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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**

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| --- | --- | --- | --- | --- |
|   | 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**

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| --- | --- | --- | --- |
| Territory | Size class | Innovative enterprises | Non-innovative enterprises |
| Product/service innovations | Process innovations | Abandoned innovations or on-going innovations |
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|  |  |  |  |  |  |
| **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)

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| --- | --- | --- | --- |
| 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

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3. Enterprises by types of innovations and sections of activities

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| --- | --- | --- |
|  | 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 (%)**

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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 (%)**

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**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.

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| --- | --- |
|  | 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 (%)

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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 367enterprises. 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).

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| Contact: jasmina.krstic@stat.gov.rs phone: 011 6964-234 Published and printed by: Statistical Office of the Republic of Serbia. Belgrade. Milana Rakica 5. Phone: +381 11 2412922 ● Fax: +381 11 2411260 ● www.stat.gov.rs Responsible: Dr Miladin Kovačević. DirectorCirculation: 30 ● Issued Biannually |