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Science, Technology and Innovation Statistics

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Indicators of innovation activities, 2020–2022

The share of business entities with at least one type of innovation is 51.14%. More than 67% of large business entities are innovative, about 56% of medium-sized business entities, while among small business entities about 50% are innovative. Innovative activities are almost equally distributed among business entities engaged in production and service activities – innovations were introduced by about 50% of business entities.

1. Enterprises by innovations, activities and size classes

	Total	Innovators	Non-innovative enterprises	Share of innovators (%)
Total	19367	9905	9462	51.14
Small enterprises	15849	7855	7994	49.56
Medium enterprises	2879	1618	1261	56.20
Large enterprises	639	432	207	67.61
Manufacturing enterprises	4951	2470	2481	49.89
Service enterprises	14416	7435	6981	51.57

Referring to regional distribution, product and process innovations had the share of over 47%, but they were not equally distributed by regions. Regional distribution of product and process innovations ranged from 48.2% (Beogradski region) to 8% (Region Južne i Istočne Srbije).

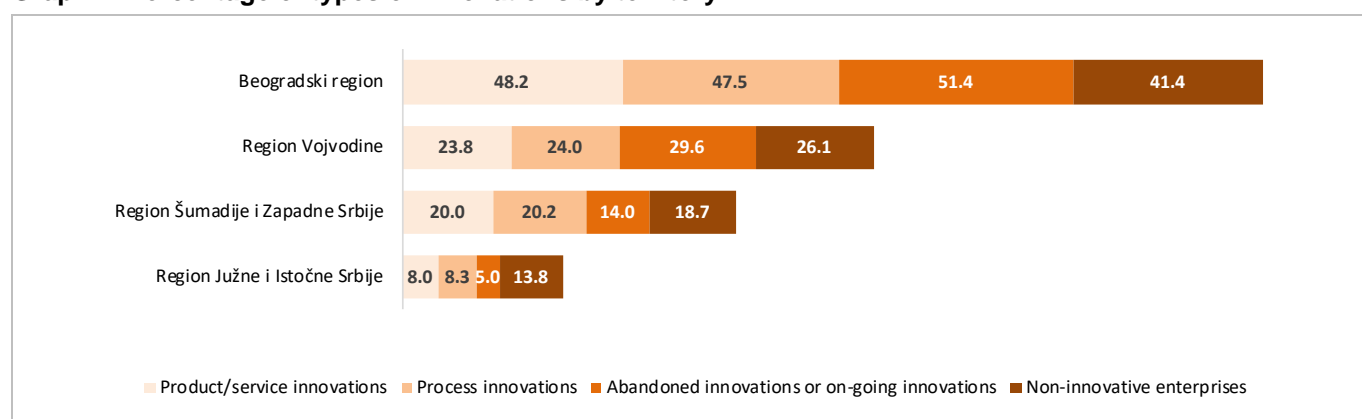
2. Share of types of innovations by territory and size classes of enterprises

Territory	Size class	Innovative enterprises			Non-innovative enterprises
		Product/service innovations	Process innovations	Abandoned innovations or on-going innovations	
REPUBLIC OF SERBIA	Total	7136	7989	984	9462
	Small	5758	6205	704	7994
	Medium	1060	1409	202	1261
	Large	318	375	78	207
Beogradski region	Total	3438	3792	506	3913
	Small	2841	3001	373	3327
	Medium	458	617	103	517
	Large	139	174	30	69
Region Vojvodine	Total	1695	1914	291	2472
	Small	1347	1457	206	2075
	Medium	265	370	62	330
	Large	83	87	23	67

2. Share of types of innovations by territory and size classes of enterprises (continued)

Territory	Size class	Innovative enterprises			Non-innovative enterprises
		Product/service innovations	Process innovations	Abandoned innovations or on-going innovations	
Region Sumadije i Zapadne Srbije	Total	1429	1617	138	1774
	Small	1150	1253	90	1513
	Medium	222	297	29	214
	Large	57	67	19	47
Region Juzne i Istocne Srbije	Total	574	667	49	1303
	Small	420	494	35	1079
	Medium	115	126	8	200
	Large	39	47	6	24
Region Kosovo i Metohija	Total

Graph 1. Percentage of types of innovations by territory



3. Enterprises by types of innovations and sections of activities

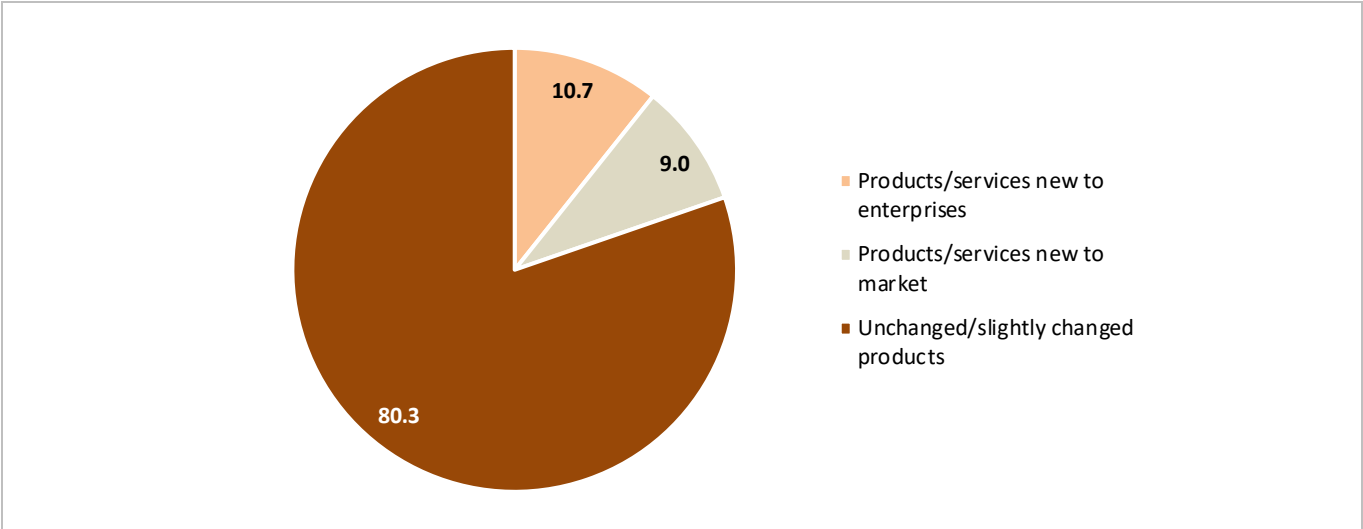
	Innovators								Non-innovators, %
	Total		Product/service innovators		Organizational/ marketing innovators		Product/process innovators and organizational/ marketing innovators		
	Number	%	Number	%	Number	%	Number	%	
Total	9905	51.1	7136	36.8	7989	41.3	984	5.1	48.9
A – Agriculture, forestry and fishing	157	39.7	76	19.2	129	32.7	22	5.6	60.3
B – Mining	17	23.3	14	19.2	10	13.7	2	2.7	76.7
C – Manufacturing	2268	51.5	1720	39.1	1809	41.1	302	6.9	48.5
D – Electricity, gas, steam and air conditioning supply	28	35.9	9	11.5	27	34.6	3	3.8	64.1
E – Water supply, sewerage and waste management and remediation activities	190	56.4	81	24.0	148	43.9	11	3.3	43.6
F – Construction	450	31.2	353	24.5	357	24.8	21	1.5	68.8
G – Wholesale and retail trade; repair of motor vehicles and motorcycles	2180	61.0	1524	42.6	1763	49.3	88	2.5	39.0
H – Transportation and storage	447	38.8	214	18.6	382	33.2	3	0.3	61.2
I – Accommodation and food service activities	492	64.5	404	52.9	369	48.4	30	3.9	35.5
J – Information and communications	1470	59.5	1130	45.8	1259	51.0	274	11.1	40.5
K – Financial and insurance activities	130	33.5	83	21.4	107	27.6	16	4.1	66.5
L – Real estate activities	28	28.9	20	20.6	28	28.9	-	-	71.1
M – Professional, scientific and technical activities	1726	50.6	1320	38.7	1331	39.0	193	5.7	49.4
N – Administrative and support activities	322	41.0	188	23.9	270	34.4	19	2.4	59.0

The largest percentage of innovative enterprises were in the section Accommodation and food service activities, 64.5% and Wholesale and retail trade and repair of motor vehicles, 61%, while the smallest percentage related to innovative enterprises in the section of Mining and quarrying, 23.3%.

Share in the total income from product/service innovations

In the structure of innovative enterprises' income, the share of income from sale of unchanged or slightly changed products was predominant and amounted to over 80%, while that of sale of products/services new to the enterprises, and that of sale of products/services new to market totalled to approximately 20%.

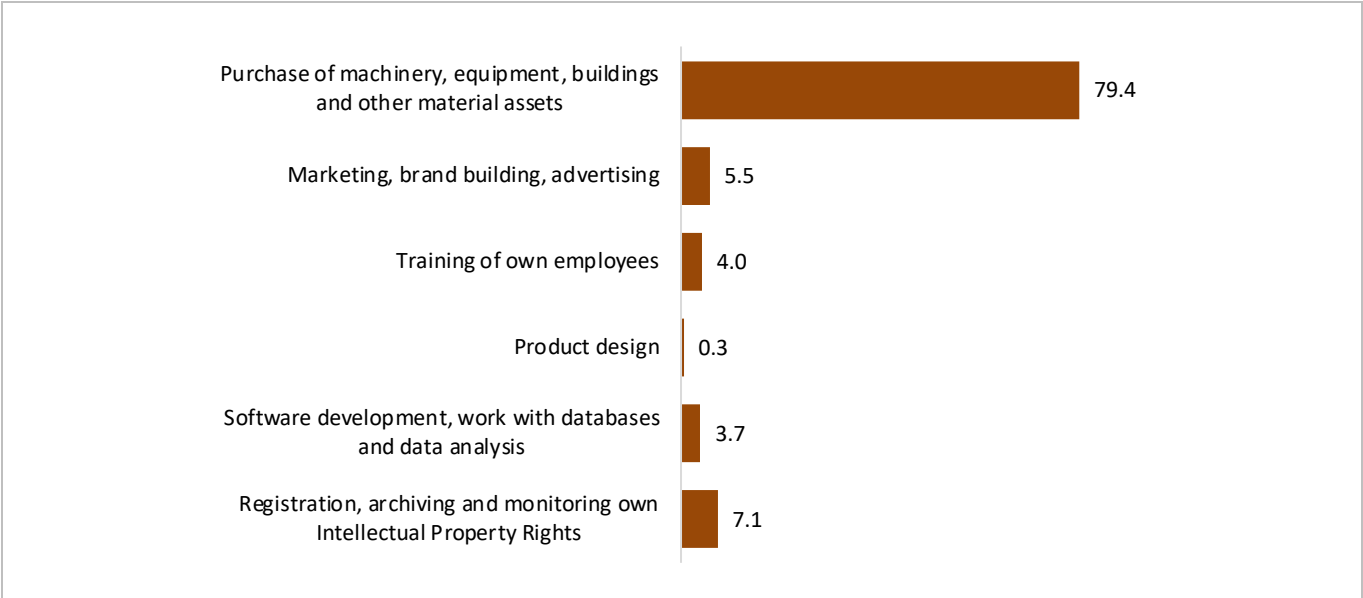
Graph. 2. Structure of innovators' income (%)



Innovation activities expenditures

The share of costs for the purchase of machinery and equipment is about 80% and represents the largest share of total expenditures for innovative activities of business entities, while about 20% of funds were invested in all other activities.

Chart 3. Structure of total enterprises' expenditures in 2022 (%)



4. Employees with tertiary education or education after the completed faculty (master. specialist. Mr. PHD)

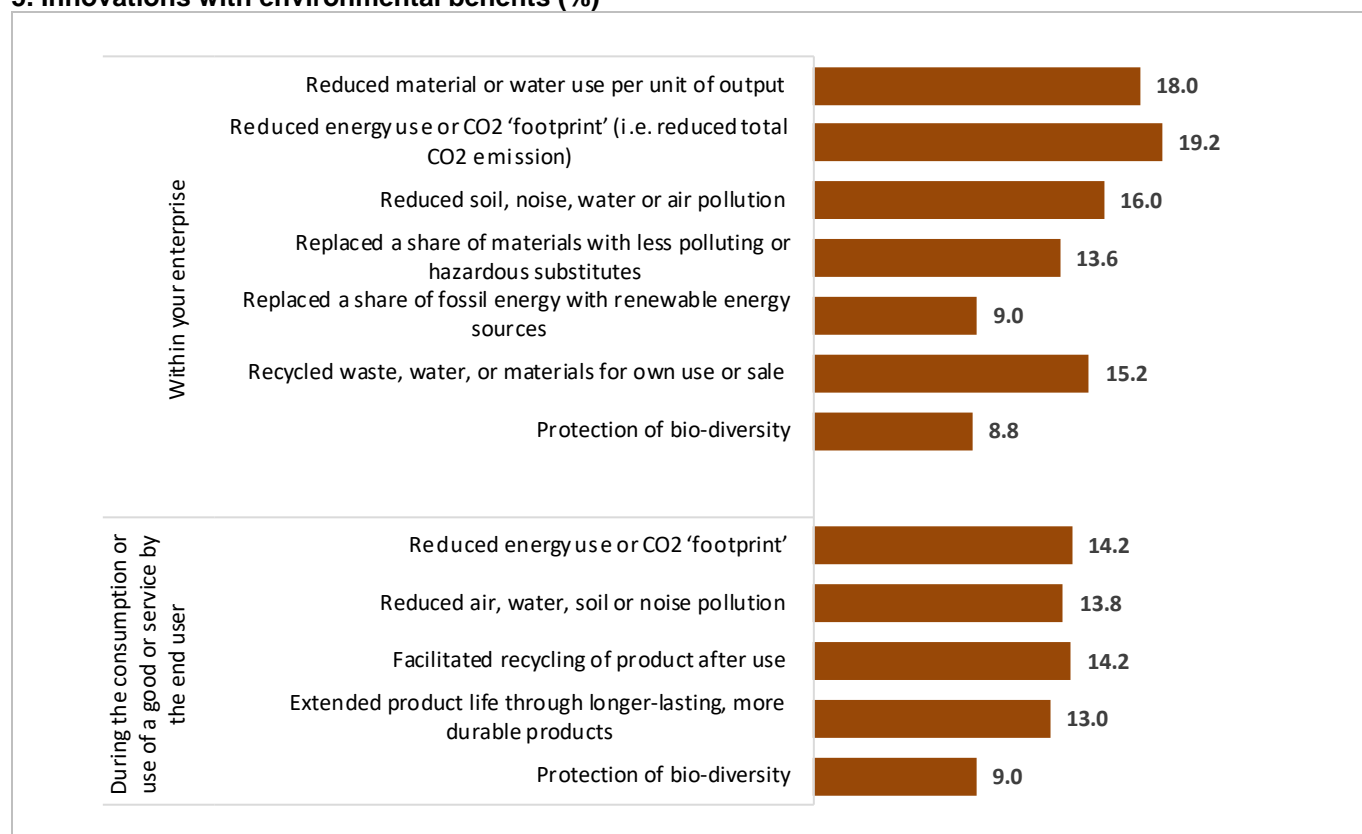
In total population of enterprises, about 9% are those with no employees who have completed tertiary education, which mostly refers to small enterprises. The greatest number of enterprises employees from 10% to 24% of tertiary educated persons, while more than a third part of large enterprises was with 10% to 24% of employees who have completed tertiary education.

	Employees with tertiary education or education after the completed faculty						
	0%	1–4%	5–9%	10–24%	25–49%	50–74%	75–100%
Total	9.0	19.4	12.2	19.0	13.6	10.0	16.8
Small	10.9	19.1	11.0	16.0	13.8	10.3	18.9
Medium	0.5	22.8	17.7	31.0	11.0	9.0	8.0
Large	0.2	9.6	18.8	37.4	20.0	8.5	5.5

Tax incentives for scientific research and other innovative activities were used by 1.9% of business entities, while 9.7% of business entities used tax incentives for other types of activities.

Environmental benefits

5. Innovations with environmental benefits (%)



Methodological remarks

The data presented in this statistical release are the result of the survey on innovative activities in business entities from 2020 to 2022. In the survey, innovative business entities are defined as business entities that introduced product or innovation process in the observed period or had innovations that have been abandoned or not yet completed. The key factor for the innovative activities of a particular business entity is the size of the entity.

Expenditures on innovative activities includes investments in new product development, investments in the introduction of new products on the market, funds aimed at significant improvement of the existing products, services or processes, as well as funds for innovation projects that have not been completed yet.

This survey includes the following expenditures for innovative activities of enterprises: acquisition of machinery, equipment, buildings and other tangible assets; Marketing, brand building, advertising (include in-house costs and purchased services); Training own staff (include all in-house costs including wages and salaries of staff while being trained, and costs of purchased services from others); Product design (include in-house costs and purchased services); Software development, database work and data analysis (include in-house costs and purchased services), as well as registering, filing and monitoring own Intellectual Property Rights (IPRs) and purchasing or licensing IPRs from others.

The survey on the innovation of business entities was conducted on the basis of a representative sample. The sample was allocated to the territory of the Republic of Serbia up to the level of regions, proportionally to the number of enterprises. The sample size was 3 695 small, medium and large enterprises. Large enterprises were fully covered. The sample frame covered active enterprises from the Statistical Business Register, containing 19 367 enterprises. The obtained results were weighted and calculated on the level of the population of enterprises.

The survey on enterprises was carried out on a stratified sample according to the size class of enterprises (small: from 10 to 49 employees, medium: from 50 to 249 employees and large: more than 250 employees) and according to activities (classes of activities according to CA 08) as well as according to territorial distribution up to the level of regions (NSTJ 2). Sample realization was over 77%. Approximately 2.2% of selected enterprises were not on the referent address, while about 20% of enterprises did not respond to the survey.

Starting from 1999 the Statistical Office of the Republic of Serbia does not have available data for AP Kosovo and Metohija therefore these data are not included in the coverage for the Republic of Serbia (total).