

Code of the survey: 021010

## ANNUAL REPORT ON THE SURVEY ON RESEARCH AND DEVELOPMENT FOR ENTERPRISES AND CENTRES OF EXCELLENCE, 2012

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**The data will be used exclusively for statistical purposes and will not be published as personal data.**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 enterprises as well as centers of excellence: centers for technology transfer, innovation centers, business and technical incubators and scientific and technological parks that carried out in 2012 R&D activities, according to the Law on Research and Development Activities ("Official Journal of the RS", numbers 110/05 and 18/2010). The reports are to be filled in and transmitted to the competent statistical office **not later than 20 May 2013**. 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. in the application for the registration of enterprises and centers of excellence.

The research unit should enter the full name of the enterprise/institutions 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 enterprise/institution should be shown in the tables.

--	--	--	--	--	--	--	--	--	--

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 R&D EMPLOYEES, EXPRESSED IN NUMBER OF PHYSICAL PERSONS AND FULL-TIME EQUIVALENT**

as of 31/ 12/ 2012

		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				Number of employees		Full-time equivalent	
		Total (5+7)	Women (6+8)	Total (5+9)	Women (6+10)	Total	Women	Total	Women	Total	Women
a		1	2	3	4	5	6	7	8	9	10
01	<b>Total (02 до 06)</b>										
02	Researchers										
03	Assistant researchers										
04	Technicians										
05	Managers										
06	Other personnel (auxiliary)										

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.).

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**.

**Example: 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)	3	= 1,5
2 persons work all the year round only 20% of work time	(2 x 0,2)	2	= 0,4
1 person works full-time	(1 x 0,5)	1	= 0,5
2 persons employed 8 months with 25% work time	(2 x 0,67 x 0,25)	2	= 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 2012**

		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				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/ 2012)**

		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 2012**

		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/ 2012)**

		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/ 2012)**

		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 до 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/ 2012)**

		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 до 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 2012 (as of 31/12/ 2012)		Researchers who <b>came</b> in Serbia in 2012		Researchers who <b>went</b> abroad in 2012		Planned number of researchers for 2013
		Total	Women	Total	Women	Total	Women	
a		1	2	3	4	5	6	7
01	<b>Total (02 до 05)</b>							
02	Serbia							
03	EU member countries							
04	Other European countries							
05	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 01/01/2012 and 21/12/2012 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/ 2012 and 31/12/ 2012.

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 2012 (in thousands RSD)**

Expenditures for R&D			Spent in 2012	Planned for 2013
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 2012 for R&D activities, as well as planned funds for 2013.

**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 2012**

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), 2012**

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 2012.

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

**12. FUNDS FOR R&D BY PRIMARY SOCIO-ECONOMIC OBJECTIVES, 2012 (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), 2012**

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, 2012**

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, 2012**

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, 2012**

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, 2012**

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 \_\_\_\_\_ 2013

Filled in by:

Manager:

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

(Seal)

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

Contact telephone: [ ][ ][ ][ ][ ] / [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]  
(area prefix compulsory)

## GENERAL DEFINITIONS AND EXPLANATIONS FOR FILLING IN THE FORM IR – 1

### COVERAGE

This form serves to collect data on R&D activities which have been carried out in enterprises, as well as in: centres for technology transfer, innovation centres, business and technological incubators, and scientific and technological parks in Serbia in 2012.

The status of centres 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.

The Act on the Creation of a Joint Centre of Excellence lays down mutual rights and obligations of centre's founder.

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, centres 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 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.

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 organisations;
- 5) Own income of R&D organisations;
- 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 programmes 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 programmes 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. programme 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 of Science, Culture and Other Social Activities Statistics, telephone number: 011 2412922, extension 357.