



Ministry of Economic Development
of the Russian Federation



Federal State
Statistics Service



HIGHER SCHOOL OF ECONOMICS
NATIONAL RESEARCH UNIVERSITY

Indicators of Innovation in the Russian Federation

Data book



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of the Russian Federation



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NATIONAL RESEARCH UNIVERSITY

Indicators of Innovation in the Russian Federation

Data Book

Moscow 2016

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This data book presents the results of statistical surveys characterising innovation processes in the economy of the Russian Federation. The consolidated indicators showing the level of development of technological and non-technological innovation were produced in accordance with modern international standards of the Organisation for Economic Co-operation and Development (OECD) and Eurostat and show the modern tendencies. The book contains statistical data reflecting the innovative activity of enterprises in the sphere of production, manufacture and services. The book focuses on resources provision, the effects and efficiency of innovative activity, co-operation ties, and economic, industrial and other factors hampering innovation. One chapter is specifically dedicated to ecological innovation. Separate chapters are devoted to the characteristics of innovative activity in the regions of the Russian Federation and to international comparisons covering a wide range of indicators.

The data book includes information of the Federal State Statistics Service, the OECD, the European Commission, Eurostat, National Statistical Agencies of Foreign Countries, as well as methodological and analytical studies conducted at Institute for Statistical Studies and Economics of Knowledge at National Research University Higher School of Economics.

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CONTENTS

Main Indicators of Innovation.....	11	1.10. Percentage distribution of enterprises engaged in technological innovation and technology exchange by country and region.....	33
1. Main Innovation Trends.....	15	1.11. Joint R&D projects of enterprises engaged in technological innovation	35
1.1. Innovative activity of enterprises.....	16	1.12. Expenditure on technological innovation.....	37
1.2. Enterprises engaged in selected types of innovative activity as a percentage of all enterprises engaged in technological innovation	18	1.13. Expenditure on technological innovation by source of funds	39
1.3. R&D units at enterprises engaged in technological innovation	22	1.14. Expenditure on technological innovation as a percentage of total expenditure by innovative activity.....	41
1.4. Sales of innovative goods and services	24	1.15. Sources of information for technological innovation by rank of importance	45
1.5. Exports of innovative goods and services	26	1.16. Methods of innovation protection at enterprises engaged in technological innovation by rank of importance	47
1.6. Innovative goods and services as a share of national and foreign market sales	27	1.17. Factors hampering technological innovation by rank of importance	49
1.7. Distribution of innovative goods and services exports.....	28	2. Innovative Activity of Enterprises	51
1.8. Effects of technological innovation by rank of importance	29	2.1. Innovative activity of enterprises by economic activity	52
1.9. Enterprises engaged in technology exchange as a percentage of all enterprises engaged in technological innovation	31		

2.2. Percentage distribution of enterprises engaged in technological, marketing, and organisational innovation by economic activity	55	2.11. Percentage distribution of expenditure on technological, marketing, and organisational innovation by innovation type	68
2.3. Enterprises engaged in technological, marketing, and organisational innovation as a percentage of all enterprises by economic activity	57	2.12. Percentage distribution of expenditure on technological, marketing, and organisational innovation by innovation type and economic activity	70
2.4. Innovative activity of enterprises by size	59	2.13. Percentage distribution of expenditure on technological, marketing, and organisational innovation by innovation type and size	73
2.5. Percentage distribution of enterprises engaged in technological, marketing, and organisational innovation by size	60	2.14. Percentage distribution of expenditure on technological, marketing, and organisational innovation by innovation type and ownership of enterprises	74
2.6. Innovative activity of enterprises by type of ownership	61	2.15. Intensity of expenditure on technological, marketing, and organisational innovation by economic activity	75
2.7. Percentage distribution of enterprises engaged in technological, marketing, and organisational innovation by type of ownership	62	2.16. Intensity of expenditure on technological, marketing, and organisational innovation by size	77
2.8. Expenditure on technological, marketing, and organisational innovation by economic activity	63	2.17. Intensity of expenditure on technological, marketing, and organisational innovation by type of ownership	78
2.9. Expenditure on technological, marketing, and organisational innovation by size	66	2.18. Effects of innovation: 2012–2014	79
2.10. Expenditure on technological, marketing, and organisational innovation by type of ownership	67		

3. Technological Innovation83

3.1. Enterprises engaged in technological innovation as a percentage of all enterprises by economic activity	84
3.2. Enterprises engaged in product and process innovation-related activity as a percentage of all enterprises engaged in technological innovation by economic activity	86
3.3. Enterprises engaged in technological and marketing innovation as a percentage of all enterprises engaged in technological innovation by economic activity	89
3.4. Percentage distribution of enterprises engaged in technological and marketing innovation by economic activity	91
3.5. Enterprises engaged in technological and organisational innovation as a percentage of all enterprises engaged in technological innovation activity by economic activity.....	93
3.6. Percentage distribution of enterprises engaged in technological and organisational innovation by economic activity	95

3.7. Percentage distribution of enterprises engaged in technological innovation by innovative activity	97
3.8. Enterprises engaged in selected types of innovative activity as a percentage of all enterprises engaged in technological innovation by economic activity: 2014	99
3.9. Percentage distribution of enterprises engaged in technological innovation by innovative and economic activity: 2014	102
3.10. Enterprises having in-house R&D, project, and design units as a percentage of all enterprises by economic activity	105
3.11. R&D units and their employment by economic activity	108
3.12. R&D personnel as a percentage of total employment at enterprises engaged in technological innovation by economic activity	111
3.13. Co-operation in development of technological innovations: 2014	113
3.14. Sales of goods and services of enterprises engaged and not engaged in technological innovation as a percentage of total goods and services sales by economic activity: 2014	116

3.15. Sales of innovative goods and services by economic activity	118	3.23. Exports of innovative goods and services by country and by economic activity.....	137
3.16. Sales of innovative goods and services by degree of novelty and economic activity	121	3.24. Enterprises engaged in technology exchange as a percentage of all enterprises by economic activity	140
3.17. Innovative goods and services as a percentage of total goods and services sales by degree of novelty and economic activity: 2014	124	3.25. Enterprises engaged in technology exchange as a percentage of all enterprises engaged in technological innovation by economic activity: 2014	143
3.18. New or technologically new innovative goods and services new to the enterprise's market by economic activity	126	3.26. Enterprises engaged in technological innovation acquiring technology outside Russia by economic activity	145
3.19. New or technologically new innovative goods and services new to the world market by economic activity	128	3.27. Enterprises engaged in technological innovation transferring technology outside Russia by economic activity	148
3.20. New or technologically new innovative goods and services new to the enterprise but not new to the market by economic activity	130	3.28. Forms of technology acquisition by enterprises engaged in technological innovation by economic activity: 2014	151
3.21. Sales of innovative goods and services according to state and municipal contracts by economic activity: 2014.....	132	3.29. Forms of technology transfer at enterprises engaged in technological innovation by economic activity: 2014	154
3.22. Exports of innovative and technologically unchanged goods and services by economic activity	134	3.30. Technology acquisition and transfer by enterprises engaged in technological innovation: 2014.....	157

3.31. Enterprises engaged in joint R&D projects: 2014	158	3.40. Expenditure on technological innovation by economic activity	182
3.32. Enterprises taking part in joint R&D projects by economic activity	159	3.41. Expenditure on technological innovation by innovative and economic activity: 2014	185
3.33. Enterprises engaged in technological innovation and joint R&D projects by partner country by economic activity	162	3.42. Percentage distribution of expenditure on technological innovation by innovative and economic activity: 2014	188
3.34. Enterprises engaged in technological innovation and joint R&D projects by type of partner and economic activity: 2014.....	165	3.43. Expenditure on technological innovation by source of funds and economic activity: 2014	191
3.35. Enterprises engaged in technological innovation and joint R&D projects by type of co-operation and economic activity	168	3.44. Percentage distribution of expenditure on technological innovation by source of funds and economic activity: 2014.....	194
3.36. Joint R&D projects of enterprises engaged in technological innovation by economic activity.....	171	3.45. Intensity of expenditure on technological innovation by economic activity	197
3.37. Joint R&D projects of enterprises engaged in technological innovation by type of partner and economic activity: 2014.....	174	3.46. Percentage distribution of enterprises engaged in patent activities: 2014	199
3.38. Joint R&D projects of enterprises engaged in technological innovation by type of co-operation and economic activity	177	3.47. Enterprises engaged in patent activities as a percentage of all enterprises engaged in technological innovation by economic activity: 2014	200
3.39. Technological partnership in R&D at enterprises engaged in technological innovation: 2014.....	180	3.48. Intellectual property at enterprises: 2014	203

3.49. Patented inventions of enterprises engaged in technological innovation by economic activity: 2014	204
3.50. Enterprises considering sources of information as principal for technological innovation as a percentage of all enterprises	207
3.51. Enterprises considering methods used to protect value of innovation as principal as a percentage of all enterprises engaged in technological innovation	209
3.52. Enterprises considering factors hampering technological innovation as principal as a percentage of all enterprises	211

4. Marketing Innovation213

4.1. Enterprises engaged in marketing innovation as a percentage of all enterprises by economic activity	214
4.2. Co-operation in development of marketing innovation: 2014.....	216
4.3. Sales of goods and services produced using marketing innovation by economic activity.....	219
4.4. Expenditure on marketing innovation by economic activity	221

4.5. Enterprises introducing selected types of marketing changes as a percentage of the total number of enterprises that had market-ready marketing innovations during the last three years by innovation and economic activity: 2014.....	223
--	-----

5. Organisational Innovation227

5.1. Enterprises engaged in organisational innovation as a percentage of all enterprises by economic activity	228
5.2. Co-operation in development of organisational innovation: 2014.....	230
5.3. Expenditure on organisational innovation by economic activity	233
5.4. Enterprises introducing selected types of organisational changes as a percentage of the total number of enterprises that had market-ready organisational innovations during the last three years by type of innovation and economic activity: 2014	236

6. Innovative Activity in Russian Regions241

6.1. Enterprises engaged in technological, marketing, and organisational innovation	242
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6.2. Enterprises engaged in selected types of innovative activity as a percentage of all enterprises engaged in technological innovation: 2014	252
6.3. Sales of innovative goods and services	257
6.4. Enterprises taking part in joint R&D projects	262
6.5. Expenditure on technological innovation.....	270
6.6. Percentage distribution of expenditure on technological innovation by type of innovative activity: 2014	275

7. Ecological Innovation283

7.1. Enterprises engaged in ecological innovation as a percentage of all enterprises that had market-ready innovations during the last three years: 2014.....	284
7.2. Enterprises having introduced innovations providing increased environmental safety in the process of production of goods or services: 2014	286
7.3. Enterprises having introduced innovations providing increased environmental safety as a result of using a good or service: 2014	289

7.4. Percentage distribution of enterprises engaged in ecological innovation by purpose and economic activity: 2014.....	292
7.5. Enterprises using systems of environmental pollution control as a percentage of all enterprises: 2014	295
7.6. Expenditure on ecological innovation: 2014.....	297

8. International Comparisons299

8.1. Innovative activity of enterprises	300
8.2. Enterprises engaged in technological innovation as a percentage of all enterprises	301
8.3. Enterprises engaged in technological innovation as a percentage of all enterprises in non-EU countries: 2014	302
8.4. Enterprises engaged in marketing innovation as a percentage of all enterprises: 2014	303
8.5. Enterprises engaged in organisational innovation as a percentage of all enterprises: 2014	304
8.6. Main indicators of innovation for CIS countries: 2014	305
8.7. Enterprises having received federal budget appropriations as a percentage of all enterprises engaged in technological innovation	306

8.8. Intensity of expenditure on technological innovation	307	8.11. Enterprises taking part in joint R&D projects as a percentage of all enterprises engaged in technological innovation by partner country.....	311
8.9. Innovative goods and services as a percentage of total goods and services sales	308	8.12. Enterprises considering sources of information as principal as a percentage of all enterprises engaged in technological innovation: 2014.....	313
8.10. Enterprises taking part in joint R&D projects as a percentage of all enterprises engaged in technological innovation	310	Technical notes.....	317

SYMBOLS USED IN TABLES:

- ... data not available and not included in the totals,
- data not applicable,
- 0.0 insignificant value.

In some tables, details may not add up to the total because of rounding.

MAIN INDICATORS OF INNOVATION

	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Enterprises engaged in technological innovation as a percentage of all enterprises:														
mining and quarrying, manufacturing, electricity, gas and water supply	10.6	9.8	10.3	10.5	9.3	9.4	9.4	9.6	9.4	9.3	9.6	9.9	9.7	9.7
communication, computer and information technology-related activities*	12.1	13.5	14.3	14.7	15.3	12.5	11.2	10.9	10.1	10.8	9.9	10.3	10.3	9.5
Innovative goods and services as a percentage of total goods and services sales:														
mining and quarrying, manufacturing, electricity, gas and water supply	4.4	4.3	4.7	5.4	5.0	5.5	5.5	5.1	4.6	4.9	6.1	7.8	8.9	8.2
communication, computer and information technology-related activities	16.9	2.8	8.9	8.4	8.6	8.3	4.2	4.2	3.8	4.7	4.8	3.0	3.9	3.3
Expenditure on technological innovation, million roubles:														
mining and quarrying, manufacturing, electricity, gas and water supply:														
at current prices	49428.0	86394.6	105444.7	122850.5	125678.2	188492.2	207499.2	276262.3	358861.1	349763.3	469442.2	583660.6	746778.2	762774.1
at constant 1995 prices	10462.7	13590.9	14576.3	14116.7	12105.3	15760.0	15245.3	17201.2	21906.1	18695.9	21650.6	25063.7	30541.2	29100.2
communication, computer and information technology-related activities:														
at current prices	11794.1	6049.3	14782.7	19495.3	17544.4	18892.4	25125.5	24148.0	32790.9	38684.0	137754.0	83230.6	66133.4	47066.3
at constant 1995 prices	2496.5	951.6	2043.5	2240.2	1689.9	1579.6	1846.0	1503.6	2001.7	2067.8	6353.2	3574.1	2704.7	1795.6

(continued)

	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Expenditure on technological innovation as a percentage of total goods and services sales:														
mining and quarrying, manufacturing, electricity, gas and water supply	1.4	1.8	1.6	1.5	1.2	1.4	1.2	1.4	1.9	1.5	1.5	1.8	2.2	2.1
communication, computer and information technology-related activities	11.1	3.9	6.5	5.9	3.5	2.7	2.7	2.1	2.7	2.9	8.8	4.4	3.6	2.4
Overall share of innovative enterprise (enterprises engaged in technological, marketing, and organisational innovation as a percentage of all enterprises):														
mining and quarrying, manufacturing, electricity, gas and water supply	...	...	...	...	...	10.6	10.8	11.0	11.0	10.8	11.1	11.1	10.9	10.9
communication, computer and information technology-related activities	...	...	...	...	...	15.6	13.5	13.4	13.2	13.6	12.1	11.7	12.2	10.7
Enterprises engaged in marketing innovation as a percentage of all enterprises:														
mining and quarrying, manufacturing, electricity, gas and water supply	...	...	...	...	...	2.3	2.5	2.6	2.4	2.5	2.5	2.2	2.1	2.0
communication, computer and information technology-related activities	...	...	...	...	...	4.4	.5	4.5	4.7	4.7	3.9	3.2	3.1	2.3

(continued)

	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Enterprises engaged in organisational innovation as a percentage of all enterprises:														
mining and quarrying, manufacturing, electricity, gas and water supply	3.2	3.5	3.5	3.7	3.4	3.5	3.2	3.1	3.0
communication, computer and information technology-related activities	5.4	4.8	4.5	4.7	5.1	3.9	3.6	3.5	3.4
Expenditure on technological, marketing, and organisational innovation, million roubles:														
mining and quarrying, manufacturing, electricity, gas and water supply:														
at current prices	191341.5	213020.1	283194.8	365785.1	356163.5	474587.1	590341.6	756183.9	778263.5
at constant 1995 prices	15998.2	15650.9	17632.9	22328.7	19038.0	21887.9	25350.6	30925.9	29691.1
communication, computer and information technology-related activities:														
at current prices	20010.5	26405.2	27076.7	34821.9	40223.1	146419.4	86002.9	68115.1	48612.3
at constant 1995 prices	1673.1	1940.0	1685.9	2125.6	2150.0	6752.9	3693.2	2785.7	1854.6
Expenditure on technological, marketing, and organisational innovation as a percentage of total goods and services sales:														
mining and quarrying, manufacturing, electricity, gas and water supply	1.5	1.3	1.4	1.9	1.5	1.6	1.8	2.2	2.1
communication, computer and information technology-related activities	2.7	2.8	2.3	2.8	3.0	9.4	8.6	3.7	2.5

(continued)

	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Small enterprises engaged in technological innovation as a percentage of all small enterprises:														
mining and quarrying, manufacturing, electricity, gas and water supply	1.3	...	1.6	...	1.6	...	4.3	...	4.1	...	5.1	...	4.8	...
Innovative goods and services as a percentage of total goods and services sales of small enterprises:														
mining and quarrying, manufacturing, electricity, gas and water supply	0.6	...	0.3	...	0.3	...	2.0	...	1.4	...	1.5	...	2.1	...
Expenditure on technological innovation of small enterprises, <i>million roubles</i> :														
mining and quarrying, manufacturing, electricity, gas and water supply:														
at current prices	867.6	...	1296.5	...	1932.7	...	10608.2	...	6793.5	...	9479.3	...	13510.5	...
at constant 1995 prices	183.7	...	179.2	...	186.2	...	779.4	...	414.7	...	437.2	...	547.3	...
Expenditure on technological innovation as a percentage of total goods and services sales of small enterprises:														
mining and quarrying, manufacturing, electricity, gas and water supply	0.6	...	0.4	...	0.2	...	1.7	...	0.9	...	0.9	...	1.0	...

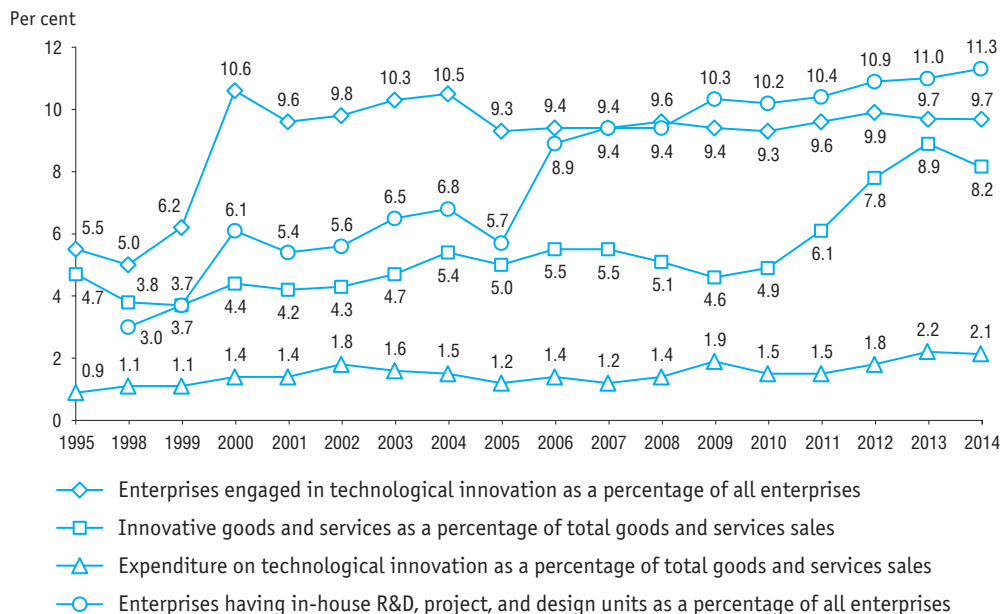
* Unlike other service sector firms the enterprises engaged in communication and computer and information technology-related activities were the focus of statistical monitoring in the sphere of service sector innovative activity during the entire period under review.



1. Main Innovation Trends

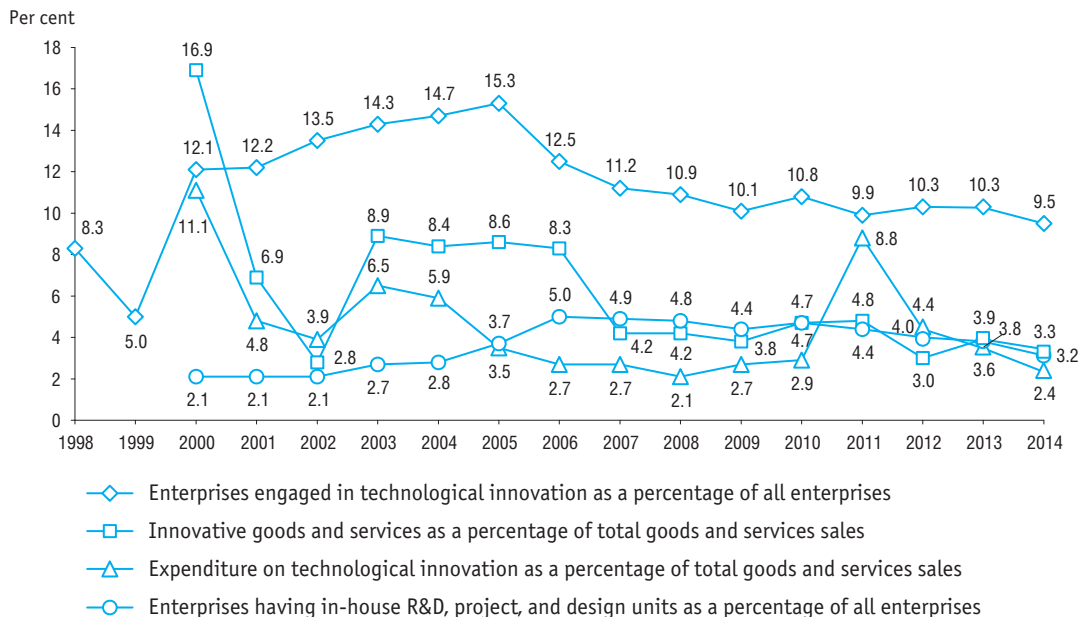
1.1. INNOVATIVE ACTIVITY OF ENTERPRISES

Mining and quarrying, manufacturing, electricity, gas and water supply



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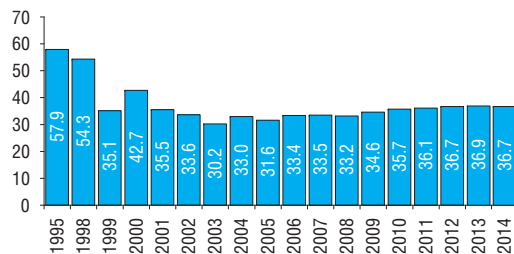
Communication, computer and information technology-related activities



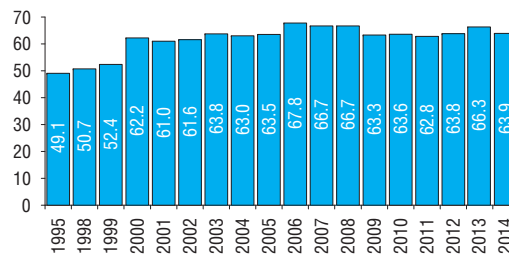
1.2. ENTERPRISES ENGAGED IN SELECTED TYPES OF INNOVATIVE ACTIVITY AS A PERCENTAGE OF ALL ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION

Mining and quarrying, manufacturing, electricity, gas and water supply

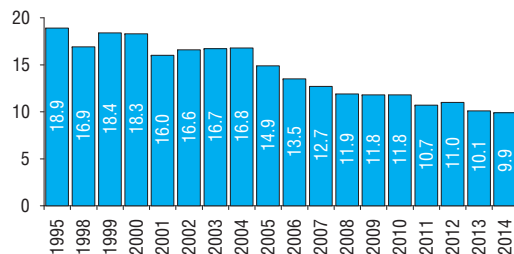
R&D



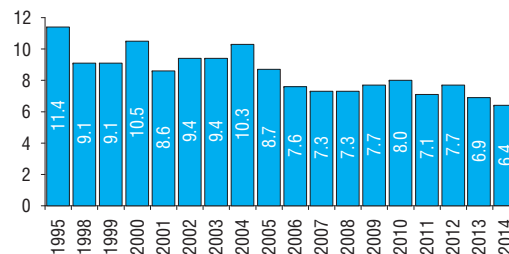
Acquisition of machinery and equipment



Acquisition of new technology

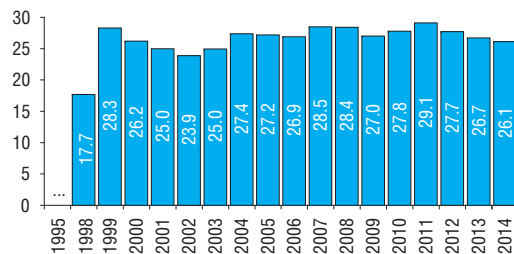


Acquisition of patent rights and licences

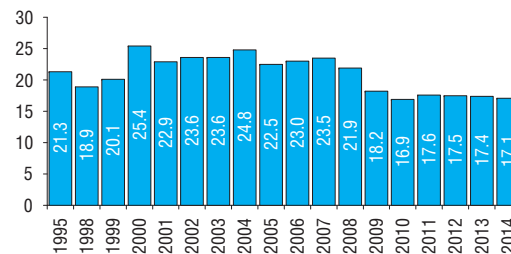


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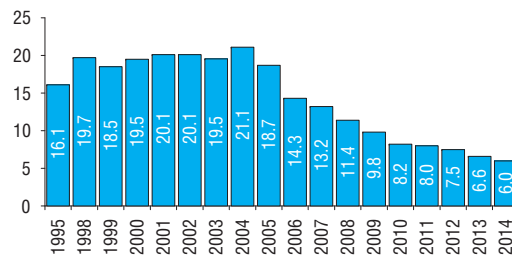
Acquisition of software



Personnel training



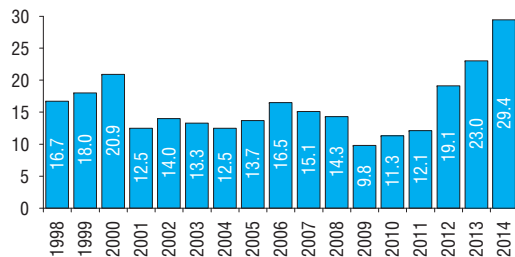
Market research



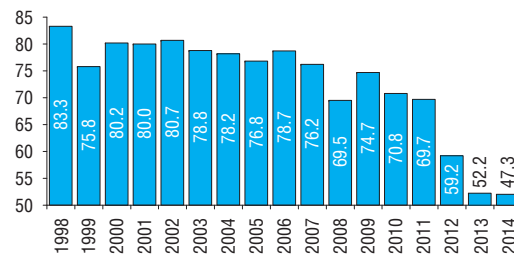
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Communication, computer and information technology-related activities

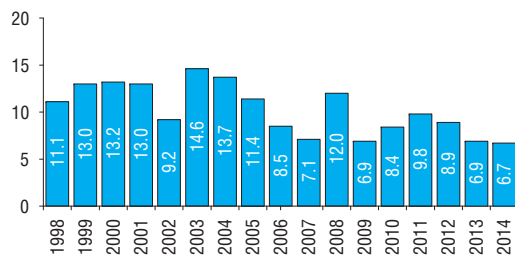
R&D



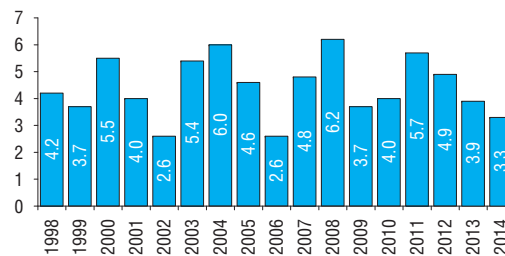
Acquisition of machinery and equipment



Acquisition of new technology

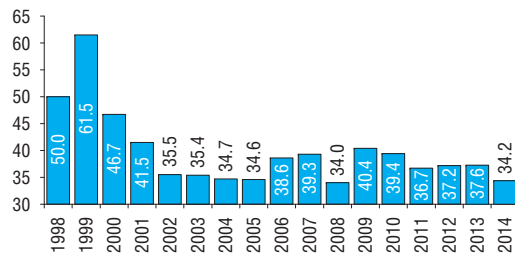


Acquisition of patent rights and licences

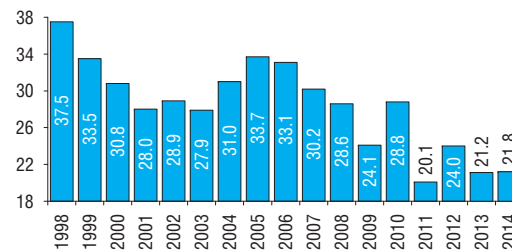


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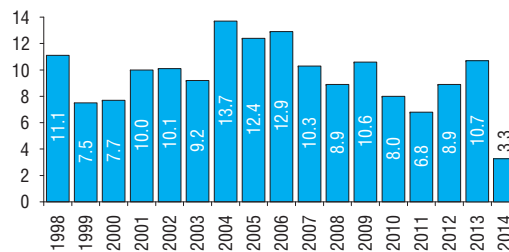
Acquisition of software



Personnel training

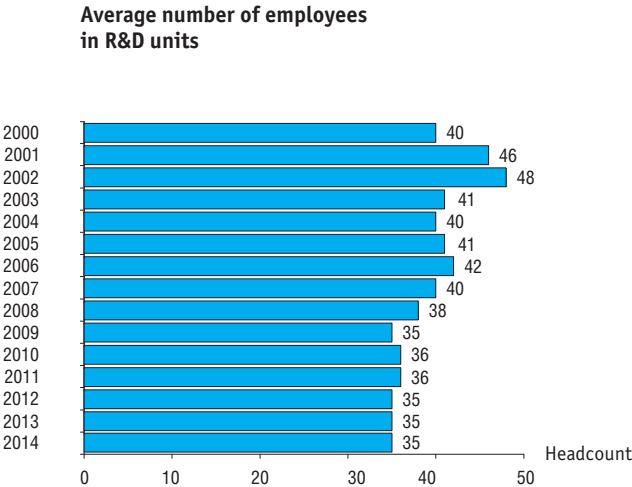
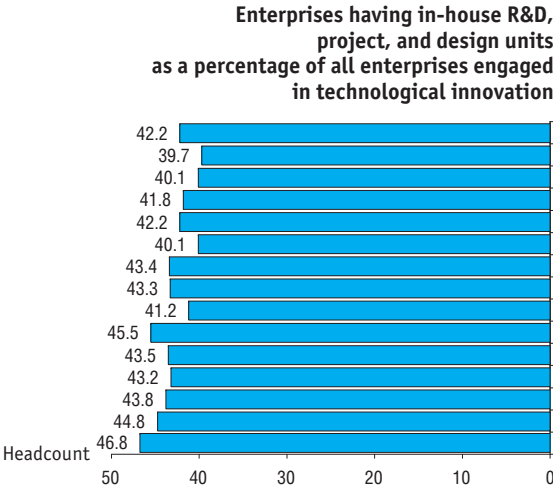


Market research



1.3. R&D UNITS AT ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION

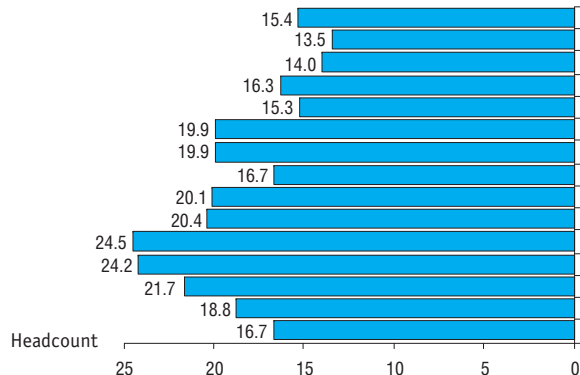
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply															
R&D units at enterprises	2584	1852	1788	2048	2009	2083	2274	2360	2117	2248	2218	2234	2381	2614	2644
Number of employees in R&D units, headcount	103367	85695	85902	84492	81052	86356	96188	94116	80106	79603	79993	80639	82760	90238	92796



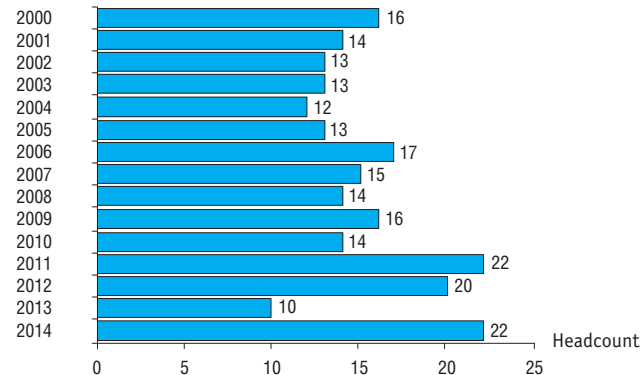
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	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Communication, computer and information technology-related activities															
R&D units at enterprises	39	36	51	62	72	108	101	95	116	87	114	134	151	245	136
Number of employees in R&D units, <i>headcount</i>	620	498	679	787	873	1450	1757	1385	1627	1357	1634	2888	3073	2389	2959

**Enterprises having in-house R&D,
project, and design units
as a percentage of all enterprises engaged
in technological innovation**



**Average number of employees
in R&D units**

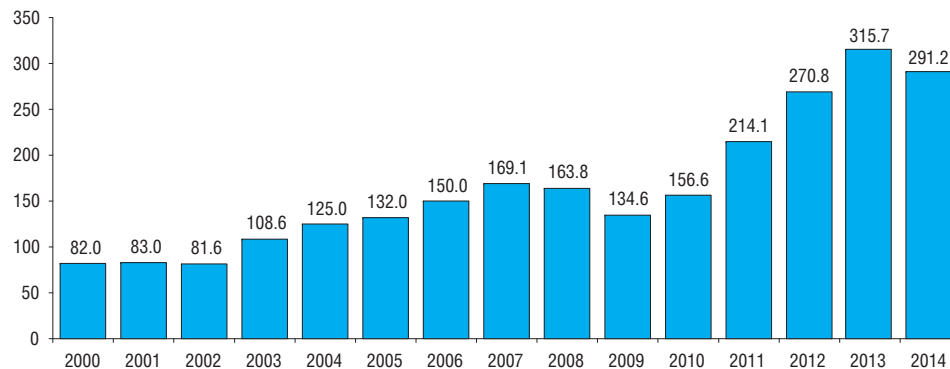


1.4. SALES OF INNOVATIVE GOODS AND SERVICES

(million roubles)

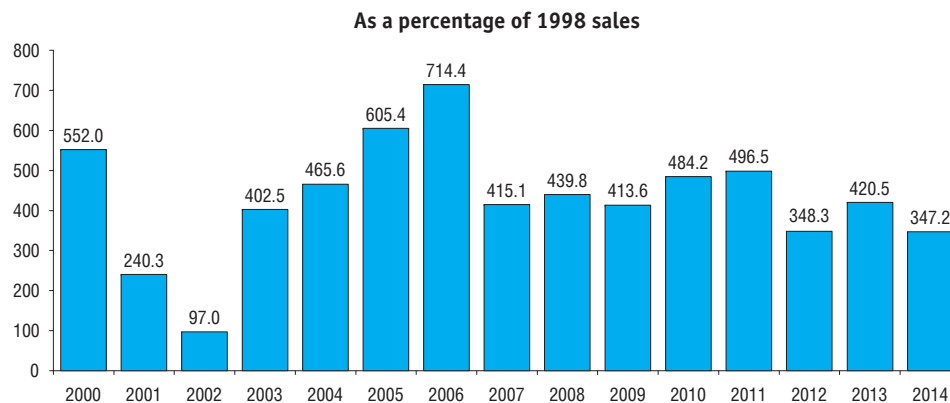
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply															
Sales of innovative goods and services:															
at current prices	154135.0	181826.1	206313.2	312692.0	433003.5	545540.0	714024.6	916131.6	1046960.0	877684.8	1165747.6	1847370.4	2509604.4	3072530.8	3037407.3
at constant 1995 prices	32626.7	33037.1	32455.5	43225.3	49756.2	52546.2	59700.1	67309.7	65188.1	53576.8	62312.8	85200.6	107768.0	125658.2	115878.5
per rouble of expenditure on technological innovation, roubles	3.1	3.0	2.4	3.0	3.5	4.3	3.8	4.4	3.8	2.4	3.3	3.9	4.3	4.1	4.0

As a percentage of 1995 sales



(continued)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Communication, computer and information technology-related activities															
Sales of innovative goods and services:															
at current prices	18033.2	9144.1	4261.9	20132.3	28020.0	43465.3	59086.3	39069.6	48839.0	46854.7	62636.4	74437.8	56092.2	71094.4	62928.5
at constant 1995 prices	3817.2	1661.4	670.4	2783.0	3219.8	4186.6	4940.2	2870.5	3040.9	2860.2	3348.1	3433.1	2408.7	2907.6	2400.8
per rouble of expenditure on technological innovation, <i>roubles</i>	1.5	1.4	0.7	1.4	1.4	2.5	3.1	1.6	2.0	1.4	1.6	0.5	0.7	1.1	1.3



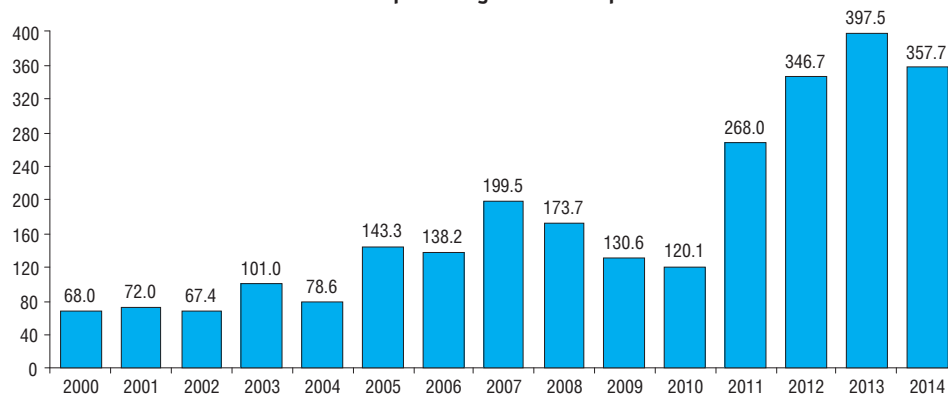
1.5. EXPORTS OF INNOVATIVE GOODS AND SERVICES

(million roubles)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
--	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------

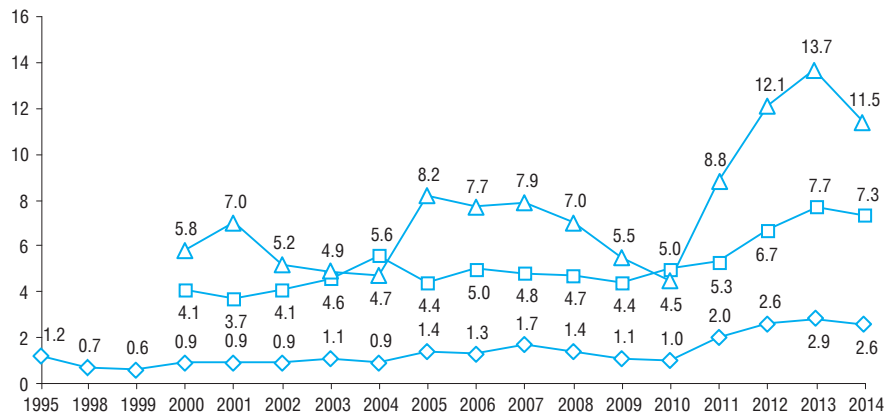
Mining and quarrying, manufacturing, electricity, gas and water supply**Exports of innovative goods and services:**

at current prices	32672.3	40330.6	43597.2	74351.1	69557.8	151358.0	168176.0	276280.8	283792.5	217621.4	228644.5	591239.1	821409.9	988844.7	953877.4
at constant 1995 prices	6915.9	7327.9	6858.4	10278.0	7992.9	14578.7	14061.3	20298.8	17670.1	13284.3	12221.8	27267.9	35273.2	40441.1	36390.87

As a percentage of 1995 exports

1.6. INNOVATIVE GOODS AND SERVICES AS A SHARE OF NATIONAL AND FOREIGN MARKET SALES

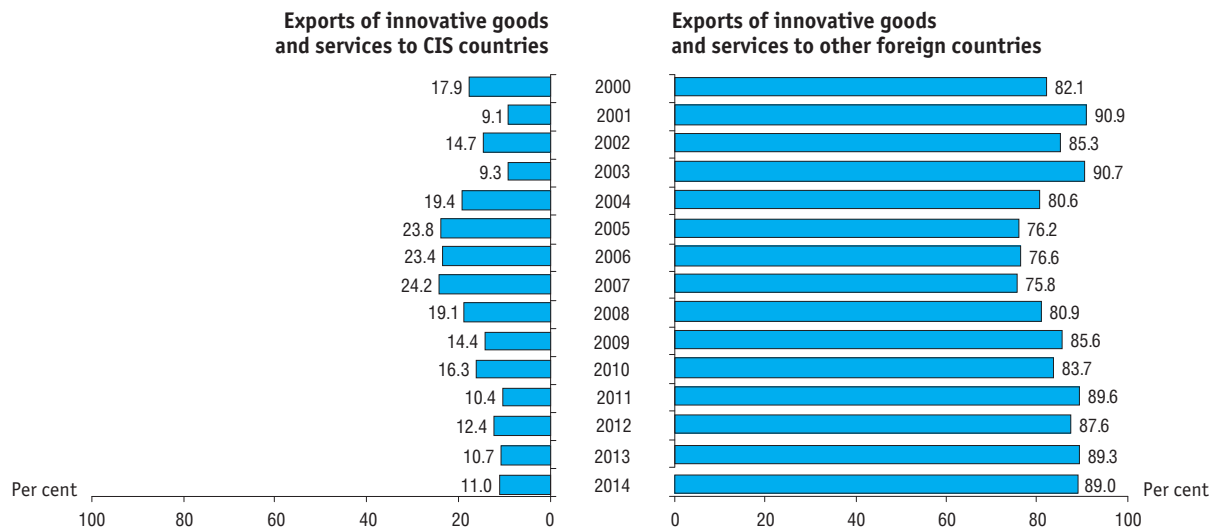
Mining and quarrying, manufacturing, electricity, gas and water supply



- ◆— Exports of innovative goods and services as a percentage of total sales of goods and services
- Innovative goods and services as a percentage of total national market sales of goods and services
- △— Innovative goods and services as a percentage of total exports of goods and services

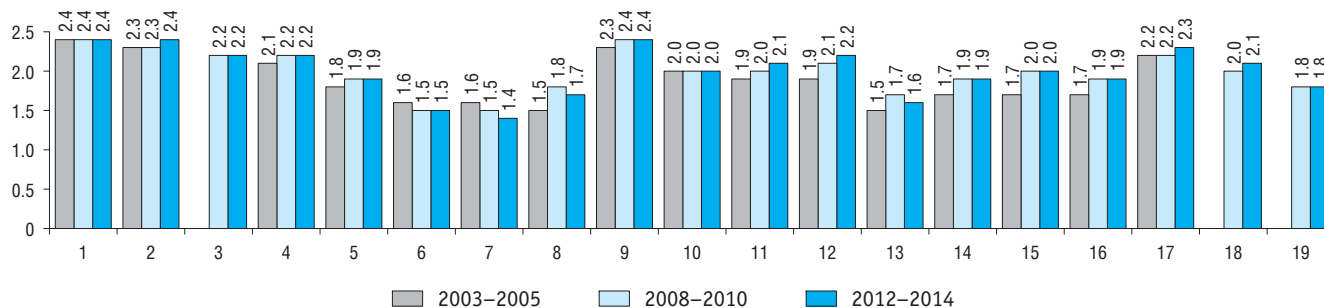
1.7. DISTRIBUTION OF INNOVATIVE GOODS AND SERVICES EXPORTS

Mining and quarrying, manufacturing, electricity, gas and water supply



1.8. EFFECTS OF TECHNOLOGICAL INNOVATION BY RANK OF IMPORTANCE

Mining and quarrying, manufacturing, electricity, gas and water supply



1 – Goods and services product-line expansion

2 – Traditional sales markets preservation

3 – Sales markets expansion

4 – Russia

5 – CIS countries

6 – EU countries, EU candidate countries:
Albania, Bosnia and Herzegovina, Iceland,
Kosovo, Macedonia, Serbia, Turkey, Montenegro,
as well as Liechtenstein, Norway, Switzerland

7 – USA and Canada

8 – Other countries

9 – Goods and services quality
improvement

10 – Obsolete products replacement

11 – Manufacturing flexibility increase

12 – Manufacturing capacity growth

13 – Salary costs reduction

14 – Material costs reduction

15 – Manufacturing energy efficiency
improvement

16 – Environmental pollution abatement

17 – Modern technical regulations, rules
and standards compliance

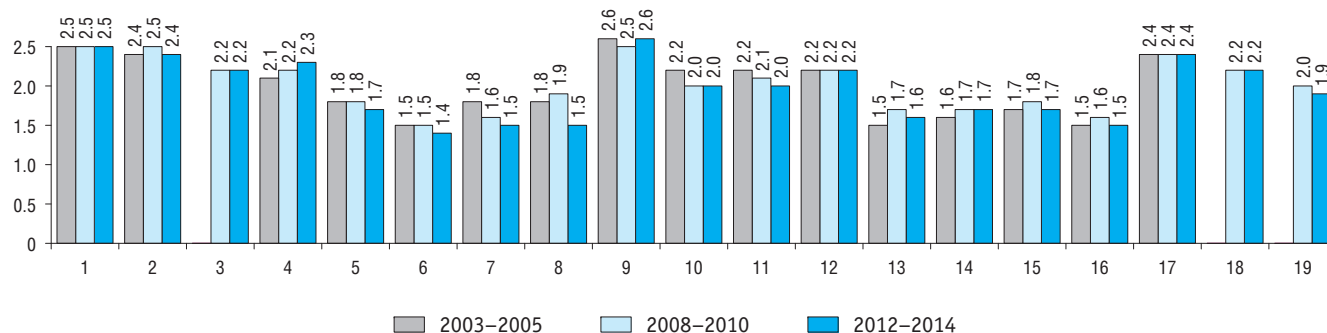
Marketing innovations:

18 – penetration of new sales markets
and new segments of target customers
with goods and services

19 – penetration of new geographical markets
with goods and services

(continued)

Communication, computer and information technology-related activities



1 – Goods and services product-line expansion

2 – Traditional sales markets preservation

3 – Sales markets expansion

4 – Russia

5 – CIS countries

6 – EU countries, EU candidate countries:
Albania, Bosnia and Herzegovina, Iceland,
Kosovo, Macedonia, Serbia, Turkey, Montenegro,
as well as Liechtenstein, Norway, Switzerland

7 – USA and Canada

8 – Other countries

9 – Goods and services quality
improvement

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15 – Manufacturing energy efficiency
improvement

16 – Environmental pollution abatement

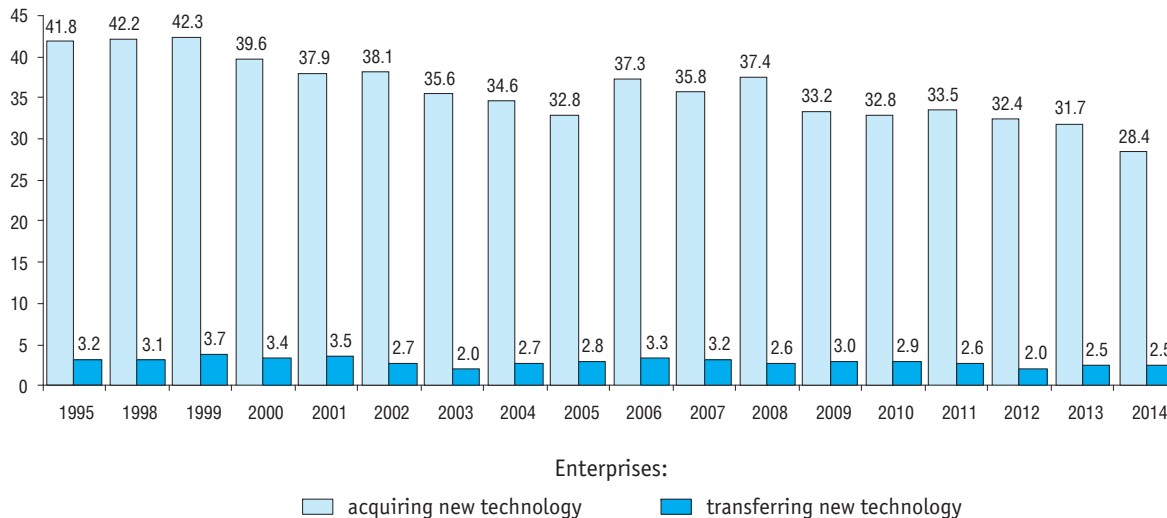
17 – Modern technical regulations, rules
and standards compliance

Marketing innovations:

18 – penetration of new sales markets
and new segments of target customers
with goods and services19 – penetration of new geographical markets
with goods and services

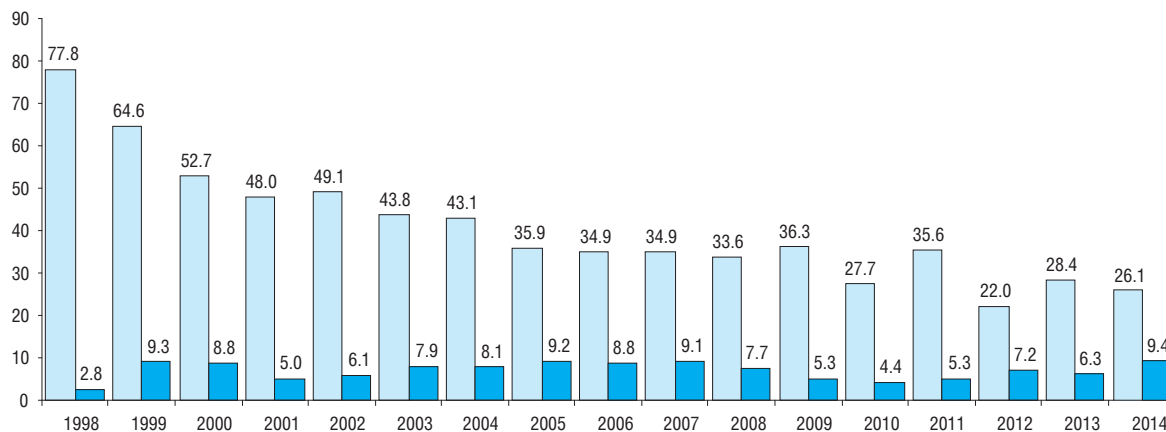
1.9. ENTERPRISES ENGAGED IN TECHNOLOGY EXCHANGE AS A PERCENTAGE OF ALL ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION

Mining and quarrying, manufacturing, electricity, gas and water supply



(continued)

Communication, computer and information technology-related activities



Enterprises:

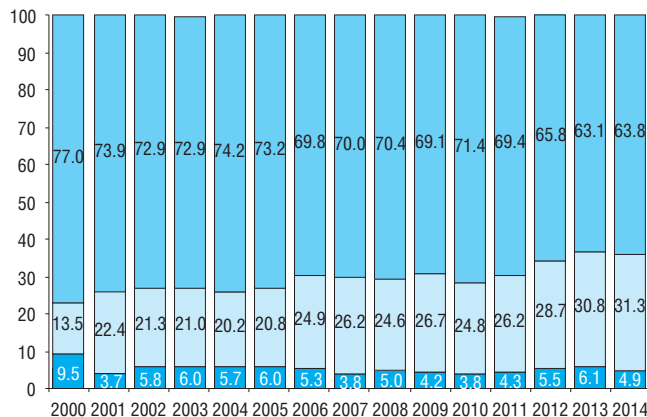
□ acquiring new technology

■ transferring new technology

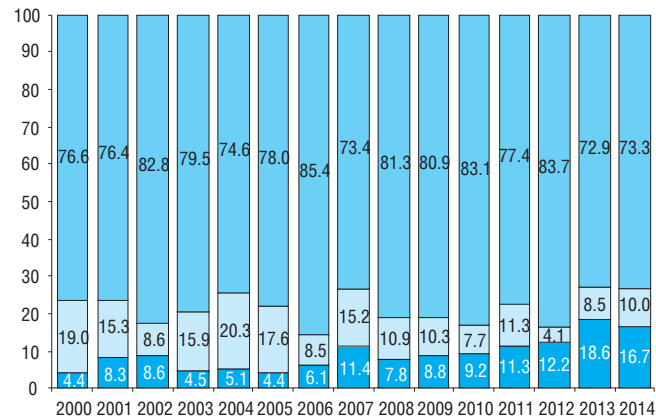
1.10. PERCENTAGE DISTRIBUTION OF ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION AND TECHNOLOGY EXCHANGE BY COUNTRY AND REGION

Mining and quarrying, manufacturing, electricity, gas and water supply

Enterprises acquiring new technology



Enterprises transferring new technology



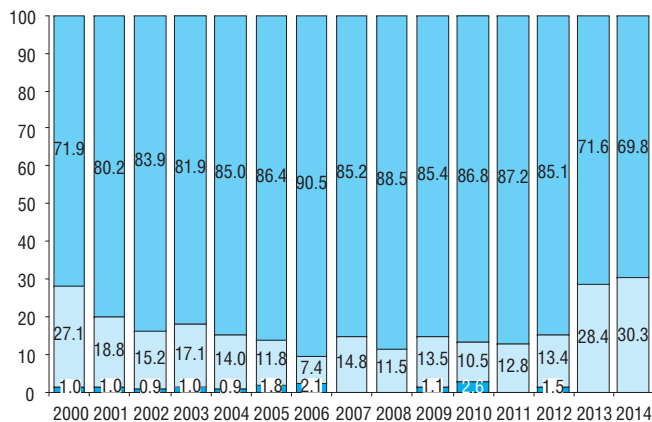
Enterprises engaged in technology exchange:

in Russia with other foreign countries with CIS countries

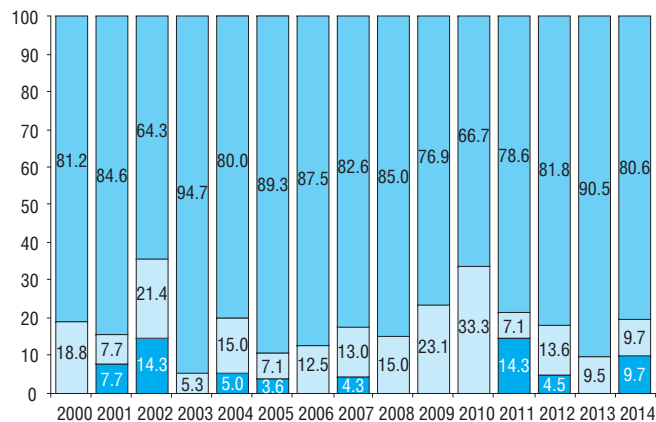
(continued)

Communication, computer and information technology-related activities

Enterprises acquiring new technology



Enterprises transferring new technology



Enterprises engaged in technology exchange:

in Russia

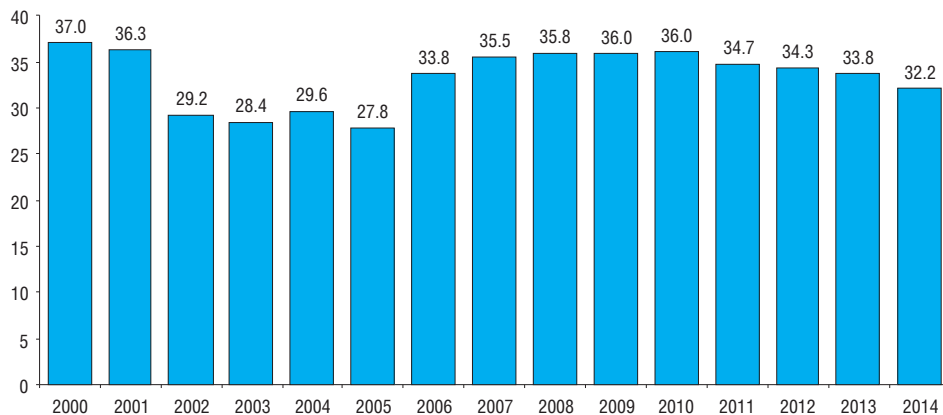
with other foreign countries

with CIS countries

1.11. JOINT R&D PROJECTS OF ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION

Mining and quarrying, manufacturing, electricity, gas and water supply

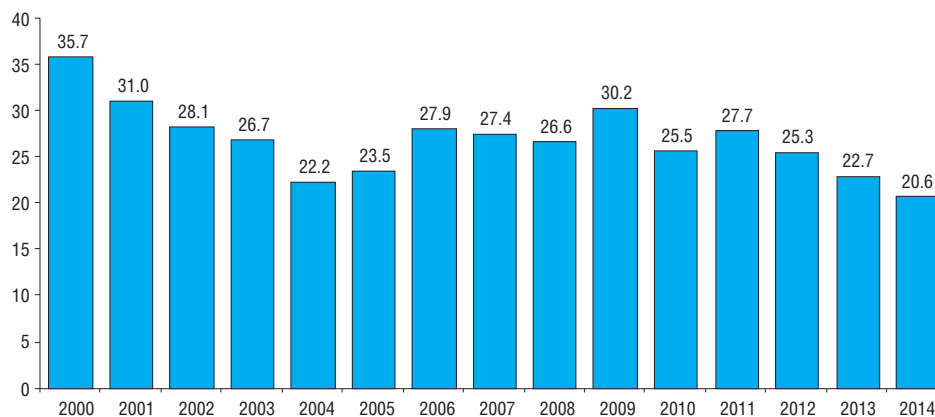
Enterprises taking part in joint R&D projects as a percentage
of all enterprises engaged in technological innovation



(continued)

Communication, computer and information technology-related activities

**Enterprises taking part in joint R&D projects as a percentage
of all enterprises engaged in technological innovation**

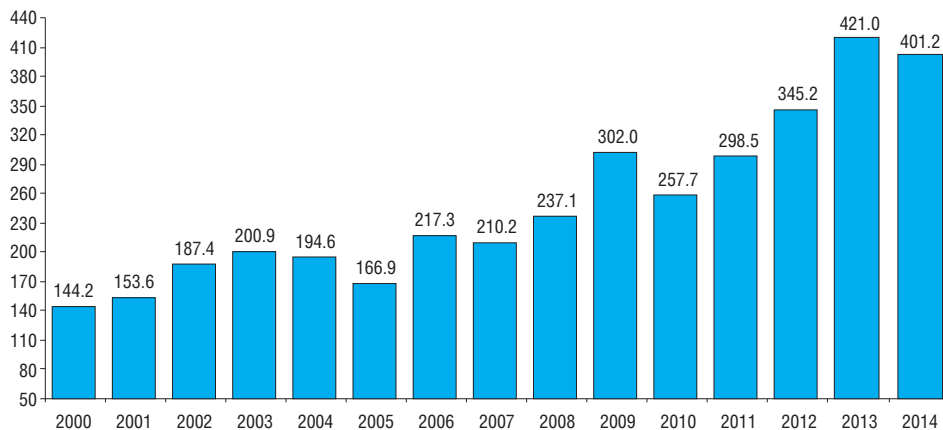


1.12. EXPENDITURE ON TECHNOLOGICAL INNOVATION

(million roubles)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply															
Expenditure on technological innovation:															
at current prices	49428.0	61312.9	86394.6	105444.7	122850.5	125678.2	188492.2	207499.2	276262.3	358861.1	349763.3	469442.2	583660.6	746778.2	762774.1
at constant 1995 prices	10462.7	11140.3	13590.9	14576.3	14116.7	12105.3	15760.0	15245.3	17201.2	21906.1	18695.9	21650.6	25063.7	30541.2	29100.2

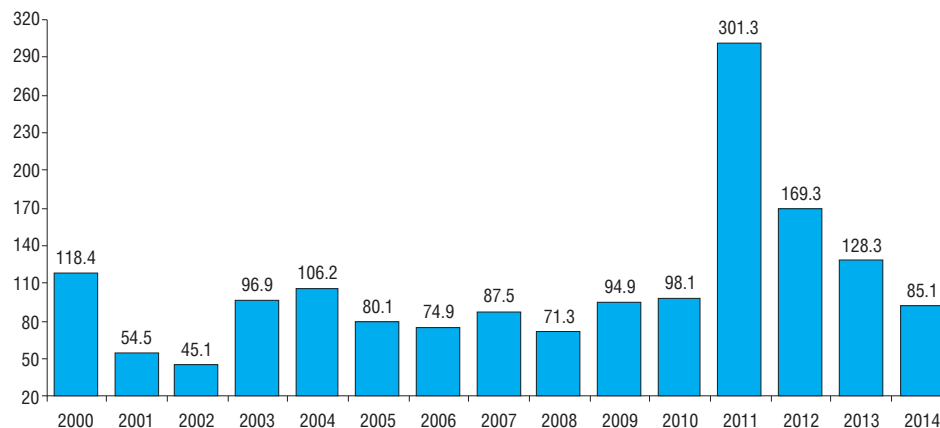
As a percentage of 1995 expenditure



(continued)

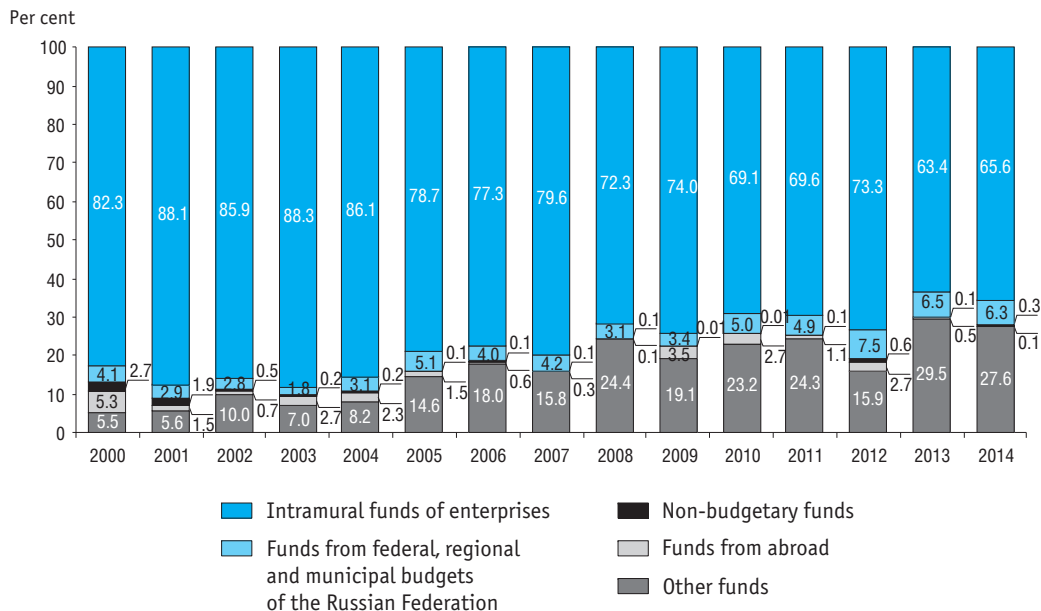
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Communication, computer and information technology-related activities															
Expenditure on technological innovation:															
at current prices	11794.1	6328.6	6049.3	14782.7	19495.3	17544.4	18892.4	25125.5	24148.0	32790.9	38684.0	137754.0	83230.6	66133.4	47066.3
at constant 1995 prices	2496.5	1149.9	951.6	2043.5	2240.2	1689.9	1579.6	1846.0	1503.6	2001.7	2067.8	6353.2	3574.1	2704.7	1795.6

As a percentage of 1998 expenditure



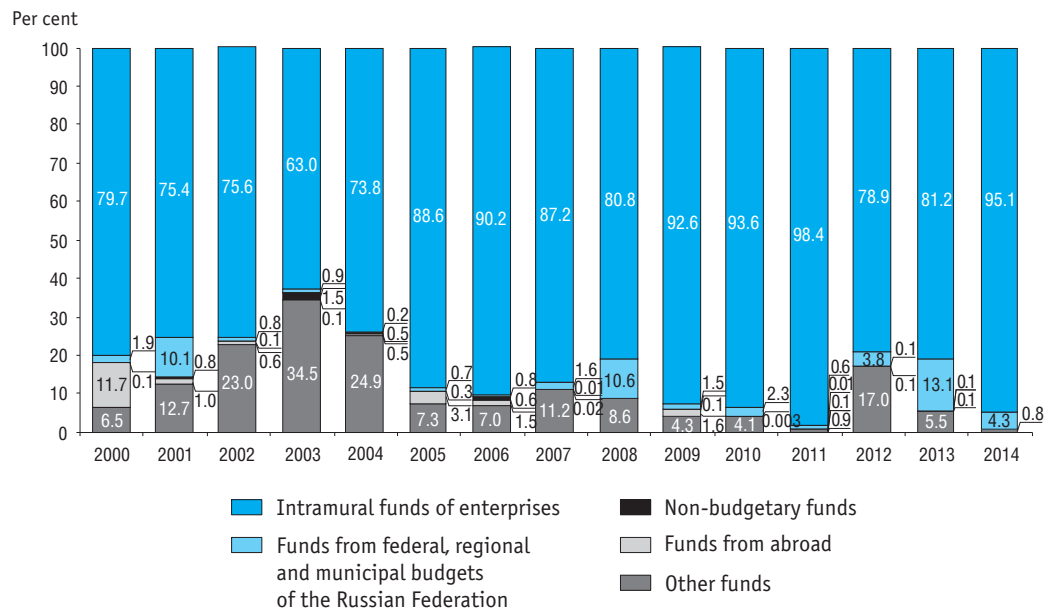
1.13. EXPENDITURE ON TECHNOLOGICAL INNOVATION BY SOURCE OF FUNDS

Mining and quarrying, manufacturing, electricity, gas and water supply



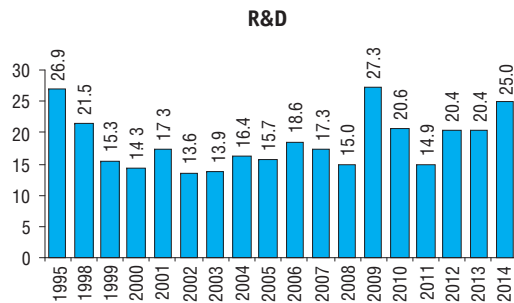
(continued)

Communication, computer and information technology-related activities

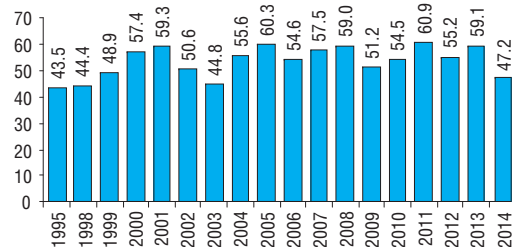


1.14. EXPENDITURE ON TECHNOLOGICAL INNOVATION AS A PERCENTAGE OF TOTAL EXPENDITURE BY INNOVATIVE ACTIVITY

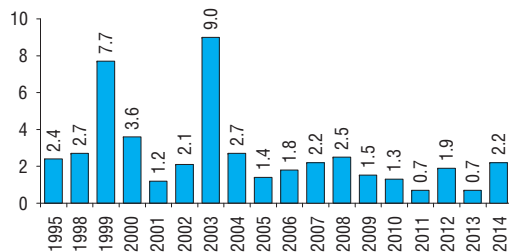
Mining and quarrying, manufacturing, electricity, gas and water supply



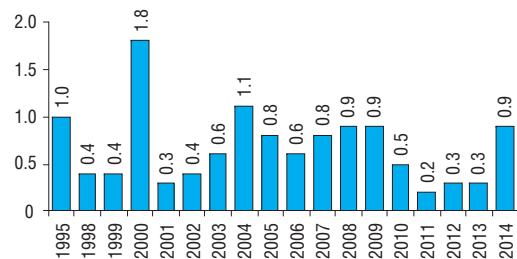
Acquisition of machinery and equipment



Acquisition of new technology

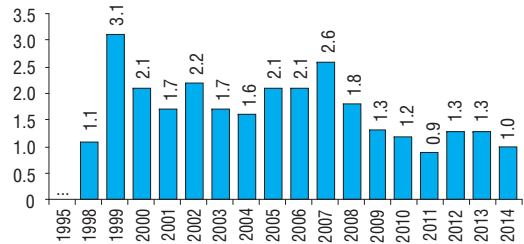


Acquisition of patent rights and licences

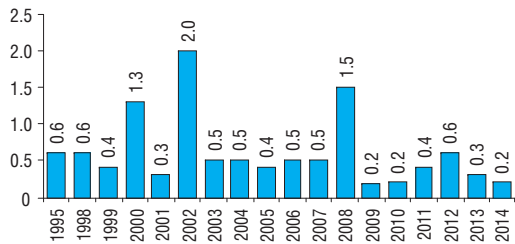


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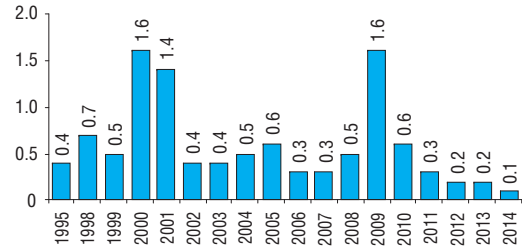
Acquisition of software



Personnel training



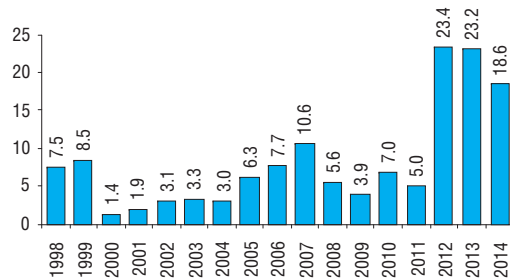
Market research



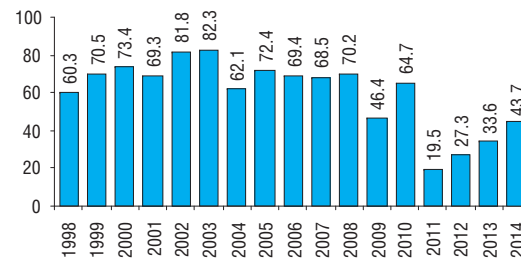
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Communication, computer and information technology-related activities

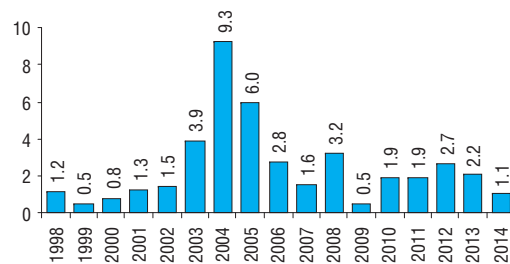
R&D



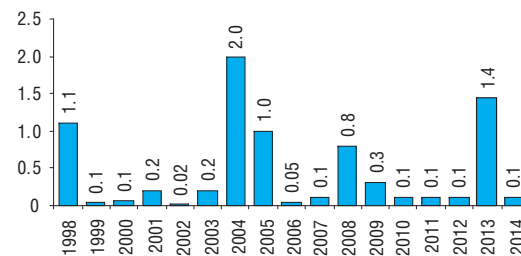
Acquisition of machinery and equipment



Acquisition of new technology

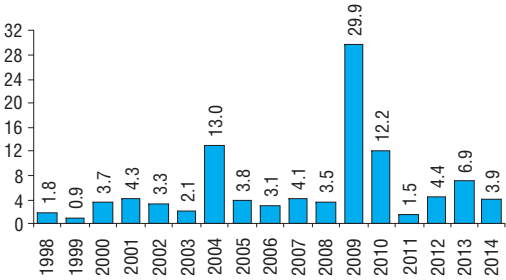


Acquisition of patent rights and licences

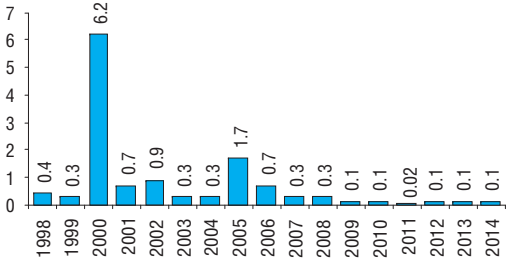


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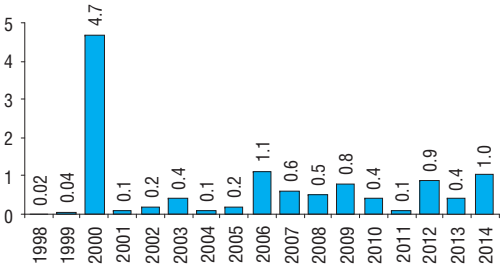
Acquisition of software



Personnel training

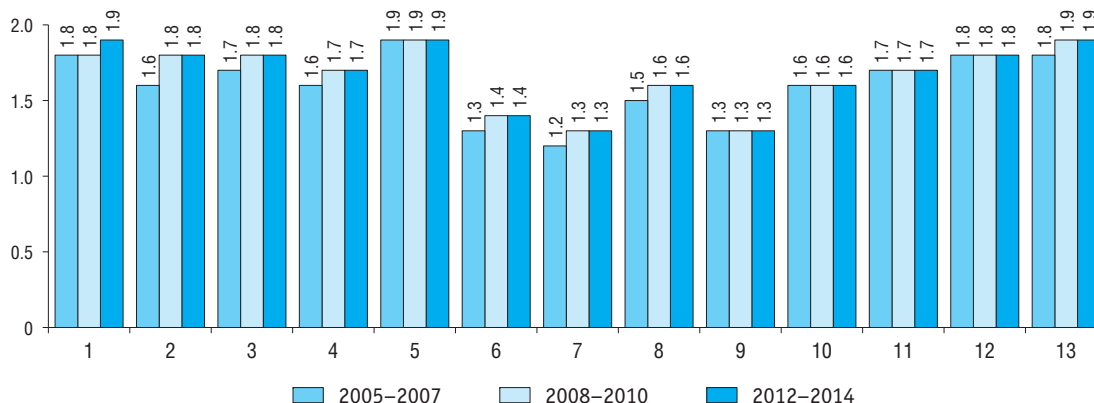


Market research



1.15. SOURCES OF INFORMATION FOR TECHNOLOGICAL INNOVATION BY RANK OF IMPORTANCE

Mining and quarrying, manufacturing, electricity, gas and water supply



Internal sources:

- 1 – internal sources within the enterprise
- 2 – enterprises within the same group

Market sources:

- 3 – suppliers of equipment, materials, components, software
- 4 – competitors within the same sector
- 5 – consumers of goods and services
- 6 – consulting firms and information organisations

R&D institutions:

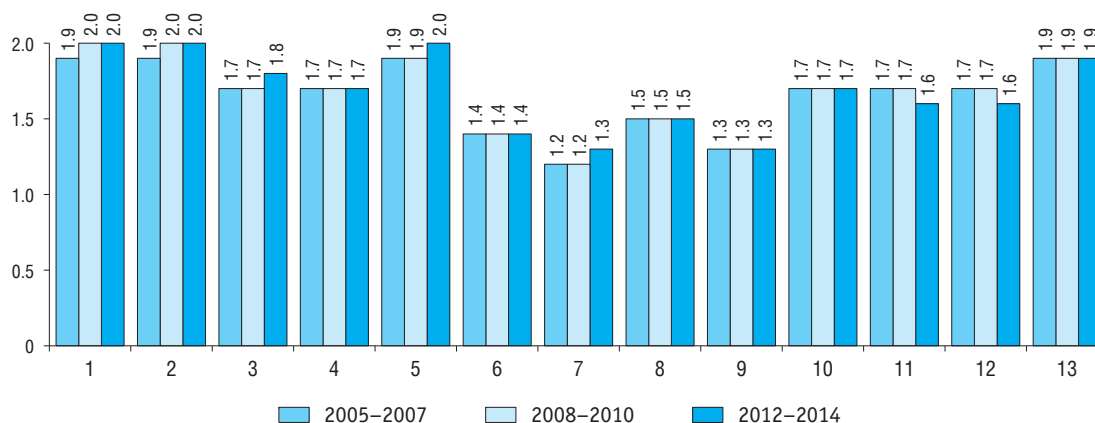
- 7 – institutions of academic character
- 8 – institutions of industrial character
- 9 – higher education institutions

Publicly available information:

- 10 – conferences, seminars and symposia
- 11 – S&T literature
- 12 – exhibitions, fairs, other promotional activities
- 13 – the Internet

(continued)

Communication, computer and information technology-related activities



Internal sources:

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- 2 – enterprises within the same group

Market sources:

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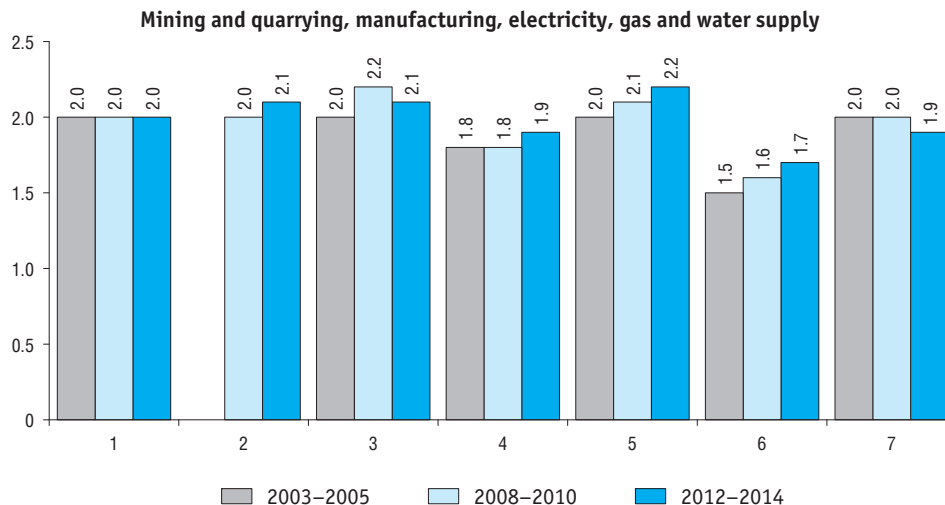
R&D institutions:

- 7 – institutions of academic character
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- 9 – higher education institutions

Publicly available information:

- 10 – conferences, seminars and symposia
- 11 – S&T literature
- 12 – exhibitions, fairs, other promotional activities
- 13 – the Internet

1.16. METHODS OF INNOVATION PROTECTION AT ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY RANK OF IMPORTANCE



Formal methods:

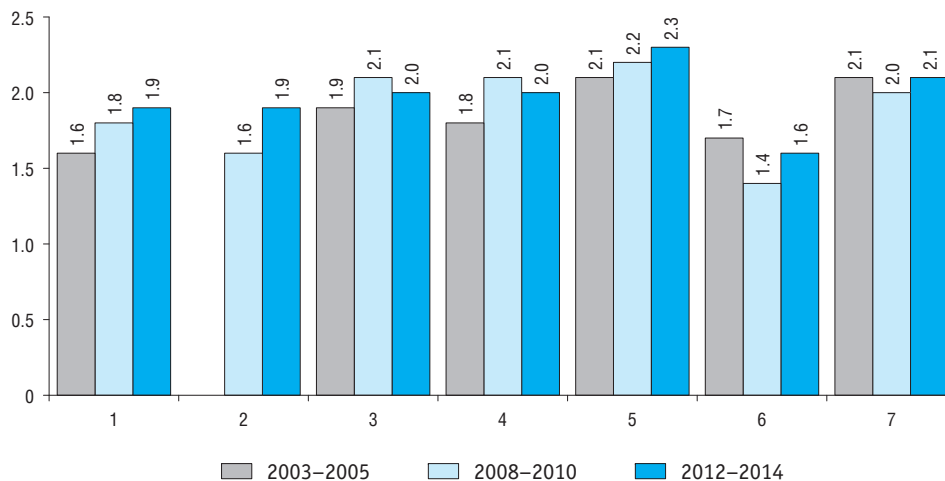
- 1 – inventions, industrial designs and utility models patenting
- 2 – valid patents maintenance
- 3 – trade mark registration
- 4 – copyright protection

Informal methods:

- 5 – preservation of trade secrets, confidentiality and know-how protection
- 6 – product design complexity
- 7 – gaining competitive advantage over competitors regarding goods and services development and launch terms

(continued)

Communication, computer and information technology-related activities



Formal methods:

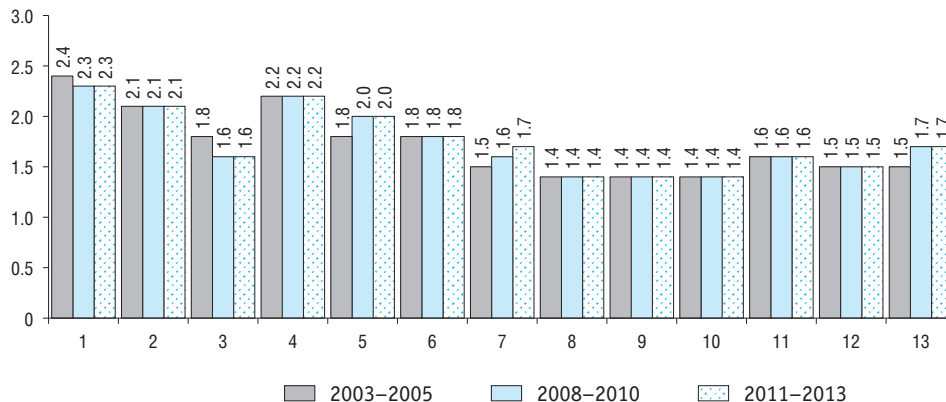
- 1 – inventions, industrial designs and utility models patenting
- 2 – valid patents maintenance
- 3 – trade mark registration
- 4 – copyright protection

Informal methods:

- 5 – preservation of trade secrets, confidentiality and know-how protection
- 6 – product design complexity
- 7 – gaining competitive advantage over competitors regarding goods and services development and launch terms

1.17. FACTORS HAMPERING TECHNOLOGICAL INNOVATION BY RANK OF IMPORTANCE

Mining and quarrying, manufacturing, electricity, gas and water supply



Economic factors:

- 1 – shortage of intramural funds within the enterprise
- 2 – lack of financial support from the government
- 3 – low demand for new goods and services
- 4 – high innovation costs
- 5 – high economic risks

Internal factors:

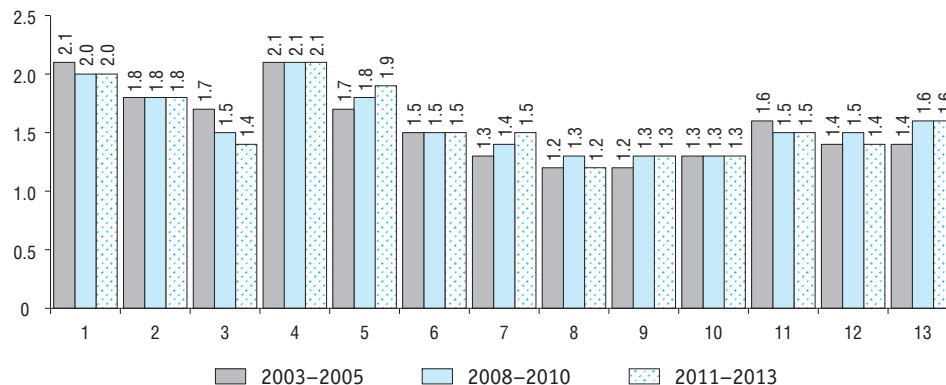
- 6 – low innovation potential of organisations
- 7 – shortage of qualified personnel
- 8 – lack of information about new technology
- 9 – lack of information about sales markets
- 10 – underdeveloped co-operation ties

Other factors:

- 11 – deficiencies in legislation regulating and promoting innovations
- 12 – underdeveloped infrastructure (intermediary, information, law, banking and other services) of innovation
- 13 – uncertainty of economic benefits resulting from intellectual property usage

(continued)

Communication, computer and information technology-related activities



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Other factors:

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- 12 – underdeveloped infrastructure (intermediary, information, law, banking and other services) of innovation
- 13 – uncertainty of economic benefits resulting from intellectual property usage



2. Innovative Activity of Enterprises

2.1. INNOVATIVE ACTIVITY OF ENTERPRISES BY ECONOMIC ACTIVITY

	Overall share of innovative enterprises, <i>per cent</i>		Enterprises engaged in innovation of selected types as a percentage of all enterprises, <i>per cent</i>					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply								
Total	10.9	10.9	9.7	9.7	2.1	2.0	3.1	3.0
Mining and quarrying	7.6	7.5	6.4	6.5	0.4	0.5	2.5	2.3
Mining and quarrying of energy producing materials	8.6	8.5	7.2	7.4	0.4	0.5	2.9	2.6
Mining and quarrying, except energy producing materials	6.3	5.9	5.4	5.1	0.5	0.5	2.0	2.0
Manufacturing	13.3	13.6	11.9	12.2	3.0	2.8	3.7	3.6
High tech	30.4	32.0	29.3	30.6	5.6	5.8	9.0	9.0
Manufacture of pharmaceuticals and pharmaceutical products	29.1	28.0	27.4	26.5	6.7	9.5	5.0	6.9
Manufacture of office machinery and computers	14.6	25.0	12.5	22.7	2.1	9.1	4.2	6.8
Manufacture of radio, television and communication equipment and apparatus	34.2	35.5	33.5	34.2	4.7	4.9	9.7	7.8
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	28.3	30.4	27.4	29.0	5.7	5.7	8.3	9.2
Manufacture of aircraft, including spacecraft	36.9	37.5	34.9	36.8	6.7	2.6	16.8	13.8
Medium high tech	19.3	18.9	18.0	17.4	3.5	3.1	5.2	5.2
Manufacture of chemicals and chemical products	23.7	21.3	21.5	19.7	4.7	4.5	6.0	4.9
Manufacture of machinery and equipment	15.9	15.9	14.9	14.6	2.8	2.8	4.1	4.6
Manufacture of electrical machinery and apparatus	23.1	23.6	21.8	22.4	5.6	4.5	7.7	6.6

(continued)

	Overall share of innovative enterprises, <i>per cent</i>		Enterprises engaged in innovation of selected types as a percentage of all enterprises, <i>per cent</i>					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
Manufacture of motor vehicles, trailers and semi-trailers	24.4	25.4	23.7	22.8	2.8	2.4	5.5	6.5
Manufacture of other transport vehicles	13.6	12.5	12.1	10.8	1.5	0.6	3.3	4.0
Medium low tech	12.9	12.6	11.2	10.9	2.4	2.3	3.6	3.4
Manufacture of coke and refined petroleum products	29.0	25.7	27.1	23.0	2.8	1.8	7.5	9.7
Manufacture of rubber and plastic products	11.7	12.4	10.0	9.7	2.3	3.0	2.9	3.5
Manufacture of other non-metallic mineral products	10.0	9.3	8.2	7.9	2.3	1.6	2.2	2.1
Manufacture of basic metals	23.8	21.7	21.2	19.5	3.4	4.2	8.2	7.1
Manufacture of fabricated metal products	11.3	11.7	9.8	10.2	1.9	2.1	3.4	2.6
Building and repair of ships and boats	15.9	14.5	15.2	13.8	3.3	1.9	6.0	4.4
Low tech	7.6	7.8	6.2	6.5	2.5	2.3	2.0	1.7
Manufacture of food products, including beverages	11.0	12.3	8.8	10.1	4.4	4.3	2.4	2.4
Manufacture of tobacco products	47.8	36.8	39.1	36.8	4.3	5.3	8.7	5.3
Manufacture of textiles	12.0	12.3	9.7	8.1	3.3	3.8	4.3	5.0
Manufacture of wearing apparel, dressing and dyeing of fur	5.0	7.2	4.3	6.8	2.3	2.3	1.7	1.8
Manufacture of leather, leather products and footwear	11.5	12.6	10.8	11.7	1.5	1.8	1.5	1.8
Woodworking and manufacture of wood and of products of wood and cork, except furniture	6.8	7.4	5.1	6.0	0.8	1.2	2.8	3.0

(continued)

	Overall share of innovative enterprises, <i>per cent</i>		Enterprises engaged in innovation of selected types as a percentage of all enterprises, <i>per cent</i>					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	10.7	12.0	10.3	11.6	3.3	2.6	4.1	3.0
Publishing and printing activities, reproduction of recorded media	3.1	2.3	2.6	2.1	0.5	0.3	0.6	0.3
Manufacture of furniture and other products n.e.c.	11.9	11.3	10.1	10.1	4.3	2.8	3.8	2.8
Recycling of secondary raw materials	2.2	1.0	1.1	0.3	0.4	0.3	1.5	0.7
Electricity, gas and water supply	5.3	5.1	4.7	4.5	0.3	0.3	1.5	1.5
Communication, computer and information technology-related activities, research and development, other services of the business economy								
Total	8.8	8.5	7.7	7.6	1.5	1.3	2.6	2.7
Communication	14.2	12.2	11.8	10.7	4.7	3.3	4.3	4.5
Computer and information technology-related activities	9.6	8.8	8.4	8.0	0.8	1.0	2.4	2.1
Research and development	31.0	33.3	29.6	31.6	4.0	4.1	7.9	8.7
Other services of the business economy	3.5	3.5	2.6	2.7	0.6	0.5	1.3	1.3

2.2. PERCENTAGE DISTRIBUTION OF ENTERPRISES ENGAGED IN TECHNOLOGICAL, MARKETING, AND ORGANISATIONAL INNOVATION BY ECONOMIC ACTIVITY

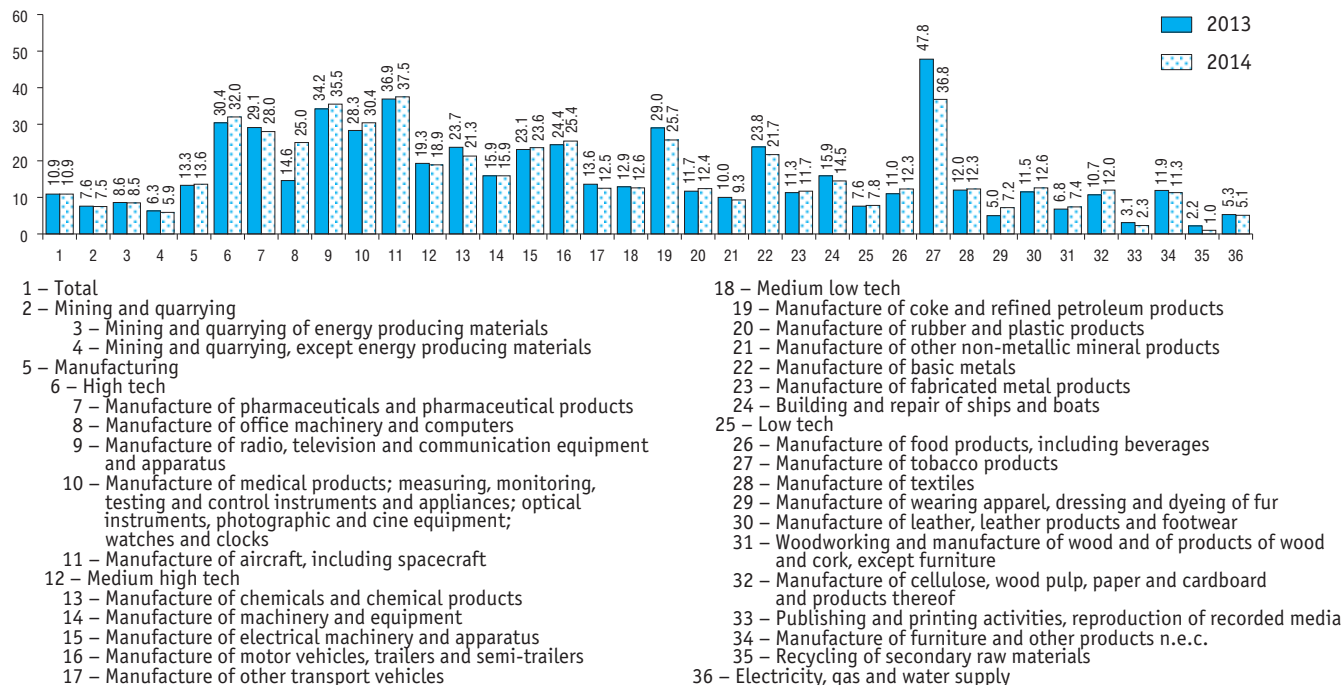
	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply		
Total	100	100
Mining and quarrying	4.5	4.6
Mining and quarrying of energy producing materials	3.0	3.1
Mining and quarrying, except energy producing materials	1.5	1.4
Manufacturing	83.1	83.0
High tech	14.4	15.2
Manufacture of pharmaceuticals and pharmaceutical products	1.9	2.0
Manufacture of office machinery and computers	0.3	0.4
Manufacture of radio, television and communication equipment and apparatus	4.1	4.1
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	6.1	6.5
Manufacture of aircraft, including spacecraft	2.0	2.2
Medium high tech	25.3	24.8
Manufacture of chemicals and chemical products	4.8	4.3
Manufacture of machinery and equipment	9.3	9.1
Manufacture of electrical machinery and apparatus	5.8	6.1
Manufacture of motor vehicles, trailers and semi-trailers	3.6	3.7
Manufacture of other transport vehicles	1.7	1.7
Medium low tech	17.5	17.0
Manufacture of coke and refined petroleum products	1.2	1.1
Manufacture of rubber and plastic products	2.8	2.8
Manufacture of other non-metallic mineral products	5.2	4.8

(continued)

	2013	2014
Manufacture of basic metals	3.4	3.3
Manufacture of fabricated metal products	4.1	4.2
Building and repair of ships and boats	0.9	0.9
Low tech	23.1	22.6
Manufacture of food products, including beverages	12.7	13.7
Manufacture of tobacco products	0.4	0.3
Manufacture of textiles	1.3	1.2
Manufacture of wearing apparel, dressing and dyeing of fur	0.6	0.6
Manufacture of leather, leather products and footwear	0.6	0.5
Woodworking and manufacture of wood and of products of wood and cork, except furniture	1.3	1.2
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	1.0	1.1
Publishing and printing activities, reproduction of recorded media	3.3	2.4
Manufacture of furniture and other products n.e.c.	1.8	1.5
Recycling of secondary raw materials	0.2	0.1
Manufacture of other materials and substances n.e.c.	2.9	3.3
Electricity, gas and water supply	12.4	12.5
Communication, computer and information technology-related activities, research and development, other services of the business economy		
Total	100	100
Communication	17.9	16.0
Computer and information technology-related activities	9.0	9.2
Research and development	46.4	47.4
Other services of the business economy	26.7	27.4

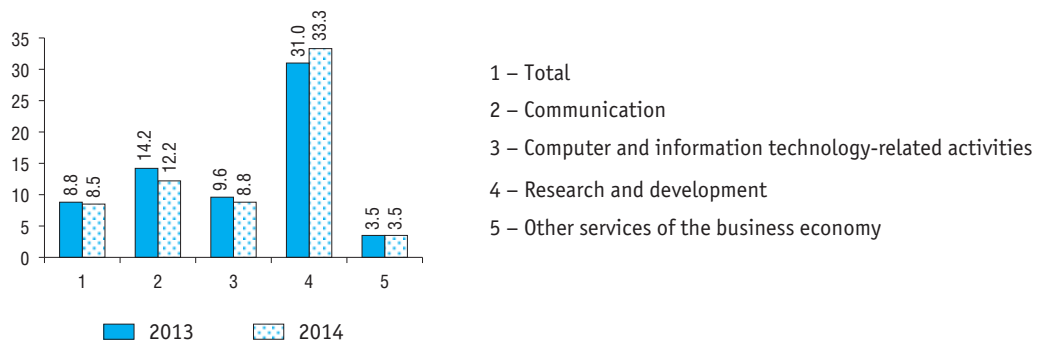
2.3. ENTERPRISES ENGAGED IN TECHNOLOGICAL, MARKETING, AND ORGANISATIONAL INNOVATION AS A PERCENTAGE OF ALL ENTERPRISES BY ECONOMIC ACTIVITY

Mining and quarrying, manufacturing, electricity, gas and water supply



(continued)

**Communication, computer and information technology-related activities,
research and development, other services of the business economy**



2.4. INNOVATIVE ACTIVITY OF ENTERPRISES BY SIZE

	Overall share of innovative enterprises, <i>per cent</i>		Enterprises engaged in innovation of selected types as a percentage of all enterprises					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply; communication, computer and information technology-related activities, research and development, other services of the business economy								
Total	10.1	9.9	8.9	8.8	1.9	1.7	2.9	2.8
Number of employees in an enterprise, <i>headcount</i> :								
less than 50	3.0	3.0	2.3	2.4	0.5	0.4	0.7	0.8
50–99	7.0	6.6	5.9	5.7	1.0	1.1	1.9	1.7
100–199	10.0	10.5	8.9	9.3	1.8	1.9	2.3	2.4
200–249	13.6	13.9	12.3	12.3	2.4	2.0	3.1	2.8
250–499	17.2	17.2	14.9	15.1	3.2	3.2	4.5	4.7
500–999	27.0	26.6	24.4	24.0	5.9	4.9	8.1	7.8
1000–4999	44.5	45.6	41.9	43.4	9.0	8.6	15.7	16.7
5000–9999	72.3	73.0	70.0	71.4	16.2	13.5	36.2	36.5
10 000 and above	75.5	82.2	73.5	82.2	16.3	17.8	46.9	37.8

2.5. PERCENTAGE DISTRIBUTION OF ENTERPRISES ENGAGED IN TECHNOLOGICAL, MARKETING, AND ORGANISATIONAL INNOVATION BY SIZE

	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply; communication, computer and information technology-related activities, research and development, other services of the business economy		
Total	100	100
Number of employees in an enterprise, <i>headcount</i> :		
less than 50	13.7	14.4
50–99	8.5	8.2
100–199	15.1	15.9
200–249	6.5	6.5
250–499	18.1	18.0
500–999	16.0	15.3
1000–4999	19.0	18.7
5000–9999	2.3	2.2
10 000 and above	0.9	0.9

2.6. INNOVATIVE ACTIVITY OF ENTERPRISES BY TYPE OF OWNERSHIP

	Overall share of innovative enterprises, <i>per cent</i>		Enterprises engaged in innovation of selected types as a percentage of all enterprises, <i>per cent</i>					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply; communication, computer and information technology-related activities, research and development, other services of the business economy								
Total	10.1	9.9	8.9	8.8	1.9	1.7	2.9	2.8
Russian ownership	10.1	9.8	8.9	8.7	1.8	1.7	2.8	2.8
Public ownership	11.6	11.4	10.5	10.2	1.6	1.4	3.3	3.2
Federal	17.7	17.3	16.7	16.1	2.4	2.0	4.8	4.7
Regional	5.2	5.2	4.0	4.0	0.8	0.8	1.7	1.5
Municipal ownership	2.8	2.8	2.3	2.3	0.3	0.4	0.8	0.9
Ownership of voluntary associations	5.2	5.1	4.9	4.5	0.3	0.3	0.5	0.9
Private ownership	11.3	11.0	9.7	9.7	2.4	2.1	3.1	2.8
Ownership of Russian citizens permanently living abroad	–	–	–	–	–	–	–	–
Ownership of consumers' co-operatives	9.0	7.0	8.2	7.0	2.2	1.6	1.5	–
Mixed ownership	19.5	19.3	18.4	17.8	3.5	3.2	5.8	7.7
Mixed ownership with a share of public ownership	19.5	21.6	18.3	19.9	3.3	3.7	6.1	8.6
Other mixed ownership	19.5	14.4	18.5	13.2	3.9	2.1	5.3	5.9
Ownership of state corporations	39.8	42.6	38.3	40.0	5.1	7.2	11.7	15.9
Foreign ownership	8.4	9.0	7.3	7.7	2.4	2.0	2.9	2.4
Joint ownership (with both Russian and foreign participation)	12.2	13.9	10.8	12.5	2.1	2.8	3.4	3.4

2.7. PERCENTAGE DISTRIBUTION OF ENTERPRISES ENGAGED IN TECHNOLOGICAL, MARKETING, AND ORGANISATIONAL INNOVATION BY TYPE OF OWNERSHIP

	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply; communication, computer and information technology-related activities, research and development, other services of the business economy		
Total	100	100
Russian ownership	87.7	87.8
Public ownership	22.6	22.2
Federal	17.7	17.2
Regional	4.9	5.0
Municipal ownership	5.6	5.7
Ownership of voluntary associations	0.5	0.4
Private ownership	45.2	45.8
Ownership of Russian citizens permanently living abroad	–	–
Ownership of consumers' co-operatives	0.3	0.2
Mixed ownership	11.6	11.4
Mixed ownership with a share of public ownership	7.5	8.7
Other mixed ownership	4.1	2.7
Ownership of state corporations	1.9	2.0
Foreign ownership	5.9	6.0
Joint ownership (with both Russian and foreign participation)	6.4	6.2

2.8. EXPENDITURE ON TECHNOLOGICAL, MARKETING, AND ORGANISATIONAL INNOVATION BY ECONOMIC ACTIVITY

	Million roubles		Per cent	
	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply				
Total	756183.9	778263.5	100	100
Mining and quarrying	94984.7	123971.9	12.6	15.9
Mining and quarrying of energy producing materials	84470.9	113087.2	11.2	14.5
Mining and quarrying, except energy producing materials	10513.9	10884.7	1.4	1.4
Manufacturing	588235.8	580622.9	77.8	74.6
High tech	74360.4	95083.8	9.8	12.2
Manufacture of pharmaceuticals and pharmaceutical products	4345.7	3501.7	0.6	0.4
Manufacture of office machinery and computers	441.0	828.4	0.1	0.1
Manufacture of radio, television and communication equipment and apparatus	19243.3	21838.0	2.5	2.8
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	18894.3	24979.7	2.5	3.2
Manufacture of aircraft, including spacecraft	31436.1	43935.9	4.2	5.6
Medium high tech	145429.5	123627.5	19.2	15.9
Manufacture of chemicals and chemical products	63096.0	56951.1	8.3	7.3
Manufacture of machinery and equipment	14921.8	19478.1	2.0	2.5
Manufacture of electrical machinery and apparatus	9162.8	9342.0	1.2	1.2
Manufacture of motor vehicles, trailers and semi-trailers	49657.2	32954.3	6.6	4.2
Manufacture of other transport vehicles	8591.7	4901.9	1.1	0.6

(continued)

	Million roubles		Per cent	
	2013	2014	2013	2014
Medium low tech	283736.3	283838.1	37.5	36.5
Manufacture of coke and refined petroleum products	197115.3	210830.5	26.1	27.1
Manufacture of rubber and plastic products	8094.8	3830.7	1.1	0.5
Manufacture of other non-metallic mineral products	8325.8	10892.9	1.1	1.4
Manufacture of basic metals	49211.6	41427.7	6.5	5.3
Manufacture of fabricated metal products	12684.6	11114.9	1.7	1.4
Building and repair of ships and boats	8304.2	5741.4	1.1	0.7
Low tech	46580.3	39331.0	6.2	5.1
Manufacture of food products, including beverages	30852.5	25113.6	4.1	3.2
Manufacture of tobacco products	1025.5	3272.3	0.1	0.4
Manufacture of textiles	528.6	794.6	0.1	0.1
Manufacture of wearing apparel, dressing and dyeing of fur	150.2	170.2	0.02	0.02
Manufacture of leather, leather products and footwear	192.2	102.4	0.03	0.01
Woodworking and manufacture of wood and of products of wood and cork, except furniture	866.4	3036.0	0.1	0.4
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	11422.4	5215.2	1.5	0.7
Publishing and printing activities, reproduction of recorded media	754.1	537.1	0.1	0.1
Manufacture of furniture and other products n.e.c.	711.9	1083.5	0.1	0.1
Recycling of secondary raw materials	76.6	6.1	0.01	0.001
Manufacture of other materials and substances n.e.c.	38129.2	38742.6	5.0	5.0
Electricity, gas and water supply	72963.3	73668.7	9.6	9.5

(continued)

	Million roubles		Per cent	
	2013	2014	2013	2014
Communication, computer and information technology-related activities, research and development, other services of the business economy				
Total	378053.7	453213.4	100	100
Communication	45927.6	39855.3	12.1	8.8
Computer and information technology-related activities	22187.6	8757.0	5.9	1.9
Research and development	299633.3	390004.2	79.3	86.1
Other services of the business economy	10305.3	14596.9	2.7	3.2

2.9. EXPENDITURE ON TECHNOLOGICAL, MARKETING, AND ORGANISATIONAL INNOVATION BY SIZE

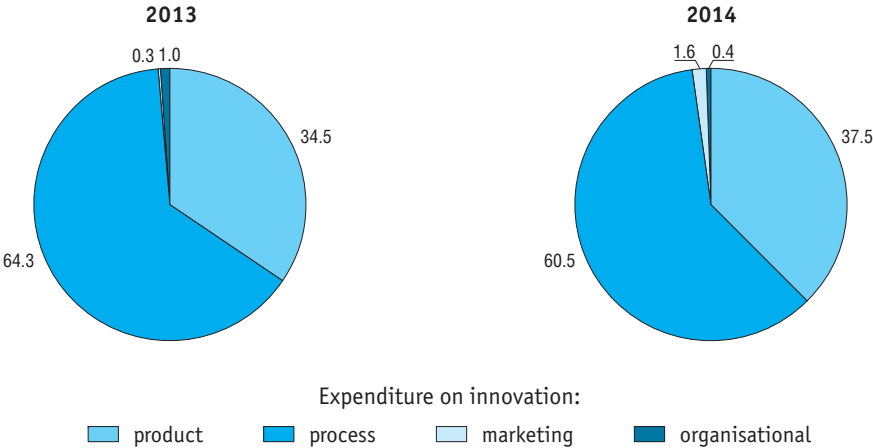
	Million roubles		Per cent	
	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply; communication, computer and information technology-related activities, research and development, other services of the business economy				
Total	1134237.5	1231476.9	100	100
Number of employees in an enterprise, <i>headcount</i> :				
less than 50	5662.1	9995.9	0.5	0.8
50–99	37020.6	10032.9	3.3	0.8
100–199	29853.2	36717.0	2.6	3.0
200–249	12666.0	24133.2	1.1	2.0
250–499	65675.6	67796.7	5.8	5.5
500–999	103813.3	119045.9	9.2	9.7
1000–4999	497615.4	642824.0	43.9	52.2
5000–9999	268298.5	218000.9	23.7	17.7
10 000 and above	113632.8	102930.5	10.0	8.4

2.10. EXPENDITURE ON TECHNOLOGICAL, MARKETING, AND ORGANISATIONAL INNOVATION BY TYPE OF OWNERSHIP

	Million roubles		Per cent	
	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply; communication, computer and information technology-related activities, research and development, other services of the business economy				
Total	1134237.5	1231476.9	100	100
Russian ownership	906347.8	1020715.6	79.9	82.9
Public ownership	246378.6	315646.8	21.7	25.6
Federal	238733.8	308951.9	21.0	25.1
Regional	7644.9	6694.9	0.7	0.5
Municipal ownership	2017.2	1162.8	0.2	0.1
Ownership of voluntary associations	788.1	89.2	0.1	0.01
Private ownership	475591.6	479445.1	41.9	38.9
Ownership of Russian citizens permanently living abroad	–	–	–	–
Ownership of consumers' co-operatives	19.1	16.1	0.0	0.001
Mixed ownership	144471.4	185695.2	12.7	15.1
Mixed ownership with a share of public ownership	98239.5	143440.8	8.7	11.6
Other mixed ownership	46231.9	42254.4	4.1	3.4
Ownership of state corporations	37081.8	38660.3	3.3	3.1
Foreign ownership	92326.7	86028.8	8.1	7.0
Joint ownership (with both Russian and foreign participation)	135563.0	124732.5	12.1	10.1

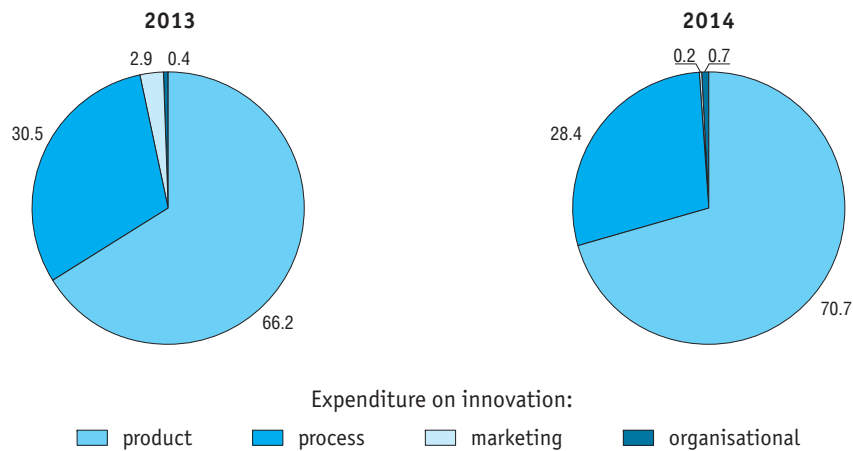
2.11. PERCENTAGE DISTRIBUTION OF EXPENDITURE ON TECHNOLOGICAL, MARKETING,
AND ORGANISATIONAL INNOVATION BY INNOVATION TYPE

Mining and quarrying, manufacturing, electricity, gas and water supply



(continued)

Communication, computer and information technology-related activities, research and development, other services of the business economy



2.12. PERCENTAGE DISTRIBUTION OF EXPENDITURE ON TECHNOLOGICAL, MARKETING, AND ORGANISATIONAL INNOVATION BY INNOVATION TYPE AND ECONOMIC ACTIVITY

	Expenditure on innovation									
	Technological		Of which				Marketing		Organisational	
			product		process					
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply										
Total	98.8	98.0	34.5	37.5	64.3	60.5	0.3	1.6	1.0	0.4
Mining and quarrying	99.5	99.9	10.5	10.4	89.0	89.5	0.0	0.03	0.5	0.03
Mining and quarrying of energy producing materials	99.9	100	8.2	8.8	91.6	91.2	0.0	0.01	0.1	0.02
Mining and quarrying, except energy producing materials	96.8	99.7	28.9	27.8	67.9	71.9	0.02	0.3	3.2	0.1
Manufacturing	98.6	97.4	42.0	47.6	56.6	49.8	0.3	2.1	1.0	0.5
High tech	99.5	89.7	65.8	63.4	33.7	26.3	0.2	9.8	0.3	0.5
Manufacture of pharmaceuticals and pharmaceutical products	97.2	97.0	47.7	61.0	49.6	36.0	2.6	2.6	0.1	0.4
Manufacture of office machinery and computers	99.8	95.5	51.3	54.2	48.5	41.4	0.03	3.2	0.2	1.3
Manufacture of radio, television and communication equipment and apparatus	99.9	99.9	69.9	67.7	30.0	32.2	0.01	0.02	0.1	0.1
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	99.3	99.3	68.8	81.2	30.6	18.2	0.1	0.1	0.5	0.6
Manufacture of aircraft, including spacecraft	99.7	78.5	64.2	51.5	35.5	27.0	0.03	20.9	0.3	0.6

(continued)

	Expenditure on innovation									
	Technological		Of which				Marketing		Organisational	
			product		process					
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Medium high tech	99.4	99.6	48.3	56.4	51.1	43.2	0.1	0.1	0.4	0.3
Manufacture of chemicals and chemical products	99.8	99.9	28.4	39.5	71.4	60.3	0.1	0.1	0.1	0.1
Manufacture of machinery and equipment	98.1	98.8	58.4	66.5	39.8	32.3	0.3	0.5	1.6	0.8
Manufacture of electrical machinery and apparatus	99.1	99.3	70.1	75.7	28.9	23.6	0.4	0.3	0.6	0.3
Manufacture of motor vehicles, trailers and semi-trailers	99.5	99.9	61.0	72.5	38.4	27.3	0.1	0.01	0.4	0.1
Manufacture of other transport vehicles	99.1	98.1	80.4	66.9	18.8	31.2	0.0		0.9	1.9
Medium low tech	98.5	99.6	28.4	34.3	70.0	65.3	0.2	0.1	1.4	0.4
Manufacture of coke and refined petroleum products	98.3	99.5	22.5	31.5	75.8	68.0	0.05	0.1	1.7	0.4
Manufacture of rubber and plastic products	97.2	99.1	33.9	57.6	63.4	41.4	2.4	0.8	0.4	0.1
Manufacture of other non-metallic mineral products	94.7	99.3	40.3	72.5	54.4	26.8	2.7	0.2	2.7	0.4
Manufacture of basic metals	99.8	99.5	26.1	21.1	73.7	78.5	0.01	0.1	0.2	0.3
Manufacture of fabricated metal products	98.5	99.9	84.2	76.9	14.3	23.0	0.2	0.05	1.3	0.02
Building and repair of ships and boats	99.8	99.9	80.4	60.7	19.4	39.2	0.01	0.0	0.2	0.1
Low tech	95.7	93.1	44.2	53.5	51.5	39.6	2.3	6.0	2.0	0.9
Manufacture of food products, including beverages	93.8	90.0	58.6	59.3	35.3	30.6	3.3	9.0	2.9	1.1
Manufacture of tobacco products	99.9	100	96.4	99.9	3.5	0.1	–	–	0.1	–
Manufacture of textiles	98.8	92.1	55.1	26.8	43.7	65.3	0.9	0.02	0.3	7.9
Manufacture of wearing apparel, dressing and dyeing of fur	97.2	58.7	73.6	39.3	23.5	19.4	1.0	40.0	1.8	1.3

(continued)

	Expenditure on innovation									
	Technological		Of which				Marketing		Organisational	
			product		process					
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Manufacture of leather, leather products and footwear	99.2	99.5	32.2	69.4	66.9	30.1	0.03	0.3	0.8	0.3
Woodworking and manufacture of wood and of products of wood and cork, except furniture	99.4	99.7	23.1	28.0	76.3	71.7	0.2	0.2	0.4	0.1
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	99.8	100	1.8	19.6	98.0	80.4	0.1	0.01	0.1	0.01
Publishing and printing activities, reproduction of recorded media	99.4	98.8	41.1	30.1	58.3	68.7	0.4	0.9	0.2	0.3
Manufacture of furniture and other products n.e.c.	92.9	95.1	44.0	43.9	48.9	51.2	4.7	2.1	2.4	2.9
Recycling of secondary raw materials	99.8	100	77.3	100	22.5	—	0.2	—	0.03	—
Electricity, gas and water supply	98.9	99.5	5.1	3.5	93.8	96.0	0.02	0.01	1.1	0.5
Communication, computer and information technology-related activities, research and development, other services of the business economy										
Total	96.7	99.1	66.2	70.7	30.5	28.4	2.9	0.2	0.4	0.7
Communication	99.2	96.4	35.1	54.8	64.1	41.5	0.5	0.3	0.3	3.3
Computer and information technology-related activities	92.8	98.9	70.2	52.0	22.6	46.9	6.9	0.3	0.3	0.8
Research and development	96.6	99.4	70.9	73.3	25.7	26.1	3.1	0.2	0.3	0.4
Other services of the business economy	97.6	97.4	59.7	55.6	37.9	41.8	0.7	0.2	1.7	2.3

2.13. PERCENTAGE DISTRIBUTION OF EXPENDITURE ON TECHNOLOGICAL, MARKETING, AND ORGANISATIONAL INNOVATION BY INNOVATION TYPE AND SIZE

	Expenditure on innovation									
	Technological		Of which				Marketing		Organisational	
			product		process					
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply; communication, computer and information technology-related activities, research and development, other services of the business economy										
Total	98.1	98.4	45.1	49.7	53.0	48.7	1.1	1.1	0.8	0.5
Number of employees in an enterprise, <i>headcount</i> :										
less than 50	95.8	98.8	62.6	40.6	33.2	58.2	2.6	0.3	1.6	0.8
50–99	98.8	98.3	10.4	56.6	88.4	41.8	1.0	0.4	0.2	1.2
100–199	98.7	98.2	62.3	32.4	36.4	65.8	0.5	1.2	0.7	0.6
200–249	97.0	96.5	56.4	38.0	40.5	58.5	2.8	2.5	0.3	1.0
250–499	96.8	96.9	59.0	61.2	37.8	35.7	1.1	2.4	2.1	0.7
500–999	98.8	99.0	47.9	65.8	50.9	33.2	0.4	0.2	0.9	0.8
1000–4999	96.8	99.5	48.7	50.9	48.1	48.6	2.2	0.1	1.0	0.4
5000–9999	99.8	95.1	38.3	47.3	61.5	47.8	0.03	4.3	0.1	0.6
10 000 and above	99.5	99.3	39.0	30.3	60.5	69.0	0.05	0.1	0.4	0.6

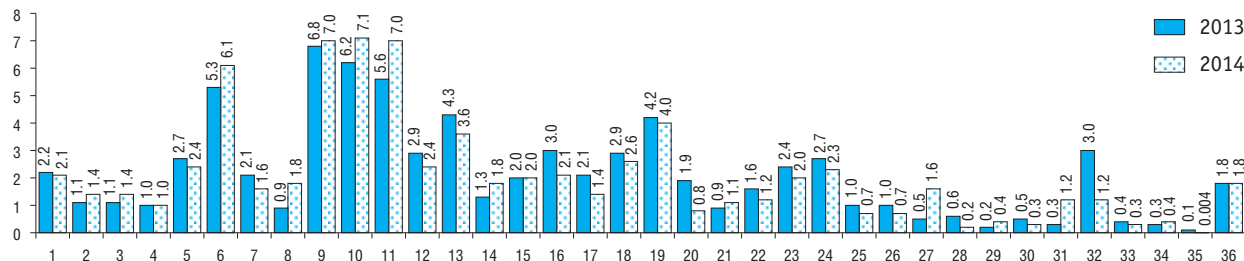
2.14. PERCENTAGE DISTRIBUTION OF EXPENDITURE ON TECHNOLOGICAL, MARKETING, AND ORGANISATIONAL INNOVATION BY INNOVATION TYPE AND OWNERSHIP OF ENTERPRISES

	Expenditure on innovation									
	Technological		Of which				Marketing		Organisational	
			product		process					
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply; communication, computer and information technology-related activities, research and development, other services of the business economy										
Total	98.1	98.4	45.1	49.7	53.0	48.7	1.1	1.1	0.8	0.5
Russian ownership	97.8	98.3	48.2	54.0	49.6	44.4	1.3	1.1	0.9	0.6
Public ownership	99.4	99.3	66.0	72.3	33.3	27.0	0.1	0.1	0.5	0.6
Federal	99.4	99.3	66.5	73.1	32.9	26.2	0.1	0.1	0.5	0.6
Regional	98.1	97.3	51.8	33.2	46.4	64.2	0.7	0.2	1.1	2.5
Municipal ownership	99.4	94.0	21.5	11.7	77.9	82.2	0.1	0.9	0.5	5.2
Ownership of voluntary associations	100	99.6	2.5	43.9	97.5	55.8	–	–	–	0.4
Private ownership	97.2	97.7	36.4	38.1	60.8	59.6	2.4	2.2	0.4	0.2
Ownership of Russian citizens permanently living abroad	–	–	–	–	–	–	–	–	–	–
Ownership of consumers' co-operatives	99.2	99.0	75.4	81.7	23.8	17.2	0.8	1.0	–	–
Mixed ownership	96.8	98.1	53.4	60.7	43.5	37.4	0.2	0.2	3.0	1.7
Mixed ownership with a share of public ownership	95.9	97.9	44.5	58.1	51.4	39.8	0.2	0.2	3.9	2.0
Other mixed ownership	98.8	99.1	72.2	69.6	26.6	29.5	0.1	0.1	1.2	0.8
Ownership of state corporations	99.1	99.8	63.3	70.9	35.8	29.0	0.8	0.1	0.1	0.1
Foreign ownership	98.6	99.2	31.7	36.5	66.9	62.7	0.7	0.6	0.7	0.2
Joint ownership (with both Russian and foreign participation)	99.5	98.5	33.2	24.0	66.4	74.5	0.2	1.2	0.3	0.3

2.15. INTENSITY OF EXPENDITURE ON TECHNOLOGICAL, MARKETING, AND ORGANISATIONAL INNOVATION BY ECONOMIC ACTIVITY

(expenditure on technological, marketing, and organisational innovation as a percentage of total goods and services sales)

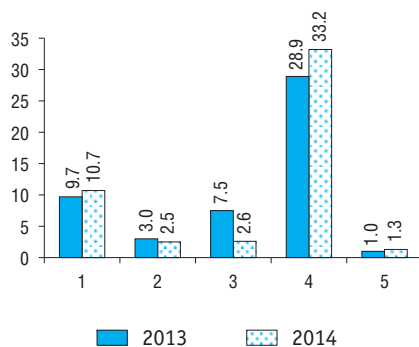
Mining and quarrying, manufacturing, electricity, gas and water supply



- 1 - Total
- 2 - Mining and quarrying
 - 3 - Mining and quarrying of energy producing materials
 - 4 - Mining and quarrying, except energy producing materials
- 5 - Manufacturing
 - 6 - High tech
 - 7 - Manufacture of pharmaceuticals and pharmaceutical products
 - 8 - Manufacture of office machinery and computers
 - 9 - Manufacture of radio, television and communication equipment and apparatus
 - 10 - Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks
 - 11 - Manufacture of aircraft, including spacecraft
- 12 - Medium high tech
 - 13 - Manufacture of chemicals and chemical products
 - 14 - Manufacture of machinery and equipment
 - 15 - Manufacture of electrical machinery and apparatus
 - 16 - Manufacture of motor vehicles, trailers and semi-trailers
 - 17 - Manufacture of other transport vehicles

- 18 - Medium low tech
 - 19 - Manufacture of coke and refined petroleum products
 - 20 - Manufacture of rubber and plastic products
 - 21 - Manufacture of other non-metallic mineral products
 - 22 - Manufacture of basic metals
 - 23 - Manufacture of fabricated metal products
 - 24 - Building and repair of ships and boats
- 25 - Low tech
 - 26 - Manufacture of food products, including beverages
 - 27 - Manufacture of tobacco products
 - 28 - Manufacture of textiles
 - 29 - Manufacture of wearing apparel, dressing and dyeing of fur
 - 30 - Manufacture of leather, leather products and footwear
 - 31 - Woodworking and manufacture of wood and of products of wood and cork, except furniture
 - 32 - Manufacture of cellulose, wood pulp, paper and cardboard and products thereof
 - 33 - Publishing and printing activities, reproduction of recorded media
 - 34 - Manufacture of furniture and other products n.e.c.
 - 35 - Recycling of secondary raw materials
- 36 - Electricity, gas and water supply

(continued)

**Communication, computer and information technology-related activities,
research and development, other services of the business economy**

1 – Total

2 – Communication

3 – Computer and information technology-related activities

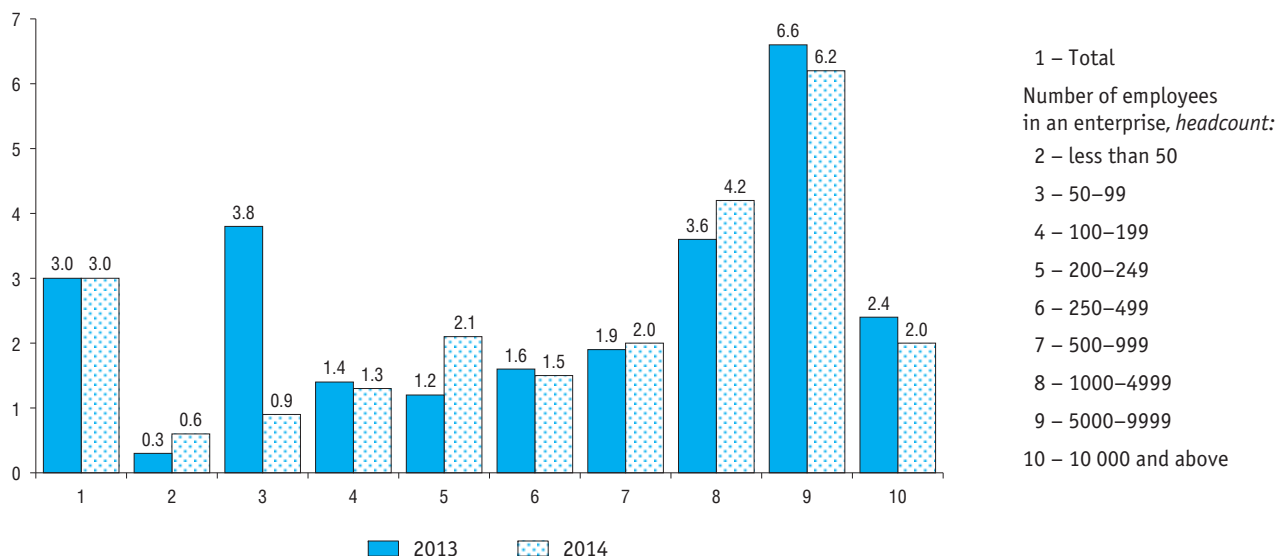
4 – Research and development

5 – Other services of the business economy

2.16. INTENSITY OF EXPENDITURE ON TECHNOLOGICAL, MARKETING, AND ORGANISATIONAL INNOVATION BY SIZE

(expenditure on technological, marketing, and organisational innovation as a percentage of total goods and services sales)

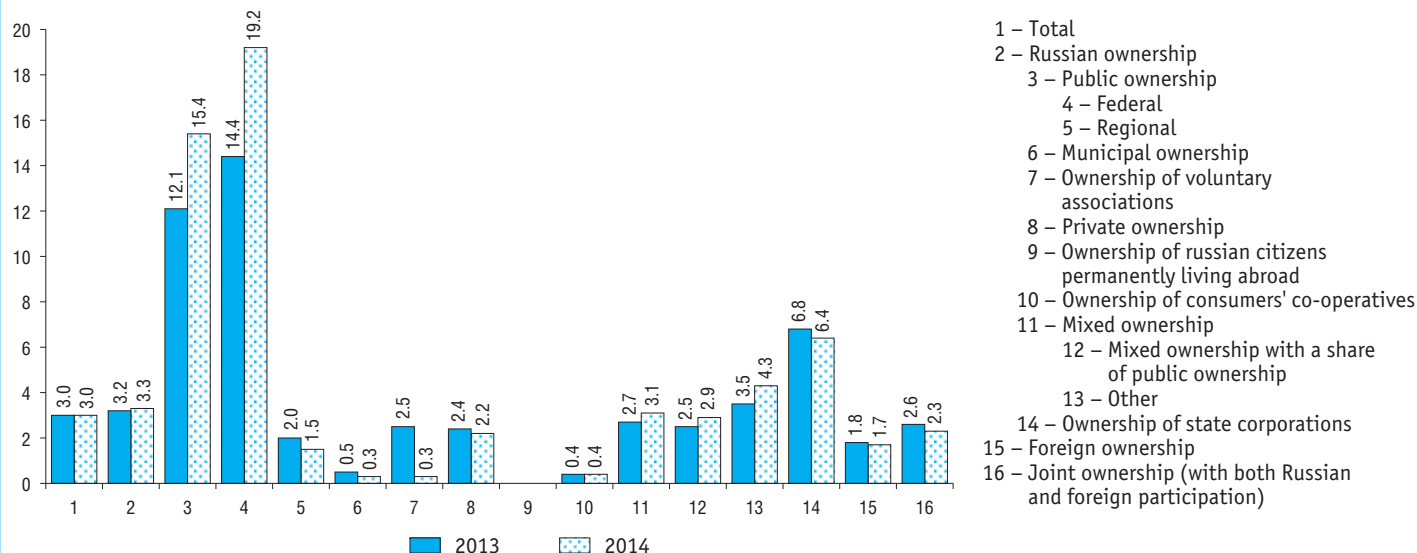
Mining and quarrying, manufacturing, electricity, gas and water supply; communication, computer and information technology-related activities, research and development, other services of the business economy



2.17. INTENSITY OF EXPENDITURE ON TECHNOLOGICAL, MARKETING, AND ORGANISATIONAL INNOVATION BY TYPE OF OWNERSHIP

(expenditure on technological, marketing, and organisational innovation as a percentage of total goods and services sales)

Mining and quarrying, manufacturing, electricity, gas and water supply; communication, computer and information technology-related activities, research and development, other services of the business economy



2.18. EFFECTS OF INNOVATION: 2012–2014

	High degree of impact		Medium degree of impact		Low degree of impact		No impact		Rank
	Number of enterprises	Per cent	Number of enterprises	Per cent	Number of enterprises	Per cent	Number of enterprises	Per cent	
Mining and quarrying, manufacturing, electricity, gas and water supply									
Goods and services product-line expansion	1303	41.5	858	27.3	333	10.6	645	20.5	2.4
Traditional sales markets preservation	1209	38.5	999	31.8	288	9.2	643	20.5	2.4
Sales markets expansion	896	28.5	968	30.8	382	12.2	893	28.4	2.2
Russia	895	28.5	961	30.6	359	11.4	924	29.4	2.2
CIS countries	309	9.8	578	18.4	508	16.2	1744	55.6	1.9
EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland	78	2.5	144	4.6	345	11.0	2572	81.9	1.5
USA and Canada	41	1.3	108	3.4	308	9.8	2682	85.4	1.4
Other countries	127	4.0	229	7.3	383	12.2	2400	76.5	1.7
Goods and services quality improvement	1290	41.1	1052	33.5	267	8.5	530	16.9	2.4
Obsolete products replacement	519	16.5	687	21.9	491	15.6	1442	45.9	2.0
Expansion of employment	348	11.1	871	27.7	755	24.1	1165	37.1	1.8
Manufacturing flexibility increase	725	23.1	1111	35.4	517	16.5	786	25.0	2.1
Manufacturing capacity growth	871	27.7	989	31.5	454	14.5	825	26.3	2.2
Salary costs reduction	186	5.9	714	22.7	796	25.4	1443	46.0	1.6
Material costs reduction	457	14.6	1080	34.4	669	21.3	933	29.7	1.9

* Here and elsewhere in the table: Albania, Bosnia and Herzegovina, Iceland, Kosovo, Macedonia, Serbia, Turkey, Montenegro.

(continued)

	High degree of impact		Medium degree of impact		Low degree of impact		No impact		Rank
	Number of enterprises	Per cent	Number of enterprises	Per cent	Number of enterprises	Per cent	Number of enterprises	Per cent	
Manufacturing energy efficiency improvement (lower energy consumption or energy resources loss prevention)	611	19.5	988	31.5	631	20.1	909	29.0	2.0
Working and safety conditions improvement	623	19.8	1116	35.6	538	17.1	862	27.5	2.0
Customers and suppliers interaction time reduction	327	10.4	778	24.8	677	21.6	1357	43.2	1.8
Innovative activity motivation increase	447	14.2	1055	33.6	641	20.4	996	31.7	1.9
Information links improvement within an organisation or between organisations	562	17.9	955	30.4	546	17.4	1076	34.3	2.0
Environmental pollution abatement	445	14.2	888	28.3	646	20.6	1160	37.0	1.9
Modern technical regulations, rules and standards compliance	1082	34.5	1035	33.0	386	12.3	636	20.3	2.3
Marketing innovations:									
penetration of new sales markets and new segments of target customers with goods and services	466	14.8	658	21.0	389	12.4	1626	51.8	2.1
penetration of new geographical markets with goods and services	261	8.3	533	17.0	449	14.3	1896	60.4	1.8

(continued)

	High degree of impact		Medium degree of impact		Low degree of impact		No impact		Rank
	Number of enterprises	Per cent	Number of enterprises	Per cent	Number of enterprises	Per cent	Number of enterprises	Per cent	
Communication, computer and information technology-related activities, research and development, other services of the business economy									
Goods and services product-line expansion	633	37.9	492	29.5	183	11.0	360	21.6	2.3
Traditional sales markets preservation	602	36.1	465	27.9	150	9.0	451	27.0	2.4
Sales markets expansion	378	22.7	446	26.7	232	13.9	612	36.7	2.1
Russia	390	23.4	439	26.3	214	12.8	625	37.5	2.2
CIS countries	89	5.3	169	10.1	228	13.7	1182	70.9	1.7
EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland	35	2.1	64	3.8	173	10.4	1396	83.7	1.5
USA and Canada	27	1.6	56	3.4	169	10.1	1416	84.9	1.4
Other countries	72	4.3	110	6.6	189	11.3	1297	77.8	1.7
Goods and services quality improvement	713	42.7	561	33.6	96	5.8	298	17.9	2.5
Obsolete products replacement	218	13.1	330	19.8	250	15.0	870	52.2	2.0
Expansion of employment	189	11.3	380	22.8	364	21.8	735	44.1	1.8
Manufacturing flexibility increase	261	15.6	467	28.0	254	15.2	686	41.1	2.0
Manufacturing capacity growth	324	19.4	409	24.5	245	14.7	690	41.4	2.1
Salary costs reduction	78	4.7	228	13.7	383	23.0	979	58.7	1.6
Material costs reduction	121	7.3	405	24.3	380	22.8	762	45.7	1.7

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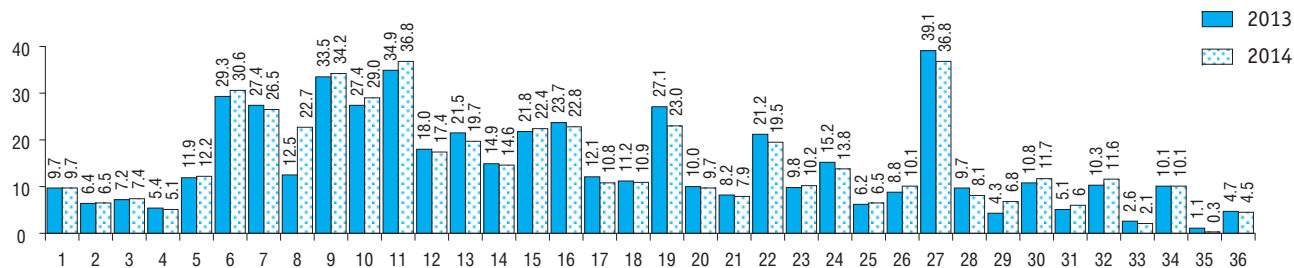
	High degree of impact		Medium degree of impact		Low degree of impact		No impact		Rank
	Number of enterprises	Per cent	Number of enterprises	Per cent	Number of enterprises	Per cent	Number of enterprises	Per cent	
Manufacturing energy efficiency improvement (lower energy consumption or energy resources loss prevention)	148	8.9	338	20.3	385	23.1	797	47.8	1.7
Working and safety conditions improvement	194	11.6	498	29.9	286	17.1	690	41.4	1.9
Customers and suppliers interaction time reduction	265	15.9	414	24.8	315	18.9	674	40.4	1.9
Innovative activity motivation increase	324	19.4	499	29.9	282	16.9	563	33.8	2.0
Information links improvement within an organisation or between organisations	464	27.8	560	33.6	211	12.6	433	26.0	2.2
Environmental pollution abatement	128	7.7	232	13.9	303	18.2	1005	60.3	1.7
Modern technical regulations, rules and standards compliance	633	37.9	471	28.2	155	9.3	409	24.5	2.4
Marketing innovations:									
penetration of new sales markets and new segments of target customers with goods and services	183	11.0	292	17.5	198	11.9	995	59.7	2.0
penetration of new geographical markets with goods and services	93	5.6	188	11.3	222	13.3	1165	69.8	1.7



3. Technological Innovation

3.1. ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION AS A PERCENTAGE OF ALL ENTERPRISES BY ECONOMIC ACTIVITY

Mining and quarrying, manufacturing, electricity, gas and water supply

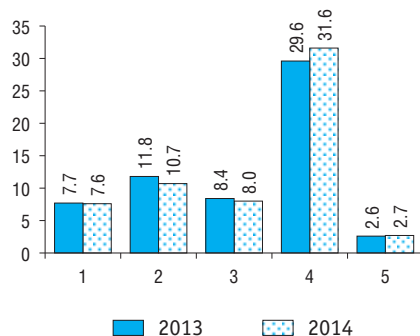


- 1 - Total
- 2 - Mining and quarrying
 - 3 - Mining and quarrying of energy producing materials
 - 4 - Mining and quarrying, except energy producing materials
- 5 - Manufacturing
 - 6 - High tech
 - 7 - Manufacture of pharmaceuticals and pharmaceutical products
 - 8 - Manufacture of office machinery and computers
 - 9 - Manufacture of radio, television and communication equipment and apparatus
 - 10 - Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks
 - 11 - Manufacture of aircraft, including spacecraft
 - 12 - Medium high tech
 - 13 - Manufacture of chemicals and chemical products
 - 14 - Manufacture of machinery and equipment
 - 15 - Manufacture of electrical machinery and apparatus
 - 16 - Manufacture of motor vehicles, trailers and semi-trailers
 - 17 - Manufacture of other transport vehicles

- 18 - Medium low tech
- 19 - Manufacture of coke and refined petroleum products
- 20 - Manufacture of rubber and plastic products
- 21 - Manufacture of other non-metallic mineral products
- 22 - Manufacture of basic metals
- 23 - Manufacture of fabricated metal products
- 24 - Building and repair of ships and boats
- 25 - Low tech
 - 26 - Manufacture of food products, including beverages
 - 27 - Manufacture of tobacco products
 - 28 - Manufacture of textiles
 - 29 - Manufacture of wearing apparel, dressing and dyeing of fur
 - 30 - Manufacture of leather, leather products and footwear
 - 31 - Woodworking and manufacture of wood and of products of wood and cork, except furniture
 - 32 - Manufacture of cellulose, wood pulp, paper and cardboard and products thereof
 - 33 - Publishing and printing activities, reproduction of recorded media
 - 34 - Manufacture of furniture and other products n.e.c.
 - 35 - Recycling of secondary raw materials
- 36 - Electricity, gas and water supply

(continued)

**Communication, computer and information technology-related activities,
research and development, other services of the business economy**



- 1 – Total
- 2 – Communication
- 3 – Computer and information technology-related activities
- 4 – Research and development
- 5 – Other services of the business economy

3.2. ENTERPRISES ENGAGED IN PRODUCT AND PROCESS INNOVATION-RELATED ACTIVITY AS A PERCENTAGE OF ALL ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY ECONOMIC ACTIVITY

	Enterprises engaged in product innovation-related activity		Enterprises engaged in process innovation-related activity	
	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply				
Total	60.1	60.5	59.8	58.6
Mining and quarrying	24.3	25.7	87.4	81.0
Mining and quarrying of energy producing materials	23.5	25.0	88.2	80.6
Mining and quarrying, except energy producing materials	25.7	27.3	85.7	81.8
Manufacturing	67.2	67.7	54.7	53.9
High tech	79.3	77.9	49.2	52.2
Manufacture of pharmaceuticals and pharmaceutical products	89.8	84.0	34.7	42.0
Manufacture of office machinery and computers	66.7	70.0	66.7	70.0
Manufacture of radio, television and communication equipment and apparatus	83.2	80.0	48.6	52.4
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	80.4	81.1	49.4	50.6
Manufacture of aircraft, including spacecraft	59.6	60.7	61.5	62.5
Medium high tech	73.5	74.8	50.2	46.4
Manufacture of chemicals and chemical products	63.6	64.8	61.9	60.0
Manufacture of machinery and equipment	74.5	74.4	46.0	44.4

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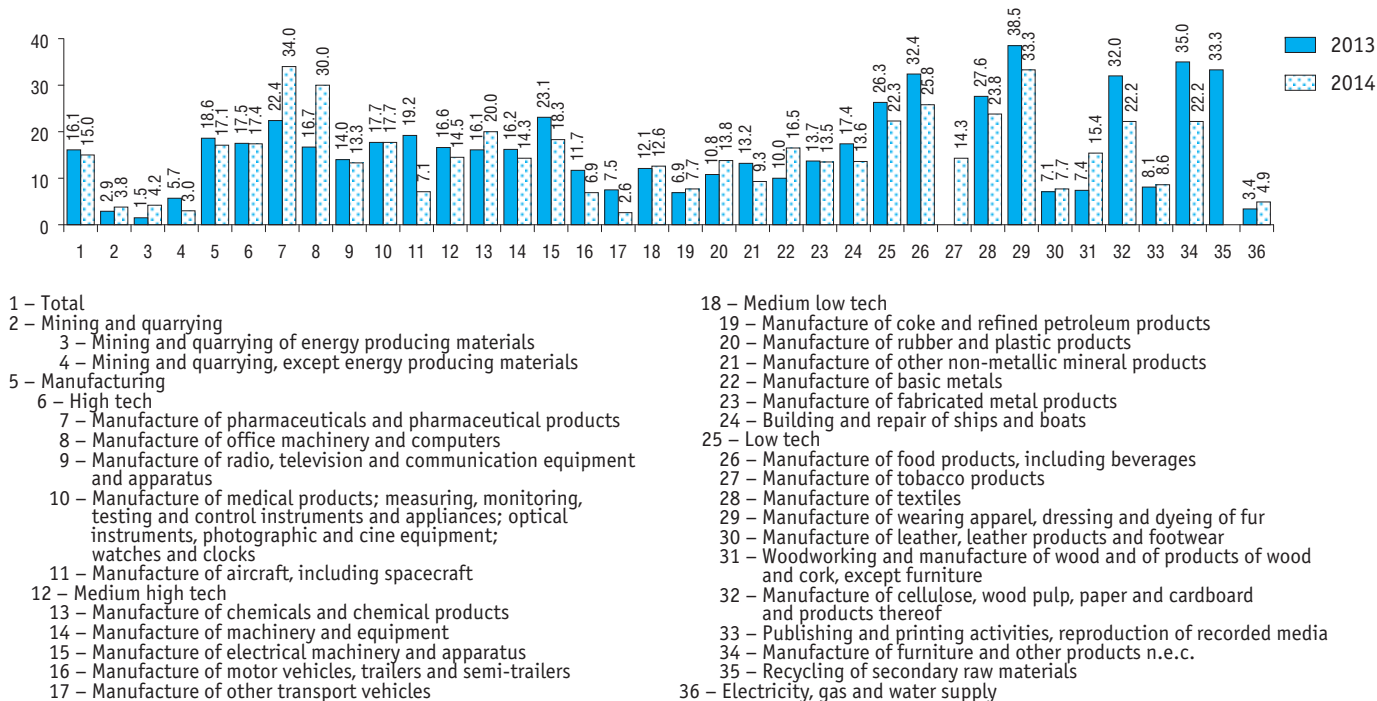
	Enterprises engaged in product innovation-related activity		Enterprises engaged in process innovation-related activity	
	2013	2014	2013	2014
Manufacture of electrical machinery and apparatus	81.0	79.1	51.0	47.7
Manufacture of motor vehicles, trailers and semi-trailers	79.8	81.6	42.6	34.5
Manufacture of other transport vehicles	55.0	71.1	55.0	42.1
Medium low tech	56.2	55.8	60.3	63.0
Manufacture of coke and refined petroleum products	55.2	65.4	65.5	65.4
Manufacture of rubber and plastic products	58.5	62.1	52.3	53.4
Manufacture of other non-metallic mineral products	55.3	53.7	57.9	60.2
Manufacture of basic metals	50.0	50.6	68.8	73.4
Manufacture of fabricated metal products	62.1	58.3	58.9	59.4
Building and repair of ships and boats	52.2	45.5	65.2	77.3
Low tech	57.3	58.4	57.7	54.8
Manufacture of food products, including beverages	61.4	59.4	51.1	50.7
Manufacture of tobacco products	66.7	85.7	33.3	14.3
Manufacture of textiles	65.5	76.2	51.7	52.4
Manufacture of wearing apparel, dressing and dyeing of fur	53.8	53.3	61.5	66.7
Manufacture of leather, leather products and footwear	57.1	53.8	57.1	53.8
Woodworking and manufacture of wood and of products of wood and cork, except furniture	44.4	50.0	70.4	65.4

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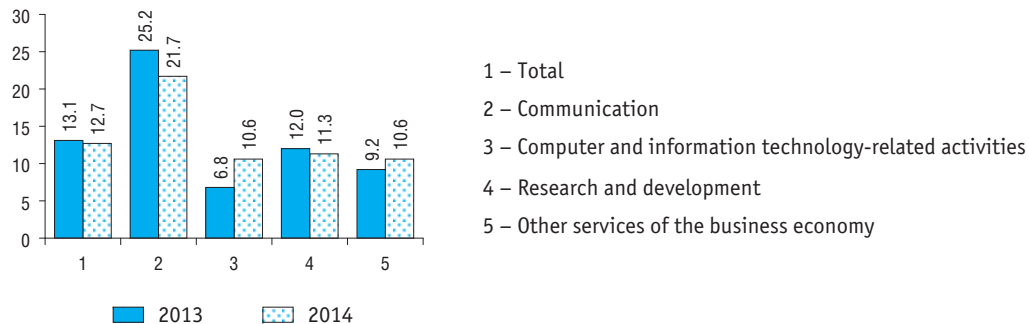
	Enterprises engaged in product innovation-related activity		Enterprises engaged in process innovation-related activity	
	2013	2014	2013	2014
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	24.0	44.4	80.0	66.7
Publishing and printing activities, reproduction of recorded media	54.1	55.2	73.0	69.0
Manufacture of furniture and other products n.e.c.	57.5	58.3	62.5	55.6
Recycling of secondary raw materials	66.7	100	33.3	–
Electricity, gas and water supply	24.2	24.4	84.6	82.6
Communication, computer and information technology-related activities, research and development, other services of the business economy				
Total	59.4	59.1	59.4	60.2
Communication	52.8	52.2	64.2	67.1
Computer and information technology-related activities	53.8	55.3	51.3	51.2
Research and development	73.2	74.5	54.0	53.6
Other services of the business economy	36.3	32.6	71.2	73.2

3.3. ENTERPRISES ENGAGED IN TECHNOLOGICAL AND MARKETING INNOVATION AS A PERCENTAGE OF ALL ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY ECONOMIC ACTIVITY

Mining and quarrying, manufacturing, electricity, gas and water supply



(continued)

**Communication, computer and information technology-related activities,
research and development, other services of the business economy**

3.4. PERCENTAGE DISTRIBUTION OF ENTERPRISES ENGAGED IN TECHNOLOGICAL AND MARKETING INNOVATION BY ECONOMIC ACTIVITY

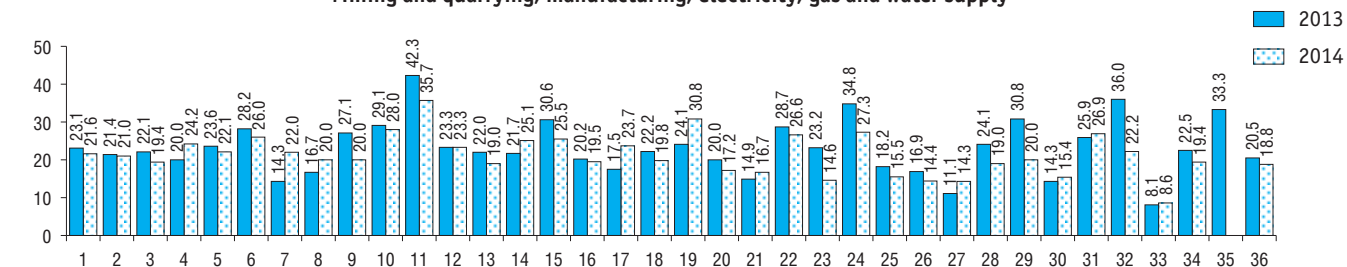
	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply		
Total	100	100
Mining and quarrying	0.8	1.1
Mining and quarrying of energy producing materials	0.3	0.8
Mining and quarrying, except energy producing materials	0.5	0.3
Manufacturing	96.6	94.9
High tech	16.9	18.9
Manufacture of pharmaceuticals and pharmaceutical products	2.9	4.8
Manufacture of office machinery and computers	0.3	0.8
Manufacture of radio, television and communication equipment and apparatus	3.9	4.0
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	7.3	8.2
Manufacture of aircraft, including spacecraft	2.6	1.1
Medium high tech	27.3	24.9
Manufacture of chemicals and chemical products	4.9	5.9
Manufacture of machinery and equipment	9.9	9.0
Manufacture of electrical machinery and apparatus	8.9	7.9
Manufacture of motor vehicles, trailers and semi-trailers	2.9	1.7
Manufacture of other transport vehicles	0.8	0.3
Medium low tech	12.8	13.8
Manufacture of coke and refined petroleum products	0.5	0.6
Manufacture of rubber and plastic products	1.8	2.3
Manufacture of other non-metallic mineral products	3.9	2.8

(continued)

	2012	2013
Manufacture of basic metals	2.1	3.7
Manufacture of fabricated metal products	3.4	3.7
Building and repair of ships and boats	1.0	0.8
Low tech	34.6	31.6
Manufacture of food products, including beverages	22.9	21.8
Manufacture of tobacco products	–	0.3
Manufacture of textiles	2.1	1.4
Manufacture of wearing apparel, dressing and dyeing of fur	1.3	1.4
Manufacture of leather, leather products and footwear	0.3	0.3
Woodworking and manufacture of wood and of products of wood and cork, except furniture	0.5	1.1
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	2.1	1.7
Publishing and printing activities, reproduction of recorded media	1.6	1.4
Manufacture of furniture and other products n.e.c.	3.6	2.3
Recycling of secondary raw materials	0.3	0.0
Manufacture of other materials and substances n.e.c.	4.9	5.6
Electricity, gas and water supply	2.6	4.0
Communication, computer and information technology-related activities, research and development, other services of the business economy		
Total	100	100
Communication	32.7	27.1
Computer and information technology-related activities	4.8	7.8
Research and development	46.4	45.2
Other services of the business economy	16.1	19.9

3.5. ENTERPRISES ENGAGED IN TECHNOLOGICAL AND ORGANISATIONAL INNOVATION AS A PERCENTAGE OF ALL ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION ACTIVITY BY ECONOMIC ACTIVITY

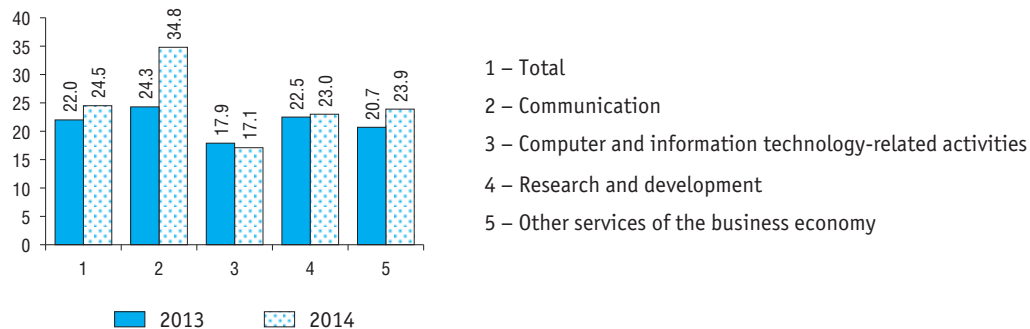
Mining and quarrying, manufacturing, electricity, gas and water supply



- 1 – Total
- 2 – Mining and quarrying
 - 3 – Mining and quarrying of energy producing materials
 - 4 – Mining and quarrying, except energy producing materials
- 5 – Manufacturing
 - 6 – High tech
 - 7 – Manufacture of pharmaceuticals and pharmaceutical products
 - 8 – Manufacture of office machinery and computers
 - 9 – Manufacture of radio, television and communication equipment and apparatus
 - 10 – Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks
 - 11 – Manufacture of aircraft, including spacecraft
- 12 – Medium high tech
 - 13 – Manufacture of chemicals and chemical products
 - 14 – Manufacture of machinery and equipment
 - 15 – Manufacture of electrical machinery and apparatus
 - 16 – Manufacture of motor vehicles, trailers and semi-trailers
 - 17 – Manufacture of other transport vehicles
- 18 – Medium low tech
 - 19 – Manufacture of coke and refined petroleum products
 - 20 – Manufacture of rubber and plastic products
 - 21 – Manufacture of other non-metallic mineral products
 - 22 – Manufacture of basic metals
 - 23 – Manufacture of fabricated metal products
 - 24 – Building and repair of ships and boats
- 25 – Low tech
 - 26 – Manufacture of food products, including beverages
 - 27 – Manufacture of tobacco products
 - 28 – Manufacture of textiles
 - 29 – Manufacture of wearing apparel, dressing and dyeing of fur
 - 30 – Manufacture of leather, leather products and footwear
 - 31 – Woodworking and manufacture of wood and of products of wood and cork, except furniture
 - 32 – Manufacture of cellulose, wood pulp, paper and cardboard and products thereof
 - 33 – Publishing and printing activities, reproduction of recorded media
 - 34 – Manufacture of furniture and other products n.e.c.
 - 35 – Recycling of secondary raw materials
- 36 – Electricity, gas and water supply

(continued)

**Communication, computer and information technology-related activities,
research and development, other services of the business economy**



3.6. PERCENTAGE DISTRIBUTION OF ENTERPRISES ENGAGED IN TECHNOLOGICAL AND ORGANISATIONAL INNOVATION BY ECONOMIC ACTIVITY

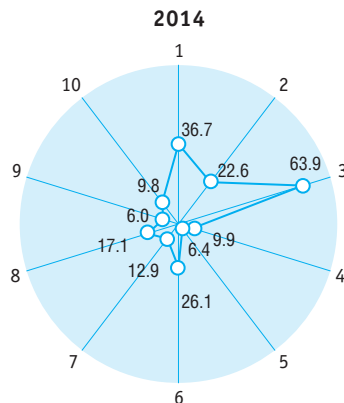
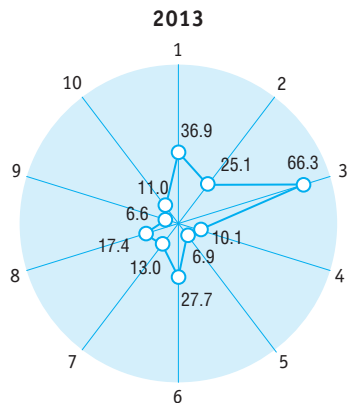
	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply		
Total	100	100
Mining and quarrying	4.0	4.3
Mining and quarrying of energy producing materials	2.7	2.7
Mining and quarrying, except energy producing materials	1.3	1.6
Manufacturing	85.2	85.1
High tech	19.0	19.6
Manufacture of pharmaceuticals and pharmaceutical products	1.3	2.2
Manufacture of office machinery and computers	0.2	0.4
Manufacture of radio, television and communication equipment and apparatus	5.2	4.1
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	8.3	9.0
Manufacture of aircraft, including spacecraft	4.0	3.9
Medium high tech	26.8	27.6
Manufacture of chemicals and chemical products	4.7	3.9
Manufacture of machinery and equipment	9.2	11.0
Manufacture of electrical machinery and apparatus	8.1	7.6
Manufacture of motor vehicles, trailers and semi-trailers	3.4	3.3
Manufacture of other transport vehicles	1.3	1.8
Medium low tech	16.3	15.1
Manufacture of coke and refined petroleum products	1.3	1.6
Manufacture of rubber and plastic products	2.4	2.0
Manufacture of other non-metallic mineral products	3.1	3.5

(continued)

	2012	2013
Manufacture of basic metals	4.2	4.1
Manufacture of fabricated metal products	4.0	2.7
Building and repair of ships and boats	1.4	1.2
Low tech	16.6	15.3
Manufacture of food products, including beverages	8.3	8.4
Manufacture of tobacco products	0.2	0.2
Manufacture of textiles	1.3	0.8
Manufacture of wearing apparel, dressing and dyeing of fur	0.7	0.6
Manufacture of leather, leather products and footwear	0.4	0.4
Woodworking and manufacture of wood and of products of wood and cork, except furniture	1.3	1.4
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	1.6	1.2
Publishing and printing activities, reproduction of recorded media	1.1	1.0
Manufacture of furniture and other products n.e.c.	1.6	1.4
Recycling of secondary raw materials	0.2	0.0
Manufacture of other materials and substances n.e.c.	6.5	7.5
Electricity, gas and water supply	10.8	10.6
Communication, computer and information technology-related activities, research and development, other services of the business economy		
Total	100	100
Communication	18.8	22.6
Computer and information technology-related activities	7.4	6.6
Research and development	52.1	47.6
Other services of the business economy	21.6	23.2

3.7. PERCENTAGE DISTRIBUTION OF ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY INNOVATIVE ACTIVITY

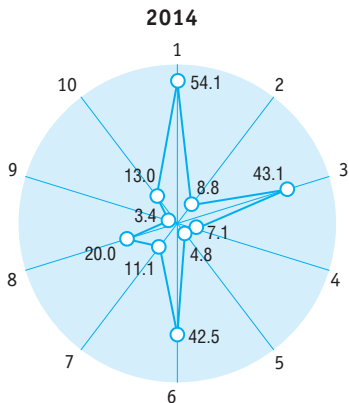
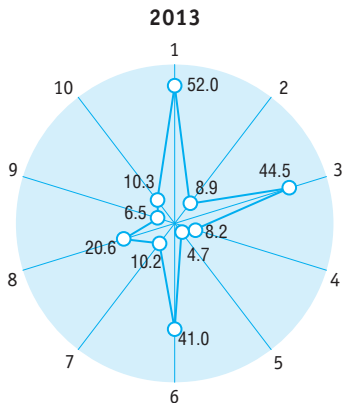
Mining and quarrying, manufacturing, electricity, gas and water supply



- 1 – R&D
- 2 – Industrial design and engineering
- 3 – Acquisition of machinery and equipment
- 4 – Acquisition of new technology
- 5 – Of which acquisition of patent rights and patent licences
- 6 – Acquisition of software
- 7 – Other types of pre-production
- 8 – Personnel training
- 9 – Market research
- 10 – Other

(continued)

Communication, computer and information technology-related activities, research and development,
other services of the business economy



- 1 – R&D
- 2 – Industrial design and engineering
- 3 – Acquisition of machinery and equipment
- 4 – Acquisition of new technology
- 5 – Of which acquisition of patent rights and patent licences
- 6 – Acquisition of software
- 7 – Other types of pre-production
- 8 – Personnel training
- 9 – Market research
- 10 – Other

3.8. ENTERPRISES ENGAGED IN SELECTED TYPES OF INNOVATIVE ACTIVITY AS A PERCENTAGE OF ALL ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY ECONOMIC ACTIVITY: 2014

	Enterprises engaged in									
	R&D	industrial design and engineering	acquisition of machinery and equipment	acquisition of new technology	of which acquisition of patent rights and licences	acquisition of software	other types of pre-production	personnel training	market research	other innovative activities
Mining and quarrying, manufacturing, electricity, gas and water supply										
Total	36.7	22.6	63.9	9.9	6.4	26.1	12.9	17.1	6.0	9.8
Mining and quarrying	42.9	11.4	40.0	13.3	5.7	25.7	6.7	12.4	1.0	8.6
Mining and quarrying of energy producing materials	47.2	8.3	36.1	16.7	8.3	23.6	8.3	9.7	–	8.3
Mining and quarrying, except energy producing materials	33.3	18.2	48.5	6.1	–	30.3	3.0	18.2	3.0	9.1
Manufacturing	39.2	24.7	66.0	10.4	7.2	25.4	13.9	19.1	7.2	9.2
High tech	59.5	27.5	68.1	10.6	7.3	36.1	18.7	30.6	9.6	9.1
Manufacture of pharmaceuticals and pharmaceutical products	74.0	16.0	56.0	18.0	16.0	20.0	10.0	24.0	22.0	–
Manufacture of office machinery and computers	50.0	40.0	80.0	–	–	40.0	30.0	30.0	10.0	10.0
Manufacture of radio, television and communication equipment and apparatus	60.0	26.7	70.5	4.8	3.8	30.5	18.1	31.4	6.7	6.7
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	59.8	28.7	65.9	10.4	6.7	36.0	19.5	24.4	9.8	11.6
Manufacture of aircraft, including spacecraft	46.4	33.9	78.6	17.9	8.9	60.7	23.2	53.6	3.6	14.3
Medium high tech	43.4	26.9	61.9	11.6	7.9	22.8	15.3	19.0	8.1	9.6
Manufacture of chemicals and chemical products	51.4	30.5	66.7	10.5	5.7	19.0	16.2	18.1	11.4	16.2
Manufacture of machinery and equipment	40.8	28.3	57.8	11.7	7.6	24.7	13.5	22.0	10.8	7.2

(continued)

	Enterprises engaged in									
	R&D	industrial design and engineering	acquisition of machinery and equipment	acquisition of new technology	of which acquisition of patent rights and licences	acquisition of software	other types of pre-production	personnel training	market research	other innovative activities
Manufacture of electrical machinery and apparatus	47.1	24.8	69.9	11.1	9.8	22.9	14.4	19.0	3.9	7.8
Manufacture of motor vehicles, trailers and semi-trailers	35.6	27.6	57.5	12.6	8.0	23.0	23.0	16.1	6.9	11.5
Manufacture of other transport vehicles	39.5	15.8	50.0	13.2	7.9	21.1	10.5	10.5	2.6	7.9
Medium low tech	33.2	21.9	71.5	12.1	7.7	25.2	14.9	16.2	3.6	11.1
Manufacture of coke and refined petroleum products	50.0	57.7	69.2	15.4	7.7	46.2	30.8	38.5	–	19.2
Manufacture of rubber and plastic products	37.9	25.9	69.0	8.6	5.2	17.2	19.0	13.8	3.4	3.4
Manufacture of other non-metallic mineral products	15.7	16.7	71.3	5.6	3.7	16.7	12.0	10.2	5.6	13.0
Manufacture of basic metals	48.1	21.5	68.4	16.5	10.1	31.6	15.2	13.9	1.3	19.0
Manufacture of fabricated metal products	28.1	15.6	75.0	15.6	11.5	22.9	8.3	12.5	4.2	4.2
Building and repair of ships and boats	54.5	22.7	77.3	18.2	9.1	50.0	27.3	50.0	4.5	13.6
Low tech	19.9	20.1	64.3	6.6	4.6	17.5	5.8	9.2	6.4	6.4
Manufacture of food products, including beverages	24.8	19.1	67.8	6.4	4.7	9.7	4.4	9.1	7.7	7.4
Manufacture of tobacco products	–	42.9	71.4	–	–	–	–	14.3	–	–
Manufacture of textiles	14.3	14.3	57.1	4.8	4.8	19.0	23.8	19.0	9.5	–
Manufacture of wearing apparel, dressing and dyeing of fur	33.3	13.3	46.7	–	–	26.7	–	20.0	6.7	13.3
Manufacture of leather, leather products and footwear	30.8	15.4	69.2	7.7	7.7	15.4	–	7.7	–	7.7

(continued)

	Enterprises engaged in									
	R&D	industrial design and engineering	acquisition of machinery and equipment	acquisition of new technology	of which acquisition of patent rights and licences	acquisition of software	other types of pre-production	personnel training	market research	other innovative activities
Woodworking and manufacture of wood and of products of wood and cork, except furniture	7.7	11.5	76.9	19.2	7.7	26.9	15.4	11.5	7.7	–
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	14.8	18.5	81.5	7.4	3.7	11.1	7.4	11.1	3.7	–
Publishing and printing activities, reproduction of recorded media	6.9	29.3	32.8	3.4	1.7	55.2	6.9	1.7	3.4	6.9
Manufacture of furniture and other products n.e.c.	11.1	25.0	72.2	8.3	8.3	19.4	2.8	8.3	2.8	8.3
Recycling of secondary raw materials	–	–	100	–	–	–	–	–	–	–
Electricity, gas and water supply	16.7	12.9	58.2	5.6	1.4	31.4	8.4	5.6	–	15.0
Communication, computer and information technology-related activities, research and development, other services of the business economy										
Total	54.1	8.8	43.1	7.1	4.8	42.5	11.1	20.0	3.4	13.0
Communication	20.3	12.1	55.1	3.9	0.5	30.9	20.3	26.1	2.9	32.9
Computer and information technology-related activities	44.7	12.2	34.1	11.4	8.1	39.8	6.5	14.6	4.1	13.0
Research and development	85.2	8.9	46.1	8.3	6.3	34.0	11.0	20.7	4.5	9.4
Other services of the business economy	14.2	4.8	32.3	4.8	3.2	69.7	6.8	16.5	1.0	7.4

3.9. PERCENTAGE DISTRIBUTION OF ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY INNOVATIVE AND ECONOMIC ACTIVITY: 2014

	Enterprises engaged in									
	R&D	industrial design and engineering	acquisition of machinery and equipment	acquisition of new technology	of which acquisition of patent rights and licences	acquisition of software	other types of pre-production	personnel training	market research	other innovative activities
Mining and quarrying, manufacturing, electricity, gas and water supply										
Total	100	100	100	100	100	100	100	100	100	100
Mining and quarrying	5.2	2.2	2.8	6.0	3.9	4.4	2.3	3.2	0.7	3.9
Mining and quarrying of energy producing materials	3.9	1.1	1.7	5.1	3.9	2.8	2.0	1.7	—	2.6
Mining and quarrying, except energy producing materials	1.3	1.1	1.1	0.9	—	1.6	0.3	1.5	0.7	1.3
Manufacturing	89.2	90.8	86.1	87.2	93.4	81.0	89.8	92.8	99.3	77.6
High tech	26.5	19.9	17.4	17.5	18.4	22.6	23.6	29.2	26.1	15.1
Manufacture of pharmaceuticals and pharmaceutical products	4.3	1.5	1.9	3.8	5.3	1.6	1.6	3.0	7.7	—
Manufacture of office machinery and computers	0.6	0.7	0.5	—	—	0.6	1.0	0.7	0.7	0.4
Manufacture of radio, television and communication equipment and apparatus	7.3	5.2	4.9	2.1	2.6	5.2	6.2	8.2	4.9	3.0
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	11.3	8.8	7.2	7.3	7.2	9.6	10.5	9.9	11.3	8.2
Manufacture of aircraft, including spacecraft	3.0	3.6	2.9	4.3	3.3	5.5	4.3	7.4	1.4	3.4
Medium high tech	30.4	30.5	24.9	29.9	31.6	22.4	30.5	28.5	34.5	25.0
Manufacture of chemicals and chemical products	6.2	6.0	4.6	4.7	3.9	3.2	5.6	4.7	8.5	7.3
Manufacture of machinery and equipment	10.5	11.8	8.6	11.1	11.2	8.9	9.8	12.1	16.9	6.9

(continued)

	Enterprises engaged in									
	R&D	industrial design and engineering	acquisition of machinery and equipment	acquisition of new technology	of which acquisition of patent rights and licences	acquisition of software	other types of pre-production	personnel training	market research	other innovative activities
Manufacture of electrical machinery and apparatus	8.3	7.1	7.1	7.3	9.9	5.7	7.2	7.2	4.2	5.2
Manufacture of motor vehicles, trailers and semi-trailers	3.6	4.5	3.3	4.7	4.6	3.2	6.6	3.5	4.2	4.3
Manufacture of other transport vehicles	1.7	1.1	1.3	2.1	2.0	1.3	1.3	1.0	0.7	1.3
Medium low tech	14.9	15.9	18.4	20.1	19.7	15.9	19.0	15.6	9.9	18.5
Manufacture of coke and refined petroleum products	1.5	2.8	1.2	1.7	1.3	1.9	2.6	2.5	–	2.2
Manufacture of rubber and plastic products	2.5	2.8	2.7	2.1	2.0	1.6	3.6	2.0	1.4	0.9
Manufacture of other non-metallic mineral products	2.0	3.4	5.1	2.6	2.6	2.9	4.3	2.7	4.2	6.0
Manufacture of basic metals	4.4	3.2	3.6	5.6	5.3	4.1	3.9	2.7	0.7	6.5
Manufacture of fabricated metal products	3.1	2.8	4.8	6.4	7.2	3.6	2.6	3.0	2.8	1.7
Building and repair of ships and boats	1.4	0.9	1.1	1.7	1.3	1.8	2.0	2.7	0.7	1.3
Low tech	11.6	18.9	21.4	14.1	15.1	14.3	9.5	11.4	22.5	13.8
Manufacture of food products, including beverages	8.6	10.7	13.4	8.1	9.2	4.7	4.3	6.7	16.2	9.5
Manufacture of tobacco products	–	0.6	0.3	–	–	–	–	0.2	–	–
Manufacture of textiles	0.3	0.6	0.8	0.4	0.7	0.6	1.6	1.0	1.4	–
Manufacture of wearing apparel, dressing and dyeing of fur	0.6	0.4	0.5	–	–	0.6	–	0.7	0.7	0.9
Manufacture of leather, leather products and footwear	0.5	0.4	0.6	0.4	0.7	0.3	0.0	0.2	–	0.4

(continued)

	Enterprises engaged in									
	R&D	industrial design and engineering	acquisition of machinery and equipment	acquisition of new technology	of which acquisition of patent rights and licences	acquisition of software	other types of pre-production	personnel training	market research	other innovative activities
Woodworking and manufacture of wood and of products of wood and cork, except furniture	0.2	0.6	1.3	2.1	1.3	1.1	1.3	0.7	1.4	–
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	0.5	0.9	1.5	0.9	0.7	0.5	0.7	0.7	0.7	–
Publishing and printing activities, reproduction of recorded media	0.5	3.2	1.3	0.9	0.7	5.2	1.3	0.2	1.4	1.7
Manufacture of furniture and other products n.e.c.	0.5	1.7	1.7	1.3	2.0	1.1	0.3	0.7	0.7	1.3
Recycling of secondary raw materials	–	–	0.1	–	–	–	–	–	–	–
Manufacture of other materials and substances n.e.c.	5.9	5.6	4.0	5.6	8.6	5.8	7.2	8.2	6.3	5.2
Electricity, gas and water supply	5.5	6.9	11.1	6.8	2.6	14.6	7.9	4.0	–	18.5
Communication, computer and information technology-related activities, research and development, other services of the business economy										
Total	100	100	100	100	100	100	100	100	100	100
Communication	6.0	21.9	20.3	8.7	1.6	11.6	29.2	20.8	13.6	40.2
Computer and information technology-related activities	7.8	13.2	7.5	15.2	15.9	8.8	5.6	6.9	11.4	9.5
Research and development	80.0	51.8	54.4	59.8	66.7	40.6	50.7	52.7	68.2	36.7
Other services of the business economy	6.2	13.2	17.8	16.3	15.9	39.0	14.6	19.6	6.8	13.6

3.10. ENTERPRISES HAVING IN-HOUSE R&D, PROJECT, AND DESIGN UNITS AS A PERCENTAGE OF ALL ENTERPRISES BY ECONOMIC ACTIVITY

	Enterprises engaged in technological innovation		Enterprises not engaged in technological innovation	
	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply				
Total	39.8	40.3	60.2	59.7
Mining and quarrying	34.3	35.4	65.7	64.6
Mining and quarrying of energy producing materials	40.6	38.2	59.4	61.8
Mining and quarrying, except energy producing materials	28.9	32.3	71.1	67.7
Manufacturing	41.7	41.7	58.3	58.3
High tech	55.4	59.1	44.6	40.9
Manufacture of pharmaceuticals and pharmaceutical products	63.0	68.5	37.0	31.5
Manufacture of office machinery and computers	33.3	62.5	66.7	37.5
Manufacture of radio, television and communication equipment and apparatus	54.3	55.2	45.7	44.8
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	55.9	58.4	44.1	41.6
Manufacture of aircraft, including spacecraft	55.9	61.4	44.1	38.6
Medium high tech	42.7	39.7	57.3	60.3
Manufacture of chemicals and chemical products	51.1	44.1	48.9	55.9
Manufacture of machinery and equipment	35.5	33.9	64.5	66.1

(continued)

	Enterprises engaged in technological innovation		Enterprises not engaged in technological innovation	
	2013	2014	2013	2014
Manufacture of electrical machinery and apparatus	47.6	44.4	52.4	55.6
Manufacture of motor vehicles, trailers and semi-trailers	45.3	43.0	54.7	57.0
Manufacture of other transport vehicles	54.5	48.9	45.5	51.1
Medium low tech	29.2	30.8	70.8	69.2
Manufacture of coke and refined petroleum products	54.5	54.5	45.5	45.5
Manufacture of rubber and plastic products	32.9	37.8	67.1	62.2
Manufacture of other non-metallic mineral products	29.6	28.2	70.4	71.8
Manufacture of basic metals	37.0	39.3	63.0	60.7
Manufacture of fabricated metal products	22.9	23.6	77.1	76.4
Building and repair of ships and boats	31.7	29.3	68.3	70.7
Low tech	28.5	28.7	71.5	71.3
Manufacture of food products, including beverages	31.8	38.5	68.2	61.5
Manufacture of tobacco products	50.0	100	50.0	–
Manufacture of textiles	52.9	41.2	47.1	58.8
Manufacture of wearing apparel, dressing and dyeing of fur	22.2	21.1	77.8	78.9
Manufacture of leather, leather products and footwear	42.9	44.4	57.1	55.6

(continued)

	Enterprises engaged in technological innovation		Enterprises not engaged in technological innovation	
	2013	2014	2013	2014
Woodworking and manufacture of wood and of products of wood and cork, except furniture	19.2	20.8	80.8	79.2
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	34.5	36.7	65.5	63.3
Publishing and printing activities, reproduction of recorded media	22.7	14.3	77.3	85.7
Manufacture of furniture and other products n.e.c.	20.4	16.7	79.6	83.3
Recycling of secondary raw materials	20.0	50.0	80.0	50.0
Electricity, gas and water supply	14.6	21.4	85.4	78.6
Communication, computer and information technology-related activities, research and development, other services of the business economy				
Total	36.7	36.5	63.3	63.5
Communication	59.3	52.0	40.7	48.0
Computer and information technology-related activities	47.6	46.0	52.4	54.0
Research and development	42.8	42.9	57.2	57.1
Other services of the business economy	14.2	15.0	85.8	85.0

3.11. R&D UNITS AND THEIR EMPLOYMENT BY ECONOMIC ACTIVITY

	Enterprises engaged in technological innovation				Enterprises not engaged in technological innovation			
	R&D units		Employment, <i>headcount</i>		R&D units		Employment, <i>headcount</i>	
	2013	2014	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply								
Total	2614	2644	90238	92796	2970	3105	40563	43100
Mining and quarrying	34	33	4832	5793	72	63	1056	1613
Mining and quarrying of energy producing materials	20	20	3817	3890	33	32	537	1293
Mining and quarrying, except energy producing materials	14	13	1015	1903	39	31	519	320
Manufacturing	2550	2570	84722	86490	2524	2739	35477	38990
High tech	941	974	30565	32698	505	617	8154	9554
Manufacture of pharmaceuticals and pharmaceutical products	57	66	962	1243	41	48	342	337
Manufacture of office machinery and computers	18	43	216	887	79	34	723	434
Manufacture of radio, television and communication equipment and apparatus	253	235	8228	8422	138	143	2265	2422
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	379	426	12789	13368	192	350	2736	2823
Manufacture of aircraft, including spacecraft	234	204	8370	8778	55	42	2088	3538
Medium high tech	900	833	25482	25500	852	975	13496	14736
Manufacture of chemicals and chemical products	140	118	3608	3079	116	141	1726	1847
Manufacture of machinery and equipment	359	324	10509	8307	422	445	5877	7680

(continued)

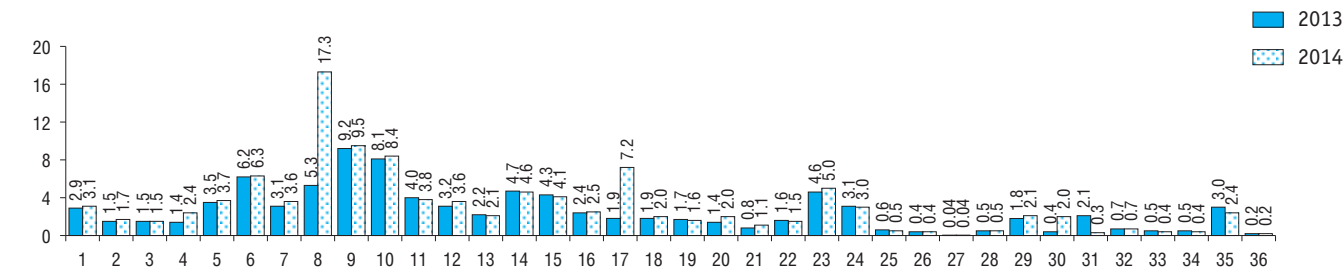
	Enterprises engaged in technological innovation				Enterprises not engaged in technological innovation			
	R&D units		Employment, <i>headcount</i>		R&D units		Employment, <i>headcount</i>	
	2013	2014	2013	2014	2013	2014	2013	2014
Manufacture of electrical machinery and apparatus	254	261	4570	4330	189	211	3384	2591
Manufacture of motor vehicles, trailers and semi-trailers	104	91	5361	4917	89	96	1209	1682
Manufacture of other transport vehicles	43	39,0	1434	4867	36	82	1300	936
Medium low tech	364	385	13039	12891	772	552	8726	10016
Manufacture of coke and refined petroleum products	33	34	1292	1232	18	17	234	179
Manufacture of rubber and plastic products	42	48	640	785	60	55	421	477
Manufacture of other non-metallic mineral products	56	56	602	644	321	130	1478	2878
Manufacture of basic metals	75	84	5503	5291	73	84	1802	2431
Manufacture of fabricated metal products	137	142	2831	2828	266	234	4293	3476
Building and repair of ships and boats	21	21	2171	2111	34	32	498	575
Low tech	103	102	1284	1102	357	553	4254	3895
Manufacture of food products, including beverages	37	36	494	522	140	44	2646	2133
Manufacture of tobacco products	1	1	2	2	1	–	30	–
Manufacture of textiles	11	8	57	37	8	17	54	113
Manufacture of wearing apparel, dressing and dyeing of fur	7	14	80	92	71	89	667	731
Manufacture of leather, leather products and footwear	4	5	26	121	5	7	38	38

(continued)

	Enterprises engaged in technological innovation				Enterprises not engaged in technological innovation			
	R&D units		Employment, <i>headcount</i>		R&D units		Employment, <i>headcount</i>	
	2013	2014	2013	2014	2013	2014	2013	2014
Woodworking and manufacture of wood and of products of wood and cork, except furniture	7	6	320	35	22	281	84	335
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	12	15	188	204	24	27	153	102
Publishing and printing activities, reproduction of recorded media	7	4	48	32	32	42	179	93
Manufacture of furniture and other products n.e.c.	15	12	61	48	49	45	376	349
Recycling of secondary raw materials	2	1	8	9	5	1	27	1
Manufacture of other materials and substances n.e.c.	242	276	14352	14299	38	42	847	789
Electricity, gas and water supply	30	41	684	513	374	303	4030	2497
Communication, computer and information technology-related activities, research and development, other services of the business economy								
Total	7938	8528	174972	178501	8288	8601	116524	127365
Communication	148	37	439	424	36	32	280	197
Computer and information technology-related activities	97	99	1950	2535	80	223	4580	6186
Research and development	7156	7574	161660	162230	5911	6097	81656	87044
Other services of the business economy	537	818	10923	13312	2261	2249	30008	33938

3.12.R&D PERSONNEL AS A PERCENTAGE OF TOTAL EMPLOYMENT AT ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY ECONOMIC ACTIVITY

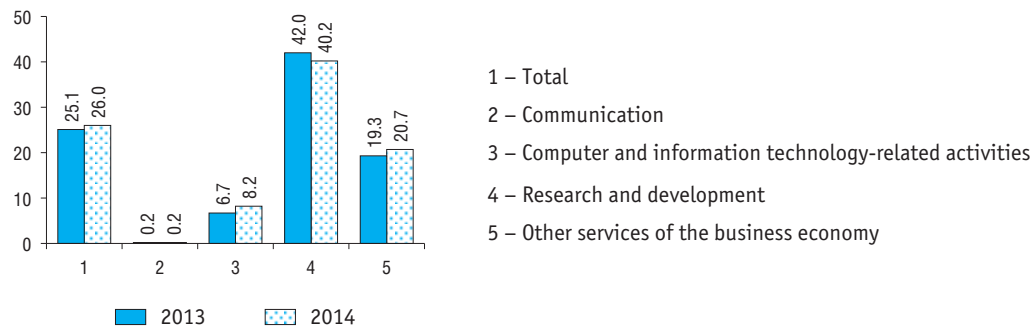
Mining and quarrying, manufacturing, electricity, gas and water supply



- 1 – Total
- 2 – Mining and quarrying
 - 3 – Mining and quarrying of energy producing materials
 - 4 – Mining and quarrying, except energy producing materials
- 5 – Manufacturing
- 6 – High tech
 - 7 – Manufacture of pharmaceuticals and pharmaceutical products
 - 8 – Manufacture of office machinery and computers
 - 9 – Manufacture of radio, television and communication equipment and apparatus
 - 10 – Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks
 - 11 – Manufacture of aircraft, including spacecraft
- 12 – Medium high tech
 - 13 – Manufacture of chemicals and chemical products
 - 14 – Manufacture of machinery and equipment
 - 15 – Manufacture of electrical machinery and apparatus
 - 16 – Manufacture of motor vehicles, trailers and semi-trailers
 - 17 – Manufacture of other transport vehicles
- 18 – Medium low tech
 - 19 – Manufacture of coke and refined petroleum products
 - 20 – Manufacture of rubber and plastic products
 - 21 – Manufacture of other non-metallic mineral products
 - 22 – Manufacture of basic metals
 - 23 – Manufacture of fabricated metal products
 - 24 – Building and repair of ships and boats
- 25 – Low tech
 - 26 – Manufacture of food products, including beverages
 - 27 – Manufacture of tobacco products
 - 28 – Manufacture of textiles
 - 29 – Manufacture of wearing apparel, dressing and dyeing of fur
 - 30 – Manufacture of leather, leather products and footwear
 - 31 – Woodworking and manufacture of wood and of products of wood and cork, except furniture
 - 32 – Manufacture of cellulose, wood pulp, paper and cardboard and products thereof
 - 33 – Publishing and printing activities, reproduction of recorded media
 - 34 – Manufacture of furniture and other products n.e.c.
 - 35 – Recycling of secondary raw materials
- 36 – Electricity, gas and water supply

(continued)

**Communication, computer and information technology-related activities, research and development,
other services of the business economy**



3.13. CO-OPERATION IN DEVELOPMENT OF TECHNOLOGICAL INNOVATIONS: 2014

(as a percentage of the total number of enterprises that had market-ready technological innovations during the last three years)

	Enterprises for which the innovations were developed			
	mainly by external organisations	jointly with other organisations	by changing or modifying products developed by an external organisation	mainly in-house
Mining and quarrying, manufacturing, electricity, gas and water supply				
Total	24.7	29.8	8.0	41.1
Mining and quarrying	50.8	33.1	6.5	10.5
Mining and quarrying of energy producing materials	54.0	29.9	5.7	10.3
Mining and quarrying, except energy producing materials	43.2	40.5	8.1	10.8
Manufacturing	18.0	30.5	8.9	46.5
High tech	11.6	34.1	10.1	47.6
Manufacture of pharmaceuticals and pharmaceutical products	9.1	32.7	16.4	45.5
Manufacture of office machinery and computers	–	25.0	25.0	50.0
Manufacture of radio, television and communication equipment and apparatus	9.0	28.8	8.1	59.5
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	13.7	33.1	9.1	45.1
Manufacture of aircraft, including spacecraft	14.8	49.2	8.2	34.4
Medium high tech	14.7	28.6	8.0	52.0
Manufacture of chemicals and chemical products	20.8	33.1	2.3	45.4
Manufacture of machinery and equipment	12.8	23.4	9.9	58.6

(continued)

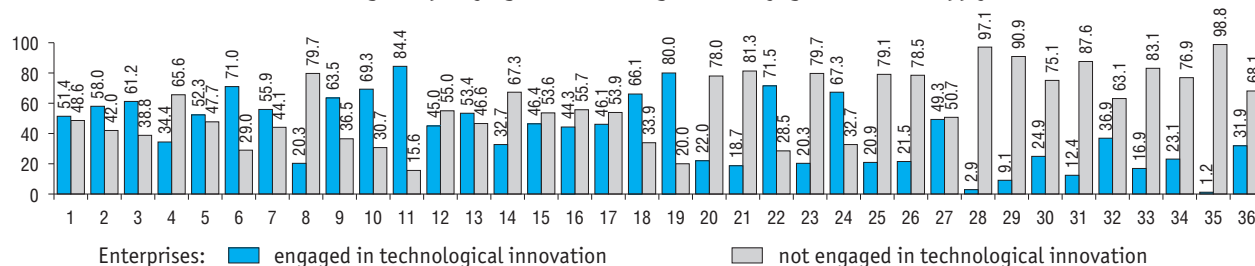
	Enterprises for which the innovations were developed			
	mainly by external organisations	jointly with other organisations	by changing or modifying products developed by an external organisation	mainly in-house
Manufacture of electrical machinery and apparatus	10.6	25.6	8.9	58.3
Manufacture of motor vehicles, trailers and semi-trailers	14.6	36.9	9.7	40.8
Manufacture of other transport vehicles	25.0	39.6	6.3	33.3
Medium low tech	22.8	32.6	7.5	40.0
Manufacture of coke and refined petroleum products	29.0	54.8	6.5	16.1
Manufacture of rubber and plastic products	22.2	19.8	6.2	53.1
Manufacture of other non-metallic mineral products	25.6	31.7	9.8	37.2
Manufacture of basic metals	16.1	48.4	9.7	29.0
Manufacture of fabricated metal products	19.7	29.5	5.3	47.7
Building and repair of ships and boats	37.9	13.8	3.4	44.8
Low tech	21.8	26.1	10.0	45.8
Manufacture of food products, including beverages	19.5	24.3	9.8	48.6
Manufacture of tobacco products	11.1	44.4	11.1	33.3
Manufacture of textiles	5.9	32.4	5.9	58.8
Manufacture of wearing apparel, dressing and dyeing of fur	13.3	6.7	6.7	73.3
Manufacture of leather, leather products and footwear	35.3	29.4	23.5	29.4

(continued)

	Enterprises for which the innovations were developed			
	mainly by external organisations	jointly with other organisations	by changing or modifying products developed by an external organisation	mainly in-house
Woodworking and manufacture of wood and of products of wood and cork, except furniture	17.1	34.3	5.7	42.9
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	58.1	22.6	3.2	19.4
Publishing and printing activities, reproduction of recorded media	35.5	32.9	9.2	35.5
Manufacture of furniture and other products n.e.c.	9.1	22.7	20.5	50.0
Recycling of secondary raw materials	50.0	50.0	–	–
Electricity, gas and water supply	60.8	24.1	2.7	15.1
Communication, computer and information technology-related activities, research and development, other services of the business economy				
Total	27.6	27.1	7.5	43.0
Communication	33.9	41.5	6.9	19.9
Computer and information technology-related activities	25.0	29.3	14.3	39.3
Research and development	5.9	24.7	6.9	69.1
Other services of the business economy	61.8	20.4	6.5	14.8

3.14. SALES OF GOODS AND SERVICES OF ENTERPRISES ENGAGED AND NOT ENGAGED IN TECHNOLOGICAL INNOVATION AS A PERCENTAGE OF TOTAL GOODS AND SERVICES SALES BY ECONOMIC ACTIVITY: 2014

Mining and quarrying, manufacturing, electricity, gas and water supply



Enterprises: ■ engaged in technological innovation

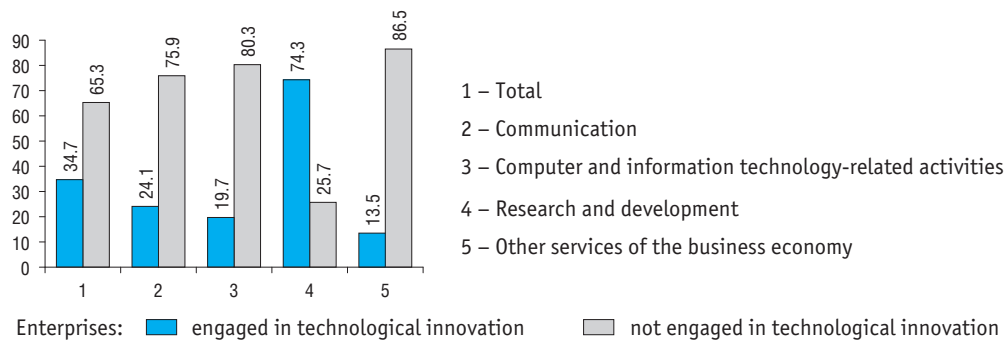
■ not engaged in technological innovation

- 1 – Total
- 2 – Mining and quarrying
 - 3 – Mining and quarrying of energy producing materials
 - 4 – Mining and quarrying, except energy producing materials
- 5 – Manufacturing
 - 6 – High tech
 - 7 – Manufacture of pharmaceuticals and pharmaceutical products
 - 8 – Manufacture of office machinery and computers
 - 9 – Manufacture of radio, television and communication equipment and apparatus
 - 10 – Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks
 - 11 – Manufacture of aircraft, including spacecraft
- 12 – Medium high tech
 - 13 – Manufacture of chemicals and chemical products
 - 14 – Manufacture of machinery and equipment
 - 15 – Manufacture of electrical machinery and apparatus
 - 16 – Manufacture of motor vehicles, trailers and semi-trailers
 - 17 – Manufacture of other transport vehicles

- 18 – Medium low tech
 - 19 – Manufacture of coke and refined petroleum products
 - 20 – Manufacture of rubber and plastic products
 - 21 – Manufacture of other non-metallic mineral products
 - 22 – Manufacture of basic metals
 - 23 – Manufacture of fabricated metal products
 - 24 – Building and repair of ships and boats
- 25 – Low tech
 - 26 – Manufacture of food products, including beverages
 - 27 – Manufacture of tobacco products
 - 28 – Manufacture of textiles
 - 29 – Manufacture of wearing apparel, dressing and dyeing of fur
 - 30 – Manufacture of leather, leather products and footwear
 - 31 – Woodworking and manufacture of wood and of products of wood and cork, except furniture
 - 32 – Manufacture of cellulose, wood pulp, paper and cardboard and products thereof
 - 33 – Publishing and printing activities, reproduction of recorded media
 - 34 – Manufacture of furniture and other products n.e.c.
 - 35 – Recycling of secondary raw materials
- 36 – Electricity, gas and water supply

(continued)

**Communication, computer and information technology-related activities, research and development,
other services of the business economy**



3.15. SALES OF INNOVATIVE GOODS AND SERVICES BY ECONOMIC ACTIVITY

	Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply				
Total	3072530.8	3037407.3	8.9	8.2
Mining and quarrying	523210.5	648533.0	6.0	7.2
Mining and quarrying of energy producing materials	500420.3	635720.0	6.6	8.0
Mining and quarrying, except energy producing materials	22790.2	12813.0	2.1	1.2
Manufacturing	2518618.0	2362387.8	11.6	9.9
High tech	237489.4	274801.7	16.9	17.7
Manufacture of pharmaceuticals and pharmaceutical products	34203.0	19419.6	16.4	9.1
Manufacture of office machinery and computers	834.4	4042.6	1.7	8.9
Manufacture of radio, television and communication equipment and apparatus	37565.7	50103.8	13.4	16.0
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	55332.0	65947.5	18.3	18.7
Manufacture of aircraft, including spacecraft	109554.4	135288.1	19.5	21.6
Medium high tech	779083.8	753460.7	15.4	14.8
Manufacture of chemicals and chemical products	126774.3	137851.2	8.6	8.7
Manufacture of machinery and equipment	68797.0	56181.6	6.2	5.3
Manufacture of electrical machinery and apparatus	24407.5	32031.0	5.2	6.9

(continued)

	Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014
Manufacture of motor vehicles, trailers and semi-trailers	477291.0	477349.1	29.3	29.9
Manufacture of other transport vehicles	81814.0	50047.9	20.5	13.8
Medium low tech	1204065.0	968228.4	12.1	8.8
Manufacture of coke and refined petroleum products	710827.0	540738.4	15.2	10.3
Manufacture of rubber and plastic products	40295.2	39971.9	9.2	8.7
Manufacture of other non-metallic mineral products	39777.3	48104.1	4.1	4.9
Manufacture of basic metals	248744.4	303195.9	8.3	8.6
Manufacture of fabricated metal products	16082.8	17091.9	3.0	3.1
Building and repair of ships and boats	148338.3	19126.2	47.8	7.8
Low tech	163551.4	226598.4	3.5	4.1
Manufacture of food products, including beverages	121979.5	145325.1	3.9	4.3
Manufacture of tobacco products	5837.9	34957.6	3.0	17.2
Manufacture of textiles	2581.4	4157.2	2.9	0.8
Manufacture of wearing apparel, dressing and dyeing of fur	1117.6	718.2	1.8	1.5
Manufacture of leather, leather products and footwear	570.4	1107.4	1.6	2.9

(continued)

	Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014
Woodworking and manufacture of wood and of products of wood and cork, except furniture	7562.4	7508.1	3.0	2.8
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	17095.6	23487.3	4.5	5.5
Publishing and printing activities, reproduction of recorded media	1671.7	5440.6	0.8	2.7
Manufacture of furniture and other products n.e.c.	2835.2	3727.7	1.4	1.4
Recycling of secondary raw materials	2299.7	169.3	1.9	0.1
Manufacture of other materials and substances n.e.c.	134428.5	139298.5	19.9	18.6
Electricity, gas and water supply	30702.2	26486.5	0.8	0.6
Communication, computer and information technology-related activities, research and development, other services of the business economy				
Total	435335.2	542516.5	11.2	12.8
Communication	31535.7	30563.5	2.1	1.9
Computer and information technology-related activities	39558.7	32365.0	13.3	9.6
Research and development	344650.1	464188.8	33.2	39.5
Other services of the business economy	19590.8	15399.2	1.9	1.3

3.16. SALES OF INNOVATIVE GOODS AND SERVICES BY DEGREE OF NOVELTY AND ECONOMIC ACTIVITY

	Innovative goods and services, <i>million roubles</i>		Of which			
			new or technologically new		significantly improved	
	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply						
Total	3072530.8	3037407.3	2127720.3	1600178.1	944810.5	1437229.2
Mining and quarrying	523210.5	648533.0	352748.5	44511.8	170462.1	604021.2
Mining and quarrying of energy producing materials	500420.3	635720.0	339232.2	38585.7	161188.2	597134.3
Mining and quarrying, except energy producing materials	22790.2	12813.0	13516.3	5926.1	9273.9	6886.9
Manufacturing	2518618.0	2362387.8	1753257.7	1532912.1	765360.4	829475.6
High tech	237489.4	274801.7	152061.9	155194.9	85427.6	119606.8
Manufacture of pharmaceuticals and pharmaceutical products	34203.0	19419.6	31652.3	18834.0	2550.7	585.6
Manufacture of office machinery and computers	834.4	4042.6	659.7	3801.4	174.7	241.2
Manufacture of radio, television and communication equipment and apparatus	37565.7	50103.8	20883.8	25390.8	16681.9	24712.9
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	55332.0	65947.5	37621.8	51236.0	17710.2	14711.5
Manufacture of aircraft, including spacecraft	109554.4	135288.1	61244.3	55932.6	48310.1	79355.5
Medium high tech	779083.8	753460.7	492368.2	417272.0	286715.5	336188.8
Manufacture of chemicals and chemical products	126774.3	137851.2	63237.6	76634.8	63536.7	61216.4
Manufacture of machinery and equipment	68797.0	56181.6	46962.2	30616.3	21834.9	25565.3
Manufacture of electrical machinery and apparatus	24407.5	32031.0	16488.4	21677.9	7919.1	10353.1

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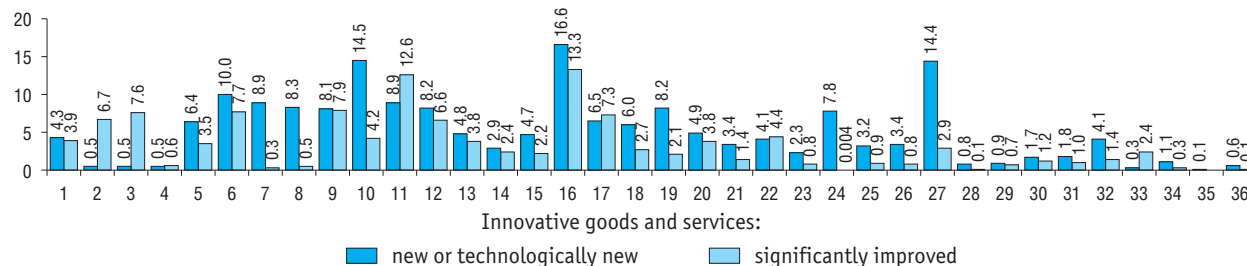
	Innovative goods and services, <i>million roubles</i>		Of which			
			new or technologically new		significantly improved	
	2013	2014	2013	2014	2013	2014
Manufacture of motor vehicles, trailers and semi-trailers	477291.0	477349.1	296698.7	264755.0	180592.3	212594.1
Manufacture of other transport vehicles	81814.0	50047.9	68981.4	23588.0	12832.6	26459.9
Medium low tech	1204065.0	968228.4	904765.3	665758.4	299299.7	302470.0
Manufacture of coke and refined petroleum products	710827.0	540738.4	532406.0	431449.4	178420.9	109289.0
Manufacture of rubber and plastic products	40295.2	39971.9	21006.7	22481.9	19288.5	17490.1
Manufacture of other non-metallic mineral products	39777.3	48104.1	25876.3	33944.9	13901.0	14159.2
Manufacture of basic metals	248744.4	303195.9	164681.3	146095.7	84063.1	157100.2
Manufacture of fabricated metal products	16082.8	17091.9	12710.4	12669.8	3372.4	4422.0
Building and repair of ships and boats	148338.3	19126.2	148084.5	19116.6	253.8	9.6
Low tech	163551.4	226598.4	120663.0	177294.0	42888.4	49304.4
Manufacture of food products, including beverages	121979.5	145325.1	92003.7	117486.2	29975.8	27839.0
Manufacture of tobacco products	5837.9	34957.6	2711.5	29110.8	3126.4	5846.8
Manufacture of textiles	2581.4	4157.2	2488.7	3731.1	92.7	426.1
Manufacture of wearing apparel, dressing and dyeing of fur	1117.6	718.2	589.3	409.8	528.3	308.4
Manufacture of leather, leather products and footwear	570.4	1107.4	154.0	654.2	416.3	453.2

(continued)

	Innovative goods and services, <i>million roubles</i>		Of which			
			new or technologically new		significantly improved	
	2013	2014	2013	2014	2013	2014
Woodworking and manufacture of wood and of products of wood and cork, except furniture	7562.4	7508.1	1496.4	4752.5	6066.0	2755.6
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	17095.6	23487.3	16708.7	17439.5	386.9	6047.8
Publishing and printing activities, reproduction of recorded media	1671.7	5440.6	1246.0	596.2	425.7	4844.4
Manufacture of furniture and other products n.e.c.	2835.2	3727.7	2403.7	2944.4	431.5	783.2
Recycling of secondary raw materials	2299.7	169.3	861.0	169.3	1438.7	—
Manufacture of other materials and substances n.e.c.	134428.5	139298.5	83399.3	117392.9	51029.2	21905.6
Electricity, gas and water supply	30702.2	26486.5	21714.1	22754.1	8988.1	3732.4
Communication, computer and information technology-related activities, research and development, other services of the business economy						
Total	435335.2	542516.5	288914.0	331202.3	146421.2	211314.2
Communication	31535.7	30563.5	19772.6	18299.6	11763.0	12263.9
Computer and information technology-related activities	39558.7	32365.0	28083.9	21501.9	11474.9	10863.1
Research and development	344650.1	464188.8	230658.5	285535.3	113991.6	178653.5
Other services of the business economy	19590.8	15399.2	10399.0	5865.6	9191.7	9533.7

3.17. INNOVATIVE GOODS AND SERVICES AS A PERCENTAGE OF TOTAL GOODS AND SERVICES SALES BY DEGREE OF NOVELTY AND ECONOMIC ACTIVITY: 2014

Mining and quarrying, manufacturing, electricity, gas and water supply

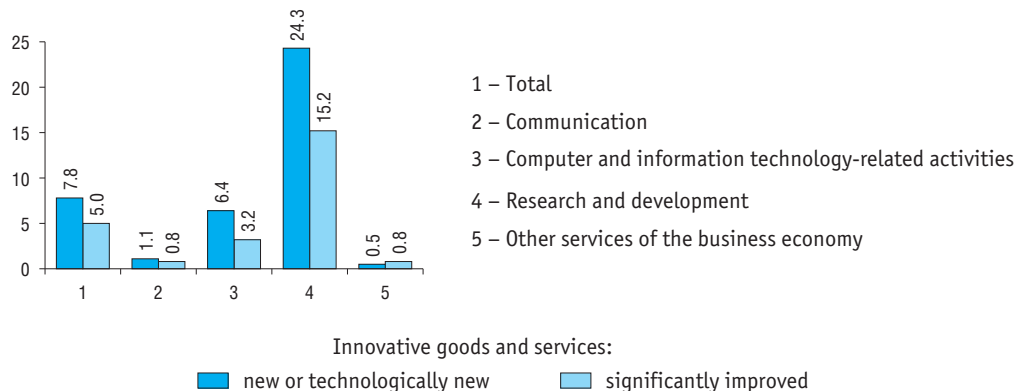


- 1 – Total
- 2 – Mining and quarrying
 - 3 – Mining and quarrying of energy producing materials
 - 4 – Mining and quarrying, except energy producing materials
- 5 – Manufacturing
 - 6 – High tech
 - 7 – Manufacture of pharmaceuticals and pharmaceutical products
 - 8 – Manufacture of office machinery and computers
 - 9 – Manufacture of radio, television and communication equipment and apparatus
 - 10 – Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks
 - 11 – Manufacture of aircraft, including spacecraft
 - 12 – Medium high tech
 - 13 – Manufacture of chemicals and chemical products
 - 14 – Manufacture of machinery and equipment
 - 15 – Manufacture of electrical machinery and apparatus
 - 16 – Manufacture of motor vehicles, trailers and semi-trailers
 - 17 – Manufacture of other transport vehicles

- 18 – Medium low tech
- 19 – Manufacture of coke and refined petroleum products
- 20 – Manufacture of rubber and plastic products
- 21 – Manufacture of other non-metallic mineral products
- 22 – Manufacture of basic metals
- 23 – Manufacture of fabricated metal products
- 24 – Building and repair of ships and boats
- 25 – Low tech
- 26 – Manufacture of food products, including beverages
- 27 – Manufacture of tobacco products
- 28 – Manufacture of textiles
- 29 – Manufacture of wearing apparel, dressing and dyeing of fur
- 30 – Manufacture of leather, leather products and footwear
- 31 – Woodworking and manufacture of wood and of products of wood and cork, except furniture
- 32 – Manufacture of cellulose, wood pulp, paper and cardboard and products thereof
- 33 – Publishing and printing activities, reproduction of recorded media
- 34 – Manufacture of furniture and other products n.e.c.
- 35 – Recycling of secondary raw materials
- 36 – Electricity, gas and water supply

(continued)

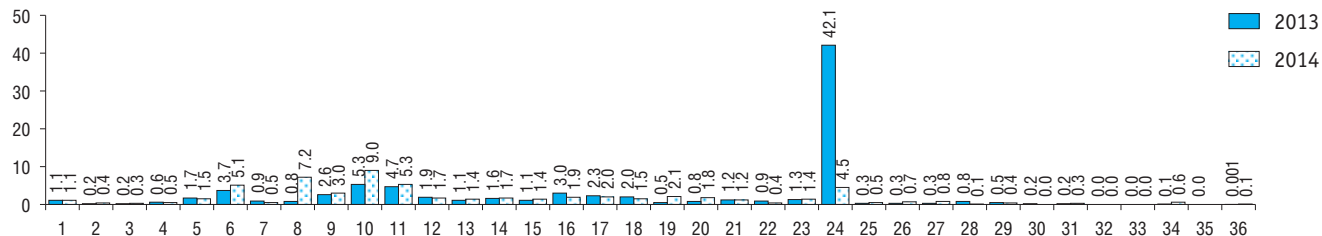
**Communication, computer and information technology-related activities, research and development,
other services of the business economy**



3.18. NEW OR TECHNOLOGICALLY NEW INNOVATIVE GOODS AND SERVICES NEW TO THE ENTERPRISE'S MARKET BY ECONOMIC ACTIVITY

(as a percentage of total goods and services sales)

Mining and quarrying, manufacturing, electricity, gas and water supply

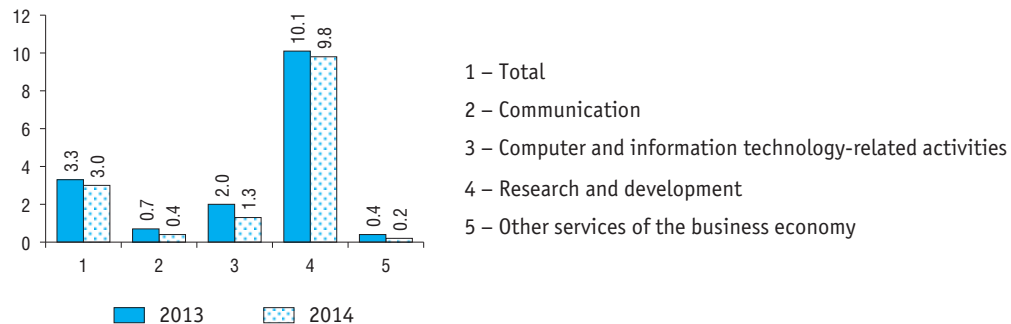


- 1 - Total
- 2 - Mining and quarrying
 - 3 - Mining and quarrying of energy producing materials
 - 4 - Mining and quarrying, except energy producing materials
- 5 - Manufacturing
 - 6 - High tech
 - 7 - Manufacture of pharmaceuticals and pharmaceutical products
 - 8 - Manufacture of office machinery and computers
 - 9 - Manufacture of radio, television and communication equipment and apparatus
 - 10 - Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks
 - 11 - Manufacture of aircraft, including spacecraft
 - 12 - Medium high tech
 - 13 - Manufacture of chemicals and chemical products
 - 14 - Manufacture of machinery and equipment
 - 15 - Manufacture of electrical machinery and apparatus
 - 16 - Manufacture of motor vehicles, trailers and semi-trailers
 - 17 - Manufacture of other transport vehicles

- 18 - Medium low tech
 - 19 - Manufacture of coke and refined petroleum products
 - 20 - Manufacture of rubber and plastic products
 - 21 - Manufacture of other non-metallic mineral products
 - 22 - Manufacture of basic metals
 - 23 - Manufacture of fabricated metal products
 - 24 - Building and repair of ships and boats
- 25 - Low tech
 - 26 - Manufacture of food products, including beverages
 - 27 - Manufacture of tobacco products
 - 28 - Manufacture of textiles
 - 29 - Manufacture of wearing apparel, dressing and dyeing of fur
 - 30 - Manufacture of leather, leather products and footwear
 - 31 - Woodworking and manufacture of wood and of products of wood and cork, except furniture
 - 32 - Manufacture of cellulose, wood pulp, paper and cardboard and products thereof
 - 33 - Publishing and printing activities, reproduction of recorded media
 - 34 - Manufacture of furniture and other products n.e.c.
 - 35 - Recycling of secondary raw materials
- 36 - Electricity, gas and water supply

(continued)

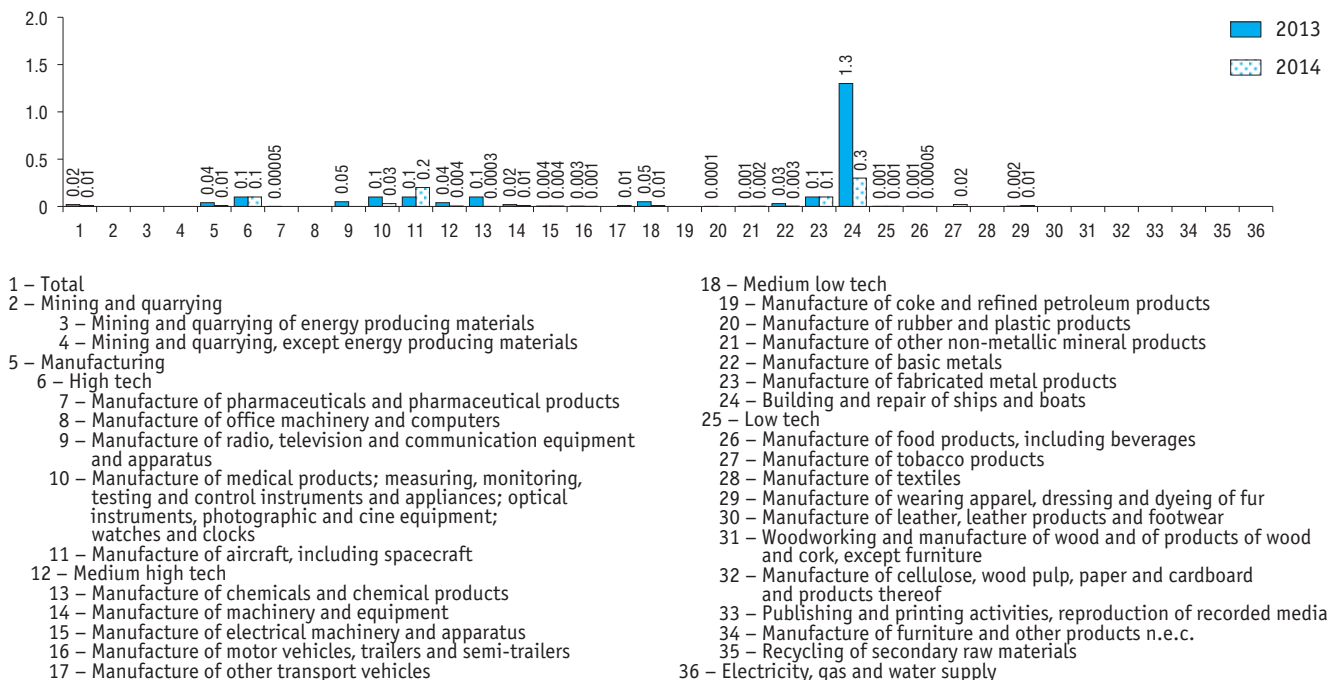
**Communication, computer and information technology-related activities, research and development,
other services of the business economy**



3.19. NEW OR TECHNOLOGICALLY NEW INNOVATIVE GOODS AND SERVICES NEW TO THE WORLD MARKET BY ECONOMIC ACTIVITY

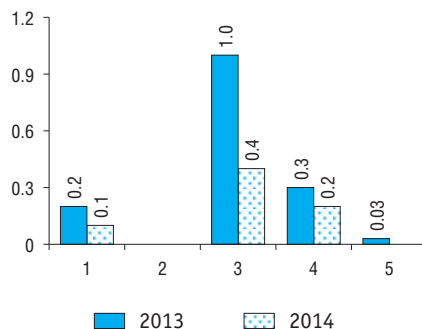
(as a percentage of total goods and services sales)

Mining and quarrying, manufacturing, electricity, gas and water supply



(continued)

**Communication, computer and information technology-related activities, research and development,
other services of the business economy**



1 – Total

2 – Communication

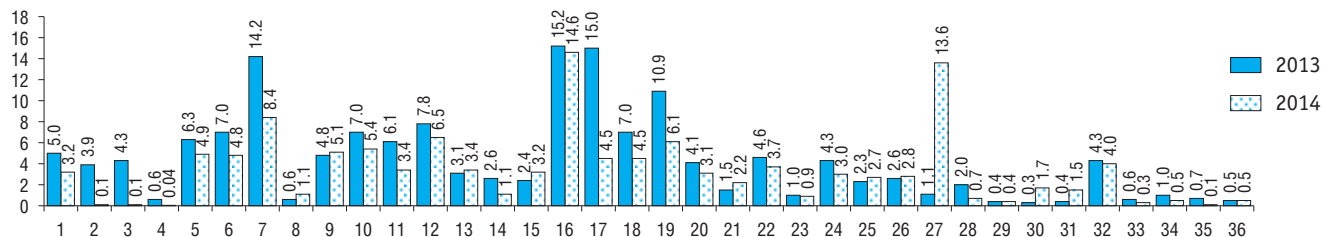
3 – Computer and information technology-related activities

4 – Research and development

5 – Other services of the business economy

3.20. NEW OR TECHNOLOGICALLY NEW INNOVATIVE GOODS AND SERVICES NEW TO THE ENTERPRISE BUT NOT NEW TO THE MARKET BY ECONOMIC ACTIVITY (as a percentage of total goods and services sales)

Mining and quarrying, manufacturing, electricity, gas and water supply

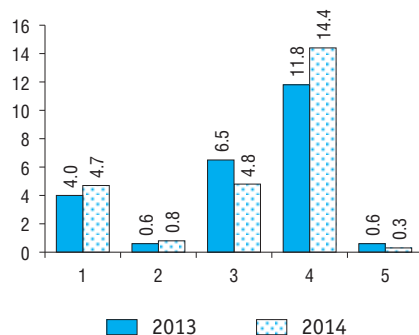


- 1 - Total
- 2 - Mining and quarrying
 - 3 - Mining and quarrying of energy producing materials
 - 4 - Mining and quarrying, except energy producing materials
- 5 - Manufacturing
 - 6 - High tech
 - 7 - Manufacture of pharmaceuticals and pharmaceutical products
 - 8 - Manufacture of office machinery and computers
 - 9 - Manufacture of radio, television and communication equipment and apparatus
 - 10 - Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks
 - 11 - Manufacture of aircraft, including spacecraft
 - 12 - Medium high tech
 - 13 - Manufacture of chemicals and chemical products
 - 14 - Manufacture of machinery and equipment
 - 15 - Manufacture of electrical machinery and apparatus
 - 16 - Manufacture of motor vehicles, trailers and semi-trailers
 - 17 - Manufacture of other transport vehicles

- 18 - Medium low tech
 - 19 - Manufacture of coke and refined petroleum products
 - 20 - Manufacture of rubber and plastic products
 - 21 - Manufacture of other non-metallic mineral products
 - 22 - Manufacture of basic metals
 - 23 - Manufacture of fabricated metal products
 - 24 - Building and repair of ships and boats
- 25 - Low tech
 - 26 - Manufacture of food products, including beverages
 - 27 - Manufacture of tobacco products
 - 28 - Manufacture of textiles
 - 29 - Manufacture of wearing apparel, dressing and dyeing of fur
 - 30 - Manufacture of leather, leather products and footwear
 - 31 - Woodworking and manufacture of wood and of products of wood and cork, except furniture
 - 32 - Manufacture of cellulose, wood pulp, paper and cardboard and products thereof
 - 33 - Publishing and printing activities, reproduction of recorded media
 - 34 - Manufacture of furniture and other products n.e.c.
 - 35 - Recycling of secondary raw materials
- 36 - Electricity, gas and water supply

(continued)

**Communication, computer and information technology-related activities, research and development,
other services of the business economy**



- 1 – Total
- 2 – Communication
- 3 – Computer and information technology-related activities
- 4 – Research and development
- 5 – Other services of the business economy

3.21. SALES OF INNOVATIVE GOODS AND SERVICES ACCORDING TO STATE AND MUNICIPAL CONTRACTS BY ECONOMIC ACTIVITY: 2014

	Million roubles	As a percentage of total innovative goods and services sales
Mining and quarrying, manufacturing, electricity, gas and water supply		
Total	28565.9	0.9
Mining and quarrying	–	–
Mining and quarrying of energy producing materials	–	–
Mining and quarrying, except energy producing materials	–	–
Manufacturing	28561.8	1.2
High tech	10352.3	3.8
Manufacture of pharmaceuticals and pharmaceutical products	–	–
Manufacture of office machinery and computers	96.4	2.4
Manufacture of radio, television and communication equipment and apparatus	5655.9	11.3
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	4333.5	6.6
Manufacture of aircraft, including spacecraft	266.5	0.2
Medium high tech	6953.3	0.9
Manufacture of chemicals and chemical products	90.1	0.1
Manufacture of machinery and equipment	2987.4	5.3
Manufacture of electrical machinery and apparatus	865.0	2.7
Manufacture of motor vehicles, trailers and semi-trailers	3010.8	0.6
Manufacture of other transport vehicles	–	–

(continued)

	Million roubles	As a percentage of total innovative goods and services sales
Medium low tech	9337.8	1.0
Manufacture of coke and refined petroleum products	–	–
Manufacture of rubber and plastic products	184.6	0.5
Manufacture of other non-metallic mineral products	–	–
Manufacture of basic metals	–	–
Manufacture of fabricated metal products	42.6	0.2
Building and repair of ships and boats	9110.6	47.6
Low tech	123.3	0.1
Manufacture of food products, including beverages	120.0	0.1
Manufacture of tobacco products	–	–
Manufacture of textiles	3.3	0.1
Manufacture of wearing apparel, dressing and dyeing of fur	–	–
Manufacture of leather, leather products and footwear	–	–
Woodworking and manufacture of wood and of products of wood and cork, except furniture	–	–
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	–	–
Publishing and printing activities, reproduction of recorded media	–	–
Manufacture of furniture and other products n.e.c.	–	–
Recycling of secondary raw materials	–	–
Manufacture of other materials and substances n.e.c.	1795.2	1.3
Electricity, gas and water supply	4.1	0.02

3.22. EXPORTS OF INNOVATIVE AND TECHNOLOGICALLY UNCHANGED GOODS AND SERVICES BY ECONOMIC ACTIVITY

	Exports of goods and services, <i>million roubles</i>		Innovative goods and services				Technologically unchanged goods and services			
			Million roubles		Per cent		Million roubles		Per cent	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply										
Total	7223179.6	8278884.5	988844.7	953877.4	13.7	11.5	6234334.9	7325007.1	86.3	88.5
Mining and quarrying	2667180.1	2587092.3	436252.2	533283.7	16.4	20.6	2230927.9	2053808.6	83.6	79.4
Mining and quarrying of energy producing materials	2375775.6	2255517.8	427799.9	525142.6	18.0	23.3	1947975.7	1730375.2	82.0	76.7
Mining and quarrying, except energy producing materials	291404.5	331574.5	8452.3	8141.1	2.9	2.5	282952.2	323433.4	97.1	97.5
Manufacturing	4554345.1	5679679.5	552592.5	420591.3	12.1	7.4	4001752.6	5259088.3	87.9	92.6
High tech	178159.4	219091.3	46824.2	58219.6	26.3	26.6	131335.3	160871.6	73.7	73.4
Manufacture of pharmaceuticals and pharmaceutical products	9004.4	17372.9	557.2	503.4	6.2	2.9	8447.2	16869.5	93.8	97.1
Manufacture of office machinery and computers	339.3	3308.6	2.2	39.4	0.6	1.2	337.1	3269.2	99.4	98.8
Manufacture of radio, television and communication equipment and apparatus	10468.2	11887.5	5341.1	4017.7	51.0	33.8	5127.1	7869.8	49.0	66.2
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	12780.3	25204.8	413.0	1080.5	3.2	4.3	12367.3	24124.3	96.8	95.7
Manufacture of aircraft, including spacecraft	145567.2	161317.6	40510.7	52578.7	27.8	32.6	105056.5	108738.9	72.2	67.4
Medium high tech	746038.3	804082.9	91973.4	95045.1	12.3	11.8	654065.0	709037.8	87.7	88.2
Manufacture of chemicals and chemical products	585662.6	643612.7	48016.2	49072.8	8.2	7.6	537646.3	594539.8	91.8	92.4
Manufacture of machinery and equipment	50838.2	59650.9	3034.6	3479.8	6.0	5.8	47803.5	56171.1	94.0	94.2

(continued)

	Exports of goods and services, <i>million roubles</i>		Innovative goods and services				Technologically unchanged goods and services			
			Million roubles		Per cent		Million roubles		Per cent	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Manufacture of electrical machinery and apparatus	13803.0	19561.6	827.0	1253.5	6.0	6.4	12976.0	18308.2	94.0	93.6
Manufacture of motor vehicles, trailers and semi-trailers	64516.8	62945.6	39457.8	37038.8	61.2	58.8	25059.0	25906.8	38.8	41.2
Manufacture of other transport vehicles	31217.9	18312.1	637.7	4200.2	2.0	22.9	30580.1	14112.0	98.0	77.1
Medium low tech	3191815.9	3978974.0	342863.5	195297.0	10.7	4.9	2848952.3	3783677.0	89.3	95.1
Manufacture of coke and refined petroleum products	1996789.0	2630569.3	252440.2	149305.7	12.6	5.7	1744348.8	2481263.6	87.4	94.3
Manufacture of rubber and plastic products	16828.0	16784.6	1798.1	1389.6	10.7	8.3	15029.9	15395.0	89.3	91.7
Manufacture of other non-metallic mineral products	41335.7	40182.6	6072.9	3979.7	14.7	9.9	35262.7	36202.9	85.3	90.1
Manufacture of basic metals	1030057.6	1232603.4	26588.6	38953.4	2.6	3.2	1003469.0	1193650.1	97.4	96.8
Manufacture of fabricated metal products	17563.7	20396.8	1999.8	450.8	11.4	2.2	15563.9	19945.9	88.6	97.8
Building and repair of ships and boats	89241.9	38437.4	53963.8	1217.9	60.5	3.2	35278.1	37219.5	39.5	96.8
Low tech	308178.6	481288.5	28923.4	24718.4	9.4	5.1	279255.2	456570.1	90.6	94.9
Manufacture of food products, including beverages	95587.2	111164.0	20216.9	13073.8	21.2	11.8	75370.2	98090.2	78.8	88.2
Manufacture of tobacco products	24327.2	24877.4	435.6	1424.6	1.8	5.7	23891.6	23452.9	98.2	94.3
Manufacture of textiles	2886.2	93053.1	132.9	129.7	4.6	0.1	2753.4	92923.4	95.4	99.9
Manufacture of wearing apparel, dressing and dyeing of fur	491.8	569.3	30.7	11.2	6.2	2.0	461.1	558.2	93.8	98.0
Manufacture of leather, leather products and footwear	3951.7	3881.2	5.5	3.1	0.1	0.1	3946.2	3878.1	99.9	99.9
Woodworking and manufacture of wood and of products of wood and cork, except furniture	71709.4	107136.9	4556.5	3765.0	6.4	3.5	67153.0	103371.9	93.6	96.5

(continued)

	Exports of goods and services, <i>million roubles</i>		Innovative goods and services				Technologically unchanged goods and services			
			Million roubles		Per cent		Million roubles		Per cent	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	72515.0	89523.2	3299.4	5128.4	4.5	5.7	69215.6	84394.8	95.5	94.3
Publishing and printing activities, reproduction of recorded media	2372.3	7572.5	21.6	972.0	0.9	12.8	2350.7	6600.6	99.1	87.2
Manufacture of furniture and other products n.e.c.	28133.3	40669.5	63.1	210.6	0.2	0.5	28070.2	40459.0	99.8	99.5
Recycling of secondary raw materials	6204.5	2841.3	161.3	0.1	2.6	0.004	6043.2	2841.1	97.4	100
Manufacture of other materials and substances n.e.c.	130152.9	196242.8	42008.0	47311.2	32.3	24.1	88144.8	148931.6	67.7	75.9
Electricity, gas and water supply	1654.4	12112.7	–	2.5	–	0.02	1654.4	12110.2	100	99.98
Communication, computer and information technology-related activities, research and development, other services of the business economy										
Total	144932.1	182877.5	47936.0	55605.0	33.1	30.4	96996.2	127272.6	66.9	69.6
Communication	22997.7	15414.3	0.2	0.2	0.0	0.001	22997.5	15414.1	100	100
Computer and information technology-related activities	31270.2	38302.0	7463.0	9459.2	23.9	24.7	23807.2	28842.8	76.1	75.3
Research and development	67869.9	98182.0	39354.3	46046.0	58.0	46.9	28515.7	52136.0	42.0	53.1
Other services of the business economy	22794.4	30979.3	1118.5	99.7	4.9	0.3	21675.8	30879.6	95.1	99.7

3.23. EXPORTS OF INNOVATIVE GOODS AND SERVICES BY COUNTRY AND BY ECONOMIC ACTIVITY

	Exports of goods and services, <i>million roubles</i>		CIS countries				Other foreign countries			
			Million roubles		Per cent		Million roubles		Per cent	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply										
Total	988844.7	953877.4	106263.2	105402.5	10.7	11.0	882581.5	848474.9	89.3	89.0
Mining and quarrying	436252.2	533283.7	7006.2	11229.6	1.6	2.1	429246.0	522054.0	98.4	97.9
Mining and quarrying of energy producing materials	427799.9	525142.6	6967.7	11124.2	1.6	2.1	420832.2	514018.4	98.4	97.9
Mining and quarrying, except energy producing materials	8452.3	8141.1	38.5	105.4	0.5	1.3	8413.8	8035.7	99.5	98.7
Manufacturing	552592.5	420591.3	99257.0	94172.7	18.0	22.4	453335.5	326418.5	82.0	77.6
High tech	46824.2	58219.6	11188.8	807.6	23.9	1.4	35635.3	57412.0	76.1	98.6
Manufacture of pharmaceuticals and pharmaceutical products	557.2	503.4	375.2	470.6	67.3	93.5	182.0	32.8	32.7	6.5
Manufacture of office machinery and computers	2.2	39.4	2.2	10.5	100	26.6	–	28.9	–	73.4
Manufacture of radio, television and communication equipment and apparatus	5341.1	4017.7	1803.7	143.0	33.8	3.6	3537.4	3874.7	66.2	96.4
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	413.0	1080.5	231.5	178.3	56.1	16.5	181.5	902.2	43.9	83.5
Manufacture of aircraft, including spacecraft	40510.7	52578.7	8776.2	5.2	21.7	0.01	31734.5	52573.5	78.3	100
Medium high tech	91973.4	95045.1	43174.9	32972.6	46.9	34.7	48798.5	62072.4	53.1	65.3
Manufacture of chemicals and chemical products	48016.2	49072.8	6368.0	8184.0	13.3	16.7	41648.3	40888.8	86.7	83.3
Manufacture of machinery and equipment	3034.6	3479.8	1471.3	718.1	48.5	20.6	1563.4	2761.7	51.5	79.4

(continued)

	Exports of goods and services, <i>million roubles</i>		CIS countries				Other foreign countries			
			Million roubles		Per cent		Million roubles		Per cent	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Manufacture of electrical machinery and apparatus	827.0	1253.5	543.7	587.3	65.7	46.9	283.3	666.2	34.3	53.1
Manufacture of motor vehicles, trailers and semi-trailers	39457.8	37038.8	34202.2	19566.5	86.7	52.8	5255.5	17472.3	13.3	47.2
Manufacture of other transport vehicles	637.7	4200.2	589.7	3916.7	92.5	93.3	48.0	283.4	7.5	6.7
Medium low tech	342863.5	195297.0	19869.4	35419.6	5.8	18.1	322994.2	159877.4	94.2	81.9
Manufacture of coke and refined petroleum products	252440.2	149305.7	8964.8	20663.0	3.6	13.8	243475.4	128642.7	96.4	86.2
Manufacture of rubber and plastic products	1798.1	1389.6	1765.9	1063.4	98.2	76.5	32.2	326.2	1.8	23.5
Manufacture of other non-metallic mineral products	6072.9	3979.7	1897.1	3678.3	31.2	92.4	4175.9	301.4	68.8	7.6
Manufacture of basic metals	26588.6	38953.4	7028.2	9852.3	26.4	25.3	19560.5	29101.1	73.6	74.7
Manufacture of fabricated metal products	1999.8	450.8	213.4	154.4	10.7	34.2	1786.4	296.4	89.3	65.8
Building and repair of ships and boats	53963.8	1217.9	–	8.2	–	0.7	53963.8	1209.6	100	99.3
Low tech	28923.4	24718.4	13633.6	13538.2	47.1	54.8	15289.8	11180.2	52.9	45.2
Manufacture of food products, including beverages	20216.9	13073.8	12626.7	10511.0	62.5	80.4	7590.2	2562.7	37.5	19.6
Manufacture of tobacco products	435.6	1424.6	435.6	1317.0	100	92.5	–	107.5	–	7.5
Manufacture of textiles	132.9	129.7	97.0	85.9	73.0	66.2	35.8	43.8	27.0	33.8
Manufacture of wearing apparel, dressing and dyeing of fur	30.7	11.2	21.4	5.6	69.7	49.9	9.3	5.6	30.3	50.1
Manufacture of leather, leather products and footwear	5.5	3.1	5.5	3.1	100	100	–	–	–	–
Woodworking and manufacture of wood and of products of wood and cork, except furniture	4556.5	3765.0	336.3	409.6	7.4	10.9	4220.2	3355.3	92.6	89.1

(continued)

	Exports of goods and services, <i>million roubles</i>		CIS countries				Other foreign countries			
			Million roubles		Per cent		Million roubles		Per cent	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	3299.4	5128.4	33.9	1039.7	1.0	20.3	3265.5	4088.7	99.0	79.7
Publishing and printing activities, reproduction of recorded media	21.6	972.0	21.6	–	100	–	–	972.0	–	100
Manufacture of furniture and other products n.e.c.	63.1	210.6	55.6	166.2	88.2	78.9	7.5	44.3	11.8	21.1
Recycling of secondary raw materials	161.3	0.1	–	–	–	–	161.3	0.1	100	100
Manufacture of other materials and substances n.e.c.	42008.0	47311.2	11390.3	11434.7	27.1	24.2	30617.7	35876.5	72.9	75.8
Electricity, gas and water supply	–	2.5	–	0.1	–	5.9	–	2.4	–	94.1
Communication, computer and information technology-related activities, research and development, other services of the business economy										
Total	47936.0	55605.0	1786.8	1700.9	3.7	3.1	46149.2	53904.0	96.3	96.9
Communication	0.2	0.2	–	0.01	–	4.2	0.2	0.2	100	95.8
Computer and information technology-related activities	7463.0	9459.2	382.3	816.2	5.1	8.6	7080.6	8643.0	94.9	91.4
Research and development	39354.3	46046.0	1317.9	874.3	3.3	1.9	38036.4	45171.6	96.7	98.1
Other services of the business economy	1118.5	99.7	86.6	10.4	7.7	10.5	1031.9	89.3	92.3	89.5

3.24. ENTERPRISES ENGAGED IN TECHNOLOGY EXCHANGE AS A PERCENTAGE OF ALL ENTERPRISES BY ECONOMIC ACTIVITY

	Enterprises acquiring new technology				Enterprises transferring new technology			
	engaged in technological innovation		not engaged in technological innovation		engaged in technological innovation		not engaged in technological innovation	
	2013	2014	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply								
Total	77.6	79.1	22.4	20.9	83.1	76.9	16.9	23.1
Mining and quarrying	76.2	63.0	23.8	37.0	100	100	—	—
Mining and quarrying of energy producing materials	80.0	63.6	20.0	36.4	100	100	—	—
Mining and quarrying, except energy producing materials	66.7	61.5	33.3	38.5	—	—	—	—
Manufacturing	80.0	82.7	20.0	17.3	81.8	75.3	18.2	24.7
High tech	90.2	95.1	9.8	4.9	87.0	85.7	13.0	14.3
Manufacture of pharmaceuticals and pharmaceutical products	77.8	87.5	22.2	12.5	100	100	—	—
Manufacture of office machinery and computers	100	100	—	—	—	100	—	—
Manufacture of radio, television and communication equipment and apparatus	89.8	93.2	10.2	6.8	87.5	77.8	12.5	22.2
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	93.2	95.4	6.8	4.6	81.8	85.7	18.2	14.3
Manufacture of aircraft, including spacecraft	89.5	100	10.5	—	100	100	—	—
Medium high tech	85.5	85.3	14.5	14.7	79.2	65.0	20.8	35.0
Manufacture of chemicals and chemical products	86.1	96.2	13.9	3.8	100	66.7	—	33.3

(continued)

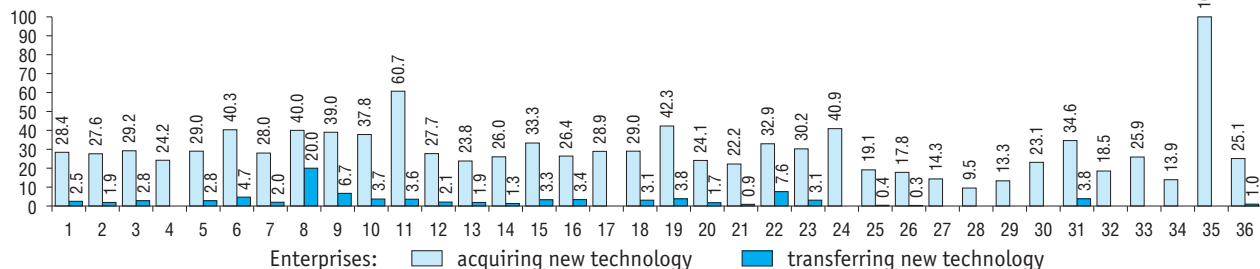
	Enterprises acquiring new technology				Enterprises transferring new technology			
	engaged in technological innovation		not engaged in technological innovation		engaged in technological innovation		not engaged in technological innovation	
	2013	2014	2013	2014	2013	2014	2013	2014
Manufacture of machinery and equipment	83.3	84.1	16.7	15.9	88.9	75.0	11.1	25.0
Manufacture of electrical machinery and apparatus	92.6	85.0	7.4	15.0	66.7	62.5	33.3	37.5
Manufacture of motor vehicles, trailers and semi-trailers	93.3	88.5	6.7	11.5	100	100	–	–
Manufacture of other transport vehicles	69.0	68.8	31.0	31.3	50.0	–	50.0	100
Medium low tech	78.3	75.8	21.7	24.2	77.8	70.6	22.2	29.4
Manufacture of coke and refined petroleum products	86.7	91.7	13.3	8.3	100	100	–	–
Manufacture of rubber and plastic products	70.8	63.6	29.2	36.4	100	50.0	–	50.0
Manufacture of other non-metallic mineral products	74.4	77.4	25.6	22.6	50.0	50.0	50.0	50.0
Manufacture of basic metals	85.7	76.5	14.3	23.5	100	85.7	–	14.3
Manufacture of fabricated metal products	73.5	76.3	26.5	23.7	66.7	60.0	33.3	40.0
Building and repair of ships and boats	85.7	75.0	14.3	25.0	–	–	–	–
Low tech	61.3	69.1	38.7	30.9	80.0	50.0	20.0	50.0
Manufacture of food products, including beverages	61.6	73.6	38.4	26.4	66.7	50.0	33.3	50.0
Manufacture of tobacco products	100	100	–	–	–	–	–	–
Manufacture of textiles	66.7	40.0	33.3	60.0	100	–	–	100
Manufacture of wearing apparel, dressing and dyeing of fur	80.0	66.7	20.0	33.3	–	–	–	–
Manufacture of leather, leather products and footwear	75.0	100	25.0	–	–	–	–	–

(continued)

	Enterprises acquiring new technology				Enterprises transferring new technology			
	engaged in technological innovation		not engaged in technological innovation		engaged in technological innovation		not engaged in technological innovation	
	2013	2014	2013	2014	2013	2014	2013	2014
Woodworking and manufacture of wood and of products of wood and cork, except furniture	42.9	100	57.1	–	100	100	–	–
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	88.9	83.3	11.1	16.7	–	–	–	–
Publishing and printing activities, reproduction of recorded media	62.1	50.0	37.9	50.0	–	–	–	–
Manufacture of furniture and other products n.e.c.	41.7	62.5	58.3	37.5	–	–	–	–
Recycling of secondary raw materials	33.3	50.0	66.7	50.0	–	–	–	–
Electricity, gas and water supply	63.6	63.7	36.4	36.3	100	100	–	–
Communication, computer and information technology-related activities, research and development, other services of the business economy								
Total	62.4	61.6	37.6	38.4	79.3	76.1	20.7	23.9
Communication	64.1	71.7	35.9	28.3	33.3	100	66.7	–
Computer and information technology-related activities	69.2	57.3	30.8	42.7	74.1	75.0	25.9	25.0
Research and development	81.3	79.7	18.7	20.3	82.4	77.8	17.6	22.2
Other services of the business economy	40.3	42.2	59.7	57.8	57.9	60.9	42.1	39.1

3.25. ENTERPRISES ENGAGED IN TECHNOLOGY EXCHANGE AS A PERCENTAGE OF ALL ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY ECONOMIC ACTIVITY: 2014

Mining and quarrying, manufacturing, electricity, gas and water supply

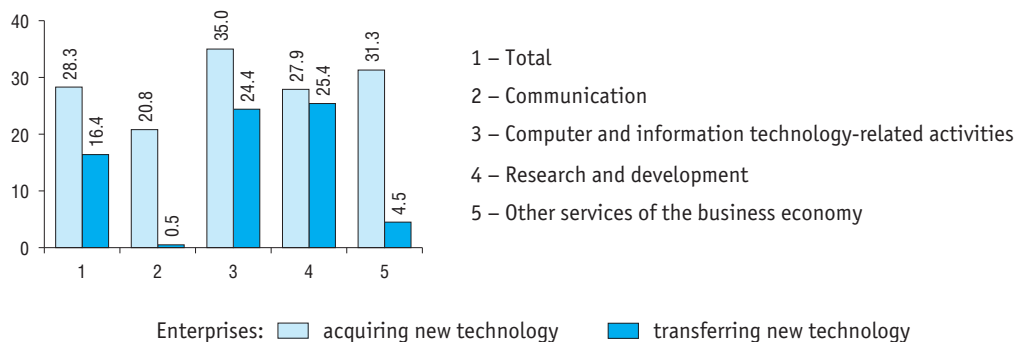


- 1 – Total
- 2 – Mining and quarrying
 - 3 – Mining and quarrying of energy producing materials
 - 4 – Mining and quarrying, except energy producing materials
- 5 – Manufacturing
 - 6 – High tech
 - 7 – Manufacture of pharmaceuticals and pharmaceutical products
 - 8 – Manufacture of office machinery and computers
 - 9 – Manufacture of radio, television and communication equipment and apparatus
 - 10 – Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks
 - 11 – Manufacture of aircraft, including spacecraft
- 12 – Medium high tech
 - 13 – Manufacture of chemicals and chemical products
 - 14 – Manufacture of machinery and equipment
 - 15 – Manufacture of electrical machinery and apparatus
 - 16 – Manufacture of motor vehicles, trailers and semi-trailers
 - 17 – Manufacture of other transport vehicles

- 18 – Medium low tech
 - 19 – Manufacture of coke and refined petroleum products
 - 20 – Manufacture of rubber and plastic products
 - 21 – Manufacture of other non-metallic mineral products
 - 22 – Manufacture of basic metals
 - 23 – Manufacture of fabricated metal products
 - 24 – Building and repair of ships and boats
- 25 – Low tech
 - 26 – Manufacture of food products, including beverages
 - 27 – Manufacture of tobacco products
 - 28 – Manufacture of textiles
 - 29 – Manufacture of wearing apparel, dressing and dyeing of fur
 - 30 – Manufacture of leather, leather products and footwear
 - 31 – Woodworking and manufacture of wood and of products of wood and cork, except furniture
 - 32 – Manufacture of cellulose, wood pulp, paper and cardboard and products thereof
 - 33 – Publishing and printing activities, reproduction of recorded media
 - 34 – Manufacture of furniture and other products n.e.c.
 - 35 – Recycling of secondary raw materials
- 36 – Electricity, gas and water supply

(continued)

**Communication, computer and information technology-related activities, research and development,
other services of the business economy**



3.26. ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION ACQUIRING TECHNOLOGY OUTSIDE RUSSIA BY ECONOMIC ACTIVITY

	Enterprises acquiring new technology outside Russias as a percentage of all enterprises engaged in technological innovation and technology acquisition					
	total		from CIS countries		from other foreign countries	
	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply						
Total	36.9	36.2	6.1	4.9	30.8	31.3
Mining and quarrying	37.5	24.1	12.5	–	25.0	24.1
Mining and quarrying of energy producing materials	33.3	19.0	8.3	–	25.0	19.0
Mining and quarrying, except energy producing materials	50.0	37.5	25.0	–	25.0	37.5
Manufacturing	40.9	40.9	6.6	5.4	34.3	35.4
High tech	39.2	38.7	6.0	6.5	33.1	32.3
Manufacture of pharmaceuticals and pharmaceutical products	57.1	42.9	14.3	–	42.9	42.9
Manufacture of office machinery and computers	–	–	–	–	–	–
Manufacture of radio, television and communication equipment and apparatus	29.5	29.3	6.8	4.9	22.7	24.4
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	42.0	46.8	4.3	9.7	37.7	37.1
Manufacture of aircraft, including spacecraft	44.1	38.2	5.9	5.9	38.2	32.4
Medium high tech	40.7	38.1	7.7	5.4	33.0	32.7
Manufacture of chemicals and chemical products	45.2	40.0	–	4.0	45.2	36.0
Manufacture of machinery and equipment	43.1	39.7	10.8	8.6	32.3	31.0

(continued)

	Enterprises acquiring new technology outside Russias as a percentage of all enterprises engaged in technological innovation and technology acquisition					
	total		from CIS countries		from other foreign countries	
	2013	2014	2013	2014	2013	2014
Manufacture of electrical machinery and apparatus	42.0	37.3	10.0	2.0	32.0	35.3
Manufacture of motor vehicles, trailers and semi-trailers	39.3	43.5	7.1	8.7	32.1	34.8
Manufacture of other transport vehicles	25.0	18.2	5.0	–	20.0	18.2
Medium low tech	47.6	45.1	7.1	6.2	40.5	38.9
Manufacture of coke and refined petroleum products	76.9	54.5	7.7	9.1	69.2	45.5
Manufacture of rubber and plastic products	58.8	64.3	5.9	14.3	52.9	50.0
Manufacture of other non-metallic mineral products	48.3	50.0	6.9	8.3	41.4	41.7
Manufacture of basic metals	36.7	38.5	10.0	7.7	26.7	30.8
Manufacture of fabricated metal products	44.0	44.8	4.0	–	40.0	44.8
Building and repair of ships and boats	33.3	11.1	8.3	–	25.0	11.1
Low tech	37.7	43.8	3.5	4.2	34.2	39.6
Manufacture of food products, including beverages	40.0	32.1	4.4	1.9	35.6	30.2
Manufacture of tobacco products	100	100	–	–	100	100
Manufacture of textiles	50.0	100	–	–	50.0	100
Manufacture of wearing apparel, dressing and dyeing of fur	25.0	50.0	–	–	25.0	50.0
Manufacture of leather, leather products and footwear	33.3	66.7	–	–	33.3	66.7

(continued)

	Enterprises acquiring new technology outside Russias as a percentage of all enterprises engaged in technological innovation and technology acquisition					
	total		from CIS countries		from other foreign countries	
	2013	2014	2013	2014	2013	2014
Woodworking and manufacture of wood and of products of wood and cork, except furniture	50.0	66.7	16.7	22.2	33.3	44.4
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	75.0	60.0	–	–	75.0	60.0
Publishing and printing activities, reproduction of recorded media	16.7	40.0	2.8	6.7	13.9	33.3
Manufacture of furniture and other products n.e.c.	80.0	60.0	–	–	80.0	60.0
Recycling of secondary raw materials	–	100	–	–	–	100
Electricity, gas and water supply	6.0	4.2	–	2.8	6.0	1.4
Communication, computer and information technology-related activities, research and development, other services of the business economy						
Total	20.2	20.9	2.6	2.7	17.6	18.2
Communication	38.0	41.9	–	–	38.0	41.9
Computer and information technology-related activities	17.8	18.6	–	–	17.8	18.6
Research and development	22.5	22.2	4.5	3.8	18.0	18.4
Other services of the business economy	7.3	10.3	1.0	3.1	6.3	7.2

3.27. ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION TRANSFERRING TECHNOLOGY OUTSIDE RUSSIA BY ECONOMIC ACTIVITY

	Enterprises transferring new technology outside Russias as a percentage of all enterprises engaged in technological innovation and technology transfer					
	total		to CIS countries		to other foreign countries	
	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply						
Total	27.1	26.7	18.6	16.7	8.5	10.0
Mining and quarrying	—	—	—	—	—	—
Mining and quarrying of energy producing materials	—	—	—	—	—	—
Mining and quarrying, except energy producing materials	—	—	—	—	—	—
Manufacturing	29.6	27.3	20.4	18.2	9.3	9.1
High tech	35.0	27.8	20.0	22.2	15.0	5.6
Manufacture of pharmaceuticals and pharmaceutical products	—	—	—	—	—	—
Manufacture of office machinery and computers	—	50.0	—	50.0	—	—
Manufacture of radio, television and communication equipment and apparatus	—	14.3	—	—	—	14.3
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	55.6	33.3	33.3	33.3	22.2	—
Manufacture of aircraft, including spacecraft	100	50.0	50.0	50.0	50.0	—
Medium high tech	26.3	30.8	21.1	15.4	5.3	15.4
Manufacture of chemicals and chemical products	—	—	—	—	—	—
Manufacture of machinery and equipment	37.5	33.3	25.0	33.3	12.5	—

(continued)

	Enterprises transferring new technology outside Russias as a percentage of all enterprises engaged in technological innovation and technology transfer					
	total		to CIS countries		to other foreign countries	
	2013	2014	2013	2014	2013	2014
Manufacture of electrical machinery and apparatus	25.0	20.0	25.0	–	–	20.0
Manufacture of motor vehicles, trailers and semi-trailers	33.3	66.7	33.3	33.3	–	33.3
Manufacture of other transport vehicles	–	–	–	–	–	–
Medium low tech	28.6	25.0	14.3	8.3	14.3	16.7
Manufacture of coke and refined petroleum products	–	–	–	–	–	–
Manufacture of rubber and plastic products	–	–	–	–	–	–
Manufacture of other non-metallic mineral products	100	–	100	–	–	–
Manufacture of basic metals	–	33.3	–	16.7	–	16.7
Manufacture of fabricated metal products	50.0	33.3	–	–	50.0	33.3
Building and repair of ships and boats	–	–	–	–	–	–
Low tech	–	–	–	–	–	–
Manufacture of food products, including beverages	–	–	–	–	–	–
Manufacture of tobacco products	–	–	–	–	–	–
Manufacture of textiles	–	–	–	–	–	–
Manufacture of wearing apparel, dressing and dyeing of fur	–	–	–	–	–	–
Manufacture of leather, leather products and footwear	–	–	–	–	–	–
Woodworking and manufacture of wood and of products of wood and cork, except furniture	–	–	–	–	–	–

(continued)

	Enterprises transferring new technology outside Russias as a percentage of all enterprises engaged in technological innovation and technology transfer					
	total		to CIS countries		to other foreign countries	
	2013	2014	2013	2014	2013	2014
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	–	–	–	–	–	–
Publishing and printing activities, reproduction of recorded media	–	–	–	–	–	–
Manufacture of furniture and other products n.e.c.	–	–	–	–	–	–
Recycling of secondary raw materials	–	–	–	–	–	–
Electricity, gas and water supply	–	33.3	–	–	–	33.3
Communication, computer and information technology-related activities, research and development, other services of the business economy						
Total	15.0	17.8	7.5	7.5	7.5	10.3
Communication	–	–	–	–	–	–
Computer and information technology-related activities	10.0	20.0	–	10.0	10.0	10.0
Research and development	15.9	17.9	8.8	6.5	7.1	11.3
Other services of the business economy	9.1	14.3	–	14.3	9.1	–

3.28. FORMS OF TECHNOLOGY ACQUISITION BY ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY ECONOMIC ACTIVITY: 2014

	Enterprises acquiring technology as a percentage of all enterprises engaged in technological innovation and technology acquisition					
	patent rights, licence to use inventions, industrial designs and utility models	R&D results	know-how, technology transfer agreements	purchase of equipment	targeted hiring of skilled personnel	other
Mining and quarrying, manufacturing, electricity, gas and water supply						
Total	17.1	15.9	5.1	70.2	13.4	14.8
Mining and quarrying	24.1	27.6	3.4	44.8	3.4	34.5
Mining and quarrying of energy producing materials	19.0	33.3	4.8	42.9	–	47.6
Mining and quarrying, except energy producing materials	37.5	12.5	–	50.0	12.5	–
Manufacturing	17.2	14.6	5.4	72.6	15.3	12.3
High tech	18.7	19.4	5.8	72.9	26.5	12.3
Manufacture of pharmaceuticals and pharmaceutical products	35.7	35.7	–	64.3	14.3	–
Manufacture of office machinery and computers	–	50.0	–	75.0	–	–
Manufacture of radio, television and communication equipment and apparatus	9.8	22.0	4.9	80.5	39.0	17.1
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	21.0	16.1	4.8	74.2	19.4	12.9
Manufacture of aircraft, including spacecraft	20.6	11.8	11.8	64.7	32.4	11.8

(continued)

	Enterprises acquiring technology as a percentage of all enterprises engaged in technological innovation and technology acquisition					
	patent rights, licence to use inventions, industrial designs and utility models	R&D results	know-how, technology transfer agreements	purchase of equipment	targeted hiring of skilled personnel	other
Medium high tech	20.2	17.3	5.4	73.2	6.5	7.7
Manufacture of chemicals and chemical products	12.0	28.0	4.0	68.0	4.0	16.0
Manufacture of machinery and equipment	25.9	15.5	3.4	75.9	3.4	8.6
Manufacture of electrical machinery and apparatus	15.7	13.7	2.0	80.4	11.8	3.9
Manufacture of motor vehicles, trailers and semi-trailers	21.7	17.4	8.7	56.5	4.3	8.7
Manufacture of other transport vehicles	27.3	18.2	27.3	72.7	9.1	–
Medium low tech	14.2	10.6	9.7	67.3	17.7	20.4
Manufacture of coke and refined petroleum products	18.2	27.3	18.2	36.4	18.2	54.5
Manufacture of rubber and plastic products	21.4	7.1	–	71.4	21.4	7.1
Manufacture of other non-metallic mineral products	4.2	4.2	–	83.3	12.5	16.7
Manufacture of basic metals	19.2	19.2	15.4	42.3	15.4	26.9
Manufacture of fabricated metal products	13.8	6.9	17.2	86.2	13.8	10.3
Building and repair of ships and boats	11.1	–	–	66.7	44.4	22.2
Low tech	11.5	5.2	1.0	80.2	7.3	8.3
Manufacture of food products, including beverages	13.2	5.7	–	79.2	5.7	5.7
Manufacture of tobacco products	–	–	–	100	–	–
Manufacture of textiles	–	50.0	–	100	–	–
Manufacture of wearing apparel, dressing and dyeing of fur	–	–	–	50.0	50.0	–

(continued)

	Enterprises acquiring technology as a percentage of all enterprises engaged in technological innovation and technology acquisition					
	patent rights, licence to use inventions, industrial designs and utility models	R&D results	know-how, technology transfer agreements	purchase of equipment	targeted hiring of skilled personnel	other
Manufacture of leather, leather products and footwear	33.3	–	33.3	66.7	–	–
Woodworking and manufacture of wood and of products of wood and cork, except furniture	–	–	–	100	11.1	–
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	–	–	–	100	20.0	20.0
Publishing and printing activities, reproduction of recorded media	20.0	–	–	60.0	–	26.7
Manufacture of furniture and other products n.e.c.	–	20.0	–	100	20.0	–
Recycling of secondary raw materials	–	–	–	100	–	–
Electricity, gas and water supply	13.9	22.2	2.8	61.1	2.8	26.4
Communication, computer and information technology-related activities, research and development, other services of the business economy						
Total	26.4	14.9	3.8	53.0	17.7	25.8
Communication	14.0	7.0	–	72.1	4.7	18.6
Computer and information technology-related activities	37.2	11.6	–	32.6	20.9	27.9
Research and development	23.8	22.2	6.5	60.5	23.8	23.2
Other services of the business economy	32.0	6.2	2.1	39.2	10.3	33.0

3.29. FORMS OF TECHNOLOGY TRANSFER AT ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY ECONOMIC ACTIVITY: 2014

	Enterprises transferring technology as a percentage of all enterprises engaged in technological innovation and technology transfer					
	patent rights licence to use inventions, industrial designs and utility models	R&D results	know-how, technology transfer agreements	sale of equipment	targeted hiring of skilled personnel	other
Mining and quarrying, manufacturing, electricity, gas and water supply						
Total	35.0	25.0	16.7	20.0	11.7	11.7
Mining and quarrying	100	—	—	—	—	—
Mining and quarrying of energy producing materials	100	—	—	—	—	—
Mining and quarrying, except energy producing materials	—	—	—	—	—	—
Manufacturing	32.7	27.3	18.2	21.8	10.9	10.9
High tech	16.7	44.4	—	16.7	16.7	11.1
Manufacture of pharmaceuticals and pharmaceutical products	100	—	—	—	—	—
Manufacture of office machinery and computers	50.0	50.0	—	—	—	—
Manufacture of radio, television and communication equipment and apparatus	—	85.7	—	14.3	—	—
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	16.7	16.7	—	33.3	33.3	16.7
Manufacture of aircraft, including spacecraft	—	—	—	—	50.0	50.0

(continued)

	Enterprises transferring technology as a percentage of all enterprises engaged in technological innovation and technology transfer					
	patent rights licence to use inventions, industrial designs and utility models	R&D results	know-how, technology transfer agreements	sale of equipment	targeted hiring of skilled personnel	other
Medium high tech	46.2	15.4	23.1	30.8	–	–
Manufacture of chemicals and chemical products	100	–	–	–	–	–
Manufacture of machinery and equipment	33.3	–	33.3	33.3	–	–
Manufacture of electrical machinery and apparatus	20.0	40.0	–	60.0	–	–
Manufacture of motor vehicles, trailers and semi-trailers	66.7	–	66.7	–	–	–
Manufacture of other transport vehicles	–	–	–	–	–	–
Medium low tech	41.7	8.3	25.0	25.0	8.3	25.0
Manufacture of coke and refined petroleum products	–	–	–	100	100	100
Manufacture of rubber and plastic products	100	–	–	–	–	–
Manufacture of other non-metallic mineral products	–	–	–	–	–	100
Manufacture of basic metals	66.7	16.7	33.3	–	–	16.7
Manufacture of fabricated metal products	–	–	33.3	66.7	–	–
Building and repair of ships and boats	–	–	–	–	–	–
Low tech	–	50.0	–	50.0	50.0	–
Manufacture of food products, including beverages	–	100	–	100	–	–
Manufacture of tobacco products	–	–	–	–	–	–
Manufacture of textiles	–	–	–	–	–	–
Manufacture of wearing apparel, dressing and dyeing of fur	–	–	–	–	–	–

(continued)

	Enterprises transferring technology as a percentage of all enterprises engaged in technological innovation and technology transfer					
	patent rights licence to use inventions, industrial designs and utility models	R&D results	know-how, technology transfer agreements	sale of equipment	targeted hiring of skilled personnel	other
Manufacture of leather, leather products and footwear	—	—	—	—	—	—
Woodworking and manufacture of wood and of products of wood and cork, except furniture	—	—	—	—	100	—
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	—	—	—	—	—	—
Publishing and printing activities, reproduction of recorded media	—	—	—	—	—	—
Manufacture of furniture and other products n.e.c.	—	—	—	—	—	—
Recycling of secondary raw materials	—	—	—	—	—	—
Electricity, gas and water supply	33.3	—	—	—	33.3	33.3
Communication, computer and information technology-related activities, research and development, other services of the business economy						
Total	28.6	65.3	14.6	11.7	3.3	10.8
Communication	—	—	—	—	—	100
Computer and information technology-related activities	40.0	30.0	—	16.7	3.3	30.0
Research and development	27.4	73.8	17.9	10.1	3.6	6.0
Other services of the business economy	21.4	42.9	7.1	21.4	—	21.4

3.30. TECHNOLOGY ACQUISITION AND TRANSFER BY ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION: 2014

	Number of technologies acquired	Of which from outside Russia			Number of technologies transferred	Of which outside Russia		
		total	from CIS countries	from other foreign countries		total	to CIS countries	to other foreign countries
Mining and quarrying, manufacturing, electricity, gas and water supply								
Total	9336	1388	103	1285	350	68	42	26
Patent rights and licence to use inventions, industrial designs and utility models	2784	110	4	106	64	9	9	–
R&D results	894	29	8	21	63	3	2	1
Know-how, agreements on technology transfer	219	26	9	17	93	26	7	19
Purchase (sale) of equipment	3450	1043	57	986	53	6	1	5
Targeted hiring (transfer) of skilled personnel	1037	37	22	15	67	23	23	–
Other	952	143	3	140	10	1	–	1
Communication, computer and information technology-related activities, research and development, other services of the business economy								
Total	12612	3116	29	3087	15863	488	236	253
Patent rights and licence to use inventions, industrial designs and utility models	3271	2262	2	2260	11037	6	5	1
R&D results	1270	23	4	19	3054	235	18	217
Know-how, agreements on technology transfer	100	1	–	1	257	39	6	33
Purchase (sale) of equipment	4383	784	21	763	1141	198	197	1
Targeted hiring (transfer) of skilled personnel	1357	28	2	26	140	–	–	–
Other	2231	18	–	18	234	10	10	–

3.31. ENTERPRISES ENGAGED IN JOINT R&D PROJECTS: 2014

	Enterprises engaged in joint R&D projects					Joint R&D projects of enterprises				
	total	engaged in technological innovation		not engaged in technological innovation		total	engaged in technological innovation		not engaged in technological innovation	
		number	per cent	number	per cent		number	per cent	number	per cent
Mining and quarrying, manufacturing, electricity, gas and water supply										
Total	923	759	82.2	164	17.8	8312	7273	87.5	1039	12.5
Of which with partners from:										
Russia	858	714	83.2	144	16.8	7575	6658	87.9	917	12.1
CIS countries	71	58	81.7	13	18.3	165	134	81.2	31	18.8
EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland	164	142	86.6	22	13.4	465	422	90.8	43	9.2
USA and Canada	32	28	87.5	4	12.5	83	48	57.8	35	42.2
India and China	36	28	77.8	8	22.2	55	44	80.0	11	20.0
Other countries	44	36	81.8	8	18.2	138	112	81.2	26	18.8
Communication, computer and information technology-related activities, research and development, other services of the business economy										
Total	867	560	64.6	307	35.4	19916	14894	74.8	5022	25.2
Of which with partners from:										
Russia	827	546	66.0	281	34.0	18453	14054	76.2	4399	23.8
CIS countries	122	83	68.0	39	32.0	320	193	60.3	127	39.7
EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland	162	101	62.3	61	37.7	602	377	62.6	225	37.4
USA and Canada	83	55	66.3	28	33.7	183	109	59.6	74	40.4
India and China	92	63	68.5	29	31.5	185	111	60.0	74	40.0
Other countries	127	86	67.7	41	32.3	370	222	60.0	148	40.0

* Albania, Bosnia and Herzegovina, Iceland, Kosovo, Macedonia, Serbia, Turkey, Montenegro.

3.32. ENTERPRISES TAKING PART IN JOINT R&D PROJECTS BY ECONOMIC ACTIVITY

	Enterprises taking part in joint R&D projects					
	as a percentage of all enterprises		as a percentage of all enterprises engaged in technological innovation		as a percentage of all enterprises not engaged in technological innovation	
	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply						
Total	4.0	3.8	33.8	32.2	0.8	0.8
Mining and quarrying	3.6	3.9	37.9	38.1	1.2	1.5
Mining and quarrying of energy producing materials	4.1	4.4	41.2	37.5	1.3	1.8
Mining and quarrying, except energy producing materials	2.8	3.1	31.4	39.4	1.1	1.1
Manufacturing	5.0	4.8	34.7	33.2	1.0	0.9
High tech	17.3	16.4	51.6	47.5	3.1	2.6
Manufacture of pharmaceuticals and pharmaceutical products	12.8	8.5	40.8	26.0	2.3	2.2
Manufacture of office machinery and computers	16.7	13.6	66.7	40.0	9.5	5.9
Manufacture of radio, television and communication equipment and apparatus	21.0	20.8	55.1	54.3	3.8	3.5
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	14.4	14.3	46.2	44.5	2.4	2.0
Manufacture of aircraft, including spacecraft	26.2	25.7	69.2	64.3	3.1	3.1
Medium high tech	7.8	7.1	35.8	34.0	1.6	1.5
Manufacture of chemicals and chemical products	11.1	11.0	42.4	41.0	2.6	3.7
Manufacture of machinery and equipment	6.1	5.7	34.0	33.2	1.2	1.0

(continued)

	Enterprises taking part in joint R&D projects					
	as a percentage of all enterprises		as a percentage of all enterprises engaged in technological innovation		as a percentage of all enterprises not engaged in technological innovation	
	2013	2014	2013	2014	2013	2014
Manufacture of electrical machinery and apparatus	8.6	7.6	32.7	29.4	1.9	1.3
Manufacture of motor vehicles, trailers and semi-trailers	10.3	9.2	37.2	35.6	2.0	1.4
Manufacture of other transport vehicles	5.2	4.3	35.0	34.2	1.0	0.6
Medium low tech	4.6	4.7	31.8	33.4	1.2	1.2
Manufacture of coke and refined petroleum products	17.8	17.7	58.6	65.4	2.6	3.4
Manufacture of rubber and plastic products	3.1	3.3	21.5	24.1	1.0	1.1
Manufacture of other non-metallic mineral products	2.4	2.6	21.1	25.0	0.7	0.7
Manufacture of basic metals	13.2	13.8	50.0	57.0	3.4	3.4
Manufacture of fabricated metal products	3.7	2.7	29.5	18.8	0.9	0.8
Building and repair of ships and boats	6.0	7.5	26.1	40.9	2.3	2.2
Low tech	1.5	1.2	18.2	14.9	0.4	0.3
Manufacture of food products, including beverages	2.2	1.9	15.8	14.1	0.9	0.5
Manufacture of tobacco products	8.7	10.5	22.2	28.6	–	–
Manufacture of textiles	2.0	1.5	13.8	14.3	0.7	0.4
Manufacture of wearing apparel, dressing and dyeing of fur	1.3	2.7	23.1	33.3	0.3	0.5
Manufacture of leather, leather products and footwear	1.5	1.8	14.3	15.4	–	–

(continued)

	Enterprises taking part in joint R&D projects					
	as a percentage of all enterprises		as a percentage of all enterprises engaged in technological innovation		as a percentage of all enterprises not engaged in technological innovation	
	2013	2014	2013	2014	2013	2014
Woodworking and manufacture of wood and of products of wood and cork, except furniture	1.1	1.4	18.5	19.2	0.2	0.2
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	3.7	3.9	32.0	29.6	0.5	0.5
Publishing and printing activities, reproduction of recorded media	0.8	0.2	25.7	8.6	0.1	0.04
Manufacture of furniture and other products n.e.c.	1.3	0.8	12.5	8.3	–	–
Recycling of secondary raw materials	0.4	–	33.3	–	–	–
Electricity, gas and water supply	1.4	1.2	25.9	23.0	0.3	0.2
Communication, computer and information technology-related activities, research and development, other services of the business economy						
Total	5.3	5.0	44.1	43.0	2.1	1.9
Communication	3.3	2.5	19.7	16.9	1.1	0.8
Computer and information technology-related activities	3.7	3.3	28.2	26.8	1.5	1.2
Research and development	28.6	31.0	66.6	66.8	12.7	14.4
Other services of the business economy	1.2	1.0	18.6	16.1	0.8	0.6

3.33. ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION AND JOINT R&D PROJECTS BY PARTNER COUNTRY BY ECONOMIC ACTIVITY

	Percentage distribution of enterprises taking part in joint R&D projects by partner country											
	Russia		CIS countries		EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland		USA and Canada		India and China		other	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply												
Total	92.8	94.1	7.7	7.6	18.5	18.7	3.7	3.7	4.8	3.7	5.8	4.7
Mining and quarrying	97.4	95.0	5.1	5.0	5.1	15.0	5.1	–	2.6	–	7.7	–
Mining and quarrying of energy producing materials	100	100	–	–	–	11.1	3.6	–	–	–	3.6	–
Mining and quarrying, except energy producing materials	90.9	84.6	18.2	15.4	18.2	23.1	9.1	–	9.1	–	18.2	–
Manufacturing	91.8	93.6	8.7	8.4	20.7	20.4	3.9	4.1	5.5	4.1	6.2	5.2
High tech	95.8	96.2	8.9	8.7	10.4	7.1	2.1	–	3.6	2.2	4.2	3.3
Manufacture of pharmaceuticals and pharmaceutical products	95.0	92.3	25.0	30.8	15.0	–	5.0	–	10.0	–	10.0	–
Manufacture of office machinery and computers	100	100	–	–	–	–	–	–	–	–	–	–
Manufacture of radio, television and communication equipment and apparatus	100	98.2	3.4	5.3	3.4	5.3	–	–	–	–	3.4	3.5
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	94.5	94.5	6.8	8.2	6.8	8.2	2.7	–	2.7	2.7	4.1	1.4
Manufacture of aircraft, including spacecraft	91.7	97.2	13.9	8.3	27.8	11.1	2.8	–	8.3	5.6	2.8	8.3
Medium high tech	91.6	92.2	8.8	8.3	24.7	26.7	4.0	4.9	8.4	7.8	8.4	4.9
Manufacture of chemicals and chemical products	94.0	90.7	8.0	9.3	28.0	41.9	8.0	11.6	8.0	4.7	8.0	4.7
Manufacture of machinery and equipment	88.8	95.9	11.3	10.8	23.8	18.9	2.5	4.1	6.3	5.4	6.3	2.7

* Here and elsewhere in the table: Albania, Bosnia and Herzegovina, Iceland, Kosovo, Macedonia, Serbia, Turkey, Montenegro.

(continued)

	Percentage distribution of enterprises taking part in joint R&D projects by partner country											
	Russia		CIS countries		EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland		USA and Canada		India and China		other	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Manufacture of electrical machinery and apparatus	100	95.6	6.3	6.7	8.3	17.8	2.1	2.2	10.4	8.9	4.2	4.4
Manufacture of motor vehicles, trailers and semi-trailers	82.9	83.9	11.4	6.5	42.9	35.5	5.7	3.2	11.4	16.1	20.0	9.7
Manufacture of other transport vehicles	92.9	84.6	–	–	28.6	30.8	–	–	7.1	7.7	7.1	7.7
Medium low tech	86.8	93.1	10.9	9.2	26.4	25.4	8.5	9.2	7.0	3.1	4.7	8.5
Manufacture of coke and refined petroleum products	82.4	100	11.8	–	41.2	41.2	29.4	29.4	–	–	5.9	5.9
Manufacture of rubber and plastic products	92.9	92.9	–	7.1	7.1	14.3	7.1	–	14.3	–	–	7.1
Manufacture of other non-metallic mineral products	70.8	77.8	8.3	11.1	33.3	29.6	8.3	3.7	–	3.7	4.2	7.4
Manufacture of basic metals	100	95.6	12.5	11.1	22.5	26.7	2.5	11.1	2.5	–	2.5	8.9
Manufacture of fabricated metal products	78.6	100	14.3	5.6	28.6	16.7	3.6	–	14.3	11.1	7.1	11.1
Building and repair of ships and boats	100	100	16.7	22.2	16.7	11.1	16.7	11.1	33.3	11.1	16.7	11.1
Low tech	87.0	86.7	3.3	4.0	29.3	30.7	2.2	4.0	–	1.3	8.7	4.0
Manufacture of food products, including beverages	86.0	90.5	4.7	2.4	34.9	26.2	2.3	2.4	–	–	16.3	4.8
Manufacture of tobacco products	50.0	50.0	–	–	100	100	–	–	–	–	–	–
Manufacture of textiles	75.0	100	–	–	50.0	66.7	–	–	–	–	–	–
Manufacture of wearing apparel, dressing and dyeing of fur	100	100	–	20.0	–	–	–	–	–	–	–	–
Manufacture of leather, leather products and footwear	100	100	–	–	–	50.0	–	–	–	–	–	–

(continued)

	Percentage distribution of enterprises taking part in joint R&D projects by partner country											
	Russia		CIS countries		EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland		USA and Canada		India and China		other	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Woodworking and manufacture of wood and of products of wood and cork, except furniture	100	80.0	–	20.0	20.0	20.0	–	–	–	20.0	–	20.0
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	50.0	50.0	–	–	62.5	62.5	12.5	25.0	–	–	–	–
Publishing and printing activities, reproduction of recorded media	100	100	5.3	–	–	–	–	–	–	–	5.3	–
Manufacture of furniture and other products n.e.c.	100	100	–	–	20.0	33.3	–	–	–	–	–	–
Recycling of secondary raw materials	100	–	–	–	100	–	–	–	–	–	–	–
Electricity, gas and water supply	100	98.5	–	1.5	5.3	4.5	1.3	1.5	–	1.5	1.3	3.0
Communication, computer and information technology-related activities, research and development, other services of the business economy												
Total	96.1	97.5	16.3	14.8	15.0	18.0	8.3	9.8	10.4	11.3	14.3	15.4
Communication	97.7	97.1	–	–	7.0	14.3	2.3	–	16.3	2.9	23.3	31.4
Computer and information technology-related activities	90.9	93.9	6.1	3.0	3.0	6.1	15.2	15.2	6.1	9.1	3.0	6.1
Research and development	96.5	98.0	20.3	18.1	16.6	20.1	8.8	11.1	11.3	13.1	15.2	16.3
Other services of the business economy	94.5	96.0	3.6	4.0	16.4	10.0	5.5	2.0	1.8	2.0	7.3	2.0

3.34. ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION AND JOINT R&D PROJECTS BY TYPE OF PARTNER AND ECONOMIC ACTIVITY: 2014

	Percentage distribution of enterprises taking part in joint R&D projects by partner						
	Enterprises within the same group	Consumers of goods and services	Suppliers of equipment, materials, components, software	Competitors within the same sector	Consulting firms and information organisations	R&D institutions	Universities and other higher education institutions
Mining and quarrying, manufacturing, electricity, gas and water supply							
Total	32.3	24.5	43.9	6.2	11.2	45.2	27.1
Mining and quarrying	52.5	–	55.0	–	12.5	65.0	20.0
Mining and quarrying of energy producing materials	59.3	–	66.7	–	7.4	66.7	14.8
Mining and quarrying, except energy producing materials	38.5	–	30.8	–	23.1	61.5	30.8
Manufacturing	32.5	28.0	41.0	7.2	11.2	45.9	28.5
High tech	40.4	41.0	30.6	8.7	3.8	47.0	36.6
Manufacture of pharmaceuticals and pharmaceutical products	30.8	46.2	15.4	–	–	76.9	38.5
Manufacture of office machinery and computers	25.0	50.0	50.0	–	–	25.0	–
Manufacture of radio, television and communication equipment and apparatus	33.3	42.1	15.8	3.5	1.8	47.4	33.3
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	49.3	38.4	35.6	9.6	1.4	46.6	35.6
Manufacture of aircraft, including spacecraft	38.9	41.7	47.2	19.4	13.9	38.9	47.2

(continued)

	Percentage distribution of enterprises taking part in joint R&D projects by partner						
	Enterprises within the same group	Consumers of goods and services	Suppliers of equipment, materials, components, software	Competitors within the same sector	Consulting firms and information organisations	R&D institutions	Universities and other higher education institutions
Medium high tech	31.1	31.1	42.7	7.8	13.1	40.3	22.8
Manufacture of chemicals and chemical products	25.6	14.0	48.8	7.0	16.3	65.1	20.9
Manufacture of machinery and equipment	29.7	33.8	43.2	6.8	12.2	28.4	25.7
Manufacture of electrical machinery and apparatus	22.2	40.0	31.1	6.7	4.4	44.4	26.7
Manufacture of motor vehicles, trailers and semi-trailers	51.6	38.7	45.2	12.9	25.8	19.4	12.9
Manufacture of other transport vehicles	38.5	23.1	53.8	7.7	7.7	61.5	23.1
Medium low tech	27.7	14.6	41.5	3.8	16.2	57.7	33.1
Manufacture of coke and refined petroleum products	47.1	5.9	41.2	5.9	41.2	76.5	41.2
Manufacture of rubber and plastic products	14.3	28.6	35.7	—	—	50.0	7.1
Manufacture of other non-metallic mineral products	14.8	3.7	70.4	—	—	33.3	14.8
Manufacture of basic metals	24.4	13.3	35.6	4.4	24.4	68.9	53.3
Manufacture of fabricated metal products	44.4	33.3	33.3	5.6	5.6	50.0	16.7
Building and repair of ships and boats	33.3	11.1	11.1	11.1	22.2	66.7	44.4
Low tech	20.0	10.7	61.3	5.3	14.7	24.0	12.0
Manufacture of food products, including beverages	23.8	11.9	57.1	4.8	19.0	23.8	14.3
Manufacture of tobacco products	50.0	—	50.0	—	—	—	—
Manufacture of textiles	33.3	66.7	66.7	33.3	—	33.3	33.3
Manufacture of wearing apparel, dressing and dyeing of fur	—	20.0	60.0	20.0	—	40.0	20.0

(continued)

	Percentage distribution of enterprises taking part in joint R&D projects by partner						
	Enterprises within the same group	Consumers of goods and services	Suppliers of equipment, materials, components, software	Competitors within the same sector	Consulting firms and information organisations	R&D institutions	Universities and other higher education institutions
Manufacture of leather, leather products and footwear	50.0	–	50.0	–	50.0	–	50.0
Woodworking and manufacture of wood and of products of wood and cork, except furniture	–	–	80.0	–	20.0	–	–
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	25.0	–	62.5	–	–	25.0	–
Publishing and printing activities, reproduction of recorded media	–	–	60.0	–	20.0	40.0	–
Manufacture of furniture and other products n.e.c.	–	–	100	–	–	33.3	–
Recycling of secondary raw materials	–	–	–	–	–	–	–
Electricity, gas and water supply	18.2	4.5	65.2	–	10.6	25.8	18.2
Communication, computer and information technology-related activities, research and development, other services of the business economy							
Total	35.4	46.3	40.0	18.9	8.0	58.8	39.1
Communication	54.3	5.7	88.6	40.0	8.6	22.9	11.4
Computer and information technology-related activities	24.2	45.5	51.5	12.1	18.2	9.1	12.1
Research and development	36.4	51.4	34.2	17.2	7.0	69.5	45.2
Other services of the business economy	20.0	30.0	50.0	24.0	10.0	22.0	22.0

3.35. ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION AND JOINT R&D PROJECTS BY TYPE OF CO-OPERATION AND ECONOMIC ACTIVITY

	Percentage distribution of enterprises taking part in joint R&D projects by type of co-operation					
	Permanent co-operation		Co-operation within a specific project		One-time informal co-operation unrelated to any specific project	
	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply						
Total	46.8	44.9	73.9	76.0	11.8	11.3
Mining and quarrying	33.3	40.0	84.6	82.5	5.1	10.0
Mining and quarrying of energy producing materials	28.6	29.6	85.7	92.6	3.6	7.4
Mining and quarrying, except energy producing materials	45.5	61.5	81.8	61.5	9.1	15.4
Manufacturing	49.7	47.3	73.0	75.8	12.4	11.5
High tech	42.7	41.5	79.2	82.0	10.4	7.7
Manufacture of pharmaceuticals and pharmaceutical products	25.0	23.1	70.0	76.9	10.0	–
Manufacture of office machinery and computers	50.0	50.0	75.0	75.0	–	–
Manufacture of radio, television and communication equipment and apparatus	32.2	31.6	88.1	87.7	3.4	3.5
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	53.4	53.4	74.0	76.7	12.3	12.3
Manufacture of aircraft, including spacecraft	47.2	38.9	80.6	86.1	19.4	8.3

(continued)

	Percentage distribution of enterprises taking part in joint R&D projects by type of co-operation					
	Permanent co-operation		Co-operation within a specific project		One-time informal co-operation unrelated to any specific project	
	2013	2014	2013	2014	2013	2014
Medium high tech	52.0	52.4	73.1	72.8	14.5	14.1
Manufacture of chemicals and chemical products	44.0	48.8	86.0	79.1	14.0	14.0
Manufacture of machinery and equipment	55.0	55.4	70.0	74.3	12.5	16.2
Manufacture of electrical machinery and apparatus	41.7	42.2	70.8	75.6	16.7	8.9
Manufacture of motor vehicles, trailers and semi-trailers	57.1	54.8	65.7	67.7	17.1	16.1
Manufacture of other transport vehicles	85.7	76.9	71.4	46.2	14.3	15.4
Medium low tech	49.6	48.5	69.8	75.4	10.9	10.8
Manufacture of coke and refined petroleum products	47.1	52.9	94.1	88.2	11.8	11.8
Manufacture of rubber and plastic products	78.6	92.9	21.4	21.4	14.3	–
Manufacture of other non-metallic mineral products	41.7	25.9	66.7	74.1	16.7	25.9
Manufacture of basic metals	42.5	48.9	80.0	82.2	7.5	6.7
Manufacture of fabricated metal products	57.1	55.6	64.3	77.8	7.1	5.6
Building and repair of ships and boats	33.3	22.2	83.3	100	16.7	11.1
Low tech	53.3	37.3	64.1	64.0	9.8	9.3
Manufacture of food products, including beverages	55.8	38.1	55.8	61.9	11.6	9.5
Manufacture of tobacco products	100	100	50.0	50.0	–	–
Manufacture of textiles	25.0	66.7	75.0	33.3	–	–
Manufacture of wearing apparel, dressing and dyeing of fur	33.3	20.0	33.3	80.0	33.3	20.0

(continued)

	Percentage distribution of enterprises taking part in joint R&D projects by type of co-operation					
	Permanent co-operation		Co-operation within a specific project		One-time informal co-operation unrelated to any specific project	
	2013	2014	2013	2014	2013	2014
Manufacture of leather, leather products and footwear	100	100	–	–	–	–
Woodworking and manufacture of wood and of products of wood and cork, except furniture	20.0	20.0	40.0	80.0	40.0	20.0
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	25.0	25.0	87.5	75.0	–	–
Publishing and printing activities, reproduction of recorded media	73.7	20.0	78.9	60.0	5.3	20.0
Manufacture of furniture and other products n.e.c.	40.0	33.3	100	100	–	–
Recycling of secondary raw materials	–	–	100	–	–	–
Electricity, gas and water supply	27.6	24.2	76.3	74.2	9.2	10.6
Communication, computer and information technology-related activities, research and development, other services of the business economy						
Total	46.5	50.0	80.0	79.5	14.9	14.8
Communication	55.8	68.6	53.5	45.7	4.7	5.7
Computer and information technology-related activities	30.3	45.5	81.8	72.7	6.1	6.1
Research and development	47.2	50.2	84.3	84.4	17.1	15.2
Other services of the business economy	43.6	38.0	65.5	64.0	10.9	24.0

3.36. JOINT R&D PROJECTS OF ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY ECONOMIC ACTIVITY

	Joint R&D projects		Of which with partners from											
			Russia		CIS countries		EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland		USA and Canada		India and China		other	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply														
Total	6824	7273	6173	6658	128	134	405	422	85	48	67	44	125	112
Mining and quarrying	469	566	456	556	2	2	5	8	3	–	1	–	12	–
Mining and quarrying of energy producing materials	371	446	369	443	–	–	–	3	2	–	–	–	10	–
Mining and quarrying, except energy producing materials	98	120	87	113	2	2	5	5	1	–	1	–	2	–
Manufacturing	6081	6474	5457	5876	126	128	388	411	81	47	66	42	112	109
High tech	2112	2166	1986	2104	31	25	35	31	40	–	10	5	26	28
Manufacture of pharmaceuticals and pharmaceutical products	101	78	82	68	8	10	3	–	2	–	3	–	3	–
Manufacture of office machinery and computers	23	27	23	27	–	–	–	–	–	–	–	–	–	–
Manufacture of radio, television and communication equipment and apparatus	409	466	403	456	3	5	3	7	–	–	–	–	12	12
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	996	900	937	880	8	6	11	13	33	–	2	2	8	1
Manufacture of aircraft, including spacecraft	583	695	541	673	12	4	18	11	5	–	5	3	3	15

* Here and elsewhere in the table: Albania, Bosnia and Herzegovina, Iceland, Kosovo, Macedonia, Serbia, Turkey, Montenegro.

(continued)

	Joint R&D projects		Of which with partners from											
			Russia		CIS countries		EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland		USA and Canada		India and China		other	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Medium high tech	1568	1896	1291	1618	43	41	175	197	15	16	38	24	42	19
Manufacture of chemicals and chemical products	297	684	246	630	5	7	30	36	7	8	6	2	8	6
Manufacture of machinery and equipment	486	476	405	398	15	23	62	54	3	4	7	6	8	2
Manufacture of electrical machinery and apparatus	270	344	248	299	4	8	11	29	1	1	10	7	3	2
Manufacture of motor vehicles, trailers and semi-trailers	443	300	333	209	19	3	65	70	4	3	9	8	22	8
Manufacture of other transport vehicles	72	92	59	82	–	–	7	8	–	–	6	1	1	1
Medium low tech	1417	1469	1274	1297	33	50	106	108	23	26	15	9	29	44
Manufacture of coke and refined petroleum products	274	301	242	275	2	–	23	17	7	8	–	–	1	1
Manufacture of rubber and plastic products	123	73	121	65	–	1	1	12	2	–	3	–	–	1
Manufacture of other non-metallic mineral products	63	78	43	56	2	3	18	19	2	1	–	1	1	6
Manufacture of basic metals	665	685	640	652	14	7	10	14	1	7	1	–	1	10
Manufacture of fabricated metal products	153	209	117	185	5	2	14	6	1	–	5	3	20	20
Building and repair of ships and boats	139	123	111	64	10	37	40	40	10	10	6	5	6	6
Low tech	298	270	239	227	9	3	62	47	2	3	–	1	13	5
Manufacture of food products, including beverages	164	167	140	149	5	1	26	17	1	1	–	–	10	2
Manufacture of tobacco products	7	7	1	1	–	–	7	7	–	–	–	–	–	–
Manufacture of textiles	15	26	14	25	–	–	9	9	–	–	–	–	–	–
Manufacture of wearing apparel, dressing and dyeing of fur	6	13	6	13	–	1	–	–	–	–	–	–	–	–

(continued)

	Joint R&D projects		Of which with partners from											
			Russia		CIS countries		EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland		USA and Canada		India and China		other	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Manufacture of leather, leather products and footwear	2	2	2	2	–	–	–	1	–	–	–	–	–	–
Woodworking and manufacture of wood and of products of wood and cork, except furniture	12	16	9	10	–	1	3	1	–	–	–	1	–	3
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	21	20	8	8	–	–	12	10	1	2	–	–	–	–
Publishing and printing activities, reproduction of recorded media	45	10	38	10	4	–	–	–	–	–	–	–	3	–
Manufacture of furniture and other products n.e.c.	21	9	18	9	–	–	3	2	–	–	–	–	–	–
Recycling of secondary raw materials	5	–	3	–	–	–	2	–	–	–	–	–	–	–
Manufacture of other materials and substances n.e.c.	686	673	667	630	10	9	10	28	1	2	3	3	2	13
Electricity, gas and water supply	274	233	260	226	–	4	12	3	1	1	–	2	1	3
Communication, computer and information technology-related activities, research and development, other services of the business economy														
Total	12201	14894	11323	14054	189	193	309	377	183	109	234	111	230	222
Communication	685	392	664	364	–	–	8	6	1	–	7	1	10	22
Computer and information technology-related activities	227	318	209	290	2	1	1	3	10	14	3	5	3	5
Research and development	10824	13594	10024	12822	183	190	266	357	169	94	223	104	212	194
Other services of the business economy	465	590	426	578	4	2	34	11	3	1	1	1	5	1

3.37. JOINT R&D PROJECTS OF ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY TYPE OF PARTNER AND ECONOMIC ACTIVITY: 2014

	Total	Of which by type of partner						
		enterprises within the same group	consumers of goods and services	suppliers of equipment, materials, components, software	competitors within the same sector	consulting firms and information organisations	R&D institutions	universities and other higher education institutions
Mining and quarrying, manufacturing, electricity, gas and water supply								
Total	7273	1087	1501	2867	196	348	1496	480
Mining and quarrying	566	161	–	171	–	32	196	21
Mining and quarrying of energy producing materials	446	153	–	164	–	2	135	7
Mining and quarrying, except energy producing materials	120	8	–	7	–	30	61	14
Manufacturing	6474	906	1472	2607	196	292	1247	440
High tech	2166	285	707	927	71	12	305	139
Manufacture of pharmaceuticals and pharmaceutical products	78	5	20	9	–	–	35	10
Manufacture of office machinery and computers	27	2	12	6	–	–	7	–
Manufacture of radio, television and communication equipment and apparatus	466	85	246	21	2	1	92	38
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	900	145	357	417	28	3	109	47
Manufacture of aircraft, including spacecraft	695	48	72	474	41	8	62	44

(continued)

	Total	Of which by type of partner						
		enterprises within the same group	consumers of goods and services	suppliers of equipment, materials, components, software	competitors within the same sector	consulting firms and information organisations	R&D institutions	universities and other higher education institutions
Medium high tech	1896	216	436	876	55	55	253	86
Manufacture of chemicals and chemical products	684	20	76	479	5	20	83	17
Manufacture of machinery and equipment	476	117	129	146	14	18	55	30
Manufacture of electrical machinery and apparatus	344	25	149	89	19	3	49	21
Manufacture of motor vehicles, trailers and semi-trailers	300	23	67	145	16	13	43	12
Manufacture of other transport vehicles	92	31	15	17	1	1	23	6
Medium low tech	1469	226	183	392	46	188	425	127
Manufacture of coke and refined petroleum products	301	43	1	100	2	60	71	24
Manufacture of rubber and plastic products	73	2	17	33	–	–	22	1
Manufacture of other non-metallic mineral products	78	5	2	45	–	–	26	7
Manufacture of basic metals	685	125	11	63	3	124	275	86
Manufacture of fabricated metal products	209	47	102	41	6	2	23	5
Building and repair of ships and boats	123	4	50	110	35	2	8	4
Low tech	270	48	28	138	16	26	36	12
Manufacture of food products, including beverages	167	37	15	74	11	23	23	9
Manufacture of tobacco products	7	1	–	6	–	–	–	–
Manufacture of textiles	26	1	9	12	3	–	1	1
Manufacture of wearing apparel, dressing and dyeing of fur	13	–	4	5	2	–	2	1

(continued)

	Total	Of which by type of partner						
		enterprises within the same group	consumers of goods and services	suppliers of equipment, materials, components, software	competitors within the same sector	consulting firms and information organisations	R&D institutions	universities and other higher education institutions
Manufacture of leather, leather products and footwear	2	1	–	1	–	1	–	1
Woodworking and manufacture of wood and of products of wood and cork, except furniture	16	–	–	15	–	1	–	–
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	20	8	–	11	–	–	6	–
Publishing and printing activities, reproduction of recorded media	10	–	–	6	–	1	3	–
Manufacture of furniture and other products n.e.c.	9	–	–	8	–	–	1	–
Recycling of secondary raw materials	–	–	–	–	–	–	–	–
Manufacture of other materials and substances n.e.c.	673	131	118	274	8	11	228	76
Electricity, gas and water supply	233	20	29	89	–	24	53	19
Communication, computer and information technology-related activities, research and development, other services of the business economy								
Total	14894	2145	5470	4251	452	257	3941	772
Communication	392	250	18	70	27	23	30	13
Computer and information technology-related activities	318	28	77	90	22	104	4	11
Research and development	13594	1828	4992	4022	359	113	3873	734
Other services of the business economy	590	39	383	69	44	17	34	14

3.38. JOINT R&D PROJECTS OF ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY TYPE OF CO-OPERATION AND ECONOMIC ACTIVITY

	Permanent co-operation		Co-operation within a specific project		One-time informal co-operation unrelated to any specific project	
	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply						
Total	3146	3316	3242	3659	535	357
Mining and quarrying	164	194	300	340	5	32
Mining and quarrying of energy producing materials	128	126	239	316	4	4
Mining and quarrying, except energy producing materials	36	68	61	24	1	28
Manufacturing	2928	3058	2732	3163	516	308
High tech	1279	1229	783	906	56	45
Manufacture of pharmaceuticals and pharmaceutical products	29	10	63	68	9	–
Manufacture of office machinery and computers	14	17	9	10	–	–
Manufacture of radio, television and communication equipment and apparatus	87	163	316	291	6	12
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	723	564	253	317	25	23
Manufacture of aircraft, including spacecraft	426	475	142	220	16	10

(continued)

	Permanent co-operation		Co-operation within a specific project		One-time informal co-operation unrelated to any specific project	
	2013	2014	2013	2014	2013	2014
Medium high tech	489	761	835	1010	254	142
Manufacture of chemicals and chemical products	67	265	195	397	38	24
Manufacture of machinery and equipment	191	239	264	204	33	44
Manufacture of electrical machinery and apparatus	102	106	132	187	36	51
Manufacture of motor vehicles, trailers and semi-trailers	89	89	212	199	145	16
Manufacture of other transport vehicles	40	62	32	23	2	7
Medium low tech	652	657	678	777	129	41
Manufacture of coke and refined petroleum products	69	84	149	214	66	4
Manufacture of rubber and plastic products	114	63	5	10	4	–
Manufacture of other non-metallic mineral products	26	15	34	56	5	10
Manufacture of basic metals	317	352	336	321	38	12
Manufacture of fabricated metal products	61	82	90	127	3	2
Building and repair of ships and boats	65	61	64	49	13	13
Low tech	162	126	141	137	16	7
Manufacture of food products, including beverages	93	80	63	83	9	4
Manufacture of tobacco products	5	5	2	2	–	–
Manufacture of textiles	12	25	3	1	–	–
Manufacture of wearing apparel, dressing and dyeing of fur	1	1	2	11	3	1

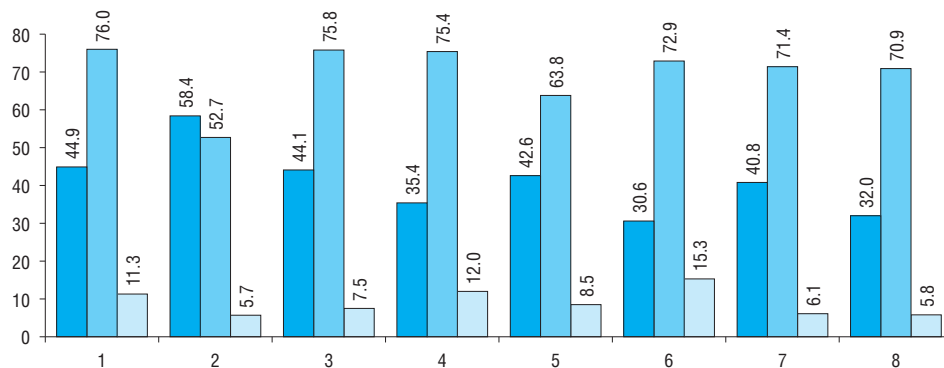
(continued)

	Permanent co-operation		Co-operation within a specific project		One-time informal co-operation unrelated to any specific project	
	2013	2014	2013	2014	2013	2014
Manufacture of leather, leather products and footwear	2	2	–	–	–	–
Woodworking and manufacture of wood and of products of wood and cork, except furniture	4	2	5	13	3	1
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	2	6	19	14	–	–
Publishing and printing activities, reproduction of recorded media	37	2	27	7	1	1
Manufacture of furniture and other products n.e.c.	6	3	15	6	–	–
Recycling of secondary raw materials	–	–	5	–	–	–
Manufacture of other materials and substances n.e.c.	346	285	295	333	61	73
Electricity, gas and water supply	54	64	210	156	14	17
Communication, computer and information technology-related activities, research and development, other services of the business economy						
Total	4717	6107	6809	8264	753	666
Communication	324	316	352	79	11	6
Computer and information technology-related activities	47	114	168	195	15	13
Research and development	4138	5514	6075	7591	684	619
Other services of the business economy	208	163	214	399	43	28

3.39. TECHNOLOGICAL PARTNERSHIP IN R&D AT ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION: 2014

(as a percentage of the total number of enterprises having joint R&D projects)

Mining and quarrying, manufacturing, electricity, gas and water supply



1 – Total

2 – Enterprises within the same group

3 – Consumers of goods and services

4 – Suppliers of equipment, materials, components, software

5 – Competitors within the same sector

6 – Consulting firms and information organisations

7 – R&D institutions

8 – Universities and other higher education institutions

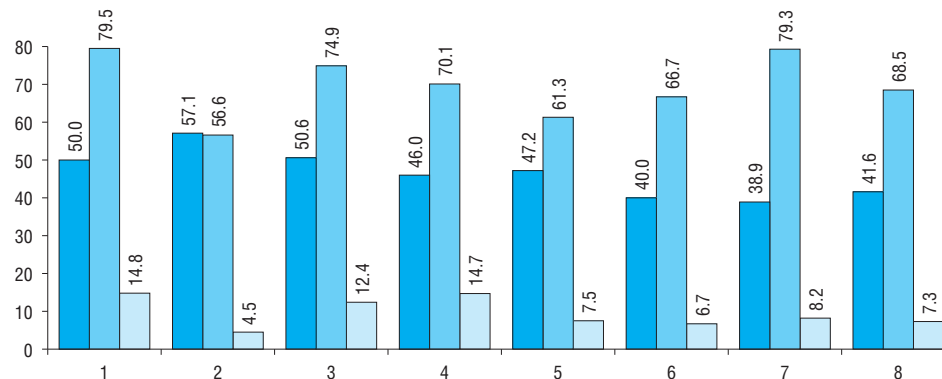
Permanent co-operation

Co-operation within a specific project

One-time informal co-operation
unrelated to any specific project

(continued)

**Communication, computer and information technology-related activities, research and development,
other services of the business economy**



1 – Total

2 – Enterprises within the same group

3 – Consumers of goods and services

4 – Suppliers of equipment, materials, components, software

5 – Competitors within the same sector

6 – Consulting firms and information organisations

7 – R&D institutions

8 – Universities and other higher education institutions

Permanent co-operation

Co-operation within a specific project

One-time informal co-operation
unrelated to any specific project

3.40. EXPENDITURE ON TECHNOLOGICAL INNOVATION BY ECONOMIC ACTIVITY

	Expenditure on technological innovation, million roubles		Of which			
			product		process	
	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply						
Total	746778.2	762774.1	260693.6	291794.6	486084.6	470979.5
Mining and quarrying	94525.7	123898.8	9994.6	12937.9	84531.1	110960.8
Mining and quarrying of energy producing materials	84347.2	113049.1	6954.8	9910.5	77392.4	103138.6
Mining and quarrying, except energy producing materials	10178.5	10849.7	3039.8	3027.4	7138.7	7822.2
Manufacturing	580116.4	565581.1	247006.8	276264.8	333109.5	289316.3
High tech	73979.1	85307.2	48909.8	60263.7	25069.3	25043.4
Manufacture of pharmaceuticals and pharmaceutical products	4225.5	3395.8	2071.0	2136.9	2154.5	1258.9
Manufacture of office machinery and computers	440.0	791.2	226.0	448.6	214.0	342.6
Manufacture of radio, television and communication equipment and apparatus	19215.8	21811.3	13446.7	14784.1	5769.1	7027.1
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	18768.2	24814.5	12991.2	20280.6	5777.0	4534.0
Manufacture of aircraft, including spacecraft	31329.5	34494.3	20174.8	22613.5	11154.7	11880.8
Medium high tech	144567.4	123105.7	70258.7	69724.1	74308.7	53381.6
Manufacture of chemicals and chemical products	62941.1	56865.8	17908.4	22517.4	45032.6	34348.4
Manufacture of machinery and equipment	14642.7	19241.1	8708.6	12955.2	5934.1	6285.8
Manufacture of electrical machinery and apparatus	9078.8	9280.6	6427.3	7076.0	2651.5	2204.7
Manufacture of motor vehicles, trailers and semi-trailers	49387.3	32908.3	30307.9	23896.3	19079.4	9011.9
Manufacture of other transport vehicles	8517.6	4810.0	6906.4	3279.2	1611.1	1530.7

(continued)

	Expenditure on technological innovation, million roubles		Of which			
			product		process	
	2013	2014	2013	2014	2013	2014
Medium low tech	279344.4	282565.2	80635.6	97323.6	198708.8	185241.7
Manufacture of coke and refined petroleum products	193705.1	209874.1	44324.3	66443.0	149380.8	143431.2
Manufacture of rubber and plastic products	7872.1	3795.6	2741.1	2208.1	5131.0	1587.5
Manufacture of other non-metallic mineral products	7883.7	10818.1	3356.0	7901.8	4527.8	2916.3
Manufacture of basic metals	49103.6	41235.8	12856.6	8734.4	36246.9	32501.4
Manufacture of fabricated metal products	12494.3	11106.8	10683.5	8552.4	1810.7	2554.4
Building and repair of ships and boats	8285.6	5734.8	6674.0	3483.9	1611.6	2250.9
Low tech	44581.3	36605.9	20610.7	21037.1	23970.6	15568.8
Manufacture of food products, including beverages	28950.0	22592.1	18067.5	14902.4	10882.5	7689.8
Manufacture of tobacco products	1024.3	3272.3	988.3	3270.2	36.0	2.1
Manufacture of textiles	522.5	731.5	291.4	212.6	231.1	518.9
Manufacture of wearing apparel, dressing and dyeing of fur	146.0	99.9	110.6	66.9	35.4	33.1
Manufacture of leather, leather products and footwear	190.5	101.8	61.9	71.0	128.6	30.8
Woodworking and manufacture of wood and of products of wood and cork, except furniture	860.9	3027.0	200.2	850.4	660.7	2176.6
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	11399.8	5214.4	208.5	1020.6	11191.3	4193.8
Publishing and printing activities, reproduction of recorded media	749.2	530.5	309.7	161.8	439.6	368.7
Manufacture of furniture and other products n.e.c.	661.5	1030.3	313.2	475.3	348.3	555.0
Recycling of secondary raw materials	76.5	6.1	59.2	6.1	17.2	—
Manufacture of other materials and substances n.e.c.	37644.1	37997.0	26592.0	27916.3	11052.1	10080.8
Electricity, gas and water supply	72136.2	73294.2	3692.2	2591.8	68444.0	70702.4

(continued)

	Expenditure on technological innovation, <i>million roubles</i>		Of which			
			product		process	
	2013	2014	2013	2014	2013	2014
Communication, computer and information technology-related activities, research and development, other services of the business economy						
Total	365651.0	449123.0	250417.4	320454.5	115233.6	128668.5
Communication	45550.0	38403.8	16108.8	21849.9	29441.2	16554.0
Computer and information technology-related activities	20583.4	8662.5	15570.1	4554.2	5013.3	4108.3
Research and development	289457.0	387832.4	212582.8	285930.9	76874.2	101901.5
Other services of the business economy	10060.6	14224.3	6155.7	8119.5	3904.8	6104.8

3.41. EXPENDITURE ON TECHNOLOGICAL INNOVATION BY INNOVATIVE AND ECONOMIC ACTIVITY: 2014

(million roubles)

	Total expenditure on technological innovation	R&D	Industrial design and engineering	Acquisition of machinery and equipment	Acquisition of new technology	Of which acquisition of patent rights and licences	Acquisition of software	Other types of preproduction	Personnel training	Market research	Other expenditure
Mining and quarrying, manufacturing, electricity, gas and water supply											
Total	762774.1	190863.0	57204.6	359667.0	16727.3	6792.9	7480.3	64295.2	1147.7	576.6	64812.3
Mining and quarrying	123898.8	21556.9	1181.3	80030.9	1246.6	441.7	859.3	12117.8	90.5	6.0	6809.5
Mining and quarrying of energy producing materials	113049.1	18079.5	494.5	74152.6	1239.4	441.7	402.2	12116.5	62.5	–	6501.8
Mining and quarrying, except energy producing materials	10849.7	3477.4	686.7	5878.2	7.1	–	457.2	1.2	28.0	6.0	307.7
Manufacturing	565581.1	141329.1	48348.6	250079.7	15371.5	6346.9	6057.8	48226.3	933.0	570.6	54664.5
High tech	85307.2	33925.8	7585.7	29076.2	4043.4	3652.4	827.9	5094.5	359.5	77.5	4316.6
Manufacture of pharmaceuticals and pharmaceutical products	3395.8	1359.4	32.9	962.5	938.6	796.1	38.0	22.4	10.4	31.5	–
Manufacture of office machinery and computers	791.2	524.3	48.9	170.6	–	–	5.9	37.5	0.4	1.5	2.3
Manufacture of radio, television and communication equipment and apparatus	21811.3	9177.1	1689.7	5992.0	2725.8	2694.0	88.5	572.8	34.8	6.5	1524.1
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	24814.5	12229.3	4281.3	6430.0	210.9	61.8	256.1	827.7	86.4	31.7	461.2
Manufacture of aircraft, including spacecraft	34494.3	10635.8	1532.8	15521.1	168.1	100.5	439.5	3634.2	227.4	6.3	2329.0

(continued)

	Total expenditure on technological innovation	R&D	Industrial design and engineering	Acquisition of machinery and equipment	Acquisition of new technology	Of which acquisition of patent rights and licences	Acquisition of software	Other types of preproduction	Personnel training	Market research	Other expenditure
Medium high tech	123105.7	25898.1	10106.0	45848.9	10476.1	2365.1	1347.1	13406.4	249.7	186.9	15586.6
Manufacture of chemicals and chemical products	56865.8	3808.6	2277.5	18771.3	8274.0	683.1	76.2	9820.4	14.2	29.7	13793.9
Manufacture of machinery and equipment	19241.1	6974.6	3686.1	6306.5	39.6	16.8	136.5	1021.1	93.4	32.5	950.7
Manufacture of electrical machinery and apparatus	9280.6	3210.4	457.8	4800.9	72.4	51.7	419.4	81.9	16.0	73.6	148.3
Manufacture of motor vehicles, trailers and semi-trailers	32908.3	10687.0	3511.2	13950.2	1436.0	1206.6	243.6	2397.4	20.2	46.0	616.7
Manufacture of other transport vehicles	4810.0	1217.4	173.4	2019.9	654.1	406.8	471.4	85.5	106.0	5.1	77.0
Medium low tech	282565.2	58872.1	24898.0	137353.1	516.2	172.8	2671.9	27268.5	262.5	64.1	30658.8
Manufacture of coke and refined petroleum products	209874.1	44728.8	21912.0	93175.9	78.2	40.2	1907.7	21728.1	157.0	—	26186.4
Manufacture of rubber and plastic products	3795.6	525.9	124.0	2579.4	113.3	4.0	15.5	305.6	3.7	2.8	125.5
Manufacture of other non-metallic mineral products	10818.1	826.1	1639.1	3540.7	53.5	23.9	47.2	4258.8	2.4	54.4	395.8
Manufacture of basic metals	41235.8	1877.3	902.8	33615.4	135.4	34.1	344.9	765.7	91.0	0.9	3502.5
Manufacture of fabricated metal products	11106.8	7245.5	141.5	3271.3	97.5	70.5	220.1	110.9	4.4	5.9	9.7
Building and repair of ships and boats	5734.8	3668.4	178.7	1170.4	38.3	0.04	136.4	99.4	4.0	0.2	438.9
Low tech	36605.9	2302.2	3714.5	25835.4	208.2	135.9	54.6	1112.8	20.1	234.1	3124.0
Manufacture of food products, including beverages	22592.1	2080.6	1076.8	15709.7	62.0	11.6	27.2	383.9	11.9	178.3	3061.9
Manufacture of tobacco products	3272.3	—	2510.8	760.5	—	—	—	—	0.9	—	—
Manufacture of textiles	731.5	32.1	49.3	162.1	0.1	0.1	0.3	485.0	0.4	2.1	—
Manufacture of wearing apparel, dressing and dyeing of fur	99.9	55.8	2.6	25.3	—	—	8.7	—	1.2	0.1	6.3

(continued)

	Total expenditure on technological innovation	R&D	Industrial design and engineering	Acquisition of machinery and equipment	Acquisition of new technology	Of which acquisition of patent rights and licences	Acquisition of software	Other types of preproduction	Personnel training	Market research	Other expenditure
Manufacture of leather, leather products and footwear	101.8	22.2	0.5	78.6	0.03	0.03	0.5	–	0.03	–	0.1
Woodworking and manufacture of wood and of products of wood and cork, except furniture	3027.0	9.5	22.8	2934.2	15.5	1.2	3.1	41.7	0.2	0.04	–
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	5214.4	29.3	37.0	5049.9	7.0	0.1	1.4	85.9	3.1	0.9	–
Publishing and printing activities, reproduction of recorded media	530.5	17.6	4.6	324.8	1.2	0.4	9.1	116.3	0.9	50.9	5.0
Manufacture of furniture and other products n.e.c.	1030.3	55.2	10.1	784.3	122.4	122.4	4.4	0.03	1.3	1.7	50.8
Recycling of secondary raw materials	6.1	–	–	6.1	–	–	–	–	–	–	–
Manufacture of other materials and substances n.e.c.	37997.0	20330.9	2044.4	11966.0	127.6	20.7	1156.2	1344.2	41.2	8.1	978.5
Electricity, gas and water supply	73294.2	27977.0	7674.7	29556.5	109.2	4.4	563.2	3951.2	124.2	–	3338.2
Communication, computer and information technology-related activities, research and development, other services of the business economy											
Total	449123.0	336615.8	15294.1	56210.1	2972.2	217.1	5301.0	23207.4	343.4	633.0	8546.0
Communication	38403.8	3753.4	543.9	19673.6	99.1	0.003	1606.4	9230.2	39.0	485.3	2972.9
Computer and information technology-related activities	8662.5	4984.6	841.9	873.3	439.3	35.4	232.4	47.2	12.7	3.6	1227.4
Research and development	387832.4	325484.2	12788.3	31936.1	2331.3	155.9	2360.0	9048.1	274.4	140.6	3469.4
Other services of the business economy	14224.3	2393.6	1119.9	3727.1	102.6	25.8	1102.1	4881.9	17.3	3.6	876.3

3.42. PERCENTAGE DISTRIBUTION OF EXPENDITURE ON TECHNOLOGICAL INNOVATION BY INNOVATIVE AND ECONOMIC ACTIVITY: 2014

	R&D	Industrial design and engineering	Acquisition of machinery and equipment	Acquisition of new technology	Of which acquisition of patent rights and licences	Acquisition of software	Other types of preproduction	Personnel training	Market research	Other expenditure
Mining and quarrying, manufacturing, electricity, gas and water supply										
Total	25.0	7.5	47.2	2.2	0.9	1.0	8.4	0.2	0.1	8.5
Mining and quarrying	17.4	1.0	64.6	1.0	0.4	0.7	9.8	0.1	0.005	5.5
Mining and quarrying of energy producing materials	16.0	0.4	65.6	1.1	0.4	0.4	10.7	0.1	—	5.8
Mining and quarrying, except energy producing materials	32.1	6.3	54.2	0.1	—	4.2	0.01	0.3	0.1	2.8
Manufacturing	25.0	8.5	44.2	2.7	1.1	1.1	8.5	0.2	0.1	9.7
High tech	39.8	8.9	34.1	4.7	4.3	1.0	6.0	0.4	0.1	5.1
Manufacture of pharmaceuticals and pharmaceutical products	40.0	1.0	28.3	27.6	23.4	1.1	0.7	0.3	0.9	—
Manufacture of office machinery and computers	66.3	6.2	21.6	—	—	0.7	4.7	0.04	0.2	0.3
Manufacture of radio, television and communication equipment and apparatus	42.1	7.7	27.5	12.5	12.4	0.4	2.6	0.2	0.03	7.0
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	49.3	17.3	25.9	0.8	0.2	1.0	3.3	0.3	0.1	1.9
Manufacture of aircraft, including spacecraft	30.8	4.4	45.0	0.5	0.3	1.3	10.5	0.7	0.02	6.8

(continued)

	R&D	Industrial design and engineering	Acquisition of machinery and equipment	Acquisition of new technology	Of which acquisition of patent rights and licences	Acquisition of software	Other types of preproduction	Personnel training	Market research	Other expenditure
Medium high tech	21.0	8.2	37.2	8.5	1.9	1.1	10.9	0.2	0.2	12.7
Manufacture of chemicals and chemical products	6.7	4.0	33.0	14.5	1.2	0.1	17.3	0.02	0.1	24.3
Manufacture of machinery and equipment	36.2	19.2	32.8	0.2	0.1	0.7	5.3	0.5	0.2	4.9
Manufacture of electrical machinery and apparatus	34.6	4.9	51.7	0.8	0.6	4.5	0.9	0.2	0.8	1.6
Manufacture of motor vehicles, trailers and semi-trailers	32.5	10.7	42.4	4.4	3.7	0.7	7.3	0.1	0.1	1.9
Manufacture of other transport vehicles	25.3	3.6	42.0	13.6	8.5	9.8	1.8	2.2	0.1	1.6
Medium low tech	20.8	8.8	48.6	0.2	0.1	0.9	9.7	0.1	0.02	10.9
Manufacture of coke and refined petroleum products	21.3	10.4	44.4	0.04	0.02	0.9	10.4	0.1	–	12.5
Manufacture of rubber and plastic products	13.9	3.3	68.0	3.0	0.1	0.4	8.1	0.1	0.1	3.3
Manufacture of other non-metallic mineral products	7.6	15.2	32.7	0.5	0.2	0.4	39.4	0.02	0.5	3.7
Manufacture of basic metals	4.6	2.2	81.5	0.3	0.1	0.8	1.9	0.2	0.002	8.5
Manufacture of fabricated metal products	65.2	1.3	29.5	0.9	0.6	2.0	1.0	0.04	0.1	0.1
Building and repair of ships and boats	64.0	3.1	20.4	0.7	0.001	2.4	1.7	0.1	0.004	7.7
Low tech	6.3	10.1	70.6	0.6	0.4	0.1	3.0	0.1	0.6	8.5
Manufacture of food products, including beverages	9.2	4.8	69.5	0.3	0.1	0.1	1.7	0.1	0.8	13.6
Manufacture of tobacco products	–	76.7	23.2	–	–	–	–	0.03	–	–
Manufacture of textiles	4.4	6.7	22.2	0.02	0.02	0.04	66.3	0.1	0.3	–
Manufacture of wearing apparel, dressing and dyeing of fur	55.8	2.6	25.3	–	–	8.7	–	1.2	0.1	6.3

(continued)

	R&D	Industrial design and engineering	Acquisition of machinery and equipment	Acquisition of new technology	Of which acquisition of patent rights and licences	Acquisition of software	Other types of preproduction	Personnel training	Market research	Other expenditure
Manufacture of leather, leather products and footwear	21.8	0.5	77.1	0.03	0.03	0.5	–	0.02	–	0.05
Woodworking and manufacture of wood and of products of wood and cork, except furniture	0.3	0.8	96.9	0.5	0.04	0.1	1.4	0.01	0.001	–
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	0.6	0.7	96.8	0.1	0.002	0.03	1.6	0.1	0.02	–
Publishing and printing activities, reproduction of recorded media	3.3	0.9	61.2	0.2	0.1	1.7	21.9	0.2	9.6	0.9
Manufacture of furniture and other products n.e.c.	5.4	1.0	76.1	11.9	11.9	0.4	0.003	0.1	0.2	4.9
Recycling of secondary raw materials	–	–	100	–	–	–	–	–	–	–
Electricity, gas and water supply	38.2	10.5	40.3	0.1	0.01	0.8	5.4	0.2	–	4.6
Communication, computer and information technology-related activities, research and development, other services of the business economy										
Total	74.9	3.4	12.5	0.7	0.05	1.2	5.2	0.1	0.1	1.9
Communication	9.8	1.4	51.2	0.3	0.0	4.2	24.0	0.1	1.3	7.7
Computer and information technology-related activities	57.5	9.7	10.1	5.1	0.4	2.7	0.5	0.1	0.04	14.2
Research and development	83.9	3.3	8.2	0.6	0.04	0.6	2.3	0.1	0.04	0.9
Other services of the business economy	16.8	7.9	26.2	0.7	0.2	7.7	34.3	0.1	0.03	6.2

3.43. EXPENDITURE ON TECHNOLOGICAL INNOVATION BY SOURCE OF FUNDS AND ECONOMIC ACTIVITY: 2014

(million roubles)

	Expenditure on technological innovation	Intramural funds of enterprises	Federal budget	Regional and municipal budgets of the Russian Federation	Non-budgetary funds	Funds from abroad	Of which from EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland	Venture funds	Other funds
Mining and quarrying, manufacturing, electricity, gas and water supply									
Total	762774.1	500547.6	46716.4	1336.8	2587.3	717.3	83.9	–	210868.7
Mining and quarrying	123898.8	80423.3	74.7	0.8	22.3	–	–	–	43377.7
Mining and quarrying of energy producing materials	113049.1	71009.0	0.7	–	22.3	–	–	–	42017.2
Mining and quarrying, except energy producing materials	10849.7	9414.4	74.0	0.8	–	–	–	–	1360.5
Manufacturing	565581.1	377111.4	46507.1	1168.3	2565.0	717.3	83.9	–	137512.1
High tech	85307.2	47837.7	24343.4	69.2	142.9	188.1	–	–	12726.0
Manufacture of pharmaceuticals and pharmaceutical products	3395.8	3037.2	231.0	0.1	50.8	–	–	–	76.7
Manufacture of office machinery and computers	791.2	351.5	439.7	–	–	–	–	–	–
Manufacture of radio, television and communication equipment and apparatus	21811.3	12822.8	5895.7	56.3	85.0	–	–	–	2951.5
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	24814.5	15190.6	7995.3	–	–	–	–	–	1628.6
Manufacture of aircraft, including spacecraft	34494.3	16435.5	9781.7	12.8	7.1	188.1	–	–	8069.2

* Here and elsewhere in the table: Albania, Bosnia and Herzegovina, Iceland, Kosovo, Macedonia, Serbia, Turkey, Montenegro.

(continued)

	Expenditure on technological innovation	Intramural funds of enterprises	Federal budget	Regional and municipal budgets of the Russian Federation	Non-budgetary funds	Funds from abroad	Of which from EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland	Venture funds	Other funds
Medium high tech	123105.7	88474.9	4844.9	199.0	58.4	374.6	31.2	—	29154.0
Manufacture of chemicals and chemical products	56865.8	41789.4	534.3	—	—	152.5	—	—	14389.6
Manufacture of machinery and equipment	19241.1	12858.1	2625.4	3.5	49.6	—	—	—	3704.6
Manufacture of electrical machinery and apparatus	9280.6	7732.8	800.3	28.2	—	112.9	—	—	606.4
Manufacture of motor vehicles, trailers and semi-trailers	32908.3	21288.9	884.6	167.3	5.5	109.1	31.2	—	10452.8
Manufacture of other transport vehicles	4810.0	4805.7	0.3	—	3.3	—	—	—	0.7
Medium low tech	282565.2	198849.1	3755.5	233.9	158.2	59.5	—	—	79509.0
Manufacture of coke and refined petroleum products	209874.1	146298.3	—	—	—	—	—	—	63575.8
Manufacture of rubber and plastic products	3795.6	2895.2	366.5	11.3	116.8	—	—	—	405.8
Manufacture of other non-metallic mineral products	10818.1	9205.8	—	2.0	—	59.3	—	—	1550.9
Manufacture of basic metals	41235.8	28007.8	104.7	50.0	41.4	0.2	—	—	13031.7
Manufacture of fabricated metal products	11106.8	10067.0	98.4	7.1	—	—	—	—	934.2
Building and repair of ships and boats	5734.8	2375.0	3185.8	163.5	—	—	—	—	10.6
Low tech	36605.9	23061.9	495.4	604.7	2190.0	57.2	52.7	—	10196.7
Manufacture of food products, including beverages	22592.1	12815.4	450.0	584.4	2190.0	4.5	—	—	6547.8
Manufacture of tobacco products	3272.3	3272.3	—	—	—	—	—	—	—
Manufacture of textiles	731.5	252.5	5.7	1.3	—	—	—	—	472.1
Manufacture of wearing apparel, dressing and dyeing of fur	99.9	63.4	34.3	1.9	—	—	—	—	0.3

(continued)

	Expenditure on technological innovation	Intramural funds of enterprises	Federal budget	Regional and municipal budgets of the Russian Federation	Non-budgetary funds	Funds from abroad	Of which from EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland	Venture funds	Other funds
Manufacture of leather, leather products and footwear	101.8	92.7	–	–	–	–	–	–	9.2
Woodworking and manufacture of wood and of products of wood and cork, except furniture	3027.0	1071.0	–	–	–	–	–	–	1956.0
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	5214.4	4181.5	–	5.0	–	52.7	52.7	–	975.1
Publishing and printing activities, reproduction of recorded media	530.5	515.3	0.5	11.7	–	–	–	–	3.1
Manufacture of furniture and other products n.e.c.	1030.3	791.8	5.0	0.5	–	–	–	–	233.0
Recycling of secondary raw materials	6.1	6.1	–	–	–	–	–	–	–
Manufacture of other materials and substances n.e.c.	37997.0	18887.8	13067.9	61.5	15.5	37.9	–	–	5926.4
Electricity, gas and water supply	73294.2	43012.9	134.6	167.7	–	–	–	–	29979.0
Communication, computer and information technology-related activities, research and development, other services of the business economy									
Total	449123.0	117864.6	245851.4	3153.8	2940.4	2488.2	406.3	3.5	76821.2
Communication	38403.8	37055.2	1142.5	3.5	–	–	–	–	202.6
Computer and information technology-related activities	8662.5	7693.7	730.3	67.9	0.01	–	–	–	170.5
Research and development	387832.4	66227.9	242803.0	2884.1	2940.4	2483.8	406.3	3.5	70489.7
Other services of the business economy	14224.3	6887.8	1175.5	198.3	0.02	4.4	0.002	0.002	5958.4

3.44. PERCENTAGE DISTRIBUTION OF EXPENDITURE ON TECHNOLOGICAL INNOVATION BY SOURCE OF FUNDS AND ECONOMIC ACTIVITY: 2014

	Intramural funds of enterprises	Federal budget	Regional and municipal budgets of the Russian Federation	Non-budgetary funds	Funds from abroad	Of which from EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland	Venture funds	Other funds
Mining and quarrying, manufacturing, electricity, gas and water supply								
Total	65.6	6.1	0.2	0.3	0.1	0.01	–	27.6
Mining and quarrying	64.9	0.1	0.001	0.02	–	–	–	35.0
Mining and quarrying of energy producing materials	62.8	0.001	–	0.02	–	–	–	37.2
Mining and quarrying, except energy producing materials	86.8	0.7	0.01	–	–	–	–	12.5
Manufacturing	66.7	8.2	0.2	0.5	0.1	0.01	–	24.3
High tech	56.1	28.5	0.1	0.2	0.2	–	–	14.9
Manufacture of pharmaceuticals and pharmaceutical products	89.4	6.8	0.002	1.5	–	–	–	2.3
Manufacture of office machinery and computers	44.4	55.6	–	–	–	–	–	–
Manufacture of radio, television and communication equipment and apparatus	58.8	27.0	0.3	0.4	–	–	–	13.5
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	61.2	32.2	–	–	–	–	–	6.6
Manufacture of aircraft, including spacecraft	47.6	28.4	0.04	0.02	0.5	–	–	23.4

* Here and elsewhere in the table: Albania, Bosnia and Herzegovina, Iceland, Kosovo, Macedonia, Serbia, Turkey, Montenegro.

(continued)

	Intramural funds of enterprises	Federal budget	Regional and municipal budgets of the Russian Federation	Non- budgetary funds	Funds from abroad	Of which from EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland	Venture funds	Other funds
Medium high tech	71.9	3.9	0.2	0.05	0.3	0.03	–	23.7
Manufacture of chemicals and chemical products	73.5	0.9	–	–	0.3	–	–	25.3
Manufacture of machinery and equipment	66.8	13.6	0.02	0.3	–	–	–	19.3
Manufacture of electrical machinery and apparatus	83.3	8.6	0.3	–	1.2	–	–	6.5
Manufacture of motor vehicles, trailers and semi-trailers	64.7	2.7	0.5	0.02	0.3	0.1	–	31.8
Manufacture of other transport vehicles	99.9	0.01	–	0.1	–	–	–	0.01
Medium low tech	70.4	1.3	0.1	0.1	0.02	–	–	28.1
Manufacture of coke and refined petroleum products	69.7	–	–	–	–	–	–	30.3
Manufacture of rubber and plastic products	76.3	9.7	0.3	3.1	–	–	–	10.7
Manufacture of other non-metallic mineral products	85.1	–	0.02	–	0.5	–	–	14.3
Manufacture of basic metals	67.9	0.3	0.1	0.1	0.0	–	–	31.6
Manufacture of fabricated metal products	90.6	0.9	0.1	–	–	–	–	8.4
Building and repair of ships and boats	41.4	55.6	2.9	–	–	–	–	0.2
Low tech	63.0	1.4	1.7	6.0	0.2	0.1	–	27.9
Manufacture of food products, including beverages	56.7	2.0	2.6	9.7	0.02	–	–	29.0
Manufacture of tobacco products	100	–	–	–	–	–	–	–
Manufacture of textiles	34.5	0.8	0.2	–	–	–	–	64.5
Manufacture of wearing apparel, dressing and dyeing of fur	63.4	34.4	1.9	–	–	–	–	0.3

(continued)

	Intramural funds of enterprises	Federal budget	Regional and municipal budgets of the Russian Federation	Non- budgetary funds	Funds from abroad	Of which from EU countries, EU candidate countries*, Liechtenstein, Norway, Switzerland	Venture funds	Other funds
Manufacture of leather, leather products and footwear	91.0	—	—	—	—	—	—	9.0
Woodworking and manufacture of wood and of products of wood and cork, except furniture	35.4	—	—	—	—	—	—	64.6
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	80.2	—	0.1	—	1.0	1.0	—	18.7
Publishing and printing activities, reproduction of recorded media	97.1	0.1	2.2	—	—	—	—	0.6
Manufacture of furniture and other products n.e.c.	76.9	0.5	0.05	—	—	—	—	22.6
Recycling of secondary raw materials	100	—	—	—	—	—	—	—
Electricity, gas and water supply	58.7	0.2	0.2	—	—	—	—	40.9
Communication, computer and information technology-related activities, research and development, other services of the business economy								
Total	26.2	54.7	0.7	0.7	0.6	0.1	0.001	17.1
Communication	96.5	3.0	0.01	—	—	—	—	0.5
Computer and information technology-related activities	88.8	8.4	0.8	0.0	—	—	—	2.0
Research and development	17.1	62.6	0.7	0.8	0.6	0.1	0.001	18.2
Other services of the business economy	48.4	8.3	1.4	0.0	0.03	0.0	0.0	41.9

3.45. INTENSITY OF EXPENDITURE ON TECHNOLOGICAL INNOVATION BY ECONOMIC ACTIVITY

(expenditure on technological innovation as a percentage of total goods and services sales)

	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply		
Total	2.2	2.1
Mining and quarrying	1.1	1.4
Mining and quarrying of energy producing materials	1.1	1.4
Mining and quarrying, except energy producing materials	0.9	1.0
Manufacturing	2.7	2.4
High tech	5.3	5.5
Manufacture of pharmaceuticals and pharmaceutical products	2.0	1.6
Manufacture of office machinery and computers	0.9	1.7
Manufacture of radio, television and communication equipment and apparatus	6.8	7.0
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	6.2	7.0
Manufacture of aircraft, including spacecraft	5.6	5.5
Medium high tech	2.8	2.4
Manufacture of chemicals and chemical products	4.3	3.6
Manufacture of machinery and equipment	1.3	1.8
Manufacture of electrical machinery and apparatus	1.9	2.0
Manufacture of motor vehicles, trailers and semi-trailers	3.0	2.1
Manufacture of other transport vehicles	2.1	1.3
Medium low tech	2.8	2.6
Manufacture of coke and refined petroleum products	4.1	4.0
Manufacture of rubber and plastic products	1.8	0.8
Manufacture of other non-metallic mineral products	0.8	1.1
Manufacture of basic metals	1.6	1.2
Manufacture of fabricated metal products	2.3	2.0
Building and repair of ships and boats	2.7	2.3

(continued)

	2013	2014
Low tech	1.0	0.7
Manufacture of food products, including beverages	0.9	0.7
Manufacture of tobacco products	0.5	1.6
Manufacture of textiles	0.6	0.1
Manufacture of wearing apparel, dressing and dyeing of fur	0.2	0.2
Manufacture of leather, leather products and footwear	0.5	0.3
Woodworking and manufacture of wood and of products of wood and cork, except furniture	0.3	1.1
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	3.0	1.2
Publishing and printing activities, reproduction of recorded media	0.4	0.3
Manufacture of furniture and other products n.e.c.	0.3	0.4
Recycling of secondary raw materials	0.1	0.004
Electricity, gas and water supply	1.8	1.8
Communication, computer and information technology-related activities, research and development, other services of the business economy		
Total	9.4	10.6
Communication	3.0	2.4
Computer and information technology-related activities	6.9	2.6
Research and development	27.9	33.0
Other services of the business economy	1.0	1.2

3.46. PERCENTAGE DISTRIBUTION OF ENTERPRISES ENGAGED IN PATENT ACTIVITIES: 2014

	Enterprises engaged in patent activities as a percentage of all enterprises				Enterprises engaged in patent activities as a percentage of all enterprises engaged in technological innovation			
	with valid titles of protection	of which		that applied for titles of protection	with valid titles of protection	of which		that applied for titles of protection
		those received in the reporting year	those maintained valid			those received in the reporting year	those maintained valid	
Mining and quarrying, manufacturing, electricity, gas and water supply								
Inventions	3.3	1.3	3.1	2.4	23.4	10.8	22.3	13.4
Utility models	2.9	1.3	2.7	1.5	20.4	9.3	19.3	9.8
Industrial designs	1.3	0.3	1.3	0.5	8.6	2.1	8.2	2.5
Computer software, databases, integrated circuit topographies	0.6	0.4	–	0.5	5.0	3.1	–	3.1
Communication, computer and information technology-related activities, research and development, other services of the business economy								
Inventions	4.5	3.1	4.2	3.9	36.6	27.2	34.6	29.6
Utility models	2.8	1.6	2.6	1.9	24.6	14.0	22.6	15.8
Industrial designs	0.7	0.2	0.7	0.5	6.4	2.3	5.9	2.2
Computer software, databases, integrated circuit topographies	2.2	1.5	–	1.8	17.8	12.9	–	13.9

3.47. ENTERPRISES ENGAGED IN PATENT ACTIVITIES AS A PERCENTAGE OF ALL ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY ECONOMIC ACTIVITY: 2014

	Enterprises with valid patents	Of which		Enterprises that applied for patents
		those received in the reporting year	those maintained valid	
Mining and quarrying, manufacturing, electricity, gas and water supply				
Total	23.4	10.8	22.3	13.4
Mining and quarrying	21.0	11.4	20.0	17.1
Mining and quarrying of energy producing materials	26.4	15.3	25.0	22.2
Mining and quarrying, except energy producing materials	9.1	3.0	9.1	6.1
Manufacturing	26.4	12.0	25.3	14.6
High tech	40.8	19.5	39.2	23.4
Manufacture of pharmaceuticals and pharmaceutical products	40.0	22.0	34.0	20.0
Manufacture of office machinery and computers	30.0	–	30.0	10.0
Manufacture of radio, television and communication equipment and apparatus	37.1	18.1	37.1	22.9
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	40.9	17.7	39.6	22.0
Manufacture of aircraft, including spacecraft	50.0	28.6	48.2	33.9
Medium high tech	29.5	11.4	28.7	14.0
Manufacture of chemicals and chemical products	41.9	18.1	40.0	18.1

(continued)

	Enterprises with valid patents	Of which		Enterprises that applied for patents
		those received in the reporting year	those maintained valid	
Manufacture of machinery and equipment	29.1	12.1	29.1	15.7
Manufacture of electrical machinery and apparatus	26.1	9.2	24.8	10.5
Manufacture of motor vehicles, trailers and semi-trailers	23.0	5.7	21.8	11.5
Manufacture of other transport vehicles	26.3	10.5	26.3	13.2
Medium low tech	26.7	12.9	24.9	16.2
Manufacture of coke and refined petroleum products	65.4	26.9	61.5	30.8
Manufacture of rubber and plastic products	19.0	12.1	17.2	10.3
Manufacture of other non-metallic mineral products	13.9	5.6	12.0	7.4
Manufacture of basic metals	50.6	26.6	48.1	31.6
Manufacture of fabricated metal products	12.5	6.3	12.5	11.5
Building and repair of ships and boats	40.9	13.6	36.4	22.7
Low tech	4.0	1.6	3.8	2.6
Manufacture of food products, including beverages	3.0	1.7	3.0	2.7
Manufacture of tobacco products	–	–	–	–
Manufacture of textiles	9.5	4.8	9.5	–

(continued)

	Enterprises with valid patents	Of which		Enterprises that applied for patents
		those received in the reporting year	those maintained valid	
Manufacture of wearing apparel, dressing and dyeing of fur	6.7	6.7	6.7	6.7
Manufacture of leather, leather products and footwear	7.7	–	7.7	–
Woodworking and manufacture of wood and of products of wood and cork, except furniture	3.8	–	3.8	–
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	3.7	–	3.7	3.7
Publishing and printing activities, reproduction of recorded media	1.7	1.7	–	1.7
Manufacture of furniture and other products n.e.c.	11.1	–	11.1	5.6
Recycling of secondary raw materials	–	–	–	–
Electricity, gas and water supply	3.5	2.1	2.8	3.8
Communication, computer and information technology-related activities, research and development, other services of the business economy				
Total	36.6	27.2	34.6	29.6
Communication	0.5	–	0.5	1.9
Computer and information technology-related activities	4.9	0.8	4.1	0.8
Research and development	66.9	51.1	63.6	53.2
Other services of the business economy	8.4	4.8	7.4	9.0

3.48. INTELLECTUAL PROPERTY AT ENTERPRISES: 2014

	Total				In Enterprises engaged in technological innovation			
	Number of valid titles of protection	Of which		Number of applications for titles of protection	Number of valid titles of protection	Of which		Number of applications for titles of protection
		those received in the reporting year	those maintained valid			those received in the reporting year	those maintained valid	
Mining and quarrying, manufacturing, electricity, gas and water supply								
Inventions	17948	1562	16386	2219	15857	1377	14480	1596
Utility models	8635	991	7644	1401	6720	733	5987	1028
Industrial designs	3114	464	2650	827	2202	293	1909	612
Computer software, databases, integrated circuit topographies	2655	423	–	871	2429	382	–	737
Communication, computer and information technology-related activities, research and development, other services of the business economy								
Inventions	24401	3628	20773	4338	17543	2612	14931	2687
Utility models	6482	1367	5115	1401	4659	948	3711	826
Industrial designs	889	210	679	276	648	161	487	77
Computer software, databases, integrated circuit topographies	7121	1888	–	1986	6018	1412	–	1393

3.49. PATENTED INVENTIONS OF ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY ECONOMIC ACTIVITY: 2014

	Number of valid patents	Of which		Number of applications for patents
		those received in the reporting year	those maintained valid	
Mining and quarrying, manufacturing, electricity, gas and water supply				
Total	15857	1377	14480	1596
Mining and quarrying	2011	276	1735	232
Mining and quarrying of energy producing materials	1895	271	1624	227
Mining and quarrying, except energy producing materials	116	5	111	5
Manufacturing	13619	1079	12540	1274
High tech	3331	320	3011	433
Manufacture of pharmaceuticals and pharmaceutical products	590	29	561	32
Manufacture of office machinery and computers	14	–	14	1
Manufacture of radio, television and communication equipment and apparatus	503	43	460	63
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	1056	124	932	171
Manufacture of aircraft, including spacecraft	1168	124	1044	166
Medium high tech	3218	206	3012	273
Manufacture of chemicals and chemical products	778	43	735	48
Manufacture of machinery and equipment	1273	106	1167	142

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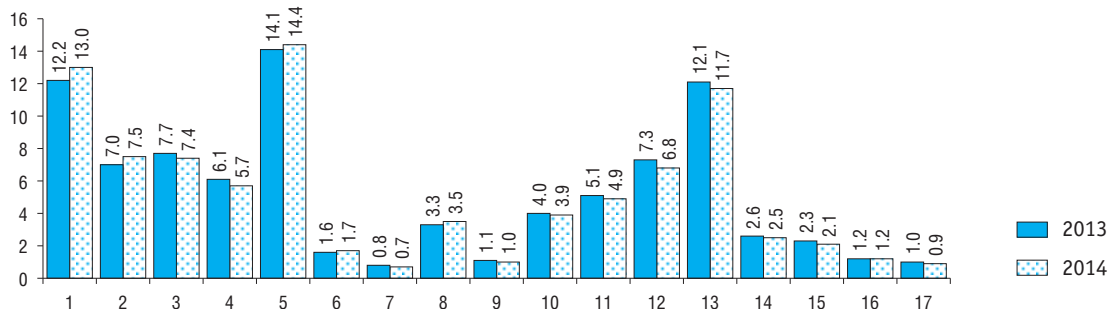
	Number of valid patents	Of which		Number of applications for patents
		those received in the reporting year	those maintained valid	
Manufacture of electrical machinery and apparatus	328	28	300	38
Manufacture of motor vehicles, trailers and semi-trailers	615	21	594	36
Manufacture of other transport vehicles	224	8	216	9
Medium low tech	3073	260	2813	291
Manufacture of coke and refined petroleum products	275	44	231	48
Manufacture of rubber and plastic products	92	10	82	9
Manufacture of other non-metallic mineral products	216	24	192	30
Manufacture of basic metals	2295	165	2130	150
Manufacture of fabricated metal products	126	13	113	42
Building and repair of ships and boats	69	4	65	12
Low tech	192	27	165	32
Manufacture of food products, including beverages	135	10	125	20
Manufacture of tobacco products	–	–	–	–
Manufacture of textiles	11	4	7	–

(continued)

	Number of valid patents	Of which		Number of applications for patents
		those received in the reporting year	those maintained valid	
Manufacture of wearing apparel, dressing and dyeing of fur	15	5	10	3
Manufacture of leather, leather products and footwear	1	–	1	–
Woodworking and manufacture of wood and of products of wood and cork, except furniture	1	–	1	–
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	4	–	4	1
Publishing and printing activities, reproduction of recorded media	8	8	–	5
Manufacture of furniture and other products n.e.c.	17	–	17	3
Recycling of secondary raw materials	–	–	–	–
Manufacture of other materials and substances n.e.c.	3805	266	3539	245
Electricity, gas and water supply	227	22	205	90
Communication, computer and information technology-related activities, research and development, other services of the business economy				
Total	17543	2612	14931	2687
Communication	1	–	1	4
Computer and information technology-related activities	54	1	53	5
Research and development	16949	2541	14408	2568
Other services of the business economy	539	70	469	110

3.50. ENTERPRISES CONSIDERING SOURCES OF INFORMATION AS PRINCIPAL FOR TECHNOLOGICAL INNOVATION AS A PERCENTAGE OF ALL ENTERPRISES

Mining and quarrying, manufacturing, electricity, gas and water supply



Internal sources:

- 1 – internal sources within the enterprise
- 2 – enterprises within the same group

Market sources:

- 3 – suppliers of equipment, materials, components, software
- 4 – competitors within the same sector
- 5 – consumers of goods and services
- 6 – consulting firms and information organisations

R&D institutions:

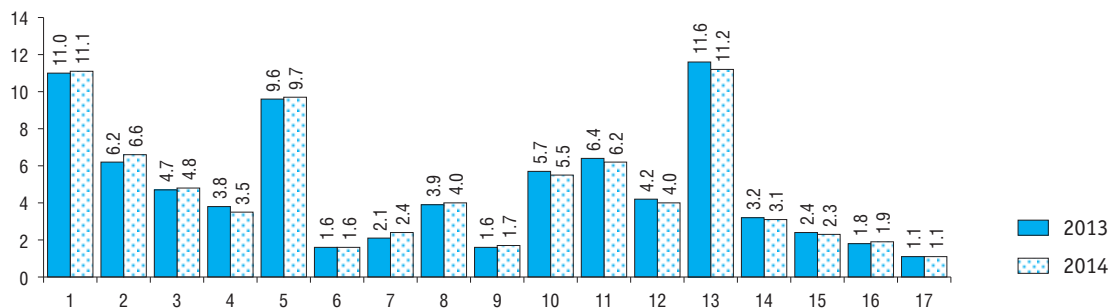
- 7 – institutions of academic character
- 8 – institutions of industrial character
- 9 – higher education institutions

Publicly available information:

- 10 – conferences, seminars and symposia
- 11 – S&T literature
- 12 – exhibitions, fairs, other promotional activities
- 13 – the Internet
- 14 – professional associations
- 15 – informal contacts
- 16 – patent information
- 17 – other sources

(continued)

**Communication, computer and information technology-related activities, research and development,
other services of the business economy**



Internal sources:

- 1 – internal sources within the enterprise
- 2 – enterprises within the same group

Market sources:

- 3 – suppliers of equipment, materials, components, software
- 4 – competitors within the same sector
- 5 – consumers of goods and services
- 6 – consulting firms and information organisations

R&D institutions:

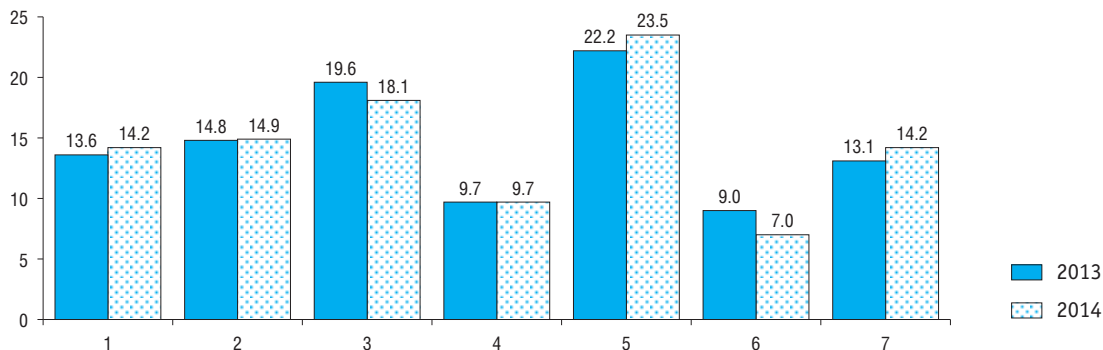
- 7 – institutions of academic character
- 8 – institutions of industrial character
- 9 – higher education institutions

Publicly available information:

- 10 – conferences, seminars and symposia
- 11 – S&T literature
- 12 – exhibitions, fairs, other promotional activities
- 13 – the Internet
- 14 – professional associations
- 15 – informal contacts
- 16 – patent information
- 17 – other sources

3.51. ENTERPRISES CONSIDERING METHODS USED TO PROTECT VALUE OF INNOVATION AS PRINCIPAL AS A PERCENTAGE OF ALL ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION

Mining and quarrying, manufacturing, electricity, gas and water supply



Formal methods:

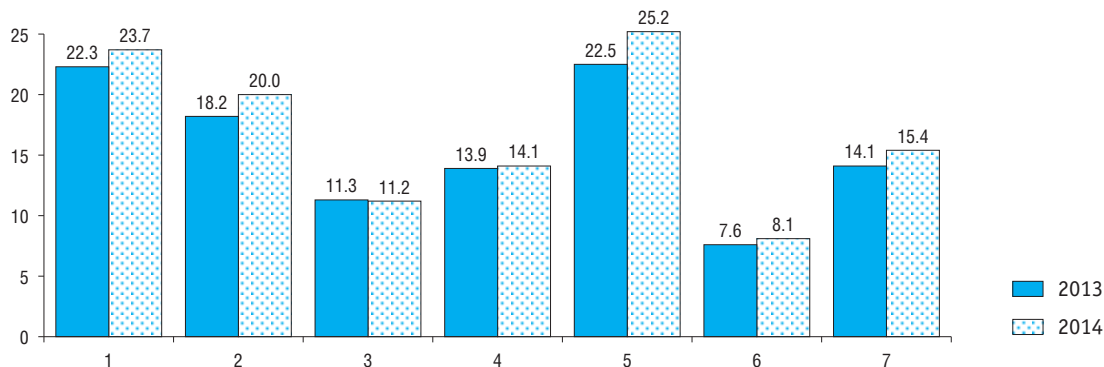
- 1 – inventions, industrial designs and utility models patenting
- 2 – valid patents maintenance
- 3 – trade mark registration
- 4 – copyright protection

Informal methods:

- 5 – preservation of trade secrets, confidentiality and know-how protection
- 6 – product design complexity
- 7 – gaining competitive advantage over competitors regarding goods and services development and launch terms

(continued)

**Communication, computer and information technology-related activities, research and development,
other services of the business economy**



Formal methods:

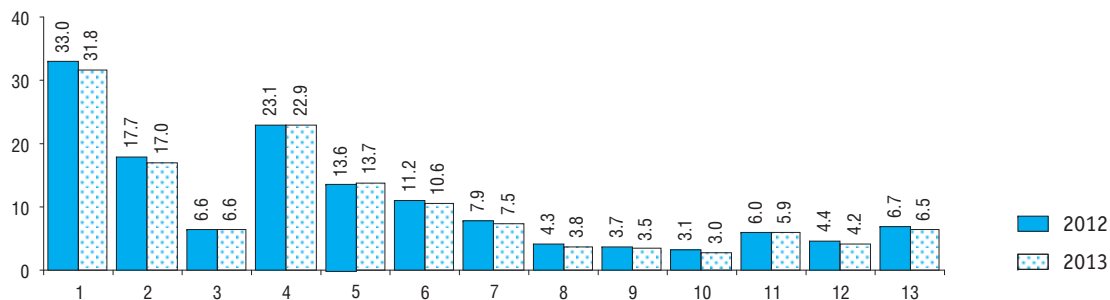
- 1 – inventions, industrial designs and utility models patenting
- 2 – valid patents maintenance
- 3 – trade mark registration
- 4 – copyright protection

Informal methods:

- 5 – preservation of trade secrets, confidentiality and know-how protection
- 6 – product design complexity
- 7 – gaining competitive advantage over competitors regarding goods and services development and launch terms

3.52. ENTERPRISES CONSIDERING FACTORS HAMPERING TECHNOLOGICAL INNOVATION AS PRINCIPAL AS A PERCENTAGE OF ALL ENTERPRISES

Mining and quarrying, manufacturing, electricity, gas and water supply



Economic factors:

- 1 – shortage of intramural funds within the enterprise
- 2 – lack of financial support from the government
- 3 – low demand for new goods and services
- 4 – high innovation costs
- 5 – high economic risks

Internal factors:

- 6 – low innovation potential of organisations
- 7 – shortage of qualified personnel
- 8 – lack of information about new technology

9 – lack of information about sales markets

10 – underdeveloped co-operation ties

Other factors:

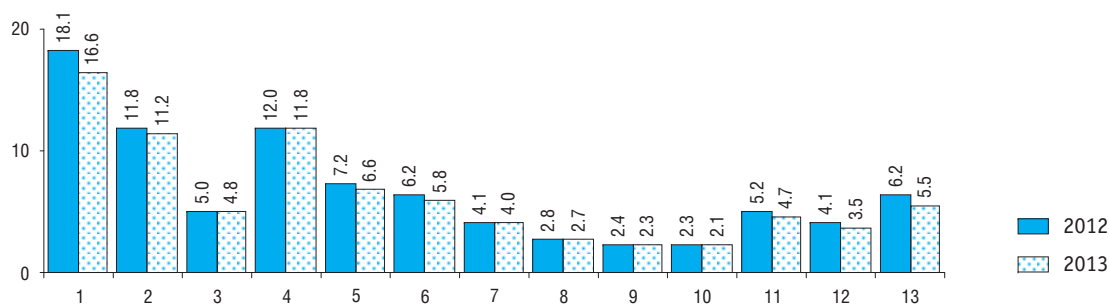
11 – deficiencies in legislation regulating and promoting innovations

12 – underdeveloped infrastructure (intermediary, information, law, banking and other services) of innovation

13 – uncertainty of economic benefits

(continued)

**Communication, computer and information technology-related activities, research and development,
other services of the business economy**

**Economic factors:**

- 1 – shortage of intramural funds within the enterprise
- 2 – lack of financial support from the government
- 3 – low demand for new goods and services
- 4 – high innovation costs
- 5 – high economic risks

Internal factors:

- 6 – low innovation potential of organisations
- 7 – shortage of qualified personnel
- 8 – lack of information about new technology

Other factors:

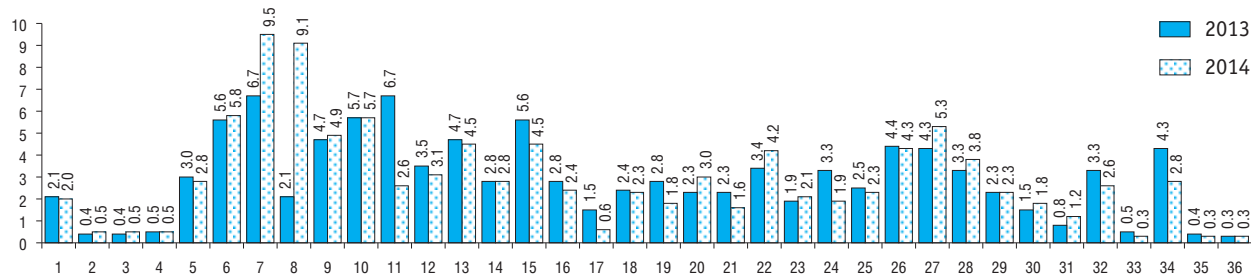
- 9 – lack of information about sales markets
- 10 – underdeveloped co-operation ties
- 11 – deficiencies in legislation regulating and promoting innovations
- 12 – underdeveloped infrastructure (intermediary, information, law, banking and other services) of innovation
- 13 – uncertainty of economic benefits



4. Marketing Innovation

4.1. ENTERPRISES ENGAGED IN MARKETING INNOVATION AS A PERCENTAGE OF ALL ENTERPRISES BY ECONOMIC ACTIVITY

Mining and quarrying, manufacturing, electricity, gas and water supply



1 – Total

2 – Mining and quarrying

3 – Mining and quarrying of energy producing materials

4 – Mining and quarrying, except energy producing materials

5 – Manufacturing

6 – High tech

7 – Manufacture of pharmaceuticals and pharmaceutical products

8 – Manufacture of office machinery and computers

9 – Manufacture of radio, television and communication equipment and apparatus

10 – Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks

11 – Manufacture of aircraft, including spacecraft

12 – Medium high tech

13 – Manufacture of chemicals and chemical products

14 – Manufacture of machinery and equipment

15 – Manufacture of electrical machinery and apparatus

16 – Manufacture of motor vehicles, trailers and semi-trailers

17 – Manufacture of other transport vehicles

18 – Medium low tech

19 – Manufacture of coke and refined petroleum products

20 – Manufacture of rubber and plastic products

21 – Manufacture of other non-metallic mineral products

22 – Manufacture of basic metals

23 – Manufacture of fabricated metal products

24 – Building and repair of ships and boats

25 – Low tech

26 – Manufacture of food products, including beverages

27 – Manufacture of tobacco products

28 – Manufacture of textiles

29 – Manufacture of wearing apparel, dressing and dyeing of fur

30 – Manufacture of leather, leather products and footwear

31 – Woodworking and manufacture of wood and of products of wood and cork, except furniture

32 – Manufacture of cellulose, wood pulp, paper and cardboard and products thereof

33 – Publishing and printing activities, reproduction of recorded media

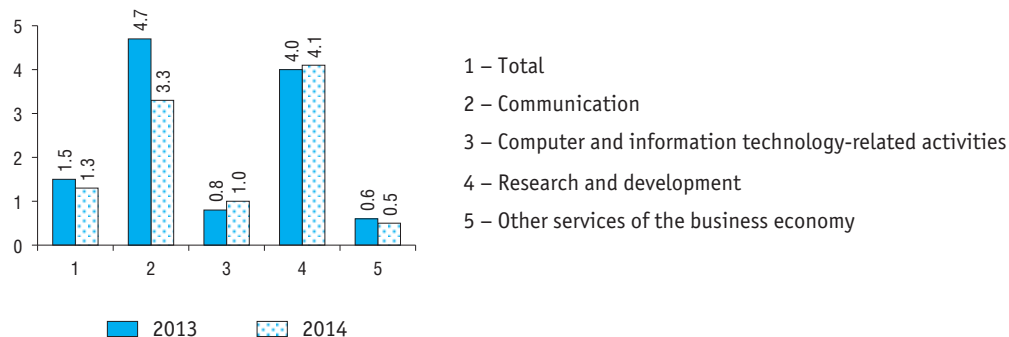
34 – Manufacture of furniture and other products n.e.c.

35 – Recycling of secondary raw materials

36 – Electricity, gas and water supply

(continued)

**Communication, computer and information technology-related activities,
research and development, other services of the business economy**



4.2. CO-OPERATION IN DEVELOPMENT OF MARKETING INNOVATION: 2014*(as a percentage of the total number of enterprises that had market-ready marketing innovations during the last three years)*

	Enterprises for which the innovations were developed			
	mainly by external organisations	jointly with other organisations	by changing or modifying products developed by an external organisation	mainly in-house
Mining and quarrying, manufacturing, electricity, gas and water supply				
Total	12.5	31.1	8.4	50.2
Mining and quarrying	40.0	40.0	–	20.0
Mining and quarrying of energy producing materials	66.7	33.3	–	–
Mining and quarrying, except energy producing materials	–	50.0	–	50.0
Manufacturing	11.4	31.6	8.2	51.1
High tech	8.9	35.4	8.9	53.2
Manufacture of pharmaceuticals and pharmaceutical products	20.0	46.7	6.7	40.0
Manufacture of office machinery and computers	33.3	–	33.3	33.3
Manufacture of radio, television and communication equipment and apparatus	–	27.8	5.6	66.7
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	2.8	36.1	2.8	58.3
Manufacture of aircraft, including spacecraft	28.6	42.9	42.9	28.6

(continued)

	Enterprises for which the innovations were developed			
	mainly by external organisations	jointly with other organisations	by changing or modifying products developed by an external organisation	mainly in-house
Medium high tech	8.4	28.2	6.1	58.0
Manufacture of chemicals and chemical products	12.1	33.3	3.0	51.5
Manufacture of machinery and equipment	3.9	13.7	9.8	74.5
Manufacture of electrical machinery and apparatus	10.8	37.8	5.4	45.9
Manufacture of motor vehicles, trailers and semi-trailers	12.5	50.0	–	37.5
Manufacture of other transport vehicles	–	50.0	–	50.0
Medium low tech	10.8	29.0	9.7	50.5
Manufacture of coke and refined petroleum products	–	33.3	33.3	33.3
Manufacture of rubber and plastic products	4.0	20.0	4.0	72.0
Manufacture of other non-metallic mineral products	4.0	44.0	20.0	32.0
Manufacture of basic metals	20.0	40.0	6.7	33.3
Manufacture of fabricated metal products	22.7	13.6	4.5	59.1
Building and repair of ships and boats	–	33.3	–	66.7
Low tech	14.4	34.3	7.0	46.3
Manufacture of food products, including beverages	16.2	35.3	6.6	44.9
Manufacture of tobacco products	–	100	–	–
Manufacture of textiles	12.5	–	–	87.5
Manufacture of wearing apparel, dressing and dyeing of fur	–	33.3	16.7	50.0
Manufacture of leather, leather products and footwear	–	50.0	–	50.0

(continued)

	Enterprises for which the innovations were developed			
	mainly by external organisations	jointly with other organisations	by changing or modifying products developed by an external organisation	mainly in-house
Woodworking and manufacture of wood and of products of wood and cork, except furniture	–	42.9	14.3	42.9
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	33.3	33.3	–	33.3
Publishing and printing activities, reproduction of recorded media	5.9	29.4	11.8	52.9
Manufacture of furniture and other products n.e.c.	14.3	42.9	7.1	35.7
Recycling of secondary raw materials	–	–	–	100
Electricity, gas and water supply	40.0	13.3	20.0	26.7
Communication, computer and information technology-related activities, research and development, other services of the business economy				
Total	12.8	38.1	8.3	44.9
Communication	11.1	47.5	8.1	38.4
Computer and information technology-related activities	33.3	38.9	11.1	22.2
Research and development	4.4	27.8	8.9	64.4
Other services of the business economy	22.4	37.9	6.9	32.8

4.3. SALES OF GOODS AND SERVICES PRODUCED USING MARKETING INNOVATION BY ECONOMIC ACTIVITY

	Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply				
Total	141688.4	125282.7	0.4	0.3
Mining and quarrying	10.0	6383.1	0.0	0.1
Mining and quarrying of energy producing materials	–	6222.3	–	0.1
Mining and quarrying, except energy producing materials	10.0	160.8	0.001	0.01
Manufacturing	120332.7	96142.8	0.6	0.4
High tech	23892.5	15334.9	1.7	1.0
Manufacture of pharmaceuticals and pharmaceutical products	129.6	942.2	0.1	0.4
Manufacture of office machinery and computers	76.4	–	0.2	–
Manufacture of radio, television and communication equipment and apparatus	487.7	2.0	0.2	0.001
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	17565.2	3576.4	5.8	1.0
Manufacture of aircraft, including spacecraft	5633.6	10814.3	1.0	1.7
Medium high tech	53919.2	46304.1	1.1	0.9
Manufacture of chemicals and chemical products	31733.1	27102.6	2.2	1.7
Manufacture of machinery and equipment	16572.5	13989.1	1.5	1.3
Manufacture of electrical machinery and apparatus	3215.4	4718.9	0.7	1.0
Manufacture of motor vehicles, trailers and semi-trailers	2221.1	419.2	0.1	0.03
Manufacture of other transport vehicles	177.2	74.3	0.04	0.02
Medium low tech	14244.4	7896.0	0.1	0.1
Manufacture of coke and refined petroleum products	–	–	–	–
Manufacture of rubber and plastic products	560.2	1305.7	0.1	0.3
Manufacture of other non-metallic mineral products	8326.4	2405.4	0.9	0.2

(continued)

	Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014
Manufacture of basic metals	2449.6	2572.1	0.1	0.1
Manufacture of fabricated metal products	698.5	1612.8	0.1	0.3
Building and repair of ships and boats	2209.7	—	0.7	—
Low tech	28097.5	26604.6	0.6	0.5
Manufacture of food products, including beverages	14750.0	18586.4	0.5	0.5
Manufacture of tobacco products	3027.2	3536.9	1.6	1.7
Manufacture of textiles	1390.7	—	1.6	—
Manufacture of wearing apparel, dressing and dyeing of fur	1106.2	1036.8	1.8	2.2
Manufacture of leather, leather products and footwear	—	—	—	—
Woodworking and manufacture of wood and of products of wood and cork, except furniture	3295.1	2612.1	1.3	1.0
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	1246.4	710.4	0.3	0.2
Publishing and printing activities, reproduction of recorded media	2188.3	69.9	1.0	0.03
Manufacture of furniture and other products n.e.c.	659.4	52.1	0.3	0.02
Recycling of secondary raw materials	434.2	—	0.4	—
Manufacture of other materials and substances n.e.c.	179.1	3.1	0.03	0.0
Electricity, gas and water supply	21345.6	22756.7	0.5	0.6
Communication, computer and information technology-related activities, research and development, other services of the business economy				
Total	37491.3	29441.5	1.0	0.7
Communication	6820.1	3838.0	0.4	0.2
Computer and information technology-related activities	6281.0	4061.3	2.1	1.2
Research and development	21376.4	18721.1	2.1	1.6
Other services of the business economy	3013.8	2821.1	0.3	0.2

4.4. EXPENDITURE ON MARKETING INNOVATION BY ECONOMIC ACTIVITY

(million roubles)

	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply		
Total	2012.3	12168.6
Mining and quarrying	2.3	39.1
Mining and quarrying of energy producing materials	0.6	11.9
Mining and quarrying, except energy producing materials	1.8	27.3
Manufacturing	1993.4	12123.1
High tech	149.4	9336.4
Manufacture of pharmaceuticals and pharmaceutical products	114.9	90.7
Manufacture of office machinery and computers	0.2	26.8
Manufacture of radio, television and communication equipment and apparatus	1.1	5.1
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	24.0	22.4
Manufacture of aircraft, including spacecraft	9.3	9191.5
Medium high tech	211.8	163.2
Manufacture of chemicals and chemical products	68.8	38.4
Manufacture of machinery and equipment	43.5	90.9
Manufacture of electrical machinery and apparatus	33.6	29.7
Manufacture of motor vehicles, trailers and semi-trailers	65.7	4.2
Manufacture of other transport vehicles	0.2	–
Medium low tech	536.9	237.6
Manufacture of coke and refined petroleum products	93.5	119.4
Manufacture of rubber and plastic products	190.6	31.5
Manufacture of other non-metallic mineral products	220.7	27.2

(continued)

	2013	2014
Manufacture of basic metals	6.8	54.2
Manufacture of fabricated metal products	24.3	5.4
Building and repair of ships and boats	1.0	0.0
Low tech	1075.3	2356.4
Manufacture of food products, including beverages	1017.7	2253.1
Manufacture of tobacco products	–	–
Manufacture of textiles	4.7	0.1
Manufacture of wearing apparel, dressing and dyeing of fur	1.5	68.0
Manufacture of leather, leather products and footwear	0.1	0.3
Woodworking and manufacture of wood and of products of wood and cork, except furniture	1.8	7.0
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	12.9	0.5
Publishing and printing activities, reproduction of recorded media	3.2	4.9
Manufacture of furniture and other products n.e.c.	33.5	22.3
Recycling of secondary raw materials	0.1	–
Manufacture of other materials and substances n.e.c.	19.9	29.5
Electricity, gas and water supply	16.6	6.3
Communication, computer and information technology-related activities, research and development, other services of the business economy		
Total	10997.1	790.5
Communication	242.2	116.5
Computer and information technology-related activities	1531.9	28.8
Research and development	9149.7	609.4
Other services of the business economy	73.2	35.9

**4.5. ENTERPRISES INTRODUCING SELECTED TYPES OF MARKETING CHANGES AS A PERCENTAGE OF THE TOTAL NUMBER OF ENTERPRISES THAT HAD MARKET-READY MARKETING INNOVATIONS DURING THE LAST THREE YEARS
BY INNOVATION AND ECONOMIC ACTIVITY: 2014**

	Significant changes in design of goods or services	Significant changes in packaging	New marketing strategies for target customers number and market expansion	New product promotion techniques	New distribution channels	New product presentation concepts	New pricing strategies for selling goods and services	Other marketing innovations
Mining and quarrying, manufacturing, electricity, gas and water supply								
Total	51.5	48.0	66.8	68.1	47.8	52.7	52.4	7.3
Mining and quarrying	–	40.0	60.0	40.0	80.0	40.0	20.0	–
Mining and quarrying of energy producing materials	–	–	33.3	33.3	100	33.3	33.3	–
Mining and quarrying, except energy producing materials	–	100	100	50.0	50.0	50.0	–	–
Manufacturing	53.0	49.2	67.9	68.8	48.1	53.0	53.4	7.0
High tech	43.0	30.4	69.6	65.8	54.4	60.8	54.4	8.9
Manufacture of pharmaceuticals and pharmaceutical products	66.7	46.7	73.3	73.3	53.3	53.3	53.3	6.7
Manufacture of office machinery and computers	33.3	33.3	33.3	100	66.7	100	66.7	–
Manufacture of radio, television and communication equipment and apparatus	27.8	16.7	72.2	50.0	55.6	55.6	38.9	16.7

(continued)

	Significant changes in design of goods or services	Significant changes in packaging	New marketing strategies for target customers number and market expansion	New product promotion techniques	New distribution channels	New product presentation concepts	New pricing strategies for selling goods and services	Other marketing innovations
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	47.2	33.3	66.7	69.4	50.0	61.1	58.3	8.3
Manufacture of aircraft, including spacecraft	14.3	14.3	85.7	57.1	71.4	71.4	71.4	–
Medium high tech	42.7	41.2	76.3	68.7	54.2	61.1	53.4	7.6
Manufacture of chemicals and chemical products	57.6	63.6	69.7	66.7	48.5	57.6	54.5	6.1
Manufacture of machinery and equipment	37.3	29.4	72.5	56.9	54.9	60.8	51.0	9.8
Manufacture of electrical machinery and apparatus	40.5	37.8	89.2	83.8	59.5	62.2	56.8	2.7
Manufacture of motor vehicles, trailers and semi-trailers	37.5	50.0	75.0	87.5	62.5	75.0	50.0	12.5
Manufacture of other transport vehicles	–	–	50.0	50.0	–	50.0	50.0	50.0
Medium low tech	47.3	47.3	72.0	71.0	47.3	58.1	57.0	10.8
Manufacture of coke and refined petroleum products	66.7	33.3	66.7	100	66.7	33.3	66.7	–
Manufacture of rubber and plastic products	60.0	44.0	96.0	80.0	48.0	60.0	72.0	4.0
Manufacture of other non-metallic mineral products	48.0	68.0	68.0	68.0	56.0	68.0	72.0	20.0
Manufacture of basic metals	33.3	33.3	80.0	53.3	26.7	40.0	40.0	6.7
Manufacture of fabricated metal products	45.5	40.9	50.0	68.2	50.0	63.6	40.9	13.6
Building and repair of ships and boats	–	33.3	33.3	100	33.3	33.3	–	–

(continued)

	Significant changes in design of goods or services	Significant changes in packaging	New marketing strategies for target customers number and market expansion	New product promotion techniques	New distribution channels	New product presentation concepts	New pricing strategies for selling goods and services	Other marketing innovations
Low tech	68.2	64.7	61.2	69.2	42.3	42.3	51.7	3.5
Manufacture of food products, including beverages	72.8	75.7	58.1	71.3	33.8	36.8	48.5	4.4
Manufacture of tobacco products	100	100	–	–	–	–	–	–
Manufacture of textiles	62.5	62.5	75.0	50.0	62.5	37.5	37.5	0.0
Manufacture of wearing apparel, dressing and dyeing of fur	66.7	33.3	50.0	66.7	66.7	66.7	50.0	16.7
Manufacture of leather, leather products and footwear	50.0	–	50.0	100	50.0	–	50.0	–
Woodworking and manufacture of wood and of products of wood and cork, except furniture	28.6	28.6	42.9	57.1	42.9	28.6	14.3	–
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	66.7	66.7	55.6	55.6	55.6	66.7	66.7	–
Publishing and printing activities, reproduction of recorded media	70.6	23.5	76.5	64.7	64.7	58.8	82.4	–
Manufacture of furniture and other products n.e.c.	50.0	50.0	92.9	85.7	71.4	71.4	64.3	–
Recycling of secondary raw materials	–	–	–	–	–	–	100	–
Electricity, gas and water supply	13.3	6.7	33.3	53.3	26.7	46.7	26.7	20.0

(continued)

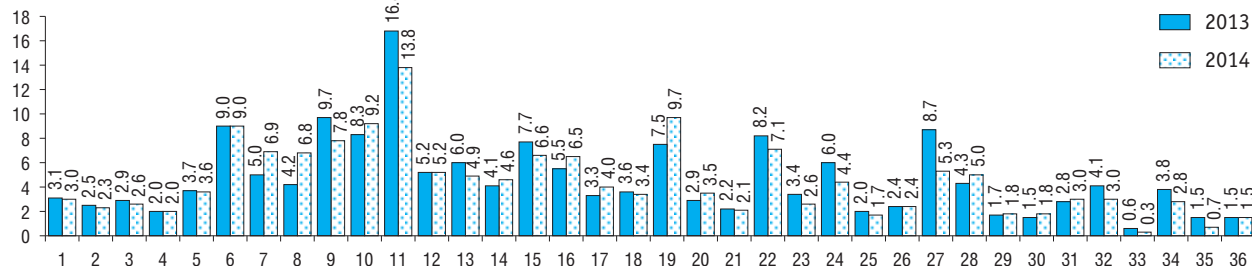
	Significant changes in design of goods or services	Significant changes in packaging	New marketing strategies for target customers number and market expansion	New product promotion techniques	New distribution channels	New product presentation concepts	New pricing strategies for selling goods and services	Other marketing innovations
Communication, computer and information technology-related activities, research and development, other services of the business economy								
Total	33.2	22.3	68.7	69.1	47.2	60.4	49.8	17.7
Communication	40.4	38.4	72.7	76.8	65.7	59.6	70.7	25.3
Computer and information technology-related activities	33.3	5.6	66.7	72.2	33.3	72.2	50.0	–
Research and development	32.2	15.6	70.0	68.9	47.8	64.4	38.9	13.3
Other services of the business economy	22.4	10.3	60.3	55.2	19.0	51.7	31.0	17.2



5. Organisational Innovation

5.1. ENTERPRISES ENGAGED IN ORGANISATIONAL INNOVATION AS A PERCENTAGE OF ALL ENTERPRISES BY ECONOMIC ACTIVITY

Mining and quarrying, manufacturing, electricity, gas and water supply



1 - Total

2 - Mining and quarrying

3 - Mining and quarrying of energy producing materials

4 - Mining and quarrying, except energy producing materials

5 - Manufacturing

6 - High tech

7 - Manufacture of pharmaceuticals and pharmaceutical products

8 - Manufacture of office machinery and computers

9 - Manufacture of radio, television and communication equipment and apparatus

10 - Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks

11 - Manufacture of aircraft, including spacecraft

12 - Medium high tech

13 - Manufacture of chemicals and chemical products

14 - Manufacture of machinery and equipment

15 - Manufacture of electrical machinery and apparatus

16 - Manufacture of motor vehicles, trailers and semi-trailers

17 - Manufacture of other transport vehicles

18 - Medium low tech

19 - Manufacture of coke and refined petroleum products

20 - Manufacture of rubber and plastic products

21 - Manufacture of other non-metallic mineral products

22 - Manufacture of basic metals

23 - Manufacture of fabricated metal products

24 - Building and repair of ships and boats

25 - Low tech

26 - Manufacture of food products, including beverages

27 - Manufacture of tobacco products

28 - Manufacture of textiles

29 - Manufacture of wearing apparel, dressing and dyeing of fur

30 - Manufacture of leather, leather products and footwear

31 - Woodworking and manufacture of wood and of products of wood and cork, except furniture

32 - Manufacture of cellulose, wood pulp, paper and cardboard and products thereof

33 - Publishing and printing activities, reproduction of recorded media

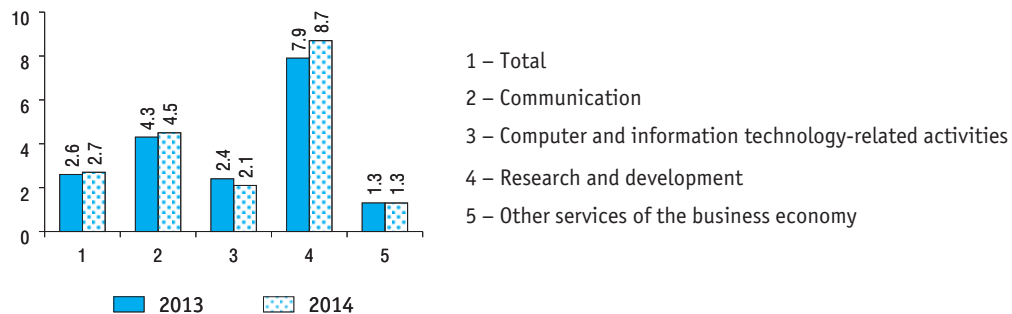
34 - Manufacture of furniture and other products n.e.c.

35 - Recycling of secondary raw materials

36 - Electricity, gas and water supply

(continued)

**Communication, computer and information technology-related activities,
research and development, other services of the business economy**



5.2. CO-OPERATION IN DEVELOPMENT OF ORGANISATIONAL INNOVATION: 2014

(as a percentage of the total number of enterprises that had market-ready organisational innovations during the last three years)

	Enterprises for which the innovations were developed			
	mainly by external organisations	jointly with other organisations	by changing or modifying products developed by an external organisation	mainly in-house
Mining and quarrying, manufacturing, electricity, gas and water supply				
Total	16.6	32.0	9.0	44.1
Mining and quarrying	35.7	35.7	2.4	31.0
Mining and quarrying of energy producing materials	43.8	28.1	3.1	31.3
Mining and quarrying, except energy producing materials	10.0	60.0	–	30.0
Manufacturing	13.0	31.0	9.9	47.8
High tech	10.3	37.6	12.0	44.4
Manufacture of pharmaceuticals and pharmaceutical products	–	38.5	7.7	53.8
Manufacture of office machinery and computers	–	–	–	100
Manufacture of radio, television and communication equipment and apparatus	11.5	46.2	15.4	34.6
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	11.5	32.7	11.5	44.2
Manufacture of aircraft, including spacecraft	12.5	41.7	12.5	45.8

(continued)

	Enterprises for which the innovations were developed			
	mainly by external organisations	jointly with other organisations	by changing or modifying products developed by an external organisation	mainly in-house
Medium high tech	12.4	28.1	7.6	52.4
Manufacture of chemicals and chemical products	7.7	41.0	5.1	46.2
Manufacture of machinery and equipment	13.9	25.3	6.3	54.4
Manufacture of electrical machinery and apparatus	12.5	14.6	12.5	60.4
Manufacture of motor vehicles, trailers and semi-trailers	–	34.6	7.7	57.7
Manufacture of other transport vehicles	33.3	38.9	5.6	27.8
Medium low tech	12.2	29.9	15.0	43.5
Manufacture of coke and refined petroleum products	7.7	38.5	–	53.8
Manufacture of rubber and plastic products	18.5	22.2	14.8	44.4
Manufacture of other non-metallic mineral products	14.7	29.4	20.6	35.3
Manufacture of basic metals	6.1	45.5	9.1	42.4
Manufacture of fabricated metal products	12.1	21.2	18.2	48.5
Building and repair of ships and boats	14.3	14.3	28.6	42.9
Low tech	17.8	32.2	5.9	44.1
Manufacture of food products, including beverages	18.8	30.6	2.4	48.2
Manufacture of tobacco products	–	50.0	–	50.0
Manufacture of textiles	8.3	25.0	–	66.7
Manufacture of wearing apparel, dressing and dyeing of fur	–	–	33.3	66.7
Manufacture of leather, leather products and footwear	–	50.0	–	50.0

(continued)

	Enterprises for which the innovations were developed			
	mainly by external organisations	jointly with other organisations	by changing or modifying products developed by an external organisation	mainly in-house
Woodworking and manufacture of wood and of products of wood and cork, except furniture	8.3	41.7	16.7	33.3
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	18.2	45.5	9.1	27.3
Publishing and printing activities, reproduction of recorded media	33.3	22.2	22.2	22.2
Manufacture of furniture and other products n.e.c.	26.7	33.3	6.7	33.3
Recycling of secondary raw materials	—	100	—	—
Electricity, gas and water supply	32.1	36.8	6.6	26.4
Communication, computer and information technology-related activities, research and development, other services of the business economy				
Total	20.3	37.9	7.1	37.9
Communication	16.3	57.4	6.2	24.0
Computer and information technology-related activities	26.7	33.3	11.1	31.1
Research and development	6.2	34.0	6.7	56.7
Other services of the business economy	37.6	28.8	7.1	28.8

5.3. EXPENDITURE ON ORGANISATIONAL INNOVATION BY ECONOMIC ACTIVITY

(million roubles)

	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply		
Total	7393.3	3320.7
Mining and quarrying	456.7	34.0
Mining and quarrying of energy producing materials	123.1	26.2
Mining and quarrying, except energy producing materials	333.6	7.7
Manufacturing	6126.1	2918.7
High tech	231.9	440.2
Manufacture of pharmaceuticals and pharmaceutical products	5.3	15.3
Manufacture of office machinery and computers	0.8	10.4
Manufacture of radio, television and communication equipment and apparatus	26.4	21.7
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	102.1	142.8
Manufacture of aircraft, including spacecraft	97.2	250.1
Medium high tech	650.3	358.6
Manufacture of chemicals and chemical products	86.2	46.9
Manufacture of machinery and equipment	235.5	146.1
Manufacture of electrical machinery and apparatus	50.5	31.7
Manufacture of motor vehicles, trailers and semi-trailers	204.2	41.9
Manufacture of other transport vehicles	74.0	92.0
Medium low tech	3855.0	1035.2
Manufacture of coke and refined petroleum products	3316.7	836.9
Manufacture of rubber and plastic products	32.2	3.7

(continued)

	2013	2014
Manufacture of other non-metallic mineral products	221.4	47.6
Manufacture of basic metals	101.2	137.7
Manufacture of fabricated metal products	166.0	2.7
Building and repair of ships and boats	17.6	6.6
Low tech	923.7	368.7
Manufacture of food products, including beverages	884.8	268.4
Manufacture of tobacco products	1.2	–
Manufacture of textiles	1.4	63.0
Manufacture of wearing apparel, dressing and dyeing of fur	2.8	2.3
Manufacture of leather, leather products and footwear	1.6	0.3
Woodworking and manufacture of wood and of products of wood and cork, except furniture	3.7	2.0
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	9.7	0.3
Publishing and printing activities, reproduction of recorded media	1.7	1.7
Manufacture of furniture and other products n.e.c.	16.9	30.9
Recycling of secondary raw materials	0.0	–
Manufacture of other materials and substances n.e.c.	465.2	716.0
Electricity, gas and water supply	810.5	368.1

(continued)

	2013	2014
Communication, computer and information technology-related activities, research and development, other services of the business economy		
Total	1405.6	3299.9
Communication	135.4	1335.0
Computer and information technology-related activities	72.2	65.8
Research and development	1026.6	1562.5
Other services of the business economy	171.5	336.7

**5.4. ENTERPRISES INTRODUCING SELECTED TYPES OF ORGANISATIONAL CHANGES AS A PERCENTAGE OF THE TOTAL NUMBER OF ENTERPRISES THAT HAD MARKET-READY ORGANISATIONAL INNOVATIONS DURING THE LAST THREE YEARS
BY TYPE OF INNOVATION AND ECONOMIC ACTIVITY: 2014**

	Implementa- tion of new or signifi- cantly changed corporate strategy	Introduc- tion of modern ICT-based manage- ment tech- niques	Introduc- tion of new or signifi- cantly changed organisa- tional structures	Changes in the use of shift work	Use of modern systems of quality control, certifica- tion of goods and services	Introduc- tion of modern systems of logistics and of materials and com- ponents supply	Creation of specialised R&D units and units engaged in practical implemen- tation of S&T advancements	Implemen- tation of corporate know- ledge manage- ment systems	Personnel develop- ment pro- grammes	Implementation of new forms of strategic alliances, partnerships and other co-operation ties with consumers, suppliers, Rus- sian and foreign manufacturers	Out- sourcing	Other organisa- tional innova- tions
Mining and quarrying, manufacturing, electricity, gas and water supply												
Total	32.9	58.7	53.4	19.7	60.6	28.9	17.5	29.3	70.0	25.7	31.7	10.8
Mining and quarrying	11.9	42.9	42.9	4.8	40.5	7.1	2.4	33.3	61.9	9.5	26.2	4.8
Mining and quarrying of energy producing materials	9.4	40.6	43.8	—	40.6	3.1	—	34.4	59.4	6.3	12.5	—
Mining and quarrying, except energy producing materials	20.0	50.0	40.0	20.0	40.0	20.0	10.0	30.0	70.0	20.0	70.0	20.0
Manufacturing	35.5	59.7	55.8	21.9	65.1	32.4	20.4	30.1	71.9	29.7	33.0	10.9
High tech	35.0	61.5	53.0	22.2	66.7	26.5	32.5	25.6	71.8	35.0	35.9	10.3
Manufacture of pharmaceuticals and pharmaceutical products	30.8	46.2	38.5	23.1	69.2	38.5	46.2	23.1	38.5	38.5	30.8	15.4
Manufacture of office machinery and computers	50.0	100	50.0	—	100	100	—	50.0	100	100	100	—

(continued)

	Implement- ation of new or signi- ficantly changed corporate strategy	Introduc- tion of modern ICT-based manage- ment tech- niques	Introduc- tion of new or signi- ficantly changed organi- sational structures	Changes in the use of shift work	Use of modern systems of quality control, certifica- tion of goods and services	Introduc- tion of modern systems of logistics and of materials and com- ponents supply	Creation of specialised R&D units and units engaged in practical implemen- tation of S&T advancements	Implemen- tation of corporate know- ledge manage- ment systems	Personnel develop- ment pro- grammes	Implementation of new forms of strategic alliances, partnerships and other co-operation ties with consumers, suppliers, Rus- sian and foreign manufacturers	Out- sourc- ing	Other organi- sational innova- tions
Manufacture of radio, television and communication equipment and apparatus	42.3	57.7	53.8	23.1	57.7	30.8	46.2	26.9	76.9	30.8	42.3	19.2
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	32.7	65.4	57.7	25.0	73.1	19.2	28.8	23.1	75.0	32.7	21.2	7.7
Manufacture of aircraft, including spacecraft	33.3	62.5	50.0	16.7	58.3	25.0	20.8	29.2	75.0	37.5	58.3	4.2
Medium high tech	33.8	54.3	60.0	23.3	64.3	31.4	22.9	30.0	75.2	27.6	37.6	13.3
Manufacture of chemicals and chemical products	41.0	53.8	66.7	20.5	61.5	28.2	25.6	25.6	84.6	15.4	51.3	12.8
Manufacture of machinery and equipment	31.6	54.4	60.8	25.3	70.9	29.1	22.8	26.6	77.2	31.6	32.9	10.1
Manufacture of electrical machinery and apparatus	33.3	60.4	60.4	25.0	68.8	39.6	33.3	33.3	79.2	37.5	20.8	14.6
Manufacture of motor vehicles, trailers and semi-trailers	26.9	42.3	61.5	23.1	50.0	34.6	7.7	38.5	65.4	15.4	50.0	19.2

(continued)

	Implementa- tion of new or signifi- cantly changed corporate strategy	Introduc- tion of modern ICT-based manage- ment tech- niques	Introduc- tion of new or signifi- cantly changed organisa- tional structures	Changes in the use of shift work	Use of modern systems of quality control, certifica- tion of goods and services	Introduc- tion of modern systems of logistics and of materials and com- ponents supply	Creation of specialised R&D units and units engaged in practical implemen- tation of S&T advancements	Implemen- tation of corporate know- ledge manage- ment systems	Personnel develop- ment pro- grammes	Implementation of new forms of strategic alliances, partnerships and other co-operation ties with consumers, suppliers, Rus- sian and foreign manufacturers	Out- sourcing	Other organisa- tional innova- tions
Manufacture of other transport vehicles	38.9	55.6	38.9	16.7	50.0	22.2	11.1	33.3	50.0	27.8	55.6	16.7
Medium low tech	37.4	69.4	53.7	24.5	65.3	31.3	15.6	34.7	74.1	29.3	30.6	9.5
Manufacture of coke and refined petroleum products	46.2	61.5	61.5	30.8	53.8	15.4	30.8	69.2	76.9	23.1	69.2	7.7
Manufacture of rubber and plastic products	29.6	74.1	59.3	33.3	88.9	55.6	11.1	25.9	81.5	33.3	25.9	3.7
Manufacture of other non-metallic mineral products	41.2	67.6	52.9	17.6	55.9	32.4	8.8	32.4	70.6	32.4	17.6	5.9
Manufacture of basic metals	39.4	63.6	51.5	27.3	57.6	24.2	18.2	27.3	75.8	24.2	36.4	15.2
Manufacture of fabricated metal products	36.4	75.8	51.5	21.2	69.7	30.3	18.2	39.4	72.7	36.4	27.3	15.2
Building and repair of ships and boats	28.6	71.4	42.9	14.3	57.1	–	14.3	28.6	57.1	–	28.6	–
Low tech	34.2	52.0	50.0	18.4	62.5	38.2	11.2	29.6	59.9	23.7	27.0	9.9
Manufacture of food products, including beverages	31.8	45.9	41.2	16.5	65.9	34.1	10.6	29.4	52.9	20.0	29.4	11.8
Manufacture of tobacco products	–	50.0	100	–	100	50.0	–	50.0	100	–	100	–
Manufacture of textiles	16.7	41.7	58.3	25.0	33.3	33.3	16.7	16.7	58.3	25.0	0.0	8.3

(continued)

	Implementa- tion of new or signifi- cantly changed corporate strategy	Introduc- tion of modern ICT-based manage- ment tech- niques	Introduc- tion of new or signifi- cantly changed organisa- tional structures	Changes in the use of shift work	Use of modern systems of quality control, certifica- tion of goods and services	Introduc- tion of modern systems of logistics and of materials and compo- nents supply	Creation of specialised R&D units and units engaged in practical implemen- tation of S&T advancements	Implemen- tation of corporate know- ledge manage- ment systems	Personnel develop- ment pro- grammes	Implementation of new forms of strategic alliances, partnerships and other co-operation ties with consumers, suppliers, Rus- sian and foreign manufacturers	Out- sourcing	Other organi- sational innova- tions
Manufacture of wearing apparel, dressing and dyeing of fur	33.3	66.7	100	33.3	66.7	33.3	33.3	–	66.7	33.3	33.3	33.3
Manufacture of leather, leather products and footwear	–	–	–	–	100	–	50.0	–	–	–	–	–
Woodworking and manufacture of wood and of products of wood and cork, except furniture	33.3	50.0	41.7	25.0	58.3	33.3	8.3	25.0	58.3	16.7	25.0	–
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	54.5	72.7	81.8	9.1	72.7	54.5	9.1	54.5	72.7	45.5	27.3	9.1
Publishing and printing activities, reproduction of recorded media	33.3	100	55.6	–	66.7	77.8	–	44.4	100.0	33.3	44.4	–
Manufacture of furniture and other products n.e.c.	60.0	60.0	66.7	33.3	53.3	40.0	13.3	26.7	66.7	33.3	20.0	13.3
Recycling of secondary raw materials	–	–	–	100	–	–	–	–	100	–	–	–
Electricity, gas and water supply	24.5	58.5	42.5	11.3	40.6	15.1	4.7	22.6	61.3	6.6	25.5	12.3

(continued)

	Implementa- tion of new or signifi- cantly changed corporate strategy	Introduc- tion of modern ICT-based manage- ment tech- niques	Introduc- tion of new or signifi- cantly changed organisa- tional structures	Changes in the use of shift work	Use of modern systems of quality control, certifica- tion of goods and services	Introduc- tion of modern systems of logistics and of materials and com- ponents supply	Creation of specialised R&D units and units engaged in practical implemen- tation of S&T advancements	Implemen- tation of corporate know- ledge manage- ment systems	Personnel develop- ment pro- grammes	Implementation of new forms of strategic alliances, partnerships and other co-operation ties with consumers, suppliers, Rus- sian and foreign manufacturers	Out- sourcing	Other organisa- tional innova- tions
Communication, computer and information technology-related activities, research and development, other services of the business economy												
Total	39.4	65.1	61.3	16.0	49.8	20.3	24.3	32.9	76.2	24.9	32.2	12.3
Communication	39.5	54.3	76.0	10.9	33.3	10.9	11.6	35.7	72.9	18.6	43.4	15.5
Computer and information technology-related activities	35.6	77.8	55.6	20.0	40.0	13.3	15.6	35.6	64.4	22.2	31.1	6.7
Research and development	49.0	71.1	65.5	14.9	70.6	29.4	45.9	40.7	86.1	39.7	29.4	8.8
Other services of the business economy	29.4	62.9	47.1	20.0	41.2	18.8	11.8	21.2	70.6	13.5	27.1	15.3



6. Innovative Activity in Russian Regions

6.1. ENTERPRISES ENGAGED IN TECHNOLOGICAL, MARKETING, AND ORGANISATIONAL INNOVATION

	Overall share of innovative enterprises, <i>per cent</i>		Enterprises engaged in innovation of selected types as a percentage of all enterprises					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply								
Russian Federation	10.9	10.9	9.7	9.7	2.1	2.0	3.1	3.0
Central Federal District	11.2	11.5	10.1	10.3	2.5	2.1	3.3	3.1
Belgorod Region	11.8	13.9	11.5	12.6	1.6	2.0	2.2	2.7
Bryansk Region	10.2	11.5	9.6	9.5	3.1	4.4	3.1	4.1
Vladimir Region	13.6	15.8	12.7	14.1	3.4	3.0	5.9	5.3
Voronezh Region	10.6	11.7	10.0	11.5	3.0	1.4	3.0	2.2
Ivanovo Region	8.2	6.1	6.8	5.2	1.4	–	3.2	1.3
Kaluga Region	13.8	11.9	11.8	10.3	4.9	3.9	5.6	5.5
Kostroma Region	9.1	7.4	5.9	6.5	2.7	1.4	3.2	1.4
Kursk Region	12.6	10.4	9.9	8.1	1.0	1.7	5.2	5.2
Lipetsk Region	24.1	25.3	21.8	23.1	5.9	3.8	4.7	3.3
Moscow Region	8.3	9.0	7.1	7.8	2.0	2.2	2.5	2.8
Oryol Region	12.4	12.2	11.3	11.1	2.2	1.1	2.2	1.7
Ryazan Region	12.9	12.2	11.7	10.1	3.8	0.4	5.8	3.8
Smolensk Region	7.4	8.0	6.3	7.2	1.1	1.2	1.8	1.6
Tambov Region	11.3	12.2	10.1	10.4	2.8	1.7	3.2	2.2
Tver Region	8.6	7.3	8.6	6.5	1.5	0.8	2.0	1.6
Tula Region	13.9	15.2	13.1	14.5	2.0	1.9	4.0	3.5
Yaroslavl Region	13.4	11.6	12.3	10.5	3.5	2.6	4.6	4.5
Moscow	14.9	15.7	14.1	15.1	2.9	2.9	2.9	3.5

(continued)

	Overall share of innovative enterprises, <i>per cent</i>		Enterprises engaged in innovation of selected types as a percentage of all enterprises					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
Northwestern Federal District	10.0	9.9	8.5	8.4	2.0	1.9	2.9	2.6
Republic of Karelia	6.5	3.5	4.3	2.3	–	–	2.2	1.2
Komi Republic	8.2	9.3	6.9	8.1	0.9	0.8	0.9	0.8
Arkhangelsk Region	4.5	5.0	3.8	4.7	0.4	0.4	1.5	1.2
Nenets Autonomous District	7.1	2.6	4.8	2.6	–	–	2.4	–
Vologda Region	8.4	6.8	8.4	5.9	2.5	1.4	3.4	3.2
Kaliningrad Region	4.8	1.5	3.6	0.8	0.6	0.4	2.1	0.4
Leningrad Region	10.8	9.5	9.5	8.7	1.8	1.9	3.0	3.2
Murmansk Region	13.9	12.3	9.0	8.4	1.4	1.3	4.9	5.8
Novgorod Region	5.6	7.2	5.6	6.5	1.2	1.3	1.2	0.7
Pskov Region	8.3	11.2	7.3	10.0	1.5	1.8	1.9	1.8
Saint-Petersburg	16.4	17.0	14.2	14.5	4.5	4.1	4.7	4.2
Southern Federal District	7.8	9.0	6.7	7.9	1.4	1.4	2.2	2.4
Republic of Adygeya	12.7	10.0	9.1	6.0	3.6	4.0	5.5	2.0
Republic of Kalmykia	–	–	–	–	–	–	–	–
Krasnodar Krai	6.7	8.3	4.8	6.6	2.2	1.4	3.3	3.1
Astrakhan Region	10.2	12.2	9.7	11.6	0.5		1.6	2.1
Volgograd Region	7.9	6.3	7.3	5.6	1.1	1.1	2.0	1.5
Rostov Region	8.0	11.1	7.5	10.5	1.0	1.8	1.3	2.4

(continued)

	Overall share of innovative enterprises, per cent		Enterprises engaged in innovation of selected types as a percentage of all enterprises					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
North Caucasian Federal District	5.4	5.4	4.9	4.6	1.2	1.3	0.9	1.1
Republic of Dagestan	7.9	9.5	3.2	4.8	4.8	6.3	3.2	3.2
Republic of Ingushetia	—	—	—	—	—	—	—	—
Kabardino-Balkar Republic	8.9	5.7	8.9	5.7	2.2	2.3	2.2	2.3
Karachai-Cherkess Republic	—	—	—	—	—	—	—	—
Republic of North Ossetia – Alania	3.9	5.4	3.9	4.1	—	—	—	1.4
Chechen Republic	—	—	—	—	—	—	—	—
Stavropol Krai	7.3	7.2	7.0	6.6	1.1	1.2	0.8	0.9
Volga Federal District	13.7	13.6	12.5	12.4	2.5	2.7	3.4	3.4
Republic of Bashkortostan	12.8	11.9	11.6	9.9	2.3	2.6	3.3	4.2
Republic of Mari El	12.4	8.8	9.5	7.3	2.2	2.2	3.6	2.2
Republic of Mordovia	21.3	20.7	19.9	18.7	5.1	4.9	4.2	6.4
Republic of Tatarstan	21.8	22.1	19.9	20.6	4.5	5.2	5.5	4.7
Udmurt Republic	13.4	15.1	12.3	14.8	2.7	3.9	3.8	5.3
Chuvash Republic	26.6	29.7	25.2	28.8	6.0	4.6	5.5	4.1
Perm Krai	12.9	13.6	12.3	12.1	2.7	2.6	2.5	3.5
Kirov Region	10.3	11.2	8.3	9.5	1.3	2.0	2.9	3.1
Nizhny Novgorod Region	15.8	15.6	14.6	13.7	2.5	2.2	4.3	4.3
Orenburg Region	12.8	12.3	11.1	11.6	2.1	2.5	3.8	3.2
Penza Region	18.4	19.5	17.7	18.8	4.4	3.0	4.4	4.1
Samara Region	7.1	7.6	6.5	7.0	0.9	1.2	1.4	1.3
Saratov Region	8.6	9.3	7.5	8.8	1.1	1.4	3.3	2.3
Ulyanovsk Region	9.0	6.4	8.0	5.2	1.6	2.0	1.9	1.5

(continued)

	Overall share of innovative enterprises, <i>per cent</i>		Enterprises engaged in innovation of selected types as a percentage of all enterprises					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
Ural Federal District	11.1	10.5	9.2	8.6	2.2	1.9	4.1	3.8
Kurgan Region	13.0	11.0	9.1	8.9	3.2	2.7	3.9	1.4
Sverdlovsk Region	12.6	11.3	11.1	9.5	2.2	2.4	4.7	4.5
Tyumen Region	9.3	9.6	7.5	7.4	1.6	1.2	3.2	3.2
Khanty-Mansi Autonomous District – Yugra	8.0	6.8	7.2	4.9	0.5	0.3	2.4	3.3
Yamalo-Nenets Autonomous District	7.0	11.2	6.2	11.2	0.8	0.9	3.9	2.6
Chelyabinsk Region	11.4	10.5	9.2	9.2	2.7	2.1	4.6	4.3
Siberian Federal District	9.5	9.2	8.7	8.4	1.6	1.7	2.8	3.0
Republic of Altai	21.1	17.8	21.1	17.8	–	–	2.6	2.2
Republic of Buryatia	6.5	9.2	5.6	8.3	0.8	1.7	2.4	4.2
Republic of Tyva	1.7	–	1.7	–	–	–	–	–
Republic of Khakassia	5.9	4.9	5.9	4.9	1.5	1.6	–	1.6
Altai Krai	12.1	12.2	12.1	11.7	2.1	2.7	3.0	3.8
Zabaikalye Krai	2.3	4.6	2.3	3.0	–	1.0	1.4	2.0
Krasnoyarsk Krai	15.8	11.4	13.8	10.8	2.6	2.2	5.5	3.5
Irkutsk Region	8.1	7.0	7.1	5.9	1.8	0.7	2.5	3.3
Kemerov Region	5.0	8.1	4.4	6.2	0.6	1.2	1.4	3.1
Novosibirsk Region	8.8	8.0	8.3	7.7	1.0	1.5	1.8	0.8
Omsk Region	9.8	10.6	8.9	9.9	1.6	1.3	3.2	3.0
Tomsk Region	15.1	13.3	13.3	12.8	4.4	4.4	5.8	6.2

(continued)

	Overall share of innovative enterprises, <i>per cent</i>		Enterprises engaged in innovation of selected types as a percentage of all enterprises					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
Far Eastern Federal District	10.4	10.1	9.0	9.0	1.4	1.1	2.5	2.0
Republic of Sakha (Yakutia)	9.4	10.6	8.1	9.1	1.8	1.5	2.2	2.5
Kamchatka Krai	9.7	6.5	9.7	6.5	–	–	1.6	–
Primorye Krai	11.7	13.0	9.6	10.5	1.7	2.5	2.5	2.9
Khabarovsk Krai	12.6	10.8	10.9	10.2	1.1	0.6	4.6	3.6
Amur Region	6.7	5.7	6.0	5.7	2.0	0.7	0.7	0.7
Magadan Region	23.7	16.3	22.4	15.2	1.3	1.1	6.6	3.3
Sakhalin Region	4.0	4.3	3.3	4.3	–	–	0.7	–
Jewish Autonomous Region	6.9	3.1	3.4	3.1	3.4	–	–	–
Chukotka Autonomous District	23.5	33.3	17.6	33.3	5.9	–	5.9	–
Crimean Federal District	...	10.9	...	10.9	...	–	...	–
Republic of Crimea	...	13.6	...	13.6	...	–	...	–
Sevastopol	...	–	...	–	...	–	...	–

(continued)

	Overall share of innovative enterprises, <i>per cent</i>		Enterprises engaged in innovation of selected types as a percentage of all enterprises					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
Communication, computer and information technology-related activities, research and development, other services of the business economy								
Russian Federation	8.8	8.5	7.7	7.6	1.5	1.3	2.6	2.7
Central Federal District	9.8	9.9	8.8	9.1	1.8	1.7	3.0	2.9
Belgorod Region	4.0	5.6	4.0	5.6	0.8	0.8	0.8	0.8
Bryansk Region	4.1	3.9	3.7	3.0	–	0.4	0.5	0.9
Vladimir Region	4.8	7.5	4.8	7.5	1.2	1.6	1.8	1.1
Voronezh Region	9.3	8.6	8.3	8.0	3.5	2.5	3.1	2.2
Ivanovo Region	8.6	6.7	8.6	5.3	2.2	2.0	1.4	2.0
Kaluga Region	6.0	6.3	4.9	4.3	2.7	2.4	2.2	2.9
Kostroma Region	4.5	4.0	3.9	4.0	1.3	1.3	2.6	2.0
Kursk Region	8.3	9.2	3.8	5.4	1.9	2.3	4.5	4.6
Lipetsk Region	4.6	4.6	3.4	4.6	1.1	–	–	–
Moscow Region	8.5	8.3	7.3	7.3	1.6	1.1	3.2	3.2
Oryol Region	2.9	3.6	0.7	2.1	–	0.7	2.2	0.7
Ryazan Region	7.1	15.6	7.1	14.4	1.2	5.6	1.2	1.1
Smolensk Region	5.0	3.9	4.1	3.1	2.5	2.4	2.5	2.4
Tambov Region	6.2	6.0	5.4	6.0	–	–	1.2	–
Tver Region	10.7	9.4	10.7	9.4	0.6	0.5	2.8	2.6
Tula Region	10.0	8.4	9.2	8.4	3.3	1.9	1.7	0.9
Yaroslavl Region	7.7	8.2	6.1	8.2	2.0	1.8	1.5	1.2
Moscow	20.8	21.0	19.9	20.1	2.6	2.7	5.9	6.4

(continued)

	Overall share of innovative enterprises, <i>per cent</i>		Enterprises engaged in innovation of selected types as a percentage of all enterprises					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
Northwestern Federal District	11.7	10.9	10.2	9.6	1.8	1.6	3.4	3.5
Republic of Karelia	10.1	12.2	6.3	9.8	1.3	2.4	5.1	7.3
Komi Republic	9.9	8.1	5.8	6.1	4.1	1.0	–	1.0
Arkhangelsk Region	6.5	5.0	5.6	3.8	2.3	2.1	2.8	2.1
Nenets Autonomous District	4.5	3.8	4.5	3.8	4.5	–	–	–
Vologda Region	6.8	4.0	4.7	2.6	1.4	0.7	2.7	2.6
Kaliningrad Region	5.6	3.8	4.1	2.7	0.5	0.5	3.1	2.2
Leningrad Region	8.9	4.9	8.9	4.9	–	–	–	1.2
Murmansk Region	13.1	8.5	10.6	8.0	1.9	1.1	0.6	0.5
Novgorod Region	7.6	8.5	7.6	8.5	1.4	2.5	2.1	3.4
Pskov Region	5.3	4.9	5.3	3.7	–	1.2	–	–
Saint-Petersburg	20.1	21.4	18.8	19.7	2.4	2.3	6.6	6.8
Southern Federal District	6.4	6.2	5.6	5.2	0.9	0.9	1.9	2.2
Republic of Adygeya	4.5	4.8	4.5	4.8	–	–	–	4.8
Republic of Kalmykia	7.5	3.5	7.5	3.5	–	–	–	1.8
Krasnodar Krai	4.5	4.3	3.6	3.2	0.8	0.8	1.7	2.0
Astrakhan Region	7.5	12.7	6.3	11.5	1.3	1.9	2.5	3.2
Volgograd Region	8.4	6.5	7.4	5.4	2.0	0.7	3.0	3.1
Rostov Region	7.4	7.4	6.8	6.5	0.4	0.9	1.5	1.6

(continued)

	Overall share of innovative enterprises, per cent		Enterprises engaged in innovation of selected types as a percentage of all enterprises					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
North Caucasian Federal District	7.0	9.0	6.2	8.5	1.1	1.1	1.6	3.1
Republic of Dagestan	16.7	21.1	12.5	21.1	–	–	8.3	5.3
Republic of Ingushetia	–	28.6	–	28.6	–	–	–	14.3
Kabardino-Balkar Republic	10.3	8.5	10.3	8.5	–	2.1	2.6	4.3
Karachai-Cherkess Republic	8.1	11.1	5.4	8.3	–	2.8	2.7	5.6
Republic of North Ossetia – Alania	7.0	8.1	7.0	8.1	1.8	1.6	–	1.6
Chechen Republic	–	1.2	–	1.2	–	–	–	1.2
Stavropol Krai	11.0	12.2	10.0	11.2	3.0	1.0	2.0	3.1
Volga Federal District	8.4	8.1	7.1	7.3	1.5	1.3	2.5	2.8
Republic of Bashkortostan	11.3	8.2	8.8	7.4	1.9	1.0	3.1	1.5
Republic of Mari El	3.3	4.5	3.3	4.5	–	–	–	1.1
Republic of Mordovia	7.2	12.6	7.2	12.6	1.0	1.1	1.0	3.4
Republic of Tatarstan	19.3	16.7	16.0	14.9	4.9	3.1	6.1	5.3
Udmurt Republic	6.1	5.0	5.7	4.1	0.5	0.4	2.4	3.3
Chuvash Republic	8.5	15.9	7.3	14.7	0.6	7.1	1.2	8.2
Perm Krai	9.3	7.5	7.1	6.6	1.6	1.2	3.7	3.0
Kirov Region	7.4	7.1	6.5	6.7	0.5	–	0.9	1.3
Nizhny Novgorod Region	14.8	12.5	12.2	10.9	2.8	1.9	5.1	4.9
Orenburg Region	11.3	12.5	7.5	8.3	2.5	2.8	7.5	6.9
Penza Region	11.7	13.9	10.3	12.9	3.8	2.0	2.8	2.5
Samara Region	3.3	3.1	3.0	2.7	0.5	0.5	0.5	1.5
Saratov Region	3.8	4.2	3.1	4.0	0.3	–	1.3	1.0
Ulyanovsk Region	3.5	3.1	3.5	3.1	–	0.4	0.5	0.8

(continued)

	Overall share of innovative enterprises, <i>per cent</i>		Enterprises engaged in innovation of selected types as a percentage of all enterprises					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
Ural Federal District	7.2	6.7	6.1	5.1	1.9	1.7	2.7	2.9
Kurgan Region	4.1	1.8	4.1	1.4	0.6	–	0.6	0.5
Sverdlovsk Region	9.8	10.6	8.7	7.6	2.1	2.1	3.4	4.8
Tyumen Region	6.5	6.8	4.9	4.8	2.7	2.7	2.8	3.2
Khanty-Mansi Autonomous District – Yugra	4.3	3.4	3.0	2.3	1.7	1.1	1.7	1.1
Yamalo-Nenets Autonomous District	2.8	3.9	2.8	2.9	0.9	–	0.9	2.0
Chelyabinsk Region	6.6	4.4	5.5	4.4	1.0	0.7	2.4	1.4
Siberian Federal District	8.6	8.2	7.6	7.2	1.3	1.1	2.4	2.0
Republic of Altai	18.6	7.0	17.1	7.0	–	–	1.4	–
Republic of Buryatia	7.0	7.7	7.0	7.7	1.2	1.1	2.3	2.2
Republic of Tyva	4.8	3.3	4.8	3.3	1.6	1.7	–	–
Republic of Khakassia	16.1	13.2	9.7	10.5	3.2	2.6	3.2	–
Altai Krai	8.8	9.0	8.0	9.0	0.7	–	1.5	0.8
Zabaikalye Krai	2.2	6.5	2.2	4.8	–	–	–	1.6
Krasnoyarsk Krai	7.2	7.4	6.3	6.2	1.0	1.6	2.9	1.8
Irkutsk Region	10.2	5.0	7.2	4.6	3.0	0.5	3.0	1.4
Kemerov Region	3.5	4.5	2.7	3.2	0.4	0.9	1.3	2.3
Novosibirsk Region	11.4	12.2	10.9	11.2	1.2	1.4	2.4	2.4
Omsk Region	6.8	6.1	5.6	5.2	1.6	0.9	2.2	2.1
Tomsk Region	13.9	14.2	12.4	12.3	3.0	2.4	4.5	4.3

(continued)

	Overall share of innovative enterprises, <i>per cent</i>		Enterprises engaged in innovation of selected types as a percentage of all enterprises					
			Technological		Marketing		Organisational	
	2013	2014	2013	2014	2013	2014	2013	2014
Far Eastern Federal District	8.6	7.9	7.6	6.9	1.2	0.5	1.6	1.8
Republic of Sakha (Yakutia)	6.5	6.8	5.6	5.5	0.8	0.8	2.0	2.1
Kamchatka Krai	18.8	17.6	18.8	16.2	1.6	–	3.1	2.9
Primorye Krai	7.6	6.5	7.6	5.5	0.7	0.3	0.3	1.6
Khabarovsk Krai	10.2	10.2	9.4	10.2	3.1	0.8	1.6	1.6
Amur Region	6.1	6.5	5.4	5.9	0.7	–	0.7	1.2
Magadan Region	25.8	13.5	16.1	8.1	4.8	1.4	9.7	5.4
Sakhalin Region	2.9	3.9	2.1	3.9	–	–	0.7	0.7
Jewish Autonomous Region	6.0	8.5	6.0	8.5	–	–	–	–
Chukotka Autonomous District	27.3	22.2	27.3	22.2	9.1	11.1	–	–
Crimean Federal District	...	5.6	...	5.6	...	–	...	–
Republic of Crimea	...	–	...	–	...	–	...	–
Sevastopol	...	10.0	...	10.0	...	–	...	–

6.2. ENTERPRISES ENGAGED IN SELECTED TYPES OF INNOVATIVE ACTIVITY AS A PERCENTAGE OF ALL ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION: 2014

	Enterprises engaged in									
	R&D	industrial design and engineering	acquisition of machinery and equipment	acquisition of new technology	of which acquisition of patent rights and licences	acquisition of software	other types of pre-production	personnel training	market research	other innovative activities
Mining and quarrying, manufacturing, electricity, gas and water supply; communication, computer and information technology-related activities, research and development, other services of the business economy										
Russian Federation	42.9	17.7	56.5	8.9	5.9	32.0	12.3	18.1	5.1	11.0
Central Federal District	48.5	17.9	58.1	9.8	6.7	32.1	12.2	19.9	6.0	6.9
Belgorod Region	38.6	15.9	61.4	2.3	–	15.9	9.1	9.1	9.1	9.1
Bryansk Region	37.1	25.7	68.6	8.6	2.9	17.1	5.7	8.6	2.9	–
Vladimir Region	36.8	10.5	63.2	12.3	10.5	22.8	12.3	21.1	3.5	8.8
Voronezh Region	40.3	10.4	58.2	10.4	6.0	35.8	9.0	19.4	3.0	3.0
Ivanovo Region	25.0	20.0	35.0	15.0	–	25.0	10.0	25.0	10.0	–
Kaluga Region	48.8	22.0	73.2	19.5	17.1	46.3	17.1	34.1	4.9	7.3
Kostroma Region	40.0	15.0	45.0	–	–	30.0	5.0	10.0	–	10.0
Kursk Region	33.3	19.0	52.4	9.5	–	23.8	9.5	28.6	4.8	14.3
Lipetsk Region	26.1	21.7	63.0	10.9	6.5	13.0	6.5	13.0	10.9	6.5
Moscow Region	54.3	16.1	61.8	8.0	7.5	32.2	12.6	25.6	6.0	8.5
Oryol Region	26.1	17.4	73.9	0.0	0.0	13.0	4.3	13.0	8.7	13.0
Ryazan Region	48.6	13.5	62.2	16.2	10.8	43.2	18.9	24.3	5.4	8.1
Smolensk Region	50.0	13.6	63.6	13.6	4.5	27.3	27.3	18.2	–	4.5

(continued)

	Enterprises engaged in									
	R&D	industrial design and engineering	acquisition of machinery and equipment	acquisition of new technology	of which acquisition of patent rights and licences	acquisition of software	other types of pre-production	personnel training	market research	other innovative activities
Tambov Region	28.9	34.2	60.5	5.3	—	26.3	7.9	10.5	7.9	2.6
Tver Region	53.5	23.3	51.2	11.6	4.7	25.6	11.6	18.6	9.3	7.0
Tula Region	40.7	16.7	55.6	3.7	—	31.5	13.0	11.1	1.9	9.3
Yaroslavl Region	52.4	26.2	66.7	9.5	9.5	38.1	21.4	19.0	4.8	9.5
Moscow	64.0	17.6	49.8	11.6	9.4	41.6	12.7	21.0	7.5	5.6
Northwestern Federal District	49.7	15.4	53.1	9.2	6.4	34.6	13.6	18.7	5.4	8.2
Republic of Karelia	60.0	—	30.0	—	—	50.0	10.0	30.0	—	10.0
Komi Republic	11.5	11.5	73.1	3.8	—	11.5	3.8	11.5	—	7.7
Arkhangelsk Region	33.3	—	57.1	4.8	—	42.9	—	9.5	4.8	9.5
Nenets Autonomous District	50.0	—	50.0	—	—	—	—	—	—	—
Vologda Region	35.3	11.8	41.2	17.6	11.8	23.5	5.9	5.9	—	17.6
Kaliningrad Region	57.1	—	71.4	—	—	28.6	0.0	28.6	—	—
Leningrad Region	35.1	24.3	59.5	16.2	10.8	18.9	21.6	21.6	13.5	13.5
Murmansk Region	32.1	7.1	50.0	10.7	10.7	42.9	10.7	10.7	—	10.7
Novgorod Region	60.0	10.0	70.0	5.0	5.0	35.0	25.0	30.0	5.0	—
Pskov Region	20.0	10.0	45.0	5.0	5.0	50.0	—	5.0	5.0	15.0
Saint-Petersburg	63.7	19.6	50.0	9.8	6.9	37.3	16.7	21.6	6.4	6.4
Southern Federal District	37.5	15.4	56.5	6.7	3.6	34.8	12.3	15.4	4.0	12.6
Republic of Adygeya	—	50.0	50.0	—	—	25.0	25.0	—	—	25.0
Republic of Kalmykia	—	—	50.0	—	—	50.0	50.0	—	50.0	—
Krasnodar Krai	29.6	18.3	53.5	5.6	4.2	33.8	5.6	16.9	2.8	11.3

(continued)

	Enterprises engaged in									
	R&D	industrial design and engineering	acquisition of machinery and equipment	acquisition of new technology	of which acquisition of patent rights and licences	acquisition of software	other types of pre-production	personnel training	market research	other innovative activities
Astrakhan Region	17.5	5.0	50.0	5.0	2.5	35.0	12.5	5.0	–	10.0
Volgograd Region	31.0	19.0	54.8	7.1	–	33.3	14.3	16.7	4.8	14.3
Rostov Region	57.4	14.9	62.8	8.5	5.3	36.2	14.9	19.1	5.3	13.8
North Caucasian Federal District	18.8	26.6	51.6	15.6	7.8	17.2	12.5	10.9	3.1	12.5
Republic of Dagestan	–	14.3	42.9	28.6	–	28.6	14.3	–	–	14.3
Republic of Ingushetia	–	–	50.0	–	–	–	–	–	–	50.0
Kabardino-Balkar Republic	22.2	–	66.7	11.1	11.1	–	11.1	11.1	–	22.2
Karachai-Cherkess Republic	–	–	66.7	–	–	–	33.3	–	–	–
Republic of North Ossetia – Alania	37.5	12.5	25.0	–	–	12.5	12.5	–	25.0	–
Stavropol Krai	100	–	100	100	–	100	–	100	–	–
Chechen Republic	17.6	44.1	52.9	17.6	11.8	20.6	11.8	14.7	–	11.8
Volga Federal District	41.5	20.6	56.2	9.2	5.7	30.2	14.1	17.3	4.6	13.8
Republic of Bashkortostan	42.2	18.9	41.1	11.1	6.7	28.9	10.0	15.6	4.4	15.6
Republic of Mari El	35.7	35.7	64.3	–	–	14.3	21.4	14.3	–	14.3
Republic of Mordovia	24.5	24.5	59.2	2.0	–	20.4	18.4	10.2	2.0	12.2
Republic of Tatarstan	47.9	13.9	57.6	15.3	8.3	24.3	18.1	20.1	4.2	9.7
Udmurt Republic	9.6	28.8	55.8	15.4	9.6	36.5	7.7	21.2	11.5	9.6
Chuvash Republic	42.0	13.6	62.5	3.4	3.4	28.4	23.9	21.6	4.5	12.5
Perm Krai	52.6	21.8	70.5	10.3	6.4	34.6	9.0	20.5	3.8	20.5
Kirov Region	58.1	14.0	48.8	–	–	11.6	14.0	7.0	2.3	4.7
Nizhny Novgorod Region	41.4	15.0	59.4	8.3	6.0	32.3	10.5	16.5	4.5	18.0

(continued)

	Enterprises engaged in									
	R&D	industrial design and engineering	acquisition of machinery and equipment	acquisition of new technology	of which acquisition of patent rights and licences	acquisition of software	other types of pre-production	personnel training	market research	other innovative activities
Orenburg Region	46.2	20.5	53.8	7.7	—	25.6	17.9	12.8	10.3	5.1
Penza Region	31.6	34.2	38.2	7.9	5.3	50.0	9.2	14.5	6.6	14.5
Samara Region	39.7	34.2	68.5	11.0	5.5	28.8	17.8	20.5	4.1	11.0
Saratov Region	52.7	16.4	50.9	10.9	9.1	43.6	14.5	18.2	1.8	9.1
Ulyanovsk Region	44.8	20.7	55.2	10.3	10.3	20.7	6.9	17.2	—	44.8
Ural Federal District	47.1	16.9	58.2	10.0	9.2	32.6	10.3	19.9	5.4	13.0
Kurgan Region	50.0	18.8	62.5	12.5	12.5	43.8	18.8	6.3	12.5	6.3
Sverdlovsk Region	49.0	15.6	65.6	15.6	15.6	33.3	13.5	19.8	6.3	8.3
Tyumen Region	43.4	10.8	45.8	3.6	2.4	31.3	4.8	15.7	1.2	16.9
Khanty-Mansi Autonomous District – Yugra	41.7	16.7	50.0	—	—	37.5	12.5	20.8	—	16.7
Yamalo-Nenets Autonomous District	62.5	6.3	18.8	6.3	—	25.0	—	18.8	—	12.5
Chelyabinsk Region	48.5	25.8	62.1	9.1	7.6	30.3	10.6	28.8	7.6	16.7
Siberian Federal District	37.0	17.6	55.2	6.9	3.9	33.8	10.1	18.2	5.4	12.0
Republic of Altai	7.1	14.3	35.7	7.1	—	64.3	—	7.1	—	—
Republic of Buryatia	11.8	11.8	58.8	5.9	—	41.2	—	23.5	—	11.8
Republic of Tyva	0.0	50.0	50.0	—	—	100	—	50.0	50.0	—
Republic of Khakassia	14.3	0.0	57.1	—	—	42.9	—	28.6	—	28.6
Altai Krai	37.5	23.4	67.2	6.3	6.3	26.6	10.9	17.2	9.4	6.3
Zabaikalye Krai	16.7	16.7	66.7	—	—	58.3	16.7	8.3	—	16.7
Krasnoyarsk Krai	36.6	13.4	48.8	2.4	1.2	46.3	7.3	18.3	3.7	9.8
Irkutsk Region	29.7	16.2	64.9	13.5	—	29.7	10.8	16.2	2.7	13.5

(continued)

	Enterprises engaged in									
	R&D	industrial design and engineering	acquisition of machinery and equipment	acquisition of new technology	of which acquisition of patent rights and licences	acquisition of software	other types of pre-production	personnel training	market research	other innovative activities
Kemerov Region	18.9	16.2	70.3	10.8	2.7	29.7	10.8	16.2	2.7	10.8
Novosibirsk Region	38.7	24.7	43.0	4.3	2.2	22.6	9.7	14.0	4.3	14.0
Omsk Region	53.2	19.1	48.9	6.4	6.4	34.0	12.8	27.7	10.6	21.3
Tomsk Region	61.8	9.1	61.8	14.5	12.7	29.1	16.4	21.8	7.3	10.9
Far Eastern Federal District	27.2	6.7	58.3	5.6	3.3	29.4	8.9	15.0	2.8	17.8
Republic of Sakha (Yakutia)	38.7	9.7	58.1	9.7	6.5	29.0	6.5	16.1	6.5	29.0
Kamchatka Krai	26.7	–	53.3	6.7	–	26.7	–	26.7	–	20.0
Primorye Krai	21.4	9.5	61.9	–	–	28.6	14.3	9.5	7.1	14.3
Khabarovsk Krai	16.7	6.7	70.0	3.3	3.3	50.0	10.0	26.7	–	16.7
Amur Region	50.0	5.6	55.6	16.7	11.1	11.1	5.6	22.2	–	22.2
Magadan Region	20.0	5.0	50.0	10.0	5.0	10.0	20.0	–	–	10.0
Sakhalin Region	16.7	–	50.0	–	–	33.3	–	8.3	–	16.7
Jewish Autonomous Region	40.0	–	60.0	–	–	20.0	–	–	–	20.0
Chukotka Autonomous District	28.6	14.3	42.9	–	–	57.1	–	14.3	–	–
Crimean Federal District	28.6	42.9	57.1	14.3	14.3	57.1	–	–	–	–
Republic of Crimea	33.3	50.0	66.7	16.7	16.7	50.0	–	–	–	–
Sevastopol	–	–	–	–	–	100	–	–	–	–

6.3. SALES OF INNOVATIVE GOODS AND SERVICES

	Sales of innovative goods and services: mining and quarrying, manufacturing, electricity, gas and water supply				Sales of innovative goods and services: communication, computer and information technology-related activities, research and development, other services of the business economy			
	Million roubles		As a percentage of total goods and services sales		Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014	2013	2014	2013	2014
Russian Federation	3072530.8	3037407.3	8.9	8.2	435335.2	542516.5	11.2	12.8
Central Federal District	930990.5	783922.3	11.1	8.4	233111.9	307248.0	12.9	15.4
Belgorod Region	19225.8	20786.8	4.1	4.1	2020.7	2311.4	12.0	12.3
Bryansk Region	6476.3	8131.1	5.7	7.1	178.5	181.2	1.6	1.5
Vladimir Region	17216.0	15605.5	7.1	6.2	7613.9	7176.6	32.7	32.4
Voronezh Region	4843.4	9999.4	1.9	3.5	8677.5	14743.0	20.3	25.4
Ivanovo Region	440.6	757.4	0.5	1.0	22.5	37.8	0.3	0.4
Kaluga Region	8100.8	3973.8	2.0	0.8	7824.0	9750.4	27.7	32.3
Kostroma Region	1863.4	2083.1	1.7	1.8	408.7	421.7	6.3	5.6
Kursk Region	8539.3	13329.7	4.5	6.9	52.0	33.5	0.4	0.3
Lipetsk Region	54550.9	63078.8	13.6	14.0	309.6	203.3	2.5	1.6
Moscow Region	148103.2	150875.5	9.4	8.6	89435.8	117583.7	30.0	35.2
Oryol Region	1133.4	858.4	1.5	1.1	10.4	26.7	0.1	0.4
Ryazan Region	5693.1	6648.2	2.9	3.2	237.8	645.4	1.9	4.0
Smolensk Region	4803.5	10349.9	2.8	6.1	530.7	88.9	6.1	0.9
Tambov Region	2567.9	6172.9	3.3	7.0	56.4	105.1	0.6	1.0
Tver Region	17226.1	3285.6	7.8	1.4	1044.7	1204.0	5.6	6.6
Tula Region	34177.1	41315.1	9.7	10.0	1201.6	566.2	6.9	3.1
Yaroslavl Region	21078.2	23387.9	9.4	10.0	1734.2	3413.1	8.4	15.8
Moscow	574951.7	403283.1	17.8	11.0	111752.9	148756.0	8.9	10.8

(continued)

	Sales of innovative goods and services: mining and quarrying, manufacturing, electricity, gas and water supply				Sales of innovative goods and services: communication, computer and information technology-related activities, research and development, other services of the business economy			
	Million roubles		As a percentage of total goods and services sales		Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014	2013	2014	2013	2014
Northwestern Federal District	352295.0	303880.4	8.9	7.8	57455.4	50232.6	13.1	10.8
Republic of Karelia	136.2	90.3	0.1	0.1	73.7	103.2	1.4	1.6
Komi Republic	22253.6	23073.7	5.4	5.5	93.2	117.6	0.4	0.6
Arkhangelsk Region	132620.1	5194.6	30.0	1.4	112.1	216.4	0.7	1.0
Nenets Autonomous District	—	—	—	—	—	—	—	—
Vologda Region	17317.5	78988.2	4.5	19.1	0.4	150.3	—	1.3
Kaliningrad Region	289.0	188.6	0.1	0.1	106.9	188.0	1.4	2.1
Leningrad Region	13269.2	31983.5	2.7	5.9	807.7	793.1	9.1	7.2
Murmansk Region	508.1	4863.1	0.3	2.4	1307.8	3436.6	7.0	13.1
Novgorod Region	4224.6	3439.3	3.5	2.7	1751.9	1396.5	21.9	20.6
Pskov Region	541.7	348.4	1.0	0.7	3.1	—	0.4	—
Saint-Petersburg	161135.1	155710.8	11.4	11.9	53198.6	43830.9	15.6	12.4
Southern Federal District	57954.8	81356.6	3.2	4.2	12327.1	21488.8	5.4	10.0
Republic of Adygeya	2529.4	2505.2	11.2	10.2	3.4	12.7	0.1	0.5
Republic of Kalmykia	—	—	—	—	2.5	3.7	0.3	0.4
Krasnodar Krai	827.3	7643.0	0.2	1.3	1340.6	2139.0	1.2	2.4
Astrakhan Region	2604.9	8477.7	1.7	4.9	441.0	520.7	2.9	4.5
Volgograd Region	4566.0	3871.1	0.8	0.7	1751.1	9114.3	5.7	20.0
Rostov Region	47427.1	58859.6	8.4	10.5	8788.4	9698.4	12.7	14.6

(continued)

	Sales of innovative goods and services: mining and quarrying, manufacturing, electricity, gas and water supply				Sales of innovative goods and services: communication, computer and information technology-related activities, research and development, other services of the business economy			
	Million roubles		As a percentage of total goods and services sales		Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014	2013	2014	2013	2014
North Caucasian Federal District	23611.0	27351.0	7.5	8.7	278.8	610.5	0.5	1.2
Republic of Dagestan	20.9	116.6	0.2	1.1	0.4	3.3	–	0.03
Republic of Ingushetia	–	–	–	–	–	6.1	–	0.3
Kabardino-Balkar Republic	901.6	700.8	4.0	2.6	23.8	51.4	0.5	1.1
Karachai-Cherkess Republic	170.1	–	0.4	–	5.0	19.7	0.2	0.7
Republic of North Ossetia – Alania	–	–	–	–	9.2	19.1	0.2	0.3
Chechen Republic	–	–	–	–	–	103.8	–	22.3
Stavropol Krai	22518.4	26533.6	10.8	12.1	240.2	407.1	0.9	1.6
Volga Federal District	1054607.1	1081082.1	14.2	13.6	74035.6	98463.2	13.6	16.8
Republic of Bashkortostan	70015.0	107932.9	6.0	8.3	4666.8	3938.8	8.7	5.9
Republic of Mari El	1505.1	9882.2	2.3	11.0	46.5	43.5	1.0	0.8
Republic of Mordovia	28382.0	29329.5	25.0	27.4	464.4	171.7	6.4	6.6
Republic of Tatarstan	313872.3	332333.4	22.0	21.5	8447.6	5725.1	8.4	5.6
Udmurt Republic	15563.1	42601.9	4.9	11.6	347.9	403.7	2.2	2.6
Chuvash Republic	13706.2	15568.8	11.4	12.4	2428.0	1170.8	17.1	8.9
Perm Krai	174431.0	98947.3	16.5	9.0	12473.0	10068.2	19.3	17.9
Kirov Region	9593.3	11238.2	7.2	7.5	218.3	107.9	1.9	0.9
Nizhny Novgorod Region	149516.0	160701.4	17.5	18.2	23154.5	54980.3	23.1	41.5
Orenburg Region	8814.8	6808.0	1.4	1.1	55.5	80.9	0.3	0.3
Penza Region	4763.8	3873.5	4.3	3.8	4755.0	4294.0	27.5	27.6

(continued)

	Sales of innovative goods and services: mining and quarrying, manufacturing, electricity, gas and water supply				Sales of innovative goods and services: communication, computer and information technology-related activities, research and development, other services of the business economy			
	Million roubles		As a percentage of total goods and services sales		Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014	2013	2014	2013	2014
Samara Region	225226.0	231868.5	23.4	21.7	13740.8	13711.0	16.9	14.8
Saratov Region	11431.9	7473.6	3.7	2.4	1748.8	1011.3	5.7	3.7
Ulyanovsk Region	27786.5	22523.1	16.2	11.9	1488.6	2756.0	6.8	13.0
Ural Federal District	169079.6	146553.2	2.5	2.1	20154.5	22820.0	5.9	6.5
Kurgan Region	2982.7	1910.4	3.7	2.6	492.7	165.9	5.9	2.5
Sverdlovsk Region	83773.0	74796.1	6.1	5.3	12795.8	14331.4	10.8	11.6
Tyumen Region	9987.0	22244.1	0.2	0.5	4158.0	4827.3	2.4	2.8
Khanty-Mansi Autonomous District – Yugra	6654.4	7512.3	0.2	0.3	352.6	187.5	0.7	0.3
Yamalo-Nenets Autonomous District	308.4	264.1	–	–	55.8	171.0	0.4	1.0
Chelyabinsk Region	72336.8	47602.6	8.1	4.4	2708.0	3495.3	6.4	7.3
Siberian Federal District	120003.9	146453.8	2.9	3.0	31358.7	39571.4	9.1	8.7
Republic of Altai	–	–	–	–	3.9	10.3	0.3	0.7
Republic of Buryatia	5704.6	10979.6	6.5	11.5	27.5	35.6	0.4	0.5
Republic of Tyva	–	–	–	–	0.01	1.4	0.0	0.1
Republic of Khakassia	–	62.0	–	0.1	28.5	28.0	0.6	0.03
Altai Krai	8492.6	9611.1	4.0	4.4	351.1	482.7	2.0	2.6
Zabaikalye Krai	7191.1	7564.3	7.4	8.6	26.7	592.7	0.2	2.5
Krasnoyarsk Krai	31293.8	20339.5	3.2	1.8	22581.0	29480.6	22.7	28.2
Irkutsk Region	3520.5	10775.5	0.5	1.7	1417.3	472.7	3.6	1.1
Kemerov Region	3108.2	21144.4	0.4	1.6	134.7	201.8	0.4	0.6

(continued)

	Sales of innovative goods and services: mining and quarrying, manufacturing, electricity, gas and water supply				Sales of innovative goods and services: communication, computer and information technology-related activities, research and development, other services of the business economy			
	Million roubles		As a percentage of total goods and services sales		Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014	2013	2014	2013	2014
Novosibirsk Region	31546.4	35114.8	10.7	10.9	2285.9	3725.1	3.3	5.5
Omsk Region	20843.5	22328.4	3.6	3.4	1951.5	1985.7	6.7	6.7
Tomsk Region	8303.2	8534.3	3.1	2.9	2550.5	2554.9	10.3	11.5
Far Eastern Federal District	363988.8	466656.8	25.0	26.7	6613.3	2075.1	5.4	1.6
Republic of Sakha (Yakutia)	7584.4	5897.6	2.5	1.6	1784.7	246.7	9.6	1.4
Kamchatka Krai	56.4	11.5	0.2	–	471.8	583.5	5.5	6.9
Primorye Krai	238.2	380.7	0.1	0.2	2011.6	403.6	7.0	1.4
Khabarovsk Krai	23402.5	29262.5	12.9	14.0	1123.6	308.8	3.9	1.1
Amur Region	5088.4	4925.6	5.0	5.0	229.9	317.3	2.1	2.7
Magadan Region	5245.6	–	9.3	–	869.7	49.7	16.9	0.6
Sakhalin Region	321843.7	426148.3	59.9	62.4	23.8	124.9	0.1	0.5
Jewish Autonomous Region	–	–	–	–	0.4	40.4	0.03	3.0
Chukotka Autonomous District	529.7	30.6	1.5	–	97.8	–	10.4	–
Crimean Federal District	...	151.2	...	0.7	...	7.0	...	2.7
Republic of Crimea	...	151.2	...	0.7	...	–	...	–
Sevastopol	...	–	...	–	...	7.0	...	33.5

6.4. ENTERPRISES TAKING PART IN JOINT R&D PROJECTS

	Enterprises taking part in joint R&D projects					
	as a percentage of all enterprises		as a percentage of enterprises engaged in technological innovation		as a percentage of enterprises not engaged in technological innovation	
	2013	2014	2013	2014	2013	2014
Mining and quarrying, manufacturing, electricity, gas and water supply						
Russian Federation	4.0	3.8	33.8	32.2	0.8	0.8
Central Federal District	4.2	3.9	34.5	31.7	0.8	0.7
Belgorod Region	4.5	4.4	30.6	29.7	1.1	0.8
Bryansk Region	5.9	4.7	45.2	39.3	1.7	1.1
Vladimir Region	4.6	4.3	34.1	27.9	0.4	0.4
Voronezh Region	2.4	3.0	21.6	23.8	0.3	0.3
Ivanovo Region	1.4	–	20.0	–	–	–
Kaluga Region	4.3	3.9	30.6	28.1	0.7	1.1
Kostroma Region	2.1	2.8	36.4	42.9	–	–
Kursk Region	3.1	1.7	26.3	14.3	0.6	0.6
Lipetsk Region	4.7	3.3	21.6	11.9	–	0.7
Moscow Region	3.5	2.7	35.8	29.9	1.0	0.4
Oryol Region	3.8	2.8	23.8	15.0	1.2	1.3
Ryazan Region	5.8	5.5	50.0	41.7	–	1.4
Smolensk Region	3.7	3.6	52.9	44.4	0.4	0.4
Tambov Region	2.8	3.5	28.0	33.3	–	–
Tver Region	2.0	1.8	23.5	28.0	–	–
Tula Region	5.4	7.1	32.6	44.4	1.3	0.8
Yaroslavl Region	7.0	7.5	45.7	50.0	1.6	2.5
Moscow	7.6	7.7	43.8	40.4	1.7	1.9

(continued)

	Enterprises taking part in joint R&D projects					
	as a percentage of all enterprises		as a percentage of enterprises engaged in technological innovation		as a percentage of enterprises not engaged in technological innovation	
	2013	2014	2013	2014	2013	2014
Northwestern Federal District	3.7	3.3	35.6	30.8	0.7	0.8
Republic of Karelia	4.3	4.7	50.0	100	2.2	2.4
Komi Republic	0.9	–	12.5	–	–	–
Arkhangelsk Region	1.9	1.9	20.0	8.3	1.2	1.6
Nenets Autonomous District	–	–	–	–	–	–
Vologda Region	2.9	3.6	30.0	46.2	0.5	1.0
Kaliningrad Region	1.2	0.8	16.7	50.0	0.6	0.4
Leningrad Region	4.5	3.7	42.1	36.4	0.6	0.6
Murmansk Region	2.8	3.2	23.1	30.8	0.8	0.7
Novgorod Region	3.1	3.9	33.3	50.0	1.3	0.7
Pskov Region	1.5	1.2	20.0	11.8	–	–
Saint-Petersburg	7.2	6.0	45.5	35.4	0.8	1.0
Southern Federal District	2.4	2.4	33.1	27.8	0.2	0.2
Republic of Adygeya	3.6	2.0	40.0	33.3	–	–
Republic of Kalmykia	–	–	–	–	–	–
Krasnodar Krai	1.9	2.4	29.0	30.4	0.5	0.5
Astrakhan Region	1.6	0.5	16.7	4.5	–	–
Volgograd Region	2.6	2.4	36.4	38.5	–	0.2
Rostov Region	3.1	3.1	39.1	29.2	0.2	–
North Caucasian Federal District	1.7	1.9	31.6	41.2	0.1	–
Republic of Dagestan	3.2	3.2	50.0	66.7	1.6	–
Republic of Ingushetia	–	–	–	–	–	–
Kabardino-Balkar Republic	3.3	3.4	37.5	60.0	–	–
Karachai-Cherkess Republic	–	–	–	–	–	–

(continued)

	Enterprises taking part in joint R&D projects					
	as a percentage of all enterprises		as a percentage of enterprises engaged in technological innovation		as a percentage of enterprises not engaged in technological innovation	
	2013	2014	2013	2014	2013	2014
Republic of North Ossetia – Alania	2.6	1.4	66.7	33.3	–	–
Chechen Republic	–	–	–	–	–	–
Stavropol Krai	1.7	2.3	24.0	34.8	–	–
Volga Federal District	5.0	4.7	34.0	32.2	0.9	0.8
Republic of Bashkortostan	4.3	3.9	30.0	34.4	0.9	0.5
Republic of Mari El	2.2	1.5	15.4	20.0	0.8	–
Republic of Mordovia	5.6	6.9	23.3	34.2	1.2	0.6
Republic of Tatarstan	8.1	8.8	36.0	37.3	1.1	1.4
Udmurt Republic	5.1	5.3	38.9	33.3	0.4	0.4
Chuvash Republic	8.3	7.3	30.9	23.8	0.6	0.6
Perm Krai	5.9	6.7	43.1	46.4	0.7	1.2
Kirov Region	3.5	3.1	30.8	25.0	1.0	0.7
Nizhny Novgorod Region	5.7	4.9	34.0	30.2	0.9	0.9
Orenburg Region	2.4	2.8	21.9	18.2	–	0.8
Penza Region	7.1	3.4	34.6	16.0	1.2	0.5
Samara Region	3.3	3.1	41.2	39.7	0.7	0.4
Saratov Region	5.7	4.1	47.1	35.9	2.4	1.0
Ulyanovsk Region	2.7	2.7	30.0	38.1	0.3	0.8
Ural Federal District	5.3	4.9	38.3	39.3	1.9	1.7
Kurgan Region	3.9	2.1	21.4	7.7	2.1	1.5
Sverdlovsk Region	9.3	7.2	52.6	47.6	3.9	3.0
Tyumen Region	2.6	2.5	26.3	25.9	0.7	0.6
Khanty-Mansi Autonomous District – Yugra	1.6	1.4	14.8	16.7	0.6	0.6
Yamalo-Nenets Autonomous District	6.2	6.9	75.0	53.8	1.7	1.0
Chelyabinsk Region	4.3	6.0	35.2	50.9	1.1	1.5

(continued)

	Enterprises taking part in joint R&D projects					
	as a percentage of all enterprises		as a percentage of enterprises engaged in technological innovation		as a percentage of enterprises not engaged in technological innovation	
	2013	2014	2013	2014	2013	2014
Siberian Federal District	3.4	3.5	32.4	33.3	0.7	0.8
Republic of Altai	7.9	6.7	25.0	37.5	3.3	0.0
Republic of Buryatia	0.8	0.8	–	10.0	0.9	0.0
Republic of Tyva	1.7	3.8	–	–	1.8	3.8
Republic of Khakassia	–	–	–	–	–	–
Altai Krai	2.7	2.5	20.8	17.3	0.3	0.5
Zabaikalye Krai	0.9	1.0	20.0	16.7	0.5	0.5
Krasnoyarsk Krai	5.5	5.2	36.5	42.0	0.5	0.7
Irkutsk Region	3.8	3.7	39.3	48.1	1.1	0.9
Kemerov Region	2.6	3.5	45.5	33.3	0.6	1.5
Novosibirsk Region	3.0	2.8	30.0	30.4	0.5	0.5
Omsk Region	5.1	4.6	46.4	40.0	1.0	0.7
Tomsk Region	5.3	5.8	36.7	44.8	0.5	–
Far Eastern Federal District	2.4	2.7	18.8	23.5	0.8	0.6
Republic of Sakha (Yakutia)	2.7	3.0	27.8	33.3	0.5	–
Kamchatka Krai	1.6	4.8	–	75.0	1.8	–
Primorye Krai	2.9	2.9	17.4	20.0	1.4	0.9
Khabarovsk Krai	4.0	6.0	26.3	35.3	1.3	2.7
Amur Region	2.7	1.4	33.3	25.0	0.7	–
Magadan Region	1.3	1.1	5.9	7.1	–	–
Sakhalin Region	–	–	–	–	–	–
Jewish Autonomous Region	3.4	–	100	–	–	–
Chukotka Autonomous District	–	–	–	–	–	–

(continued)

	Enterprises taking part in joint R&D projects					
	as a percentage of all enterprises		as a percentage of enterprises engaged in technological innovation		as a percentage of enterprises not engaged in technological innovation	
	2013	2014	2013	2014	2013	2014
Crimean Federal District	...	7.3	...	66.7	...	–
Republic of Crimea	...	9.1	...	66.7	...	–
Sevastopol	...	–	...	–	...	–
Communication, computer and information technology-related activities, research and development, other services of the business economy						
Russian Federation	5.3	5.0	44.1	43.0	2.1	1.9
Central Federal District	6.0	6.3	50.1	52.6	1.7	1.7
Belgorod Region	1.6	0.8	20.0	14.3	0.8	–
Bryansk Region	0.5	0.4	12.5	–	–	0.4
Vladimir Region	3.6	5.3	75.0	71.4	–	–
Voronezh Region	5.5	3.8	62.5	40.0	0.4	0.7
Ivanovo Region	2.9	1.3	25.0	–	0.8	1.4
Kaluga Region	7.1	5.8	77.8	77.8	3.5	2.5
Kostroma Region	0.6	–	16.7	–	–	–
Kursk Region	4.5	3.1	50.0	42.9	2.7	0.8
Lipetsk Region	1.1	1.1	33.3	25.0	–	–
Moscow Region	6.4	6.0	58.2	66.7	2.2	1.2
Oryol Region	–	0.7	–	33.3	–	–
Ryazan Region	4.8	4.4	50.0	23.1	1.3	1.3
Smolensk Region	1.7	1.6	40.0	50.0	–	–
Tambov Region	1.2	1.7	15.4	21.4	0.4	0.5
Tver Region	6.2	5.2	47.4	38.9	1.3	1.7
Tula Region	2.5	2.8	18.2	33.3	0.9	–
Yaroslavl Region	4.6	4.7	41.7	42.9	2.2	1.3
Moscow	14.3	17.3	54.8	63.0	4.2	5.8

(continued)

	Enterprises taking part in joint R&D projects					
	as a percentage of all enterprises		as a percentage of enterprises engaged in technological innovation		as a percentage of enterprises not engaged in technological innovation	
	2013	2014	2013	2014	2013	2014
Northwestern Federal District	7.7	6.4	53.6	46.2	2.4	2.1
Republic of Karelia	11.4	9.8	80.0	50.0	6.8	5.4
Komi Republic	0.8	1.0	–	–	0.9	1.1
Arkhangelsk Region	3.7	2.1	41.7	44.4	1.5	0.4
Nenets Autonomous District	–	–	–	–	–	–
Vologda Region	1.4	1.3	–	–	1.4	1.4
Kaliningrad Region	2.1	1.6	25.0	40.0	1.1	0.6
Leningrad Region	5.1	4.9	57.1	50.0	–	2.6
Murmansk Region	4.4	3.7	29.4	13.3	1.4	2.9
Novgorod Region	5.6	4.2	54.5	40.0	1.5	0.9
Pskov Region	–	–	–	–	–	–
Saint-Petersburg	17.2	14.4	69.6	57.1	5.0	4.0
Southern Federal District	2.0	2.5	28.6	33.0	0.5	0.8
Republic of Adygeya	–	–	–	–	–	–
Republic of Kalmykia	–	–	–	–	–	–
Krasnodar Krai	1.9	2.3	43.5	40.0	0.3	1.1
Astrakhan Region	1.9	1.9	30.0	16.7	–	–
Volgograd Region	0.7	1.4	9.1	18.8	–	0.4
Rostov Region	3.5	4.3	35.5	48.3	1.2	1.2
North Caucasian Federal District	3.0	3.7	26.1	20.0	1.4	2.2
Republic of Dagestan	8.3	–	33.3	–	4.8	–
Republic of Ingushetia	–	–	–	–	–	–
Kabardino-Balkar Republic	–	6.4	–	–	–	7.0
Karachai-Cherkess Republic	8.1	5.6	–	–	8.6	6.1

(continued)

	Enterprises taking part in joint R&D projects					
	as a percentage of all enterprises		as a percentage of enterprises engaged in technological innovation		as a percentage of enterprises not engaged in technological innovation	
	2013	2014	2013	2014	2013	2014
Republic of North Ossetia – Alania	1.8	–	–	–	1.9	–
Chechen Republic	–	2.4	–	100	–	1.2
Stavropol Krai	5.0	6.1	50.0	45.5	–	1.1
Volga Federal District	4.3	3.9	42.1	36.9	1.4	1.3
Republic of Bashkortostan	6.0	3.6	46.4	34.5	2.1	1.1
Republic of Mari El	1.1	1.1	33.3	25.0	–	–
Republic of Mordovia	5.2	5.7	57.1	36.4	1.1	1.3
Republic of Tatarstan	10.2	10.5	46.2	47.1	3.4	4.1
Udmurt Republic	1.4	2.5	16.7	30.0	0.5	1.3
Chuvash Republic	2.4	1.2	25.0	8.0	0.7	–
Perm Krai	3.4	4.2	21.7	31.8	2.0	2.3
Kirov Region	1.4	0.9	21.4	13.3	–	–
Nizhny Novgorod Region	11.2	9.5	66.7	68.1	3.5	2.3
Orenburg Region	2.5	1.4	–	16.7	2.7	–
Penza Region	4.7	4.0	40.9	26.9	0.5	0.6
Samara Region	1.8	1.8	42.1	40.0	0.5	0.8
Saratov Region	2.8	2.7	50.0	25.0	1.3	1.8
Ulyanovsk Region	2.0	1.9	28.6	50.0	1.0	0.4
Ural Federal District	5.0	5.0	42.7	47.4	2.5	2.7
Kurgan Region	1.8	0.9	42.9	33.3	–	0.5
Sverdlovsk Region	11.9	11.5	63.2	66.7	7.0	7.0
Tyumen Region	2.3	2.8	25.0	31.0	1.1	1.4
Khanty-Mansi Autonomous District – Yugra	1.3	1.1	14.3	33.3	0.9	0.4
Yamalo-Nenets Autonomous District	0.9	2.0	33.3	33.3	–	1.0
Chelyabinsk Region	1.7	2.7	25.0	38.5	0.4	1.1

(continued)

	Enterprises taking part in joint R&D projects					
	as a percentage of all enterprises		as a percentage of enterprises engaged in technological innovation		as a percentage of enterprises not engaged in technological innovation	
	2013	2014	2013	2014	2013	2014
Siberian Federal District	6.8	5.6	40.1	39.2	4.0	3.0
Republic of Altai	1.4	—	8.3	—	—	—
Republic of Buryatia	7.0	7.7	50.0	42.9	3.8	4.8
Republic of Tyva	—	—	—	—	—	—
Republic of Khakassia	9.7	5.3	33.3	25.0	7.1	2.9
Altai Krai	5.1	3.8	27.3	25.0	3.2	1.7
Zabaikalye Krai	3.3	2.4	50.0	16.7	2.2	1.7
Krasnoyarsk Krai	8.6	6.2	39.4	37.5	6.5	4.1
Irkutsk Region	4.8	1.8	41.7	30.0	1.9	0.5
Kemerov Region	5.3	5.0	16.7	28.6	5.0	4.2
Novosibirsk Region	9.7	9.5	45.7	46.8	5.3	4.8
Omsk Region	3.1	2.7	38.9	35.3	1.0	1.0
Tomsk Region	10.9	10.9	60.0	61.5	4.0	3.8
Far Eastern Federal District	4.9	4.7	34.1	32.9	2.5	2.6
Republic of Sakha (Yakutia)	4.0	4.2	42.9	46.2	1.7	1.8
Kamchatka Krai	6.3	5.9	33.3	36.4	—	—
Primorye Krai	5.6	5.2	39.1	29.4	2.9	3.8
Khabarovsk Krai	3.1	6.3	8.3	15.4	2.6	5.2
Amur Region	4.7	4.7	37.5	40.0	2.9	2.5
Magadan Region	12.9	6.8	40.0	33.3	7.7	4.4
Sakhalin Region	3.6	1.3	33.3	33.3	2.9	—
Jewish Autonomous Region	2.0	4.3	33.3	25.0	—	2.3
Chukotka Autonomous District	9.1	11.1	33.3	50.0	—	—
Crimean Federal District	...	11.1	...	—	...	11.8
Republic of Crimea	...	25.0	...	—	...	25.0
Sevastopol	...	—	...	—	...	—

6.5. EXPENDITURE ON TECHNOLOGICAL INNOVATION

	Mining and quarrying, manufacturing, electricity, gas and water supply				Communication, computer and information technology-related activities, research and development, other services of the business economy			
	Million roubles		As a percentage of total goods and services sales		Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014	2013	2014	2013	2014
Russian Federation	746778.2	762774.1	2.2	2.1	365651.0	449123.0	9.4	10.6
Central Federal District	118002.5	112677.2	1.4	1.2	187196.6	265206.1	10.3	13.3
Belgorod Region	865.4	4065.8	0.2	0.8	242.0	43.0	1.4	0.2
Bryansk Region	1972.5	1119.3	1.7	1.0	107.7	126.9	1.0	1.1
Vladimir Region	2848.1	2893.0	1.2	1.1	1872.7	3013.6	8.0	13.6
Voronezh Region	3332.8	2964.9	1.3	1.0	4231.5	3804.9	9.9	6.6
Ivanovo Region	263.5	65.5	0.3	0.1	114.3	159.5	1.4	1.7
Kaluga Region	10536.2	5871.9	2.6	1.2	5038.7	7620.0	17.8	25.3
Kostroma Region	331.8	389.0	0.3	0.3	172.6	97.4	2.7	1.3
Kursk Region	7616.3	4408.9	4.0	2.3	94.3	136.9	0.8	1.1
Lipetsk Region	9713.4	11156.7	2.4	2.5	178.8	275.6	1.5	2.2
Moscow Region	21397.0	22017.5	1.4	1.3	59902.5	85676.1	20.1	25.7
Oryol Region	435.0	684.5	0.6	0.9	0.7	10.0	0.01	0.1
Ryazan Region	7012.5	9949.6	3.6	4.8	229.7	732.1	1.8	4.6
Smolensk Region	1171.8	1436.0	0.7	0.9	260.4	305.5	3.0	3.2
Tambov Region	1696.5	2076.7	2.2	2.4	145.3	264.3	1.7	2.4
Tver Region	4851.5	1612.7	2.2	0.7	1281.3	1481.2	6.8	8.1
Tula Region	9368.5	9932.3	2.7	2.4	152.4	67.8	0.9	0.4
Yaroslavl Region	11707.9	14518.3	5.2	6.2	1421.4	1430.3	6.9	6.6
Moscow	22881.7	17514.7	0.7	0.5	111750.4	159961.1	8.9	11.6

(continued)

	Mining and quarrying, manufacturing, electricity, gas and water supply				Communication, computer and information technology-related activities, research and development, other services of the business economy			
	Million roubles		As a percentage of total goods and services sales		Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014	2013	2014	2013	2014
Northwestern Federal District	111880.0	38595.3	2.8	1.0	52287.9	54321.3	11.9	11.6
Republic of Karelia	139.4	6.9	0.1	0.01	29.9	56.9	0.6	0.9
Komi Republic	1192.9	1713.4	0.3	0.4	348.4	49.5	1.5	0.2
Arkhangelsk Region	6930.7	3131.6	1.6	0.8	871.5	267.7	5.2	1.2
Nenets Autonomous District	19.8	2.5	0.01	0.001	0.4	13.0	0.01	0.2
Vologda Region	2078.0	2331.7	0.6	0.6	330.8	281.7	3.7	2.4
Kaliningrad Region	183.3	36.9	0.1	0.01	258.8	212.3	3.3	2.4
Leningrad Region	82814.2	6728.7	17.0	1.2	438.0	282.5	4.9	2.6
Murmansk Region	848.1	1433.4	0.4	0.7	854.1	815.5	4.6	3.1
Novgorod Region	2131.2	1910.9	1.8	1.5	595.9	534.4	7.4	7.9
Pskov Region	347.7	200.3	0.6	0.4	1.2	0.3	0.2	0.05
Saint-Petersburg	15214.3	21101.5	1.1	1.6	48559.2	51820.4	14.2	14.7
Southern Federal District	36773.1	58770.0	2.0	3.0	8396.9	8595.7	3.7	4.0
Republic of Adygeya	147.1	135.1	0.7	0.5	4.2	2.4	0.2	0.1
Republic of Kalmykia	–	–	–	–	8.7	15.2	1.1	1.7
Krasnodar Krai	13786.9	4413.5	2.7	0.7	2683.9	1176.0	2.5	1.3
Astrakhan Region	1069.6	3537.8	0.7	2.1	42.2	131.2	0.3	1.1
Volgograd Region	6296.4	38496.3	1.2	6.8	687.1	234.8	2.2	0.5
Rostov Region	15473.0	12187.3	2.7	2.2	4970.7	7036.1	7.2	10.6

(continued)

	Mining and quarrying, manufacturing, electricity, gas and water supply				Communication, computer and information technology-related activities, research and development, other services of the business economy			
	Million roubles		As a percentage of total goods and services sales		Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014	2013	2014	2013	2014
North Caucasian Federal District	4853.2	8006.6	1.5	2.5	743.6	1739.5	1.3	3.4
Republic of Dagestan	34.8	48.2	0.4	0.5	67.6	479.4	0.7	4.9
Republic of Ingushetia	–	–	–	–	–	77.3	–	4.3
Kabardino-Balkar Republic	623.6	179.2	2.8	0.7	22.4	42.5	0.4	0.9
Karachai-Cherkess Republic	–	–	–	–	171.5	69.7	6.2	2.4
Republic of North Ossetia – Alania	43.7	7.8	0.3	0.05	93.2	176.0	1.6	3.1
Chechen Republic	–	–	–	–	–	108.6	–	23.4
Stavropol Krai	4151.1	7771.4	2.0	3.6	388.8	785.9	1.5	3.1
Volga Federal District	223283.0	275837.2	3.0	3.5	61562.8	55470.9	11.3	9.4
Republic of Bashkortostan	15847.0	28163.0	1.4	2.2	2613.4	1846.8	4.9	2.8
Republic of Mari El	837.1	971.9	1.3	1.1	21.4	19.0	0.4	0.4
Republic of Mordovia	2810.5	5209.4	2.5	4.9	425.1	1107.6	5.9	42.7
Republic of Tatarstan	60326.3	92182.5	4.2	6.0	4110.2	3538.2	4.1	3.5
Udmurt Republic	4891.1	8200.6	1.5	2.2	37.4	169.0	0.2	1.1
Chuvash Republic	4652.5	4101.5	3.9	3.3	685.2	845.2	4.8	6.4
Perm Krai	26916.6	50690.4	2.6	4.6	10957.1	8040.6	16.9	14.3
Kirov Region	2808.4	2187.4	2.1	1.5	299.3	590.2	2.6	4.9
Nizhny Novgorod Region	42825.1	29704.6	5.0	3.4	18022.9	16122.8	18.0	12.2
Orenburg Region	4304.5	5184.4	0.7	0.9	231.3	66.3	1.1	0.3
Penza Region	1676.1	1662.1	1.5	1.6	4029.5	4695.8	23.3	30.2

(continued)

	Mining and quarrying, manufacturing, electricity, gas and water supply				Communication, computer and information technology-related activities, research and development, other services of the business economy			
	Million roubles		As a percentage of total goods and services sales		Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014	2013	2014	2013	2014
Samara Region	46598.4	40174.4	4.8	3.8	19243.6	17383.9	23.6	18.8
Saratov Region	6298.1	4251.6	2.1	1.4	488.5	578.0	1.6	2.1
Ulyanovsk Region	2491.3	3153.5	1.5	1.7	398.0	467.4	1.8	2.2
Ural Federal District	110337.1	103923.7	1.6	1.5	20579.9	19029.0	6.1	5.4
Kurgan Region	698.5	568.6	0.9	0.8	178.5	111.8	2.1	1.7
Sverdlovsk Region	28677.4	20347.5	2.1	1.5	12195.5	8487.3	10.3	6.9
Tyumen Region	53842.5	58817.2	1.2	1.3	4278.0	5166.9	2.5	3.0
Khanty-Mansi Autonomous District – Yugra	50922.4	54284.4	1.7	1.8	242.3	21.6	0.5	0.04
Yamalo-Nenets Autonomous District	1205.1	1433.3	0.1	0.2	140.9	82.5	0.9	0.5
Chelyabinsk Region	27118.7	24190.4	3.0	2.3	3927.8	5263.0	9.3	10.9
Siberian Federal District	101925.4	110558.4	2.4	2.3	30651.2	39755.4	8.9	8.8
Republic of Altai	19.7	465.7	0.7	12.9	3.6	2.3	0.2	0.2
Republic of Buryatia	724.1	641.8	0.8	0.7	231.0	282.8	2.9	3.6
Republic of Tyva	2.4	–	0.03	–	31.6	4.1	2.2	0.3
Republic of Khakassia	124.2	26.6	0.1	0.02	38.5	131.4	0.9	0.1
Altai Krai	1431.3	2204.9	0.7	1.0	422.0	449.3	2.4	2.4
Zabaikalye Krai	212.5	90.0	0.2	0.1	309.1	908.5	1.8	3.9
Krasnoyarsk Krai	46792.7	55658.5	4.9	4.9	20907.7	29060.1	21.0	27.8
Irkutsk Region	18084.1	20182.2	2.5	3.1	1216.7	802.7	3.1	1.9
Kemerov Region	6537.3	976.2	0.8	0.1	125.1	208.2	0.4	0.6

(continued)

	Mining and quarrying, manufacturing, electricity, gas and water supply				Communication, computer and information technology-related activities, research and development, other services of the business economy			
	Million roubles		As a percentage of total goods and services sales		Million roubles		As a percentage of total goods and services sales	
	2013	2014	2013	2014	2013	2014	2013	2014
Novosibirsk Region	4165.0	2911.5	1.4	0.9	2211.0	1536.9	3.2	2.3
Omsk Region	18378.5	23634.8	3.1	3.6	2553.9	3295.5	8.8	11.2
Tomsk Region	5453.6	3766.2	2.0	1.3	2600.9	3073.7	10.5	13.8
Far Eastern Federal District	39723.9	54147.4	2.7	3.1	4232.0	5005.0	3.5	3.8
Republic of Sakha (Yakutia)	3805.7	3531.0	1.3	0.9	69.9	53.2	0.4	0.3
Kamchatka Krai	175.3	58.7	0.5	0.1	215.7	511.2	2.5	6.1
Primorye Krai	6602.9	762.2	3.3	0.4	1188.4	1090.5	4.2	3.8
Khabarovsk Krai	4947.9	4206.7	2.7	2.0	1930.9	2317.1	6.7	8.3
Amur Region	3097.0	3309.5	3.0	3.3	312.3	380.3	2.9	3.3
Magadan Region	234.3	210.1	0.4	0.4	93.4	35.4	1.8	0.4
Sakhalin Region	20816.6	42045.4	3.9	6.2	176.9	542.2	0.9	2.1
Jewish Autonomous Region	5.2	0.4	0.1	0.01	220.9	63.6	16.8	4.7
Chukotka Autonomous District	38.9	23.4	0.1	0.04	23.6	11.5	2.5	0.9
Crimean Federal District	...	258.3	...	1.1	...	0.1	...	0.04
Republic of Crimea	...	258.3	...	1.2	...	—	...	—
Sevastopol	...	—	...	—	...	0.1	...	0.5

6.6. PERCENTAGE DISTRIBUTION OF EXPENDITURE ON TECHNOLOGICAL INNOVATION BY TYPE OF INNOVATIVE ACTIVITY: 2014

	R&D	Industrial design and engineering	Acquisition of machinery and equipment	Acquisition of new technology	Of which acquisition of patent rights and licences	Acquisition of software	Other types of pre-production	Personnel training	Market research	Other innovative activities
Mining and quarrying, manufacturing, electricity, gas and water supply										
Russian Federation	25.0	7.5	47.2	2.2	0.9	1.0	8.4	0.2	0.1	8.5
Central Federal District	27.0	9.5	45.6	3.7	3.3	1.4	3.1	0.3	0.2	9.2
Belgorod Region	8.3	2.1	22.6	0.7	–	0.1	1.4	0.01	0.1	64.7
Bryansk Region	19.3	17.0	62.0	0.5	0.01	0.1	0.8	0.01	0.4	–
Vladimir Region	33.9	0.6	56.7	4.7	4.7	1.0	2.2	0.2	0.8	0.01
Voronezh Region	22.8	8.8	58.1	0.01	0.001	1.8	7.4	0.04	0.0	1.0
Ivanovo Region	26.9	40.5	25.8	1.2	–	4.3	0.1	1.0	0.3	–
Kaluga Region	10.6	1.7	39.8	46.1	45.9	1.0	0.5	0.2	0.01	0.1
Kostroma Region	11.8	1.3	56.2	–	–	0.8	29.2	0.1	–	0.6
Kursk Region	10.7	1.1	85.6	0.1	–	0.5	0.4	0.2	1.5	0.01
Lipetsk Region	8.1	7.4	83.1	0.3	0.03	0.2	0.2	0.1	0.2	0.5
Moscow Region	40.9	1.2	43.0	3.9	3.8	1.3	1.3	0.2	0.2	8.1
Oryol Region	3.2	27.6	68.3	–	–	0.1	0.3	0.1	0.3	0.1
Ryazan Region	8.3	0.2	90.4	0.1	0.1	0.2	0.4	0.1	0.03	0.3
Smolensk Region	36.4	14.2	39.8	0.1	0.02	1.2	8.0	0.1	–	0.2
Tambov Region	3.7	74.0	18.9	0.02	–	0.1	1.8	1.2	0.2	0.02
Tver Region	53.5	7.3	21.5	0.5	–	10.9	5.8	0.0	0.5	0.003
Tula Region	46.5	28.7	16.8	0.4	–	1.2	4.9	0.1	0.01	1.5
Yaroslavl Region	20.1	1.6	33.9	0.002	0.002	0.5	5.1	0.01	0.01	38.8
Moscow	41.8	21.6	22.6	1.7	0.5	4.0	6.6	1.0	0.5	0.1

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	R&D	Industrial design and engineering	Acquisition of machinery and equipment	Acquisition of new technology	Of which acquisition of patent rights and licences	Acquisition of software	Other types of pre-production	Personnel training	Market research	Other innovative activities
Republic of North Ossetia – Alania	42.6	32.3	24.8	–	–	–	–	–	0.2	–
Chechen Republic	–	–	–	–	–	–	–	–	–	–
Stavropol Krai	0.7	13.3	85.5	0.1	0.005	0.01	0.1	0.03	–	0.1
Volga Federal District	28.8	10.6	36.4	4.0	0.9	1.0	10.4	0.1	0.03	8.5
Republic of Bashkortostan	1.9	4.6	75.4	0.5	0.4	5.5	9.9	0.1	0.01	2.1
Republic of Mari El	9.8	17.0	71.6	–	–	0.1	1.6	0.05	–	–
Republic of Mordovia	5.6	2.5	15.8	2.0	–	0.4	72.3	0.04	0.001	1.4
Republic of Tatarstan	51.5	2.0	23.1	9.4	1.0	0.2	3.2	0.04	0.02	10.6
Udmurt Republic	0.6	16.3	68.0	5.3	0.1	0.8	8.8	0.1	0.004	0.1
Chuvash Republic	25.5	0.9	58.4	0.1	0.1	0.6	11.1	0.1	0.01	3.3
Perm Krai	13.9	33.0	28.0	0.02	0.01	0.4	21.8	0.1	0.003	2.9
Kirov Region	14.4	1.5	44.8	–	–	0.1	35.4	0.01	0.01	3.8
Nizhny Novgorod Region	44.7	9.7	31.9	4.1	4.1	2.0	2.1	0.4	0.1	5.1
Orenburg Region	23.1	9.1	62.6	1.0	–	0.5	2.1	0.1	0.0	1.4
Penza Region	32.2	7.6	51.3	0.3	0.2	1.4	3.7	2.8	0.2	0.5
Samara Region	15.7	9.2	38.4	0.9	0.4	0.3	12.1	0.2	0.1	23.1
Saratov Region	23.6	1.5	70.8	0.7	0.7	2.0	0.5	0.04	0.01	0.9
Ulyanovsk Region	10.2	15.4	39.9	2.1	0.0	0.5	18.1	0.5	–	13.1
Ural Federal District	24.5	5.7	60.2	0.5	0.4	0.9	4.8	0.2	0.01	3.3
Kurgan Region	34.8	0.6	35.1	0.002	0.002	0.9	27.2	0.1	0.1	1.2
Sverdlovsk Region	13.0	3.3	70.6	2.5	2.2	2.3	4.6	0.6	0.02	3.2
Tyumen Region	30.5	4.7	56.3	0.001	0.0	0.5	6.4	0.1	–	1.4
Khanty-Mansi Autonomous District – Yugra	30.6	5.1	56.3	–	–	0.4	7.0	0.1	–	0.5
Yamalo-Nenets Autonomous District	45.5	0.3	15.3	0.1	–	4.1	–	0.2	–	34.6
Chelyabinsk Region	19.1	10.2	61.7	0.1	0.01	0.4	0.6	0.04	0.003	7.9

(continued)

	R&D	Industrial design and engineering	Acquisition of machinery and equipment	Acquisition of new technology	Of which acquisition of patent rights and licences	Acquisition of software	Other types of pre-production	Personnel training	Market research	Other innovative activities
Siberian Federal District	27.3	5.2	38.9	0.3	0.01	1.0	19.4	0.1	0.04	7.7
Republic of Altai	—	97.8	2.0	—	—	0.2	—	—	—	—
Republic of Buryatia	—	5.6	15.0	0.2	—	75.9	—	2.9	—	0.4
Republic of Tyva	—	—	—	—	—	—	—	—	—	—
Republic of Khakassia	3.5	—	96.5	—	—	—	—	—	—	—
Altai Krai	26.7	3.6	63.4	0.02	0.02	0.3	5.4	0.1	0.2	0.1
Zabaikalye Krai	0.1	2.8	77.4	—	—	17.4	2.3	—	—	—
Krasnoyarsk Krai	48.2	0.8	35.6	0.1	0.0	0.1	14.4	0.04	0.02	0.8
Irkutsk Region	1.4	3.7	79.4	1.0	—	1.6	12.4	0.1	0.001	0.5
Kemerov Region	1.6	2.3	53.7	0.8	0.01	5.5	21.8	0.2	0.0	14.1
Novosibirsk Region	16.6	37.7	37.4	2.3	0.01	1.2	2.7	0.3	0.4	1.3
Omsk Region	2.7	9.0	10.5	0.1	0.0	0.3	44.6	0.03	0.02	32.6
Tomsk Region	35.3	19.3	39.2	0.3	0.3	1.5	0.4	0.1	0.1	3.7
Far Eastern Federal District	7.1	0.4	84.0	0.003	0.0	0.7	0.5	0.3	0.03	6.9
Republic of Sakha (Yakutia)	4.1	3.2	43.7	—	—	6.9	0.1	0.2	0.3	41.6
Kamchatka Krai	—	—	49.7	—	—	—	—	0.2	—	50.0
Primorye Krai	27.5	4.9	48.1	—	—	1.2	9.9	0.1	0.8	7.6
Khabarovsk Krai	13.1	1.3	38.4	0.001	0.001	0.8	4.6	4.1	—	37.7
Amur Region	87.1	0.01	4.1	0.003	0.003	3.2	—	0.2	—	5.4
Magadan Region	33.4	—	62.3	0.7	—	0.1	3.1	—	—	0.4
Sakhalin Region	—	—	99.0	—	—	0.01	—	—	—	1.0
Jewish Autonomous Region	93.0	—	—	—	—	7.0	—	—	—	—
Chukotka Autonomous District	14.5	1.8	80.6	—	—	3.1	—	—	—	—

(continued)

	R&D	Industrial design and engineering	Acquisition of machinery and equipment	Acquisition of new technology	Of which acquisition of patent rights and licences	Acquisition of software	Other types of pre-production	Personnel training	Market research	Other innovative activities
Crimean Federal District	6.2	9.7	83.3	0.03	0.03	0.8	–	–	–	–
Republic of Crimea	6.2	9.7	83.3	0.03	0.03	0.8	–	–	–	–
Sevastopol	–	–	–	–	–	–	–	–	–	–
Communication, computer and information technology-related activities, research and development, other services of the business economy										
Russian Federation	74.9	3.4	12.5	0.7	0.05	1.2	5.2	0.1	0.1	1.9
Central Federal District	77.6	1.8	9.8	1.0	0.1	1.1	7.3	0.1	0.2	1.2
Belgorod Region	95.4	–	–	–	–	2.0	–	–	–	2.6
Bryansk Region	96.8	0.2	2.2	–	–	0.8	–	0.01	–	–
Vladimir Region	38.8	0.1	26.3	–	–	0.2	23.9	0.04	–	10.6
Voronezh Region	73.6	0.8	23.1	0.1	0.04	1.7	0.3	0.1	0.1	0.2
Ivanovo Region	69.1	0.2	25.5	0.3	–	0.1	0.1	0.3	4.5	–
Kaluga Region	78.5	8.4	11.9	0.0	0.0	0.8	–	0.1	0.3	–
Kostroma Region	76.5	–	6.2	–	–	1.3	–	0.3	–	15.7
Kursk Region	1.4	0.1	76.4	2.4	–	0.3	–	0.1	–	19.4
Lipetsk Region	6.6	–	8.4	–	–	0.02	–	–	–	85.0
Moscow Region	90.3	2.1	2.9	0.3	0.1	0.5	3.3	0.04	0.1	0.6
Oryol Region	30.6	–	69.4	–	–	–	–	–	–	–
Ryazan Region	59.1	0.03	7.9	–	–	0.1	32.7	0.1	–	–
Smolensk Region	50.5	0.02	47.0	–	–	0.1	2.4	0.01	–	–
Tambov Region	45.0	0.7	54.0	0.01	–	0.2	–	–	–	–
Tver Region	93.8	0.3	1.4	0.1	0.04	0.1	1.3	0.1	0.003	2.9
Tula Region	30.1	7.7	35.1	–	–	26.5	–	0.02	–	0.6
Yaroslavl Region	74.7	6.8	7.1	–	–	0.3	0.5	0.01	–	10.7
Moscow	71.9	1.4	12.7	1.4	0.03	1.5	9.7	0.1	0.3	1.1

(continued)

	R&D	Industrial design and engineering	Acquisition of machinery and equipment	Acquisition of new technology	Of which acquisition of patent rights and licences	Acquisition of software	Other types of pre-production	Personnel training	Market research	Other innovative activities
Northwestern Federal District	73.8	3.2	17.4	0.1	0.02	1.2	2.7	0.1	0.05	1.5
Republic of Karelia	81.8	–	6.7	–	–	10.3	0.7	0.1	–	0.4
Komi Republic	8.0	3.4	79.5	–	–	–	–	2.6	–	6.5
Arkhangelsk Region	90.5	–	6.3	0.01	–	2.6	–	–	0.4	0.2
Nenets Autonomous District	100	–	–	–	–	–	–	–	–	–
Vologda Region	28.4	–	51.1	–	–	0.2	–	0.2	–	20.0
Kaliningrad Region	89.4	–	10.6	–	–	0.1	–	0.03	–	–
Leningrad Region	46.8	–	28.9	–	–	0.01	–	0.01	–	24.3
Murmansk Region	93.4	–	3.5	1.3	1.3	0.2	–	0.02	–	1.6
Novgorod Region	82.9	–	14.4	0.02	0.02	2.5	0.01	0.2	–	–
Pskov Region	–	–	–	–	–	100	–	–	–	–
Saint-Petersburg	73.7	3.3	17.4	0.05	0.003	1.2	2.8	0.1	0.05	1.3
Southern Federal District	44.1	0.2	33.3	0.004	0.003	0.8	4.5	0.1	0.01	17.1
Republic of Adygeya	–	–	–	–	–	–	35.6	–	–	64.4
Republic of Kalmykia	–	–	8.4	–	–	5.6	78.6	–	7.4	–
Krasnodar Krai	33.6	1.6	12.7	0.01	0.01	0.8	14.6	0.1	–	36.7
Astrakhan Region	25.3	0.0	37.8	–	–	13.8	18.2	0.6	–	4.2
Volgograd Region	8.7	–	46.6	0.02	–	4.3	14.0	0.5	–	25.8
Rostov Region	47.5	–	36.3	0.003	0.003	0.4	2.0	0.04	–	13.8
North Caucasian Federal District	20.9	0.04	56.8	5.7	0.002	0.5	12.6	0.3	1.6	1.5
Republic of Dagestan	–	–	79.4	20.6	–	0.003	–	–	–	0.003
Republic of Ingushetia	–	–	98.6	–	–	–	–	–	–	1.4
Kabardino-Balkar Republic	–	–	53.1	–	–	–	30.2	0.5	–	16.2
Karachai-Cherkess Republic	–	–	86.6	–	–	–	13.4	–	–	–

(continued)

	R&D	Industrial design and engineering	Acquisition of machinery and equipment	Acquisition of new technology	Of which acquisition of patent rights and licences	Acquisition of software	Other types of pre-production	Personnel training	Market research	Other innovative activities
Republic of North Ossetia – Alania	15.2	–	44.4	–	–	0.1	23.7	–	16.5	–
Chechen Republic	48.9	–	47.0	0.4	–	0.5	–	3.2	–	–
Stavropol Krai	36.3	0.1	40.3	0.01	0.01	1.0	19.8	0.2	–	2.4
Volga Federal District	64.2	14.9	12.4	0.5	0.02	1.9	2.2	0.2	0.02	3.7
Republic of Bashkortostan	19.6	34.6	37.5	0.01	0.01	7.7	0.02	0.4	0.1	0.02
Republic of Mari El	47.2	–	8.8	–	–	0.4	7.7	–	–	35.9
Republic of Mordovia	44.2	1.8	23.1	–	–	27.3	0.9	–	–	2.7
Republic of Tatarstan	72.9	7.6	11.9	2.5	0.3	1.6	0.1	0.1	0.02	3.2
Udmurt Republic	2.6	–	16.6	0.03	0.03	0.6	1.3	0.1	–	78.8
Chuvash Republic	87.2	0.5	3.8	–	–	1.2	4.1	0.1	0.03	3.0
Perm Krai	27.7	56.0	9.6	2.0	0.001	2.9	–	0.4	0.001	1.3
Kirov Region	96.4	0.02	0.1	–	–	–	0.6	–	–	2.9
Nizhny Novgorod Region	72.1	4.1	14.3	0.01	0.001	0.9	2.2	0.2	0.03	6.2
Orenburg Region	5.5	5.8	84.7	–	–	0.2	3.7	0.2	–	–
Penza Region	42.9	45.7	7.2	0.5	–	0.2	0.6	0.1	0.1	2.9
Samara Region	83.2	0.002	9.6	0.01	–	0.8	4.5	0.1	–	1.8
Saratov Region	64.1	–	24.5	–	–	1.1	0.6	0.003	–	9.7
Ulyanovsk Region	35.0	0.1	34.1	–	–	2.4	0.5	0.1	–	27.9
Ural Federal District	75.8	1.5	18.7	0.1	0.1	1.4	2.2	0.1	0.003	0.3
Kurgan Region	99.0	0.4	0.3	–	–	0.2	–	–	0.1	–
Sverdlovsk Region	72.4	2.6	20.3	0.1	0.1	0.8	3.6	0.01	0.004	0.3
Tyumen Region	94.3	0.01	3.0	0.0	0.0	2.0	0.0	0.01	0.0	0.7
Khanty-Mansi Autonomous District – Yugra	31.4	3.0	28.4	–	–	35.8	–	1.4	–	0.01
Yamalo-Nenets Autonomous District	65.8	–	34.1	–	–	0.1	–	–	–	–
Chelyabinsk Region	62.8	1.3	31.9	–	–	1.7	2.1	0.2	0.003	0.02

(continued)

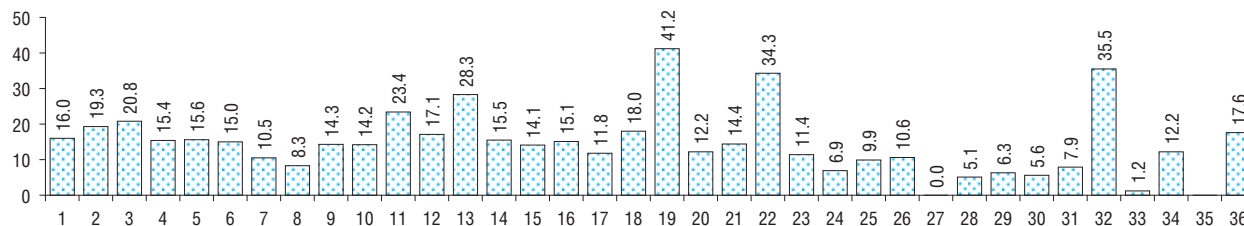
	R&D	Industrial design and engineering	Acquisition of machinery and equipment	Acquisition of new technology	Of which acquisition of patent rights and licences	Acquisition of software	Other types of pre-production	Personnel training	Market research	Other innovative activities
Siberian Federal District	90.7	0.4	5.5	0.1	0.05	0.5	0.4	0.1	0.01	2.4
Republic of Altai	9.2	–	33.2	3.3	–	53.5	–	0.9	–	–
Republic of Buryatia	1.2	0.004	86.6	–	–	1.9	–	0.2	–	10.1
Republic of Tyva	–	5.1	85.5	–	–	7.3	–	0.1	2.0	–
Republic of Khakassia	–	–	13.7	–	–	2.2	–	0.1	–	84.0
Altai Krai	83.2	0.001	5.8	–	–	2.6	8.2	0.1	–	0.2
Zabaikalye Krai	1.1	–	37.0	–	–	0.5	–	0.02	–	61.4
Krasnoyarsk Krai	98.7	0.4	0.2	–	–	0.2	–	0.01	0.01	0.4
Irkutsk Region	21.6	–	74.4	0.1	–	3.1	–	0.3	–	0.4
Kemerov Region	29.8	9.3	52.8	–	–	3.2	–	0.3	–	4.6
Novosibirsk Region	65.7	1.5	18.6	0.001	0.001	1.3	7.8	0.2	–	5.0
Omsk Region	89.9	–	7.0	0.6	0.6	1.6	–	0.2	0.03	0.7
Tomsk Region	90.3	–	8.1	0.01	0.01	0.2	0.7	0.1	0.003	0.5
Far Eastern Federal District	9.3	0.04	85.9	0.04	0.002	2.1	0.4	0.1	0.003	2.2
Republic of Sakha (Yakutia)	73.4	–	16.8	1.3	0.03	2.4	1.5	1.5	0.1	3.1
Kamchatka Krai	46.5	–	50.6	0.3	–	0.2	–	0.04	–	2.3
Primorye Krai	3.2	–	91.8	–	–	1.6	0.02	0.01	0.01	3.4
Khabarovsk Krai	0.8	0.1	96.6	–	–	2.2	0.2	0.1	–	–
Amur Region	18.3	–	76.1	0.03	0.01	–	2.0	0.1	–	3.5
Magadan Region	42.7	0.3	41.5	0.1	0.1	0.04	14.9	–	–	0.4
Sakhalin Region	4.7	–	82.5	–	–	5.8	–	0.01	–	7.0
Jewish Autonomous Region	40.5	–	49.6	–	–	–	–	–	–	10.0
Chukotka Autonomous District	–	–	82.2	–	–	16.3	–	1.5	–	–
Crimean Federal District	–	–	–	–	–	100	–	–	–	–
Republic of Crimea	–	–	–	–	–	–	–	–	–	–
Sevastopol	–	–	–	–	–	100	–	–	–	–



7. Ecological Innovation

7.1. ENTERPRISES ENGAGED IN ECOLOGICAL INNOVATION AS A PERCENTAGE OF ALL ENTERPRISES THAT HAD MARKET-READY INNOVATIONS DURING THE LAST THREE YEARS: 2014

Mining and quarrying, manufacturing, electricity, gas and water supply



1 – Total

2 – Mining and quarrying

3 – Mining and quarrying of energy producing materials

4 – Mining and quarrying, except energy producing materials

5 – Manufacturing

6 – High tech

7 – Manufacture of pharmaceuticals and pharmaceutical products

8 – Manufacture of office machinery and computers

9 – Manufacture of radio, television and communication equipment and apparatus

10 – Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks

11 – Manufacture of aircraft, including spacecraft

12 – Medium high tech

13 – Manufacture of chemicals and chemical products

14 – Manufacture of machinery and equipment

15 – Manufacture of electrical machinery and apparatus

16 – Manufacture of motor vehicles, trailers and semi-trailers

17 – Manufacture of other transport vehicles

18 – Medium low tech

19 – Manufacture of coke and refined petroleum products

20 – Manufacture of rubber and plastic products

21 – Manufacture of other non-metallic mineral products

22 – Manufacture of basic metals

23 – Manufacture of fabricated metal products

24 – Building and repair of ships and boats

25 – Low tech

26 – Manufacture of food products, including beverages

27 – Manufacture of tobacco products

28 – Manufacture of textiles

29 – Manufacture of wearing apparel, dressing and dyeing of fur

30 – Manufacture of leather, leather products and footwear

31 – Woodworking and manufacture of wood and of products of wood and cork, except furniture

32 – Manufacture of cellulose, wood pulp, paper and cardboard and products thereof

33 – Publishing and printing activities, reproduction of recorded media

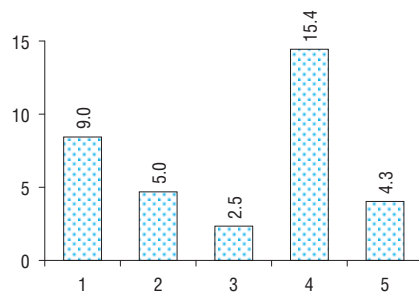
34 – Manufacture of furniture and other products n.e.c.

35 – Recycling of secondary raw materials

36 – Electricity, gas and water supply

(continued)

**Communication, computer and information technology-related activities,
research and development, other services of the business economy**



1 – Total

2 – Communication

3 – Computer and information technology-related activities

4 – Research and development

5 – Other services of the business economy

**7.2. ENTERPRISES HAVING INTRODUCED INNOVATIONS PROVIDING INCREASED ENVIRONMENTAL SAFETY
IN THE PROCESS OF PRODUCTION OF GOODS OR SERVICES: 2014**
(as a percentage of all enterprises engaged in ecological innovation)

	Reducing material costs per unit of goods and services output	Reducing power consumption per unit of goods and services output	Reducing carbon dioxide emission	Replacing materials with less hazardous or non-hazardous substitutes	Reducing environmental pollution (air, soil, water or noise pollution)	Recycling waste, water or materials
Mining and quarrying, manufacturing, electricity, gas and water supply						
Total	50.1	56.1	42.3	44.3	84.3	49.7
Mining and quarrying	30.8	53.8	46.2	30.8	92.3	53.8
Mining and quarrying of energy producing materials	20.0	50.0	45.0	20.0	90.0	50.0
Mining and quarrying, except energy producing materials	66.7	66.7	50.0	66.7	100	66.7
Manufacturing	52.0	56.9	45.1	43.8	83.5	54.4
High tech	41.3	57.1	41.3	42.9	77.8	39.7
Manufacture of pharmaceuticals and pharmaceutical products	—	—	50.0	66.7	50.0	16.7
Manufacture of office machinery and computers	100	100	—	—	100	100
Manufacture of radio, television and communication equipment and apparatus	62.5	68.8	43.8	37.5	87.5	43.8
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	52.0	68.0	40.0	48.0	76.0	36.0
Manufacture of aircraft, including spacecraft	13.3	46.7	40.0	33.3	80.0	46.7

(continued)

	Reducing material costs per unit of goods and services output	Reducing power consumption per unit of goods and services output	Reducing carbon dioxide emission	Replacing materials with less hazardous or non-hazardous substitutes	Reducing environmental pollution (air, soil, water or noise pollution)	Recycling waste, water or materials
Medium high tech	52.7	55.7	42.7	46.6	81.7	51.1
Manufacture of chemicals and chemical products	56.4	56.4	38.5	33.3	79.5	56.4
Manufacture of machinery and equipment	54.5	61.4	52.3	47.7	79.5	43.2
Manufacture of electrical machinery and apparatus	53.8	50.0	38.5	57.7	80.8	46.2
Manufacture of motor vehicles, trailers and semi-trailers	56.3	62.5	50.0	62.5	87.5	68.8
Manufacture of other transport vehicles	–	16.7	–	33.3	100	50.0
Medium low tech	51.5	54.4	48.5	40.8	86.4	66.0
Manufacture of coke and refined petroleum products	50.0	57.1	42.9	35.7	85.7	50.0
Manufacture of rubber and plastic products	72.7	54.5	81.8	72.7	100	72.7
Manufacture of other non-metallic mineral products	53.8	50.0	42.3	38.5	84.6	76.9
Manufacture of basic metals	47.1	55.9	44.1	29.4	88.2	79.4
Manufacture of fabricated metal products	50.0	62.5	56.3	56.3	75.0	37.5
Building and repair of ships and boats	–	–	–	–	100	–
Low tech	63.5	64.9	45.9	51.4	82.4	54.1
Manufacture of food products, including beverages	53.1	61.2	49.0	49.0	75.5	46.9
Manufacture of tobacco products	–	–	–	–	–	–
Manufacture of textiles	50.0	50.0	50.0	100	100	–
Manufacture of wearing apparel, dressing and dyeing of fur	100	100	–	–	–	100

(continued)

	Reducing material costs per unit of goods and services output	Reducing power consumption per unit of goods and services output	Reducing carbon dioxide emission	Replacing materials with less hazardous or non-hazardous substitutes	Reducing environmental pollution (air, soil, water or noise pollution)	Recycling waste, water or materials
Manufacture of leather, leather products and footwear	100	100	–	100	100	100
Woodworking and manufacture of wood and of products of wood and cork, except furniture	100	66.7	100	33.3	100	100
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	72.7	63.6	27.3	72.7	100	63.6
Publishing and printing activities, reproduction of recorded media	100	100	–	–	100	100
Manufacture of furniture and other products n.e.c.	100	83.3	50.0	33.3	100	66.7
Recycling of secondary raw materials	–	–	–	–	–	–
Electricity, gas and water supply	46.5	52.1	25.4	52.1	85.9	21.1
Communication, computer and information technology-related activities, research and development, other services of the business economy						
Total	50.0	53.3	40.0	47.3	70.7	32.0
Communication	46.7	40.0	60.0	33.3	60.0	13.3
Computer and information technology-related activities	50.0	25.0	–	25.0	50.0	50.0
Research and development	54.5	58.2	39.1	49.1	73.6	33.6
Other services of the business economy	28.6	42.9	38.1	52.4	66.7	33.3

7.3. ENTERPRISES HAVING INTRODUCED INNOVATIONS PROVIDING INCREASED ENVIRONMENTAL SAFETY AS A RESULT OF USING A GOOD OR SERVICE: 2014

(as a percentage of all enterprises engaged in ecological innovation)

	Reducing power consumption or energy loss	Reducing air, water, soil or noise pollution	Improved recycling of used products
Mining and quarrying, manufacturing, electricity, gas and water supply			
Total	52.9	62.0	26.8
Mining and quarrying	42.3	69.2	34.6
Mining and quarrying of energy producing materials	45.0	70.0	35.0
Mining and quarrying, except energy producing materials	33.3	66.7	33.3
Manufacturing	53.7	61.8	29.3
High tech	54.0	61.9	19.0
Manufacture of pharmaceuticals and pharmaceutical products	16.7	66.7	–
Manufacture of office machinery and computers	100	100	100
Manufacture of radio, television and communication equipment and apparatus	68.8	56.3	25.0
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	60.0	64.0	12.0
Manufacture of aircraft, including spacecraft	40.0	60.0	26.7
Medium high tech	53.4	59.5	28.2
Manufacture of chemicals and chemical products	46.2	53.8	30.8
Manufacture of machinery and equipment	61.4	61.4	20.5
Manufacture of electrical machinery and apparatus	53.8	61.5	30.8
Manufacture of motor vehicles, trailers and semi-trailers	56.3	68.8	43.8
Manufacture of other transport vehicles	33.3	50.0	16.7

(continued)

	Reducing power consumption or energy loss	Reducing air, water, soil or noise pollution	Improved recycling of used products
Medium low tech	53.4	65.0	35.0
Manufacture of coke and refined petroleum products	50.0	78.6	21.4
Manufacture of rubber and plastic products	72.7	72.7	54.5
Manufacture of other non-metallic mineral products	50.0	53.8	42.3
Manufacture of basic metals	50.0	64.7	32.4
Manufacture of fabricated metal products	62.5	68.8	31.3
Building and repair of ships and boats	–	50.0	–
Low tech	54.1	63.5	36.5
Manufacture of food products, including beverages	59.2	61.2	32.7
Manufacture of tobacco products	–	–	–
Manufacture of textiles	50.0	100	–
Manufacture of wearing apparel, dressing and dyeing of fur	–	–	–
Manufacture of leather, leather products and footwear	–	100	–
Woodworking and manufacture of wood and of products of wood and cork, except furniture	66.7	100	100
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	36.4	63.6	45.5
Publishing and printing activities, reproduction of recorded media	100	100	100
Manufacture of furniture and other products n.e.c.	50.0	50.0	33.3
Recycling of secondary raw materials	–	–	–
Electricity, gas and water supply	52.1	60.6	9.9

(continued)

	Reducing power consumption or energy loss	Reducing air, water, soil or noise pollution	Improved recycling of used products
Communication, computer and information technology-related activities, research and development, other services of the business economy			
Total	62.0	67.3	26.0
Communication	66.7	40.0	–
Computer and information technology-related activities	50.0	25.0	50.0
Research and development	63.6	71.8	28.2
Other services of the business economy	52.4	71.4	28.6

7.4. PERCENTAGE DISTRIBUTION OF ENTERPRISES ENGAGED IN ECOLOGICAL INNOVATION BY PURPOSE AND ECONOMIC ACTIVITY: 2014

	Ensuring compliance with modern technical regulations, rules and standards	Ensuring compliance with the expected tightening of legal provisions	Availability of government grants, subsidies or other financial incentives following the introduction of environmental innovations	Compliance with the market (consumers) requirements leading to the introduction of environmental innovations	Voluntary adherence to the general principles of environmental protection
Mining and quarrying, manufacturing, electricity, gas and water supply					
Total	87.7	46.1	11.1	48.3	81.9
Mining and quarrying	84.6	69.2	7.7	34.6	92.3
Mining and quarrying of energy producing materials	85.0	75.0	10.0	25.0	90.0
Mining and quarrying, except energy producing materials	83.3	50.0	–	66.7	100
Manufacturing	88.4	47.8	11.8	52.5	82.8
High tech	88.9	42.9	14.3	41.3	82.5
Manufacture of pharmaceuticals and pharmaceutical products	83.0	16.7	–	16.7	50.0
Manufacture of office machinery and computers	100	100	–	100	100
Manufacture of radio, television and communication equipment and apparatus	94.0	43.8	12.5	37.5	75.0
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	80.0	48.0	16.0	44.0	92.0
Manufacture of aircraft, including spacecraft	100	40.0	20.0	46.7	86.7
Medium high tech	84.0	48.1	9.9	58.8	83.2
Manufacture of chemicals and chemical products	87.2	51.3	7.7	41.0	89.7
Manufacture of machinery and equipment	79.5	45.5	11.4	59.1	81.8

(continued)

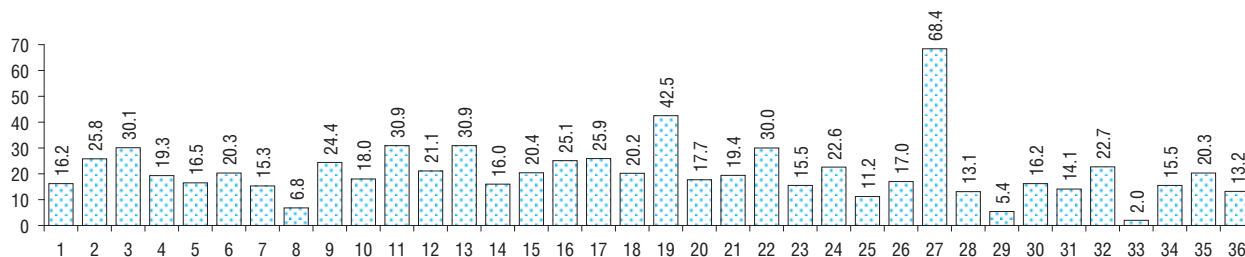
	Ensuring compliance with modern technical regulations, rules and standards	Ensuring compliance with the expected tightening of legal provisions	Availability of government grants, subsidies or other financial incentives following the introduction of environmental innovations	Compliance with the market (consumers) requirements leading to the introduction of environmental innovations	Voluntary adherence to the general principles of environmental protection
Manufacture of electrical machinery and apparatus	80.8	46.2	7.7	76.9	84.6
Manufacture of motor vehicles, trailers and semi-trailers	87.5	50.0	12.5	68.8	75.0
Manufacture of other transport vehicles	100	50.0	16.7	66.7	66.7
Medium low tech	93.2	54.4	16.5	56.3	85.4
Manufacture of coke and refined petroleum products	100	64.3	21.4	71.4	93.0
Manufacture of rubber and plastic products	100	36.4	9.1	81.8	100
Manufacture of other non-metallic mineral products	96.2	65.4	15.4	61.5	80.8
Manufacture of basic metals	91.2	61.8	17.6	50.0	82.4
Manufacture of fabricated metal products	81.3	25.0	18.8	31.3	87.5
Building and repair of ships and boats	100	50.0	–	50.0	50.0
Low tech	87.8	47.3	9.5	51.4	82.4
Manufacture of food products, including beverages	87.8	42.9	14.3	55.1	77.6
Manufacture of tobacco products	–	–	–	–	–
Manufacture of textiles	100	50.0	–	50.0	100
Manufacture of wearing apparel, dressing and dyeing of fur	100	–	–	100	–
Manufacture of leather, leather products and footwear	100	–	–	–	100
Woodworking and manufacture of wood and of products of wood and cork, except furniture	100	33.3	–	66.7	100
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	72.7	72.7	–	45.5	90.9
Publishing and printing activities, reproduction of recorded media	100	–	–	–	100

(continued)

	Ensuring compliance with modern technical regulations, rules and standards	Ensuring compliance with the expected tightening of legal provisions	Availability of government grants, subsidies or other financial incentives following the introduction of environmental innovations	Compliance with the market (consumers) requirements leading to the introduction of environmental innovations	Voluntary adherence to the general principles of environmental protection
Manufacture of furniture and other products n.e.c.	100	66.7	–	33.3	100
Recycling of secondary raw materials	–	–	–	–	–
Electricity, gas and water supply	84.5	28.2	8.5	29.6	73.2
Communication, computer and information technology-related activities, research and development, other services of the business economy					
Total	86.7	48.7	18.0	52.0	79.3
Communication	80.0	26.7	6.7	20.0	86.7
Computer and information technology-related activities	25.0	50.0	–	–	100
Research and development	90.0	52.7	19.1	57.3	78.2
Other services of the business economy	85.7	42.9	23.8	57.1	76.2

7.5. ENTERPRISES USING SYSTEMS OF ENVIRONMENTAL POLLUTION CONTROL AS A PERCENTAGE OF ALL ENTERPRISES: 2014

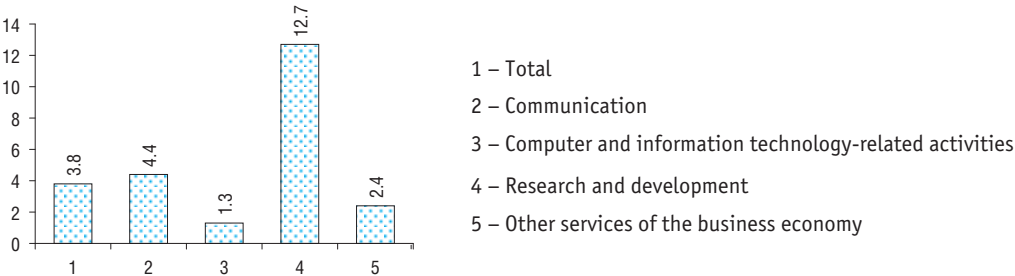
Mining and quarrying, manufacturing, electricity, gas and water supply



- 1 – Total
- 2 – Mining and quarrying
 - 3 – Mining and quarrying of energy producing materials
 - 4 – Mining and quarrying, except energy producing materials
- 5 – Manufacturing
 - 6 – High tech
 - 7 – Manufacture of pharmaceuticals and pharmaceutical products
 - 8 – Manufacture of office machinery and computers
 - 9 – Manufacture of radio, television and communication equipment and apparatus
 - 10 – Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks
 - 11 – Manufacture of aircraft, including spacecraft
 - 12 – Medium high tech
 - 13 – Manufacture of chemicals and chemical products
 - 14 – Manufacture of machinery and equipment
 - 15 – Manufacture of electrical machinery and apparatus
 - 16 – Manufacture of motor vehicles, trailers and semi-trailers
 - 17 – Manufacture of other transport vehicles
 - 18 – Medium low tech
 - 19 – Manufacture of coke and refined petroleum products
 - 20 – Manufacture of rubber and plastic products
 - 21 – Manufacture of other non-metallic mineral products
 - 22 – Manufacture of basic metals
 - 23 – Manufacture of fabricated metal products
 - 24 – Building and repair of ships and boats
 - 25 – Low tech
 - 26 – Manufacture of food products, including beverages
 - 27 – Manufacture of tobacco products
 - 28 – Manufacture of textiles
 - 29 – Manufacture of wearing apparel, dressing and dyeing of fur
 - 30 – Manufacture of leather, leather products and footwear
 - 31 – Woodworking and manufacture of wood and of products of wood and cork, except furniture
 - 32 – Manufacture of cellulose, wood pulp, paper and cardboard and products thereof
 - 33 – Publishing and printing activities, reproduction of recorded media
 - 34 – Manufacture of furniture and other products n.e.c.
 - 35 – Recycling of secondary raw materials
 - 36 – Electricity, gas and water supply

(continued)

Communication, computer and information technology-related activities,
research and development, other services of the business economy



7.6. EXPENDITURE ON ECOLOGICAL INNOVATION: 2014

	Expenditure on ecological innovation		Expenditure on ecological innovation per enterprise, million roubles
	Million roubles	Per cent	
Mining and quarrying, manufacturing, electricity, gas and water supply			
Total	20404.8	100	89.9
Mining and quarrying	6844.0	33.5	570.3
Mining and quarrying of energy producing materials	6835.0	33.5	759.4
Mining and quarrying, except energy producing materials	9.0	0.04	3.0
Manufacturing	11616.8	56.9	62.8
High tech	2346.2	11.5	78.2
Manufacture of pharmaceuticals and pharmaceutical products	2.0	0.01	1.0
Manufacture of office machinery and computers	—	—	—
Manufacture of radio, television and communication equipment and apparatus	4.9	0.02	0.8
Manufacture of medical products; measuring, monitoring, testing and control instruments and appliances; optical instruments, photographic and cine equipment; watches and clocks	56.6	0.3	4.4
Manufacture of aircraft, including spacecraft	2282.7	11.2	253.6
Medium high tech	1395.2	6.8	26.3
Manufacture of chemicals and chemical products	799.9	3.9	40.0
Manufacture of machinery and equipment	106.8	0.5	5.9
Manufacture of electrical machinery and apparatus	14.6	0.1	2.4
Manufacture of motor vehicles, trailers and semi-trailers	473.9	2.3	52.7
Manufacture of other transport vehicles	—	—	—
Medium low tech	6109.7	29.9	115.3
Manufacture of coke and refined petroleum products	2726.6	13.4	272.7
Manufacture of rubber and plastic products	23.6	0.1	4.7
Manufacture of other non-metallic mineral products	30.8	0.2	2.8

(continued)

	Expenditure on ecological innovation		Expenditure on ecological innovation per enterprise, million roubles
	Million roubles	Per cent	
Manufacture of basic metals	3322.6	16.3	166.1
Manufacture of fabricated metal products	5.5	0.03	0.9
Building and repair of ships and boats	0.6	0.003	0.6
Low tech	814.6	4.0	33.9
Manufacture of food products, including beverages	74.0	0.4	5.3
Manufacture of tobacco products	–	–	–
Manufacture of textiles	–	–	–
Manufacture of wearing apparel, dressing and dyeing of fur	0.2	0.001	0.2
Manufacture of leather, leather products and footwear	3.3	0.02	3.3
Woodworking and manufacture of wood and of products of wood and cork, except furniture	38.2	0.2	19.1
Manufacture of cellulose, wood pulp, paper and cardboard and products thereof	696.8	3.4	174.2
Publishing and printing activities, reproduction of recorded media	–	–	–
Manufacture of furniture and other products n.e.c.	2.1	0.01	1.0
Recycling of secondary raw materials	–	–	–
Electricity, gas and water supply	1944.0	9.5	64.8
Communication, computer and information technology-related activities, research and development, other services of the business economy			
Total	509.1	100	10.0
Communication	10.8	2.1	2.2
Computer and information technology-related activities	0.5	0.1	0.2
Research and development	497.6	97.7	12.4
Other services of the business economy	0.1	–	–

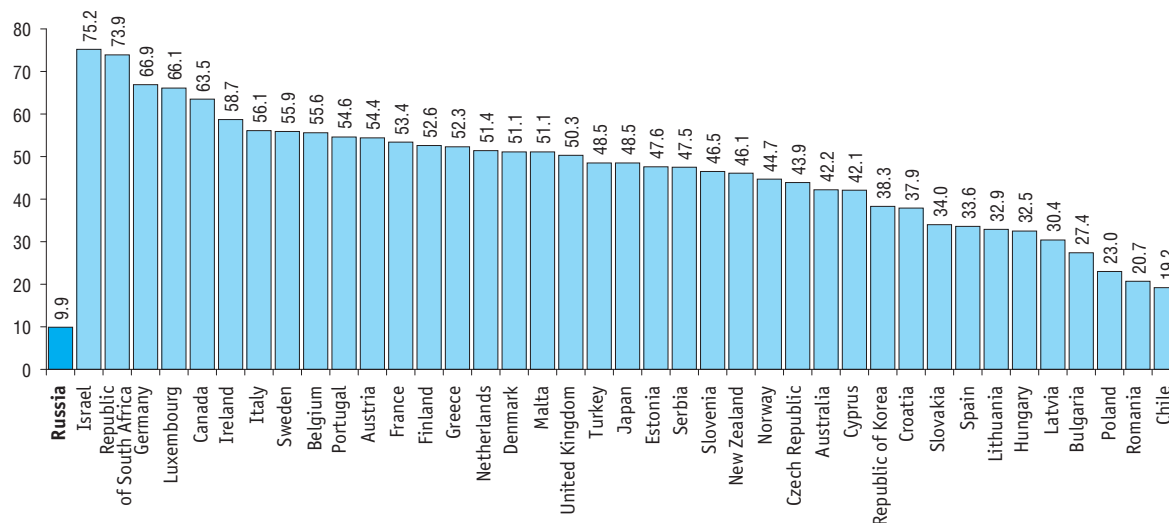


8. International Comparisons

8.1. INNOVATIVE ACTIVITY OF ENTERPRISES*

(per cent)

2014**

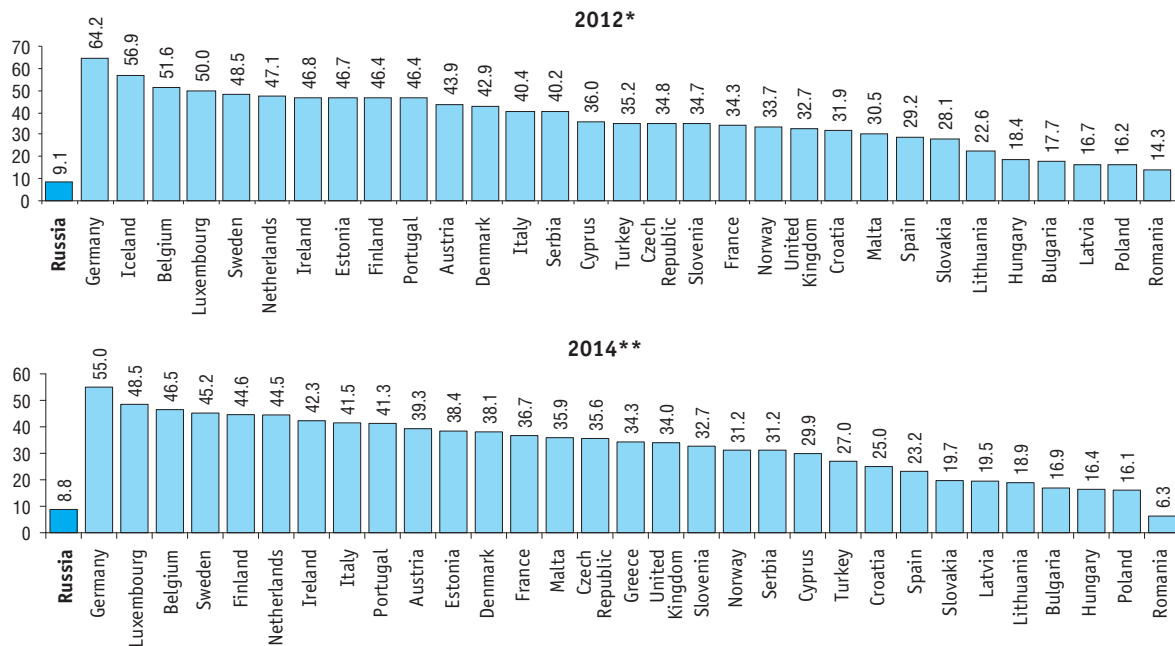


* This section provides consolidated data on enterprises engaged in the following economic activities: mining and quarrying, manufacturing, electricity, gas and water supply, and services.

** The data for the EU countries, Norway, Serbia and Turkey are based on the results of the Community Innovation Survey 2010–2012. The data for other countries refer to the following periods: 2012–2013 for Australia, 2006–2008 for Israel, 2010–2012 for Canada, 2013 for New Zealand, 2005–2007 for the Republic of Korea (manufacturing), 2009–2010 for Chile, 2005–2007 for Republic of South Africa, 2009–2011 for Japan.

Sources: Eurostat; national statistical agencies.

8.2. ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION AS A PERCENTAGE OF ALL ENTERPRISES

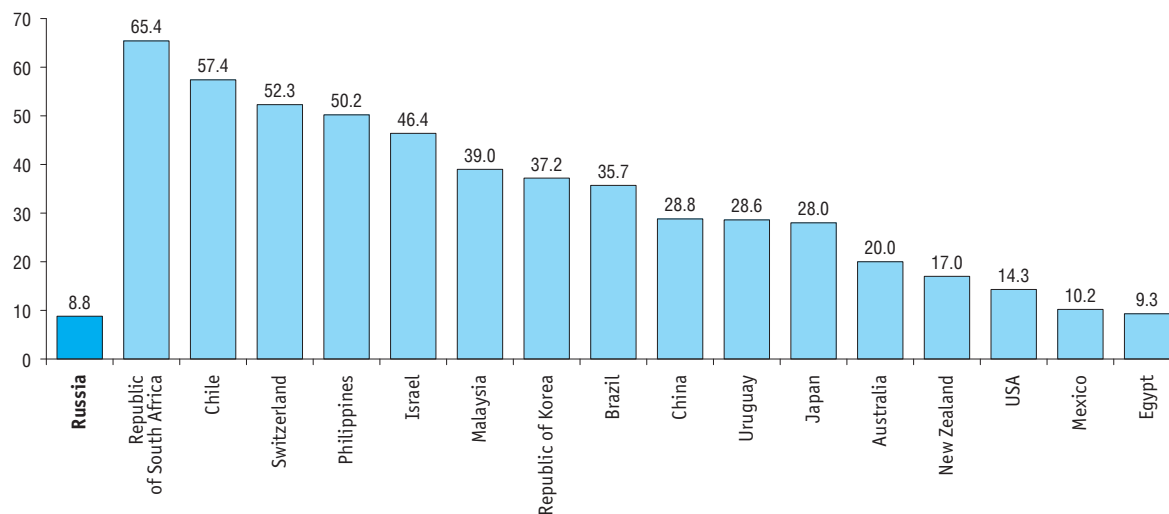


* The data for the EU countries, Iceland, Norway, Serbia, and Turkey are based on the results of the Community Innovation Survey (2008–2010).

** The data for the EU countries, Norway, Serbia, and Turkey are based on the results of the Community Innovation Survey (2010–2012).

Source: Eurostat.

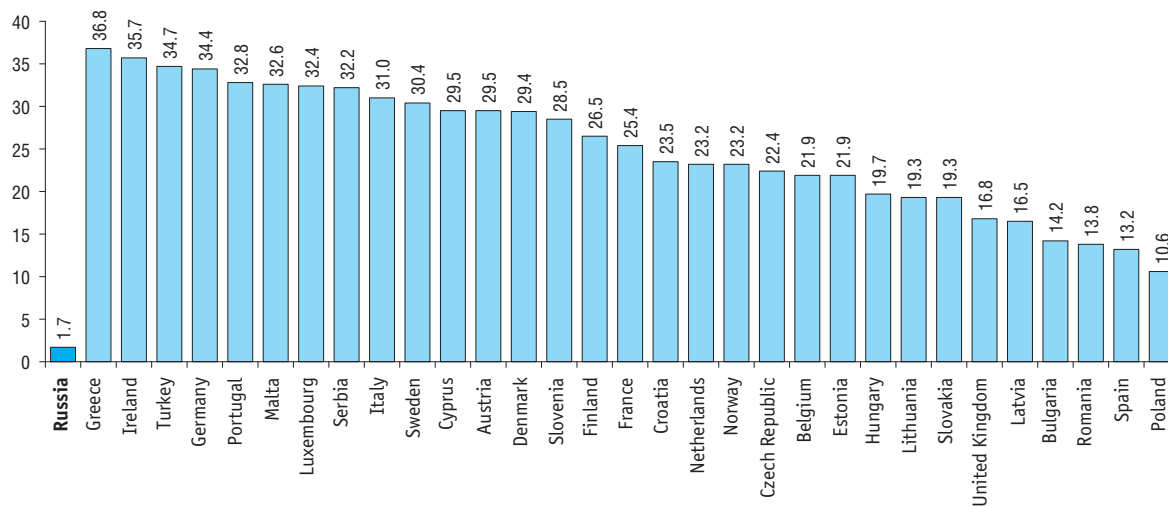
8.3. ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION AS A PERCENTAGE OF ALL ENTERPRISES IN NON-EU COUNTRIES: 2014*



* The data refer to the following periods: 2012–2013 for Australia (product innovation), 2009–2011 for Brazil, 2008–2010 for Egypt (manufacturing), 2006–2008 for Israel, 2004–2006 for China (industrial production), 2007–2009 for Malaysia (manufacturing), 2008–2009 for Mexico, 2013 for New Zealand (product innovation), 2005–2007 for the Republic of Korea (manufacturing), 2009–2011 for the USA, 2008–2010 for Uruguay (manufacturing), 2008–2010 for the Philippines (manufacturing), 2009–2010 for Chile, 2009–2011 for Switzerland, 2005–2007 for Republic of South Africa, 2009–2011 for Japan.

Source: national statistical agencies.

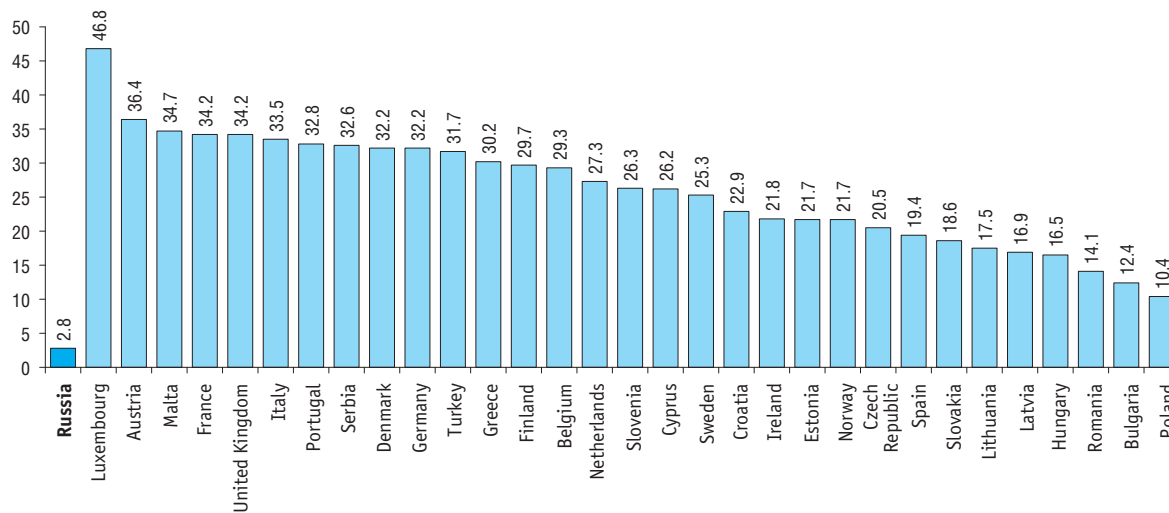
8.4. ENTERPRISES ENGAGED IN MARKETING INNOVATION AS A PERCENTAGE OF ALL ENTERPRISES: 2014*



* The data for the EU countries, Norway, Serbia, and Turkey are based on the results of the Community Innovation Survey (2010–2012).

Source: Eurostat.

8.5. ENTERPRISES ENGAGED IN ORGANISATIONAL INNOVATION AS A PERCENTAGE OF ALL ENTERPRISES: 2014*



* The data for the EU countries, Norway, Serbia, and Turkey are based on the results of the Community Innovation Survey (2010–2012).

Source: Eurostat.

8.6. MAIN INDICATORS OF INNOVATION FOR CIS COUNTRIES: 2014*

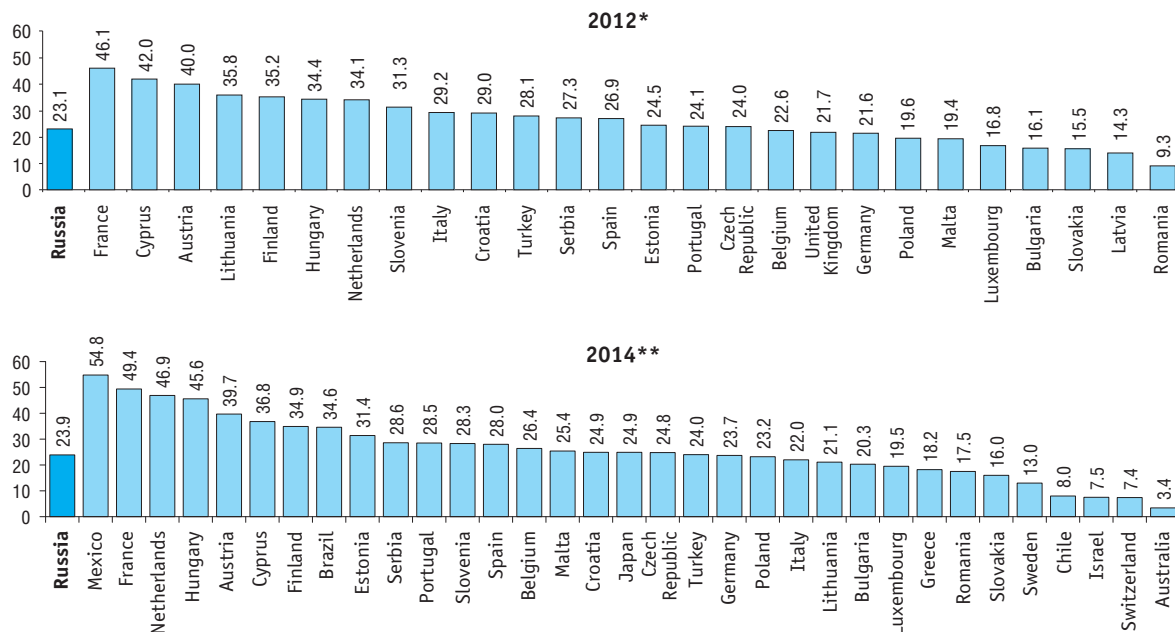
(per cent)

	Overall share of innovative enterprises	Enterprises engaged in technological innovation as a percentage of all enterprises	Expenditure on R&D as a percentage of total expenditure on technological innovation	Expenditure on machinery, equipment and software acquisition as a percentage of total expenditure on technological innovation	Innovative goods and services as a percentage of total goods and services sales	New or technologically new innovative goods and services as a percentage of all innovative goods and services		Exports of innovative goods and services as a percentage of total innovative goods and services sales
						New to the market	New to the enterprise but not to the market	
Russia	9.9	8.8	43.5	35.4	8.7	14.9	85.1	28.2
Belarus	24.4	21.7	–	–	17.8	45.2	54.8	60.1
Kazakhstan	8.0	4.8	9.3	70.3	–	64.7	35.3	30.8
Kyrgyzstan	–	8.4	–	85.4	2.4	–	–	–
Ukraine	16.8	–	17.1	58.0	3.3	34.5	65.5	44.7

* The data refer to the following periods: 2013 for Belarus (industrial production), 2013 for Kazakhstan, 2008 for Kyrgyzstan (industrial production), 2013 for Ukraine (industrial production).

Source: national statistical agencies.

8.7. ENTERPRISES HAVING RECEIVED FEDERAL BUDGET APPROPRIATIONS AS A PERCENTAGE OF ALL ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION



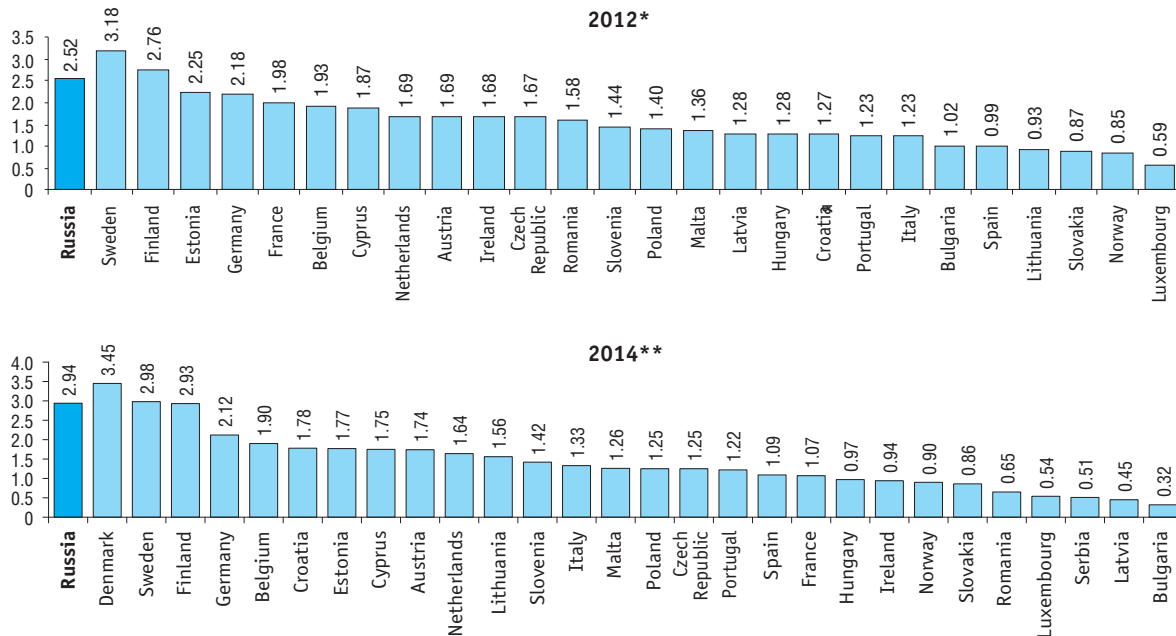
* The data for the EU countries, Serbia, and Turkey are based on the results of the Community Innovation Survey (2008–2010).

** The data for the EU countries, Serbia, and Turkey are based on the results of the Community Innovation Survey (2010–2012). The data for other countries refer to the following periods: 2012–2013 for Australia, 2006–2008 for Israel, 2008–2009 for Mexico, 2009–2011 for Brazil, 2009–2010 for Chile, 2009–2011 for Switzerland, 2009–2011 for Japan.

Sources: Eurostat; national statistical agencies.

8.8. INTENSITY OF EXPENDITURE ON TECHNOLOGICAL INNOVATION

(expenditure on technological innovation as a percentage of total goods and services sales)



* The data for the EU countries, Norway, and Croatia are based on the results of the Community Innovation Survey (2006–2008).

** The data for the EU countries, Norway, and Serbia are based on the results of the Community Innovation Survey (2008–2010).

Source: Eurostat.

8.9. INNOVATIVE GOODS AND SERVICES AS A PERCENTAGE OF TOTAL GOODS AND SERVICES SALES

	2006*	2008**	2010***	2012****
Russia	4.7	5.0	4.8	8.0
Austria	10.6	13.6	11.2	11.9
Belgium	12.9	9.3	9.5	12.4
Bulgaria	12.5	10.3	14.2	7.6
Croatia	–	13	14.4	10.5
Cyprus	5.6	12.3	16.1	14.7
Czech Republic	15.5	14.7	18.7	15.3
Denmark	11	7.8	11.4	15
Estonia	11.9	13.7	10.2	12.3
Finland	14.9	15.7	15.6	15.3
France	11.7	–	13.2	14.7
Germany	17.6	19.2	17.4	15.5
Greece	11	25.7	–	–
Hungary	7	10.5	16.4	13.7
Iceland	12.7	–	11.9	6.1
Ireland	10.1	12.6	11	9.3
Italy	11.9	9.1	11.8	14.9
Latvia	5.1	3.4	5.9	3.1
Lithuania	9.7	12.4	9.6	6.6
Luxembourg	15.6	12.5	8.9	8.3
Malta	22.2	28.6	15.2	7.4
Netherlands	8.4	10.9	8.9	10.5
Norway	7.2	4.8	4.6	6.1

(continued)

	2006*	2008**	2010***	2012****
Poland	13.5	10.1	9.8	8
Portugal	10	13.3	15.6	14.4
Romania	16.6	18.5	14.9	14.3
Serbia	–	–	–	11.8
Slovakia	19.2	16.7	15.8	23.4
Slovenia	14.3	13.3	16.3	10.7
Spain	13.8	15.9	15.9	19
Sweden	13.4	15	9.2	8.4
Turkey	–	15.8	–	–
United Kingdom	13.9	8.5	7.3	5.2

* The data for the EU countries, Iceland, and Norway are based on the results of the Community Innovation Survey (2002–2004).

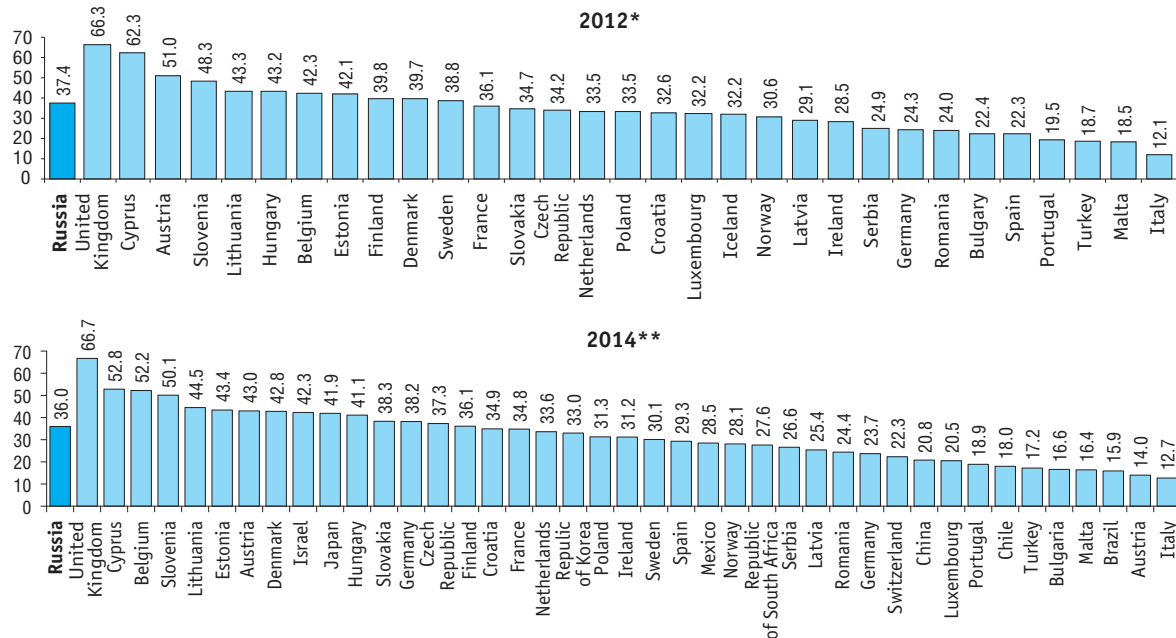
** The data for the EU countries, Norway, Turkey, and Croatia are based on the results of the Community Innovation Survey (2004–2006).

*** The data for the EU countries, Norway, and Croatia are based on the results of the Community Innovation Survey (2006–2008).

**** The data for the EU countries, Iceland, Norway, and Serbia are based on the results of the Community Innovation Survey (2008–2010).

Source: Eurostat.

8.10. ENTERPRISES TAKING PART IN JOINT R&D PROJECTS AS A PERCENTAGE OF ALL ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION

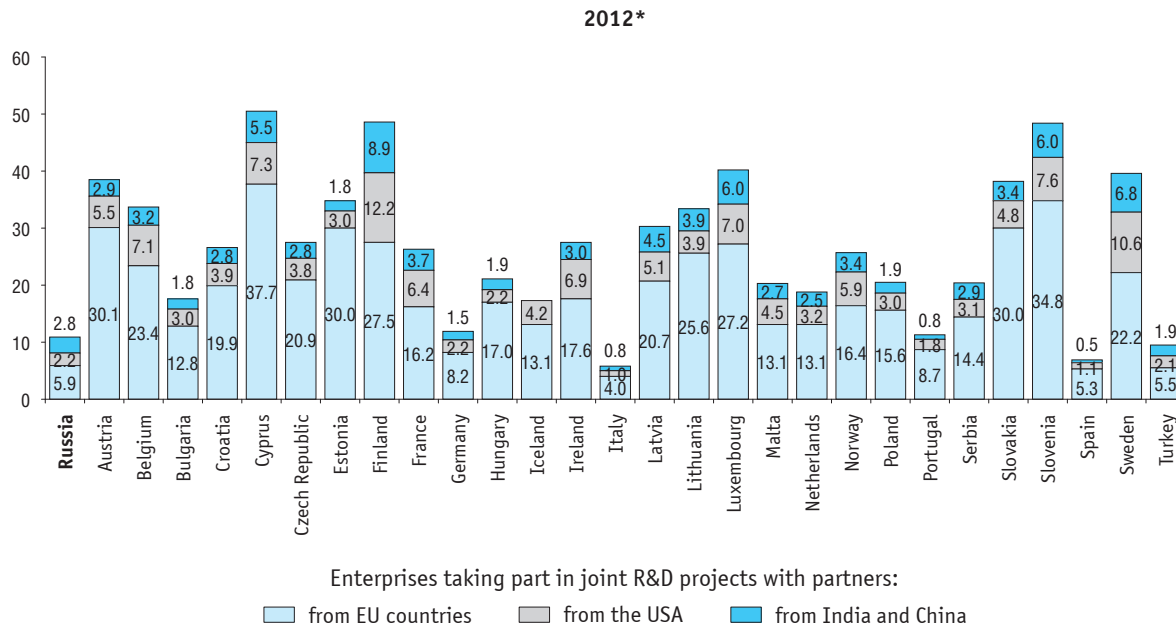


* The data for the EU countries, Iceland, Norway, Serbia, and Turkey are based on the results of the Community Innovation Survey (2008–2010).

** The data for the EU countries, Norway, Serbia, and Turkey are based on the results of the Community Innovation Survey (2010–2012). The data for other countries refer to the following periods: 2012–2013 for Australia, 2009–2011 for Brazil, 2006–2008 for Israel, 2004–2006 for China (industrial production), 2008–2009 for Mexico, 2005–2007 for the Republic of Korea (manufacturing), 2009–2010 for Chile, 2009–2011 for Switzerland, 2005–2007 for South Africa, 2009–2011 for Japan.

Sources: Eurostat; national statistical agencies.

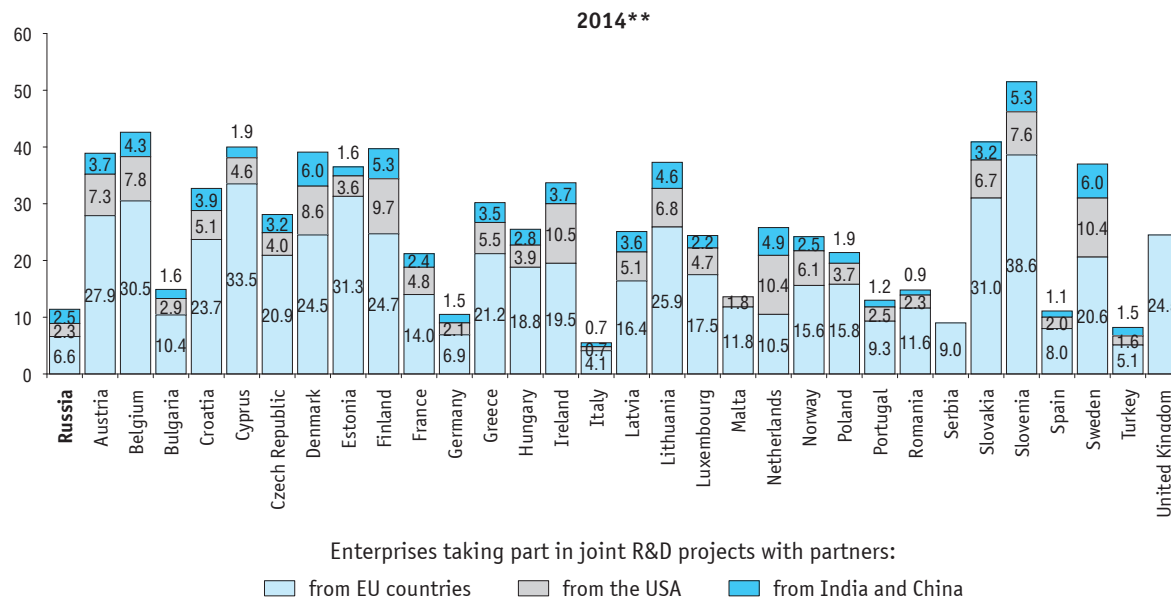
8.11. ENTERPRISES TAKING PART IN JOINT R&D PROJECTS AS A PERCENTAGE OF ALL ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY PARTNER COUNTRY



* The data for the EU countries, Iceland, Norway, Serbia, and Turkey are based on the results of the Community Innovation Survey (2008–2010).

Source: Eurostat.

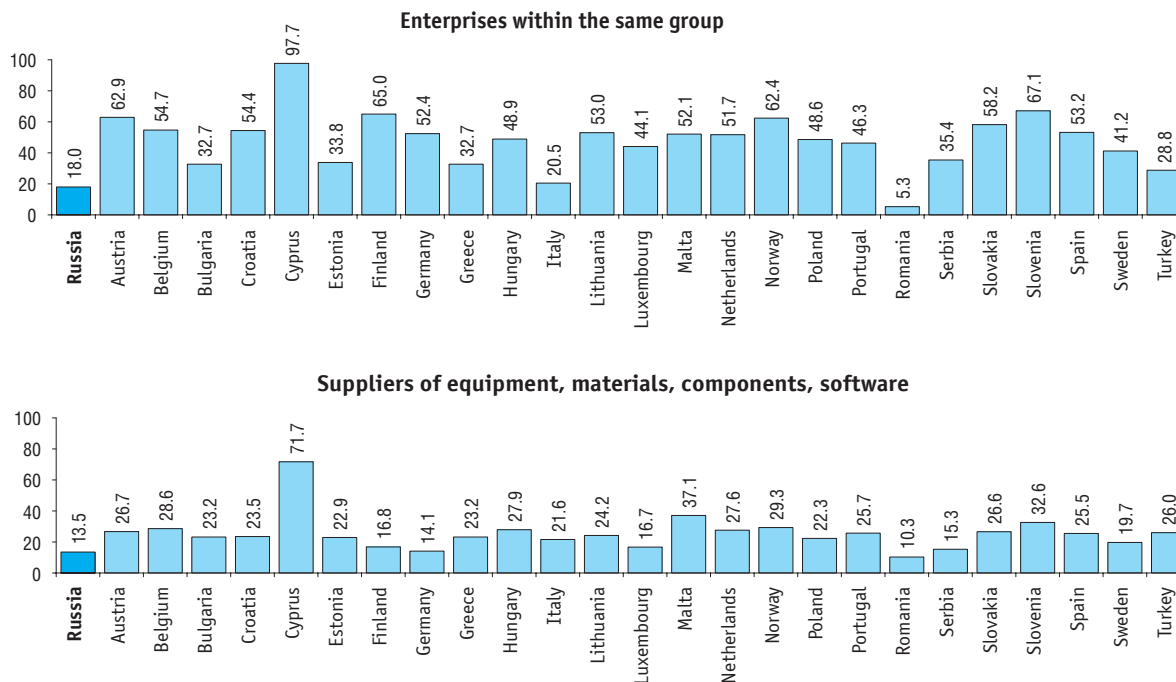
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** The data for the EU countries, Norway, Serbia, and Turkey are based on the results of the Community Innovation Survey (2010–2012).

Source: Eurostat.

8.12. ENTERPRISES CONSIDERING SOURCES OF INFORMATION AS PRINCIPAL AS A PERCENTAGE OF ALL ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION: 2014*

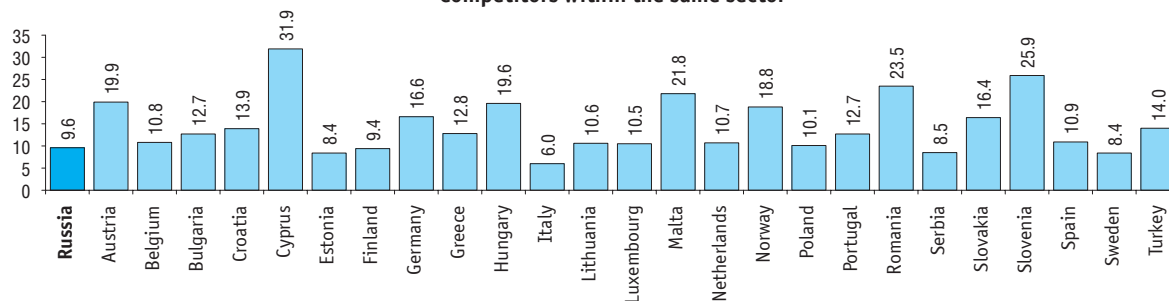


* The data for the EU countries, Norway, Serbia, and Turkey are based on the results of the Community Innovation Survey (2010–2012).

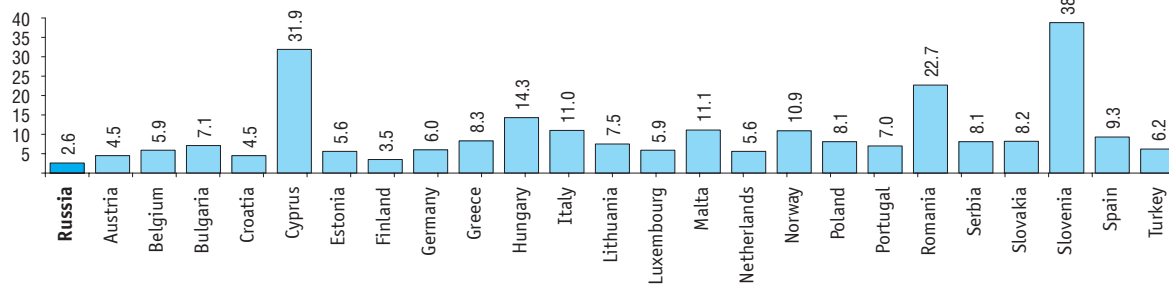
Source: Eurostat.

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Competitors within the same sector

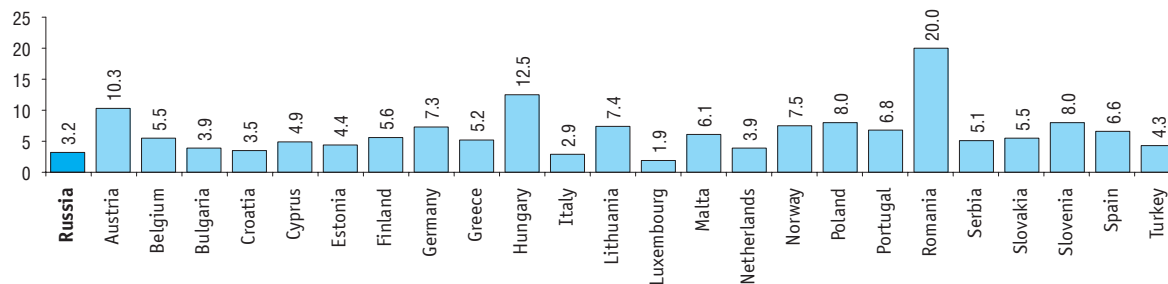


Consulting firms and information organisations

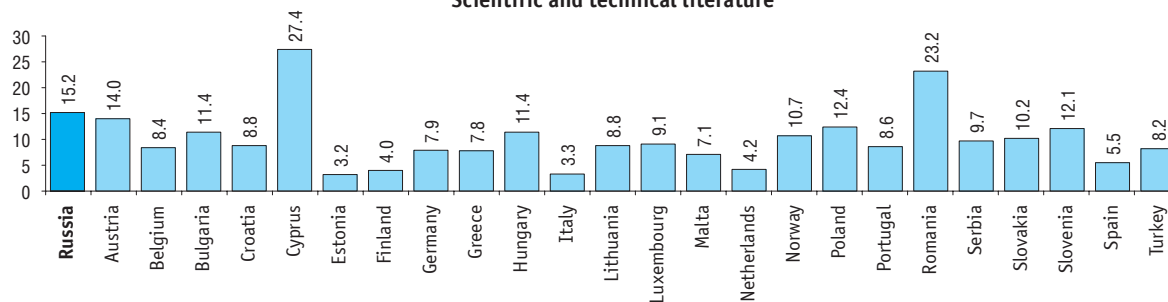


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Universities and other higher education institutions

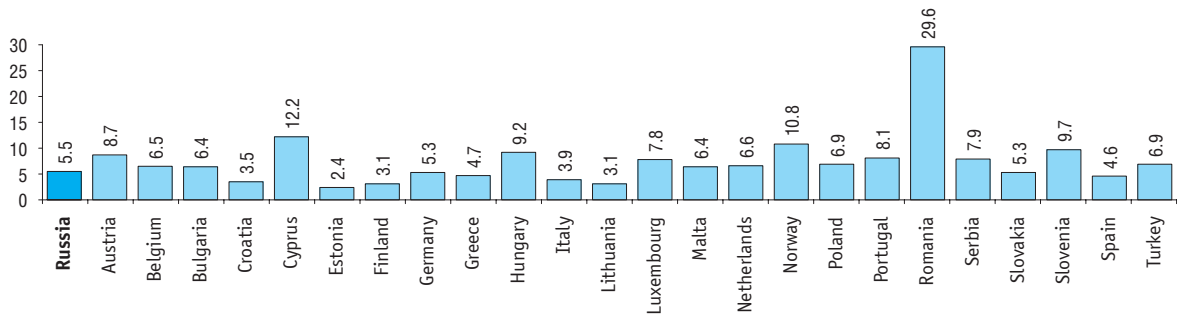


Scientific and technical literature



(continued)

Professional associations



TECHNICAL NOTES

Innovative activity of enterprises describes the involvement degree of enterprises (organisations) in general or specific innovative activity during a given period of time. The involvement degree of an enterprise is usually evaluated as a ratio of the number of enterprises (organisations) engaged in technological, marketing, and organisational innovation to the total number of enterprises (organisations) under review in a country, industry, sector, region, etc. during a given period of time.

Innovative activity is an activity connected with the transformation of ideas (which is usually the result of research and development or of another type of S&T advances) into technologically new or significantly improved goods and services, introduced into the market, into new or significantly improved production processes or services delivery (provision) methods, used in practice. Innovative activity includes a broad range of scientific, technological, organisational, financial and commercial activities which collectively lead to innovation.

In statistics, the following main **types of innovative activities** are distinguished:

- research and development;
- tools preparation and manufacturing process engineering, covering acquisition of production equipment, tools and instruments and changes in them as well as in the procedures, methods and standards of production processes and quality control needed to manufacture a new product or implement a new production process;

- industrial design and engineering, graphic design and other developments and solutions (not connected with R&D) of new products, services, and methods of their manufacture (provision), as well as of new processes, including the preparation of plans, drawings and blueprints, necessary to determine the production procedures, technical specifications, operational characteristics needed to create the concept of new products, processes, and services as well as to develop, manufacture and market them;
- acquisition of tangible technology - acquisition of machinery and equipment whose technological purposes are related to technological (product or process) innovation;
- acquisition of intangible technology from outside in the form of patents, licences (contracts) for the use of inventions, industrial designs, utility models, know-how, and technological services as well as the acquisition of software related to technological innovation;
- personnel training and re-training for the purposes of technological innovation;
- market research.

Innovative goods and services are goods and services, either new or those that underwent different technological changes within the last three years. Following the degree of novelty there can be distinguished two types of innovative goods and services – those newly introduced and hence new (or those that have undergone substantial technological changes and hence are technologically new) and those significantly improved.

New (or technologically new) goods and services are goods and services based on new (including radically new) technology or on a combination of new and existing technology. For the products in question the designated area of application, operational characteristics, features, structural design and the composition of used materials and components are to be new or considerably different from what was characteristic of the previous products.

Significantly improved goods and services are based on the introduction of new or significantly improved production methods, including the methods of products delivery or transfer, involving the use of new manufacturing equipment, new methods of production processes engineering or a combination thereof.

The classification of innovative goods and services by the degree of novelty is also carried out from the market point of view. According to the type of novelty in the market there can be distinguished innovative goods and services that are new to the world market, new to the sales market of the enterprise, and new to the enterprise but not new to the market.

Expenditure on innovation is the actual expenditure in monetary form, connected with the implementation of different types of innovative activity performed on the scale of an organisation (industry, region, country). Expenditure on innovation includes current expenditure and capital expenditure. The statistics studies expenditure on technological, marketing, and organisational innovations.

Marketing innovation includes implemented marketing methods, either new or significantly improved, that cover substantial changes in the design and packaging of goods and services; also, usage of new

goods and services sales strategies and new goods and services presentation methods, goods and services launch and promotion in the target market; new price strategies developing. Marketing innovations are aimed at completely satisfying the needs of the target customers and at the target audience expansion, as well as at the new markets development in order to increase sales.

Economic activities under review. The data concerning innovative activity of enterprises are presented taken as a whole as well as separately by certain types of industry, including mining and quarrying, manufacturing, electricity, gas and water supply (except for electricity supply and fuel gas supply through supply network); communication, computer and information technology-related activities, research and development, other services of the business economy (including activities in the field of law, accounting and audit; activities in the field of architecture; design and engineering; geological exploration and geophysical works; geodetic and cartographic activities; activities in the field of standardisation and metrology; activities in the field of hydrometeorology and related areas; advertising and promotional activities, etc.).

Enterprises (organisations, institutions) engaged in technological innovation are enterprises (organisations, institutions) that develop and implement new or significantly improved goods and services, production processes or services delivery (provision) methods, as well as those that perform other types of innovative activities.

Organisational innovation includes the implementation of new business practices, new workplace organisation and external relations management methods. Organisational innovations are aimed at enterprises' (organisations') efficiency increase in performance as a result

of cutting administrative costs and transaction costs, workplace engineering optimisation (working hours rationalisation) and, hence, a better performance and a rise in labour productivity, access to the assets that are not on the market, cost saving regarding delivery and supply.

Ranks of importance (ratings) of the results of innovative activity, as well as of sources of information for technological innovation, methods of S&T innovations protection, and factors hampering technological innovation are calculated following the assessments of industrial and service enterprises.

Overall share of innovative enterprises, is defined as the proportion of the number of enterprises carrying out all types of innovative activities (technological, marketing, and organisational innovation) or selected types (combinations) of innovative activities (innovation) to the total number of organisations under review during a given period of time.

Technological innovation is the final result of innovative activity, presented in the form of new or significantly improved goods and services, introduced into the market, or of new or significantly improved production processes or services delivery (provision) methods, used in practice. Innovation is considered implemented if it is launched into the market or used in production process.

In the industrial production and manufacturing and in service sector there are distinguished two types of technological innovation: product innovation and process innovation.

Industrial production and manufacturing

Product innovation includes the introduction of new or significantly improved products. The introduction of a new product is defined as

a radically new product innovation if the designated area of application of the in question, its functional characteristics, properties, construction or used materials and components substantially distinguish it from the previously manufactured products. Such innovations may be based on radically new technology or on a combination of new and existing technology, applied in a new way. Technological improvements affect an existing product, the quality or cost of which were significantly improved due to the use of more efficient components and materials, partial change of one or of a number of technological subsystems (for complex products).

Process innovation is the implementation of new or significantly improved production and manufacturing methods, including the methods of product delivery. Such innovations are usually aimed at increasing the efficiency of production or of delivery of already existing products, but they can also be designed to produce and deliver new or significantly improved products which are not produced or supplied using conventional production and/or manufacturing methods.

Service sector

Product innovation includes development and introduction of radically new services, improvement of existing services by adding new functions or features, significant improvements in the provision of services (for example, in terms of their efficiency or speed).

Process innovation includes the development and implementation of new or significantly improved methods of production and service delivery.

Technology exchange is the total amount of new technology or separate engineering achievements acquired (transferred) by an enterprise within one year. Technology exchange includes deals con-

cerning the acquisition and transfer of scientific and technical expertise and experience in order to provide knowledge-based services, implement production processes, produce goods and services either on a non-contractual basis or on terms determined by an agreement between the parties.

Ecological innovation covers novelties implemented within the frameworks of technological, organisational or marketing innovations, aimed at improving the environmental safety connected with production and manufacturing process or with the usage of innovative products.

INDICATORS OF INNOVATION IN THE RUSSIAN FEDERATION

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