



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	Total (02+14+18+19+20)	54	29	32,5	18,5	11	8	43	21	21,5	10,5
02	Researchers – total (03 to 13)	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	Assistant researcher - total (15 to17)	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	Technicians										
19	Managers										
20	Other personnel (support)										

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: $20/40 = 0.5$ ¹

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.

¹http://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.²

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 All (02 to 06)	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.

² **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	Total (02 to 06)	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		All		Women		Doctoral degree		All		Women
a						1	2	3	4	5	6	7	8	9	10	11
01	Total (02 to 06)	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
a		1	2	3	4	5	6	7	8	9	10	11	12	13	14
01	Total (02 to 06)	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	Total (02 to 12)	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 came in Serbia in 2014		Researchers who went 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 Total (02 to 09)	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	Total expenditure for R&D (02+07+12)		39307	
02	Current costs	All (03+05+06)	32785	
03		Labour costs and employees' remunerations	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		Other current costs	All (08 to 11)	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	All (13+14+16+17+18)	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 ¹⁾			
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	Funds spent for R&D by sources - total (02 to 21)		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	All	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>
01	All (02+03+04+05+06+07+08+09+10+11+12+13+20+27)	39307	37315
02	Exploration and exploitation of the Earth		
03	Environment		
04	Exploration and exploitation of space		
05	Transport, telecommunications and other infrastructure		
06	Production and rational utilization of 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 General University Funds (total 14 to 19):	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		
20	General advancement of knowledge:- R&D financed from other sources than GUF (total 21 to 26):		
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		
27	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	All (02 to 08)	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	All (02+09)	7	5		2
02	Inward – all (03 to 08)	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	Outward – all (10 to 16)	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	Total (02 to 05)	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	Total (02 to 05)					
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