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Domain: Research and Development, Innovation

Innovation in business enterprises in the period 2014-2016

- **The weight of innovative enterprises down 2.6 pp;**
- **Less innovation both in the industrial sector and in the services sector;**
- **Large enterprises more innovative than small and medium enterprises;**
- **The most innovative economic activities were: computer programming, consultancy and related activities (25.1%) and the manufacture of basic pharmaceutical products and pharmaceutical preparations (24.2%);**
- **More than half of the product (good) and process innovative enterprises developed innovations in their own enterprise;**
- **The public financing of enterprises in the period 2014-2016 increased by 17.6 pp compared to the period 2012-2014;**
- **The weight of the enterprises with co-operation agreements for innovative activities was up 2.5 pp in the period 2014-2016 from the period 2012-2014;**
- **The weight of employees in innovative enterprises decreased by 7.2 pp;**
- **The most innovative SMEs were recorded in the South-East Region (16.3%) and the least innovative in the South-West Oltenia Region (3.2%)**

The results of the survey on innovation in business enterprises show that **the weight of innovative enterprises was 10.2% in the period 2014-2016, a decrease of 2.6 pp** compared to the period 2012-2014.

Innovative product and/or process enterprises had a weight of 5.4% in total enterprises, 1.1 pp less compared to the period 2012-2014, when their weight was 6.5%.

Organisational and/or marketing method innovative enterprises had a weight of 7.7%, 1.7 pp less compared to the period 2012-2014, when their weight was 9.4%.

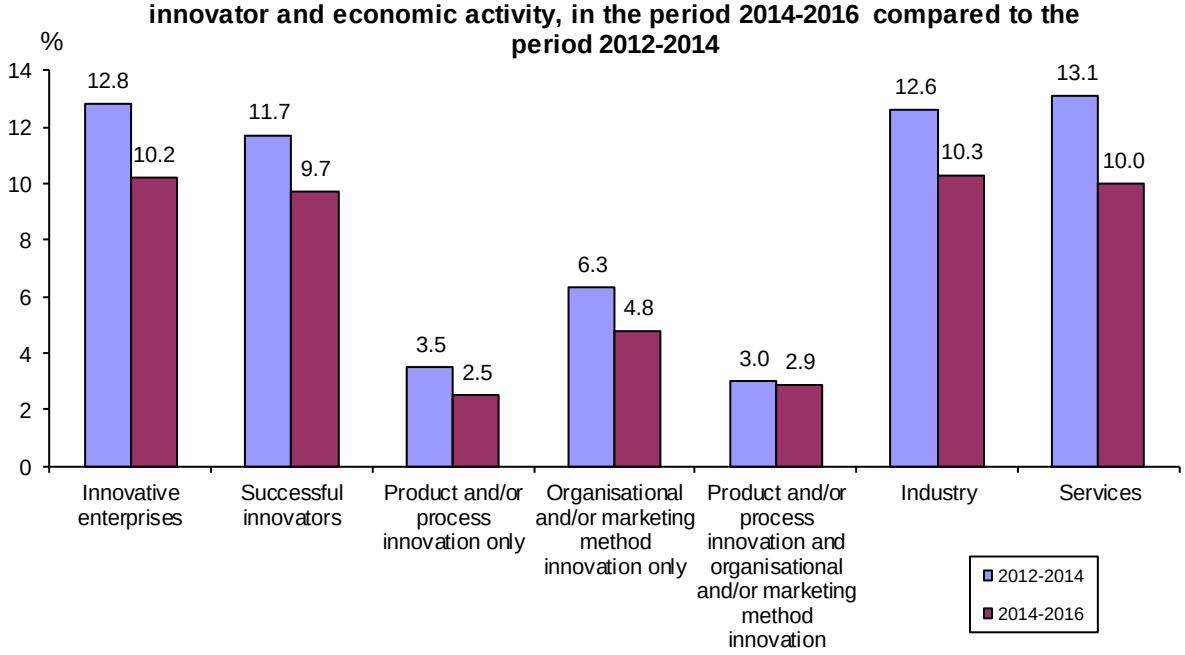
Table 1 The typology of innovators in the period 2014-2016

	Number of enterprises	Weight in total enterprises (%)
Total enterprises	28809	100.0
Innovative enterprises	2925	10.2
Successful innovators	2795	9.7
Product and/or process innovative enterprises (regardless of organisational and/or marketing innovations)	1556	5.4
Product-only innovative enterprises	430	1.5
Process-only innovative enterprises	478	1.7
Product and process innovative enterprises	518	1.8
Enterprises with on-going and/or abandoned product and/or process innovations	130	0.4
Organisational and/or marketing method innovative enterprises (regardless of product and/or process innovations)	2204	7.7
Organisational method-only innovative enterprises	741	2.6
Marketing method-only innovative enterprises	543	1.9
Organisational and marketing method innovative enterprises	920	3.2

Table data in xls format

The weight of **the innovative enterprises in the industrial sector** was 10.3%, 2.3 pp less compared to the period 2012-2014, while the weight recorded by the enterprises in the services sector was 10.0%, 3.1 pp less compared to the period 2012-2014.

Fig. 1 The weight of innovative enterprises in total enterprises, by type of innovator and economic activity, in the period 2014-2016 compared to the period 2012-2014



Graph data in xls format

By enterprise size class, **large enterprises are more innovative (17.9%)** compared to medium enterprises (11.9%) and small enterprises (9.3%). This trend was also noted in the two sectors of activity: industry and services.

However, some economic activities had high weights in terms of innovation. Thus, the most innovative economic activities in the services sector were computer programming, consultancy and related activities (25.1%), followed by scientific research and development (20.4%). In the industrial sector, the most innovative economic activity was the manufacture of basic pharmaceutical products and pharmaceutical preparations (24.2%), followed by the manufacture of chemicals and chemical products (19.7%).

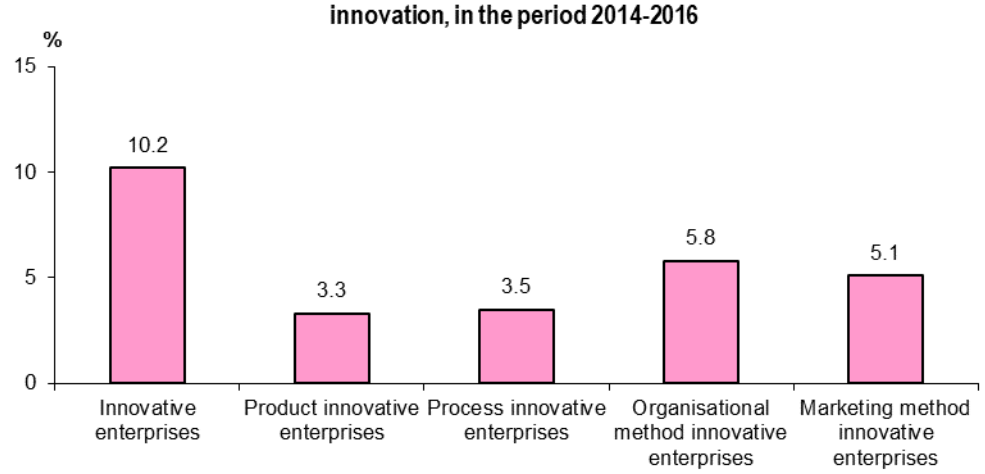
Table 2
The top ten innovative activities in the period 2014-2016

Top	Economic activity	%
1	Computer programming, consultancy and related activities	25.1
2	Manufacture of basic pharmaceutical products and pharmaceutical preparations	24.2
3	Scientific research and development	20.4
4	Manufacture of chemicals and chemical products	19.7
5	Repair and installation of machinery and equipment	19.1
6	Motion picture, video and television programme production, sound recording and music publishing activities	15.5
7	Manufacture of fabricated metal products, except machinery and equipment	15.0
8	Insurance, reinsurance and pension funding (except compulsory social security)	14.6
9	Manufacture of beverages	14.5
10	Extraction of crude petroleum and natural gas	14.3
	Manufacture of rubber and plastic products	14.3
	Manufacture of basic metals	14.3

Table data in xls format

In the period 2014-2016, **by type of implemented innovation** (regardless of other innovations), the highest weights were those of the innovative enterprises that implemented **organisational methods (5.8%)** and **marketing methods (5.1%)**. **The weight of product innovative enterprises** was **3.3%**, and that of **process** innovative enterprises was **3.5%**.

Fig. 2 The weight of innovative enterprises in total enterprises, by type of innovation, in the period 2014-2016



Graph data in xls format

In the period 2014-2016, the weight of the enterprises that introduced new products on the market increased by 0.1 pp (1.4% compared to 1.3%), while the weight of the enterprises that introduced new products only for the enterprise decreased by 0.3 pp (2.6% compared to 2.9% in the period 2012-2014).

In the period 2014-2016, **out of the total of product (good) innovative enterprises**, 52.2% **developed innovations in their own enterprise**, 25.2% introduced goods together with other enterprises, 6.0% made them by adapting or modifying the goods, and 2.2% were made in other enterprises.

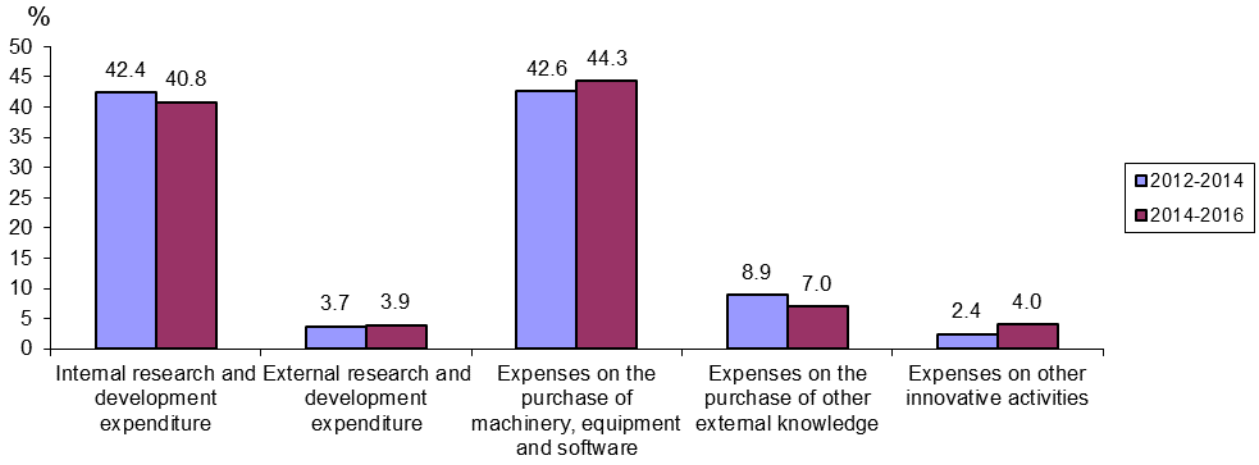
The most important market for the products is the **local or regional market**, mentioned by 90.5% of the total of innovative enterprises, followed by the national market (**74.3%**) and the European Union market (58.8%). Out of the total of innovative enterprises, only 31.2% declared that they sold their products in other countries.

In 2016, the total value of expenses on product and/or process innovation was **1814.2 million lei**.

Compared to 2014, by expenditure item, the weight of the expenses on the purchase of machinery, equipment and software increased by 1.7 percentage points (pp), that of the expenses on other innovative activities was up 1.6 pp, and that of the external research and development expenditure rose by 0.2 pp.

There were drops in the weights of the following expenditure items: the expenses on the purchase of other external knowledge (-1.9 pp) and the internal research and development expenditure (-1.6 pp).

Fig. 3 The weight of the expenditure of product and/or process innovative enterprises in the total innovation expenditure, by type of expense, in the period 2014-2016 compared to the period 2012-2014



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Compared to the period 2012-2014, in the period 2014-2016, **the public financing of enterprises increased by 17.6 pp, from 20.8% to 38.4%**.

In the period 2014-2016, the number of innovative enterprises with co-operation agreements **to perform innovative activities** was up 2.5 pp, reaching 17.9% compared to 15.4% in the period 2012-2014.

The main co-operation partners of innovative enterprises were the suppliers of equipment, materials, components or software (9.3%) and universities or other higher education institutions (9.1%). By economic sector, there is greater co-operation in industry than in services.

Table 3
The weight of the enterprises involved in co-operation, by size class, activity and type of partner, in the period 2014-2016

percentage

Type of partner	Enterprises				Activities	
	Total	Small	Medium	Large	Industry	Services
Any type of co-operation	17.9	18.6	13.8	23.3	21.8	13.8
Other enterprises within the group	3.0	2.2	2.5	12.1	4.0	2.0
Suppliers of equipment, materials, components or software	9.3	7.9	11.5	16.6	8.6	10.1
Clients or purchasers from the public sector	2.4	2.0	2.2	6.3	1.5	3.2
Clients or purchasers from the private sector	7.7	7.8	5.6	13.0	9.7	5.7
Competitors or other enterprises of the same sector	2.6	2.0	2.6	8.5	1.8	3.5
Consultants, commercial labs	4.6	4.7	3.3	7.6	6.6	2.5
Universities or other higher education institutions	9.1	10.7	4.0	8.1	11.3	6.8
Government, public research institutes	4.9	5.4	2.2	8.1	5.0	4.7
Private research institutes	3.7	3.9	2.8	4.9	3.7	3.8

Table data in xls format

Innovative enterprises also identified a number of factors as obstacles to innovation. In the period 2014-2016, **the notably high innovation costs** were **the most important obstacle to achieving the objectives** of enterprises.

According to most innovative enterprises, the legislative acts or regulations on innovative activities did not pose major problems.

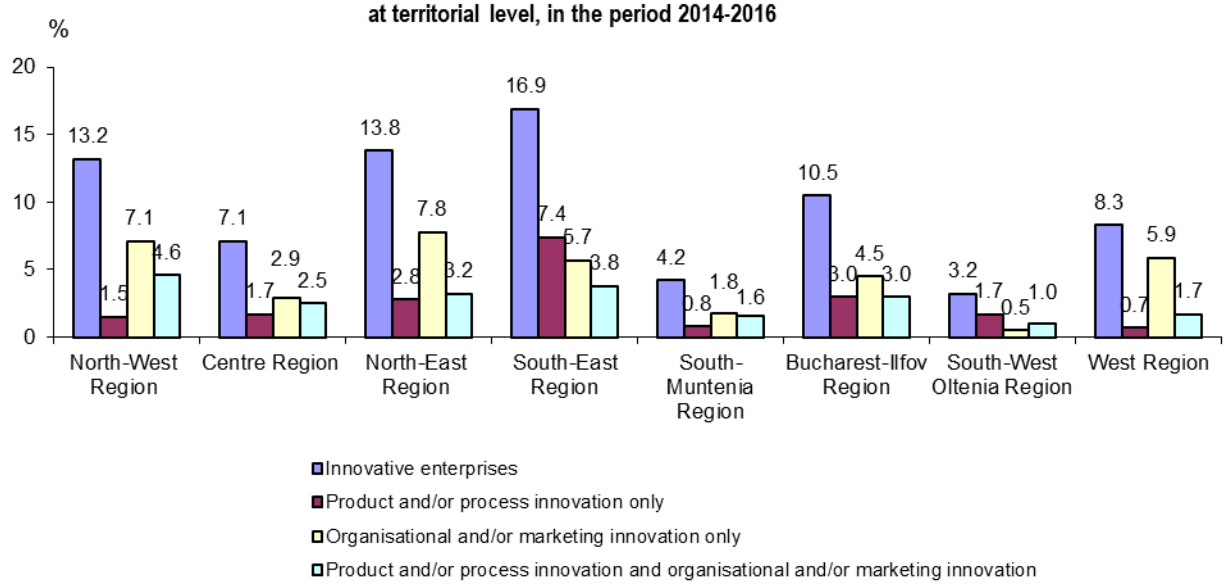
In the statistical survey on innovation for the period 2014-2016 new types of innovations were tested, namely the innovations in logistics. Out of the total enterprises with innovations in logistics, 4.0% said that the introduction of this type of innovation led to the improvement of the performance of the enterprise.

Innovation at territorial level[1]

In the period 2014-2016, the highest weights were recorded in the South-East Region (16.9%) and in the North-East Region (13.8%), and the lowest weights were reported in the South-West Oltenia Region (3.2%) and in the South-Muntenia Region (4.2%).

[1] The statistical survey on innovation observed the enterprises based on their headquarters, regardless of the region where the enterprise or the place of activity is located.

Fig. 4 The weight of innovative enterprises in total enterprises, by type of innovation, at territorial level, in the period 2014-2016



Graph data in xls format

The most innovative small and medium enterprises (SMEs) were recorded in the South-East Region (16.3%) and in the North-East Region (13.6%), and the least innovative were reported in the South-West Oltenia Region (3.2%).

At territorial level, the most process (8.0%) and product (4.8%) innovative SMEs were recorded in the South-East Region, and the North-West Region had the most organisation method (10.0%) and marketing method (9.1%) innovative SMEs.

The North-East Region had the highest weight of innovative SMEs that **received public financing (3.4%)**, and the greatest number of SMEs that **co-operated** with other enterprises or institutions on innovative activities was reported in the North-West Region (2.6%).

The most innovative SMEs in terms of **new products for the enterprise** (2.0%) were those of the South-East Region, and the most innovative SMEs in terms of **new products on the market** (0.6%) were those of the Bucharest-Ilfov Region.

Additional information:

For the correct interpretation of the indicators, kindly see the Methodological Note attached to the press release on the homepage.

Additional information and final data can be obtained from the statistical publication "Innovation in business enterprises for the period 2014-2016", date of issue 10.08.2018.

The next press release, with provisional data, will be issued on February 24, 2020.

Press release archive: http://www.insse.ro/cms/en/content/comunicate-de-presa-view

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