>1</b>
Agricultural sciences	26	15	20	13	2	1	2	-	-	-	2	1
<b>Tertiary education</b>	<b>1574</b>	<b>846</b>	<b>1311</b>	<b>683</b>	<b>67</b>	<b>40</b>	<b>129</b>	<b>87</b>	<b>17</b>	<b>11</b>	<b>50</b>	<b>25</b>
Natural sciences	255	160	206	135	14	6	23	15	5	3	7	1
Engineering and technology	277	94	252	81	2	-	-	-	-	-	23	13
Medical and health sciences	352	194	287	155	35	23	30	16	-	-	-	-
Agricultural sciences	47	21	40	15	-	-	5	5	-	-	2	1
Social sciences	433	240	356	189	-	-	47	33	12	8	18	10
Humanities	210	137	170	108	16	11	24	18	-	-	-	-
<b>Region Južne i Istočne Srbije</b>	<b>2137</b>	<b>1102</b>	<b>1769</b>	<b>889</b>	<b>81</b>	<b>40</b>	<b>182</b>	<b>118</b>	<b>23</b>	<b>10</b>	<b>82</b>	<b>45</b>
Natural sciences	244	139	241	137	-	-	1	1	2	1	-	-
Engineering and technology	939	425	658	270	68	31	119	75	12	4	82	45
Medical and health sciences	346	190	340	186	6	4	-	-	-	-	-	-
Agricultural sciences	20	10	11	4	-	-	9	6	-	-	-	-
Social sciences	254	126	242	120	-	-	10	6	2	-	-	-
Humanities	334	212	277	172	7	5	43	30	7	5	-	-
<b>Business sector</b>	<b>121</b>	<b>58</b>	<b>86</b>	<b>42</b>	<b>4</b>	<b>1</b>	<b>22</b>	<b>11</b>	<b>8</b>	<b>3</b>	<b>1</b>	<b>1</b>
Natural sciences	32	19	29	17	-	-	1	1	2	1	-	-
Engineering and technology	69	29	46	21	4	1	12	4	6	2	1	1
Agricultural sciences	20	10	11	4	-	-	9	6	-	-	-	-
<b>Government sector</b>	<b>178</b>	<b>107</b>	<b>55</b>	<b>33</b>	<b>22</b>	<b>10</b>	<b>22</b>	<b>20</b>	<b>-</b>	<b>-</b>	<b>79</b>	<b>44</b>
Engineering and technology	178	107	55	33	22	10	22	20	-	-	79	44
<b>Tertiary education</b>	<b>1838</b>	<b>937</b>	<b>1628</b>	<b>814</b>	<b>55</b>	<b>29</b>	<b>138</b>	<b>87</b>	<b>15</b>	<b>7</b>	<b>2</b>	<b>-</b>
Natural sciences	212	120	212	120	-	-	-	-	-	-	-	-
Engineering and technology	692	289	557	216	42	20	85	51	6	2	2	-
Medical and health sciences	346	190	340	186	6	4	-	-	-	-	-	-
Social sciences	254	126	242	120	-	-	10	6	2	-	-	-
Humanities	334	212	277	172	7	5	43	30	7	5	-	-
<b>Region Kosovo i Metohija</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>







**2.2. Full-time and part-time employees engaged in R&D activities by sectors, fields of sciences and sex, expressed in full-time equivalent, 2018 (continued)**

	Total		Researchers		Assistant researchers		Technicians		Management		Other personnel	
	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women
<b>Tertiary education</b>	<b>3013,7</b>	<b>1585,7</b>	<b>2593,8</b>	<b>1332,6</b>	<b>96,5</b>	<b>52,8</b>	<b>245,9</b>	<b>160,8</b>	<b>31,0</b>	<b>17,5</b>	<b>46,5</b>	<b>22,0</b>
Natural sciences	459,7	276,2	410,7	251,2	14,0	6,0	23,0	15,0	5,0	3,0	7,0	1,0
Engineering and technology	844,0	327,6	703,9	254,7	36,0	15,3	79,6	46,1	5,0	1,5	19,5	10,0
Medical and health sciences	485,5	273,8	447,0	250,3	23,5	15,5	15,0	8,0	-	-	-	-
Agricultural sciences	47,0	21,0	40,0	15,0	-	-	5,0	5,0	-	-	2,0	1,0
Social sciences	647,1	343,4	558,8	286,7	-	-	56,3	38,7	14,0	8,0	18,0	10,0
Humanities	530,4	343,7	433,4	274,7	23,0	16,0	67,0	48,0	7,0	5,0	-	-
<b>Region Šumadije i Zapadne Srbije</b>	<b>1337,5</b>	<b>731,4</b>	<b>1081,5</b>	<b>580,2</b>	<b>55,2</b>	<b>29,5</b>	<b>127,4</b>	<b>83,7</b>	<b>25,9</b>	<b>14,0</b>	<b>47,5</b>	<b>24,0</b>
Natural sciences	252,9	160,4	201,9	134,4	14,0	6,0	24,0	15,0	6,0	4,0	7,0	1,0
Engineering and technology	244,5	77,1	205,3	62,1	5,7	-	9,1	3,0	6,9	2,0	17,5	10,0
Medical and health sciences	140,3	84,5	107,8	65,0	17,5	11,5	15,0	8,0	-	-	-	-
Agricultural sciences	83,0	43,0	66,0	32,0	2,0	1,0	9,0	7,0	1,0	-	5,0	3,0
Social sciences	412,1	230,9	335,8	180,2	-	-	46,3	32,7	12,0	8,0	18,0	10,0
Humanities	204,7	135,5	164,7	106,5	16,0	11,0	24,0	18,0	-	-	-	-
<b>Business sector</b>	<b>53,2</b>	<b>20,9</b>	<b>27,5</b>	<b>11,9</b>	<b>3,7</b>	<b>-</b>	<b>12,1</b>	<b>5,0</b>	<b>8,9</b>	<b>3,0</b>	<b>1,0</b>	<b>1,0</b>
Natural sciences	5,0	4,0	3,0	3,0	-	-	1,0	-	1,0	1,0	-	-
Engineering and technology	38,2	9,9	18,5	4,9	3,7	-	9,1	3,0	6,9	2,0	-	-
Agricultural sciences	10,0	7,0	6,0	4,0	-	-	2,0	2,0	1,0	-	1,0	1,0
<b>Government sector</b>	<b>26,0</b>	<b>15,0</b>	<b>20,0</b>	<b>13,0</b>	<b>2,0</b>	<b>1,0</b>	<b>2,0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,0</b>	<b>1,0</b>
Agricultural sciences	26,0	15,0	20,0	13,0	2,0	1,0	2,0	-	-	-	2,0	1,0
<b>Tertiary education</b>	<b>1258,3</b>	<b>695,5</b>	<b>1034,0</b>	<b>555,3</b>	<b>49,5</b>	<b>28,5</b>	<b>113,3</b>	<b>78,7</b>	<b>17,0</b>	<b>11,0</b>	<b>44,5</b>	<b>22,0</b>
Natural sciences	247,9	156,4	198,9	131,4	14,0	6,0	23,0	15,0	5,0	3,0	7,0	1,0
Engineering and technology	206,3	67,2	186,8	57,2	2,0	-	-	-	-	-	17,5	10,0
Medical and health sciences	140,3	84,5	107,8	65,0	17,5	11,5	15,0	8,0	-	-	-	-
Agricultural sciences	47,0	21,0	40,0	15,0	-	-	5,0	5,0	-	-	2,0	1,0
Social sciences	412,1	230,9	335,8	180,2	-	-	46,3	32,7	12,0	8,0	18,0	10,0
Humanities	204,7	135,5	164,7	106,5	16,0	11,0	24,0	18,0	-	-	-	-
<b>Region Južne i Istočne Srbije</b>	<b>2046,1</b>	<b>1049,8</b>	<b>1693,9</b>	<b>847,4</b>	<b>73,0</b>	<b>35,3</b>	<b>175,7</b>	<b>113,1</b>	<b>22,0</b>	<b>9,5</b>	<b>81,5</b>	<b>44,5</b>
Natural sciences	237,2	133,9	234,2	131,9	-	-	1,0	1,0	2,0	1,0	-	-
Engineering and technology	883,0	395,9	617,8	251,5	60,0	26,3	112,7	70,1	11,0	3,5	81,5	44,5
Medical and health sciences	345,2	189,3	339,2	185,3	6,0	4,0	-	-	-	-	-	-
Agricultural sciences	20,0	10,0	11,0	4,0	-	-	9,0	6,0	-	-	-	-
Social sciences	235,0	112,5	223,0	106,5	-	-	10,0	6,0	2,0	-	-	-
Humanities	325,7	208,2	268,7	168,2	7,0	5,0	43,0	30,0	7,0	5,0	-	-
<b>Business sector</b>	<b>112,7</b>	<b>52,6</b>	<b>79,1</b>	<b>37,1</b>	<b>4,0</b>	<b>1,0</b>	<b>21,1</b>	<b>11,0</b>	<b>8,0</b>	<b>3,0</b>	<b>0,5</b>	<b>0,5</b>
Natural sciences	25,4	14,1	22,4	12,1	-	-	1,0	1,0	2,0	1,0	-	-
Engineering and technology	67,3	28,5	45,7	21,0	4,0	1,0	11,1	4,0	6,0	2,0	0,5	0,5
Agricultural sciences	20,0	10,0	11,0	4,0	-	-	9,0	6,0	-	-	-	-
<b>Government sector</b>	<b>178,0</b>	<b>107,0</b>	<b>55,0</b>	<b>33,0</b>	<b>22,0</b>	<b>10,0</b>	<b>22,0</b>	<b>20,0</b>	<b>-</b>	<b>-</b>	<b>79,0</b>	<b>44,0</b>
Engineering and technology	178,0	107,0	55,0	33,0	22,0	10,0	22,0	20,0	-	-	79,0	44,0
<b>Tertiary education</b>	<b>1755,4</b>	<b>890,2</b>	<b>1559,8</b>	<b>777,3</b>	<b>47,0</b>	<b>24,3</b>	<b>132,6</b>	<b>82,1</b>	<b>14,0</b>	<b>6,5</b>	<b>2,0</b>	<b>-</b>
Natural sciences	211,8	119,8	211,8	119,8	-	-	-	-	-	-	-	-
Engineering and technology	637,7	260,4	517,1	197,5	34,0	15,3	79,6	46,1	5,0	1,5	2,0	-
Medical and health sciences	345,2	189,3	339,2	185,3	6,0	4,0	-	-	-	-	-	-
Social sciences	235,0	112,5	223,0	106,5	-	-	10,0	6,0	2,0	-	-	-
Humanities	325,7	208,2	268,7	168,2	7,0	5,0	43,0	30,0	7,0	5,0	-	-
<b>Region Kosovo i Metohija</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>

### 3.1. Full-time and part-time researchers, by academic titles, sectors, field of science and sex, 2018 (head count)

	Full-time and part-time researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
<b>REPUBLIC OF SERBIA</b>	<b>16213</b>	<b>8329</b>	<b>10840</b>	<b>5431</b>	<b>2905</b>	<b>1609</b>	<b>105</b>	<b>30</b>	<b>2363</b>	<b>1259</b>
Natural sciences	3676	2135	2460	1380	709	473	11	-	496	282
Engineering and technology	4553	1839	2651	1038	926	405	78	23	898	373
Medical and health sciences	2483	1454	1555	887	468	279	13	5	447	283
Agricultural sciences	1142	588	936	486	107	45	-	-	99	57
Social sciences	2867	1470	2259	1075	433	269	1	1	174	125
Humanities	1492	843	979	565	262	138	2	1	249	139
<b>Business sector</b>	<b>1266</b>	<b>506</b>	<b>377</b>	<b>151</b>	<b>270</b>	<b>130</b>	<b>11</b>	<b>-</b>	<b>608</b>	<b>225</b>
Natural sciences	317	115	115	41	89	50	10	-	103	24
Computer and information sciences	102	24	51	10	13	7	10	-	28	7
Physical sciences	1	-	-	-	-	-	-	-	1	-
Chemical sciences	58	39	26	16	27	20	-	-	5	3
Earth and related environmental sciences	17	6	7	3	10	3	-	-	-	-
Other natural sciences	139	46	31	12	39	20	-	-	69	14
Engineering and technology	885	350	218	86	172	72	1	-	494	192
Civil engineering	3	3	-	-	1	1	-	-	2	2
Electrical engineering, electronic engineering and information engineering	241	89	75	23	58	32	1	-	107	34
Mechanical engineering	104	23	43	17	20	4	-	-	41	2
Chemical engineering	6	1	-	-	-	-	-	-	6	1
Materials engineering	36	16	21	10	1	-	-	-	14	6
Medical engineering	25	7	11	3	4	2	-	-	10	2
Environmental engineering	25	11	14	5	2	-	-	-	9	6
Other technologies and engineering	445	200	54	28	86	33	-	-	305	139
Agricultural sciences	27	13	24	11	1	1	-	-	2	1
Agriculture, forestry and fishery	6	3	5	2	1	1	-	-	-	-
Veterinary sciences	1	1	1	1	-	-	-	-	-	-
Agricultural biotechnology	20	9	18	8	-	-	-	-	2	1
Social sciences	37	28	20	13	8	7	-	-	9	8
Economics and business	17	10	11	5	6	5	-	-	-	-
Other social sciences	20	18	9	8	2	2	-	-	9	8
<b>Government sector</b>	<b>3112</b>	<b>1906</b>	<b>2250</b>	<b>1339</b>	<b>684</b>	<b>445</b>	<b>3</b>	<b>2</b>	<b>175</b>	<b>120</b>
Natural sciences	1538	997	1111	685	342	249	-	-	85	63
Mathematics	265	159	187	108	78	51	-	-	-	-
Physical sciences	641	359	478	253	150	99	-	-	13	7
Biological sciences	430	365	308	257	80	77	-	-	42	31
Other natural sciences	202	114	138	67	34	22	-	-	30	25
Engineering and technology	398	213	261	136	105	58	3	2	29	17
Civil engineering	24	18	19	14	5	4	-	-	-	-
Electrical engineering, electronic engineering and information engineering	70	16	54	11	11	2	-	-	5	3
Materials engineering	43	24	29	15	14	9	-	-	-	-
Environmental biotechnology	121	74	85	51	26	16	1	1	9	6
Industrial biotechnology	33	19	27	16	-	-	1	1	5	2
Other technologies and engineering	107	62	47	29	49	27	1	-	10	6
Medical and health sciences	172	125	113	83	20	15	-	-	39	27
Basic medicine	70	46	44	30	1	1	-	-	25	15
Other medical sciences	102	79	69	53	19	14	-	-	14	12
Agricultural sciences	343	206	292	180	42	20	-	-	9	6
Animal and dairy science	27	11	18	9	9	2	-	-	-	-
Veterinary sciences	54	27	42	22	12	5	-	-	-	-
Agricultural biotechnology	211	131	186	116	16	9	-	-	9	6
Other agricultural sciences	51	37	46	33	5	4	-	-	-	-
Social sciences	274	135	199	93	71	40	-	-	4	2
Psychology	48	26	39	19	9	7	-	-	-	-
Economics and business	46	27	37	20	9	7	-	-	-	-
Sociology	32	13	23	8	9	5	-	-	-	-
Law	47	23	28	12	16	10	-	-	3	1
Political science	77	27	53	17	24	10	-	-	-	-
Other social science	24	19	19	17	4	1	-	-	1	1
Humanities	387	230	274	162	104	63	-	-	9	5
History and archeology	200	87	144	63	52	24	-	-	4	-
Languages and literature	110	82	71	52	34	25	-	-	5	5
Art (art, history of arts, performing arts, music)	19	15	12	10	7	5	-	-	-	-
Other humanities	58	46	47	37	11	9	-	-	-	-
<b>Tertiary education</b>	<b>11833</b>	<b>5915</b>	<b>8212</b>	<b>3940</b>	<b>1950</b>	<b>1033</b>	<b>91</b>	<b>28</b>	<b>1580</b>	<b>914</b>
Natural sciences	1821	1023	1234	654	278	174	1	-	308	195
Mathematics	998	594	634	366	151	97	1	-	212	131
Computer and information sciences	229	100	168	72	55	24	-	-	6	4
Physical sciences	85	27	66	20	-	-	-	-	19	7
Chemical sciences	156	91	107	54	35	32	-	-	14	5
Earth and related environmental sciences	156	80	119	59	37	21	-	-	-	-
Biological sciences	197	131	140	83	-	-	-	-	57	48

**3.1. Full-time and part-time researchers, by academic titles, sectors, field of science and sex, 2018 (head count)**  
(continued)

	Full-time and part-time researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
Engineering and technology	3270	1276	2172	816	649	275	74	21	375	164
Civil engineering	372	155	231	92	117	46	2	1	22	16
Electrical engineering, electronic engineering and information engineering	1618	564	1001	331	367	131	1	-	249	102
Mechanical engineering	404	89	289	60	18	6	71	20	26	3
Chemical engineering	214	134	183	109	15	12	-	-	16	13
Environmental engineering	209	84	144	59	53	20	-	-	12	5
Other technologies and engineering	453	250	324	165	79	60	-	-	50	25
Medical and health sciences	2311	1329	1442	804	448	264	13	5	408	256
Basic medicine	1323	707	992	509	121	75	-	-	210	123
Other medical sciences	988	622	450	295	327	189	13	5	198	133
Agricultural sciences	772	369	620	295	64	24	-	-	88	50
Agriculture, forestry and fishery	392	184	294	138	55	18	-	-	43	28
Veterinary sciences	121	61	91	51	-	-	-	-	30	10
Agricultural biotechnology	17	6	16	5	1	1	-	-	-	-
Other agricultural sciences	242	118	219	101	8	5	-	-	15	12
Social sciences	2554	1305	2039	968	353	221	1	1	161	115
Psychology	171	73	134	41	7	3	-	-	30	29
Economics and business	735	367	592	277	91	59	-	-	52	31
Educational sciences	517	304	397	220	74	50	-	-	46	34
Law	395	160	328	118	43	25	1	1	23	16
Political sciences	147	67	110	51	35	15	-	-	2	1
Media and communications	39	25	31	19	8	6	-	-	-	-
Other social sciences	550	309	447	242	95	63	-	-	8	4
Humanities	1105	613	705	403	158	75	2	1	240	134
Languages and literature	380	246	258	175	36	16	-	-	86	55
Philosophy, ethics and religion	478	240	325	155	47	22	-	-	106	63
Art (arts, history of arts, performing arts, music)	174	89	64	42	60	30	2	1	48	16
Other humanities	73	38	58	31	15	7	-	-	-	-
<b>Non-profit sector</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	-	-	-	-
Social sciences	2	2	1	1	1	1	-	-	-	-
Law	2	2	1	1	1	1	-	-	-	-
SRBIJA – SEVER	13074	6729	8696	4387	2433	1338	100	28	1845	976
Natural sciences	3226	1860	2188	1224	592	394	10	-	436	242
Engineering and technology	3613	1480	2044	817	748	319	77	23	744	321
Medical and health sciences	1856	1113	1071	629	457	270	13	5	315	209
Agricultural sciences	1065	552	871	456	103	44	-	-	91	52
Social sciences	2269	1161	1782	860	349	206	-	-	138	95
Humanities	1045	563	740	401	184	105	-	-	121	57
<b>Business sector</b>	<b>1141</b>	<b>449</b>	<b>339</b>	<b>139</b>	<b>223</b>	<b>101</b>	<b>11</b>	-	<b>568</b>	<b>209</b>
Natural sciences	285	95	115	41	66	35	10	-	94	19
Computer and information sciences	96	22	51	10	13	7	10	-	22	5
Physical sciences	1	-	-	-	-	-	-	-	1	-
Chemical sciences	58	39	26	16	27	20	-	-	5	3
Earth and related environmental sciences	17	6	7	3	10	3	-	-	-	-
Other natural sciences	113	28	31	12	16	5	-	-	66	11
Engineering and technology	809	321	196	81	148	58	1	-	464	182
Civil engineering	3	3	-	-	1	1	-	-	2	2
Electrical engineering, electronic engineering and information engineering	203	71	64	21	39	20	1	-	99	30
Mechanical engineering	104	23	43	17	20	4	-	-	41	2
Materials engineering	33	15	21	10	1	-	-	-	11	5
Environmental engineering	25	11	14	5	2	-	-	-	9	6
Other technologies and engineering	441	198	54	28	85	33	-	-	302	137
Agricultural sciences	10	5	8	4	1	1	-	-	1	-
Agriculture, forestry and fishery	6	3	5	2	1	1	-	-	-	-
Veterinary sciences	1	1	1	1	-	-	-	-	-	-
Agricultural biotechnology	3	1	2	1	-	-	-	-	1	-
Social sciences	37	28	20	13	8	7	-	-	9	8
Economics and business	17	10	11	5	6	5	-	-	-	-
Other social sciences	20	18	9	8	2	2	-	-	9	8
<b>Government sector</b>	<b>3037</b>	<b>1860</b>	<b>2212</b>	<b>1313</b>	<b>657</b>	<b>431</b>	<b>2</b>	<b>2</b>	<b>166</b>	<b>114</b>
Natural sciences	1538	997	1111	685	342	249	-	-	85	63
Mathematics	265	159	187	108	78	51	-	-	-	-
Physical sciences	641	359	478	253	150	99	-	-	13	7
Biological sciences	430	365	308	257	80	77	-	-	42	31
Other natural sciences	202	114	138	67	34	22	-	-	30	25
Engineering and technology	343	180	241	122	80	45	2	2	20	11
Civil engineering	24	18	19	14	5	4	-	-	-	-
Electrical engineering, electronic engineering and information engineering	70	16	54	11	11	2	-	-	5	3

**3.1. Full-time and part-time researchers, by academic titles, sectors, field of science and sex, 2018 (head count)**  
(continued)

	Full-time and part-time researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
Materials engineering	43	24	29	15	14	9	-	-	-	-
Environmental biotechnology	121	74	85	51	26	16	1	1	9	6
Industrial biotechnology	33	19	27	16	-	-	1	1	5	2
Other technologies and engineering	52	29	27	15	24	14	-	-	1	-
Medical and health sciences	172	125	113	83	20	15	-	-	39	27
Basic medicine	70	46	44	30	1	1	-	-	25	15
Other medical science	102	79	69	53	19	14	-	-	14	12
Agricultural sciences	323	193	274	168	40	19	-	-	9	6
Animal and dairy science	27	11	18	9	9	2	-	-	-	-
Veterinary sciences	54	27	42	22	12	5	-	-	-	-
Agricultural biotechnology	211	131	186	116	16	9	-	-	9	6
Other agricultural sciences	31	24	28	21	3	3	-	-	-	-
Social sciences	274	135	199	93	71	40	-	-	4	2
Psychology	48	26	39	19	9	7	-	-	-	-
Economics and business	46	27	37	20	9	7	-	-	-	-
Sociology	32	13	23	8	9	5	-	-	-	-
Law	47	23	28	12	16	10	-	-	3	1
Political sciences	77	27	53	17	24	10	-	-	-	-
Other social sciences	24	19	19	17	4	1	-	-	1	1
Humanities	387	230	274	162	104	63	-	-	9	5
History and archeology	200	87	144	63	52	24	-	-	4	-
Languages and literature	110	82	71	52	34	25	-	-	5	5
Arts (arts, history of arts, performing arts, music)	19	15	12	10	7	5	-	-	-	-
Other humanities	58	46	47	37	11	9	-	-	-	-
<b>Tertiary education</b>	<b>8894</b>	<b>4418</b>	<b>6144</b>	<b>2934</b>	<b>1552</b>	<b>805</b>	<b>87</b>	<b>26</b>	<b>1111</b>	<b>653</b>
Natural sciences	1403	768	962	498	184	110	-	-	257	160
Mathematics	580	339	362	210	57	33	-	-	161	96
Computer and information sciences	229	100	168	72	55	24	-	-	6	4
Physical sciences	85	27	66	20	-	-	-	-	19	7
Chemical sciences	156	91	107	54	35	32	-	-	14	5
Earth and related environmental sciences	156	80	119	59	37	21	-	-	-	-
Biological sciences	197	131	140	83	-	-	-	-	57	48
Engineering and technology	2461	979	1607	614	520	216	74	21	260	128
Civil engineering	271	112	183	76	64	19	2	1	22	16
Electrical engineering, electronic engineering and information engineering	1299	459	766	249	342	124	1	-	190	86
Mechanical engineering	251	58	178	36	2	2	71	20	-	-
Chemical engineering	148	99	132	85	2	2	-	-	14	12
Environmental engineering	153	59	100	39	53	20	-	-	-	-
Other technologies and engineering	339	192	248	129	57	49	-	-	34	14
Medical and health sciences	1684	988	958	546	437	255	13	5	276	182
Basic medicine	696	366	508	251	110	66	-	-	78	49
Other medical sciences	988	622	450	295	327	189	13	5	198	133
Agricultural sciences	732	354	589	284	62	24	-	-	81	46
Agriculture, forestry and fisheries	352	169	263	127	53	18	-	-	36	24
Veterinary sciences	121	61	91	51	-	-	-	-	30	10
Agricultural biotechnology	17	6	16	5	1	1	-	-	-	-
Other agricultural sciences	242	118	219	101	8	5	-	-	15	12
Social sciences	1956	996	1562	753	269	158	-	-	125	85
Psychology	171	73	134	41	7	3	-	-	30	29
Economics and business	517	243	410	184	69	40	-	-	38	19
Educational sciences	337	208	268	162	33	21	-	-	36	25
Law	298	124	242	90	38	23	-	-	18	11
Political sciences	147	67	110	51	35	15	-	-	2	1
Media and communications	39	25	31	19	8	6	-	-	-	-
Other social sciences	447	256	367	206	79	50	-	-	1	-
Humanities	658	333	466	239	80	42	-	-	112	52
Languages and literature	210	138	172	113	3	3	-	-	35	22
Philosophy, ethics and religion	302	119	204	74	47	22	-	-	51	23
Arts (arts, history of arts, performing arts, music)	73	38	32	21	15	10	-	-	26	7
Other humanities	73	38	58	31	15	7	-	-	-	-
<b>Non-profit sector</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Social sciences	2	2	1	1	1	1	-	-	-	-
Law	2	2	1	1	1	1	-	-	-	-
<b>Beogradski region</b>	<b>9084</b>	<b>4718</b>	<b>6382</b>	<b>3264</b>	<b>1475</b>	<b>851</b>	<b>74</b>	<b>21</b>	<b>1153</b>	<b>582</b>
Natural sciences	2657	1533	1821	1013	559	375	-	-	277	145
Engineering and technology	2112	838	1285	516	318	126	74	21	435	175
Medical and earth sciences	1210	736	888	521	136	84	-	-	186	131
Agricultural sciences	717	381	603	325	55	25	-	-	59	31
Social sciences	1414	702	1101	517	238	142	-	-	75	43
Humanities	974	528	684	372	169	99	-	-	121	57

**3.1. Full-time and part-time researchers, by academic titles, sectors, field of science and sex, 2018 (head count)**  
(continued)

	Full-time and part-time researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
<b>Business sector</b>	<b>826</b>	<b>337</b>	<b>273</b>	<b>123</b>	<b>189</b>	<b>83</b>	<b>1</b>	-	<b>363</b>	<b>131</b>
Natural sciences	181	67	64	31	48	23	-	-	69	13
Chemical sciences	51	33	26	16	22	15	-	-	3	2
Earth and related environmental sciences	17	6	7	3	10	3	-	-	-	-
Other natural sciences	113	28	31	12	16	5	-	-	66	11
Engineering and technology	602	240	185	78	132	52	1	-	284	110
Electrical engineering, electronic engineering and information engineering	180	65	64	21	35	18	1	-	80	26
Mechanical engineering	102	23	43	17	20	4	-	-	39	2
Materials engineering	33	15	21	10	1	-	-	-	11	5
Environmental engineering	25	11	14	5	2	-	-	-	9	6
Other technologies and engineering	262	126	43	25	74	30	-	-	145	71
Agricultural sciences	6	2	4	1	1	1	-	-	1	-
Agriculture, forestry and fishery	4	1	3	-	1	1	-	-	-	-
Veterinary sciences	1	1	1	1	-	-	-	-	-	-
Agricultural biotechnology	1	-	-	-	-	-	-	-	1	-
Social sciences	37	28	20	13	8	7	-	-	9	8
Economics and business	17	10	11	5	6	5	-	-	-	-
Other social sciences	20	18	9	8	2	2	-	-	9	8
<b>Government sector</b>	<b>2784</b>	<b>1715</b>	<b>2014</b>	<b>1199</b>	<b>605</b>	<b>402</b>	<b>1</b>	<b>1</b>	<b>164</b>	<b>113</b>
Natural sciences	1538	997	1111	685	342	249	-	-	85	63
Mathematics	265	159	187	108	78	51	-	-	-	-
Physical sciences	641	359	478	253	150	99	-	-	13	7
Biological sciences	430	365	308	257	80	77	-	-	42	31
Other natural sciences	202	114	138	67	34	22	-	-	30	25
Engineering and technology	204	96	142	63	43	22	1	1	18	10
Civil engineering	24	18	19	14	5	4	-	-	-	-
Electrical engineering, electronic engineering and information engineering	70	16	54	11	11	2	-	-	5	3
Materials engineering	43	24	29	15	14	9	-	-	-	-
Environmental biotechnology	34	19	13	7	13	7	-	-	8	5
Industrial biotechnology	33	19	27	16	-	-	1	1	5	2
Medical and health sciences	172	125	113	83	20	15	-	-	39	27
Basic medicine	70	46	44	30	1	1	-	-	25	15
Other medical sciences	102	79	69	53	19	14	-	-	14	12
Agricultural sciences	209	132	175	113	25	13	-	-	9	6
Animal and dairy science	27	11	18	9	9	2	-	-	-	-
Veterinary science	19	9	17	9	2	-	-	-	-	-
Agricultural biotechnology	132	88	112	74	11	8	-	-	9	6
Other agricultural sciences	31	24	28	21	3	3	-	-	-	-
Social sciences	274	135	199	93	71	40	-	-	4	2
Psychology	48	26	39	19	9	7	-	-	-	-
Economics and business	46	27	37	20	9	7	-	-	-	-
Sociology	32	13	23	8	9	5	-	-	-	-
Law	47	23	28	12	16	10	-	-	3	1
Political sciences	77	27	53	17	24	10	-	-	-	-
Other social sciences	24	19	19	17	4	1	-	-	1	1
Humanities	387	230	274	162	104	63	-	-	9	5
History and archeology	200	87	144	63	52	24	-	-	4	-
Languages and literature	110	82	71	52	34	25	-	-	5	5
Arts (arts, history of arts, performing arts, music)	19	15	12	10	7	5	-	-	-	-
Other humanities	58	46	47	37	11	9	-	-	-	-
<b>Tertiary education</b>	<b>5472</b>	<b>2664</b>	<b>4094</b>	<b>1941</b>	<b>680</b>	<b>365</b>	<b>72</b>	<b>20</b>	<b>626</b>	<b>338</b>
Natural sciences	938	469	646	297	169	103	-	-	123	69
Mathematics	157	63	83	30	47	28	-	-	27	5
Computer and information engineering	229	100	168	72	55	24	-	-	6	4
Physical sciences	85	27	66	20	-	-	-	-	19	7
Chemical sciences	156	91	107	54	35	32	-	-	14	5
Earth and related environmental sciences	114	57	82	38	32	19	-	-	-	-
Biological sciences	197	131	140	83	-	-	-	-	57	48
Engineering and technology	1306	502	958	375	143	52	72	20	133	55
Civil engineering	231	95	156	64	53	15	-	-	22	16
Electrical engineering, electronic engineering and information engineering	372	128	274	101	29	11	1	-	68	16
Mechanical engineering	251	58	178	36	2	2	71	20	-	-
Chemical engineering	148	99	132	85	2	2	-	-	14	12
Environmental engineering	153	59	100	39	53	20	-	-	-	-
Other technologies and engineering	151	63	118	50	4	2	-	-	29	11
Medical and health sciences	1038	611	775	438	116	69	-	-	147	104
Basic medicine	696	366	508	251	110	66	-	-	78	49
Other medical sciences	342	245	267	187	6	3	-	-	69	55

**3.1. Full-time and part-time researchers, by academic titles, sectors, field of science and sex, 2018 (head count)**  
(continued)

	Full-time and part-time researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
Agricultural sciences	502	247	424	211	29	11	-	-	49	25
Agriculture, forestry and fisheries	122	62	98	54	20	5	-	-	4	3
Veterinary science	121	61	91	51	-	-	-	-	30	10
Agricultural biotechnology	17	6	16	5	1	1	-	-	-	-
Other agricultural sciences	242	118	219	101	8	5	-	-	15	12
Social sciences	1101	537	881	410	158	94	-	-	62	33
Economics and business	370	177	289	133	52	30	-	-	29	14
Educational sciences	231	139	192	116	23	13	-	-	16	10
Law	193	86	154	60	24	18	-	-	15	8
Political sciences	147	67	110	51	35	15	-	-	2	1
Media and communications	39	25	31	19	8	6	-	-	-	-
Other social sciences	121	43	105	31	16	12	-	-	-	-
Humanities	587	298	410	210	65	36	-	-	112	52
Languages and literature	210	138	172	113	3	3	-	-	35	22
Philosophy, ethics and religion	302	119	204	74	47	22	-	-	51	23
Arts (arts, history of arts, performing arts, music)	47	21	7	4	14	10	-	-	26	7
Other humanities	28	20	27	19	1	1	-	-	-	-
<b>Non-profit sector</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	-	-	-	-
Social sciences	2	2	1	1	1	1	-	-	-	-
Law	2	2	1	1	1	1	-	-	-	-
<b>Region Vojvodine</b>	<b>3990</b>	<b>2011</b>	<b>2314</b>	<b>1123</b>	<b>958</b>	<b>487</b>	<b>26</b>	<b>7</b>	<b>692</b>	<b>394</b>
Natural sciences	569	327	367	211	33	19	10	-	159	97
Engineering and technology	1501	642	759	301	430	193	3	2	309	146
Medical and health sciences	646	377	183	108	321	186	13	5	129	78
Agricultural sciences	348	171	268	131	48	19	-	-	32	21
Social sciences	855	459	681	343	111	64	-	-	63	52
Humanities	71	35	56	29	15	6	-	-	-	-
<b>Business sector</b>	<b>315</b>	<b>112</b>	<b>66</b>	<b>16</b>	<b>34</b>	<b>18</b>	<b>10</b>	-	<b>205</b>	<b>78</b>
Natural sciences	104	28	51	10	18	12	10	-	25	6
Computer and information sciences	96	22	51	10	13	7	10	-	22	5
Physical sciences	1	-	-	-	-	-	-	-	1	-
Chemical sciences	7	6	-	-	5	5	-	-	2	1
Engineering and technology	207	81	11	3	16	6	-	-	180	72
Civil engineering	3	3	-	-	1	1	-	-	2	2
Electrical engineering, electronic engineering and information engineering	23	6	-	-	4	2	-	-	19	4
Mechanical engineering	2	-	-	-	-	-	-	-	2	-
Other technologies and engineering	179	72	11	3	11	3	-	-	157	66
Agricultural sciences	4	3	4	3	-	-	-	-	-	-
Agriculture, forestry and fisheries	2	2	2	2	-	-	-	-	-	-
Agricultural biotechnology	2	1	2	1	-	-	-	-	-	-
<b>Government sector</b>	<b>253</b>	<b>145</b>	<b>198</b>	<b>114</b>	<b>52</b>	<b>29</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>
Engineering and technology	139	84	99	59	37	23	1	1	2	1
Environmental biotechnology	87	55	72	44	13	9	1	1	1	1
Other technologies and engineering	52	29	27	15	24	14	-	-	1	-
Agricultural sciences	114	61	99	55	15	6	-	-	-	-
Veterinary sciences	35	18	25	13	10	5	-	-	-	-
Agricultural biotechnology	79	43	74	42	5	1	-	-	-	-
<b>Tertiary education</b>	<b>3422</b>	<b>1754</b>	<b>2050</b>	<b>993</b>	<b>872</b>	<b>440</b>	<b>15</b>	<b>6</b>	<b>485</b>	<b>315</b>
Natural sciences	465	299	316	201	15	7	-	-	134	91
Mathematics	423	276	279	180	10	5	-	-	134	91
Earth and related environmental sciences	42	23	37	21	5	2	-	-	-	-
Engineering and technology	1155	477	649	239	377	164	2	1	127	73
Civil engineering	40	17	27	12	11	4	2	1	-	-
Electrical engineering, electronic engineering and information engineering	927	331	492	148	313	113	-	-	122	70
Other technologies and engineering	188	129	130	79	53	47	-	-	5	3
Medical and health sciences	646	377	183	108	321	186	13	5	129	78
Other medical sciences	646	377	183	108	321	186	13	5	129	78
Agricultural sciences	230	107	165	73	33	13	-	-	32	21
Agriculture, forestry and fisheries	230	107	165	73	33	13	-	-	32	21
Social sciences	855	459	681	343	111	64	-	-	63	52
Psychology	171	73	134	41	7	3	-	-	30	29
Economics and business	147	66	121	51	17	10	-	-	9	5
Educational sciences	106	69	76	46	10	8	-	-	20	15
Law	105	38	88	30	14	5	-	-	3	3
Other social sciences	326	213	262	175	63	38	-	-	1	-
Humanities	71	35	56	29	15	6	-	-	-	-
Arts (arts, history of arts, performing arts, music)	26	17	25	17	1	-	-	-	-	-
Other humanities	45	18	31	12	14	6	-	-	-	-



**3.1. Full-time and part-time researchers, by academic titles, sectors, field of science and sex, 2018 (head count)**  
(continued)

	Full-time and part-time researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
<b>SRBIJA – JUG</b>	<b>3139</b>	<b>1600</b>	<b>2144</b>	<b>1044</b>	<b>472</b>	<b>271</b>	<b>5</b>	<b>2</b>	<b>518</b>	<b>283</b>
Natural sciences	450	275	272	156	117	79	1	-	60	40
Engineering and technology	940	359	607	221	178	86	1	-	154	52
Medical and health sciences	627	341	484	258	11	9	-	-	132	74
Agricultural sciences	77	36	65	30	4	1	-	-	8	5
Social sciences	598	309	477	215	84	63	1	1	36	30
Humanities	447	280	239	164	78	33	2	1	128	82
<b>Business sector</b>	<b>125</b>	<b>57</b>	<b>38</b>	<b>12</b>	<b>47</b>	<b>29</b>	<b>-</b>	<b>-</b>	<b>40</b>	<b>16</b>
Natural sciences	32	20	-	-	23	15	-	-	9	5
Computer and information sciences	6	2	-	-	-	-	-	-	6	2
Other natural sciences	26	18	-	-	23	15	-	-	3	3
Engineering and technology	76	29	22	5	24	14	-	-	30	10
Electrical engineering, electronic engineering and information engineering	38	18	11	2	19	12	-	-	8	4
Chemical engineering	6	1	-	-	-	-	-	-	6	1
Materials engineering	3	1	-	-	-	-	-	-	3	1
Medical engineering	25	7	11	3	4	2	-	-	10	2
Other technologies and engineering	4	2	-	-	1	-	-	-	3	2
Agricultural sciences	17	8	16	7	-	-	-	-	1	1
Agricultural biotechnology	17	8	16	7	-	-	-	-	1	1
<b>Government sector</b>	<b>75</b>	<b>46</b>	<b>38</b>	<b>26</b>	<b>27</b>	<b>14</b>	<b>1</b>	<b>-</b>	<b>9</b>	<b>6</b>
Engineering and technology	55	33	20	14	25	13	1	-	9	6
Other technologies and engineering	55	33	20	14	25	13	1	-	9	6
Agricultural sciences	20	13	18	12	2	1	-	-	-	-
Other agricultural sciences	20	13	18	12	2	1	-	-	-	-
<b>Tertiary education</b>	<b>2939</b>	<b>1497</b>	<b>2068</b>	<b>1006</b>	<b>398</b>	<b>228</b>	<b>4</b>	<b>2</b>	<b>469</b>	<b>261</b>
Natural sciences	418	255	272	156	94	64	1	-	51	35
Mathematics	418	255	272	156	94	64	1	-	51	35
Engineering and technology	809	297	565	202	129	59	-	-	115	36
Civil engineering	101	43	48	16	53	27	-	-	-	-
Electrical engineering, electronic engineering and information engineering	319	105	235	82	25	7	-	-	59	16
Mechanical engineering	153	31	111	24	16	4	-	-	26	3
Chemical engineering	66	35	51	24	13	10	-	-	2	1
Environmental engineering	56	25	44	20	-	-	-	-	12	5
Other technologies and engineering	114	58	76	36	22	11	-	-	16	11
Medical and health sciences	627	341	484	258	11	9	-	-	132	74
Basic medicine	627	341	484	258	11	9	-	-	132	74
Agricultural sciences	40	15	31	11	2	-	-	-	7	4
Agriculture, forestry and fisheries	40	15	31	11	2	-	-	-	7	4
Social sciences	598	309	477	215	84	63	1	1	36	30
Economics and business	218	124	182	93	22	19	-	-	14	12
Educational sciences	180	96	129	58	41	29	-	-	10	9
Law	97	36	86	28	5	2	1	1	5	5
Other social sciences	103	53	80	36	16	13	-	-	7	4
Humanities	447	280	239	164	78	33	2	1	128	82
Languages and literature	170	108	86	62	33	13	-	-	51	33
Philosophy, ethics and religion	176	121	121	81	-	-	-	-	55	40
Arts (arts, history of arts, performing arts, music)	101	51	32	21	45	20	2	1	22	9
<b>Region Šumadije i Zapadne Srbije</b>	<b>1370</b>	<b>711</b>	<b>903</b>	<b>443</b>	<b>198</b>	<b>118</b>	<b>1</b>	<b>1</b>	<b>268</b>	<b>149</b>
Natural sciences	209	138	121	77	45	30	-	-	43	31
Engineering and technology	282	89	185	56	31	10	-	-	66	23
Medical and health sciences	287	155	192	101	11	9	-	-	84	45
Agricultural sciences	66	32	54	26	4	1	-	-	8	5
Social sciences	356	189	265	121	74	55	1	1	16	12
Humanities	170	108	86	62	33	13	-	-	51	33
<b>Business sector</b>	<b>39</b>	<b>15</b>	<b>16</b>	<b>6</b>	<b>5</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>18</b>	<b>7</b>
Natural sciences	3	3	-	-	-	-	-	-	3	3
Other natural sciences	3	3	-	-	-	-	-	-	3	3
Engineering and technology	30	8	11	3	5	2	-	-	14	3
Materials engineering	3	1	-	-	-	-	-	-	3	1
Medical engineering	25	7	11	3	4	2	-	-	10	2
Other technologies and engineering	2	-	-	-	1	-	-	-	1	-
Agricultural sciences	6	4	5	3	-	-	-	-	1	1
Agricultural biotechnology	6	4	5	3	-	-	-	-	1	1
<b>Government sector</b>	<b>20</b>	<b>13</b>	<b>18</b>	<b>12</b>	<b>2</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural sciences	20	13	18	12	2	1	-	-	-	-
Other agricultural sciences	20	13	18	12	2	1	-	-	-	-

**3.1. Full-time and part-time researchers, by academic titles, sectors, field of science and sex, 2018 (head count)**  
(continued)

	Full-time and part-time researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
<b>Tertiary education</b>	<b>1311</b>	<b>683</b>	<b>869</b>	<b>425</b>	<b>191</b>	<b>115</b>	<b>1</b>	<b>1</b>	<b>250</b>	<b>142</b>
Natural sciences	206	135	121	77	45	30	-	-	40	28
Mathematics	206	135	121	77	45	30	-	-	40	28
Engineering and technology	252	81	174	53	26	8	-	-	52	20
Electrical engineering, electronic engineering and information engineering	176	59	124	40	7	3	-	-	45	16
Mechanical engineering	47	8	31	4	16	4	-	-	-	-
Other technologies and engineering	29	14	19	9	3	1	-	-	7	4
Medical and health sciences	287	155	192	101	11	9	-	-	84	45
Basic medicine	287	155	192	101	11	9	-	-	84	45
Agricultural sciences	40	15	31	11	2	-	-	-	7	4
Agriculture, forestry and fisheries	40	15	31	11	2	-	-	-	7	4
Social sciences	356	189	265	121	74	55	1	1	16	12
Economic and business	128	69	99	45	18	15	-	-	11	9
Educational sciences	142	69	104	42	38	27	-	-	-	-
Law	32	10	26	7	5	2	1	1	-	-
Other social sciences	54	41	36	27	13	11	-	-	5	3
Humanities	170	108	86	62	33	13	-	-	51	33
Languages and literature	170	108	86	62	33	13	-	-	51	33
<b>Region Južne i Istočne Srbije</b>	<b>1769</b>	<b>889</b>	<b>1241</b>	<b>601</b>	<b>274</b>	<b>153</b>	<b>4</b>	<b>1</b>	<b>250</b>	<b>134</b>
Natural sciences	241	137	151	79	72	49	1	-	17	9
Engineering and technology	658	270	422	165	147	76	1	-	88	29
Medical and health sciences	340	186	292	157	-	-	-	-	48	29
Agricultural sciences	11	4	11	4	-	-	-	-	-	-
Social sciences	242	120	212	94	10	8	-	-	20	18
Humanities	277	172	153	102	45	20	2	1	77	49
<b>Business sector</b>	<b>86</b>	<b>42</b>	<b>22</b>	<b>6</b>	<b>42</b>	<b>27</b>	<b>-</b>	<b>-</b>	<b>22</b>	<b>9</b>
Natural sciences	29	17	-	-	23	15	-	-	6	2
Computer and information sciences	6	2	-	-	-	-	-	-	6	2
Other natural sciences	23	15	-	-	23	15	-	-	-	-
Engineering and technology	46	21	11	2	19	12	-	-	16	7
Electrical engineering, electronic engineering and information engineering	38	18	11	2	19	12	-	-	8	4
Chemical engineering	6	1	-	-	-	-	-	-	6	1
Other technologies and engineering	2	2	-	-	-	-	-	-	2	2
Agricultural sciences	11	4	11	4	-	-	-	-	-	-
Agricultural biotechnology	11	4	11	4	-	-	-	-	-	-
<b>Government sector</b>	<b>55</b>	<b>33</b>	<b>20</b>	<b>14</b>	<b>25</b>	<b>13</b>	<b>1</b>	<b>-</b>	<b>9</b>	<b>6</b>
Engineering and technology	55	33	20	14	25	13	1	-	9	6
Other technology and engineering	55	33	20	14	25	13	1	-	9	6
<b>Tertiary education</b>	<b>1628</b>	<b>814</b>	<b>1199</b>	<b>581</b>	<b>207</b>	<b>113</b>	<b>3</b>	<b>1</b>	<b>219</b>	<b>119</b>
Natural sciences	212	120	151	79	49	34	1	-	11	7
Mathematics	212	120	151	79	49	34	1	-	11	7
Engineering and technology	557	216	391	149	103	51	-	-	63	16
Civil engineering	101	43	48	16	53	27	-	-	-	-
Electrical engineering, electronic engineering and information engineering	143	46	111	42	18	4	-	-	14	-
Mechanical engineering	106	23	80	20	-	-	-	-	26	3
Chemical engineering	66	35	51	24	13	10	-	-	2	1
Environmental engineering	56	25	44	20	-	-	-	-	12	5
Other technologies and engineering	85	44	57	27	19	10	-	-	9	7
Medical and health sciences	340	186	292	157	-	-	-	-	48	29
Basic medicine	340	186	292	157	-	-	-	-	48	29
Social sciences	242	120	212	94	10	8	-	-	20	18
Economics and business	90	55	83	48	4	4	-	-	3	3
Educational sciences	38	27	25	16	3	2	-	-	10	9
Law	65	26	60	21	-	-	-	-	5	5
Other social sciences	49	12	44	9	3	2	-	-	2	1
Humanities	277	172	153	102	45	20	2	1	77	49
Philosophy, ethics and religion	176	121	121	81	-	-	-	-	55	40
Arts (arts, history of arts, performing arts, music)	101	51	32	21	45	20	2	1	22	9
<b>Region Kosovo i Metohija</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>

### 3.2. Full-time and part-time researchers, by academic titles, sectors, fields of science and sex, expressed in full-time equivalent, 2018

	Full-time and part-time researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
<b>REPUBLIC OF SERBIA</b>	<b>14534,9</b>	<b>7465,0</b>	<b>9742,6</b>	<b>4853,6</b>	<b>2575,2</b>	<b>1440,5</b>	<b>97,4</b>	<b>26,9</b>	<b>2119,7</b>	<b>1144,0</b>
Natural sciences	3522,0	2055,7	2362,3	1323,9	673,6	455,2	11,0	-	475,1	276,6
Engineering and technology	4052,4	1624,3	2281,4	870,0	842,4	372,4	77,0	22,5	851,6	359,4
Medical and health sciences	1852,9	1079,3	1232,9	685,3	292,8	178,4	7,0	3,0	320,2	212,6
Agricultural sciences	1103,0	569,3	903,6	469,3	107,0	45,0	-	-	92,4	55,0
Social sciences	2551,1	1307,7	2000,3	948,4	406,4	255,3	0,4	0,4	144,0	103,6
Humanities	1453,5	828,7	962,1	556,7	253,0	134,2	2,0	1,0	236,4	136,8
<b>Business sector</b>	<b>1192,1</b>	<b>482,3</b>	<b>360,2</b>	<b>139,9</b>	<b>247,8</b>	<b>120,2</b>	<b>11,0</b>	<b>-</b>	<b>573,1</b>	<b>222,2</b>
Natural sciences	289,6	99,8	111,3	34,0	75,8	41,8	10,0	-	92,5	24,0
Computer and information sciences	92,0	19,0	51,0	5,0	13,0	7,0	10,0	-	18,0	7,0
Physical sciences	1,0	-	-	-	-	-	-	-	1,0	-
Chemical sciences	55,5	37,0	25,5	15,5	25,5	18,5	-	-	4,5	3,0
Earth and related environmental sciences	9,2	2,7	4,3	1,5	4,9	1,2	-	-	-	-
Other natural sciences	131,9	41,1	30,5	12,0	32,4	15,1	-	-	69,0	14,0
Engineering and technology	841,1	343,6	207,5	84,0	163,0	70,4	1,0	-	469,6	189,2
Civil engineering	3,0	3,0	-	-	1,0	1,0	-	-	2,0	2,0
Electrical engineering, electronic engineering and information engineering	226,6	86,7	68,4	21,3	51,2	31,4	1,0	-	106,0	34,0
Mechanical engineering	90,1	22,5	42,2	17,0	20,0	4,0	-	-	27,9	1,5
Chemical engineering	6,0	1,0	-	-	-	-	-	-	6,0	1,0
Materials engineering	34,0	16,0	21,0	10,0	1,0	-	-	-	12,0	6,0
Medical engineering	15,0	3,9	9,2	2,7	2,3	1,0	-	-	3,5	0,2
Environmental engineering	24,7	11,0	13,7	5,0	2,0	-	-	-	9,0	6,0
Other technologies and engineering	441,7	199,5	53,0	28,0	85,5	33,0	-	-	303,2	138,5
Agricultural sciences	25,4	11,4	22,4	9,4	1,0	1,0	-	-	2,0	1,0
Agriculture, forestry and fishery	4,4	1,4	3,4	0,4	1,0	1,0	-	-	-	-
Veterinary sciences	1,0	1,0	1,0	1,0	-	-	-	-	-	-
Agricultural biotechnology	20,0	9,0	18,0	8,0	-	-	-	-	2,0	1,0
Social sciences	36,0	27,5	19,0	12,5	8,0	7,0	-	-	9,0	8,0
Economics and business	16,0	9,5	10,0	4,5	6,0	5,0	-	-	-	-
Other social sciences	20,0	18,0	9,0	8,0	2,0	2,0	-	-	9,0	8,0
<b>Government sector</b>	<b>3061,1</b>	<b>1873,4</b>	<b>2219,1</b>	<b>1319,4</b>	<b>671,9</b>	<b>438,3</b>	<b>3,0</b>	<b>2,0</b>	<b>167,1</b>	<b>113,7</b>
Natural sciences	1517,6	982,8	1096,1	675,4	340,3	248,2	-	-	81,2	59,2
Mathematics	262,3	158,1	184,3	107,1	78,0	51,0	-	-	-	-
Physical sciences	638,5	357,0	475,5	251,0	150,0	99,0	-	-	13,0	7,0
Biological sciences	420,8	355,8	303,0	252,0	79,6	76,6	-	-	38,2	27,2
Other natural sciences	196,0	111,9	133,3	65,3	32,7	21,6	-	-	30,0	25,0
Engineering and technology	391,1	208,5	259,9	135,2	100,0	54,3	3,0	2,0	28,2	17,0
Civil engineering	24,0	18,0	19,0	14,0	5,0	4,0	-	-	-	-
Electrical engineering, electronic engineering and information engineering	70,0	16,0	54,0	11,0	11,0	2,0	-	-	5,0	3,0
Materials engineering	43,0	24,0	29,0	15,0	14,0	9,0	-	-	-	-
Environmental biotechnology	120,7	74,0	85,0	51,0	25,7	16,0	1,0	1,0	9,0	6,0
Industrial biotechnology	33,0	19,0	27,0	16,0	-	-	1,0	1,0	5,0	2,0
Other technologies and engineering	100,4	57,5	45,9	28,2	44,3	23,3	1,0	-	9,2	6,0
Medical and health sciences	157,3	115,1	104,0	76,4	17,6	14,2	-	-	35,7	24,5
Basic medicine	70,0	46,0	44,0	30,0	1,0	1,0	-	-	25,0	15,0
Other medical sciences	87,3	69,1	60,0	46,4	16,6	13,2	-	-	10,7	9,5
Agricultural sciences	343,0	206,0	292,0	180,0	42,0	20,0	-	-	9,0	6,0
Animal and dairy science	27,0	11,0	18,0	9,0	9,0	2,0	-	-	-	-
Veterinary sciences	54,0	27,0	42,0	22,0	12,0	5,0	-	-	-	-
Agricultural biotechnology	211,0	131,0	186,0	116,0	16,0	9,0	-	-	9,0	6,0
Other agricultural sciences	51,0	37,0	46,0	33,0	5,0	4,0	-	-	-	-
Social sciences	269,2	133,4	196,0	92,3	69,2	39,1	-	-	4,0	2,0
Psychology	47,5	26,0	38,5	19,0	9,0	7,0	-	-	-	-
Economics and business	46,0	27,0	37,0	20,0	9,0	7,0	-	-	-	-
Sociology	32,0	13,0	23,0	8,0	9,0	5,0	-	-	-	-
Law	44,1	22,1	26,9	12,0	14,2	9,1	-	-	3,0	1,0
Political science	75,6	26,3	51,6	16,3	24,0	10,0	-	-	-	-
Other social science	24,0	19,0	19,0	17,0	4,0	1,0	-	-	1,0	1,0
Humanities	382,9	227,6	271,1	160,1	102,8	62,5	-	-	9,0	5,0
History and archeology	198,5	85,8	143,0	62,3	51,5	23,5	-	-	4,0	-
Languages and literature	107,6	81,0	69,3	51,0	33,3	25,0	-	-	5,0	5,0
Art (art, history of arts, performing arts, music)	19,0	15,0	12,0	10,0	7,0	5,0	-	-	-	-
Other humanities	57,8	45,8	46,8	36,8	11,0	9,0	-	-	-	-
<b>Tertiary education</b>	<b>10281,1</b>	<b>5108,7</b>	<b>7162,8</b>	<b>3393,8</b>	<b>1655,4</b>	<b>881,9</b>	<b>83,4</b>	<b>24,9</b>	<b>1379,5</b>	<b>808,1</b>
Natural sciences	1714,8	973,1	1154,9	614,5	257,5	165,2	1,0	-	301,4	193,4
Mathematics	978,4	586,7	624,6	361,3	147,4	96,0	1,0	-	205,4	129,4
Computer and information sciences	215,0	93,3	156,9	67,0	52,1	22,3	-	-	6,0	4,0
Physical sciences	85,0	27,0	66,0	20,0	-	-	-	-	19,0	7,0
Chemical sciences	156,0	91,0	107,0	54,0	35,0	32,0	-	-	14,0	5,0
Earth and related environmental sciences	86,6	45,8	63,6	30,9	23,0	14,9	-	-	-	-
Biological sciences	193,8	129,3	136,8	81,3	-	-	-	-	57,0	48,0

**3.2. Full-time and part-time researchers, by academic titles, sectors, fields of science and sex, expressed in full-time equivalent, 2018 (continued)**

	Full-time and part-time researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
Engineering and technology	2820,2	1072,2	1814,0	650,8	579,4	247,7	73,0	20,5	353,8	153,2
Civil engineering	347,9	146,6	216,5	86,0	108,4	44,1	1,0	0,5	22,0	16,0
Electrical engineering, electronic engineering and information engineering	1381,4	486,3	818,6	266,9	320,8	121,3	1,0	-	241,0	98,1
Mechanical engineering	403,3	88,3	288,3	59,3	18,0	6,0	71,0	20,0	26,0	3,0
Chemical engineering	153,0	97,2	127,8	78,0	10,3	7,3	-	-	14,9	11,9
Environmental engineering	181,0	71,5	122,0	49,0	53,0	20,0	-	-	6,0	2,5
Other technologies and engineering	353,6	182,3	240,8	111,6	68,9	49,0	-	-	43,9	21,7
Medical and health sciences	1695,6	964,2	1128,9	608,9	275,2	164,2	7,0	3,0	284,5	188,1
Basic medicine	1093,2	590,9	828,7	428,2	107,2	64,2	-	-	157,3	98,5
Other medical sciences	602,4	373,3	300,2	180,7	168,0	100,0	7,0	3,0	127,2	89,6
Agricultural sciences	734,6	351,9	589,2	279,9	64,0	24,0	-	-	81,4	48,0
Agriculture, forestry and fishery	392,0	184,0	294,0	138,0	55,0	18,0	-	-	43,0	28,0
Veterinary sciences	84,4	43,9	61,0	35,9	-	-	-	-	23,4	8,0
Agricultural biotechnology	17,0	6,0	16,0	5,0	1,0	1,0	-	-	-	-
Other agricultural sciences	241,2	118,0	218,2	101,0	8,0	5,0	-	-	15,0	12,0
Social sciences	2245,3	1146,2	1784,8	843,1	329,1	209,1	0,4	0,4	131,0	93,6
Psychology	109,3	48,4	85,9	30,5	5,4	1,4	-	-	18,0	16,5
Economics and business	662,3	333,6	533,5	251,4	78,4	52,0	-	-	50,4	30,2
Educational sciences	399,5	229,4	298,1	157,3	69,8	49,0	-	-	31,6	23,1
Law	357,1	143,4	296,9	101,0	37,5	22,7	0,4	0,4	22,3	19,3
Political sciences	143,8	65,4	107,6	49,4	35,0	15,0	-	-	1,2	1,0
Media and communications	30,4	19,5	22,4	13,5	8,0	6,0	-	-	-	-
Other social sciences	542,9	306,5	440,4	240,0	95,0	63,0	-	-	7,5	3,5
Humanities	1070,6	601,1	691,0	396,6	150,2	71,7	2,0	1,0	227,4	131,8
Languages and literature	373,8	244,5	256,1	175,0	31,7	14,5	-	-	86,0	55,0
Philosophy, ethics and religion	478,0	240,0	325,0	155,0	47,0	22,0	-	-	106,0	63,0
Art (arts, history of arts, performing arts, music)	145,8	78,6	51,9	35,6	56,5	28,2	2,0	1,0	35,4	13,8
Other humanities	73,0	38,0	58,0	31,0	15,0	7,0	-	-	-	-
<b>Non-profit sector</b>	<b>0,6</b>	<b>0,6</b>	<b>0,5</b>	<b>0,5</b>	<b>0,1</b>	<b>0,1</b>	-	-	-	-
Social sciences	0,6	0,6	0,5	0,5	0,1	0,1	-	-	-	-
Law	0,6	0,6	0,5	0,5	0,1	0,1	-	-	-	-
SRBIJA – SEVER	11759,5	6037,4	7843,4	3920,3	2130,6	1188,8	93,0	25,5	1692,5	902,8
Natural sciences	3085,9	1789,4	2092,5	1169,1	564,2	382,1	10,0	-	419,2	238,2
Engineering and technology	3229,3	1310,7	1757,1	678,3	671,9	291,8	76,0	22,5	724,3	318,1
Medical and health sciences	1405,9	829,0	870,7	489,0	287,3	173,9	7,0	3,0	240,9	163,1
Agricultural sciences	1026,0	533,3	838,6	439,3	103,0	44,0	-	-	84,4	50,0
Social sciences	1992,3	1021,0	1553,7	748,1	325,1	194,3	-	-	113,5	78,6
Humanities	1020,1	554,0	730,8	396,5	179,1	102,7	-	-	110,2	54,8
<b>Business sector</b>	<b>1085,5</b>	<b>433,3</b>	<b>324,3</b>	<b>128,2</b>	<b>209,1</b>	<b>97,1</b>	<b>11,0</b>	-	<b>541,1</b>	<b>208,0</b>
Natural sciences	264,2	84,7	111,3	34,0	59,4	31,7	10,0	-	83,5	19,0
Computer and information sciences	86,0	17,0	51,0	5,0	13,0	7,0	10,0	-	12,0	5,0
Physical sciences	1,0	-	-	-	-	-	-	-	1,0	-
Chemical sciences	55,5	37,0	25,5	15,5	25,5	18,5	-	-	4,5	3,0
Earth and related environmental sciences	9,2	2,7	4,3	1,5	4,9	1,2	-	-	-	-
Other natural sciences	112,5	28,0	30,5	12,0	16,0	5,0	-	-	66,0	11,0
Engineering and technology	776,9	317,7	187,6	79,3	140,7	57,4	1,0	-	447,6	181,0
Civil engineering	3,0	3,0	-	-	1,0	1,0	-	-	2,0	2,0
Electrical engineering, electronic engineering and information engineering	188,9	68,7	57,7	19,3	32,2	19,4	1,0	-	98,0	30,0
Mechanical engineering	90,1	22,5	42,2	17,0	20,0	4,0	-	-	27,9	1,5
Materials engineering	32,5	15,0	21,0	10,0	1,0	-	-	-	10,5	5,0
Environmental engineering	24,7	11,0	13,7	5,0	2,0	-	-	-	9,0	6,0
Other technologies and engineering	437,7	197,5	53,0	28,0	84,5	33,0	-	-	300,2	136,5
Agricultural sciences	8,4	3,4	6,4	2,4	1,0	1,0	-	-	1,0	-
Agriculture, forestry and fishery	4,4	1,4	3,4	0,4	1,0	1,0	-	-	-	-
Veterinary sciences	1,0	1,0	1,0	1,0	-	-	-	-	-	-
Agricultural biotechnology	3,0	1,0	2,0	1,0	-	-	-	-	1,0	-
Social sciences	36,0	27,5	19,0	12,5	8,0	7,0	-	-	9,0	8,0
Economics and business	16,0	9,5	10,0	4,5	6,0	5,0	-	-	-	-
Other social sciences	20,0	18,0	9,0	8,0	2,0	2,0	-	-	9,0	8,0
<b>Government sector</b>	<b>2986,1</b>	<b>1827,4</b>	<b>2181,1</b>	<b>1293,4</b>	<b>644,9</b>	<b>424,3</b>	<b>2,0</b>	<b>2,0</b>	<b>158,1</b>	<b>107,7</b>
Natural sciences	1517,6	982,8	1096,1	675,4	340,3	248,2	-	-	81,2	59,2
Mathematics	262,3	158,1	184,3	107,1	78,0	51,0	-	-	-	-
Physical sciences	638,5	357,0	475,5	251,0	150,0	99,0	-	-	13,0	7,0
Biological sciences	420,8	355,8	303,0	252,0	79,6	76,6	-	-	38,2	27,2
Other natural sciences	196,0	111,9	133,3	65,3	32,7	21,6	-	-	30,0	25,0
Engineering and technology	336,1	175,5	239,9	121,2	75,0	41,3	2,0	2,0	19,2	11,0
Civil engineering	24,0	18,0	19,0	14,0	5,0	4,0	-	-	-	-
Electrical engineering, electronic engineering and information engineering	70,0	16,0	54,0	11,0	11,0	2,0	-	-	5,0	3,0

### 3.2. Full-time and part-time researchers, by academic titles, sectors, fields of science and sex, expressed in full-time equivalent, 2018 (continued)

	Full-time and part-time researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
Materials engineering	43,0	24,0	29,0	15,0	14,0	9,0	-	-	-	-
Environmental biotechnology	120,7	74,0	85,0	51,0	25,7	16,0	1,0	1,0	9,0	6,0
Industrial biotechnology	33,0	19,0	27,0	16,0	-	-	1,0	1,0	5,0	2,0
Other technologies and engineering	45,4	24,5	25,9	14,2	19,3	10,3	-	-	0,2	-
Medical and health sciences	157,3	115,1	104,0	76,4	17,6	14,2	-	-	35,7	24,5
Basic medicine	70,0	46,0	44,0	30,0	1,0	1,0	-	-	25,0	15,0
Other medical science	87,3	69,1	60,0	46,4	16,6	13,2	-	-	10,7	9,5
Agricultural sciences	323,0	193,0	274,0	168,0	40,0	19,0	-	-	9,0	6,0
Animal and dairy science	27,0	11,0	18,0	9,0	9,0	2,0	-	-	-	-
Veterinary sciences	54,0	27,0	42,0	22,0	12,0	5,0	-	-	-	-
Agricultural biotechnology	211,0	131,0	186,0	116,0	16,0	9,0	-	-	9,0	6,0
Other agricultural sciences	31,0	24,0	28,0	21,0	3,0	3,0	-	-	-	-
Social sciences	269,2	133,4	196,0	92,3	69,2	39,1	-	-	4,0	2,0
Psychology	47,5	26,0	38,5	19,0	9,0	7,0	-	-	-	-
Economics and business	46,0	27,0	37,0	20,0	9,0	7,0	-	-	-	-
Sociology	32,0	13,0	23,0	8,0	9,0	5,0	-	-	-	-
Law	44,1	22,1	26,9	12,0	14,2	9,1	-	-	3,0	1,0
Political sciences	75,6	26,3	51,6	16,3	24,0	10,0	-	-	-	-
Other social sciences	24,0	19,0	19,0	17,0	4,0	1,0	-	-	1,0	1,0
Humanities	382,9	227,6	271,1	160,1	102,8	62,5	-	-	9,0	5,0
History and archeology	198,5	85,8	143,0	62,3	51,5	23,5	-	-	4,0	-
Languages and literature	107,6	81,0	69,3	51,0	33,3	25,0	-	-	5,0	5,0
Arts (arts, history of arts, performing arts, music)	19,0	15,0	12,0	10,0	7,0	5,0	-	-	-	-
Other humanities	57,8	45,8	46,8	36,8	11,0	9,0	-	-	-	-
<b>Tertiary education</b>	<b>7687,3</b>	<b>3776,1</b>	<b>5337,5</b>	<b>2498,2</b>	<b>1276,5</b>	<b>667,3</b>	<b>80,0</b>	<b>23,5</b>	<b>993,3</b>	<b>587,1</b>
Natural sciences	1304,1	721,9	885,1	459,7	164,5	102,2	-	-	254,5	160,0
Mathematics	567,7	335,5	354,8	206,5	54,4	33,0	-	-	158,5	96,0
Computer and information sciences	215,0	93,3	156,9	67,0	52,1	22,3	-	-	6,0	4,0
Physical sciences	85,0	27,0	66,0	20,0	-	-	-	-	19,0	7,0
Chemical sciences	156,0	91,0	107,0	54,0	35,0	32,0	-	-	14,0	5,0
Earth and related environmental sciences	86,6	45,8	63,6	30,9	23,0	14,9	-	-	-	-
Biological sciences	193,8	129,3	136,8	81,3	-	-	-	-	57,0	48,0
Engineering and technology	2116,3	817,5	1329,6	477,8	456,2	193,1	73,0	20,5	257,5	126,1
Civil engineering	246,9	103,6	168,5	70,0	55,4	17,1	1,0	0,5	22,0	16,0
Electrical engineering, electronic engineering and information engineering	1109,0	395,5	624,2	196,6	295,8	114,3	1,0	-	188,0	84,6
Mechanical engineering	251,0	58,0	178,0	36,0	2,0	2,0	71,0	20,0	-	-
Chemical engineering	94,7	67,5	80,2	55,0	1,0	1,0	-	-	13,5	11,5
Environmental engineering	153,0	59,0	100,0	39,0	53,0	20,0	-	-	-	-
Other technologies and engineering	261,7	133,9	178,7	81,2	49,0	38,7	-	-	34,0	14,0
Medical and health sciences	1248,6	713,9	766,7	412,6	269,7	159,7	7,0	3,0	205,2	138,6
Basic medicine	646,2	340,6	466,5	231,9	101,7	59,7	-	-	78,0	49,0
Other medical sciences	602,4	373,3	300,2	180,7	168,0	100,0	7,0	3,0	127,2	89,6
Agricultural sciences	694,6	336,9	558,2	268,9	62,0	24,0	-	-	74,4	44,0
Agriculture, forestry and fisheries	352,0	169,0	263,0	127,0	53,0	18,0	-	-	36,0	24,0
Veterinary sciences	84,4	43,9	61,0	35,9	-	-	-	-	23,4	8,0
Agricultural biotechnology	17,0	6,0	16,0	5,0	1,0	1,0	-	-	-	-
Other agricultural sciences	241,2	118,0	218,2	101,0	8,0	5,0	-	-	15,0	12,0
Social sciences	1686,5	859,5	1338,2	642,8	247,8	148,1	-	-	100,5	68,6
Psychology	109,3	48,4	85,9	30,5	5,4	1,4	-	-	18,0	16,5
Economics and business	446,1	210,5	352,6	158,6	57,1	33,7	-	-	36,4	18,2
Educational sciences	255,0	153,4	198,1	113,8	30,3	21,0	-	-	26,6	18,6
Law	261,5	108,3	211,2	73,0	33,0	21,0	-	-	17,3	14,3
Political sciences	143,8	65,4	107,6	49,4	35,0	15,0	-	-	1,2	1,0
Media and communications	30,4	19,5	22,4	13,5	8,0	6,0	-	-	-	-
Other social sciences	440,4	254,0	360,4	204,0	79,0	50,0	-	-	1,0	-
Humanities	637,2	326,4	459,7	236,4	76,3	40,2	-	-	101,2	49,8
Languages and literature	209,1	138,0	171,1	113,0	3,0	3,0	-	-	35,0	22,0
Philosophy, ethics and religion	302,0	119,0	204,0	74,0	47,0	22,0	-	-	51,0	23,0
Arts (arts, history of arts, performing arts, music)	53,1	31,4	26,6	18,4	11,3	8,2	-	-	15,2	4,8
Other humanities	73,0	38,0	58,0	31,0	15,0	7,0	-	-	-	-
<b>Non-profit sector</b>	<b>0,6</b>	<b>0,6</b>	<b>0,5</b>	<b>0,5</b>	<b>0,1</b>	<b>0,1</b>	-	-	-	-
Social sciences	0,6	0,6	0,5	0,5	0,1	0,1	-	-	-	-
Law	0,6	0,6	0,5	0,5	0,1	0,1	-	-	-	-
<b>Beogradski region</b>	<b>8407,6</b>	<b>4361,3</b>	<b>5839,7</b>	<b>2955,7</b>	<b>1395,6</b>	<b>819,1</b>	<b>74,0</b>	<b>21,0</b>	<b>1098,3</b>	<b>565,5</b>
Natural sciences	2549,3	1480,9	1742,9	974,1	535,7	365,6	-	-	270,7	141,2
Engineering and technology	1898,0	750,5	1112,1	435,0	293,8	121,0	74,0	21,0	418,1	173,5
Medical and earth sciences	1055,2	621,6	755,6	423,9	125,3	76,9	-	-	174,3	120,8
Agricultural sciences	679,6	363,9	572,2	309,9	55,0	25,0	-	-	52,4	29,0
Social sciences	1275,9	624,9	981,6	444,8	221,7	133,9	-	-	72,6	46,2
Humanities	949,6	519,5	675,3	368,0	164,1	96,7	-	-	110,2	54,8

**3.2. Full-time and part-time researchers, by academic titles, sectors, fields of science and sex, expressed in full-time equivalent, 2018 (continued)**

	Full-time and part-time researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
<b>Business sector</b>	<b>784,6</b>	<b>329,4</b>	<b>260,4</b>	<b>118,8</b>	<b>176,6</b>	<b>80,6</b>	<b>1,0</b>	-	<b>346,6</b>	<b>130,0</b>
Natural sciences	172,2	63,2	60,3	29,0	42,9	21,2	-	-	69,0	13,0
Chemical sciences	50,5	32,5	25,5	15,5	22,0	15,0	-	-	3,0	2,0
Earth and related environmental sciences	9,2	2,7	4,3	1,5	4,9	1,2	-	-	-	-
Other natural sciences	112,5	28,0	30,5	12,0	16,0	5,0	-	-	66,0	11,0
Engineering and technology	570,4	236,7	177,1	76,3	124,7	51,4	1,0	-	267,6	109,0
Electrical engineering, electronic engineering and information engineering	165,9	62,7	57,7	19,3	28,2	17,4	1,0	-	79,0	26,0
Mechanical engineering	88,1	22,5	42,2	17,0	20,0	4,0	-	-	25,9	1,5
Materials engineering	32,5	15,0	21,0	10,0	1,0	-	-	-	10,5	5,0
Environmental engineering	24,7	11,0	13,7	5,0	2,0	-	-	-	9,0	6,0
Other technologies and engineering	259,2	125,5	42,5	25,0	73,5	30,0	-	-	143,2	70,5
Agricultural sciences	6,0	2,0	4,0	1,0	1,0	1,0	-	-	1,0	-
Agriculture, forestry and fishery	4,0	1,0	3,0	-	1,0	1,0	-	-	-	-
Veterinary sciences	1,0	1,0	1,0	1,0	-	-	-	-	-	-
Agricultural biotechnology	1,0	-	-	-	-	-	-	-	1,0	-
Social sciences	36,0	27,5	19,0	12,5	8,0	7,0	-	-	9,0	8,0
Economics and business	16,0	9,5	10,0	4,5	6,0	5,0	-	-	-	-
Other social sciences	20,0	18,0	9,0	8,0	2,0	2,0	-	-	9,0	8,0
<b>Government sector</b>	<b>2740,0</b>	<b>1686,9</b>	<b>1984,2</b>	<b>1180,2</b>	<b>597,9</b>	<b>399,0</b>	<b>1,0</b>	<b>1,0</b>	<b>156,9</b>	<b>106,7</b>
Natural sciences	1517,6	982,8	1096,1	675,4	340,3	248,2	-	-	81,2	59,2
Mathematics	262,3	158,1	184,3	107,1	78,0	51,0	-	-	-	-
Physical sciences	638,5	357,0	475,5	251,0	150,0	99,0	-	-	13,0	7,0
Biological sciences	420,8	355,8	303,0	252,0	79,6	76,6	-	-	38,2	27,2
Other natural sciences	196,0	111,9	133,3	65,3	32,7	21,6	-	-	30,0	25,0
Engineering and technology	204,0	96,0	142,0	63,0	43,0	22,0	1,0	1,0	18,0	10,0
Civil engineering	24,0	18,0	19,0	14,0	5,0	4,0	-	-	-	-
Electrical engineering, electronic engineering and information engineering	70,0	16,0	54,0	11,0	11,0	2,0	-	-	5,0	3,0
Materials engineering	43,0	24,0	29,0	15,0	14,0	9,0	-	-	-	-
Environmental biotechnology	34,0	19,0	13,0	7,0	13,0	7,0	-	-	8,0	5,0
Industrial biotechnology	33,0	19,0	27,0	16,0	-	-	1,0	1,0	5,0	2,0
Medical and health sciences	157,3	115,1	104,0	76,4	17,6	14,2	-	-	35,7	24,5
Basic medicine	70,0	46,0	44,0	30,0	1,0	1,0	-	-	25,0	15,0
Other medical sciences	87,3	69,1	60,0	46,4	16,6	13,2	-	-	10,7	9,5
Agricultural sciences	209,0	132,0	175,0	113,0	25,0	13,0	-	-	9,0	6,0
Animal and dairy science	27,0	11,0	18,0	9,0	9,0	2,0	-	-	-	-
Veterinary science	19,0	9,0	17,0	9,0	2,0	-	-	-	-	-
Agricultural biotechnology	132,0	88,0	112,0	74,0	11,0	8,0	-	-	9,0	6,0
Other agricultural sciences	31,0	24,0	28,0	21,0	3,0	3,0	-	-	-	-
Social sciences	269,2	133,4	196,0	92,3	69,2	39,1	-	-	4,0	2,0
Psychology	47,5	26,0	38,5	19,0	9,0	7,0	-	-	-	-
Economics and business	46,0	27,0	37,0	20,0	9,0	7,0	-	-	-	-
Sociology	32,0	13,0	23,0	8,0	9,0	5,0	-	-	-	-
Law	44,1	22,1	26,9	12,0	14,2	9,1	-	-	3,0	1,0
Political sciences	75,6	26,3	51,6	16,3	24,0	10,0	-	-	-	-
Other social sciences	24,0	19,0	19,0	17,0	4,0	1,0	-	-	1,0	1,0
Humanities	382,9	227,6	271,1	160,1	102,8	62,5	-	-	9,0	5,0
History and archeology	198,5	85,8	143,0	62,3	51,5	23,5	-	-	4,0	-
Languages and literature	107,6	81,0	69,3	51,0	33,3	25,0	-	-	5,0	5,0
Arts (arts, history of arts, performing arts, music)	19,0	15,0	12,0	10,0	7,0	5,0	-	-	-	-
Other humanities	57,8	45,8	46,8	36,8	11,0	9,0	-	-	-	-
<b>Tertiary education</b>	<b>4882,4</b>	<b>2344,4</b>	<b>3594,6</b>	<b>1656,2</b>	<b>621,0</b>	<b>339,4</b>	<b>72,0</b>	<b>20,0</b>	<b>594,8</b>	<b>328,8</b>
Natural sciences	859,5	434,9	586,5	269,7	152,5	96,2	-	-	120,5	69,0
Mathematics	150,6	62,5	81,7	29,5	44,4	28,0	-	-	24,5	5,0
Computer and information engineering	215,0	93,3	156,9	67,0	52,1	22,3	-	-	6,0	4,0
Physical sciences	85,0	27,0	66,0	20,0	-	-	-	-	19,0	7,0
Chemical sciences	156,0	91,0	107,0	54,0	35,0	32,0	-	-	14,0	5,0
Earth and related environmental sciences	59,1	31,8	38,1	17,9	21,0	13,9	-	-	-	-
Biological sciences	193,8	129,3	136,8	81,3	-	-	-	-	57,0	48,0
Engineering and technology	1123,6	417,8	793,0	295,7	126,1	47,6	72,0	20,0	132,5	54,5
Civil engineering	229,5	95,0	155,0	64,0	52,5	15,0	-	-	22,0	16,0
Electrical engineering, electronic engineering and information engineering	244,7	75,6	162,1	52,0	13,6	7,6	1,0	-	68,0	16,0
Mechanical engineering	251,0	58,0	178,0	36,0	2,0	2,0	71,0	20,0	-	-
Chemical engineering	94,7	67,5	80,2	55,0	1,0	1,0	-	-	13,5	11,5
Environmental engineering	153,0	59,0	100,0	39,0	53,0	20,0	-	-	-	-
Other technologies and engineering	150,7	62,7	117,7	49,7	4,0	2,0	-	-	29,0	11,0
Medical and health sciences	897,9	506,5	651,6	347,5	107,7	62,7	-	-	138,6	96,3
Basic medicine	646,2	340,6	466,5	231,9	101,7	59,7	-	-	78,0	49,0
Other medical sciences	251,7	165,9	185,1	115,6	6,0	3,0	-	-	60,6	47,3
Agricultural sciences	464,6	229,9	393,2	195,9	29,0	11,0	-	-	42,4	23,0
Agriculture, forestry and fisheries	122,0	62,0	98,0	54,0	20,0	5,0	-	-	4,0	3,0
Veterinary science	84,4	43,9	61,0	35,9	-	-	-	-	23,4	8,0
Agricultural biotechnology	17,0	6,0	16,0	5,0	1,0	1,0	-	-	-	-
Other agricultural sciences	241,2	118,0	218,2	101,0	8,0	5,0	-	-	15,0	12,0

**3.2. Full-time and part-time researchers, by academic titles, sectors, fields of science and sex, expressed in full-time equivalent, 2018 (continued)**

	Full-time and part-time researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
Social sciences	970,1	463,4	766,1	339,5	144,4	87,7	-	-	59,6	36,2
Economics and business	305,0	146,0	237,0	108,6	40,6	24,2	-	-	27,4	13,2
Educational sciences	187,5	108,0	150,2	85,0	21,3	13,0	-	-	16,0	10,0
Law	187,0	81,5	148,5	52,0	23,5	17,5	-	-	15,0	12,0
Political sciences	143,8	65,4	107,6	49,4	35,0	15,0	-	-	1,2	1,0
Media and communications	30,4	19,5	22,4	13,5	8,0	6,0	-	-	-	-
Other social sciences	116,4	43,0	100,4	31,0	16,0	12,0	-	-	-	-
Humanities	566,7	291,9	404,2	207,9	61,3	34,2	-	-	101,2	49,8
Languages and literature	209,1	138,0	171,1	113,0	3,0	3,0	-	-	35,0	22,0
Philosophy, ethics and religion	302,0	119,0	204,0	74,0	47,0	22,0	-	-	51,0	23,0
Arts (arts, history of arts, performing arts, music)	27,6	14,9	2,1	1,9	10,3	8,2	-	-	15,2	4,8
Other humanities	28,0	20,0	27,0	19,0	1,0	1,0	-	-	-	-
<b>Non-profit sector</b>	<b>0,6</b>	<b>0,6</b>	<b>0,5</b>	<b>0,5</b>	<b>0,1</b>	<b>0,1</b>	-	-	-	-
Social sciences	0,6	0,6	0,5	0,5	0,1	0,1	-	-	-	-
Law	0,6	0,6	0,5	0,5	0,1	0,1	-	-	-	-
<b>Region Vojvodine</b>	<b>3351,9</b>	<b>1676,1</b>	<b>2003,7</b>	<b>964,6</b>	<b>735,0</b>	<b>369,7</b>	<b>19,0</b>	<b>4,5</b>	<b>594,2</b>	<b>337,3</b>
Natural sciences	536,6	308,5	349,6	195,0	28,5	16,5	10,0	-	148,5	97,0
Engineering and technology	1331,3	560,2	645,0	243,3	378,1	170,8	2,0	1,5	306,2	144,6
Medical and health sciences	350,7	207,4	115,1	65,1	162,0	97,0	7,0	3,0	66,6	42,3
Agricultural sciences	346,4	169,4	266,4	129,4	48,0	19,0	-	-	32,0	21,0
Social sciences	716,4	396,1	572,1	303,3	103,4	60,4	-	-	40,9	32,4
Humanities	70,5	34,5	55,5	28,5	15,0	6,0	-	-	-	-
<b>Business sector</b>	<b>300,9</b>	<b>103,9</b>	<b>63,9</b>	<b>9,4</b>	<b>32,5</b>	<b>16,5</b>	<b>10,0</b>	-	<b>194,5</b>	<b>78,0</b>
Natural sciences	92,0	21,5	51,0	5,0	16,5	10,5	10,0	-	14,5	6,0
Computer and information sciences	86,0	17,0	51,0	5,0	13,0	7,0	10,0	-	12,0	5,0
Physical sciences	1,0	-	-	-	-	-	-	-	1,0	-
Chemical sciences	5,0	4,5	-	-	3,5	3,5	-	-	1,5	1,0
Engineering and technology	206,5	81,0	10,5	3,0	16,0	6,0	-	-	180,0	72,0
Civil engineering	3,0	3,0	-	-	1,0	1,0	-	-	2,0	2,0
Electrical engineering, electronic engineering and information engineering	23,0	6,0	-	-	4,0	2,0	-	-	19,0	4,0
Mechanical engineering	2,0	-	-	-	-	-	-	-	2,0	-
Other technologies and engineering	178,5	72,0	10,5	3,0	11,0	3,0	-	-	157,0	66,0
Agricultural sciences	2,4	1,4	2,4	1,4	-	-	-	-	-	-
Agriculture, forestry and fisheries	0,4	0,4	0,4	0,4	-	-	-	-	-	-
Agricultural biotechnology	2,0	1,0	2,0	1,0	-	-	-	-	-	-
<b>Government sector</b>	<b>246,1</b>	<b>140,5</b>	<b>196,9</b>	<b>113,2</b>	<b>47,0</b>	<b>25,3</b>	<b>1,0</b>	<b>1,0</b>	<b>1,2</b>	<b>1,0</b>
Engineering and technology	132,1	79,5	97,9	58,2	32,0	19,3	1,0	1,0	1,2	1,0
Environmental biotechnology	86,7	55,0	72,0	44,0	12,7	9,0	1,0	1,0	1,0	1,0
Other technologies and engineering	45,4	24,5	25,9	14,2	19,3	10,3	-	-	0,2	-
Agricultural sciences	114,0	61,0	99,0	55,0	15,0	6,0	-	-	-	-
Veterinary sciences	35,0	18,0	25,0	13,0	10,0	5,0	-	-	-	-
Agricultural biotechnology	79,0	43,0	74,0	42,0	5,0	1,0	-	-	-	-
<b>Tertiary education</b>	<b>2804,9</b>	<b>1431,7</b>	<b>1742,9</b>	<b>842,0</b>	<b>655,5</b>	<b>327,9</b>	<b>8,0</b>	<b>3,5</b>	<b>398,5</b>	<b>258,3</b>
Natural sciences	444,6	287,0	298,6	190,0	12,0	6,0	-	-	134,0	91,0
Mathematics	417,1	273,0	273,1	177,0	10,0	5,0	-	-	134,0	91,0
Earth and related environmental sciences	27,5	14,0	25,5	13,0	2,0	1,0	-	-	-	-
Engineering and technology	992,7	399,7	536,6	182,1	330,1	145,5	1,0	0,5	125,0	71,6
Civil engineering	17,4	8,6	13,5	6,0	2,9	2,1	1,0	0,5	-	-
Electrical engineering, electronic engineering and information engineering	864,3	319,9	462,1	144,6	282,2	106,7	-	-	120,0	68,6
Other technologies and engineering	111,0	71,2	61,0	31,5	45,0	36,7	-	-	5,0	3,0
Medical and health sciences	350,7	207,4	115,1	65,1	162,0	97,0	7,0	3,0	66,6	42,3
Other medical sciences	350,7	207,4	115,1	65,1	162,0	97,0	7,0	3,0	66,6	42,3
Agricultural sciences	230,0	107,0	165,0	73,0	33,0	13,0	-	-	32,0	21,0
Agriculture, forestry and fisheries	230,0	107,0	165,0	73,0	33,0	13,0	-	-	32,0	21,0
Social sciences	716,4	396,1	572,1	303,3	103,4	60,4	-	-	40,9	32,4
Psychology	109,3	48,4	85,9	30,5	5,4	1,4	-	-	18,0	16,5
Economics and business	141,1	64,5	115,6	50,0	16,5	9,5	-	-	9,0	5,0
Educational sciences	67,5	45,4	47,9	28,8	9,0	8,0	-	-	10,6	8,6
Law	74,5	26,8	62,7	21,0	9,5	3,5	-	-	2,3	2,3
Other social sciences	324,0	211,0	260,0	173,0	63,0	38,0	-	-	1,0	-
Humanities	70,5	34,5	55,5	28,5	15,0	6,0	-	-	-	-
Arts (arts, history of arts, performing arts, music)	25,5	16,5	24,5	16,5	1,0	-	-	-	-	-
Other humanities	45,0	18,0	31,0	12,0	14,0	6,0	-	-	-	-
<b>SRBIJA – JUG</b>	<b>2775,4</b>	<b>1427,6</b>	<b>1899,2</b>	<b>933,3</b>	<b>444,6</b>	<b>251,7</b>	<b>4,4</b>	<b>1,4</b>	<b>427,2</b>	<b>241,2</b>
Natural sciences	436,1	266,3	269,8	154,8	109,4	73,1	1,0	-	55,9	38,4
Engineering and technology	823,1	313,6	524,3	191,7	170,5	80,6	1,0	-	127,3	41,3
Medical and health sciences	447,0	250,3	362,2	196,3	5,5	4,5	-	-	79,3	49,5
Agricultural sciences	77,0	36,0	65,0	30,0	4,0	1,0	-	-	8,0	5,0
Social sciences	558,8	286,7	446,6	200,3	81,3	61,0	0,4	0,4	30,5	25,0
Humanities	433,4	274,7	231,3	160,2	73,9	31,5	2,0	1,0	126,2	82,0

**3.2. Full-time and part-time researchers, by academic titles, sectors, fields of science and sex, expressed in full-time equivalent, 2018 (continued)**

	Full-time and part-time researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
<b>Business sector</b>	<b>106,6</b>	<b>49,0</b>	<b>35,9</b>	<b>11,7</b>	<b>38,7</b>	<b>23,1</b>	-	-	<b>32,0</b>	<b>14,2</b>
Natural sciences	25,4	15,1	-	-	16,4	10,1	-	-	9,0	5,0
Computer and information sciences	6,0	2,0	-	-	-	-	-	-	6,0	2,0
Other natural sciences	19,4	13,1	-	-	16,4	10,1	-	-	3,0	3,0
Engineering and technology	64,2	25,9	19,9	4,7	22,3	13,0	-	-	22,0	8,2
Electrical engineering, electronic engineering and information engineering	37,7	18,0	10,7	2,0	19,0	12,0	-	-	8,0	4,0
Chemical engineering	6,0	1,0	-	-	-	-	-	-	6,0	1,0
Materials engineering	1,5	1,0	-	-	-	-	-	-	1,5	1,0
Medical engineering	15,0	3,9	9,2	2,7	2,3	1,0	-	-	3,5	0,2
Other technologies and engineering	4,0	2,0	-	-	1,0	-	-	-	3,0	2,0
Agricultural sciences	17,0	8,0	16,0	7,0	-	-	-	-	1,0	1,0
Agricultural biotechnology	17,0	8,0	16,0	7,0	-	-	-	-	1,0	1,0
<b>Government sector</b>	<b>75,0</b>	<b>46,0</b>	<b>38,0</b>	<b>26,0</b>	<b>27,0</b>	<b>14,0</b>	<b>1,0</b>	-	<b>9,0</b>	<b>6,0</b>
Engineering and technology	55,0	33,0	20,0	14,0	25,0	13,0	1,0	-	9,0	6,0
Other technologies and engineering	55,0	33,0	20,0	14,0	25,0	13,0	1,0	-	9,0	6,0
Agricultural sciences	20,0	13,0	18,0	12,0	2,0	1,0	-	-	-	-
Other agricultural sciences	20,0	13,0	18,0	12,0	2,0	1,0	-	-	-	-
<b>Tertiary education</b>	<b>2593,8</b>	<b>1332,6</b>	<b>1825,3</b>	<b>895,6</b>	<b>378,9</b>	<b>214,6</b>	<b>3,4</b>	<b>1,4</b>	<b>386,2</b>	<b>221,0</b>
Natural sciences	410,7	251,2	269,8	154,8	93,0	63,0	1,0	-	46,9	33,4
Mathematics	410,7	251,2	269,8	154,8	93,0	63,0	1,0	-	46,9	33,4
Engineering and technology	703,9	254,7	484,4	173,0	123,2	54,6	-	-	96,3	27,1
Civil engineering	101,0	43,0	48,0	16,0	53,0	27,0	-	-	-	-
Electrical engineering, electronic engineering and information engineering	272,4	90,8	194,4	70,3	25,0	7,0	-	-	53,0	13,5
Mechanical engineering	152,3	30,3	110,3	23,3	16,0	4,0	-	-	26,0	3,0
Chemical engineering	58,3	29,7	47,6	23,0	9,3	6,3	-	-	1,4	0,4
Environmental engineering	28,0	12,5	22,0	10,0	-	-	-	-	6,0	2,5
Other technologies and engineering	91,9	48,4	62,1	30,4	19,9	10,3	-	-	9,9	7,7
Medical and health sciences	447,0	250,3	362,2	196,3	5,5	4,5	-	-	79,3	49,5
Basic medicine	447,0	250,3	362,2	196,3	5,5	4,5	-	-	79,3	49,5
Agricultural sciences	40,0	15,0	31,0	11,0	2,0	-	-	-	7,0	4,0
Agriculture, forestry and fisheries	40,0	15,0	31,0	11,0	2,0	-	-	-	7,0	4,0
Social sciences	558,8	286,7	446,6	200,3	81,3	61,0	0,4	0,4	30,5	25,0
Economics and business	216,2	123,1	180,9	92,8	21,3	18,3	-	-	14,0	12,0
Educational sciences	144,5	76,0	100,0	43,5	39,5	28,0	-	-	5,0	4,5
Law	95,6	35,1	85,7	28,0	4,5	1,7	0,4	0,4	5,0	5,0
Other social sciences	102,5	52,5	80,0	36,0	16,0	13,0	-	-	6,5	3,5
Humanities	433,4	274,7	231,3	160,2	73,9	31,5	2,0	1,0	126,2	82,0
Languages and literature	164,7	106,5	85,0	62,0	28,7	11,5	-	-	51,0	33,0
Philosophy, ethics and religion	176,0	121,0	121,0	81,0	-	-	-	-	55,0	40,0
Arts (arts, history of arts, performing arts, music)	92,7	47,2	25,3	17,2	45,2	20,0	2,0	1,0	20,2	9,0
<b>Region Šumadije i Zapadne Srbije</b>	<b>1081,5</b>	<b>580,2</b>	<b>708,3</b>	<b>356,7</b>	<b>182,2</b>	<b>108,3</b>	<b>0,4</b>	<b>0,4</b>	<b>190,6</b>	<b>114,8</b>
Natural sciences	201,9	134,4	119,0	76,0	44,0	29,0	-	-	38,9	29,4
Engineering and technology	205,3	62,1	132,2	38,4	27,2	8,3	-	-	45,9	15,4
Medical and health sciences	107,8	65,0	71,0	40,0	5,5	4,5	-	-	31,3	20,5
Agricultural sciences	66,0	32,0	54,0	26,0	4,0	1,0	-	-	8,0	5,0
Social sciences	335,8	180,2	247,1	114,3	72,8	54,0	0,4	0,4	15,5	11,5
Humanities	164,7	106,5	85,0	62,0	28,7	11,5	-	-	51,0	33,0
<b>Business sector</b>	<b>27,5</b>	<b>11,9</b>	<b>14,2</b>	<b>5,7</b>	<b>3,3</b>	<b>1,0</b>	-	-	<b>10,0</b>	<b>5,2</b>
Natural sciences	3,0	3,0	-	-	-	-	-	-	3,0	3,0
Other natural sciences	3,0	3,0	-	-	-	-	-	-	3,0	3,0
Engineering and technology	18,5	4,9	9,2	2,7	3,3	1,0	-	-	6,0	1,2
Materials engineering	1,5	1,0	-	-	-	-	-	-	1,5	1,0
Medical engineering	15,0	3,9	9,2	2,7	2,3	1,0	-	-	3,5	0,2
Other technologies and engineering	2,0	-	-	-	1,0	-	-	-	1,0	-
Agricultural sciences	6,0	4,0	5,0	3,0	-	-	-	-	1,0	1,0
Agricultural biotechnology	6,0	4,0	5,0	3,0	-	-	-	-	1,0	1,0
<b>Government sector</b>	<b>20,0</b>	<b>13,0</b>	<b>18,0</b>	<b>12,0</b>	<b>2,0</b>	<b>1,0</b>	-	-	-	-
Agricultural sciences	20,0	13,0	18,0	12,0	2,0	1,0	-	-	-	-
Other agricultural sciences	20,0	13,0	18,0	12,0	2,0	1,0	-	-	-	-
<b>Tertiary education</b>	<b>1034,0</b>	<b>555,3</b>	<b>676,1</b>	<b>339,0</b>	<b>176,9</b>	<b>106,3</b>	<b>0,4</b>	<b>0,4</b>	<b>180,6</b>	<b>109,6</b>
Natural sciences	198,9	131,4	119,0	76,0	44,0	29,0	-	-	35,9	26,4
Mathematics	198,9	131,4	119,0	76,0	44,0	29,0	-	-	35,9	26,4
Engineering and technology	186,8	57,2	123,0	35,7	23,9	7,3	-	-	39,9	14,2
Electrical engineering, electronic engineering and information engineering	132,1	45,5	86,1	29,0	7,0	3,0	-	-	39,0	13,5
Mechanical engineering	46,3	7,3	30,3	3,3	16,0	4,0	-	-	-	-



**3.2. Full-time and part-time researchers, by academic titles, sectors, fields of science and sex, expressed in full-time equivalent, 2018 (continued)**

	Full-time and part-time researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
Other technologies and engineering	8,4	4,4	6,6	3,4	0,9	0,3	-	-	0,9	0,7
Medical and health sciences	107,8	65,0	71,0	40,0	5,5	4,5	-	-	31,3	20,5
Basic medicine	107,8	65,0	71,0	40,0	5,5	4,5	-	-	31,3	20,5
Agricultural sciences	40,0	15,0	31,0	11,0	2,0	-	-	-	7,0	4,0
Agriculture, forestry and fisheries	40,0	15,0	31,0	11,0	2,0	-	-	-	7,0	4,0
Social sciences	335,8	180,2	247,1	114,3	72,8	54,0	0,4	0,4	15,5	11,5
Economic and business	126,2	68,1	97,9	44,8	17,3	14,3	-	-	11,0	9,0
Educational sciences	125,5	62,5	87,5	35,5	38,0	27,0	-	-	-	-
Law	30,6	9,1	25,7	7,0	4,5	1,7	0,4	0,4	-	-
Other social sciences	53,5	40,5	36,0	27,0	13,0	11,0	-	-	4,5	2,5
Humanities	164,7	106,5	85,0	62,0	28,7	11,5	-	-	51,0	33,0
Languages and literature	164,7	106,5	85,0	62,0	28,7	11,5	-	-	51,0	33,0
<b>Region Južne i Istočne Srbije</b>	<b>1693,9</b>	<b>847,4</b>	<b>1190,9</b>	<b>576,6</b>	<b>262,4</b>	<b>143,4</b>	<b>4,0</b>	<b>1,0</b>	<b>236,6</b>	<b>126,4</b>
Natural sciences	234,2	131,9	150,8	78,8	65,4	44,1	1,0	-	17,0	9,0
Engineering and technology	617,8	251,5	392,1	153,3	143,3	72,3	1,0	-	81,4	25,9
Medical and health sciences	339,2	185,3	291,2	156,3	-	-	-	-	48,0	29,0
Agricultural sciences	11,0	4,0	11,0	4,0	-	-	-	-	-	-
Social sciences	223,0	106,5	199,5	86,0	8,5	7,0	-	-	15,0	13,5
Humanities	268,7	168,2	146,3	98,2	45,2	20,0	2,0	1,0	75,2	49,0
<b>Business sector</b>	<b>79,1</b>	<b>37,1</b>	<b>21,7</b>	<b>6,0</b>	<b>35,4</b>	<b>22,1</b>	-	-	<b>22,0</b>	<b>9,0</b>
Natural sciences	22,4	12,1	-	-	16,4	10,1	-	-	6,0	2,0
Computer and information sciences	6,0	2,0	-	-	-	-	-	-	6,0	2,0
Other natural sciences	16,4	10,1	-	-	16,4	10,1	-	-	-	-
Engineering and technology	45,7	21,0	10,7	2,0	19,0	12,0	-	-	16,0	7,0
Electrical engineering, electronic engineering and information engineering	37,7	18,0	10,7	2,0	19,0	12,0	-	-	8,0	4,0
Chemical engineering	6,0	1,0	-	-	-	-	-	-	6,0	1,0
Other technologies and engineering	2,0	2,0	-	-	-	-	-	-	2,0	2,0
Agricultural sciences	11,0	4,0	11,0	4,0	-	-	-	-	-	-
Agricultural biotechnology	11,0	4,0	11,0	4,0	-	-	-	-	-	-
<b>Government sector</b>	<b>55,0</b>	<b>33,0</b>	<b>20,0</b>	<b>14,0</b>	<b>25,0</b>	<b>13,0</b>	<b>1,0</b>	-	<b>9,0</b>	<b>6,0</b>
Engineering and technology	55,0	33,0	20,0	14,0	25,0	13,0	1,0	-	9,0	6,0
Other technology and engineering	55,0	33,0	20,0	14,0	25,0	13,0	1,0	-	9,0	6,0
<b>Tertiary education</b>	<b>1559,8</b>	<b>777,3</b>	<b>1149,2</b>	<b>556,6</b>	<b>202,0</b>	<b>108,3</b>	<b>3,0</b>	<b>1,0</b>	<b>205,6</b>	<b>111,4</b>
Natural sciences	211,8	119,8	150,8	78,8	49,0	34,0	1,0	-	11,0	7,0
Mathematics	211,8	119,8	150,8	78,8	49,0	34,0	1,0	-	11,0	7,0
Engineering and technology	517,1	197,5	361,4	137,3	99,3	47,3	-	-	56,4	12,9
Civil engineering	101,0	43,0	48,0	16,0	53,0	27,0	-	-	-	-
Electrical engineering, electronic engineering and information engineering	140,3	45,3	108,3	41,3	18,0	4,0	-	-	14,0	-
Mechanical engineering	106,0	23,0	80,0	20,0	-	-	-	-	26,0	3,0
Chemical engineering	58,3	29,7	47,6	23,0	9,3	6,3	-	-	1,4	0,4
Environmental engineering	28,0	12,5	22,0	10,0	-	-	-	-	6,0	2,5
Other technologies and engineering	83,5	44,0	55,5	27,0	19,0	10,0	-	-	9,0	7,0
Medical and health sciences	339,2	185,3	291,2	156,3	-	-	-	-	48,0	29,0
Basic medicine	339,2	185,3	291,2	156,3	-	-	-	-	48,0	29,0
Social sciences	223,0	106,5	199,5	86,0	8,5	7,0	-	-	15,0	13,5
Economics and business	90,0	55,0	83,0	48,0	4,0	4,0	-	-	3,0	3,0
Educational sciences	19,0	13,5	12,5	8,0	1,5	1,0	-	-	5,0	4,5
Law	65,0	26,0	60,0	21,0	-	-	-	-	5,0	5,0
Other social sciences	49,0	12,0	44,0	9,0	3,0	2,0	-	-	2,0	1,0
Humanities	268,7	168,2	146,3	98,2	45,2	20,0	2,0	1,0	75,2	49,0
Philosophy, ethics and religion	176,0	121,0	121,0	81,0	-	-	-	-	55,0	40,0
Arts (arts, history of arts, performing arts, music)	92,7	47,2	25,3	17,2	45,2	20,0	2,0	1,0	20,2	9,0
<b>Region Kosovo i Metohija</b>	...	...	...	...	...	...	...	...	...	...

#### 4.1. Full-time and part-time researchers and assistant researchers, by age and sex, 2018

	Researchers				Assistant researchers			
	Full-time		Part-time		Full-time		Part-time	
	All	Women	All	Women	All	Women	All	Women
<b>REPUBLIKA SRBIJA</b>	<b>13374</b>	<b>6865</b>	<b>2839</b>	<b>1464</b>	<b>1275</b>	<b>621</b>	<b>252</b>	<b>112</b>
Under 25	176	98	36	10	26	12	2	2
25–29	1442	798	219	134	160	70	29	17
30–34	2234	1271	300	164	195	97	45	19
35–39	2195	1184	370	200	203	96	51	20
40–44	1899	1019	407	228	182	97	33	10
45–49	1563	796	417	221	163	84	21	10
50–54	1362	654	371	187	132	76	26	16
55–59	1226	585	354	168	113	51	21	9
60–64	946	353	266	115	76	35	15	6
65–69	315	105	91	34	18	3	5	1
70 and over	16	2	8	3	7	-	4	2
<b>Business sector - total</b>	<b>1130</b>	<b>463</b>	<b>136</b>	<b>43</b>	<b>569</b>	<b>187</b>	<b>138</b>	<b>35</b>
Under 25	25	12	13	2	19	7	-	-
25–29	194	94	23	14	95	31	10	1
30–34	301	131	14	8	83	27	24	7
35–39	192	66	15	4	95	33	28	8
40–44	112	54	14	6	66	20	19	3
45–49	89	33	9	1	64	23	10	3
50–54	92	39	22	4	43	20	14	6
55–59	43	20	7	1	60	16	15	3
60–64	52	11	8	1	21	7	10	1
65–69	23	2	5	-	16	3	4	1
70 and over	7	1	6	2	7	-	4	2
<b>Government sector - total</b>	<b>3019</b>	<b>1850</b>	<b>93</b>	<b>56</b>	<b>190</b>	<b>102</b>	<b>20</b>	<b>10</b>
Under 25	13	9	3	1	1	-	-	-
25–29	235	158	20	15	13	4	5	4
30–34	553	368	9	5	18	9	5	1
35–39	617	389	6	5	23	15	5	2
40–44	519	311	12	5	23	17	2	1
45–49	371	238	9	5	32	17	1	-
50–54	270	147	9	8	28	16	-	-
55–59	229	134	16	7	26	16	1	1
60–64	158	75	7	4	24	8	1	1
65–69	52	21	1	-	2	-	-	-
70 and over	2	-	1	1	-	-	-	-
<b>Tertiary education - total</b>	<b>9225</b>	<b>4552</b>	<b>2608</b>	<b>1363</b>	<b>516</b>	<b>332</b>	<b>94</b>	<b>67</b>
Under 25	138	77	20	7	6	5	2	2
25–29	1013	546	176	105	52	35	14	12
30–34	1380	772	276	150	94	61	16	11
35–39	1386	729	349	191	85	48	18	10
40–44	1268	654	381	217	93	60	12	6
45–49	1103	525	399	215	67	44	10	7
50–54	1000	468	339	174	61	40	12	10
55–59	954	431	331	160	27	19	5	5
60–64	736	267	251	110	31	20	4	4
65–69	240	82	85	34	-	-	1	-
70 and over	7	1	1	-	-	-	-	-
<b>Non-profit sector - total</b>	-	-	<b>2</b>	<b>2</b>	-	-	-	-
30–34	-	-	1	1	-	-	-	-
50–54	-	-	1	1	-	-	-	-
<b>SRBIJA – SEVER</b>	<b>10855</b>	<b>5569</b>	<b>2219</b>	<b>1160</b>	<b>1172</b>	<b>572</b>	<b>201</b>	<b>80</b>
Under 25	145	79	22	4	25	12	2	2
25–29	1229	670	156	90	151	69	26	14
30–34	1912	1095	213	121	174	84	39	16
35–39	1823	981	304	163	192	91	42	17
40–44	1534	806	328	184	168	90	26	7
45–49	1263	642	343	188	152	80	14	6
50–54	1020	490	298	152	119	68	17	8
55–59	937	440	287	144	102	44	16	4
60–64	733	280	200	86	65	31	12	3
65–69	246	84	60	25	17	3	3	1
70 and over	13	2	8	3	7	-	4	2

**4.1. Full-time and part-time researchers and assistant researchers, by age and sex, 2018 (continued)**

	Researchers				Assistant researchers			
	Full-time		Part-time		Full-time		Part-time	
	All	Women	All	Women	All	Women	All	Women
<b>Business sector - total</b>	<b>1030</b>	<b>417</b>	<b>111</b>	<b>32</b>	<b>562</b>	<b>186</b>	<b>137</b>	<b>35</b>
Under 25	21	11	5	-	19	7	-	-
25-29	168	79	13	7	94	31	10	1
30-34	287	122	12	7	83	27	24	7
35-39	182	63	13	4	94	32	28	8
40-44	95	46	12	5	64	20	19	3
45-49	78	29	8	1	62	23	10	3
50-54	85	38	22	4	43	20	14	6
55-59	38	17	7	1	60	16	15	3
60-64	48	9	8	1	21	7	10	1
65-69	22	2	5	-	15	3	3	1
70 and over	6	1	6	2	7	-	4	2
<b>Government sector - total</b>	<b>2944</b>	<b>1804</b>	<b>93</b>	<b>56</b>	<b>166</b>	<b>91</b>	<b>20</b>	<b>10</b>
Under 25	13	9	3	1	1	-	-	-
25-29	224	152	20	15	13	4	5	4
30-34	542	363	9	5	18	9	5	1
35-39	611	385	6	5	23	15	5	2
40-44	511	307	12	5	22	17	2	1
45-49	352	220	9	5	24	13	1	-
50-54	261	144	9	8	22	14	-	-
55-59	222	130	16	7	21	12	1	1
60-64	155	73	7	4	20	7	1	1
65-69	51	21	1	-	2	-	-	-
70 and over	2	-	1	1	-	-	-	-
<b>Tertiary education - total</b>	<b>6881</b>	<b>3348</b>	<b>2013</b>	<b>1070</b>	<b>444</b>	<b>295</b>	<b>44</b>	<b>35</b>
Under 25	111	59	14	3	5	5	2	2
25-29	837	439	123	68	44	34	11	9
30-34	1083	610	191	108	73	48	10	8
35-39	1030	533	285	154	75	44	9	7
40-44	928	453	304	174	82	53	5	3
45-49	833	393	326	182	66	44	3	3
50-54	674	308	266	139	54	34	3	2
55-59	677	293	264	136	21	16	-	-
60-64	530	198	185	81	24	17	1	1
65-69	173	61	54	25	-	-	-	-
70 and over	5	1	1	-	-	-	-	-
<b>Non-profit sector - total</b>	-	-	<b>2</b>	<b>2</b>	-	-	-	-
30-34	-	-	1	1	-	-	-	-
50-54	-	-	1	1	-	-	-	-
<b>Beogradski region</b>	<b>7972</b>	<b>4145</b>	<b>1112</b>	<b>573</b>	<b>904</b>	<b>451</b>	<b>129</b>	<b>40</b>
Under 25	63	39	5	1	14	7	2	2
25-29	873	491	63	36	89	38	14	5
30-34	1374	801	97	49	119	66	14	2
35-39	1286	702	134	71	139	70	21	7
40-44	1144	599	157	91	144	76	21	5
45-49	971	512	182	95	124	65	11	4
50-54	769	385	165	80	98	56	15	7
55-59	731	337	169	90	94	43	15	4
60-64	569	222	96	43	60	27	9	1
65-69	180	56	36	14	16	3	3	1
70 and over	12	1	8	3	7	-	4	2
<b>Business sector - total</b>	<b>742</b>	<b>320</b>	<b>84</b>	<b>17</b>	<b>450</b>	<b>160</b>	<b>109</b>	<b>20</b>
Under 25	18	11	-	-	9	2	-	-
25-29	123	67	6	-	57	19	10	1
30-34	227	103	7	2	54	24	12	-
35-39	142	53	12	3	71	29	16	2
40-44	61	25	11	5	63	20	19	3
45-49	34	16	8	1	59	22	9	2
50-54	51	23	15	2	40	18	13	5
55-59	31	13	7	1	54	16	14	3
60-64	30	6	7	1	21	7	9	1
65-69	19	2	5	-	15	3	3	1
70 and over	6	1	6	2	7	-	4	2

#### 4.1. Full-time and part-time researchers and assistant researchers, by age and sex, 2018 (continued)

	Researchers				Assistant researchers			
	Full-time		Part-time		Full-time		Part-time	
	All	Women	All	Women	All	Women	All	Women
<b>Government sector - total</b>	<b>2708</b>	<b>1668</b>	<b>76</b>	<b>47</b>	<b>129</b>	<b>69</b>	<b>1</b>	<b>1</b>
Under 25	13	9	1	1	-	-	-	-
25-29	204	141	11	9	6	-	-	-
30-34	498	336	7	4	13	7	-	-
35-39	547	346	6	5	15	9	-	-
40-44	477	286	11	5	19	14	-	-
45-49	322	202	7	3	20	10	-	-
50-54	238	133	8	8	20	14	-	-
55-59	209	123	16	7	19	11	1	1
60-64	149	71	7	4	16	4	-	-
65-69	49	21	1	-	1	-	-	-
70 and over	2	-	1	1	-	-	-	-
<b>Tertiary education - total</b>	<b>4522</b>	<b>2157</b>	<b>950</b>	<b>507</b>	<b>325</b>	<b>222</b>	<b>19</b>	<b>19</b>
Under 25	32	19	4	-	5	5	2	2
25-29	546	283	46	27	26	19	4	4
30-34	649	362	82	42	52	35	2	2
35-39	597	303	116	63	53	32	5	5
40-44	606	288	135	81	62	42	2	2
45-49	615	294	167	91	45	33	2	2
50-54	480	229	141	69	38	24	2	2
55-59	491	201	146	82	21	16	-	-
60-64	390	145	82	38	23	16	-	-
65-69	112	33	30	14	-	-	-	-
70 and over	4	-	1	-	-	-	-	-
<b>Non-profit sector - total</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
30-34	-	-	1	1	-	-	-	-
50-54	-	-	1	1	-	-	-	-
<b>Region Vojvodine</b>	<b>2883</b>	<b>1424</b>	<b>1107</b>	<b>587</b>	<b>268</b>	<b>121</b>	<b>72</b>	<b>40</b>
Under 25	82	40	17	3	11	5	-	-
25-29	356	179	93	54	62	31	12	9
30-34	538	294	116	72	55	18	25	14
35-39	537	279	170	92	53	21	21	10
40-44	390	207	171	93	24	14	5	2
45-49	292	130	161	93	28	15	3	2
50-54	251	105	133	72	21	12	2	1
55-59	206	103	118	54	8	1	1	-
60-64	164	58	104	43	5	4	3	2
65-69	66	28	24	11	1	-	-	-
70 and over	1	1	-	-	-	-	-	-
<b>Business sector - total</b>	<b>288</b>	<b>97</b>	<b>27</b>	<b>15</b>	<b>112</b>	<b>26</b>	<b>28</b>	<b>15</b>
Under 25	3	-	5	-	10	5	-	-
25-29	45	12	7	7	37	12	-	-
30-34	60	19	5	5	29	3	12	7
35-39	40	10	1	1	23	3	12	6
40-44	34	21	1	-	1	-	-	-
45-49	44	13	-	-	3	1	1	1
50-54	34	15	7	2	3	2	1	1
55-59	7	4	-	-	6	-	1	-
60-64	18	3	1	-	-	-	1	-
65-69	3	-	-	-	-	-	-	-
<b>Government sector - total</b>	<b>236</b>	<b>136</b>	<b>17</b>	<b>9</b>	<b>37</b>	<b>22</b>	<b>19</b>	<b>9</b>
Under 25	-	-	2	-	1	-	-	-
25-29	20	11	9	6	7	4	5	4
30-34	44	27	2	1	5	2	5	1
35-39	64	39	-	-	8	6	5	2
40-44	34	21	1	-	3	3	2	1
45-49	30	18	2	2	4	3	1	-
50-54	23	11	1	-	2	-	-	-
55-59	13	7	-	-	2	1	-	-
60-64	6	2	-	-	4	3	1	1
65-69	2	-	-	-	1	-	-	-

#### 4.1. Full-time and part-time researchers and assistant researchers, by age and sex, 2018 (continued)

	Researchers				Assistant researchers			
	Full-time		Part-time		Full-time		Part-time	
	All	Women	All	Women	All	Women	All	Women
<b>Tertiary education - total</b>	<b>2359</b>	<b>1191</b>	<b>1063</b>	<b>563</b>	<b>119</b>	<b>73</b>	<b>25</b>	<b>16</b>
Under 25	79	40	10	3	-	-	-	-
25-29	291	156	77	41	18	15	7	5
30-34	434	248	109	66	21	13	8	6
35-39	433	230	169	91	22	12	4	2
40-44	322	165	169	93	20	11	3	1
45-49	218	99	159	91	21	11	1	1
50-54	194	79	125	70	16	10	1	-
55-59	186	92	118	54	-	-	-	-
60-64	140	53	103	43	1	1	1	1
65-69	61	28	24	11	-	-	-	-
70 and over	1	1	-	-	-	-	-	-
<b>SRBIJA – JUG</b>	<b>2519</b>	<b>1296</b>	<b>620</b>	<b>304</b>	<b>103</b>	<b>49</b>	<b>51</b>	<b>32</b>
Under 25	31	19	14	6	1	-	-	-
25-29	213	128	63	44	9	1	3	3
30-34	322	176	87	43	21	13	6	3
35-39	372	203	66	37	11	5	9	3
40-44	365	213	79	44	14	7	7	3
45-49	300	154	74	33	11	4	7	4
50-54	342	164	73	35	13	8	9	8
55-59	289	145	67	24	11	7	5	5
60-64	213	73	66	29	11	4	3	3
65-69	69	21	31	9	1	-	2	-
70 and over	3	-	-	-	-	-	-	-
<b>Business sector - total</b>	<b>100</b>	<b>46</b>	<b>25</b>	<b>11</b>	<b>7</b>	<b>1</b>	<b>1</b>	<b>-</b>
Under 25	4	1	8	2	-	-	-	-
25-29	26	15	10	7	1	-	-	-
30-34	14	9	2	1	-	-	-	-
35-39	10	3	2	-	1	1	-	-
40-44	17	8	2	1	2	-	-	-
45-49	11	4	1	-	2	-	-	-
50-54	7	1	-	-	-	-	-	-
55-59	5	3	-	-	-	-	-	-
60-64	4	2	-	-	-	-	-	-
65-69	1	-	-	-	1	-	1	-
70 and over	1	-	-	-	-	-	-	-
<b>Government sector - total</b>	<b>75</b>	<b>46</b>	<b>-</b>	<b>-</b>	<b>24</b>	<b>11</b>	<b>-</b>	<b>-</b>
25-29	11	6	-	-	-	-	-	-
30-34	11	5	-	-	-	-	-	-
35-39	6	4	-	-	-	-	-	-
40-44	8	4	-	-	1	-	-	-
45-49	19	18	-	-	8	4	-	-
50-54	9	3	-	-	6	2	-	-
55-59	7	4	-	-	5	4	-	-
60-64	3	2	-	-	4	1	-	-
65-69	1	-	-	-	-	-	-	-
<b>Tertiary education - total</b>	<b>2344</b>	<b>1204</b>	<b>595</b>	<b>293</b>	<b>72</b>	<b>37</b>	<b>50</b>	<b>32</b>
Under 25	27	18	6	4	1	-	-	-
25-29	176	107	53	37	8	1	3	3
30-34	297	162	85	42	21	13	6	3
35-39	356	196	64	37	10	4	9	3
40-44	340	201	77	43	11	7	7	3
45-49	270	132	73	33	1	-	7	4
50-54	326	160	73	35	7	6	9	8
55-59	277	138	67	24	6	3	5	5
60-64	206	69	66	29	7	3	3	3
65-69	67	21	31	9	-	-	1	-
70 and over	2	-	-	-	-	-	-	-

**4.1. Full-time and part-time researchers and assistant researchers, by age and sex, 2018 (continued)**

	Researchers				Assistant researchers			
	Full-time		Part-time		Full-time		Part-time	
	All	Women	All	Women	All	Women	All	Women
<b>Region Šumadije i Zapadne Srbije</b>	<b>897</b>	<b>487</b>	<b>473</b>	<b>224</b>	<b>37</b>	<b>18</b>	<b>36</b>	<b>23</b>
Under 25	21	16	14	6	-	-	-	-
25-29	87	54	46	29	2	-	3	3
30-34	140	78	63	31	13	9	5	3
35-39	136	67	53	30	5	2	5	-
40-44	135	82	62	30	8	3	4	2
45-49	99	52	52	24	-	-	4	2
50-54	110	57	59	30	2	2	6	6
55-59	87	48	51	13	2	1	5	5
60-64	64	27	48	22	4	1	2	2
65-69	18	6	25	9	1	-	2	-
<b>Business sector - total</b>	<b>23</b>	<b>10</b>	<b>16</b>	<b>5</b>	<b>3</b>	<b>-</b>	<b>1</b>	<b>-</b>
Under 25	-	-	8	2	-	-	-	-
25-29	1	-	2	1	1	-	-	-
30-34	6	3	2	1	-	-	-	-
35-39	5	1	2	-	-	-	-	-
40-44	5	3	2	1	1	-	-	-
45-49	2	-	-	-	-	-	-	-
55-59	1	1	-	-	-	-	-	-
60-64	3	2	-	-	-	-	-	-
65-69	-	-	-	-	1	-	1	-
<b>Government sector - total</b>	<b>20</b>	<b>13</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>1</b>	<b>-</b>	<b>-</b>
25-29	2	1	-	-	-	-	-	-
30-34	1	1	-	-	-	-	-	-
35-39	2	1	-	-	-	-	-	-
40-44	4	2	-	-	-	-	-	-
45-49	7	6	-	-	-	-	-	-
50-54	1	-	-	-	1	1	-	-
55-59	1	1	-	-	-	-	-	-
60-64	1	1	-	-	1	-	-	-
65-69	1	-	-	-	-	-	-	-
<b>Tertiary education - total</b>	<b>854</b>	<b>464</b>	<b>457</b>	<b>219</b>	<b>32</b>	<b>17</b>	<b>35</b>	<b>23</b>
Under 25	21	16	6	4	-	-	-	-
25-29	84	53	44	28	1	-	3	3
30-34	133	74	61	30	13	9	5	3
35-39	129	65	51	30	5	2	5	-
40-44	126	77	60	29	7	3	4	2
45-49	90	46	52	24	-	-	4	2
50-54	109	57	59	30	1	1	6	6
55-59	85	46	51	13	2	1	5	5
60-64	60	24	48	22	3	1	2	2
65-69	17	6	25	9	-	-	1	-
<b>Region Južne i Istočne Srbije</b>	<b>1622</b>	<b>809</b>	<b>147</b>	<b>80</b>	<b>66</b>	<b>31</b>	<b>15</b>	<b>9</b>
Under 25	10	3	-	-	1	-	-	-
25-29	126	74	17	15	7	1	-	-
30-34	182	98	24	12	8	4	1	-
35-39	236	136	13	7	6	3	4	3
40-44	230	131	17	14	6	4	3	1
45-49	201	102	22	9	11	4	3	2
50-54	232	107	14	5	11	6	3	2
55-59	202	97	16	11	9	6	-	-
60-64	149	46	18	7	7	3	1	1
65-69	51	15	6	-	-	-	-	-
70 and over	3	-	-	-	-	-	-	-

#### 4.1. Full-time and part-time researchers and assistant researchers, by age and sex, 2018 (continued)

	Researchers				Assistant researchers			
	Full-time		Part-time		Full-time		Part-time	
	All	Women	All	Women	All	Women	All	Women
<b>Business sector - total</b>	<b>77</b>	<b>36</b>	<b>9</b>	<b>6</b>	<b>4</b>	<b>1</b>	-	-
Under 25	4	1	-	-	-	-	-	-
25-29	25	15	8	6	-	-	-	-
30-34	8	6	-	-	-	-	-	-
35-39	5	2	-	-	1	1	-	-
40-44	12	5	-	-	1	-	-	-
45-49	9	4	1	-	2	-	-	-
50-54	7	1	-	-	-	-	-	-
55-59	4	2	-	-	-	-	-	-
60-64	1	-	-	-	-	-	-	-
65-69	1	-	-	-	-	-	-	-
70 and over	1	-	-	-	-	-	-	-
<b>Government sector - total</b>	<b>55</b>	<b>33</b>	-	-	<b>22</b>	<b>10</b>	-	-
25-29	9	5	-	-	-	-	-	-
30-34	10	4	-	-	-	-	-	-
35-39	4	3	-	-	-	-	-	-
40-44	4	2	-	-	1	-	-	-
45-49	12	12	-	-	8	4	-	-
50-54	8	3	-	-	5	1	-	-
55-59	6	3	-	-	5	4	-	-
60-64	2	1	-	-	3	1	-	-
<b>Tertiary education - total</b>	<b>1490</b>	<b>740</b>	<b>138</b>	<b>74</b>	<b>40</b>	<b>20</b>	<b>15</b>	<b>9</b>
Under 25	6	2	-	-	1	-	-	-
25-29	92	54	9	9	7	1	-	-
30-34	164	88	24	12	8	4	1	-
35-39	227	131	13	7	5	2	4	3
40-44	214	124	17	14	4	4	3	1
45-49	180	86	21	9	1	-	3	2
50-54	217	103	14	5	6	5	3	2
55-59	192	92	16	11	4	2	-	-
60-64	146	45	18	7	4	2	1	1
65-69	50	15	6	-	-	-	-	-
70 and over	2	-	-	-	-	-	-	-
<b>Region Kosovo i Metohija</b>	...	...	...	...	...	...	...	...

**5.1. Full-time and part-time assistant researchers, by academic titles, sectors, fields of science and sex, 2018**  
(head count)

	Full-time and part-time assistant researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
<b>REPUBLIC OF SERBIA</b>	<b>1527</b>	<b>733</b>	<b>121</b>	<b>56</b>	<b>247</b>	<b>120</b>	<b>26</b>	<b>10</b>	<b>1133</b>	<b>547</b>
Natural sciences	381	155	29	4	76	27	9	1	267	123
Engineering and technology	581	210	54	27	79	29	4	1	444	153
Medical and health sciences	74	53	3	3	7	5	2	2	62	43
Agricultural sciences	144	78	9	4	29	15	7	5	99	54
Social sciences	186	120	15	9	18	12	3	1	150	98
Humanities	161	117	11	9	38	32	1	-	111	76
<b>Business sector</b>	<b>707</b>	<b>222</b>	<b>64</b>	<b>20</b>	<b>86</b>	<b>25</b>	<b>8</b>	<b>-</b>	<b>549</b>	<b>177</b>
Natural sciences	251	72	23	2	50	12	5	-	173	58
Engineering and technology	410	121	33	15	20	1	3	-	354	105
Medical and health sciences	16	12	1	1	2	2	-	-	13	9
Agricultural sciences	18	10	3	-	12	8	-	-	3	2
Social sciences	12	7	4	2	2	2	-	-	6	3
<b>Government sector</b>	<b>210</b>	<b>112</b>	<b>17</b>	<b>10</b>	<b>68</b>	<b>36</b>	<b>10</b>	<b>5</b>	<b>115</b>	<b>61</b>
Natural sciences	49	23	-	-	13	8	4	1	32	14
Engineering and technology	105	54	12	5	34	17	1	1	58	31
Medical and health sciences	5	5	1	1	2	2	1	1	1	1
Agricultural sciences	40	22	2	2	12	4	4	2	22	14
Social sciences	10	7	2	2	7	5	-	-	1	-
Humanities	1	1	-	-	-	-	-	-	1	1
<b>Tertiary education</b>	<b>610</b>	<b>399</b>	<b>40</b>	<b>26</b>	<b>93</b>	<b>59</b>	<b>8</b>	<b>5</b>	<b>469</b>	<b>309</b>
Natural sciences	81	60	6	2	13	7	-	-	62	51
Engineering and technology	66	35	9	7	25	11	-	-	32	17
Medical and health sciences	53	36	1	1	3	1	1	1	48	33
Agricultural sciences	86	46	4	2	5	3	3	3	74	38
Social sciences	164	106	9	5	9	5	3	1	143	95
Humanities	160	116	11	9	38	32	1	-	110	75
<b>SRBIJA – SEVER</b>	<b>1373</b>	<b>652</b>	<b>112</b>	<b>49</b>	<b>212</b>	<b>105</b>	<b>25</b>	<b>10</b>	<b>1024</b>	<b>488</b>
Natural sciences	367	149	27	3	72	25	9	1	259	120
Engineering and technology	507	179	48	22	60	24	4	1	395	132
Medical and health sciences	33	26	2	2	5	5	2	2	24	17
Agricultural sciences	142	77	9	4	28	15	7	5	98	53
Social sciences	186	120	15	9	18	12	3	1	150	98
Humanities	138	101	11	9	29	24	-	-	98	68
<b>Business sector</b>	<b>699</b>	<b>221</b>	<b>64</b>	<b>20</b>	<b>84</b>	<b>25</b>	<b>8</b>	<b>-</b>	<b>543</b>	<b>176</b>
Natural sciences	251	72	23	2	50	12	5	-	173	58
Engineering and technology	402	120	33	15	18	1	3	-	348	104
Medical and health sciences	16	12	1	1	2	2	-	-	13	9
Agricultural sciences	18	10	3	-	12	8	-	-	3	2
Social sciences	12	7	4	2	2	2	-	-	6	3
<b>Government sector</b>	<b>186</b>	<b>101</b>	<b>16</b>	<b>9</b>	<b>63</b>	<b>34</b>	<b>10</b>	<b>5</b>	<b>97</b>	<b>53</b>
Natural sciences	49	23	-	-	13	8	4	1	32	14
Engineering and technology	83	44	11	4	30	15	1	1	41	24
Medical and health sciences	5	5	1	1	2	2	1	1	1	1
Agricultural sciences	38	21	2	2	11	4	4	2	21	13
Social sciences	10	7	2	2	7	5	-	-	1	-
Humanities	1	1	-	-	-	-	-	-	1	1
<b>Tertiary education</b>	<b>488</b>	<b>330</b>	<b>32</b>	<b>20</b>	<b>65</b>	<b>46</b>	<b>7</b>	<b>5</b>	<b>384</b>	<b>259</b>
Natural sciences	67	54	4	1	9	5	-	-	54	48
Engineering and technology	22	15	4	3	12	8	-	-	6	4
Medical and health sciences	12	9	-	-	1	1	1	1	10	7
Agricultural sciences	86	46	4	2	5	3	3	3	74	38
Social sciences	164	106	9	5	9	5	3	1	143	95
Humanities	137	100	11	9	29	24	-	-	97	67
<b>Beogradski region</b>	<b>1033</b>	<b>491</b>	<b>80</b>	<b>44</b>	<b>152</b>	<b>80</b>	<b>18</b>	<b>10</b>	<b>783</b>	<b>357</b>
Natural sciences	277	129	7	3	42	15	4	1	224	110
Engineering and technology	419	140	37	18	39	15	4	1	339	106
Medical and health sciences	33	26	2	2	5	5	2	2	24	17
Agricultural sciences	110	58	8	3	19	9	5	5	78	41
Social sciences	64	41	15	9	18	12	3	1	28	19
Humanities	130	97	11	9	29	24	-	-	90	64
<b>Business sector</b>	<b>559</b>	<b>180</b>	<b>44</b>	<b>20</b>	<b>46</b>	<b>11</b>	<b>3</b>	<b>-</b>	<b>466</b>	<b>149</b>
Natural sciences	161	52	3	2	20	2	-	-	138	48
Engineering and technology	359	103	33	15	17	1	3	-	306	87
Medical and health sciences	16	12	1	1	2	2	-	-	13	9
Agricultural sciences	11	6	3	-	5	4	-	-	3	2
Social sciences	12	7	4	2	2	2	-	-	6	3



**5.1. Full-time and part-time assistant researchers, by academic titles, sectors, fields of science and sex, 2018**  
(head count) (continued)

	Full-time and part-time assistant researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
<b>Government sector</b>	<b>130</b>	<b>70</b>	<b>4</b>	<b>4</b>	<b>41</b>	<b>23</b>	<b>8</b>	<b>5</b>	<b>77</b>	<b>38</b>
Natural sciences	49	23	-	-	13	8	4	1	32	14
Engineering and technology	42	24	-	-	10	6	1	1	31	17
Medical and health sciences	5	5	1	1	2	2	1	1	1	1
Agricultural sciences	23	10	1	1	9	2	2	2	11	5
Social sciences	10	7	2	2	7	5	-	-	1	-
Humanities	1	1	-	-	-	-	-	-	1	1
<b>Tertiary education</b>	<b>344</b>	<b>241</b>	<b>32</b>	<b>20</b>	<b>65</b>	<b>46</b>	<b>7</b>	<b>5</b>	<b>240</b>	<b>170</b>
Natural sciences	67	54	4	1	9	5	-	-	54	48
Engineering and technology	18	13	4	3	12	8	-	-	2	2
Medical and health sciences	12	9	-	-	1	1	1	1	10	7
Agricultural sciences	76	42	4	2	5	3	3	3	64	34
Social sciences	42	27	9	5	9	5	3	1	21	16
Humanities	129	96	11	9	29	24	-	-	89	63
<b>Region Vojvodine</b>	<b>340</b>	<b>161</b>	<b>32</b>	<b>5</b>	<b>60</b>	<b>25</b>	<b>7</b>	<b>-</b>	<b>241</b>	<b>131</b>
Natural sciences	90	20	20	-	30	10	5	-	35	10
Engineering and technology	88	39	11	4	21	9	-	-	56	26
Agricultural sciences	32	19	1	1	9	6	2	-	20	12
Social sciences	122	79	-	-	-	-	-	-	122	79
Humanities	8	4	-	-	-	-	-	-	8	4
<b>Business sector</b>	<b>140</b>	<b>41</b>	<b>20</b>	<b>-</b>	<b>38</b>	<b>14</b>	<b>5</b>	<b>-</b>	<b>77</b>	<b>27</b>
Natural sciences	90	20	20	-	30	10	5	-	35	10
Engineering and technology	43	17	-	-	1	-	-	-	42	17
Agricultural sciences	7	4	-	-	7	4	-	-	-	-
<b>Government sector</b>	<b>56</b>	<b>31</b>	<b>12</b>	<b>5</b>	<b>22</b>	<b>11</b>	<b>2</b>	<b>-</b>	<b>20</b>	<b>15</b>
Engineering and technology	41	20	11	4	20	9	-	-	10	7
Agricultural sciences	15	11	1	1	2	2	2	-	10	8
<b>Tertiary education</b>	<b>144</b>	<b>89</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>144</b>	<b>89</b>
Engineering and technology	4	2	-	-	-	-	-	-	4	2
Agricultural sciences	10	4	-	-	-	-	-	-	10	4
Social sciences	122	79	-	-	-	-	-	-	122	79
Humanities	8	4	-	-	-	-	-	-	8	4
<b>SRBIJA – JUG</b>	<b>154</b>	<b>81</b>	<b>9</b>	<b>7</b>	<b>35</b>	<b>15</b>	<b>1</b>	<b>-</b>	<b>109</b>	<b>59</b>
Natural sciences	14	6	2	1	4	2	-	-	8	3
Engineering and technology	74	31	6	5	19	5	-	-	49	21
Medical and health sciences	41	27	1	1	2	-	-	-	38	26
Agricultural sciences	2	1	-	-	1	-	-	-	1	1
Humanities	23	16	-	-	9	8	1	-	13	8
<b>Business sector</b>	<b>8</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>6</b>	<b>1</b>
Natural sciences	8	1	-	-	2	-	-	-	6	1
<b>Government sector</b>	<b>24</b>	<b>11</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>18</b>	<b>8</b>
Engineering and technology	22	10	1	1	4	2	-	-	17	7
Agricultural sciences	2	1	-	-	1	-	-	-	1	1
<b>Tertiary education</b>	<b>122</b>	<b>69</b>	<b>8</b>	<b>6</b>	<b>28</b>	<b>13</b>	<b>1</b>	<b>-</b>	<b>85</b>	<b>50</b>
Natural sciences	14	6	2	1	4	2	-	-	8	3
Engineering and technology	44	20	5	4	13	3	-	-	26	13
Medical and health sciences	41	27	1	1	2	-	-	-	38	26
Humanities	23	16	-	-	9	8	1	-	13	8
<b>Region Šumadije i Zapadne Srbije</b>	<b>73</b>	<b>41</b>	<b>3</b>	<b>2</b>	<b>15</b>	<b>7</b>	<b>-</b>	<b>-</b>	<b>55</b>	<b>32</b>
Natural sciences	14	6	2	1	4	2	-	-	8	3
Engineering and technology	6	-	-	-	2	-	-	-	4	-
Medical and health sciences	35	23	1	1	2	-	-	-	32	22
Agricultural sciences	2	1	-	-	1	-	-	-	1	1
Humanities	16	11	-	-	6	5	-	-	10	6
<b>Business sector</b>	<b>4</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4</b>	<b>-</b>
Engineering and technology	4	-	-	-	-	-	-	-	4	-
<b>Government sector</b>	<b>2</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>1</b>
Agricultural sciences	2	1	-	-	1	-	-	-	1	1
<b>Tertiary education</b>	<b>67</b>	<b>40</b>	<b>3</b>	<b>2</b>	<b>14</b>	<b>7</b>	<b>-</b>	<b>-</b>	<b>50</b>	<b>31</b>
Natural sciences	14	6	2	1	4	2	-	-	8	3
Engineering and technology	2	-	-	-	2	-	-	-	-	-
Medical and health sciences	35	23	1	1	2	-	-	-	32	22
Humanities	16	11	-	-	6	5	-	-	10	6

**5.1. Full-time and part-time assistant researchers, by academic titles, sectors, fields of science and sex, 2018**  
(head count) (continued)

	Full-time and part-time assistant researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
<b>Region Južne i Istočne Srbije</b>	<b>81</b>	<b>40</b>	<b>6</b>	<b>5</b>	<b>20</b>	<b>8</b>	<b>1</b>	-	<b>54</b>	<b>27</b>
Engineering and technology	68	31	6	5	17	5	-	-	45	21
Medical and health sciences	6	4	-	-	-	-	-	-	6	4
Humanities	7	5	-	-	3	3	1	-	3	2
<b>Business sector</b>	<b>4</b>	<b>1</b>	-	-	<b>2</b>	-	-	-	<b>2</b>	<b>1</b>
Engineering and technology	4	1	-	-	2	-	-	-	2	1
<b>Government sector</b>	<b>22</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>2</b>	-	-	<b>17</b>	<b>7</b>
Engineering and technology	22	10	1	1	4	2	-	-	17	7
<b>Tertiary education</b>	<b>55</b>	<b>29</b>	<b>5</b>	<b>4</b>	<b>14</b>	<b>6</b>	<b>1</b>	-	<b>35</b>	<b>19</b>
Engineering and technology	42	20	5	4	11	3	-	-	26	13
Medical and health sciences	6	4	-	-	-	-	-	-	6	4
Humanities	7	5	-	-	3	3	1	-	3	2
<b>Region Kosovo i Metohija</b>	...	...	...	...	...	...	...	...	...	...

**5.2. Full-time and part-time assistant researchers, by academic titles, sectors, fields of science, expressed in full-time equivalent, 2018**

	Full-time and part-time assistant researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
<b>REPUBLIC OF SERBIA</b>	<b>1371,9</b>	<b>665,6</b>	<b>111,2</b>	<b>49,8</b>	<b>225,6</b>	<b>108,5</b>	<b>26,0</b>	<b>10,0</b>	<b>1009,1</b>	<b>497,3</b>
Natural sciences	354,8	143,5	28,3	3,3	75,3	27,0	9,0	1,0	242,2	112,2
Engineering and technology	501,7	190,8	46,7	23,3	68,4	25,0	4,0	1,0	382,6	141,5
Medical and health sciences	51,5	36,5	1,7	1,7	6,0	5,0	2,0	2,0	41,8	27,8
Agricultural sciences	137,3	73,7	9,0	4,0	24,2	11,8	7,0	5,0	97,1	52,9
Social sciences	168,0	106,5	14,5	8,5	14,5	8,5	3,0	1,0	136,0	88,5
Humanities	158,6	114,6	11,0	9,0	37,2	31,2	1,0	0,0	109,4	74,4
<b>Business sector</b>	<b>617,3</b>	<b>199,4</b>	<b>61,6</b>	<b>19,3</b>	<b>77,1</b>	<b>21,1</b>	<b>8,0</b>	<b>0,0</b>	<b>470,6</b>	<b>159,0</b>
Natural sciences	224,8	60,5	22,3	1,3	49,3	12,0	5,0	0,0	148,2	47,2
Engineering and technology	353,6	114,6	31,3	15,0	17,3	1,0	3,0	0,0	302,0	98,6
Medical and health sciences	16,0	12,0	1,0	1,0	2,0	2,0	0,0	0,0	13,0	9,0
Agricultural sciences	11,6	6,0	3,0	0,0	7,2	4,8	0,0	0,0	1,4	1,2
Social sciences	11,3	6,3	4,0	2,0	1,3	1,3	0,0	0,0	6,0	3,0
<b>Government sector</b>	<b>199,3</b>	<b>106,6</b>	<b>12,6</b>	<b>7,5</b>	<b>62,1</b>	<b>33,5</b>	<b>10,0</b>	<b>5,0</b>	<b>114,6</b>	<b>60,6</b>
Natural sciences	49,0	23,0	0,0	0,0	13,0	8,0	4,0	1,0	32,0	14,0
Engineering and technology	95,1	49,4	8,4	3,3	28,1	14,5	1,0	1,0	57,6	30,6
Medical and health sciences	4,2	4,2	0,2	0,2	2,0	2,0	1,0	1,0	1,0	1,0
Agricultural sciences	40,0	22,0	2,0	2,0	12,0	4,0	4,0	2,0	22,0	14,0
Social sciences	10,0	7,0	2,0	2,0	7,0	5,0	0,0	0,0	1,0	0,0
Humanities	1,0	1,0	0,0	0,0	0,0	0,0	0,0	0,0	1,0	1,0
<b>Tertiary education</b>	<b>555,3</b>	<b>359,6</b>	<b>37,0</b>	<b>23,0</b>	<b>86,4</b>	<b>53,9</b>	<b>8,0</b>	<b>5,0</b>	<b>423,9</b>	<b>277,7</b>
Natural sciences	81,0	60,0	6,0	2,0	13,0	7,0	0,0	0,0	62,0	51,0
Engineering and technology	53,0	26,8	7,0	5,0	23,0	9,5	0,0	0,0	23,0	12,3
Medical and health sciences	31,3	20,3	0,5	0,5	2,0	1,0	1,0	1,0	27,8	17,8
Agricultural sciences	85,7	45,7	4,0	2,0	5,0	3,0	3,0	3,0	73,7	37,7
Social sciences	146,7	93,2	8,5	4,5	6,2	2,2	3,0	1,0	129,0	85,5
Humanities	157,6	113,6	11,0	9,0	37,2	31,2	1,0	0,0	108,4	73,4
<b>SRBIJA – SEVER</b>	<b>1243,7</b>	<b>600,8</b>	<b>103,7</b>	<b>44,3</b>	<b>193,6</b>	<b>95,0</b>	<b>25,0</b>	<b>10,0</b>	<b>921,4</b>	<b>451,5</b>
Natural sciences	340,8	137,5	26,3	2,3	71,3	25,0	9,0	1,0	234,2	109,2
Engineering and technology	436,0	164,5	41,7	19,3	51,4	21,5	4,0	1,0	338,9	122,7
Medical and health sciences	28,0	21,0	1,2	1,2	5,0	5,0	2,0	2,0	19,8	12,8
Agricultural sciences	135,3	72,7	9,0	4,0	23,2	11,8	7,0	5,0	96,1	51,9
Social sciences	168,0	106,5	14,5	8,5	14,5	8,5	3,0	1,0	136,0	88,5
Humanities	135,6	98,6	11,0	9,0	28,2	23,2	0,0	0,0	96,4	66,4
<b>Business sector</b>	<b>609,6</b>	<b>198,4</b>	<b>61,6</b>	<b>19,3</b>	<b>75,1</b>	<b>21,1</b>	<b>8,0</b>	<b>0,0</b>	<b>464,9</b>	<b>158,0</b>
Natural sciences	224,8	60,5	22,3	1,3	49,3	12,0	5,0	0,0	148,2	47,2
Engineering and technology	345,9	113,6	31,3	15,0	15,3	1,0	3,0	0,0	296,3	97,6
Medical and health sciences	16,0	12,0	1,0	1,0	2,0	2,0	0,0	0,0	13,0	9,0
Agricultural sciences	11,6	6,0	3,0	0,0	7,2	4,8	0,0	0,0	1,4	1,2
Social sciences	11,3	6,3	4,0	2,0	1,3	1,3	0,0	0,0	6,0	3,0

**5.2. Full-time and part-time assistant researchers, by academic titles, sectors, fields of science, expressed in full-time equivalent, 2018 (continued)**

	Full-time and part-time assistant researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
<b>Government sector</b>	<b>175,3</b>	<b>95,6</b>	<b>11,6</b>	<b>6,5</b>	<b>57,1</b>	<b>31,5</b>	<b>10,0</b>	<b>5,0</b>	<b>96,6</b>	<b>52,6</b>
Natural sciences	49,0	23,0	0,0	0,0	13,0	8,0	4,0	1,0	32,0	14,0
Engineering and technology	73,1	39,4	7,4	2,3	24,1	12,5	1,0	1,0	40,6	23,6
Medical and health sciences	4,2	4,2	0,2	0,2	2,0	2,0	1,0	1,0	1,0	1,0
Agricultural sciences	38,0	21,0	2,0	2,0	11,0	4,0	4,0	2,0	21,0	13,0
Social sciences	10,0	7,0	2,0	2,0	7,0	5,0	0,0	0,0	1,0	0,0
Humanities	1,0	1,0	0,0	0,0	0,0	0,0	0,0	0,0	1,0	1,0
<b>Tertiary education</b>	<b>458,8</b>	<b>306,8</b>	<b>30,5</b>	<b>18,5</b>	<b>61,4</b>	<b>42,4</b>	<b>7,0</b>	<b>5,0</b>	<b>359,9</b>	<b>240,9</b>
Natural sciences	67,0	54,0	4,0	1,0	9,0	5,0	0,0	0,0	54,0	48,0
Engineering and technology	17,0	11,5	3,0	2,0	12,0	8,0	0,0	0,0	2,0	1,5
Medical and health sciences	7,8	4,8	0,0	0,0	1,0	1,0	1,0	1,0	5,8	2,8
Agricultural sciences	85,7	45,7	4,0	2,0	5,0	3,0	3,0	3,0	73,7	37,7
Social sciences	146,7	93,2	8,5	4,5	6,2	2,2	3,0	1,0	129,0	85,5
Humanities	134,6	97,6	11,0	9,0	28,2	23,2	0,0	0,0	95,4	65,4
<b>Beogradski region</b>	<b>946,6</b>	<b>464,3</b>	<b>75,3</b>	<b>41,0</b>	<b>144,3</b>	<b>75,7</b>	<b>18,0</b>	<b>10,0</b>	<b>709,0</b>	<b>337,6</b>
Natural sciences	260,8	122,5	6,3	2,3	41,3	15,0	4,0	1,0	209,2	104,2
Engineering and technology	362,1	132,3	34,3	17,0	36,3	15,0	4,0	1,0	287,5	99,3
Medical and health sciences	28,0	21,0	1,2	1,2	5,0	5,0	2,0	2,0	19,8	12,8
Agricultural sciences	108,1	56,9	8,0	3,0	19,0	9,0	5,0	5,0	76,1	39,9
Social sciences	60,0	37,0	14,5	8,5	14,5	8,5	3,0	1,0	28,0	19,0
Humanities	127,6	94,6	11,0	9,0	28,2	23,2	0,0	0,0	88,4	62,4
<b>Business sector</b>	<b>485,6</b>	<b>166,3</b>	<b>41,6</b>	<b>19,3</b>	<b>41,9</b>	<b>10,3</b>	<b>3,0</b>	<b>0,0</b>	<b>399,1</b>	<b>136,7</b>
Natural sciences	144,8	45,5	2,3	1,3	19,3	2,0	0,0	0,0	123,2	42,2
Engineering and technology	304,1	97,3	31,3	15,0	14,3	1,0	3,0	0,0	255,5	81,3
Medical and health sciences	16,0	12,0	1,0	1,0	2,0	2,0	0,0	0,0	13,0	9,0
Agricultural sciences	9,4	5,2	3,0	0,0	5,0	4,0	0,0	0,0	1,4	1,2
Social sciences	11,3	6,3	4,0	2,0	1,3	1,3	0,0	0,0	6,0	3,0
<b>Government sector</b>	<b>129,2</b>	<b>69,2</b>	<b>3,2</b>	<b>3,2</b>	<b>41,0</b>	<b>23,0</b>	<b>8,0</b>	<b>5,0</b>	<b>77,0</b>	<b>38,0</b>
Natural sciences	49,0	23,0	0,0	0,0	13,0	8,0	4,0	1,0	32,0	14,0
Engineering and technology	42,0	24,0	0,0	0,0	10,0	6,0	1,0	1,0	31,0	17,0
Medical and health sciences	4,2	4,2	0,2	0,2	2,0	2,0	1,0	1,0	1,0	1,0
Agricultural sciences	23,0	10,0	1,0	1,0	9,0	2,0	2,0	2,0	11,0	5,0
Social sciences	10,0	7,0	2,0	2,0	7,0	5,0	0,0	0,0	1,0	0,0
Humanities	1,0	1,0	0,0	0,0	0,0	0,0	0,0	0,0	1,0	1,0
<b>Tertiary education</b>	<b>331,8</b>	<b>228,8</b>	<b>30,5</b>	<b>18,5</b>	<b>61,4</b>	<b>42,4</b>	<b>7,0</b>	<b>5,0</b>	<b>232,9</b>	<b>162,9</b>
Natural sciences	67,0	54,0	4,0	1,0	9,0	5,0	0,0	0,0	54,0	48,0
Engineering and technology	16,0	11,0	3,0	2,0	12,0	8,0	0,0	0,0	1,0	1,0
Medical and health sciences	7,8	4,8	0,0	0,0	1,0	1,0	1,0	1,0	5,8	2,8
Agricultural sciences	75,7	41,7	4,0	2,0	5,0	3,0	3,0	3,0	63,7	33,7
Social sciences	38,7	23,7	8,5	4,5	6,2	2,2	3,0	1,0	21,0	16,0
Humanities	126,6	93,6	11,0	9,0	28,2	23,2	0,0	0,0	87,4	61,4
<b>Region Vojvodine</b>	<b>297,1</b>	<b>136,5</b>	<b>28,4</b>	<b>3,3</b>	<b>49,3</b>	<b>19,3</b>	<b>7,0</b>	<b>0,0</b>	<b>212,4</b>	<b>113,9</b>
Natural sciences	80,0	15,0	20,0	0,0	30,0	10,0	5,0	0,0	25,0	5,0
Engineering and technology	73,9	32,2	7,4	2,3	15,1	6,5	0,0	0,0	51,4	23,4
Agricultural sciences	27,2	15,8	1,0	1,0	4,2	2,8	2,0	0,0	20,0	12,0
Social sciences	108,0	69,5	0,0	0,0	0,0	0,0	0,0	0,0	108,0	69,5
Humanities	8,0	4,0	0,0	0,0	0,0	0,0	0,0	0,0	8,0	4,0
<b>Business sector</b>	<b>124,0</b>	<b>32,1</b>	<b>20,0</b>	<b>0,0</b>	<b>33,2</b>	<b>10,8</b>	<b>5,0</b>	<b>0,0</b>	<b>65,8</b>	<b>21,3</b>
Natural sciences	80,0	15,0	20,0	0,0	30,0	10,0	5,0	0,0	25,0	5,0
Engineering and technology	41,8	16,3	0,0	0,0	1,0	0,0	0,0	0,0	40,8	16,3
Agricultural sciences	2,2	0,8	0,0	0,0	2,2	0,8	0,0	0,0	0,0	0,0
<b>Government sector</b>	<b>46,1</b>	<b>26,4</b>	<b>8,4</b>	<b>3,3</b>	<b>16,1</b>	<b>8,5</b>	<b>2,0</b>	<b>0,0</b>	<b>19,6</b>	<b>14,6</b>
Engineering and technology	31,1	15,4	7,4	2,3	14,1	6,5	0,0	0,0	9,6	6,6
Agricultural sciences	15,0	11,0	1,0	1,0	2,0	2,0	2,0	0,0	10,0	8,0
<b>Tertiary education</b>	<b>127,0</b>	<b>78,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>127,0</b>	<b>78,0</b>
Engineering and technology	1,0	0,5	0,0	0,0	0,0	0,0	0,0	0,0	1,0	0,5
Agricultural sciences	10,0	4,0	0,0	0,0	0,0	0,0	0,0	0,0	10,0	4,0
Social sciences	108,0	69,5	0,0	0,0	0,0	0,0	0,0	0,0	108,0	69,5
Humanities	8,0	4,0	0,0	0,0	0,0	0,0	0,0	0,0	8,0	4,0
<b>SRBIJA – JUG</b>	<b>128,2</b>	<b>64,8</b>	<b>7,5</b>	<b>5,5</b>	<b>32,0</b>	<b>13,5</b>	<b>1,0</b>	<b>0,0</b>	<b>87,7</b>	<b>45,8</b>
Natural sciences	14,0	6,0	2,0	1,0	4,0	2,0	0,0	0,0	8,0	3,0
Engineering and technology	65,7	26,3	5,0	4,0	17,0	3,5	0,0	0,0	43,7	18,8
Medical and health sciences	23,5	15,5	0,5	0,5	1,0	0,0	0,0	0,0	22,0	15,0
Agricultural sciences	2,0	1,0	0,0	0,0	1,0	0,0	0,0	0,0	1,0	1,0
Humanities	23,0	16,0	0,0	0,0	9,0	8,0	1,0	0,0	13,0	8,0

**5.2. Full-time and part-time assistant researchers, by academic titles, sectors, fields of science, expressed in full-time equivalent, 2018 (continued)**

	Full-time and part-time assistant researchers									
	Total		Doctors of science		Masters of science		Specialists		University degree	
	All	Women	All	Women	All	Women	All	Women	All	Women
<b>Business sector</b>	<b>7,7</b>	<b>1,0</b>	<b>0,0</b>	<b>0,0</b>	<b>2,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>5,7</b>	<b>1,0</b>
Natural sciences	7,7	1,0	0,0	0,0	2,0	0,0	0,0	0,0	5,7	1,0
<b>Government sector</b>	<b>24,0</b>	<b>11,0</b>	<b>1,0</b>	<b>1,0</b>	<b>5,0</b>	<b>2,0</b>	<b>0,0</b>	<b>0,0</b>	<b>18,0</b>	<b>8,0</b>
Engineering and technology	22,0	10,0	1,0	1,0	4,0	2,0	0,0	0,0	17,0	7,0
Agricultural sciences	2,0	1,0	0,0	0,0	1,0	0,0	0,0	0,0	1,0	1,0
<b>Tertiary education</b>	<b>96,5</b>	<b>52,8</b>	<b>6,5</b>	<b>4,5</b>	<b>25,0</b>	<b>11,5</b>	<b>1,0</b>	<b>0,0</b>	<b>64,0</b>	<b>36,8</b>
Natural sciences	14,0	6,0	2,0	1,0	4,0	2,0	0,0	0,0	8,0	3,0
Engineering and technology	36,0	15,3	4,0	3,0	11,0	1,5	0,0	0,0	21,0	10,8
Medical and health sciences	23,5	15,5	0,5	0,5	1,0	0,0	0,0	0,0	22,0	15,0
Humanities	23,0	16,0	0,0	0,0	9,0	8,0	1,0	0,0	13,0	8,0
<b>Region Šumadije i Zapadne Srbije</b>	<b>55,2</b>	<b>29,5</b>	<b>2,5</b>	<b>1,5</b>	<b>14,0</b>	<b>7,0</b>	<b>0,0</b>	<b>0,0</b>	<b>38,7</b>	<b>21,0</b>
Natural sciences	14,0	6,0	2,0	1,0	4,0	2,0	0,0	0,0	8,0	3,0
Engineering and technology	5,7	0,0	0,0	0,0	2,0	0,0	0,0	0,0	3,7	0,0
Medical and health sciences	17,5	11,5	0,5	0,5	1,0	0,0	0,0	0,0	16,0	11,0
Agricultural sciences	2,0	1,0	0,0	0,0	1,0	0,0	0,0	0,0	1,0	1,0
Humanities	16,0	11,0	0,0	0,0	6,0	5,0	0,0	0,0	10,0	6,0
<b>Business sector</b>	<b>3,7</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>3,7</b>	<b>0,0</b>
Engineering and technology	3,7	0,0	0,0	0,0	0,0	0,0	0,0	0,0	3,7	0,0
<b>Government sector</b>	<b>2,0</b>	<b>1,0</b>	<b>0,0</b>	<b>0,0</b>	<b>1,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>1,0</b>	<b>1,0</b>
Agricultural sciences	2,0	1,0	0,0	0,0	1,0	0,0	0,0	0,0	1,0	1,0
<b>Tertiary education</b>	<b>49,5</b>	<b>28,5</b>	<b>2,5</b>	<b>1,5</b>	<b>13,0</b>	<b>7,0</b>	<b>0,0</b>	<b>0,0</b>	<b>34,0</b>	<b>20,0</b>
Natural sciences	14,0	6,0	2,0	1,0	4,0	2,0	0,0	0,0	8,0	3,0
Engineering and technology	2,0	0,0	0,0	0,0	2,0	0,0	0,0	0,0	0,0	0,0
Medical and health sciences	17,5	11,5	0,5	0,5	1,0	0,0	0,0	0,0	16,0	11,0
Humanities	16,0	11,0	0,0	0,0	6,0	5,0	0,0	0,0	10,0	6,0
<b>Region Južne i Istočne Srbije</b>	<b>73,0</b>	<b>35,3</b>	<b>5,0</b>	<b>4,0</b>	<b>18,0</b>	<b>6,5</b>	<b>1,0</b>	<b>0,0</b>	<b>49,0</b>	<b>24,8</b>
Engineering and technology	60,0	26,3	5,0	4,0	15,0	3,5	0,0	0,0	40,0	18,8
Medical and health sciences	6,0	4,0	0,0	0,0	0,0	0,0	0,0	0,0	6,0	4,0
Humanities	7,0	5,0	0,0	0,0	3,0	3,0	1,0	0,0	3,0	2,0
<b>Business sector</b>	<b>4,0</b>	<b>1,0</b>	<b>0,0</b>	<b>0,0</b>	<b>2,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>2,0</b>	<b>1,0</b>
Engineering and technology	4,0	1,0	0,0	0,0	2,0	0,0	0,0	0,0	2,0	1,0
<b>Government sector</b>	<b>22,0</b>	<b>10,0</b>	<b>1,0</b>	<b>1,0</b>	<b>4,0</b>	<b>2,0</b>	<b>0,0</b>	<b>0,0</b>	<b>17,0</b>	<b>7,0</b>
Engineering and technology	22,0	10,0	1,0	1,0	4,0	2,0	0,0	0,0	17,0	7,0
<b>Tertiary education</b>	<b>47,0</b>	<b>24,3</b>	<b>4,0</b>	<b>3,0</b>	<b>12,0</b>	<b>4,5</b>	<b>1,0</b>	<b>0,0</b>	<b>30,0</b>	<b>16,8</b>
Engineering and technology	34,0	15,3	4,0	3,0	9,0	1,5	0,0	0,0	21,0	10,8
Medical and health sciences	6,0	4,0	0,0	0,0	0,0	0,0	0,0	0,0	6,0	4,0
Humanities	7,0	5,0	0,0	0,0	3,0	3,0	1,0	0,0	3,0	2,0
<b>Region Kosovo i Metohija</b>	...	...	...	...	...	...	...	...	...	...

## 6.1. Engaged on the basis of work on contract and author contract (head count), 2018

	Engaged on the basis of work on contract and author contract							
	Total		Researchers		Assistant researchers		Other	
	All	Women	All	Women	All	Women	All	Women
<b>REPUBLIC OF SERBIA</b>	<b>2245</b>	<b>1064</b>	<b>1769</b>	<b>877</b>	<b>235</b>	<b>88</b>	<b>241</b>	<b>99</b>
Natural sciences	902	545	757	474	46	24	99	47
Engineering and technology	347	84	152	44	118	24	77	16
Medical and health sciences	455	163	425	141	9	7	21	15
Agricultural sciences	30	14	26	12	4	2	-	-
Social sciences	268	130	233	108	22	12	13	10
Humanities	243	128	176	98	36	19	31	11
<b>Business sector</b>	<b>1191</b>	<b>545</b>	<b>983</b>	<b>486</b>	<b>88</b>	<b>21</b>	<b>120</b>	<b>38</b>
Natural sciences	525	343	484	331	15	5	26	7
Engineering and technology	227	49	95	26	59	7	73	16
Medical and health sciences	433	151	403	129	9	7	21	15
Agricultural sciences	4	2	-	-	4	2	-	-
Social sciences	2	-	1	-	1	-	-	-
<b>Government sector</b>	<b>400</b>	<b>194</b>	<b>219</b>	<b>121</b>	<b>98</b>	<b>39</b>	<b>83</b>	<b>34</b>
Natural sciences	192	107	135	79	8	5	49	23
Engineering and technology	69	21	7	5	58	16	4	-
Medical and health sciences	11	6	11	6	-	-	-	-
Agricultural sciences	7	4	7	4	-	-	-	-
Social sciences	29	20	20	14	4	2	5	4
Humanities	92	36	39	13	28	16	25	7
<b>Tertiary education</b>	<b>647</b>	<b>321</b>	<b>566</b>	<b>269</b>	<b>43</b>	<b>25</b>	<b>38</b>	<b>27</b>
Natural sciences	179	92	138	64	17	11	24	17
Engineering and technology	51	14	50	13	1	1	-	-
Medical and health sciences	11	6	11	6	-	-	-	-
Agricultural sciences	19	8	19	8	-	-	-	-
Social sciences	236	109	211	93	17	10	8	6
Humanities	151	92	137	85	8	3	6	4
<b>Non-profit sector</b>	<b>7</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>6</b>	<b>3</b>	<b>-</b>	<b>-</b>
Natural sciences	6	3	-	-	6	3	-	-
Social sciences	1	1	1	1	-	-	-	-
<b>SRBIJA – SEVER</b>	<b>2114</b>	<b>995</b>	<b>1661</b>	<b>820</b>	<b>213</b>	<b>76</b>	<b>240</b>	<b>99</b>
Natural sciences	860	521	732	461	29	13	99	47
Engineering and technology	321	78	132	39	113	23	76	16
Medical and health sciences	455	163	425	141	9	7	21	15
Agricultural sciences	30	14	26	12	4	2	-	-
Social sciences	260	123	225	101	22	12	13	10
Humanities	188	96	121	66	36	19	31	11
<b>Business sector</b>	<b>1168</b>	<b>540</b>	<b>965</b>	<b>481</b>	<b>84</b>	<b>21</b>	<b>119</b>	<b>38</b>
Natural sciences	525	343	484	331	15	5	26	7
Engineering and technology	204	44	77	21	55	7	72	16
Medical and health sciences	433	151	403	129	9	7	21	15
Agricultural sciences	4	2	-	-	4	2	-	-
Social sciences	2	-	1	-	1	-	-	-
<b>Government sector</b>	<b>399</b>	<b>194</b>	<b>218</b>	<b>121</b>	<b>98</b>	<b>39</b>	<b>83</b>	<b>34</b>
Natural sciences	192	107	135	79	8	5	49	23
Engineering and technology	68	21	6	5	58	16	4	-
Medical and health sciences	11	6	11	6	-	-	-	-
Agricultural sciences	7	4	7	4	-	-	-	-
Social sciences	29	20	20	14	4	2	5	4
Humanities	92	36	39	13	28	16	25	7
<b>Tertiary education</b>	<b>540</b>	<b>257</b>	<b>477</b>	<b>217</b>	<b>25</b>	<b>13</b>	<b>38</b>	<b>27</b>
Natural sciences	137	68	113	51	-	-	24	17
Engineering and technology	49	13	49	13	-	-	-	-
Medical and health sciences	11	6	11	6	-	-	-	-
Agricultural sciences	19	8	19	8	-	-	-	-
Social sciences	228	102	203	86	17	10	8	6
Humanities	96	60	82	53	8	3	6	4
<b>Non-profit sector</b>	<b>7</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>6</b>	<b>3</b>	<b>-</b>	<b>-</b>
Natural sciences	6	3	-	-	6	3	-	-
Social sciences	1	1	1	1	-	-	-	-
<b>Beogradski region</b>	<b>1939</b>	<b>934</b>	<b>1590</b>	<b>787</b>	<b>141</b>	<b>55</b>	<b>208</b>	<b>92</b>
Natural sciences	809	505	720	457	15	8	74	40
Engineering and technology	253	60	129	37	55	7	69	16
Medical and health sciences	455	163	425	141	9	7	21	15
Agricultural sciences	8	5	4	3	4	2	-	-
Social sciences	226	105	191	83	22	12	13	10
Humanities	188	96	121	66	36	19	31	11
<b>Business sector</b>	<b>1122</b>	<b>528</b>	<b>955</b>	<b>478</b>	<b>76</b>	<b>19</b>	<b>91</b>	<b>31</b>
Natural sciences	484	332	476	329	7	3	1	-
Engineering and technology	199	43	75	20	55	7	69	16
Medical and health sciences	433	151	403	129	9	7	21	15
Agricultural sciences	4	2	-	-	4	2	-	-
Social sciences	2	-	1	-	1	-	-	-

6.1. Engaged on the basis of work on contract and author contract (head count), 2018 (continued)

	Engaged on the basis of work on contract and author contract							
	Total		Researchers		Assistant researchers		Other	
	All	Women	All	Women	All	Women	All	Women
<b>Government sector</b>	<b>334</b>	<b>177</b>	<b>215</b>	<b>120</b>	<b>40</b>	<b>23</b>	<b>79</b>	<b>34</b>
Natural sciences	192	107	135	79	8	5	49	23
Engineering and technology	6	5	6	5	-	-	-	-
Medical and health sciences	11	6	11	6	-	-	-	-
Agricultural sciences	4	3	4	3	-	-	-	-
Social sciences	29	20	20	14	4	2	5	4
Humanities	92	36	39	13	28	16	25	7
<b>Tertiary education</b>	<b>482</b>	<b>228</b>	<b>419</b>	<b>188</b>	<b>25</b>	<b>13</b>	<b>38</b>	<b>27</b>
Natural sciences	133	66	109	49	-	-	24	17
Engineering and technology	48	12	48	12	-	-	-	-
Medical and health sciences	11	6	11	6	-	-	-	-
Social sciences	194	84	169	68	17	10	8	6
Humanities	96	60	82	53	8	3	6	4
<b>Non-profit sector</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Social sciences	1	1	1	1	-	-	-	-
<b>Region Vojvodine</b>	<b>175</b>	<b>61</b>	<b>71</b>	<b>33</b>	<b>72</b>	<b>21</b>	<b>32</b>	<b>7</b>
Natural sciences	51	16	12	4	14	5	25	7
Engineering and technology	68	18	3	2	58	16	7	-
Agricultural sciences	22	9	22	9	-	-	-	-
Social sciences	34	18	34	18	-	-	-	-
<b>Business sector</b>	<b>46</b>	<b>12</b>	<b>10</b>	<b>3</b>	<b>8</b>	<b>2</b>	<b>28</b>	<b>7</b>
Natural sciences	41	11	8	2	8	2	25	7
Engineering and technology	5	1	2	1	-	-	3	-
<b>Government sector</b>	<b>65</b>	<b>17</b>	<b>3</b>	<b>1</b>	<b>58</b>	<b>16</b>	<b>4</b>	<b>-</b>
Engineering and technology	62	16	-	-	58	16	4	-
Agricultural sciences	3	1	3	1	-	-	-	-
<b>Tertiary education</b>	<b>58</b>	<b>29</b>	<b>58</b>	<b>29</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Natural sciences	4	2	4	2	-	-	-	-
Engineering and technology	1	1	1	1	-	-	-	-
Agricultural sciences	19	8	19	8	-	-	-	-
Social sciences	34	18	34	18	-	-	-	-
<b>Non-profit sector</b>	<b>6</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>6</b>	<b>3</b>	<b>-</b>	<b>-</b>
Natural sciences	6	3	-	-	6	3	-	-
<b>SRBIJA – JUG</b>	<b>131</b>	<b>69</b>	<b>108</b>	<b>57</b>	<b>22</b>	<b>12</b>	<b>1</b>	<b>-</b>
Natural sciences	42	24	25	13	17	11	-	-
Engineering and technology	26	6	20	5	5	1	1	-
Social sciences	8	7	8	7	-	-	-	-
Humanities	55	32	55	32	-	-	-	-
<b>Business sector</b>	<b>23</b>	<b>5</b>	<b>18</b>	<b>5</b>	<b>4</b>	<b>-</b>	<b>1</b>	<b>-</b>
Engineering and technology	23	5	18	5	4	-	1	-
<b>Government sector</b>	<b>1</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Engineering and technology	1	-	1	-	-	-	-	-
<b>Tertiary education</b>	<b>107</b>	<b>64</b>	<b>89</b>	<b>52</b>	<b>18</b>	<b>12</b>	<b>-</b>	<b>-</b>
Natural sciences	42	24	25	13	17	11	-	-
Engineering and technology	2	1	1	-	1	1	-	-
Social sciences	8	7	8	7	-	-	-	-
Humanities	55	32	55	32	-	-	-	-
<b>Region Šumadije i Zapadne Srbije</b>	<b>121</b>	<b>66</b>	<b>103</b>	<b>55</b>	<b>17</b>	<b>11</b>	<b>1</b>	<b>-</b>
Natural sciences	42	24	25	13	17	11	-	-
Engineering and technology	16	3	15	3	-	-	1	-
Social sciences	8	7	8	7	-	-	-	-
Humanities	55	32	55	32	-	-	-	-
<b>Business sector</b>	<b>15</b>	<b>3</b>	<b>14</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>-</b>
Engineering and technology	15	3	14	3	-	-	1	-
<b>Tertiary education</b>	<b>106</b>	<b>63</b>	<b>89</b>	<b>52</b>	<b>17</b>	<b>11</b>	<b>-</b>	<b>-</b>
Natural sciences	42	24	25	13	17	11	-	-
Engineering and technology	1	-	1	-	-	-	-	-
Social sciences	8	7	8	7	-	-	-	-
Humanities	55	32	55	32	-	-	-	-
<b>Region Južne i Istočne Srbije</b>	<b>10</b>	<b>3</b>	<b>5</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>-</b>	<b>-</b>
Engineering and technology	10	3	5	2	5	1	-	-
<b>Business sector</b>	<b>8</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>4</b>	<b>-</b>	<b>-</b>	<b>-</b>
Engineering and technology	8	2	4	2	4	-	-	-
<b>Government sector</b>	<b>1</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Engineering and technology	1	-	1	-	-	-	-	-
<b>Tertiary education</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>
Engineering and technology	1	1	-	-	1	1	-	-
<b>Region Kosovo i Metohija</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>

## 6.2. Engaged on the basis of work on contract and author contract, expressed in full-time equivalent, 2018

	Engaged on the basis of work on contract and author contract							
	Total		Researchers		Assistant researchers		Other	
	All	Women	All	Women	All	Women	All	Women
<b>REPUBLIC OF SERBIA</b>	<b>979,4</b>	<b>419,9</b>	<b>694,0</b>	<b>320,0</b>	<b>102,5</b>	<b>34,4</b>	<b>182,9</b>	<b>65,5</b>
Natural sciences	429,6	215,1	304,2	153,9	30,8	16,4	94,6	44,8
Engineering and technology	184,6	42,2	76,8	28,6	49,5	6,7	58,3	6,9
Medical and health sciences	92,1	34,0	82,9	27,2	5,0	3,8	4,2	3,0
Agricultural sciences	13,7	6,7	12,5	6,1	1,2	0,6	-	-
Social sciences	143,7	57,0	125,9	46,7	10,0	3,8	7,8	6,5
Humanities	115,7	64,9	91,7	57,5	6,0	3,1	18,0	4,3
<b>Business sector</b>	<b>371,4</b>	<b>117,5</b>	<b>224,3</b>	<b>88,4</b>	<b>59,9</b>	<b>12,2</b>	<b>87,2</b>	<b>16,9</b>
Natural sciences	128,3	54,7	89,4	43,4	13,6	4,3	25,3	7,0
Engineering and technology	151,4	30,1	54,6	19,7	39,1	3,5	57,7	6,9
Medical and health sciences	88,5	32,1	79,3	25,3	5,0	3,8	4,2	3,0
Agricultural sciences	1,2	0,6	-	-	1,2	0,6	-	-
Social sciences	2,0	-	1,0	-	1,0	-	-	-
<b>Government sector</b>	<b>212,0</b>	<b>105,5</b>	<b>127,8</b>	<b>71,5</b>	<b>19,2</b>	<b>6,7</b>	<b>65,0</b>	<b>27,3</b>
Natural sciences	144,3	75,3	95,8	52,7	3,2	1,8	45,3	20,8
Engineering and technology	17,5	7,7	7,0	5,0	9,9	2,7	0,6	-
Medical and health sciences	2,2	1,2	2,2	1,2	-	-	-	-
Agricultural sciences	3,0	2,1	3,0	2,1	-	-	-	-
Social sciences	19,2	12,3	13,6	8,8	2,5	0,5	3,1	3,0
Humanities	25,8	6,9	6,2	1,7	3,6	1,7	16,0	3,5
<b>Tertiary education</b>	<b>395,3</b>	<b>196,5</b>	<b>341,8</b>	<b>160,0</b>	<b>22,8</b>	<b>15,2</b>	<b>30,7</b>	<b>21,3</b>
Natural sciences	156,4	84,8	119,0	57,8	13,4	10,0	24,0	17,0
Engineering and technology	15,7	4,4	15,2	3,9	0,5	0,5	-	-
Medical and health sciences	1,4	0,7	1,4	0,7	-	-	-	-
Agricultural sciences	9,5	4,0	9,5	4,0	-	-	-	-
Social sciences	122,4	44,6	111,2	37,8	6,5	3,3	4,7	3,5
Humanities	89,9	58,0	85,5	55,8	2,4	1,4	2,0	0,8
<b>Non-profit sector</b>	<b>0,7</b>	<b>0,4</b>	<b>0,1</b>	<b>0,1</b>	<b>0,6</b>	<b>0,3</b>	-	-
Natural sciences	0,6	0,3	-	-	0,6	0,3	-	-
Social sciences	0,1	0,1	0,1	0,1	-	-	-	-
<b>SRBIJA – SEVER</b>	<b>916,3</b>	<b>382,8</b>	<b>647,2</b>	<b>293,4</b>	<b>86,5</b>	<b>23,9</b>	<b>182,6</b>	<b>65,5</b>
Natural sciences	398,0	193,1	286,0	141,9	17,4	6,4	94,6	44,8
Engineering and technology	172,0	38,8	67,1	25,7	46,9	6,2	58,0	6,9
Medical and health sciences	92,1	34,0	82,9	27,2	5,0	3,8	4,2	3,0
Agricultural sciences	13,7	6,7	12,5	6,1	1,2	0,6	-	-
Social sciences	141,3	54,9	123,5	44,6	10,0	3,8	7,8	6,5
Humanities	99,2	55,3	75,2	47,9	6,0	3,1	18,0	4,3
<b>Business sector</b>	<b>360,8</b>	<b>114,6</b>	<b>216,1</b>	<b>85,5</b>	<b>57,8</b>	<b>12,2</b>	<b>86,9</b>	<b>16,9</b>
Natural sciences	128,3	54,7	89,4	43,4	13,6	4,3	25,3	7,0
Engineering and technology	140,8	27,2	46,4	16,8	37,0	3,5	57,4	6,9
Medical and health sciences	88,5	32,1	79,3	25,3	5,0	3,8	4,2	3,0
Agricultural sciences	1,2	0,6	-	-	1,2	0,6	-	-
Social sciences	2,0	-	1,0	-	1,0	-	-	-
<b>Government sector</b>	<b>211,0</b>	<b>105,5</b>	<b>126,8</b>	<b>71,5</b>	<b>19,2</b>	<b>6,7</b>	<b>65,0</b>	<b>27,3</b>
Natural sciences	144,3	75,3	95,8	52,7	3,2	1,8	45,3	20,8
Engineering and technology	16,5	7,7	6,0	5,0	9,9	2,7	0,6	-
Medical and health sciences	2,2	1,2	2,2	1,2	-	-	-	-
Agricultural sciences	3,0	2,1	3,0	2,1	-	-	-	-
Social sciences	19,2	12,3	13,6	8,8	2,5	0,5	3,1	3,0
Humanities	25,8	6,9	6,2	1,7	3,6	1,7	16,0	3,5
<b>Tertiary education</b>	<b>343,8</b>	<b>162,3</b>	<b>304,2</b>	<b>136,3</b>	<b>8,9</b>	<b>4,7</b>	<b>30,7</b>	<b>21,3</b>
Natural sciences	124,8	62,8	100,8	45,8	-	-	24,0	17,0
Engineering and technology	14,7	3,9	14,7	3,9	-	-	-	-
Medical and health sciences	1,4	0,7	1,4	0,7	-	-	-	-
Agricultural sciences	9,5	4,0	9,5	4,0	-	-	-	-
Social sciences	120,0	42,5	108,8	35,7	6,5	3,3	4,7	3,5
Humanities	73,4	48,4	69,0	46,2	2,4	1,4	2,0	0,8
<b>Non-profit sector</b>	<b>0,7</b>	<b>0,4</b>	<b>0,1</b>	<b>0,1</b>	<b>0,6</b>	<b>0,3</b>	-	-
Natural sciences	0,6	0,3	-	-	0,6	0,3	-	-
Social sciences	0,1	0,1	0,1	0,1	-	-	-	-
<b>Beogradski region</b>	<b>831,8</b>	<b>355,4</b>	<b>609,8</b>	<b>278,0</b>	<b>68,0</b>	<b>18,9</b>	<b>154,0</b>	<b>58,5</b>
Natural sciences	355,6	181,4	277,2	139,5	8,8	4,1	69,6	37,8
Engineering and technology	156,2	34,8	64,8	24,4	37,0	3,5	54,4	6,9
Medical and health sciences	92,1	34,0	82,9	27,2	5,0	3,8	4,2	3,0
Agricultural sciences	3,5	2,5	2,3	1,9	1,2	0,6	-	-
Social sciences	125,2	47,4	107,4	37,1	10,0	3,8	7,8	6,5
Humanities	99,2	55,3	75,2	47,9	6,0	3,1	18,0	4,3
<b>Business sector</b>	<b>314,8</b>	<b>102,6</b>	<b>206,1</b>	<b>82,5</b>	<b>49,8</b>	<b>10,2</b>	<b>58,9</b>	<b>9,9</b>
Natural sciences	87,3	43,7	81,4	41,4	5,6	2,3	0,3	-
Engineering and technology	135,8	26,2	44,4	15,8	37,0	3,5	54,4	6,9
Medical and health sciences	88,5	32,1	79,3	25,3	5,0	3,8	4,2	3,0
Agricultural sciences	1,2	0,6	-	-	1,2	0,6	-	-
Social sciences	2,0	-	1,0	-	1,0	-	-	-

## 6.2. Engaged on the basis of work on contract and author contract, expressed in full-time equivalent, 2018 (continued)

	Engaged on the basis of work on contract and author contract							
	Total		Researchers		Assistant researchers		Other	
	All	Women	All	Women	All	Women	All	Women
<b>Government sector</b>	<b>199,8</b>	<b>102,6</b>	<b>126,1</b>	<b>71,3</b>	<b>9,3</b>	<b>4,0</b>	<b>64,4</b>	<b>27,3</b>
Natural sciences	144,3	75,3	95,8	52,7	3,2	1,8	45,3	20,8
Engineering and technology	6,0	5,0	6,0	5,0	-	-	-	-
Medical and health sciences	2,2	1,2	2,2	1,2	-	-	-	-
Agricultural sciences	2,3	1,9	2,3	1,9	-	-	-	-
Social sciences	19,2	12,3	13,6	8,8	2,5	0,5	3,1	3,0
Humanities	25,8	6,9	6,2	1,7	3,6	1,7	16,0	3,5
<b>Tertiary education</b>	<b>317,1</b>	<b>150,1</b>	<b>277,5</b>	<b>124,1</b>	<b>8,9</b>	<b>4,7</b>	<b>30,7</b>	<b>21,3</b>
Natural sciences	124,0	62,4	100,0	45,4	-	-	24,0	17,0
Engineering and technology	14,4	3,6	14,4	3,6	-	-	-	-
Medical and health sciences	1,4	0,7	1,4	0,7	-	-	-	-
Social sciences	103,9	35,0	92,7	28,2	6,5	3,3	4,7	3,5
Humanities	73,4	48,4	69,0	46,2	2,4	1,4	2,0	0,8
<b>Non-profit sector</b>	<b>0,1</b>	<b>0,1</b>	<b>0,1</b>	<b>0,1</b>	-	-	-	-
Social sciences	0,1	0,1	0,1	0,1	-	-	-	-
<b>Region Vojvodine</b>	<b>84,5</b>	<b>27,4</b>	<b>37,4</b>	<b>15,4</b>	<b>18,5</b>	<b>5,0</b>	<b>28,6</b>	<b>7,0</b>
Natural sciences	42,4	11,7	8,8	2,4	8,6	2,3	25,0	7,0
Engineering and technology	15,8	4,0	2,3	1,3	9,9	2,7	3,6	-
Agricultural sciences	10,2	4,2	10,2	4,2	-	-	-	-
Social sciences	16,1	7,5	16,1	7,5	-	-	-	-
<b>Business sector</b>	<b>46,0</b>	<b>12,0</b>	<b>10,0</b>	<b>3,0</b>	<b>8,0</b>	<b>2,0</b>	<b>28,0</b>	<b>7,0</b>
Natural sciences	41,0	11,0	8,0	2,0	8,0	2,0	25,0	7,0
Engineering and technology	5,0	1,0	2,0	1,0	-	-	3,0	-
<b>Government sector</b>	<b>11,2</b>	<b>2,9</b>	<b>0,7</b>	<b>0,2</b>	<b>9,9</b>	<b>2,7</b>	<b>0,6</b>	-
Engineering and technology	10,5	2,7	-	-	9,9	2,7	0,6	-
Agricultural sciences	0,7	0,2	0,7	0,2	-	-	-	-
<b>Tertiary education</b>	<b>26,7</b>	<b>12,2</b>	<b>26,7</b>	<b>12,2</b>	-	-	-	-
Natural sciences	0,8	0,4	0,8	0,4	-	-	-	-
Engineering and technology	0,3	0,3	0,3	0,3	-	-	-	-
Agricultural sciences	9,5	4,0	9,5	4,0	-	-	-	-
Social sciences	16,1	7,5	16,1	7,5	-	-	-	-
<b>Non-profit sector</b>	<b>0,6</b>	<b>0,3</b>	-	-	<b>0,6</b>	<b>0,3</b>	-	-
Natural sciences	0,6	0,3	-	-	0,6	0,3	-	-
<b>SRBIJA – JUG</b>	<b>63,1</b>	<b>37,1</b>	<b>46,8</b>	<b>26,6</b>	<b>16,0</b>	<b>10,5</b>	<b>0,3</b>	-
Natural sciences	31,6	22,0	18,2	12,0	13,4	10,0	-	-
Engineering and technology	12,6	3,4	9,7	2,9	2,6	0,5	0,3	-
Social sciences	2,4	2,1	2,4	2,1	-	-	-	-
Humanities	16,5	9,6	16,5	9,6	-	-	-	-
<b>Business sector</b>	<b>10,6</b>	<b>2,9</b>	<b>8,2</b>	<b>2,9</b>	<b>2,1</b>	-	<b>0,3</b>	-
Engineering and technology	10,6	2,9	8,2	2,9	2,1	-	0,3	-
<b>Government sector</b>	<b>1,0</b>	-	<b>1,0</b>	-	-	-	-	-
Engineering and technology	1,0	-	1,0	-	-	-	-	-
<b>Tertiary education</b>	<b>51,5</b>	<b>34,2</b>	<b>37,6</b>	<b>23,7</b>	<b>13,9</b>	<b>10,5</b>	-	-
Natural sciences	31,6	22,0	18,2	12,0	13,4	10,0	-	-
Engineering and technology	1,0	0,5	0,5	-	0,5	0,5	-	-
Social sciences	2,4	2,1	2,4	2,1	-	-	-	-
Humanities	16,5	9,6	16,5	9,6	-	-	-	-
<b>Region Šumadije i Zapadne Srbije</b>	<b>55,5</b>	<b>34,6</b>	<b>41,8</b>	<b>24,6</b>	<b>13,4</b>	<b>10,0</b>	<b>0,3</b>	-
Natural sciences	31,6	22,0	18,2	12,0	13,4	10,0	-	-
Engineering and technology	5,0	0,9	4,7	0,9	-	-	0,3	-
Social sciences	2,4	2,1	2,4	2,1	-	-	-	-
Humanities	16,5	9,6	16,5	9,6	-	-	-	-
<b>Business sector</b>	<b>4,5</b>	<b>0,9</b>	<b>4,2</b>	<b>0,9</b>	-	-	<b>0,3</b>	-
Engineering and technology	4,5	0,9	4,2	0,9	-	-	0,3	-
<b>Tertiary education</b>	<b>51,0</b>	<b>33,7</b>	<b>37,6</b>	<b>23,7</b>	<b>13,4</b>	<b>10,0</b>	-	-
Natural sciences	31,6	22,0	18,2	12,0	13,4	10,0	-	-
Engineering and technology	0,5	-	0,5	-	-	-	-	-
Social sciences	2,4	2,1	2,4	2,1	-	-	-	-
Humanities	16,5	9,6	16,5	9,6	-	-	-	-
<b>Region Južne i Istočne Srbije</b>	<b>7,6</b>	<b>2,5</b>	<b>5,0</b>	<b>2,0</b>	<b>2,6</b>	<b>0,5</b>	-	-
Engineering and technology	7,6	2,5	5,0	2,0	2,6	0,5	-	-
<b>Business sector</b>	<b>6,1</b>	<b>2,0</b>	<b>4,0</b>	<b>2,0</b>	<b>2,1</b>	-	-	-
Engineering and technology	6,1	2,0	4,0	2,0	2,1	-	-	-
<b>Government sector</b>	<b>1,0</b>	-	<b>1,0</b>	-	-	-	-	-
Engineering and technology	1,0	-	1,0	-	-	-	-	-
<b>Tertiary education</b>	<b>0,5</b>	<b>0,5</b>	-	-	<b>0,5</b>	<b>0,5</b>	-	-
Engineering and technology	0,5	0,5	-	-	0,5	0,5	-	-
<b>Region Kosovo i Metohija</b>	...	...	...	...	...	...	...	...



## 7.1. Research works (projects and studies), by sectors and territories, 2018

	Research works (projects and studies), by sectors and territory, 2018							
	Number of works				Value of scientific works, thous. RSD			
	Total	Basic	Applied	Development	Total	Basic	Applied	Development
<b>REPUBLIC OF SERBIA</b>	<b>9878</b>	<b>4595</b>	<b>3382</b>	<b>1901</b>	<b>46615667</b>	<b>14611296</b>	<b>17324384</b>	<b>14679987</b>
Business sector	1396	170	611	615	18229009	1019605	9796608	7412796
Government sector	2502	1425	680	397	13132549	6198873	2875134	4058542
Tertiary education	5970	2992	2089	889	15251369	7391691	4651029	3208649
Non-profit sector	10	8	2	-	2740	1127	1613	-
<b>SRBIJA – SEVER</b>	<b>7931</b>	<b>3215</b>	<b>3055</b>	<b>1661</b>	<b>43321277</b>	<b>13463048</b>	<b>16312200</b>	<b>13546029</b>
Business sector	1259	159	568	532	17765168	989784	9574840	7200544
Government sector	2470	1424	666	380	12938654	6195836	2809848	3932970
Tertiary education	4192	1624	1819	749	12614715	6276301	3925899	2412515
Non-profit sector	10	8	2	-	2740	1127	1613	-
<b>Beogradski region</b>	<b>5191</b>	<b>2422</b>	<b>1708</b>	<b>1061</b>	<b>31567972</b>	<b>11258298</b>	<b>12644222</b>	<b>7665452</b>
Business sector	1057	153	442	462	12363057	337107	9003405	3022545
Government sector	2193	1395	512	286	10867180	6133172	1917962	2816046
Tertiary education	1938	873	752	313	8335879	4787776	1721242	1826861
Non-profit sector	3	1	2	-	1856	243	1613	-
<b>Region Vojvodine</b>	<b>2740</b>	<b>793</b>	<b>1347</b>	<b>600</b>	<b>11753305</b>	<b>2204750</b>	<b>3667978</b>	<b>5880577</b>
Business sector	202	6	126	70	5402111	652677	571435	4177999
Government sector	277	29	154	94	2071474	62664	891886	1116924
Tertiary education	2254	751	1067	436	4278836	1488525	2204657	585654
Non-profit sector	7	7	-	-	884	884	-	-
<b>SRBIJA – JUG</b>	<b>1947</b>	<b>1380</b>	<b>327</b>	<b>240</b>	<b>3294390</b>	<b>1148248</b>	<b>1012184</b>	<b>1133958</b>
Business sector	137	11	43	83	463841	29821	221768	212252
Government sector	32	1	14	17	193895	3037	65286	125572
Tertiary education	1778	1368	270	140	2636654	1115390	725130	796134
<b>Region Šumadije i Zapadne Srbije</b>	<b>587</b>	<b>373</b>	<b>123</b>	<b>91</b>	<b>1236795</b>	<b>569692</b>	<b>410241</b>	<b>256862</b>
Business sector	35	2	6	27	112388	13604	8516	90268
Government sector	15	-	14	1	73522	-	65286	8236
Tertiary education	537	371	103	63	1050885	556088	336439	158358
<b>Region Južne i Istočne Srbije</b>	<b>1360</b>	<b>1007</b>	<b>204</b>	<b>149</b>	<b>2057595</b>	<b>578556</b>	<b>601943</b>	<b>877096</b>
Business sector	102	9	37	56	351453	16217	213252	121984
Government sector	17	1	-	16	120373	3037	-	117336
Tertiary education	1241	997	167	77	1585769	559302	388691	637776
<b>Region Kosovo i Metohija</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>

## 7.2. Research works (projects and studies), by sectors and fields of science, 2018

	Research works (projects and studies), by sectors and fields of science, 2018							
	Number of works				Value of scientific works, thous. RSD			
	Total	Basic	Applied	Development	Total	Basic	Applied	Development
<b>REPUBLIC OF SERBIA</b>	<b>9878</b>	<b>4595</b>	<b>3382</b>	<b>1901</b>	<b>46615667</b>	<b>14611296</b>	<b>17324384</b>	<b>14679987</b>
Natural sciences	2136	1286	539	311	13984835	6684907	3169346	4130582
Engineering and technology	3245	519	1720	1006	18053840	1102089	9604307	7347444
Medical and health sciences	419	268	71	80	1303436	842844	239763	220829
Agricultural sciences	539	57	314	168	4511717	336856	1931412	2243449
Social sciences	2722	1964	515	243	6190649	3820750	2041801	328098
Humanities	817	501	223	93	2571190	1823850	337755	409585
<b>Business sector</b>	<b>1396</b>	<b>170</b>	<b>611</b>	<b>615</b>	<b>18229009</b>	<b>1019605</b>	<b>9796608</b>	<b>7412796</b>
Natural sciences	488	114	244	130	6102802	756415	1973798	3372589
Engineering and technology	660	33	254	373	11312893	236157	7567674	3509062
Medical and health sciences	57	1	1	55	247083	13519	71741	161823
Agricultural sciences	48	-	38	10	473075	-	142959	330116
Social sciences	143	22	74	47	93156	13514	40436	39206
<b>Government sector</b>	<b>2502</b>	<b>1425</b>	<b>680</b>	<b>397</b>	<b>13132549</b>	<b>6198873</b>	<b>2875134</b>	<b>4058542</b>
Natural sciences	636	475	87	74	4759721	3982180	613066	164475
Engineering and technology	449	47	242	160	3220680	205218	770772	2244690
Medical and health sciences	87	63	24	-	262467	198521	63946	-
Agricultural sciences	207	3	126	78	2969523	72317	1352446	1544760
Social sciences	478	474	4	-	640238	593678	46560	-
Humanities	645	363	197	85	1279920	1146959	28344	104617
<b>Tertiary education</b>	<b>5970</b>	<b>2992</b>	<b>2089</b>	<b>889</b>	<b>15251369</b>	<b>7391691</b>	<b>4651029</b>	<b>3208649</b>
Natural sciences	1005	690	208	107	3121428	1945428	582482	593518
Engineering and technology	2135	438	1224	473	3520024	660471	1265861	1593692
Medical and health sciences	275	204	46	25	793886	630804	104076	59006
Agricultural sciences	284	54	150	80	1069119	264539	436007	368573
Social sciences	2099	1468	435	196	5455642	3213558	1953192	288892
Humanities	172	138	26	8	1291270	676891	309411	304968
<b>Non-profit sector</b>	<b>10</b>	<b>8</b>	<b>2</b>	<b>-</b>	<b>2740</b>	<b>1127</b>	<b>1613</b>	<b>-</b>
Natural sciences	7	7	-	-	884	884	-	-
Engineering and technology	1	1	-	-	243	243	-	-
Social sciences	2	-	2	-	1613	-	1613	-
<b>SRBIJA – SEVER</b>	<b>7931</b>	<b>3215</b>	<b>3055</b>	<b>1661</b>	<b>43321277</b>	<b>13463048</b>	<b>16312200</b>	<b>13546029</b>
Natural sciences	1573	832	458	283	13320313	6214408	3007766	4098139
Engineering and technology	2767	401	1553	813	16830909	987380	9236049	6607480
Medical and health sciences	367	218	69	80	1158213	707621	229763	220829
Agricultural sciences	502	54	282	166	4335653	333351	1767106	2235196
Social sciences	1947	1230	487	230	5638774	3446835	1917139	274800
Humanities	775	480	206	89	2037415	1773453	154377	109585
<b>Business sector</b>	<b>1259</b>	<b>159</b>	<b>568</b>	<b>532</b>	<b>17765168</b>	<b>989784</b>	<b>9574840</b>	<b>7200544</b>
Natural sciences	462	111	243	108	6064318	750870	1973302	3340146
Engineering and technology	552	25	214	313	10969463	211881	7428312	3329270
Medical and health sciences	57	1	1	55	247083	13519	71741	161823
Agricultural sciences	45	-	36	9	391148	-	61049	330099
Social sciences	143	22	74	47	93156	13514	40436	39206
<b>Government sector</b>	<b>2470</b>	<b>1424</b>	<b>666</b>	<b>380</b>	<b>12938654</b>	<b>6195836</b>	<b>2809848</b>	<b>3932970</b>
Natural sciences	636	475	87	74	4759721	3982180	613066	164475
Engineering and technology	432	46	242	144	3100307	202181	770772	2127354
Medical and health sciences	87	63	24	-	262467	198521	63946	-
Agricultural sciences	192	3	112	77	2896001	72317	1287160	1536524
Social sciences	478	474	4	-	640238	593678	46560	-
Humanities	645	363	197	85	1279920	1146959	28344	104617
<b>Tertiary education</b>	<b>4192</b>	<b>1624</b>	<b>1819</b>	<b>749</b>	<b>12614715</b>	<b>6276301</b>	<b>3925899</b>	<b>2412515</b>
Natural sciences	468	239	128	101	2495390	1480474	421398	593518
Engineering and technology	1782	329	1097	356	2760896	573075	1036965	1150856
Medical and health sciences	223	154	44	25	648663	495581	94076	59006
Agricultural sciences	265	51	134	80	1048504	261034	418897	368573
Social sciences	1324	734	407	183	4903767	2839643	1828530	235594
Humanities	130	117	9	4	757495	626494	126033	4968
<b>Non-profit sector</b>	<b>10</b>	<b>8</b>	<b>2</b>	<b>-</b>	<b>2740</b>	<b>1127</b>	<b>1613</b>	<b>-</b>
Natural sciences	7	7	-	-	884	884	-	-
Engineering and technology	1	1	-	-	243	243	-	-
Social sciences	2	-	2	-	1613	-	1613	-
<b>Beogradski region</b>	<b>5191</b>	<b>2422</b>	<b>1708</b>	<b>1061</b>	<b>31567972</b>	<b>11258298</b>	<b>12644222</b>	<b>7665452</b>
Natural sciences	1234	776	278	180	8889055	5401873	2418076	1069106
Engineering and technology	1607	235	791	581	14009919	735880	8498378	4775661
Medical and health sciences	249	148	36	65	1029828	630806	191051	207971
Agricultural sciences	281	23	185	73	2712904	283823	1032626	1396455
Social sciences	1050	761	216	73	3019501	2458593	454234	106674
Humanities	770	479	202	89	1906765	1747323	49857	109585

## 7.2. Research works (projects and studies), by sectors and fields of science, 2018 (continued)

	Research works (projects and studies), by sectors and fields of science, 2018							
	Number of works				Value of scientific works, thous. RSD			
	Total	Basic	Applied	Development	Total	Basic	Applied	Development
<b>Business sector</b>	<b>1057</b>	<b>153</b>	<b>442</b>	<b>462</b>	<b>12363057</b>	<b>337107</b>	<b>9003405</b>	<b>3022545</b>
Natural sciences	299	106	128	65	2062465	119500	1497028	445937
Engineering and technology	522	24	212	286	9593956	190574	7357902	2045480
Medical and health sciences	57	1	1	55	247083	13519	71741	161823
Agricultural sciences	36	-	27	9	366397	-	36298	330099
Social sciences	143	22	74	47	93156	13514	40436	39206
<b>Government sector</b>	<b>2193</b>	<b>1395</b>	<b>512</b>	<b>286</b>	<b>10867180</b>	<b>6133172</b>	<b>1917962</b>	<b>2816046</b>
Natural sciences	636	475	87	74	4759721	3982180	613066	164475
Engineering and technology	261	18	139	104	2461268	142188	530824	1788256
Medical and health sciences	87	63	24	-	262467	198521	63946	-
Agricultural sciences	86	2	61	23	1463566	69646	635222	758698
Social sciences	478	474	4	-	640238	593678	46560	-
Humanities	645	363	197	85	1279920	1146959	28344	104617
<b>Tertiary education</b>	<b>1938</b>	<b>873</b>	<b>752</b>	<b>313</b>	<b>8335879</b>	<b>4787776</b>	<b>1721242</b>	<b>1826861</b>
Natural sciences	299	195	63	41	2066869	1300193	307982	458694
Engineering and technology	823	192	440	191	1954452	402875	609652	941925
Medical and health sciences	105	84	11	10	520278	418766	55364	46148
Agricultural sciences	159	21	97	41	882941	214177	361106	307658
Social sciences	427	265	136	26	2284494	1851401	365625	67468
Humanities	125	116	5	4	626845	600364	21513	4968
<b>Non-profit sector</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>-</b>	<b>1856</b>	<b>243</b>	<b>1613</b>	<b>-</b>
Engineering and technology	1	1	-	-	243	243	-	-
Social sciences	2	-	2	-	1613	-	1613	-
<b>Region Vojvodine</b>	<b>2740</b>	<b>793</b>	<b>1347</b>	<b>600</b>	<b>11753305</b>	<b>2204750</b>	<b>3667978</b>	<b>5880577</b>
Natural sciences	339	56	180	103	4431258	812535	589690	3029033
Engineering and technology	1160	166	762	232	2820990	251500	737671	1831819
Medical and health sciences	118	70	33	15	128385	76815	38712	12858
Agricultural sciences	221	31	97	93	1622749	49528	734480	838741
Social sciences	897	469	271	157	2619273	988242	1462905	168126
Humanities	5	1	4	-	130650	26130	104520	-
<b>Business sector</b>	<b>202</b>	<b>6</b>	<b>126</b>	<b>70</b>	<b>5402111</b>	<b>652677</b>	<b>571435</b>	<b>4177999</b>
Natural sciences	163	5	115	43	4001853	631370	476274	2894209
Engineering and technology	30	1	2	27	1375507	21307	70410	1283790
Agricultural sciences	9	-	9	-	24751	-	24751	-
<b>Government sector</b>	<b>277</b>	<b>29</b>	<b>154</b>	<b>94</b>	<b>2071474</b>	<b>62664</b>	<b>891886</b>	<b>1116924</b>
Engineering and technology	171	28	103	40	639039	59993	239948	339098
Agricultural sciences	106	1	51	54	1432435	2671	651938	777826
<b>Tertiary education</b>	<b>2254</b>	<b>751</b>	<b>1067</b>	<b>436</b>	<b>4278836</b>	<b>1488525</b>	<b>2204657</b>	<b>585654</b>
Natural sciences	169	44	65	60	428521	180281	113416	134824
Engineering and technology	959	137	657	165	806444	170200	427313	208931
Medical and health sciences	118	70	33	15	128385	76815	38712	12858
Agricultural sciences	106	30	37	39	165563	46857	57791	60915
Social sciences	897	469	271	157	2619273	988242	1462905	168126
Humanities	5	1	4	-	130650	26130	104520	-
<b>Non-profit sector</b>	<b>7</b>	<b>7</b>	<b>-</b>	<b>-</b>	<b>884</b>	<b>884</b>	<b>-</b>	<b>-</b>
Natural sciences	7	7	-	-	884	884	-	-
<b>SRBIJA – JUG</b>	<b>1947</b>	<b>1380</b>	<b>327</b>	<b>240</b>	<b>3294390</b>	<b>1148248</b>	<b>1012184</b>	<b>1133958</b>
Natural sciences	563	454	81	28	664522	470499	161580	32443
Engineering and technology	478	118	167	193	1222931	114709	368258	739964
Medical and health sciences	52	50	2	-	145223	135223	10000	-
Agricultural sciences	37	3	32	2	176064	3505	164306	8253
Social sciences	775	734	28	13	551875	373915	124662	53298
Humanities	42	21	17	4	533775	50397	183378	300000
<b>Business sector</b>	<b>137</b>	<b>11</b>	<b>43</b>	<b>83</b>	<b>463841</b>	<b>29821</b>	<b>221768</b>	<b>212252</b>
Natural sciences	26	3	1	22	38484	5545	496	32443
Engineering and technology	108	8	40	60	343430	24276	139362	179792
Agricultural sciences	3	-	2	1	81927	-	81910	17
<b>Government sector</b>	<b>32</b>	<b>1</b>	<b>14</b>	<b>17</b>	<b>193895</b>	<b>3037</b>	<b>65286</b>	<b>125572</b>
Engineering and technology	17	1	-	16	120373	3037	-	117336
Agricultural sciences	15	-	14	1	73522	-	65286	8236

## 7.2. Research works (projects and studies), by sectors and fields of science, 2018 (continued)

	Research works (projects and studies), by sectors and fields of science, 2018.							
	Number of works				Value of scientific works, thous. RSD			
	Total	Basic	Applied	Development	Total	Basic	Applied	Development
<b>Tertiary education</b>	<b>1778</b>	<b>1368</b>	<b>270</b>	<b>140</b>	<b>2636654</b>	<b>1115390</b>	<b>725130</b>	<b>796134</b>
Natural sciences	537	451	80	6	626038	464954	161084	-
Engineering and technology	353	109	127	117	759128	87396	228896	442836
Medical and health sciences	52	50	2	-	145223	135223	10000	-
Agricultural sciences	19	3	16	-	20615	3505	17110	-
Social sciences	775	734	28	13	551875	373915	124662	53298
Humanities	42	21	17	4	533775	50397	183378	300000
<b>Region Šumadije i Zapadne Srbije</b>	<b>587</b>	<b>373</b>	<b>123</b>	<b>91</b>	<b>1236795</b>	<b>569692</b>	<b>410241</b>	<b>256862</b>
Natural sciences	192	160	25	7	497579	324017	161084	12478
Engineering and technology	187	72	41	74	303992	52645	43209	208138
Medical and health sciences	10	8	2	-	50149	40149	10000	-
Agricultural sciences	35	3	30	2	94154	3505	82396	8253
Social sciences	161	128	25	8	256411	114866	113552	27993
Humanities	2	2	-	-	34510	34510	-	-
<b>Business sector</b>	<b>35</b>	<b>2</b>	<b>6</b>	<b>27</b>	<b>112388</b>	<b>13604</b>	<b>8516</b>	<b>90268</b>
Natural sciences	7	-	-	7	12478	-	-	12478
Engineering and technology	27	2	6	19	99893	13604	8516	77773
Agricultural sciences	1	-	-	1	17	-	-	17
<b>Government sector</b>	<b>15</b>	<b>-</b>	<b>14</b>	<b>1</b>	<b>73522</b>	<b>-</b>	<b>65286</b>	<b>8236</b>
Agricultural sciences	15	-	14	1	73522	-	65286	8236
<b>Tertiary education</b>	<b>537</b>	<b>371</b>	<b>103</b>	<b>63</b>	<b>1050885</b>	<b>556088</b>	<b>336439</b>	<b>158358</b>
Natural sciences	185	160	25	-	485101	324017	161084	-
Engineering and technology	160	70	35	55	204099	39041	34693	130365
Medical and health sciences	10	8	2	-	50149	40149	10000	-
Agricultural sciences	19	3	16	-	20615	3505	17110	-
Social sciences	161	128	25	8	256411	114866	113552	27993
Humanities	2	2	-	-	34510	34510	-	-
<b>Region Južne i Istočne Srbije</b>	<b>1360</b>	<b>1007</b>	<b>204</b>	<b>149</b>	<b>2057595</b>	<b>578556</b>	<b>601943</b>	<b>877096</b>
Natural sciences	371	294	56	21	166943	146482	496	19965
Engineering and technology	291	46	126	119	918939	62064	325049	531826
Medical sciences	42	42	-	-	95074	95074	-	-
Agricultural sciences	2	-	2	-	81910	-	81910	-
Social sciences	614	606	3	5	295464	259049	11110	25305
Humanities	40	19	17	4	499265	15887	183378	300000
<b>Business sector</b>	<b>102</b>	<b>9</b>	<b>37</b>	<b>56</b>	<b>351453</b>	<b>16217</b>	<b>213252</b>	<b>121984</b>
Natural sciences	19	3	1	15	26006	5545	496	19965
Engineering and technology	81	6	34	41	243537	10672	130846	102019
Agricultural sciences	2	-	2	-	81910	-	81910	-
<b>Government sector</b>	<b>17</b>	<b>1</b>	<b>-</b>	<b>16</b>	<b>120373</b>	<b>3037</b>	<b>-</b>	<b>117336</b>
Engineering and technology	17	1	-	16	120373	3037	-	117336
<b>Tertiary education</b>	<b>1241</b>	<b>997</b>	<b>167</b>	<b>77</b>	<b>1585769</b>	<b>559302</b>	<b>388691</b>	<b>637776</b>
Natural sciences	352	291	55	6	140937	140937	-	-
Engineering and technology	193	39	92	62	555029	48355	194203	312471
Medical and health sciences	42	42	-	-	95074	95074	-	-
Social sciences	614	606	3	5	295464	259049	11110	25305
Humanities	40	19	17	4	499265	15887	183378	300000
<b>Region Kosovo i Metohija</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>

## 8.1. R&D works, by ordering parties, fields of science

	Ordering parties							
	Enterprises				Ministries			
	Total	Basic	Applied	Development	Total	Basic	Applied	Development
<b>REPUBLIC OF SERBIA</b>	<b>990</b>	<b>111</b>	<b>483</b>	<b>396</b>	<b>5804</b>	<b>3173</b>	<b>1716</b>	<b>915</b>
Natural sciences	133	9	63	61	1566	1085	344	137
Engineering and technology	651	93	365	193	1408	264	673	471
Medical and health sciences	1	-	-	1	248	178	45	25
Agricultural sciences	22	-	19	3	363	42	191	130
Social sciences	183	9	36	138	1587	1225	285	77
Humanities	-	-	-	-	632	379	178	75
<b>Business sector</b>	<b>237</b>	<b>-</b>	<b>93</b>	<b>144</b>	<b>577</b>	<b>145</b>	<b>244</b>	<b>188</b>
Natural sciences	108	-	54	54	227	100	100	27
Engineering and technology	113	-	30	83	207	23	64	120
Medical and health sciences	1	-	-	1	-	-	-	-
Agricultural sciences	9	-	9	-	6	-	6	-
Social sciences	6	-	-	6	137	22	74	41
<b>Government sector</b>	<b>63</b>	<b>18</b>	<b>38</b>	<b>7</b>	<b>2024</b>	<b>1205</b>	<b>527</b>	<b>292</b>
Natural sciences	14	9	1	4	503	388	69	46
Engineering and technology	36	-	33	3	342	40	184	118
Medical and health sciences	-	-	-	-	74	58	16	-
Agricultural sciences	4	-	4	-	156	2	97	57
Social sciences	9	9	-	-	394	393	1	-
Humanities	-	-	-	-	555	324	160	71
<b>Tertiary education</b>	<b>690</b>	<b>93</b>	<b>352</b>	<b>245</b>	<b>3203</b>	<b>1823</b>	<b>945</b>	<b>435</b>
Natural sciences	11	-	8	3	836	597	175	64
Engineering and technology	502	93	302	107	859	201	425	233
Medical and health sciences	-	-	-	-	174	120	29	25
Agricultural sciences	9	-	6	3	201	40	88	73
Social sciences	168	-	36	132	1056	810	210	36
Humanities	-	-	-	-	77	55	18	4
<b>Non-profit sector</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Natural sciences	-	-	-	-	-	-	-	-
Engineering and technology	-	-	-	-	-	-	-	-
Social sciences	-	-	-	-	-	-	-	-
<b>SRBIJA – SEVER</b>	<b>907</b>	<b>107</b>	<b>452</b>	<b>348</b>	<b>4548</b>	<b>2242</b>	<b>1519</b>	<b>787</b>
Natural sciences	111	9	61	41	1044	645	268	131
Engineering and technology	594	89	340	165	1173	210	600	363
Medical and health sciences	1	-	-	1	236	166	45	25
Agricultural sciences	22	-	19	3	334	39	166	129
Social sciences	179	9	32	138	1171	824	279	68
Humanities	-	-	-	-	590	358	161	71
<b>Business sector</b>	<b>191</b>	<b>-</b>	<b>86</b>	<b>105</b>	<b>570</b>	<b>142</b>	<b>241</b>	<b>187</b>
Natural sciences	88	-	54	34	226	99	100	27
Engineering and technology	87	-	23	64	203	21	63	119
Medical and health sciences	1	-	-	1	-	-	-	-
Agricultural sciences	9	-	9	-	4	-	4	-
Social sciences	6	-	-	6	137	22	74	41
<b>Government sector</b>	<b>63</b>	<b>18</b>	<b>38</b>	<b>7</b>	<b>1999</b>	<b>1204</b>	<b>520</b>	<b>275</b>
Natural sciences	14	9	1	4	503	388	69	46
Engineering and technology	36	-	33	3	325	39	184	102
Medical and health sciences	-	-	-	-	74	58	16	-
Agricultural sciences	4	-	4	-	148	2	90	56
Social sciences	9	9	-	-	394	393	1	-
Humanities	-	-	-	-	555	324	160	71
<b>Tertiary education</b>	<b>653</b>	<b>89</b>	<b>328</b>	<b>236</b>	<b>1979</b>	<b>896</b>	<b>758</b>	<b>325</b>
Natural sciences	9	-	6	3	315	158	99	58
Engineering and technology	471	89	284	98	645	150	353	142
Medical and health sciences	-	-	-	-	162	108	29	25
Agricultural sciences	9	-	6	3	182	37	72	73
Social sciences	164	-	32	132	640	409	204	27
Humanities	-	-	-	-	35	34	1	-
<b>Non-profit sector</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Natural sciences	-	-	-	-	-	-	-	-
Engineering and technology	-	-	-	-	-	-	-	-
Social sciences	-	-	-	-	-	-	-	-
<b>Beogradski region</b>	<b>685</b>	<b>92</b>	<b>398</b>	<b>195</b>	<b>3124</b>	<b>1735</b>	<b>830</b>	<b>559</b>
Natural sciences	111	9	61	41	825	602	143	80
Engineering and technology	520	74	302	144	719	141	286	292
Medical and health sciences	1	-	-	1	147	120	17	10
Agricultural sciences	10	-	7	3	199	17	130	52
Social sciences	43	9	28	6	646	498	94	54
Humanities	-	-	-	-	588	357	160	71

and type of research, 2018

Ordering parties								
Other				From abroad				
Total	Basic	Applied	Development	Total	Basic	Applied	Development	
<b>1785</b>	<b>805</b>	<b>651</b>	<b>329</b>	<b>1299</b>	<b>506</b>	<b>532</b>	<b>261</b>	<b>REPUBLIC OF SERBIA</b>
152	38	57	57	285	154	75	56	Natural sciences
747	125	412	210	439	37	270	132	Engineering and technology
95	59	13	23	75	31	13	31	Medical and health sciences
62	1	41	20	92	14	63	15	Agricultural sciences
641	502	122	17	311	228	72	11	Social sciences
88	80	6	2	97	42	39	16	Humanities
<b>297</b>	<b>12</b>	<b>114</b>	<b>171</b>	<b>285</b>	<b>13</b>	<b>160</b>	<b>112</b>	<b>Business sector</b>
77	8	48	21	76	6	42	28	Natural sciences
164	4	43	117	176	6	117	53	Engineering and technology
23	-	-	23	33	1	1	31	Medical and health sciences
33	-	23	10	-	-	-	-	Agricultural sciences
-	-	-	-	-	-	-	-	Social sciences
<b>93</b>	<b>43</b>	<b>27</b>	<b>23</b>	<b>322</b>	<b>159</b>	<b>88</b>	<b>75</b>	<b>Government sector</b>
8	1	5	2	111	77	12	22	Natural sciences
25	1	10	14	46	6	15	25	Engineering and technology
7	-	7	-	6	5	1	-	Medical and health sciences
12	-	5	7	35	1	20	14	Agricultural sciences
38	38	-	-	37	34	3	-	Social sciences
3	3	-	-	87	36	37	14	Humanities
<b>1387</b>	<b>742</b>	<b>510</b>	<b>135</b>	<b>690</b>	<b>334</b>	<b>282</b>	<b>74</b>	<b>Tertiary education</b>
60	22	4	34	98	71	21	6	Natural sciences
557	119	359	79	217	25	138	54	Engineering and technology
65	59	6	-	36	25	11	-	Medical and health sciences
17	1	13	3	57	13	43	1	Agricultural sciences
603	464	122	17	272	194	67	11	Social sciences
85	77	6	2	10	6	2	2	Humanities
<b>8</b>	<b>8</b>	-	-	<b>2</b>	-	<b>2</b>	-	<b>Non-profit sector</b>
7	7	-	-	-	-	-	-	Natural sciences
1	1	-	-	-	-	-	-	Engineering and technology
-	-	-	-	2	-	2	-	Social sciences
1391	481	607	303	1085	385	477	223	SRBIJA – SEVER
135	25	55	55	283	153	74	56	Natural sciences
679	94	395	190	321	8	218	95	Engineering and technology
55	21	11	23	75	31	13	31	Medical and health sciences
56	1	36	19	90	14	61	15	Agricultural sciences
378	260	104	14	219	137	72	10	Social sciences
88	80	6	2	97	42	39	16	Humanities
<b>264</b>	<b>8</b>	<b>102</b>	<b>154</b>	<b>234</b>	<b>9</b>	<b>139</b>	<b>86</b>	<b>Business sector</b>
72	6	47	19	76	6	42	28	Natural sciences
137	2	32	103	125	2	96	27	Engineering and technology
23	-	-	23	33	1	1	31	Medical and health sciences
32	-	23	9	-	-	-	-	Agricultural sciences
-	-	-	-	-	-	-	-	Social sciences
<b>88</b>	<b>43</b>	<b>22</b>	<b>23</b>	<b>320</b>	<b>159</b>	<b>86</b>	<b>75</b>	<b>Government sector</b>
8	1	5	2	111	77	12	22	Natural sciences
25	1	10	14	46	6	15	25	Engineering and technology
7	-	7	-	6	5	1	-	Medical and health sciences
7	-	-	7	33	1	18	14	Agricultural sciences
38	38	-	-	37	34	3	-	Social sciences
3	3	-	-	87	36	37	14	Humanities
<b>1031</b>	<b>422</b>	<b>483</b>	<b>126</b>	<b>529</b>	<b>217</b>	<b>250</b>	<b>62</b>	<b>Tertiary education</b>
48	11	3	34	96	70	20	6	Natural sciences
516	90	353	73	150	-	107	43	Engineering and technology
25	21	4	-	36	25	11	-	Medical and health sciences
17	1	13	3	57	13	43	1	Agricultural sciences
340	222	104	14	180	103	67	10	Social sciences
85	77	6	2	10	6	2	2	Humanities
<b>8</b>	<b>8</b>	-	-	<b>2</b>	-	<b>2</b>	-	<b>Non-profit sector</b>
7	7	-	-	-	-	-	-	Natural sciences
1	1	-	-	-	-	-	-	Engineering and technology
-	-	-	-	2	-	2	-	Social sciences
<b>643</b>	<b>272</b>	<b>198</b>	<b>173</b>	<b>739</b>	<b>323</b>	<b>282</b>	<b>134</b>	<b>Beogradski region</b>
46	12	14	20	252	153	60	39	Natural sciences
210	18	91	101	158	2	112	44	Engineering and technology
30	-	7	23	71	28	12	31	Medical and health sciences
52	1	35	16	20	5	13	2	Agricultural sciences
218	161	46	11	143	93	48	2	Social sciences
87	80	5	2	95	42	37	16	Humanities

### 8.1. R&D works, by ordering parties, fields of science

	Ordering parties							
	Enterprises				Ministries			
	Total	Basic	Applied	Development	Total	Basic	Applied	Development
<b>Business sector</b>	<b>179</b>	-	<b>78</b>	<b>101</b>	<b>479</b>	<b>142</b>	<b>165</b>	<b>172</b>
Natural sciences	88	-	54	34	135	99	24	12
Engineering and technology	83	-	23	60	203	21	63	119
Medical and health sciences	1	-	-	1	-	-	-	-
Agricultural sciences	1	-	1	-	4	-	4	-
Social sciences	6	-	-	6	137	22	74	41
<b>Government sector</b>	<b>41</b>	<b>18</b>	<b>19</b>	<b>4</b>	<b>1817</b>	<b>1182</b>	<b>413</b>	<b>222</b>
Natural sciences	14	9	1	4	503	388	69	46
Engineering and technology	18	-	18	-	218	18	113	87
Medical and health sciences	-	-	-	-	74	58	16	-
Agricultural sciences	-	-	-	-	73	1	54	18
Social sciences	9	9	-	-	394	393	1	-
Humanities	-	-	-	-	555	324	160	71
<b>Tertiary education</b>	<b>465</b>	<b>74</b>	<b>301</b>	<b>90</b>	<b>828</b>	<b>411</b>	<b>252</b>	<b>165</b>
Natural sciences	9	-	6	3	187	115	50	22
Engineering and technology	419	74	261	84	298	102	110	86
Medical and health sciences	-	-	-	-	73	62	1	10
Agricultural sciences	9	-	6	3	122	16	72	34
Social sciences	28	-	28	-	115	83	19	13
Humanities	-	-	-	-	33	33	-	-
<b>Non-profit sector</b>	-	-	-	-	-	-	-	-
Engineering and technology	-	-	-	-	-	-	-	-
Social sciences	-	-	-	-	-	-	-	-
<b>Region Vojvodine</b>	<b>222</b>	<b>15</b>	<b>54</b>	<b>153</b>	<b>1424</b>	<b>507</b>	<b>689</b>	<b>228</b>
Natural sciences	-	-	-	-	219	43	125	51
Engineering and technology	74	15	38	21	454	69	314	71
Medical and health sciences	-	-	-	-	89	46	28	15
Agricultural sciences	12	-	12	-	135	22	36	77
Social sciences	136	-	4	132	525	326	185	14
Humanities	-	-	-	-	2	1	1	-
<b>Business sector</b>	<b>12</b>	-	<b>8</b>	<b>4</b>	<b>91</b>	-	<b>76</b>	<b>15</b>
Natural sciences	-	-	-	-	91	-	76	15
Engineering and technology	4	-	-	4	-	-	-	-
Agricultural sciences	8	-	8	-	-	-	-	-
<b>Government sector</b>	<b>22</b>	-	<b>19</b>	<b>3</b>	<b>182</b>	<b>22</b>	<b>107</b>	<b>53</b>
Engineering and technology	18	-	15	3	107	21	71	15
Agricultural sciences	4	-	4	-	75	1	36	38
<b>Tertiary education</b>	<b>188</b>	<b>15</b>	<b>27</b>	<b>146</b>	<b>1151</b>	<b>485</b>	<b>506</b>	<b>160</b>
Natural sciences	-	-	-	-	128	43	49	36
Engineering and technology	52	15	23	14	347	48	243	56
Medical and health sciences	-	-	-	-	89	46	28	15
Agricultural sciences	-	-	-	-	60	21	-	39
Social sciences	136	-	4	132	525	326	185	14
Humanities	-	-	-	-	2	1	1	-
<b>Non-profit sector</b>	-	-	-	-	-	-	-	-
Natural sciences	-	-	-	-	-	-	-	-
SRBIJA – JUG	83	4	31	48	1256	931	197	128
Natural sciences	22	-	2	20	522	440	76	6
Engineering and technology	57	4	25	28	235	54	73	108
Medical and health sciences	-	-	-	-	12	12	-	-
Agricultural sciences	-	-	-	-	29	3	25	1
Social sciences	4	-	4	-	416	401	6	9
Humanities	-	-	-	-	42	21	17	4
<b>Business sector</b>	<b>46</b>	-	<b>7</b>	<b>39</b>	<b>7</b>	<b>3</b>	<b>3</b>	<b>1</b>
Natural sciences	20	-	-	20	1	1	-	-
Engineering and technology	26	-	7	19	4	2	1	1
Agricultural sciences	-	-	-	-	2	-	2	-
<b>Government sector</b>	-	-	-	-	<b>25</b>	<b>1</b>	<b>7</b>	<b>17</b>
Engineering and technology	-	-	-	-	17	1	-	16
Agricultural sciences	-	-	-	-	8	-	7	1
<b>Tertiary education</b>	<b>37</b>	<b>4</b>	<b>24</b>	<b>9</b>	<b>1224</b>	<b>927</b>	<b>187</b>	<b>110</b>
Natural sciences	2	-	2	-	521	439	76	6
Engineering and technology	31	4	18	9	214	51	72	91
Medical and health sciences	-	-	-	-	12	12	-	-
Agricultural sciences	-	-	-	-	19	3	16	-
Social sciences	4	-	4	-	416	401	6	9
Humanities	-	-	-	-	42	21	17	4

and type of research, 2018 (continued)

Ordering parties								
Other				From abroad				
Total	Basic	Applied	Development	Total	Basic	Applied	Development	
<b>184</b>	<b>2</b>	<b>60</b>	<b>122</b>	<b>215</b>	<b>9</b>	<b>139</b>	<b>67</b>	<b>Business sector</b>
15	1	8	6	61	6	42	13	Natural sciences
115	1	30	84	121	2	96	23	Engineering and technology
23	-	-	23	33	1	1	31	Medical and health sciences
31	-	22	9	-	-	-	-	Agricultural sciences
-	-	-	-	-	-	-	-	Social sciences
<b>78</b>	<b>42</b>	<b>17</b>	<b>19</b>	<b>257</b>	<b>153</b>	<b>63</b>	<b>41</b>	<b>Government sector</b>
8	1	5	2	111	77	12	22	Natural sciences
18	-	5	13	7	-	3	4	Engineering and technology
7	-	7	-	6	5	1	-	Medical and health sciences
4	-	-	4	9	1	7	1	Agricultural sciences
38	38	-	-	37	34	3	-	Social sciences
3	3	-	-	87	36	37	14	Humanities
<b>380</b>	<b>227</b>	<b>121</b>	<b>32</b>	<b>265</b>	<b>161</b>	<b>78</b>	<b>26</b>	<b>Tertiary education</b>
23	10	1	12	80	70	6	4	Natural sciences
76	16	56	4	30	-	13	17	Engineering and technology
-	-	-	-	32	22	10	-	Medical and health sciences
17	1	13	3	11	4	6	1	Agricultural sciences
180	123	46	11	104	59	43	2	Social sciences
84	77	5	2	8	6	-	2	Humanities
<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>Non-profit sector</b>
1	1	-	-	-	-	-	-	Engineering and technology
-	-	-	-	2	-	2	-	Social sciences
<b>748</b>	<b>209</b>	<b>409</b>	<b>130</b>	<b>346</b>	<b>62</b>	<b>195</b>	<b>89</b>	<b>Region Vojvodine</b>
89	13	41	35	31	-	14	17	Natural sciences
469	76	304	89	163	6	106	51	Engineering and technology
25	21	4	-	4	3	1	-	Medical and health sciences
4	-	1	3	70	9	48	13	Agricultural sciences
160	99	58	3	76	44	24	8	Social sciences
1	-	1	-	2	-	2	-	Humanities
<b>80</b>	<b>6</b>	<b>42</b>	<b>32</b>	<b>19</b>	<b>-</b>	<b>-</b>	<b>19</b>	<b>Business sector</b>
57	5	39	13	15	-	-	15	Natural sciences
22	1	2	19	4	-	-	4	Engineering and technology
1	-	1	-	-	-	-	-	Agricultural sciences
<b>10</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>63</b>	<b>6</b>	<b>23</b>	<b>34</b>	<b>Government sector</b>
7	1	5	1	39	6	12	21	Engineering and technology
3	-	-	3	24	-	11	13	Agricultural sciences
<b>651</b>	<b>195</b>	<b>362</b>	<b>94</b>	<b>264</b>	<b>56</b>	<b>172</b>	<b>36</b>	<b>Tertiary education</b>
25	1	2	22	16	-	14	2	Natural sciences
440	74	297	69	120	-	94	26	Engineering and technology
25	21	4	-	4	3	1	-	Medical and health sciences
-	-	-	-	46	9	37	-	Agricultural sciences
160	99	58	3	76	44	24	8	Social sciences
1	-	1	-	2	-	2	-	Humanities
<b>7</b>	<b>7</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>Non-profit sector</b>
7	7	-	-	-	-	-	-	Natural sciences
394	324	44	26	214	121	55	38	SRBIJA – JUG
17	13	2	2	2	1	1	-	Natural sciences
68	31	17	20	118	29	52	37	Engineering and technology
40	38	2	-	-	-	-	-	Medical and health sciences
6	-	5	1	2	-	2	-	Agricultural sciences
263	242	18	3	92	91	-	1	Social sciences
-	-	-	-	-	-	-	-	Humanities
<b>33</b>	<b>4</b>	<b>12</b>	<b>17</b>	<b>51</b>	<b>4</b>	<b>21</b>	<b>26</b>	<b>Business sector</b>
5	2	1	2	-	-	-	-	Natural sciences
27	2	11	14	51	4	21	26	Engineering and technology
1	-	-	1	-	-	-	-	Agricultural sciences
<b>5</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>Government sector</b>
-	-	-	-	-	-	-	-	Engineering and technology
5	-	5	-	2	-	2	-	Agricultural sciences
<b>356</b>	<b>320</b>	<b>27</b>	<b>9</b>	<b>161</b>	<b>117</b>	<b>32</b>	<b>12</b>	<b>Tertiary education</b>
12	11	1	-	2	1	1	-	Natural sciences
41	29	6	6	67	25	31	11	Engineering and technology
40	38	2	-	-	-	-	-	Medical and health sciences
-	-	-	-	-	-	-	-	Agricultural sciences
263	242	18	3	92	91	-	1	Social sciences
-	-	-	-	-	-	-	-	Humanities



## 8.1. R&D works, by ordering parties, fields of science

	Ordering parties							
	Enterprises				Ministries			
	Total	Basic	Applied	Development	Total	Basic	Applied	Development
<b>Region Šumadije i Zapadne Srbije</b>	<b>21</b>	<b>4</b>	<b>5</b>	<b>12</b>	<b>417</b>	<b>309</b>	<b>62</b>	<b>46</b>
Natural sciences	6	-	-	6	185	160	25	-
Engineering and technology	11	4	1	6	71	19	11	41
Medical and health sciences	-	-	-	-	6	6	-	-
Agricultural sciences	-	-	-	-	27	3	23	1
Social sciences	4	-	4	-	126	119	3	4
Humanities	-	-	-	-	2	2	-	-
<b>Business sector</b>	<b>12</b>	-	-	<b>12</b>	<b>3</b>	<b>2</b>	-	<b>1</b>
Natural sciences	6	-	-	6	-	-	-	-
Engineering and technology	6	-	-	6	3	2	-	1
Agricultural sciences	-	-	-	-	-	-	-	-
<b>Government sector</b>	-	-	-	-	<b>8</b>	-	<b>7</b>	<b>1</b>
Agricultural sciences	-	-	-	-	8	-	7	1
<b>Tertiary education</b>	<b>9</b>	<b>4</b>	<b>5</b>	-	<b>406</b>	<b>307</b>	<b>55</b>	<b>44</b>
Natural sciences	-	-	-	-	185	160	25	-
Engineering and technology	5	4	1	-	68	17	11	40
Medical and health sciences	-	-	-	-	6	6	-	-
Agricultural sciences	-	-	-	-	19	3	16	-
Social sciences	4	-	4	-	126	119	3	4
Humanities	-	-	-	-	2	2	-	-
<b>Region Južne i Istočne Srbije</b>	<b>62</b>	-	<b>26</b>	<b>36</b>	<b>839</b>	<b>622</b>	<b>135</b>	<b>82</b>
Natural sciences	16	-	2	14	337	280	51	6
Engineering and technology	46	-	24	22	164	35	62	67
Medical and health sciences	-	-	-	-	6	6	-	-
Agricultural sciences	-	-	-	-	2	-	2	-
Social sciences	-	-	-	-	290	282	3	5
Humanities	-	-	-	-	40	19	17	4
<b>Business sector</b>	<b>34</b>	-	<b>7</b>	<b>27</b>	<b>4</b>	<b>1</b>	<b>3</b>	-
Natural sciences	14	-	-	14	1	1	-	-
Engineering and technology	20	-	7	13	1	-	1	-
Agricultural sciences	-	-	-	-	2	-	2	-
<b>Government sector</b>	-	-	-	-	<b>17</b>	<b>1</b>	-	<b>16</b>
Engineering and technology	-	-	-	-	17	1	-	16
<b>Tertiary education</b>	<b>28</b>	-	<b>19</b>	<b>9</b>	<b>818</b>	<b>620</b>	<b>132</b>	<b>66</b>
Natural sciences	2	-	2	-	336	279	51	6
Engineering and technology	26	-	17	9	146	34	61	51
Medical and health sciences	-	-	-	-	6	6	-	-
Social sciences	-	-	-	-	290	282	3	5
Humanities	-	-	-	-	40	19	17	4
<b>Region Kosovo i Metohija</b>	...	...	...	...	...	...	...	...

and type of research, 2018 (continued)

Ordering parties								
Other				From abroad				
Total	Basic	Applied	Development	Total	Basic	Applied	Development	
<b>92</b>	<b>40</b>	<b>37</b>	<b>15</b>	<b>57</b>	<b>20</b>	<b>19</b>	<b>18</b>	<b>Region Šumadije i Zapadne Srbije</b>
1	-	-	1	-	-	-	-	Natural sciences
51	29	12	10	54	20	17	17	Engineering and technology
4	2	2	-	-	-	-	-	Medical and health sciences
6	-	5	1	2	-	2	-	Agricultural sciences
30	9	18	3	1	-	-	1	Social sciences
-	-	-	-	-	-	-	-	Humanities
<b>12</b>	<b>-</b>	<b>6</b>	<b>6</b>	<b>8</b>	<b>-</b>	<b>-</b>	<b>8</b>	<b>Business sector</b>
1	-	-	1	-	-	-	-	Natural sciences
10	-	6	4	8	-	-	8	Engineering and technology
1	-	-	1	-	-	-	-	Agricultural sciences
<b>5</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>Government sector</b>
5	-	5	-	2	-	2	-	Agricultural sciences
<b>75</b>	<b>40</b>	<b>26</b>	<b>9</b>	<b>47</b>	<b>20</b>	<b>17</b>	<b>10</b>	<b>Tertiary education</b>
-	-	-	-	-	-	-	-	Natural sciences
41	29	6	6	46	20	17	9	Engineering and technology
4	2	2	-	-	-	-	-	Medical and health sciences
-	-	-	-	-	-	-	-	Agricultural sciences
30	9	18	3	1	-	-	1	Social sciences
-	-	-	-	-	-	-	-	Humanities
<b>302</b>	<b>284</b>	<b>7</b>	<b>11</b>	<b>157</b>	<b>101</b>	<b>36</b>	<b>20</b>	<b>Region Južne i Istočne Srbije</b>
16	13	2	1	2	1	1	-	Natural sciences
17	2	5	10	64	9	35	20	Engineering and technology
36	36	-	-	-	-	-	-	Medical and health sciences
-	-	-	-	-	-	-	-	Agricultural sciences
233	233	-	-	91	91	-	-	Social sciences
-	-	-	-	-	-	-	-	Humanities
<b>21</b>	<b>4</b>	<b>6</b>	<b>11</b>	<b>43</b>	<b>4</b>	<b>21</b>	<b>18</b>	<b>Business sector</b>
4	2	1	1	-	-	-	-	Natural sciences
17	2	5	10	43	4	21	18	Engineering and technology
-	-	-	-	-	-	-	-	Agricultural sciences
-	-	-	-	-	-	-	-	<b>Government sector</b>
-	-	-	-	-	-	-	-	Engineering and technology
<b>281</b>	<b>280</b>	<b>1</b>	<b>-</b>	<b>114</b>	<b>97</b>	<b>15</b>	<b>2</b>	<b>Tertiary education</b>
12	11	1	-	2	1	1	-	Natural sciences
-	-	-	-	21	5	14	2	Engineering and technology
36	36	-	-	-	-	-	-	Medical and health sciences
233	233	-	-	91	91	-	-	Social sciences
-	-	-	-	-	-	-	-	Humanities
...	...	...	...	...	...	...	...	<b>Region Kosovo i Metohija</b>

## 9.1. Published R&D works, inventions and patents, by fields of science, 2018

	Published R&D works				Inventions and patents					
	Total	Published in			Tested inventions	Patents		Sold		Inventions and patents used for the first time in practice
		Own publications	Other publications in the Republic of Serbia	Foreign publications		Pending in the Patent Office	Registered in the Patent Office	In the Republic of Serbia	Abroad	
<b>REPUBLIC OF SERBIA</b>	<b>28959</b>	<b>7223</b>	<b>9317</b>	<b>12419</b>	<b>167</b>	<b>75</b>	<b>34</b>	<b>26</b>	<b>50</b>	<b>29</b>
Natural sciences	5419	946	867	3606	25	17	7	4	1	13
Engineering and technology	6668	1064	2023	3581	11	27	13	2	-	1
Medical and health sciences	1468	215	161	1092	-	-	1	-	-	-
Agricultural sciences	3077	383	1394	1300	128	29	12	20	49	15
Social sciences	7495	2770	3005	1720	3	2	1	-	-	-
Humanities	4832	1845	1867	1120	-	-	-	-	-	-
<b>Business sector</b>	<b>1059</b>	<b>164</b>	<b>347</b>	<b>548</b>	<b>54</b>	<b>49</b>	<b>21</b>	<b>1</b>	<b>16</b>	<b>25</b>
Natural sciences	190	33	43	114	12	12	4	-	-	12
Engineering and technology	686	58	251	377	1	8	4	-	-	1
Agricultural sciences	36	25	11	-	38	27	12	1	16	12
Social sciences	147	48	42	57	3	2	1	-	-	-
<b>Government sector</b>	<b>8376</b>	<b>2726</b>	<b>2454</b>	<b>3196</b>	<b>107</b>	<b>15</b>	<b>8</b>	<b>25</b>	<b>34</b>	<b>2</b>
Natural sciences	2356	293	320	1743	12	4	1	4	1	1
Engineering and technology	1046	281	306	459	9	10	6	2	-	-
Medical and health sciences	137	-	30	107	-	-	1	-	-	-
Agricultural sciences	1096	261	421	414	86	1	-	19	33	1
Social sciences	1153	586	331	236	-	-	-	-	-	-
Humanities	2588	1305	1046	237	-	-	-	-	-	-
<b>Tertiary education</b>	<b>19514</b>	<b>4329</b>	<b>6511</b>	<b>8674</b>	<b>6</b>	<b>11</b>	<b>5</b>	-	-	<b>2</b>
Natural sciences	2873	620	504	1749	1	1	2	-	-	-
Engineering and technology	4936	725	1466	2745	1	9	3	-	-	-
Medical and health sciences	1331	215	131	985	-	-	-	-	-	-
Agricultural sciences	1945	97	962	886	4	1	-	-	-	2
Social sciences	6185	2132	2627	1426	-	-	-	-	-	-
Humanities	2244	540	821	883	-	-	-	-	-	-
<b>Non-profit sector</b>	<b>10</b>	<b>4</b>	<b>5</b>	<b>1</b>	-	-	-	-	-	-
Social sciences	10	4	5	1	-	-	-	-	-	-
<b>SRBIJA – SEVER</b>	<b>22813</b>	<b>5769</b>	<b>7088</b>	<b>9956</b>	<b>166</b>	<b>74</b>	<b>33</b>	<b>26</b>	<b>50</b>	<b>29</b>
Natural sciences	4870	923	751	3196	25	17	7	4	1	13
Engineering and technology	4610	666	1252	2692	10	26	12	2	-	1
Medical and health sciences	995	5	64	926	-	-	1	-	-	-
Agricultural sciences	2884	338	1322	1224	128	29	12	20	49	15
Social sciences	5610	2129	2200	1281	3	2	1	-	-	-
Humanities	3844	1708	1499	637	-	-	-	-	-	-
<b>Business sector</b>	<b>914</b>	<b>131</b>	<b>326</b>	<b>457</b>	<b>54</b>	<b>49</b>	<b>21</b>	<b>1</b>	<b>16</b>	<b>25</b>
Natural sciences	188	31	43	114	12	12	4	-	-	12
Engineering and technology	543	27	230	286	1	8	4	-	-	1
Agricultural sciences	36	25	11	-	38	27	12	1	16	12
Social sciences	147	48	42	57	3	2	1	-	-	-
<b>Government sector</b>	<b>8231</b>	<b>2679</b>	<b>2410</b>	<b>3142</b>	<b>107</b>	<b>15</b>	<b>8</b>	<b>25</b>	<b>34</b>	<b>2</b>
Natural sciences	2356	293	320	1743	12	4	1	4	1	1
Engineering and technology	969	234	291	444	9	10	6	2	-	-
Medical and health sciences	137	-	30	107	-	-	1	-	-	-
Agricultural sciences	1028	261	392	375	86	1	-	19	33	1
Social sciences	1153	586	331	236	-	-	-	-	-	-
Humanities	2588	1305	1046	237	-	-	-	-	-	-
<b>Tertiary education</b>	<b>13658</b>	<b>2955</b>	<b>4347</b>	<b>6356</b>	<b>5</b>	<b>10</b>	<b>4</b>	-	-	<b>2</b>
Natural sciences	2326	599	388	1339	1	1	2	-	-	-
Engineering and technology	3098	405	731	1962	-	8	2	-	-	-
Medical and health sciences	858	5	34	819	-	-	-	-	-	-
Agricultural sciences	1820	52	919	849	4	1	-	-	-	2
Social sciences	4300	1491	1822	987	-	-	-	-	-	-
Humanities	1256	403	453	400	-	-	-	-	-	-
<b>Non-profit sector</b>	<b>10</b>	<b>4</b>	<b>5</b>	<b>1</b>	-	-	-	-	-	-
Social sciences	10	4	5	1	-	-	-	-	-	-
<b>Beogradski region</b>	<b>17361</b>	<b>4809</b>	<b>5111</b>	<b>7441</b>	<b>63</b>	<b>31</b>	<b>14</b>	<b>7</b>	<b>2</b>	<b>5</b>
Natural sciences	4204	827	615	2762	13	5	3	4	1	1
Engineering and technology	2363	272	895	1196	9	21	9	2	-	1
Medical and health sciences	990	5	59	926	-	-	1	-	-	-
Agricultural sciences	1896	299	636	961	38	3	-	1	1	3
Social sciences	4153	1699	1476	978	3	2	1	-	-	-
Humanities	3755	1707	1430	618	-	-	-	-	-	-

9.1. Published R&D works, inventions and patents, by fields of science, 2018 (continued)

	Published R&D works				Inventions and patents					
	Total	Published in			Tested inventions	Patents		Sold		Inventions and patents used for the first time in practice
		Own publications	Other publications in the Republic of Serbia	Foreign publications		Pending in the Patent Office	Registered in the Patent Office	In the Republic of Serbia	Abroad	
<b>Business sector</b>	<b>878</b>	<b>131</b>	<b>309</b>	<b>438</b>	<b>4</b>	<b>11</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>1</b>
Natural sciences	164	31	34	99	-	-	-	-	-	-
Engineering and technology	539	27	230	282	1	8	4	-	-	1
Agricultural sciences	28	25	3	-	-	1	-	1	1	-
Social sciences	147	48	42	57	3	2	1	-	-	-
<b>Government sector</b>	<b>7477</b>	<b>2528</b>	<b>2174</b>	<b>2775</b>	<b>54</b>	<b>10</b>	<b>7</b>	<b>6</b>	<b>1</b>	<b>2</b>
Natural sciences	2356	293	320	1743	12	4	1	4	1	1
Engineering and technology	580	122	222	236	8	5	5	2	-	-
Medical and health sciences	137	-	30	107	-	-	1	-	-	-
Agricultural sciences	663	222	225	216	34	1	-	-	-	1
Social sciences	1153	586	331	236	-	-	-	-	-	-
Humanities	2588	1305	1046	237	-	-	-	-	-	-
<b>Tertiary education</b>	<b>8996</b>	<b>2146</b>	<b>2623</b>	<b>4227</b>	<b>5</b>	<b>10</b>	<b>2</b>	-	-	<b>2</b>
Natural sciences	1684	503	261	920	1	1	2	-	-	-
Engineering and technology	1244	123	443	678	-	8	-	-	-	-
Medical and health sciences	853	5	29	819	-	-	-	-	-	-
Agricultural sciences	1205	52	408	745	4	1	-	-	-	2
Social sciences	2843	1061	1098	684	-	-	-	-	-	-
Humanities	1167	402	384	381	-	-	-	-	-	-
<b>Non-profit sector</b>	<b>10</b>	<b>4</b>	<b>5</b>	<b>1</b>	-	-	-	-	-	-
Social sciences	10	4	5	1	-	-	-	-	-	-
<b>Region Vojvodine</b>	<b>5452</b>	<b>960</b>	<b>1977</b>	<b>2515</b>	<b>103</b>	<b>43</b>	<b>19</b>	<b>19</b>	<b>48</b>	<b>24</b>
Natural sciences	666	96	136	434	12	12	4	-	-	12
Engineering and technology	2247	394	357	1496	1	5	3	-	-	-
Medical and health sciences	5	-	5	-	-	-	-	-	-	-
Agricultural sciences	988	39	686	263	90	26	12	19	48	12
Social sciences	1457	430	724	303	-	-	-	-	-	-
Humanities	89	1	69	19	-	-	-	-	-	-
<b>Business sector</b>	<b>36</b>	-	<b>17</b>	<b>19</b>	<b>50</b>	<b>38</b>	<b>16</b>	-	<b>15</b>	<b>24</b>
Natural sciences	24	-	9	15	12	12	4	-	-	12
Engineering and technology	4	-	-	4	-	-	-	-	-	-
Agricultural sciences	8	-	8	-	38	26	12	-	15	12
<b>Government sector</b>	<b>754</b>	<b>151</b>	<b>236</b>	<b>367</b>	<b>53</b>	<b>5</b>	<b>1</b>	<b>19</b>	<b>33</b>	-
Engineering and technology	389	112	69	208	1	5	1	-	-	-
Agricultural sciences	365	39	167	159	52	-	-	19	33	-
<b>Tertiary education</b>	<b>4662</b>	<b>809</b>	<b>1724</b>	<b>2129</b>	-	-	<b>2</b>	-	-	-
Natural sciences	642	96	127	419	-	-	-	-	-	-
Engineering and technology	1854	282	288	1284	-	-	2	-	-	-
Medical and health sciences	5	-	5	-	-	-	-	-	-	-
Agricultural sciences	615	-	511	104	-	-	-	-	-	-
Social sciences	1457	430	724	303	-	-	-	-	-	-
Humanities	89	1	69	19	-	-	-	-	-	-
<b>SRBIJA – JUG</b>	<b>6146</b>	<b>1454</b>	<b>2229</b>	<b>2463</b>	<b>1</b>	<b>1</b>	<b>1</b>	-	-	-
Natural sciences	549	23	116	410	-	-	-	-	-	-
Engineering and technology	2058	398	771	889	1	1	1	-	-	-
Medical and health sciences	473	210	97	166	-	-	-	-	-	-
Agricultural sciences	193	45	72	76	-	-	-	-	-	-
Social sciences	1885	641	805	439	-	-	-	-	-	-
Humanities	988	137	368	483	-	-	-	-	-	-
<b>Business sector</b>	<b>145</b>	<b>33</b>	<b>21</b>	<b>91</b>	-	-	-	-	-	-
Natural sciences	2	2	-	-	-	-	-	-	-	-
Engineering and technology	143	31	21	91	-	-	-	-	-	-
<b>Government sector</b>	<b>145</b>	<b>47</b>	<b>44</b>	<b>54</b>	-	-	-	-	-	-
Engineering and technology	77	47	15	15	-	-	-	-	-	-
Agricultural sciences	68	-	29	39	-	-	-	-	-	-
<b>Tertiary education</b>	<b>5856</b>	<b>1374</b>	<b>2164</b>	<b>2318</b>	<b>1</b>	<b>1</b>	<b>1</b>	-	-	-
Natural sciences	547	21	116	410	-	-	-	-	-	-
Engineering and technology	1838	320	735	783	1	1	1	-	-	-
Medical and health sciences	473	210	97	166	-	-	-	-	-	-
Agricultural sciences	125	45	43	37	-	-	-	-	-	-
Social sciences	1885	641	805	439	-	-	-	-	-	-
Humanities	988	137	368	483	-	-	-	-	-	-
<b>Region Šumadije i Zapadne Srbije</b>	<b>2492</b>	<b>743</b>	<b>1000</b>	<b>749</b>	-	<b>1</b>	-	-	-	-
Natural sciences	185	10	18	157	-	-	-	-	-	-
Engineering and technology	582	99	266	217	-	1	-	-	-	-
Medical and health sciences	263	131	66	66	-	-	-	-	-	-
Agricultural sciences	193	45	72	76	-	-	-	-	-	-
Social sciences	1010	347	479	184	-	-	-	-	-	-
Humanities	259	111	99	49	-	-	-	-	-	-

### 9.1. Published R&D works, inventions and patents, by fields of science, 2018 (continued)

	Published R&D works				Inventions and patents					
	Total	Published in			Tested inventions	Patents		Sold		Inventions and patents used for the first time in practice
		Own publications	Other publications in the Republic of Serbia	Foreign publications		Pending in the Patent Office	Registered in the Patent Office	In the Republic of Serbia	Abroad	
<b>Business sector</b>	<b>94</b>	<b>23</b>	<b>1</b>	<b>70</b>	-	-	-	-	-	-
Engineering and technology	94	23	1	70	-	-	-	-	-	-
<b>Government sector</b>	<b>68</b>	-	<b>29</b>	<b>39</b>	-	-	-	-	-	-
Agricultural sciences	68	-	29	39	-	-	-	-	-	-
<b>Tertiary education</b>	<b>2330</b>	<b>720</b>	<b>970</b>	<b>640</b>	-	<b>1</b>	-	-	-	-
Natural sciences	185	10	18	157	-	-	-	-	-	-
Engineering and technology	488	76	265	147	-	1	-	-	-	-
Medical and health sciences	263	131	66	66	-	-	-	-	-	-
Agricultural sciences	125	45	43	37	-	-	-	-	-	-
Social sciences	1010	347	479	184	-	-	-	-	-	-
Humanities	259	111	99	49	-	-	-	-	-	-
<b>Region Južne i Istočne Srbije</b>	<b>3654</b>	<b>711</b>	<b>1229</b>	<b>1714</b>	<b>1</b>	-	<b>1</b>	-	-	-
Natural sciences	364	13	98	253	-	-	-	-	-	-
Engineering and technology	1476	299	505	672	1	-	1	-	-	-
Medical and health sciences	210	79	31	100	-	-	-	-	-	-
Social sciences	875	294	326	255	-	-	-	-	-	-
Humanities	729	26	269	434	-	-	-	-	-	-
<b>Business sector</b>	<b>51</b>	<b>10</b>	<b>20</b>	<b>21</b>	-	-	-	-	-	-
Natural sciences	2	2	-	-	-	-	-	-	-	-
Engineering and technology	49	8	20	21	-	-	-	-	-	-
<b>Government sector</b>	<b>77</b>	<b>47</b>	<b>15</b>	<b>15</b>	-	-	-	-	-	-
Engineering and technology	77	47	15	15	-	-	-	-	-	-
<b>Tertiary education</b>	<b>3526</b>	<b>654</b>	<b>1194</b>	<b>1678</b>	<b>1</b>	-	<b>1</b>	-	-	-
Natural sciences	362	11	98	253	-	-	-	-	-	-
Engineering and technology	1350	244	470	636	1	-	1	-	-	-
Medical and health sciences	210	79	31	100	-	-	-	-	-	-
Social sciences	875	294	326	255	-	-	-	-	-	-
Humanities	729	26	269	434	-	-	-	-	-	-
<b>Region Kosovo i Metohija</b>	...	...	...	...	...	...	...	...	...	...

### 10.1. Inventions and patent by R&D intensity, 2018

R&D intensity	Inventions and patents					
	Tested inventions	Patents		Inventions and patents sold		Inventions and patents used for the first time in practice
		Pending in the Patent Office	Registered in the Patent Office	In the Republic of Serbia	Abroad	
<b>REPUBLIC OF SERBIA</b>	<b>167</b>	<b>75</b>	<b>34</b>	<b>26</b>	<b>50</b>	<b>29</b>
Natural sciences	25	17	7	4	1	13
Engineering and technology	11	27	13	2	-	1
Medical and health sciences	-	-	1	-	-	-
Agricultural sciences	128	29	12	20	49	15
Social sciences	3	2	1	-	-	-
<b>Business sector</b>	<b>54</b>	<b>49</b>	<b>21</b>	<b>1</b>	<b>16</b>	<b>25</b>
Natural sciences	12	12	4	-	-	12
Engineering and technology	1	8	4	-	-	1
Agricultural sciences	38	27	12	1	16	12
Social sciences	3	2	1	-	-	-
<b>Government sector</b>	<b>107</b>	<b>15</b>	<b>8</b>	<b>25</b>	<b>34</b>	<b>2</b>
Natural sciences	12	4	1	4	1	1
Engineering and technology	9	10	6	2	-	-
Medical and health sciences	-	-	1	-	-	-
Agricultural sciences	86	1	-	19	33	1
<b>Tertiary education</b>	<b>6</b>	<b>11</b>	<b>5</b>	-	-	<b>2</b>
Natural sciences	1	1	2	-	-	-
Engineering and technology	1	9	3	-	-	-
Agricultural sciences	4	1	-	-	-	2
<b>SRBIJA – SEVER</b>	<b>166</b>	<b>74</b>	<b>33</b>	<b>26</b>	<b>50</b>	<b>29</b>
Natural sciences	25	17	7	4	1	13
Engineering and technology	10	26	12	2	-	1
Medical and health sciences	-	-	1	-	-	-
Agricultural sciences	128	29	12	20	49	15
Social sciences	3	2	1	-	-	-

## 10.1. Inventions and patent by R&D intensity, 2018 (continued)

R&D intensity	Inventions and patents					
	Tested inventions	Patents		Inventions and patents sold		Inventions and patents used for the first time in practice
		Pending in the Patent Office	Registered in the Patent Office	In the Republic of Serbia	Abroad	
<b>Business sector</b>	<b>54</b>	<b>49</b>	<b>21</b>	<b>1</b>	<b>16</b>	<b>25</b>
Natural sciences	12	12	4	-	-	12
Engineering and technology	1	8	4	-	-	1
Agricultural sciences	38	27	12	1	16	12
Social sciences	3	2	1	-	-	-
<b>Government sector</b>	<b>107</b>	<b>15</b>	<b>8</b>	<b>25</b>	<b>34</b>	<b>2</b>
Natural sciences	12	4	1	4	1	1
Engineering and technology	9	10	6	2	-	-
Medical and health sciences	-	-	1	-	-	-
Agricultural sciences	86	1	-	19	33	1
<b>Tertiary education</b>	<b>5</b>	<b>10</b>	<b>4</b>	<b>-</b>	<b>-</b>	<b>2</b>
Natural sciences	1	1	2	-	-	-
Engineering and technology	-	8	2	-	-	-
Agricultural sciences	4	1	-	-	-	2
<b>Beogradski region</b>	<b>63</b>	<b>31</b>	<b>14</b>	<b>7</b>	<b>2</b>	<b>5</b>
Natural sciences	13	5	3	4	1	1
Engineering and technology	9	21	9	2	-	1
Medical and health sciences	-	-	1	-	-	-
Agricultural sciences	38	3	-	1	1	3
Social sciences	3	2	1	-	-	-
<b>Business sector</b>	<b>4</b>	<b>11</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>1</b>
Engineering and technology	1	8	4	-	-	1
Agricultural sciences	-	1	-	1	1	-
Social sciences	3	2	1	-	-	-
<b>Government sector</b>	<b>54</b>	<b>10</b>	<b>7</b>	<b>6</b>	<b>1</b>	<b>2</b>
Natural sciences	12	4	1	4	1	1
Engineering and technology	8	5	5	2	-	-
Medical and health sciences	-	-	1	-	-	-
Agricultural sciences	34	1	-	-	-	1
<b>Tertiary education</b>	<b>5</b>	<b>10</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>2</b>
Natural sciences	1	1	2	-	-	-
Engineering and technology	-	8	-	-	-	-
Agricultural sciences	4	1	-	-	-	2
<b>Region Vojvodine</b>	<b>103</b>	<b>43</b>	<b>19</b>	<b>19</b>	<b>48</b>	<b>24</b>
Natural sciences	12	12	4	-	-	12
Engineering and technology	1	5	3	-	-	-
Agricultural sciences	90	26	12	19	48	12
<b>Business sector</b>	<b>50</b>	<b>38</b>	<b>16</b>	<b>-</b>	<b>15</b>	<b>24</b>
Natural sciences	12	12	4	-	-	12
Agricultural sciences	38	26	12	-	15	12
<b>Government sector</b>	<b>53</b>	<b>5</b>	<b>1</b>	<b>19</b>	<b>33</b>	<b>-</b>
Engineering and technology	1	5	1	-	-	-
Agricultural sciences	52	-	-	19	33	-
<b>Tertiary education</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>
Engineering and technology	-	-	2	-	-	-
SRBIJA – JUG	1	1	1	-	-	-
Engineering and technology	1	1	1	-	-	-
<b>Tertiary education</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>
Engineering and technology	1	1	1	-	-	-
<b>Region Šumadije i Zapadne Srbije</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Engineering and technology	-	1	-	-	-	-
<b>Tertiary education</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Engineering and technology	-	1	-	-	-	-
<b>Region Južne i Istočne Srbije</b>	<b>1</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>
Engineering and technology	1	-	1	-	-	-
<b>Tertiary education</b>	<b>1</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>
Engineering and technology	1	-	1	-	-	-
<b>Region Kosovo i Metohija</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>

## 11.1. Gross domestic expenditure for R&D, by sectors and fields of science, 2018

Thous. RSD

	Gross domestic expenditure	Gross investments	Current costs		
			Total	Gross salaries and wages	Material costs
<b>REPUBLIC OF SERBIA</b>	<b>46615667</b>	<b>3594848</b>	<b>43020819</b>	<b>23425320</b>	<b>19595499</b>
Natural sciences	13984835	565043	13419792	7404253	6015539
Engineering and technology	18053840	1982277	16071563	6846892	9224671
Medical and health sciences	1303436	95140	1208296	864238	344058
Agricultural sciences	4511717	356230	4155487	3062964	1092523
Social sciences	6190649	238199	5952450	4113969	1838481
Humanities	2571190	357959	2213231	1133004	1080227
<b>Business sector</b>	<b>18229009</b>	<b>1860304</b>	<b>16368705</b>	<b>6498166</b>	<b>9870539</b>
Natural sciences	6102802	162949	5939853	2549910	3389943
Engineering and technology	11312893	1515445	9797448	3699052	6098396
Medical and health sciences	247083	63462	183621	76775	106846
Agricultural sciences	473075	96921	376154	126300	249854
Social sciences	93156	21527	71629	46129	25500
<b>Government sector</b>	<b>13132549</b>	<b>1101554</b>	<b>12030995</b>	<b>7970135</b>	<b>4060860</b>
Natural sciences	4759721	261771	4497950	3082159	1415791
Engineering and technology	3220680	294130	2926550	1372067	1554483
Medical and health sciences	262467	13520	248947	166994	81953
Agricultural sciences	2969523	187500	2782023	2282729	499294
Social sciences	640238	4931	635307	441952	193355
Humanities	1279920	339702	940218	624234	315984
<b>Tertiary education</b>	<b>15251369</b>	<b>632990</b>	<b>14618379</b>	<b>8955537</b>	<b>5662842</b>
Natural sciences	3121428	140323	2981105	1772184	1208921
Engineering and technology	3520024	172702	3347322	1775716	1571606
Medical and health sciences	793886	18158	775728	620469	155259
Agricultural sciences	1069119	71809	997310	653935	343375
Social sciences	5455642	211741	5243901	3624463	1619438
Humanities	1291270	18257	1273013	508770	764243
<b>Non-profit sector</b>	<b>2740</b>	<b>-</b>	<b>2740</b>	<b>1482</b>	<b>1258</b>
Natural sciences	884	-	884	-	884
Engineering and technology	243	-	243	57	186
Social sciences	1613	-	1613	1425	188
<b>SRBIJA – SEVER</b>	<b>43321277</b>	<b>3467335</b>	<b>39853942</b>	<b>21911168</b>	<b>17942774</b>
Natural sciences	13320313	544194	12776119	6975890	5800229
Engineering and technology	16830909	1913497	14917412	6314666	8602746
Medical and health sciences	1158213	90109	1068104	748615	319489
Agricultural sciences	4335653	346220	3989433	2964915	1024518
Social sciences	5638774	215356	5423418	3834206	1589212
Humanities	2037415	357959	1679456	1072876	606580
<b>Business sector</b>	<b>17765168</b>	<b>1839581</b>	<b>15925587</b>	<b>6305941</b>	<b>9619646</b>
Natural sciences	6064318	156107	5908211	2532269	3375942
Engineering and technology	10969463	1502111	9467352	3565551	5901801
Medical and health sciences	247083	63462	183621	76775	106846
Agricultural sciences	391148	96374	294774	85217	209557
Social sciences	93156	21527	71629	46129	25500
<b>Government sector</b>	<b>12938654</b>	<b>1092915</b>	<b>11845739</b>	<b>7845793</b>	<b>3999946</b>
Natural sciences	4759721	261771	4497950	3082159	1415791
Engineering and technology	3100307	294130	2806177	1286719	1519458
Medical and health sciences	262467	13520	248947	166994	81953
Agricultural sciences	2896001	178861	2717140	2243735	473405
Social sciences	640238	4931	635307	441952	193355
Humanities	1279920	339702	940218	624234	315984
<b>Tertiary education</b>	<b>12614715</b>	<b>534839</b>	<b>12079876</b>	<b>7757952</b>	<b>4321924</b>
Natural sciences	2495390	126316	2369074	1361462	1007612
Engineering and technology	2760896	117256	2643640	1462339	1181301
Medical and health sciences	648663	13127	635536	504846	130690
Agricultural sciences	1048504	70985	977519	635963	341556
Social sciences	4903767	188898	4714869	3344700	1370169
Humanities	757495	18257	739238	448642	290596
<b>Non-profit sector</b>	<b>2740</b>	<b>-</b>	<b>2740</b>	<b>1482</b>	<b>1258</b>
Natural sciences	884	-	884	-	884
Engineering and technology	243	-	243	57	186
Social sciences	1613	-	1613	1425	188
<b>Beogradski region</b>	<b>31567972</b>	<b>2945648</b>	<b>28622324</b>	<b>15047620</b>	<b>13574704</b>
Natural sciences	8889055	387721	8501334	5387303	3114031
Engineering and technology	14009919	1838191	12171728	4370576	7801152
Medical and health sciences	1029828	83116	946712	638314	308398
Agricultural sciences	2712904	199117	2513787	1687526	826261
Social sciences	3019501	95745	2923756	1976826	946930
Humanities	1906765	341758	1565007	987075	577932

**11.1. Gross domestic expenditure for R&D, by sectors and fields of science, 2018 (continued)**

Thous. RSD

	Gross domestic expenditure	Gross investments	Current costs		
			Total	Gross salaries and wages	Material costs
<b>Business sector</b>	<b>12363057</b>	<b>1717828</b>	<b>10645229</b>	<b>3675293</b>	<b>6969936</b>
Natural sciences	2062465	48128	2014337	1073518	940819
Engineering and technology	9593956	1490337	8103619	2406743	5696876
Medical and health sciences	247083	63462	183621	76775	106846
Agricultural sciences	366397	94374	272023	72128	199895
Social sciences	93156	21527	71629	46129	25500
<b>Government sector</b>	<b>10867180</b>	<b>919392</b>	<b>9947788</b>	<b>6266673</b>	<b>3681115</b>
Natural sciences	4759721	261771	4497950	3082159	1415791
Engineering and technology	2461268	265710	2195558	894017	1301541
Medical and health sciences	262467	13520	248947	166994	81953
Agricultural sciences	1463566	33758	1429808	1057317	372491
Social sciences	640238	4931	635307	441952	193355
Humanities	1279920	339702	940218	624234	315984
<b>Tertiary education</b>	<b>8335879</b>	<b>308428</b>	<b>8027451</b>	<b>5104172</b>	<b>2923279</b>
Natural sciences	2066869	77822	1989047	1231626	757421
Engineering and technology	1954452	82144	1872308	1069759	802549
Medical and health sciences	520278	6134	514144	394545	119599
Agricultural sciences	882941	70985	811956	558081	253875
Social sciences	2284494	69287	2215207	1487320	727887
Humanities	626845	2056	624789	362841	261948
<b>Non-profit sector</b>	<b>1856</b>	<b>-</b>	<b>1856</b>	<b>1482</b>	<b>374</b>
Engineering and technology	243	-	243	57	186
Social sciences	1613	-	1613	1425	188
<b>Region Vojvodine</b>	<b>11753305</b>	<b>521687</b>	<b>11231618</b>	<b>6863548</b>	<b>4368070</b>
Natural sciences	4431258	156473	4274785	1588587	2686198
Engineering and technology	2820990	75306	2745684	1944090	801594
Medical and health sciences	128385	6993	121392	110301	11091
Agricultural sciences	1622749	147103	1475646	1277389	198257
Social sciences	2619273	119611	2499662	1857380	642282
Humanities	130650	16201	114449	85801	28648
<b>Business sector</b>	<b>5402111</b>	<b>121753</b>	<b>5280358</b>	<b>2630648</b>	<b>2649710</b>
Natural sciences	4001853	107979	3893874	1458751	2435123
Engineering and technology	1375507	11774	1363733	1158808	204925
Agricultural sciences	24751	2000	22751	13089	9662
<b>Government sector</b>	<b>2071474</b>	<b>173523</b>	<b>1897951</b>	<b>1579120</b>	<b>318831</b>
Engineering and technology	639039	28420	610619	392702	217917
Agricultural sciences	1432435	145103	1287332	1186418	100914
<b>Tertiary education</b>	<b>4278836</b>	<b>226411</b>	<b>4052425</b>	<b>2653780</b>	<b>1398645</b>
Natural sciences	428521	48494	380027	129836	250191
Engineering and technology	806444	35112	771332	392580	378752
Medical and health sciences	128385	6993	121392	110301	11091
Agricultural sciences	165563	-	165563	77882	87681
Social sciences	2619273	119611	2499662	1857380	642282
Humanities	130650	16201	114449	85801	28648
<b>Non-profit sector</b>	<b>884</b>	<b>-</b>	<b>884</b>	<b>-</b>	<b>884</b>
Natural sciences	884	-	884	-	884
<b>SRBIJA – JUG</b>	<b>3294390</b>	<b>127513</b>	<b>3166877</b>	<b>1514152</b>	<b>1652725</b>
Natural sciences	664522	20849	643673	428363	215310
Engineering and technology	1222931	68780	1154151	532226	621925
Medical and health sciences	145223	5031	140192	115623	24569
Agricultural sciences	176064	10010	166054	98049	68005
Social sciences	551875	22843	529032	279763	249269
Humanities	533775	-	533775	60128	473647
<b>Business sector</b>	<b>463841</b>	<b>20723</b>	<b>443118</b>	<b>192225</b>	<b>250893</b>
Natural sciences	38484	6842	31642	17641	14001
Engineering and technology	343430	13334	330096	133501	196595
Agricultural sciences	81927	547	81380	41083	40297
<b>Government sector</b>	<b>193895</b>	<b>8639</b>	<b>185256</b>	<b>124342</b>	<b>60914</b>
Engineering and technology	120373	-	120373	85348	35025
Agricultural sciences	73522	8639	64883	38994	25889



**11.1. Gross domestic expenditure for R&D, by sectors and fields of science, 2018 (continued)**

Thous. RSD

	Gross domestic expenditure	Gross investments	Current costs		
			Total	Gross salaries and wages	Material costs
<b>Tertiary education</b>	<b>2636654</b>	<b>98151</b>	<b>2538503</b>	<b>1197585</b>	<b>1340918</b>
Natural sciences	626038	14007	612031	410722	201309
Engineering and technology	759128	55446	703682	313377	390305
Medical and health sciences	145223	5031	140192	115623	24569
Agricultural sciences	20615	824	19791	17972	1819
Social sciences	551875	22843	529032	279763	249269
Humanities	533775	-	533775	60128	473647
<b>Region Šumadije i Zapadne Srbije</b>	<b>1236795</b>	<b>55315</b>	<b>1181480</b>	<b>874144</b>	<b>307336</b>
Natural sciences	497579	13206	484373	359763	124610
Engineering and technology	303992	15406	288586	177812	110774
Medical and health sciences	50149	1883	48266	34677	13589
Agricultural sciences	94154	9463	84691	56966	27725
Social sciences	256411	15357	241054	211959	29095
Humanities	34510	-	34510	32967	1543
<b>Business sector</b>	<b>112388</b>	<b>9712</b>	<b>102676</b>	<b>65157</b>	<b>37519</b>
Natural sciences	12478	6842	5636	5232	404
Engineering and technology	99893	2870	97023	59925	37098
Agricultural sciences	17	-	17	-	17
<b>Government sector</b>	<b>73522</b>	<b>8639</b>	<b>64883</b>	<b>38994</b>	<b>25889</b>
Agricultural sciences	73522	8639	64883	38994	25889
<b>Tertiary education</b>	<b>1050885</b>	<b>36964</b>	<b>1013921</b>	<b>769993</b>	<b>243928</b>
Natural sciences	485101	6364	478737	354531	124206
Engineering and technology	204099	12536	191563	117887	73676
Medical and health sciences	50149	1883	48266	34677	13589
Agricultural sciences	20615	824	19791	17972	1819
Social sciences	256411	15357	241054	211959	29095
Humanities	34510	-	34510	32967	1543
<b>Region Južne i Istočne Srbije</b>	<b>2057595</b>	<b>72198</b>	<b>1985397</b>	<b>640008</b>	<b>1345389</b>
Natural sciences	166943	7643	159300	68600	90700
Engineering and technology	918939	53374	865565	354414	511151
Medical sciences	95074	3148	91926	80946	10980
Agricultural sciences	81910	547	81363	41083	40280
Social sciences	295464	7486	287978	67804	220174
Humanities	499265	-	499265	27161	472104
<b>Business sector</b>	<b>351453</b>	<b>11011</b>	<b>340442</b>	<b>127068</b>	<b>213374</b>
Natural sciences	26006	-	26006	12409	13597
Engineering and technology	243537	10464	233073	73576	159497
Agricultural sciences	81910	547	81363	41083	40280
<b>Government sector</b>	<b>120373</b>	<b>-</b>	<b>120373</b>	<b>85348</b>	<b>35025</b>
Engineering and technology	120373	-	120373	85348	35025
<b>Tertiary education</b>	<b>1585769</b>	<b>61187</b>	<b>1524582</b>	<b>427592</b>	<b>1096990</b>
Natural sciences	140937	7643	133294	56191	77103
Engineering and technology	555029	42910	512119	195490	316629
Medical and health sciences	95074	3148	91926	80946	10980
Social sciences	295464	7486	287978	67804	220174
Humanities	499265	-	499265	27161	472104
<b>Region Kosovo i Metohija</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>

## 12.1. Sources of funds spent on R&D activities, 2018

Thous. RSD

	Total	Own	Government and local authorities	Private and public enterprises	Non-profit institutions	Foreign ordering parties
<b>REPUBLIC OF SERBIA</b>	<b>46615667</b>	<b>11771886</b>	<b>20107738</b>	<b>4672818</b>	<b>12806</b>	<b>10050419</b>
Natural sciences	13984835	1875239	5929871	1827053	1149	4351523
Engineering and technology	18053840	3800436	6331646	2618040	3998	5299720
Medical and health sciences	1303436	188834	998894	800	-	114908
Agricultural sciences	4511717	2591174	1645019	173321	-	102203
Social sciences	6190649	2682551	3316389	53286	6329	132094
Humanities	2571190	633652	1885919	318	1330	49971
<b>Business sector</b>	<b>18229009</b>	<b>4833704</b>	<b>1195085</b>	<b>3376375</b>	<b>3998</b>	<b>8819847</b>
Natural sciences	6102802	1021556	315981	869161	-	3896104
Engineering and technology	11312893	3296011	773107	2502291	3998	4737486
Medical and health sciences	247083	134760	-	-	-	112323
Agricultural sciences	473075	350113	44105	4923	-	73934
Social sciences	93156	31264	61892	-	-	-
<b>Government sector</b>	<b>13132549</b>	<b>2810660</b>	<b>8699705</b>	<b>1047791</b>	<b>6787</b>	<b>567606</b>
Natural sciences	4759721	57518	3518953	956423	928	225899
Engineering and technology	3220680	188803	2726884	26392	-	278601
Medical and health sciences	262467	4777	256402	-	-	1288
Agricultural sciences	2969523	2060977	854153	52387	-	2006
Social sciences	640238	6601	566654	12271	4529	50183
Humanities	1279920	491984	776659	318	1330	9629
<b>Tertiary education</b>	<b>15251369</b>	<b>4127522</b>	<b>10212288</b>	<b>248409</b>	<b>1800</b>	<b>661350</b>
Natural sciences	3121428	796165	2094277	1469	-	229517
Engineering and technology	3520024	315622	2831655	89114	-	283633
Medical and health sciences	793886	49297	742492	800	-	1297
Agricultural sciences	1069119	180084	746761	116011	-	26263
Social sciences	5455642	2644686	2687843	41015	1800	80298
Humanities	1291270	141668	1109260	-	-	40342
<b>Non-profit sector</b>	<b>2740</b>	<b>-</b>	<b>660</b>	<b>243</b>	<b>221</b>	<b>1616</b>
Natural sciences	884	-	660	-	221	3
Engineering and technology	243	-	-	243	-	-
Social sciences	1613	-	-	-	-	1613
<b>SRBIJA – SEVER</b>	<b>43321277</b>	<b>11228538</b>	<b>17952963</b>	<b>4537985</b>	<b>11006</b>	<b>9590785</b>
Natural sciences	13320313	1789973	5362401	1819308	1149	4347482
Engineering and technology	16830909	3764038	5724430	2492819	3998	4845624
Medical and health sciences	1158213	186114	857688	800	-	113611
Agricultural sciences	4335653	2526596	1533533	173321	-	102203
Social sciences	5638774	2328165	3122767	51419	4529	131894
Humanities	2037415	633652	1352144	318	1330	49971
<b>Business sector</b>	<b>17765168</b>	<b>4736855</b>	<b>1119630</b>	<b>3332523</b>	<b>3998</b>	<b>8572162</b>
Natural sciences	6064318	1006650	300148	861416	-	3896104
Engineering and technology	10969463	3278646	730834	2466184	3998	4489801
Medical and health sciences	247083	134760	-	-	-	112323
Agricultural sciences	391148	285535	26756	4923	-	73934
Social sciences	93156	31264	61892	-	-	-
<b>Government sector</b>	<b>12938654</b>	<b>2810660</b>	<b>8505810</b>	<b>1047791</b>	<b>6787</b>	<b>567606</b>
Natural sciences	4759721	57518	3518953	956423	928	225899
Engineering and technology	3100307	188803	2606511	26392	-	278601
Medical and health sciences	262467	4777	256402	-	-	1288
Agricultural sciences	2896001	2060977	780631	52387	-	2006
Social sciences	640238	6601	566654	12271	4529	50183
Humanities	1279920	491984	776659	318	1330	9629
<b>Tertiary education</b>	<b>12614715</b>	<b>3681023</b>	<b>8326863</b>	<b>157428</b>	<b>-</b>	<b>449401</b>
Natural sciences	2495390	725805	1542640	1469	-	225476
Engineering and technology	2760896	296589	2387085	-	-	77222
Medical and health sciences	648663	46577	601286	800	-	-
Agricultural sciences	1048504	180084	726146	116011	-	26263
Social sciences	4903767	2290300	2494221	39148	-	80098
Humanities	757495	141668	575485	-	-	40342
<b>Non-profit sector</b>	<b>2740</b>	<b>-</b>	<b>660</b>	<b>243</b>	<b>221</b>	<b>1616</b>
Natural sciences	884	-	660	-	221	3
Engineering and technology	243	-	-	243	-	-
Social sciences	1613	-	-	-	-	1613
<b>Beogradski region</b>	<b>31567972</b>	<b>7985311</b>	<b>14182568</b>	<b>3420507</b>	<b>10785</b>	<b>5968801</b>
Natural sciences	8889055	1031898	5023464	1791508	928	1041257
Engineering and technology	14009919	3435697	4595959	1408923	3998	4565342
Medical and health sciences	1029828	139537	776680	-	-	113611
Agricultural sciences	2712904	1369692	1095739	168339	-	79134
Social sciences	3019501	1429155	1414912	51419	4529	119486
Humanities	1906765	579332	1275814	318	1330	49971

**12.1. Sources of funds spent on R&D activities, 2018 (continued)**

Thous. RSD

	Total	Own	Government and local authorities	Private and public enterprises	Non-profit institutions	Foreign ordering parties
<b>Business sector</b>	<b>12363057</b>	<b>3781637</b>	<b>1056489</b>	<b>2235250</b>	<b>3998</b>	<b>5285683</b>
Natural sciences	2062465	351924	237007	833616	-	639918
Engineering and technology	9593956	2979193	730834	1399133	3998	4480798
Medical and health sciences	247083	134760	-	-	-	112323
Agricultural sciences	366397	284496	26756	2501	-	52644
Social sciences	93156	31264	61892	-	-	-
<b>Government sector</b>	<b>10867180</b>	<b>1675195</b>	<b>7862264</b>	<b>1028386</b>	<b>6787</b>	<b>294548</b>
Natural sciences	4759721	57518	3518953	956423	928	225899
Engineering and technology	2461268	160444	2283955	9547	-	7322
Medical and health sciences	262467	4777	256402	-	-	1288
Agricultural sciences	1463566	953871	459641	49827	-	227
Social sciences	640238	6601	566654	12271	4529	50183
Humanities	1279920	491984	776659	318	1330	9629
<b>Tertiary education</b>	<b>8335879</b>	<b>2528479</b>	<b>5263815</b>	<b>156628</b>	-	<b>386957</b>
Natural sciences	2066869	622456	1267504	1469	-	175440
Engineering and technology	1954452	296060	1581170	-	-	77222
Medical and health sciences	520278	-	520278	-	-	-
Agricultural sciences	882941	131325	609342	116011	-	26263
Social sciences	2284494	1391290	786366	39148	-	67690
Humanities	626845	87348	499155	-	-	40342
<b>Non-profit sector</b>	<b>1856</b>	-	-	<b>243</b>	-	<b>1613</b>
Engineering and technology	243	-	-	243	-	-
Social sciences	1613	-	-	-	-	1613
<b>Region Vojvodine</b>	<b>11753305</b>	<b>3243227</b>	<b>3770395</b>	<b>1117478</b>	<b>221</b>	<b>3621984</b>
Natural sciences	4431258	758075	338937	27800	221	3306225
Engineering and technology	2820990	328341	1128471	1083896	-	280282
Medical and health sciences	128385	46577	81008	800	-	-
Agricultural sciences	1622749	1156904	437794	4982	-	23069
Social sciences	2619273	899010	1707855	-	-	12408
Humanities	130650	54320	76330	-	-	-
<b>Business sector</b>	<b>5402111</b>	<b>955218</b>	<b>63141</b>	<b>1097273</b>	-	<b>3286479</b>
Natural sciences	4001853	654726	63141	27800	-	3256186
Engineering and technology	1375507	299453	-	1067051	-	9003
Agricultural sciences	24751	1039	-	2422	-	21290
<b>Government sector</b>	<b>2071474</b>	<b>1135465</b>	<b>643546</b>	<b>19405</b>	-	<b>273058</b>
Engineering and technology	639039	28359	322556	16845	-	271279
Agricultural sciences	1432435	1107106	320990	2560	-	1779
<b>Tertiary education</b>	<b>4278836</b>	<b>1152544</b>	<b>3063048</b>	<b>800</b>	-	<b>62444</b>
Natural sciences	428521	103349	275136	-	-	50036
Engineering and technology	806444	529	805915	-	-	-
Medical and health sciences	128385	46577	81008	800	-	-
Agricultural sciences	165563	48759	116804	-	-	-
Social sciences	2619273	899010	1707855	-	-	12408
Humanities	130650	54320	76330	-	-	-
<b>Non-profit sector</b>	<b>884</b>	-	<b>660</b>	-	<b>221</b>	<b>3</b>
Natural sciences	884	-	660	-	221	3
<b>SRBIJA – JUG</b>	<b>3294390</b>	<b>543348</b>	<b>2154775</b>	<b>134833</b>	<b>1800</b>	<b>459634</b>
Natural sciences	664522	85266	567470	7745	-	4041
Engineering and technology	1222931	36398	607216	125221	-	454096
Medical and health sciences	145223	2720	141206	-	-	1297
Agricultural sciences	176064	64578	111486	-	-	-
Social sciences	551875	354386	193622	1867	1800	200
Humanities	533775	-	533775	-	-	-
<b>Business sector</b>	<b>463841</b>	<b>96849</b>	<b>75455</b>	<b>43852</b>	-	<b>247685</b>
Natural sciences	38484	14906	15833	7745	-	-
Engineering and technology	343430	17365	42273	36107	-	247685
Agricultural sciences	81927	64578	17349	-	-	-
<b>Government sector</b>	<b>193895</b>	-	<b>193895</b>	-	-	-
Engineering and technology	120373	-	120373	-	-	-
Agricultural sciences	73522	-	73522	-	-	-
<b>Tertiary education</b>	<b>2636654</b>	<b>446499</b>	<b>1885425</b>	<b>90981</b>	<b>1800</b>	<b>211949</b>
Natural sciences	626038	70360	551637	-	-	4041
Engineering and technology	759128	19033	444570	89114	-	206411
Medical and health sciences	145223	2720	141206	-	-	1297
Agricultural sciences	20615	-	20615	-	-	-
Social sciences	551875	354386	193622	1867	1800	200
Humanities	533775	-	533775	-	-	-

## 12.1. Sources of funds spent on R&D activities, 2018 (continued)

	Thous. RSD					
	Total	Own	Government and local authorities	Private and public enterprises	Non-profit institutions	Foreign ordering parties
<b>Region Šumadije i Zapadne Srbije</b>	<b>1236795</b>	<b>231403</b>	<b>888526</b>	<b>21295</b>	<b>1800</b>	<b>93771</b>
Natural sciences	497579	77202	414741	5636	-	-
Engineering and technology	303992	29464	166595	15659	-	92274
Medical and health sciences	50149	2720	46132	-	-	1297
Agricultural sciences	94154	17	94137	-	-	-
Social sciences	256411	122000	132411	-	1800	200
Humanities	34510	-	34510	-	-	-
<b>Business sector</b>	<b>112388</b>	<b>17290</b>	<b>14882</b>	<b>12524</b>	<b>-</b>	<b>67692</b>
Natural sciences	12478	6842	-	5636	-	-
Engineering and technology	99893	10431	14882	6888	-	67692
Agricultural sciences	17	17	-	-	-	-
<b>Government sector</b>	<b>73522</b>	<b>-</b>	<b>73522</b>	<b>-</b>	<b>-</b>	<b>-</b>
Agricultural sciences	73522	-	73522	-	-	-
<b>Tertiary education</b>	<b>1050885</b>	<b>214113</b>	<b>800122</b>	<b>8771</b>	<b>1800</b>	<b>26079</b>
Natural sciences	485101	70360	414741	-	-	-
Engineering and technology	204099	19033	151713	8771	-	24582
Medical and health sciences	50149	2720	46132	-	-	1297
Agricultural sciences	20615	-	20615	-	-	-
Social sciences	256411	122000	132411	-	1800	200
Humanities	34510	-	34510	-	-	-
<b>Region Južne i Istočne Srbije</b>	<b>2057595</b>	<b>311945</b>	<b>1266249</b>	<b>113538</b>	<b>-</b>	<b>365863</b>
Natural sciences	166943	8064	152729	2109	-	4041
Engineering and technology	918939	6934	440621	109562	-	361822
Medical sciences	95074	-	95074	-	-	-
Agricultural sciences	81910	64561	17349	-	-	-
Social sciences	295464	232386	61211	1867	-	-
Humanities	499265	-	499265	-	-	-
<b>Business sector</b>	<b>351453</b>	<b>79559</b>	<b>60573</b>	<b>31328</b>	<b>-</b>	<b>179993</b>
Natural sciences	26006	8064	15833	2109	-	-
Engineering and technology	243537	6934	27391	29219	-	179993
Agricultural sciences	81910	64561	17349	-	-	-
<b>Government sector</b>	<b>120373</b>	<b>-</b>	<b>120373</b>	<b>-</b>	<b>-</b>	<b>-</b>
Engineering and technology	120373	-	120373	-	-	-
<b>Tertiary education</b>	<b>1585769</b>	<b>232386</b>	<b>1085303</b>	<b>82210</b>	<b>-</b>	<b>185870</b>
Natural sciences	140937	-	136896	-	-	4041
Engineering and technology	555029	-	292857	80343	-	181829
Medical and health sciences	95074	-	95074	-	-	-
Social sciences	295464	232386	61211	1867	-	-
Humanities	499265	-	499265	-	-	-
<b>Region Kosovo i Metohija</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>

## 12.2. Sources of funds for R&D, 2018

	%					
	Total	Own	Government and local authorities	Private and public enterprises	Non-profit institutions	Foreign ordering parties
<b>REPUBLIC OF SERBIA</b>	<b>100,0</b>	<b>25,3</b>	<b>43,1</b>	<b>10,0</b>	<b>0,0</b>	<b>21,6</b>
Natural sciences	100,0	13,4	42,4	13,1	0,0	31,1
Engineering and technology	100,0	21,1	35,1	14,5	0,0	29,4
Medical and health sciences	100,0	14,5	76,6	0,1	-	8,8
Agricultural sciences	100,0	57,4	36,5	3,8	-	2,3
Social sciences	100,0	43,3	53,6	0,9	0,1	2,1
Humanities	100,0	24,6	73,3	0,0	0,1	1,9
<b>Business sector</b>	<b>100,0</b>	<b>26,5</b>	<b>6,6</b>	<b>18,5</b>	<b>0,0</b>	<b>48,4</b>
Natural sciences	100,0	16,7	5,2	14,2	-	63,8
Engineering and technology	100,0	29,1	6,8	22,1	0,0	41,9
Medical and health sciences	100,0	54,5	-	-	-	45,5
Agricultural sciences	100,0	74,0	9,3	1,0	-	15,6
Social sciences	100,0	33,6	66,4	-	-	-
<b>Government sector</b>	<b>100,0</b>	<b>21,4</b>	<b>66,2</b>	<b>8,0</b>	<b>0,1</b>	<b>4,3</b>
Natural sciences	100,0	1,2	73,9	20,1	0,0	4,7
Engineering and technology	100,0	5,9	84,7	0,8	-	8,7
Medical and health sciences	100,0	1,8	97,7	-	-	0,5
Agricultural sciences	100,0	69,4	28,8	1,8	-	0,1
Social sciences	100,0	1,0	88,5	1,9	0,7	7,8
Humanities	100,0	38,4	60,7	0,0	0,1	0,8

**12.2. Sources of funds for R&D, 2018 (continued)**

	Total	Own	Government and local authorities	Private and public enterprises	Non-profit institutions	Foreign ordering parties	%
<b>Tertiary education</b>	<b>100,0</b>	<b>27,1</b>	<b>67,0</b>	<b>1,6</b>	<b>0,0</b>	<b>4,3</b>	
Natural sciences	100,0	25,5	67,1	0,0	-	7,4	
Engineering and technology	100,0	9,0	80,4	2,5	-	8,1	
Medical and health sciences	100,0	6,2	93,5	0,1	-	0,2	
Agricultural sciences	100,0	16,8	69,8	10,9	-	2,5	
Social sciences	100,0	48,5	49,3	0,8	0,0	1,5	
Humanities	100,0	11,0	85,9	-	-	3,1	
<b>Non-profit sector</b>	<b>100,0</b>	<b>-</b>	<b>24,1</b>	<b>8,9</b>	<b>8,1</b>	<b>59,0</b>	
Natural sciences	100,0	-	74,7	-	25,0	0,3	
Engineering and technology	100,0	-	-	100,0	-	-	
Social sciences	100,0	-	-	-	-	100,0	
<b>SRBIJA – SEVER</b>	<b>100,0</b>	<b>25,9</b>	<b>41,4</b>	<b>10,5</b>	<b>0,0</b>	<b>22,1</b>	
Natural sciences	100,0	13,4	40,3	13,7	0,0	32,6	
Engineering and technology	100,0	22,4	34,0	14,8	0,0	28,8	
Medical and health sciences	100,0	16,1	74,1	0,1	-	9,8	
Agricultural sciences	100,0	58,3	35,4	4,0	-	2,4	
Social sciences	100,0	41,3	55,4	0,9	0,1	2,3	
Humanities	100,0	31,1	66,4	0,0	0,1	2,5	
<b>Business sector</b>	<b>100,0</b>	<b>26,7</b>	<b>6,3</b>	<b>18,8</b>	<b>0,0</b>	<b>48,3</b>	
Natural sciences	100,0	16,6	4,9	14,2	-	64,2	
Engineering and technology	100,0	29,9	6,7	22,5	0,0	40,9	
Medical and health sciences	100,0	54,5	-	-	-	45,5	
Agricultural sciences	100,0	73,0	6,8	1,3	-	18,9	
Social sciences	100,0	33,6	66,4	-	-	-	
<b>Government sector</b>	<b>100,0</b>	<b>21,7</b>	<b>65,7</b>	<b>8,1</b>	<b>0,1</b>	<b>4,4</b>	
Natural sciences	100,0	1,2	73,9	20,1	0,0	4,7	
Engineering and technology	100,0	6,1	84,1	0,9	-	9,0	
Medical and health sciences	100,0	1,8	97,7	-	-	0,5	
Agricultural sciences	100,0	71,2	27,0	1,8	-	0,1	
Social sciences	100,0	1,0	88,5	1,9	0,7	7,8	
Humanities	100,0	38,4	60,7	0,0	0,1	0,8	
<b>Tertiary education</b>	<b>100,0</b>	<b>29,2</b>	<b>66,0</b>	<b>1,2</b>	<b>-</b>	<b>3,6</b>	
Natural sciences	100,0	29,1	61,8	0,1	-	9,0	
Engineering and technology	100,0	10,7	86,5	-	-	2,8	
Medical and health sciences	100,0	7,2	92,7	0,1	-	-	
Agricultural sciences	100,0	17,2	69,3	11,1	-	2,5	
Social sciences	100,0	46,7	50,9	0,8	-	1,6	
Humanities	100,0	18,7	76,0	-	-	5,3	
<b>Non-profit sector</b>	<b>100,0</b>	<b>-</b>	<b>24,1</b>	<b>8,9</b>	<b>8,1</b>	<b>59,0</b>	
Natural sciences	100,0	-	74,7	-	25,0	0,3	
Engineering and technology	100,0	-	-	100,0	-	-	
Social sciences	100,0	-	-	-	-	100,0	
<b>Beogradski region</b>	<b>100,0</b>	<b>25,3</b>	<b>44,9</b>	<b>10,8</b>	<b>0,0</b>	<b>18,9</b>	
Natural sciences	100,0	11,6	56,5	20,2	0,0	11,7	
Engineering and technology	100,0	24,5	32,8	10,1	0,0	32,6	
Medical and health sciences	100,0	13,5	75,4	-	-	11,0	
Agricultural sciences	100,0	50,5	40,4	6,2	-	2,9	
Social sciences	100,0	47,3	46,9	1,7	0,1	4,0	
Humanities	100,0	30,4	66,9	0,0	0,1	2,6	
<b>Business sector</b>	<b>100,0</b>	<b>30,6</b>	<b>8,5</b>	<b>18,1</b>	<b>0,0</b>	<b>42,8</b>	
Natural sciences	100,0	17,1	11,5	40,4	-	31,0	
Engineering and technology	100,0	31,1	7,6	14,6	0,0	46,7	
Medical and health sciences	100,0	54,5	-	-	-	45,5	
Agricultural sciences	100,0	77,6	7,3	0,7	-	14,4	
Social sciences	100,0	33,6	66,4	-	-	-	
<b>Government sector</b>	<b>100,0</b>	<b>15,4</b>	<b>72,3</b>	<b>9,5</b>	<b>0,1</b>	<b>2,7</b>	
Natural sciences	100,0	1,2	73,9	20,1	0,0	4,7	
Engineering and technology	100,0	6,5	92,8	0,4	-	0,3	
Medical and health sciences	100,0	1,8	97,7	-	-	0,5	
Agricultural sciences	100,0	65,2	31,4	3,4	-	0,0	
Social sciences	100,0	1,0	88,5	1,9	0,7	7,8	
Humanities	100,0	38,4	60,7	0,0	0,1	0,8	
<b>Tertiary education</b>	<b>100,0</b>	<b>30,3</b>	<b>63,1</b>	<b>1,9</b>	<b>-</b>	<b>4,6</b>	
Natural sciences	100,0	30,1	61,3	0,1	-	8,5	
Engineering and technology	100,0	15,1	80,9	-	-	4,0	
Medical and health sciences	100,0	-	100,0	-	-	-	
Agricultural sciences	100,0	14,9	69,0	13,1	-	3,0	
Social sciences	100,0	60,9	34,4	1,7	-	3,0	
Humanities	100,0	13,9	79,6	-	-	6,4	

**12.2. Sources of funds for R&D, 2018 (continued)**

	Total	Own	Government and local authorities	Private and public enterprises	Non-profit institutions	Foreign ordering parties	%
<b>Non-profit sector</b>	<b>100,0</b>	-	-	<b>13,1</b>	-	<b>86,9</b>	
Engineering and technology	100,0	-	-	100,0	-	-	
Social sciences	100,0	-	-	-	-	100,0	
<b>Region Vojvodine</b>	<b>100,0</b>	<b>27,6</b>	<b>32,1</b>	<b>9,5</b>	<b>0,0</b>	<b>30,8</b>	
Natural sciences	100,0	17,1	7,6	0,6	0,0	74,6	
Engineering and technology	100,0	11,6	40,0	38,4	-	9,9	
Medical and health sciences	100,0	36,3	63,1	0,6	-	-	
Agricultural sciences	100,0	71,3	27,0	0,3	-	1,4	
Social sciences	100,0	34,3	65,2	-	-	0,5	
Humanities	100,0	41,6	58,4	-	-	-	
<b>Business sector</b>	<b>100,0</b>	<b>17,7</b>	<b>1,2</b>	<b>20,3</b>	-	<b>60,8</b>	
Natural sciences	100,0	16,4	1,6	0,7	-	81,4	
Engineering and technology	100,0	21,8	-	77,6	-	0,7	
Agricultural sciences	100,0	4,2	-	9,8	-	86,0	
<b>Government sector</b>	<b>100,0</b>	<b>54,8</b>	<b>31,1</b>	<b>0,9</b>	-	<b>13,2</b>	
Engineering and technology	100,0	4,4	50,5	2,6	-	42,5	
Agricultural sciences	100,0	77,3	22,4	0,2	-	0,1	
<b>Tertiary education</b>	<b>100,0</b>	<b>26,9</b>	<b>71,6</b>	<b>0,0</b>	-	<b>1,5</b>	
Natural sciences	100,0	24,1	64,2	-	-	11,7	
Engineering and technology	100,0	0,1	99,9	-	-	-	
Medical and health sciences	100,0	36,3	63,1	0,6	-	-	
Agricultural sciences	100,0	29,5	70,5	-	-	-	
Social sciences	100,0	34,3	65,2	-	-	0,5	
Humanities	100,0	41,6	58,4	-	-	-	
<b>Non-profit sector</b>	<b>100,0</b>	-	<b>74,7</b>	-	<b>25,0</b>	<b>0,3</b>	
Natural sciences	100,0	-	74,7	-	25,0	0,3	
<b>SRBIJA – JUG</b>	<b>100,0</b>	<b>16,5</b>	<b>65,4</b>	<b>4,1</b>	<b>0,1</b>	<b>14,0</b>	
Natural sciences	100,0	12,8	85,4	1,2	-	0,6	
Engineering and technology	100,0	3,0	49,7	10,2	-	37,1	
Medical and health sciences	100,0	1,9	97,2	-	-	0,9	
Agricultural sciences	100,0	36,7	63,3	-	-	-	
Social sciences	100,0	64,2	35,1	0,3	0,3	0,0	
Humanities	100,0	-	100,0	-	-	-	
<b>Business sector</b>	<b>100,0</b>	<b>20,9</b>	<b>16,3</b>	<b>9,5</b>	-	<b>53,4</b>	
Natural sciences	100,0	38,7	41,1	20,1	-	-	
Engineering and technology	100,0	5,1	12,3	10,5	-	72,1	
Agricultural sciences	100,0	78,8	21,2	-	-	-	
<b>Government sector</b>	<b>100,0</b>	-	<b>100,0</b>	-	-	-	
Engineering and technology	100,0	-	100,0	-	-	-	
Agricultural sciences	100,0	-	100,0	-	-	-	
<b>Tertiary education</b>	<b>100,0</b>	<b>16,9</b>	<b>71,5</b>	<b>3,5</b>	<b>0,1</b>	<b>8,0</b>	
Natural sciences	100,0	11,2	88,1	-	-	0,6	
Engineering and technology	100,0	2,5	58,6	11,7	-	27,2	
Medical and health sciences	100,0	1,9	97,2	-	-	0,9	
Agricultural sciences	100,0	-	100,0	-	-	-	
Social sciences	100,0	64,2	35,1	0,3	0,3	0,0	
Humanities	100,0	-	100,0	-	-	-	
<b>Region Šumadije i Zapadne Srbije</b>	<b>100,0</b>	<b>18,7</b>	<b>71,8</b>	<b>1,7</b>	<b>0,1</b>	<b>7,6</b>	
Natural sciences	100,0	15,5	83,4	1,1	-	-	
Engineering and technology	100,0	9,7	54,8	5,2	-	30,4	
Medical and health sciences	100,0	5,4	92,0	-	-	2,6	
Agricultural sciences	100,0	0,0	100,0	-	-	-	
Social sciences	100,0	47,6	51,6	-	0,7	0,1	
Humanities	100,0	-	100,0	-	-	-	
<b>Business sector</b>	<b>100,0</b>	<b>15,4</b>	<b>13,2</b>	<b>11,1</b>	-	<b>60,2</b>	
Natural sciences	100,0	54,8	-	45,2	-	-	
Engineering and technology	100,0	10,4	14,9	6,9	-	67,8	
Agricultural sciences	100,0	100,0	-	-	-	-	
<b>Government sector</b>	<b>100,0</b>	-	<b>100,0</b>	-	-	-	
Agricultural sciences	100,0	-	100,0	-	-	-	
<b>Tertiary education</b>	<b>100,0</b>	<b>20,4</b>	<b>76,1</b>	<b>0,8</b>	<b>0,2</b>	<b>2,5</b>	
Natural sciences	100,0	14,5	85,5	-	-	-	
Engineering and technology	100,0	9,3	74,3	4,3	-	12,0	
Medical and health sciences	100,0	5,4	92,0	-	-	2,6	
Agricultural sciences	100,0	-	100,0	-	-	-	
Social sciences	100,0	47,6	51,6	-	0,7	0,1	
Humanities	100,0	-	100,0	-	-	-	

## 12.2. Sources of funds for R&D, 2018 (continued)

	Total	Own	Government and local authorities	Private and public enterprises	Non-profit institutions	Foreign ordering parties	%
<b>Region Južne i Istočne Srbije</b>	<b>100,0</b>	<b>15,2</b>	<b>61,5</b>	<b>5,5</b>	-	<b>17,8</b>	
Natural sciences	100,0	4,8	91,5	1,3	-	2,4	
Engineering and technology	100,0	0,8	47,9	11,9	-	39,4	
Medical sciences	100,0	-	100,0	-	-	-	
Agricultural sciences	100,0	78,8	21,2	-	-	-	
Social sciences	100,0	78,7	20,7	0,6	-	-	
Humanities	100,0	-	100,0	-	-	-	
<b>Business sector</b>	<b>100,0</b>	<b>22,6</b>	<b>17,2</b>	<b>8,9</b>	-	<b>51,2</b>	
Natural sciences	100,0	31,0	60,9	8,1	-	-	
Engineering and technology	100,0	2,8	11,2	12,0	-	73,9	
Agricultural sciences	100,0	78,8	21,2	-	-	-	
<b>Government sector</b>	<b>100,0</b>	-	<b>100,0</b>	-	-	-	
Engineering and technology	100,0	-	100,0	-	-	-	
<b>Tertiary education</b>	<b>100,0</b>	<b>14,7</b>	<b>68,4</b>	<b>5,2</b>	-	<b>11,7</b>	
Natural sciences	100,0	-	97,1	-	-	2,9	
Engineering and technology	100,0	-	52,8	14,5	-	32,8	
Medical and health sciences	100,0	-	100,0	-	-	-	
Social sciences	100,0	78,7	20,7	0,6	-	-	
Humanities	100,0	-	100,0	-	-	-	
<b>Region Kosovo i Metohija</b>	...	...	...	...	...	...	

## 13.1. Gross domestic expenditure on R&D by groupings of activities, 2018

	Thous. RSD				
	Gross domestic expenditure	Gross investments	Current expenditure		
			Total	Gross earnings	Material costs
<b>РЕПУБЛИКА СРБИЈА</b>	<b>46615667</b>	<b>3594848</b>	<b>43020819</b>	<b>23425320</b>	<b>19595499</b>
Crop and animal production, hunting and related activities	774226	334540	439686	231556	208130
Mining of metal ores	21307	2248	19059	1449	17610
Other mining and quarrying	3209422	2602	3206820	215447	2991373
Mining support service activities	1054330	-	1054330	1032386	21944
Manufacture of food products	57938	45892	12046	8696	3350
Manufacture of beverages	28502	22685	5817	5808	9
Manufacture of chemicals and chemical products	56786	17723	39063	35807	3256
Manufacture of rubber and plastic products	18061	747	17314	6514	10800
Manufacture of fabricated metal products, except machinery and equipment	6888	-	6888	3483	3405
Manufacture of computer, electronic and optical products	3140	-	3140	2973	167
Manufacture of electrical equipment	77037	2657	74380	18107	56273
Manufacture of machinery and equipment, n.e.c.	848023	319230	528793	74480	454313
Manufacture of motor vehicles, trailers and semi-trailers	3601	-	3601	-	3601
Electricity, gas, steam and air conditioning supply	1069679	1058039	11640	3198	8442
Water collection, treatment and supply	104697	4998	99699	22553	77146
Wholesale trade, except of motor vehicles and motorcycles	59490	59490	-	-	-
Telecommunications	56024	-	56024	26553	29471
Computer programming, consultancy and related activities	115864	9686	106178	105534	644
Information service activities	2499	-	2499	428	2071
Architectural and engineering activities; technical testing and analysis	149870	71976	77894	47521	30373
Scientific and research development	23519874	1008041	22511833	12552944	9958889
Advertising and market research	66051	717	65334	47381	17953
Other professional, scientific and technical activities	23872	587	23285	7620	15665
Education	15251828	632990	14618838	8950739	5668099
Human health activities	31502	-	31502	22661	8841
Libraries, archives, museums and other cultural activities	2416	-	2416	-	2416
Activities of membership organisations	2740	-	2740	1482	1258
<b>Business sector – total</b>	<b>18229009</b>	<b>1860304</b>	<b>16368705</b>	<b>6498166</b>	<b>9870539</b>
Mining of metal ores	21307	2248	19059	1449	17610
Other mining and quarrying	3209422	2602	3206820	215447	2991373
Mining support service activities	1054330	-	1054330	1032386	21944
Manufacture of food products	57938	45892	12046	8696	3350
Manufacture of beverages	28502	22685	5817	5808	9
Manufacture of chemicals and chemical products	56786	17723	39063	35807	3256
Manufacture of rubber and plastic products	18061	747	17314	6514	10800
Manufacture of fabricated metal products, except machinery and equipment	6888	-	6888	3483	3405
Manufacture of computer, electronic and optical products	3140	-	3140	2973	167
Manufacture of electrical equipment	77037	2657	74380	18107	56273
Manufacture of machinery and equipment, n.e.c.	848023	319230	528793	74480	454313
Manufacture of motor vehicles, trailers and semi-trailers	3601	-	3601	-	3601
Electricity, gas, steam and air conditioning supply	1069679	1058039	11640	3198	8442
Water collection, treatment and supply	104697	4998	99699	22553	77146

### 13.1. Gross domestic expenditure on R&D by groupings of activities, 2018 (continued)

Thous. RSD

	Gross domestic expenditure	Gross investments	Current expenditure		
			Total	Gross earnings	Material costs
Wholesale trade, except of motor vehicles and motorcycles	59490	59490	-	-	-
Telecommunications	56024	-	56024	26553	29471
Computer programming, consultancy and related activities	115864	9686	106178	105534	644
Information service activities	2499	-	2499	428	2071
Architectural and engineering activities; technical testing and analysis	149870	71976	77894	47521	30373
Scientific and research development	11254005	241744	11012261	4879609	6132652
Other professional, scientific and technical activities	23872	587	23285	7620	15665
Education	5558	-	5558	-	5558
Libraries, archives, museums and other cultural activities	2416	-	2416	-	2416
<b>Government sector - total</b>	<b>13132549</b>	<b>1101554</b>	<b>12030995</b>	<b>7970135</b>	<b>4060860</b>
Crop and animal production, hunting and related activities	769127	334540	434587	226758	207829
Scientific and research development	12265869	766297	11499572	7673335	3826237
Advertising and market research	66051	717	65334	47381	17953
Human health activities	31502	-	31502	22661	8841
<b>Tertiary education - total</b>	<b>15251369</b>	<b>632990</b>	<b>14618379</b>	<b>8955537</b>	<b>5662842</b>
Crop and animal production, hunting and related activities	5099	-	5099	4798	301
Education	15246270	632990	14613280	8950739	5662541
<b>Non-profit sector - total</b>	<b>2740</b>	<b>-</b>	<b>2740</b>	<b>1482</b>	<b>1258</b>
Activities of membership organisations	2740	-	2740	1482	1258
<b>SRBIJA – SEVER</b>	<b>43321277</b>	<b>3467335</b>	<b>39853942</b>	<b>21911168</b>	<b>17942774</b>
<b>Business sector – total</b>	<b>17765168</b>	<b>1839581</b>	<b>15925587</b>	<b>6305941</b>	<b>9619646</b>
Mining of metal ores	21307	2248	19059	1449	17610
Other mining and quarrying	3209422	2602	3206820	215447	2991373
Mining support service activities	1054330	-	1054330	1032386	21944
Manufacture of food products	57921	45892	12029	8696	3333
Manufacture of beverages	28502	22685	5817	5808	9
Manufacture of chemicals and chemical products	56786	17723	39063	35807	3256
Manufacture of rubber and plastic products	18061	747	17314	6514	10800
Manufacture of electrical equipment	7929	29	7900	7900	-
Manufacture of machinery and equipment, n.e.c.	848023	319230	528793	74480	454313
Electricity, gas, steam and air conditioning supply	1064764	1057722	7042	-	7042
Water collection, treatment and supply	104697	4998	99699	22553	77146
Wholesale trade, except of motor vehicles and motorcycles	59490	59490	-	-	-
Telecommunications	56024	-	56024	26553	29471
Computer programming, consultancy and related activities	103910	2844	101066	100610	456
Architectural and engineering activities; technical testing and analysis	149870	71976	77894	47521	30373
Scientific and research development	10894702	230808	10663894	4712597	5951297
Other professional, scientific and technical activities	23872	587	23285	7620	15665
Education	5558	-	5558	-	5558
<b>Government sector - total</b>	<b>12938654</b>	<b>1092915</b>	<b>11845739</b>	<b>7845793</b>	<b>3999946</b>
Crop and animal production, hunting and related activities	769127	334540	434587	226758	207829
Scientific and research development	12071974	757658	11314316	7548993	3765323
Advertising and market research	66051	717	65334	47381	17953
Human health activities	31502	-	31502	22661	8841
<b>Tertiary education - total</b>	<b>12614715</b>	<b>534839</b>	<b>12079876</b>	<b>7757952</b>	<b>4321924</b>
Crop and animal production, hunting and related activities	5099	-	5099	4798	301
Education	12609616	534839	12074777	7753154	4321623
<b>Non-profit sector - total</b>	<b>2740</b>	<b>-</b>	<b>2740</b>	<b>1482</b>	<b>1258</b>
Activities of membership organisations	2740	-	2740	1482	1258
<b>Beogradski region</b>	<b>31567972</b>	<b>2945648</b>	<b>28622324</b>	<b>15047620</b>	<b>13574704</b>
<b>Business sector – total</b>	<b>12363057</b>	<b>1717828</b>	<b>10645229</b>	<b>3675293</b>	<b>6969936</b>
Other mining and quarrying	3209422	2602	3206820	215447	2991373
Manufacture of food products	57921	45892	12029	8696	3333
Manufacture of beverages	28502	22685	5817	5808	9
Manufacture of chemicals and chemical products	40323	16867	23456	23456	-
Manufacture of electrical equipment	7929	29	7900	7900	-
Manufacture of machinery and equipment, n.e.c.	848023	319230	528793	74480	454313
Electricity, gas, steam and air conditioning supply	1064764	1057722	7042	-	7042
Wholesale trade, except of motor vehicles and motorcycles	59490	59490	-	-	-
Telecommunications	56024	-	56024	26553	29471
Computer programming, consultancy and related activities	103910	2844	101066	100610	456
Scientific and research development	6857319	189880	6667439	3204723	3462716
Other professional, scientific and technical activities	23872	587	23285	7620	15665
Education	5558	-	5558	-	5558
<b>Government sector - total</b>	<b>10867180</b>	<b>919392</b>	<b>9947788</b>	<b>6266673</b>	<b>3681115</b>
Crop and animal production, hunting and related activities	694332	330757	363575	167868	195707
Scientific and research development	10075295	587918	9487377	6028763	3458614
Advertising and market research	66051	717	65334	47381	17953
Human health activities	31502	-	31502	22661	8841



**13.1. Gross domestic expenditure on R&D by groupings of activities, 2018 (continued)**

Thous. RSD

	Gross domestic expenditure	Gross investments	Current expenditure		
			Total	Gross earnings	Material costs
<b>Tertiary education - total</b>	<b>8335879</b>	<b>308428</b>	<b>8027451</b>	<b>5104172</b>	<b>2923279</b>
Crop and animal production, hunting and related activities	5099	-	5099	4798	301
Education	8330780	308428	8022352	5099374	2922978
<b>Non-profit sector - total</b>	<b>1856</b>	<b>-</b>	<b>1856</b>	<b>1482</b>	<b>374</b>
Activities of membership organisations	1856	-	1856	1482	374
<b>Region Vojvodine</b>	<b>11753305</b>	<b>521687</b>	<b>11231618</b>	<b>6863548</b>	<b>4368070</b>
<b>Business sector – total</b>	<b>5402111</b>	<b>121753</b>	<b>5280358</b>	<b>2630648</b>	<b>2649710</b>
Mining of metal ores	21307	2248	19059	1449	17610
Mining support service activities	1054330	-	1054330	1032386	21944
Manufacture of chemicals and chemical products	16463	856	15607	12351	3256
Manufacture of rubber and plastic products	18061	747	17314	6514	10800
Water collection, treatment and supply	104697	4998	99699	22553	77146
Architectural and engineering activities; technical testing and analysis	149870	71976	77894	47521	30373
Scientific and research development	4037383	40928	3996455	1507874	2488581
<b>Government sector - total</b>	<b>2071474</b>	<b>173523</b>	<b>1897951</b>	<b>1579120</b>	<b>318831</b>
Crop and animal production, hunting and related activities	74795	3783	71012	58890	12122
Scientific and research development	1996679	169740	1826939	1520230	306709
<b>Tertiary education - total</b>	<b>4278836</b>	<b>226411</b>	<b>4052425</b>	<b>2653780</b>	<b>1398645</b>
Education	4278836	226411	4052425	2653780	1398645
<b>Non-profit sector - total</b>	<b>884</b>	<b>-</b>	<b>884</b>	<b>-</b>	<b>884</b>
Activities of membership organisations	884	-	884	-	884
<b>SRBIJA – JUG</b>	<b>3294390</b>	<b>127513</b>	<b>3166877</b>	<b>1514152</b>	<b>1652725</b>
<b>Business sector – total</b>	<b>463841</b>	<b>20723</b>	<b>443118</b>	<b>192225</b>	<b>250893</b>
Manufacture of food products	17	-	17	-	17
Manufacture of fabricated metal products, except machinery and equipment	6888	-	6888	3483	3405
Manufacture of computer, electronic and optical products	3140	-	3140	2973	167
Manufacture of electrical equipment	69108	2628	66480	10207	56273
Manufacture of motor vehicles, trailers and semi-trailers	3601	-	3601	-	3601
Electricity, gas, steam and air conditioning supply	4915	317	4598	3198	1400
Computer programming, consultancy and related activities	11954	6842	5112	4924	188
Information service activities	2499	-	2499	428	2071
Scientific and research development	359303	10936	348367	167012	181355
Libraries, archives, museums and other cultural activities	2416	-	2416	-	2416
<b>Government sector - total</b>	<b>193895</b>	<b>8639</b>	<b>185256</b>	<b>124342</b>	<b>60914</b>
Scientific and research development	193895	8639	185256	124342	60914
<b>Tertiary education - total</b>	<b>2636654</b>	<b>98151</b>	<b>2538503</b>	<b>1197585</b>	<b>1340918</b>
Education	2636654	98151	2538503	1197585	1340918
<b>Region Šumadije i Zapadne Srbije</b>	<b>1236795</b>	<b>55315</b>	<b>1181480</b>	<b>874144</b>	<b>307336</b>
<b>Business sector – total</b>	<b>112388</b>	<b>9712</b>	<b>102676</b>	<b>65157</b>	<b>37519</b>
Manufacture of food products	17	-	17	-	17
Manufacture of fabricated metal products, except machinery and equipment	6888	-	6888	3483	3405
Manufacture of computer, electronic and optical products	2988	-	2988	2973	15
Manufacture of electrical equipment	2251	-	2251	2040	211
Manufacture of motor vehicles, trailers and semi-trailers	3601	-	3601	-	3601
Electricity, gas, steam and air conditioning supply	4915	317	4598	3198	1400
Computer programming, consultancy and related activities	6842	6842	-	-	-
Scientific and research development	84886	2553	82333	53463	28870
<b>Government sector - total</b>	<b>73522</b>	<b>8639</b>	<b>64883</b>	<b>38994</b>	<b>25889</b>
Scientific and research development	73522	8639	64883	38994	25889
<b>Tertiary education - total</b>	<b>1050885</b>	<b>36964</b>	<b>1013921</b>	<b>769993</b>	<b>243928</b>
Education	1050885	36964	1013921	769993	243928
<b>Region Južne i Istočne Srbije</b>	<b>2057595</b>	<b>72198</b>	<b>1985397</b>	<b>640008</b>	<b>1345389</b>
<b>Business sector – total</b>	<b>351453</b>	<b>11011</b>	<b>340442</b>	<b>127068</b>	<b>213374</b>
Manufacture of computer, electronic and optical products	152	-	152	-	152
Manufacture of electrical equipment	66857	2628	64229	8167	56062
Computer programming, consultancy and related activities	5112	-	5112	4924	188
Information service activities	2499	-	2499	428	2071
Scientific and research development	274417	8383	266034	113549	152485
Libraries, archives, museums and other cultural activities	2416	-	2416	-	2416
<b>Government sector - total</b>	<b>120373</b>	<b>-</b>	<b>120373</b>	<b>85348</b>	<b>35025</b>
Scientific and research development	120373	-	120373	85348	35025
<b>Tertiary education - total</b>	<b>1585769</b>	<b>61187</b>	<b>1524582</b>	<b>427592</b>	<b>1096990</b>
Education	1585769	61187	1524582	427592	1096990
<b>Region Kosovo i Metohija</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>

## **Annex**



Law on Official Statistics,  
"Official Statistics of the RS", number 104/2009..

Code of the survey: 021010

## ANNUAL REPORT ON RESEARCH AND DEVELOPMENT FOR FACULTIES, R&D INSTITUTES IN 2018

Response obligation is based on Article 26, and punitive provisions for response refusal or provision of incomplete or incorrect data on Article 52 of the Law on Official Statistics („Сл. гласник РС“, бр. 104/2009).  
**The data will be used exclusively for statistical purposes and will not be published as personal data.**  
**All the data are confidential.**

This report is to be filled in by faculties, scientific institutes and R&D institutes that carried out in 2018 R&D activities according to the law on Research and Development Activity, "Official Journal of the RS", numbers 110/05 and 18/2010.  
The report is to be filled in and transmitted to the competent statistical office **not later than 20 April 2019**. Before completing the report, read carefully the general instructions on the last page of the questionnaire as well as the explanations with every table. **All financial indicators are to be expressed in thousands dinars.**

### I FULL NAME OF THE REPORTING UNIT

\_\_\_\_\_

\_\_\_\_\_

Enter the name of the organization as indicated in the Court Register, i.e. application for the registration of scientific organizations and institutions. The research unit should enter the full name of the scientific organization and institution it is incorporated in, as well as its own name; in tables are to be shown data **referring only to the unit**, but not to the whole scientific organization/institution.

\_\_\_\_\_

Registration number

### II ADDRESS – MUNICIPALITY \_\_\_\_\_

\_\_\_\_\_

Street and number \_\_\_\_\_ Telephone \_\_\_\_\_

R&D units should enter **their address**, but not the address of the institution they are incorporated in.

### III ACTIVITY \_\_\_\_\_

Enter the name and code according to the Classification of Activities, 2010

\_\_\_\_\_

- IV OWNERSHIP (circle the corresponding number)
- |                   |   |
|-------------------|---|
| state-owned ..... | 1 |
| private .....     | 2 |
| mixed .....       | 3 |

### V SCIENTIFIC FIELD \_\_\_\_\_

Enter the name and code according to the Classification of Scientific Fields (annexed)

\_\_\_\_\_

**1. FULL-TIME AND PART-TIME EMPLOYEES ENGAGED ON R&D ACTIVITIES, EXPRESSED IN NUMBER OF PHYSICAL PERSONS AND FULL-TIME EQUIVALENT (as of 31/12/ 2018)**

	Total employees engaged on R&D activities				Number of full-time employees engaged on R&D activities		Part-time employees engaged on R&D activities			
	Number of employees		Full-time equivalent		Total	Women	Number of employees		Full-time equivalent	
	Total (5+7)	Women (6+8)	Total (5+9)	Women (6+10)			Total	Women	Total	Women
a	1	2	3	4	5	6	7	8	9	10
01	<b>Total (02+14+18+19+20)</b>									
02	<b>Researchers - total (03 до 13)</b>									
03	Researcher - apprentice									
04	Assistant researcher									
05	Scientific assistant									
06	Senior scientific assistant									
07	Scientific adviser									
08	Senior lecturer									
09	Associate professor									
10	Full professor									
11	Professor of vocational studies									
12	Lecturer									
13	Assistant lecturer									
14	<b>Assistant researcher - total (15 to17)</b>									
15	Assistant researcher									
16	Senior assistant researcher									
17	Assistant adviser									
18	<b>Technicians</b>									
19	<b>Managers</b>									
20	<b>Other personnel (auxiliary)</b>									

Do not enter in the table employees engaged on protection and safety, in restaurants, cleaning personnel and related personnel (concierges, porter, cleaning ladies, cooks, etc.). If an extramural assistant sign with a R&D organization during the year two or more service contracts, i.e. author contracts, this should be counted only once.

In columns 7, 8, 9 and 10 (Part-time employees engaged on R&D activities), are to be shown employees who work only part-time (less than 90%, and more than 10%).

Data in columns 3, 4, 9 and 10 are to be shown **in decimal numbers with one decimal place**.

Instructions for entering the data in columns 3, 4, 9 and 10 **on full-time equivalent**.

**Equivalent: FTE**

Employees in R&D, part-time (less than 90%, and more than 10%)	Number of employees	Full-time equivalent (FTE)
--	---------------------	----------------------------

<b>Total number of employees</b>	<b>8</b>	<b>= 2,7</b>
3 persons work all the year round only half-time	(3 x 0,5)	= 1,5
2 persons work all the year round only 20% of work time	(2 x 0,2)	= 0,4
1 person works full-time	(1 x 0,5)	= 0,5
2 persons employed 8 months with 25% work time	(2 x 0,67 x 0,25)	= 0,3

**Remark:** Full-time employee engaged on R&D activities corresponds to the unit of full-time equivalent (= 1 FTE).

**2. EMPLOYEES ENGAGED ON R&D ACTIVITIES ON SERVICE CONTRACT (SC) OR AUTHOR CONTRACT (AC), EXPRESSED IN NUMBER OF PHYSICAL PERSONS AND FULL-TIME EQUIVALENT, in 2018**

		Employees engaged on AC or AU in R&D field				Full-time employees engaged on AC or AU, in R&D field		Part-time employees engaged on AC or AU, in R&D field			
		Number of employees		Full-time equivalent		Total	Women	Number of employees		Full-time equivalent	
		Total (5+7)	Women (6+8)	Total (5+9)	Women (6+10)			Total	Women	Total	Women
a		1	2	3	4	5	6	7	8	9	10
01	<b>Total (02 to 06)</b>										
02	Researchers										
03	Assistant researchers										
04	Technicians										
05	Managers										
06	Other employees (auxiliary)										

Remarks relative to Table 1 refer also to this table.

**3. FULL-TIME AND PART-TIME EMPLOYEES ENGAGED ON R&D, ACCORDING TO EDUCATIONAL ATTAINMENT, EXPRESSED IN PHYSICAL NUMBER OF PERSONS (as of 31/12/ 2018)**

		Total		Educational attainment											
				Doctor's degree		Master's degree		Specialization		University education		Vocational education		Secondary and other education	
		All	Women	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women
a		1	2	3	4	5	6	7	8	9	10	11	12	13	14
01	<b>Total (02 to 06)</b>														
02	Researchers											X	X	X	X
03	Assistant researchers													X	X
04	Technicians														
05	Managers													X	X
06	Other employees (auxiliary)														

Remark: The table is to be filled in as follows: in columns 1 and 2, copy the values from **columns 1 and 2 of table 1**, then proceed with entering the data. Also, the sum of odd columns should equal the data from column 1, and the sum of even column should equal the data from column 2.

**4. EMPLOYEES ENGAGED ON R&D ACTIVITIES, BASED ON SERVICE CONTRACT (SC) AND AUTHOR CONTRACT (AC), BY EDUCATIONAL ATTAINMENT  
EXPRESSED IN NUMBER OF PHYSICAL PERSONS, in 2018**

		Total		Educational attainment											
				Doctor's degree		Master's degree		Specialization		University education		Vocational education		Secondary and other education	
		All	Women	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women
a		1	2	3	4	5	6	7	8	9	10	11	12	13	14
01	<b>Total (02 to 06)</b>														
02	Researchers											X	X	X	X
03	Assistant researchers													X	X
04	Technicians														
05	Managers													X	X
06	Other employees (auxiliary)														

**Remark:** The table is to be filled in as follows: in columns 1 and 2, copy the values from **columns 1 and 2 of table 2**, then proceed with entering the data. Also, the sum of odd columns should equal the data from column 1, and the sum of even column should equal the data from column 2.

**5. FULL-TIME AND PART-TIME EMPLOYEES ENGAGED ON R&D, BY EDUCATIONAL ATTAINMENT,  
EXPRESSED IN FULL-TIME EQUIVALENT (as of 31/12/ 2018)**

		Total		Educational attainment											
				Doctor's degree		Master's degree		Specialization		University education		Vocational education		Secondary and other education	
		All	Women	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women
a		1	2	3	4	5	6	7	8	9	10	11	12	13	14
01	<b>Total (02 to 06)</b>														
02	Researchers											X	X	X	X
03	Assistant researchers													X	X
04	Technicians														
05	Managers													X	X
06	Other employees (auxiliary)														

**Remark:** The table is to be filled in as follows: in columns 1 and 2, copy the values from **columns 3 and 4 of table 1**, then proceed with entering the data. Also, the sum of odd columns should equal the data from column 1, and the sum of even column should equal the data from column 2.

**6. EMPLOYEES ENGAGED ON R&D ACTIVITIES, BASED ON SERVICE CONTRACT (SC) AND AUTHOR CONTRACT (AC), BY EDUCATIONAL ATTAINMENT  
EXPRESSED IN FULL-TIME EQUIVALENT, (as of 31/ 12/ 2018)**

		Total		Educational attainment											
				Doctor's degree		Master's degree		Specialization		University education		Vocational education		Secondary and other education	
		All	Women	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women
a		1	2	3	4	5	6	7	8	9	10	11	12	13	14
01	<b>Total (02 to 06)</b>														
02	Researchers											X	X	X	X
03	Assistant researchers													X	X
04	Technicians														
05	Managers													X	X
06	Other personnel (auxiliary)														

**Remark:** The table is to be filled in as follows: in columns 1 and 2 copy the values from **columns 3 and 4 of table 2**, then proceed with entering the data. Also, the sum of odd columns should equal the data from column 1, and the sum of even columns should equal the data from column 2.

**7. FULL-TIME AND PART-TIME EMPLOYEES ENGAGED ON R&D, BY AGE AND SEX,  
EXPRESSED IN NUMBER OF PHYSICAL PERSONS, (as of 31/ 12/ 2018)**

		Researchers				Assistant researchers				Technicians				Managers			
		Full-time		Part-time		Full-time		Part-time		Full-time		Part-time		Full-time		Part-time	
		All	Women	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women
a		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
01	<b>Total (02 to 12)</b>																
02	Under 25 years																
03	25 – 29																
04	30 – 34																
05	35 – 39																
06	40 – 44																
07	45 – 49																
08	50 – 54																
09	55 – 59																
10	60 – 64																
11	65 – 69																
12	70 and over																

In the table, full-time and part-time R&D employees are to be broken down by age groups. It should be noted that **other personnel should not be broken down by age**. Shown are all those who are shown in column 1 from table 1, for "total number of employees" and in column 2 for "women". The data by categories in row 01 of this table should match **with data from table 1** (full-time and part-time employees), as follows:

Full-time employees

Researchers row 02, columns: 05, 06  
 Assistant researchers row 14, columns: 05, 06  
 Technicians row 18, columns: 05, 06  
 Managers row 19, columns: 05, 06

Part-time employees

Researchers row 02, columns: 07, 08  
 Assistant researchers row 14, columns: 07, 08  
 Technicians row 18, columns: 07, 08  
 Managers row 19, columns: 07, 08



**8. FULL-TIME AND PART-TIME RESEARCHERS, BY CITIZENSHIP AND SEX,  
EXPRESSED IN NUMBER OF PHYSICAL PERSONS**

Citizenship (by geographical position of the country)		Total number of researchers in 2018		Researchers who <b>came</b> in Serbia in 2018		Researchers who <b>went</b> abroad in 2018		Planned number of researchers for 2019
		Total	Women	Total	Women	Total	Women	
a		1	2	3	4	5	6	7
01	<b>Total (02 to 09)</b>							
02	Serbia							
03	EU member countries							
04	Other European countries							
05	North America							
06	Central and South America							
07	Asia							
08	Africa							
09	Other							

In table 8 full-time and part-time **researchers** are to be broken down by citizenship (geographical position of the country).

In columns 3 and 4, are to be shown all the researchers who came from abroad between 01/01/2018 and 31/12/2018 and worked in R&D activities more than 3 months.

In columns 5 and 6 are to be shown all the researchers who left Serbia between 01/01/ 2018 and 31/12/ 2018.

The data in row 01 in columns 1 and 2 of this table should **match the data in table 1 in columns 1 and 2**, i.e.:

Researchers – total

Women - total

**9. EXPENDITURES FOR R&D ACTIVITIES IN 2018 (in thousands RSD)**

Expenditures for R&D			Spent in 2018	Planned for 2019
a			1	2
01	<b>Total expenditure for R&amp;D (02+07+12)</b>			
02	Current costs	<b>Total (03+05+06)</b>		
03		Gross salaries and wages <b>for all R&amp;D employees</b>		
04		Of which gross salaries and wages of researchers		
05		Other personal income of R&D employees (scholarships, prizes, etc.)		
06		Other		
07		<b>Total (08 to 11)</b>		
08		For material costs for R&D work (raw materials, equipment, energy)		
09		For payments based on service contracts and author contracts		
10		For daily allowances, travel costs, etc.		
11		Other operating costs and expenses (without depreciation)		
12		Investment costs	<b>Total (13+14+16+17+18)</b>	
13	For land and buildings			
14	For machinery and equipment			
15	Of which for imported machinery and equipment			
16	For patent, licenses, studies and projects			
17	For software and hardware <sup>1)</sup>			
18	Other			

1) Are to be shown total costs for the acquisition of computers, components and equipment, as well as costs for the acquisition and development of software for own account.

In table 9 are to be shown all funds **spent** in 2018 for R&D activities, as well as planned funds for 2019.

**Remark:** The data in row 01, column 1 (total expenditures for R&D) should equal the data in **table 10, in row 01** (sources of funds spent for R&D activities - total).

**10. SOURCES OF FUNDS SPENT FOR R&D ACTIVITIES IN 2018**

Sources of funds			Amount in thousands RSD
a			1
01	<b>Funds spent for R&amp;D by sources - total (02 to 21)</b>		
02	Domestic funding (from Serbia)	Planned budgetary funds dedicated R&D	From the Ministry of Science
03			From the Ministry of Education
04			From other ministries
05		Funds for R&D from other government funds, agencies and foundations	
06		Funds for R&D from local authorities' bodies	
07		Funds for R&D from enterprises	from "small" (0 - 49 employees)
08			from "medium" (50 - 249 employees)
09			from "large" (250 and more employees)
10		Funds for R&D from non-profit organizations	
11		Funds from patents, licenses, etc. (from inward sale)	
12		Other funds for R&D from own sources	
13	Funds from abroad	Funds from agreements on technological licenses	
14		Funds from services for foreign ordering parties	
15		Funds from joint investment in R&D	
16		Funds for R&D from other countries' governments	
17		Funds for R&D from the university and other tertiary education institutions	
18		Funds for R&D from non-profit organizations	
19		Funds for R&D from the European Commission	
20		Funds for R&D from international organizations	
21		Other	

In table 10 are to be shown funds **obtained** for R&D activities by sources.

**Remark:** The data in row 01 should equal the data in **table 9, row 01, column 1** (total expenditures for R&D).

**11. VALUE OF R&D WORKS (PROJECTS AND STUDIES), BY SCIENTIFIC FIELDS AND TYPE OF RESEARCH (include also funded from own resources – in thousands RSD), 2018**

Scientific field		Total	Type of research		
			Basic	Applied	Experimental (development)
a		1	2	3	4
01	<b>Total</b>				
02	Natural sciences, mathematics				
03	Engineering and technology				
04	Social sciences				
05	Humanities				
06	Medical sciences				
07	Agricultural sciences				
08	Multidisciplinary sciences				

The data in column TOTAL should match the data in column total in table 12.

For on-going projects (non-completed) is to be shown the value of completed phases of work up to the end of 2018.

Use the annexed classification to determine the scientific field of R&D works.

**12. FUNDS FOR R&D BY PRIMARY SOCIO-ECONOMIC OBJECTIVES, 2018 (in thousands RSD)**

Primary socio-economic objectives		Total	Of which budgetary funds
a		1	2
01	<b>Total (02+03+04+05+06+07+08+09+10+11+12+13+20+27)</b>		
02	Exploration and exploitation of the earth exploitation		
03	Environment		
04	Exploration and exploitation of space		
05	Transport, Telecommunication and other infrastructures		
06	Energy		
07	Industrial production and technology		
08	Health		
09	Agriculture		
10	Education		
11	Culture, recreation, religion and mass media		
12	Political and social systems, structures and processes		
13	General advancement of knowledge: R&D financed from GUF		
14	R&D related to Natural Sciences - financed from GUF		
15	R&D related to Engineering Sciences - financed from GUF		
16	R&D related to Medical Sciences - financed from GUF		
17	R&D related to Agricultural Sciences - financed from GUF		
18	R&D related to Social Sciences - financed from GUF		
19	R&D related to Humanities - financed from GUF		
20	General advancement of knowledge: R&D financed other sources than GUF		
21	R&D related to Natural Sciences - financed from other sources than GUF		
22	R&D related to Engineering Sciences - financed from other sources than GUF		
23	R&D related to Medical Sciences - financed from other sources than GUF		
24	R&D related to Agricultural Sciences - financed from other sources than GUF		
25	R&D related to Social Sciences - financed from other sources than GUF		
26	R&D related to Humanities Sciences - financed from other sources		
27	Defense		

**13. NUMBER OF R&D WORKS (PROJECTS AND STUDIES, BY SCIENTIFIC FIELDS AND TYPES OF RESEARCH (include also projects funded from own resources), 2018**

Scientific field		Total	Type of research		
			Basic	Applied	Experimental (development)
a		1	2	3	4
01	<b>Total</b>				
02	Natural sciences, mathematics				
03	Engineering and technology				
04	Social sciences				
05	Humanities				
06	Medical sciences				
07	Agricultural sciences				
08	Multidisciplinary sciences				

**Remark:** The row "Total" in this table should match the row "Total" in table 14.

**14. NUMBER OF R&D WORKS BY ORDERING PARTIES AND TYPES OF RESEARCH, 2018**

Ordering party		R&D works			
		Total (2 to 4)	Basic	Applied	Experimental (development)
a		1	2	3	4
01	<b>Total (02+09)</b>				
02	Ordering parties from Serbia	<b>Inward – total (03 to 08)</b>			
03		For own account			
04		Enterprises in Serbia			
05		Ministry of Science			
06		Ministry of Education			
07		Other ministries			
08		Other			
09		Ordering parties from abroad	<b>Outward – total (10 to 16)</b>		
10	enterprises				
11	Other countries' governments				
12	Non-profit organizations				
13	Tertiary education institutions				
14	European Commission				
15	International organizations				
16	Other				

**15. PUBLISHED R&D ARTICLES AND MONOGRAPHS, 2018**

Total (actual number of projects)		Published in publications		
		Own	Others in Serbia	Abroad
1		2	3	4
01				

In column every published paper should be counted only once regardless of the type of publications and the number of times it has been published.

**16. INVENTIONS AND PATENTS, 2018**

R&D intensity		Tested inventions	Patents		Patents – inventions sold		First-time practical use of patents and inventions
			Pending patents in the Patent Office	Patents registered in the Patent Office	In Serbia	Abroad	
a		1	2	3	4	5	6
01	<b>Total</b>						
02	High technology						
03	Medium high technology						
04	Medium low technology						
05	Low technology						

**16a. SMALL INVENTIONS AND PATENTS, 2018**

R&D intensity		Small tested inventions	Small patents		Small patents – inventions sold		First-time practical use of small patents and inventions
			Pending patents in the Patent Office	Patents registered in the Patent Office	In Serbia	abroad	
a		1	2	3	4	5	6
01	<b>Total</b>						
02	High technology						
03	Medium high technology						
04	Medium low technology						
05	Low technology						

on \_\_\_\_\_ 2019

Filled in by:

Manager:

\_\_\_\_\_  
(first name and surname)

\_\_\_\_\_  
(first name and surname)

Contact telephone:  /   
(area prefix compulsory)

## GENERAL DEFINITIONS AND EXPLANATIONS FOR FILLING IN THE FORM IR – 2

### COVERAGE

This form serves to collect data on R&D activities which have been carried out in enterprises, as well as in: centers for technology transfer, innovation centers, business and technological incubators, and scientific and technological parks in Serbia in 2018.

An institute is a R&D organization that is engaged in R&D activity of general interest as laid down in the Law. An institute can be founded as an institution or enterprise.

Depending on the type of research and activity, organizational form and funding of own activity; an institute can carry out R&D activity as: scientific institute and R&D institute. As to ownership, an institute can be state-owned, private or in mixed ownership. A scientific institute is an institution which prevailing activity is relative to basic and applied researches, the latter serving to valorize the results of basic researches.

A research and development institute is an organization which primary activity is relative to applied and experimental (development) researches focused on satisfying the needs of direct users of research results.

Covered are all tertiary education institutions (faculties of science, arts academies, universities) whatever the ownership (state-owned, private or mixed).

The status of centers of excellence may be granted to an institute, i.e. tertiary education institution or their organizational part/s if they have achieved in a five-year period ultimate and internationally recognised scientific and professional results in a selected scientific discipline, having consequently developed international, technical and technological co-operation.

If the status of the centre of excellence acquires part/s of an institute, i.e. tertiary education institution, the centre does not have the capacity of a legal person.

Research and development organizations that can get accreditation for these activities are: institutes, faculties, integrated universities, centers of excellence and R&D organizations from the domain of defense and Serbian Armed Forces.

### DEFINITION OF RESEARCH AND DEVELOPMENT ACTIVITY (R&D)

Research and development is a systematic creative work undertaken in view of discovering new stock of knowledge in order to raise the general civilization level of the society and use the knowledge in all social fields.

The scientific activity is realized through basic, applied and experimental (development) researches as well as through training personnel for R&D work.

- **BASIC** research is a creative, systematic activity focused on acquiring new knowledge on the origin and causes of phenomena and facts, without any particular application or use in view. The results of a basic research are often formulated a general principles, theories or rules.

- **APPLIED** research is undertaken whether to establish a possibility to use the results of a research, having in mind its practical application, or to find new methods or ways that facilitate the achievement of a particular objective set in advance. This survey starts from existing knowledge and examines it thoroughly in view of solving specific issues.

- **EXPERIMENTAL (DEVELOPMENT)** research is a creative systematic activity based on the results of the basic and applied research, and practical knowledge directed towards introducing new materials, products, devices, processes and methods.

The main difference between R&D activity and activities other than R&D is in the presence or absence of elements of novelty or innovation **to a greater extent**. If an activity introduces considerable improvements to technological characteristics, components, hardware and software, i.e. applies a new or significantly improved product, process or service, as well as new organizational methods, it is to be obligatorily **included** in this survey.

The coverage **excludes** activities that do not fall into R&D survey:

- routine tests and analyses of all forms, whether serving for the control of hardware, components or products or being focused on their quality and quantity (tests and analysis that are part of a R&D process should be however included);
- market research, operating research, work studies, costs analysis, management activities, etc;
- experimental production where product improvement is not the primary goal;
- design costs aiming at monitoring fashion trends and activities of art modeling;

- legal and administrative operations relative to the application and registration of patents, operations relative to the sale of patents and licenses, experimental activities carried out only for the purpose of patent registration.

### **OBJECTIVES OF R&D ACTIVITY:**

- 1) development of science, technology and education in order to boost economic growth, increase the social product and raise citizens' living conditions;
- 2) preservation and development of general stock of knowledge, as a condition to inclusion to world integration processes;
- 3) preservation and development of total R&D potentials (R&D and educational institutions, scientific personnel and R&D infrastructure);
- 4) raising of the general level of technology in the economy and securing the competitiveness of goods and services on national and international markets;
- 5) establishing international scientific co-operation in view of faster integration into world scientific, economic, social and cultural trends, as well as inclusion in European research area;
- 6) orienting the society towards innovations, creation of cultural ambience and creative education in order to preserve civilization patrimony and national identity.

### **FUNDING OF R&D ACTIVITY**

Funds for R&D activity are secured from:

- 1) Founder's resources;
- 2) Budget of the Republic;
- 3) Budget of the autonomous province and units of local authorities;
- 4) Resources of enterprises, associations and other organizations;
- 5) Own income of R&D organizations;
- 6) Resources of domestic funds and foundations, gifts of legal and physical persons;
- 7) Resources of foreign foundations, legal and physical persons, donations;
- 8) Other sources provided that the autonomy and dignity of R&D activity is not exposed.

### **Sub-funding of programs and projects of regional significance for the development of R&D activity**

Budgetary funds of the Republic of Serbia can be used to sub-finance programs and projects of regional significance for R&D activity, being:

1. projects of building R&D infrastructure;
2. R&D projects of regional significance (projects on international co-operation, projects on eco-systems and innovation projects carried out by small and medium enterprises);
3. program of development of R&D personnel.

### **METHODOLOGICAL BASIS**

Methodological basis for this survey are the international standards set up by OECD and published in the FRASCATI Manual 2002. All international classifications are used and are annexed to the instructions for filling in the Annual Report on Research and Development Activity.

More explanations and instructions are available at the Statistical Office of the Republic of Serbia, Milana Rakica 5, Belgrade, Section for statistics of education, science and culture, telephone number: 011 2412922, extension 425 and 357.

## ANNEX

For filling in the Annual Report on Research and Development – IR

<b>CLASSIFICATION OF SCIENTIFIC FIELDS</b>	
<p><b>1. Natural sciences</b></p> <ul style="list-style-type: none"><li>101 Mathematics</li><li>102 Computer and information sciences</li><li>103 Physical sciences</li><li>104 Chemical sciences</li><li>105 Earth and related environmental sciences</li><li>106 Biological sciences</li><li>107 Other natural sciences</li></ul> <p><b>2. Engineering and technology</b></p> <ul style="list-style-type: none"><li>201 Civil engineering</li><li>202 Electrical engineering, electronic engineering and information engineering</li><li>203 Mechanical engineering</li><li>204 Chemical engineering</li><li>205 Materials engineering</li><li>206 Medical engineering</li><li>207 Environmental engineering</li><li>208 Environmental biotechnology</li><li>209 Industrial biotechnology</li><li>210 Nano-technology</li><li>211 Other engineering and technology</li></ul> <p><b>3. Medical and health sciences</b></p> <ul style="list-style-type: none"><li>301 Basic medicine</li><li>302 Clinical medicine</li><li>303 Health science</li><li>304 Medical biotechnology</li><li>305 Other medical sciences</li></ul>	<p><b>4. Agricultural sciences</b></p> <ul style="list-style-type: none"><li>401 Agricultural sciences, forestry and fisheries</li><li>402 Animal and dairy science</li><li>403 Veterinary science</li><li>404 Agricultural biotechnology</li><li>405 Other agricultural science</li></ul> <p><b>5. Social sciences</b></p> <ul style="list-style-type: none"><li>501 Psychology</li><li>502 Economics and business</li><li>503 Educational science</li><li>504 Sociology</li><li>505 Law</li><li>506 Political science</li><li>507 Social and economic geography</li><li>508 Media and communications</li><li>509 Other social sciences</li></ul> <p><b>6. Humanities</b></p> <ul style="list-style-type: none"><li>601 History and archeology</li><li>602 Language and literature</li><li>603 Philosophy, ethics and religion</li><li>604 Arts (history of arts, performing arts, music)</li><li>605 Other humanities</li></ul>
<p><b>Source:</b> FOS - Fields of Science and Technology, OECD – 2006</p>	



**CLASSIFICATION OF ACTIVITIES – 2010**  
**REVIEW OF THE SECTIONS AND DIVISIONS OF THE CLASSIFICATION OF ACTIVITIES**

CODE	DESCRIPTION OF SECTIONS/DIVISIONS
<b>A</b>	<b>AGRICULTURE, FORESTRY AND FISHING</b>
01	Crop and animal production, hunting and related service activities
03	Fishing and aquaculture
<b>B</b>	<b>MINING AND QUARRYING</b>
05	Mining of coal and lignite
06	Extraction of crude petroleum and natural gas
07	Mining of metal ores
08	Other mining and quarrying
09	Mining support service activities
<b>C</b>	<b>MANUFACTURING</b>
10	Manufacture of food products
11	Manufacture of beverages
12	Manufacture of tobacco products
13	Manufacture of textiles
14	Manufacture of wearing apparel
15	Manufacture of leather and related products
16	Manufacture of wood and of products of wood, except furniture; manufacture of articles of straw and plaiting materials
17	Manufacture of paper and paper products
18	Printing and reproduction of recorded media
19	Manufacture of coke and refined petroleum products
20	Manufacture of chemicals and chemical products
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations
22	Manufacture of rubber and plastic products
23	Manufacture of other non-metallic mineral products
24	Manufacture of basic metals
25	Manufacture of fabricated metal products, except machinery and equipment
26	Manufacture of computer, electronic and optical products
27	Manufacture of electrical equipment
28	Manufacture of machinery and equipment, n.e.c.
29	Manufacture of motor vehicles, trailers and semi-trailers
30	Manufacture of other transport equipment
31	Manufacture of furniture
32	Other manufacturing
33	Repair and installation of machinery and equipment
<b>D</b>	<b>ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY</b>
35	Electricity, gas, steam and air conditioning supply
<b>E</b>	<b>WATER SUPPLY; SEWERAGE, WASTE MANGEMENT AND REMEDIATION ACTIVITIES</b>
36	Water collection, treatment and supply
37	Sewerage
38	Water collection, treatment and disposal activities; material recovery
39	Remediation activities and other waste management services
<b>F</b>	<b>CONSTRUCTION</b>
41	Construction of buildings
42	Civil engineering
43	Specialised construction activities
<b>G</b>	<b>WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES</b>
5	Wholesale and retail trade and repair of motor vehicles and motorcycles
46	Wholesale trade, except of motor vehicles and motorcycles
47	Retail trade, except of motor vehicles and motorcycles
<b>H</b>	<b>TRANSPORTATION AND STORAGE</b>
49	Land transport and transport via pipelines

CODE	DESCRIPTION OF SECTIONS/DIVISIONS
50	Water transport
51	Air transport
52	Warehousing and support activities for transportation
53	Postal and courier activities
<b>I</b>	<b>ACCOMMODATION AND FOOD SERVICE ACTIVITIES</b>
55	Accommodation
56	Food and beverage service activities
<b>J</b>	<b>INFORMATION AND COMMUNICATION</b>
58	Publishing activities
59	Motion picture, video and television programme, production, sound recording and music publishing activities
60	Programming and broadcasting
61	Telecommunications
62	Computer programming, consultancy and related activities
63	Information service activities
<b>K</b>	<b>FINANCIAL AND INSURANCE ACTIVITIES</b>
64	Financial service activities, except insurance and pension funding
65	Insurance, reinsurance and pension funding, except compulsory social insurance
66	Activities auxiliary to financial services and insurance activities
<b>L</b>	<b>REAL ESTATE ACTIVITIES</b>
68	Real estate activities
<b>M</b>	<b>PROFESSIONAL, SCIENTIFIC, INNOVATION AND TECHNICAL ACTIVITIES</b>
69	Legal and accounting activities
70	Activities of head offices; management consultancy activities
71	Architectural and engineering activities; technical testing and analysis
72	Scientific and development
73	Advertising and market research
74	Other professional, scientific and technical activities
75	Veterinary activities
<b>N</b>	<b>ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES</b>
77	Rental and leasing activities
78	Employment activities
79	Travel agency, tour operator and other reservation service and related activities
80	Security and investigation activities
81	Services to buildings and landscape activities
82	Office administrative, office support and other business support activities
<b>P</b>	<b>EDUCATION</b>
85	Education
<b>Q</b>	<b>HUMAN HEALTH AND SOCIAL WORK ACTIVITIES</b>
86	Human health activities
87	Residential care activities
88	Social work activities without accommodation
90	Creative, arts and entertainment activities
91	Libraries, archives, museums and other cultural activities
92	Gambling and betting activities
93	Sports activities, amusement and recreation activities
<b>S</b>	<b>OTHER SERVICE ACTIVITIES</b>
94	Activities of membership organisations
95	Repair of computers and personal and household goods
96	Other personal service activities
<b>T</b>	<b>ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; UNDIFFERENTIATED GOODS AND SERVICE – PRODUCING ACTIVITIES OF HOUSEHOLDS FOR WON USE</b>
97	Activities of households as employers of personnel
98	Undifferentiated goods – and services – producing activities of households for own use
<b>U</b>	<b>ACTIVITIES OF EXTRATERRITORIAL ORGANIZATIONS AND BODIES</b>
99	Activities of extraterritorial organizations and activities

**Classification of manufacturing according to research and development intensity**  
According to OECD methodology

**High technology**

Aircrafts and spacecrafts  
Pharmaceuticals  
Office accounting and computing machinery  
Radio, TV and telecommunication equipment  
Medical, precision and optical instruments

**Medium low technology**

Coke, refined petroleum products and nuclear fuel  
Rubber and plastics  
Other non-metallic mineral products  
Building and repairing of ships and boats  
Basic metals  
Manufacture of fabricated metal products, except machinery and equipment

**Medium high technology**

Electrical machinery and apparatus  
Motor vehicles, trailers and semi-trailers  
Chemicals, excluding pharmaceuticals  
Transports equipment, n.e.c.  
Machinery and apparatus

**Low technology**

Manufacturing, n.e.c.  
Wood and furniture  
Paper, printing industry  
Textile industry

**CLASSIFICATION OF SOCIO-ECONOMIC OBJECTIVES**

*According to OECD methodology -- NABS 2007*

*(Nomenclature for the analysis and comparison of scientific programmes and budget)7)*

<b>Objective code number</b>	<b>SOCIO-ECONOMIC OBJECTIVE</b>
<b>001</b>	<b>Exploration and exploitation of the Earth</b>
	<ul style="list-style-type: none"> <li>- Exploration of the earth crust and mantle, seas, oceans and atmosphere and their exploitation</li> <li>- Climatic and meteorological research, polar exploration</li> <li>- Mineral, oil and natural gas prospecting</li> <li>- Exploration and exploitation of the sea-bed</li> <li>- Hydrology</li> <li>- Seas and oceans</li> <li>- Atmosphere</li> </ul>
<b>002</b>	<b>Environment</b>
	<ul style="list-style-type: none"> <li>- Control of pollution, identification and analysis of the sources of pollution</li> <li>- Pollutants, their dispersal in the environment and their effect of all living organisms</li> <li>- Development of monitoring facilities for the measurement of all kinds of pollution</li> <li>- Elimination and prevention of all kinds of pollution in all types of environment</li> <li>- Protection of atmosphere and climate</li> <li>- Waste management</li> <li>- Treatment of water</li> <li>- Protection of soil and underground water</li> <li>- Reduction of noise and vibration</li> <li>- Protection of species and habitats</li> <li>- Protection against natural hazards</li> <li>- Radioactive pollution</li> </ul>
<b>003</b>	<b>Exploration and exploitation of space</b>
	<ul style="list-style-type: none"> <li>- R&amp;D related to civil space</li> <li>- Applied research programmes</li> <li>- Launch systems</li> <li>- Space laboratories and space travel</li> </ul>
<b>004</b>	<b>Transport, telecommunications and other infrastructures</b>
	<ul style="list-style-type: none"> <li>- Infrastructure and land development, including the construction of buildings</li> <li>- Protection against harmful effects in town and country planning</li> </ul>

Objective code number	SOCIO-ECONOMIC OBJECTIVE
	<ul style="list-style-type: none"> <li>- Transport systems</li> <li>- Telecommunication systems</li> <li>- General planning of land use</li> <li>- Construction and planning of buildings</li> <li>- Civil engineering (bridges, roads, machinery, ...)</li> <li>- Water supply</li> </ul>
<b>005</b>	<b>Production and rational utilisation of energy</b>
	<ul style="list-style-type: none"> <li>- Production, storage, transportation, distribution and rational use of all forms of energy</li> <li>- Processes designed to increase the efficiency of energy production and distribution</li> <li>- Efficient use of energy, study of energy conservation</li> <li>- CO2 capture and storage</li> <li>- Renewable energy sources</li> <li>- Nuclear fission and fusion</li> <li>- Hydrogen and fuel gas</li> <li>- Other power and storage technologies</li> </ul>
<b>006</b>	<b>Industrial production and technology</b>
	<ul style="list-style-type: none"> <li>- Improvement of industrial production and technology</li> <li>- Increasing economic efficiency and competitiveness</li> <li>- All manufactures</li> <li>- Recycling (metal and non-metal)</li> </ul>
<b>007</b>	<b>Health</b>
	<ul style="list-style-type: none"> <li>- Prevention, surveillance and control of communicable and non-communicable diseases</li> <li>- Monitoring the health situation</li> <li>- Health promotion</li> <li>- Occupational health</li> <li>- Public health legislation and regulations</li> <li>- Health care for vulnerable and high-risk populations</li> </ul>
<b>008</b>	<b>Agriculture</b>
	<ul style="list-style-type: none"> <li>- Promotion of agriculture, forestry and fisheries</li> <li>- Fertilizers, biocides, biological pest control and mechanization of agriculture</li> <li>- Impact of forestry on the environment</li> <li>- Development and productivity of food productivity and technology</li> <li>- Agriculture, forestry and fisheries</li> <li>- Veterinary and other agricultural sciences</li> </ul>
<b>009</b>	<b>Education</b>
	<ul style="list-style-type: none"> <li>- General education, including training, pedagogy and didactics</li> <li>- Special education (for gifted persons, those with learning disabilities)</li> <li>- Pre- and primary school</li> <li>- Secondary education</li> <li>- Tertiary education</li> </ul>
<b>010</b>	<b>Culture, recreation, religion and mass media</b>
	<ul style="list-style-type: none"> <li>- Impact of cultural activities, religion and leisure on life in society</li> <li>- Racial and cultural integration and socio-cultural changes in these areas.</li> <li>- Covers: sociology, theology, art, sport and leisure.</li> <li>- Culture covers: language, social integration, libraries, archives and external cultural policy.</li> <li>- Recreational and sporting services</li> <li>- Cultural services</li> <li>- Broadcasting and publishing activities</li> </ul>

Objective code number	<b>SOCIO-ECONOMIC OBJECTIVE</b>
	- Religious and other community services
<b>011</b>	<b>Political and social systems, structures and processes</b>
	<ul style="list-style-type: none"> <li>- Socio-political system</li> <li>- Public administration issues and economic policy</li> <li>- Regional studies and multi-level governance</li> <li>- Social changes, processes and conflicts</li> <li>- Development of social security and social assistance systems</li> <li>- Social aspects of the organization of work</li> <li>- Gender-related discrimination</li> <li>- Development of methods of combating poverty on local, national and international level</li> <li>- Protection of specific categories of population</li> <li>- Methods of providing social assistance</li> </ul>
<b>012</b>	<b>General advancement of knowledge: R&amp;D financed from General University Funds:</b>
<b>0121</b>	<b>R&amp;D related to natural sciences</b>
	- Mathematics, computer and information science, physics, chemistry, biology, earth and environmental sciences, other natural sciences
<b>0122</b>	<b>R&amp;D related to engineering sciences</b>
	- Civil engineering (bridges, roads, machinery,...), electrical engineering, electronic engineering, information engineering, mechanical engineering, chemical engineering, technology, medical engineering, environmental engineering, biotechnology, nano-technology, other technologies.
<b>0123</b>	<b>R&amp;D related to medical sciences</b>
	- General medicine, clinical medicine, medical biotechnology and other medical sciences
<b>0124</b>	<b>R&amp;D related to agricultural sciences</b>
	- Agriculture, forestry, fishery, animal and dairy science, veterinary science, agricultural biotechnology, other agricultural sciences
<b>0125</b>	<b>R&amp;D related to social sciences</b>
	- Psychology, economics and business, educational sciences, sociology, law, political sciences, economic and social geography, media and communications, other social sciences
<b>0126</b>	<b>R&amp;D related to humanities</b>
	- History and archeology, languages and literature, philosophy, religion and ethics, art (fine arts, history of arts, applied arts, music, performing arts) and other humanities
<b>013</b>	<b>General advancement of knowledge: R&amp;D financed from other sources than GUF</b>
<b>0131</b>	<b>R&amp;D related to natural sciences</b>
	- Mathematics, computer and information science, physics, chemistry, biology, earth and environmental sciences, other natural sciences
<b>0132</b>	<b>R&amp;D related to engineering sciences</b>
	- Civil engineering (bridges, roads, machinery,...), electrical engineering, electronic engineering, information engineering, mechanical engineering, chemical engineering, technology, medical engineering, environmental engineering, biotechnology, nano-technology, other technologies.
<b>0133</b>	<b>R&amp;D related to medical sciences</b>
	- General medicine, clinical medicine, medical biotechnology and other medical sciences
<b>0134</b>	<b>R&amp;D related to agricultural sciences</b>
	- Agriculture, forestry, fishery, animal and dairy science, veterinary science, agricultural biotechnology, other agricultural sciences
<b>0135</b>	<b>R&amp;D related to social sciences</b>
	- Psychology, economics and business, educational sciences, sociology, law, political sciences, economic and social geography, media and communications, other social sciences
<b>0136</b>	<b>R&amp;D related to humanities</b>
	- History and archeology, languages and literature, philosophy, religion and ethics, art (fine arts, history of arts, applied arts, music, performing arts) and other humanities
<b>014</b>	<b>Defence</b>



Republic of Serbia  
Statistical Office of the Republic of Serbia

## **MANUAL**

**for filling in the questionnaire for „Annual Report on R&D” for: business entities and centres of excellence, faculties, R&D institutes and non-profit organisations/associations.**

**(Forms: IR-1, IR-2, IR-3).**

## **Manual**

### **for filling in „Annual report on R&D for: business entities and centres of excellence, faculties, R&D institutes and non-profit organisations - associations. (Forms IR-1, IR-2 and IR-3).**

The objective of this manual is to make easier the filling in of the questionnaire as well as to improve the quality of the latter. The questionnaires are to be completed for all institutions and/or entities having at least one full-time researcher, scientist or engineer (annual FTE) engaged in R&D.

The manual explains gradually each part of the questionnaire and presents through examples how the questionnaire should be completed properly.

As an example of a properly filled in questionnaire, shown below is a tertiary education institution that belongs to University (as a reporting unit). The data displayed in the mentioned examples are arbitrary and serve only as a demonstration.

Forms IR-1, IR-2, and IR-3 are completely identical, in terms of design and content.

#### **First page of the questionnaire / form IR**

The questionnaire refers to the measurement of entries in R&D: R&D employees and IR expenditure. R&D employees are classified by educational level, title, age and sex, expressed as the real number of persons and full-time equivalent (FTE). R&D expenditure presents generally so-called internal expenditure, i.e. expenditure on R&D within a reporting unit or sector which the unit belongs to. Encompassed are expenditure and investments in order to obtain the obtain information about who finances and who is conduct R&D. As the result of R&D, shown are also scientific works, projects and studies.

The first page of the IR questionnaire (1, 2 and 3) contains information on the name, registration number, address, activity and field of science of the reporting unit. The main difference between R&D activity and activities that are not R&D is in the presence or absence of elements of novelty or innovations to a larger extent. If an activity improves significantly technical characteristics, components and materials, software, user-oriented or other characteristics, i.e. uses a new or considerably advanced products, process or service, as well as new organizational methods in business and labour organization, one should include it in this survey.

The code of the corresponding activity is to be copied from the annexed Classification of Activities 2010 which is transmitted to the reporting unit along with the R&D questionnaire/form. Also, the code of the field of science is to be indicated on the basis of the Classification of Fields of Science being also annexed.

**Table number 1**

The first table to be filled in is on page two of the questionnaire bearing number 1 and entitled: "Full-time and part-time employees engaged in R&D, expressed in number of physical persons and full-time equivalent (FTE) (in 201\_.)"

		Total number of employees engaged in R&D				Number of full-time employees engaged in R&D activities		Number of part-time employees engaged in R&D activities			
		Number of employees		Full-time equivalent		All	Women	Number of employees		Full-time equivalent	
		All (5+7)	Women (6+8)	All (5+9)	Women (6+10)			All	Women	All	Women
a		1	2	3	4	5	6	7	8	9	10
01	<b>Total (02+14+18+19+20)</b>	54	29	32,5	18,5	11	8	43	21	21,5	10,5
02	<b>Researchers – total (03 to 13)</b>	52	28	31,5	18	11	8	41	20	20,5	10
03	Researcher apprentice	4	3	4	3	4	3				
04	Assistance researcher	5	4	5	4	5	4				
05	Scientific assistant	1	1	0,5	0,5	0	0	1	1	0,5	0,5
06	Senior scientific assistant										
07	Senior adviser	2	1	2	1	2	1				
08	Senior lecturer	6	4	3	2			6	4	3	2
09	Associate professor	8	4	4	2			8	4	4	2
10	Full professor	17	7	11	5			17	7	11	5
11	Professor of applied studies										
12	Lecturer										
13	Assistant lecturer	9	4	2	0,5			9	4	2	0,5
14	<b>Assistant researcher - total (15 to17)</b>	2	1	1	0,5			2	1	1	0,5
15	Assistant researcher	2	1	1	0,5			2	1	1	0,5
16	Senior assistant researcher										
17	Assistant adviser										
18	<b>Technicians</b>										
19	<b>Managers</b>										
20	<b>Other personnel (support)</b>										

Table 1 should contain the total number of employees engaged in R&D activities full-time or part-time, by title, sex, and number of physical persons and full-time equivalent (FTE).

One should indicate in the table the number of employees being engaged in R&D, and the sum of full-time and part-time employees.

For part-time employees one should indicate the real amount of time spent on R&D activities in relation to full-time employees. The unit of measure for the data in question is full-time equivalent. The original name in English is Full-time Equivalent, abbreviated FTE. The abbreviation FTE will be used throughout the manual for Full-time Equivalent.

In concrete terms, our example shows that there are 43 employees being part-time engaged in R&D (the data is indicated in column 7 in table 1) and only 21.5 are engaged FTE. This means that their real contribution to R&D is 21.5 full-time employees being engaged in R&D.

Full-time equivalent (FTE) is the unit of measure of employees that makes possible the comparability of employees even if they work different hours of work during the week/year.

The employee working full-time is to be counted as one (1) full-time equivalent or abbreviated FTE = 1. The employee who does not work full-time is assigned a proportional value in relation to her/his hours



worked. For example: an employee not working full-time, but 20 hours a week, has FTE of 0.5 because full-time implies 40 hours of work per week. Numerically shown:  $20/40 = 0.5$ <sup>1</sup>

The data relative to full-time equivalent, in columns 3, 4, 9 and 10, are shown in decimal numbers with one decimal.

Also, the page of the IR form with table 1 on it contains additional instructions for indicating data in columns 3, 4, 9 and 10 about full-time equivalent.

The second example shows that there are 54 employees being engaged in R&D activities. Among those 54 persons 29 are women. Full-time equivalent for the total number of employees is 32.5, of which 18.5 is FTE for women.

Titles under numbers from 03 to 13 in the category "*researchers – total*" are to be added up, which in the example amounts to 52 employees, of which 28 women. The full-time equivalent for this category is the summation value 31.5 FTE, of which the value of 18 FTE accounts for women.

Employees bearing the title assistant researcher are to be indicated in row 15 in the table. In our example, there are two employees, of which one is a woman. As the data concerning those persons are indicated in columns 7 and 8, which refer to part-time employees, it is evident from the example that both of them are engaged part-time in R&D activities. The two persons have an FTE of 1, of which 0.5 FTE accounts for the woman. The two assistant researchers work are engaged only part-time in R&D activities during the year.

As rows 16 and 17 concerning senior assistant researcher and assistant adviser are blank, the value in row 14 "*Assistant researcher – total*" is 2 employees with full-time equivalent 1.

At the end of table 1, one should add up the values under "*Researchers - total*", "*Assistant researchers*", "*Technicians*", "*Managers*" and "*Other personnel (support)*". Considering that, except for categories "*Researcher - total (02)*" and "*Assistant researcher - total (14)*", there are no data in the other categories, one should add up the values of the cited items and obtain the sum in the first row (01) "*Total*": 54 employees, of which 29 women, the full-time equivalent of the former being 32.5, and of the latter 18.5.

Also, the sum of columns 5 and 7 should equal the data from column 1, and the sum of columns 6 and 8 should equal the data from column 2.

Explanations from the Frascati Manual, OECD international standard used as a methodological basis in the R&D survey, are provided to better understand this table.

"There are three stages in evaluating R&D employees:

- Identification of the types of employees to be evaluated,
- Establishing their number,
- Establishing their activity in FTE,

Full-time equivalent (FTE) can be shown as:

*Researcher/year*

One FTE researcher can be presented also as researcher/year. Therefore, for persons who spend 30% of their time in R&D activities and the rest of it in other activities (teachers, university administration...) FTE should be 0.3. Similarly, if a FTE employee is engaged in a R&D institution for a six month period, the FTE will be 0.5. Knowing that the working hours vary between sectors, as well as between institutions, it is impossible to express FTE as researcher/hours.

<sup>1</sup>[http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Glossary:Full-time\\_equivalent](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:Full-time_equivalent)

*FTE at a specific date*

In some cases it is more practical to express the FTE of R&D employees at a specific date. However, if there are considerable variations, it is necessary to make exceptions in order to secure comparability with FTE over a period of time. If fixed date approach is used, it is necessary to provide data for the first or for the last date which the expenditure refers to. The use of a two year average is recommended for comparison of expenditure data. Theoretically, FTE is determined for all engaged R&D personnel.

In practice, all the persons who participate with more than 90% of time should be counted as 1 FTE, while those who are engaged with less than 10% should be excluded from the evaluation.<sup>2</sup>

**Table 2**

In table 2 entitled: “*Employees engaged in R&D activities on service contract (SC) or author contract (AC), expressed in physical number of persons and full-time equivalent (FTE), in 201\_*” one should indicate the number of employees being engaged in R&D activities on service contract or author contract by titles/occupation.

	Employees engaged on SC and AC in R&D activities				Full-time employees engaged on SC and AC in R&D activities		Part-time employees engaged on SC and AC in R&D activities			
	Number of employees		Full-time equivalent		All	Women	Number of employees		Full-time equivalent	
	All (5+7)	Women (6+8)	All (5+9)	Women (6+10)			All	Women	All	Women
<i>a</i>	1	2	3	4	5	6	7	8	9	10
01 <b>All (02 to 06)</b>	1	1	0,3	0,3			1	1	0,3	0,3
02 Researchers	1	1	0,3	0,3			1	1	0,3	0,3
03 Assistant researchers										
04 Technicians										
05 Managers										
06 Other personnel (support)										

Table 2 follows the same principle as in table 1, except that certain categories of occupation are not broken down by types of titles that belong to a related category of occupation.

Our example shows one employee who was engaged as researcher on service contract and was actually involved in R&D activities during 85 working days. It is worth knowing that one calendar year has on average 252 working days when calculating FTE. The aforesaid is used to determine the full-time equivalent:

$$85/252 = 0.34.$$

As FTE is expressed with one decimal, the obtained quotient 0.34 is rounded to 0.3, which is at the same time the FTE of the activities performed in R&D by the employee.

Also, the sum of columns 5 and 7 should equal the data from column 1, and the sum of columns 6 and 8 should equal the data from column 2.

<sup>2</sup> **Frascati manual**, Belgrade, Organisation for Economic Co-operation and Development, 2000, p. 58-62

**Table 3**

In table 3 entitled: “Full-time and part-time employees engaged in R&D activities, by educational attainment, expressed in physical number of persons (in 201\_)” one should indicate the number of employees by title and educational level. Read the remark below table 3: The table is to be filled in as follows: in columns 1 and 2, copy the values from columns 1 and 2 of table 1, and then proceed with entering the data. Also, the sum of odd columns should equal the data from column 1, and the sum of even column should equal the data from column 2.

Also, the sum of odd columns should equal the data from column 1, and the sum of even columns should equal the data from column 2.

	Total		Educational level												
			Doctor's degree		Master's degree		Specialisation		University education		Applied education		Secondary and other education		
	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women	
<i>a</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
01	<b>Total (02 to 06)</b>	54	29	36	18	4	2			14	9				
02	Researcher	52	28	34	17	4	2			14	9	X	X	X	X
03	Assistant researcher	2	1	2	1									X	X
04	Technician														
05	Manager													X	X
06	Other personnel (support)														

**Table 4**

In table 4 entitled: *“Employees engaged in R&D activities on service contract (SC), author contract (AC), by educational level expressed in number of physical persons, in 201\_”* one should indicate the total number of employees who were engaged on the mentioned contract, by occupation and educational level.

	Total		Educational level												
			Doctor's degree		Master's degree		Specialisation		University education		Applied education		Secondary and other education		
	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women	
<i>a</i>		1	2	3	4	5	6	7	8	9	10	11	12	13	14
01	Total (02 to 06)	1	1	1	1										
02	Researcher	1	1	1	1							X	X	X	X
03	Assistant researcher													X	X
04	Technician														
05	Manager													X	X
06	Other personnel (support)														

The example shows that one female employee, was engaged on R&D activities on service contract. The mentioned person is a researcher (title) and holds a doctoral degree (educational level).

The table is to be filled in as follows: copy into columns 1 and 2 of this table the values of columns 1 and 2 of table 2, then continue with entering other data.

Also, the sum of odd columns should equal the data from column 1, and the sum of even columns should equal the data from column 2.

**Table 5**

In table 5 entitled: *“Full-time and part-time employees engaged in R&D activities, by educational level, expressed in full-time equivalent (in 201\_)”* one should indicate data expressed in full-time equivalent, by title and educational level.

The table is to be filled in as follows: copy into columns 1 and 2 of this table the values from columns 3 and 4 of table 1, then continue with entering other data.

Also, the sum of odd columns should equal the data from column 1, and the sum of even columns should equal the data from column 2.

Total		Educational level													
		All		Women		Doctoral degree				Doctoral degree				Doctoral degree	
All	Women					All	Women	All	Women	All	Women	All	Women	All	Women
a		1	2	3	4	5	6	7	8	9	10	11	12	13	14
01	<b>Total (02 to 06)</b>	32,5	18,5	21,5	11	4	2			7	5,5				
02	Researcher	31,5	18	20,5	10,5	4	2			7	5,5	X	X	X	X
03	Assistant researcher	1	0,5	1	0,5									X	X
04	Technician														
05	Manager													X	X
06	Other personnel (support)														

Having in mind the aforesaid remarks, when filling in the tables, one should first copy FTE from columns 3 and 4 of table 1 into columns 1 and 2 of table 5. Once the total FTE of 32.5 copied into column 1 and FTE of 18.5 into column 2 of table 5, one should copy from the same columns of table 1 the values relative to the titles researcher and assistant researcher into table 5. The data for researchers are FTE of 31.5 and 18 and FTE of 1 and 0.5 for assistant researchers. Then these values should be broken down into educational levels.

**Table 6**

In table 6 entitled: “*Employees engaged in R&D activities on service contract (SC) or author contract (AC), by educational level, expressed in full-time equivalent, (in 201\_)*” one should indicate the full-time equivalent by title and educational level for employees engaged on R&D activities on service contract or author contract.

		Total		Educational level											
				Doctor's degree		Master's degree		Specialisation		University education		Applied education		Secondary and other education	
All	Women	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women
a		1	2	3	4	5	6	7	8	9	10	11	12	13	14
01	<b>Total (02 to 06)</b>	0,3	0,3	0,3	0,3										
02	Researcher	0,3	0,3	0,3	0,3							X	X	X	X
03	Assistant researcher													X	X
04	Technician														
05	Manager													X	X
06	Other personnel (support)														

In table 4 the example shows that one female person is engaged on R&D activities on service contract and that this person is a researcher (title) holding a doctoral degree (educational level). The in table 2 one can notice that the FTE is 0.3 in relation to full-time. Therefore, the value 0.3 is to be copied in corresponding boxes in table 6.

The value 0.3 can be the result of work, where the researcher in question is engaged 2.5 hours in R&D activities, or 12 hours a week or about 30% of the working hours on annual level.

**Table 7**

In table 7 entitled: “*Full-time and part-time employees engaged in R&D activities, by age and sex, expressed in number of physical persons, (in 201\_)*” one should cover the number of employees engaged in R&D activities by titles and age groups.

		Researcher				Assistant researcher				Technician				Manager			
		Full-time employee		Part-time employee		Full-time employee		Part-time employee		Full-time employee		Part-time employee		Full-time employee		Part-time employee	
		All	Women	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women	All	Women
<i>a</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
01	<b>Total (02 to 12)</b>	11	8	41	20			2	1								
02	Less than 25	1	1														
03	25 – 29	6	4	4	1												
04	30 – 34	2	2	9	4												
05	35 – 39			8	4			1	1								
06	40 – 44			4	4												
07	45 – 49			4	2												
08	50 – 54	1	1	3													
09	55 – 59			1				1									
10	60 – 64			8	5												
11	65 – 69	1															
12	70 and over																

In the columns of table 7 employees categories are broken down by titles then the categories are divided into subcategories: *full-time employees and part-time employees*. The rows show age groups where employees should be indicated by age in given intervals. At the end, each row in the column should be added up for all the titles in order to obtain “*Total (02 to 12)*” under the ordinal number 01. Other (support) personnel are not to be classified by age.

The data in this table should equal the data presented in table 1, as follows:

*Full-time employees:*

- Researchers: row 02, columns: 05, 06
- Assistant researchers: row 14, columns: 05, 06
- Technicians: row 18, columns: 05, 06
- Managers: row 19, columns: 05, 06

*Part-time employees:*

- Researchers: row 02, columns: 07, 08

- Assistant researchers: row 14, columns: 07, 08
- Technicians: row 18, columns: 07, 08
- Managers: row 19, columns: 07, 08

**Table 8**

In table 8 entitled: “*Full-time and part-time researchers, by citizenship and age, expressed in number of physical persons*” one should indicate the number of researchers by citizenship (geographical position of a country). It is essential to emphasize with this table that the number in question refers to the **number of researchers**, not to the total number of employees. These data are particularly important to monitor the **mobility of researchers**.

Citizenship (by geographical position of the country)	Total number of researchers in 2014		Researchers who <b>came</b> in Serbia in 2014		Researchers who <b>went</b> abroad in 2014		Planned number of researchers for 2015
	Total	Women	Total	Women	Total	Women	
<i>a</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>
01 <b>Total (02 to 09)</b>	52	28	1	1			55
02 Serbia	52	28					
03 EU member countries							
04 Other European countries							
05 North America							
06 Central and South America							
07 Asia							
08 Africa							
09 Other							

In columns 3 and 4 one should indicate all the researchers who came from abroad and were engaged in R&D more than 3 months between 01/01/ 201(4)- 31/12/201(4).

In columns 5 and 6 one should indicate all the researchers who left Serbia between 01/01/2014- 31/12/2014.

Data in row 01 in columns 1 and 2 of this table should **equal the data in table 1 in columns 1 and 2**, as follows:

Researchers – all and researchers – women (row 02).

**Table 9**

In table 9 entitled: "Expenditure for R&D activities in 201\_ (in thous. RSD)" one should indicate all funds spent on R&D activity in 201\_, as well as those planned for the following year.

Expenditures for R&D			Spent in 2014	Planned for 2015
a			1	2
01	<b>Total expenditure for R&amp;D (02+07+12)</b>		39307	
02	Current costs	<b>All (03+05+06)</b>	32785	
03		Gross salaries and wages for all R&D employees	32785	
04		Of which gross salaries and wages of researchers	31690	
05		Other personal income of R&D employees (scholarships, prizes, etc.)		
06		Other		
07		<b>All (08 to 11)</b>	5989	
08		For material costs for R&D work (raw materials, equipment, energy)	2369	
09		For payments based on service contracts and author contracts	609	
10		For daily allowances, travel costs, etc.	1100	
11		Other operating costs and expenses (without depreciation)	1911	
12		Investment costs	<b>All (13+14+16+17+18)</b>	533
13	For land and buildings			
14	For machinery and equipment		533	
15	Of which for imported machinery and equipment		65	
16	For patent, licenses, studies and projects			
17	For software and hardware <sup>1)</sup>			
18		Other		

In this table spent funds are grouped in two main categories: one refers to current costs, and the second to investment costs. The current costs are further broken down in subcategories named "labour costs and employees' remunerations" and "other current costs". The categories and subcategories in question are further broken down in classes of costs. The subcategory "of which gross salaries and wages of researchers" is not counted in the sum of ALL (row 02) because it is part of gross salaries of all R&D employees.

*Labour costs of R&D personnel* represent the largest item of current costs. *Other current costs* include costs in materials and equipment necessary for R&D over a year. Additional costs and administrative costs are to be counted in this group of costs, but with the deduction of costs of activities other than R&D. Labour costs comprise social and pension contributions for R&D personnel. Costs of indirect services are also to be included, whether originating from the same reporting units or not (costs of storage, repair, maintenance of premises, printing of reports, etc.).

*Investment costs* are total annual costs of immovables used for R&D for the reporting unit. They are to be reported for the period they have incurred and do not comprise depreciation. They are made of: costs for land and buildings, instruments and equipment. Costs for land and buildings: land refers to land necessary for R&D work (land for testing, laboratories and pilot installations) and for buildings destined to be improved, modified and repaired. The part of these costs being difficult to determine, estimation method is used. The subcategory "of which: for imported machines and equipment" under investment costs is not to be counted in the sum of investment costs (ALL, row 12) as it represents the part of total investments into machines and equipment.



By indicating data under corresponding classes of costs in the example, one can see the purpose of expenditures. The funds are expressed in **thousands dinars**.

**Table 10**

In table 10 entitled: “Sources of funds spend on R&D activity in 201\_” one should indicate the sources of financing R&D.

Sources of funds			Amount in thousands RSD	
<i>a</i>			<i>1</i>	
01	<b>Funds spent for R&amp;D by sources - total (02 to 21)</b>		39307	
02	Domestic funding (from Serbia)	Planned budgetary funds dedicated to R&D	From the Ministry of Science	
03			From the Ministry of Education	
04			From other ministries	
05		Funds for R&D from other government funds, agencies and foundations		
06		Funds for R&D from local authorities' bodies		202
07		Funds for R&D from enterprises	from "small" (0 - 49 employees)	
08			from "medium" (50 - 249 employees)	
09			from "large" (250 and more employees)	
10		Funds for R&D from non-profit organizations		
11		Funds from patents, licenses, etc. (from inward sale)		
12		Other funds for R&D from own sources		
13		Funds from abroad	Funds from agreements on technological licenses	
14	Funds from services for foreign ordering parties		1567	
15	Funds from joint investment in R&D			
16	Funds for R&D from other countries' governments			
17	Funds for R&D from the university and other tertiary education institutions			
18	Funds for R&D from non-profit organizations			
19	Funds for R&D from the European Commission			
20	Funds for R&D from international organizations		223	
21	Other			

The data in row 01 should equal the data in table 9, in row 1, column 1 (*total expenditure for R&D*). The amounts are to be indicated in thousands of dinars.

The sources are divided into two categories: the first category refer to domestic funding and the second to funding from abroad.

Within categories there are subcategories of funding. Under domestic funding (from the Republic of Serbia), several sources are proposed (ministries, funds, agencies) grouped under “*budgetary funds dedicated to R&D*” and “*funds for R&D from enterprises* “. In row 12 indicated are funds from own sources spent on R&D activity. The amounts of total funds as well as budgetary funds (rows 01 to 06) are further broken down in table 12.

The example show funds for R&D from the Ministry of Science and a minor part from local authorities, as well as funds received from international organisations.

**Table 11**

In table 11 entitled: "Value of R&D works (projects and studies), by fields of science and types of research (including also projects funded from own resources – in thous. RSD), 201\_" one should indicate the amount of funds spent on R&D, broken down by types of research and fields of science.

Fields of science		Total	Types of research		
			Basic	Applied	Development
a		1	2	3	4
01	<b>All</b>	39307	37 739		1568
02	Natural sciences, mathematics	39307	37 739		1568
03	Engineering and technology				
04	Social sciences				
05	Humanities				
06	Medical sciences				
07	Agricultural sciences				
08	Multidisciplinary sciences				

For ongoing projects (not completed), one should indicate the value of finishing stages of works up to 201\_. It is important to stress out that the data in column "Total" should equal the data in column "Total" in table 12. Also, it should be identical to the data indicated in table 9 under ordinal number 1 "Total expenditure for R&D in 201\_"

Use the annexed classification to determine the type of research a work belongs to.

- **BASIC RESEARCH** is a creative, systematic activity focused on acquiring new knowledge on the origin and causes of phenomena and facts, without any particular application or use in view. The results of a basic research are often formulated as general principles, theories or rules.
- **APPLIED RESEARCH** is undertaken whether to establish a possibility to use the results of a research, having in mind its practical application, or to find new methods or ways that facilitate the achievement of a particular objective set in advance. This survey starts from existing knowledge and examines it thoroughly in view of solving specific issues.
- **DEVELOPMENT RESEARCH** is a creative systematic activity based on the results of the basic and applied research, and practical knowledge directed towards introducing new materials, products, devices, processes and methods.

The main difference between the R&D activity and activities other than R&D is the presence or absence of elements of novelty or innovation to a greater extent. If an activity introduces significant improvement in technical characteristics, components and materials, software, user-orientation or other functional characteristics, i.e. uses a new or considerably improved product, process or service, as well as new organizational methods in business and work organization should be included in this survey.

The example above show the total funds invested in natural sciences and mathematics. A minor amount is invested in R&D, and more than 95% in basic researches.

**Table 12**

In table 12 entitle: “Funds for R&D by primary socio-economic objectives, 201\_ (in thous. RSD) “should indicate the total funds spent by primary socio-economic objectives and the amount of budgetary funds.

Primary socio-economic objectives		Total	Of which budgetary funds
<i>a</i>		<i>1</i>	<i>2</i>
<b>01</b>	<b>All (02+03+04+05+06+07+08+09+10+11+12+13+20+27)</b>	39307	37315
<b>02</b>	Exploration and exploitation of the Earth		
<b>03</b>	Environment		
<b>04</b>	Exploration and exploitation of space		
<b>05</b>	Transport, telecommunications and other infrastructure		
<b>06</b>	Production and rational utilization of energy		
<b>07</b>	Industrial production and technology		
<b>08</b>	Health		
<b>09</b>	Agriculture		
<b>10</b>	Education		
<b>11</b>	Culture, recreation, religion and mass media		
<b>12</b>	Political and social systems, structures and processes		
<b>13</b>	<b>General advancement of knowledge:- R&amp;D financed from General University Funds (total 14 to 19):</b>	39307	37315
14	R&D related to natural sciences, mathematics	39307	37315
15	R&D related to engineering sciences		
16	R&D related to medical sciences		
17	R&D related to agricultural sciences		
18	R&D related to social sciences		
19	R&D related to humanities		
<b>20</b>	<b>General advancement of knowledge:- R&amp;D financed from other sources than GUF (total 21 to 26):</b>		
21	R&D related to natural sciences, mathematics		
22	R&D related to engineering sciences		
23	R&D related to medical sciences		
24	R&D related to agricultural sciences		
25	R&D related to social sciences		
26	R&D related to humanities		
<b>27</b>	Defence		

The amounts of funds are distributed in 13 categories. The category “General advancement of knowledge” is divided in two groups. The first group: **R&D financed from general university funds**, is then broken down in fields of science. The specified category of funds represents the amount of resources from university funds, financed from public sources.

The second group: **R&D financed from other sources than GUF** show the amount of funds spent on R&D from other sources, other than public.

In the example above the total amount of funds for financing R&D has been invested in “general advancement of knowledge”. Knowing the fact that the reporting unit is a faculty within the University, and that the funds are budgetary funds), “General advancement of knowledge: **R&D financed from general university funds** are to be indicated in the category under ordinal number 13.

The data in the first row of column 2 of table 12 should equal the sum of the data under ordinal numbers 02 to 06 in table 10, budgetary funds for R&D.

Also, it is important that the total funds for/from R&D by primary socio-economic objectives under ordinal number 01 “All” in table 12 equal to the values specified in table 10 in row 01 “All”.

**Table 13**

In table 13 entitled: "Number of R&D works/projects and studies), by fields of science and type of research (to include also projects financed from own funds), 201\_"one should indicate the number of R&D works by field of science and type of research.

With this table, one should make sure that the indicated number of researches is entered under headings relative to their financial value in table 11.

Fields of science		Total	Types of research		
			Basic	Applied	Development
a		1	2	3	4
01	<b>All (02 to 08)</b>	7	5		2
02	Natural sciences, mathematics	7	5		2
03	Engineering and technology				
04	Social sciences				
05	Humanities				
06	Medical sciences				
07	Agricultural sciences				
08	Multidisciplinary sciences				

This example shows seven works which belong to the field of science: natural sciences, mathematics. Five works belong to basic researches and two to development researches. By comparing tables 13 and 11 it is obvious that the tables match because the number of works in table 13 is indicated under the same headings as in table 11 relative to their value.

It is particularly important to check that the row "All" in table 13 matches the row "All" in table 14.

**Table 14**

In table 14 entitled: "Number of R&D works by ordering party and type of research, 201\_"one should indicate the works by ordering party. The ordering party may be from Serbia or from abroad.

Ordering party		R&D works			
		Total (2 to 4)	Basic	Applied	Development
a		1	2	3	4
01	<b>All (02+09)</b>	7	5		2
02	<b>Inward – all (03 to 08)</b>	5	5		
03	For own account				
04	Enterprises in Serbia				
05	Ministry of Science	4	4		
06	Ministry of Education				
07	Other ministries				
08	Other	1	1		
09	<b>Outward – all (10 to 16)</b>	2			2
10	Enterprises	1			1
11	Other countries' governments				
12	Non-profit organisations				
13	Tertiary education institutions				
14	European Commission				
15	International organisations	1			1
16	Other				

The example shows that out of seven works, five are ordered from Serbia, and two from abroad. The number in row 01 "All" is distributed according to the type of works.

**Table 15**

In table 15 entitled: “*Published R&D articles and monographies, 201\_*“ the reporting units are required to indicate the number of R&D works published in publications, whether own, someone else’s in Serbia or abroad. Every published work is to be counted only once, whatever the type of publication and times it has been published.

Total		Published in publications		
		Own	Someone else’s in Serbia	Abroad
1		2	3	4
01	141		62	79

**Table 16**

In table 16 entitled: “*Inventions and patents, 201\_* „ one should indicated the number of inventions, number of pending patents in the Patent Office and registered patents in the Intellectual Property Office, number of inventions / patents sold in the country and abroad, as well as the number of inventions and patents being used for the first time in practice. The listed categories are further distributed according to R&D intensity.

R&D intensity	Tested inventions	Patents		Patents – inventions sold		First-time practical use of patents and inventions
		Pending patents in the Patent Office	Patents registered in the Patent Office	In Serbia	Abroad	
a	1	2	3	4	5	6
01	<b>Total (02 to 05)</b>	4				
02	High technology					
03	Medium high technology	4				
04	Medium low technology					
05	Low technology					

**High R&D intensity (“high technology”)** would largely correspond to R&D costs/sale above 4%;

**Medium R&D intensity** (“medium technology”) is R&D costs/sale ranging from 1 to 45 and **Low R&D intensity** (“low technology”) is R&D costs/sale below 1%.

According to the Law of Patents, a patent is the right which is recognized as an invention from any technical domain, which is new, has an inventive level and is applicable in industry. This is a subjective right that belongs to a physical or legal person provided the fulfilment of material and formal conditions stipulated by the law. An invention being protected by patent may be a product, procedure, use of a product or procedure applicability.

Small patent is any patent that is new, applicable in industry and has a lower level than the inventive one, but that surpasses routine technical use by professionals.

**Table 16**

In table 16a entitled: "Small inventions and patents, 201\_" one should indicate the number of small tested inventions and patents according to the same principle as in the previous table 16.

R&D intensity	Small tested inventions	Small patents		Small patents – inventions sold		First-time practical use of small patents and inventions
		Pending patents in the Patent Office	Patents registered in the Patent Office	In Serbia	Abroad	
<i>a</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
01	<b>Total (02 to 05)</b>					
02	High technology					
03	Medium high technology					
04	Medium low technology					
05	Low technology					

The example shows that there four patents pending in the Patent Office (table 16), that they belong to medium high R&D intensity. Further, the reporting does not have pending, registered or sold small patents and small inventions (table 16a).

At the end of the questionnaire one should indicate the date of data entry in the questionnaire, the interviewer's name and surname, contact telephone and electronic mail, as well as the name and surname of the manager of the reporting unit.

For more information please contact the Statistical Office of the Republic of Serbia in Belgrade, at: ++381 (0)11 2412 922, extension 425 or 357

- Annex: - Classification of Fields of Science
- Classification of Primary Socio-economic Objectives
  - Classification of Activities CA-2010

Dissemination and public relations unit

Phone: +38111 2401284

Email: [stat@stat.gov.rs](mailto:stat@stat.gov.rs)

Library

Phone: +38111 2412922, ext. 251

Email: [biblioteka@stat.gov.rs](mailto:biblioteka@stat.gov.rs)

Number of pages: 109