



Ministry of Education and Science
of the Russian Federation



Federal Service for State Statistics



HIGHER SCHOOL OF ECONOMICS
NATIONAL RESEARCH UNIVERSITY

Science and Technology Indicators in the Russian Federation

Data Book



10 years
HSE Institute for Statistical
Studies and Economics
of Knowledge



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of the Russian Federation



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The data book is the continuation of the series of publications on various aspects of S&T and innovation development in the Russian Federation. It presents statistical data reflecting the current state and trends in R&D and innovation. A specific chapter is devoted to international comparisons.

The publication includes information of the Federal Service for State Statistics, Ministry of Education and Science of the Russian Federation, Federal Service for Intellectual Property, Patents and Trademarks, CIS Statcommittee, Organisation for Economic Co-operation and Development (OECD), European Commission, Eurostat, UNESCO, World Intellectual Property Organisation as well as results of own methodological and analytical studies of the HSE Institute for Statistical Studies and Economics of Knowledge.

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Symbols used in tables are:

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

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

MAIN SCIENCE AND TECHNOLOGY INDICATORS

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|---------|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Gross domestic expenditure on R&D, million roubles, before 1998 – billion roubles: | | | | | | | | | | | | | |
| at current prices | 12149.5 | 25082.1 | 76697.1 | 105260.7 | 135004.5 | 169862.4 | 196039.9 | 230785.2 | 288805.2 | 371080.3 | 431073.2 | 485834.3 | 523377.2 |
| at constant 1989 prices | 2.49 | 2.58 | 3.32 | 3.91 | 4.34 | 4.80 | 4.61 | 4.55 | 4.94 | 5.58 | 5.49 | 6.07 | 5.87 |
| Gross domestic expenditure on R&D: as a per cent of GDP | | | | | | | | | | | | | |
| as a per cent to the previous year | 0.85 | 0.95 | 1.05 | 1.18 | 1.25 | 1.29 | 1.15 | 1.07 | 1.07 | 1.12 | 1.04 | 1.25 | 1.16 |
| at constant 1989 prices | 84.9 | 86.5 | 116.0 | 117.8 | 111.0 | 110.6 | 95.9 | 98.7 | 108.6 | 112.9 | 98.4 | 110.6 | 96.7 |
| Gross domestic expenditure on R&D per one R&D institution, thousand roubles, before 1998 – million roubles: | | | | | | | | | | | | | |
| at current prices | 2993.2 | 6240.9 | 18711.2 | 26074.0 | 34563.4 | 44735.9 | 53621.4 | 64718.2 | 79736.4 | 93778.2 | 117586.8 | 137396.6 | 149878.9 |
| Gross domestic expenditure on R&D per one R&D employee, thousand roubles, before 1998 – million roubles | | | | | | | | | | | | | |
| 11.5 | 29.3 | 86.4 | 118.9 | 155.0 | 197.9 | 233.6 | 283.8 | 357.8 | 463.2 | 566.3 | 654.4 | 710.6 | |
| Gross domestic expenditure on R&D per one researcher, thousand roubles, before 1998 – million roubles | | | | | | | | | | | | | |
| 23.4 | 60.2 | 180.1 | 249.3 | 325.6 | 414.5 | 488.4 | 590.1 | 742.5 | 944.6 | 1147.1 | 1315.8 | 1418.7 | |
| Federal budget appropriations on civil S&T, million roubles, before 1998 – billion roubles: | | | | | | | | | | | | | |
| at current prices | 4413.6 | 6239.4 | 17091.7 | 23023.0 | 29962.5 | 41576.3 | 47478.1 | 76909.0 | 97363.2 | 132703.4 | 162115.9 | 219053.4 | 237644.0 |
| at constant 1991 prices | 2.48 | 1.76 | 2.03 | 2.35 | 2.65 | 3.23 | 3.06 | 4.16 | 4.57 | 5.47 | 5.66 | 7.51 | 7.31 |
| Federal budget appropriations on civil S&T as a per cent of GDP | | | | | | | | | | | | | |
| 0.31 | 0.24 | 0.23 | 0.26 | 0.28 | 0.31 | 0.28 | 0.36 | 0.36 | 0.40 | 0.39 | 0.56 | 0.53 | |

(continued)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|--------|---------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| R&D personnel, thousands | 1061.0 | 855.2 | 887.7 | 885.6 | 870.9 | 858.5 | 839.3 | 813.2 | 807.1 | 801.1 | 761.3 | 742.4 | 736.5 |
| As a per cent to the previous year | 95.9 | 91.5 | 101.8 | 99.8 | 98.3 | 98.6 | 97.8 | 96.9 | 99.2 | 99.3 | 95.0 | 97.5 | 99.2 |
| R&D personnel per one R&D institution, head-count | 261 | 213 | 217 | 219 | 223 | 226 | 230 | 228 | 223 | 202 | 208 | 210 | 211 |
| R&D personnel per 10 000 employment, head-count | 160 | 134 | 138 | 136 | 133 | 130 | 126 | 122 | 120 | 118 | 111 | 110 | 109 |
| Researchers, thousands | 518.7 | 417.0 | 426.0 | 422.2 | 414.7 | 409.8 | 401.4 | 391.1 | 388.9 | 392.8 | 375.8 | 369.2 | 368.9 |
| As a per cent to the previous year | 98.7 | 91.6 | 101.4 | 99.1 | 98.2 | 98.8 | 98.0 | 97.4 | 99.4 | 101.0 | 95.7 | 98.3 | 99.9 |
| Researchers per one R&D institution, head-count | 128 | 104 | 104 | 105 | 106 | 108 | 110 | 110 | 107 | 99 | 103 | 104 | 106 |
| Researchers per 10 000 employment, head-count | 78 | 65 | 66 | 65 | 63 | 62 | 60 | 59 | 58 | 58 | 55 | 55 | 55 |
| Patent applications filed in the Russian Federation | 22202 | 21362 | 28688 | 29989 | 29225 | 30651 | 30192 | 32254 | 37691 | 39439 | 41849 | 38564 | 42500 |
| Patent granted with the indication of the Russian Federation | 31556 | 23762 | 17592 | 16292 | 18114 | 24726 | 23191 | 23390 | 23299 | 23028 | 28808 | 34824 | 30322 |
| Development of advanced manufacturing technologies | ... | 736 | 688 | 637 | 727 | 821 | 676 | 637 | 735 | 780 | 854 | 897 | 864 |
| Use of advanced manufacturing technologies | ... | 58706 | 70069 | 80012 | 93412 | 107015 | 119639 | 140983 | 168311 | 180324 | 184568 | 201850 | 203330 |
| Total receipts from technology exports, thousand US dollars | ... | 42796.4 | 203493.5 | 241541.7 | 211478.4 | 237403.9 | 383985.2 | 389396.4 | 533385.9 | 630391.6 | 833164.4 | 618184.5 | 627887.5 |
| Total payments for technology imports, thousand US dollars | ... | 57683.1 | 182908.0 | 395350.0 | 572488.8 | 666114.1 | 823030.1 | 954199.2 | 1128425.8 | 1426387.6 | 2087067.4 | 1619031.6 | 1425983.3 |

MAIN INDICATORS OF INNOVATION

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|--------|---------|---------|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|
| Enterprises engaged in technological innovation as a per cent of all enterprises: | | | | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | 5.5 | 5.0 | 10.6 | 9.6 | 9.8 | 10.3 | 10.5 | 9.3 | 9.4 | 9.4 | 9.6 | 9.4 | 9.3 |
| Communications, computer and related activities* | ... | 8.3 | 12.1 | 12.2 | 13.5 | 14.3 | 14.7 | 15.3 | 12.5 | 11.2 | 10.9 | 10.1 | 10.8 |
| Innovative goods and services as a per cent of total sales: | | | | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | 4.7 | 3.8 | 4.4 | 4.2 | 4.3 | 4.7 | 5.4 | 5.0 | 5.5 | 5.5 | 5.1 | 4.6 | 4.9 |
| Communications, computer and related activities | ... | ... | 16.9 | 6.9 | 2.8 | 8.9 | 8.4 | 8.6 | 8.3 | 4.2 | 4.2 | 3.8 | 4.7 |
| Expenditure on technological innovation, million roubles, before 1998 – billion roubles: | | | | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply; | | | | | | | | | | | | | |
| at current prices | 7254.1 | 13864.4 | 49428.0 | 61312.9 | 86394.6 | 105444.7 | 122850.5 | 125678.2 | 188492.2 | 207499.2 | 276262.3 | 358861.1 | 349763.3 |
| at constant 1995 prices | 7254.1 | 6966.0 | 10462.7 | 11140.3 | 13590.9 | 14576.3 | 14116.7 | 12105.3 | 15760.0 | 15245.3 | 17201.2 | 21927.5 | 19184.6 |
| Communications, computer and related activities: | | | | | | | | | | | | | |
| at current prices | ... | 4197.1 | 11794.1 | 6328.6 | 6049.3 | 14782.7 | 19495.3 | 17544.4 | 18892.4 | 25125.5 | 24148.0 | 32790.9 | 38684.0 |
| at constant 1995 prices | ... | 2108.8 | 2496.5 | 1149.9 | 951.6 | 2043.5 | 2240.2 | 1689.9 | 1579.6 | 1846.0 | 1503.6 | 2003.6 | 2121.8 |

* In contrast with other service sectors, innovation in communications, computer and related activities was the subject of statistical observations during the entire period considered.

(continued)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Expenditure on technological innovation as a per cent of total sales: | | | | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | 0.9 | 1.1 | 1.4 | 1.4 | 1.8 | 1.6 | 1.5 | 1.2 | 1.4 | 1.2 | 1.4 | 1.9 | 1.5 |
| Communications, computer and related activities | ... | ... | 11.1 | 4.8 | 3.9 | 6.5 | 5.9 | 3.5 | 2.7 | 2.7 | 2.1 | 2.7 | 2.9 |
| Innovative activity (enterprises engaged in technological, organisational and marketing innovation as a per cent of all enterprises): | | | | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | ... | ... | ... | ... | ... | ... | ... | ... | 10.6 | 10.8 | 11.0 | 11.0 | 10.8 |
| Communications, computer and related activities | ... | ... | ... | ... | ... | ... | ... | ... | 15.6 | 13.5 | 13.4 | 13.2 | 13.6 |
| Enterprises engaged in organisational innovation during the reference year as a per cent of all enterprises: | | | | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | ... | ... | ... | ... | ... | ... | ... | ... | 3.2 | 3.5 | 3.5 | 3.7 | 3.4 |
| Communications, computer and related activities | ... | ... | ... | ... | ... | ... | ... | ... | 5.4 | 4.8 | 4.5 | 4.7 | 5.1 |
| Enterprises engaged in marketing innovation during the reference year as a per cent of all enterprises: | | | | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | ... | ... | ... | ... | ... | ... | ... | ... | 2.3 | 2.5 | 2.6 | 2.4 | 2.5 |
| Communications, computer and related activities | ... | ... | ... | ... | ... | ... | ... | ... | 4.4 | 4.5 | 4.5 | 4.7 | 4.7 |

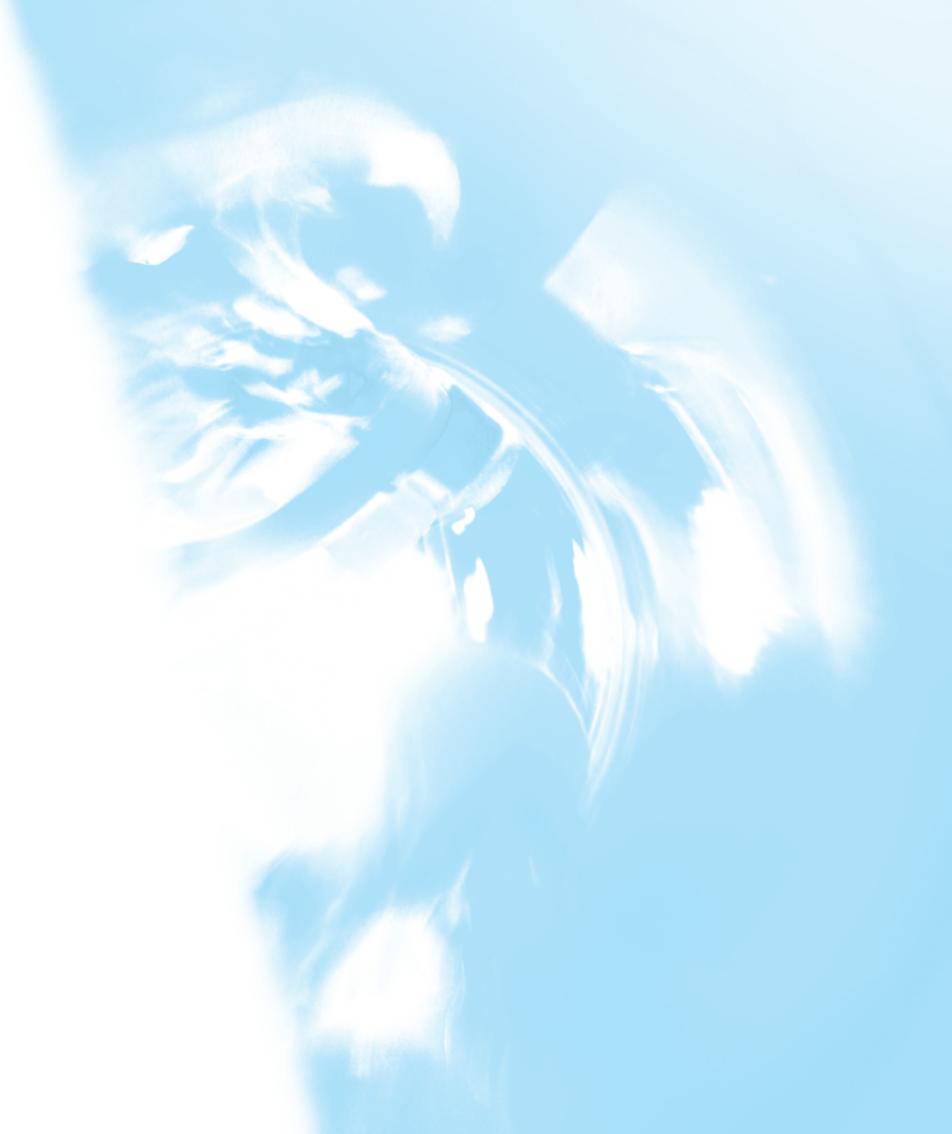
(continued)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|------|------|------|------|------|------|------|------|----------|----------|----------|----------|----------|
| Expenditure on technological, organisational and marketing innovation, <i>million roubles</i> : | | | | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply: | | | | | | | | | | | | | |
| at current prices | ... | ... | ... | ... | ... | ... | ... | ... | 191341.5 | 213020.1 | 283194.8 | 365785.1 | 356163.5 |
| at constant 1995 prices | ... | ... | ... | ... | ... | ... | ... | ... | 15998..2 | 15650.9 | 17632.9 | 22350.6 | 19535.6 |
| Communications, computer and related activities: | | | | | | | | | | | | | |
| at current prices | ... | ... | ... | ... | ... | ... | ... | ... | 20010.5 | 26405.2 | 27076.7 | 34821.89 | 40223.1 |
| at constant 1995 prices | ... | ... | ... | ... | ... | ... | ... | ... | 1673.1 | 1940.0 | 1685.9 | 2127.7 | 2206.2 |
| Expenditure on technological, organisational and marketing innovation as a per cent of total sales: | | | | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | ... | ... | ... | ... | ... | ... | ... | ... | 1.5 | 1.3 | 1.4 | 1.9 | 1.5 |
| Communications, computer and related activities | ... | ... | ... | ... | ... | ... | ... | ... | 2.7 | 2.8 | 2.3 | 2.8 | 3.0 |
| Small enterprises engaged in technological innovation as a per cent of all small enterprises: | | | | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | ... | ... | 1.3 | 1.5 | ... | 1.6 | ... | 1.6 | ... | 4.3 | ... | 4.1 | ... |
| Innovative goods and services as a per cent of total sales of small enterprises: | | | | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | ... | ... | 0.6 | 0.6 | ... | 0.3 | ... | 0.3 | ... | 2.0 | ... | 1.4 | ... |

(continued)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|------|------|-------|-------|------|--------|------|--------|------|---------|------|--------|------|
| Expenditure on technological innovation of small enterprises, million roubles, before 1998 – billion roubles: | | | | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply: | | | | | | | | | | | | | |
| at current prices | ... | ... | 867.6 | 997.7 | ... | 1296.5 | ... | 1932.7 | ... | 10608.2 | ... | 6793.5 | ... |
| at constant 1995 prices | ... | ... | 183.7 | 181.3 | ... | 179.2 | ... | 186.2 | ... | 779.4 | ... | 415.1 | ... |
| Expenditure on technological innovation as a per cent of total sales of small enterprises: | | | | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | ... | ... | 0.6 | 0.5 | ... | 0.4 | ... | 0.2 | ... | 1.7 | ... | 0.9 | ... |

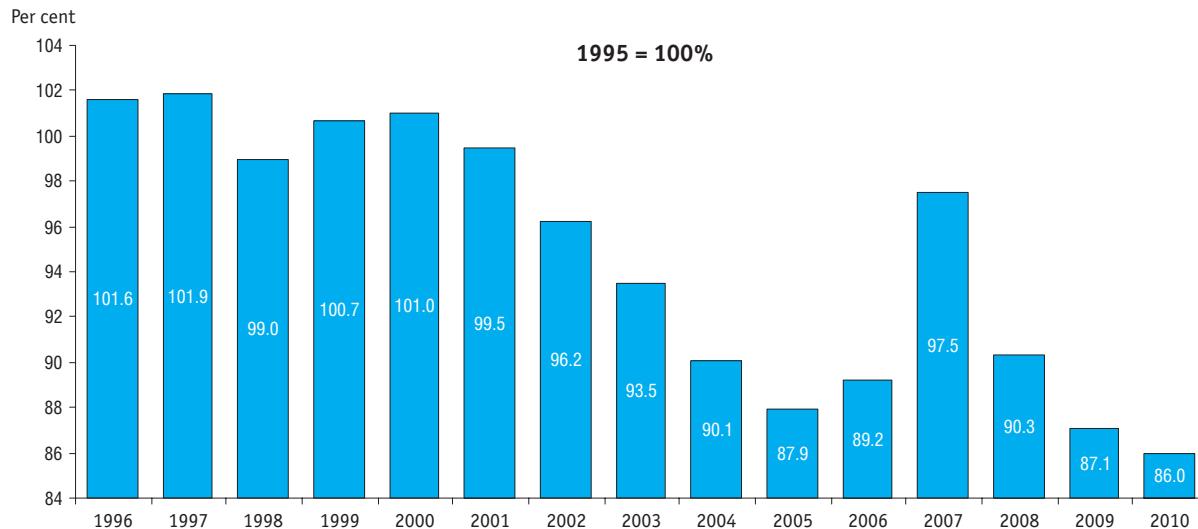
1. Institutions



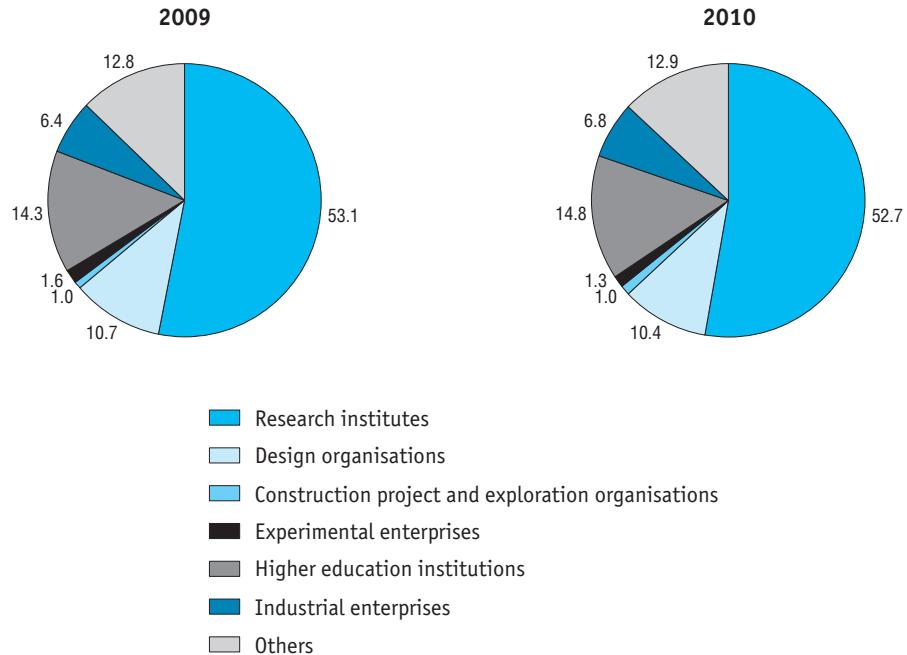
1.1. R&D INSTITUTIONS BY TYPE

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total | 4059 | 4019 | 4099 | 4037 | 3906 | 3797 | 3656 | 3566 | 3622 | 3957 | 3666 | 3536 | 3492 |
| Research institutes | 2284 | 2549 | 2686 | 2676 | 2630 | 2564 | 2464 | 2115 | 2049 | 2036 | 1926 | 1878 | 1840 |
| Design organisations | 548 | 381 | 318 | 289 | 257 | 228 | 194 | 489 | 482 | 497 | 418 | 377 | 362 |
| Construction project and exploration organisations | 207 | 108 | 85 | 81 | 76 | 68 | 63 | 61 | 58 | 49 | 42 | 36 | 36 |
| Experimental enterprises | 23 | 27 | 33 | 31 | 34 | 28 | 31 | 30 | 49 | 60 | 58 | 57 | 47 |
| Higher education institutions | 395 | 393 | 390 | 388 | 390 | 393 | 402 | 406 | 417 | 500 | 503 | 506 | 517 |
| Industrial enterprises | 325 | 240 | 284 | 288 | 255 | 248 | 244 | 231 | 255 | 265 | 239 | 228 | 238 |
| Others | 277 | 321 | 303 | 284 | 264 | 268 | 258 | 234 | 312 | 550 | 480 | 454 | 452 |

1.2. TRENDS IN THE TOTAL NUMBER OF R&D INSTITUTIONS



1.3. PERCENTAGE DISTRIBUTION OF R&D INSTITUTIONS BY TYPE



1.4. R&D INSTITUTIONS BY OWNERSHIP

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total | 4059 | 4019 | 4099 | 4037 | 3906 | 3797 | 3656 | 3566 | 3622 | 3957 | 3666 | 3536 | 3492 |
| Russian ownership | 4034 | 3968 | 4035 | 3977 | 3841 | 3740 | 3599 | 3513 | 3572 | 3895 | 3613 | 3483 | 3436 |
| Public ownership | 2979 | 2896 | 2938* | 2886 | 2817 | 2760 | 2675 | 2632 | 2652 | 2821 | 2716 | 2655 | 2610 |
| Federal | 2783 | 2706 | 2755 | 2704 | 2644 | 2599 | 2524 | 2483 | 2508 | 2650 | 2562 | 2503 | 2467 |
| Provincial | 196 | 190 | 181 | 182 | 173 | 161 | 151 | 149 | 143 | 166 | 148 | 146 | 140 |
| Municipal ownership | 9 | 9 | 11 | 10 | 7 | 8 | 7 | 6 | 9 | 13 | 13 | 14 | 14 |
| Ownership of voluntary associations | 16 | 55 | 60 | 41 | 31 | 28 | 25 | 27 | 29 | 36 | 30 | 26 | 28 |
| Private ownership | 198 | 323 | 388 | 450 | 456 | 434 | 420 | 422 | 505 | 638 | 508 | 475 | 470 |
| Ownership of consumer cooperatives** | ... | ... | 3 | 4 | 2 | 2 | 4 | 4 | 4 | 3 | 2 | 3 | 4 |
| Joint ownership (without foreign participation) | 832 | 685 | 635 | 586 | 528 | 508 | 468 | 422 | 373 | 384 | 344 | 310 | 304 |
| Joint ownership with a part of public ownership | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 268 |
| Ownership of state corporations | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 6 |
| Foreign ownership | 1 | 4 | 6 | 4 | 8 | 6 | 6 | 7 | 6 | 11 | 13 | 14 | 16 |
| Joint ownership (with both Russian and foreign participation) | 24 | 47 | 58 | 56 | 57 | 51 | 51 | 46 | 44 | 51 | 40 | 39 | 40 |

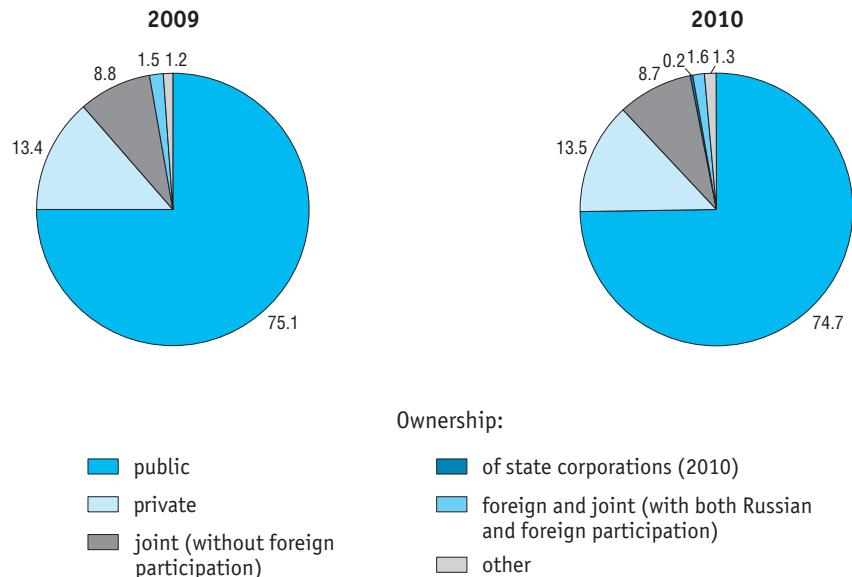
(continued)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Total, per cent | 100 |
| Russian ownership | 99.4 | 98.7 | 98.4 | 98.5 | 98.3 | 98.5 | 98.4 | 98.5 | 98.6 | 98.4 | 98.6 | 98.5 | 98.4 |
| Public ownership | 73.4 | 72.1 | 71.7 | 71.5 | 72.1 | 72.7 | 73.2 | 73.8 | 73.2 | 71.3 | 74.1 | 75.1 | 74.7 |
| Federal | 68.6 | 67.3 | 67.2 | 67.0 | 67.7 | 68.4 | 69.0 | 69.6 | 69.2 | 67.0 | 69.9 | 70.8 | 70.6 |
| Provincial | 4.8 | 4.7 | 4.4 | 4.5 | 4.4 | 4.2 | 4.1 | 4.2 | 3.9 | 4.2 | 4.0 | 4.1 | 4.0 |
| Municipal ownership | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.4 | 0.4 |
| Ownership of voluntary associations | 0.4 | 1.4 | 1.5 | 1.0 | 0.8 | 0.7 | 0.7 | 0.8 | 0.8 | 0.9 | 0.8 | 0.7 | 0.8 |
| Private ownership | 4.9 | 8.0 | 9.5 | 11.1 | 11.7 | 11.4 | 11.5 | 11.8 | 13.9 | 16.1 | 13.9 | 13.4 | 13.5 |
| Ownership of consumer cooperatives** | ... | ... | 0.07 | 0.1 | 0.05 | 0.05 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Joint ownership (without foreign participation) | 20.5 | 17.0 | 15.5 | 14.5 | 13.5 | 13.4 | 12.8 | 11.8 | 10.3 | 9.7 | 9.4 | 8.8 | 8.7 |
| Joint ownership with a part of public ownership | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 7.7 |
| Ownership of state corporations | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 0.2 |
| Foreign ownership | 0.02 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.4 | 0.5 |
| Joint ownership (with both Russian and foreign participation) | 0.6 | 1.2 | 1.4 | 1.4 | 1.5 | 1.3 | 1.4 | 1.3 | 1.2 | 1.3 | 1.1 | 1.1 | 1.1 |

* Details may not add to the total because of shared ownership at some institutions.

** Until 2000, registered within institutions of private and joint Russian ownership.

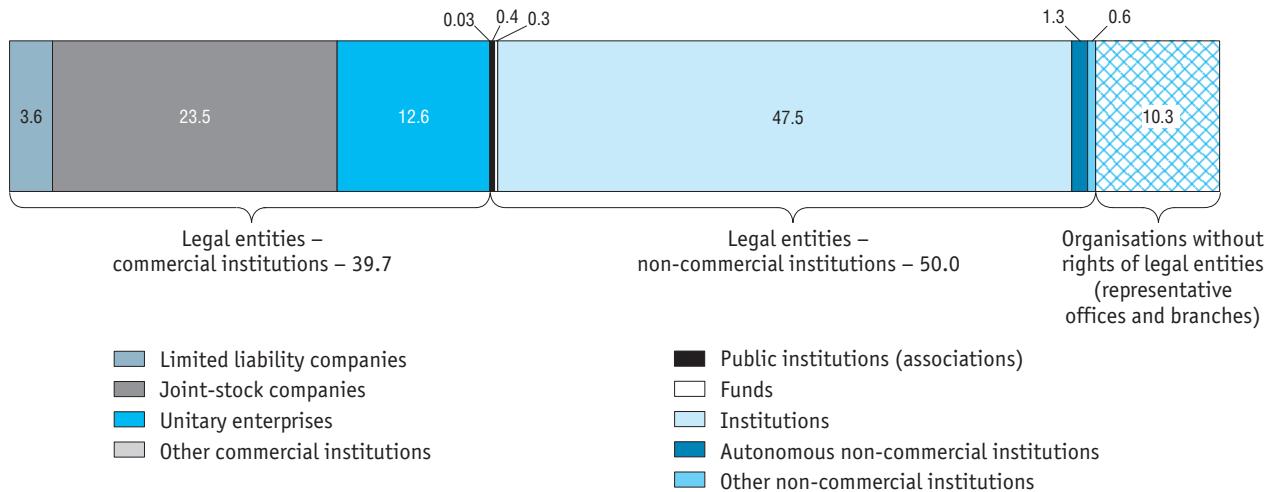
1.5. PERCENTAGE DISTRIBUTION OF R&D INSTITUTIONS BY OWNERSHIP



1.6. R&D INSTITUTIONS BY ORGANISATIONAL AND LEGAL FORMS: 2010

| | | | |
|---|-------------|--|------|
| Total | 3492 | Legal entities – non-commercial institutions | 1747 |
| Legal entities – commercial institutions | 1387 | Public and religious institutions (associations) | 14 |
| Economical co-partnerships and associations | 946 | Funds | 9 |
| Limited liability companies | 125 | Institutions | 1657 |
| Additional liability companies | 1 | Private institutions | 33 |
| Joint-stock companies | 820 | Public institutions | 1612 |
| Open joint-stock companies | 683 | Autonomous institutions | 12 |
| Closed joint-stock companies | 137 | Non-commercial partnerships | 9 |
| Production cooperatives | – | Autonomous non-commercial institutions | 46 |
| Unitary enterprises | 441 | Associations of legal entities | 9 |
| Unitary enterprises based on the operative administration law | 12 | Other non-commercial institutions | 3 |
| Unitary enterprises based on the economic management law | 429 | Organisations without rights of legal entities (representative offices and branches) | 358 |

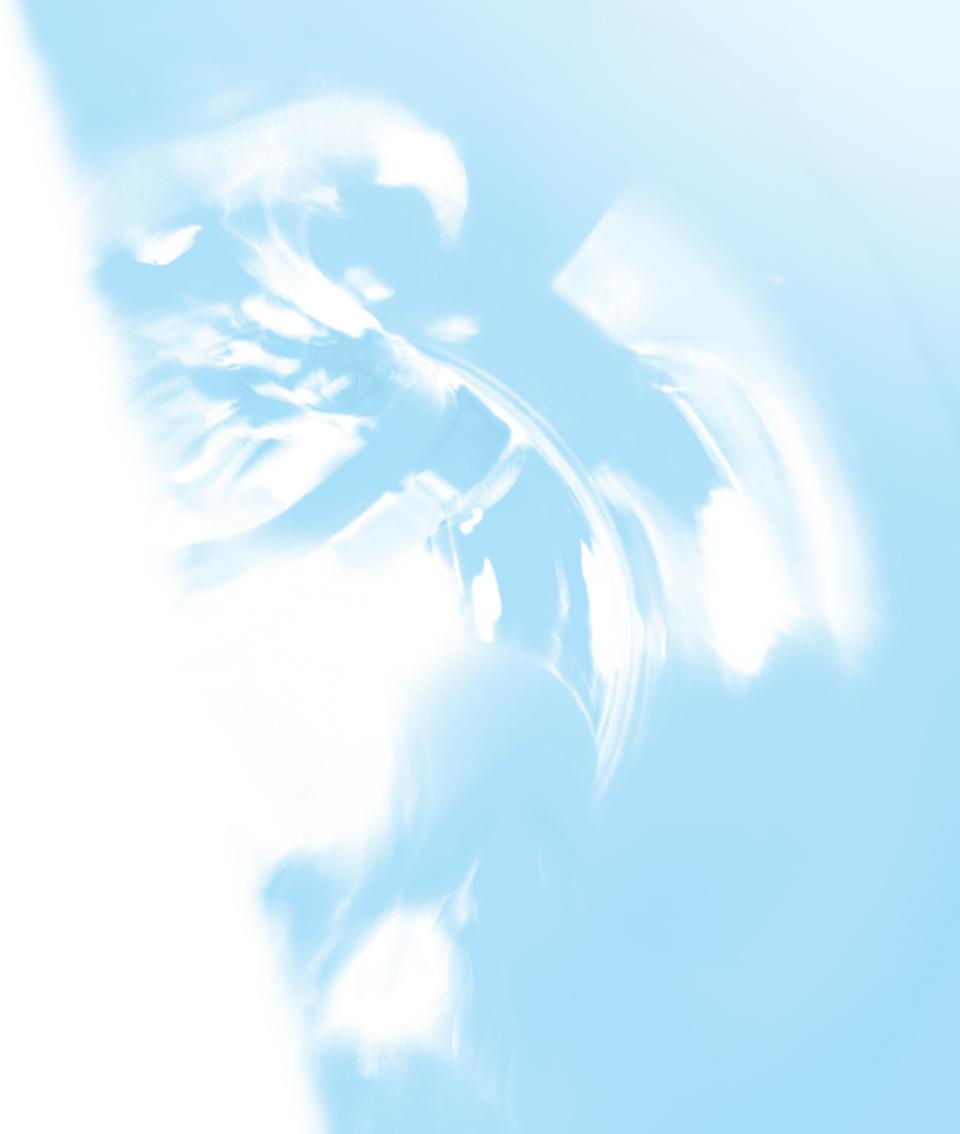
1.7. PERCENTAGE DISTRIBUTION OF R&D INSTITUTIONS BY ORGANISATIONAL AND LEGAL FORMS



1.8. R&D INSTITUTIONS BY ECONOMIC ACTIVITY

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total | 3656 | 3566 | 3622 | 3957 | 3666 | 3536 | 3492 |
| Agriculture, hunting and forestry | 24 | 24 | 24 | 41 | 39 | 39 | 35 |
| Fishing, aquaculture and service activities incidental to fishing | 2 | 1 | 1 | 1 | — | 1 | 1 |
| Mining and quarrying | 7 | 8 | 7 | 6 | 3 | 1 | 1 |
| Manufacturing | 244 | 241 | 272 | 304 | 274 | 268 | 276 |
| Electricity, gas and water supply | — | — | 2 | 1 | 2 | 1 | 1 |
| Construction | 1 | — | — | 1 | — | — | — |
| Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods | 1 | — | — | 3 | 1 | — | — |
| Transport and communications | 1 | 1 | 4 | 3 | 3 | 3 | 3 |
| Real estate, renting and business activities | 2852 | 2757 | 2735 | 2875 | 2629 | 2517 | 2456 |
| Research and development | 2703 | 2628 | 2581 | 2702 | 2484 | 2395 | 2331 |
| Other business activities | 141 | 117 | 118 | 121 | 103 | 93 | 95 |
| Public administration and defence; compulsory social security | — | — | 1 | 1 | — | — | — |
| Education | 422 | 428 | 455 | 544 | 543 | 541 | 549 |
| Higher education | 417 | 425 | | 530 | 532 | 532 | 543 |
| Health and social work | 10 | 11 | 19 | 23 | 24 | 21 | 24 |
| Other community, social and personal service activities | 92 | 95 | 102 | 154 | 148 | 144 | 146 |
| Recreational, cultural and sporting activities | 86 | 90 | 97 | 146 | 141 | 137 | 140 |

2. R&D Personnel



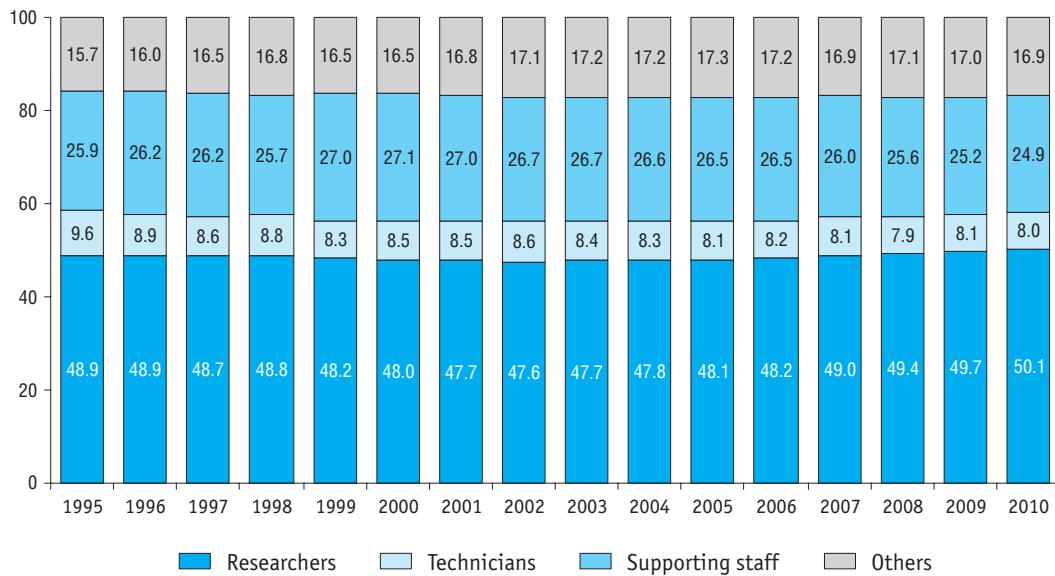
2.1. R&D PERSONNEL (head-count)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Bcero | 1061044 | 855190 | 887729 | 885568 | 870878 | 858470 | 839338 | 813207 | 807066 | 801135 | 761252 | 742433 | 736540 |
| Research institutes | 753253 | 679557 | 718434 | 709125 | 719876 | 716362 | 700308 | 510523 | 499856 | 474985 | 454938 | 443702 | 435304 |
| Design organisations | 129689 | 58679 | 56488 | 72275 | 51627 | 42138 | 41713 | 184785 | 172521 | 179862 | 167517 | 163764 | 157146 |
| Construction project and exploration organisations | 20870 | 8028 | 6811 | 6588 | 7480 | 6583 | 6261 | 5443 | 7356 | 8406 | 7446 | 6738 | 6324 |
| Experimental enterprises | 13640 | 6481 | 6145 | 6402 | 7056 | 6870 | 4605 | 1232 | 6696 | 3528 | 1544 | 1588 | 1558 |
| Higher education institutions | 40015 | 31457 | 31110 | 31149 | 31053 | 31774 | 32105 | 33942 | 35179 | 40440 | 40003 | 41767 | 46776 |
| Industrial enterprises | 89030 | 53529 | 54721 | 48698 | 42446 | 43657 | 42192 | 43524 | 59856 | 56759 | 52042 | 49042 | 51807 |
| Others | 14547 | 17459 | 14020 | 11331 | 11340 | 11086 | 12154 | 33758 | 25602 | 37155 | 37762 | 35832 | 37625 |

2.2. R&D PERSONNEL BY OCCUPATION (head-count)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Total | 1061044 | 855190 | 887729 | 885568 | 870878 | 858470 | 839338 | 813207 | 807066 | 801135 | 761252 | 742433 | 736540 |
| Researchers | 518690 | 416958 | 425954 | 422176 | 414676 | 409775 | 401425 | 391121 | 388939 | 392849 | 375804 | 369237 | 368915 |
| Technicians | 101371 | 74835 | 75184 | 75416 | 74599 | 71729 | 69963 | 65982 | 66031 | 64569 | 60218 | 60045 | 59276 |
| Supporting staff | 274925 | 220060 | 240506 | 238933 | 232636 | 229214 | 223356 | 215555 | 213579 | 208052 | 194769 | 186995 | 183713 |
| Others | 166058 | 143337 | 146085 | 149043 | 148967 | 147752 | 144594 | 140549 | 138517 | 135665 | 130461 | 126156 | 124636 |

2.3. PERCENTAGE DISTRIBUTION OF R&D PERSONNEL BY OCCUPATION



2. R&D Personnel

2.4. R&D PERSONNEL BY OWNERSHIP OF R&D INSTITUTIONS

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Head-count | | | | | | | | | | | | | |
| Total | 1061044 | 855190 | 887729 | 885568 | 870878 | 858470 | 839338 | 813207 | 807066 | 801135 | 761252 | 742433 | 736540 |
| Russian ownership | 1060480 | 840162 | 866386 | 867557 | 853468 | 841901 | 822749 | 797394 | 792009 | 785560 | 746412 | 734405 | 726234 |
| Public ownership | 816799 | 636120 | 673658* | 667567 | 664944 | 663943 | 646727 | 641310 | 631694 | 622602 | 595458 | 585675 | 575035 |
| Federal | 795299 | 619810 | 657696 | 651416 | 651940 | 652364 | 635449 | 629207 | 621732 | 610145 | 584117 | 574697 | 564238 |
| Provincial | 21500 | 16310 | 15957 | 16151 | 13004 | 11579 | 11278 | 12103 | 9855 | 11979 | 10861 | 10503 | 10450 |
| Municipal ownership | 738 | 694 | 725 | 404 | 121 | 147 | 85 | 77 | 189 | 207 | 186 | 180 | 170 |
| Ownership of voluntary associations | 1036 | 1000 | 1207 | 550 | 365 | 272 | 208 | 231 | 304 | 376 | 460 | 474 | 512 |
| Private ownership | 26238 | 42979 | 53408 | 65832 | 65536 | 64868 | 62862 | 58480 | 73478 | 79876 | 73509 | 69167 | 66906 |
| Ownership of consumer cooperatives** | ... | ... | 16 | 28 | 13 | 11 | 27 | 27 | 24 | 10 | 10 | 253 | 268 |
| Joint ownership (without foreign participation) | 215669 | 159369 | 137372 | 133176 | 122489 | 112660 | 112840 | 97269 | 86320 | 82489 | 76789 | 78656 | 78464 |
| Joint ownership with a part of public ownership | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 66574 |
| Ownership of state corporation | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4879 |
| Foreign ownership | – | 104 | 146 | 142 | 159 | 468 | 337 | 1145 | 624 | 835 | 699 | 553 | 1130 |
| Joint ownership (with both Russian and foreign participation) | 564 | 14924 | 21197 | 17869 | 17251 | 16101 | 16252 | 14668 | 14433 | 14740 | 14141 | 7475 | 9176 |

(continued)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Per cent | | | | | | | | | | | | | |
| Total | 100 |
| Russian ownership | 99.9 | 98.2 | 97.6 | 98.0 | 98.0 | 98.1 | 98.0 | 98.1 | 98.1 | 98.1 | 98.1 | 98.9 | 98.6 |
| Public ownership | 77.0 | 74.4 | 75.9 | 75.4 | 76.4 | 77.3 | 77.1 | 78.9 | 78.3 | 77.7 | 78.2 | 78.9 | 78.1 |
| Federal | 75.0 | 72.5 | 74.1 | 73.6 | 74.9 | 76.0 | 75.7 | 77.4 | 77.0 | 76.2 | 76.7 | 77.4 | 76.6 |
| Provincial | 2.0 | 1.9 | 1.8 | 1.8 | 1.5 | 1.3 | 1.3 | 1.49 | 1.2 | 1.5 | 1.4 | 1.4 | 1.4 |
| Municipal ownership | 0.07 | 0.08 | 0.08 | 0.05 | 0.01 | 0.02 | 0.01 | 0.01 | 0.02 | 0.03 | 0.02 | 0.02 | 0.02 |
| Ownership of voluntary associations | 0.1 | 0.1 | 0.1 | 0.06 | 0.04 | 0.03 | 0.02 | 0.028 | 0.04 | 0.05 | 0.1 | 0.1 | 0.1 |
| Private ownership | 2.5 | 5.0 | 6.0 | 7.4 | 7.5 | 7.6 | 7.5 | 7.19 | 9.1 | 10.0 | 9.7 | 9.3 | 9.1 |
| Ownership of consumer cooperatives** | | ... | 0.002 | 0.003 | 0.001 | 0.001 | 0.003 | 0.003 | 0.003 | 0.001 | 0.001 | 0.03 | 0.04 |
| Joint ownership (without foreign participation) | 20.3 | 18.6 | 15.5 | 15.0 | 14.1 | 13.1 | 13.4 | 11.96 | 10.7 | 10.3 | 10.1 | 10.6 | 10.7 |
| Joint ownership with a part of public ownership | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 9.0 |
| Ownership of state corporation | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 0.7 |
| Foreign ownership | – | 0.01 | 0.02 | 0.02 | 0.02 | 0.05 | 0.04 | 0.14 | 0.08 | 0.1 | 0.1 | 0.1 | 0.2 |
| Joint ownership (with both Russian and foreign participation) | 0.05 | 1.7 | 2.4 | 2.0 | 2.0 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.9 | 1.0 | 1.2 |

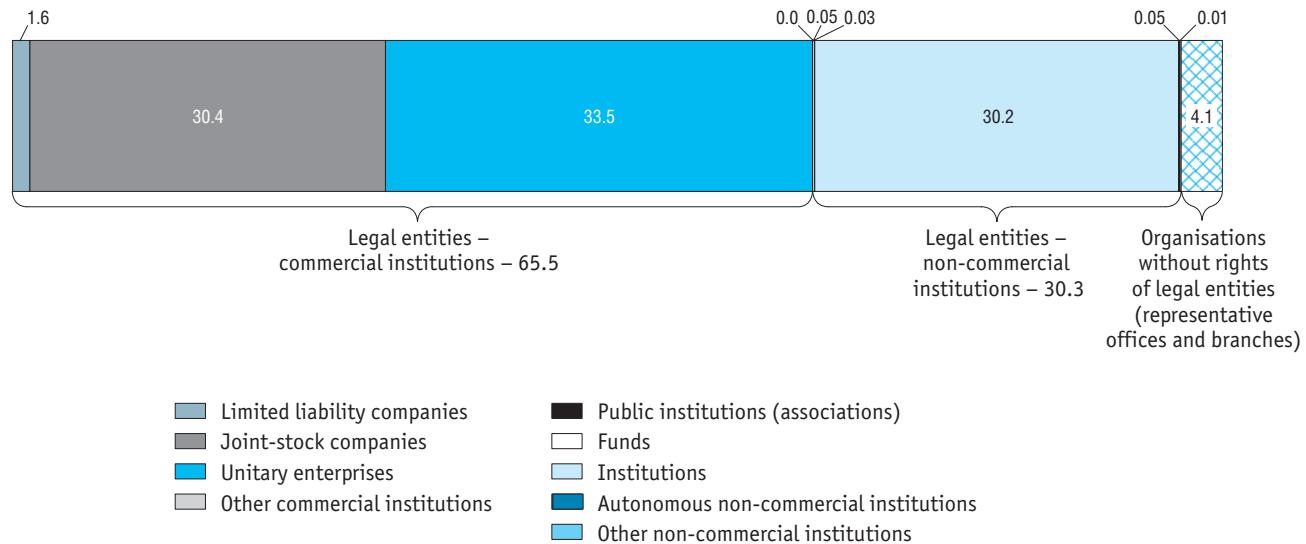
* Details may not add to the total because of shared ownership at some institutions.

** Until 2000, registered within institutions of private and joint Russian ownership.

2.5. R&D PERSONNEL BY ORGANISATIONAL AND LEGAL FORMS OF INSTITUTIONS
(head-count)

| | | | |
|---|---------------|--|--------|
| Total | 736540 | Legal entities – non-commercial institutions | 223517 |
| Legal entities – commercial institutions | 482529 | Public and religious institutions (associations) | 336 |
| Economical co-partnerships and associations | 235514 | Funds | 214 |
| Limited liability companies | 11884 | Institutions | 222463 |
| Additional liability companies | 4 | Private institutions | 979 |
| Joint-stock companies | 223626 | Public institutions | 220409 |
| Open joint-stock companies | 209547 | Autonomous institutions | 1075 |
| Closed joint-stock companies | 14079 | Non-commercial partnerships | 24 |
| Production cooperatives | – | Autonomous non-commercial institutions | 403 |
| Unitary enterprises | 247015 | Associations of legal entities | 37 |
| Unitary enterprises based on the operative administration law | 4802 | Other non-commercial institutions | 40 |
| Unitary enterprises based on the economic management law | 242213 | Organisations without rights of legal entities (representative offices and branches) | 30494 |

2.6. PERCENTAGE DISTRIBUTION OF R&D PERSONNEL BY ORGANISATIONAL AND LEGAL FORMS OF INSTITUTIONS



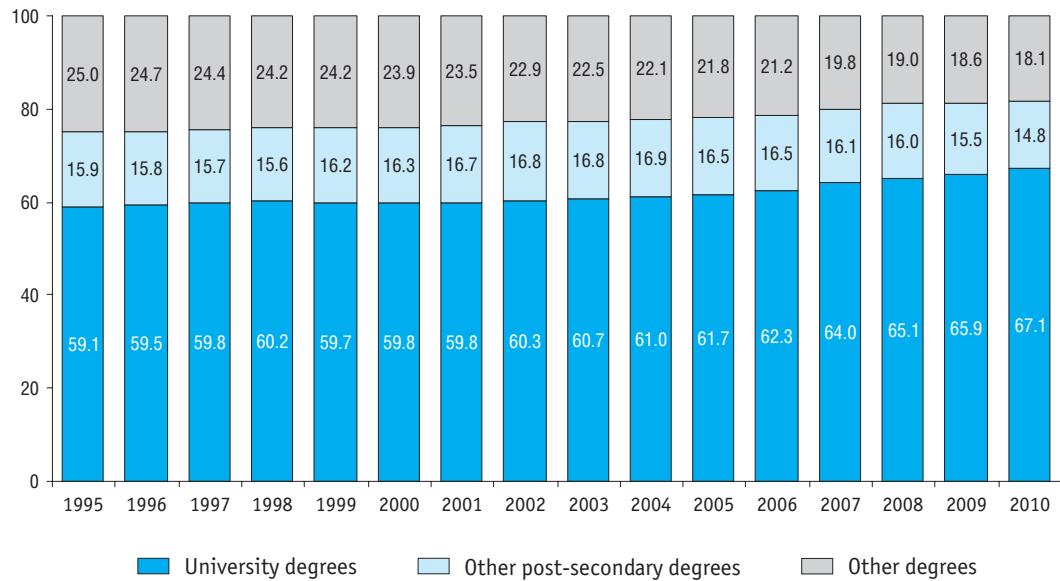
2.7. R&D PERSONNEL BY ECONOMIC ACTIVITY
(head-count)

| | R&D personnel | | | Researchers | | |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Total | 761252 | 742433 | 736540 | 375804 | 369237 | 368915 |
| Agriculture, hunting and forestry | 1271 | 1146 | 1131 | 459 | 460 | 457 |
| Fishing, aquaculture and service activities incidental to fishing | – | 3 | 2 | – | – | – |
| Mining and quarrying | 223 | 66 | 66 | 97 | 63 | 64 |
| Manufacturing | 39079 | 35855 | 34661 | 20861 | 18636 | 18474 |
| Electricity, gas and water supply | 66 | 56 | 22 | 9 | 10 | 9 |
| Construction | – | – | – | – | – | – |
| Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods | 48 | – | – | 14 | – | – |
| Transport and communications | 333 | 329 | 318 | 214 | 194 | 200 |
| Real estate, renting and business activities | 672087 | 654800 | 644893 | 321098 | 315837 | 310354 |
| Research and development | 659807 | 645139 | 635059 | 313555 | 309601 | 304081 |
| Other business activities | 9257 | 7257 | 6997 | 5899 | 4809 | 4410 |
| Public administration and defence; compulsory social security | – | – | – | – | – | – |
| Education | 40067 | 42558 | 47257 | 29176 | 30408 | 35172 |
| Higher education | 39959 | 42459 | 47180 | 29095 | 30331 | 35113 |
| Health and social work | 2534 | 2362 | 2819 | 1407 | 1233 | 1557 |
| Other community, social and personal service activities | 5544 | 5258 | 5371 | 2469 | 2396 | 2628 |
| Recreational, cultural and sporting activities | 5529 | 5236 | 5354 | 2456 | 2376 | 2615 |

2.8. R&D PERSONNEL BY QUALIFICATION
(head-count)

| | Total | University degrees | Other post-secondary degrees | Other degrees |
|------|---------|--------------------|------------------------------|---------------|
| 1995 | 1061044 | 626979 | 168999 | 265066 |
| 1996 | 990743 | 589480 | 156762 | 244501 |
| 1997 | 934637 | 559118 | 147149 | 228370 |
| 1998 | 855190 | 514539 | 133287 | 207364 |
| 1999 | 872363 | 520438 | 141220 | 210705 |
| 2000 | 887729 | 530649 | 144503 | 212577 |
| 2001 | 885568 | 529905 | 147604 | 208059 |
| 2002 | 870878 | 525145 | 146052 | 199681 |
| 2003 | 858470 | 521137 | 144197 | 193136 |
| 2004 | 839338 | 511778 | 141682 | 185878 |
| 2005 | 813207 | 501718 | 134222 | 177267 |
| 2006 | 807066 | 502657 | 133454 | 170955 |
| 2007 | 801135 | 513099 | 129360 | 158676 |
| 2008 | 761252 | 495255 | 121508 | 144489 |
| 2009 | 742433 | 489076 | 115042 | 138315 |
| 2010 | 736540 | 493852 | 109158 | 133530 |

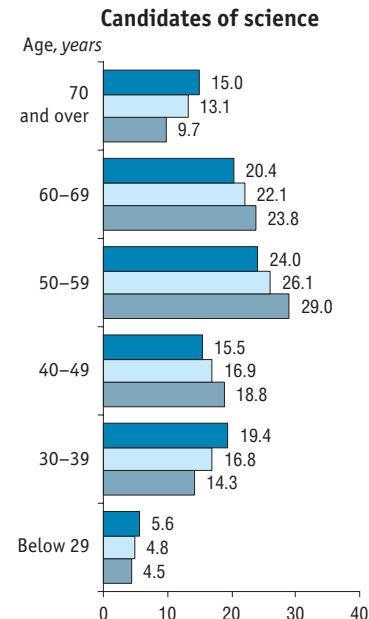
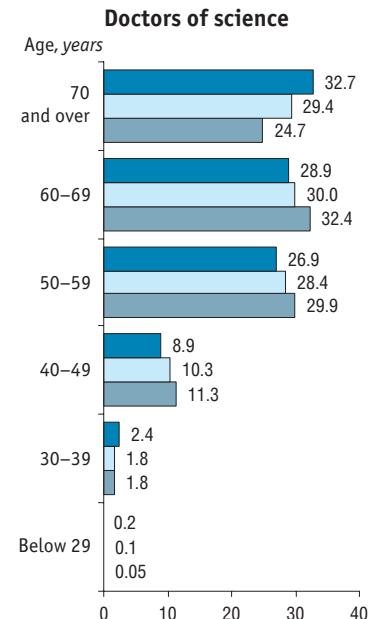
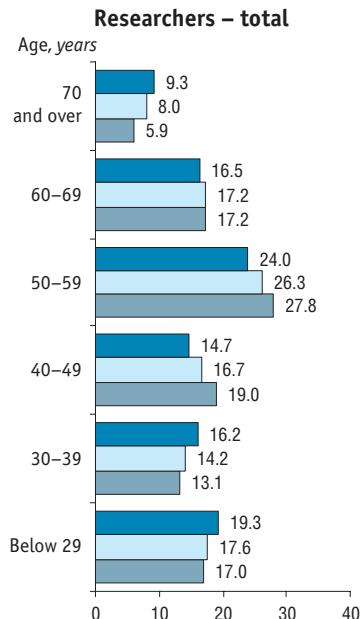
2.9. PERCENTAGE DISTRIBUTION OF R&D PERSONNEL BY QUALIFICATION



2.10. RESEARCHERS BY AGE
(head-count)

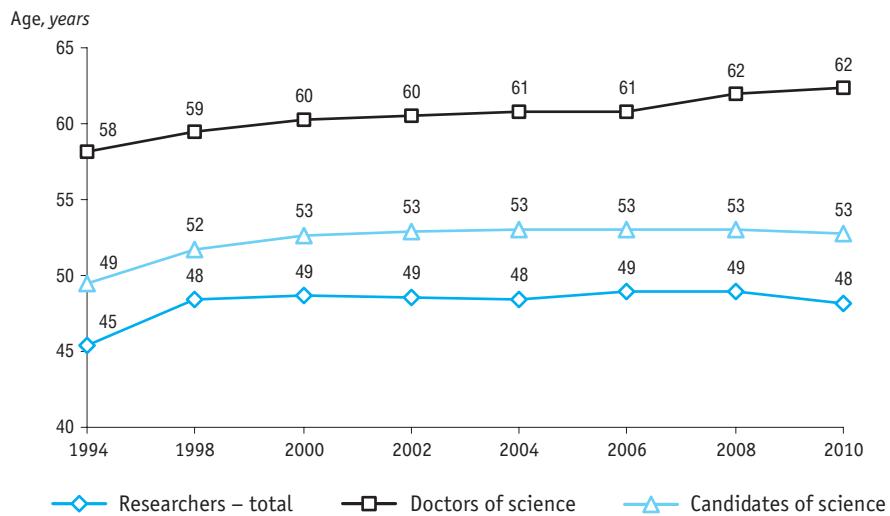
| | 2006 | | | 2008 | | | 2010 | | |
|--------------------|---------------|-----------------------|--------------------------|---------------|-----------------------|--------------------------|---------------|-----------------------|--------------------------|
| | Researchers | Of whom | | Researchers | Of whom | | Researchers | Of whom | |
| | | doctors of science | candidates of science | | doctors of science | candidates of science | | doctors of science | candidates of science |
| Total | 388939 | 23880 | 75627 | 375804 | 25140 | 75909 | 368915 | 26789 | 78325 |
| <i>Age, years:</i> | | | | | | | | | |
| below 29 | 66179 | 12 | 3405 | 66191 | 17 | 3670 | 71194 | 52 | 4354 |
| 30–39 | 50937 | 418 | 10822 | 53364 | 445 | 12768 | 59910 | 632 | 15229 |
| 40–49 | 73944 | 2687 | 14195 | 62733 | 2592 | 12857 | 54113 | 2394 | 12157 |
| 50–59 | 108271 | 7143 | 21909 | 98756 | 7151 | 19832 | 88362 | 7211 | 18805 |
| 60–69 | 66755 | 7732 | 17996 | 64528 | 7541 | 16800 | 60997 | 7743 | 16001 |
| 70 and over | 22853 | 5888 | 7300 | 30232 | 7394 | 9982 | 34339 | 8757 | 11779 |

2.11. PERCENTAGE DISTRIBUTION OF RESEARCHERS BY AGE



■ 2006 ■ 2008 ■ 2010

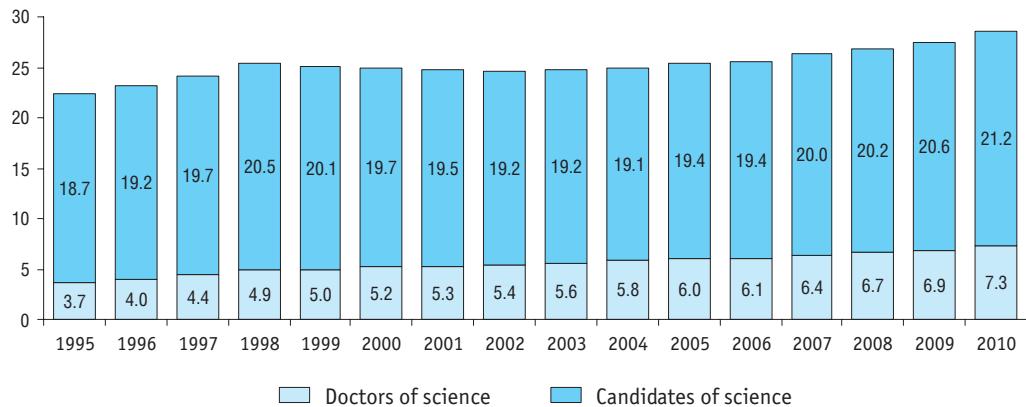
2.12. AVERAGE AGE OF RESEARCHERS



2.13. RESEARCHERS WITH SCIENTIFIC DEGREES (head-count)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|---------------|---------------|---------------|---------------|---------------|---------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|
| Researchers with scientific degrees | 116465 | 105884 | 105911 | 104414 | 102346 | 101806 | 99910 | 99428 | 99507 | 103725 | 101049 | 101275 | 105114 |
| Doctors of science | 19330 | 20514 | 21949 | 22262 | 22571 | 22936 | 23102 | 23410 | 23880 | 25213 | 25140 | 25295 | 26789 |
| Candidates of science | 97135 | 85370 | 83962 | 82152 | 79775 | 78870 | 76808 | 76018 | 75627 | 78512 | 75909 | 75980 | 78325 |

2.14. RESEARCHERS WITH SCIENTIFIC DEGREES AS A PER CENT OF THE TOTAL NUMBER OF RESEARCHERS

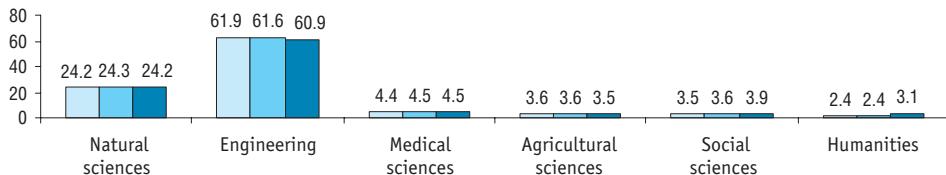


2.15. RESEARCHERS BY FIELD OF SCIENCE AND TECHNOLOGY
(head-count)

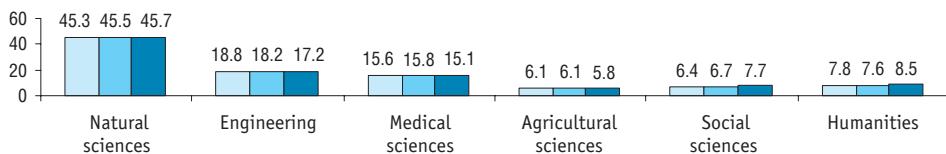
| | 2005 | | | | 2006 | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | |
|-----------------------|---------------|---------------------|------------------------|---------------|---------------------|------------------------|---------------|---------------------|------------------------|---------------|---------------------|------------------------|---------------|---------------------|------------------------|---------------|---------------------|------------------------|--------------|---------------------|------------------------|--------------|---------------------|------------------------|
| | Resear-chers | Of whom | | Resear-chers | Of whom | | Resear-chers | Of whom | | Resear-chers | Of whom | | Resear-chers | Of whom | | Resear-chers | Of whom | | Resear-chers | Of whom | | Resear-chers | Of whom | |
| | | doctors of sci-ence | candi-dates of science | | doctors of sci-ence | candi-dates of science | | doctors of sci-ence | candi-dates of science | | doctors of sci-ence | candi-dates of science | | doctors of sci-ence | candi-dates of science | | doctors of sci-ence | candi-dates of science | | doctors of sci-ence | candi-dates of science | | doctors of sci-ence | candi-dates of science |
| Total | 391121 | 23410 | 76018 | 388939 | 23880 | 75627 | 392849 | 25213 | 78512 | 375804 | 25140 | 75909 | 369237 | 25295 | 75980 | 368915 | 26789 | 78325 | | | | | | |
| Natural sciences | 91570 | 10738 | 32969 | 89304 | 10966 | 32413 | 94668 | 11479 | 33359 | 91117 | 11399 | 32304 | 89856 | 11520 | 32692 | 89375 | 12251 | 33664 | | | | | | |
| Engineering | 249358 | 4495 | 23677 | 248201 | 4502 | 23365 | 244475 | 4809 | 23552 | 232463 | 4738 | 22372 | 227403 | 4612 | 21851 | 224641 | 4620 | 21260 | | | | | | |
| Medical sciences | 15672 | 3715 | 6791 | 15896 | 3757 | 6910 | 16734 | 3934 | 7540 | 16713 | 3911 | 7492 | 16652 | 3988 | 7552 | 16516 | 4045 | 7475 | | | | | | |
| Agricultural sciences | 13724 | 1356 | 4922 | 13447 | 1370 | 4926 | 13743 | 1478 | 5100 | 13622 | 1526 | 5031 | 13217 | 1547 | 5006 | 12734 | 1542 | 5004 | | | | | | |
| Social sciences | 12497 | 1336 | 4158 | 13721 | 1437 | 4545 | 13740 | 1632 | 5008 | 13012 | 1614 | 4686 | 13272 | 1706 | 4982 | 14347 | 2057 | 5861 | | | | | | |
| Humanities | 8300 | 1770 | 3501 | 8370 | 1848 | 3468 | 9489 | 1881 | 3953 | 8877 | 1952 | 4024 | 8837 | 1922 | 3897 | 11302 | 2274 | 5061 | | | | | | |

2.16. PERCENTAGE DISTRIBUTION OF RESEARCHERS BY FIELD OF SCIENCE AND TECHNOLOGY

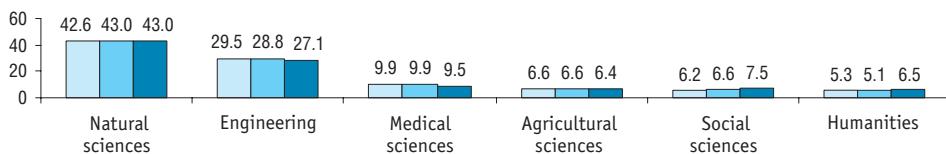
Researchers – total



Doctors of science



Candidates of science

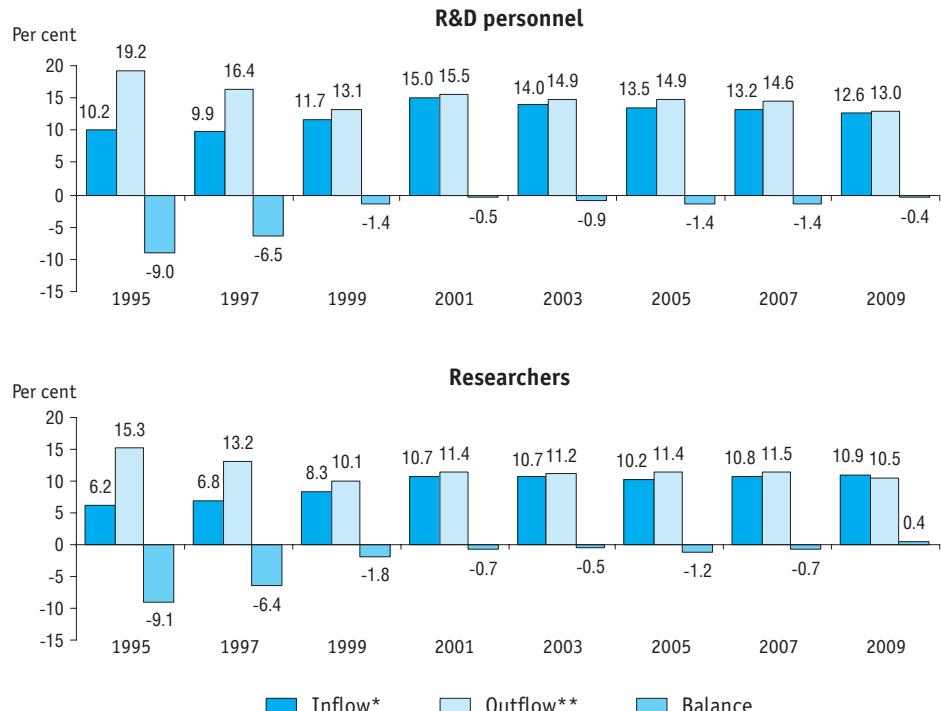


■ 2008 ■ 2009 ■ 2010

2.17. FLOWS OF R&D PERSONNEL
(head-count)

| | Number at the beginning of the refer- ence year | Inflow | | | | Outflow | | | | Number at the end of the refer- ence year |
|------|--|--------|---|--------------------------------------|--------|---------|----------------------|---------------------------|--------|--|
| | | Total | Graduates from higher education institutions | From other research institutes | Others | Total | At own initiative | Due to staff reduction | Others | |
| 1995 | 1179294 | 108335 | 6498 | 23402 | 78435 | 226585 | 141776 | 29747 | 55062 | 1061044 |
| 1996 | 1075752 | 92905 | 6447 | 19628 | 66830 | 177914 | 105992 | 24820 | 47102 | 990743 |
| 1997 | 1007043 | 92587 | 6433 | 17368 | 68786 | 164993 | 97163 | 26950 | 40880 | 934637 |
| 1999 | 886477 | 101951 | 9393 | 17956 | 74602 | 115978 | 72764 | 9516 | 33698 | 872363 |
| 2001 | 890718 | 132757 | 14122 | 21549 | 97086 | 137932 | 93587 | 3542 | 40803 | 885568 |
| 2003 | 867456 | 120298 | 13777 | 20702 | 85819 | 129284 | 89513 | 5917 | 33854 | 858470 |
| 2005 | 826007 | 109973 | 13495 | 15618 | 80860 | 122773 | 81623 | 6598 | 34552 | 813207 |
| 2007 | 814329 | 105758 | 14150 | 19778 | 71830 | 118952 | 80536 | 4617 | 33799 | 801135 |
| 2009 | 745978 | 93526 | 13235 | 13529 | 66762 | 97071 | 58295 | 5776 | 33000 | 742433 |

2.18. TRENDS IN INFLOW AND OUTFLOW OF R&D PERSONNEL

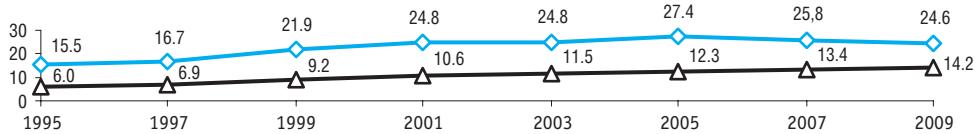


* Ratio of the admitted during the year to the number of employees at the end of the year.

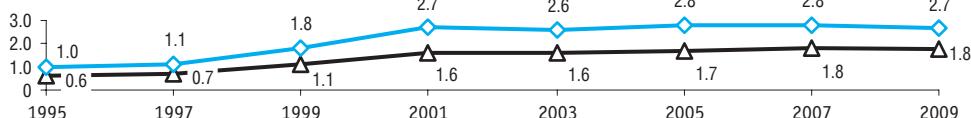
** Ratio of the leaved during the year to the number of employees at the beginning of the year.

2.19. INFLOW OF HIGHER EDUCATION GRADUATES INTO R&D INSTITUTIONS

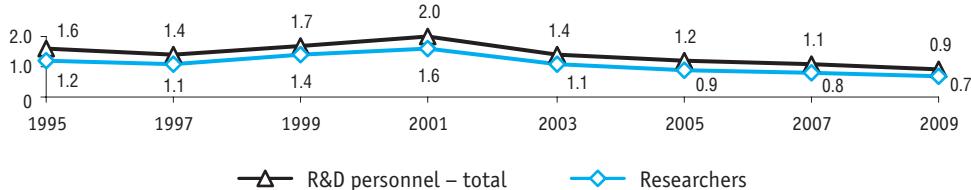
Higher education graduates as a per cent of the inflow into R&D institutions



Higher education graduates as a per cent
of R&D personnel*



Higher education graduates inflow into R&D institutions as a per cent
of the higher education graduates total**



—△— R&D personnel – total —◇— Researchers

* Ratio of the higher education graduates admitted during the year to the number of employees at the end of the year.

** Including private higher education institutions.

Postgraduate education

2.20. MAIN INDICATORS OF POSTGRADUATE COURSES ACTIVITIES

| | Institutions <i>(at the end of the year)</i> | Enrolment, head-count <i>(at the end of the year)</i> | Entrants, head-count | Graduates, head-count | Of whom with defended dissertations, head-count |
|--------------|---|---|-------------------------|--------------------------|---|
| Total | | | | | |
| 1995 | 1334 | 62317 | 24025 | 11369 | 2609 |
| 1998 | 1338 | 98355 | 34351 | 17972 | 4691 |
| 1999 | 1357 | 107031 | 37666 | 21982 | 5953 |
| 2000 | 1362 | 117714 | 43100 | 24828 | 7503 |
| 2001 | 1393 | 128420 | 45241 | 25696 | 6172 |
| 2002 | 1416 | 136242 | 46935 | 28101 | 7411 |
| 2003 | 1441 | 140741 | 47803 | 30799 | 8378 |
| 2004 | 1452 | 142662 | 47687 | 32595 | 10256 |
| 2005 | 1473 | 142899 | 46896 | 33561 | 10650 |
| 2006 | 1493 | 146111 | 50462 | 35530 | 11893 |
| 2007 | 1490 | 147719 | 51633 | 35747 | 10970 |
| 2008 | 1529 | 147674 | 49638 | 33670 | 8831 |
| 2009 | 1547 | 154470 | 55540 | 34235 | 10770 |
| 2010 | 1568 | 157437 | 54558 | 33763 | 9611 |

(continued)

| | Institutions (at the end of the year) | Enrolment, head-count (at the end of the year) | Entrants, head-count | Graduates, head-count | Of whom with defended dissertations, head-count |
|----------------------------|--|--|-------------------------|--------------------------|---|
| Research institutes | | | | | |
| 1995 | 828 | 11488 | 4024 | 2814 | 596 |
| 1998 | 800 | 15771 | 5411 | 3140 | 665 |
| 1999 | 804 | 15420 | 5322 | 3516 | 691 |
| 2000 | 797 | 17502 | 6075 | 3813 | 873 |
| 2001 | 806 | 17784 | 6092 | 3859 | 685 |
| 2002 | 818 | 18323 | 6026 | 4205 | 851 |
| 2003 | 827 | 18959 | 6335 | 4336 | 841 |
| 2004 | 831 | 19654 | 6620 | 4656 | 1002 |
| 2005 | 833 | 19986 | 6577 | 4806 | 1009 |
| 2006 | 820 | 19542 | 6330 | 4865 | 852 |
| 2007 | 799 | 18346 | 6072 | 4847 | 895 |
| 2008 | 811 | 17397 | 5381 | 4781 | 715 |
| 2009 | 800 | 16549 | 5549 | 4359 | 734 |
| 2010 | 809 | 16936 | 5655 | 4335 | 729 |

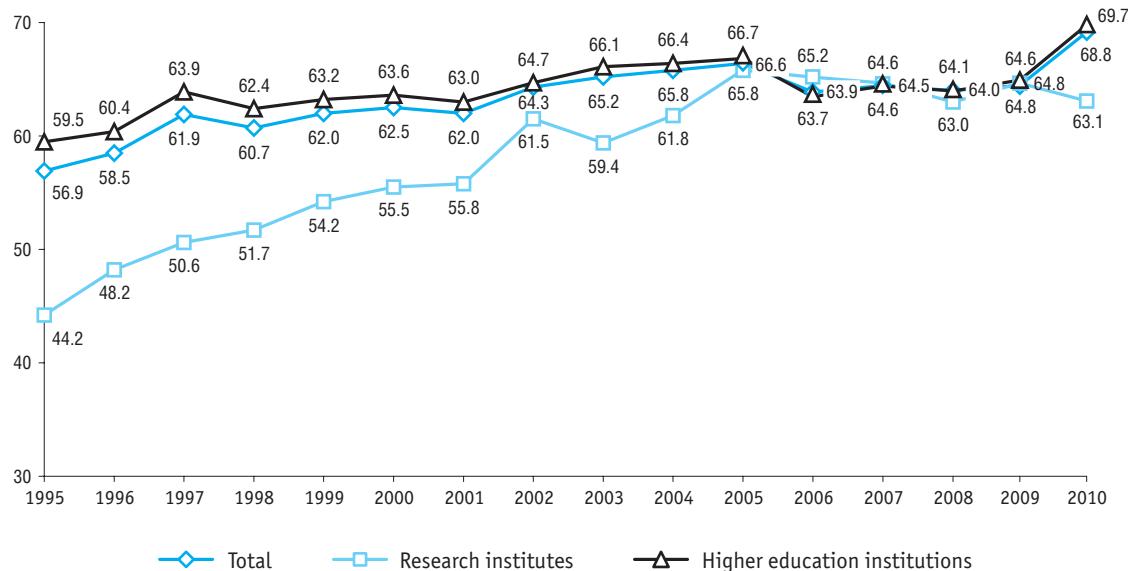
(continued)

| | Institutions (at the end of the year) | Enrolment, head-count (at the end of the year) | Entrants, head-count | Graduates, head-count | Of whom with defended dissertations, head-count |
|---|--|--|-------------------------|--------------------------|---|
| Higher education institutions | | | | | |
| 1995 | 506 | 50829 | 20001 | 8555 | 2013 |
| 1998 | 538 | 82584 | 28940 | 14832 | 4026 |
| 1999 | 553 | 91611 | 32344 | 18466 | 5262 |
| 2000 | 565 | 100212 | 37025 | 21015 | 6630 |
| 2001 | 587 | 110636 | 39149 | 21837 | 5487 |
| 2002 | 598 | 117919 | 40909 | 23896 | 6560 |
| 2003 | 614 | 121782 | 41468 | 26463 | 7537 |
| 2004 | 621 | 123008 | 41067 | 27939 | 9254 |
| 2005 | 640 | 122913 | 40319 | 28755 | 9641 |
| 2006 | 673 | 126569 | 44132 | 30665 | 11041 |
| 2007 | 691 | 129373 | 45561 | 30900 | 10075 |
| 2008 | 718 | 130277 | 44257 | 28889 | 8116 |
| 2009 | 730 | 137068 | 49736 | 29678 | 9996 |
| 2010 | 748 | 139908 | 48748 | 29268 | 8854 |
| Institutions for non-formal education / training | | | | | |
| 2009 | 17 | 853 | 255 | 198 | 40 |
| 2010 | 11 | 593 | 155 | 160 | 28 |

2.21. ENTRANCE OF HIGHER EDUCATION GRADUATES TO POSTGRADUATE COURSES BY ATTENDANCE STATUS*
(head-count)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Total | 13673 | 20853 | 26926 | 28049 | 30178 | 31168 | 31371 | 31211 | 32232 | 33341 | 31756 | 35855 | 37528 |
| Full-timers | 11215 | 17086 | 22076 | 22691 | 24674 | 24956 | 25621 | 25535 | 26022 | 27210 | 24827 | 28487 | 28507 |
| Part-timers | 2458 | 3767 | 4850 | 5358 | 5504 | 6212 | 5750 | 5676 | 6210 | 6131 | 6929 | 7368 | 9021 |
| Research institutes | 1777 | 2795 | 3370 | 3397 | 3705 | 3763 | 4090 | 4328 | 4124 | 3918 | 3391 | 3595 | 3569 |
| Full-timers | 1340 | 2121 | 2677 | 2546 | 2825 | 2987 | 3169 | 3439 | 3262 | 3167 | 2723 | 2896 | 2877 |
| Part-timers | 437 | 674 | 693 | 851 | 880 | 776 | 921 | 889 | 862 | 751 | 668 | 699 | 692 |
| Higher education institutions | 11896 | 18058 | 23556 | 24652 | 26473 | 27405 | 27281 | 26883 | 28108 | 29423 | 28365 | 32223 | 33955 |
| Full-timers | 9875 | 14965 | 19399 | 20145 | 21849 | 21969 | 22452 | 22096 | 22760 | 24043 | 22104 | 25564 | 25628 |
| Part-timers | 2021 | 3093 | 4157 | 4507 | 4624 | 5436 | 4829 | 4787 | 5348 | 5380 | 6261 | 6659 | 8327 |
| Institutions for non-formal education / training | - | - | - | - | - | - | - | - | - | - | - | 37 | 4 |
| Full-timers | - | - | - | - | - | - | - | - | - | - | - | 27 | 2 |
| Part-timers | - | - | - | - | - | - | - | - | - | - | - | 10 | 2 |

* Graduates of the reference year.

2.22. HIGHER EDUCATION GRADUATES AS A PER CENT OF POSTGRADUATE COURSES' ENTRANCE TOTAL*

* Graduates of the reference year. Institutions for non-formal education / training: 2009 – 14.5%, 2010 – 2.6%.

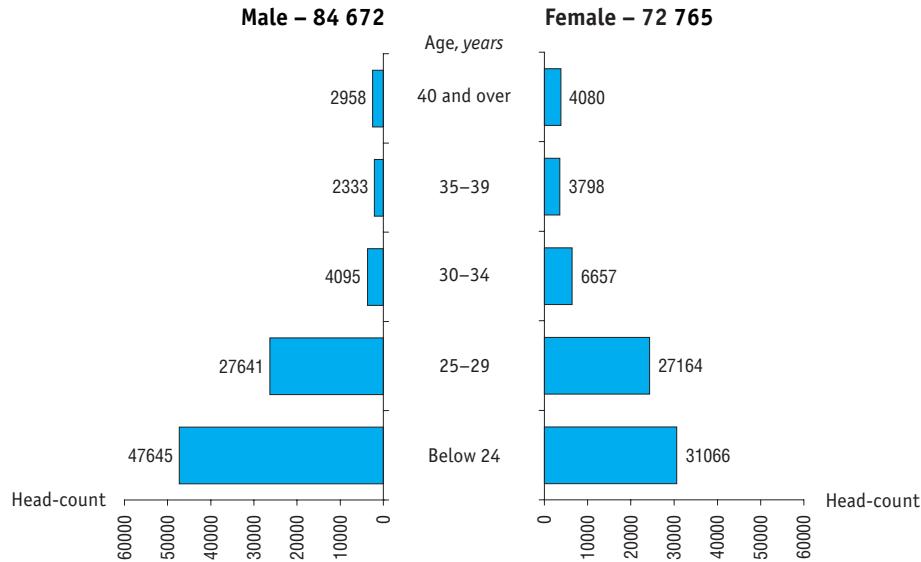
2.23. POSTGRADUATE COURSES' STUDENTS BY GENDER
(head-count)

| | Enrolment (<i>at the end of the year</i>) | | | Entrants | | | Graduates | | | Of whom with defended dissertations | | |
|-------------------------------|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------------------------------|-------------|-------------|
| | Total | Male | Female | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| 2005 | | | | | | | | | | | | |
| Total | 142899 | 81147 | 61752 | 46896 | 28825 | 18071 | 33561 | 19222 | 14339 | 10650 | 5571 | 5079 |
| Research institutes | 19986 | 11933 | 8053 | 6577 | 4267 | 2310 | 4806 | 3034 | 1772 | 1009 | 555 | 454 |
| Higher education institutions | 122913 | 69214 | 53699 | 40319 | 24558 | 15761 | 28755 | 16188 | 12567 | 9641 | 5016 | 4625 |
| 2006 | | | | | | | | | | | | |
| Total | 146111 | 83768 | 62343 | 50462 | 30905 | 19557 | 35530 | 20444 | 15086 | 11893 | 6151 | 5742 |
| Research institutes | 19542 | 11758 | 7784 | 6330 | 4023 | 2307 | 4865 | 3016 | 1849 | 852 | 448 | 404 |
| Higher education institutions | 126569 | 72010 | 54559 | 44132 | 26882 | 17250 | 30665 | 17428 | 13237 | 11041 | 5703 | 5338 |
| 2007 | | | | | | | | | | | | |
| Total | 147719 | 84399 | 63320 | 51633 | 30992 | 20641 | 35747 | 20752 | 14995 | 10970 | 5652 | 5318 |
| Research institutes | 18346 | 10884 | 7462 | 6072 | 3732 | 2340 | 4847 | 3113 | 1734 | 895 | 517 | 378 |
| Higher education institutions | 129373 | 73515 | 55858 | 45561 | 27260 | 18301 | 30900 | 17639 | 13261 | 10075 | 5135 | 4940 |
| 2008 | | | | | | | | | | | | |
| Total | 147674 | 81801 | 65873 | 49638 | 28257 | 21381 | 33670 | 19938 | 13732 | 8831 | 4550 | 4281 |
| Research institutes | 17397 | 9981 | 7416 | 5381 | 3177 | 2204 | 4781 | 3020 | 1761 | 715 | 401 | 314 |
| Higher education institutions | 130277 | 71820 | 58457 | 44257 | 25080 | 19177 | 28889 | 16918 | 11971 | 8116 | 4149 | 3967 |

(continued)

| | Enrolment (<i>at the end of the year</i>) | | | Entrants | | | Graduates | | | Of whom with defended dissertations | | |
|--|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------------------------------|-------------|-------------|
| | Total | Male | Female | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| 2009 | | | | | | | | | | | | |
| Total | 154470 | 83619 | 70851 | 55540 | 31518 | 24022 | 34235 | 20182 | 14053 | 10770 | 5617 | 5153 |
| Research institutes | 16549 | 9429 | 7120 | 5549 | 3301 | 2248 | 4359 | 2717 | 1642 | 734 | 402 | 332 |
| Higher education institutions | 137068 | 73945 | 63123 | 49736 | 28153 | 21583 | 29678 | 17383 | 12295 | 9996 | 5198 | 4798 |
| Institutions for non-formal education / training | 853 | 245 | 608 | 255 | 64 | 191 | 198 | 82 | 116 | 40 | 17 | 23 |
| 2010 | | | | | | | | | | | | |
| Total | 157437 | 84672 | 72765 | 54558 | 31451 | 23107 | 33763 | 19838 | 13925 | 9611 | 5114 | 4497 |
| Research institutes | 16936 | 9411 | 7525 | 5655 | 3339 | 2316 | 4335 | 2659 | 1676 | 729 | 407 | 322 |
| Higher education institutions | 139908 | 75089 | 64819 | 48748 | 28064 | 20684 | 29268 | 17117 | 12151 | 8854 | 4691 | 4163 |
| Institutions for non-formal education / training | 593 | 172 | 421 | 155 | 48 | 107 | 160 | 62 | 98 | 28 | 16 | 12 |

2.24. POSTGRADUATE COURSES' STUDENTS BY GENDER AND AGE: 2010



2.25. POSTGRADUATE COURSES' STUDENTS BY FIELD OF SCIENCE AND TECHNOLOGY
(head-count)

| | Enrolment <i>(at the end of the year)</i> | | Entrants | | Graduates | | Of whom with defended dissertations | |
|-------------------------------------|--|---------------|--------------|--------------|--------------|--------------|--|-------------|
| | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Total | 154470 | 157437 | 55540 | 54558 | 34235 | 33763 | 10770 | 9611 |
| Physics and mathematics | 7766 | 8396 | 2998 | 3126 | 1721 | 1771 | 432 | 437 |
| Chemistry | 3499 | 3481 | 1359 | 1185 | 775 | 878 | 282 | 306 |
| Biology | 6893 | 7065 | 2303 | 2398 | 1792 | 1680 | 536 | 439 |
| Engineering* | 36869 | 38694 | 14244 | 14500 | 7576 | 7761 | 1953 | 1903 |
| Agriculture** | 4934 | 5093 | 1786 | 1740 | 1331 | 1078 | 537 | 296 |
| History | 4495 | 4531 | 1555 | 1595 | 1104 | 1093 | 318 | 341 |
| Economics | 27689 | 27309 | 9975 | 9179 | 5900 | 5887 | 1901 | 1754 |
| Philosophy | 2941 | 3087 | 1015 | 1101 | 695 | 670 | 243 | 202 |
| Philology | 6896 | 6897 | 2309 | 2171 | 1591 | 1573 | 638 | 552 |
| Law | 12294 | 12078 | 4244 | 3914 | 2600 | 2554 | 672 | 551 |
| Pedagogics | 10300 | 10298 | 3642 | 3385 | 2226 | 2179 | 801 | 703 |
| Medicine*** | 10956 | 11448 | 3269 | 3771 | 2877 | 2798 | 1365 | 1225 |
| Arts | 2264 | 2235 | 903 | 797 | 530 | 521 | 83 | 79 |
| Psychology | 3915 | 3985 | 1374 | 1343 | 720 | 770 | 215 | 215 |
| Sociology | 3179 | 3134 | 1059 | 986 | 686 | 548 | 223 | 157 |
| Politics | 1993 | 2046 | 691 | 796 | 509 | 466 | 189 | 127 |
| Earth and related Environmental**** | 5654 | 5754 | 2105 | 1987 | 1179 | 1159 | 250 | 236 |
| Others | 1933 | 1906 | 709 | 584 | 423 | 377 | 132 | 88 |

* Including Architecture.

** Including Veterinary.

*** Including Pharmacy.

**** Including Geology, Mineralogy and Geography.

**2.26. NUMBER OF PERSONS WHOSE CANDIDATE DEGREE AWARDS WERE CONFIRMED BY SUPREME CERTIFICATION COMMISSION
OF THE RUSSIAN FEDERATION BY FIELD OF SCIENCE AND TECHNOLOGY**

(head-count)

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Total | 11553 | 23075 | 18976 | 22094 | 25315 | 26054 | 30118 | 30650 | 30577 | 24805 | 24618 | 24343 | 22438 |
| Physics and mathematics | 1059 | 1354 | 952 | 1175 | 1187 | 1246 | 1201 | 1453 | 1473 | 1052 | 1301 | 1227 | 1233 |
| Chemistry | 462 | 664 | 636 | 506 | 620 | 681 | 678 | 682 | 766 | 582 | 736 | 657 | 767 |
| Biology | 811 | 1333 | 1009 | 1216 | 1366 | 1393 | 1462 | 1606 | 1487 | 1070 | 1565 | 1419 | 1242 |
| Engineering | 2563 | 4781 | 3177 | 3819 | 4334 | 4050 | 5125 | 4804 | 5277 | 3366 | 4410 | 4025 | 3930 |
| Agriculture | 354 | 674 | 596 | 727 | 667 | 771 | 781 | 757 | 700 | 546 | 717 | 701 | 529 |
| History | 502 | 829 | 762 | 817 | 958 | 906 | 1116 | 1276 | 1052 | 707 | 849 | 839 | 628 |
| Economics | 870 | 2709 | 2635 | 2586 | 4318 | 3853 | 4537 | 4723 | 5638 | 5150 | 2983 | 4081 | 3893 |
| Philosophy | 301 | 550 | 487 | 511 | 552 | 627 | 662 | 665 | 780 | 511 | 519 | 526 | 486 |
| Philology | 506 | 1115 | 867 | 1123 | 1063 | 1342 | 1648 | 1545 | 1447 | 1947 | 1448 | 1332 | 1283 |
| Law | 250 | 1084 | 977 | 1604 | 1459 | 1820 | 2300 | 2336 | 2221 | 1629 | 1597 | 1445 | 1195 |
| Pedagogics | 734 | 2167 | 1938 | 2086 | 2295 | 2367 | 2794 | 2746 | 2658 | 2413 | 1931 | 1912 | 2084 |
| Medicine | 1944 | 3429 | 3294 | 3704 | 4222 | 4434 | 4794 | 4929 | 4104 | 3675 | 3973 | 3767 | 2854 |
| Pharmacy | 76 | 86 | 79 | 77 | 89 | 103 | 105 | 110 | 120 | 101 | 93 | 96 | 89 |
| Veterinary | 96 | 199 | 164 | 229 | 243 | 210 | 222 | 208 | 189 | 153 | 188 | 138 | 183 |
| Arts | 81 | 114 | 101 | 105 | 91 | 158 | 185 | 171 | 178 | 135 | 226 | 172 | 183 |
| Architecture | 29 | 30 | 33 | 31 | 37 | 28 | 33 | 33 | 42 | 14 | 43 | 32 | 29 |
| Psychology | 198 | 508 | 349 | 537 | 490 | 621 | 730 | 807 | 784 | 553 | 633 | 519 | 516 |
| Sociology | 144 | 421 | 300 | 430 | 427 | 582 | 605 | 617 | 547 | 389 | 445 | 415 | 342 |
| Politics | 56 | 202 | 163 | 234 | 275 | 284 | 349 | 439 | 412 | 330 | 311 | 408 | 410 |
| Earth and related Environmental* | 258 | 441 | 203 | 339 | 363 | 380 | 421 | 421 | 376 | 230 | 373 | 353 | 262 |
| Others | 259 | 385 | 254 | 238 | 259 | 198 | 370 | 322 | 326 | 252 | 277 | 279 | 300 |

* Including Geology, Mineralogy and Geography.

2.27. MAIN INDICATORS OF DOCTORAL COURSES ACTIVITIES

| | Institutions (at the end of the year) | Enrolment, head-count (at the end of the year) | Entrants, head-count | Graduates, head-count | Of whom with defended dissertations, head-count |
|--------------|--|---|-------------------------|--------------------------|--|
| Total | | | | | |
| 1995 | 384 | 2190 | 904 | 464 | 137 |
| 1998 | 452 | 3684 | 1473 | 821 | 312 |
| 1999 | 476 | 3993 | 1466 | 1033 | 356 |
| 2000 | 492 | 4213 | 1637 | 1251 | 486 |
| 2001 | 510 | 4462 | 1630 | 1257 | 397 |
| 2002 | 531 | 4546 | 1579 | 1267 | 411 |
| 2003 | 543 | 4567 | 1611 | 1385 | 414 |
| 2004 | 533 | 4466 | 1567 | 1451 | 505 |
| 2005 | 535 | 4282 | 1457 | 1417 | 516 |
| 2006 | 548 | 4189 | 1499 | 1383 | 450 |
| 2007 | 579 | 4109 | 1520 | 1320 | 429 |
| 2008 | 593 | 4242 | 1517 | 1216 | 297 |
| 2009 | 598 | 4294 | 1569 | 1302 | 435 |
| 2010 | 602 | 4418 | 1650 | 1259 | 336 |

(continued)

| | Institutions (at the end of the year) | Enrolment, head-count (at the end of the year) | Entrants, head-count | Graduates, head-count | Of whom with defended dissertations, head-count |
|----------------------------|--|---|-------------------------|--------------------------|--|
| Research institutes | | | | | |
| 1995 | 167 | 483 | 197 | 128 | 41 |
| 1998 | 170 | 446 | 161 | 159 | 55 |
| 1999 | 173 | 447 | 182 | 146 | 54 |
| 2000 | 178 | 505 | 192 | 151 | 63 |
| 2001 | 181 | 485 | 183 | 138 | 38 |
| 2002 | 189 | 517 | 194 | 140 | 35 |
| 2003 | 195 | 515 | 184 | 154 | 47 |
| 2004 | 179 | 481 | 156 | 155 | 52 |
| 2005 | 173 | 445 | 147 | 148 | 48 |
| 2006 | 178 | 426 | 142 | 139 | 35 |
| 2007 | 201 | 358 | 118 | 116 | 33 |
| 2008 | 205 | 336 | 111 | 123 | 23 |
| 2009 | 204 | 327 | 114 | 107 | 23 |
| 2010 | 192 | 299 | 100 | 95 | 20 |

(continued)

| | Institutions (at the end of the year) | Enrolment, head-count (at the end of the year) | Entrants, head-count | Graduates, head-count | Of whom with defended dissertations, head-count |
|---|--|---|-------------------------|--------------------------|--|
| Higher education institutions | | | | | |
| 1995 | 217 | 1707 | 707 | 336 | 96 |
| 1998 | 282 | 3238 | 1312 | 662 | 257 |
| 1999 | 303 | 3546 | 1284 | 887 | 302 |
| 2000 | 314 | 3708 | 1445 | 1100 | 423 |
| 2001 | 329 | 3977 | 1447 | 1119 | 359 |
| 2002 | 342 | 4029 | 1385 | 1127 | 376 |
| 2003 | 348 | 4052 | 1427 | 1231 | 367 |
| 2004 | 354 | 3985 | 1411 | 1296 | 453 |
| 2005 | 362 | 3837 | 1310 | 1269 | 468 |
| 2006 | 370 | 3763 | 1357 | 1244 | 415 |
| 2007 | 378 | 3751 | 1402 | 1204 | 396 |
| 2008 | 388 | 3906 | 1406 | 1093 | 274 |
| 2009 | 391 | 3962 | 1454 | 1193 | 412 |
| 2010 | 407 | 4116 | 1548 | 1162 | 316 |
| Institutions for non-formal education / training | | | | | |
| 2009 | 3 | 5 | 1 | 2 | – |
| 2010 | 3 | 3 | 2 | 2 | – |

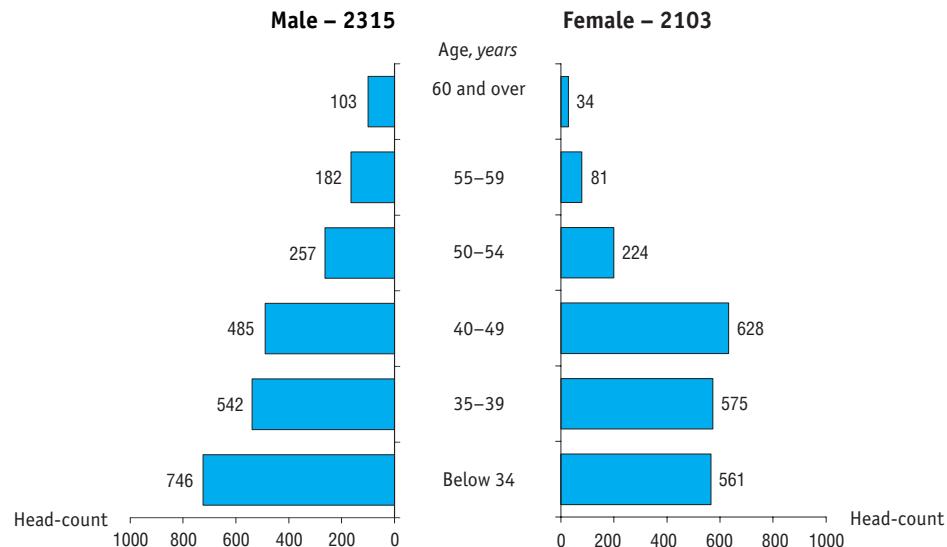
2.28. DOCTORAL COURSES' STUDENTS BY GENDER
(head-count)

| | Enrolment <i>(at the end of the year)</i> | | | Entrants | | | Graduates | | | Of whom with defended dissertations | | |
|-------------------------------|--|-------------|-------------|-------------|------------|------------|-------------|-------------|------------|-------------------------------------|------------|------------|
| | Total | Male | Female | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| 2005 | | | | | | | | | | | | |
| Total | 4282 | 2357 | 1925 | 1457 | 859 | 598 | 1417 | 1855 | 562 | 516 | 306 | 210 |
| Research institutes | 445 | 260 | 185 | 147 | 100 | 47 | 148 | 97 | 51 | 48 | 34 | 14 |
| Higher education institutions | 3837 | 2097 | 1740 | 1310 | 759 | 551 | 1269 | 758 | 511 | 468 | 272 | 196 |
| 2006 | | | | | | | | | | | | |
| Total | 4189 | 2304 | 1885 | 1499 | 852 | 647 | 1383 | 821 | 562 | 450 | 259 | 191 |
| Research institutes | 426 | 239 | 187 | 142 | 77 | 65 | 139 | 86 | 53 | 35 | 18 | 17 |
| Higher education institutions | 3763 | 2065 | 1698 | 1357 | 775 | 582 | 1244 | 735 | 509 | 415 | 241 | 174 |
| 2007 | | | | | | | | | | | | |
| Total | 4109 | 2225 | 1884 | 1520 | 830 | 690 | 1320 | 743 | 577 | 429 | 259 | 170 |
| Research institutes | 358 | 194 | 164 | 118 | 74 | 44 | 116 | 69 | 47 | 33 | 23 | 10 |
| Higher education institutions | 3751 | 2031 | 1720 | 1402 | 756 | 646 | 1204 | 674 | 530 | 396 | 236 | 160 |
| 2008 | | | | | | | | | | | | |
| Total | 4242 | 2242 | 2000 | 1517 | 835 | 682 | 1216 | 703 | 513 | 297 | 166 | 131 |
| Research institutes | 336 | 178 | 158 | 111 | 57 | 54 | 123 | 73 | 50 | 23 | 18 | 5 |
| Higher education institutions | 3906 | 2064 | 1842 | 1406 | 778 | 628 | 1093 | 630 | 463 | 274 | 148 | 126 |

(continued)

| | Enrolment (at the end of the year) | | | Entrants | | | Graduates | | | Of whom with defended dissertations | | |
|--|---------------------------------------|-------------|-------------|-------------|------------|------------|-------------|------------|------------|-------------------------------------|------------|------------|
| | Total | Male | Female | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| 2009 | | | | | | | | | | | | |
| Total | 4294 | 2276 | 2018 | 1569 | 855 | 714 | 1302 | 715 | 587 | 435 | 213 | 222 |
| Research institutes | 327 | 168 | 159 | 114 | 54 | 60 | 107 | 57 | 50 | 23 | 16 | 7 |
| Higher education institutions | 3962 | 2104 | 1858 | 1454 | 801 | 653 | 1193 | 657 | 536 | 412 | 197 | 215 |
| Institutions for non-formal education / training | 5 | 4 | 1 | 1 | – | 1 | 2 | 1 | 1 | – | – | – |
| 2010 | | | | | | | | | | | | |
| Total | 4418 | 2315 | 2103 | 1650 | 887 | 763 | 1259 | 721 | 538 | 336 | 190 | 146 |
| Research institutes | 299 | 136 | 163 | 100 | 44 | 56 | 95 | 69 | 26 | 20 | 17 | 3 |
| Higher education institutions | 4116 | 2178 | 1938 | 1548 | 842 | 706 | 1162 | 651 | 511 | 316 | 173 | 143 |
| Institutions for non-formal education / training | 3 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | – | – | – |

2.29. DOCTORAL COURSES' STUDENTS BY GENDER AND AGE: 2010
(at the end of the year)



2.30. DOCTORAL COURSES' STUDENTS BY FIELD OF SCIENCE AND TECHNOLOGY
(head-count)

| | Enrolment <i>(at the end of the year)</i> | | Entrants | | Graduates | | Of whom with defended dissertations | |
|-------------------------------------|--|-------------|-------------|-------------|-------------|-------------|--|------------|
| | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Total | 4294 | 4418 | 1569 | 1650 | 1302 | 1259 | 435 | 336 |
| Physics and mathematics | 322 | 342 | 125 | 136 | 93 | 100 | 29 | 27 |
| Chemistry | 133 | 143 | 44 | 51 | 35 | 38 | 7 | 9 |
| Biology | 162 | 172 | 56 | 56 | 50 | 47 | 16 | 8 |
| Engineering* | 1115 | 1173 | 432 | 447 | 361 | 324 | 124 | 100 |
| Agriculture** | 120 | 117 | 36 | 42 | 28 | 38 | 7 | 10 |
| History | 191 | 206 | 63 | 73 | 67 | 46 | 12 | 10 |
| Economics | 516 | 512 | 201 | 186 | 154 | 154 | 76 | 48 |
| Philosophy | 170 | 166 | 57 | 56 | 60 | 49 | 21 | 19 |
| Philology | 339 | 335 | 116 | 115 | 104 | 100 | 35 | 24 |
| Law | 101 | 114 | 38 | 51 | 35 | 29 | 10 | 7 |
| Pedagogics | 386 | 410 | 146 | 159 | 108 | 125 | 29 | 28 |
| Medicine*** | 267 | 269 | 99 | 102 | 84 | 74 | 33 | 22 |
| Arts | 17 | 19 | 7 | 10 | 8 | 3 | 3 | 1 |
| Psychology | 87 | 84 | 27 | 31 | 26 | 25 | 7 | 4 |
| Sociology | 102 | 105 | 33 | 44 | 20 | 28 | 9 | 6 |
| Politics | 50 | 53 | 20 | 24 | 16 | 13 | 4 | 6 |
| Earth and related Environmental**** | 141 | 127 | 47 | 41 | 39 | 45 | 9 | 5 |
| Others | 75 | 71 | 22 | 26 | 14 | 21 | 4 | 2 |

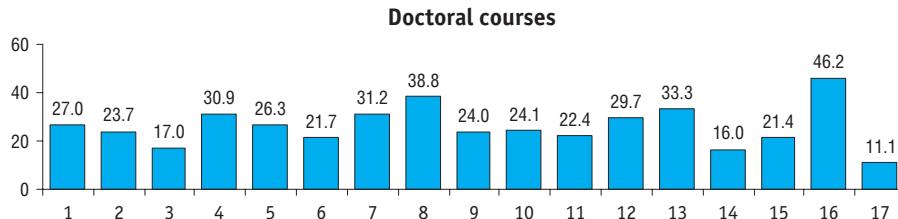
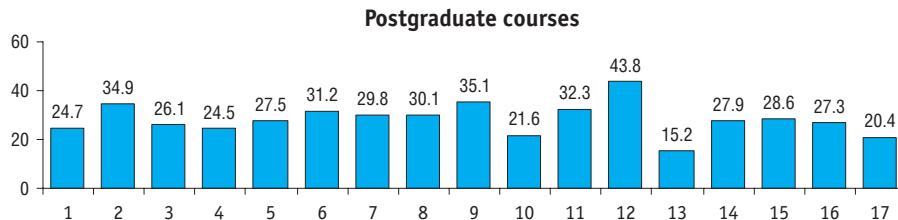
* Including Architecture.

** Including Veterinary.

*** Including Pharmacy.

**** Including Geology, Mineralogy and Geography.

2.31. GRADUATES THAT HAVE DEFENDED DISSERTATIONS DURING THE TRAINING TERM AS A PER CENT OF THE TOTAL NUMBER OF GRADUATES FROM POSTGRADUATE AND DOCTORAL COURSES BY FIELD OF SCIENCE AND TECHNOLOGY: 2010



1 – Physics and mathematics
2 – Chemistry
3 – Biology
4 – Engineering*
5 – Agriculture**
6 – History

7 – Economics
8 – Philosophy
9 – Philology
10 – Law
11 – Pedagogics
12 – Medicine***
13 – Arts
14 – Psychology
15 – Sociology
16 – Politics
17 – Earth and related Environmental****

* Including Architecture.

** Including Veterinary.

*** Including Pharmacy.

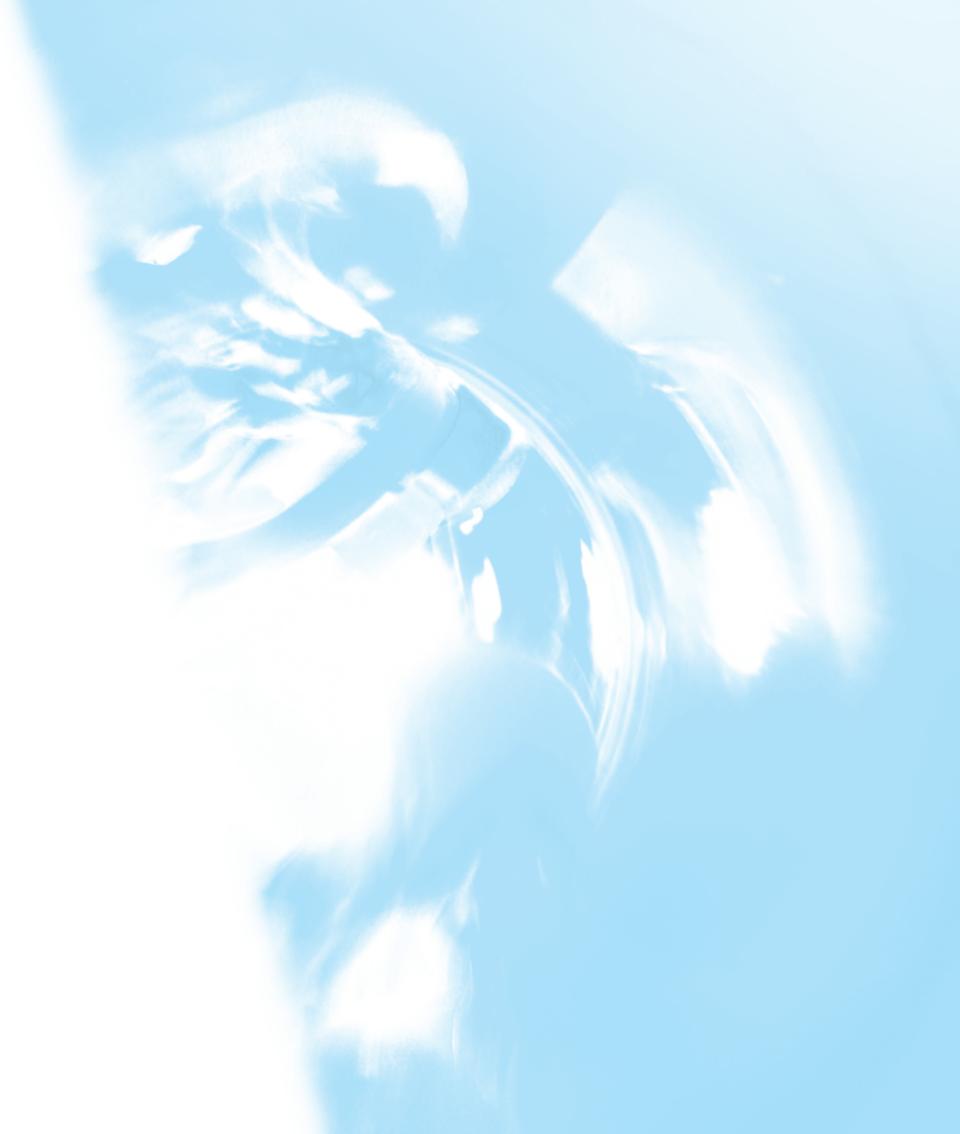
**** Including Geology, Mineralogy and Geography.

**2.32. NUMBER OF PERSONS, WHOSE DOCTOR DEGREE AWARDS WERE CONFIRMED BY SUPREME CERTIFICATION COMMISSION
OF THE RUSSIAN FEDERATION BY FIELD OF SCIENCE AND TECHNOLOGY**
(head-count)

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total | 2760 | 4592 | 3662 | 4293 | 3329 | 3796 | 4182 | 3963 | 3917 | 2914 | 2936 | 3291 | 3214 |
| Physics and mathematics | 344 | 391 | 329 | 426 | 259 | 308 | 347 | 313 | 288 | 246 | 264 | 285 | 346 |
| Chemistry | 101 | 127 | 99 | 156 | 96 | 103 | 94 | 117 | 96 | 95 | 85 | 78 | 79 |
| Biology | 174 | 278 | 182 | 248 | 197 | 246 | 269 | 286 | 270 | 198 | 227 | 221 | 207 |
| Engineering | 702 | 1092 | 785 | 937 | 691 | 708 | 878 | 742 | 755 | 536 | 530 | 580 | 522 |
| Agriculture | 92 | 131 | 120 | 131 | 92 | 122 | 119 | 123 | 112 | 72 | 83 | 95 | 79 |
| History | 122 | 191 | 163 | 210 | 113 | 160 | 191 | 163 | 177 | 106 | 118 | 145 | 107 |
| Economics | 156 | 366 | 328 | 346 | 361 | 416 | 389 | 434 | 535 | 333 | 327 | 474 | 426 |
| Philosophy | 86 | 161 | 134 | 155 | 117 | 115 | 118 | 131 | 146 | 86 | 77 | 120 | 104 |
| Philology | 97 | 224 | 149 | 206 | 148 | 157 | 179 | 164 | 212 | 160 | 117 | 156 | 212 |
| Law | 52 | 109 | 111 | 113 | 131 | 137 | 165 | 144 | 137 | 94 | 84 | 108 | 85 |
| Pedagogics | 103 | 257 | 249 | 221 | 254 | 231 | 248 | 196 | 218 | 190 | 160 | 156 | 179 |
| Medicine | 510 | 855 | 726 | 859 | 594 | 766 | 793 | 775 | 657 | 562 | 612 | 628 | 580 |
| Pharmacy | 4 | 13 | 21 | 11 | 10 | 15 | 21 | 14 | 12 | 8 | 9 | 14 | 12 |
| Veterinary | 26 | 41 | 27 | 40 | 19 | 22 | 43 | 32 | 20 | 17 | 22 | 11 | 33 |
| Arts | 21 | 21 | 31 | 27 | 17 | 25 | 23 | 25 | 25 | 11 | 19 | 18 | 30 |
| Architecture | 5 | 9 | 6 | 8 | 5 | 8 | 8 | 6 | 4 | 5 | 2 | 1 | – |
| Psychology | 31 | 64 | 42 | 43 | 47 | 50 | 44 | 54 | 46 | 29 | 30 | 41 | 39 |
| Sociology | 15 | 62 | 48 | 27 | 46 | 55 | 73 | 64 | 55 | 49 | 41 | 34 | 47 |
| Politics | 17 | 43 | 19 | 5 | 34 | 49 | 44 | 48 | 35 | 24 | 38 | 45 | 50 |
| Earth and related Environmental* | 79 | 104 | 63 | 103 | 70 | 85 | 91 | 97 | 73 | 65 | 50 | 56 | 58 |
| Others | 23 | 53 | 30 | 21 | 28 | 18 | 45 | 35 | 44 | 28 | 41 | 25 | 19 |

* Including Geology, Mineralogy and Geography.

3. R&D Funding

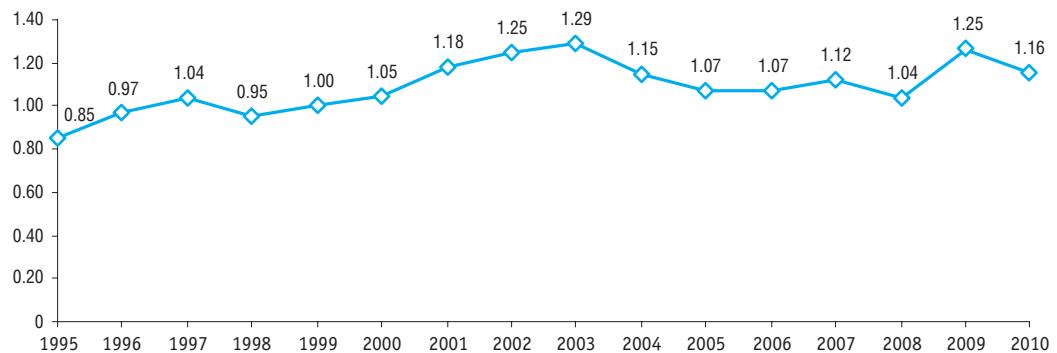


3.1. GROSS DOMESTIC EXPENDITURE ON R&D

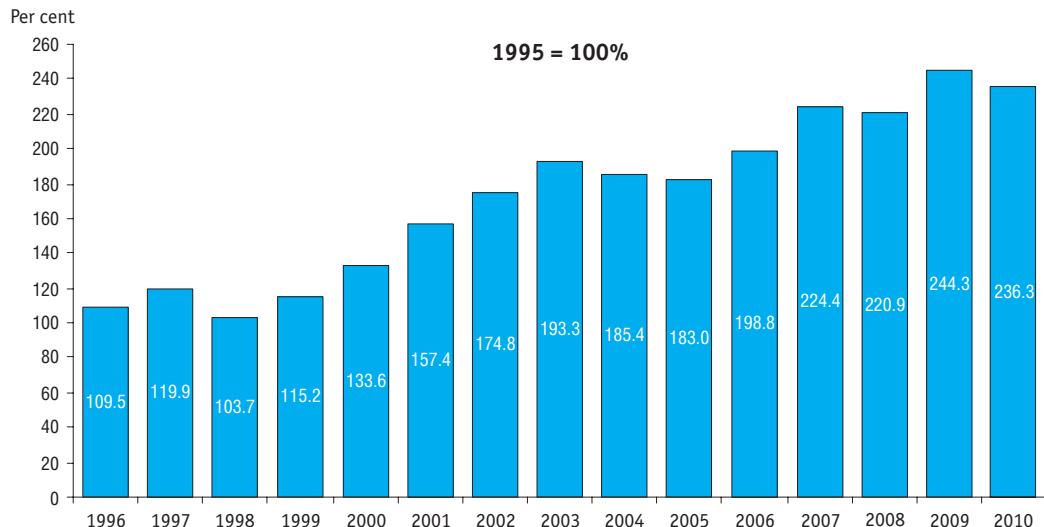
(thousand roubles, before 1998 – million roubles)

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Gross domestic expenditure on R&D: | | | | | | | | | | | | |
| at current prices | 12149458.6 | 76697100.5 | 105260731.6 | 135004491.9 | 169862369.1 | 196039870.2 | 230785150.3 | 288805211.5 | 371080327.1 | 431073185.2 | 485834338.2 | 523377233.9 |
| at constant 1989 prices | 2485.4 | 3321.2 | 3912.6 | 4344.7 | 4803.6 | 4608.4 | 4547.5 | 4939.9 | 5577.5 | 5490.8 | 6073.0 | 5872.8 |

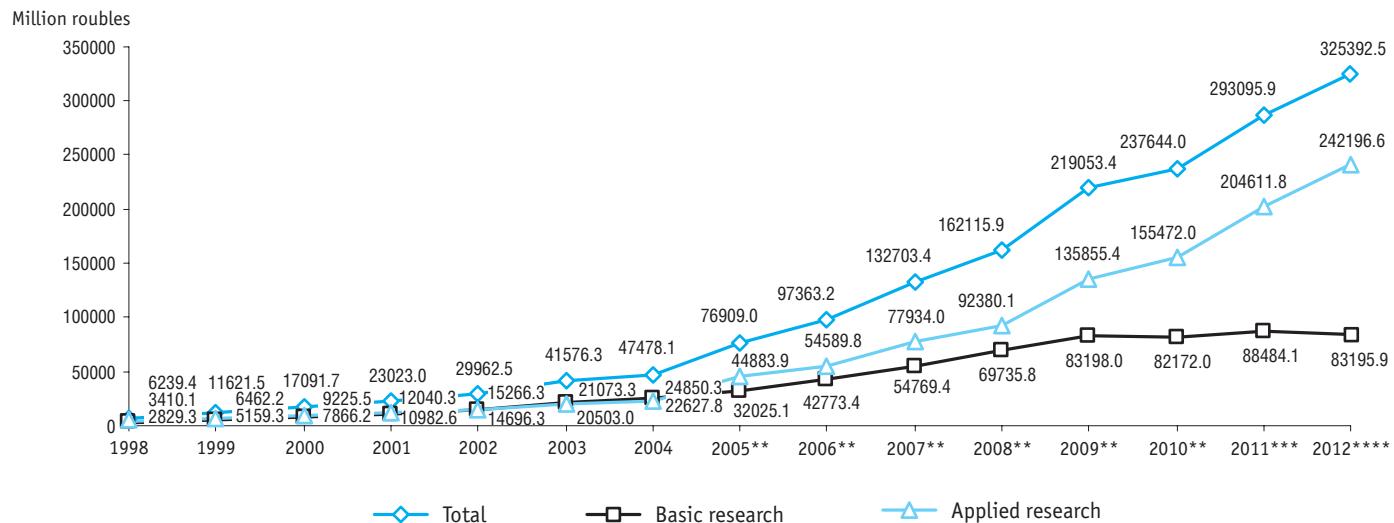
**Gross domestic expenditure on R&D
as a per cent of gross domestic product**



3.2. TRENDS IN GROSS DOMESTIC EXPENDITURE ON R&D (at constant 1989 prices)



3.3. FEDERAL BUDGET APPROPRIATIONS ON CIVIL-PURPOSE SCIENCE AND TECHNOLOGY AT CURRENT PRICES*



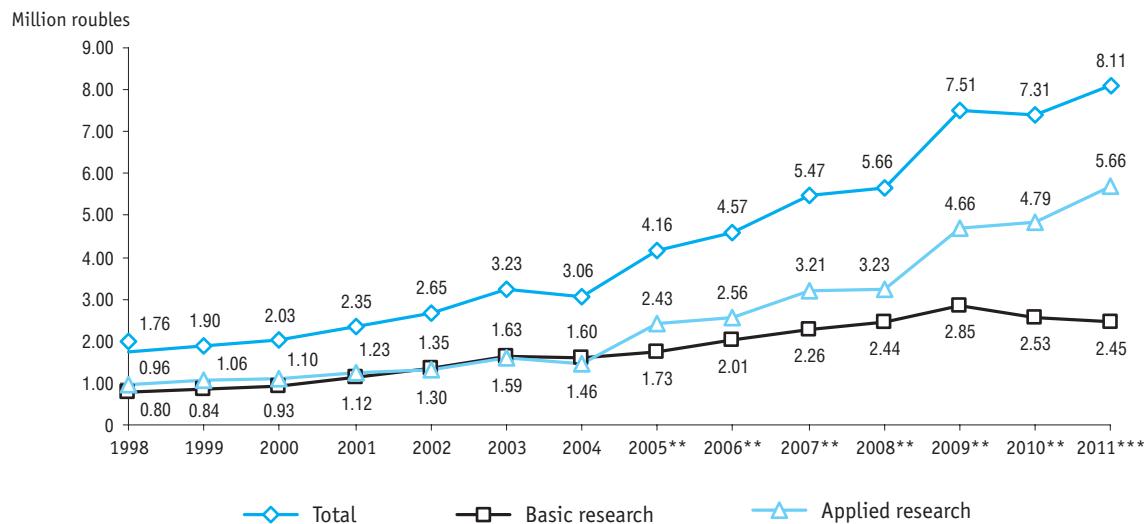
* 1998–2004: appropriations in the section (with corresponding subsections) 06 «Basic Research and Promotion of Science and Technology Progress» of the federal budget.

** Source of data for 2005–2010 – reports on implementation of the consolidated budget and budgets of the state non-budget funds (by the Federal Treasury's data).

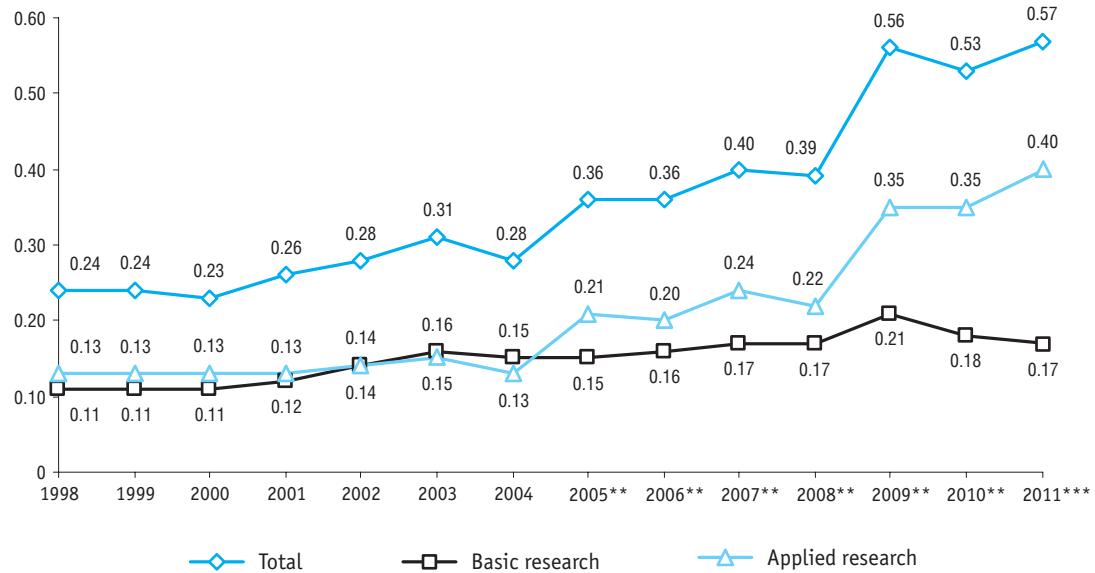
*** According to the Federal law «About Federal budget for 2011 and for the planned period 2012–2013» (with changes and additions).

**** According to the Federal law «About Federal budget for 2012 and for planned period 2013 and 2014».

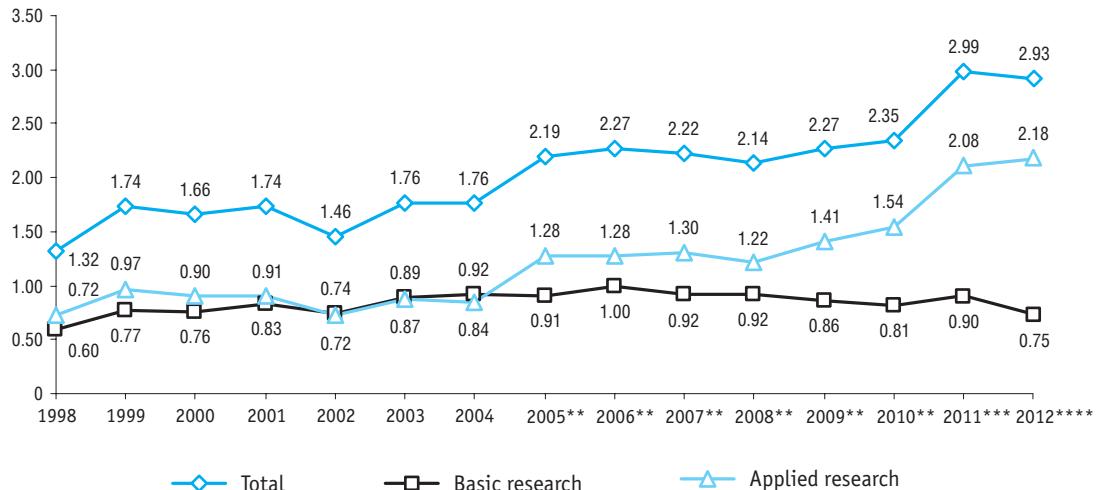
3.4. FEDERAL BUDGET APPROPRIATIONS ON CIVIL-PURPOSE SCIENCE AND TECHNOLOGY AT CONSTANT 1991 PRICES*



**3.5. FEDERAL BUDGET APPROPRIATIONS ON CIVIL-PURPOSE SCIENCE AND TECHNOLOGY
AS A PER CENT OF GROSS DOMESTIC PRODUCT***



3.6. FEDERAL BUDGET APPROPRIATIONS ON CIVIL-PURPOSE SCIENCE AND TECHNOLOGY AS A PER CENT OF FEDERAL BUDGET EXPENDITURES*



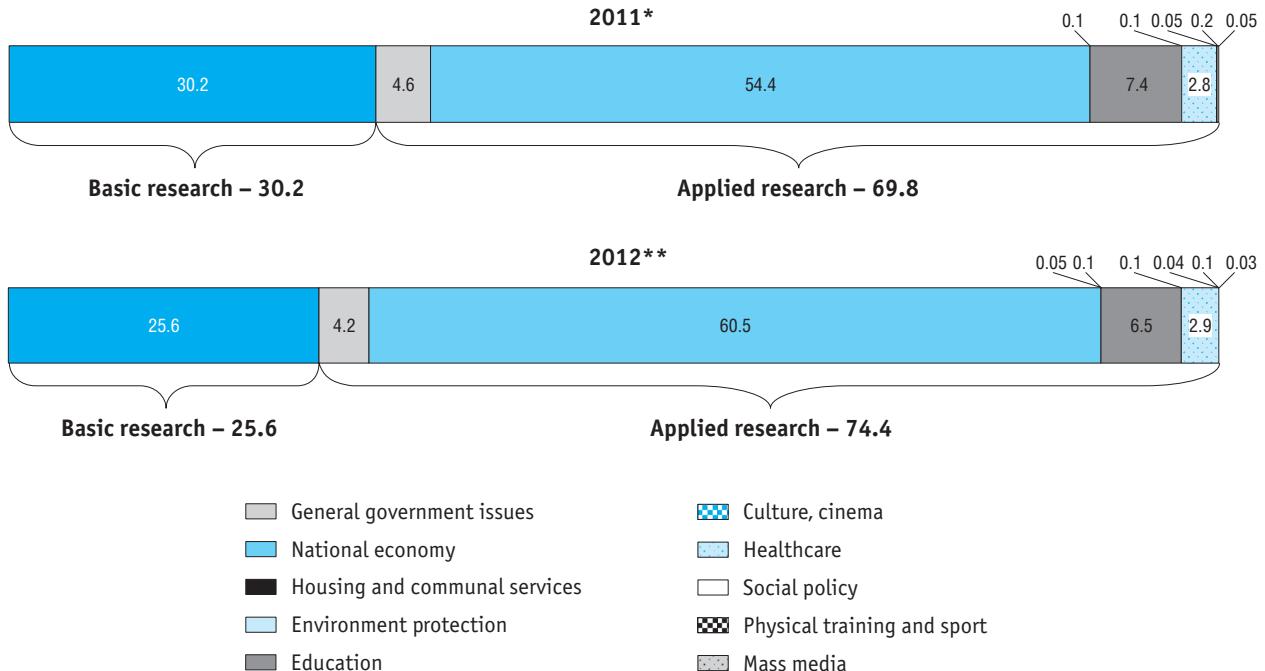
* 1998–2004: appropriations in the section (with corresponding subsections) 06 «Basic Research and Promotion of Science and Technology Progress» of the federal budget.

** Source of data for 2005–2010 – reports on implementation of the consolidated budget and budgets of the state non-budget funds (by the Federal Treasury's data).

*** According to the Federal law «About Federal budget for 2011 and for planned period 2012 and 2013» (with changes and additions).

**** According to the Federal law «About Federal budget for 2012 and for planned period 2013 and 2014».

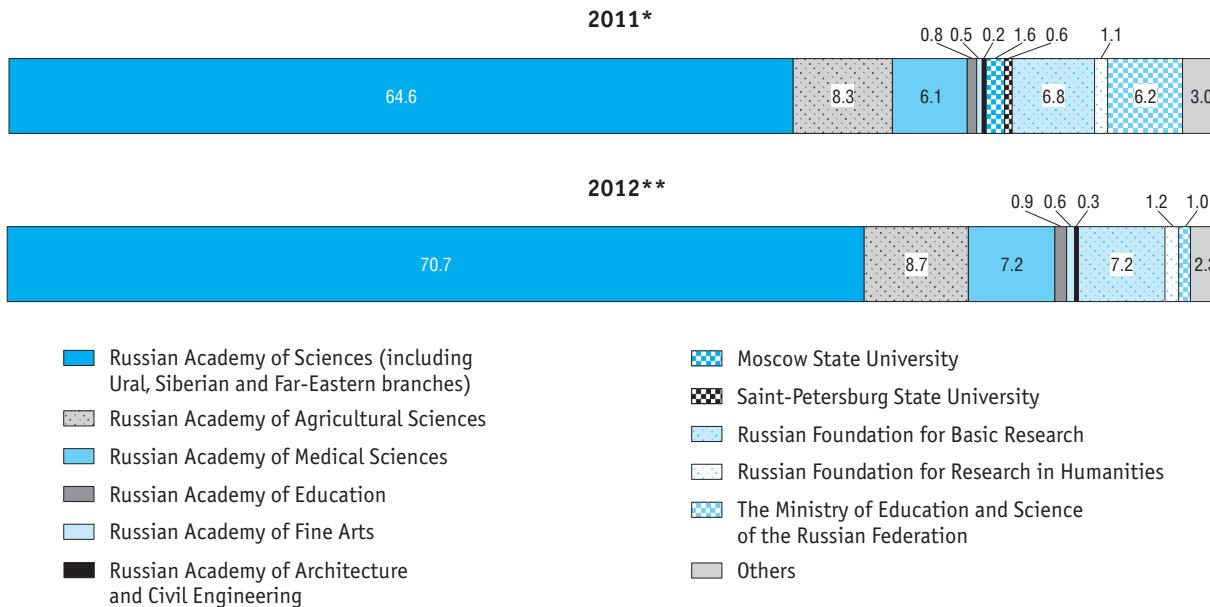
**3.7. PERCENTAGE DISTRIBUTION OF FEDERAL BUDGET APPROPRIATIONS ON CIVIL-PURPOSE SCIENCE AND TECHNOLOGY
BY SECTION OF BUDGET EXPENDITURE CLASSIFICATION AND TYPE OF ACTIVITY**



* According to the Federal law «About Federal budget for 2011 and for planned period 2012 and 2013» (with changes and additions).

** According to the Federal law «About Federal budget for 2012 and for planned period 2013 and 2014»(with changes and additions).

3.8. PERCENTAGE DISTRIBUTION OF FEDERAL BUDGET APPROPRIATIONS ON BASIC RESEARCH BY MAJOR BUDGET DISPOSER



* According to the Federal law «About Federal budget for 2011 and for planned period 2012 and 2013» (with changes and additions).

** According to the Federal law «About Federal budget for 2012 and for planned period 2013 and 2014» (with changes and additions).

3.9. GROSS DOMESTIC EXPENDITURE ON R&D BY SOURCE OF FUNDS*

| | Gross domestic expenditure on R&D | Government** | Business enterprise sector | Higher education sector | Private non-profit sector | Funds from abroad |
|---|-----------------------------------|--------------|----------------------------|-------------------------|---------------------------|-------------------|
| <i>At current prices, thousand roubles, before 1998 – million roubles</i> | | | | | | |
| 1995 | 12149458.6 | 7476767.6 | 4076707.0 | 30543.0 | 3672.1 | 561768.9 |
| 1996 | 19393891.5 | 12040307.8 | 6112237.6 | 52232.4 | 107186.5 | 1081927.2 |
| 1997 | 24449691.2 | 14899937.7 | 7487191.8 | 50442.6 | 203702.5 | 1808416.6 |
| 1998 | 25082065.6 | 13435867.0 | 8755162.2 | 86546.1 | 231318.4 | 2573171.9 |
| 1999 | 48050525.0 | 24570856.4 | 15171014.9 | 178657.5 | 23620.7 | 8106375.5 |
| 2000 | 76697100.5 | 42035655.1 | 25208436.5 | 212990.3 | 67641.5 | 9172377.1 |
| 2001 | 105260731.6 | 60228854.3 | 35394269.5 | 359916.1 | 205512.5 | 9072179.2 |
| 2002 | 135004491.9 | 78883876.7 | 44699518.7 | 426216.0 | 134353.6 | 10860526.9 |
| 2003 | 169862369.1 | 101252097.2 | 52256884.6 | 807293.0 | 277916.5 | 15268177.8 |
| 2004 | 196039870.2 | 118867302.8 | 61528028.1 | 692412.1 | 98631.6 | 14853495.6 |
| 2005 | 230785150.3 | 142960799.1 | 69244740.5 | 983242.0 | 68412.2 | 17527956.5 |
| 2006 | 288805211.5 | 176457427.8 | 83197909.8 | 1652533.1 | 296869.8 | 27200471.0 |
| 2007 | 371080327.1 | 232364775.8 | 109265410.0 | 2276881.0 | 377417.8 | 26795842.5 |
| 2008 | 431073185.2 | 278992303.3 | 123695707.2 | 1993888.9 | 768479.1 | 25622806.7 |
| 2009 | 485834338.2 | 322889237.6 | 129170972.3 | 1896167.0 | 471799.6 | 31406161.7 |
| 2010 | 523377233.9 | 368191779.8 | 133498976.0 | 2436564.1 | 682378.0 | 18567536.0 |

(continued)

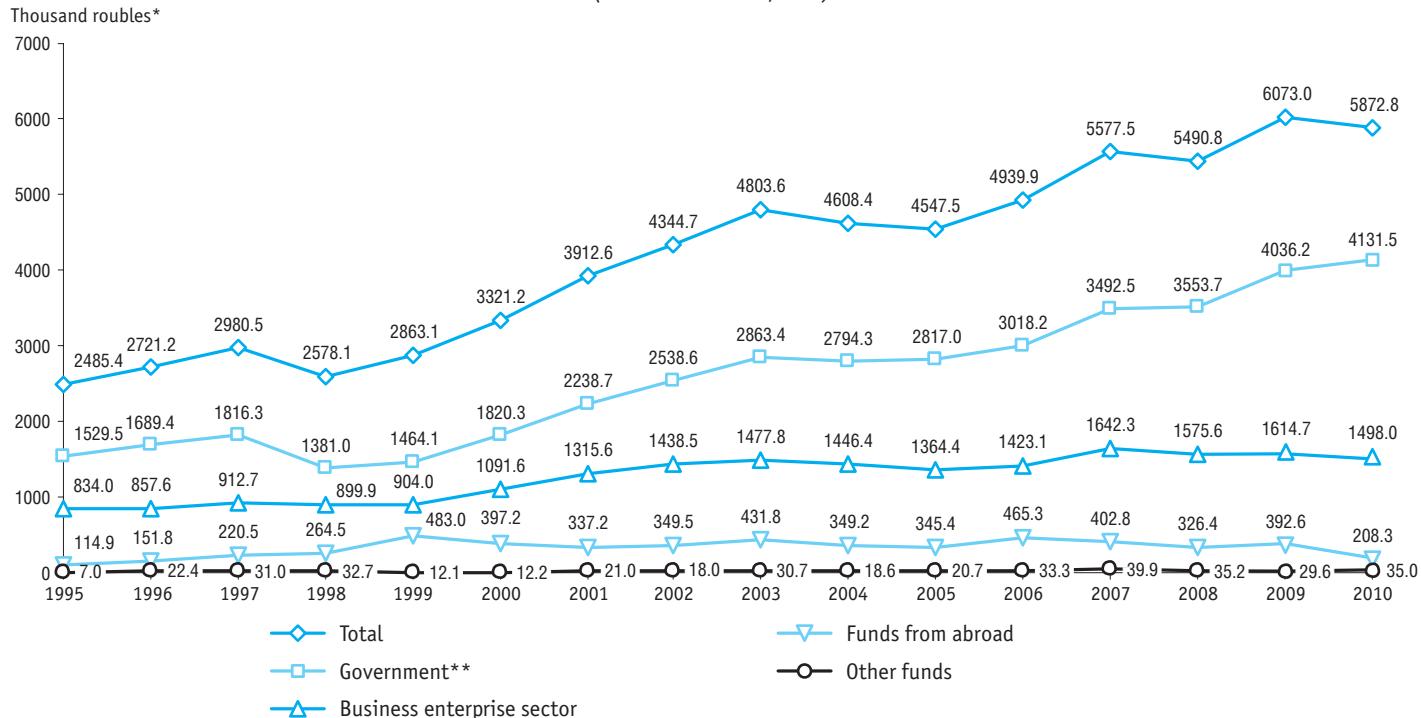
| | Gross domestic expenditure on R&D | Government** | Business enterprise sector | Higher education sector | Private non-profit sector | Funds from abroad |
|-----------------|-----------------------------------|--------------|----------------------------|-------------------------|---------------------------|-------------------|
| Per cent | | | | | | |
| 1995 | 100 | 61.5 | 33.6 | 0.3 | 0.03 | 4.6 |
| 1996 | 100 | 62.1 | 31.5 | 0.3 | 0.6 | 5.6 |
| 1997 | 100 | 60.9 | 30.6 | 0.2 | 0.8 | 7.4 |
| 1998 | 100 | 53.6 | 34.9 | 0.3 | 0.9 | 10.3 |
| 1999 | 100 | 51.1 | 31.6 | 0.4 | 0.05 | 16.9 |
| 2000 | 100 | 54.8 | 32.9 | 0.3 | 0.09 | 12.0 |
| 2001 | 100 | 57.2 | 33.6 | 0.3 | 0.2 | 8.6 |
| 2002 | 100 | 58.4 | 33.1 | 0.3 | 0.1 | 8.0 |
| 2003 | 100 | 59.6 | 30.8 | 0.5 | 0.2 | 9.0 |
| 2004 | 100 | 60.6 | 31.4 | 0.4 | 0.05 | 7.6 |
| 2005 | 100 | 61.9 | 30.0 | 0.4 | 0.03 | 7.6 |
| 2006 | 100 | 61.1 | 28.8 | 0.6 | 0.1 | 9.4 |
| 2007 | 100 | 62.6 | 29.4 | 0.6 | 0.1 | 7.2 |
| 2008 | 100 | 64.7 | 28.7 | 0.5 | 0.2 | 5.9 |
| 2009 | 100 | 66.5 | 26.6 | 0.4 | 0.1 | 6.5 |
| 2010 | 100 | 70.3 | 25.5 | 0.5 | 0.1 | 3.5 |

* In 2010 grants (non-repayable subsidies) amounted 7.2 billion roubles or 1.4% of the total value of gross domestic expenditure on R&D, share of the competitive (programme) financing amounted 49.6 billion roubles (9.5%).

** Including federal budget appropriations, general university funds, government sector institutions' funds (e.g. own funds of institutions).

3.10. TRENDS IN GROSS DOMESTIC EXPENDITURE ON R&D BY SOURCE OF FUNDS

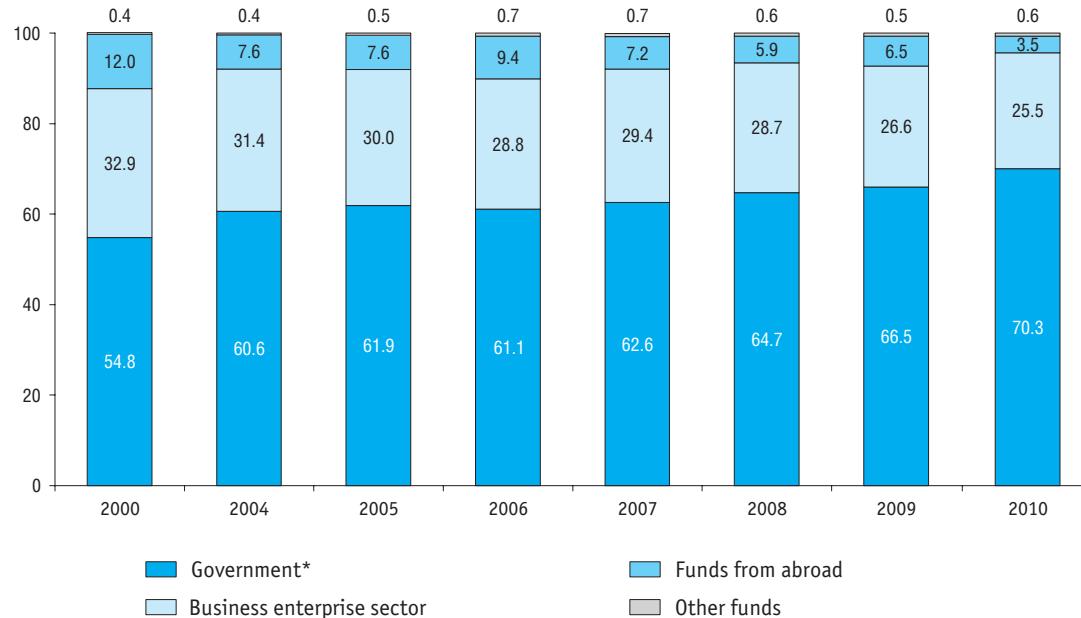
(at constant 1989 prices)



* Before 1998 – million roubles.

** Including federal budget appropriations, general university funds and government sector institutions' funds (e.g. own funds of institutions).

3.11. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D BY SOURCE OF FUNDS

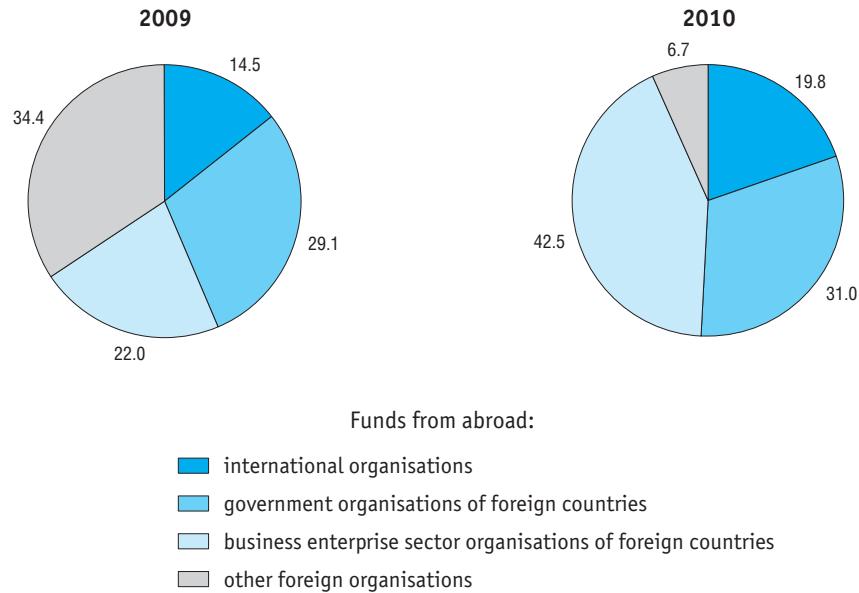


* Including federal budget appropriations, general university funds and government sector institutions' funds (e.g. own funds of institutions).

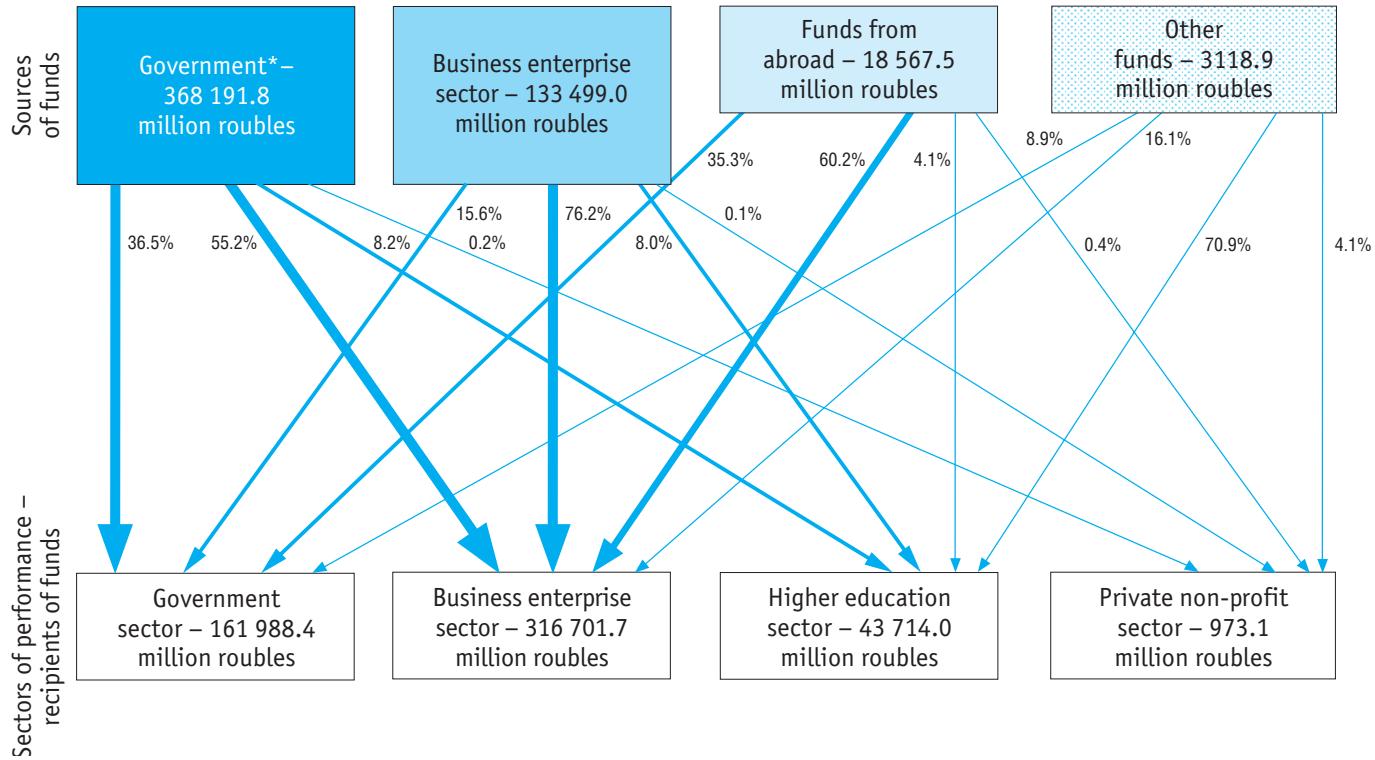
3.12. GROSS DOMESTIC EXPENDITURE ON R&D FROM FUNDS FROM ABROAD (FOREIGN ORGANISATIONS)
(thousand roubles)

| | 2009 | 2010 |
|--|-------------------|-------------------|
| Gross domestic expenditure on R&D from funds from abroad – total | 31406161.7 | 18567536.0 |
| International organisations | 4553354.8 | 3682117.0 |
| Government organisations of foreign countries | 9152681.5 | 5747982.3 |
| Business enterprise sector organisations of foreign countries | 6895296.3 | 7893309.1 |
| Other foreign organisations | 10804829.1 | 1244127.6 |

3.13. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D FROM FUNDS FROM ABROAD (FOREIGN ORGANISATIONS)



3.14. R&D FUNDING BY SECTOR OF PERFORMANCE: 2010



* Including federal budget appropriations, general university funds and government sector institutions' funds (e.g. own funds of institutions).

3.15. GROSS DOMESTIC EXPENDITURE ON R&D BY OWNERSHIP OF R&D INSTITUTIONS

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <i>At current prices, thousand roubles, before 1998 – million roubles</i> | | | | | | | | | | | | |
| Total | 12149458.6 | 76697100.5 | 105260731.6 | 135004491.9 | 169862369.1 | 196039870.2 | 230785150.3 | 288805211.5 | 371080327.1 | 431073185.2 | 485834338.2 | 523377233.9 |
| Russian ownership | 12137095.6 | 74254897.9 | 102809342.8 | 132227478.3 | 166731577.2 | 192681287.9 | 226582085.6 | 283277704.3 | 362788255.0 | 422024862.3 | 478787821.5 | 514058161.4 |
| Public ownership | 9303329.4 | 56254567.1 | 75175181.5 | 97479106.0 | 123907412.3 | 143215332.4 | 171855852.1 | 214273392.5 | 268054481.0 | 315468440.4 | 362864344.6 | 394615118.0 |
| Federal | 9047499.6 | 55150426.2 | 73714607.7 | 95844579.0 | 121854134.8 | 141004351.3 | 168986692.6 | 210972918.2 | 263267216.7 | 310681404.3 | 358511516.2 | 389105256.8 |
| Provincial | 255829.8 | 1099762.3 | 1460573.8 | 1634527.0 | 2053277.5 | 2210981.1 | 2869159.5 | 3284661.9 | 4674078.0 | 4675955.0 | 4181193.6 | 5396479.0 |
| Municipal ownership | 15214.6 | 50381.9 | 55860.7 | 32290.3 | 28270.6 | 22113.1 | 17253.5 | 34690.6 | 38024.6 | 58426.2 | 52807.3 | 50304.2 |
| Ownership of voluntary associations | 35640.0 | 209229.3 | 121827.3 | 139439.6 | 133326.5 | 144342.7 | 339129.1 | 435221.6 | 589456.4 | 610938.9 | 525257.1 | 525085.2 |
| Private ownership | 265827.3 | 4948266.7 | 9150719.1 | 12402983.2 | 15409510.2 | 18668329.9 | 20957744.5 | 35484593.7 | 51427162.7 | 63511011.8 | 66857001.6 | 60263592.5 |
| Ownership of consumer cooperatives* | ... | 1095.2 | 1388.9 | 717.0 | 936.1 | 3301.8 | 4354.5 | 3624.3 | 2635.3 | 2515.4 | 35877.1 | 36590.0 |
| Joint ownership (without foreign participation) | 2517084.3 | 12791357.7 | 18304365.3 | 22172942.2 | 27252121.5 | 30627868.0 | 33407751.9 | 33046181.6 | 42676495.0 | 42373529.6 | 48452533.8 | 55954325.1 |
| Joint ownership with a part of public ownership | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 49557690.9 |
| Ownership of state corporations | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2613146.4 |
| Foreign ownership | 336.7 | 117265.0 | 214700.5 | 116077.5 | 303733.1 | 216749.1 | 697993.4 | 517669.7 | 675533.7 | 711942.6 | 778685.9 | 1390905.3 |
| Joint ownership (with both Russian and foreign participation) | 12026.3 | 2324937.6 | 2236688.3 | 2660936.1 | 2827058.8 | 3141833.2 | 3505071.3 | 5009837.5 | 7616538.4 | 8336380.3 | 6267830.8 | 7928167.2 |

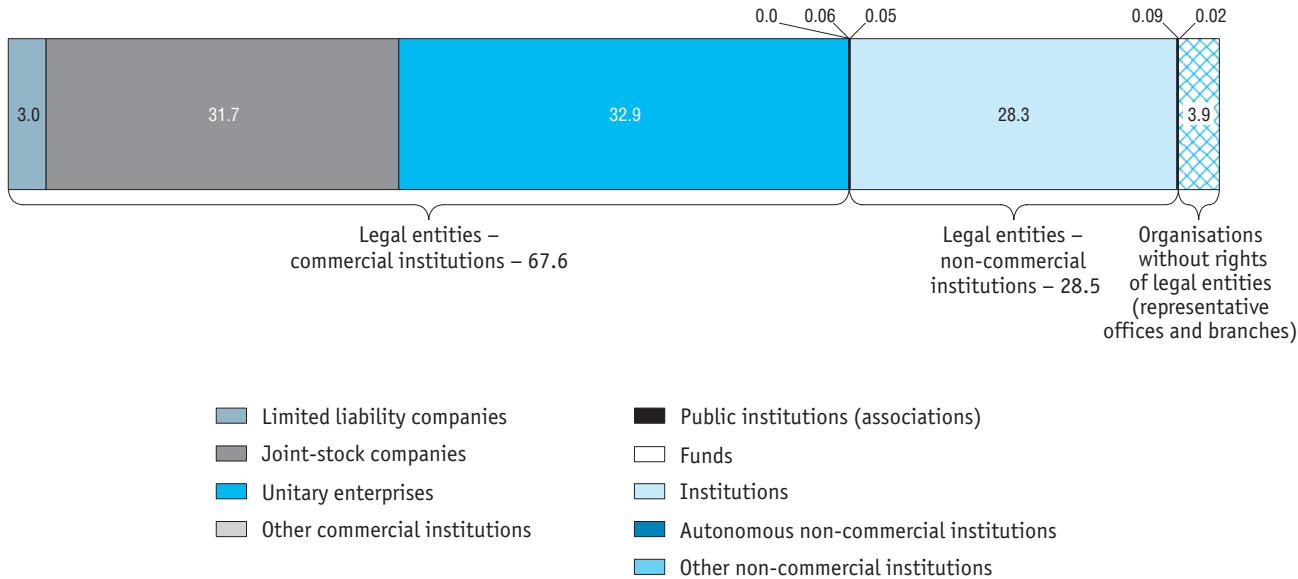
(continued)

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Per cent | | | | | | | | | | | | |
| Total | 100 |
| Russian ownership | 99.9 | 96.8 | 97.7 | 97.9 | 98.2 | 98.3 | 98.2 | 98.1 | 97.8 | 97.9 | 98.5 | 98.2 |
| Public ownership | 76.6 | 73.3 | 71.4 | 72.2 | 72.9 | 73.1 | 74.5 | 74.2 | 72.2 | 73.2 | 74.7 | 75.4 |
| Federal | 74.5 | 71.9 | 70.0 | 71.0 | 71.7 | 71.9 | 73.2 | 73.1 | 70.9 | 72.1 | 73.8 | 74.3 |
| Provincial | 2.1 | 1.4 | 1.4 | 1.2 | 1.2 | 1.1 | 1.2 | 1.1 | 1.3 | 1.1 | 0.9 | 1.0 |
| Municipal ownership | 0.1 | 0.07 | 0.05 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Ownership of voluntary associations | 0.3 | 0.3 | 0.1 | 0.1 | 0.08 | 0.07 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 |
| Private ownership | 2.2 | 6.5 | 8.7 | 9.2 | 9.1 | 9.5 | 9.1 | 12.3 | 13.9 | 14.7 | 13.8 | 11.5 |
| Ownership of consumer cooperatives* | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Joint ownership (without foreign participation) | 20.7 | 16.7 | 17.4 | 16.4 | 16.0 | 15.6 | 14.5 | 11.4 | 11.5 | 9.8 | 10.0 | 10.7 |
| Joint ownership with a part of public ownership | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 9.5 |
| Ownership of state corporations | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 0.5 |
| Foreign ownership | 0.002 | 0.2 | 0.2 | 0.09 | 0.2 | 0.1 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 |
| Joint ownership (with both Russian and foreign participation) | 0.1 | 3.0 | 2.1 | 2.0 | 1.7 | 1.6 | 1.5 | 1.7 | 2.1 | 1.9 | 1.3 | 1.5 |

* Until 2000, registered within institutions of private and joint Russian ownership.

3.16. GROSS DOMESTIC EXPENDITURE ON R&D BY ORGANISATIONAL AND LEGAL FORMS OF INSTITUTIONS: 2010
(thousand roubles)

| | | | |
|---|--------------------|--|-------------|
| Total | 523377233.9 | | |
| Legal entities – commercial institutions | 353855833.8 | Legal entities – non-commercial institutions | 149265152.7 |
| Economical co-partnerships and associations | 181510713.5 | Public and religious institutions (associations) | 312700.5 |
| Limited liability companies | 15512197.3 | Funds | 270597.8 |
| Additional liability companies | 30.2 | Institutions | 148085016.3 |
| Joint-stock companies | 165998486.0 | Private institutions | 287437.6 |
| Open joint-stock companies | 151745702.7 | Public institutions | 146740648.8 |
| Closed joint-stock companies | 14252783.3 | Autonomous institutions | 1056929.9 |
| Production cooperatives | – | Non-commercial partnerships | 59321.0 |
| Unitary enterprises | 172345120.3 | Autonomous non-commercial institutions | 476555.3 |
| Unitary enterprises based on the operative administration law | 1850525.0 | Associations of legal entities | 35115.5 |
| Unitary enterprises based on the economic management law | 170494595.3 | Other non-commercial institutions | 25846.3 |
| | | Organisations without rights of legal entities (representative offices and branches) | 20256247.4 |

3.17. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D BY ORGANISATIONAL AND LEGAL FORMS OF INSTITUTIONS

3.18. GROSS DOMESTIC EXPENDITURE ON R&D BY ECONOMIC ACTIVITY
(thousand roubles)

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Total | 196039870.2 | 230785150.3 | 288805211.5 | 371080327.1 | 431073185.2 | 485834338.2 | 523377233.9 |
| Agriculture, hunting and forestry | 122747.2 | 146783.8 | 168038.5 | 234711.8 | 216759.4 | 247724.7 | 253871.9 |
| Fishing, aquaculture and service activities incidental to fishing | 42452.6 | 5559.6 | 5128.5 | 4815.9 | — | 2890.8 | 485.2 |
| Mining and quarrying | 411813.2 | 584953.6 | 759674.8 | 520979.7 | 227950.7 | 79238.0 | 55728.0 |
| Manufacturing | 10134632.6 | 10631526.1 | 14022454.9 | 17388637.3 | 17425481.7 | 17009365.1 | 21372426.7 |
| Electricity, gas and water supply | — | — | 8962.0 | 1253.0 | 2367.0 | 10085.0 | 8234.0 |
| Construction | 15805.5 | — | — | 7280.0 | — | — | — |
| Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods | 735.4 | — | — | 28904.0 | 29469.6 | — | — |
| Transport and communications | 22783.0 | 29750.3 | 41647.8 | 92908.4 | 106528.9 | 117993.5 | 143777.6 |
| Real estate, renting and business activities | 176248753.3 | 207643389.9 | 257434033.3 | 330188298.2 | 384699057.6 | 433962004.3 | 455185374.4 |
| Research and development | 173294115.6 | 204907680.4 | 253859790.2 | 324567876.3 | 376609160.0 | 425872251.2 | 447596655.1 |
| Other business activities | 2899322.6 | 2469504.1 | 2727385.2 | 4127632.5 | 6447839.7 | 6434826.7 | 5464671.8 |
| Public administration and defence; compulsory social security | — | — | 638.2 | 850.4 | — | — | — |
| Education | 8593008.5 | 11076460.7 | 15154201.1 | 20479152.8 | 25502783.6 | 31254495.1 | 39254089.2 |
| Higher education | 8567627.4 | 11071971.7 | | 20441343.1 | 25455288.1 | 31224588.5 | 39220988.4 |
| Health and social work | 40904.6 | 71943.4 | 425370.3 | 742646.0 | 1121528.7 | 1080303.2 | 4758071.7 |
| Other community, social and personal service activities | 406234.3 | 594782.9 | 785062.1 | 1389889.6 | 1741258.0 | 2070238.5 | 2345175.2 |
| Recreational, cultural and sporting activities | 400179.1 | 574352.3 | 779174.5 | 1365064.4 | 1724918.2 | 2032341.9 | 2331388.6 |

3.19. GROSS DOMESTIC EXPENDITURE ON R&D BY TYPE OF COSTS

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <i>At current prices, thousand roubles</i> | | | | | | | | | |
| Gross domestic expenditure on R&D | 135004491.9 | 169862369.1 | 196039870.2 | 230785150.3 | 288805211.5 | 371080327.1 | 431073185.2 | 485834338.2 | 523377233.9 |
| Intramural current expenditure | 128243289.9 | 161202715.5 | 187210461.2 | 221119537.6 | 277784757.3 | 352917701.2 | 410864983.6 | 461006216.2 | 489450798.7 |
| Wages | 52660995.8 | 65142718.8 | 77739627.5 | 942774453.3 | 119354664.7 | 157514386.8 | 193344895.7 | 217897038.1 | 241472234.1 |
| Of which for R&D personnel* | 46853012.5 | 57972004.2 | 68863831.4 | 83218561.7 | 103821166.7 | 137956617.2 | 170633861.4 | 189457703.8 | 211660690.5 |
| Social security payments | 17108486.9 | 20659604.1 | 23439789.6 | 22597417.5 | 28352943.9 | 34565859.1 | 40020294.9 | 43723470.6 | 47904606.9 |
| Equipment | 6348048.4 | 8528482.5 | 7800356.4 | 9936177.7 | 12417625.9 | 14027427.5 | 14604195.2 | 16144658.7 | 18067655.4 |
| Fixed assets | 3197713.0 | 4853900.0 | 3564222.5 | 4349636.2 | 5406455.5 | 5866364.7 | 6669261.8 | 7973703.9 | 6839036.4 |
| Other material costs | 28710909.0 | 37616031.7 | 45299285.1 | 51304357.4 | 66886839.9 | 83426976.6 | 72945529.7 | 89861803.2 | 89279048.7 |
| Other current costs | 23414849.8 | 29255878.4 | 32931402.6 | 43007131.7 | 50772682.9 | 63383051.2 | 89950068.1 | 93379245.6 | 92727253.6 |
| Capital expenditure | 6761202.0 | 8659653.6 | 8829409.0 | 9665612.7 | 11020454.2 | 18162625.9 | 20208201.6 | 24828122.0 | 33926435.2 |
| Land and buildings | 1395543.8 | 1313479.6 | 1190433.5 | 1647639.4 | 1993820.7 | 3577647.3 | 5474654.9 | 4298550.9 | 8077521.7 |
| Equipment | 3196704.6 | 4644146.8 | 5511877.3 | 5818068.7 | 6715748.3 | 11689028.2 | 10775180.6 | 15438763.7 | 19887596.3 |
| Other capital expenditure | 2168953.6 | 2702027.2 | 2127098.2 | 2199904.6 | 2310885.2 | 2895950.4 | 3958366.1 | 5090807.4 | 5961317.2 |

(continued)

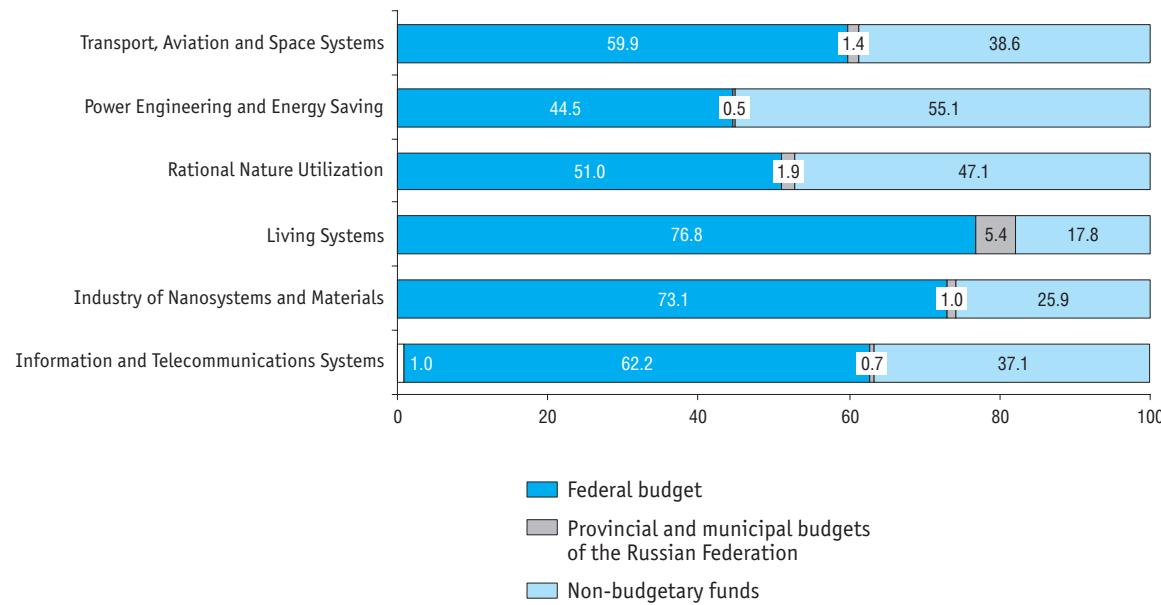
| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Per cent | | | | | | | | | |
| Gross domestic expenditure on R&D | 100 |
| Intramural current expenditure | 95.0 | 94.9 | 95.5 | 95.8 | 96.2 | 95.1 | 95.3 | 94.9 | 93.5 |
| Wages | 39.0 | 38.4 | 39.7 | 40.8 | 41.3 | 42.4 | 44.9 | 44.9 | 46.1 |
| Of which for R&D personnel* | 34.7 | 34.1 | 35.1 | 36.1 | 35.9 | 37.2 | 39.6 | 39.0 | 40.4 |
| Social security payments | 12.7 | 12.2 | 12.0 | 9.8 | 9.8 | 9.3 | 9.3 | 9.0 | 9.2 |
| Equipment | 4.7 | 5.0 | 4.0 | 4.3 | 4.3 | 3.8 | 3.4 | 3.3 | 3.5 |
| Fixed assets | 21.3 | 22.1 | 23.1 | 22.2 | 23.2 | 22.5 | 16.9 | 18.5 | 17.1 |
| Other material costs | 17.3 | 17.2 | 16.8 | 18.6 | 17.6 | 17.1 | 20.9 | 19.2 | 17.7 |
| Other current costs | 5.0 | 5.1 | 4.5 | 4.2 | 3.8 | 4.9 | 4.7 | 5.1 | 6.5 |
| Capital expenditure | 1.0 | 0.8 | 0.6 | 0.7 | 0.7 | 1.0 | 1.3 | 0.9 | 1.5 |
| Land and buildings | 2.4 | 2.7 | 2.8 | 2.5 | 2.3 | 3.1 | 2.5 | 3.2 | 3.8 |
| Equipment | 1.6 | 1.6 | 1.1 | 0.95 | 0.8 | 0.8 | 0.9 | 1.0 | 1.1 |

* Excluding those employed on a plural basis and under contracts.

3.20. GROSS DOMESTIC EXPENDITURE ON R&D BY PRIORITY S&T AREAS AND SOURCE OF FUNDS: 2010
(thousand roubles)

| | Total | Information and Telecommunica- tions Systems | Industry of Nanosystems and Materials | Living Systems | Rational Nature Utilization | Power Engineering and Energy Saving | Transport, Aviation and Space Systems |
|--|--------------------|--|---|-------------------|-----------------------------------|---|---|
| Gross domestic expenditure on R&D by priority S&T areas | | | | | | | |
| Federal budget | 295827741.9 | 38128814.5 | 23119833.3 | 13591447.4 | 24507615.4 | 26795241.5 | 131242672.1 |
| Federal budget | 177399009.5 | 23729029.9 | 16890764.3 | 10434298.1 | 12490310.7 | 11912462.3 | 78673521.2 |
| Provincial and municipal budgets of the Russian Federation | 2889652.8 | 268337.5 | 238344.5 | 737220.0 | 462560.5 | 124935.0 | 1850775.6 |
| Non-budgetary funds | 115539079.6 | 14131447.1 | 5990724.5 | 2419929.3 | 11554744.2 | 14757844.2 | 50718375.3 |

3.21. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D BY PRIORITY S&T AREAS AND SOURCE OF FUNDS: 2010



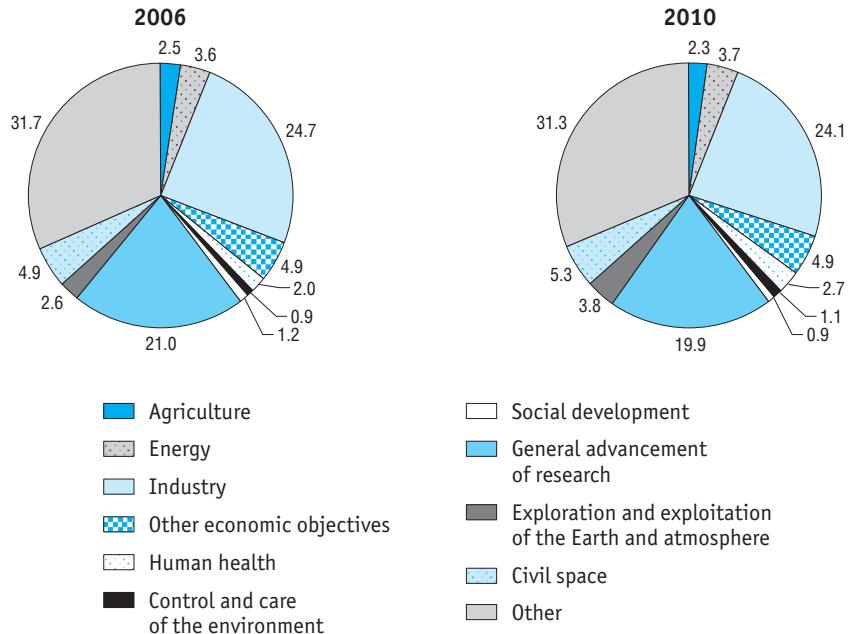
3.22. GROSS DOMESTIC EXPENDITURE ON R&D BY SOCIO-ECONOMIC OBJECTIVE
(thousand roubles)

| | 2002 | 2004 | 2006 | 2008 | 2009 | 2010 |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Gross domestic expenditure on R&D | 135004491.9 | 196039870.2 | 288805211.5 | 431073185.2 | 485834338.2 | 523377233.9 |
| Economic development | 49452941.6 | 62878277.6 | 103033497.6 | 157814603.7 | 169117727.8 | 183113782.3 |
| Agriculture, hunting and forestry | 4146997.8 | 4850437.8 | 7248977.0 | 11198584.3 | 13065634.0 | 12090814.9 |
| Production, distribution and rational utilization of energy | 4830275.6 | 6887202.1 | 10267046.6 | 18583742.6 | 19690591.5 | 19174764.6 |
| Industry | 34281411.6 | 42465131.3 | 71319151.3 | 108227204.7 | 118806663.3 | 126029410.7 |
| Increasing of economic efficiency and technological level of industry | 6469842.9 | 8609286.7 | 8331516.8 | 15344911.2 | 12590931.7 | 14916168.9 |
| Extraction and processing of non-energy minerals | 526369.9 | 568533.2 | 628547.3 | 1019563.3 | 958185.2 | 1279265.4 |
| Manufacture of chemicals and chemical products | 2048480.0 | 2782348.4 | 4194564.2 | 5382152.9 | 6099362.6 | 5839135.5 |
| Manufacture of motor vehicles and other transport equipment | 7780879.8 | 8144548.1 | 14450931.1 | 20101084.3 | 19308677.6 | 21495410.4 |
| Electronics, manufacture of radio, television and communications equipment and apparatus | 2861691.9 | 3724356.3 | 9281563.7 | 12307384.7 | 14509018.6 | 13389386.0 |
| Software development | 984816.8 | 1497845.2 | 3355339.6 | 7291337.9 | 7196829.9 | 6740442.6 |
| Manufacture of electrical machinery and apparatus | 760018.9 | 1003386.5 | 1292927.0 | 2589759.5 | 2057059.8 | 2879253.1 |
| Manufacture of instruments | 2615502.2 | 2428490.7 | 6600437.6 | 12682004.6 | 10399399.1 | 13466912.8 |
| Manufacture of other machinery and equipment | 4654751.0 | 5674390.0 | 6965389.1 | 10595335.5 | 12612240.5 | 13654259.2 |
| Manufacture of textiles, clothing, and leather | 76051.9 | 21554.3 | 54077.2 | 105239.8 | 52464.5 | 97483.3 |
| Manufacture of food products and beverages | 226910.1 | 322130.6 | 296729.6 | 432249.3 | 1047231.1 | 565348.2 |
| Other sectors of industry | 5276096.2 | 7688261.3 | 15867128.1 | 20376181.7 | 31975262.7 | 31706345.3 |

(continued)

| | 2002 | 2004 | 2006 | 2008 | 2009 | 2010 |
|--|------------|------------|------------|-------------|-------------|-------------|
| Construction | 1077895.1 | 1811394.0 | 2697184.2 | 5569314.7 | 3514829.4 | 5513681.4 |
| Transport | 3724777.5 | 5103690.2 | 9011178.7 | 10419270.0 | 8862627.7 | 12686004.3 |
| Communications | 1104874.9 | 1476858.0 | 1709581.2 | 2354882.8 | 4466744.0 | 6704734.7 |
| Infrastructure and general planning of land use | 229824.1 | 208058.4 | 430140.7 | 726580.4 | 380775.6 | 354546.0 |
| Services sector | 56885.0 | 75505.8 | 350237.9 | 735024.2 | 329862.3 | 559825.7 |
| Social objectives | 4608758.9 | 5601896.8 | 11954593.3 | 17735503.9 | 23520636.0 | 24966176.4 |
| Control and care of the environment | 1040182.9 | 1301851.2 | 2595076.2 | 4365560.7 | 5563877.5 | 5950018.6 |
| Protection and improvement of human health | 2775165.3 | 3418698.2 | 5897030.0 | 9869611.2 | 13006918.4 | 14373675.7 |
| Social structures and relationships | 793410.7 | 881347.4 | 3462487.1 | 3500332.0 | 4949840.1 | 4642482.1 |
| General advancement of research | 33574477.3 | 54591367.0 | 60629124.4 | 110853857.1 | 114239973.1 | 104294714.1 |
| Exploration and exploitation of the Earth and atmosphere | 3449906.7 | 4736960.1 | 7577493.4 | 12601082.0 | 15248532.6 | 19821817.2 |
| Civil space | 3868531.3 | 5227420.7 | 14018574.9 | 13810148.3 | 25872001.8 | 27503697.9 |
| Other | 40049876.1 | 63003948.0 | 91591927.9 | 118257990.2 | 137835466.9 | 163677046.0 |

3.23. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D BY SOCIO-ECONOMIC OBJECTIVE



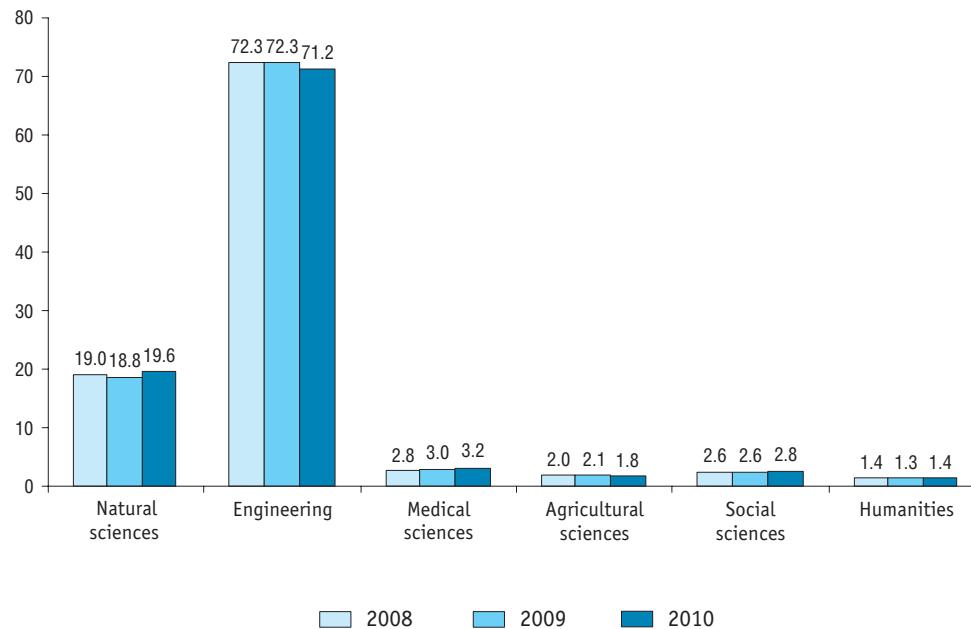
3.24. INTRAMURAL CURRENT EXPENDITURE ON R&D BY TYPE OF ACTIVITY AND FIELD OF SCIENCE AND TECHNOLOGY
(thousand roubles)

| | Total | Natural sciences | Engineering | Medical sciences | Agricultural sciences | Social sciences | Humanities |
|--|--------------------|-------------------|--------------------|------------------|-----------------------|------------------|------------------|
| 2005 | | | | | | | |
| Intramural current expenditure on R&D | 221119537.6 | 34579040.8 | 171109626.3 | 4571313.8 | 4159368.3 | 4628535.6 | 2071652.8 |
| Basic research | 31022855.8 | 19345182.8 | 4579039.5 | 1865239.8 | 1947227.1 | 1723405.3 | 1562761.3 |
| Applied research | 36360266.9 | 8860755.5 | 21725918.2 | 2051910.3 | 1409317.9 | 1957292.2 | 355072.8 |
| Development | 153736414.9 | 6373102.5 | 144804668.6 | 654163.7 | 802823.3 | 947838.1 | 153818.7 |
| 2006 | | | | | | | |
| Intramural current expenditure on R&D | 277784757.3 | 46440006.7 | 210268815.6 | 6699815.1 | 5137257.6 | 6437607.9 | 2801254.4 |
| Basic research | 42707476.1 | 25837090.4 | 7461314.4 | 2864211.1 | 2422279.3 | 2050159.9 | 2072421.0 |
| Applied research | 42459115.8 | 12385774.3 | 22210833.8 | 2780124.1 | 1660067.0 | 2879501.8 | 542814.8 |
| Development | 192618165.4 | 8217142.0 | 180596667.4 | 1055479.9 | 1054911.3 | 1507946.2 | 186018.6 |
| 2007 | | | | | | | |
| Intramural current expenditure on R&D | 352917701.2 | 63174477.9 | 260543262.1 | 8876273.4 | 7077364.8 | 8595497.0 | 4650826.0 |
| Basic research | 63590429.5 | 36632644.0 | 13765791.5 | 3448972.1 | 3657025.9 | 3063865.1 | 3022130.9 |
| Applied research | 54492567.8 | 15808735.6 | 27278921.5 | 4201063.8 | 2125810.4 | 4011607.7 | 1066428.8 |
| Development | 234834703.9 | 10733098.3 | 219498549.1 | 1226237.5 | 1294528.5 | 1520024.2 | 562266.3 |

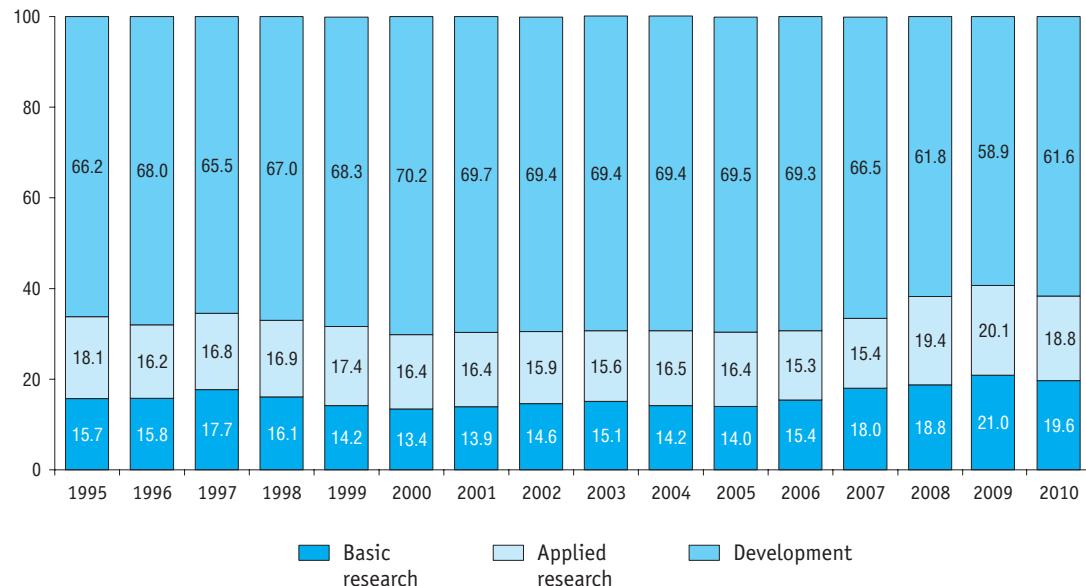
(continued)

| | Total | Natural sciences | Engineering | Medical sciences | Agricultural sciences | Social sciences | Humanities |
|--|--------------------|-------------------|--------------------|-------------------|-----------------------|-------------------|------------------|
| 2008 | | | | | | | |
| Intramural current expenditure on R&D | 410864983.6 | 78078037.1 | 296901936.2 | 11382107.9 | 8339624.5 | 10482105.9 | 5681172.0 |
| Basic research | 77121264.3 | 45590599.9 | 14552606.2 | 4300297.3 | 4366212.4 | 3972507.2 | 4339041.3 |
| Applied research | 79885835.9 | 19007488.9 | 46977376.5 | 5769410.3 | 2226959.9 | 5105301.5 | 799298.8 |
| Development | 253857883.4 | 13479948.3 | 235371953.5 | 1312400.3 | 1746452.2 | 1404297.2 | 542831.9 |
| 2009 | | | | | | | |
| Intramural current expenditure on R&D | 461006216.2 | 86633250.8 | 333327965.5 | 13794449.8 | 9569659.4 | 11804063.6 | 5876827.1 |
| Basic research | 96809127.3 | 52252859.5 | 22653573.5 | 6418092.0 | 5378449.3 | 5288288.4 | 4817864.6 |
| Applied research | 92557125.5 | 20782035.6 | 56915796.5 | 6418162.5 | 2629331.9 | 4948142.5 | 863656.5 |
| Development | 271639963.4 | 13598355.7 | 253758595.5 | 958195.3 | 1561878.2 | 1567632.7 | 195306.0 |
| 2010 | | | | | | | |
| Intramural current expenditure on R&D | 489450798.7 | 96010015.2 | 348621966.4 | 15462300.4 | 8887624.5 | 13752461.7 | 6716430.5 |
| Basic research | 95881364.3 | 50550000.6 | 22866475.2 | 6378644.4 | 4766037.6 | 6074153.0 | 5246053.5 |
| Applied research | 92010677.2 | 27202686.8 | 46841680.2 | 7900476.3 | 2582521.1 | 6199410.7 | 1283902.1 |
| Development | 301558757.2 | 18257327.8 | 278913811.0 | 1183179.7 | 1539065.8 | 1478898.0 | 186474.9 |

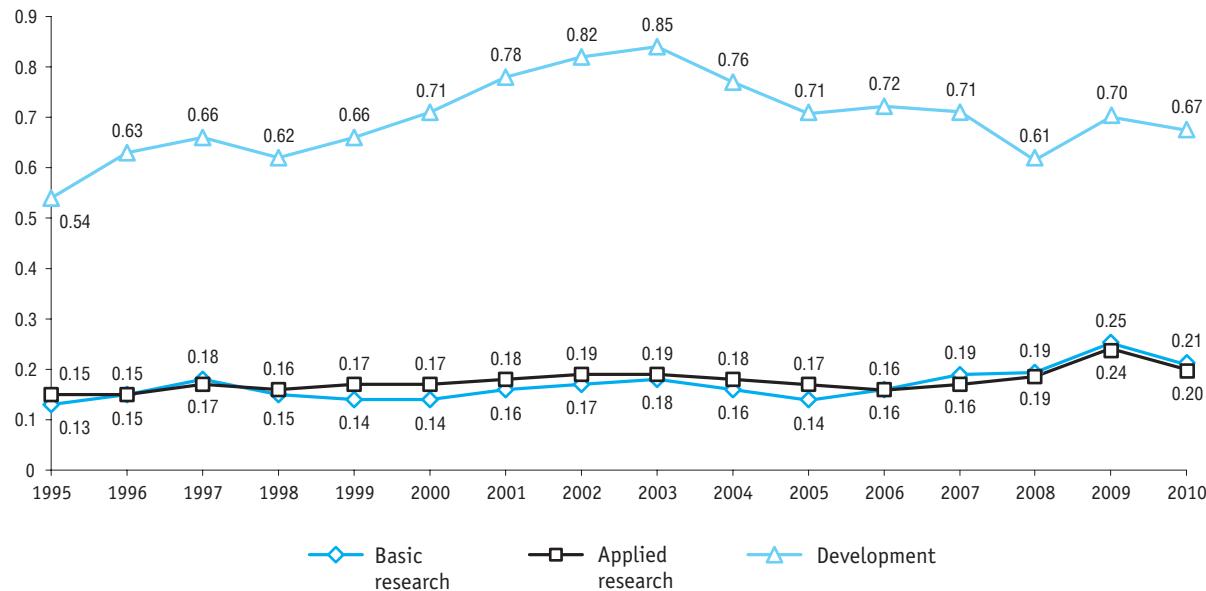
3.25. PERCENTAGE DISTRIBUTION OF INTRAMURAL CURRENT EXPENDITURE ON R&D BY FIELD OF SCIENCE AND TECHNOLOGY



3.26. PERCENTAGE DISTRIBUTION OF INTRAMURAL CURRENT EXPENDITURE ON R&D BY TYPE OF ACTIVITY



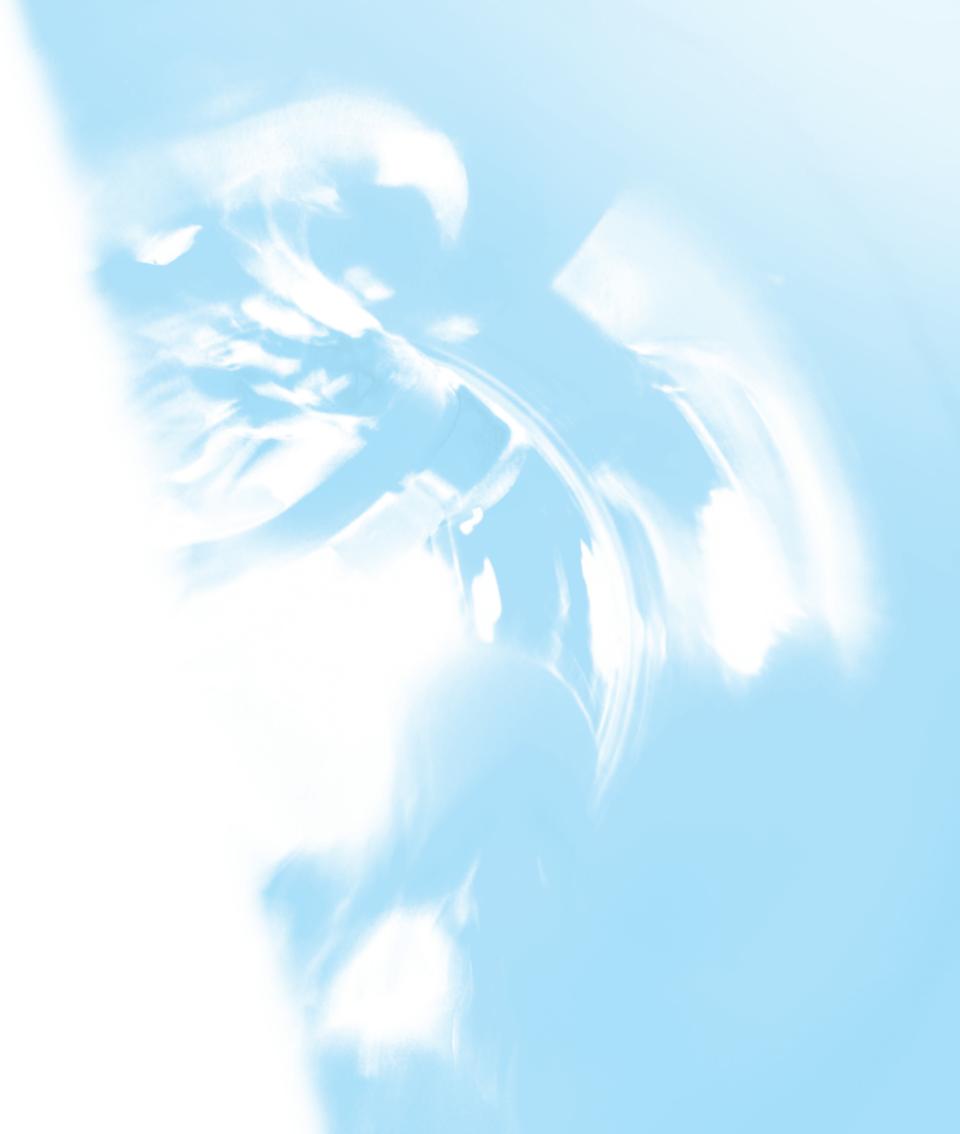
3.27. INTRAMURAL CURRENT EXPENDITURE ON R&D BY TYPE OF ACTIVITY AS A PER CENT OF GROSS DOMESTIC PRODUCT



3.28. AVERAGE MONTHLY SALARIES OF R&D PERSONNEL

| | 1995 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|--------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|
| Average monthly salaries, roubles, before 1998 – thousand roubles | 305.3 | 3348.9 | 4552.1 | 5712.8 | 6918.4 | 8672.0 | 10840.9 | 14683.4 | 19263.3 | 22104.3 | 25043.5 |
| As a per cent of that: | | | | | | | | | | | |
| in the national economy (=100%) | 64.6 | 103.3 | 104.4 | 103.9 | 102.7 | 101.4 | 101.9 | 108.0 | 111.4 | 118.6 | 119.5 |
| in manufacturing (=100%) | 67.3 | 97.2 | 102.5 | 102.0 | 101.0 | 103.0 | 106.3 | 114.0 | 120.0 | 133.3 | 131.3 |
| in construction (=100%) | 52.0 | 86.8 | 94.7 | 92.5 | 94.7 | 95.9 | 99.7 | 102.4 | 103.7 | 122.0 | 118.3 |

4. R&D Fixed Assets



4.1. R&D FIXED ASSETS

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| At current prices | | | | | | | | | | | | | |
| Fixed assets – total, million roubles, before 1998 – billion roubles | 85087.6 | 195960.0 | 237564.4 | 242806.4 | 252318.1 | 348418.0 | 362421.8 | 399515.9 | 509336.8 | 581965.9 | 612318.3 | 705048.1 | 741512.1 |
| Per one employee, thousand roubles, before 1998 – million roubles | 80.2 | 229.1 | 267.6 | 274.2 | 289.7 | 405.9 | 431.8 | 491.3 | 631.1 | 726.4 | 804.4 | 949.6 | 1006.8 |
| Per one researcher, thousand roubles, before 1998 – million roubles | 164.0 | 470.0 | 557.7 | 575.1 | 608.5 | 850.3 | 902.8 | 1021.5 | 1309.6 | 1481.4 | 1629.4 | 1909.5 | 2010.0 |
| Machines and equipment, million roubles, before 1998 – billion roubles | 26505.8 | 55944.6 | 66938.3 | 72291.6 | 77868.9 | 105739.9 | 120533.3 | 142154.7 | 159452.5 | 196844.6 | 226391.7 | 288345.5 | 300165.9 |
| Per one employee, thousand roubles, before 1998 – million roubles | 25.0 | 65.4 | 75.4 | 81.6 | 89.4 | 123.2 | 143.6 | 174.8 | 197.6 | 245.7 | 297.4 | 388.4 | 407.5 |
| Per one researcher, thousand roubles, before 1998 – million roubles | 51.1 | 134.2 | 157.1 | 171.2 | 187.8 | 258.0 | 300.3 | 363.5 | 410.0 | 501.1 | 602.4 | 780.9 | 813.6 |

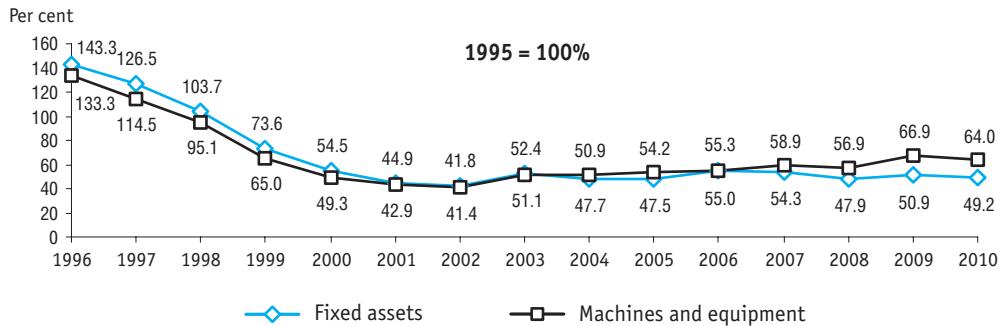
(continued)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| At constant 1995 prices* | | | | | | | | | | | | | |
| Fixed assets – total, million roubles, before 1998 – billion roubles | 85087.6 | 88270.3 | 46336.0 | 38177.1 | 35572.8 | 44600.4 | 40589.3 | 40383.7 | 46805.4 | 46184.1 | 40766.9 | 43342.2 | 41898.1 |
| Per one employee, thousand roubles, before 1998 – million roubles | 80.2 | 103.2 | 52.2 | 43.1 | 40.8 | 52.0 | 48.4 | 49.7 | 58.0 | 57.6 | 53.6 | 58.4 | 56.9 |
| Per one researcher, thousand roubles, before 1998 – million roubles | 164.0 | 211.7 | 108.8 | 90.4 | 85.8 | 108.8 | 101.1 | 103.3 | 120.3 | 117.6 | 108.6 | 117.5 | 113.6 |
| Machines and equipment, million roubles, before 1998 – billion roubles | 26505.8 | 25200.3 | 13056.0 | 11366.6 | 10978.3 | 13535.6 | 13499.1 | 14369.2 | 14652.9 | 15621.3 | 15072.7 | 17725.8 | 16960.4 |
| Per one employee, thousand roubles, before 1998 – million roubles | 25.0 | 29.5 | 14.7 | 12.8 | 12.6 | 15.8 | 16.1 | 17.7 | 18.2 | 19.5 | 19.8 | 23.9 | 23.0 |
| Per one researcher, thousand roubles, before 1998 – million roubles | 51.1 | 60.4 | 30.7 | 26.9 | 26.5 | 33.0 | 33.6 | 36.7 | 37.7 | 39.8 | 40.1 | 48.0 | 46.0 |

* Calculated on the basis of deflators for gross fixed capital formation.

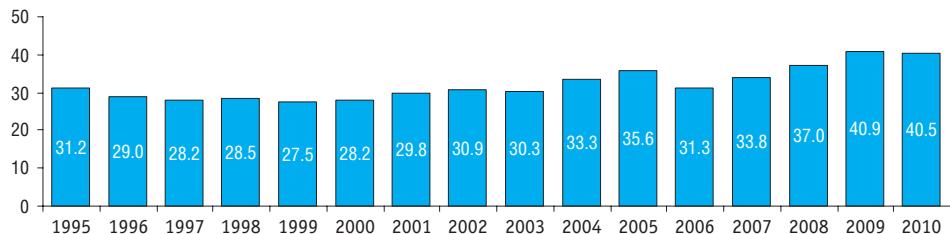
4.2. TRENDS IN VALUE OF R&D FIXED ASSETS*

(at constant 1995 prices)



* Calculated on the basis of deflators for gross fixed capital formation.

4.3. MACHINES AND EQUIPMENT AS A PER CENT OF THE TOTAL VALUE OF R&D FIXED ASSETS



4.4. R&D FIXED ASSETS BY OWNERSHIP OF R&D INSTITUTIONS

(million roubles, before 1998 – billion roubles)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Fixed assets | | | | | | | | | | | | | |
| Total | 85087.6 | 195960.0 | 237564.4 | 242806.4 | 252318.1 | 348418.0 | 362421.8 | 399515.9 | 509336.8 | 581965.9 | 612318.3 | 705048.1 | 741512.1 |
| Russian ownership | 85081.2 | 192705.2 | 232793.0 | 237798.7 | 247059.1 | 342981.0 | 356206.2 | 393181.0 | 503968.3 | 570760.1 | 600596.0 | 696133.5 | 725165.1 |
| Public ownership | 71686.4 | 157914.3 | 194659.0* | 197602.7 | 205543.4 | 298313.1 | 311757.9 | 344693.4 | 442539.7 | 504967.3 | 537366.1 | 619151.2 | 635491.6 |
| Federal | 70561.9 | 155049.4 | 191972.3 | 193718.1 | 202272.0 | 292911.8 | 304821.5 | 336223.9 | 430165.8 | 486643.7 | 518920.0 | 574713.9 | 617118.2 |
| Provincial | 1124.5 | 2864.8 | 2686.3 | 3884.7 | 3271.4 | 5401.3 | 6936.4 | 8469.5 | 11898.5 | 17526.8 | 17479.4 | 43454.1 | 18110.1 |
| Municipal ownership | 190.0 | 415.5 | 541.7 | 8.5 | 10.8 | 25.6 | 3.9 | 28.2 | 22.0 | 32.9 | 34.7 | 40.7 | 35.9 |
| Ownership of voluntary associations | 77.5 | 30.0 | 221.8 | 25.7 | 31.3 | 34.1 | 34.1 | 38.9 | 43.3 | 90.0 | 85.4 | 82.4 | 82.1 |
| Private ownership | 1306.4 | 8581.0 | 10499.1 | 11784.4 | 12416.6 | 12068.4 | 10468.3 | 17478.8 | 24052.8 | 25338.8 | 26957.6 | 30709.8 | 43615.5 |
| Ownership of consumer cooperatives** | ... | ... | 0.09 | 0.9 | 0.9 | 0.9 | 1.0 | 0.9 | 0.06 | 0.9 | 0.9 | 1.6 | 1.7 |
| Joint ownership (without foreign participation) | 11820.9 | 25764.4 | 26871.3 | 28376.5 | 29056.2 | 32538.9 | 33941.0 | 30940.7 | 37310.4 | 40330.3 | 36151.4 | 46147.9 | 42862.9 |
| Joint ownership with a part of public ownership | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 38571.0 |
| Ownership of state corporations | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3075.4 |
| Foreign and joint ownership (with both Russian and foreign participation) | 6.4 | 3254.9 | 4771.4 | 5007.7 | 5259.0 | 5437.0 | 6215.6 | 6334.9 | 5368.5 | 11205.8 | 11722.2 | 8914.6 | 16347.0 |

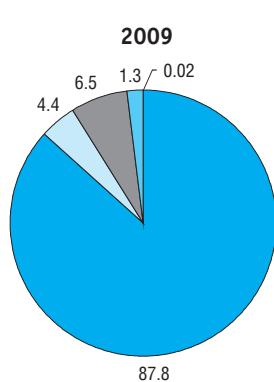
(continued)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Machines and equipment | | | | | | | | | | | | | |
| Total | 26505.8 | 55944.6 | 66938.3 | 72291.6 | 77868.9 | 105739.9 | 120533.3 | 142154.7 | 159452.5 | 196844.6 | 226391.7 | 288345.5 | 300165.9 |
| Russian ownership | 26503.0 | 55132.0 | 65631.5 | 71008.2 | 76403.8 | 103958.6 | 118511.7 | 140294.5 | 157833.3 | 191984.4 | 221221.1 | 283264.4 | 290440.4 |
| Public ownership | 21632.0 | 43478.6 | 53434.4* | 58670.2 | 62198.4 | 87983.1 | 102288.6 | 121662.2 | 134545.8 | 164900.6 | 194059.9 | 250646.7 | 256172.4 |
| Federal | 21340.3 | 42893.0 | 52750.5 | 57439.9 | 61150.5 | 85871.5 | 98656.7 | 117529.4 | 129240.8 | 156807.8 | 185556.4 | 215954.3 | 248766.8 |
| Provincial | 291.7 | 585.6 | 683.5 | 1230.3 | 1047.9 | 2111.7 | 3631.9 | 4132.8 | 5304.1 | 8038.5 | 8379.1 | 34654.2 | 7284.9 |
| Municipal ownership | 113.0 | 116.5 | 176.0 | 5.1 | 10.5 | 24.5 | 2.8 | 4.7 | 3.8 | 7.6 | 11.3 | 25.5 | 6.2 |
| Ownership of voluntary associations | 32.3 | 9.0 | 41.6 | 8.9 | 15.5 | 26.4 | 20.2 | 20.4 | 32.0 | 61.7 | 56.2 | 47.0 | 49.5 |
| Private ownership | 353.5 | 3082.6 | 4235.7 | 4421.7 | 4901.5 | 4866.8 | 4297.6 | 8094.0 | 10567.1 | 10656.1 | 12278.4 | 15307.8 | 17150.5 |
| Ownership of consumer cooperatives** | ... | ... | 0.09 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.06 | 0.2 | 0.2 | 0.9 | 1.0 |
| Joint ownership (without foreign participation) | 4372.2 | 8445.2 | 7743.7 | 7902.1 | 9277.8 | 11057.6 | 11902.3 | 10513.1 | 12684.7 | 16358.2 | 14815.2 | 17236.5 | 15944.0 |
| Joint ownership with a part of public ownership | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 13870.9 |
| Ownership of state corporations | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1116.7 |
| Foreign and joint ownership (with both Russian and foreign participation) | 2.8 | 812.6 | 1306.8 | 1283.4 | 1465.2 | 1781.2 | 2021.6 | 1860.2 | 1619.2 | 4860.2 | 5170.5 | 5081.1 | 9725.5 |

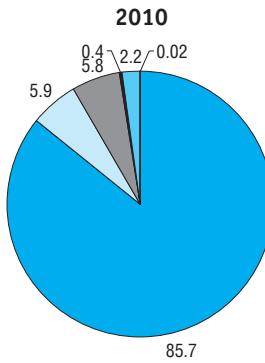
* Details may not add to the total because of shared ownership at some institutions.

** Until 2000, registered within institutions of private and joint Russian ownership.

4.5. PERCENTAGE DISTRIBUTION OF R&D FIXED ASSETS BY OWNERSHIP OF R&D INSTITUTIONS

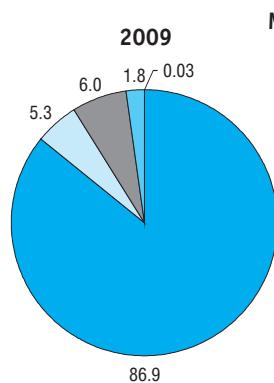


Fixed assets

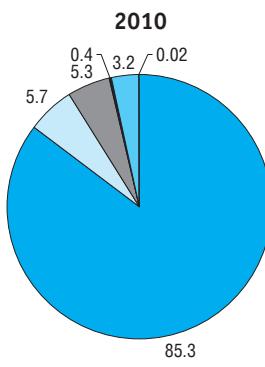


Ownership:

- public
- private
- joint (without foreign participation)
- ownership of state corporations
- foreign and joint (with both Russian and foreign participation)
- other



Machines and equipment



4.6. R&D FIXED ASSETS BY ECONOMIC ACTIVITY
(million roubles)

| | Fixed assets | | | Machines and equipment | | |
|--|-----------------|-----------------|-----------------|------------------------|-----------------|-----------------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Total | 612318.3 | 705048.1 | 741512.1 | 226391.7 | 288345.5 | 300165.9 |
| Agriculture, hunting and forestry | 600.1 | 756.0 | 807.4 | 121.0 | 163.7 | 183.7 |
| Fishing, aquaculture and service activities incidental to fishing | – | 1.8 | 1.3 | – | 0.5 | 0.5 |
| Mining and quarrying | 159.2 | 55.5 | 138.4 | 148.8 | 46.4 | 134.7 |
| Manufacturing | 29328.6 | 32875.9 | 45024.7 | 16178.0 | 19567.9 | 24122.8 |
| Electricity, gas and water supply | 21.0 | – | – | 11.4 | – | – |
| Construction | – | – | – | – | – | – |
| Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods | 159.2 | – | – | 5.0 | – | – |
| Transport and communications | 505.1 | 627.1 | 325.3 | 435.8 | 503.8 | 169.4 |
| Real estate, renting and business activities | 469573.6 | 523698.3 | 538758.2 | 184387.9 | 226835.8 | 227097.5 |
| Research and development | 461298.3 | 515275.5 | 529566.7 | 180306.7 | 222307.0 | 222192.7 |
| Other business activities | 5303.9 | 5695.7 | 5084.9 | 2287.3 | 2287.3 | 2408.0 |
| Public administration and defence; compulsory social security | – | – | – | – | – | – |
| Education | 95769.5 | 130568.8 | 140372.7 | 19839.1 | 35627.9 | 42532.7 |
| Higher education | 95745.1 | 130517.2 | 140371.8 | 19830.2 | 35597.1 | 42531.8 |
| Health and social work | 13512.2 | 13590.0 | 13845.1 | 4983.4 | 5295.3 | 5652.3 |
| Other community, social and personal service activities | 2689.8 | 2874.0 | 2239.0 | 281.2 | 304.1 | 272.4 |
| Recreational, cultural and sporting activities | 2680.7 | 2868.0 | 2229.7 | 283.7 | 272.1 | 263.2 |

5. Sectors of R&D Performance

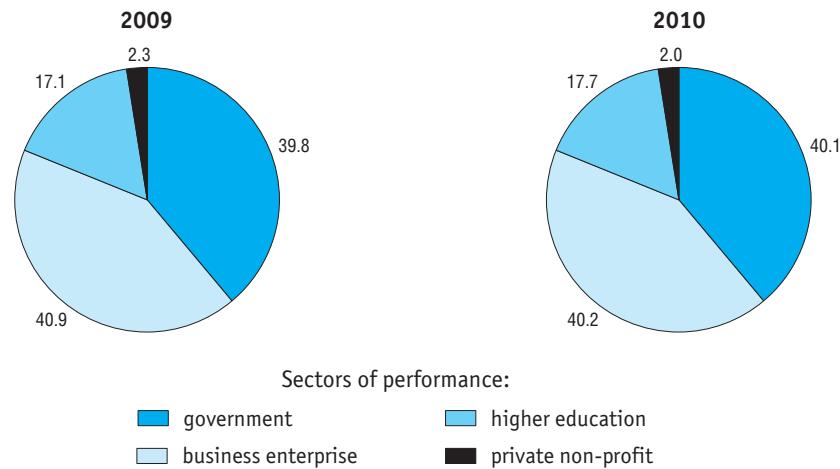


5.1. Aggregate Indicators

5.1.1. R&D INSTITUTIONS BY SECTOR OF PERFORMANCE

| | Total | Government sector | Business enterprise sector | Higher education sector | Private non-profit sector |
|------|-------|-------------------|----------------------------|-------------------------|---------------------------|
| 1995 | 4059 | 1193 | 2345 | 511 | 10 |
| 1996 | 4122 | 1202 | 2351 | 548 | 21 |
| 1997 | 4137 | 1223 | 2336 | 543 | 35 |
| 1998 | 4019 | 1212 | 2238 | 531 | 38 |
| 1999 | 4089 | 1221 | 2305 | 529 | 34 |
| 2000 | 4099 | 1247 | 2278 | 526 | 48 |
| 2001 | 4037 | 1248 | 2213 | 529 | 47 |
| 2002 | 3906 | 1218 | 2110 | 531 | 47 |
| 2003 | 3797 | 1233 | 1990 | 526 | 48 |
| 2004 | 3656 | 1230 | 1851 | 533 | 42 |
| 2005 | 3566 | 1282 | 1703 | 539 | 42 |
| 2006 | 3622 | 1341 | 1682 | 540 | 59 |
| 2007 | 3957 | 1483 | 1742 | 616 | 116 |
| 2008 | 3666 | 1429 | 1540 | 603 | 94 |
| 2009 | 3536 | 1406 | 1446 | 603 | 81 |
| 2010 | 3492 | 1400 | 1405 | 617 | 70 |

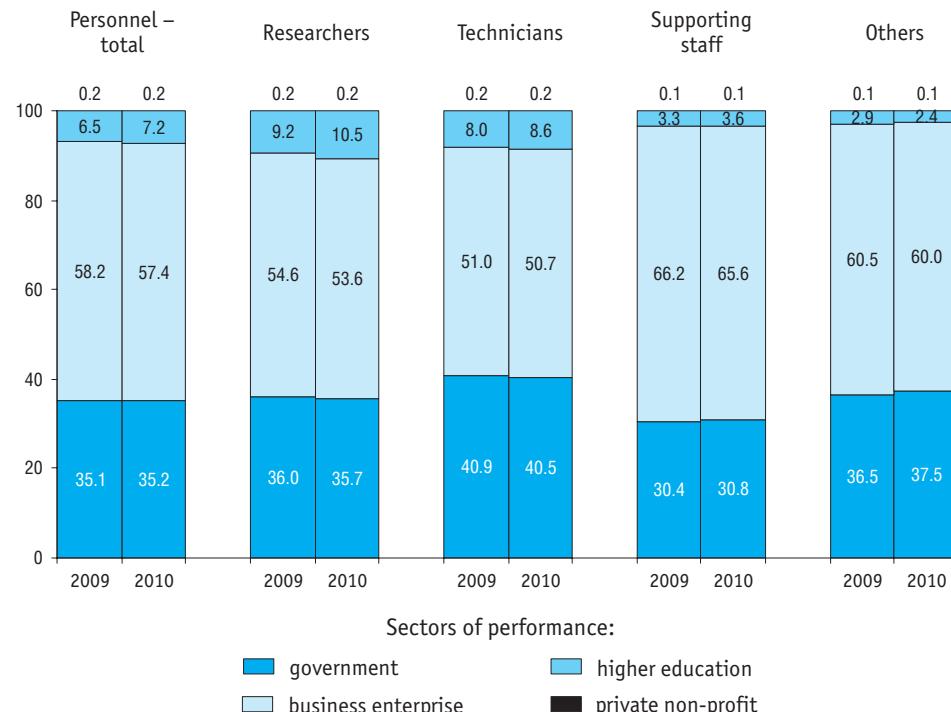
5.1.2. PERCENTAGE DISTRIBUTION OF R&D INSTITUTIONS BY SECTOR OF PERFORMANCE



5.1.3. R&D PERSONNEL BY SECTOR OF PERFORMANCE AND OCCUPATION
(head-count)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|----------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Total | 1061044 | 855190 | 887729 | 885568 | 870878 | 858470 | 839338 | 813207 | 807066 | 801135 | 761252 | 742433 | 736540 |
| Researchers | 518690 | 416958 | 425954 | 422176 | 414676 | 409775 | 401425 | 391121 | 388939 | 392849 | 375804 | 369237 | 368915 |
| Technicians | 101371 | 74835 | 75184 | 75416 | 74599 | 71729 | 69963 | 65982 | 66031 | 64569 | 60218 | 60045 | 59276 |
| Supporting staff | 274925 | 220060 | 240506 | 238933 | 232636 | 229214 | 223356 | 215555 | 213579 | 208052 | 194769 | 186995 | 183713 |
| Others | 166058 | 143337 | 146085 | 149043 | 148967 | 147752 | 144594 | 140549 | 138517 | 135665 | 130461 | 126156 | 124636 |
| Government sector | 282166 | 255147 | 255850 | 256137 | 257462 | 256098 | 258078 | 272718 | 274802 | 272255 | 260854 | 260360 | 259007 |
| Researchers | 146342 | 130939 | 129725 | 131190 | 131607 | 131906 | 132350 | 139378 | 138728 | 138169 | 132261 | 132955 | 131734 |
| Technicians | 27178 | 25793 | 25085 | 25182 | 26281 | 25083 | 25223 | 25462 | 25667 | 26545 | 24531 | 24554 | 24009 |
| Supporting staff | 66226 | 58788 | 59706 | 58811 | 56396 | 55782 | 57057 | 61448 | 62482 | 61031 | 58591 | 56846 | 56530 |
| Others | 42420 | 39627 | 41334 | 40954 | 43178 | 43327 | 43448 | 46430 | 47925 | 46510 | 45471 | 46005 | 46734 |
| Business enterprise sector | 726568 | 558547 | 590646 | 585416 | 568628 | 558668 | 537473 | 496706 | 486613 | 478401 | 451532 | 432415 | 423112 |
| Researchers | 336671 | 257470 | 267640 | 261334 | 252990 | 248232 | 239172 | 221445 | 218702 | 219632 | 209579 | 201668 | 197785 |
| Technicians | 70180 | 45681 | 46535 | 46493 | 44501 | 43137 | 41171 | 36837 | 36315 | 33340 | 31230 | 30613 | 30063 |
| Supporting staff | 201122 | 155205 | 175261 | 173501 | 169465 | 166620 | 159650 | 147980 | 144966 | 140507 | 129496 | 123814 | 120485 |
| Others | 118595 | 100191 | 101210 | 104088 | 101672 | 100679 | 97480 | 90444 | 86630 | 84922 | 81227 | 76320 | 74779 |
| Higher education sector | 52065 | 41164 | 40787 | 43463 | 44135 | 43120 | 43414 | 43500 | 44473 | 49059 | 47595 | 48498 | 53290 |
| Researchers | 35508 | 28320 | 28325 | 29333 | 29583 | 29346 | 29670 | 30111 | 30793 | 34162 | 33160 | 33847 | 38640 |
| Technicians | 4010 | 3330 | 3509 | 3665 | 3771 | 3434 | 3534 | 3658 | 3972 | 4606 | 4349 | 4778 | 5095 |
| Supporting staff | 7520 | 6038 | 5463 | 6550 | 6717 | 6695 | 6607 | 6098 | 5945 | 6282 | 6520 | 6198 | 6564 |
| Others | 5027 | 3476 | 3490 | 3915 | 4064 | 3645 | 3603 | 3633 | 3763 | 4009 | 3566 | 3675 | 2991 |
| Private non-profit sector | 245 | 332 | 446 | 552 | 653 | 584 | 373 | 283 | 1178 | 1420 | 1271 | 1160 | 1131 |
| Researchers | 169 | 229 | 264 | 319 | 496 | 291 | 233 | 187 | 716 | 886 | 804 | 767 | 756 |
| Technicians | 3 | 31 | 55 | 76 | 46 | 75 | 35 | 25 | 77 | 78 | 108 | 100 | 109 |
| Supporting staff | 57 | 29 | 76 | 71 | 58 | 117 | 42 | 29 | 186 | 232 | 162 | 137 | 134 |
| Others | 16 | 43 | 51 | 86 | 53 | 101 | 63 | 42 | 199 | 224 | 197 | 156 | 132 |

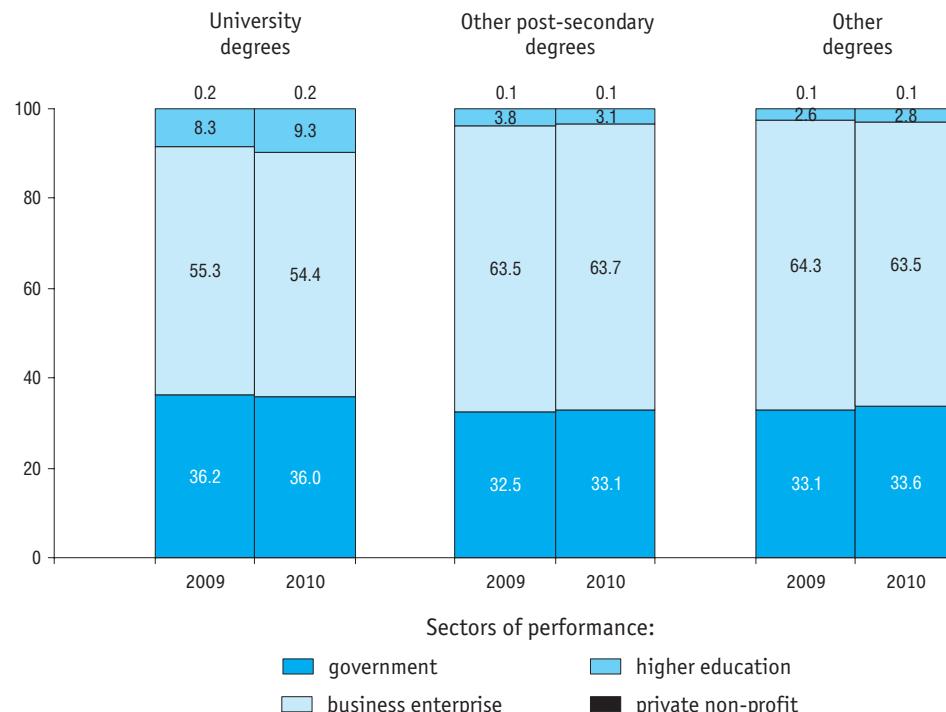
5.1.4. PERCENTAGE DISTRIBUTION OF R&D PERSONNEL BY OCCUPATION AND SECTOR OF PERFORMANCE



5.1.5. R&D PERSONNEL BY SECTOR OF PERFORMANCE AND QUALIFICATION
(head-count)

| | Total | Government sector | Business enterprise sector | Higher education sector | Private non-profit sector |
|------------------------------|--------|-------------------|----------------------------|-------------------------|---------------------------|
| R&D personnel | | | | | |
| 2005 | 813207 | 272718 | 496706 | 43500 | 283 |
| 2006 | 807066 | 274802 | 486613 | 44473 | 1178 |
| 2007 | 801135 | 272255 | 478401 | 49059 | 1420 |
| 2008 | 761252 | 260854 | 451532 | 47595 | 1271 |
| 2009 | 742433 | 260360 | 432415 | 48498 | 1160 |
| 2010 | 736540 | 259007 | 423112 | 53290 | 1131 |
| University degrees | | | | | |
| 2005 | 501718 | 177676 | 288649 | 35159 | 234 |
| 2006 | 502657 | 178594 | 287092 | 36108 | 863 |
| 2007 | 513099 | 181228 | 290728 | 40025 | 1118 |
| 2008 | 495255 | 175017 | 280083 | 39160 | 995 |
| 2009 | 489076 | 177254 | 270449 | 40456 | 917 |
| 2010 | 493852 | 178026 | 268821 | 46112 | 893 |
| Other post-secondary degrees | | | | | |
| 2005 | 134222 | 40495 | 89265 | 4430 | 32 |
| 2006 | 133454 | 41122 | 87615 | 4541 | 176 |
| 2007 | 129360 | 40169 | 84326 | 4723 | 142 |
| 2008 | 121508 | 38221 | 78622 | 4523 | 142 |
| 2009 | 115042 | 37439 | 73054 | 4424 | 125 |
| 2010 | 109158 | 36091 | 69552 | 3394 | 121 |
| Other degrees | | | | | |
| 2005 | 177267 | 54547 | 118792 | 3911 | 17 |
| 2006 | 170955 | 55086 | 111906 | 3824 | 139 |
| 2007 | 158676 | 50858 | 103347 | 4311 | 160 |
| 2008 | 144489 | 47616 | 92827 | 3912 | 134 |
| 2009 | 138315 | 45667 | 88912 | 3618 | 118 |
| 2010 | 133530 | 44890 | 84739 | 3784 | 117 |

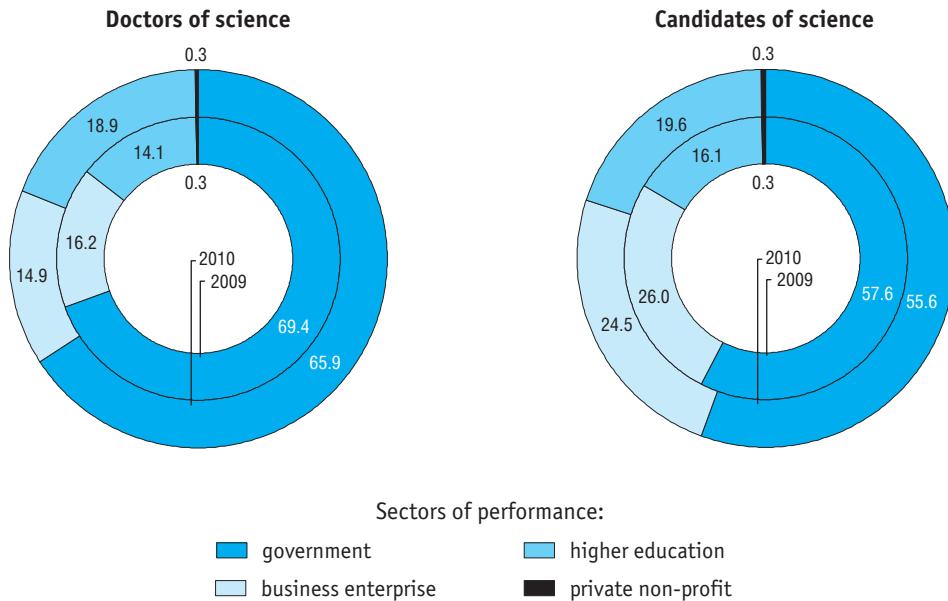
5.1.6. PERCENTAGE DISTRIBUTION OF R&D PERSONNEL BY QUALIFICATION AND SECTOR OF PERFORMANCE



5.1.7. RESEARCHERS WITH SCIENTIFIC DEGREES BY SECTOR OF PERFORMANCE
(head-count)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|---------------|---------------|---------------|---------------|---------------|---------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|
| Researchers with scientific degrees | 116465 | 105884 | 105911 | 104414 | 102346 | 101806 | 99910 | 99428 | 99507 | 103725 | 101049 | 101275 | 105114 |
| Doctors of science | 19330 | 20514 | 21949 | 22262 | 22571 | 22936 | 23102 | 23410 | 23880 | 25213 | 25140 | 25295 | 26789 |
| Candidates of science | 97135 | 85370 | 83962 | 82152 | 79775 | 78870 | 76808 | 76018 | 75627 | 78512 | 75909 | 75980 | 78325 |
| Government sector | 61062 | 58466 | 58901 | 58400 | 57938 | 58774 | 58568 | 60066 | 60054 | 61707 | 60369 | 61309 | 61194 |
| Doctors of science | 13358 | 14150 | 14987 | 15157 | 15420 | 15885 | 16031 | 16511 | 16766 | 17415 | 17326 | 17554 | 17646 |
| Candidates of science | 47704 | 44316 | 43914 | 43243 | 42518 | 42889 | 42537 | 43555 | 43288 | 44292 | 43043 | 43755 | 43548 |
| Business enterprise sector | 41207 | 35057 | 34775 | 33313 | 31732 | 30507 | 29048 | 26661 | 25958 | 26257 | 24844 | 23861 | 23169 |
| Doctors of science | 4348 | 4496 | 4806 | 4750 | 4691 | 4583 | 4511 | 4222 | 4108 | 4446 | 4284 | 4093 | 3987 |
| Candidates of science | 36859 | 30561 | 29969 | 28563 | 27041 | 25924 | 24537 | 22439 | 21850 | 21811 | 20560 | 19768 | 19182 |
| Higher education sector | 14162 | 12269 | 12113 | 12531 | 12530 | 12432 | 12212 | 12618 | 13153 | 15330 | 15479 | 15774 | 20423 |
| Doctors of science | 1617 | 1851 | 2120 | 2310 | 2425 | 2447 | 2538 | 2654 | 2924 | 3252 | 3439 | 3568 | 5068 |
| Candidates of science | 12545 | 10418 | 9993 | 10221 | 10105 | 9985 | 9674 | 9964 | 10229 | 12078 | 12040 | 12206 | 15355 |
| Private non-profit sector | 34 | 92 | 122 | 170 | 146 | 93 | 82 | 83 | 342 | 431 | 357 | 331 | 328 |
| Doctors of science | 7 | 17 | 36 | 45 | 35 | 21 | 22 | 23 | 82 | 100 | 91 | 80 | 88 |
| Candidates of science | 27 | 75 | 86 | 125 | 111 | 72 | 60 | 60 | 260 | 331 | 266 | 251 | 240 |

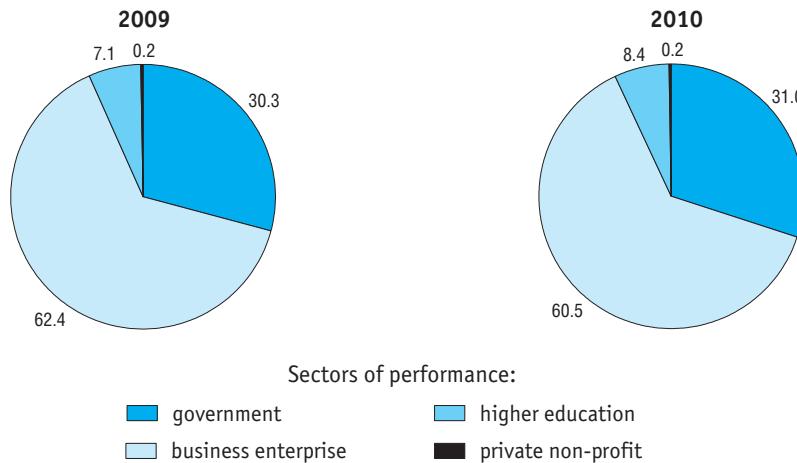
5.1.8. PERCENTAGE DISTRIBUTION OF RESEARCHERS WITH SCIENTIFIC DEGREES BY SECTOR OF PERFORMANCE



5.1.9. GROSS DOMESTIC EXPENDITURE ON R&D BY SECTOR OF PERFORMANCE
(thousand roubles, before 1998 – million roubles)

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| At current prices | | | | | | | | | | | | |
| Gross domestic expenditure on R&D | 12149458.6 | 76697100.5 | 105260731.6 | 135004491.9 | 169862369.1 | 196039870.2 | 230785150.3 | 288805211.5 | 371080327.1 | 431073185.2 | 485834338.2 | 523377233.9 |
| Government sector | 3165439.4 | 18748588.2 | 25580299.1 | 33020017.4 | 42944862.9 | 49545237.7 | 60158166.6 | 77950634.9 | 107984917.2 | 129871228.3 | 147023165.7 | 161988411.4 |
| Business enterprise sector | 8323907.6 | 54288781.4 | 73976244.8 | 94336248.9 | 116247853.0 | 135408690.9 | 156880029.0 | 192484851.0 | 238386207.4 | 271206280.5 | 303051131.5 | 316701679.9 |
| Higher education sector | 657374.0 | 3489342.2 | 5487653.7 | 7322943.2 | 10297745.0 | 10696125.8 | 13337987.1 | 17639173.8 | 23471870.9 | 28868566.7 | 34642216.7 | 43714007.3 |
| Private non-profit sector | 2737.6 | 170388.7 | 216534.0 | 325282.4 | 371908.2 | 389815.8 | 408967.6 | 730551.8 | 1237331.6 | 1127109.7 | 1117824.3 | 973135.3 |
| At constant 1989 prices | | | | | | | | | | | | |
| Gross domestic expenditure on R&D | 2485.4 | 3321.2 | 3912.6 | 4344.7 | 4803.6 | 4608.4 | 4547.5 | 4939.9 | 5577.5 | 5490.8 | 6073.0 | 5872.8 |
| Government sector | 647.6 | 811.9 | 950.8 | 1062.7 | 1214.5 | 1164.7 | 1185.4 | 1333.3 | 1623.1 | 1654.3 | 1837.8 | 1817.7 |
| Business enterprise sector | 1702.8 | 2350.9 | 2749.7 | 3035.9 | 3287.4 | 3183.1 | 3091.2 | 3292.4 | 3583.0 | 3454.5 | 3788.2 | 3553.7 |
| Higher education sector | 134.5 | 151.1 | 204.0 | 235.7 | 291.2 | 251.4 | 262.8 | 301.7 | 352.8 | 367.7 | 433.0 | 490.5 |
| Private non-profit sector | 0.6 | 7.4 | 8.0 | 10.5 | 10.5 | 9.2 | 8.1 | 12.5 | 18.6 | 14.4 | 14.0 | 10.9 |

5.1.10. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D BY SECTOR OF PERFORMANCE



**5.1.11. GROSS DOMESTIC EXPENDITURE ON R&D BY SECTOR OF PERFORMANCE
AS A PER CENT OF GROSS DOMESTIC PRODUCT**

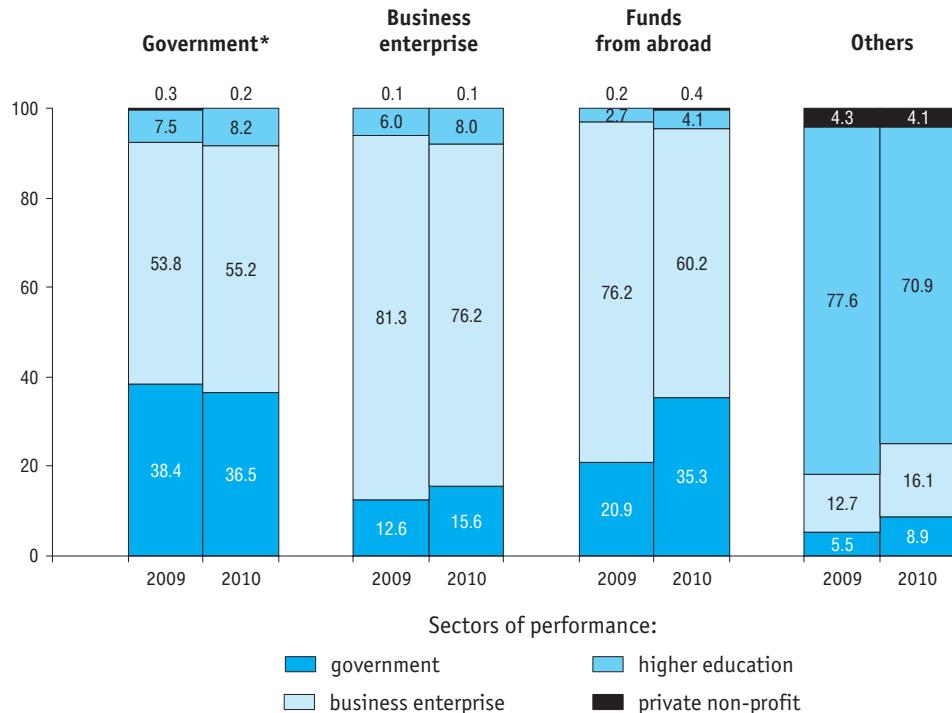
| | Total | Government sector | Business enterprise sector | Higher education sector |
|------|-------|-------------------|----------------------------|-------------------------|
| 1995 | 0.85 | 0.22 | 0.58 | 0.05 |
| 1996 | 0.97 | 0.25 | 0.67 | 0.05 |
| 1997 | 1.04 | 0.29 | 0.69 | 0.06 |
| 1998 | 0.95 | 0.25 | 0.66 | 0.05 |
| 1999 | 1.00 | 0.25 | 0.70 | 0.05 |
| 2000 | 1.05 | 0.26 | 0.74 | 0.05 |
| 2001 | 1.18 | 0.29 | 0.83 | 0.06 |
| 2002 | 1.25 | 0.31 | 0.87 | 0.07 |
| 2003 | 1.29 | 0.33 | 0.88 | 0.08 |
| 2004 | 1.15 | 0.29 | 0.80 | 0.06 |
| 2005 | 1.07 | 0.28 | 0.73 | 0.06 |
| 2006 | 1.07 | 0.29 | 0.72 | 0.07 |
| 2007 | 1.12 | 0.32 | 0.72 | 0.07 |
| 2008 | 1.04 | 0.31 | 0.66 | 0.07 |
| 2009 | 1.25 | 0.38 | 0.78 | 0.09 |
| 2010 | 1.16 | 0.36 | 0.70 | 0.10 |

5.1.12. GROSS DOMESTIC EXPENDITURE ON R&D BY SECTOR OF PERFORMANCE AND SOURCE OF FUNDS
(thousand roubles)

| | Total | Government* | Business enterprise sector | Higher education sector | Private non-profit sector | Funds from abroad |
|--|--------------------|--------------------|----------------------------|-------------------------|---------------------------|-------------------|
| 2008 | | | | | | |
| Gross domestic expenditure on R&D | 431073185.2 | 278992303.3 | 123695707.2 | 1993888.9 | 768479.1 | 25622806.7 |
| Government sector | 129871228.3 | 108231726.8 | 16119227.3 | 183124.2 | 120667.0 | 5216483.0 |
| Business enterprise sector | 271206280.5 | 151975682.0 | 99123835.8 | 43931.1 | 468252.7 | 19594578.9 |
| Higher education sector | 28868566.7 | 18003735.9 | 8244450.2 | 1758509.8 | 84419.2 | 777451.6 |
| Private non-profit sector | 1127109.7 | 781158.6 | 208193.9 | 8323.8 | 95140.2 | 34293.2 |
| 2009 | | | | | | |
| Gross domestic expenditure on R&D | 485834338.2 | 322889237.6 | 129170972.3 | 1896167.0 | 471799.6 | 31406161.7 |
| Government sector | 147023165.7 | 124027349.4 | 16292839.6 | 90578.1 | 38990.4 | 6573408.2 |
| Business enterprise sector | 303051131.5 | 173872629.4 | 104955691.5 | 60958.8 | 238908.1 | 23922943.7 |
| Higher education sector | 34642216.7 | 24181368.4 | 7769897.9 | 1741764.5 | 95595.8 | 853590.1 |
| Private non-profit sector | 1117824.3 | 807890.4 | 152543.3 | 2865.6 | 98305.3 | 56219.7 |
| 2010 | | | | | | |
| Gross domestic expenditure on R&D | 523377233.9 | 368191779.8 | 133498976.0 | 2436564.1 | 682378.0 | 18567536.0 |
| Government sector | 161988411.4 | 134275595.6 | 20873979.0 | 205154.5 | 73117.4 | 6560564.9 |
| Business enterprise sector | 316701679.9 | 203267110.6 | 101760706.5 | 75409.3 | 427247.1 | 11171206.4 |
| Higher education sector | 43714007.3 | 30017817.7 | 10724045.9 | 2154774.3 | 55055.8 | 762313.6 |
| Private non-profit sector | 973135.3 | 631255.9 | 140244.6 | 1226.0 | 126957.7 | 73451.1 |

* Including federal budget appropriations, general university funds and government sector institutions' funds (e.g. own funds of institutions).

5.1.13. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D BY SOURCE OF FUNDS AND SECTOR OF PERFORMANCE

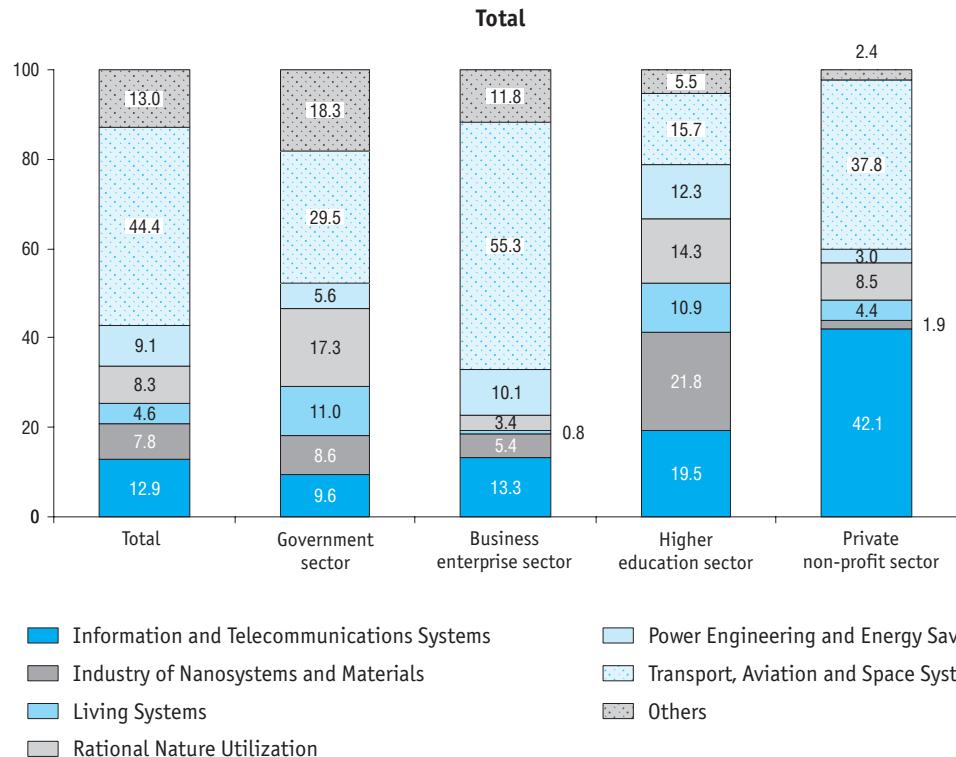


* Including federal budget appropriations, general university funds and government sector institutions' funds (e.g. own funds of institutions).

5.1.14. GROSS DOMESTIC EXPENDITURE ON R&D BY PRIORITY S&T AREAS AND SECTOR OF PERFORMANCE: 2010
(thousand roubles)

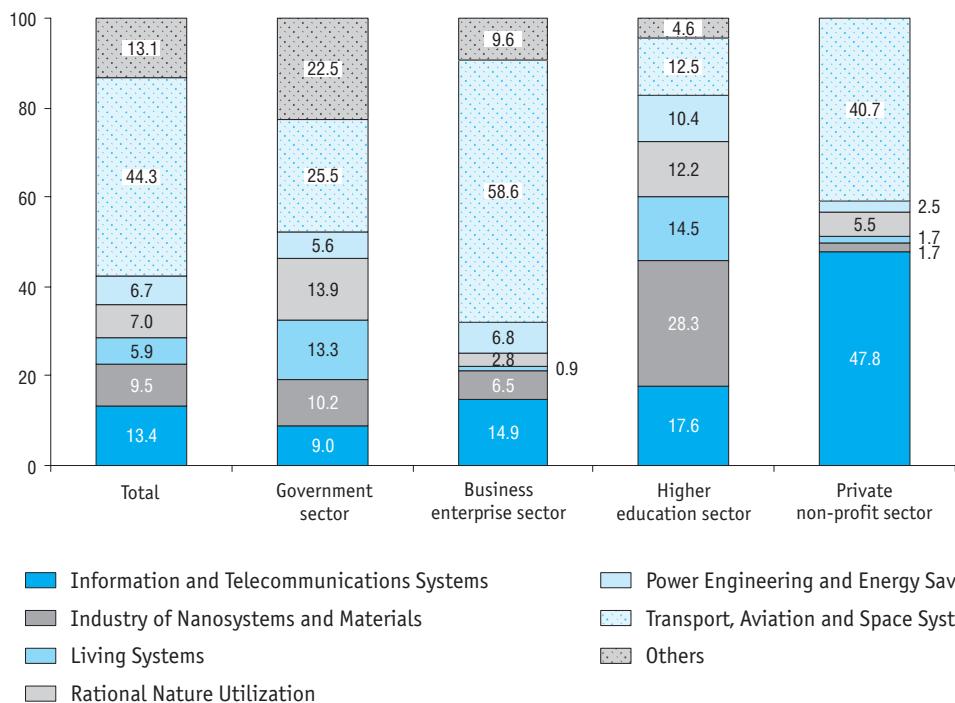
| | Total | Government sector | Business enterprise sector | Higher education sector | Private non-profit sector |
|--|--------------------|-------------------|----------------------------|-------------------------|---------------------------|
| Gross domestic expenditure on R&D by priority S&T areas | 295827741.9 | 82258044.7 | 185152646.7 | 27980755.4 | 436295.1 |
| Information and Telecommunications Systems | 38128814.5 | 7867120.7 | 24620176.3 | 5457715.1 | 183802.4 |
| Industry of Nanosystems and Materials | 23119833.3 | 7091550.3 | 9929444.8 | 6090618.2 | 8220.0 |
| Living Systems | 13591447.4 | 9054072.5 | 1462599.9 | 3055694.1 | 19080.9 |
| Rational Nature Utilization | 24507615.4 | 14249771.6 | 6206898.0 | 4013980.0 | 36965.8 |
| Power Engineering and Energy Saving | 26795241.5 | 4620708.7 | 18724967.5 | 3436564.3 | 13001.0 |
| Transport, Aviation and Space Systems | 131242672.1 | 24292366.9 | 102388718.9 | 4396734.9 | 164851.4 |
| From the total value of gross domestic expenditure on R&D by priority S&T areas – financed from the federal budget | 177399009.5 | 54858951.7 | 106897997.1 | 15303386.4 | 338674.3 |
| Information and Telecommunications Systems | 23729029.9 | 4960500.7 | 15920072.0 | 2686562.2 | 161895.0 |
| Industry of Nanosystems and Materials | 16890764.3 | 5592922.6 | 6962278.3 | 4329663.4 | 5900.0 |
| Living Systems | 10434298.1 | 7287275.1 | 928713.3 | 2212705.1 | 5604.6 |
| Rational Nature Utilization | 12490310.7 | 7615564.8 | 2987610.2 | 1868378.7 | 18757.0 |
| Power Engineering and Energy Saving | 11912462.3 | 3075504.3 | 7240794.4 | 1587558.6 | 8605.0 |
| Transport, Aviation and Space Systems | 78673521.2 | 13977159.6 | 62645308.2 | 1913140.7 | 137912.7 |

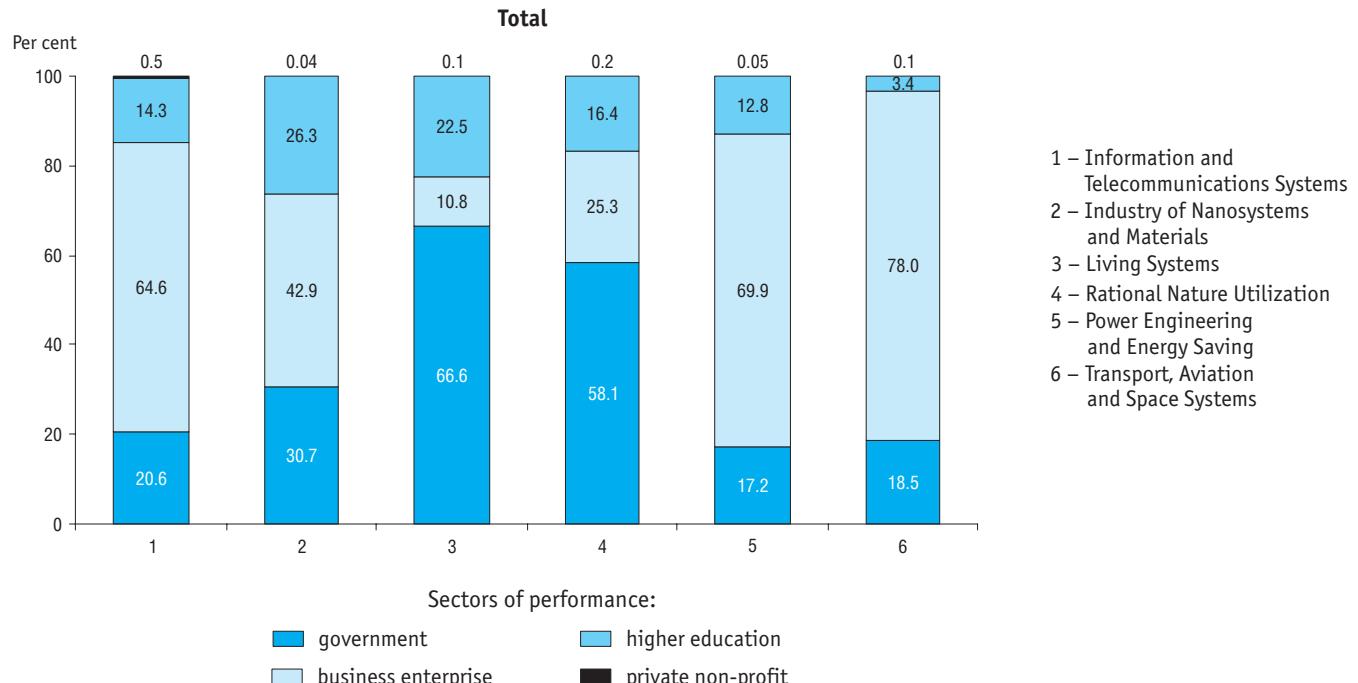
5.1.15. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D BY PRIORITY S&T AREAS AND SECTOR OF PERFORMANCE: 2010



(continued)

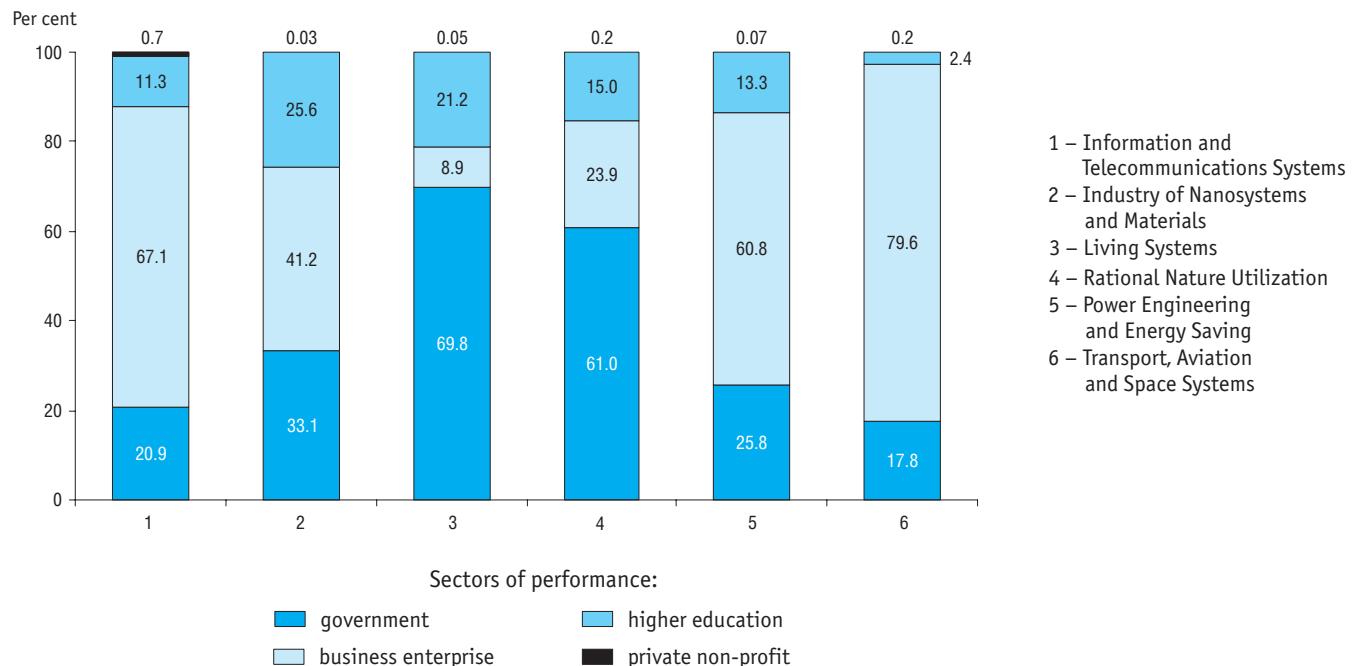
**Percentage distribution of gross domestic expenditure on R&D
by priority S&T areas financed from federal budget**



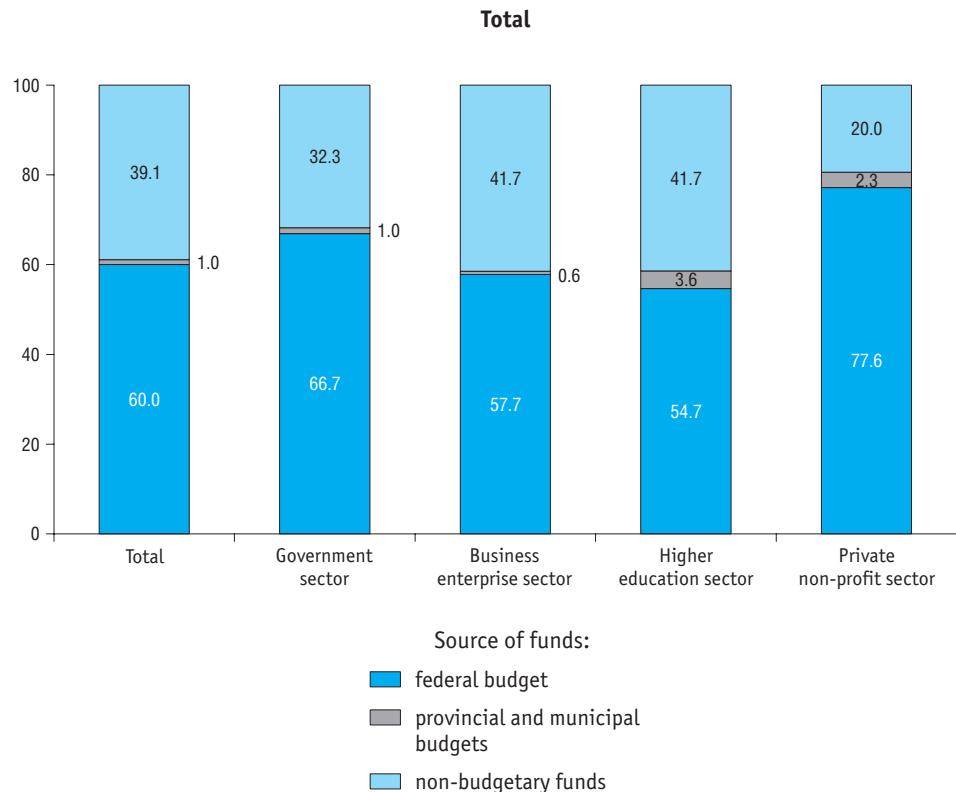
5.1.16. SHARE OF SECTORS OF PERFORMANCE IN GROSS DOMESTIC EXPENDITURE ON R&D BY SELECTED PRIORITY S&T AREAS: 2010

(continued)

**Share of sectors of performance in gross domestic expenditure on R&D
by selected priority S&T areas financed from federal budget**

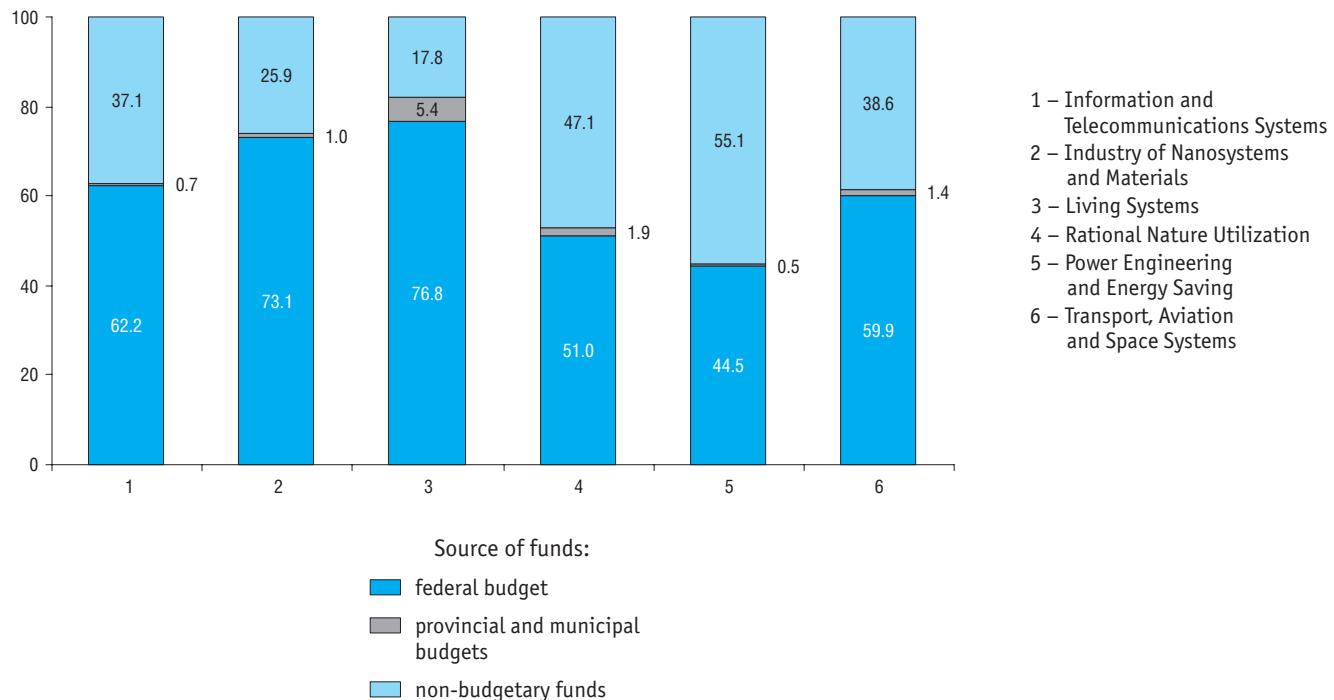


5.1.17. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D BY PRIORITY S&T AREAS AND SOURCE OF FUNDS: 2010



(continued)

**Percentage distribution of gross domestic expenditure on R&D
by selected priority S&T areas and source of funds**

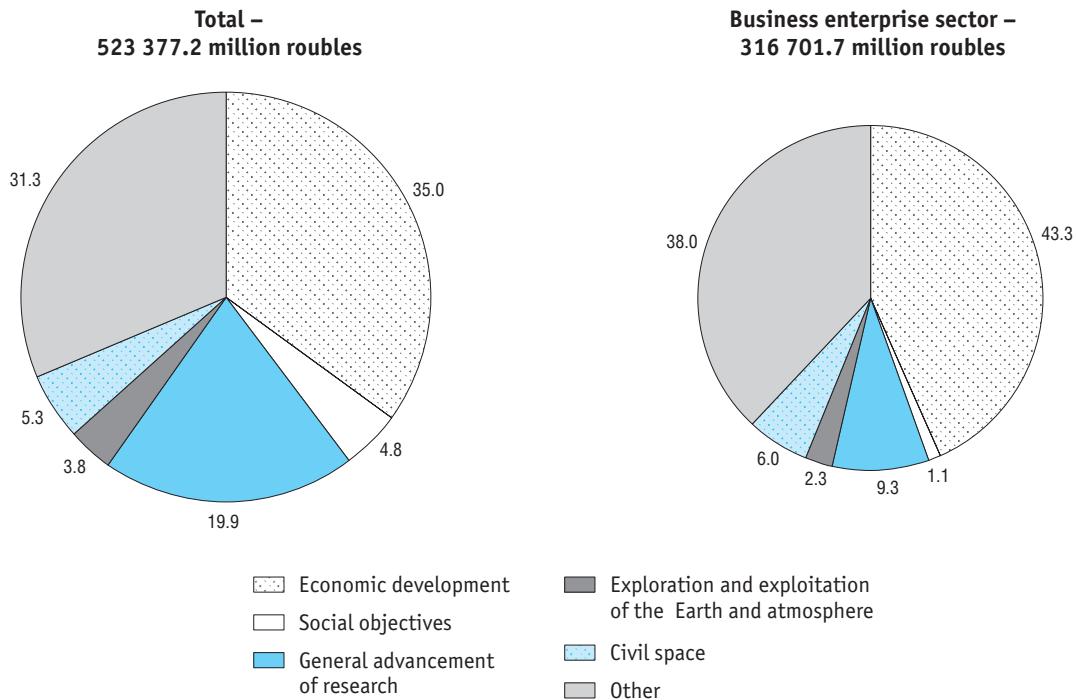


5.1.18. GROSS DOMESTIC EXPENDITURE ON R&D BY SECTOR OF PERFORMANCE AND SOCIO-ECONOMIC OBJECTIVE
(thousand roubles)

| | Total | Government sector | Business enterprise sector | Higher education sector | Private non-profit sector |
|--|--------------------|--------------------|----------------------------|-------------------------|---------------------------|
| 2006 | | | | | |
| Gross domestic expenditure on R&D | 288805211.5 | 77950634.9 | 192484851.0 | 17639173.8 | 730551.8 |
| Economic development | 103033497.6 | 14236400.0 | 82580056.7 | 6163764.8 | 53276.7 |
| Social objectives | 11954593.3 | 6563536.0 | 2121688.3 | 3218914.3 | 50454.7 |
| General advancement of research | 60629124.4 | 33079816.8 | 21002553.0 | 6213453.0 | 333301.6 |
| Exploration and exploitation of the Earth and atmosphere | 7577493.4 | 3672887.9 | 3334582.4 | 517042.0 | 52981.1 |
| Civil space | 14018574.9 | 4388602.1 | 9415071.8 | 152643.0 | 62258.0 |
| Other | 91591927.9 | 16009392.1 | 74030898.8 | 1373356.7 | 178280.3 |
| 2008 | | | | | |
| Gross domestic expenditure on R&D | 431073185.2 | 129871228.3 | 271206280.5 | 28868566.7 | 1127109.7 |
| Economic development | 157814603.7 | 25903022.4 | 121499877.0 | 10333925.5 | 77778.8 |
| Social objectives | 17735503.9 | 10497875.9 | 3161362.9 | 3928770.2 | 147494.9 |
| General advancement of research | 110853857.1 | 58886330.0 | 39822028.1 | 11645596.7 | 499902.3 |
| Exploration and exploitation of the Earth and atmosphere | 12601082.0 | 6584643.0 | 5240102.0 | 686608.9 | 89728.1 |
| Civil space | 13810148.3 | 3771383.7 | 9741148.8 | 202156.2 | 95459.6 |
| Other | 118257990.2 | 24227973.3 | 91741761.7 | 2071509.2 | 216746.0 |

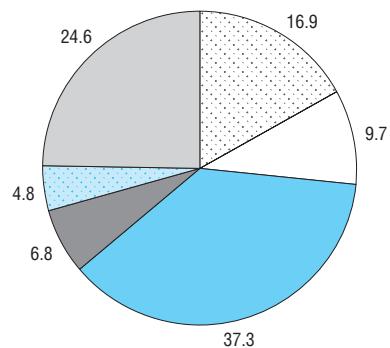
(continued)

| | Total | Government sector | Business enterprise sector | Higher education sector | Private non-profit sector |
|--|--------------------|--------------------|----------------------------|-------------------------|---------------------------|
| 2010 | | | | | |
| Gross domestic expenditure on R&D | 523377233.9 | 161988411.4 | 316701679.9 | 43714007.3 | 973135.3 |
| Economic development | 183113782.3 | 27363386.8 | 137277406.4 | 18388324.5 | 84664.6 |
| Social objectives | 24966176.4 | 15678573.3 | 3428751.4 | 5715218.0 | 143633.7 |
| General advancement of research | 104294714.1 | 60344393.8 | 29350303.3 | 14265983.6 | 334033.4 |
| Exploration and exploitation of the Earth and atmosphere | 19821817.2 | 10992645.7 | 7298359.0 | 1425201.8 | 105610.7 |
| Civil space | 27503697.9 | 7745311.8 | 18981106.6 | 763424.2 | 13855.3 |
| Other | 163677046.0 | 39864100.0 | 120365753.2 | 3155855.2 | 291337.6 |

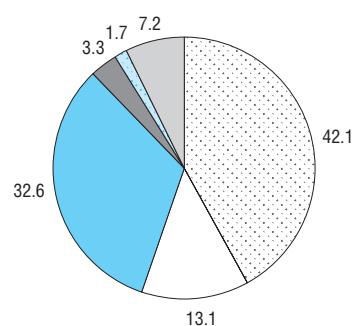
**5.1.19. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D
BY SECTOR OF PERFORMANCE AND SOCIO-ECONOMIC OBJECTIVE: 2010**

(continued)

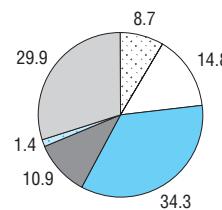
**Government sector –
161 988.4 million roubles**



**Business enterprise sector –
43 714.0 million roubles**



**Private non-profit sector –
973.1 million roubles**



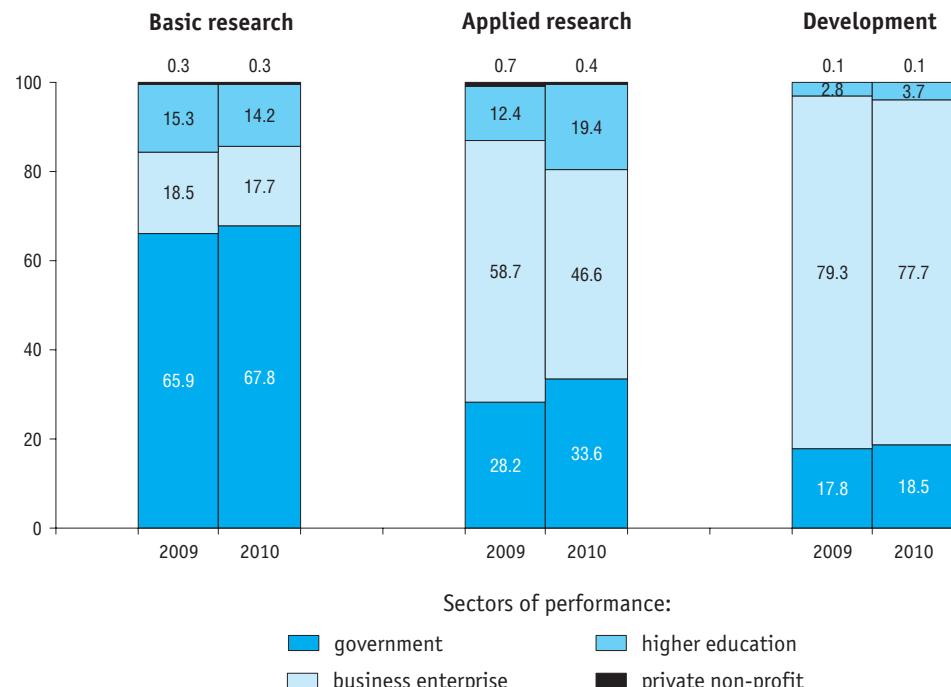
■ Economic development
□ Social objectives
■ General advancement of research

■ Exploration and exploitation of the Earth and atmosphere
■ Civil space
■ Other

5.1.20. INTRAMURAL CURRENT EXPENDITURE ON R&D BY SECTOR OF PERFORMANCE AND TYPE OF ACTIVITY
(thousand roubles)

| | Total | Government sector | Business enterprise sector | Higher education sector | Private non-profit sector |
|--|-------------|-------------------|----------------------------|-------------------------|---------------------------|
| Intramural current expenditure on R&D | | | | | |
| 2005 | 221119537.6 | 56342327.7 | 151228693.6 | 13144292.5 | 404223.8 |
| 2006 | 277784757.3 | 73951796.2 | 185760345.8 | 17345713.3 | 726902.0 |
| 2007 | 352917701.2 | 102247576.2 | 226211577.7 | 23227988.8 | 1230558.5 |
| 2008 | 410864983.6 | 122630304.7 | 258764246.7 | 28355126.5 | 1115305.7 |
| 2009 | 461006216.2 | 138303922.9 | 287718749.5 | 33871885.4 | 1111658.4 |
| 2010 | 489450798.7 | 151825126.6 | 294103827.7 | 42552245.4 | 969599.0 |
| Basic research | | | | | |
| 2005 | 31022855.8 | 24586195.8 | 2591506.7 | 3841327.6 | 3825.7 |
| 2006 | 42707476.1 | 32277044.9 | 4295084.4 | 6002508.9 | 132837.9 |
| 2007 | 63590429.5 | 44963077.6 | 10778877.0 | 7613268.3 | 235206.6 |
| 2008 | 77121264.3 | 55980558.1 | 11469378.1 | 9500293.6 | 171034.5 |
| 2009 | 96809127.3 | 63843573.1 | 17916877.3 | 14799057.5 | 249619.4 |
| 2010 | 95881364.3 | 65041375.9 | 16935403.4 | 13647906.8 | 256678.2 |
| Applied research | | | | | |
| 2005 | 36360266.9 | 10603039.3 | 20026408.8 | 5405410.3 | 325408.5 |
| 2006 | 42459115.8 | 13168354.4 | 22171784.4 | 6686592.7 | 432384.3 |
| 2007 | 54492567.8 | 17821178.5 | 26694911.0 | 9413669.3 | 562809.0 |
| 2008 | 79885835.9 | 22831808.4 | 44593566.0 | 11789234.9 | 671226.6 |
| 2009 | 92557125.5 | 26135931.3 | 54351166.0 | 11450223.9 | 619804.3 |
| 2010 | 92010677.2 | 30948555.6 | 42872394.0 | 17804762.0 | 384965.6 |
| Development | | | | | |
| 2005 | 153736414.9 | 21153092.6 | 128610778.1 | 3897554.6 | 74989.6 |
| 2006 | 192618165.4 | 28506396.9 | 159293477.0 | 4656611.7 | 161679.8 |
| 2007 | 234834703.9 | 39463320.1 | 188737789.7 | 6201051.2 | 432542.9 |
| 2008 | 253857883.4 | 43817938.2 | 202701302.6 | 7065598.0 | 273044.6 |
| 2009 | 271639963.4 | 48324418.5 | 215450706.2 | 7622604.0 | 242234.7 |
| 2010 | 301558757.2 | 55835195.1 | 234296030.3 | 11099576.6 | 327955.2 |

5.1.21. PERCENTAGE DISTRIBUTION OF INTRAMURAL CURRENT EXPENDITURE ON R&D BY TYPE OF ACTIVITY AND SECTOR OF PERFORMANCE



5.1.22. AVERAGE MONTHLY SALARIES OF R&D PERSONNEL BY SECTOR OF PERFORMANCE
(roubles, before 1998 – thousand roubles)

| | Total | Government sector | Business enterprise sector | Higher education sector | Private non-profit sector |
|------|---------|-------------------|----------------------------|-------------------------|---------------------------|
| 1995 | 305.3 | 330.5 | 297.6 | 280.1 | 164.2 |
| 1996 | 550.9 | 555.5 | 557.1 | 441.4 | 587.5 |
| 1997 | 746.5 | 790.1 | 740.8 | 575.2 | 572.8 |
| 1998 | 836.0 | 814.2 | 861.3 | 624.9 | 581.0 |
| 1999 | 1432.6 | 1355.2 | 1491.1 | 1098.7 | 930.2 |
| 2000 | 2322.9 | 2015.6 | 2519.9 | 1400.3 | 1836.1 |
| 2001 | 3348.9 | 2870.5 | 3630.1 | 2383.8 | 2619.8 |
| 2002 | 4552.1 | 3970.4 | 4893.6 | 3476.9 | 4770.2 |
| 2003 | 5712.8 | 4969.6 | 6124.3 | 4749.1 | 5654.7 |
| 2004 | 6918.4 | 5958.7 | 7525.0 | 5088.8 | 6575.0 |
| 2005 | 8672.0 | 7220.9 | 9599.6 | 7042.0 | 5767.4 |
| 2006 | 10840.9 | 9678.8 | 11744.8 | 8348.7 | 9409.1 |
| 2007 | 14683.4 | 14208.3 | 15203.6 | 12233.1 | 13237.3 |
| 2008 | 19263.3 | 19561.0 | 19345.3 | 16812.7 | 21161.2 |
| 2009 | 22104.3 | 22979.7 | 21674.1 | 21191.5 | 24253.8 |
| 2010 | 25043.5 | 24792.1 | 25359.7 | 23716.4 | 24438.5 |

5.2. Government Sector

5.2.1. R&D INSTITUTIONS IN THE GOVERNMENT SECTOR BY TYPE

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| Total | 1282 | 1341 | 1483 | 1429 | 1406 | 1400 |
| Research institutes | 1145 | 1126 | 1153 | 1128 | 1126 | 1124 |
| Design organisations | 62 | 70 | 94 | 73 | 60 | 61 |
| Construction project and exploration organisations | 6 | 7 | 4 | 5 | 5 | 5 |
| Experimental enterprises | 14 | 34 | 40 | 37 | 35 | 30 |
| Others | 55 | 104 | 192 | 186 | 180 | 180 |

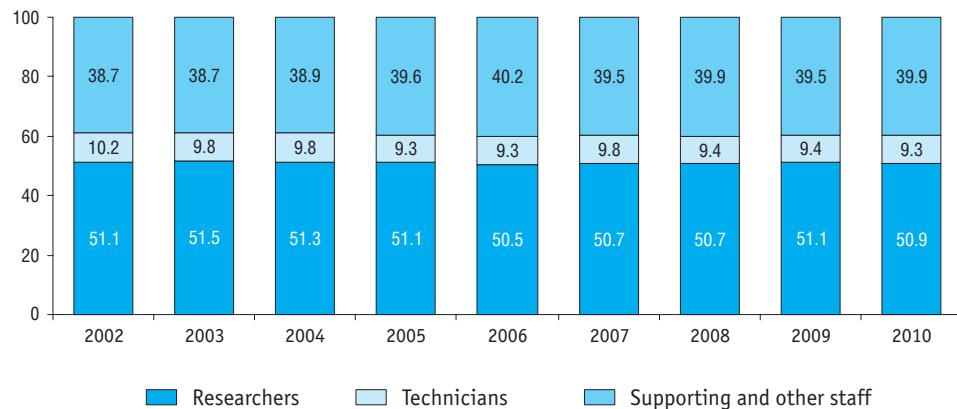
5.2.2. R&D PERSONNEL IN THE GOVERNMENT SECTOR BY TYPE OF INSTITUTIONS (head-count)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|---------------|---------------|---------------|---------------|---------------|---------------|
| Total | 272718 | 274802 | 272255 | 260854 | 260360 | 259007 |
| Research institutes | 248214 | 248736 | 232732 | 223190 | 223922 | 222613 |
| Design organisations | 21499 | 17384 | 29725 | 27021 | 26507 | 26473 |
| Construction project and exploration organisations | 159 | 1517 | 1405 | 1442 | 1418 | 1419 |
| Experimental enterprises | 367 | 960 | 873 | 694 | 648 | 631 |
| Others | 2479 | 6205 | 7520 | 8507 | 7865 | 7871 |

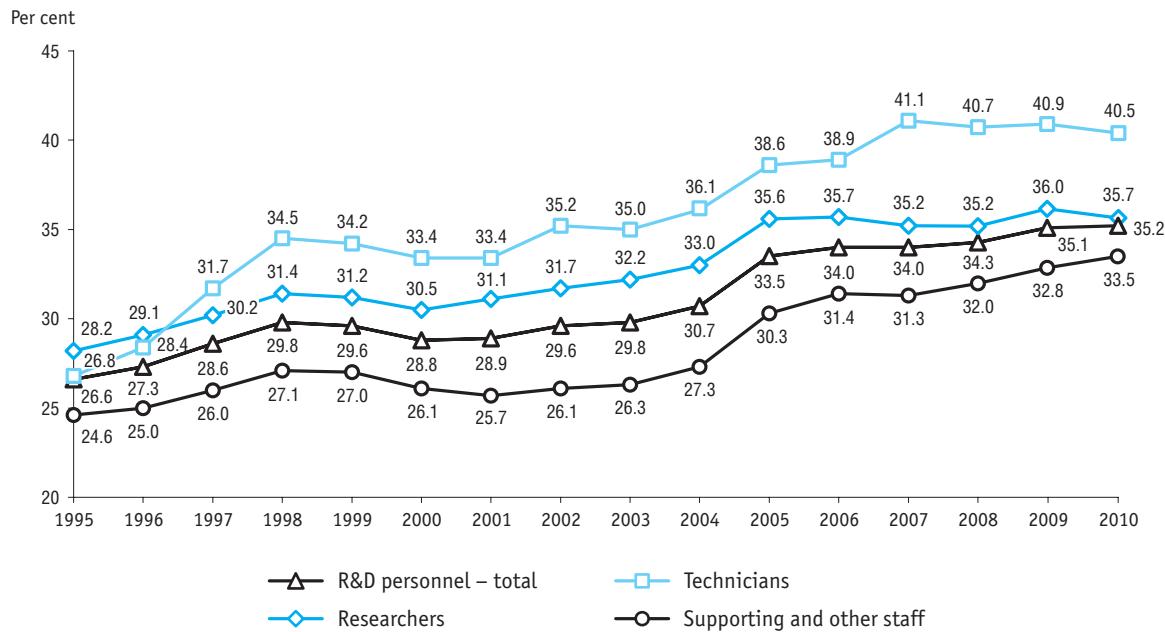
5.2.3. R&D PERSONNEL IN THE GOVERNMENT SECTOR BY OCCUPATION (head-count)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Total | 282166 | 255147 | 255850 | 256137 | 257462 | 256098 | 258078 | 272718 | 274802 | 272255 | 260854 | 260360 | 259007 |
| Researchers | 146342 | 130939 | 129725 | 131190 | 131607 | 131906 | 132350 | 139378 | 138728 | 138169 | 132261 | 132955 | 131734 |
| Technicians | 27178 | 25793 | 25085 | 25182 | 26281 | 25083 | 25223 | 25462 | 25667 | 26545 | 24531 | 24554 | 24009 |
| Supporting staff | 66226 | 58788 | 59706 | 58811 | 56396 | 55782 | 57057 | 61448 | 62482 | 61031 | 58591 | 56846 | 56530 |
| Others | 42420 | 39627 | 41334 | 40954 | 43178 | 43327 | 43448 | 46430 | 47925 | 46510 | 45471 | 46005 | 46734 |

5.2.4. PERCENTAGE DISTRIBUTION OF R&D PERSONNEL IN THE GOVERNMENT SECTOR BY OCCUPATION



5.2.5. SHARE OF THE GOVERNMENT SECTOR IN R&D PERSONNEL TOTAL BY OCCUPATION



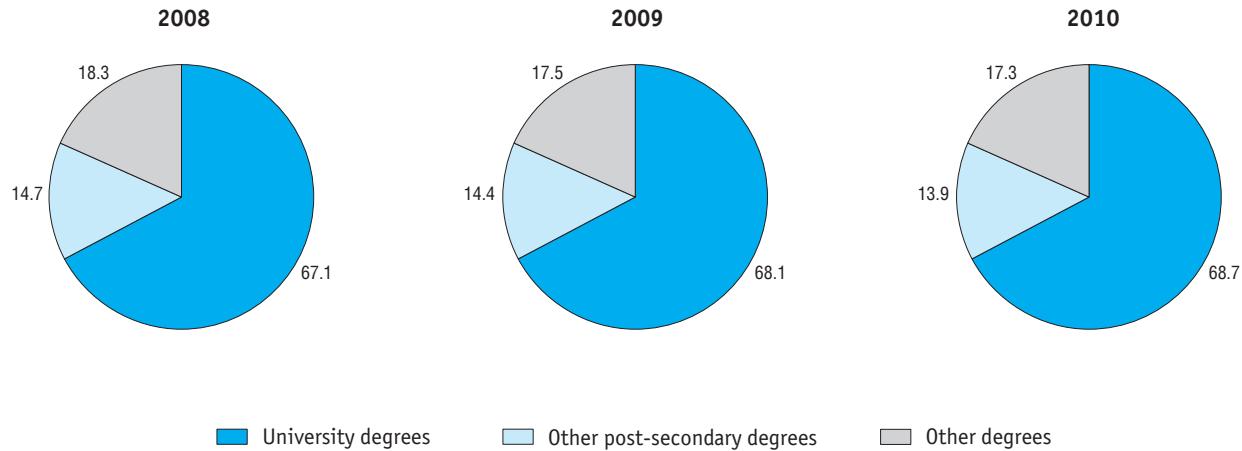
5.2.6. R&D PERSONNEL IN THE GOVERNMENT SECTOR BY QUALIFICATION
(head-count)

| | Total | University degrees | Other post-secondary degrees | Other degrees |
|--------------------------|--------|--------------------|------------------------------|---------------|
| R&D personnel | | | | |
| 2005 | 272718 | 177676 | 40495 | 54547 |
| 2006 | 274802 | 178594 | 41122 | 55086 |
| 2007 | 272255 | 181228 | 40169 | 50858 |
| 2008 | 260854 | 175017 | 38221 | 47616 |
| 2009 | 260360 | 177254 | 37439 | 45667 |
| 2010 | 259007 | 178026 | 36091 | 44890 |
| Researchers | | | | |
| 2005 | 139378 | 139378 | – | – |
| 2006 | 138728 | 138728 | – | – |
| 2007 | 138169 | 138169 | – | – |
| 2008 | 132261 | 132261 | – | – |
| 2009 | 132955 | 132955 | – | – |
| 2010 | 131734 | 131734 | – | – |
| Technicians | | | | |
| 2005 | 25462 | 7802 | 12177 | 5483 |
| 2006 | 25667 | 7731 | 12253 | 5683 |
| 2007 | 26545 | 8714 | 12125 | 5706 |
| 2008 | 24531 | 8197 | 11231 | 5103 |
| 2009 | 24554 | 8633 | 10889 | 5032 |
| 2010 | 24009 | 9110 | 10155 | 4744 |

(continued)

| | Total | University degrees | Other post-secondary degrees | Other degrees |
|------------------|-------|--------------------|------------------------------|---------------|
| Supporting staff | | | | |
| 2005 | 61448 | 19119 | 15834 | 26495 |
| 2006 | 62482 | 19946 | 16107 | 26429 |
| 2007 | 61031 | 21311 | 15385 | 24335 |
| 2008 | 58591 | 21161 | 15143 | 22287 |
| 2009 | 56846 | 21472 | 14633 | 20741 |
| 2010 | 56530 | 21762 | 14287 | 20481 |
| Others | | | | |
| 2005 | 46430 | 11377 | 12484 | 22569 |
| 2006 | 47925 | 12189 | 12762 | 22974 |
| 2007 | 46510 | 13034 | 12659 | 20817 |
| 2008 | 45471 | 13398 | 11847 | 20226 |
| 2009 | 46005 | 14194 | 11917 | 19894 |
| 2010 | 46734 | 15420 | 11649 | 19665 |

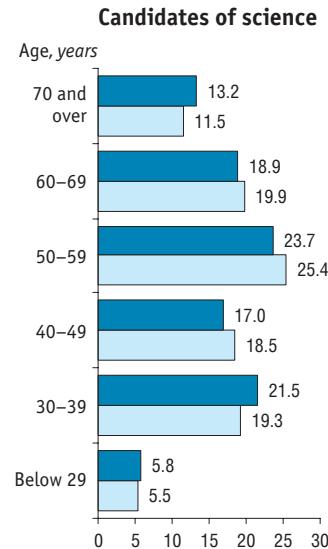
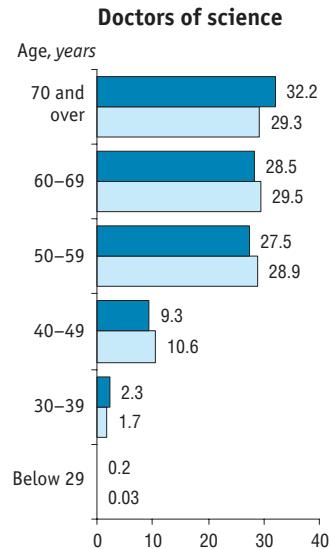
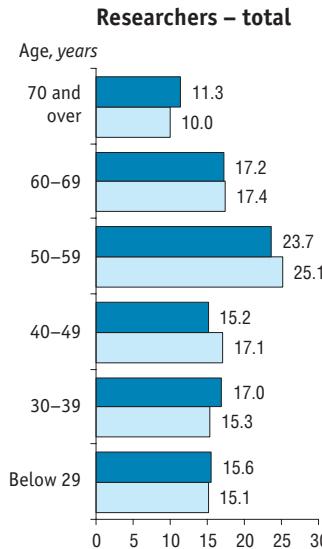
5.2.7. PERCENTAGE DISTRIBUTION OF R&D PERSONNEL IN THE GOVERNMENT SECTOR BY QUALIFICATION



5.2.8. RESEARCHERS IN THE GOVERNMENT SECTOR BY GENDER AND AGE
(head-count)

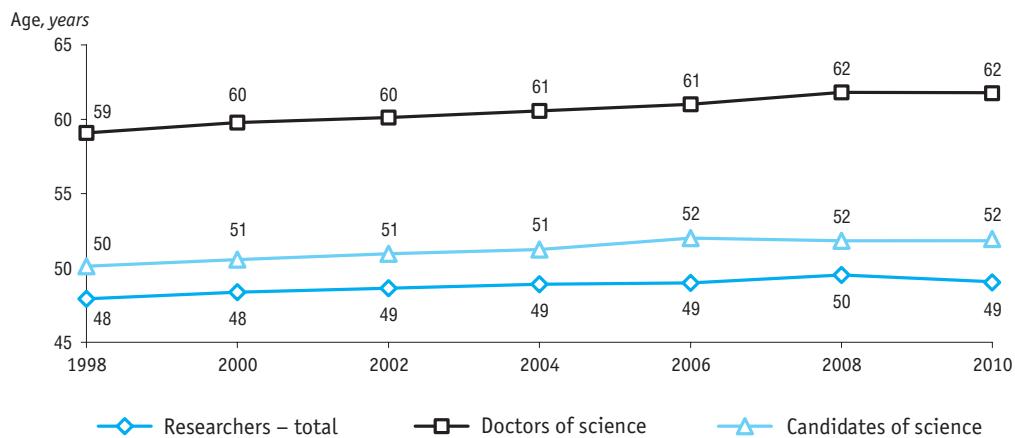
| | 2008 | | | 2010 | | |
|--------------|---------------|--------------------|-----------------------|---------------|--------------------|-----------------------|
| | Researchers | Of whom | | Researchers | Of whom | |
| | | doctors of science | candidates of science | | doctors of science | candidates of science |
| Total | 132261 | 17326 | 43043 | 131734 | 17646 | 43548 |
| Age: | | | | | | |
| below 29 | 19971 | 5 | 2348 | 20490 | 32 | 2506 |
| 30–39 | 20242 | 289 | 8296 | 22 351 | 411 | 9 346 |
| 40–49 | 22644 | 1838 | 7969 | 20085 | 1643 | 7406 |
| 50–59 | 33206 | 5015 | 10937 | 31170 | 4859 | 10332 |
| 60–69 | 23031 | 5106 | 8553 | 22698 | 5 022 | 8 215 |
| 70 and over | 13167 | 5073 | 4940 | 14940 | 5 679 | 5 743 |
| Male | 72653 | 13078 | 23696 | 72596 | 13178 | 23735 |
| Age: | | | | | | |
| below 29 | 11530 | 2 | 1354 | 11879 | 28 | 1477 |
| 30–39 | 9970 | 209 | 4091 | 11457 | 282 | 4649 |
| 40–49 | 10894 | 1307 | 3946 | 9806 | 1099 | 3583 |
| 50–59 | 17556 | 3656 | 6195 | 16488 | 3462 | 5754 |
| 60–69 | 13688 | 4001 | 4974 | 13093 | 3935 | 4787 |
| 70 and over | 9015 | 3903 | 3136 | 9873 | 4372 | 3485 |
| Female | 59608 | 4248 | 19347 | 59138 | 4468 | 19813 |
| Age: | | | | | | |
| below 29 | 8441 | 3 | 994 | 8611 | 4 | 1029 |
| 30–39 | 10272 | 80 | 4205 | 10 894 | 129 | 4 697 |
| 40–49 | 11750 | 531 | 4023 | 10279 | 544 | 3823 |
| 50–59 | 15650 | 1359 | 4742 | 14682 | 1397 | 4578 |
| 60–69 | 9343 | 1105 | 3579 | 9 605 | 1 087 | 3 428 |
| 70 and over | 4152 | 1170 | 1804 | 5 067 | 1 307 | 2 258 |

5.2.9. PERCENTAGE DISTRIBUTION OF RESEARCHERS IN THE GOVERNMENT SECTOR BY AGE



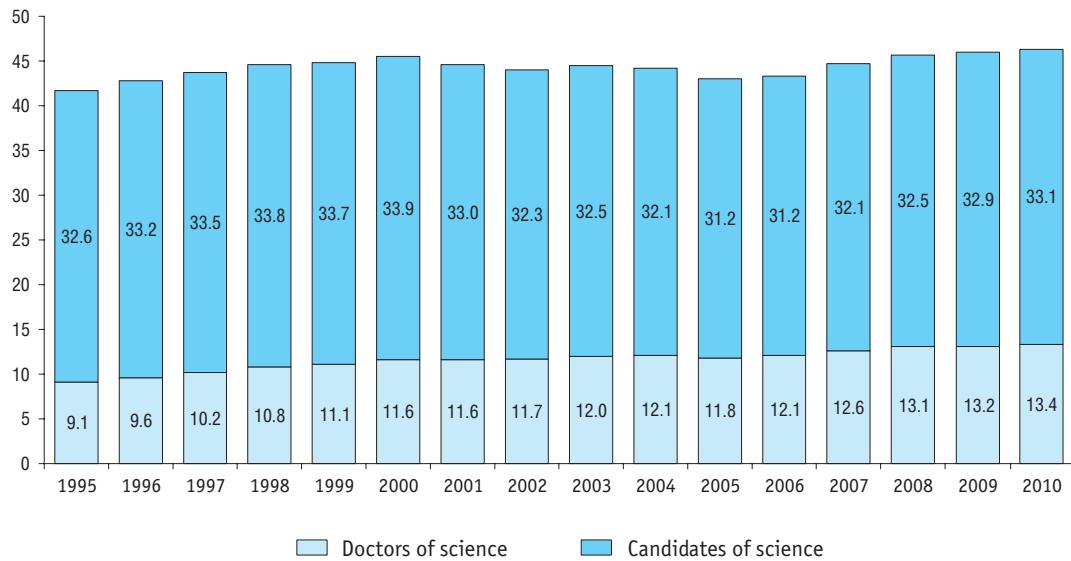
■ 2008 ■ 2010

5.2.10. AVERAGE AGE OF RESEARCHERS IN THE GOVERNMENT SECTOR



5.2.11. RESEARCHERS WITH SCIENTIFIC DEGREES IN THE GOVERNMENT SECTOR (head-count)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Researchers with scientific degrees | 61062 | 58466 | 58901 | 58400 | 57938 | 58774 | 58568 | 60066 | 60054 | 61707 | 60369 | 61309 | 61194 |
| Doctors of science | 13358 | 14150 | 14987 | 15157 | 15420 | 15885 | 16031 | 16511 | 16766 | 17415 | 17326 | 17554 | 17646 |
| Candidates of science | 47704 | 44316 | 43914 | 43243 | 42518 | 42889 | 42537 | 43555 | 43288 | 44292 | 43043 | 43755 | 43548 |

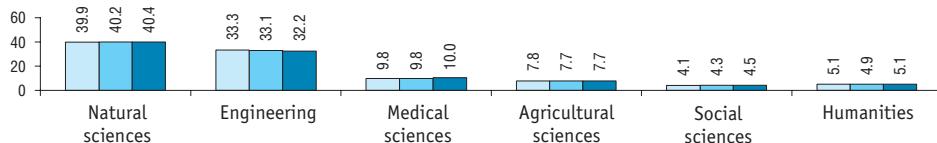
5.2.12. RESEARCHERS WITH SCIENTIFIC DEGREES AS A PER CENT OF THE NUMBER OF RESEARCHERS IN THE GOVERNMENT SECTOR

5.2.13. RESEARCHERS IN THE GOVERNMENT SECTOR BY FIELD OF SCIENCE AND TECHNOLOGY
(head-count)

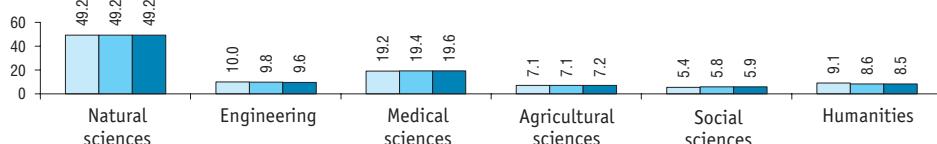
| | 2007 | | | 2008 | | | 2009 | | | 2010 | | |
|-----------------------|---------------|-----------------------|--------------------------|---------------|-----------------------|--------------------------|---------------|-----------------------|--------------------------|---------------|-----------------------|--------------------------|
| | Researchers | Of whom | | Researchers | Of whom | | Researchers | Of whom | | Researchers | Of whom | |
| | | doctors of science | candidates of science |
| Total | 138169 | 17415 | 44292 | 132261 | 17326 | 43043 | 132955 | 17554 | 43755 | 131734 | 17646 | 43548 |
| Natural sciences | 55263 | 8610 | 22593 | 52719 | 8525 | 21841 | 53446 | 8633 | 22239 | 53265 | 8683 | 22210 |
| Engineering | 45653 | 1701 | 6253 | 44097 | 1740 | 6204 | 44000 | 1727 | 6281 | 42472 | 1692 | 5802 |
| Medical sciences | 13063 | 3351 | 5916 | 12918 | 3320 | 5921 | 13083 | 3413 | 6085 | 13131 | 3454 | 6086 |
| Agricultural sciences | 10846 | 1210 | 4110 | 10285 | 1225 | 3930 | 10206 | 1245 | 3954 | 10147 | 1265 | 3988 |
| Social sciences | 5863 | 949 | 2376 | 5456 | 935 | 2251 | 5695 | 1019 | 2415 | 5937 | 1044 | 2571 |
| Humanities | 7481 | 1594 | 3044 | 6786 | 1581 | 2896 | 6525 | 1517 | 2781 | 6782 | 1508 | 2891 |

5.2.14. PERCENTAGE DISTRIBUTION OF RESEARCHERS IN THE GOVERNMENT SECTOR BY FIELD OF SCIENCE AND TECHNOLOGY

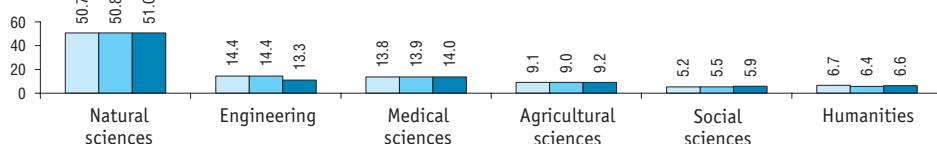
Researchers – total



Doctors of science



Candidates of science

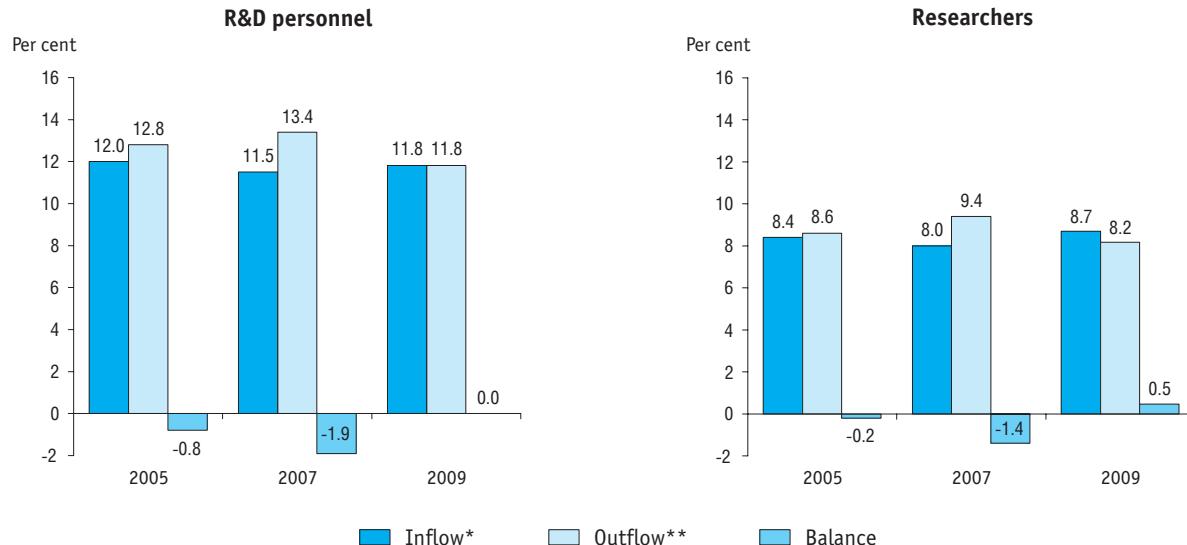


■ 2008 ■ 2009 ■ 2010

5.2.15. FLOWS OF R&D PERSONNEL IN THE GOVERNMENT SECTOR BY OCCUPATION
(head-count)

| | Number at the beginning of the reference year | Inflow | | | | Outflow | | | | Number at the end of the reference year |
|----------------------------|--|--------|---|--------------------------------------|--------|---------|----------------------|---------------------------|--------|---|
| | | Total | Graduates from higher education institutions | From other research institutes | Others | Total | At own initiative | Due to staff reduction | Others | |
| Total | | | | | | | | | | |
| 2003 | 257519 | 33471 | 3416 | 6165 | 23890 | 34892 | 26074 | 726 | 8092 | 256098 |
| 2005 | 275249 | 32634 | 3990 | 5456 | 23188 | 35165 | 24924 | 851 | 9390 | 272718 |
| 2007 | 278286 | 31213 | 3474 | 5849 | 21890 | 37244 | 26183 | 1687 | 9374 | 272255 |
| 2009 | 260231 | 30799 | 3665 | 4587 | 22547 | 30670 | 18822 | 1696 | 10152 | 260360 |
| Researchers | | | | | | | | | | |
| 2003 | 132493 | 11663 | 2642 | 3333 | 5688 | 12257 | 9344 | 262 | 2651 | 131906 |
| 2005 | 139746 | 11715 | 3127 | 3121 | 5467 | 12087 | 8871 | 358 | 2858 | 139378 |
| 2007 | 140358 | 11082 | 2557 | 3113 | 5412 | 13237 | 9392 | 744 | 3101 | 138169 |
| 2009 | 132328 | 11519 | 2636 | 2434 | 6449 | 10898 | 6943 | 629 | 3326 | 132955 |
| Technicians | | | | | | | | | | |
| 2003 | 25675 | 4123 | 335 | 631 | 3157 | 4718 | 3390 | 92 | 1236 | 25083 |
| 2005 | 25569 | 4128 | 336 | 630 | 3162 | 4227 | 2892 | 83 | 1252 | 25462 |
| 2007 | 27334 | 3896 | 296 | 408 | 3192 | 4714 | 3185 | 174 | 1355 | 26545 |
| 2009 | 24279 | 3872 | 335 | 412 | 3125 | 3581 | 1931 | 214 | 1436 | 24554 |
| Supporting and other staff | | | | | | | | | | |
| 2003 | 99351 | 17685 | 439 | 2201 | 15045 | 17917 | 13340 | 372 | 4205 | 99109 |
| 2005 | 109934 | 16791 | 527 | 1705 | 14555 | 18851 | 13161 | 410 | 5280 | 107878 |
| 2007 | 110594 | 16235 | 621 | 2328 | 13286 | 19293 | 13606 | 769 | 4918 | 107541 |
| 2009 | 103624 | 15408 | 694 | 1741 | 12973 | 16191 | 9948 | 853 | 5390 | 102851 |

5.2.16. INFLOW AND OUTFLOW OF R&D PERSONNEL IN THE GOVERNMENT SECTOR

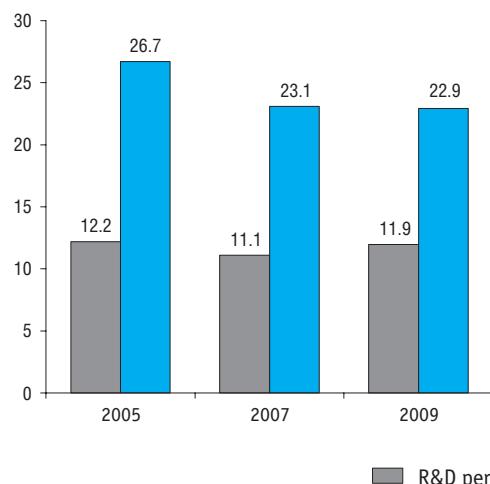


* Ratio of the admitted during the year to the number of employees at the end of the year.

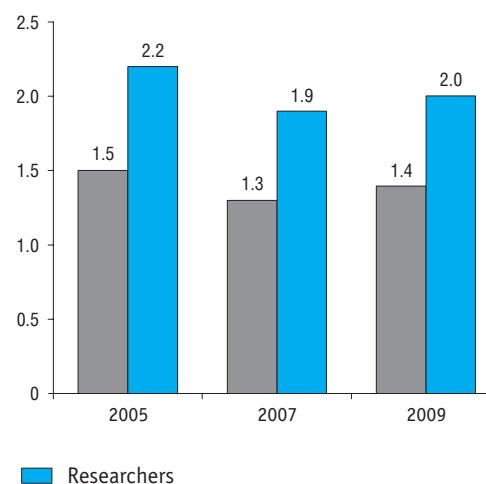
** Ratio of the leaved during the year to the number of employees at the beginning of the year.

5.2.17. INFLOW OF HIGHER EDUCATION GRADUATES INTO R&D INSTITUTIONS IN THE GOVERNMENT SECTOR

Higher education graduates as a per cent
of the inflow into R&D institutions



Higher education graduates as a per cent
of R&D personnel*

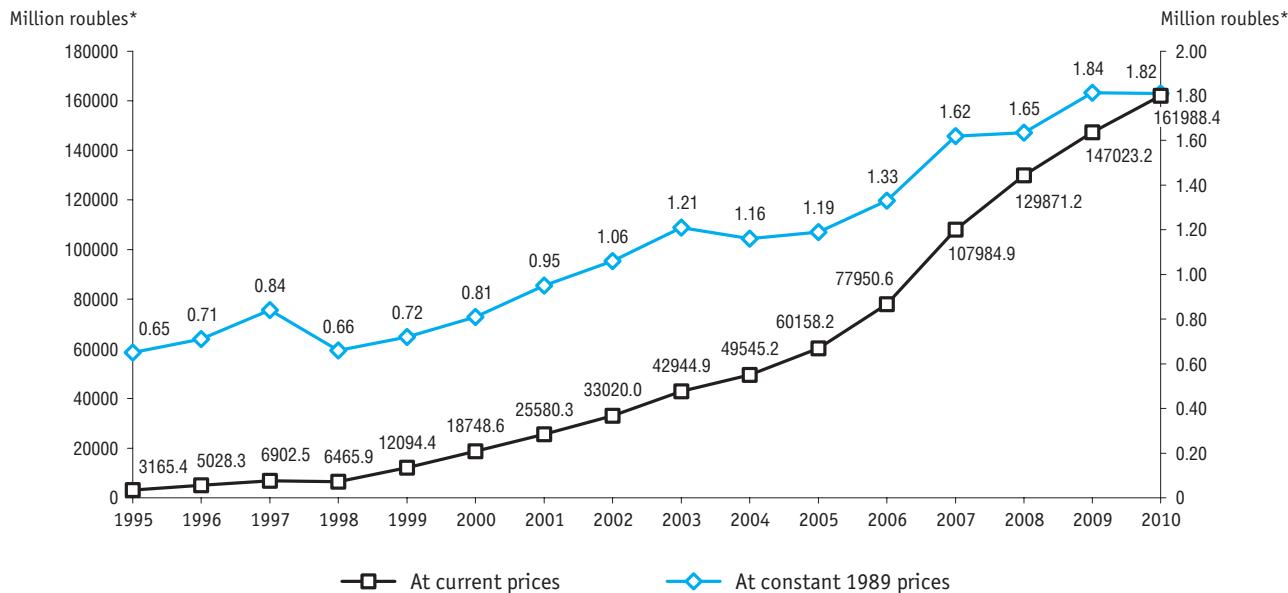


* Ratio of the higher education graduates admitted during the year to the number of employees at the end of the year.

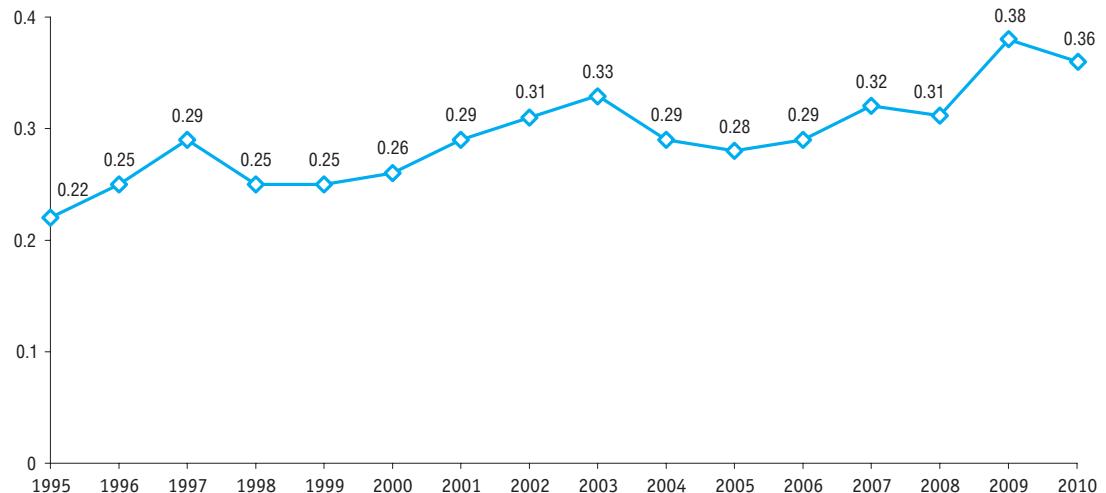
5.2.18. GROSS DOMESTIC EXPENDITURE ON R&D IN THE GOVERNMENT SECTOR BY TYPE OF INSTITUTIONS
(*thousand roubles*)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|
| Total | 60158166.6 | 77950634.9 | 107984917.2 | 129871228.3 | 147023165.7 | 161988411.4 |
| Research institutes | 55762222.6 | 71776143.4 | 88691989.4 | 111905020.4 | 126002650.1 | 136870186.3 |
| Design organisations | 4007361.7 | 4433490.5 | 16421797.5 | 13446090.0 | 16426476.1 | 20163653.6 |
| Construction project and exploration organisations | 21993.6 | 263314.1 | 331363.4 | 381522.5 | 490398.7 | 524208.6 |
| Experimental enterprises | 20300.0 | 104064.3 | 153136.1 | 136641.7 | 159660.0 | 139733.5 |
| Others | 346288.7 | 1373622.6 | 2386630.8 | 4001953.7 | 3943980.8 | 4290629.4 |

5.2.19. GROSS DOMESTIC EXPENDITURE ON R&D IN THE GOVERNMENT SECTOR



* Before 1998 – billion roubles.

5.2.20. GROSS DOMESTIC EXPENDITURE ON R&D IN THE GOVERNMENT SECTOR AS A PER CENT OF GROSS DOMESTIC PRODUCT

5.2.21.GROSS DOMESTIC EXPENDITURE ON R&D IN THE GOVERNMENT SECTOR BY SOURCE OF FUNDS

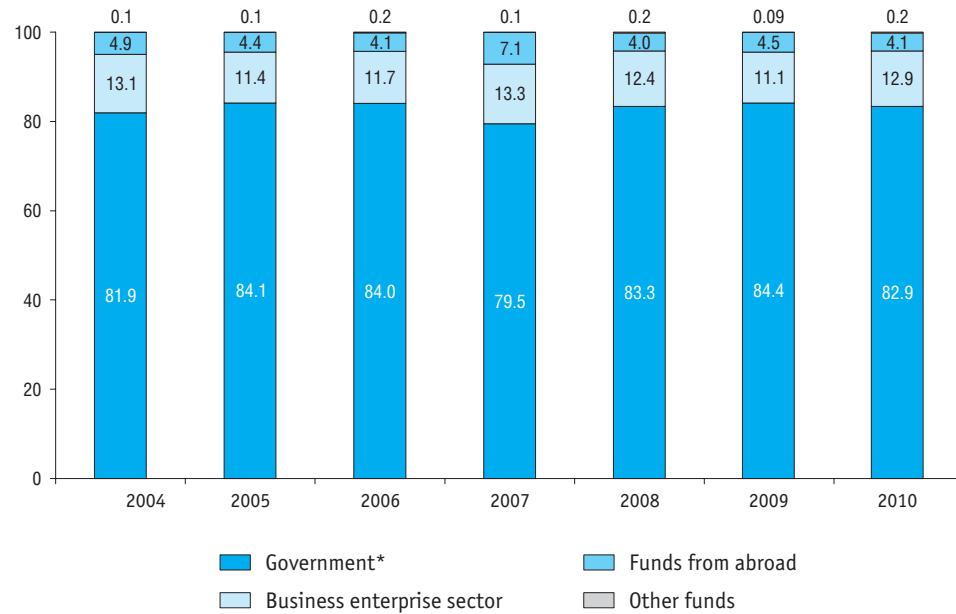
| | Total | Government* | Business enterprise sector | Higher education sector | Private non-profit sector | Funds from abroad |
|---|-------------|-------------|----------------------------|-------------------------|---------------------------|-------------------|
| <i>At current prices, thousand roubles, before 1998 – million roubles</i> | | | | | | |
| 1995 | 3165439.4 | 2779222.3 | 255799.4 | 2313.0 | 821.0 | 127283.7 |
| 1999 | 12094359.8 | 9317086.9 | 1392261.7 | 73806.5 | 3579.0 | 1307625.7 |
| 2000 | 18748588.2 | 15060439.1 | 2028296.2 | 11323.4 | 3898.5 | 1644631.0 |
| 2001 | 25580299.1 | 20398017.0 | 3166813.9 | 16458.8 | 8180.4 | 1990829.0 |
| 2002 | 33020017.4 | 26539969.2 | 4019173.2 | 16110.2 | 49374.0 | 2395390.8 |
| 2003 | 42944862.9 | 34808445.2 | 4925941.0 | 23854.9 | 22789.9 | 3163831.9 |
| 2004 | 49545237.7 | 40562960.9 | 6491792.8 | 47839.9 | 10698.3 | 2431945.8 |
| 2005 | 60158166.6 | 50589802.5 | 6845507.2 | 46912.8 | 21976.9 | 2653967.2 |
| 2006 | 77950634.9 | 65449102.1 | 9136754.4 | 111817.6 | 52071.9 | 3200888.9 |
| 2007 | 107984917.2 | 85896140.4 | 14355790.2 | 80481.6 | 12412.3 | 7640092.7 |
| 2008 | 129871228.3 | 108231726.8 | 16119227.3 | 183124.2 | 120667.0 | 5216483.0 |
| 2009 | 147023165.7 | 124027349.4 | 16292839.6 | 90578.1 | 38990.4 | 6573408.2 |
| 2010 | 161988411.4 | 134275595.6 | 20873979.0 | 205154.5 | 73117.4 | 6560564.9 |

* Including federal budget appropriations, own funds and government sector institutions' funds.

(continued)

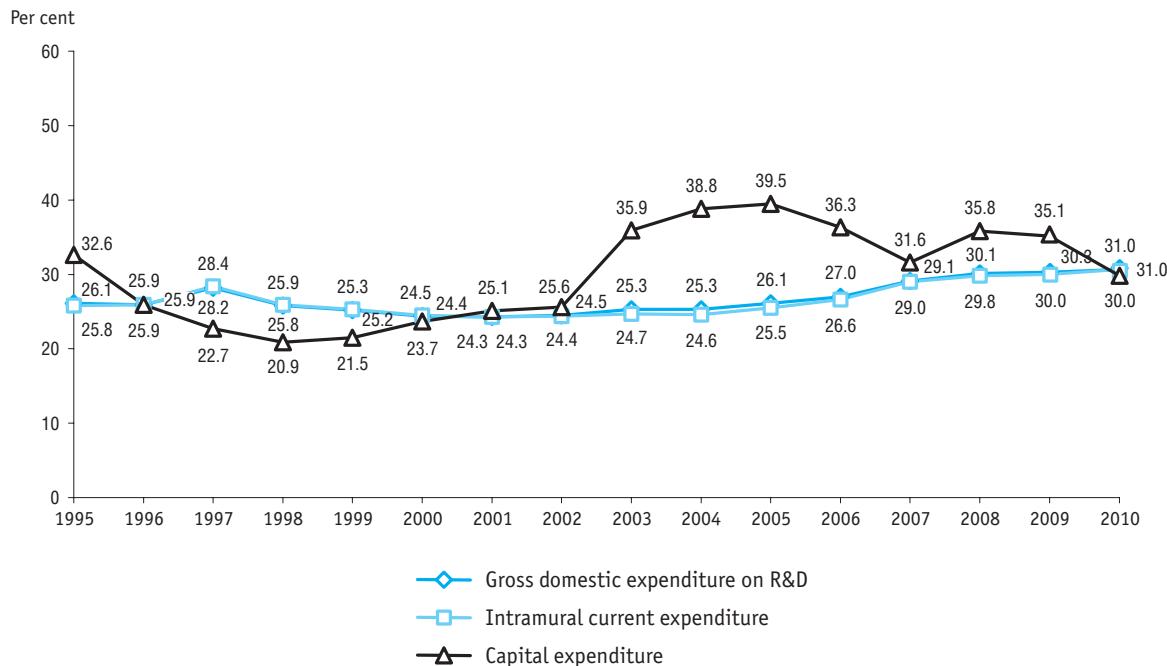
| | Total | Government* | Business enterprise sector | Higher education sector | Private non-profit sector | Funds from abroad |
|-----------------|-------|-------------|----------------------------|-------------------------|---------------------------|-------------------|
| Per cent | | | | | | |
| 1995 | 100 | 87.8 | 8.1 | 0.07 | 0.03 | 4.0 |
| 1999 | 100 | 77.0 | 11.5 | 0.6 | 0.03 | 10.8 |
| 2000 | 100 | 80.3 | 10.8 | 0.06 | 0.02 | 8.8 |
| 2001 | 100 | 79.7 | 12.4 | 0.06 | 0.03 | 7.8 |
| 2002 | 100 | 80.4 | 12.2 | 0.05 | 0.1 | 7.3 |
| 2003 | 100 | 81.1 | 11.5 | 0.06 | 0.05 | 7.4 |
| 2004 | 100 | 81.9 | 13.1 | 0.1 | 0.02 | 4.9 |
| 2005 | 100 | 84.1 | 11.4 | 0.08 | 0.04 | 4.4 |
| 2006 | 100 | 84.0 | 11.7 | 0.1 | 0.07 | 4.1 |
| 2007 | 100 | 79.5 | 13.3 | 0.07 | 0.01 | 7.1 |
| 2008 | 100 | 83.3 | 12.4 | 0.1 | 0.09 | 4.0 |
| 2009 | 100 | 84.4 | 11.1 | 0.06 | 0.03 | 4.5 |
| 2010 | 100 | 82.9 | 12.9 | 0.1 | 0.05 | 4.1 |

5.2.22. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D IN THE GOVERNMENT SECTOR BY SOURCE OF FUNDS



* Including federal budget appropriations, own funds and government sector institutions' funds.

5.2.23. SHARE OF THE GOVERNMENT SECTOR IN GROSS DOMESTIC EXPENDITURE ON R&D BY TYPE OF COSTS



5.2.24. GROSS DOMESTIC EXPENDITURE ON R&D IN THE GOVERNMENT SECTOR BY TYPE OF COSTS
(thousand roubles)

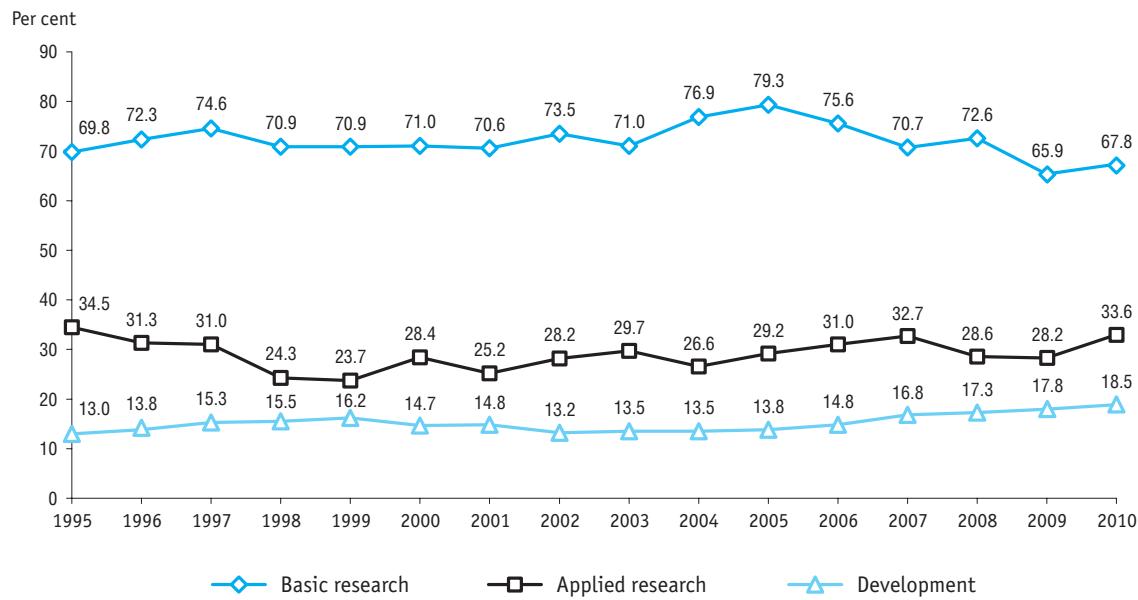
| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|
| Gross domestic expenditure on R&D | 49545237.7 | 60158166.6 | 77950634.9 | 107984917.2 | 129871228.3 | 147023165.7 | 161988411.4 |
| Intramural current expenditure | 46123237.4 | 56342327.7 | 73951796.2 | 102247576.2 | 122630304.7 | 138303922.9 | 151825126.6 |
| Wages | 19917595.5 | 25406848.5 | 34448412.3 | 49141825.5 | 64641064.4 | 75166755.2 | 80849201.5 |
| Of which for R&D personnel* | 18273339.7 | 23066423.6 | 31314445.0 | 45216914.7 | 59514756.7 | 68956969.5 | 73752076.2 |
| Social security payments | 6445910.0 | 6257309.9 | 8287532.3 | 11095423.9 | 13683355.2 | 15270378.1 | 16436614.4 |
| Equipment | 2588006.3 | 3086873.3 | 3881136.7 | 4682814.6 | 5189920.0 | 5801943.7 | 5458681.5 |
| Fixed assets | 1613129.0 | 2072960.4 | 2597032.2 | 3152176.2 | 3559638.2 | 3834297.9 | 3241305.1 |
| Other material costs | 9204031.0 | 9781232.9 | 12684946.4 | 18344379.1 | 17531022.6 | 20128759.2 | 22464861.8 |
| Other current costs | 7967694.6 | 11810063.1 | 14649768.5 | 18983133.1 | 21584942.5 | 21936086.7 | 26615767.4 |
| Capital expenditure | 3422000.3 | 3815838.9 | 3998838.7 | 5737341.0 | 7240923.6 | 8719242.8 | 10163284.8 |
| Land and buildings | 250795.0 | 399698.5 | 626796.3 | 506072.5 | 670481.4 | 802555.6 | 3113137.6 |
| Equipment | 2090290.4 | 2485274.0 | 2239642.9 | 3948303.1 | 4803223.1 | 5164006.4 | 4647644.5 |
| Other capital expenditure | 1080914.9 | 930866.4 | 1132399.5 | 1282965.4 | 1767219.1 | 2752680.8 | 2402502.7 |

* Excluding those employed on a plural basis and under contracts.

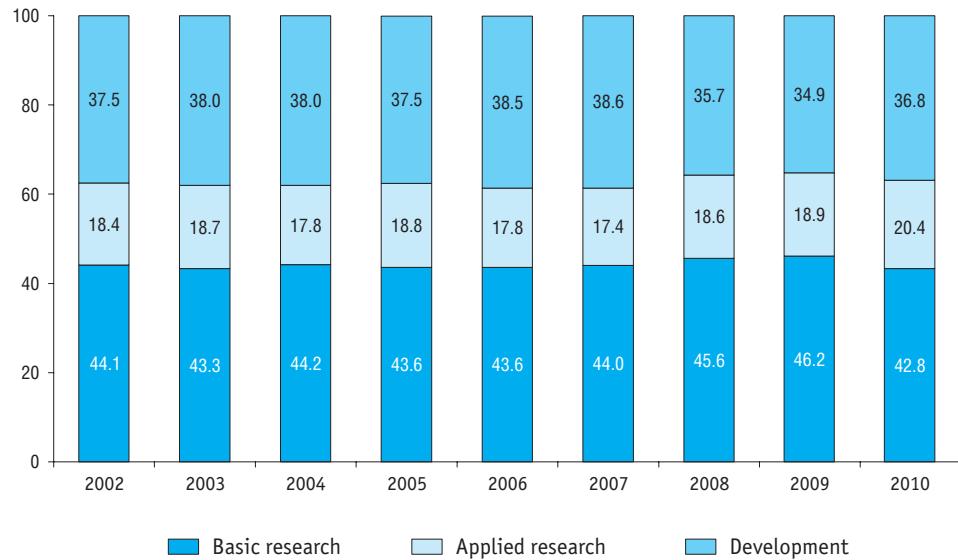
**5.2.25. INTRAMURAL CURRENT EXPENDITURE ON R&D IN THE GOVERNMENT SECTOR
BY TYPE OF ACTIVITY AND FIELD OF SCIENCE AND TECHNOLOGY**
(*thousand roubles*)

| | Total | Natural sciences | Engineering | Medical sciences | Agricultural sciences | Social sciences | Humanities |
|--|--------------------|-------------------|-------------------|-------------------|-----------------------|------------------|------------------|
| 2005 | | | | | | | |
| Intramural current expenditure on R&D | 56342327.7 | 20577533.0 | 25509704.3 | 3738833.2 | 2939051.4 | 1951167.1 | 1626038.7 |
| Basic research | 24586195.8 | 15976354.8 | 2622298.0 | 1662238.3 | 1678543.7 | 1333808.2 | 1312952.8 |
| Applied research | 10603039.3 | 2644812.7 | 4734050.4 | 1703960.2 | 840824.2 | 475142.3 | 204249.5 |
| Development | 21153092.6 | 1956365.5 | 18153355.9 | 372634.7 | 419683.5 | 142216.6 | 108836.4 |
| 2007 | | | | | | | |
| Intramural current expenditure on R&D | 102247576.2 | 37652521.7 | 45430385.5 | 7155411.5 | 5372628.4 | 3385123.0 | 3251506.1 |
| Basic research | 44963077.6 | 27803224.9 | 6437872.4 | 2913042.7 | 3295024.0 | 1964893.4 | 2549020.2 |
| Applied research | 17821178.5 | 6593227.8 | 5045162.2 | 3333846.3 | 1448855.6 | 1070402.7 | 329683.9 |
| Development | 39463320.1 | 3256069.0 | 33947350.9 | 908522.5 | 628748.8 | 349826.9 | 372802.0 |
| 2008 | | | | | | | |
| Intramural current expenditure on R&D | 122630304.7 | 48234671.6 | 50909060.3 | 8869157.9 | 6318360.1 | 3883571.4 | 4415483.4 |
| Basic research | 55980558.1 | 35420735.3 | 7071712.4 | 3498263.2 | 3874131.1 | 2595280.4 | 3520435.7 |
| Applied research | 22831808.4 | 9006765.2 | 6568848.5 | 4423539.8 | 1438433.2 | 947734.6 | 446487.1 |
| Development | 43817938.2 | 3807171.1 | 37268499.4 | 947354.9 | 1005795.8 | 340556.4 | 448560.6 |
| 2009 | | | | | | | |
| Intramural current expenditure on R&D | 138303922.9 | 53057400.3 | 57337613.7 | 10986547.1 | 7538339.2 | 4848230.9 | 4535791.7 |
| Basic research | 63843573.1 | 38973183.4 | 7810233.6 | 5263412.1 | 4736909.5 | 3144728.0 | 3915106.5 |
| Applied research | 26135931.3 | 10140896.7 | 7215817.1 | 5050748.8 | 1957833.8 | 1228496.0 | 542138.9 |
| Development | 48324418.5 | 3943320.2 | 42311563.0 | 672386.2 | 843595.9 | 475006.9 | 78546.3 |
| 2010 | | | | | | | |
| Intramural current expenditure on R&D | 151825126.6 | 56889173.8 | 65431955.8 | 12635358.1 | 6868458.0 | 4815854.6 | 5184326.3 |
| Basic research | 65041375.9 | 38927125.1 | 8471457.1 | 5340161.8 | 4177771.0 | 3645798.9 | 4479062.0 |
| Applied research | 30948555.6 | 13265692.5 | 7766540.0 | 6615628.6 | 1773878.6 | 936306.6 | 590509.3 |
| Development | 55835195.1 | 4696356.2 | 49193958.7 | 679567.7 | 916808.4 | 233749.1 | 114755.0 |

5.2.26. SHARE OF THE GOVERNMENT SECTOR IN INTRAMURAL CURRENT EXPENDITURE ON R&D BY TYPE OF ACTIVITY



5.2.27. PERCENTAGE DISTRIBUTION OF INTRAMURAL CURRENT EXPENDITURE ON R&D IN THE GOVERNMENT SECTOR BY TYPE OF ACTIVITY



5.2.28. AVERAGE MONTHLY SALARIES OF R&D PERSONNEL IN THE GOVERNMENT SECTOR

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|
| Average monthly salary, roubles, before 1998 – thousand roubles | 330.5 | 2015.6 | 2870.5 | 3970.4 | 4969.6 | 5958.7 | 7220.9 | 9678.8 | 14208.3 | 19561.0 | 22979.7 | 24792.1 |
| As a per cent of that: | | | | | | | | | | | | |
| in the national economy (=100%) | 70.0 | 90.7 | 88.6 | 91.1 | 90.4 | 88.4 | 84.4 | 91.0 | 104.5 | 113.1 | 123.3 | 118.3 |
| in manufacturing (=100%) | 72.1 | 85.2 | 83.3 | 89.4 | 88.7 | 87.0 | 85.7 | 94.9 | 110.3 | 121.9 | 138.6 | 130.0 |
| in construction (=100%) | 56.2 | 76.4 | 74.4 | 82.6 | 80.5 | 81.6 | 79.9 | 89.0 | 99.1 | 105.3 | 126.8 | 117.1 |

State Academies of Sciences

5.2.29. NUMBER OF R&D INSTITUTIONS IN STATE ACADEMIES OF SCIENCES

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Total | 835 | 839 | 838 | 837 | 851 | 891 | 865 | 864 | 857 |
| Russian Academy of Sciences | 454 | 463 | 452 | 451 | 465 | 479 | 468 | 469 | 472 |
| Russian Academy of Agricultural Sciences | 290 | 286 | 297 | 297 | 292 | 312 | 304 | 302 | 294 |
| Russian Academy of Medical Sciences | 66 | 67 | 67 | 66 | 68 | 69 | 68 | 67 | 64 |
| Russian Academy of Architecture and Civil Engineering | 5 | 5 | 5 | 5 | 6 | 6 | 5 | 5 | 5 |
| Russian Academy of Education | 18 | 17 | 16 | 17 | 19 | 22 | 18 | 20 | 20 |
| Russian Academy of Fine Arts | 2 | 1 | 1 | 1 | 1 | 3 | 2 | 1 | 2 |

5.2.30. R&D PERSONNEL IN STATE ACADEMIES OF SCIENCES BY OCCUPATION
(head-count)

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Total | 150374 | 150337 | 147871 | 144661 | 142609 | 137544 | 139582 | 137743 |
| Researchers | 85013 | 84285 | 83409 | 81389 | 80444 | 77315 | 78206 | 76868 |
| Technicians | 15156 | 15846 | 15422 | 14475 | 14119 | 12966 | 13320 | 13228 |
| Supporting staff | 26271 | 26015 | 25432 | 25148 | 24394 | 23683 | 23623 | 23025 |
| Others | 23934 | 24191 | 23608 | 23649 | 23652 | 23580 | 24433 | 24622 |
| Russian Academy of Sciences | 106151 | 104876 | 103294 | 99741 | 96969 | 93464 | 95290 | 95280 |
| Researchers | 62428 | 61161 | 60613 | 58423 | 56764 | 54576 | 55402 | 55183 |
| Technicians | 9749 | 10191 | 10072 | 9147 | 8866 | 8083 | 8350 | 8709 |
| Supporting staff | 18540 | 17990 | 17556 | 17131 | 16396 | 15733 | 15804 | 15454 |
| Others | 15434 | 15534 | 15053 | 15040 | 14943 | 15072 | 15734 | 15934 |
| Russian Academy of Agricultural Sciences | 28945 | 29799 | 29134 | 29407 | 29854 | 28963 | 29081 | 27984 |
| Researchers | 13366 | 13701 | 13350 | 13430 | 13914 | 13367 | 13200 | 12642 |
| Technicians | 3716 | 3912 | 3688 | 3702 | 3749 | 3421 | 3534 | 3329 |
| Supporting staff | 5515 | 5872 | 5707 | 5801 | 5683 | 5688 | 5731 | 5533 |
| Others | 6348 | 6314 | 6389 | 6474 | 6508 | 6487 | 6616 | 6480 |
| Russian Academy of Medical Sciences | 13242 | 13564 | 13292 | 13185 | 13272 | 12885 | 13063 | 12151 |
| Researchers | 7705 | 7841 | 7842 | 7859 | 8007 | 7798 | 7998 | 7393 |
| Technicians | 1610 | 1661 | 1575 | 1511 | 1402 | 1365 | 1368 | 1090 |
| Supporting staff | 2003 | 1943 | 1923 | 1962 | 1985 | 1922 | 1851 | 1759 |
| Others | 1924 | 2119 | 1952 | 1853 | 1878 | 1800 | 1846 | 1909 |

(continued)

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Russian Academy of Architecture and Civil Engineering | 544 | 558 | 630 | 742 | 728 | 721 | 573 | 606 |
| Researchers | 385 | 392 | 424 | 445 | 461 | 462 | 396 | 420 |
| Technicians | 65 | 69 | 74 | 89 | 66 | 79 | 46 | 63 |
| Supporting staff | 34 | 32 | 55 | 76 | 73 | 110 | 63 | 66 |
| Others | 60 | 65 | 77 | 132 | 128 | 70 | 68 | 57 |
| Russian Academy of Education | 1411 | 1460 | 1441 | 1505 | 1562 | 1335 | 1492 | 1392 |
| Researchers | 1059 | 1121 | 1116 | 1168 | 1176 | 1016 | 1136 | 1065 |
| Technicians | 15 | 12 | 11 | 24 | 15 | 13 | 18 | 34 |
| Supporting staff | 175 | 174 | 180 | 166 | 212 | 159 | 173 | 130 |
| Others | 162 | 153 | 134 | 147 | 159 | 147 | 165 | 163 |
| Russian Academy of Fine Arts | 81 | 80 | 80 | 81 | 224 | 176 | 83 | 330 |
| Researchers | 70 | 69 | 64 | 64 | 122 | 96 | 74 | 165 |
| Technicians | 1 | 1 | 2 | 2 | 21 | 5 | 4 | 3 |
| Supporting staff | 4 | 4 | 11 | 12 | 45 | 71 | 1 | 83 |
| Others | 6 | 6 | 3 | 3 | 36 | 4 | 4 | 79 |

5.2.31. RESEARCHERS WITH SCIENTIFIC DEGREES IN STATE ACADEMIES OF SCIENCES
(head-count)

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Total | 48000 | 48107 | 48178 | 47987 | 48047 | 47044 | 48026 | 47692 |
| Doctors of science | 13343 | 13542 | 13735 | 13923 | 14246 | 14146 | 14405 | 14408 |
| Candidates of science | 34657 | 34565 | 34443 | 34064 | 33801 | 32898 | 33621 | 33284 |
| Russian Academy of Sciences | 35493 | 35265 | 35378 | 34987 | 34613 | 33850 | 34654 | 34807 |
| Doctors of science | 9974 | 10035 | 10185 | 10311 | 10426 | 10355 | 10549 | 10641 |
| Candidates of science | 25519 | 25230 | 25193 | 24676 | 24187 | 23495 | 24105 | 24166 |
| Russian Academy of Agricultural Sciences | 6245 | 6432 | 6332 | 6475 | 6761 | 6674 | 6694 | 6524 |
| Doctors of science | 1315 | 1378 | 1374 | 1405 | 1539 | 1571 | 1589 | 1567 |
| Candidates of science | 4930 | 5054 | 4958 | 5070 | 5222 | 5103 | 5105 | 4957 |
| Russian Academy of Medical Sciences | 5451 | 5576 | 5611 | 5628 | 5715 | 5648 | 5735 | 5427 |
| Doctors of science | 1823 | 1902 | 1939 | 1949 | 1984 | 1958 | 1969 | 1905 |
| Candidates of science | 3628 | 3674 | 3672 | 3679 | 3731 | 3690 | 3766 | 3522 |
| Russian Academy of Architecture and Civil Engineering | 112 | 119 | 123 | 123 | 127 | 130 | 134 | 128 |
| Doctors of science | 25 | 26 | 26 | 29 | 36 | 38 | 38 | 33 |
| Candidates of science | 87 | 93 | 97 | 94 | 91 | 92 | 96 | 95 |
| Russian Academy of Education | 649 | 663 | 679 | 719 | 776 | 687 | 758 | 739 |
| Doctors of science | 185 | 179 | 189 | 207 | 237 | 200 | 237 | 239 |
| Candidates of science | 464 | 484 | 490 | 512 | 539 | 487 | 521 | 500 |
| Russian Academy of Fine Arts | 50 | 52 | 55 | 55 | 55 | 55 | 51 | 67 |
| Doctors of science | 21 | 22 | 22 | 22 | 24 | 24 | 23 | 23 |
| Candidates of science | 29 | 30 | 33 | 33 | 31 | 31 | 28 | 44 |

5.2.32. RESEARCHERS IN STATE ACADEMIES OF SCIENCES BY GENDER AND AGE
(head-count)

| | 2008 | | | 2010 | | |
|--------------|--------------|--------------------|-----------------------|--------------|--------------------|-----------------------|
| | Researchers | Of whom | | Researchers | Of whom | |
| | | doctors of science | candidates of science | | doctors of science | candidates of science |
| Total | 77315 | 14146 | 32898 | 76868 | 14408 | 33284 |
| Age, years: | | | | | | |
| below 29 | 10610 | 9 | 2025 | 10793 | 11 | 2139 |
| 30–39 | 12006 | 228 | 6633 | 13075 | 348 | 7489 |
| 40–49 | 12483 | 1437 | 6121 | 10819 | 1272 | 5507 |
| 50–59 | 18694 | 4024 | 8191 | 17323 | 3851 | 7718 |
| 60–69 | 14390 | 4212 | 6418 | 14236 | 4179 | 6226 |
| 70 and over | 9132 | 4236 | 3510 | 10622 | 4747 | 4205 |
| Male | 41981 | 10740 | 17426 | 42020 | 10845 | 17554 |
| Age, years: | | | | | | |
| below 29 | 5774 | 8 | 1159 | 5940 | 8 | 1253 |
| 30–39 | 5804 | 159 | 3306 | 6511 | 243 | 3758 |
| 40–49 | 5928 | 1024 | 2952 | 5204 | 855 | 2610 |
| 50–59 | 9959 | 2932 | 4464 | 9223 | 2756 | 4131 |
| 60–69 | 8436 | 3332 | 3491 | 8277 | 3294 | 3438 |
| 70 and over | 6080 | 3285 | 2054 | 6865 | 3689 | 2364 |
| Female | 35334 | 3406 | 15472 | 34848 | 3563 | 15730 |
| Age, years: | | | | | | |
| below 29 | 4836 | 1 | 866 | 4853 | 3 | 886 |
| 30–39 | 6202 | 69 | 3327 | 6564 | 105 | 3731 |
| 40–49 | 6555 | 413 | 3169 | 5615 | 417 | 2897 |
| 50–59 | 8735 | 1092 | 3727 | 8100 | 1095 | 3587 |
| 60–69 | 5954 | 880 | 2927 | 5959 | 885 | 2788 |
| 70 and over | 3052 | 951 | 1456 | 3757 | 1058 | 1841 |

(continued)

| | 2008 | | | 2010 | | |
|------------------------------------|--------------|--------------------|-----------------------|--------------|--------------------|-----------------------|
| | Researchers | Of whom | | Researchers | Of whom | |
| | | doctors of science | candidates of science | | doctors of science | candidates of science |
| Russian Academy of Sciences | 54576 | 10355 | 23495 | 55183 | 10641 | 24166 |
| Age, years: | | | | | | |
| below 29 | 7379 | 1 | 1492 | 7532 | 10 | 1596 |
| 30–39 | 8116 | 136 | 4632 | 9181 | 225 | 5393 |
| 40–49 | 8436 | 891 | 4327 | 7432 | 816 | 3906 |
| 50–59 | 13167 | 2926 | 5878 | 12380 | 2790 | 5577 |
| 60–69 | 10707 | 3187 | 4708 | 10824 | 3215 | 4703 |
| 70 and over | 6771 | 3214 | 2458 | 7834 | 3585 | 2991 |
| Male | 32618 | 8286 | 13419 | 33282 | 8458 | 13817 |
| Age, years: | | | | | | |
| below 29 | 4441 | 1 | 874 | 4609 | 7 | 999 |
| 30–39 | 4457 | 106 | 2526 | 5114 | 174 | 2927 |
| 40–49 | 4492 | 687 | 2291 | 4078 | 591 | 2066 |
| 50–59 | 7842 | 2291 | 3478 | 7388 | 2142 | 3282 |
| 60–69 | 6738 | 2635 | 2773 | 6787 | 2652 | 2783 |
| 70 and over | 4648 | 2566 | 1477 | 5306 | 2892 | 1760 |
| Female | 21958 | 2069 | 10076 | 21901 | 2183 | 10349 |
| Age, years: | | | | | | |
| below 29 | 2938 | – | 618 | 2923 | 3 | 597 |
| 30–39 | 3659 | 30 | 2106 | 4067 | 51 | 2466 |
| 40–49 | 3944 | 204 | 2036 | 3354 | 225 | 1840 |
| 50–59 | 5325 | 635 | 2400 | 4992 | 648 | 2295 |
| 60–69 | 3969 | 552 | 1935 | 4037 | 563 | 1920 |
| 70 and over | 2123 | 648 | 981 | 2528 | 693 | 1231 |

(continued)

| | 2008 | | 2010 | | | |
|---|--------------|--------------------|-----------------------|--------------|--------------------|-----------------------|
| | Researchers | Of whom | | Researchers | Of whom | |
| | | doctors of science | candidates of science | | doctors of science | candidates of science |
| Russian Academy of Agricultural Sciences | 13367 | 1571 | 5103 | 12642 | 1567 | 4957 |
| Age, years: | | | | | | |
| below 29 | 2052 | 8 | 332 | 2038 | 1 | 347 |
| 30–39 | 1879 | 19 | 809 | 1970 | 37 | 905 |
| 40–49 | 2235 | 142 | 867 | 1811 | 123 | 768 |
| 50–59 | 3524 | 417 | 1376 | 3084 | 397 | 1252 |
| 60–69 | 2232 | 453 | 1014 | 2080 | 415 | 925 |
| 70 and over | 1445 | 532 | 705 | 1659 | 594 | 760 |
| Male | 6024 | 1220 | 2599 | 5520 | 1184 | 2419 |
| Age, years: | | | | | | |
| below 29 | 905 | 7 | 189 | 896 | 1 | 182 |
| 30–39 | 739 | 11 | 378 | 763 | 26 | 421 |
| 40–49 | 814 | 90 | 367 | 619 | 77 | 305 |
| 50–59 | 1410 | 295 | 675 | 1179 | 268 | 573 |
| 60–69 | 1134 | 377 | 520 | 985 | 328 | 485 |
| 70 and over | 1022 | 440 | 470 | 1078 | 484 | 453 |
| Female | 7343 | 351 | 2504 | 7122 | 383 | 2538 |
| Age, years: | | | | | | |
| below 29 | 1147 | 1 | 143 | 1142 | – | 165 |
| 30–39 | 1140 | 8 | 431 | 1207 | 11 | 484 |
| 40–49 | 1421 | 52 | 500 | 1192 | 46 | 463 |
| 50–59 | 2114 | 122 | 701 | 1905 | 129 | 679 |
| 60–69 | 1098 | 76 | 494 | 1095 | 87 | 440 |
| 70 and over | 423 | 92 | 235 | 581 | 110 | 307 |

(continued)

| | 2008 | | | 2010 | | |
|--|-------------|--------------------|-----------------------|-------------|--------------------|-----------------------|
| | Researchers | Of whom | | Researchers | Of whom | |
| | | doctors of science | candidates of science | | doctors of science | candidates of science |
| Russian Academy of Medical Sciences | 7798 | 1958 | 3690 | 7393 | 1905 | 3522 |
| Age, years: | | | | | | |
| below 29 | 982 | – | 179 | 1049 | – | 175 |
| 30–39 | 1785 | 73 | 1102 | 1661 | 81 | 1083 |
| 40–49 | 1521 | 378 | 803 | 1308 | 312 | 711 |
| 50–59 | 1613 | 607 | 768 | 1473 | 576 | 710 |
| 60–69 | 1192 | 504 | 580 | 1041 | 464 | 488 |
| 70 and over | 705 | 396 | 258 | 861 | 472 | 355 |
| Male | 2844 | 1099 | 1216 | 2659 | 1048 | 1119 |
| Age, years: | | | | | | |
| below 29 | 375 | – | 86 | 381 | – | 60 |
| 30–39 | 555 | 42 | 377 | 561 | 41 | 386 |
| 40–49 | 551 | 234 | 253 | 434 | 178 | 204 |
| 50–59 | 582 | 313 | 257 | 526 | 299 | 214 |
| 60–69 | 453 | 282 | 164 | 383 | 262 | 135 |
| 70 and over | 328 | 228 | 79 | 374 | 268 | 120 |
| Female | 4954 | 859 | 2474 | 4734 | 857 | 2403 |
| Age, years: | | | | | | |
| below 29 | 607 | – | 93 | 668 | – | 115 |
| 30–39 | 1230 | 31 | 725 | 1100 | 40 | 697 |
| 40–49 | 970 | 144 | 550 | 874 | 134 | 507 |
| 50–59 | 1031 | 294 | 511 | 947 | 277 | 496 |
| 60–69 | 739 | 222 | 416 | 658 | 202 | 353 |
| 70 and over | 377 | 168 | 179 | 487 | 204 | 235 |

(continued)

| | 2008 | | | 2010 | | |
|--|-------------|--------------------|-----------------------|-------------|--------------------|-----------------------|
| | Researchers | Of whom | | Researchers | Of whom | |
| | | doctors of science | candidates of science | | doctors of science | candidates of science |
| Russian Academy of Architecture and Civil Engineering | 462 | 38 | 92 | 420 | 33 | 95 |
| Age, years: | | | | | | |
| below 29 | 62 | – | 2 | 58 | – | 3 |
| 30–39 | 64 | – | 11 | 69 | – | 14 |
| 40–49 | 77 | 3 | 10 | 52 | 1 | 10 |
| 50–59 | 113 | 6 | 16 | 85 | 6 | 19 |
| 60–69 | 82 | 10 | 26 | 70 | 8 | 19 |
| 70 and over | 64 | 19 | 27 | 86 | 18 | 30 |
| Male | 195 | 28 | 51 | 185 | 24 | 51 |
| Age, years: | | | | | | |
| below 29 | 26 | – | 2 | 24 | – | 2 |
| 30–39 | 25 | – | 6 | 29 | – | 6 |
| 40–49 | 29 | 1 | 8 | 20 | 1 | 8 |
| 50–59 | 33 | 3 | 9 | 31 | 2 | 13 |
| 60–69 | 52 | 10 | 13 | 34 | 7 | 11 |
| 70 and over | 30 | 14 | 13 | 47 | 14 | 14 |
| Female | 267 | 10 | 41 | 235 | 9 | 41 |
| Age, years: | | | | | | |
| below 29 | 36 | – | – | 34 | – | 1 |
| 30–39 | 39 | – | 5 | 40 | – | 8 |
| 40–49 | 48 | 2 | 2 | 32 | – | 2 |
| 50–59 | 80 | 3 | 7 | 54 | 4 | 6 |
| 60–69 | 30 | – | 13 | 36 | 1 | 8 |
| 70 and over | 34 | 5 | 14 | 39 | 4 | 16 |

(continued)

| | 2008 | | | 2010 | | |
|-------------------------------------|-------------|--------------------|-----------------------|-------------|--------------------|-----------------------|
| | Researchers | Of whom | | Researchers | Of whom | |
| | | doctors of science | candidates of science | | doctors of science | candidates of science |
| Russian Academy of Education | 1016 | 200 | 487 | 1065 | 239 | 500 |
| Age, years: | | | | | | |
| below 29 | 128 | – | 18 | 109 | – | 16 |
| 30–39 | 153 | – | 75 | 175 | 5 | 86 |
| 40–49 | 201 | 22 | 110 | 191 | 19 | 105 |
| 50–59 | 261 | 65 | 144 | 272 | 79 | 150 |
| 60–69 | 152 | 49 | 87 | 179 | 68 | 84 |
| 70 and over | 121 | 64 | 53 | 139 | 68 | 59 |
| Male | 276 | 97 | 136 | 305 | 121 | 138 |
| Age, years: | | | | | | |
| below 29 | 24 | – | 8 | 28 | – | 10 |
| 30–39 | 27 | – | 19 | 38 | 2 | 18 |
| 40–49 | 37 | 11 | 31 | 44 | 7 | 25 |
| 50–59 | 89 | 29 | 43 | 90 | 44 | 45 |
| 60–69 | 53 | 23 | 21 | 70 | 40 | 23 |
| 70 and over | 46 | 34 | 14 | 35 | 28 | 17 |
| Female | 740 | 103 | 351 | 760 | 118 | 362 |
| Age, years: | | | | | | |
| below 29 | 104 | – | 10 | 81 | – | 6 |
| 30–39 | 126 | – | 56 | 137 | 3 | 68 |
| 40–49 | 164 | 11 | 79 | 147 | 12 | 80 |
| 50–59 | 172 | 36 | 101 | 182 | 35 | 105 |
| 60–69 | 99 | 26 | 66 | 109 | 28 | 61 |
| 70 and over | 75 | 30 | 39 | 104 | 40 | 42 |

(continued)

| | 2008 | | | 2010 | | |
|-------------------------------------|-------------|--------------------|-----------------------|-------------|--------------------|-----------------------|
| | Researchers | Of whom | | Researchers | Of whom | |
| | | doctors of science | candidates of science | | doctors of science | candidates of science |
| Russian Academy of Fine Arts | 96 | 24 | 31 | 165 | 23 | 44 |
| Age, years: | | | | | | |
| below 29 | 7 | — | 2 | 7 | — | 2 |
| 30–39 | 9 | — | 4 | 19 | — | 8 |
| 40–49 | 13 | 1 | 4 | 25 | 1 | 7 |
| 50–59 | 16 | 3 | 9 | 29 | 3 | 10 |
| 60–69 | 25 | 9 | 3 | 42 | 9 | 7 |
| 70 and over | 26 | 11 | 9 | 43 | 10 | 10 |
| Male | 24 | 10 | 5 | 69 | 10 | 7 |
| Age, years: | | | | | | |
| below 29 | 3 | — | — | — | — | — |
| 30–39 | 1 | — | — | — | — | — |
| 40–49 | 5 | 1 | 2 | 9 | 1 | 2 |
| 50–59 | 3 | 1 | 2 | 9 | 1 | 4 |
| 60–69 | 6 | 5 | — | 18 | 5 | 1 |
| 70 and over | 6 | 3 | 1 | 25 | 3 | 0 |
| Female | 72 | 14 | 26 | 96 | 13 | 37 |
| Age, years: | | | | | | |
| below 29 | 4 | — | 2 | 5 | — | 2 |
| 30–39 | 8 | — | 4 | 13 | — | 8 |
| 40–49 | 8 | — | 2 | 16 | — | 5 |
| 50–59 | 13 | 2 | 7 | 20 | 2 | 6 |
| 60–69 | 19 | 4 | 3 | 24 | 4 | 6 |
| 70 and over | 20 | 8 | 8 | 18 | 7 | 10 |

5.2.33. GROSS DOMESTIC EXPENDITURE ON R&D IN STATE ACADEMIES OF SCIENCES
(thousand roubles)

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| At current prices | | | | | | | | |
| Total | 23137439.8 | 27315241.6 | 32401091.0 | 42465812.3 | 55613207.8 | 69073252.5 | 78818046.1 | 78638432.4 |
| Russian Academy of Sciences | 18713482.1 | 21766382.5 | 25799901.3 | 34156381.5 | 44276444.4 | 55912011.9 | 61370704.2 | 62471831.1 |
| Russian Academy of Agricultural Sciences | 2567210.9 | 3199823.4 | 3668815.1 | 4562308.5 | 6216412.7 | 7520092.1 | 9705184.3 | 8775351.6 |
| Russian Academy of Medical Sciences | 1627490.8 | 2060252.6 | 2547513.4 | 3218993.9 | 4166702.2 | 4710248.7 | 6688484.7 | 6105878.2 |
| Russian Academy of Architecture and Civil Engineering | 90927.8 | 122910.1 | 181189.4 | 254101.6 | 371206.3 | 399906.2 | 408177.1 | 385608.2 |
| Russian Academy of Education | 129183.8 | 153933.9 | 190812.2 | 258482.6 | 538678.7 | 416418.9 | 613427.0 | 578024.0 |
| Russian Academy of Fine Arts | 9144.4 | 11939.1 | 12859.6 | 15544.2 | 43763.5 | 114574.7 | 32068.8 | 319739.3 |
| At constant 1989 prices | | | | | | | | |
| Total | 654.3 | 642.1 | 638.4 | 726.4 | 835.9 | 879.8 | 985.2 | 882.4 |
| Russian Academy of Sciences | 529.2 | 511.7 | 508.4 | 584.2 | 665.5 | 712.2 | 767.1 | 701.0 |
| Russian Academy of Agricultural Sciences | 72.6 | 75.2 | 72.3 | 78.0 | 93.4 | 95.8 | 121.3 | 98.5 |
| Russian Academy of Medical Sciences | 46.0 | 48.4 | 50.2 | 55.1 | 62.6 | 60.0 | 83.6 | 68.5 |
| Russian Academy of Architecture and Civil Engineering | 2.6 | 2.9 | 3.6 | 4.3 | 5.6 | 5.1 | 5.1 | 4.3 |
| Russian Academy of Education | 3.7 | 3.6 | 3.8 | 4.4 | 8.1 | 5.3 | 7.7 | 6.5 |
| Russian Academy of Fine Arts | 0.3 | 0.3 | 0.3 | 0.3 | 0.7 | 1.5 | 0.4 | 3.6 |

**5.2.34. GROSS DOMESTIC EXPENDITURE ON R&D IN STATE ACADEMIES OF SCIENCES
BY SOURCE OF FUNDS**
(*thousand roubles*)

| | Total | Government* | Business enterprise sector | Higher education sector | Private non-profit sector | Funds from abroad |
|---|-------------------|-------------------|----------------------------|-------------------------|---------------------------|-------------------|
| 2005 | | | | | | |
| Total | 32401091.0 | 27236822.1 | 3747062.6 | 41279.2 | 13757 | 1362170.1 |
| Russian Academy of Sciences | 25799901.3 | 21299039.5 | 3102597.8 | 41065.6 | 13296.3 | 1343902.1 |
| Russian Academy of Agricultural Sciences | 3668815.1 | 3284080.1 | 380561.3 | 107.1 | 15.0 | 4051.6 |
| Russian Academy of Medical Sciences | 2547513.4 | 2366534.6 | 166210.2 | 106.5 | 445.7 | 14216.4 |
| Russian Academy of Architecture and Civil Engineering | 181189.4 | 93690.6 | 87498.8 | — | — | — |
| Russian Academy of Education | 190812.2 | 181456.6 | 9355.6 | — | — | — |
| Russian Academy of Fine Arts | 12859.6 | 12020.7 | 838.9 | — | — | — |
| 2009 | | | | | | |
| Total | 78818046.1 | 71313442.6 | 6184320.4 | 75764.7 | 37391.0 | 1207127.4 |
| Russian Academy of Sciences | 61370704.2 | 55447438.5 | 4682296.7 | 72099.6 | 32493.1 | 1136376.3 |
| Russian Academy of Agricultural Sciences | 9705184.3 | 8958283.5 | 736294.7 | 665.1 | 4766.4 | 5174.6 |
| Russian Academy of Medical Sciences | 6688484.7 | 5999602.1 | 620174.6 | 3000.0 | 131.5 | 65576.5 |
| Russian Academy of Architecture and Civil Engineering | 408177.1 | 269988.9 | 138188.2 | — | — | — |
| Russian Academy of Education | 613427.0 | 606060.8 | 7366.2 | — | — | — |
| Russian Academy of Fine Arts | 32068.8 | 32068.8 | — | — | — | — |

* Including federal budget appropriations, own funds and government sector institutions' funds.

(continued)

| | Total | Government* | Business enterprise sector | Higher education sector | Private non-profit sector | Funds from abroad |
|---|-------------------|-------------------|----------------------------|-------------------------|---------------------------|-------------------|
| 2010 | | | | | | |
| Total | 78636432.4 | 69475039.7 | 7559777.6 | 155682.3 | 43440.3 | 1402492.5 |
| Russian Academy of Sciences | 62471831.1 | 54737822.6 | 6213854.4 | 150989.6 | 43329.6 | 1325834.9 |
| Russian Academy of Agricultural Sciences | 8775351.6 | 8081393.0 | 683215.4 | 3497.2 | 85.0 | 7161.0 |
| Russian Academy of Medical Sciences | 6105878.2 | 5540950.2 | 498960.2 | 1195.5 | 25.7 | 64746.6 |
| Russian Academy of Architecture and Civil Engineering | 385608.2 | 229199.9 | 156408.3 | — | — | — |
| Russian Academy of Education | 578024.0 | 565934.7 | 7339.3 | — | — | 4750.0 |
| Russian Academy of Fine Arts | 319739.3 | 319739.3 | — | — | — | — |

**5.2.35. INTRAMURAL CURRENT EXPENDITURE ON R&D IN STATE ACADEMIES OF SCIENCES
BY TYPE OF ACTIVITY AND FIELD OF SCIENCE AND TECHNOLOGY**
(*thousand roubles*)

| | Total | Natural sciences | Engineering | Medical sciences | Agricultural sciences | Social sciences | Humanities |
|---|-------------------|-------------------|------------------|------------------|-----------------------|------------------|------------------|
| 2005 | | | | | | | |
| Total | 29777478.1 | 18396766.8 | 3775012.8 | 2020462.4 | 2951709.2 | 1372350.1 | 1261176.8 |
| Basic research | 22450265.3 | 15034789.2 | 1927581.8 | 1408254.7 | 1836684.2 | 1091798.9 | 1151156.5 |
| Applied research | 4684246.1 | 1900244.9 | 1203638.6 | 563651.8 | 722305.7 | 198138.7 | 96266.4 |
| Development | 2642966.7 | 1461732.7 | 643792.4 | 48555.9 | 392719.3 | 82412.5 | 13753.9 |
| Russian Academy of Sciences | 23557587.3 | 17820136.5 | 3264013.9 | 47892.7 | 44178.1 | 1153846.0 | 1227520.1 |
| Basic research | 18378054.4 | 14533327.6 | 1703406.3 | 35192.4 | 41527.0 | 946190.9 | 1118410.2 |
| Applied research | 3189013.1 | 1839125.4 | 1049372.4 | 12311.2 | 2327.3 | 190520.8 | 95356.0 |
| Development | 1990519.8 | 1447683.5 | 511235.2 | 389.1 | 323.8 | 17134.3 | 13753.9 |
| Russian Academy of Agricultural Sciences | 3436402.9 | 106420.4 | 419417.8 | 1730.0 | 2907531.1 | 1303.6 | – |
| Basic research | 2035377.8 | 71301.6 | 167578.4 | 1250.0 | 1795157.2 | 90.6 | – |
| Applied research | 871853.0 | 29707.4 | 120474.2 | 480.0 | 719978.4 | 1213.0 | – |
| Development | 529172.1 | 5411.4 | 131365.2 | – | 392395.5 | – | – |
| Russian Academy of Medical Sciences | 2408455.9 | 436190.0 | – | 1970839.7 | – | 1426.2 | – |
| Basic research | 1769378.6 | 396140.1 | – | 1371812.3 | – | 1426.2 | – |
| Applied research | 582272.7 | 31412.1 | – | 550860.6 | – | – | – |
| Development | 56804.6 | 8637.8 | – | 48166.8 | – | – | – |

(continued)

| | Total | Natural sciences | Engineering | Medical sciences | Agricultural sciences | Social sciences | Humanities |
|--|-----------------|------------------|----------------|------------------|-----------------------|-----------------|----------------|
| Russian Academy of Architecture and Civil Engineering | 177296.8 | — | 91418.1 | — | — | 77481.1 | 8397.6 |
| Basic research | 77034.6 | — | 56434.1 | — | — | 12202.9 | 8397.6 |
| Applied research | 33792.0 | — | 33792.0 | — | — | — | — |
| Development | 66470.2 | — | 1192.0 | — | — | 65278.2 | — |
| Russian Academy of Education | 184875.6 | 34019.9 | 163.0 | — | — | 138293.2 | 12399.5 |
| Basic research | 177560.3 | 34019.9 | 163.0 | — | — | 131888.3 | 11489.1 |
| Applied research | 7315.3 | — | — | — | — | 6404.9 | 910.4 |
| Development | — | — | — | — | — | — | — |
| Russian Academy of Fine Arts | 12859.6 | — | — | — | — | — | 12859.6 |
| Basic research | 12859.6 | — | — | — | — | — | 12859.6 |
| Applied research | — | — | — | — | — | — | — |
| Development | — | — | — | — | — | — | — |

(continued)

| | Total | Natural sciences | Engineering | Medical sciences | Agricultural sciences | Social sciences | Humanities |
|---|-------------------|-------------------|------------------|------------------|-----------------------|------------------|------------------|
| 2008 | | | | | | | |
| Total | 65571596.8 | 40805572.4 | 7800193.2 | 4299729.8 | 6123435.5 | 3211082.4 | 3331583.5 |
| Basic research | 51318110.2 | 34573305.4 | 4757548.4 | 2660582.8 | 4019341.4 | 2439874.3 | 2867457.9 |
| Applied research | 8952808.4 | 3769263.5 | 1803049.1 | 1397694.0 | 1274991.6 | 529024.3 | 178785.9 |
| Development | 5300678.2 | 2463003.5 | 1239595.7 | 241453.0 | 829102.5 | 242183.8 | 285339.7 |
| Russian Academy of Sciences | 53072393.6 | 39908794.5 | 6654163.4 | 400026.1 | 146711.2 | 2742076.4 | 3220622.0 |
| Basic research | 43449808.6 | 33784356.6 | 4273247.7 | 356542.5 | 129465.9 | 2101920.0 | 2804275.9 |
| Applied research | 5637213.0 | 3669987.1 | 1349048.1 | 43251.5 | 6502.0 | 397972.6 | 170451.7 |
| Development | 3985372.0 | 2454450.8 | 1031867.6 | 232.1 | 10743.3 | 242183.8 | 245894.4 |
| Russian Academy of Agricultural Sciences | 7157404.3 | 293403.3 | 868514.7 | 7041.0 | 5976724.3 | 11721.0 | — |
| Basic research | 4610220.3 | 256797.1 | 450383.9 | 3478.0 | 3889875.5 | 9685.8 | — |
| Applied research | 1528640.1 | 32125.0 | 222427.3 | 3563.0 | 1268489.6 | 2035.2 | — |
| Development | 1018543.9 | 4481.2 | 195703.5 | — | 818359.2 | — | — |
| Russian Academy of Medical Sciences | 4471788.8 | 576359.6 | — | 3892662.7 | — | 2766.5 | — |
| Basic research | 2808465.5 | 505136.7 | — | 2300562.3 | — | 2766.5 | — |
| Applied research | 1418030.9 | 67151.4 | — | 1350879.5 | — | — | — |
| Development | 245292.4 | 4071.5 | — | 241220.9 | — | — | — |

(continued)

| | Total | Natural sciences | Engineering | Medical sciences | Agricultural sciences | Social sciences | Humanities |
|--|-----------------|------------------|-----------------|------------------|-----------------------|-----------------|----------------|
| Russian Academy of Architecture and Civil Engineering | 392878.4 | — | 277515.1 | — | — | 93760.0 | 21603.3 |
| Basic research | 67872.1 | — | 33916.8 | — | — | 12352.0 | 21603.3 |
| Applied research | 312981.7 | — | 231573.7 | — | — | 81408.0 | — |
| Development | 12024.6 | — | 12024.6 | — | — | — | — |
| Russian Academy of Education | 412557.0 | 27015.0 | — | — | — | 360758.5 | 24783.5 |
| Basic research | 356614.3 | 27015.0 | — | — | — | 313150.0 | 16449.3 |
| Applied research | 55942.7 | — | — | — | — | 47608.5 | 8334.2 |
| Development | — | — | — | — | — | — | — |
| Russian Academy of Fine Arts | 64574.7 | — | — | — | — | — | 64574.7 |
| Basic research | 25129.4 | — | — | — | — | — | 25129.4 |
| Applied research | — | — | — | — | — | — | — |
| Development | 39445.3 | — | — | — | — | — | 39445.3 |

(continued)

| | Total | Natural sciences | Engineering | Medical sciences | Agricultural sciences | Social sciences | Humanities |
|---|-------------------|-------------------|------------------|------------------|-----------------------|------------------|------------------|
| 2009 | | | | | | | |
| Total | 74384696.5 | 45300392.3 | 8852257.5 | 5559963.2 | 7483820.0 | 3866514.1 | 3321749.4 |
| Basic research | 58812099.0 | 38209824.6 | 5702056.4 | 3726065.3 | 4948445.0 | 3134764.2 | 3090943.5 |
| Applied research | 10572534.6 | 4398684.5 | 2036827.5 | 1659970.8 | 1813725.6 | 440448.0 | 222878.2 |
| Development | 5000062.9 | 2691883.2 | 1113373.6 | 173927.1 | 721649.4 | 291301.9 | 7927.7 |
| Russian Academy of Sciences | 57876311.6 | 43723755.1 | 7350411.3 | 188594.2 | 75188.1 | 3286114.4 | 3252248.5 |
| Basic research | 47791014.7 | 37027300.5 | 4967688.3 | 120058.8 | 62466.4 | 2592058.1 | 3021442.6 |
| Applied research | 6203732.9 | 4039183.4 | 1466752.4 | 68492.1 | 3672.4 | 402754.4 | 222878.2 |
| Development | 3881564.0 | 2657271.2 | 915970.6 | 43.3 | 9049.3 | 291301.9 | 7927.7 |
| Russian Academy of Agricultural Sciences | 9260440.1 | 686382.7 | 1137956.7 | 12099.7 | 7408631.9 | 15369.1 | — |
| Basic research | 5967328.1 | 411347.3 | 648621.9 | 9854.9 | 4885978.6 | 11525.4 | — |
| Applied research | 2372221.1 | 249965.9 | 306157.4 | 2200.9 | 1810053.2 | 3843.7 | — |
| Development | 920890.9 | 25069.5 | 183177.4 | 43.9 | 712600.1 | — | — |
| Russian Academy of Medical Sciences | 6207665.6 | 844939.6 | — | 5359269.3 | — | 3456.7 | — |
| Basic research | 4325470.2 | 725861.9 | — | 3596151.6 | — | 3456.7 | — |
| Applied research | 1698813.0 | 109535.2 | — | 1589277.8 | — | — | — |
| Development | 183382.4 | 9542.5 | — | 173839.9 | — | — | — |

(continued)

| | Total | Natural sciences | Engineering | Medical sciences | Agricultural sciences | Social sciences | Humanities |
|--|-----------------|------------------|-----------------|------------------|-----------------------|-----------------|----------------|
| Russian Academy of Architecture and Civil Engineering | 400290.9 | — | 363889.5 | — | — | — | 36401.4 |
| Basic research | 122147.6 | — | 85746.2 | — | — | — | 36401.4 |
| Applied research | 263917.7 | — | 263917.7 | — | — | — | — |
| Development | 14225.6 | — | 14225.6 | — | — | — | — |
| Russian Academy of Education | 607919.5 | 45314.9 | — | — | — | 561573.9 | 1030.7 |
| Basic research | 574069.6 | 45314.9 | — | — | — | 527724.0 | 1030.7 |
| Applied research | 33849.9 | — | — | — | — | 33849.9 | — |
| Development | — | — | — | — | — | — | — |
| Russian Academy of Fine Arts | 32068.8 | — | — | — | — | — | 32068.8 |
| Basic research | 32068.8 | — | — | — | — | — | 32068.8 |
| Applied research | — | — | — | — | — | — | — |
| Development | — | — | — | — | — | — | — |

(continued)

| | Total | Natural sciences | Engineering | Medical sciences | Agricultural sciences | Social sciences | Humanities |
|---|-------------------|-------------------|------------------|------------------|-----------------------|------------------|------------------|
| 2010 | | | | | | | |
| Total | 75567075.3 | 46641824.7 | 9151937.5 | 5287947.4 | 6874515.6 | 3762206.3 | 3848643.8 |
| Basic research | 58463215.8 | 37672321.3 | 5723699.7 | 3697076.7 | 4463165.3 | 3297631.8 | 3609321.0 |
| Applied research | 11703343.1 | 5850061.3 | 2139160.2 | 1419197.8 | 1606420.9 | 454879.8 | 233623.1 |
| Development | 5400516.4 | 3119442.1 | 1289077.6 | 171672.9 | 804929.4 | 9694.7 | 5699.7 |
| Russian Academy of Sciences | 60061026.4 | 45208595.2 | 7859430.1 | 178674.8 | 112792.9 | 3109326.9 | 3592206.5 |
| Basic research | 48106251.7 | 36707923.6 | 5070955.9 | 144313.2 | 96417.7 | 2733202.6 | 3353438.7 |
| Applied research | 7844789.1 | 5397720.1 | 1828517.0 | 15577.7 | 3476.6 | 366429.6 | 233068.1 |
| Development | 4109985.6 | 3102951.5 | 959957.2 | 18783.9 | 12898.6 | 9694.7 | 5699.7 |
| Russian Academy of Agricultural Sciences | 8511755.9 | 696803.8 | 1018426.0 | 10471.7 | 6761722.7 | 22477.7 | 1854.0 |
| Basic research | 5331254.1 | 463607.9 | 475500.7 | 6440.0 | 4366747.6 | 17658.9 | 1299.0 |
| Applied research | 2110516.6 | 222416.8 | 275750.0 | 4031.7 | 1602944.3 | 4818.8 | 555.0 |
| Development | 1069985.2 | 10779.1 | 267175.3 | – | 792030.8 | – | – |
| Russian Academy of Medical Sciences | 5815021.4 | 713434.9 | – | 5098800.9 | – | 2785.6 | – |
| Basic research | 4026908.1 | 477799.0 | – | 3546323.5 | – | 2785.6 | – |
| Applied research | 1629512.8 | 229924.4 | – | 1399588.4 | – | – | – |
| Development | 158600.5 | 5711.5 | – | 152889.0 | – | – | – |

(continued)

| | Total | Natural sciences | Engineering | Medical sciences | Agricultural sciences | Social sciences | Humanities |
|--|-----------------|------------------|-----------------|------------------|-----------------------|-----------------|-----------------|
| Russian Academy of Architecture and Civil Engineering | 382164.7 | — | 274081.4 | — | — | 74461.0 | 33622.3 |
| Basic research | 222641.4 | — | 177243.1 | — | — | 11776.0 | 33622.3 |
| Applied research | 97578.2 | | 34893.2 | — | — | 62685.0 | — |
| Development | 61945.1 | — | 61945.1 | — | — | — | — |
| Russian Academy of Education | 577367.6 | 22990.8 | — | — | — | 553155.1 | 1221.7 |
| Basic research | 556421.2 | 22990.8 | — | — | — | 532208.7 | 1221.7 |
| Applied research | 20946.4 | — | — | — | — | 20946.4 | — |
| Development | — | — | — | — | — | — | — |
| Russian Academy of Fine Arts | 219739.3 | — | — | — | — | — | 219739.3 |
| Basic research | 219739.3 | — | — | — | — | — | 219739.3 |
| Applied research | — | — | — | — | — | — | — |
| Development | — | — | — | — | — | — | — |

5.3. Business Enterprise Sector

5.3.1. R&D INSTITUTIONS IN THE BUSINESS ENTERPRISE SECTOR BY TYPE

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total | 2345 | 2238 | 2278 | 2213 | 2110 | 1990 | 1851 | 1703 | 1682 | 1742 | 1540 | 1446 | 1405 |
| Research institutes | 1089 | 1055 | 1062 | 1024 | 972 | 956 | 888 | 855 | 805 | 765 | 699 | 659 | 634 |
| Design organisations | 615 | 557 | 564 | 550 | 535 | 487 | 451 | 410 | 398 | 391 | 334 | 306 | 290 |
| Construction project and exploration organisations | 204 | 112 | 94 | 87 | 79 | 71 | 60 | 55 | 51 | 45 | 37 | 31 | 31 |
| Industrial enterprises | 286 | 241 | 276 | 278 | 254 | 240 | 238 | 231 | 255 | 265 | 239 | 228 | 238 |
| Experimental enterprises | 31 | 34 | 32 | 32 | 30 | 30 | 25 | 16 | 15 | 19 | 20 | 21 | 16 |
| Others | 120 | 239 | 250 | 242 | 240 | 206 | 189 | 136 | 158 | 257 | 211 | 201 | 196 |

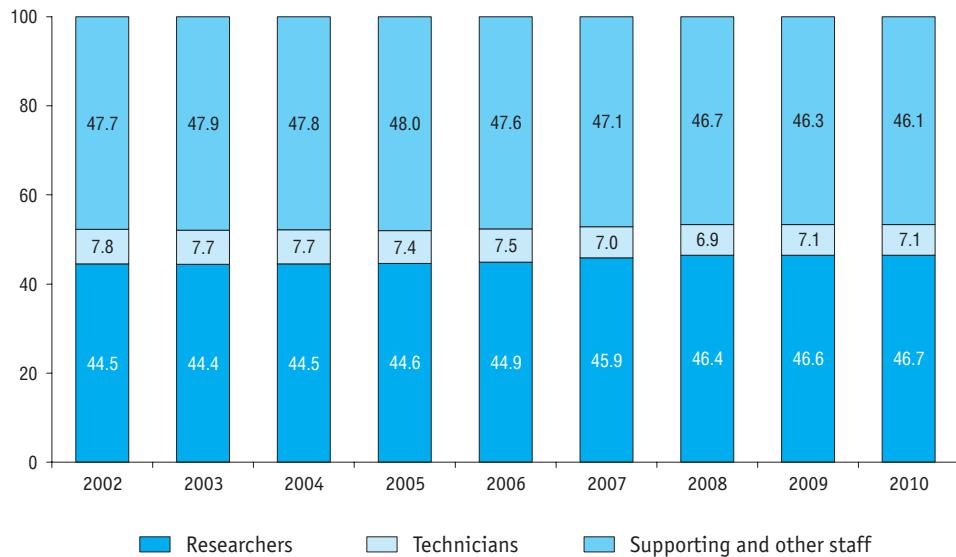
5.3.2. R&D PERSONNEL IN THE BUSINESS ENTERPRISE SECTOR BY TYPE OF INSTITUTIONS
(head-count)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Total | 726568 | 558547 | 590646 | 585416 | 568628 | 558668 | 537473 | 496706 | 486613 | 478401 | 451532 | 432415 | 423112 |
| Research institutes | 438599 | 344360 | 349242 | 316735 | 306767 | 302617 | 286133 | 255233 | 243004 | 234808 | 225430 | 214050 | 207166 |
| Design organisations | 174523 | 136835 | 151705 | 176141 | 175800 | 170095 | 170323 | 161295 | 153259 | 148294 | 138713 | 135811 | 129281 |
| Construction project and exploration organisations | 20844 | 8695 | 8177 | 7342 | 7235 | 6391 | 5707 | 5284 | 5839 | 7001 | 6004 | 5320 | 4905 |
| Industrial enterprises | 73410 | 54234 | 52598 | 50561 | 45076 | 46575 | 47892 | 43524 | 59856 | 56759 | 52042 | 49042 | 51807 |
| Experimental enterprises | 9998 | 3818 | 3945 | 9424 | 9457 | 9311 | 5570 | 865 | 5736 | 2653 | 849 | 938 | 925 |
| Others | 9194 | 10605 | 24979 | 25213 | 24293 | 23679 | 21848 | 30505 | 18919 | 28886 | 28494 | 27254 | 29028 |

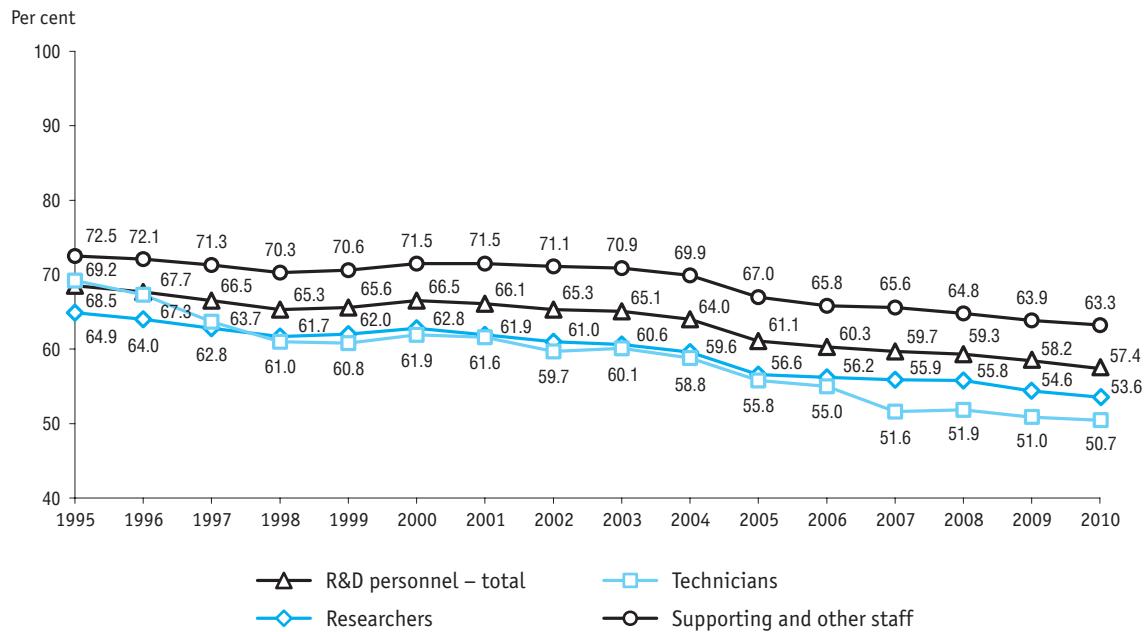
5.3.3. R&D PERSONNEL IN THE BUSINESS ENTERPRISE SECTOR BY OCCUPATION
(head-count)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Total | 726568 | 558547 | 590646 | 585416 | 568628 | 558668 | 537473 | 496706 | 486613 | 478401 | 451532 | 432415 | 423112 |
| Researchers | 336671 | 257470 | 267640 | 261334 | 252990 | 248232 | 239172 | 221445 | 218702 | 219632 | 209579 | 201668 | 197785 |
| Technicians | 70180 | 45681 | 46535 | 46493 | 44501 | 43137 | 41171 | 38837 | 36315 | 33340 | 31230 | 30613 | 30063 |
| Supporting staff | 201122 | 155205 | 175261 | 173501 | 169465 | 166620 | 159650 | 147980 | 144966 | 140507 | 129496 | 123814 | 120485 |
| Others | 118595 | 100191 | 101210 | 104088 | 101672 | 100679 | 97480 | 90444 | 86630 | 84922 | 81227 | 76320 | 74779 |

5.3.4. PERCENTAGE DISTRIBUTION OF R&D PERSONNEL IN THE BUSINESS ENTERPRISE SECTOR BY OCCUPATION



5.3.5. SHARE OF THE BUSINESS ENTERPRISE SECTOR IN R&D PERSONNEL TOTAL BY OCCUPATION



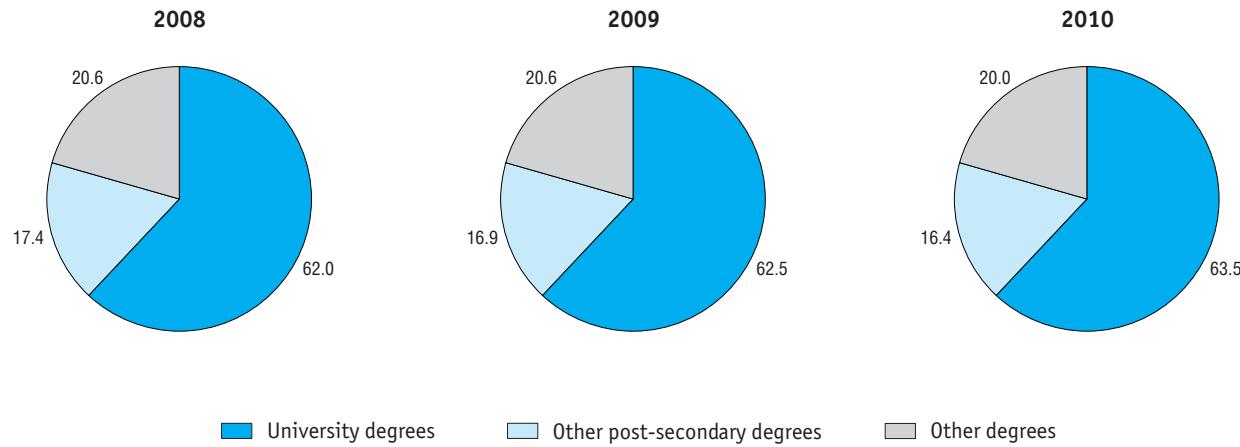
5.3.6. R&D PERSONNEL IN THE BUSINESS ENTERPRISE SECTOR BY QUALIFICATION
(head-count)

| | Total | University degrees | Other post-secondary degrees | Other degrees |
|--------------------------|--------|--------------------|------------------------------|---------------|
| R&D personnel | | | | |
| 2005 | 496706 | 288649 | 89265 | 118792 |
| 2007 | 478401 | 290728 | 84326 | 103347 |
| 2008 | 451532 | 280083 | 78622 | 92827 |
| 2009 | 432415 | 270449 | 73054 | 88912 |
| 2010 | 423112 | 268821 | 69552 | 84739 |
| Researchers | | | | |
| 2005 | 221445 | 221445 | – | – |
| 2007 | 219632 | 219632 | – | – |
| 2008 | 209579 | 209579 | – | – |
| 2009 | 201668 | 201668 | – | – |
| 2010 | 197785 | 197785 | – | – |
| Technicians | | | | |
| 2005 | 36837 | 6274 | 21435 | 9130 |
| 2007 | 33340 | 7084 | 18721 | 7535 |
| 2008 | 31230 | 6421 | 17338 | 7471 |
| 2009 | 30613 | 7261 | 15924 | 7428 |
| 2010 | 30063 | 7842 | 15051 | 7170 |

(continued)

| | Total | University degrees | Other post-secondary degrees | Other degrees |
|-------------------------|--------|--------------------|------------------------------|---------------|
| Supporting staff | | | | |
| 2005 | 147980 | 37101 | 42099 | 68780 |
| 2007 | 140507 | 39503 | 41518 | 59486 |
| 2008 | 129496 | 39327 | 38116 | 52053 |
| 2009 | 123814 | 38134 | 35605 | 50075 |
| 2010 | 120485 | 38988 | 33362 | 48135 |
| Others | | | | |
| 2005 | 90444 | 23829 | 25733 | 40882 |
| 2007 | 84922 | 24509 | 24087 | 36326 |
| 2008 | 81227 | 24756 | 23168 | 33303 |
| 2009 | 76320 | 23386 | 21525 | 31409 |
| 2010 | 74779 | 24206 | 21139 | 29434 |

**5.3.7. PERCENTAGE DISTRIBUTION OF R&D PERSONNEL IN THE BUSINESS ENTERPRISE SECTOR
BY QUALIFICATION**

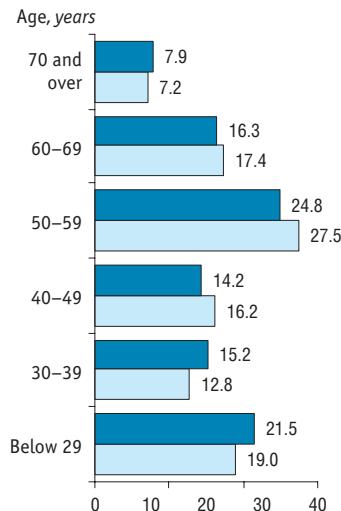


5.3.8. RESEARCHERS IN THE BUSINESS ENTERPRISE SECTOR BY GENDER AND AGE
(head-count)

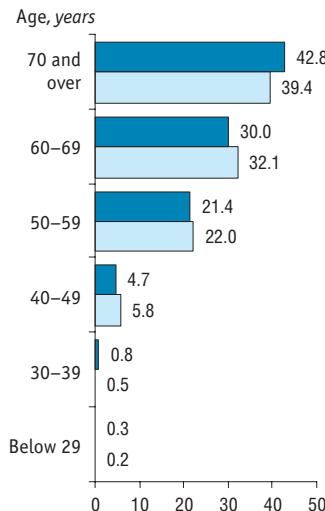
| | 2008 | | | 2010 | | |
|--------------|---------------|--------------------|-----------------------|---------------|--------------------|-----------------------|
| | Researchers | Of whom | | Researchers | Of whom | |
| | | doctors of science | candidates of science | | doctors of science | candidates of science |
| Total | 209579 | 4284 | 20560 | 197785 | 3987 | 19182 |
| Age, years: | | | | | | |
| Below 29 | 39743 | 8 | 522 | 42600 | 11 | 651 |
| 30–39 | 26840 | 21 | 1845 | 30058 | 33 | 2189 |
| 40–49 | 33992 | 250 | 2234 | 28071 | 187 | 1979 |
| 50–59 | 57581 | 941 | 5658 | 49104 | 854 | 4872 |
| 60–69 | 36400 | 1375 | 6113 | 32279 | 1196 | 5158 |
| 70 and over | 15023 | 1689 | 4188 | 15673 | 1706 | 4333 |
| Male | 125997 | 3905 | 16502 | 120440 | 3633 | 15297 |
| Age, years: | | | | | | |
| Below 29 | 25365 | 7 | 397 | 27174 | 11 | 490 |
| 30–39 | 16324 | 17 | 1303 | 18867 | 27 | 1568 |
| 40–49 | 17239 | 220 | 1676 | 14411 | 166 | 1432 |
| 50–59 | 31388 | 826 | 4484 | 27010 | 741 | 3870 |
| 60–69 | 23519 | 1276 | 5109 | 20542 | 1105 | 4299 |
| 70 and over | 12162 | 1559 | 3533 | 12436 | 1583 | 3638 |
| Female | 83582 | 379 | 4058 | 77345 | 354 | 3885 |
| Age, years: | | | | | | |
| Below 29 | 14 378 | 1 | 125 | 15426 | – | 161 |
| 30–39 | 10516 | 4 | 542 | 11191 | 6 | 621 |
| 40–49 | 16753 | 30 | 558 | 13660 | 21 | 547 |
| 50–59 | 26193 | 115 | 1174 | 22094 | 113 | 1002 |
| 60–69 | 12881 | 99 | 1004 | 11737 | 91 | 859 |
| 70 and over | 2861 | 130 | 655 | 3237 | 123 | 695 |

5.3.9. PERCENTAGE DISTRIBUTION OF RESEARCHERS IN THE BUSINESS ENTERPRISE SECTOR BY AGE

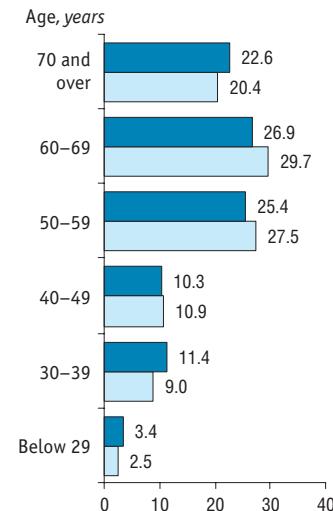
Researchers – total



Doctors of science

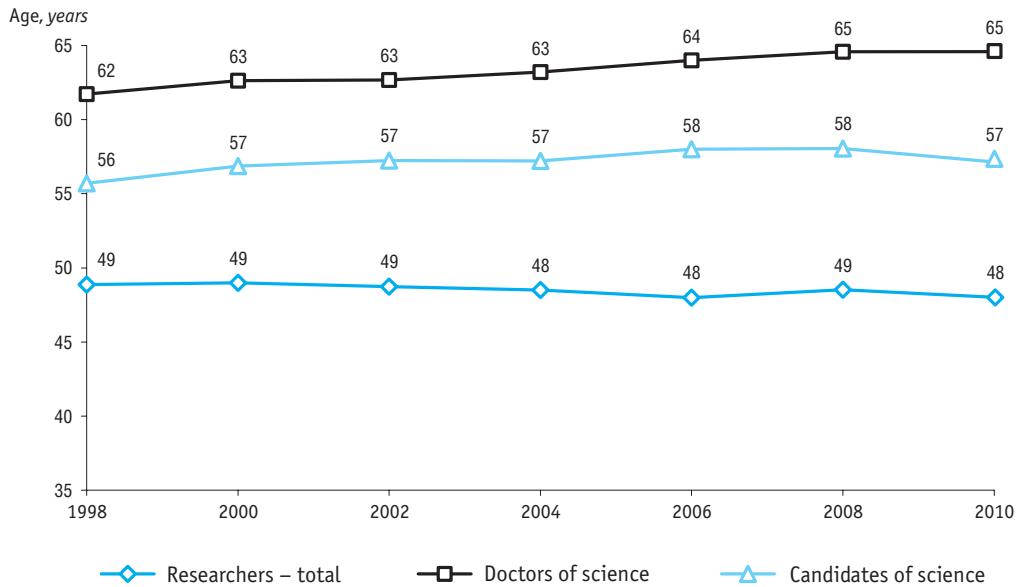


Candidates of science



■ 2008 ■ 2010

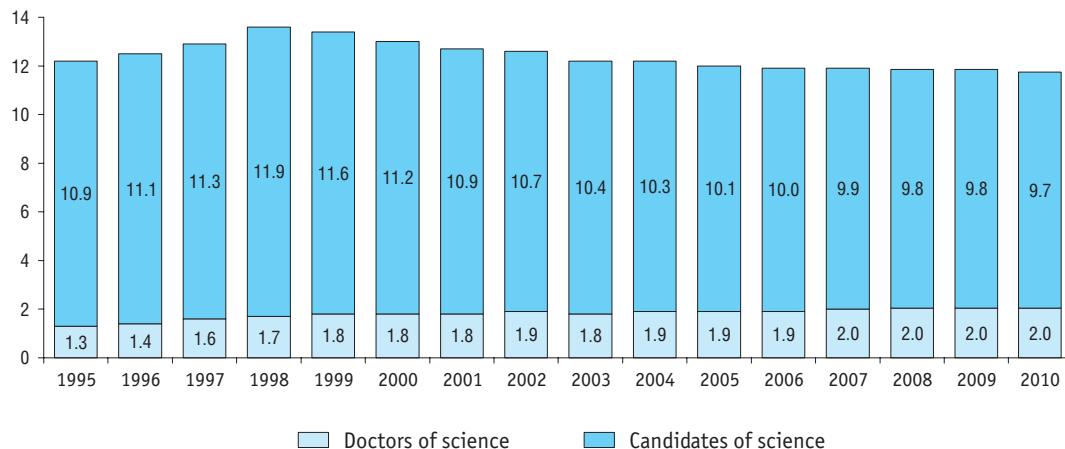
5.3.10. AVERAGE AGE OF RESEARCHERS IN THE BUSINESS ENTERPRISE SECTOR



5.3.11. RESEARCHERS WITH SCIENTIFIC DEGREES IN THE BUSINESS ENTERPRISE SECTOR
(head-count)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Researchers with scientific degrees | 41207 | 35057 | 34775 | 33313 | 31732 | 30507 | 29048 | 26661 | 25958 | 26257 | 24844 | 23861 | 23169 |
| Doctors of science | 4348 | 4496 | 4806 | 4750 | 4691 | 4583 | 4511 | 4222 | 4108 | 4446 | 4284 | 4093 | 3987 |
| Candidates of science | 36859 | 30561 | 29969 | 28563 | 27041 | 25924 | 24537 | 22439 | 21850 | 21811 | 20560 | 19768 | 19182 |

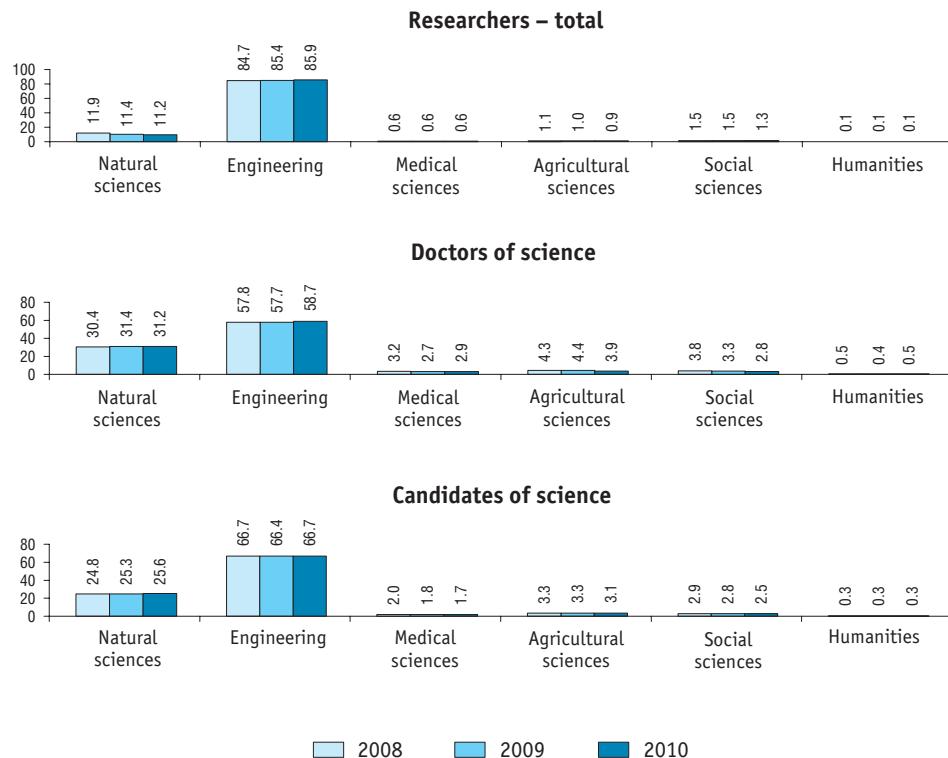
**5.3.12. RESEARCHERS WITH SCIENTIFIC DEGREES AS A PER CENT OF THE NUMBER OF RESEARCHERS
 IN THE BUSINESS ENTERPRISE SECTOR**



5.3.13. RESEARCHERS IN THE BUSINESS ENTERPRISE SECTOR BY FIELD OF SCIENCE AND TECHNOLOGY
(head-count)

| | 2007 | | | 2008 | | | 2009 | | | 2010 | | |
|-----------------------|---------------|-----------------------|--------------------------|---------------|-----------------------|--------------------------|---------------|-----------------------|--------------------------|---------------|-----------------------|--------------------------|
| | Researchers | Of whom | | Researchers | Of whom | | Researchers | Of whom | | Researchers | Of whom | |
| | | doctors of science | candidates of science |
| Total | 219632 | 4446 | 21811 | 209579 | 4284 | 20560 | 201668 | 4093 | 19768 | 197785 | 3987 | 19182 |
| Natural sciences | 25767 | 1376 | 5349 | 25014 | 1301 | 5106 | 22991 | 1286 | 5011 | 22188 | 1244 | 4915 |
| Engineering | 186577 | 2572 | 14626 | 177503 | 2478 | 13712 | 172166 | 2363 | 13124 | 169887 | 2342 | 12793 |
| Medical sciences | 1461 | 133 | 435 | 1353 | 139 | 413 | 1151 | 112 | 356 | 1100 | 115 | 335 |
| Agricultural sciences | 2238 | 186 | 717 | 2401 | 185 | 685 | 2115 | 179 | 657 | 1692 | 155 | 596 |
| Social sciences | 3261 | 162 | 640 | 3109 | 161 | 587 | 3023 | 136 | 563 | 2639 | 112 | 484 |
| Humanities | 328 | 17 | 44 | 199 | 20 | 57 | 222 | 17 | 57 | 279 | 19 | 59 |

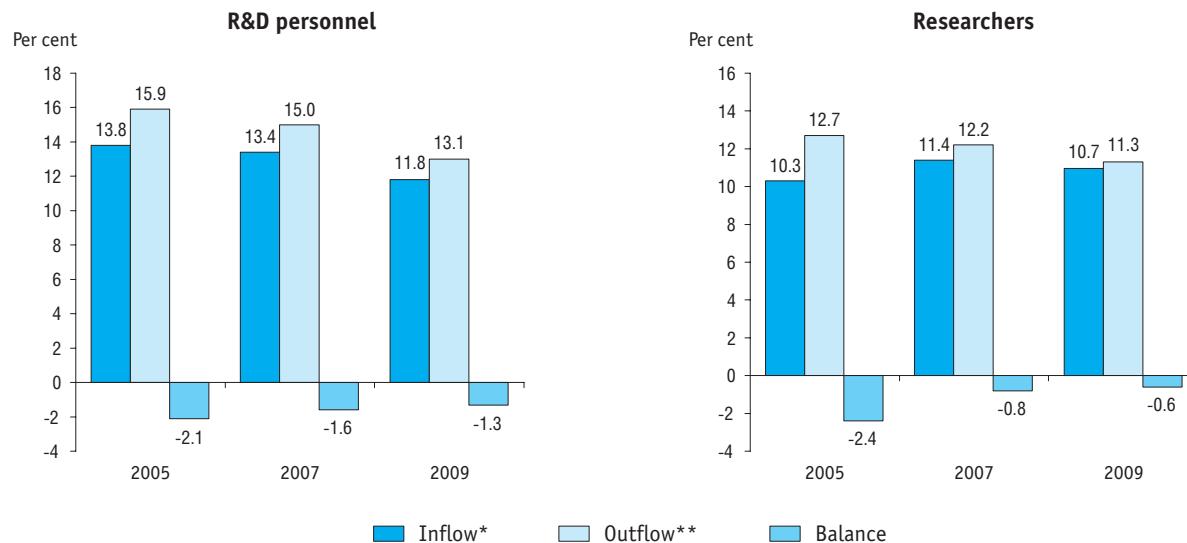
5.3.14. PERCENTAGE DISTRIBUTION OF RESEARCHERS IN THE BUSINESS ENTERPRISE SECTOR BY FIELD OF SCIENCE AND TECHNOLOGY



**5.3.15. FLOWS OF R&D PERSONNEL IN THE BUSINESS ENTERPRISE SECTOR BY OCCUPATION
(head-count)**

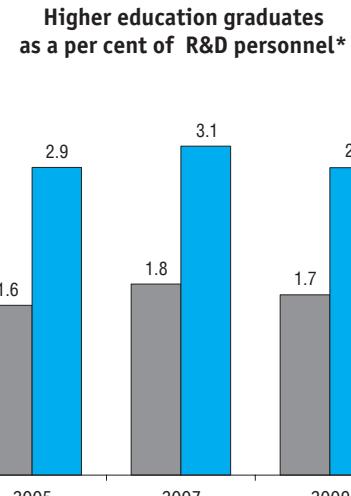
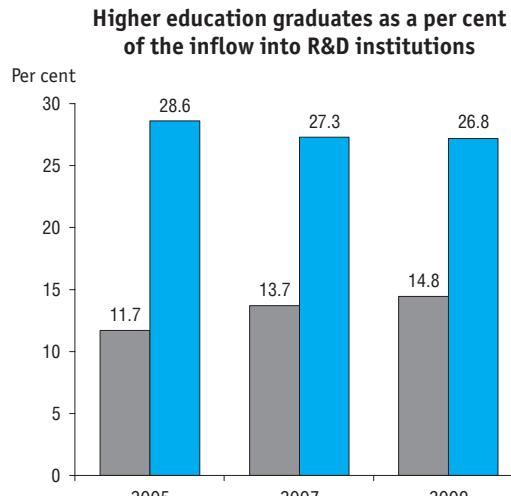
| | Number at the beginning of the reference year | Inflow | | | | Outflow | | | | Number at the end of the reference year |
|----------------------------|---|--------|--|--------------------------------|--------|---------|-------------------|------------------------|--------|---|
| | | Total | Graduates from higher education institutions | From other research institutes | Others | Total | At own initiative | Due to staff reduction | Others | |
| Total | | | | | | | | | | |
| 2003 | 567108 | 78495 | 8884 | 12739 | 56872 | 86935 | 58500 | 5157 | 23278 | 558668 |
| 2005 | 508840 | 68528 | 8027 | 8756 | 51745 | 80662 | 52534 | 5722 | 22406 | 496706 |
| 2007 | 487421 | 64128 | 8812 | 12072 | 43244 | 73148 | 49134 | 2861 | 21153 | 478401 |
| 2009 | 438982 | 50863 | 7550 | 7328 | 35985 | 57430 | 34540 | 3916 | 18974 | 432415 |
| Researchers | | | | | | | | | | |
| 2003 | 251057 | 27053 | 6993 | 6977 | 13083 | 29839 | 20282 | 2116 | 7441 | 248232 |
| 2005 | 227397 | 22807 | 6529 | 5028 | 11250 | 28822 | 19496 | 2053 | 7273 | 221445 |
| 2007 | 221436 | 24998 | 6817 | 6798 | 11383 | 27067 | 18943 | 1338 | 6786 | 219632 |
| 2009 | 202994 | 21522 | 5776 | 4501 | 11245 | 22979 | 14360 | 1615 | 7004 | 201668 |
| Technicians | | | | | | | | | | |
| 2003 | 44034 | 6530 | 376 | 992 | 5162 | 7465 | 4741 | 626 | 2098 | 43137 |
| 2005 | 38078 | 5739 | 301 | 729 | 4709 | 6965 | 4347 | 388 | 2230 | 36837 |
| 2007 | 34111 | 6873 | 577 | 1188 | 5108 | 7523 | 4741 | 205 | 2577 | 33340 |
| 2009 | 31615 | 4586 | 319 | 612 | 3655 | 5511 | 3243 | 365 | 1903 | 30613 |
| Supporting and other staff | | | | | | | | | | |
| 2003 | 272019 | 44912 | 1515 | 4770 | 38627 | 49631 | 33477 | 2415 | 13739 | 267301 |
| 2005 | 243365 | 39982 | 1197 | 2999 | 35786 | 44875 | 28691 | 3281 | 12903 | 238424 |
| 2007 | 231874 | 32257 | 1418 | 4086 | 26753 | 38558 | 25450 | 1318 | 11790 | 225429 |
| 2009 | 204373 | 24755 | 1455 | 2215 | 21085 | 28940 | 16937 | 1936 | 10067 | 200134 |

5.3.16. INFLOW AND OUTFLOW OF R&D PERSONNEL IN THE BUSINESS ENTERPRISE SECTOR



* Ratio of the admitted during the year to the number of employees at the end of the year.

** Ratio of the leaved during the year to the number of employees at the beginning of the year.

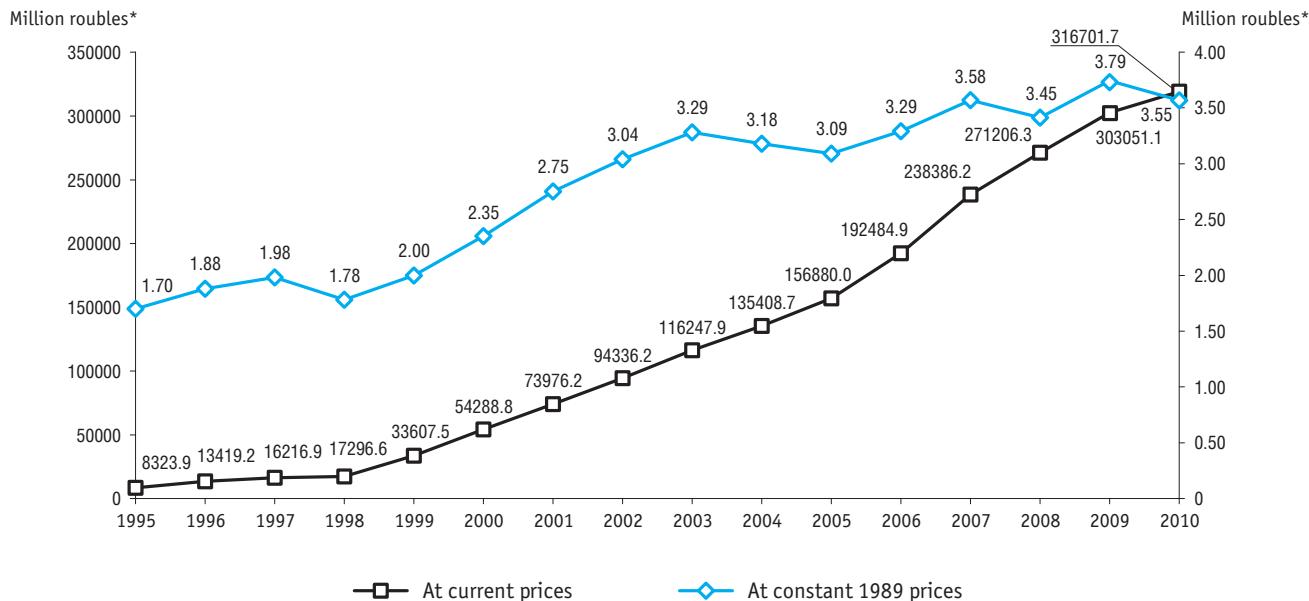
5.3.17. INFLOW OF HIGHER EDUCATION GRADUATES INTO R&D INSTITUTIONS IN THE BUSINESS ENTERPRISE SECTOR

* Ratio of the higher education graduates admitted during the year to the number of employees at the end of the year.

5.3.18. GROSS DOMESTIC EXPENDITURE ON R&D IN THE BUSINESS ENTERPRISE SECTOR BY TYPE OF INSTITUTIONS
(thousand roubles, before 1998 – million roubles)

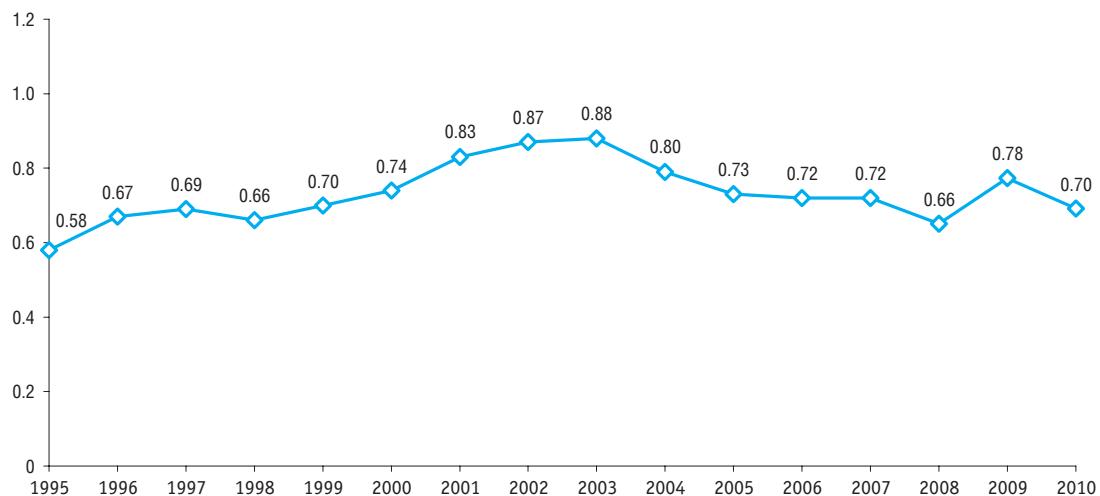
| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Total | 8323907.6 | 54288781.4 | 73976244.8 | 94336248.9 | 116247853.0 | 135408690.9 | 156880029.0 | 192484851.0 | 238386207.4 | 271206280.5 | 303051131.5 | 316701679.9 |
| Research institutes | 4981890.4 | 31145022.1 | 37403001.4 | 46811497.5 | 58275477.7 | 67183746.7 | 79303185.8 | 87694068.9 | 104244210.6 | 126680440.5 | 135958941.4 | 149370680.2 |
| Design organisations | 2091275.3 | 13115444.7 | 24174463.9 | 32045676.3 | 38768164.1 | 46431191.8 | 51857668.0 | 68538930.7 | 82256666.5 | 91233658.1 | 109741372.9 | 99778643.7 |
| Construction project and exploration organisations | 210405.0 | 539721.1 | 779170.3 | 1081683.0 | 1224857.0 | 1448869.6 | 1604470.7 | 2165860.5 | 3639681.6 | 4511306.2 | 4491565.7 | 3690958.0 |
| Industrial enterprises | 815663.2 | 4726082.4 | 7001759.8 | 7931250.3 | 9880332.9 | 11397153.2 | 12633435.9 | 22467177.6 | 25337067.8 | 23918615.0 | 26940377.2 | 32838780.9 |
| Experimental enterprises | 119136.5 | 294581.2 | 874652.4 | 1535742.6 | 1937090.8 | 1814605.3 | 150835.5 | 2774519.1 | 851914.6 | 331824.8 | 392760.1 | 398159.1 |
| Others | 105537.2 | 4467929.9 | 3743197.0 | 4930399.2 | 6161930.5 | 7133124.3 | 11330433.1 | 8844294.2 | 22056666.3 | 24530435.9 | 25526114.2 | 30624458.0 |

5.3.19. GROSS DOMESTIC EXPENDITURE ON R&D IN THE BUSINESS ENTERPRISE SECTOR



* Before 1998 – billion roubles.

**5.3.20. GROSS DOMESTIC EXPENDITURE ON R&D IN THE BUSINESS ENTERPRISE SECTOR AS A PER CENT
OF GROSS DOMESTIC PRODUCT**



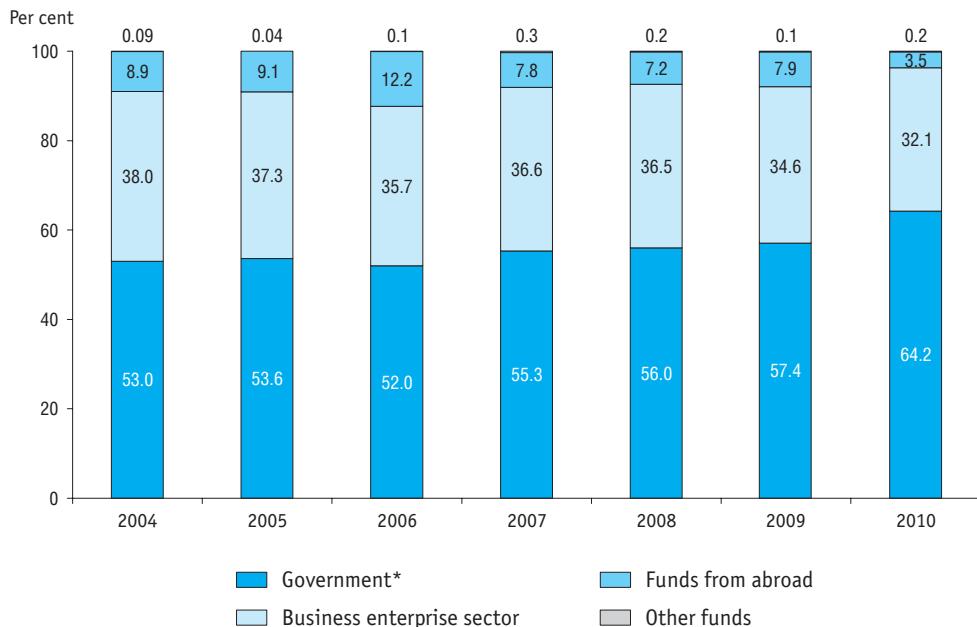
5.3.21. GROSS DOMESTIC EXPENDITURE ON R&D IN THE BUSINESS ENTERPRISE SECTOR BY SOURCE OF FUNDS

| | Total | Government* | Business enterprise sector | Higher education sector | Private non-profit sector | Funds from abroad |
|---|-------------|-------------|----------------------------|-------------------------|---------------------------|-------------------|
| At current prices, thousand roubles, before 1998 – million roubles | | | | | | |
| 1995 | 8323907.6 | 4256825.1 | 3639140.1 | 822.4 | 486.8 | 426633.2 |
| 1999 | 33607489.7 | 13697956.3 | 13224149.8 | 13190.2 | 11300.2 | 6660893.2 |
| 2000 | 54288781.4 | 24674880.5 | 22199361.6 | 23662.7 | 18968.0 | 7371908.6 |
| 2001 | 73976244.8 | 36274467.0 | 30729121.5 | 46348.3 | 149323.7 | 6776984.3 |
| 2002 | 94336248.9 | 47710158.8 | 38602812.7 | 28047.5 | 63017.2 | 7932212.7 |
| 2003 | 116247853.0 | 59896801.9 | 44401742.9 | 77901.7 | 204665.7 | 11666740.8 |
| 2004 | 135408690.9 | 71716243.4 | 51502628.6 | 46246.5 | 71105.3 | 12072467.1 |
| 2005 | 156880029.0 | 84032725.4 | 58460580.8 | 46809.5 | 14570.8 | 14325342.5 |
| 2006 | 192484851.0 | 100122872.7 | 68769254.4 | 34681.0 | 160678.6 | 23397364.3 |
| 2007 | 238386207.4 | 131768069.7 | 87352197.2 | 616853.5 | 163906.9 | 18485180.1 |
| 2008 | 271206280.5 | 151975682.0 | 99123835.8 | 43931.1 | 468252.7 | 19594578.9 |
| 2009 | 303051131.5 | 173872629.4 | 104955691.5 | 60958.8 | 238908.1 | 23922943.7 |
| 2010 | 316701679.9 | 203267110.6 | 101760706.5 | 75409.3 | 427247.1 | 11171206.4 |

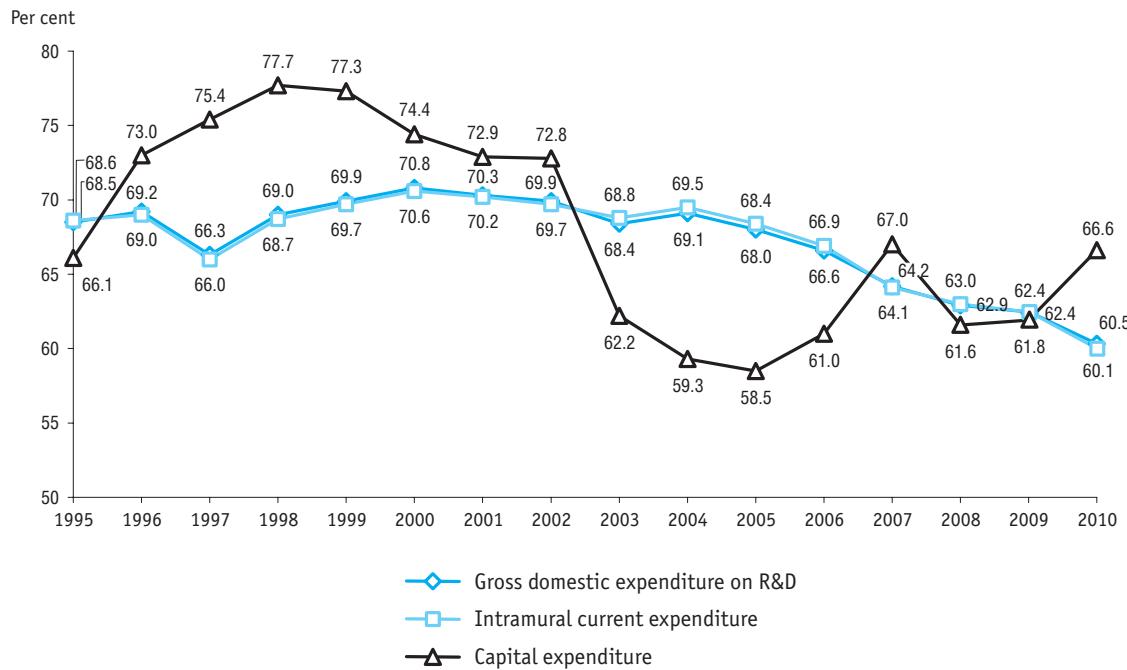
(continued)

| | Total | Government* | Business enterprise sector | Higher education sector | Private non-profit sector | Funds from abroad |
|-----------------|-------|-------------|----------------------------|-------------------------|---------------------------|-------------------|
| Per cent | | | | | | |
| 1995 | 100 | 51.1 | 43.7 | 0.01 | 0.01 | 5.1 |
| 1999 | 100 | 40.8 | 39.3 | 0.04 | 0.03 | 19.8 |
| 2000 | 100 | 45.5 | 40.9 | 0.04 | 0.03 | 13.6 |
| 2001 | 100 | 49.0 | 41.5 | 0.06 | 0.2 | 9.2 |
| 2002 | 100 | 50.6 | 40.9 | 0.03 | 0.07 | 8.4 |
| 2003 | 100 | 51.5 | 38.2 | 0.07 | 0.2 | 10.0 |
| 2004 | 100 | 53.0 | 38.0 | 0.03 | 0.05 | 8.9 |
| 2005 | 100 | 53.6 | 37.3 | 0.03 | 0.01 | 9.1 |
| 2006 | 100 | 52.0 | 35.7 | 0.02 | 0.08 | 12.2 |
| 2007 | 100 | 55.3 | 36.6 | 0.3 | 0.07 | 7.8 |
| 2008 | 100 | 56.0 | 36.5 | 0.02 | 0.2 | 7.2 |
| 2009 | 100 | 57.4 | 34.6 | 0.02 | 0.08 | 7.9 |
| 2010 | 100 | 64.2 | 32.1 | 0.02 | 0.1 | 3.5 |

* Including federal budget appropriations and government sector institutions' funds.

5.3.22. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D IN THE BUSINESS ENTERPRISE SECTOR BY SOURCE OF FUNDS

**5.3.23. SHARE OF THE BUSINESS ENTERPRISE SECTOR IN GROSS DOMESTIC EXPENDITURE ON R&D
BY TYPE OF COSTS**



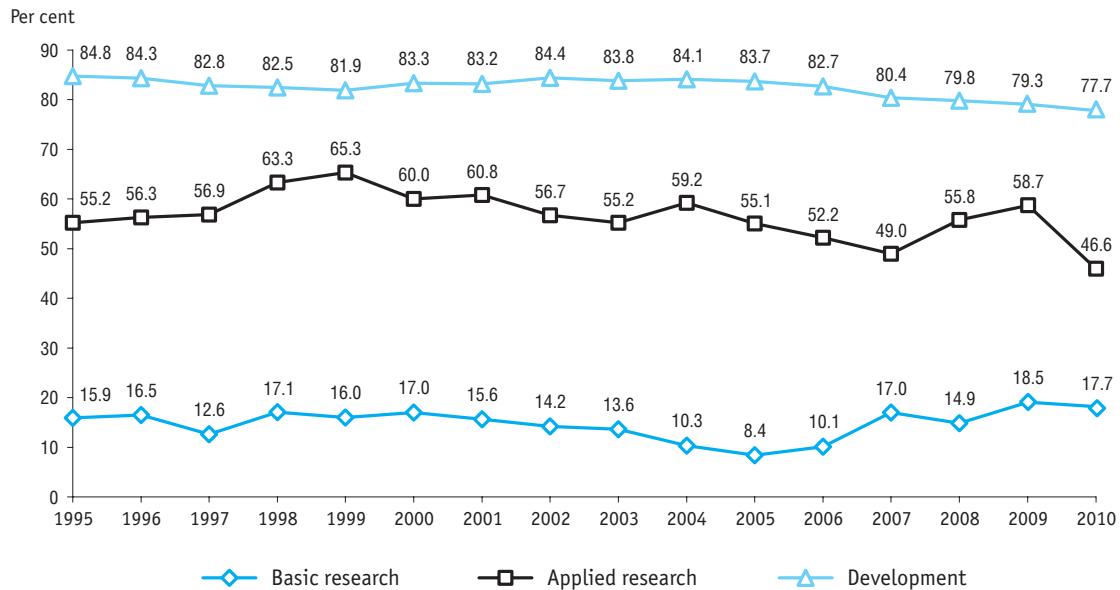
5.3.24. GROSS DOMESTIC EXPENDITURE ON R&D IN THE BUSINESS ENTERPRISE SECTOR BY TYPE OF COSTS
(thousand roubles)

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Gross domestic expenditure on R&D | 135408690.9 | 156880029.0 | 192484851.0 | 238386207.4 | 271206280.5 | 303051131.5 | 316701679.9 |
| Intramural current expenditure | 130171320.1 | 151228693.6 | 185760345.8 | 226211577.7 | 258764246.7 | 287718749.5 | 294103827.7 |
| Wages | 52646158.3 | 61762384.5 | 75288900.0 | 94546726.5 | 111090128.0 | 121823001.2 | 134771346.7 |
| Of which for R&D personnel* | 47991845.2 | 56579998.4 | 67605888.7 | 85564972.1 | 101472026.7 | 108594895.7 | 123576290.3 |
| Social security payments | 15377797.6 | 14652167.0 | 17810664.5 | 20370585.9 | 22451593.2 | 23934238.6 | 26089246.1 |
| Equipment | 4372075.5 | 5919453.8 | 7148336.2 | 8008224.5 | 7747615.5 | 7583666.7 | 9955224.5 |
| Fixed assets | 1506197.5 | 1630251.3 | 1804291.3 | 2088479.7 | 2159968.1 | 1799862.2 | 1879198.4 |
| Other material costs | 34724310.0 | 39963918.4 | 52156070.8 | 62599553.1 | 52972903.9 | 67227503.5 | 63367540.7 |
| Other current costs | 23050978.7 | 28930769.9 | 33356374.3 | 40686487.7 | 64502006.1 | 67150339.5 | 59920469.7 |
| Capital expenditure | 5237370.8 | 5651335.4 | 6724505.2 | 12174629.7 | 12442033.8 | 15332382.0 | 22597852.2 |
| Land and buildings | 934316.4 | 1208092.5 | 1215824.4 | 3052930.6 | 4802602.2 | 3483317.9 | 4950198.0 |
| Equipment | 3283327.6 | 3228403.1 | 4372646.7 | 7538427.3 | 5483899.3 | 9546423.9 | 14167838.2 |
| Other capital expenditure | 1019726.8 | 1214839.8 | 1136034.1 | 1583271.8 | 2155532.3 | 2302640.2 | 3479816.0 |

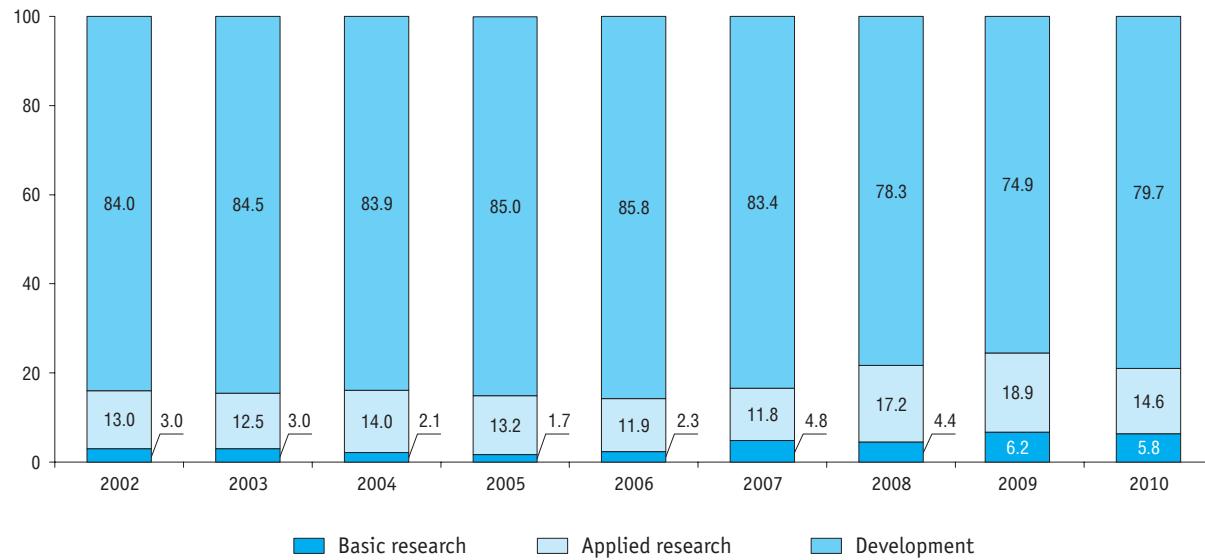
* Excluding those employed on a plural basis and under contracts.

**5.3.25. INTRAMURAL CURRENT EXPENDITURE ON R&D IN THE BUSINESS ENTERPRISE SECTOR BY TYPE OF ACTIVITY
AND FIELD OF SCIENCE AND TECHNOLOGY**
(thousand roubles)

| | Total | Natural sciences | Engineering | Medical sciences | Agricultural sciences | Social sciences | Humanities |
|--|--------------------|-------------------|--------------------|------------------|-----------------------|-------------------|-----------------|
| 2005 | | | | | | | |
| Intramural current expenditure on R&D | 151228693.6 | 10041430.0 | 138455122.3 | 450558.6 | 1020195.6 | 1212995.6 | 48391.5 |
| Basic research | 2591506.7 | 1025517.8 | 1205156.9 | 53282.5 | 236864.8 | 47440.2 | 23244.5 |
| Applied research | 20026408.8 | 5053993.0 | 13842212.4 | 184566.8 | 446665.3 | 489579.6 | 9391.7 |
| Development | 128610778.1 | 3961919.2 | 123407753.0 | 212709.3 | 336665.5 | 675975.8 | 15755.3 |
| 2007 | | | | | | | |
| Intramural current expenditure on R&D | 226211577.7 | 18316022.9 | 203532975.0 | 1034401.0 | 1248779.3 | 1 897619.3 | 181780.2 |
| Basic research | 10778877.0 | 4319591.9 | 5617507.8 | 375091.8 | 277513.9 | 144081.0 | 45090.6 |
| Applied research | 26694911.0 | 7211623.9 | 17688794.0 | 396818.8 | 394510.1 | 996146.5 | 7017.7 |
| Development | 188737789.7 | 6784807.1 | 180226673.2 | 262490.4 | 576755.3 | 757391.8 | 129671.9 |
| 2008 | | | | | | | |
| Intramural current expenditure on R&D | 258764246.7 | 21350501.0 | 232356587.9 | 1490639.1 | 1288264.0 | 2151909.4 | 126345.3 |
| Basic research | 11469378.1 | 5040603.5 | 5354137.7 | 487363.8 | 334384.0 | 165460.5 | 87428.6 |
| Applied research | 44593566.0 | 7377921.4 | 34628799.5 | 710801.7 | 381602.2 | 1472269.1 | 22172.1 |
| Development | 202701302.6 | 8931976.1 | 192373650.7 | 292473.6 | 572277.8 | 514179.8 | 16744.6 |
| 2009 | | | | | | | |
| Intramural current expenditure on R&D | 287718749.5 | 21492695.7 | 261038294.2 | 1717172.2 | 1311911.1 | 2073906.1 | 84770.2 |
| Basic research | 17916877.3 | 4293227.7 | 12035394.7 | 701941.7 | 435204.8 | 388611.6 | 62496.8 |
| Applied research | 54351166.0 | 8391664.3 | 43885932.6 | 789544.3 | 277117.5 | 1005033.0 | 1874.3 |
| Development | 215450706.2 | 8807803.7 | 205116966.9 | 225686.2 | 599588.8 | 680261.5 | 20399.1 |
| 2010 | | | | | | | |
| Intramural current expenditure on R&D | 294103827.7 | 26739368.2 | 261926531.0 | 1507276.1 | 1288239.2 | 2550402.8 | 92010.4 |
| Basic research | 16935403.4 | 3875649.0 | 11521941.3 | 565100.5 | 441953.0 | 467877.0 | 62882.6 |
| Applied research | 42872394.0 | 10638493.8 | 29871209.5 | 595697.1 | 321868.8 | 1436993.9 | 8130.9 |
| Development | 234296030.3 | 12225225.4 | 220533380.2 | 346478.5 | 524417.4 | 645531.9 | 20996.9 |

5.3.26. SHARE OF THE BUSINESS ENTERPRISE SECTOR IN INTRAMURAL CURRENT EXPENDITURE ON R&D BY TYPE OF ACTIVITY

5.3.27. PERCENTAGE DISTRIBUTION OF INTRAMURAL CURRENT EXPENDITURE ON R&D IN THE BUSINESS ENTERPRISE SECTOR BY TYPE OF ACTIVITY



5.3.28. AVERAGE MONTHLY SALARIES OF R&D PERSONNEL IN THE BUSINESS ENTERPRISE SECTOR

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|--------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|
| Average monthly salary, roubles, before 1998 – thousand roubles | 297.6 | 2519.9 | 3630.1 | 4893.6 | 6124.3 | 7525.0 | 9599.6 | 11744.8 | 15203.6 | 19345.3 | 21674.1 | 25359.7 |
| As a per cent of that: | | | | | | | | | | | | |
| in the national economy (=100%) | 63.0 | 113.3 | 112.0 | 112.2 | 111.4 | 111.7 | 112.2 | 110.4 | 111.8 | 111.9 | 116.3 | 121.0 |
| in manufacturing (=100%) | 64.9 | 106.5 | 105.3 | 110.2 | 109.3 | 109.9 | 114.0 | 115.2 | 118.1 | 120.5 | 130.7 | 132.9 |
| in construction (=100%) | 50.6 | 95.5 | 94.1 | 101.8 | 99.2 | 103.0 | 106.2 | 108.1 | 106.1 | 104.2 | 119.6 | 119.8 |

5.4. Higher Education Sector

5.4.1. R&D INSTITUTIONS IN THE HIGHER EDUCATION SECTOR BY TYPE

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Total | 511 | 531 | 526 | 529 | 531 | 526 | 533 | 539 | 540 | 616 | 603 | 603 | 617 |
| Universities and other higher education institutions | 395 | 393 | 390 | 388 | 390 | 393 | 402 | 406 | 417 | 500 | 503 | 506 | 517 |
| Research institutes | 88 | 104 | 107 | 111 | 113 | 108 | 106 | 109 | 106 | 95 | 80 | 78 | 71 |
| Design and construction project organisations | 18 | 21 | 19 | 19 | 17 | 17 | 17 | 17 | 14 | 12 | 11 | 11 | 11 |
| Experimental enterprises | 1 | 1 | 2 | 1 | 2 | – | 1 | – | – | 1 | 1 | 1 | 1 |
| Others | 9 | 12 | 8 | 10 | 9 | 8 | 7 | 7 | 3 | 8 | 8 | 7 | 17 |

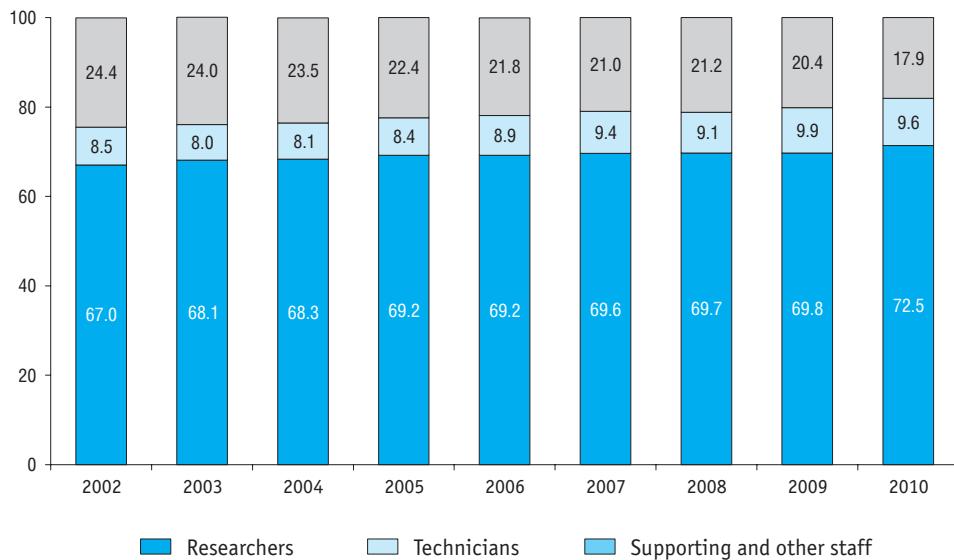
5.4.2. R&D PERSONNEL IN THE HIGHER EDUCATION SECTOR BY TYPE OF INSTITUTIONS
(head-count)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Total | 52065 | 41164 | 40787 | 43463 | 44135 | 43120 | 43414 | 43500 | 44473 | 49059 | 47595 | 48498 | 53290 |
| Universities and other higher education institutions | 40015 | 31457 | 31110 | 31149 | 31053 | 31774 | 32105 | 33942 | 35179 | 40440 | 40003 | 41767 | 46776 |
| Research institutes | 9458 | 7215 | 7254 | 9637 | 10313 | 8550 | 8565 | 7021 | 7294 | 6609 | 5522 | 4995 | 4796 |
| Design and construction project organisations | 2170 | 2157 | 2198 | 2302 | 2325 | 2306 | 2189 | 1991 | 1878 | 1843 | 1783 | 1446 | 1392 |
| Experimental enterprises | 23 | 5 | 4 | 4 | 15 | — | 15 | — | — | 2 | 1 | 2 | 2 |
| Others | 399 | 330 | 221 | 371 | 429 | 490 | 540 | 546 | 122 | 165 | 286 | 288 | 324 |

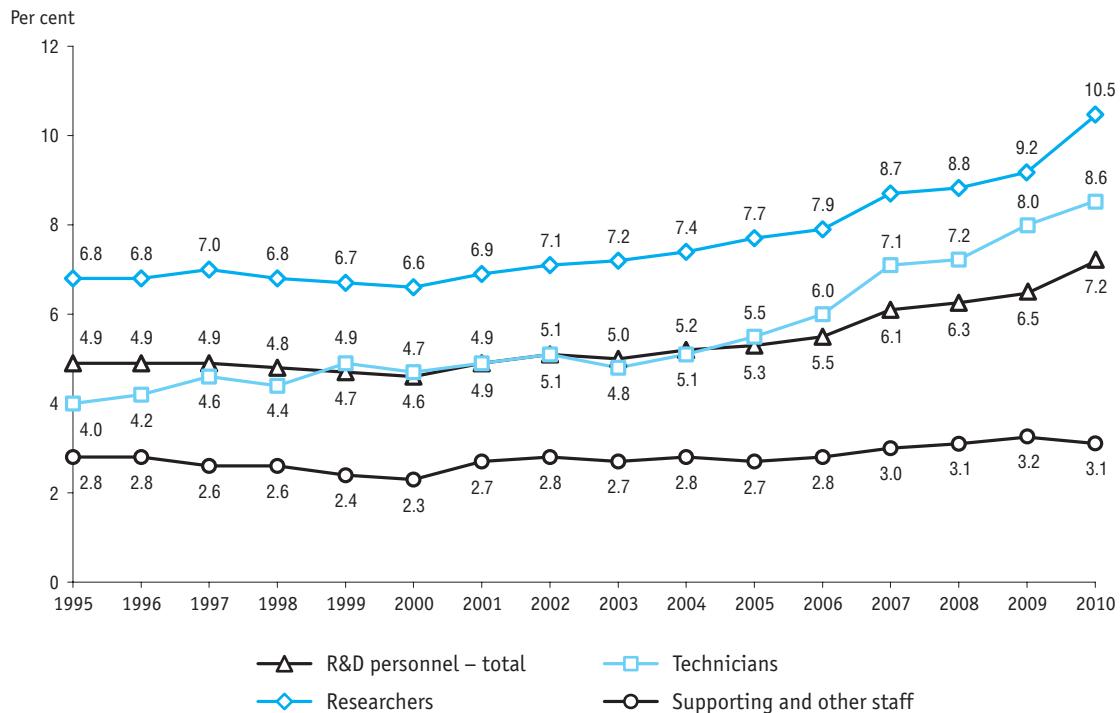
5.4.3. R&D PERSONNEL IN THE HIGHER EDUCATION SECTOR BY OCCUPATION
(head-count)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Total | 52065 | 41164 | 40787 | 43463 | 44135 | 43120 | 43414 | 43500 | 44473 | 49059 | 47595 | 48498 | 53290 |
| Researchers | 35508 | 28320 | 28325 | 29333 | 29583 | 29346 | 29670 | 30111 | 30793 | 34162 | 33160 | 33847 | 38640 |
| Technicians | 4010 | 3330 | 3509 | 3665 | 3771 | 3434 | 3534 | 3658 | 3972 | 4606 | 4349 | 4778 | 5095 |
| Supporting staff | 7520 | 6038 | 5463 | 6550 | 6717 | 6695 | 6607 | 6098 | 5945 | 6282 | 6520 | 6198 | 6564 |
| Other | 5027 | 3476 | 3490 | 3915 | 4064 | 3645 | 3603 | 3633 | 3763 | 4009 | 3566 | 3675 | 2991 |

5.4.4. PERCENTAGE DISTRIBUTION OF R&D PERSONNEL IN THE HIGHER EDUCATION SECTOR BY OCCUPATION



5.4.5. SHARE OF THE HIGHER EDUCATION SECTOR IN R&D PERSONNEL TOTAL BY OCCUPATION



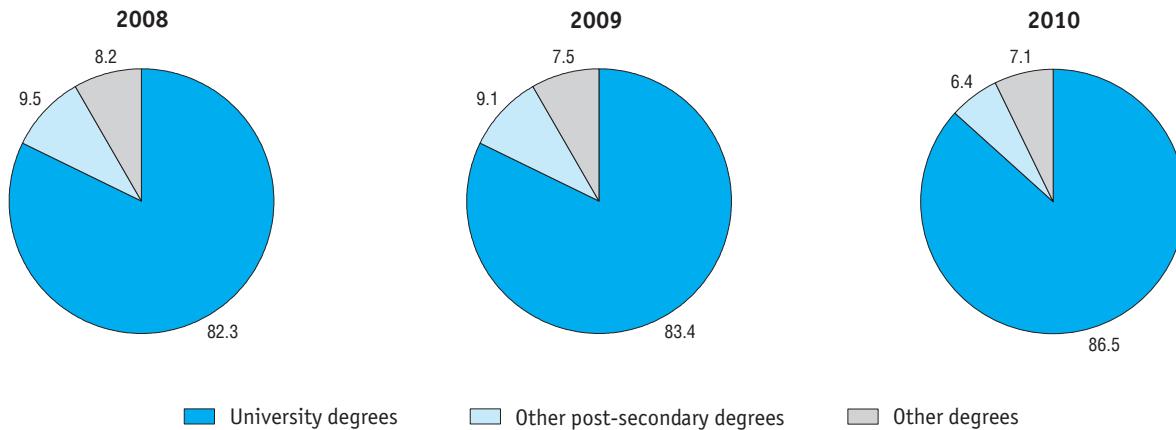
5.4.6. R&D PERSONNEL IN THE HIGHER EDUCATION SECTOR BY QUALIFICATION
(head-count)

| | Total | University degrees | Other post-secondary degrees | Other degrees |
|--------------------------|-------|--------------------|------------------------------|---------------|
| R&D personnel | | | | |
| 2005 | 43500 | 35159 | 4430 | 3911 |
| 2007 | 49059 | 40025 | 4723 | 4311 |
| 2008 | 47595 | 39160 | 4523 | 3912 |
| 2009 | 48498 | 40456 | 4424 | 3618 |
| 2010 | 53290 | 46112 | 3394 | 3784 |
| Researchers | | | | |
| 2005 | 30111 | 30111 | – | – |
| 2007 | 34162 | 34162 | – | – |
| 2008 | 33160 | 33160 | – | – |
| 2009 | 33847 | 33847 | – | – |
| 2010 | 38640 | 38640 | – | – |
| Technicians | | | | |
| 2005 | 3658 | 1079 | 2082 | 497 |
| 2007 | 4606 | 1442 | 2299 | 865 |
| 2008 | 4349 | 1471 | 2229 | 649 |
| 2009 | 4778 | 1861 | 2125 | 792 |
| 2010 | 5095 | 2460 | 1526 | 1109 |
| Supporting staff | | | | |
| 2005 | 6098 | 2758 | 1465 | 1875 |
| 2007 | 6282 | 3055 | 1529 | 1698 |
| 2008 | 6520 | 3316 | 1410 | 1794 |
| 2009 | 6198 | 3337 | 1357 | 1504 |
| 2010 | 6564 | 3695 | 1190 | 1679 |

(continued)

| | Total | University degrees | Other post-secondary degrees | Other degrees |
|--------|-------|--------------------|------------------------------|---------------|
| Others | | | | |
| 2005 | 3633 | 1211 | 883 | 1539 |
| 2007 | 4009 | 1366 | 895 | 1748 |
| 2008 | 3566 | 1213 | 884 | 1469 |
| 2009 | 3675 | 1411 | 942 | 1322 |
| 2010 | 2991 | 1317 | 678 | 996 |

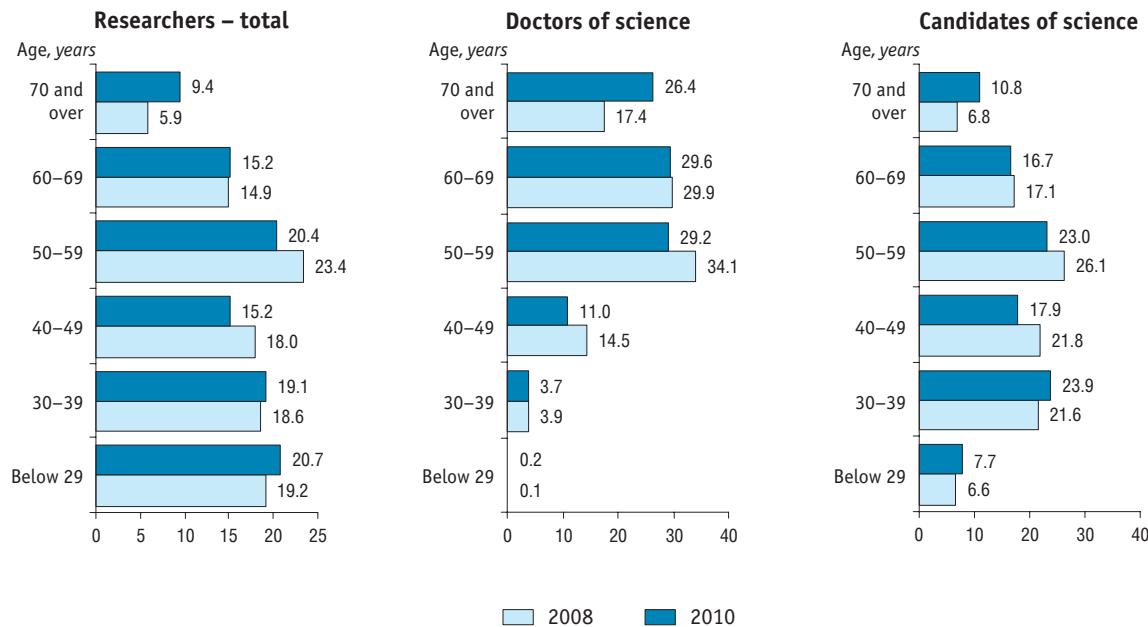
5.4.7. PERCENTAGE DISTRIBUTION OF R&D PERSONNEL IN THE HIGHER EDUCATION SECTOR BY QUALIFICATION



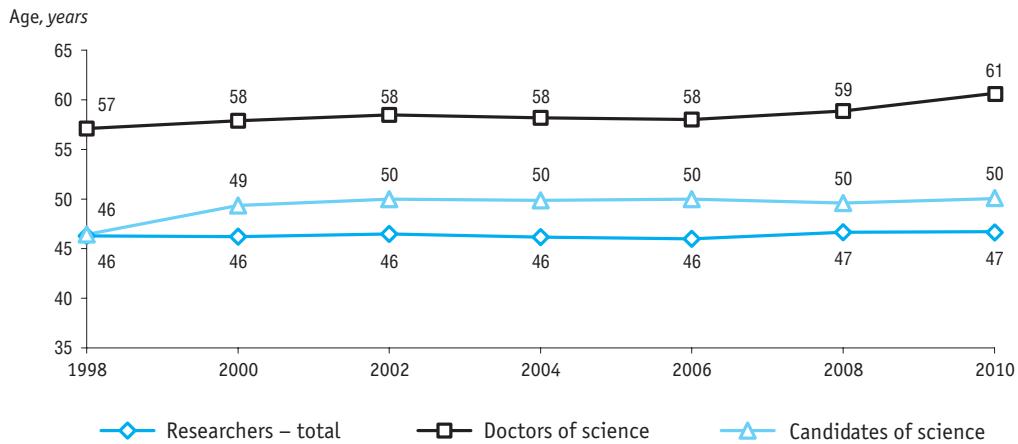
5.4.8. RESEARCHERS IN THE HIGHER EDUCATION SECTOR BY GENDER AND AGE
(head-count)

| | 2008 | | | 2010 | | |
|--------------|--------------|--------------------|-----------------------|--------------|--------------------|-----------------------|
| | Researchers | Of whom | | Researchers | Of whom | |
| | | doctors of science | candidates of science | | doctors of science | candidates of science |
| Total | 33160 | 3439 | 12040 | 38640 | 5068 | 15355 |
| Age, years: | | | | | | |
| below 29 | 6379 | 4 | 792 | 8003 | 9 | 1186 |
| 30–39 | 6164 | 133 | 2606 | 7392 | 188 | 3667 |
| 40–49 | 5964 | 499 | 2619 | 5862 | 555 | 2751 |
| 50–59 | 7759 | 1174 | 3147 | 7888 | 1481 | 3529 |
| 60–69 | 4937 | 1029 | 2055 | 5870 | 1498 | 2560 |
| 70 and over | 1957 | 600 | 821 | 3625 | 1337 | 1662 |
| Male | 19506 | 2538 | 6770 | 21526 | 3788 | 8220 |
| Age, years: | | | | | | |
| below 29 | 4055 | 3 | 448 | 4849 | 8 | 732 |
| 30–39 | 3284 | 94 | 1353 | 3754 | 141 | 1952 |
| 40–49 | 3298 | 349 | 1412 | 2996 | 367 | 1401 |
| 50–59 | 4575 | 834 | 1837 | 4169 | 1055 | 1817 |
| 60–69 | 3063 | 791 | 1205 | 3512 | 1200 | 1470 |
| 70 and over | 1231 | 467 | 515 | 2246 | 1017 | 848 |
| Female | 13654 | 901 | 5270 | 17114 | 1280 | 7135 |
| Age, years: | | | | | | |
| below 29 | 2324 | 1 | 344 | 3154 | 1 | 454 |
| 30–39 | 2880 | 39 | 1253 | 3638 | 47 | 1715 |
| 40–49 | 2666 | 150 | 1207 | 2866 | 188 | 1350 |
| 50–59 | 3184 | 340 | 1310 | 3719 | 426 | 1712 |
| 60–69 | 1874 | 238 | 850 | 2358 | 298 | 1090 |
| 70 and over | 726 | 133 | 306 | 1379 | 320 | 814 |

5.4.9. PERCENTAGE DISTRIBUTION OF RESEARCHERS IN THE HIGHER EDUCATION SECTOR BY AGE

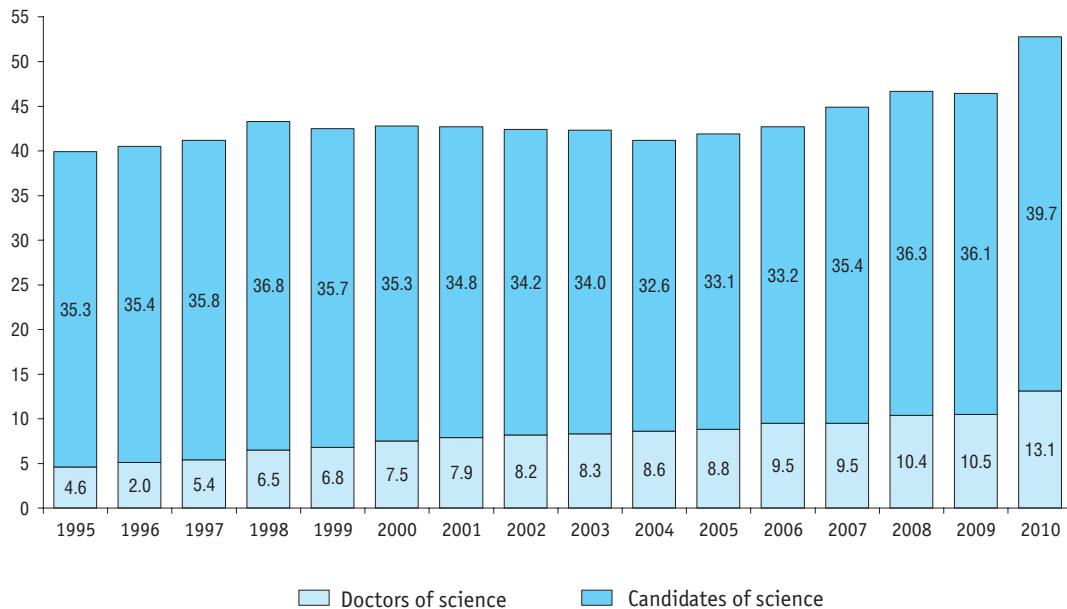


5.4.10. AVERAGE AGE OF RESEARCHERS IN THE HIGHER EDUCATION SECTOR

5.4.11. RESEARCHERS WITH SCIENTIFIC DEGREES IN THE HIGHER EDUCATION SECTOR
(head-count)

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Researchers with scientific degrees | 14162 | 12269 | 12113 | 12531 | 12530 | 12432 | 12212 | 12618 | 13153 | 15330 | 15479 | 15774 | 20423 |
| Doctors of science | 1617 | 1851 | 2120 | 2310 | 2425 | 2447 | 2538 | 2654 | 2924 | 3252 | 3439 | 3568 | 5068 |
| Candidates of science | 12545 | 10418 | 9993 | 10221 | 10105 | 9985 | 9674 | 9964 | 10229 | 12078 | 12040 | 12206 | 15355 |

5.4.12. RESEARCHERS WITH SCIENTIFIC DEGREES AS A PER CENT OF THE NUMBER OF RESEARCHERS IN THE HIGHER EDUCATION SECTOR

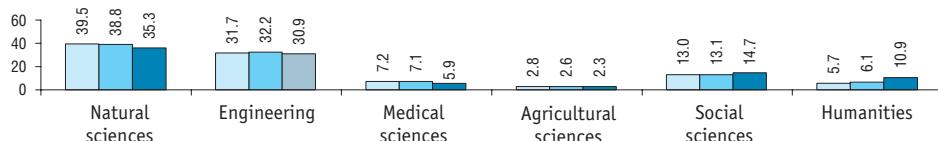


5.4.13. RESEARCHERS IN THE HIGHER EDUCATION SECTOR BY FIELD OF SCIENCE AND TECHNOLOGY
(head-count)

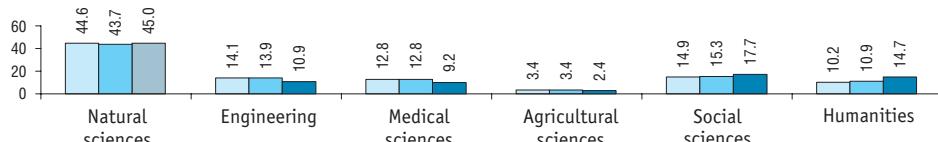
| | 2007 | | | 2008 | | | 2009 | | | 2010 | | |
|-----------------------|------------------|-----------------------|--------------------------|------------------|-----------------------|--------------------------|------------------|-----------------------|--------------------------|------------------|-----------------------|--------------------------|
| | Resear- chers | Of whom | | Resear- chers | Of whom | | Resear- chers | Of whom | | Resear- chers | Of whom | |
| | | doctors of science | candidates of science |
| Total | 34162 | 3252 | 12078 | 33160 | 3439 | 12040 | 33847 | 3568 | 12206 | 38640 | 5068 | 15355 |
| Natural sciences | 13345 | 1457 | 5287 | 13111 | 1535 | 5244 | 13126 | 1560 | 5320 | 13652 | 2283 | 6424 |
| Engineering | 11900 | 506 | 2552 | 10524 | 484 | 2352 | 10906 | 495 | 2346 | 11938 | 554 | 2574 |
| Medical sciences | 2184 | 440 | 1180 | 2403 | 441 | 1142 | 2399 | 455 | 1104 | 2263 | 466 | 1047 |
| Agricultural sciences | 652 | 80 | 271 | 933 | 116 | 416 | 892 | 123 | 395 | 894 | 122 | 420 |
| Social sciences | 4424 | 499 | 1927 | 4309 | 512 | 1818 | 4448 | 547 | 1985 | 5664 | 896 | 2783 |
| Humanities | 1657 | 270 | 861 | 1880 | 351 | 1068 | 2076 | 388 | 1056 | 4229 | 747 | 2107 |

5.4.14. PERCENTAGE DISTRIBUTION OF RESEARCHERS IN THE HIGHER EDUCATION SECTOR BY FIELD OF SCIENCE AND TECHNOLOGY

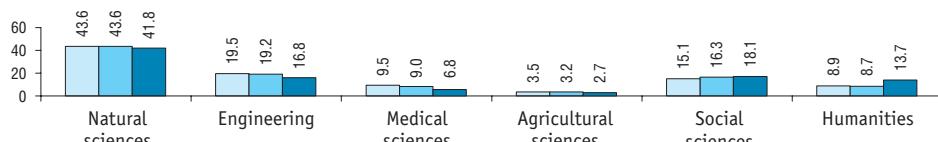
Researchers – total



Doctors of science



Candidates of science

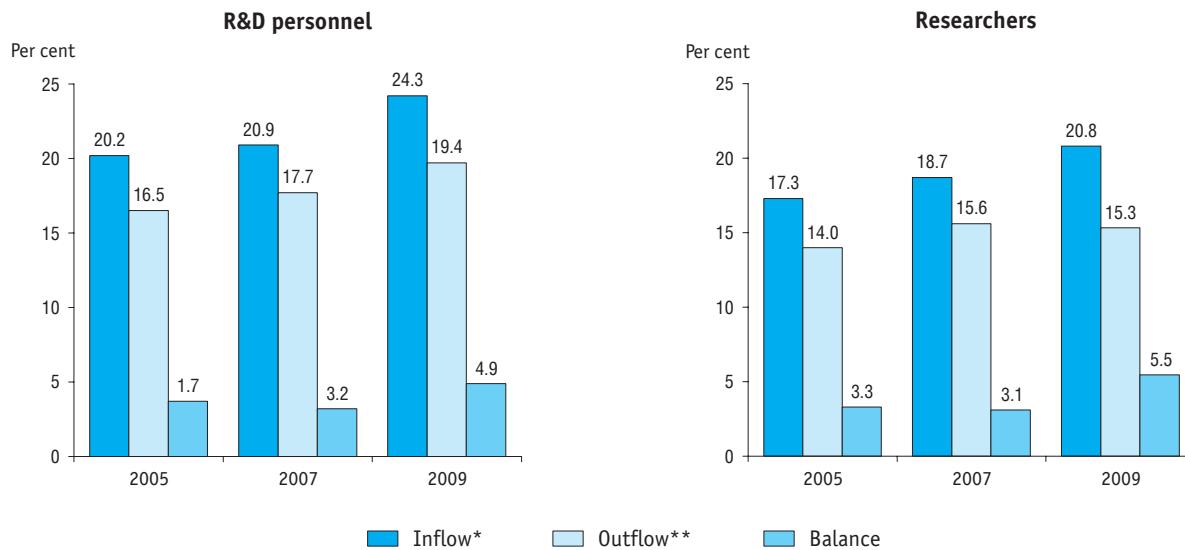


■ 2008 ■ 2009 ■ 2010

5.4.15. FLOWS OF R&D PERSONNEL IN THE HIGHER EDUCATION SECTOR BY OCCUPATION
(head-count)

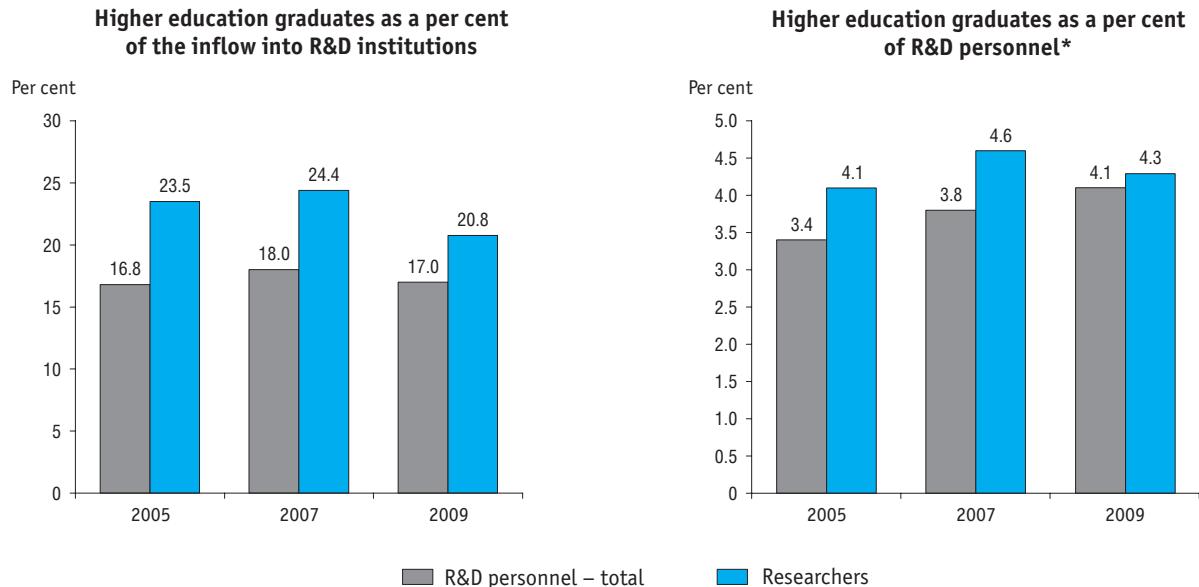
| | Number at the beginning of the reference year | Inflow | | | | Outflow | | | | Number at the end of the reference year |
|----------------------------|--|--------|---|--|--------|---------|----------------------|---------------------------|--------|---|
| | | Total | Graduates from higher education institutions | From other research insti- tutes | Others | Total | At own initiative | Due to staff reduction | Others | |
| Total | | | | | | | | | | |
| 2003 | 42239 | 8233 | 1475 | 1746 | 5012 | 7352 | 4837 | 34 | 2481 | 43120 |
| 2005 | 41601 | 8770 | 1475 | 1388 | 5907 | 6871 | 4096 | 25 | 2750 | 43500 |
| 2007 | 47153 | 10264 | 1843 | 1844 | 6577 | 8358 | 5061 | 42 | 3255 | 49059 |
| 2009 | 45565 | 11766 | 2005 | 1583 | 8178 | 8833 | 4805 | 160 | 3868 | 48498 |
| Researchers | | | | | | | | | | |
| 2003 | 28595 | 4881 | 1210 | 1188 | 2483 | 4131 | 2793 | 19 | 1319 | 29346 |
| 2005 | 28951 | 5219 | 1229 | 1058 | 2932 | 4062 | 2470 | 16 | 1576 | 30111 |
| 2007 | 32895 | 6385 | 1560 | 1309 | 3516 | 5118 | 3098 | 22 | 1998 | 34162 |
| 2009 | 31619 | 7055 | 1465 | 1218 | 4372 | 4823 | 2614 | 80 | 2129 | 33847 |
| Technicians | | | | | | | | | | |
| 2003 | 3592 | 949 | 86 | 200 | 663 | 1104 | 671 | 3 | 430 | 3434 |
| 2005 | 3451 | 1030 | 114 | 115 | 801 | 820 | 467 | 1 | 352 | 3658 |
| 2007 | 4326 | 1517 | 111 | 172 | 1234 | 1234 | 735 | 6 | 493 | 4606 |
| 2009 | 4352 | 1960 | 324 | 198 | 1438 | 1535 | 823 | 29 | 683 | 4778 |
| Supporting and other staff | | | | | | | | | | |
| 2003 | 10052 | 2403 | 179 | 358 | 1866 | 2117 | 1373 | 12 | 732 | 10340 |
| 2005 | 9199 | 2521 | 132 | 215 | 2174 | 1989 | 1159 | 8 | 822 | 9731 |
| 2007 | 9932 | 2362 | 172 | 363 | 1827 | 2006 | 1228 | 14 | 764 | 10291 |
| 2009 | 9594 | 2751 | 216 | 167 | 2368 | 2475 | 1368 | 51 | 1056 | 9873 |

5.4.16. INFLOW AND OUTFLOW OF R&D PERSONNEL IN THE HIGHER EDUCATION SECTOR



* Ratio of the admitted during the year to the number of employees at the end of the year.

** Ratio of the leaved during the year to the number of employees at the beginning of the year.

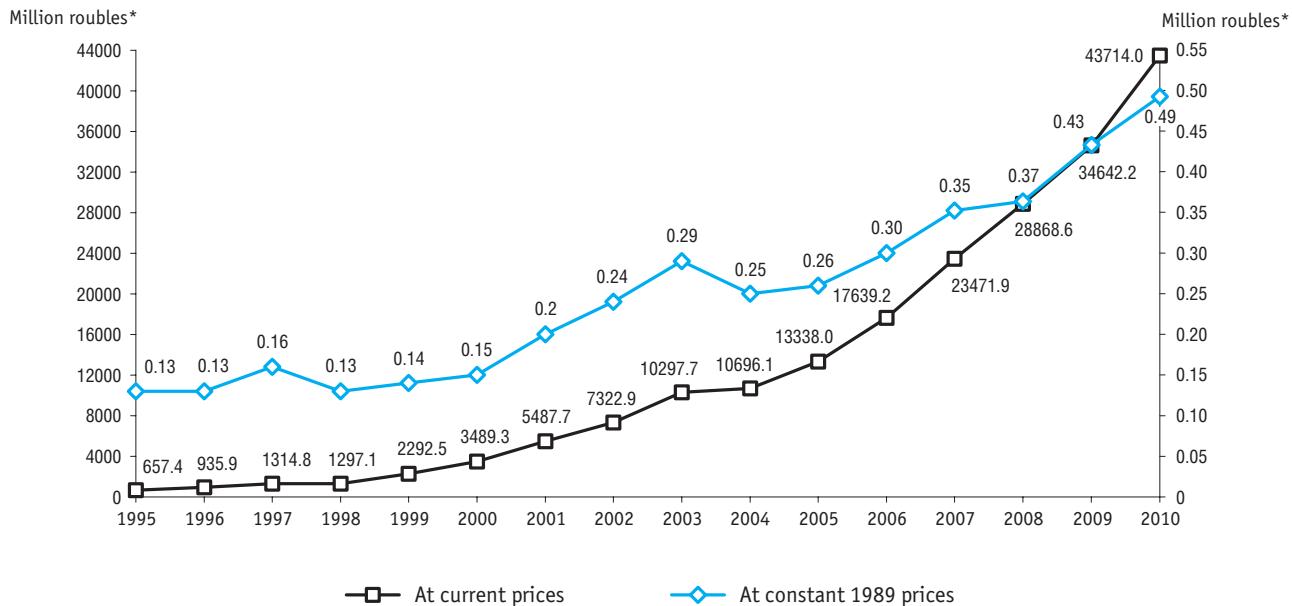
5.4.17. INFLOW OF HIGHER EDUCATION GRADUATES INTO R&D INSTITUTIONS IN THE HIGHER EDUCATION SECTOR

* Ratio of the higher education graduates admitted during the year to the number of employees at the end of the year.

5.4.18. GROSS DOMESTIC EXPENDITURE ON R&D IN THE HIGHER EDUCATION SECTOR BY TYPE OF INSTITUTIONS
(thousand roubles, before 1998 – million roubles)

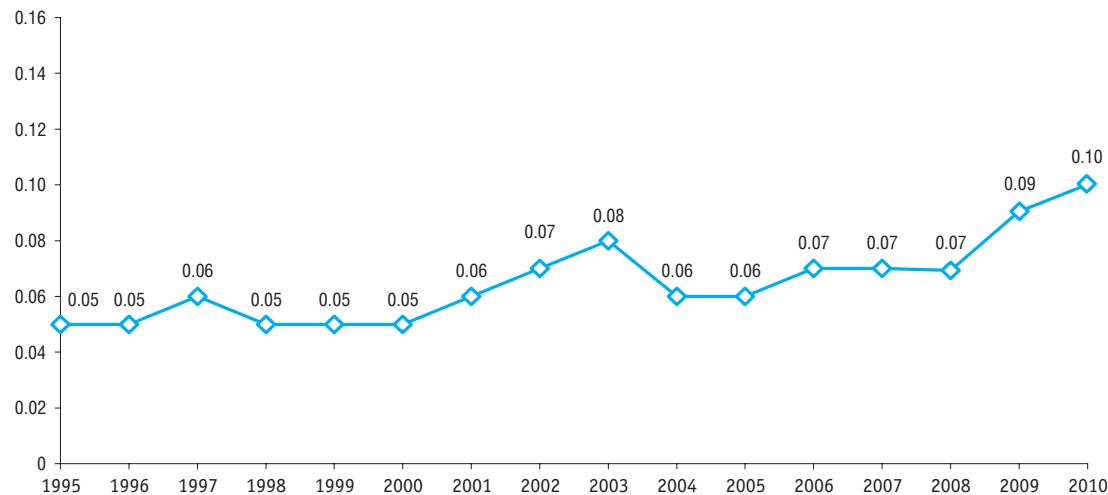
| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|-----------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Total | 657374.0 | 3489342.2 | 5487653.7 | 7322943.2 | 10297745.0 | 10696125.8 | 13337987.1 | 17639173.8 | 23471870.9 | 28868566.7 | 34642216.7 | 43714007.3 |
| Universities and other higher education institutions | 518911.5 | 2777397.1 | 4122677.0 | 5433015.5 | 8305924.1 | 8498024.0 | 10963094.5 | 14672493.3 | 20110291.8 | 25254713.6 | 30815022.6 | 38787366.4 |
| Research institutes | 102740.0 | 528449.7 | 1082094.9 | 1449217.4 | 1478121.0 | 1590604.7 | 1596818.1 | 2362999.9 | 2444732.5 | 2552781.1 | 2874500.2 | 3429235.6 |
| Design and construction project organisations | 32238.6 | 157818.5 | 243134.5 | 393278.2 | 446923.1 | 506534.8 | 519987.1 | 600446.4 | 875313.6 | 869259.6 | 758521.1 | 984428.5 |
| Experimental enterprises | 104.6 | 78.5 | 101.4 | 3031.7 | – | 1688.5 | – | – | 14145.0 | 24376.0 | 22657.0 | 26584.0 |
| Others | 3379.3 | 25598.4 | 39645.9 | 44400.4 | 66776.8 | 99273.8 | 258087.4 | 3234.2 | 27388.0 | 167436.4 | 171515.8 | 486392.8 |

5.4.19. GROSS DOMESTIC EXPENDITURE ON R&D IN THE HIGHER EDUCATION SECTOR



* Before 1998 – billion roubles.

5.4.20. GROSS DOMESTIC EXPENDITURE ON R&D IN THE HIGHER EDUCATION SECTOR AS A PER CENT OF GROSS DOMESTIC PRODUCT



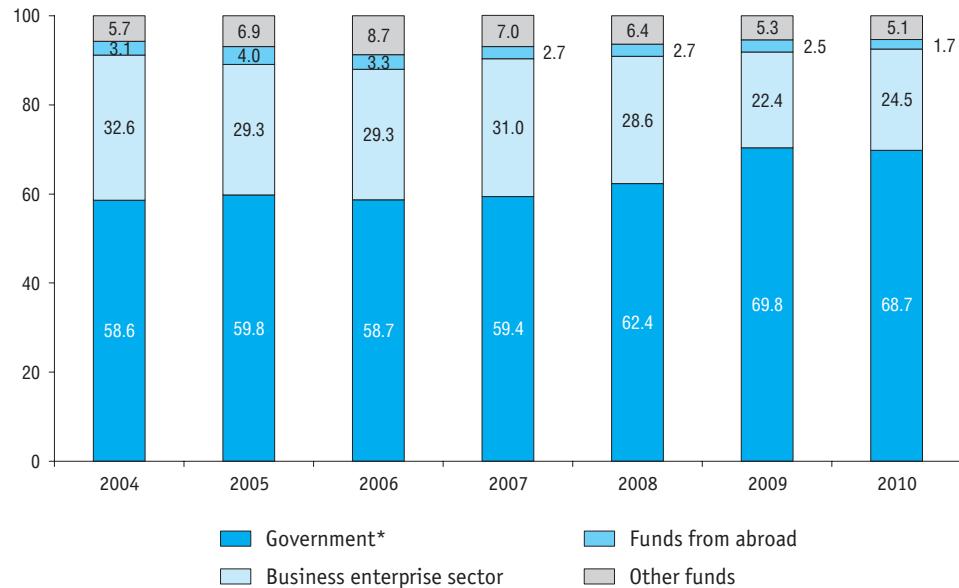
5.4.21. GROSS DOMESTIC EXPENDITURE ON R&D IN THE HIGHER EDUCATION SECTOR BY SOURCE OF FUNDS

| | Total | Government* | Business enterprise sector | Higher education sector | Private non-profit sector | Funds from abroad |
|---|------------|-------------|----------------------------|-------------------------|---------------------------|-------------------|
| <i>At current prices, thousand roubles, before 1998 – million roubles</i> | | | | | | |
| 1995 | 657374.0 | 440429.9 | 181015.3 | 27407.6 | 1279.1 | 7242.1 |
| 1999 | 2292507.7 | 1521173.4 | 545925.7 | 91660.8 | 3873.9 | 129873.9 |
| 2000 | 3489342.2 | 2220574.3 | 951898.2 | 178004.2 | 6651.5 | 132214.0 |
| 2001 | 5487653.7 | 3443940.3 | 1454005.4 | 297109.0 | 8069.0 | 284530.0 |
| 2002 | 7322943.2 | 4458540.7 | 1989239.9 | 382058.3 | 12154.0 | 480950.3 |
| 2003 | 10297745.0 | 6294220.6 | 2870119.3 | 704239.2 | 12759.1 | 416406.8 |
| 2004 | 10696125.8 | 6269141.4 | 3488281.5 | 597899.1 | 8162.1 | 332641.7 |
| 2005 | 13337987.1 | 7982229.6 | 3911201.8 | 889069.7 | 20503.0 | 534983.0 |
| 2006 | 17639173.8 | 10350996.7 | 5169607.6 | 1505274.5 | 26181.7 | 587113.3 |
| 2007 | 23471870.9 | 13931491.1 | 7267861.9 | 1573278.8 | 64898.0 | 634341.1 |
| 2008 | 28868566.7 | 18003735.9 | 8244450.2 | 1758509.8 | 84419.2 | 777451.6 |
| 2009 | 34642216.7 | 24181368.4 | 7769897.9 | 1741764.5 | 95595.8 | 853590.1 |
| 2010 | 43714007.3 | 30017817.7 | 10724045.9 | 2154774.3 | 55055.8 | 762313.6 |

* Including federal budget appropriations, general university funds and government sector institutions' funds.

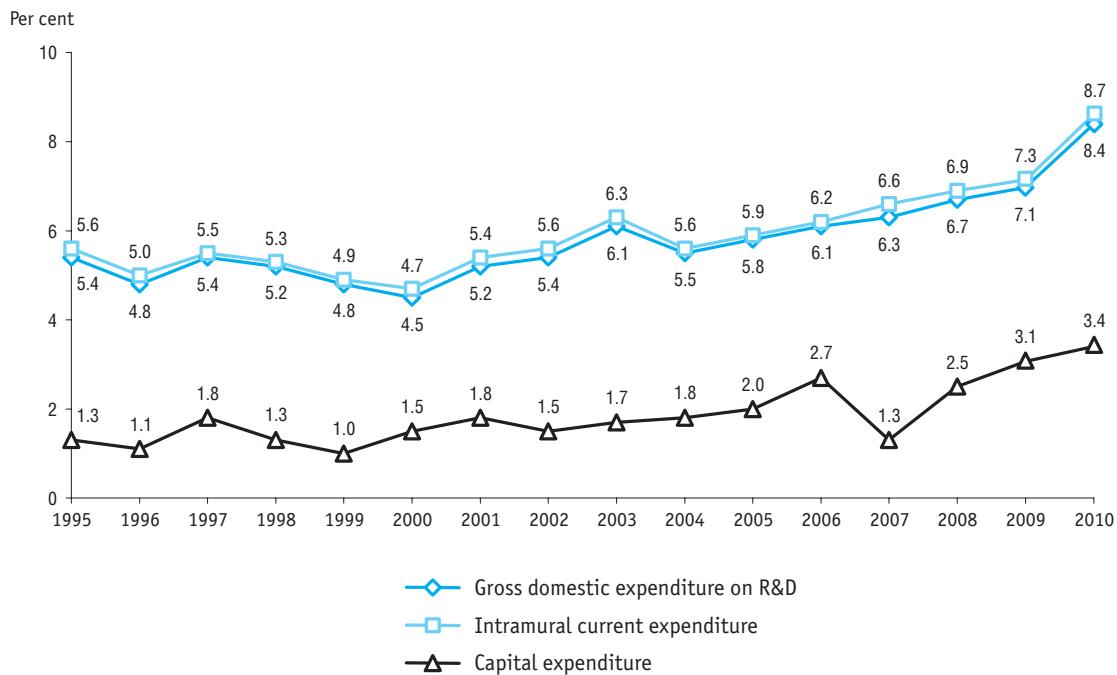
(continued)

| | Total | Government* | Business enterprise sector | Higher education sector | Private non-profit sector [†] | Funds from abroad |
|----------|-------|-------------|----------------------------|-------------------------|--|-------------------|
| Per cent | | | | | | |
| 1995 | 100 | 67.0 | 27.5 | 4.2 | 0.2 | 1.1 |
| 1999 | 100 | 66.4 | 23.8 | 4.0 | 0.2 | 5.7 |
| 2000 | 100 | 63.6 | 27.3 | 5.1 | 0.2 | 3.8 |
| 2001 | 100 | 62.8 | 26.5 | 5.4 | 0.1 | 5.2 |
| 2002 | 100 | 60.9 | 27.2 | 5.2 | 0.2 | 6.6 |
| 2003 | 100 | 61.1 | 27.9 | 6.8 | 0.1 | 4.0 |
| 2004 | 100 | 58.6 | 32.6 | 5.6 | 0.08 | 3.1 |
| 2005 | 100 | 59.8 | 29.3 | 6.7 | 0.2 | 4.0 |
| 2006 | 100 | 58.7 | 29.3 | 8.5 | 0.1 | 3.3 |
| 2007 | 100 | 59.4 | 31.0 | 6.7 | 0.3 | 2.7 |
| 2008 | 100 | 62.4 | 28.6 | 6.1 | 0.3 | 2.7 |
| 2009 | 100 | 69.8 | 22.4 | 5.0 | 0.3 | 2.5 |
| 2010 | 100 | 68.7 | 24.5 | 4.9 | 0.1 | 1.7 |

5.4.22. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D IN THE HIGHER EDUCATION SECTOR BY SOURCE OF FUNDS

* Including federal budget appropriations, general university funds and government sector institutions' funds.

5.4.23. SHARE OF THE HIGHER EDUCATION SECTOR IN GROSS DOMESTIC EXPENDITURE ON R&D BY TYPE OF COSTS



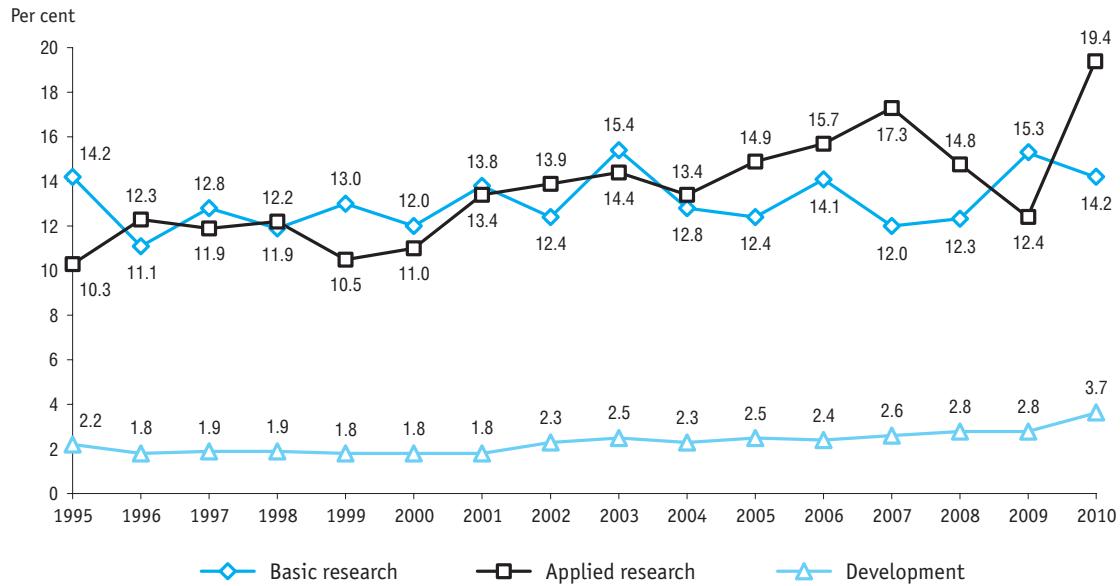
5.4.24. GROSS DOMESTIC EXPENDITURE ON R&D IN THE HIGHER EDUCATION SECTOR BY TYPE OF COSTS
(thousand roubles)

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Gross domestic expenditure on R&D | 10696125.8 | 13337987.1 | 17639173.8 | 23471870.9 | 28868566.7 | 34642216.7 | 43714007.3 |
| Intramural current expenditure | 10533111.2 | 13144292.5 | 17345713.3 | 23227988.8 | 28355126.5 | 33871885.4 | 42552245.4 |
| Wages | 5055704.6 | 6952057.5 | 9296006.7 | 13249264.6 | 16969730.8 | 20240278.6 | 25267352.4 |
| Of which for R&D personnel* | 2571268.2 | 3552276.8 | 4766471.0 | 6942335.9 | 9350228.8 | 11592673.2 | 14033490.5 |
| Social security payments | 1581387.9 | 1654258.7 | 2180714.5 | 2975482.7 | 3734321.1 | 4387314.1 | 5260709.4 |
| Equipment | 838255.7 | 917350.6 | 1364145.6 | 1296943.4 | 1642182.0 | 2733966.8 | 2639343.7 |
| Fixed assets | 443403.1 | 640478.5 | 991721.7 | 614052.6 | 940687.6 | 2321870.7 | 1713278.2 |
| Other material costs | 1325724.3 | 1501392.4 | 1911830.8 | 2330311.6 | 2284544.3 | 2358266.0 | 3344896.4 |
| Other current costs | 1732038.7 | 2119233.3 | 2593015.7 | 3375986.5 | 3724348.3 | 4152059.9 | 6039943.5 |
| Capital expenditure | 163014.6 | 193694.6 | 293460.5 | 243882.1 | 513440.2 | 770331.3 | 1161761.9 |
| Land and buildings | 447.5 | 39711.4 | 151200.0 | 18409.5 | 1571.3 | 12677.4 | 14186.1 |
| Equipment | 137094.1 | 104359.6 | 103001.7 | 195759.4 | 480070.1 | 724609.8 | 1068873.2 |
| Other capital expenditure | 25473.0 | 49623.6 | 39258.8 | 29713.2 | 31798.8 | 33044.1 | 78702.6 |

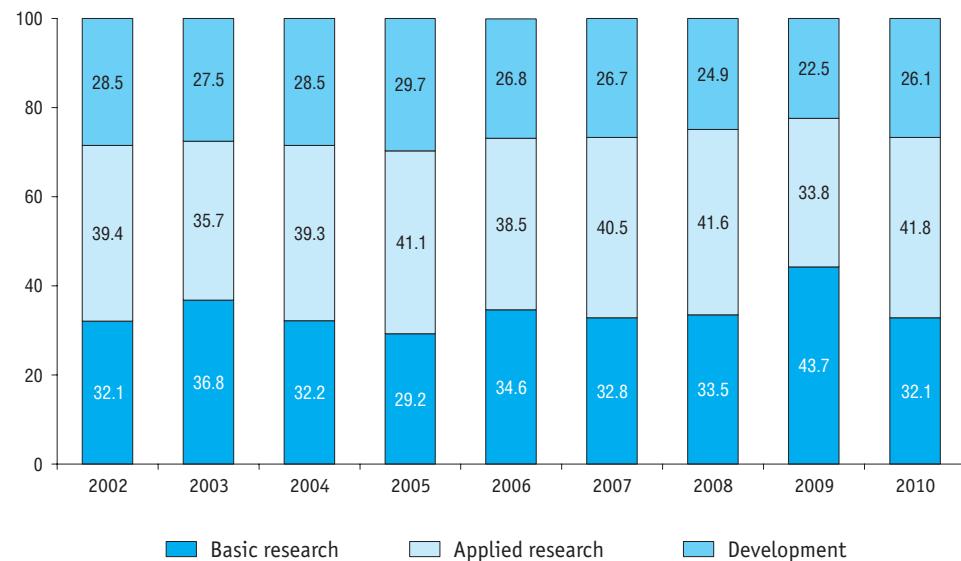
* Excluding those employed on a plural basis and under contracts.

**5.4.25. INTRAMURAL CURRENT EXPENDITURE ON R&D IN THE HIGHER EDUCATION SECTOR BY TYPE OF ACTIVITY
AND FIELD OF SCIENCE AND TECHNOLOGY**
(thousand roubles)

| | Total | Natural sciences | Engineering | Medical sciences | Agricultural sciences | Social sciences | Humanities |
|--|-------------------|-------------------|-------------------|------------------|-----------------------|------------------|------------------|
| 2005 | | | | | | | |
| Intramural current expenditure on R&D | 13144292.5 | 3896908.4 | 6853399.7 | 378448.2 | 200121.3 | 1419552.8 | 395862.1 |
| Basic research | 3841327.6 | 2342791.4 | 751584.6 | 147772.6 | 31818.6 | 342156.9 | 225203.5 |
| Applied research | 5405410.3 | 1112036.2 | 2918946.4 | 161855.9 | 121828.4 | 949311.8 | 141431.6 |
| Development | 3897554.6 | 442080.8 | 3182868.7 | 68819.7 | 46474.3 | 128084.1 | 29227.0 |
| 2007 | | | | | | | |
| Intramural current expenditure on R&D | 23227988.8 | 6867141.5 | 10876606.0 | 677242.2 | 455125.5 | 3150265.8 | 1201607.8 |
| Basic research | 7613268.3 | 4347616.4 | 1642353.5 | 159437.2 | 84488.0 | 953416.0 | 425957.2 |
| Applied research | 9413669.3 | 1944818.5 | 4192171.5 | 464859.1 | 281841.7 | 1807748.0 | 722230.5 |
| Development | 6201051.2 | 574706.6 | 5042081.0 | 52945.9 | 88795.8 | 389101.8 | 53420.1 |
| 2008 | | | | | | | |
| Intramural current expenditure on R&D | 28355126.5 | 8170293.8 | 13010907.6 | 1012345.0 | 732071.3 | 4306737.9 | 1122770.9 |
| Basic research | 9500293.6 | 5009953.8 | 2094164.0 | 313919.6 | 157697.3 | 1194109.7 | 730449.2 |
| Applied research | 11789234.9 | 2482043.3 | 5381110.5 | 625888.9 | 405995.4 | 2573280.0 | 320916.8 |
| Development | 7065598.0 | 678296.7 | 5535633.1 | 72536.5 | 168378.6 | 539348.2 | 71404.9 |
| 2009 | | | | | | | |
| Intramural current expenditure on R&D | 33871885.4 | 11758520.0 | 14414524.6 | 1077983.7 | 718062.5 | 4653782.2 | 1249012.4 |
| Basic research | 14799057.5 | 8818590.3 | 2761224.8 | 451826.3 | 205557.5 | 1721616.5 | 840242.1 |
| Applied research | 11450223.9 | 2142807.6 | 5490334.9 | 573316.0 | 394380.6 | 2533719.6 | 315665.2 |
| Development | 7622604.0 | 797122.1 | 6162964.9 | 52841.4 | 118124.4 | 398446.1 | 93105.1 |
| 2010 | | | | | | | |
| Intramural current expenditure on R&D | 42552245.4 | 12076614.1 | 20864675.6 | 1309942.7 | 730315.2 | 6137791.2 | 1432906.6 |
| Basic research | 13647906.8 | 7585787.8 | 2819934.7 | 472436.1 | 145701.5 | 1919937.8 | 704108.9 |
| Applied research | 17804762.0 | 3177035.8 | 9056919.5 | 680400.6 | 486773.7 | 3723764.3 | 679868.1 |
| Development | 11099576.6 | 1313790.5 | 8987821.4 | 157106.0 | 97840.0 | 494089.1 | 48929.6 |

**5.4.26. SHARE OF THE HIGHER EDUCATION SECTOR IN INTRAMURAL CURRENT EXPENDITURE ON R&D
BY TYPE OF ACTIVITY**

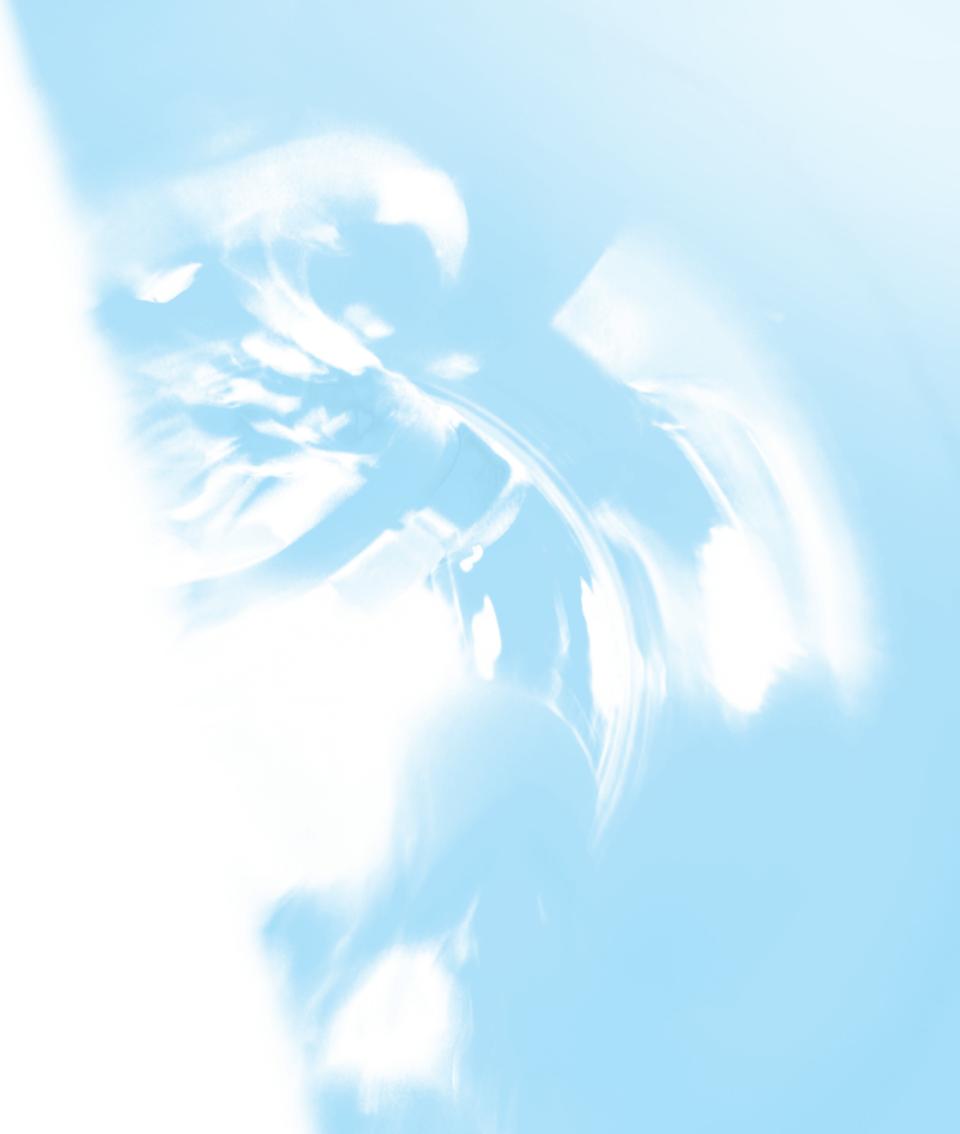
5.4.27. PERCENTAGE DISTRIBUTION OF INTRAMURAL CURRENT EXPENDITURE ON R&D IN THE HIGHER EDUCATION SECTOR BY TYPE OF ACTIVITY



5.4.28. AVERAGE MONTHLY SALARIES OF R&D PERSONNEL IN THE HIGHER EDUCATION SECTOR

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|
| Average monthly salary, roubles, before 1998 – thousand roubles | 280.1 | 1400.3 | 2383.8 | 3476.9 | 4749.1 | 5088.8 | 7042.0 | 8348.7 | 12233.1 | 16812.7 | 21191.5 | 23716.4 |
| As a per cent of that: | | | | | | | | | | | | |
| in the national economy (=100%) | 59.3 | 63.0 | 73.6 | 79.7 | 86.4 | 75.5 | 82.3 | 78.5 | 90.0 | 97.2 | 113.7 | 113.2 |
| in manufacturing (=100%) | 61.1 | 59.2 | 69.2 | 78.3 | 84.8 | 74.3 | 83.6 | 81.9 | 95.0 | 104.8 | 127.8 | 124.3 |
| in construction (=100%) | 47.7 | 53.0 | 61.8 | 72.3 | 76.9 | 69.7 | 77.9 | 76.8 | 85.3 | 90.5 | 116.9 | 112.0 |

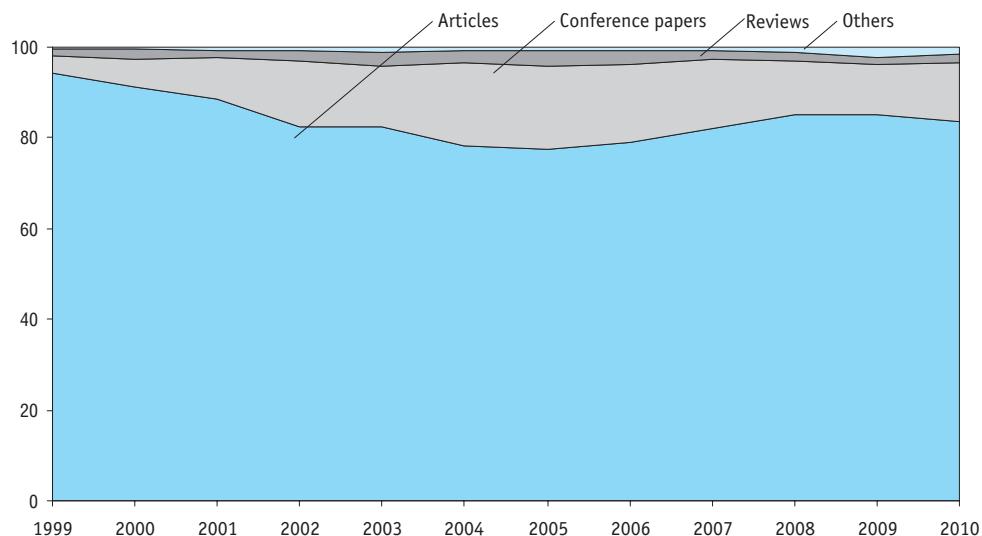
6. R&D Output

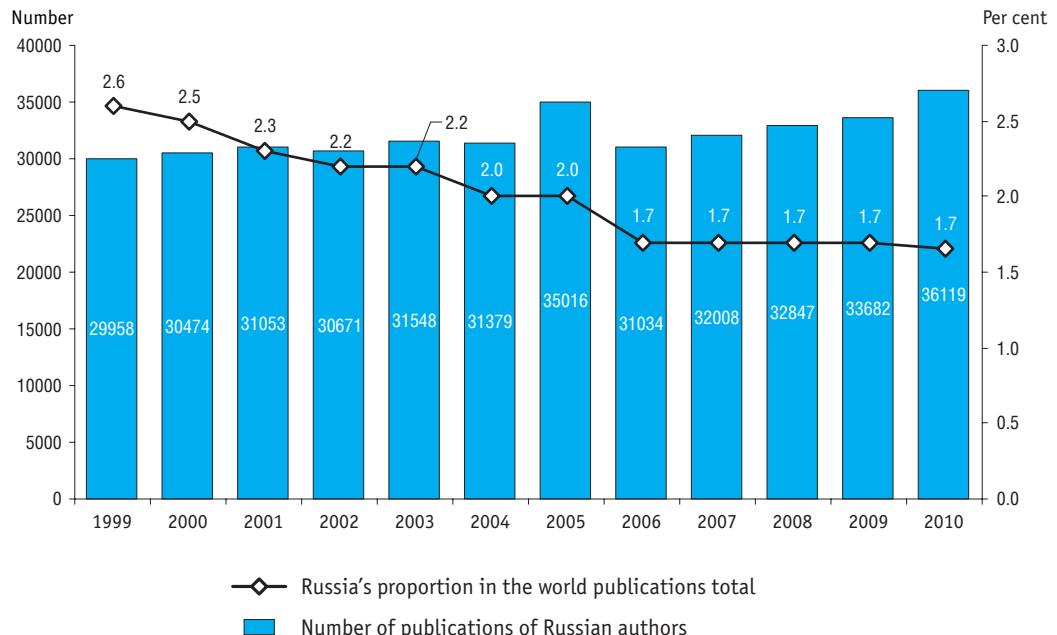


6.1. PUBLICATIONS OF RUSSIAN AUTHORS IN SCIENTIFIC JOURNALS INDEXED IN SCOPUS BY DOCUMENT TYPE

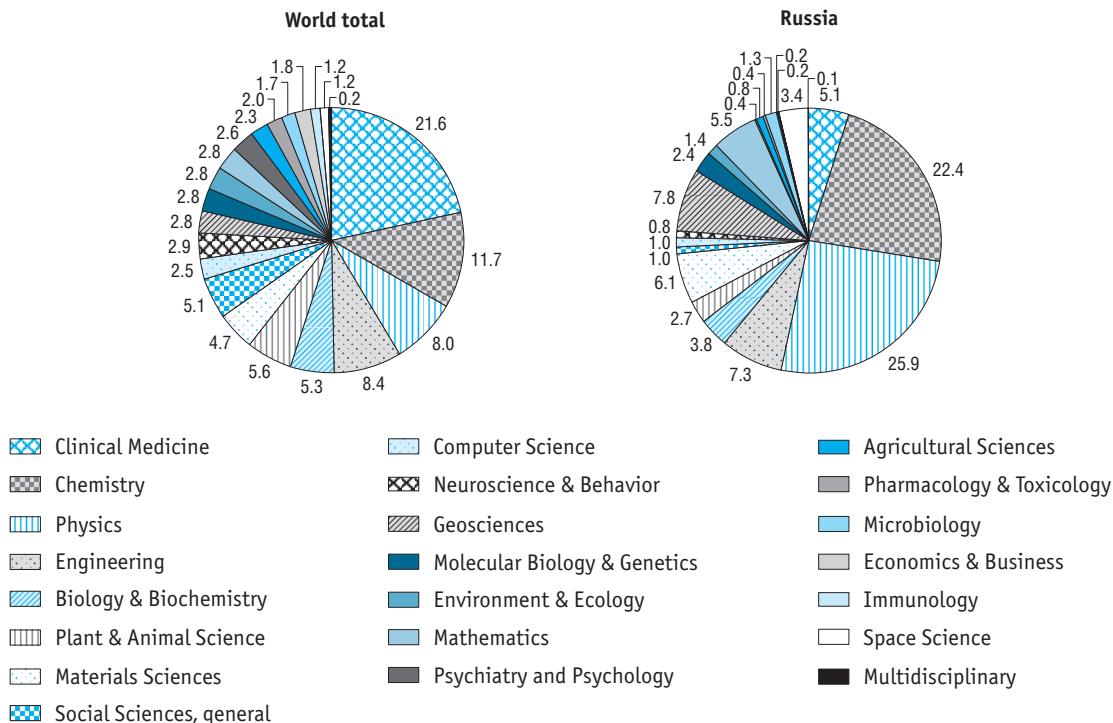
| | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|-----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Publications – total | 29958 | 30474 | 31053 | 30671 | 31548 | 31379 | 35016 | 31034 | 32008 | 32847 | 33682 | 36119 |
| Articles | 28202 | 27785 | 27532 | 25281 | 25957 | 24567 | 27168 | 24564 | 26283 | 27979 | 28689 | 30150 |
| Conference papers | 1156 | 1909 | 2755 | 4435 | 4252 | 5691 | 6418 | 5299 | 4826 | 3837 | 3706 | 4685 |
| Reviews | 520 | 632 | 544 | 663 | 1026 | 888 | 1204 | 884 | 624 | 606 | 543 | 715 |
| Others | 80 | 148 | 222 | 292 | 313 | 233 | 226 | 287 | 275 | 425 | 744 | 569 |

6.2. PERCENTAGE DISTRIBUTION OF PUBLICATIONS OF RUSSIAN AUTHORS IN SCIENTIFIC JOURNALS INDEXED IN SCOPUS BY DOCUMENT TYPE



6.3. PUBLICATIONS OF RUSSIAN AUTHORS IN SCIENTIFIC JOURNALS INDEXED IN SCOPUS

6.4. PERCENTAGE DISTRIBUTION OF PUBLICATIONS OF RUSSIAN AUTHORS IN SCIENTIFIC JOURNALS BY FIELD OF SCIENCE AND TECHNOLOGY: 2006–2010*

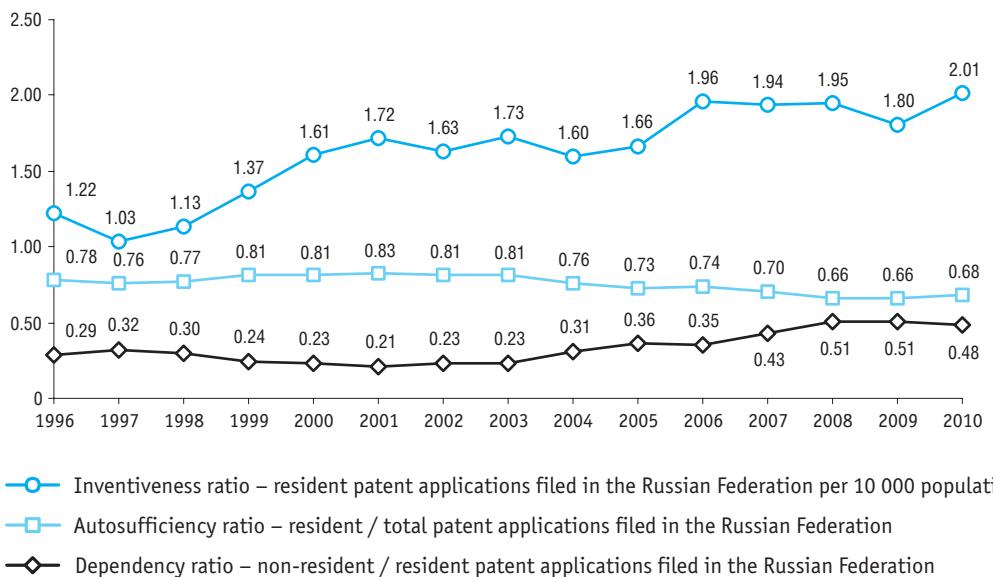


* Source: Essential Science Indicators (ESI) by Thomson Reuters.

6.5. PATENT APPLICATIONS AND PATENTS GRANTED

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Patent applications filed in the Russian Federation | 22202 | 21362 | 28688 | 29989 | 29225 | 30651 | 30192 | 32254 | 37691 | 39439 | 41849 | 38564 | 42500 |
| By residents | 17551 | 16454 | 23377 | 24777 | 23712 | 24969 | 22985 | 23644 | 27884 | 27505 | 27712 | 25598 | 28722 |
| By non-residents | 4651 | 4908 | 5311 | 5212 | 5513 | 5682 | 7207 | 8610 | 9807 | 11934 | 14137 | 12966 | 13778 |
| Patents granted with the indication of the Russian Federation | 31556 | 23762 | 17592 | 16292 | 18114 | 24726 | 23191 | 23390 | 23299 | 23028 | 28808 | 34824 | 30322 |
| In exchange for author certificates | 5923 | 447 | — | — | — | — | — | — | — | — | — | — | — |
| New patents | 25633 | 23315 | 17592 | 16292 | 18114 | 24726 | 23191 | 23390 | 23299 | 23028 | 28808 | 34824 | 30322 |
| To residents | 20861 | 19215 | 14444 | 13779 | 15140 | 20621 | 19123 | 19447 | 19138 | 18431 | 22260 | 26294 | 21627 |
| To non-residents | 4772 | 4100 | 3148 | 2513 | 2974 | 4105 | 4068 | 3943 | 4161 | 4597 | 6548 | 8530 | 8695 |
| Patents valid with the indication of the Russian Federation | 76186 | 173081 | 144325 | 149684 | 102568 | 106717 | 108721 | 123089 | 123882 | 129910 | 147067 | 170264 | 181904 |

6.6. INDICATORS OF PATENT ACTIVITY

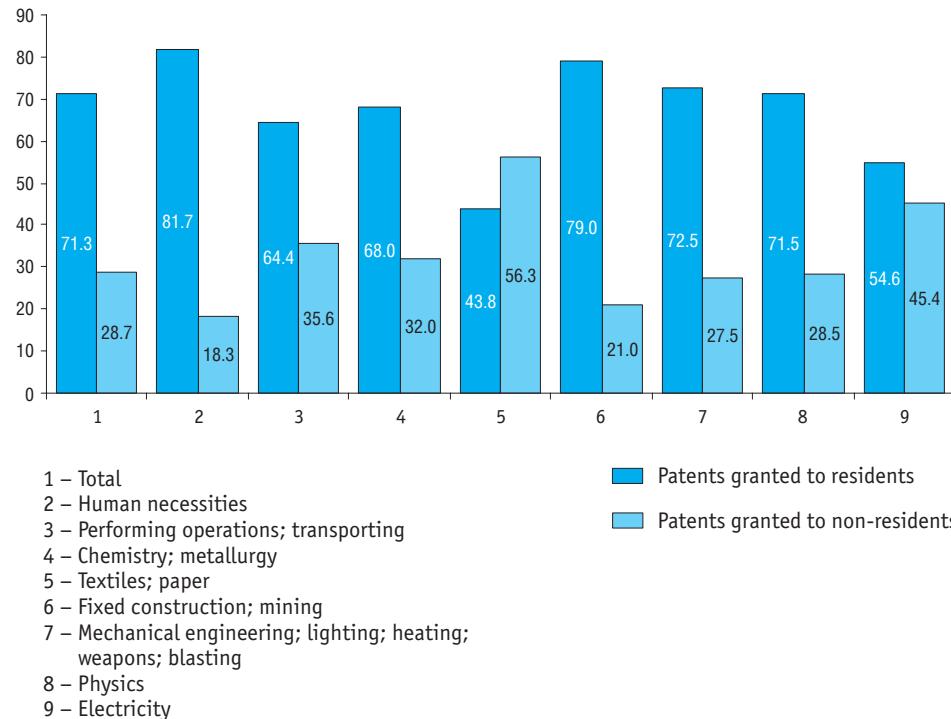


6.7. PATENTS GRANTED IN THE RUSSIAN FEDERATION BY SECTION OF THE INTERNATIONAL PATENT CLASSIFICATION*

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Total | 16292 | 18114 | 24726 | 23191 | 23390 | 23299 | 23028 | 28808 | 34824 | 30322 |
| A. Human necessities | 3764 | 4419 | 7369 | 6190 | 6703 | 6738 | 6360 | 8025 | 11043 | 8468 |
| B. Performing operations; transporting | 2923 | 2939 | 3902 | 3729 | 3669 | 3897 | 3584 | 4298 | 5427 | 4711 |
| C. Chemistry; metallurgy | 2929 | 3265 | 4221 | 4051 | 3645 | 3557 | 3702 | 5416 | 5508 | 5167 |
| D. Textiles; paper | 200 | 184 | 247 | 216 | 216 | 183 | 221 | 259 | 310 | 320 |
| E. Fixed construction; mining | 1298 | 1442 | 1596 | 1656 | 1659 | 1626 | 1536 | 1689 | 2086 | 1977 |
| F. Mechanical engineering; lighting; heating; weapons; blasting | 2172 | 2274 | 2934 | 2785 | 2634 | 2706 | 2679 | 2928 | 3537 | 3062 |
| G. Physics | 1903 | 2279 | 2648 | 2825 | 3068 | 2911 | 3048 | 3632 | 4160 | 3734 |
| H. Electricity | 1103 | 1312 | 1809 | 1739 | 1796 | 1681 | 1898 | 2561 | 2753 | 2883 |

* Patents granted to residents and non-residents.

6.8. PERCENTAGE DISTRIBUTION OF PATENTS GRANTED WITH THE INDICATION OF THE RUSSIAN FEDERATION BY ASSIGNEE AND SECTION OF THE INTERNATIONAL PATENT CLASSIFICATION: 2010



6.9. UTILITY MODEL PATENT APPLICATIONS AND PATENTS GRANTED

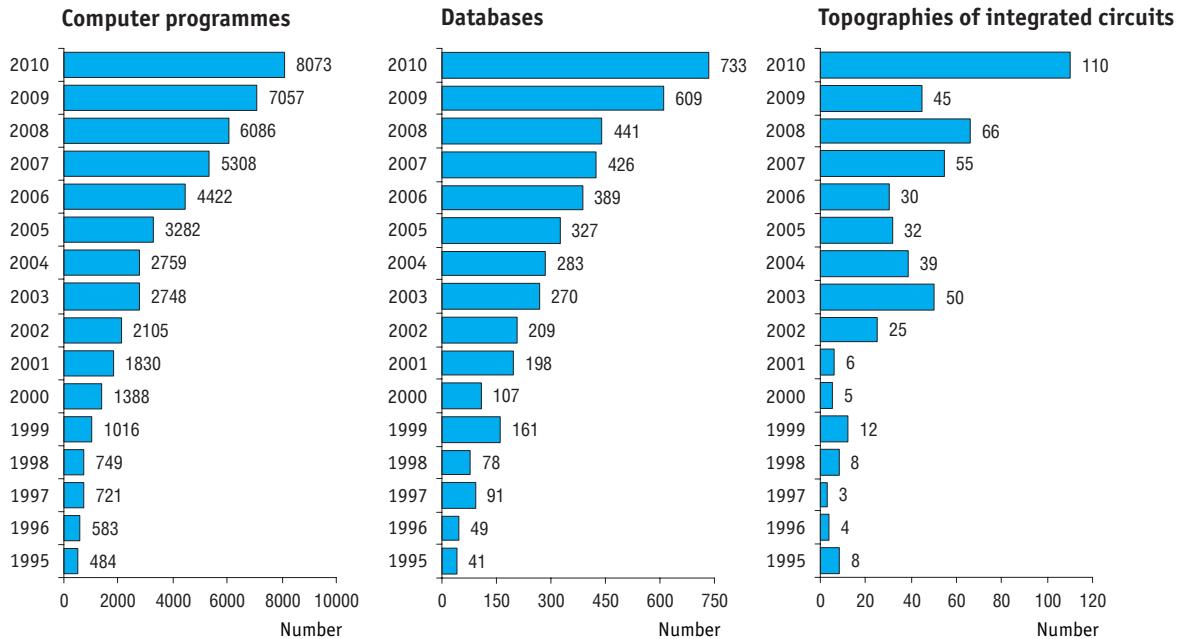
| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Patent applications filed in the Russian Federation | 2039 | 2723 | 4631 | 6029 | 6696 | 7622 | 8948 | 9473 | 9699 | 10075 | 10995 | 11153 | 12262 |
| By residents | 1997 | 2675 | 4549 | 5863 | 6511 | 7400 | 8648 | 9082 | 9265 | 9588 | 10483 | 10728 | 11757 |
| By non-residents | 42 | 48 | 82 | 166 | 185 | 222 | 300 | 391 | 434 | 487 | 512 | 425 | 505 |
| Patents granted with the indication of the Russian Federation | 1207 | 3162 | 4098 | 4842 | 5611 | 8311 | 8503 | 7242 | 9568 | 9757 | 9673 | 10919 | 10581 |
| To residents | 1195 | 3091 | 4041 | 4738 | 5448 | 8053 | 8230 | 6958 | 9195 | 9311 | 9250 | 10500 | 10187 |
| To non-residents | 12 | 71 | 57 | 104 | 163 | 258 | 273 | 284 | 373 | 446 | 423 | 419 | 394 |
| Patents valid with the indication of the Russian Federation | 2971 | 8185 | 15498 | 20052 | 20073 | 24103 | 29191 | 28364 | 33033 | 35082 | 41092 | 48170 | 54848 |

**6.10. UTILITY MODEL PATENTS GRANTED WITH THE INDICATION OF THE RUSSIAN FEDERATION
BY SECTION OF THE INTERNATIONAL PATENT CLASSIFICATION***

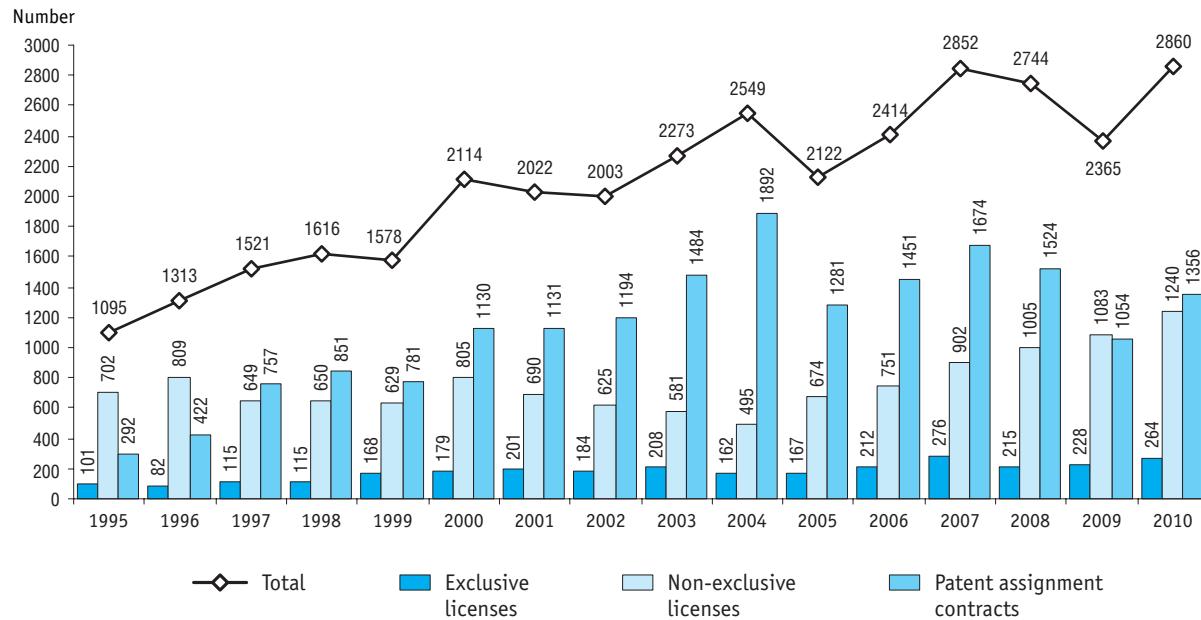
| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|
| Total | 4842 | 5611 | 8311 | 8503 | 7242 | 9568 | 9757 | 9673 | 10919 | 10581 |
| A. Human necessities | 967 | 1115 | 1531 | 1585 | 1344 | 1644 | 1642 | 1630 | 1803 | 1914 |
| B. Performing operations; transporting | 1206 | 1396 | 2078 | 2051 | 1741 | 2301 | 2353 | 2357 | 2631 | 2411 |
| C. Chemistry; metallurgy | 149 | 191 | 295 | 276 | 289 | 395 | 345 | 434 | 443 | 398 |
| D. Textiles; paper | 87 | 58 | 90 | 71 | 73 | 63 | 61 | 55 | 59 | 57 |
| E. Fixed construction; mining | 532 | 650 | 1107 | 1182 | 1022 | 1431 | 1501 | 1331 | 1517 | 1503 |
| F. Mechanical engineering; lighting; heating; weapons; blasting | 759 | 878 | 1295 | 1331 | 1111 | 1394 | 1431 | 1458 | 1612 | 1701 |
| G. Physics | 673 | 818 | 1087 | 1169 | 949 | 1424 | 1403 | 1450 | 1685 | 1580 |
| H. Electricity | 469 | 505 | 828 | 838 | 713 | 916 | 1021 | 958 | 1169 | 1017 |

* Patents granted to residents and non-residents.

6.11. REGISTRATION OF INTELLECTUAL PROPERTY OBJECTS IN THE FIELD OF INFORMATION TECHNOLOGY



6.12. REGISTRATION OF INTERNAL LICENSE AGREEMENTS AND PATENT ASSIGNMENT CONTRACTS*

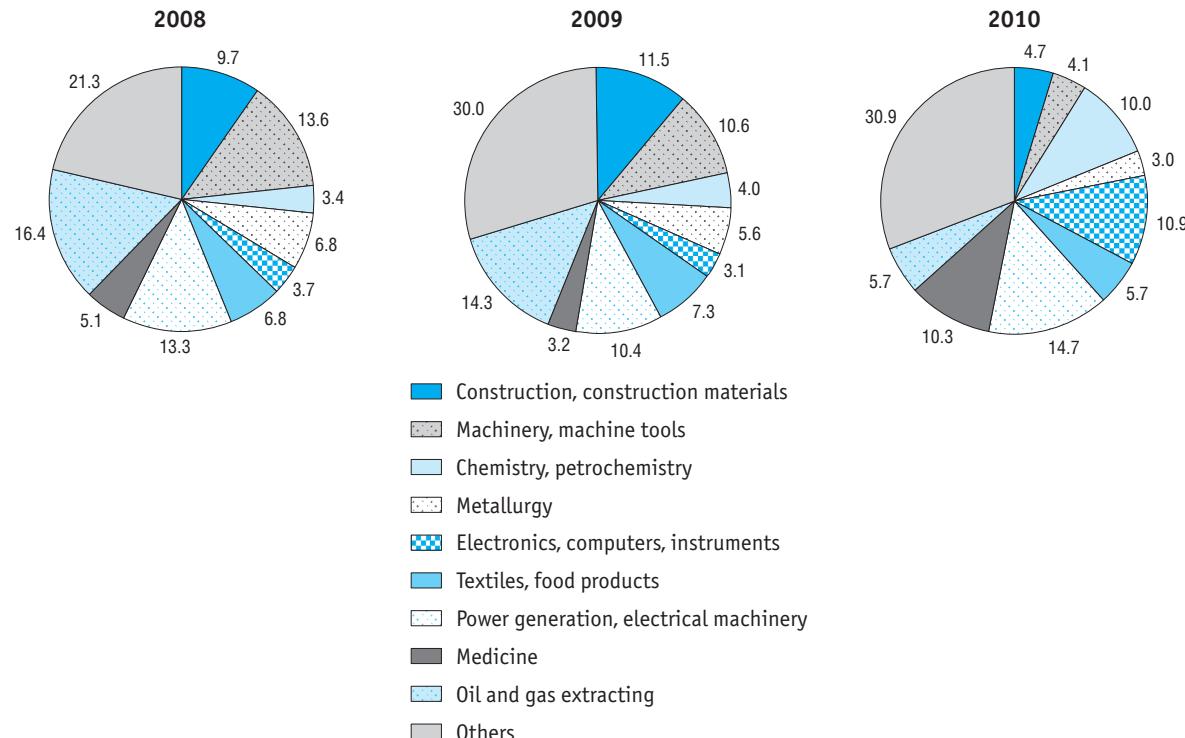


* Including patents on inventions, utility models, and industrial designs.

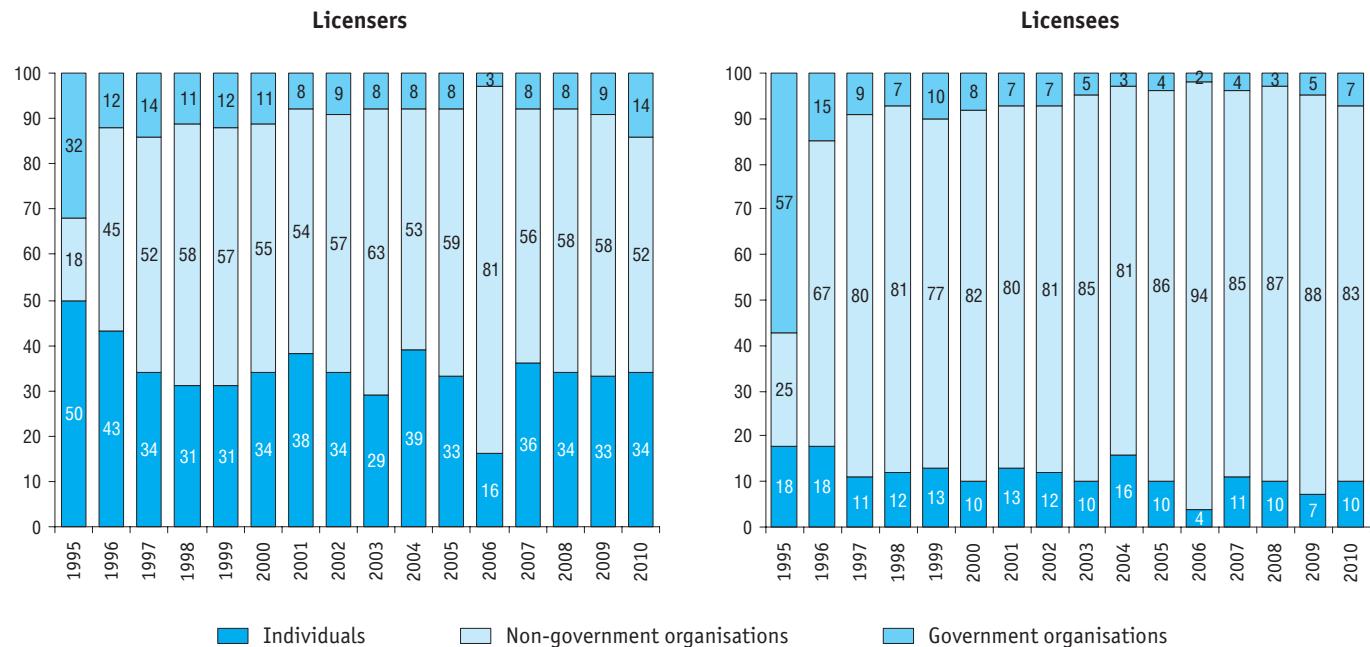
6.13. REGISTRATION OF INTERNAL LICENSE AGREEMENTS AND PATENT ASSIGNMENT CONTRACTS BY TECHNOLOGY FIELD

| | 1995 | 1998 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total | 1095 | 1616 | 2114 | 2022 | 2003 | 2273 | 2549 | 2122 | 2414 | 2852 | 2744 | 2365 | 2860 |
| I. Construction, construction materials | 104 | 117 | 89 | 116 | 81 | 125 | 104 | 108 | 160 | 423 | 272 | 266 | 135 |
| II. Machinery, machine tools | 102 | 383 | 345 | 312 | 323 | 438 | 410 | 417 | 414 | 366 | 250 | 373 | 118 |
| III. Chemistry, petrochemistry | 150 | 220 | 203 | 270 | 181 | 297 | 251 | 268 | 500 | 120 | 94 | 94 | 286 |
| IV. Metallurgy | 55 | 82 | 85 | 62 | 87 | 82 | 158 | 69 | 181 | 245 | 133 | 186 | 86 |
| V. Electronics, computers, instruments | 87 | 87 | 78 | 104 | 147 | 153 | 226 | 165 | 157 | 137 | 73 | 101 | 311 |
| VI. Textiles, food products | 166 | 218 | 323 | 268 | 266 | 362 | 459 | 105 | 160 | 211 | 173 | 186 | 163 |
| VII. Power generation, electrical machinery | 55 | 82 | 150 | 117 | 141 | 128 | 265 | 223 | 220 | 390 | 247 | 364 | 421 |
| VIII. Medicine | 230 | 171 | 264 | 288 | 289 | 373 | 276 | 249 | 295 | 120 | 76 | 140 | 294 |
| IX. Oil and gas extracting | 49 | 44 | 224 | 131 | 91 | 124 | 139 | 136 | 100 | 434 | 338 | 449 | 162 |
| X. Others | 97 | 212 | 353 | 354 | 397 | 191 | 261 | 382 | 227 | 406 | 709 | 585 | 884 |

6.14. PERCENTAGE DISTRIBUTION OF INTERNAL LICENSE AGREEMENTS AND PATENT ASSIGNMENT CONTRACTS BY TECHNOLOGY FIELD



**6.15. PERCENTAGE DISTRIBUTION OF INTERNAL LICENSE AGREEMENTS AND PATENT ASSIGNMENT CONTRACTS
BY CATEGORY OF PARTNERS**



6.16. TECHNOLOGY BALANCE OF PAYMENTS BY CATEGORY OF CONTRACTS
(thousand US dollars)

| | Total | Invention patents | Unpatented inventions | Patent licenses | Utility models | Know-how | Trademarks | Industrial designs | Engineering services | Research and development | Others |
|------------------------------|-----------|-------------------|-----------------------|-----------------|----------------|----------|------------|--------------------|----------------------|--------------------------|----------|
| Receipts from exports | | | | | | | | | | | |
| 2000 | 203493.5 | 65.8 | 14.8 | 421.9 | ... | 2333.5 | 11497.0 | 284.2 | 139307.1 | 23880.2 | 25689.0 |
| 2001 | 241541.7 | 405.8 | 90.0 | 8.6 | ... | 1650.1 | 5.7 | 114.5 | 161912.5 | 19535.9 | 57818.6 |
| 2002 | 211478.4 | 214.5 | — | 210.0 | ... | 1909.3 | 1446.9 | 84.9 | 143764.1 | 20812.0 | 43036.7 |
| 2003 | 237403.9 | 147.3 | 0.9 | 4000.6 | ... | 1292.0 | 1185.5 | 2.0 | 166376.7 | 25974.2 | 38424.7 |
| 2004 | 383985.2 | 767.3 | 370.0 | 980.6 | ... | 2933.9 | 1539.3 | 2.0 | 177335.0 | 63671.3 | 136385.8 |
| 2005 | 389396.4 | 926.3 | 467.0 | 1788.0 | ... | 517.9 | 5583.5 | 1017.3 | 150858.8 | 83214.4 | 145023.2 |
| 2006 | 533385.9 | 100.8 | 4284.7 | 2576.1 | ... | 398.0 | 6191.6 | 219.8 | 166911.1 | 89260.1 | 263443.7 |
| 2007 | 630391.6 | 347.2 | — | 5215.8 | 0.5 | 1985.1 | 7550.3 | 2457.0 | 267561.2 | 101170.3 | 244104.2 |
| 2008 | 833164.4 | 112.8 | — | 5183.8 | 3765.0 | 9709.5 | 17685.4 | 3752.3 | 491665.1 | 151463.4 | 149827.1 |
| 2009 | 618184.5 | 191.8 | 10.8 | 12825.7 | 936.2 | 10980.9 | 431.9 | 3554 | 410907.2 | 120877.9 | 57468.1 |
| 2010 | 627887.5 | 582.6 | 1987.0 | 11821.3 | 1718.9 | 13778.5 | 759.1 | 2531.0 | 368971.3 | 138356.8 | 87381.0 |
| Payments for imports | | | | | | | | | | | |
| 2000 | 182908.0 | 255.5 | 792.0 | 2530.2 | ... | 11122.0 | 31122.4 | 1044.2 | 110171.3 | 2268.3 | 23602.1 |
| 2001 | 395350.0 | 157.7 | — | 4777.3 | ... | 18003.2 | 66730.4 | 1204.9 | 194768.9 | 5229.4 | 104478.2 |
| 2002 | 572488.8 | 403.2 | — | 3873.6 | ... | 16042.0 | 83127.7 | 508.0 | 180620.6 | 182662.7 | 105251.0 |
| 2003 | 666114.1 | 675.9 | 1095.3 | 18375.9 | ... | 20265.2 | 141515.7 | 533.5 | 413643.7 | 17953.6 | 52055.3 |
| 2004 | 823030.1 | 1164.3 | 531.6 | 19910.5 | ... | 28024.4 | 215034.5 | 644.7 | 497121.0 | 9612.8 | 50986.3 |
| 2005 | 954199.2 | 8730.3 | 2983.5 | 19315.4 | ... | 9489.7 | 191045.0 | 1519.5 | 582813.8 | 16512.8 | 121789.2 |
| 2006 | 1128425.8 | 3201.3 | — | 21402.1 | 101.2 | 49705.7 | 160720.2 | 217.9 | 658016.9 | 38631.3 | 196429.2 |
| 2007 | 1426387.6 | 14408.5 | — | 68538.3 | 959.1 | 70461.1 | 222142.6 | 559.3 | 754249.4 | 32476.3 | 262593.0 |
| 2008 | 2087067.4 | 10716.8 | 16.5 | 63042.7 | 690.3 | 43270.8 | 408349.1 | 0.0 | 1156815.3 | 31030.0 | 373135.9 |
| 2009 | 1619031.6 | 1109.4 | — | 74956.9 | 253.3 | 61944.4 | 392697.1 | 1.0 | 879212.9 | 19857.7 | 188998.9 |
| 2010 | 1425983.3 | 4024.2 | — | 82853.9 | 3665.6 | 62117.0 | 419009.3 | 2.2 | 526913.5 | 49631.8 | 277765.8 |

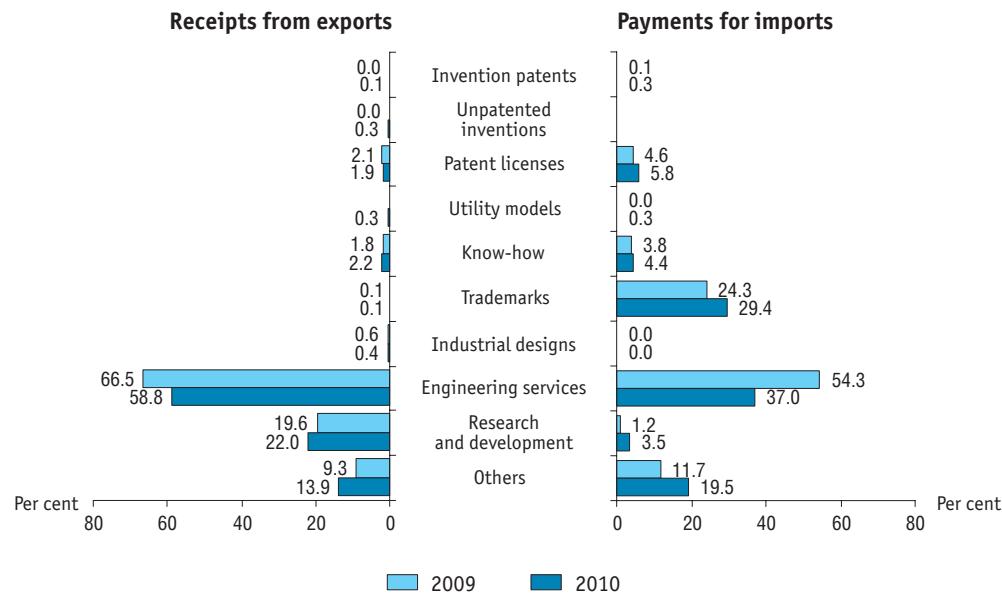
6. R&D Output

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(continued)

| | Total | Invention patents | Unpatented inventions | Patent licenses | Utility models | Know-how | Trademarks | Industrial designs | Engineering services | Research and development | Others |
|----------------------------|------------|-------------------|-----------------------|-----------------|----------------|----------|------------|--------------------|----------------------|--------------------------|-----------|
| Balance of payments | | | | | | | | | | | |
| 2000 | 20585.5 | -189.7 | -777.2 | -2108.3 | ... | -8788.5 | -19625.4 | -760.0 | 29135.8 | 21611.9 | 2086.9 |
| 2001 | -153808.3 | 248.1 | 90.0 | -4768.7 | ... | -16353.1 | -66724.7 | -1090.4 | -32856.4 | 14306.5 | -46659.6 |
| 2002 | -361010.4 | -188.7 | — | -3663.6 | ... | -14132.7 | -81680.8 | -423.1 | -36856.5 | -161850.7 | -62214.3 |
| 2003 | -428710.2 | -528.6 | -1094.4 | -14375.3 | ... | -18973.2 | -140330.2 | -531.5 | -247267.0 | 8 020.6 | -13630.6 |
| 2004 | -439044.9 | -397.0 | -161.6 | -18929.9 | ... | -25090.5 | -213495.2 | -642.7 | -319786.0 | 54058.5 | 85399.5 |
| 2005 | -564802.8 | -7804.0 | -2516.5 | -17527.4 | ... | -8971.8 | -185461.5 | -502.2 | -431955.0 | 66701.6 | 23234.0 |
| 2006 | -595039.9 | -3100.5 | 4284.7 | -18826.0 | -101.2 | -49307.7 | -154528.6 | 1.9 | -491105.8 | 50628.8 | 67014.5 |
| 2007 | -795996.0 | -14061.3 | — | -63322.5 | -958.6 | -68476.0 | -214592.3 | 1897.7 | -486688.2 | 68694.0 | -18488.8 |
| 2008 | -1253903.0 | -10604.0 | -16.5 | -57858.9 | 3074.7 | -33561.3 | -390663.7 | 3752.3 | -665150.2 | 120433.4 | -223308.8 |
| 2009 | -1000847.1 | -917.6 | 10.8 | -62131.2 | 682.9 | -50963.5 | -392265.2 | 3553.0 | -468305.7 | 101020.2 | -131530.8 |
| 2010 | -798095.8 | -3441.6 | 1987.0 | -71032.6 | -1946.7 | -48338.5 | -418250.2 | 2528.8 | -157942.2 | 88725.0 | -190384.8 |

6.17. TECHNOLOGY EXPORTS AND IMPORTS BY CATEGORY OF CONTRACTS



6.18. TECHNOLOGY BALANCE OF PAYMENTS BY COUNTRY*
(thousand US dollars)

| | Receipt from exports | | | Payments for imports | | | Balance of payments | | |
|-----------------------|----------------------|-----------------|-----------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Total | 833164.4 | 618184.5 | 627887.5 | 2087067.4 | 1619031.6 | 1425983.3 | -1253903 | -1000847.1 | -798095.8 |
| CIS countries | 93564.5 | 78007.3 | 103958 | 57079 | 33071.9 | 38536.8 | 36485.5 | 44935.4 | 65421.2 |
| Armenia | 584.2 | 179.5 | 391.6 | 70 | 1156.6 | 2170.6 | 514.2 | -977.1 | -1779 |
| Azerbaijan | 985 | 1859.3 | 6919.3 | 314.3 | 320 | 1278.8 | 670.7 | 1539.3 | 5640.5 |
| Belarus | 11461.3 | 20035.7 | 24344.9 | 10724.2 | 7332.5 | 7473.8 | 737.1 | 12703.2 | 16871.1 |
| Kazakhstan | 50701.2 | 26760.7 | 41080.9 | 5698.5 | 4558.3 | 5966.9 | 45002.7 | 22202.4 | 35114 |
| Kyrgyzstan | 3385.5 | 4014.2 | 2778 | 52.6 | 1.7 | - | 3332.9 | 4012.5 | 2778 |
| Republic of Moldova | 1712.7 | 856.8 | 271.6 | 46.8 | - | 1.5 | 1665.9 | 856.8 | 270.1 |
| Tajikistan | 6266.4 | 5105.7 | 7484.8 | 377.4 | 101.6 | - | 5889 | 5004.1 | 7484.8 |
| Turkmenistan | 140.2 | 50 | 50 | - | 3 | - | 140.2 | 47 | 50 |
| Ukraine | 13533.2 | 15351.3 | 15048.2 | 38695.9 | 19555 | 21405.7 | -25162.71 | -4203.7 | -6357.5 |
| Uzbekistan | 4794.8 | 3794.1 | 5588.7 | 1099.3 | 43.2 | 239.5 | 3695.5 | 3750.9 | 5349.2 |
| OECD countries | 357621.7 | 264903.8 | 252625.9 | 1654507.6 | 1251606.4 | 1227931.3 | -1296885.9 | -986702.6 | -975305.4 |
| Australia | 144.2 | 105.4 | 3.5 | 1066.8 | 30 | 290 | -922.6 | 75.4 | -286.5 |
| Austria | 1292.3 | 453.1 | 1118.1 | 172472.3 | 115248.3 | 92593.8 | -171180 | -114795.2 | -91475.7 |
| Belgium | 1388.4 | 2245 | 719.8 | 18002.1 | 20263.8 | 23555.4 | -16613.7 | -18018.8 | -22835.6 |
| Canada | 1595.2 | 1447.6 | 1360.2 | 60605.8 | 55888.4 | 68531.3 | -59010.6 | -54440.8 | -67171.1 |
| Chile | - | - | 417 | - | 215.5 | 215.5 | - | -215.5 | 201.5 |
| Czech Republic | 5380.7 | 416.6 | 292.5 | 10269.6 | 18873.7 | 10089.7 | -4888.9 | -18457.1 | -9797.2 |
| Denmark | 2206.7 | 3115.1 | 1053.7 | 44839.4 | 37922.3 | 27228.7 | -42632.7 | -34807.2 | -26175 |
| Estonia | 994.6 | 3951.7 | 768.5 | 3399.9 | 593 | 533.5 | -2405.3 | 3358.7 | 235 |
| Finland | 8231.8 | 4019.4 | 3203.7 | 54428.9 | 40773.3 | 33797.1 | -46197.1 | -36753.9 | -30593.4 |
| France | 22089.5 | 25878.2 | 10347.8 | 28957.5 | 36947.7 | 50984.8 | -6868 | -11069.5 | -40637 |

* Data for 2008–2009 was recalculated due to changes in the number of CIS and OECD member countries.

(continued)

| | Receipt from exports | | | Payments for imports | | | Balance of payments | | |
|-------------------|----------------------|---------|---------|----------------------|----------|----------|---------------------|-----------|-----------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Germany | 53202.6 | 43003.9 | 45020.5 | 240570.4 | 147471.4 | 187132.1 | -187367.8 | -104467.5 | -142111.6 |
| Greece | 414.2 | 916.9 | 185.1 | 47.1 | 275.1 | 197.7 | 367.1 | 641.8 | -12.6 |
| Hungary | 2.9 | 125 | 21.5 | 1226.5 | 237.7 | 292.8 | -1223.6 | -112.7 | -271.3 |
| Iceland | 0.4 | - | 4.9 | - | - | - | 0.4 | - | 4.9 |
| Ireland | 1546.8 | 1716.6 | 1670.7 | 7645 | 2521 | 1438.3 | -6098.2 | -804.4 | 232.4 |
| Israel | 4018.2 | 854.7 | 2743.5 | 32 | 239.8 | 556.6 | 3986.2 | 614.9 | 2186.9 |
| Italy | 6098.9 | 6352.5 | 8133.4 | 39608.2 | 26921.8 | 49334.9 | -33509.3 | -20569.3 | -41201.5 |
| Japan | 11827.5 | 4961 | 5952.4 | 73118.3 | 19342.4 | 18569.7 | -61290.8 | -14381.4 | -12617.3 |
| Luxembourg | 9.9 | 1.5 | 0.8 | 9471.2 | 4183.7 | 6513.2 | -9461.3 | -4182.2 | -6512.4 |
| Mexico | - | - | - | - | - | - | - | - | - |
| Netherlands | 67600.9 | 26483.7 | 23395.6 | 248604.6 | 112330.5 | 76208.1 | -181003.7 | -85846.8 | -52812.5 |
| New Zealand | - | 19.3 | | 0.5 | 0.4 | 0.5 | -0.5 | 18.9 | -0.5 |
| Norway | 15431.3 | 6542.5 | 11842.8 | 7080.6 | 11520.4 | 4543.8 | 8350.7 | -4977.9 | 7299 |
| Poland | 1919.5 | 439 | 520.5 | 16186.6 | 5717.8 | 32296.4 | -14267.1 | -5278.8 | -31775.9 |
| Portugal | 252.2 | 6 | 5.6 | 24 | 51.7 | - | 228.2 | -45.7 | 5.6 |
| Republic of Korea | 31967.6 | 37388.9 | 19476 | 13968.4 | 3743.7 | 10056.2 | 17999.2 | 33645.2 | 9419.8 |
| Slovakia | 2863.6 | 281.7 | 13835.5 | 1521 | 2765.3 | 1531 | 1342.6 | -2483.6 | 12304.5 |
| Slovenia | 611.7 | 67.5 | 1644.6 | 1044.2 | 213.4 | 1443 | -432.5 | -145.9 | 201.6 |
| Spain | 459.6 | 365.8 | 39.5 | 5825.8 | 4489.7 | 18382.1 | -5366.2 | -4123.9 | -18342.6 |
| Sweden | 4085.9 | 3259.9 | 768.5 | 13190.5 | 6150 | 15598.5 | -9104.6 | -2890.1 | -14830 |
| Switzerland | 4644.3 | 11808.4 | 6551.2 | 180219.8 | 225767.5 | 246627.1 | -175575.5 | -213959.1 | -240075.9 |
| Turkey | 3541 | 6508 | 1582.6 | 40417.8 | 5172.1 | 6826.4 | -36876.8 | 1335.9 | -5243.8 |
| United Kingdom | 33788.3 | 18343.7 | 30270.8 | 106288.2 | 89317.3 | 95187.1 | -72499.9 | -70973.6 | -64916.3 |
| United States | 70011 | 53825.2 | 59675.1 | 254374.6 | 256417.7 | 147376 | -184363.6 | -202592.5 | -87700.9 |

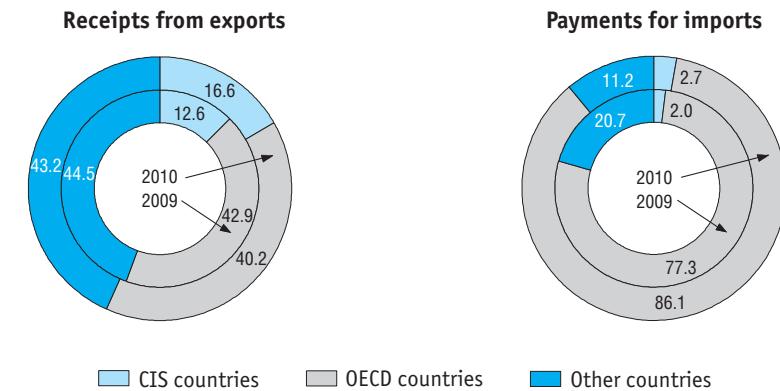
6. R&D Output

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(continued)

| | Receipt from exports | | | Payments for imports | | | Balance of payments | | |
|------------------------|----------------------|-----------------|-----------------|----------------------|-----------------|-----------------|---------------------|-----------------|-----------------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Other countries | 381978.2 | 275273.4 | 271303.6 | 375480.8 | 334353.3 | 159515.2 | 6497.4 | -59079.9 | 111788.4 |
| Brazil | 316 | 520.5 | 2577 | 3.9 | 6.5 | 3.9 | 312.1 | 514 | 2573.1 |
| Bulgaria | 162365.6 | 124988.2 | 45326.4 | 17443.9 | 87025.4 | 28122.3 | 144921.7 | 37962.8 | 17204.1 |
| China | 22846.5 | 19429.2 | 22640.3 | 5998.6 | 2504.8 | 3009.8 | 16847.9 | 16924.4 | 19630.5 |
| Cyprus | 13822.6 | 6998 | 8616.2 | 138290.4 | 113771.3 | 72323.1 | -124467.8 | -106773.3 | -63706.9 |
| Georgia | 1244.2 | 877.5 | 1200.2 | — | — | 179 | 1244.2 | 877.5 | 1021.2 |
| Hong Kong | 1983.3 | 4793.7 | 4138.7 | 825.9 | 879 | 912.4 | 1157.4 | 3914.7 | 3226.3 |
| India | 30314.7 | 19034.4 | 34820.3 | 6145.6 | 379.4 | 588.5 | 24169.1 | 18655 | 34231.8 |
| Iran | 36153.1 | 25308.7 | 67576.7 | 1698 | 279 | 201 | 34455.1 | 25029.7 | 67375.7 |
| Romania | 461.5 | 1060 | 245.9 | — | — | 69.8 | 461.5 | 1060 | 176.1 |
| Singapore | 30680.9 | 11916.9 | 7660.6 | 17.5 | 207.6 | 959.2 | 30663.4 | 11709.3 | 6701.4 |
| South Africa | 147.6 | 5918.2 | 30602.5 | 561.1 | 859.5 | 12.8 | -413.5 | 5058.7 | 30589.7 |
| Taiwan | 13.9 | 38.9 | 4.1 | — | — | 2300 | 13.9 | 38.9 | -2295.9 |
| Others | 81628.3 | 54389.2 | 45894.7 | 204495.9 | 128440.8 | 50833.4 | -122867.6 | -74051.6 | -4938.7 |

6.19. DISTRIBUTION OF TECHNOLOGY EXPORTS AND IMPORTS BY COUNTRY GROUPS



6.20. TECHNOLOGY BALANCE OF PAYMENTS BY SECTOR OF PERFORMANCE
(thousand US dollars)

| | Receipt from exports | | | Payments for imports | | | Balance of payments | | |
|--------------------------------|----------------------|-----------------|-----------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Total | 833164.4 | 618184.5 | 627887.5 | 2087067.4 | 1619031.6 | 1425983.3 | -1253903.0 | -1000847.1 | -798095.8 |
| Sectors of performance: | | | | | | | | | |
| government | 139483.5 | 144221.7 | 118457.6 | 37385.9 | 19006.9 | 29532.3 | 102097.6 | 125214.8 | 88925.3 |
| business enterprise | 690430.1 | 472436.7 | 508375.8 | 2049674.1 | 1600019.4 | 1396436.3 | -1359244.0 | -1127582.7 | -888060.5 |
| higher education | 1043.2 | 1526.1 | 1054.1 | 7.4 | 4.3 | 12.5 | 1035.8 | 1521.8 | 1041.6 |
| private non-profit | 2207.6 | - | - | - | 1.0 | 2.2 | 2207.6 | -1.0 | -2.2 |

6.21. TECHNOLOGY BALANCE OF PAYMENTS BY ECONOMIC ACTIVITY
(thousand US dollars)

| | Receipt from exports | | | Payments for imports | | | Balance of payments | | |
|--|----------------------|-----------------|-----------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Total | 833164.4 | 618184.5 | 627887.5 | 2087067.4 | 1619031.6 | 1425983.3 | -1253903.0 | -1000847.1 | -798095.8 |
| Agriculture, hunting and forestry | 183.3 | – | – | 4176.2 | 1969.5 | 1351.4 | -3992.9 | -1969.5 | -1351.4 |
| Fishing, aquaculture and service activities incidental to fishing | – | 64.2 | 412.2 | 149.3 | – | – | -149.3 | 64.2 | 412.2 |
| Mining and quarrying | 40325.5 | 14924.1 | 25547.3 | 460162.1 | 368077.1 | 73304.8 | -419836.6 | -3531530.0 | -47757.5 |
| Manufacturing | 86195.7 | 54997.7 | 85498.9 | 1358940.6 | 985861.7 | 995178.8 | -1272744.9 | -930864.0 | -909679.9 |
| Electricity, gas and water supply | 2394.4 | 1480.6 | 994.6 | 10150.7 | 5005.0 | 2954.7 | -7756.3 | -3524.4 | -1960.1 |
| Construction | 225394.6 | 174177.5 | 148249.3 | 72382.3 | 108298.1 | 51983.0 | 153012.3 | 65879.4 | 96266.3 |
| Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods | 5702.5 | 5037.9 | 5047.2 | 6192.3 | 6782.8 | 28536.1 | -489.8 | -1744.9 | -23488.9 |
| Transport and communications | 33739.9 | 21424.3 | 19578.1 | 48330.1 | 53789.4 | 57552.4 | -14590.2 | -32365.1 | -37974.3 |
| Real estate, renting and business activities | 436882.1 | 343460.9 | 332854.0 | 77554.6 | 33810.1 | 89930.8 | 359327.5 | 309650.8 | 242923.2 |
| Research and development | 151781.1 | 161699.4 | 178266.0 | 15647.2 | 7576.7 | 11329.9 | 136133.9 | 154122.7 | 166936.1 |
| Other business activities | 215797.9 | 121357.7 | 102306.7 | 53890.0 | 25088.4 | 77081.5 | 161907.9 | 96269.3 | 25225.2 |
| Public administration and defence; compulsory social security | – | – | – | – | – | 15.0 | – | – | -15.0 |
| Education | 1765.6 | 2588.3 | 3140.8 | 91.0 | 95.8 | 108.5 | 1674.6 | 2492.5 | 3032.3 |
| Health and social work | – | – | – | – | – | – | – | – | – |
| Community, social and personal service activities | 579.6 | 7.6 | – | 166.0 | 7.3 | 2174.0 | 413.6 | 0.3 | -2174.0 |
| Recreational, cultural and sporting activities | 579.6 | 7.6 | – | 166.0 | 7.3 | 2174.0 | 413.6 | 0.3 | -2174.0 |
| Others | 1.2 | 21.4 | 6565.1 | 48772.2 | 55334.8 | 122893.8 | -48771.0 | -55313.4 | -116328.7 |

6.22. TECHNOLOGY BALANCE OF PAYMENTS BY OWNERSHIP OF ORGANISATIONS
(thousand US dollars)

| | Receipt from exports | | | Payments for imports | | | Balance of payments | | |
|---|----------------------|-----------------|-----------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Total | 833164.4 | 618184.5 | 627887.5 | 2087067.4 | 1619031.6 | 1425983.3 | -1253903.0 | -1000847.1 | -798095.8 |
| Russian ownership | 621122.4 | 476100.7 | 482111.1 | 807221.5 | 648401.5 | 369267.9 | -186099.1 | -172300.8 | 112843.2 |
| Public ownership | 191387.6 | 160090.3 | 163850.4 | 49798.9 | 26766.3 | 50672.8 | 141588.7 | 133324.0 | 113177.6 |
| Federal | 190131.6 | 158319.6 | 160022.2 | 46576.0 | 23971.7 | 47741.2 | 143555.6 | 134347.9 | 112281.0 |
| Provincial | 1256.0 | 1770.7 | 3828.2 | 3222.9 | 2794.6 | 2931.6 | -1966.9 | -1023.9 | 896.6 |
| Municipal ownership | — | — | — | 16.0 | 4.4 | — | -16.0 | -4.4 | — |
| Private ownership | 402750.1 | 132187.5 | 301646.4 | 709284.5 | 501061.2 | 276779.6 | -306534.4 | -368873.7 | 24866.8 |
| Joint ownership (without foreign participation) | 26984.7 | 183822.9 | 16614.3 | 48122.1 | 120569.6 | 41815.5 | -21137.4 | 63253.3 | -25201.2 |
| Foreign ownership | 170664.8 | 81438.5 | 98643.3 | 716549.1 | 620106.2 | 662391.4 | -545884.3 | -538667.7 | -563748.1 |
| Joint ownership (with both Russian and foreign participation) | 41377.2 | 60645.3 | 47133.1 | 563296.8 | 350523.9 | 394324.0 | -521919.6 | -289878.6 | -347190.9 |

6.23. DEVELOPMENT OF ADVANCED MANUFACTURING TECHNOLOGIES BY TYPE

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Advanced manufacturing technologies | 736 | 711 | 688 | 637 | 727 | 821 | 676 | 637 | 735 | 780 | 854 | 897 | 864 |
| Design and engineering | 185 | 162 | 165 | 158 | 155 | 148 | 111 | 138 | 148 | 177 | 173 | 196 | 216 |
| Fabrication, processing, and assembling | 278 | 316 | 281 | 245 | 333 | 390 | 342 | 291 | 362 | 365 | 369 | 328 | 383 |
| Automated material handling | 14 | 16 | 20 | 11 | 7 | 10 | 11 | 9 | 13 | 8 | 14 | 21 | 18 |
| Automated inspection and/or testing equipment | 95 | 82 | 76 | 71 | 63 | 87 | 90 | 91 | 97 | 110 | 99 | 102 | 116 |
| Communications and control | 85 | 80 | 90 | 102 | 113 | 116 | 49 | 57 | 56 | 67 | 68 | 67 | 70 |
| Manufacturing information systems | 31 | 18 | 18 | 16 | 14 | 18 | 23 | 21 | 24 | 14 | 23 | 26 | 20 |
| Integrated management and control | 48 | 37 | 38 | 34 | 42 | 52 | 50 | 30 | 35 | 39 | 41 | 49 | 41 |

6.24. DEVELOPMENT OF ADVANCED MANUFACTURING TECHNOLOGIES BY DEGREE OF NOVELTY AND TYPE

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Technologies new to the country | 600 | 580 | 569 | 543 | 606 | 582 | 569 | 538 | 642 | 653 | 738 | 757 | 762 |
| Design and engineering | 133 | 126 | 136 | 142 | 129 | 125 | 102 | 125 | 138 | 140 | 150 | 169 | 191 |
| Fabrication, processing, and assembling | 230 | 256 | 231 | 210 | 271 | 251 | 271 | 239 | 308 | 314 | 316 | 283 | 336 |
| Automated material handling, | 11 | 12 | 19 | 8 | 6 | 8 | 11 | 8 | 11 | 8 | 12 | 17 | 16 |
| Automated inspection and/or testing equipment | 77 | 65 | 66 | 62 | 55 | 48 | 71 | 72 | 79 | 91 | 87 | 92 | 98 |
| Communications and control | 78 | 75 | 74 | 87 | 99 | 99 | 46 | 52 | 52 | 52 | 65 | 61 | 67 |
| Manufacturing information systems | 30 | 18 | 14 | 11 | 13 | 7 | 20 | 20 | 24 | 13 | 20 | 22 | 17 |
| Integrated management and control | 41 | 28 | 29 | 23 | 33 | 44 | 48 | 22 | 30 | 35 | 37 | 40 | 37 |
| Radically new technologies | 75 | 67 | 72 | 44 | 70 | 56 | 52 | 60 | 52 | 75 | 54 | 140 | 102 |
| Design and engineering | 25 | 14 | 12 | 4 | 16 | 13 | 4 | 12 | 7 | 17 | 7 | 27 | 25 |
| Fabrication, processing, and assembling | 24 | 30 | 32 | 18 | 41 | 29 | 33 | 30 | 25 | 30 | 24 | 45 | 47 |
| Automated material handling | 1 | 3 | 1 | 1 | — | 1 | — | — | 1 | — | 1 | 4 | 2 |
| Automated inspection and/or testing equipment | 14 | 10 | 6 | 5 | 5 | 5 | 9 | 12 | 14 | 14 | 8 | 10 | 18 |
| Communications and control | 7 | 2 | 9 | 4 | 2 | 5 | 2 | 4 | 3 | 12 | 1 | 6 | 3 |
| Manufacturing information systems | 1 | — | 4 | 3 | — | 1 | 2 | 1 | — | 1 | 1 | 4 | 3 |
| Integrated management and control | 3 | 8 | 8 | 9 | 6 | 2 | 2 | 1 | 2 | 1 | 3 | 9 | 4 |

6.25. DEVELOPMENT OF ADVANCED MANUFACTURING TECHNOLOGIES BY DEGREE OF NOVELTY AND ECONOMIC ACTIVITY

| | Total | | | Of which technologies | | | | | |
|---|------------|------------|------------|-----------------------|------------|------------|---------------|------------|------------|
| | 2008 | 2009 | 2010 | new to the country | | | radically new | | |
| | | | | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Advanced manufacturing technologies | 854 | 897 | 864 | 738 | 757 | 762 | 54 | 140 | 102 |
| Mining and quarrying | 14 | 7 | 5 | 11 | 6 | 5 | 3 | 1 | — |
| Manufacturing | 254 | 221 | 231 | 234 | 199 | 215 | 16 | 22 | 16 |
| Electricity, gas and water supply | 8 | 4 | 6 | 8 | 2 | 5 | — | 2 | 1 |
| Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods | — | — | — | — | — | — | — | — | — |
| Real estate, renting and business activities | 411 | 482 | 470 | 347 | 408 | 410 | 28 | 74 | 60 |
| Research and development | 386 | 448 | 443 | 322 | 379 | 385 | 28 | 69 | 58 |
| Other business activities | 15 | 22 | 14 | 15 | 20 | 13 | — | 2 | 1 |
| Education | 167 | 183 | 152 | 138 | 142 | 127 | 7 | 41 | 25 |
| Higher education | 167 | 183 | 152 | 138 | 142 | 127 | 7 | 41 | 25 |

**6.26. DEVELOPMENT OF ADVANCED MANUFACTURING TECHNOLOGIES BY DEGREE OF NOVELTY
AND OWNERSHIP OF ORGANISATIONS**

| | Total | | | Of which technologies | | | | | |
|---|------------|------------|------------|-----------------------|------------|------------|---------------|------------|------------|
| | 2008 | 2009 | 2010 | new to the country | | | radically new | | |
| | | | | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Total | 854 | 897 | 864 | 738 | 757 | 762 | 54 | 140 | 102 |
| Russian ownership | 808 | 855 | 810 | 695 | 719 | 712 | 51 | 136 | 98 |
| Public ownership | 510 | 569 | 529 | 427 | 472 | 459 | 38 | 97 | 70 |
| Federal | 497 | 554 | 514 | 419 | 460 | 445 | 33 | 94 | 69 |
| Provincial | 13 | 15 | 15 | 8 | 12 | 14 | 5 | 3 | 1 |
| Municipal ownership | 3 | 2 | 1 | 3 | 1 | – | – | 1 | 1 |
| Ownership of voluntary associations | 3 | – | 4 | 3 | – | 1 | – | – | 3 |
| Private ownership | 216 | 200 | 190 | 199 | 175 | 174 | 9 | 25 | 16 |
| Joint ownership (without foreign participation) | 76 | 84 | 86 | 63 | 71 | 78 | 4 | 13 | 8 |
| Foreign ownership | 11 | 11 | 9 | 9 | 9 | 9 | 2 | 2 | – |
| Joint ownership (with both Russian and foreign participation) | 35 | 31 | 45 | 34 | 29 | 41 | 1 | 2 | 4 |

6.27. DEVELOPMENT OF ADVANCED MANUFACTURING TECHNOLOGIES WITH THE USE OF INDUSTRIAL PROPERTY OBJECTS BY TYPE

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Technologies developed with the use of invention patents | | | | | | | | | | | | | |
| Design and engineering | 252 | 285 | 222 | 196 | 198 | 222 | 237 | 234 | 288 | 250 | 299 | 382 | 355 |
| Fabrication, processing, and assembling | 67 | 56 | 50 | 38 | 30 | 31 | 31 | 47 | 45 | 50 | 53 | 73 | 86 |
| Automated material handling | 110 | 141 | 107 | 96 | 108 | 138 | 134 | 114 | 158 | 127 | 136 | 144 | 173 |
| Automated inspection and/or testing equipment | 3 | 6 | 4 | 3 | 2 | 1 | 1 | 2 | 4 | – | 8 | 13 | 5 |
| Communications and control | 49 | 52 | 36 | 31 | 30 | 23 | 41 | 51 | 45 | 46 | 44 | 49 | 52 |
| Manufacturing information systems | 12 | 14 | 14 | 19 | 21 | 20 | 6 | 10 | 13 | 14 | 13 | 10 | 13 |
| Integrated management and control | 2 | 3 | 1 | 4 | – | – | 7 | 5 | 8 | 2 | 3 | 4 | 7 |
| Technologies developed with the use of utility model patents | | | | | | | | | | | | | |
| Design and engineering | 70 | 55 | 73 | 56 | 60 | 73 | 77 | 79 | 109 | 114 | 121 | 133 | 155 |
| Fabrication, processing, and assembling | 21 | 11 | 13 | 16 | 16 | 19 | 11 | 17 | 24 | 24 | 24 | 31 | 48 |
| Automated material handling | 17 | 24 | 37 | 24 | 26 | 30 | 47 | 34 | 52 | 49 | 52 | 49 | 61 |
| Automated inspection and/or testing equipment | – | – | 2 | 1 | 1 | 4 | 1 | 3 | 2 | 2 | 3 | 5 | 7 |
| Communications and control | 3 | 8 | 6 | 4 | 8 | 12 | 10 | 15 | 17 | 24 | 20 | 18 | 26 |
| Manufacturing information systems | 12 | 5 | 10 | 5 | 5 | 4 | 3 | 6 | 4 | 9 | 2 | 9 | 8 |
| Integrated management and control | 4 | 3 | – | 2 | 1 | – | 3 | 1 | 2 | 2 | 4 | 4 | 3 |
| | 13 | 4 | 5 | 4 | 3 | 4 | 2 | 3 | 8 | 4 | 6 | 5 | 2 |

6. R&D Output

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(continued)

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Technologies developed with the use of industrial design patents | 25 | 21 | 18 | 18 | 20 | 17 | 26 | 25 | 13 | 37 | 29 | 35 | 27 |
| Design and engineering | 8 | 11 | 9 | 8 | 5 | 5 | 6 | 6 | 3 | 15 | 3 | 8 | 7 |
| Fabrication, processing, and assembling | 10 | 7 | 6 | 4 | 9 | 7 | 12 | 9 | 9 | 6 | 14 | 13 | 9 |
| Automated material handling, | – | 1 | – | – | – | – | – | – | – | – | – | 1 | – |
| Automated inspection and/or testing equipment | 3 | 1 | 1 | 2 | 4 | 3 | 5 | 7 | 1 | 13 | 4 | 2 | 4 |
| Communications and control | 3 | 1 | – | 4 | 2 | 2 | 1 | 2 | – | 3 | 4 | 5 | 5 |
| Manufacturing information systems | – | – | – | – | – | – | – | 1 | – | – | 2 | 3 | – |
| Integrated management and control | 1 | – | 2 | – | – | – | 2 | – | – | – | 1 | 2 | 2 |

6.28. DEVELOPMENT OF ADVANCED MANUFACTURING TECHNOLOGIES WITH THE USE OF INDUSTRIAL PROPERTY OBJECTS BY ECONOMIC ACTIVITY

| | Total | | | Of which technologies developed with the use of patents for | | | | | | | | |
|--|------------|------------|------------|---|------------|------------|----------------|------------|------------|--------------------|-----------|-----------|
| | 2008 | 2009 | 2010 | inventions | | | utility models | | | industrial designs | | |
| | | | | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Advanced manufacturing technologies | 854 | 897 | 864 | 299 | 382 | 355 | 121 | 133 | 155 | 29 | 35 | 27 |
| Mining and quarrying | 14 | 7 | 5 | 7 | 6 | 5 | 1 | 1 | — | — | — | — |
| Manufacturing | 254 | 221 | 231 | 52 | 56 | 75 | 27 | 51 | 45 | 16 | 23 | 19 |
| Electricity, gas and water supply | 8 | 4 | 6 | 2 | 2 | 2 | 4 | 1 | 1 | 2 | 1 | — |
| Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods | — | — | — | — | — | — | — | — | — | — | — | — |
| Real estate, renting and business activities | 411 | 482 | 470 | 151 | 203 | 186 | 56 | 47 | 77 | 9 | 8 | 8 |
| Research and development | 386 | 448 | 443 | 148 | 190 | 178 | 54 | 42 | 70 | 8 | 8 | 8 |
| Other business activities | 15 | 22 | 14 | 2 | 11 | 8 | 2 | 3 | 4 | 1 | — | — |
| Education | 167 | 183 | 152 | 87 | 115 | 87 | 33 | 33 | 32 | 2 | 3 | — |
| Higher education | 167 | 183 | 152 | 87 | 115 | 87 | 33 | 33 | 32 | 2 | 3 | — |

**6.29. DEVELOPMENT OF ADVANCED MANUFACTURING TECHNOLOGIES WITH THE USE OF INDUSTRIAL PROPERTY OBJECTS
BY OWNERSHIP OF ORGANISATIONS**

| | Total | | | Of which technologies developed with the use of patents for | | | | | | | | |
|---|------------|------------|------------|---|------------|------------|----------------|------------|------------|--------------------|-----------|-----------|
| | 2008 | 2009 | 2010 | inventions | | | utility models | | | industrial designs | | |
| | | | | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Total | 854 | 897 | 864 | 299 | 382 | 355 | 121 | 133 | 155 | 29 | 35 | 27 |
| Russian ownership | 808 | 855 | 810 | 286 | 371 | 338 | 117 | 125 | 148 | 27 | 33 | 25 |
| Public ownership | 510 | 569 | 529 | 205 | 273 | 239 | 57 | 56 | 82 | 10 | 10 | 6 |
| Federal | 497 | 554 | 514 | 203 | 272 | 237 | 55 | 54 | 78 | 10 | 10 | 6 |
| Provincial | 13 | 15 | 15 | 2 | 1 | 2 | 2 | 2 | 4 | – | – | – |
| Municipal ownership | 3 | 2 | 1 | – | – | – | – | – | – | – | – | – |
| Ownership of voluntary associations | 3 | – | 4 | – | – | – | – | – | 1 | – | – | – |
| Private ownership | 216 | 200 | 190 | 71 | 75 | 72 | 47 | 55 | 53 | 8 | 11 | 5 |
| Joint ownership (without foreign participation) | 76 | 84 | 86 | 10 | 23 | 27 | 13 | 14 | 12 | 9 | 12 | 14 |
| Foreign ownership | 11 | 11 | 9 | 2 | 3 | 3 | – | 2 | 2 | 1 | 1 | – |
| Joint ownership (with both Russian and foreign participation) | 35 | 31 | 45 | 11 | 8 | 14 | 4 | 6 | 5 | 1 | 1 | 2 |

6.30. USE OF ADVANCED MANUFACTURING TECHNOLOGIES BY TYPE

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Advanced manufacturing technologies | 58706 | 62390 | 70069 | 80012 | 93412 | 107015 | 119639 | 140983 | 168311 | 180324 | 184568 | 201850 | 203330 |
| Design and engineering | 9364 | 10395 | 14385 | 18152 | 23135 | 29960 | 36826 | 43273 | 50653 | 54044 | 47116 | 54539 | 56130 |
| Fabrication, processing, and assembling | 35176 | 34857 | 35408 | 37056 | 39113 | 40757 | 44066 | 42976 | 50290 | 48956 | 47235 | 52460 | 55438 |
| Automated material handling | 684 | 698 | 685 | 667 | 707 | 934 | 829 | 970 | 1270 | 1420 | 1469 | 1668 | 1853 |
| Automated inspection and/or testing equipment | 2201 | 2203 | 2409 | 2607 | 4335 | 4168 | 4071 | 4525 | 5941 | 6758 | 7531 | 8075 | 9106 |
| Communications and control | 8879 | 11441 | 13713 | 18721 | 22975 | 27766 | 29923 | 44135 | 53971 | 62102 | 74468 | 77457 | 72798 |
| Manufacturing information systems | 1003 | 1170 | 1823 | 1335 | 1563 | 1827 | 2085 | 3177 | 4092 | 4602 | 4175 | 4510 | 4848 |
| Integrated management and control | 1399 | 1626 | 1646 | 1474 | 1584 | 1603 | 1839 | 1927 | 2094 | 2442 | 2380 | 2877 | 3157 |

6.31. USE OF ADVANCED MANUFACTURING TECHNOLOGIES BY TYPE AND DURATION

| | Total | | Of which technologies used during the period of | | | | | | | |
|---|---------------|---------------|---|--------------|---------------|--------------|--------------|--------------|-------------------|--------------|
| | | | less than 1 year | | 1–5 years | | 6–9 years | | 10 years and over | |
| | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Advanced manufacturing technologies | 201850 | 203330 | 19771 | 19447 | 102892 | 95761 | 41789 | 44614 | 37398 | 43508 |
| Design and engineering | 54539 | 56130 | 5110 | 5799 | 29481 | 26890 | 12803 | 14807 | 7145 | 8634 |
| Fabrication, processing, and assembling | 52460 | 55438 | 4381 | 4739 | 20488 | 20873 | 8813 | 9192 | 18778 | 20634 |
| Automated material handling | 1668 | 1853 | 153 | 159 | 748 | 790 | 346 | 393 | 421 | 511 |
| Automated inspection and/or testing equipment | 8075 | 9106 | 894 | 1012 | 4439 | 4725 | 1410 | 1739 | 1332 | 1630 |
| Communications and control | 77457 | 72798 | 8235 | 6661 | 44029 | 38700 | 16895 | 16932 | 8298 | 10505 |
| Manufacturing information systems | 4510 | 4848 | 609 | 714 | 2306 | 2438 | 943 | 966 | 652 | 730 |
| Integrated management and control | 2877 | 3157 | 300 | 363 | 1267 | 1345 | 565 | 585 | 745 | 864 |

6.32. USE OF ADVANCED MANUFACTURING TECHNOLOGIES BY ECONOMIC ACTIVITY AND DURATION

| | Total | | Of which technologies used during the period of | | | | | | | |
|--|---------------|---------------|---|--------------|---------------|--------------|--------------|--------------|-------------------|--------------|
| | | | less than 1 year | | 1–5 years | | 6–9 years | | 10 years and over | |
| | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Advanced manufacturing technologies | 201850 | 203330 | 19771 | 19447 | 102892 | 95761 | 41789 | 44614 | 37398 | 43508 |
| Agriculture, hunting and forestry | — | — | — | — | — | — | — | — | — | — |
| Fishing, aquaculture and service incidental to fishing | — | — | — | — | — | — | — | — | — | — |
| Mining and quarrying | 7251 | 7914 | 936 | 1056 | 4415 | 4654 | 1198 | 1303 | 702 | 901 |
| Manufacturing | 132891 | 135945 | 10961 | 11271 | 64473 | 60441 | 28155 | 30320 | 29302 | 33913 |
| Electricity, gas and water supply | 15814 | 16262 | 1784 | 2010 | 10013 | 9983 | 2702 | 2908 | 1315 | 1361 |
| Construction | — | — | — | — | — | — | — | — | — | — |
| Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods | 299 | 313 | 23 | 27 | 137 | 136 | 80 | 95 | 59 | 55 |
| Real estate, renting and business activities | 40841 | 38342 | 5374 | 4592 | 21471 | 18355 | 8660 | 8899 | 5336 | 6496 |
| Research and development | 28556 | 25461 | 4385 | 3370 | 14226 | 11519 | 5976 | 5953 | 3969 | 4619 |
| Other business activities | 8997 | 10006 | 692 | 1002 | 5566 | 5275 | 1553 | 2103 | 1186 | 1626 |
| Public administration and defence; compulsory social security | — | — | — | — | — | — | — | — | — | — |

6. R&D Output

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(continued)

| | Total | | Of which technologies used during the period of | | | | | | | |
|---|-------|------|---|------|-----------|------|-----------|------|-------------------|------|
| | | | less than 1 year | | 1–5 years | | 6–9 years | | 10 years and over | |
| | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Education | 4661 | 4460 | 689 | 487 | 2314 | 2143 | 979 | 1058 | 679 | 772 |
| Higher education | 4661 | 4460 | 689 | 487 | 2314 | 2143 | 979 | 1058 | 679 | 772 |
| Health and social work | – | – | – | – | – | – | – | – | – | – |
| Other community, social and personal service activities | 93 | 94 | 4 | 4 | 69 | 49 | 15 | 31 | 5 | 10 |
| Recreational, cultural and sporting activities | 93 | 94 | 4 | 4 | 69 | 49 | 15 | 31 | 5 | 10 |

6.33. USE OF ADVANCED MANUFACTURING TECHNOLOGIES BY OWNERSHIP OF ORGANISATIONS AND DURATION

| | Total | | Of which technologies used during the period of | | | | | | | |
|---|---------------|---------------|---|--------------|---------------|--------------|--------------|--------------|-------------------|--------------|
| | | | less than 1 year | | 1–5 years | | 6–9 years | | 10 years and over | |
| | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Total | 201850 | 203330 | 19771 | 19447 | 102892 | 95761 | 41789 | 44614 | 37398 | 43508 |
| Russian ownership | 180415 | 179914 | 18272 | 17301 | 91727 | 84842 | 37092 | 39233 | 33324 | 38538 |
| Public ownership | 53995 | 50479 | 5317 | 4251 | 25526 | 22959 | 12101 | 11913 | 11051 | 11356 |
| Federal | 46872 | 44045 | 4249 | 3785 | 22096 | 19873 | 10893 | 10548 | 9634 | 9839 |
| Provincial | 7123 | 6434 | 1068 | 466 | 3430 | 3086 | 1208 | 1365 | 1417 | 1517 |
| Municipal ownership | 5101 | 5416 | 606 | 551 | 3439 | 3566 | 799 | 964 | 257 | 335 |
| Ownership of voluntary associations | 393 | 378 | 47 | 48 | 226 | 184 | 95 | 94 | 25 | 52 |
| Private ownership | 84537 | 86001 | 8824 | 8660 | 43890 | 41151 | 16698 | 17820 | 15125 | 18370 |
| Ownership of consumer cooperatives | 119 | 137 | 18 | 9 | 63 | 80 | 30 | 35 | 8 | 13 |
| Joint ownership (without foreign participation) | 36270 | 37360 | 3460 | 3774 | 18583 | 16815 | 7369 | 8381 | 6858 | 8390 |
| Others | — | 143 | — | 8 | — | 87 | — | 26 | — | 22 |
| Foreign ownership | 6101 | 7510 | 487 | 889 | 3594 | 3661 | 1358 | 1815 | 662 | 1145 |
| Joint ownership (with both Russian and foreign participation) | 15334 | 15906 | 1012 | 1257 | 7571 | 7258 | 3339 | 3566 | 3412 | 3825 |

6.34. USE OF ADVANCED MANUFACTURING TECHNOLOGIES ON THE BASIS OF INVENTION PATENTS BY TYPE

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Advanced manufacturing technologies | 2075 | 2985 | 2804 | 2881 | 2457 | 2638 | 3292 | 3072 | 2168 | 1373 | 2463 | 1344 | 1012 |
| Design and engineering | 366 | 1204 | 1115 | 1116 | 623 | 637 | 702 | 1055 | 814 | 499 | 223 | 244 | 274 |
| Fabrication, processing, and assembling | 1126 | 1438 | 1231 | 1327 | 1371 | 1597 | 1648 | 1411 | 914 | 442 | 506 | 415 | 337 |
| Automated material handling | 15 | 21 | 45 | 25 | 22 | 17 | 14 | 16 | 5 | 4 | 13 | 24 | 18 |
| Automated inspection and/or testing equipment | 286 | 190 | 171 | 234 | 216 | 158 | 236 | 262 | 142 | 115 | 725 | 114 | 116 |
| Communications and control | 201 | 81 | 182 | 117 | 164 | 190 | 620 | 258 | 213 | 238 | 885 | 426 | 209 |
| Manufacturing information systems | 3 | 5 | 9 | 16 | 16 | 11 | 27 | 44 | 53 | 51 | 52 | 47 | 31 |
| Integrated management and control | 78 | 46 | 51 | 46 | 45 | 28 | 45 | 26 | 27 | 24 | 25 | 42 | 27 |

7. Nanotechnology



7.1. NANOTECHNOLOGY R&D

| | Total | | | As a per cent of the national total | | |
|---|---------|---------|---------|-------------------------------------|------|------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Institutions engaged in nanotechnology R&D | 463 | 465 | 480 | 12.6 | 13.2 | 13.7 |
| Researchers engaged in nanotechnology R&D, <i>head-count</i> | 14873 | 14500 | 17928 | 4.0 | 3.9 | 4.9 |
| Gross domestic expenditure on nanotechnology R&D, <i>million roubles</i> | 11026.2 | 15113.1 | 21283.7 | 2.6 | 3.1 | 4.1 |

7.2. NANOTECHNOLOGY R&D IN INSTITUTIONS BY SIZE OF EMPLOYMENT

| | Number of researchers engaged in nanotechnology R&D, <i>head-count</i> | | | Gross domestic expenditure on nanotechnology R&D, <i>million roubles</i> | | |
|--|---|--------------|--------------|---|----------------|----------------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Total | 14873 | 14500 | 17928 | 11026.2 | 15113.1 | 21283.7 |
| <i>Size of employment, head-count:</i> | | | | | | |
| below 100 | 1538 | 1288 | 1568 | 1120.1 | 1159.6 | 2337.7 |
| 101–500 | 6409 | 7044 | 7774 | 4245.2 | 6242.9 | 6171.4 |
| 501–1000 | 2566 | 3327 | 3821 | 1575.3 | 2780.5 | 5084.4 |
| 1001–5000 | 4262 | 2142 | 3746 | 3704.5 | 4183.4 | 6919.8 |
| 5001 and more | 98 | 699 | 1019 | 381.2 | 746.8 | 770.4 |

7.3. NANOTECHNOLOGY R&D BY TYPE OF INSTITUTIONS

| | Number of researchers engaged in nanotechnology R&D, <i>head-count</i> | | | Gross domestic expenditure on nanotechnology R&D, <i>million roubles</i> | | |
|--|---|--------------|--------------|---|----------------|----------------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Total | 14873 | 14500 | 17928 | 11026.2 | 15113.1 | 21283.7 |
| Research institutes | 9574 | 10104 | 10453 | 5650.1 | 7660.2 | 8470.6 |
| Design organisations | 662 | 402 | 547 | 217.1 | 152.0 | 890.9 |
| Construction project and exploration organisations | 280 | 261 | — | 219.8 | 101.6 | — |
| Experimental enterprises | — | 32 | 35 | — | 5.7 | 6.3 |
| Higher education institutions | 2186 | 3027 | 4497 | 2186.4 | 3468.3 | 4819.0 |
| Industrial enterprises | 361 | 432 | 459 | 805.2 | 1281.3 | 744.4 |
| Others | 1810 | 242 | 1937 | 1947.6 | 2444.0 | 6352.5 |

7.4. NANOTECHNOLOGY R&D BY OWNERSHIP OF INSTITUTIONS

| | Number of researchers engaged in nanotechnology R&D, head-count | | | Gross domestic expenditure on nanotechnology R&D, million roubles | | |
|---|--|-------|-------|--|---------|---------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Total | 14873 | 14500 | 17928 | 11026.2 | 15113.1 | 21283.7 |
| Russian ownership | 14819 | 14447 | 17865 | 10962.1 | 14545.2 | 19330.3 |
| Public ownership | 13667 | 13504 | 17026 | 10275.2 | 13979.8 | 18444.7 |
| Federal | 13583 | 13471 | 16950 | 10266.7 | 13974.6 | 18437.3 |
| Provincial | 84 | 33 | 76 | 8.5 | 5.2 | 7.4 |
| Private ownership | 677 | 472 | 486 | 376.2 | 314.4 | 411.6 |
| Joint ownership (without foreign participation) | 475 | 471 | 353 | 310.6 | 251.1 | 473.9 |
| Joint ownership with a part of public ownership | – | – | 221 | – | – | 394.3 |
| Joint ownership (with both Russian and foreign participation) | 54 | 53 | 63 | 64.1 | 567.9 | 1953.4 |

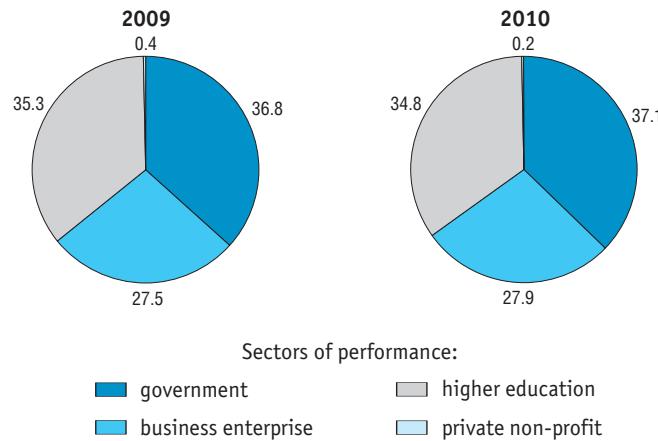
7.5. NANOTECHNOLOGY R&D BY ECONOMIC ACTIVITY

| | Number of researchers engaged in nanotechnology R&D, <i>head-count</i> | | | Gross domestic expenditure on nanotechnology R&D, <i>million roubles</i> | | |
|---|---|--------------|--------------|---|----------------|----------------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Total | 14873 | 14500 | 17928 | 11026.2 | 15113.1 | 21283.7 |
| Manufacturing | 368 | 468 | 574 | 490.4 | 454.9 | 527.8 |
| Real estate, renting and business activities | 12263 | 10858 | 12669 | 8306.5 | 11120.3 | 15547.6 |
| Research and development | 12121 | 10773 | 12610 | 8303.8 | 11050.6 | 15517.8 |
| Education | 2236 | 3171 | 4665 | 2229.3 | 3537.4 | 5197.3 |
| Higher education | 2236 | 3171 | 4665 | 2229.3 | 3537.4 | 5197.3 |
| Other community, social and personal service activities | 6 | 3 | 20 | – | 0.6 | 10.9 |

7.6. NANOTECHNOLOGY R&D BY SECTOR OF PERFORMANCE

| | Number of researchers engaged in nanotechnology R&D, <i>head-count</i> | | | Gross domestic expenditure on nanotechnology R&D, <i>million roubles</i> | | |
|-------------------------|---|--------------|--------------|---|----------------|----------------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Total | 14873 | 14500 | 17928 | 11026.2 | 15113.1 | 21283.7 |
| Sectors of performance: | | | | | | |
| government | 6537 | 6554 | 7267 | 4230.5 | 4492.1 | 5283.9 |
| business enterprise | 5654 | 4330 | 5608 | 4355.8 | 6926.6 | 10659.5 |
| higher education | 2652 | 3581 | 5022 | 2436.0 | 3689.3 | 5334.4 |
| private non-profit | 30 | 35 | 31 | 3.9 | 5.2 | 5.9 |

7.7. PERCENTAGE DISTRIBUTION OF R&D INSTITUTIONS ENGAGED IN NANOTECHNOLOGY R&D BY SECTOR OF PERFORMANCE



7.8. DEVELOPMENT AND USE OF NANOTECHNOLOGY BY ECONOMIC ACTIVITY: 2010

| | Number of nanotechnologies developed | Number of nanotechnologies used |
|--|--------------------------------------|---------------------------------|
| Total | 222 | 354 |
| Mining and quarrying | 2 | 3 |
| Manufacturing | 25 | 60 |
| Electricity, gas and water supply | – | 8 |
| Real estate, renting and business activities | 104 | 239 |
| Research and development | 104 | 236 |
| Education | 91 | 44 |
| Higher education | 91 | 44 |

7.9. INNOVATIVE NANOTECHNOLOGY-RELATED GOODS AND SERVICES: 2010 (million roubles)

| | Innovative nanotechnology-related goods and services | | | Of which exports | | | | | |
|----------------------|--|---------------|----------------|------------------|-------------|----------------|------------------|-------------|--------------|
| | | | | total | | | to CIS countries | | |
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| Manufacturing | 581.7 | 1074.0 | 53402.6 | 53.5 | 83.4 | 23867.2 | 24.0 | 33.4 | 245.9 |
| High tech | 239.8 | 414.3 | 2578.1 | 9.0 | 11.9 | 77.9 | 0.6 | 0.3 | 21.1 |
| Medium high tech | 139.2 | 210.8 | 1491.6 | 43.1 | 65.2 | 260.1 | 22.6 | 29.5 | 133.4 |
| Medium low tech | – | 180.3 | 48213.5 | – | 6.3 | 23521.3 | – | 3.6 | 89.1 |
| Low tech | 202.7 | 268.6 | 1119.4 | 1.4 | – | 7.9 | 0.8 | – | 2.3 |

7.10. SALES OF NANOTECHNOLOGY-RELATED GOODS AND SERVICES BY ECONOMIC ACTIVITY*

| | Sales of nanotechnology-related goods and services: January–June 2011 | | | Nanotechnology-related goods and services as a per cent of the total sales of enterprises: January–June 2011 |
|---|---|------------------------|---|--|
| | Million roubles | As a per cent of total | As a per cent of the respective period of the previous year | |
| Total | 70702.3 | 100 | 128.3 | 24.9 |
| Manufacturing | 68910.6 | 97.5 | 126.4 | 26.7 |
| Manufacture of coke, refined petroleum | 60489.3 | 85.6 | 119.5 | 45.1 |
| Manufacture of chemicals and chemical products | 760.0 | 1.1 | 143.8 | 1.1 |
| Manufacture of basic metals and fabricated metal products | 237.2 | 0.3 | 246.5 | 2.4 |
| Manufacture of electrical, electronic and optical equipment | 3671.2 | 5.2 | 236.6 | 28.5 |
| Manufacture of transport vehicles and equipment | 596.8 | 0.8 | 94.5 | 26.0 |
| Electricity, gas and water supply | 1.3 | 0.002 | 132.3 | 2.5 |
| Real estate, renting and business activities | 1701.1 | 2.4 | 323.7 | 8.1 |
| Research and development | 1701.1 | 2.4 | 323.7 | 8.1 |
| Education | 89.3 | 0.1 | 223.0 | 1.8 |
| Higher education | 89.3 | 0.1 | 223.0 | 1.8 |

* Results of the pilot survey on enterprises (excluding small and defense-oriented) engaged in manufacturing of nanotechnology-related goods and services.

7.11. SALES OF NANOTECHNOLOGY-RELATED GOODS AND SERVICES BY TYPE*

| | Sales of nanotechnology-related goods and services: January–June 2011 | | |
|--|---|------------------------|---|
| | Million roubles | As a per cent of total | As a per cent of the respective period of the previous year |
| Total | 70702.3 | 100 | 128.3 |
| Elementary nanoproducts | 862.7 | 1.2 | 365.8 |
| Conventional goods and services, manufactured with the use of nano-enabled processes | 63852.3 | 90.3 | 120.9 |
| Conventional goods, containing nanocomponents | 5953.8 | 8.4 | 298.5 |
| Machinery and equipment for nanotechnology | 31.8 | 0.04 | 134.3 |

* Results of the survey on enterprises (excluding small and defense-oriented) engaged in manufacturing of nanotechnology-related goods and services.

8. Innovative Activity of Enterprises



8.1. INNOVATIVE ACTIVITY OF ENTERPRISES BY TYPE OF INNOVATION AND ECONOMIC ACTIVITY

| | Total, per cent | | Enterprises engaged in innovation of selected types as a per cent of all enterprises | | | | | |
|---|--------------------|-------------|--|------------|----------------|------------|------------|------------|
| | | | Technological | | Organisational | | Marketing | |
| | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Mining and quarrying, manufacturing, electricity, gas and water supply | | | | | | | | |
| Total | 11.0 | 10.8 | 9.4 | 9.3 | 3.7 | 3.4 | 2.4 | 2.5 |
| Mining and quarrying | 7.2 | 7.8 | 5.8 | 6.6 | 3.1 | 2.9 | 0.2 | 0.4 |
| Mining and quarrying of energy producing materials | 8.5 | 9.7 | 7.0 | 8.0 | 3.8 | 3.9 | 0.3 | 0.6 |
| Mining and quarrying, except of energy producing materials | 5.4 | 5.3 | 4.2 | 4.8 | 2.2 | 1.7 | 0.2 | 0.2 |
| Manufacturing | 13.3 | 13.0 | 11.5 | 11.3 | 4.3 | 4.0 | 3.4 | 3.4 |
| High tech | 31.2 | 29.1 | 29.1 | 27.1 | 10.9 | 8.4 | 5.9 | 6.6 |
| Manufacture of pharmaceuticals | 25.8 | 25.5 | 22.5 | 24.2 | 7.9 | 5.7 | 9.3 | 10.8 |
| Manufacture of office machinery and computers | 25.6 | 26.8 | 25.6 | 26.8 | 10.3 | 7.3 | 5.1 | 4.9 |
| Manufacture of radio, television and communication equipment and apparatus | 37.5 | 32.3 | 36.3 | 31.3 | 11.4 | 8.2 | 5.7 | 5.6 |
| Manufacture of medical, precision and optical instruments, watches and clocks | 28.5 | 27.1 | 26.1 | 24.5 | 9.7 | 7.7 | 5.2 | 6.2 |
| Manufacture of aircrafts, including spacecrafts | 35.8 | 34.5 | 33.6 | 31.7 | 18.7 | 14.8 | 6.0 | 6.3 |
| Medium high tech | 20.4 | 19.7 | 18.0 | 17.7 | 7.1 | 6.6 | 4.8 | 4.6 |
| Manufacture of chemicals and chemical products | 26.6 | 25.3 | 24.0 | 23.0 | 9.8 | 8.2 | 5.3 | 6.0 |
| Manufacture of machinery and equipment n.e.c. | 17.3 | 17.1 | 14.9 | 14.8 | 6.1 | 6.0 | 4.3 | 4.1 |
| Manufacture of electronic machinery and apparatus | 21.4 | 21.8 | 20.3 | 20.4 | 6.2 | 7.0 | 5.5 | 5.6 |

(continued)

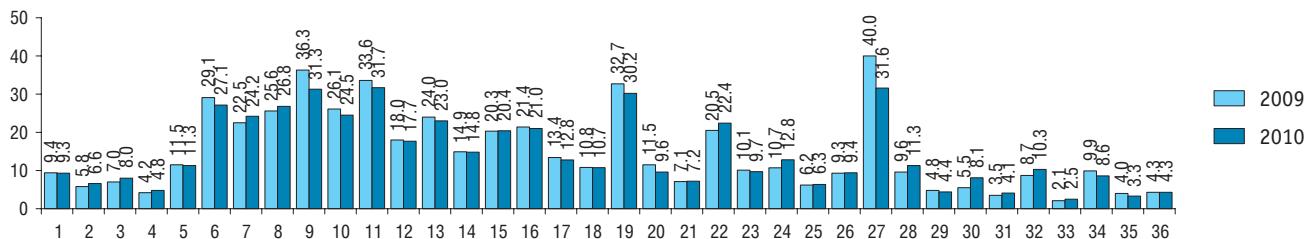
| | Total, per cent | | Enterprises engaged in innovation of selected types as a per cent of all enterprises | | | | | |
|--|--------------------|------|--|------|----------------|------|-----------|------|
| | | | Technological | | Organisational | | Marketing | |
| | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Manufacture of motor vehicles, trailers and semi-trailers | 24.3 | 23.1 | 21.4 | 21.0 | 9.2 | 7.2 | 5.9 | 4.0 |
| Manufacture of other transport vehicles | 18.7 | 14.5 | 13.4 | 12.8 | 7.7 | 5.1 | 3.8 | 2.6 |
| Medium low tech | 12.5 | 12.5 | 10.8 | 10.7 | 4.6 | 4.2 | 2.8 | 2.9 |
| Manufacture of coke, refined petroleum products and nuclear fuel | 35.7 | 32.1 | 32.7 | 30.2 | 15.3 | 14.2 | 7.1 | 6.6 |
| Manufacture of rubber and plastic products | 13.1 | 11.3 | 11.5 | 9.6 | 4.5 | 3.2 | 3.9 | 3.2 |
| Manufacture of other non-metallic mineral products | 8.7 | 8.9 | 7.1 | 7.2 | 3.1 | 2.8 | 1.5 | 2.4 |
| Manufacture of basic metals | 21.9 | 24.3 | 20.5 | 22.4 | 8.8 | 8.3 | 3.7 | 2.8 |
| Manufacture of fabricated metal products | 11.8 | 11.3 | 10.1 | 9.7 | 3.8 | 3.7 | 3.1 | 3.0 |
| Construction and repair of vessels | 13.6 | 16.3 | 10.7 | 12.8 | 7.3 | 7.6 | 4.0 | 4.1 |
| Low tech | 7.7 | 7.8 | 6.2 | 6.3 | 1.9 | 2.0 | 2.6 | 2.6 |
| Manufacture of food products and beverages | 11.4 | 11.4 | 9.3 | 9.4 | 2.4 | 2.5 | 4.2 | 4.4 |
| Manufacture of tobacco products | 40.0 | 36.8 | 40.0 | 31.6 | 5.0 | 5.3 | 5.0 | 15.8 |
| Manufacture of textiles | 11.1 | 12.2 | 9.6 | 11.3 | 2.1 | 2.1 | 3.6 | 1.5 |
| Manufacture of wearing apparel, dressing and dyeing of fur | 6.6 | 6.2 | 4.8 | 4.4 | 2.7 | 2.1 | 2.3 | 2.6 |
| Manufacture of leather, leather products and footwear | 9.4 | 11.1 | 5.5 | 8.1 | 3.9 | 4.4 | 5.5 | 2.2 |
| Manufacture of wood and of products of wood and cork, except furniture | 4.2 | 4.9 | 3.5 | 4.1 | 1.6 | 2.0 | 1.0 | 1.3 |

(continued)

| | Total, per cent | | Enterprises engaged in innovation of selected types as a per cent of all enterprises | | | | | |
|---|--------------------|------------|--|------------|----------------|------------|------------|------------|
| | | | Technological | | Organisational | | Marketing | |
| | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Manufacture of cellulose, wood pulp, paper and cardboard and appropriate paper products | 11.0 | 12.6 | 8.7 | 10.3 | 5.0 | 4.5 | 3.2 | 3.6 |
| Publishing and printing, reproduction of recorded media | 2.8 | 3.2 | 2.1 | 2.5 | 0.8 | 1.0 | 0.7 | 0.8 |
| Manufacture of furniture, manufacturing n.e.c. | 12.3 | 11.0 | 9.9 | 8.6 | 2.4 | 2.9 | 4.1 | 2.9 |
| Recycling | 5.7 | 4.9 | 4.0 | 3.3 | 1.7 | 1.6 | 0.6 | 0.5 |
| Electricity, gas and water supply | 5.4 | 5.4 | 4.3 | 4.3 | 2.0 | 1.9 | 0.2 | 0.4 |
| Communications, computer and related activities, other business activities | | | | | | | | |
| Total | 5.7 | 6.7 | 4.2 | 5.1 | 2.2 | 2.8 | 1.4 | 1.6 |
| Communications | 15.1 | 15.6 | 11.2 | 11.9 | 5.7 | 6.1 | 6.4 | 6.5 |
| Computer and related activities | 9.5 | 10.0 | 8.1 | 8.7 | 2.7 | 3.3 | 1.5 | 1.5 |
| Other business activities | 3.7 | 4.9 | 2.6 | 3.5 | 1.6 | 2.1 | 0.5 | 0.8 |

8.2. ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION AS A PER CENT OF ALL ENTERPRISES BY ECONOMIC ACTIVITY

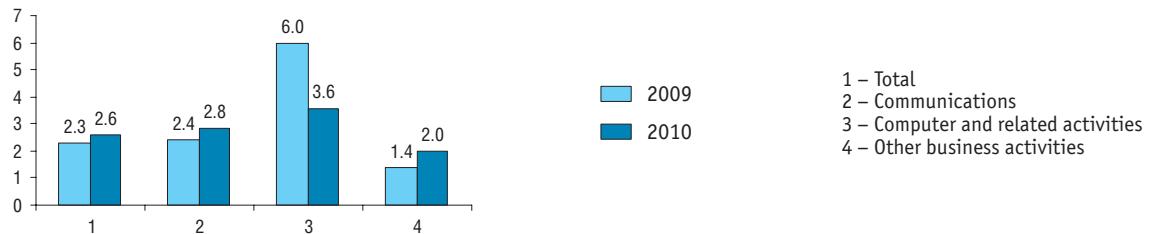
Mining and quarrying, manufacturing, electricity, gas and water supply



- 1 – Total
- 2 – Mining and quarrying
 - 3 – Mining and quarrying of energy producing materials
 - 4 – Mining and quarrying, except of energy producing materials
- 5 – Manufacturing
 - 6 – High tech
 - 7 – Manufacture of pharmaceuticals
 - 8 – Manufacture of office machinery and computers
 - 9 – Manufacture of radio, television and communication equipment and apparatus
 - 10 – Manufacture of medical, precision and optical instruments, watches and clocks
 - 11 – Manufacture of aircrafts, including spacecrafts
 - 12 – Medium high tech
 - 13 – Manufacture of chemicals and chemical products
 - 14 – Manufacture of machinery and equipment n.e.c.
 - 15 – Manufacture of electronic 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, refined petroleum products and nuclear fuel
- 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 – Construction and repair of vessels
- 25 – Low tech
- 26 – Manufacture of food products and 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 – Manufacture of wood and of products of wood and cork, except furniture
- 32 – Manufacture of cellulose, wood pulp, paper and cardboard and appropriate paper products
- 33 – Publishing and printing, reproduction of recorded media
- 34 – Manufacture of furniture; manufacturing n.e.c.
- 35 – Recycling
- 36 – Electricity, gas and water supply

(continued)

Communications, computer and related activities, other business activities

8.3. PERCENTAGE DISTRIBUTION OF ENTERPRISES ENGAGED IN TECHNOLOGICAL INNOVATION BY INNOVATIVE AND ECONOMIC ACTIVITY

| | Enterprises engaged in | | | | | | | | | |
|---|------------------------|-------------------|--|---------------------------|---|-------------------------|-------------------------------|--------------------|-----------------|------------|
| | R&D | Industrial design | Acquisition of machinery and equipment | Acquisition of technology | Of which acquisition of patent rights and patent licenses | Acquisition of software | Other types of pre-production | Personnel training | Market research | Other |
| 2009 | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | | | | | | | | | | |
| Total | 34.6 | 26.8 | 63.3 | 11.8 | 7.7 | 27.0 | 15.2 | 18.2 | 9.8 | 9.6 |
| Mining and quarrying | 38.8 | 10.0 | 58.8 | 12.5 | 6.3 | 31.3 | 11.3 | 11.3 | 1.3 | 11.3 |
| Mining and quarrying of energy producing materials | 47.3 | 5.5 | 47.3 | 14.5 | 7.3 | 32.7 | 12.7 | 10.9 | 1.8 | 10.9 |
| Mining and quarrying, except of energy producing materials | 20.0 | 20.0 | 84.0 | 8.0 | 4.0 | 28.0 | 8.0 | 12.0 | – | 12.0 |
| Manufacturing | 37.6 | 29.4 | 63.2 | 12.3 | 8.5 | 26.1 | 16.4 | 19.3 | 11.4 | 9.0 |
| High tech | 54.1 | 31.5 | 63.1 | 12.4 | 9.0 | 37.2 | 22.3 | 26.2 | 13.8 | 6.8 |
| Manufacture of pharmaceuticals | 67.6 | 11.8 | 52.9 | 8.8 | 5.9 | 23.5 | 23.5 | 20.6 | 11.8 | 14.7 |
| Manufacture of office machinery and computers | 60.0 | 50.0 | 50.0 | 30.0 | 10.0 | 40.0 | 10.0 | 50.0 | 20.0 | 10.0 |
| Manufacture of radio, television and communication equipment and apparatus | 50.4 | 32.2 | 64.3 | 6.1 | 4.3 | 35.7 | 25.2 | 20.9 | 9.6 | 5.2 |
| Manufacture of medical, precision and optical instruments, watches and clocks | 55.0 | 29.8 | 61.6 | 15.2 | 12.6 | 36.4 | 21.2 | 23.2 | 15.2 | 6.6 |
| Manufacture of aircrafts, including spacecrafts | 48.9 | 46.7 | 75.6 | 17.8 | 11.1 | 53.3 | 20.0 | 48.9 | 20.0 | 4.4 |

(continued)

| | Enterprises engaged in | | | | | | | | | |
|--|------------------------|-------------------|--|---------------------------|---|-------------------------|-------------------------------|--------------------|-----------------|-------|
| | R&D | Industrial design | Acquisition of machinery and equipment | Acquisition of technology | Of which acquisition of patent rights and patent licenses | Acquisition of software | Other types of pre-production | Personnel training | Market research | Other |
| Medium high tech | 40.6 | 34.7 | 59.2 | 13.3 | 9.3 | 27.0 | 16.7 | 19.9 | 11.5 | 12.0 |
| Manufacture of chemicals and chemical products | 39.3 | 46.2 | 64.1 | 12.0 | 6.0 | 18.8 | 18.8 | 18.8 | 12.0 | 21.4 |
| Manufacture of machinery and equipment n.e.c. | 38.7 | 34.0 | 50.6 | 13.6 | 11.5 | 25.1 | 14.9 | 18.7 | 13.6 | 6.4 |
| Manufacture of electronic machinery and apparatus | 44.8 | 31.3 | 64.2 | 15.7 | 11.9 | 32.1 | 16.4 | 23.9 | 8.2 | 14.2 |
| Manufacture of motor vehicles, trailers and semi-trailers | 40.5 | 25.3 | 72.2 | 7.6 | 3.8 | 34.2 | 16.5 | 15.2 | 12.7 | 10.1 |
| Manufacture of other transport vehicles | 42.9 | 35.7 | 50.0 | 21.4 | 7.1 | 32.1 | 25.0 | 28.6 | 3.6 | 14.3 |
| Medium low tech | 33.9 | 26.9 | 70.2 | 13.0 | 10.1 | 22.3 | 15.5 | 19.7 | 6.5 | 11.4 |
| Manufacture of coke, refined petroleum products and nuclear fuel | 53.1 | 56.3 | 56.3 | 25.0 | 18.8 | 37.5 | 21.9 | 28.1 | – | 34.4 |
| Manufacture of rubber and plastic products | 40.6 | 21.9 | 71.9 | 15.6 | 12.5 | 14.1 | 14.1 | 14.1 | 7.8 | 6.3 |
| Manufacture of other non-metallic mineral products | 20.2 | 21.2 | 70.2 | 6.7 | 4.8 | 18.3 | 23.1 | 14.4 | 6.7 | 10.6 |
| Manufacture of basic metals | 47.2 | 34.7 | 76.4 | 19.4 | 18.1 | 25.0 | 11.1 | 26.4 | 4.2 | 23.6 |
| Manufacture of fabricated metal products | 30.5 | 18.9 | 70.5 | 10.5 | 6.3 | 20.0 | 10.5 | 18.9 | 9.5 | – |
| Construction and repair of vessels | 21.1 | 36.8 | 63.2 | 5.3 | 5.3 | 47.4 | 10.5 | 31.6 | 5.3 | 5.3 |
| Low tech | 22.2 | 21.1 | 62.3 | 10.9 | 6.1 | 19.6 | 11.6 | 12.6 | 12.6 | 5.5 |
| Manufacture of food products and beverages | 26.6 | 24.1 | 61.1 | 10.0 | 6.3 | 14.1 | 10.3 | 13.8 | 15.0 | 7.2 |
| Manufacture of tobacco products | 37.5 | – | 62.5 | 25.0 | – | – | 50.0 | – | – | – |

(continued)

| | Enterprises engaged in | | | | | | | | | |
|---|------------------------|-------------------|--|---------------------------|---|-------------------------|-------------------------------|--------------------|-----------------|-------------|
| | R&D | Industrial design | Acquisition of machinery and equipment | Acquisition of technology | Of which acquisition of patent rights and patent licenses | Acquisition of software | Other types of pre-production | Personnel training | Market research | Other |
| Manufacture of textiles | 21.9 | 15.6 | 68.8 | 9.4 | 3.1 | 21.9 | 18.8 | 15.6 | 12.5 | – |
| Manufacture of wearing apparel, dressing and dyeing of fur | 28.6 | 19.0 | 66.7 | 4.8 | – | 23.8 | 19.0 | 38.1 | 23.8 | 9.5 |
| Manufacture of leather, leather products and footwear | 14.3 | 28.6 | 71.4 | 28.6 | 28.6 | 14.3 | 14.3 | 14.3 | 14.3 | – |
| Manufacture of wood and of products of wood and cork, except furniture | 5.0 | 5.0 | 65.0 | 5.0 | 5.0 | 40.0 | 10.0 | 10.0 | 5.0 | 10.0 |
| Manufacture of cellulose, wood pulp, paper and cardboard and appropriate paper products | – | 15.8 | 68.4 | 15.8 | 5.3 | 21.1 | 15.8 | 15.8 | 5.3 | 5.3 |
| Publishing and printing, reproduction of recorded media | 12.9 | 6.5 | 66.1 | 9.7 | 6.5 | 43.5 | 8.1 | 4.8 | 8.1 | 1.6 |
| Manufacture of furniture, manufacturing n.e.c. | 15.2 | 37.0 | 56.5 | 17.4 | 8.7 | 19.6 | 8.7 | 4.3 | 6.5 | 2.2 |
| Recycling | 28.6 | 14.3 | 42.9 | 14.3 | – | – | 14.3 | – | – | – |
| Electricity, gas and water supply | 10.2 | 12.5 | 65.6 | 7.4 | 2.3 | 32.8 | 7.4 | 11.7 | – | 13.3 |
| Communications, computer and related activities, other business activities | | | | | | | | | | |
| Total | 12.2 | 16.8 | 59.8 | 8.0 | 4.6 | 49.5 | 9.7 | 24.2 | 6.9 | 11.4 |
| Communications | 3.4 | 22.0 | 80.2 | 7.3 | 2.8 | 36.7 | 14.7 | 22.6 | 10.7 | 17.5 |
| Computer and related activities | 26.5 | 17.6 | 60.3 | 5.9 | 5.9 | 50.0 | 7.4 | 27.9 | 10.3 | 5.9 |
| Other business activities | 14.8 | 12.6 | 43.9 | 9.1 | 5.7 | 59.1 | 6.5 | 24.3 | 3.0 | 8.3 |

(continued)

| | Enterprises engaged in | | | | | | | | | |
|---|------------------------|-------------------|--|---------------------------|---|-------------------------|-------------------------------|--------------------|-----------------|-------------|
| | R&D | Industrial design | Acquisition of machinery and equipment | Acquisition of technology | Of which acquisition of patent rights and patent licenses | Acquisition of software | Other types of pre-production | Personnel training | Market research | Other |
| 2010 | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | | | | | | | | | | |
| Total | 35.7 | 26.4 | 63.6 | 11.8 | 8.0 | 27.8 | 15.7 | 16.9 | 8.2 | 10.6 |
| Mining and quarrying | 38.7 | 18.3 | 54.8 | 9.7 | 3.2 | 22.6 | 11.8 | 10.8 | 2.2 | 12.9 |
| Mining and quarrying of energy producing materials | 39.1 | 15.6 | 45.3 | 14.1 | 4.7 | 20.3 | 10.9 | 10.9 | 1.6 | 12.5 |
| Mining and quarrying, except of energy producing materials | 37.9 | 24.1 | 75.9 | – | – | 27.6 | 13.8 | 10.3 | 3.4 | 13.8 |
| Manufacturing | 38.9 | 28.3 | 64.0 | 12.7 | 9.2 | 27.2 | 17.0 | 18.3 | 9.6 | 9.9 |
| High tech | 56.4 | 30.6 | 64.4 | 12.8 | 9.8 | 39.5 | 19.3 | 27.6 | 12.2 | 8.9 |
| Manufacture of pharmaceuticals | 78.9 | 15.8 | 50.0 | 10.5 | 10.5 | 15.8 | 18.4 | 21.1 | 21.1 | 13.2 |
| Manufacture of office machinery and computers | 54.5 | 45.5 | 54.5 | 18.2 | 9.1 | 36.4 | 9.1 | 36.4 | 9.1 | 9.1 |
| Manufacture of radio, television and communication equipment and apparatus | 58.0 | 30.0 | 72.0 | 8.0 | 7.0 | 38.0 | 21.0 | 24.0 | 11.0 | 9.0 |
| Manufacture of medical, precision and optical instruments, watches and clocks | 55.2 | 30.8 | 58.7 | 15.4 | 11.9 | 42.0 | 18.2 | 24.5 | 11.9 | 8.4 |
| Manufacture of aircrafts, including spacecrafts | 37.8 | 40.0 | 80.0 | 15.6 | 8.9 | 55.6 | 22.2 | 48.9 | 8.9 | 6.7 |

(continued)

| | Enterprises engaged in | | | | | | | | | |
|--|------------------------|-------------------|--|---------------------------|---|-------------------------|-------------------------------|--------------------|-----------------|-------|
| | R&D | Industrial design | Acquisition of machinery and equipment | Acquisition of technology | Of which acquisition of patent rights and patent licenses | Acquisition of software | Other types of pre-production | Personnel training | Market research | Other |
| Medium high tech | 45.8 | 34.1 | 60.0 | 14.2 | 10.2 | 25.5 | 18.4 | 17.7 | 11.1 | 12.1 |
| Manufacture of chemicals and chemical products | 52.7 | 44.6 | 63.4 | 15.2 | 7.1 | 15.2 | 24.1 | 16.1 | 10.7 | 19.6 |
| Manufacture of machinery and equipment n.e.c. | 41.8 | 29.3 | 53.8 | 14.7 | 11.1 | 28.9 | 16.4 | 19.1 | 12.0 | 7.1 |
| Manufacture of electronic machinery and apparatus | 47.3 | 32.1 | 68.7 | 13.0 | 12.2 | 26.7 | 16.0 | 20.6 | 8.4 | 13.0 |
| Manufacture of motor vehicles, trailers and semi-trailers | 44.3 | 38.0 | 60.8 | 11.4 | 7.6 | 26.6 | 22.8 | 11.4 | 17.7 | 11.4 |
| Manufacture of other transport vehicles | 46.7 | 30.0 | 53.3 | 20.0 | 13.3 | 30.0 | 10.0 | 16.7 | – | 20.0 |
| Medium low tech | 31.9 | 25.2 | 70.6 | 13.5 | 10.1 | 24.2 | 16.9 | 17.4 | 4.9 | 11.4 |
| Manufacture of coke, refined petroleum products and nuclear fuel | 50.0 | 46.9 | 53.1 | 15.6 | 15.6 | 40.6 | 18.8 | 12.5 | – | 25.0 |
| Manufacture of rubber and plastic products | 38.6 | 26.3 | 77.2 | 12.3 | 10.5 | 17.5 | 21.1 | 15.8 | 5.3 | 8.8 |
| Manufacture of other non-metallic mineral products | 20.6 | 16.7 | 75.5 | 11.8 | 8.8 | 11.8 | 19.6 | 13.7 | 2.9 | 12.7 |
| Manufacture of basic metals | 46.9 | 29.6 | 69.1 | 19.8 | 13.6 | 28.4 | 13.6 | 18.5 | 3.7 | 21.0 |
| Manufacture of fabricated metal products | 24.2 | 24.2 | 68.1 | 9.9 | 6.6 | 25.3 | 14.3 | 20.9 | 9.9 | 1.1 |
| Construction and repair of vessels | 18.2 | 18.2 | 72.7 | 13.6 | 9.1 | 54.5 | 13.6 | 27.3 | 4.5 | – |
| Low tech | 22.3 | 21.2 | 62.2 | 10.2 | 6.4 | 21.8 | 12.8 | 11.3 | 8.8 | 6.0 |
| Manufacture of food products and beverages | 25.1 | 24.4 | 62.1 | 11.6 | 7.1 | 17.0 | 11.6 | 11.3 | 11.3 | 8.0 |
| Manufacture of tobacco products | 33.3 | – | 50.0 | – | – | 16.7 | 50.0 | – | – | – |

(continued)

| | Enterprises engaged in | | | | | | | | | |
|---|------------------------|-------------------|--|---------------------------|---|-------------------------|-------------------------------|--------------------|-----------------|------------|
| | R&D | Industrial design | Acquisition of machinery and equipment | Acquisition of technology | Of which acquisition of patent rights and patent licenses | Acquisition of software | Other types of pre-production | Personnel training | Market research | Other |
| Manufacture of textiles | 29.7 | 13.5 | 59.5 | 8.1 | 2.7 | 21.6 | 16.2 | 18.9 | 13.5 | – |
| Manufacture of wearing apparel, dressing and dyeing of fur | 23.5 | 29.4 | 70.6 | – | – | 23.5 | 11.8 | 11.8 | 17.6 | 5.9 |
| Manufacture of leather, leather products and footwear | 18.2 | 9.1 | 81.8 | 18.2 | 18.2 | 18.2 | 27.3 | 18.2 | 18.2 | – |
| Manufacture of wood and of products of wood and cork, except furniture | 13.0 | 13.0 | 65.2 | 8.7 | 4.3 | 30.4 | 17.4 | 17.4 | 4.3 | 17.4 |
| Manufacture of cellulose, wood pulp, paper and cardboard and appropriate paper products | 13.0 | 8.7 | 78.3 | 4.3 | 4.3 | 26.1 | 13.0 | 13.0 | – | – |
| Publishing and printing, reproduction of recorded media | 12.0 | 13.3 | 60.0 | 8.0 | 2.7 | 41.3 | 9.3 | 4.0 | 2.7 | 4.0 |
| Manufacture of furniture, manufacturing n.e.c. | 21.1 | 34.2 | 47.4 | 15.8 | 15.8 | 18.4 | 13.2 | 15.8 | – | – |
| Recycling | 33.3 | 16.7 | 83.3 | – | – | – | 16.7 | – | – | – |
| Electricity, gas and water supply | 12.0 | 15.4 | 63.5 | 5.6 | 1.1 | 33.8 | 8.3 | 9.4 | – | 15.0 |
| Communications, computer and related activities, other business activities | | | | | | | | | | |
| Total | 12.1 | 13.4 | 59.2 | 11.6 | 7.1 | 53.9 | 9.6 | 27.4 | 5.5 | 8.3 |
| Communications | 6.6 | 19.4 | 78.1 | 7.7 | 4.6 | 33.2 | 14.3 | 27.0 | 9.7 | 15.3 |
| Computer and related activities | 23.1 | 20.5 | 52.6 | 10.3 | 2.6 | 55.1 | 7.7 | 33.3 | 3.8 | 2.6 |
| Other business activities | 12.7 | 8.2 | 49.5 | 14.2 | 9.7 | 65.9 | 7.3 | 26.3 | 3.3 | 5.4 |

8.4. SALES OF INNOVATIVE GOODS AND SERVICES BY ECONOMIC ACTIVITY

| | 2009 | | 2010 | |
|---|-----------------|---------------------------------|------------------|---------------------------------|
| | Million roubles | As a per cent of total sales | Million roubles | As a per cent of total sales |
| Mining and quarrying, manufacturing, electricity, gas and water supply | | | | |
| Total | 877684.8 | 4.6 | 1165747.6 | 4.9 |
| Mining and quarrying | 122998.3 | 2.7 | 151581.1 | 2.7 |
| Mining and quarrying of energy producing materials | 111636.8 | 2.8 | 143117.4 | 3.0 |
| Mining and quarrying, except of energy producing materials | 11361.5 | 2.2 | 8463.7 | 1.2 |
| Manufacturing | 713042.6 | 6.1 | 990624.4 | 6.7 |
| High tech | 61633.3 | 9.1 | 97267.0 | 11.2 |
| Manufacture of pharmaceuticals | 2492.3 | 2.5 | 10188.3 | 8.0 |
| Manufacture of office machinery and computers | 1983.2 | 8.3 | 1986.5 | 5.9 |
| Manufacture of radio, television and communication equipment and apparatus | 19450.9 | 14.5 | 19647.1 | 10.3 |
| Manufacture of medical, precision and optical instruments, watches and clocks | 17129.0 | 10.4 | 29032.5 | 15.3 |
| Manufacture of aircrafts, including spacecrafts | 20578.0 | 8.1 | 36412.7 | 11.0 |
| Medium high tech | 298548.6 | 12.9 | 386437.8 | 12.5 |
| Manufacture of chemicals and chemical products | 97113.5 | 12.5 | 115994.0 | 11.9 |
| Manufacture of machinery and equipment n.e.c. | 55135.8 | 8.3 | 47272.7 | 6.5 |
| Manufacture of electronic machinery and apparatus | 18963.4 | 7.3 | 24226.4 | 7.3 |
| Manufacture of motor vehicles, trailers and semi-trailers | 95243.6 | 20.8 | 161065.3 | 19.5 |
| Manufacture of other transport vehicles | 32092.3 | 20.1 | 37879.5 | 16.6 |
| Medium low tech | 202011.9 | 3.7 | 317483.1 | 4.5 |
| Manufacture of coke, refined petroleum products and nuclear fuel | 40472.7 | 1.6 | 112621.7 | 3.9 |
| Manufacture of rubber and plastic products | 16404.9 | 6.8 | 20050.7 | 6.5 |

(continued)

| | 2009 | | 2010 | |
|---|-----------------|---------------------------------|-----------------|---------------------------------|
| | Million roubles | As a per cent of total sales | Million roubles | As a per cent of total sales |
| Manufacture of other non-metallic mineral products | 17067.6 | 3.0 | 16781.4 | 2.6 |
| Manufacture of basic metals | 109336.8 | 6.0 | 139110.8 | 5.2 |
| Manufacture of fabricated metal products | 6715.1 | 2.4 | 7357.9 | 2.1 |
| Construction and repair of vessels | 12014.7 | 10.2 | 21560.6 | 18.7 |
| Low tech | 124560.7 | 4.3 | 149583.2 | 4.5 |
| Manufacture of food products and beverages | 91967.1 | 4.6 | 112266.4 | 5.1 |
| Manufacture of tobacco products | 9800.0 | 9.0 | 5521.9 | 3.1 |
| Manufacture of textiles | 2689.9 | 4.5 | 2246.3 | 2.9 |
| Manufacture of wearing apparel, dressing and dyeing of fur | 1539.3 | 4.9 | 1541.6 | 4.3 |
| Manufacture of leather, leather products and footwear | 1615.9 | 6.1 | 686.4 | 2.3 |
| Manufacture of wood and of products of wood and cork, except furniture | 2610.3 | 2.1 | 2670.0 | 1.7 |
| Manufacture of cellulose, wood pulp, paper and cardboard and appropriate paper products | 8486.5 | 3.6 | 13345.4 | 4.6 |
| Publishing and printing, reproduction of recorded media | 1291.9 | 1.0 | 6466.6 | 4.1 |
| Manufacture of furniture, manufacturing n.e.c. | 3710.8 | 3.1 | 2413.4 | 1.7 |
| Recycling | 848.9 | 1.2 | 2425.2 | 2.9 |
| Electricity, gas and water supply | 41643.8 | 1.5 | 23542.1 | 0.7 |
| Communications, computer and related activities, other business activities | | | | |
| Total | 56904.3 | 3.2 | 77964.9 | 4.0 |
| Communications | 27276.7 | 2.4 | 42849.6 | 3.6 |
| Computer and related activities | 19578.0 | 18.2 | 19786.9 | 14.3 |
| Other business activities | 10049.6 | 1.8 | 15328.4 | 2.4 |

8.5. SALES OF GOODS AND SERVICES PRODUCED WITH THE USE MARKETING INNOVATION BY ECONOMIC ACTIVITY

| | 2009 | | 2010 | |
|---|-----------------|------------------------------|-----------------|------------------------------|
| | Million roubles | As a per cent of total sales | Million roubles | As a per cent of total sales |
| Mining and quarrying, manufacturing, electricity, gas and water supply | | | | |
| Total | 43102.4 | 0.2 | 428653.0 | 1.8 |
| Mining and quarrying | 1981.1 | 0.04 | 357702.6 | 6.4 |
| Mining and quarrying of energy producing materials | 1328.7 | 0.03 | 356827.7 | 7.4 |
| Mining and quarrying, except of energy producing materials | 652.3 | 0.1 | 874.9 | 0.1 |
| Manufacturing | 40150.0 | 0.3 | 51816.4 | 0.4 |
| High tech | 1886.2 | 0.3 | 9043.1 | 1.0 |
| Manufacture of pharmaceuticals | 14.5 | 0.01 | 687.5 | 0.5 |
| Manufacture of office machinery and computers | — | — | — | — |
| Manufacture of radio, television and communication equipment and apparatus | 58.0 | 0.04 | — | — |
| Manufacture of medical, precision and optical instruments, watches and clocks | 1557.5 | 0.9 | 8113.2 | 4.3 |
| Manufacture of aircrafts, including spacecrafts | 256.2 | 0.1 | 242.4 | 0.1 |
| Medium high tech | 17948.4 | 0.8 | 17654.7 | 0.6 |
| Manufacture of chemicals and chemical products | 14051.6 | 1.8 | 12000.7 | 1.2 |
| Manufacture of machinery and equipment n.e.c. | 925.2 | 0.1 | 3226.9 | 0.4 |
| Manufacture of electronic machinery and apparatus | 2370.2 | 0.9 | 2145.5 | 0.6 |
| Manufacture of motor vehicles, trailers and semi-trailers | 601.4 | 0.1 | 281.6 | 0.03 |
| Manufacture of other transport vehicles | — | — | — | — |
| Medium low tech | 5453.4 | 0.1 | 7379.6 | 0.1 |
| Manufacture of coke, refined petroleum products and nuclear fuel | — | — | — | — |
| Manufacture of rubber and plastic products | 66.1 | 0.03 | 402.7 | 0.1 |

(continued)

| | 2009 | | 2010 | |
|---|-----------------|---------------------------------|-----------------|---------------------------------|
| | Million roubles | As a per cent of total sales | Million roubles | As a per cent of total sales |
| Manufacture of other non-metallic mineral products | 1159.2 | 0.2 | 1078.9 | 0.2 |
| Manufacture of basic metals | 3058.9 | 0.2 | 2378.0 | 0.1 |
| Manufacture of fabricated metal products | 1169.2 | 0.4 | 1075.4 | 0.3 |
| Construction and repair of vessels | — | — | 2444.5 | 2.1 |
| Low tech | 14803.9 | 0.5 | 17693.5 | 0.5 |
| Manufacture of food products and beverages | 7533.5 | 0.4 | 11590.6 | 0.5 |
| Manufacture of tobacco products | — | — | 2273.7 | 1.3 |
| Manufacture of textiles | 908.7 | 1.5 | — | — |
| Manufacture of wearing apparel, dressing and dyeing of fur | 843.1 | 2.7 | 1077.2 | 3.0 |
| Manufacture of leather, leather products and footwear | — | — | — | — |
| Manufacture of wood and of products of wood and cork, except furniture | 2740.5 | 2.2 | 1447.4 | 0.9 |
| Manufacture of cellulose, wood pulp, paper and cardboard and appropriate paper products | 1628.3 | 0.7 | 911.2 | 0.3 |
| Publishing and printing, reproduction of recorded media | 1114.6 | 0.8 | 376.5 | 0.2 |
| Manufacture of furniture, manufacturing n.e.c. | 35.1 | 0.03 | 17.0 | 0.01 |
| Recycling | — | — | — | — |
| Electricity, gas and water supply | 971.4 | 0.04 | 19134.0 | 0.5 |
| Communications, computer and related activities, other business activities | | | | |
| Total | 21367.2 | 1.2 | 15137.1 | 0.8 |
| Communications | 17371.3 | 1.6 | 12019.2 | 1.0 |
| Computer and related activities | 2198.6 | 2.0 | 581.5 | 0.4 |
| Other business activities | 1797.4 | 0.3 | 2536.4 | 0.4 |

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

| | Expenditure on technological, organisational and marketing innovation, million roubles | Of which | | | | | |
|---|--|-----------------|-----------------|-----------------|---------------|---------------|---------------|
| | | Technological | | Organisational | | Marketing | |
| | | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Mining and quarrying, manufacturing, electricity, gas and water supply | | | | | | | |
| Total | 365785.1 | 356163.5 | 358861.1 | 349763.3 | 4222.1 | 2388.8 | 2701.9 |
| Mining and quarrying | 90151.2 | 54042.7 | 89788.0 | 53541.7 | 363.2 | 501.1 | — |
| Mining and quarrying of energy producing materials | 87718.4 | 49564.7 | 87500.8 | 49250.9 | 217.7 | 313.8 | — |
| Mining and quarrying, except of energy producing materials | 2432.8 | 4478.0 | 2287.3 | 4290.8 | 145.5 | 187.2 | — |
| Manufacturing | 245450.1 | 266439.3 | 239117.0 | 260835.2 | 3639.6 | 1693.3 | 2693.5 |
| High tech | 26801.4 | 38568.3 | 26644.4 | 36816.2 | 132.7 | 271.9 | 24.3 |
| Manufacture of pharmaceuticals | 1219.7 | 1027.9 | 1212.9 | 999.4 | 1.1 | 2.8 | 5.7 |
| Manufacture of office machinery and computers | 1036.4 | 419.4 | 1032.4 | 416.8 | 3.9 | 1.9 | 0.1 |
| Manufacture of radio, television and communication equipment and apparatus | 5488.0 | 7674.6 | 5451.0 | 7637.7 | 28.9 | 33.2 | 8.1 |
| Manufacture of medical, precision and optical instruments, watches and clocks | 7270.8 | 10348.6 | 7218.1 | 10089.1 | 45.5 | 122.4 | 7.3 |
| Manufacture of aircrafts, including spacecrafts | 11786.5 | 19097.9 | 11730.2 | 17673.3 | 53.3 | 111.7 | 3.1 |
| Medium high tech | 59416.4 | 51299.6 | 59032.0 | 50374.9 | 223.0 | 394.6 | 161.5 |
| Manufacture of chemicals and chemical products | 26174.0 | 23413.0 | 26061.2 | 23107.1 | 61.1 | 225.2 | 51.8 |
| Manufacture of machinery and equipment n.e.c. | 11304.1 | 10808.5 | 11228.8 | 10639.5 | 42.5 | 128.0 | 32.8 |
| Manufacture of electronic machinery and apparatus | 4294.7 | 5366.7 | 4246.6 | 5012.0 | 26.4 | 14.4 | 21.7 |

(continued)

| | Expenditure on technological, organisational and marketing innovation, million roubles | | Of which | | | | | |
|---|--|----------|---------------|----------|----------------|-------|-----------|--------|
| | | | Technological | | Organisational | | Marketing | |
| | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Manufacture of motor vehicles, trailers and semi-trailers | 13721.5 | 8434.2 | 13642.4 | 8348.1 | 31.3 | 25.0 | 47.7 | 61.1 |
| Manufacture of other transport vehicles | 3922.2 | 3277.2 | 3853.0 | 3268.2 | 61.7 | 2.0 | 7.5 | 7.0 |
| Medium low tech | 128982.6 | 137474.2 | 125459.3 | 137057.8 | 2778.0 | 326.3 | 745.4 | 90.2 |
| Manufacture of coke, refined petroleum products and nuclear fuel | 32814.0 | 44444.8 | 32660.1 | 44261.9 | 131.3 | 170.7 | 22.5 | 12.2 |
| Manufacture of rubber and plastic products | 3520.2 | 8222.7 | 3510.7 | 8203.4 | 3.0 | 7.2 | 6.5 | 12.0 |
| Manufacture of other non-metallic mineral products | 6751.5 | 3468.6 | 4908.3 | 3404.1 | 1144.8 | 41.8 | 698.4 | 22.7 |
| Manufacture of basic metals | 82263.0 | 75411.7 | 80766.6 | 75337.4 | 1485.2 | 66.5 | 11.3 | 7.8 |
| Manufacture of fabricated metal products | 1954.5 | 2733.1 | 1937.7 | 2667.1 | 10.7 | 32.6 | 6.1 | 33.4 |
| Construction and repair of vessels | 1679.5 | 3193.3 | 1675.9 | 3183.9 | 3.0 | 7.4 | 0.6 | 2.1 |
| Low tech | 17309.9 | 20112.1 | 15236.2 | 17940.7 | 316.5 | 375.1 | 1757.3 | 1796.3 |
| Manufacture of food products and beverages | 10800.2 | 9877.7 | 9026.6 | 7954.6 | 66.2 | 228.3 | 1707.4 | 1694.7 |
| Manufacture of tobacco products | 1818.5 | 874.7 | 1811.1 | 806.3 | 1.9 | 2.6 | 5.5 | 65.8 |
| Manufacture of textiles | 434.6 | 706.4 | 426.1 | 706.3 | 0.6 | 0.1 | 7.9 | 0.03 |
| Manufacture of wearing apparel, dressing and dyeing of fur | 213.6 | 264.4 | 199.8 | 259.0 | 8.7 | 2.1 | 5.1 | 3.4 |
| Manufacture of leather, leather products and footwear | 53.2 | 103.4 | 38.1 | 99.1 | 8.1 | 1.4 | 7.0 | 2.9 |
| Manufacture of wood and of products of wood and cork, except furniture | 495.9 | 646.4 | 479.8 | 619.7 | 12.5 | 18.5 | 3.6 | 8.2 |
| Manufacture of cellulose, wood pulp, paper and cardboard and appropriate paper products | 2316.3 | 3637.0 | 2313.9 | 3539.4 | 0.9 | 96.3 | 1.4 | 1.3 |

(continued)

| | Expenditure on technological, organisational and marketing innovation, million roubles | Of which | | | | | | | |
|---|--|----------------|----------------|----------------|---------------|---------------|---------------|---------------|------|
| | | Technological | | Organisational | | Marketing | | | |
| | | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Publishing and printing, reproduction of recorded media | 496.9 | 866.0 | 477.3 | 835.5 | 17.8 | 22.7 | 1.9 | 7.9 | |
| Manufacture of furniture; manufacturing n.e.c. | 407.3 | 276.9 | 368.5 | 261.8 | 21.3 | 3.1 | 17.5 | 12.0 | |
| Recycling | 273.4 | 2859.2 | 94.9 | 2859.2 | 178.4 | 0.04 | 0.01 | – | |
| Electricity, gas and water supply | 30183.8 | 35681.4 | 29956.1 | 35386.4 | 219.3 | 194.4 | 8.4 | 100.6 | |
| Communications, computer and related activities, other business activities | | | | | | | | | |
| Total | 42904.4 | 54845.3 | 40260.9 | 51040.6 | 1138.3 | 2313.5 | 1505.1 | 1491.3 | |
| Communications | 28377.6 | 35224.9 | 26373.5 | 33710.4 | 553.1 | 249.5 | 1451.0 | 1265.0 | |
| Computer and related activities | 6444.3 | 4998.2 | 6417.3 | 4973.6 | 18.6 | 16.1 | 8.3 | 8.5 | |
| Other business activities | 8082.5 | 14622.3 | 7470.1 | 12356.5 | 566.6 | 2047.9 | 45.8 | 217.9 | |

**8.7. PERCENTAGE DISTRIBUTION OF EXPENDITURE ON TECHNOLOGICAL, ORGANISATIONAL AND MARKETING INNOVATION
BY ECONOMIC ACTIVITY**

| | Expenditure on innovation | | | | | |
|---|---------------------------|-------------|----------------|------------|------------|------------|
| | Technological | | Organisational | | Marketing | |
| | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Mining and quarrying, manufacturing, electricity, gas and water supply | | | | | | |
| Total | 98.1 | 98.2 | 1.2 | 0.7 | 0.7 | 1.1 |
| Mining and quarrying | 99.6 | 99.1 | 0.4 | 0.9 | — | — |
| Mining and quarrying of energy producing materials | 99.8 | 99.4 | 0.2 | 0.6 | — | — |
| Mining and quarrying, except of energy producing materials | 94.0 | 95.8 | 6.0 | 4.2 | — | — |
| Manufacturing | 97.4 | 97.9 | 1.5 | 0.6 | 1.1 | 1.5 |
| High tech | 99.4 | 95.5 | 0.5 | 0.7 | 0.1 | 3.8 |
| Manufacture of pharmaceuticals | 99.4 | 97.2 | 0.1 | 0.3 | 0.5 | 2.5 |
| Manufacture of office machinery and computers | 99.6 | 99.4 | 0.4 | 0.4 | 0.01 | 0.2 |
| Manufacture of radio, television and communication equipment and apparatus | 99.3 | 99.5 | 0.5 | 0.4 | 0.1 | 0.05 |
| Manufacture of medical, precision and optical instruments, watches and clocks | 99.3 | 97.5 | 0.6 | 1.2 | 0.1 | 1.3 |
| Manufacture of aircrafts, including spacecrafts | 99.5 | 92.5 | 0.5 | 0.6 | 0.03 | 6.9 |
| Medium high tech | 99.4 | 98.2 | 0.4 | 0.8 | 0.3 | 1.0 |
| Manufacture of chemicals and chemical products | 99.6 | 98.7 | 0.2 | 1.0 | 0.2 | 0.3 |
| Manufacture of machinery and equipment n.e.c. | 99.3 | 98.4 | 0.4 | 1.2 | 0.3 | 0.4 |

(continued)

| | Expenditure on innovation | | | | | |
|--|---------------------------|------|----------------|------|-----------|-------|
| | Technological | | Organisational | | Marketing | |
| | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Manufacture of electronic machinery and apparatus | 98.9 | 93.4 | 0.6 | 0.3 | 0.5 | 6.3 |
| Manufacture of motor vehicles, trailers and semi-trailers | 99.4 | 99.0 | 0.2 | 0.3 | 0.3 | 0.7 |
| Manufacture of other transport vehicles | 98.2 | 99.7 | 1.6 | 0.1 | 0.2 | 0.2 |
| Medium low tech | 97.3 | 99.7 | 2.2 | 0.2 | 0.6 | 0.1 |
| Manufacture of coke, refined petroleum products and nuclear fuel | 99.5 | 99.6 | 0.4 | 0.4 | 0.1 | 0.03 |
| Manufacture of rubber and plastic products | 99.7 | 99.8 | 0.1 | 0.1 | 0.2 | 0.1 |
| Manufacture of other non-metallic mineral products | 72.7 | 98.1 | 17.0 | 1.2 | 10.3 | 0.7 |
| Manufacture of basic metals | 98.2 | 99.9 | 1.8 | 0.1 | 0.01 | 0.01 |
| Manufacture of fabricated metal products | 99.1 | 97.6 | 0.5 | 1.2 | 0.3 | 1.2 |
| Construction and repair of vessels | 99.8 | 99.7 | 0.2 | 0.2 | 0.03 | 0.1 |
| Low tech | 88.0 | 89.2 | 1.8 | 1.9 | 10.2 | 8.9 |
| Manufacture of food products and beverages | 83.6 | 80.5 | 0.6 | 2.3 | 15.8 | 17.2 |
| Manufacture of tobacco products | 99.6 | 92.2 | 0.1 | 0.3 | 0.3 | 7.5 |
| Manufacture of textiles | 98.0 | 100 | 0.1 | 0.01 | 1.8 | 0.005 |
| Manufacture of wearing apparel, dressing and dyeing of fur | 93.5 | 97.9 | 4.1 | 0.8 | 2.4 | 1.3 |
| Manufacture of leather, leather products and footwear | 71.7 | 95.8 | 15.2 | 1.4 | 13.1 | 2.8 |
| Manufacture of wood and of products of wood and cork, except furniture | 96.7 | 95.9 | 2.5 | 2.9 | 0.7 | 1.3 |

(continued)

| | Expenditure on innovation | | | | | |
|---|---------------------------|-------------|----------------|------------|------------|------------|
| | Technological | | Organisational | | Marketing | |
| | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Manufacture of cellulose, wood pulp, paper and cardboard and appropriate paper products | 99.9 | 97.3 | 0.04 | 2.6 | 0.1 | 0.04 |
| Publishing and printing, reproduction of recorded media | 96.1 | 96.5 | 3.6 | 2.6 | 0.4 | 0.9 |
| Manufacture of furniture, manufacturing n.e.c. | 90.5 | 94.6 | 5.2 | 1.1 | 4.3 | 4.3 |
| Recycling | 34.7 | 100 | 65.3 | 0.001 | 0.002 | – |
| Electricity, gas and water supply | 99.2 | 99.2 | 0.7 | 0.5 | 0.03 | 0.3 |
| Communications, computer and related activities, other business activities | | | | | | |
| Total | 93.8 | 93.1 | 2.7 | 4.2 | 3.5 | 2.7 |
| Communications | 92.9 | 95.7 | 1.9 | 0.7 | 5.1 | 3.6 |
| Computer and related activities | 99.6 | 99.5 | 0.3 | 0.3 | 0.1 | 0.2 |
| Other business activities | 92.4 | 84.5 | 7.0 | 14.0 | 0.6 | 1.5 |

8.8. PERCENTAGE DISTRIBUTION OF EXPENDITURE ON TECHNOLOGICAL, ORGANISATIONAL AND MARKETING INNOVATION BY INNOVATIVE AND ECONOMIC ACTIVITY

| | R&D | Industrial design | Acquisition of machinery and equipment | Acquisition of technology | Of which acquisition of patent rights and patent licenses | Acquisition of software | Other types of pre-production | Personnel training | Market research | Other |
|---|-------------|-------------------|--|---------------------------|---|-------------------------|-------------------------------|--------------------|-----------------|------------|
| 2009 | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | | | | | | | | | | |
| Total | 27.3 | 7.2 | 51.2 | 1.5 | 0.9 | 1.3 | 4.6 | 0.2 | 1.6 | 5.1 |
| Mining and quarrying | 75.9 | 0.9 | 16.8 | 0.1 | 0.04 | 0.5 | 0.8 | 0.4 | 2.1 | 2.5 |
| Mining and quarrying of energy producing materials | 77.6 | 0.9 | 15.7 | 0.1 | 0.02 | 0.5 | 0.4 | 0.4 | 2.1 | 2.3 |
| Mining and quarrying, except of energy producing materials | 13.0 | 1.6 | 59.0 | 0.6 | 0.6 | 1.6 | 15.9 | 0.02 | – | 8.3 |
| Manufacturing | 11.6 | 9.8 | 63.0 | 2.1 | 1.4 | 1.5 | 6.0 | 0.2 | 1.6 | 4.2 |
| High tech | 28.4 | 16.0 | 31.6 | 7.7 | 7.3 | 4.4 | 4.3 | 0.5 | 0.2 | 6.9 |
| Manufacture of pharmaceuticals | 21.6 | 0.4 | 51.2 | 7.0 | 6.5 | 0.7 | 18.2 | 0.2 | 0.1 | 0.7 |
| Manufacture of office machinery and computers | 3.4 | 3.9 | 6.5 | 0.1 | 0.01 | 0.1 | 0.2 | 0.2 | 0.1 | 85.6 |
| Manufacture of radio, television and communication equipment and apparatus | 48.0 | 11.0 | 22.9 | 1.6 | 1.1 | 0.7 | 2.7 | 0.3 | 0.3 | 12.5 |
| Manufacture of medical, precision and optical instruments, watches and clocks | 47.3 | 20.0 | 22.9 | 0.7 | 0.1 | 1.3 | 4.3 | 0.5 | 0.2 | 2.9 |
| Manufacture of aircrafts, including spacecrafts | 10.6 | 18.6 | 41.3 | 15.5 | 15.4 | 8.8 | 4.0 | 0.5 | 0.2 | 0.6 |

(continued)

| | R&D | Industrial design | Acquisition of machinery and equipment | Acquisition of technology | Of which acquisition of patent rights and patent licenses | Acquisition of software | Other types of pre-production | Personnel training | Market research | Other |
|--|------|-------------------|--|---------------------------|---|-------------------------|-------------------------------|--------------------|-----------------|-------|
| Medium high tech | 15.9 | 15.4 | 47.3 | 2.0 | 1.3 | 0.5 | 7.0 | 0.2 | 5.3 | 6.4 |
| Manufacture of chemicals and chemical products | 8.2 | 9.7 | 62.8 | 1.4 | 0.6 | 0.6 | 4.7 | 0.04 | 0.4 | 12.2 |
| Manufacture of machinery and equipment n.e.c. | 35.7 | 13.7 | 39.7 | 0.6 | 0.4 | 0.8 | 4.2 | 0.4 | 4.3 | 0.7 |
| Manufacture of electronic machinery and apparatus | 19.2 | 11.8 | 55.5 | 1.6 | 0.6 | 1.1 | 6.7 | 0.5 | 0.2 | 3.5 |
| Manufacture of motor vehicles, trailers and semi-trailers | 15.3 | 32.5 | 20.7 | 4.1 | 3.8 | 0.2 | 8.0 | 0.1 | 18.9 | 0.2 |
| Manufacture of other transport vehicles | 8.5 | 2.6 | 49.6 | 3.8 | 0.003 | 0.3 | 26.6 | 0.2 | 0.01 | 8.6 |
| Medium low tech | 2.9 | 6.3 | 80.8 | 0.7 | 0.4 | 1.1 | 5.4 | 0.1 | 0.04 | 2.7 |
| Manufacture of coke, refined petroleum products and nuclear fuel | 3.4 | 10.7 | 57.9 | 0.4 | 0.1 | 3.3 | 17.2 | 0.1 | – | 7.0 |
| Manufacture of rubber and plastic products | 3.7 | 1.2 | 72.1 | 6.7 | 6.7 | 0.4 | 14.5 | 0.04 | 1.3 | 0.1 |
| Manufacture of other non-metallic mineral products | 2.5 | 9.0 | 74.4 | 1.9 | 0.4 | 0.3 | 10.2 | 0.04 | 0.03 | 1.6 |
| Manufacture of basic metals | 1.6 | 4.2 | 92.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.05 | 0.002 | 1.3 |
| Manufacture of fabricated metal products | 17.7 | 3.0 | 64.2 | 12.8 | 0.03 | 1.1 | 0.4 | 0.5 | 0.4 | – |
| Construction and repair of vessels | 37.9 | 26.1 | 27.1 | 0.1 | 0.02 | 5.4 | 0.6 | 2.7 | 0.002 | 0.1 |
| Low tech | 9.0 | 3.9 | 56.8 | 5.3 | 1.4 | 3.8 | 11.7 | 0.2 | 4.1 | 5.2 |
| Manufacture of food products and beverages | 11.2 | 5.3 | 58.7 | 4.0 | 0.3 | 4.2 | 2.1 | 0.1 | 6.1 | 8.3 |

(continued)

| | R&D | Industrial design | Acquisition of machinery and equipment | Acquisition of technology | Of which acquisition of patent rights and patent licenses | Acquisition of software | Other types of pre-production | Personnel training | Market research | Other |
|---|------------|-------------------|--|---------------------------|---|-------------------------|-------------------------------|--------------------|-----------------|------------|
| Manufacture of tobacco products | 6.1 | — | 46.3 | 0.1 | — | — | 47.6 | — | — | — |
| Manufacture of textiles | 7.0 | 0.2 | 63.9 | 0.2 | 0.02 | 1.1 | 27.2 | 0.3 | 0.1 | — |
| Manufacture of wearing apparel, dressing and dyeing of fur | 47.3 | 19.3 | 27.3 | 0.03 | — | 1.1 | 0.5 | 1.3 | 1.6 | 1.6 |
| Manufacture of leather, leather products and footwear | 1.0 | 7.7 | 87.5 | 1.2 | 1.2 | 1.5 | 0.5 | 0.1 | 0.4 | — |
| Manufacture of wood and of products of wood and cork, except furniture | 5.0 | 0.5 | 64.4 | 0.1 | 0.001 | 1.4 | 20.2 | 0.5 | 0.1 | 8.0 |
| Manufacture of cellulose, wood pulp, paper and cardboard and appropriate paper products | — | 1.1 | 51.3 | 18.2 | 7.7 | 7.0 | 22.2 | 0.1 | 0.01 | 0.1 |
| Publishing and printing, reproduction of recorded media | 18.7 | 6.1 | 52.3 | 2.9 | 0.3 | 3.0 | 0.9 | 0.2 | 15.9 | 0.01 |
| Manufacture of furniture, manufacturing n.e.c. | 3.7 | 3.4 | 86.6 | 4.7 | 3.0 | 1.3 | 0.2 | 0.03 | 0.1 | 0.01 |
| Recycling | 3.6 | 2.0 | 89.8 | 0.01 | — | — | 4.6 | — | — | — |
| Electricity, gas and water supply | 6.3 | 5.3 | 60.8 | 1.3 | 0.004 | 2.2 | 4.4 | 0.04 | — | 19.6 |
| Communications, computer and related activities, other business activities | | | | | | | | | | |
| Total | 4.2 | 8.3 | 49.3 | 0.4 | 0.3 | 25.3 | 8.8 | 0.2 | 0.6 | 3.0 |
| Communications | 0.7 | 1.1 | 53.9 | 0.6 | 0.4 | 36.6 | 2.5 | 0.1 | 0.4 | 4.1 |
| Computer and related activities | 17.4 | 18.0 | 15.4 | 0.01 | 0.01 | 2.5 | 44.3 | 0.2 | 2.2 | 0.01 |
| Other business activities | 5.1 | 25.5 | 62.1 | 0.1 | 0.1 | 4.7 | 0.5 | 0.6 | 0.03 | 1.4 |

(continued)

| | R&D | Industrial design | Acquisition of machinery and equipment | Acquisition of technology | Of which acquisition of patent rights and patent licenses | Acquisition of software | Other types of pre-production | Personnel training | Market research | Other |
|---|-------------|-------------------|--|---------------------------|---|-------------------------|-------------------------------|--------------------|-----------------|------------|
| 2010 | | | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | | | | | | | | | | |
| Total | 20.6 | 7.4 | 54.5 | 1.3 | 0.5 | 1.2 | 7.3 | 0.2 | 0.6 | 7.0 |
| Mining and quarrying | 43.6 | 1.8 | 33.1 | 0.2 | 0.04 | 1.9 | 2.8 | 0.8 | 1.7 | 14.3 |
| Mining and quarrying of energy producing materials | 46.2 | 1.4 | 31.9 | 0.2 | 0.04 | 2.0 | 0.8 | 0.9 | 1.8 | 14.9 |
| Mining and quarrying, except of energy producing materials | 13.6 | 6.0 | 46.8 | – | – | 0.7 | 25.3 | 0.1 | 0.0003 | 7.4 |
| Manufacturing | 15.5 | 8.6 | 60.2 | 0.9 | 0.6 | 1.0 | 8.5 | 0.1 | 0.4 | 4.7 |
| High tech | 40.5 | 11.3 | 39.2 | 0.6 | 0.5 | 1.4 | 2.6 | 0.3 | 0.1 | 3.9 |
| Manufacture of pharmaceuticals | 27.1 | 1.0 | 60.0 | 2.6 | 2.6 | 1.8 | 3.7 | 0.4 | 1.6 | 1.7 |
| Manufacture of office machinery and computers | 21.5 | 4.3 | 29.0 | 2.8 | 2.8 | 0.4 | 0.5 | 0.3 | 0.1 | 41.1 |
| Manufacture of radio, television and communication equipment and apparatus | 34.1 | 5.3 | 45.3 | 1.4 | 1.4 | 0.7 | 1.8 | 0.4 | 0.04 | 11.0 |
| Manufacture of medical, precision and optical instruments, watches and clocks | 57.4 | 12.0 | 22.8 | 0.2 | 0.1 | 1.0 | 2.9 | 0.4 | 0.1 | 3.2 |
| Manufacture of aircrafts, including spacecrafts | 34.9 | 14.2 | 45.0 | 0.3 | 0.1 | 1.9 | 2.8 | 0.3 | 0.1 | 0.4 |
| Medium high tech | 19.7 | 11.9 | 46.8 | 2.5 | 1.7 | 1.1 | 10.8 | 0.2 | 1.6 | 5.4 |
| Manufacture of chemicals and chemical products | 5.0 | 11.1 | 59.1 | 4.7 | 3.2 | 0.2 | 10.8 | 0.1 | 0.2 | 8.8 |

(continued)

| | R&D | Industrial design | Acquisition of machinery and equipment | Acquisition of technology | Of which acquisition of patent rights and patent licenses | Acquisition of software | Other types of pre-production | Personnel training | Market research | Other |
|--|------|-------------------|--|---------------------------|---|-------------------------|-------------------------------|--------------------|-----------------|-------|
| Manufacture of machinery and equipment n.e.c. | 32.4 | 7.8 | 40.9 | 0.9 | 0.7 | 3.4 | 11.3 | 0.4 | 2.3 | 0.7 |
| Manufacture of electronic machinery and apparatus | 29.6 | 28.6 | 28.9 | 1.3 | 0.7 | 1.2 | 6.7 | 0.6 | 0.1 | 3.1 |
| Manufacture of motor vehicles, trailers and semi-trailers | 31.1 | 10.6 | 33.4 | 0.1 | 0.05 | 0.5 | 15.3 | 0.1 | 6.4 | 2.4 |
| Manufacture of other transport vehicles | 37.9 | 8.9 | 40.4 | 0.4 | 0.01 | 1.1 | 3.7 | 0.2 | – | 7.3 |
| Medium low tech | 6.3 | 5.8 | 73.8 | 0.6 | 0.3 | 0.8 | 8.9 | 0.1 | 0.01 | 3.7 |
| Manufacture of coke, refined petroleum products and nuclear fuel | 9.0 | 10.0 | 53.7 | 0.3 | 0.2 | 1.6 | 20.6 | 0.03 | – | 4.7 |
| Manufacture of rubber and plastic products | 5.3 | 1.5 | 66.7 | 2.3 | 2.3 | 0.1 | 23.5 | 0.2 | 0.01 | 0.3 |
| Manufacture of other non-metallic mineral products | 11.3 | 14.6 | 58.8 | 2.4 | 1.0 | 0.5 | 7.7 | 0.1 | 0.03 | 4.6 |
| Manufacture of basic metals | 1.5 | 3.4 | 89.6 | 0.4 | 0.2 | 0.3 | 1.0 | 0.03 | 0.004 | 3.7 |
| Manufacture of fabricated metal products | 22.8 | 2.4 | 70.4 | 1.5 | 0.2 | 0.8 | 1.4 | 0.5 | 0.2 | 0.03 |
| Construction and repair of vessels | 66.5 | 10.8 | 16.4 | 0.2 | 0.1 | 2.9 | 2.6 | 0.6 | 0.0004 | – |
| Low tech | 5.9 | 12.8 | 68.9 | 0.7 | 0.3 | 1.8 | 7.3 | 0.2 | 0.8 | 1.6 |
| Manufacture of food products and beverages | 8.6 | 7.3 | 68.9 | 0.7 | 0.2 | 3.3 | 7.5 | 0.1 | 1.7 | 1.8 |
| Manufacture of tobacco products | 6.8 | – | 32.7 | – | – | 0.1 | 60.3 | – | – | – |
| Manufacture of textiles | 3.0 | 0.4 | 92.7 | 0.1 | 0.004 | 0.1 | 3.2 | 0.2 | 0.3 | – |

(continued)

| | R&D | Industrial design | Acquisition of machinery and equipment | Acquisition of technology | Of which acquisition of patent rights and patent licenses | Acquisition of software | Other types of pre-production | Personnel training | Market research | Other |
|---|-------------|-------------------|--|---------------------------|---|-------------------------|-------------------------------|--------------------|-----------------|------------|
| Manufacture of wearing apparel, dressing and dyeing of fur | 55.3 | 23.2 | 20.2 | – | – | 0.4 | 0.03 | 0.4 | 0.5 | 0.02 |
| Manufacture of leather, leather products and footwear | 4.1 | 0.2 | 43.0 | 5.3 | 5.3 | 0.7 | 46.2 | 0.5 | 0.2 | – |
| Manufacture of wood and of products of wood and cork, except furniture | 0.4 | 3.1 | 65.8 | 4.0 | 0.01 | 1.1 | 0.9 | 0.2 | 0.5 | 23.9 |
| Manufacture of cellulose, wood pulp, paper and cardboard and appropriate paper products | 0.1 | 1.0 | 96.0 | 0.1 | 0.1 | 0.9 | 1.4 | 0.5 | – | – |
| Publishing and printing, reproduction of recorded media | 16.0 | 4.1 | 74.1 | 0.3 | 0.003 | 2.2 | 2.9 | 0.01 | 0.4 | 0.1 |
| Manufacture of furniture, manufacturing n.e.c. | 2.9 | 4.1 | 78.3 | 13.3 | 13.3 | 0.5 | 0.5 | 0.4 | – | – |
| Recycling | 0.1 | 54.1 | 43.2 | – | – | – | 2.6 | – | – | – |
| Electricity, gas and water supply | 23.1 | 6.7 | 44.8 | 6.1 | 0.05 | 1.6 | 5.1 | 0.1 | – | 12.5 |
| Communications, computer and related activities, other business activities | | | | | | | | | | |
| Total | 22.1 | 3.4 | 51.1 | 2.2 | 0.7 | 11.1 | 4.3 | 0.1 | 0.3 | 5.4 |
| Communications | 0.6 | 1.3 | 71.5 | 0.9 | 0.1 | 13.5 | 4.4 | 0.1 | 0.2 | 7.4 |
| Computer and related activities | 49.7 | 4.5 | 19.1 | 8.5 | 0.4 | 3.0 | 13.6 | 0.3 | 1.2 | 0.04 |
| Other business activities | 69.5 | 8.8 | 8.2 | 3.3 | 2.6 | 7.7 | 0.1 | 0.2 | 0.03 | 2.2 |

**8.9. PERCENTAGE DISTRIBUTION OF EXPENDITURE ON TECHNOLOGICAL INNOVATION
BY SOURCE OF FUNDS AND ECONOMIC ACTIVITY**

| | Own funds of enterprises | Federal budget | Regional and local budgets | Non-budgetary funds | Funds from abroad | Of which from EU Member States, Iceland, Liechtenstein, Norway, and Switzerland | Venture funds | Others |
|---|--------------------------|----------------|----------------------------|---------------------|-------------------|---|---------------|-------------|
| 2009 | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | | | | | | | | |
| Total | 74.0 | 3.3 | 0.1 | 0.01 | 3.5 | 0.3 | 0.5 | 18.6 |
| Mining and quarrying | 98.2 | – | 0.003 | – | 0.1 | 0.04 | – | 1.7 |
| Mining and quarrying of energy producing materials | 98.9 | – | – | – | 0.1 | – | – | 1.0 |
| Mining and quarrying, except of energy producing materials | 69.4 | – | 0.1 | – | 1.5 | 1.5 | – | 29.0 |
| Manufacturing | 71.1 | 4.8 | 0.1 | 0.01 | 1.2 | 0.2 | 0.7 | 22.1 |
| High tech | 51.5 | 22.2 | 0.2 | 0.1 | 0.4 | 0.03 | 6.6 | 19.0 |
| Manufacture of pharmaceuticals | 87.3 | 11.1 | 0.1 | – | – | – | – | 1.5 |
| Manufacture of office machinery and computers | 94.7 | 5.2 | – | – | – | – | – | 0.1 |
| Manufacture of radio, television and communication equipment and apparatus | 47.5 | 26.9 | 0.9 | 0.01 | 0.2 | – | – | 24.5 |
| Manufacture of medical, precision and optical instruments, watches and clocks | 60.0 | 26.5 | 0.2 | 0.2 | 1.3 | 0.1 | – | 11.8 |
| Manufacture of aircrafts, including spacecrafts | 40.6 | 20.0 | – | – | – | – | 15.0 | 24.4 |

(continued)

| | Own funds of enterprises | Federal budget | Regional and local budgets | Non- budgetary funds | Funds from abroad | Of which from EU Member States, Iceland, Liechtenstein, Norway, and Switzerland | Venture funds | Others |
|---|-----------------------------|-------------------|----------------------------------|----------------------------|----------------------|---|------------------|--------|
| Medium high tech | 79.5 | 3.7 | 0.2 | 0.004 | 0.5 | 0.5 | – | 16.1 |
| Manufacture of chemicals and chemical products | 78.7 | 0.6 | – | – | – | – | – | 20.6 |
| Manufacture of machinery and equipment n.e.c. | 81.6 | 15.9 | 0.1 | 0.002 | – | – | – | 2.4 |
| Manufacture of electronic machinery and ap- paratus | 81.0 | 4.9 | 1.0 | 0.1 | 6.7 | 6.7 | – | 6.3 |
| Manufacture of motor vehicles, trailers and semi-trailers | 86.0 | 0.1 | – | – | – | – | – | 13.9 |
| Manufacture of other transport vehicles | 53.7 | 0.8 | 1.0 | – | – | – | – | 44.6 |
| Medium low tech | 69.6 | 0.8 | 0.005 | – | 1.8 | 0.04 | – | 27.8 |
| Manufacture of coke, refined petroleum products and nuclear fuel | 90.1 | – | – | – | 2.7 | – | – | 7.2 |
| Manufacture of rubber and plastic products | 92.5 | 0.5 | 0.1 | – | – | – | – | 6.9 |
| Manufacture of other non-metallic mineral products | 66.7 | 0.4 | 0.01 | – | 12.8 | – | – | 20.1 |
| Manufacture of basic metals | 60.8 | 0.1 | – | – | 0.9 | 0.05 | – | 38.2 |
| Manufacture of fabricated metal products | 71.7 | 1.0 | 0.1 | – | 0.6 | 0.6 | – | 26.7 |
| Construction and repair of vessels | 51.5 | 48.5 | – | – | – | – | – | 0.01 |
| Low tech | 88.4 | 0.04 | 0.6 | – | 0.4 | 0.4 | – | 10.6 |
| Manufacture of food products and beverages | 85.8 | 0.1 | 0.1 | – | – | – | – | 14.0 |
| Manufacture of tobacco products | 100 | – | – | – | – | – | – | – |

(continued)

| | Own funds of enterprises | Federal budget | Regional and local budgets | Non- budgetary funds | Funds from abroad | Of which from EU Member States, Iceland, Liechtenstein, Norway, and Switzerland | Venture funds | Others |
|--|-----------------------------|-------------------|----------------------------------|----------------------------|----------------------|---|------------------|-------------|
| Manufacture of textiles | 82.5 | – | 14.3 | – | – | – | – | 3.2 |
| Manufacture of wearing apparel, dressing and dyeing of fur | 48.5 | – | – | – | – | – | – | 51.5 |
| Manufacture of leather, leather products and footwear | 32.7 | – | – | – | – | – | – | 67.3 |
| Manufacture of wood and of products of wood and cork, except furniture | 71.9 | – | 0.3 | – | 12.1 | 12.1 | – | 15.7 |
| Manufacture of cellulose, wood pulp, paper and cardboard and appropriate paper products | 97.7 | – | – | – | – | – | – | 2.3 |
| Publishing and printing, reproduction of recorded media | 95.1 | 0.01 | 4.8 | – | – | – | – | 0.01 |
| Manufacture of furniture, manufacturing n.e.c. | 92.1 | – | – | – | 1.8 | 1.8 | – | 6.0 |
| Recycling | 47.1 | – | – | – | – | – | – | 52.9 |
| Electricity, gas and water supply | 25.1 | 1.2 | 0.4 | 0.01 | 32.3 | 1.6 | – | 41.0 |
| Communications, computer and related activities, other business activities | | | | | | | | |
| Total | 82.6 | 1.4 | 0.3 | 0.1 | 1.9 | 1.3 | – | 13.7 |
| Communications | 91.4 | 1.4 | 0.01 | 0.1 | 2.0 | 2.0 | – | 5.1 |
| Computer and related activities | 97.5 | 0.01 | 1.6 | – | – | – | – | 0.9 |
| Other business activities | 38.9 | 2.3 | 0.4 | 0.2 | 3.0 | – | – | 55.2 |

(continued)

| | Own funds of enterprises | Federal budget | Regional and local budgets | Non- budgetary funds | Funds from abroad | Of which from EU Member States, Iceland, Liechtenstein, Norway, and Switzerland | Venture funds | Others |
|---|-----------------------------|-------------------|----------------------------------|----------------------------|----------------------|---|------------------|-------------|
| 2010 | | | | | | | | |
| Mining and quarrying, manufacturing, electricity, gas and water supply | | | | | | | | |
| Total | 69.1 | 4.7 | 0.3 | 0.01 | 2.7 | 0.1 | 0.001 | 23.2 |
| Mining and quarrying | 58.9 | — | — | — | — | — | — | 41.1 |
| Mining and quarrying of energy producing materials | 56.6 | — | — | — | — | — | — | 43.4 |
| Mining and quarrying, except of energy producing materials | 85.0 | — | — | — | — | — | — | 15.0 |
| Manufacturing | 74.5 | 5.9 | 0.1 | 0.01 | 0.5 | 0.2 | 0.001 | 18.9 |
| High tech | 71.2 | 16.2 | 0.1 | 0.05 | 0.1 | 0.1 | — | 12.4 |
| Manufacture of pharmaceuticals | 98.1 | — | — | — | — | — | — | 1.9 |
| Manufacture of office machinery and computers | 83.3 | 16.7 | — | — | — | — | — | — |
| Manufacture of radio, television and communication equipment and apparatus | 64.0 | 16.0 | 0.5 | 0.02 | 0.01 | — | — | 19.4 |
| Manufacture of medical, precision and optical instruments, watches and clocks | 70.4 | 21.0 | 0.1 | — | 0.3 | 0.2 | — | 8.2 |
| Manufacture of aircrafts, including spacecrafts | 72.9 | 14.3 | — | 0.1 | — | — | — | 12.7 |
| Medium high tech | 78.6 | 2.2 | 0.2 | 0.003 | 0.2 | 0.2 | 0.004 | 18.7 |
| Manufacture of chemicals and chemical products | 82.7 | 0.7 | 0.02 | — | 0.4 | 0.4 | 0.01 | 16.1 |

(continued)

| | Own funds of enterprises | Federal budget | Regional and local budgets | Non- budgetary funds | Funds from abroad | Of which from EU Member States, Iceland, Liechtenstein, Norway, and Switzerland | Venture funds | Others |
|--|-----------------------------|-------------------|----------------------------------|----------------------------|----------------------|---|------------------|--------|
| Manufacture of machinery and equipment n.e.c. | 74.6 | 3.8 | – | – | – | – | – | 21.5 |
| Manufacture of electronic machinery and apparatus | 89.3 | 5.7 | 2.1 | 0.03 | – | – | – | 2.9 |
| Manufacture of motor vehicles, trailers and semi-trailers | 75.7 | 0.6 | – | – | – | – | – | 23.7 |
| Manufacture of other transport vehicles | 53.7 | 6.7 | – | – | – | – | – | 39.6 |
| Medium low tech | 77.1 | 0.9 | 0.1 | – | 0.9 | 0.2 | – | 21.0 |
| Manufacture of coke, refined petroleum products and nuclear fuel | 97.8 | – | – | – | 2.0 | – | – | 0.2 |
| Manufacture of rubber and plastic products | 67.0 | 0.3 | 0.5 | – | 1.3 | 1.1 | – | 31.0 |
| Manufacture of other non-metallic mineral products | 89.8 | – | 0.4 | – | – | – | – | 9.7 |
| Manufacture of basic metals | 67.4 | 0.2 | – | – | 0.3 | 0.3 | – | 32.2 |
| Manufacture of fabricated metal products | 87.3 | 2.7 | 1.7 | – | – | – | – | 8.3 |
| Construction and repair of vessels | 23.9 | 32.0 | – | – | – | – | – | 44.1 |
| Low tech | 67.3 | 0.2 | 0.3 | 0.01 | 0.1 | 0.02 | – | 32.0 |
| Manufacture of food products and beverages | 85.1 | 0.4 | 0.6 | – | 0.1 | – | – | 13.7 |
| Manufacture of tobacco products | 100 | – | – | – | – | – | – | – |
| Manufacture of textiles | 63.3 | 1.4 | – | – | – | – | – | 35.3 |

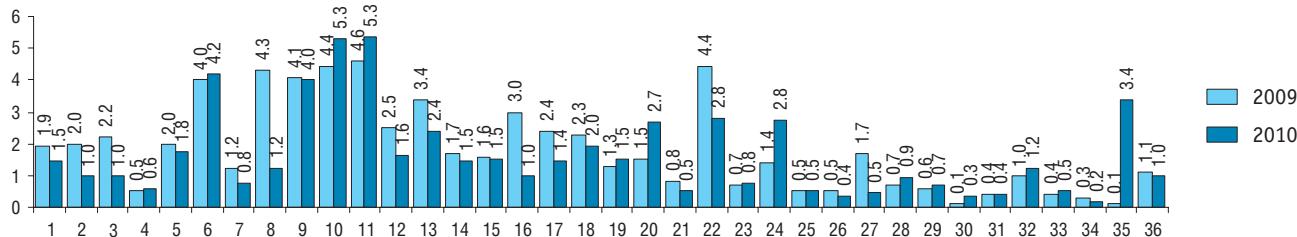
(continued)

| | Own funds of enterprises | Federal budget | Regional and local budgets | Non- budgetary funds | Funds from abroad | Of which from EU Member States, Iceland, Liechtenstein, Norway, and Switzerland | Venture funds | Others |
|---|-----------------------------|-------------------|----------------------------------|----------------------------|----------------------|---|------------------|-------------|
| Manufacture of wearing apparel, dressing and dyeing of fur | 40.0 | – | – | – | – | – | – | 60.0 |
| Manufacture of leather, leather products and footwear | 54.5 | – | 0.05 | – | – | – | – | 45.4 |
| Manufacture of wood and of products of wood and cork, except furniture | 75.2 | – | 0.1 | 0.1 | – | – | – | 24.5 |
| Manufacture of cellulose, wood pulp, paper and cardboard and appropriate paper products | 67.0 | 0.02 | – | – | – | – | – | 32.9 |
| Publishing and printing, reproduction of recorded media | 90.7 | 0.1 | 0.4 | – | 0.4 | 0.4 | – | 8.5 |
| Manufacture of furniture, manufacturing n.e.c. | 98.1 | – | – | – | 0.3 | 0.3 | – | 1.6 |
| Recycling | 1.6 | – | – | – | – | – | – | 98.4 |
| Electricity, gas and water supply | 44.7 | 2.7 | 2.0 | – | 22.9 | 0.2 | – | 27.8 |
| Communications, computer and related activities, other business activities | | | | | | | | |
| Total | 77.9 | 2.0 | 1.1 | 0.1 | 0.1 | – | – | 18.8 |
| Communications | 93.6 | 1.9 | 0.02 | 0.003 | – | – | – | 4.4 |
| Computer and related activities | 93.2 | 0.4 | 4.4 | 0.002 | – | – | – | 2.0 |
| Other business activities | 28.6 | 2.7 | 2.8 | 0.6 | 0.5 | – | – | 64.8 |

8.10. INTENSITY OF EXPENDITURE ON TECHNOLOGICAL INNOVATION BY ECONOMIC ACTIVITY

(expenditure on technological innovation as a per cent of total 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 of energy producing materials
- 5 - Manufacturing
 - 6 - High tech
 - 7 - Manufacture of pharmaceuticals
 - 8 - Manufacture of office machinery and computers
 - 9 - Manufacture of radio, television and communication equipment and apparatus
 - 10 - Manufacture of medical, precision and optical instruments, watches and clocks
 - 11 - Manufacture of aircrafts, including spacecrafts
 - 12 - Medium high tech
 - 13 - Manufacture of chemicals and chemical products
 - 14 - Manufacture of machinery and equipment n.e.c.
 - 15 - Manufacture of electronic 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, refined petroleum products and nuclear fuel
- 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 - Construction and repair of vessels
- 25 - Low tech
- 26 - Manufacture of food products and 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 - Manufacture of wood and of products of wood and cork, except furniture
- 32 - Manufacture of cellulose, wood pulp, paper and cardboard and appropriate paper products
- 33 - Publishing and printing, reproduction of recorded media
- 34 - Manufacture of furniture; manufacturing n.e.c.
- 35 - Recycling
- 36 - Electricity, gas and water supply

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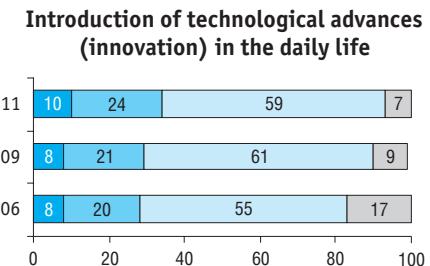
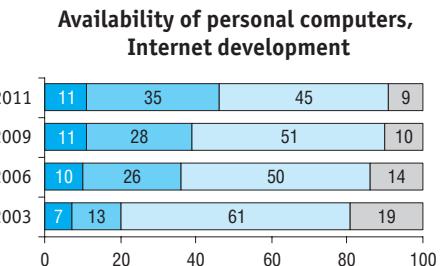
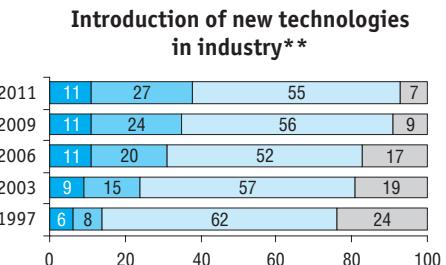
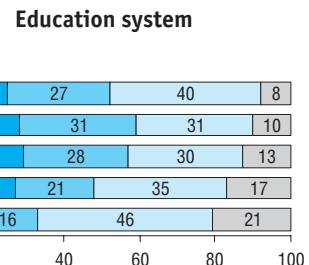
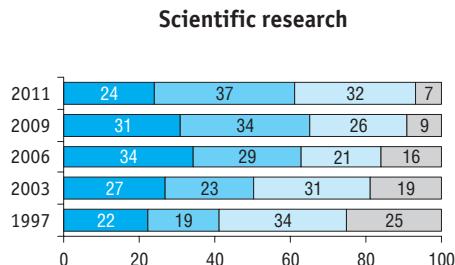
Communications, computer and related activities, other business activities



9. Public Attitudes toward Science and Technology

9.1. PUBLIC OPINION ON THE LEVEL OF SCIENCE AND TECHNOLOGY, INNOVATION, EDUCATION DEVELOPMENT*
 (per cent of respondents)

Is Russia in comparison with other advanced countries stronger or weaker in the following areas?



■ Stronger ■ At the same level ■ Weaker ■ Don't know

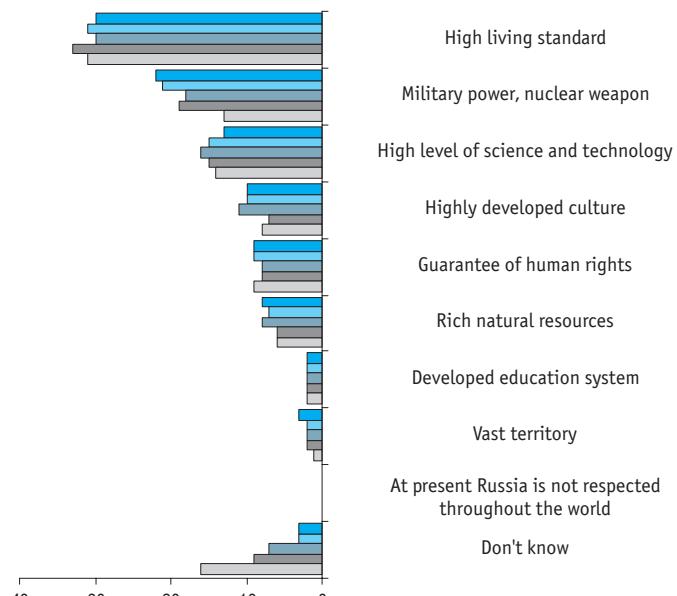
* Here and below the results of representative adult population surveys are presented. Sources for Russia: the Institute for Statistical Studies and Economics of Knowledge, National Research University – Higher School of Economics (data 2009 и 2011 is collected within the framework of the Basic Research Programme at the National Research University – Higher School of Economics (HSE). Sources for the European countries: Science and Technology. Special Eurobarometer 340. Office for Official Publications of the European Communities, Luxembourg, 2010; for the United States and other countries: National Science Board. Science and Engineering Indicators – 2010. Arlington, VA: National Science Foundation.

** 1997 and 2003 surveys – «Introduction of new technologies».

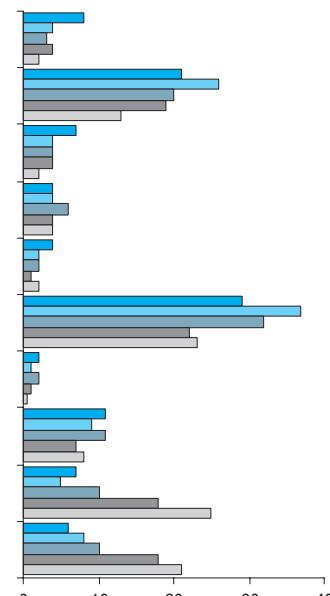
9.2. SYMBOLS OF NATIONAL PRESTIGE IN RUSSIA

(as a per cent of respondents*)

What does a country primarily require to be respected by other nations?



What is now the primary reason for other nations' respect for Russia?



* The sum exceed 100% because respondents could give several answers.

9.3. PRESTIGE OF S&T ACTIVITIES IN RUSSIA

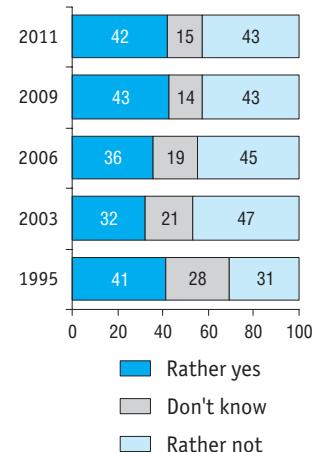
(per cent of respondents)

(2011) *In your opinion, what occupation is the most respected in Russia now? And what occupation is the most respected by you personally?**

| In Russia | By you personally |
|-----------------------|-------------------|
| Advocate, lawyer | 38 |
| Politician | 33 |
| Businessman | 26 |
| Doctor | 24 |
| Programmer | 24 |
| Artist, actor, writer | 21 |
| Journalist | 20 |
| Scientist | 17 |
| Teacher | 16 |
| Skilled worker | 14 |
| Soldier | 13 |
| Priest | 12 |
| Engineer | 11 |
| Farmer | 7 |
| Tradesman | 6 |
| Don't know | 12 |
| Doctor | 41 |
| Teacher | 37 |
| Skilled worker | 33 |
| Farmer | 23 |
| Engineer | 20 |
| Scientist | 19 |
| Soldier | 17 |
| Programmer | 16 |
| Advocate, lawyer | 14 |
| Businessman | 13 |
| Artist, actor, writer | 10 |
| Priest | 10 |
| Journalist | 9 |
| Politician | 5 |
| Tradesman | 3 |
| Don't know | 8 |

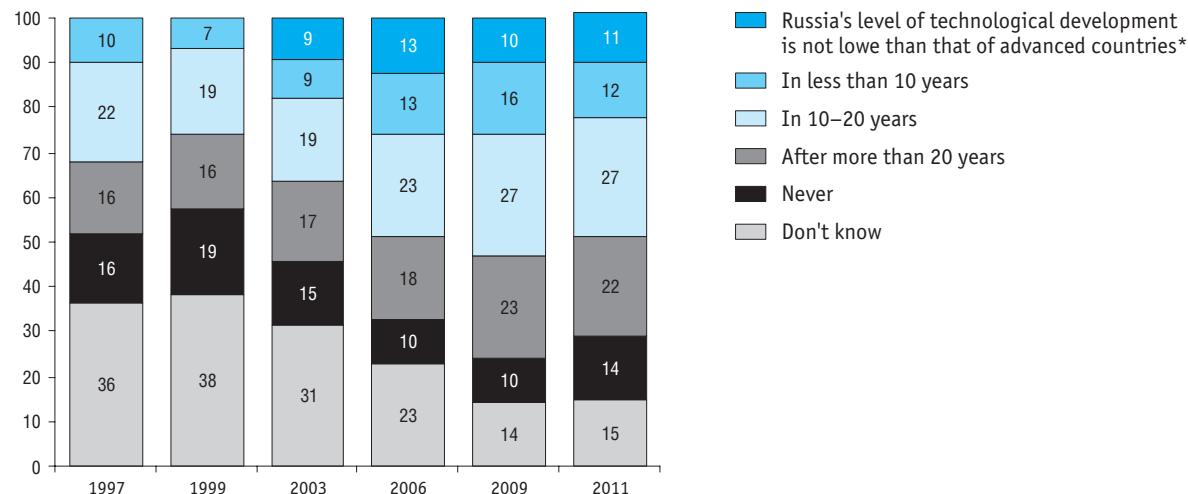
* The sum exceed 100% because respondents could give several answers (no more than five options).

Do you want your son/daughter to become a researcher?



9.4. FORECASTS OF RUSSIA'S TECHNOLOGICAL DEVELOPMENT (as a per cent of respondents)

How soon can Russia achieve the technological level of advanced countries?

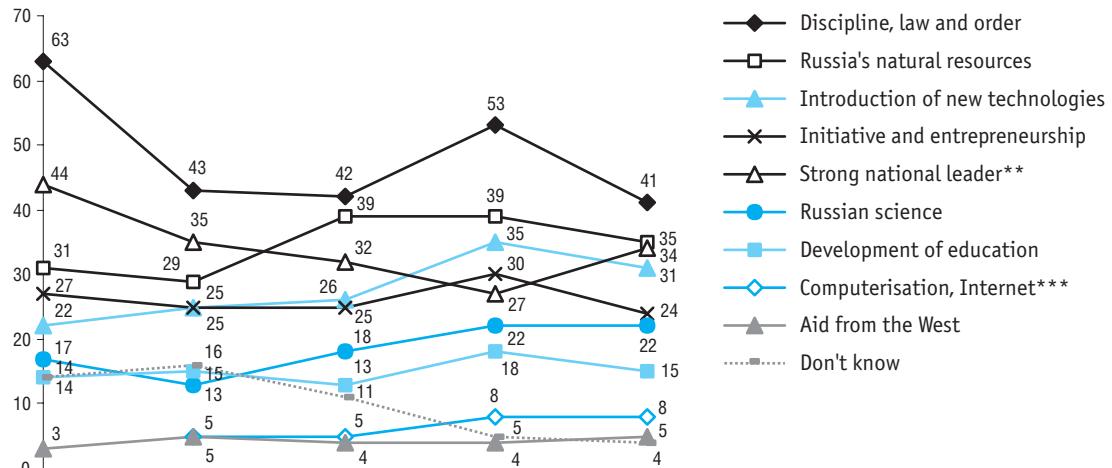


* In 1997 and 1999, the option didn't offered.

9.5. OPINION ON THE FACTORS OF ECONOMIC GROWTH IN RUSSIA

(as a per cent of respondents*)

In your opinion, what will be the key factor for economic growth in Russia?



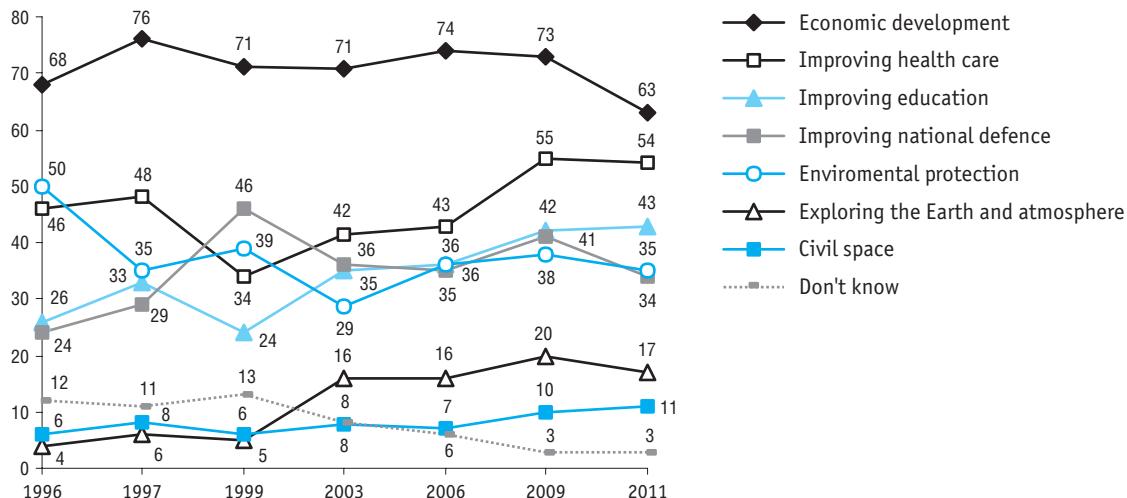
* The sum exceed 100% because respondents could give several answers.

** In 1999 – «Achievement of political stability».

*** In 1999, the option didn't offered.

9.6. VIEWS OF RUSSIA'S POPULATION ON PRIORITY AREAS FOR S&T (as a per cent of respondents*)

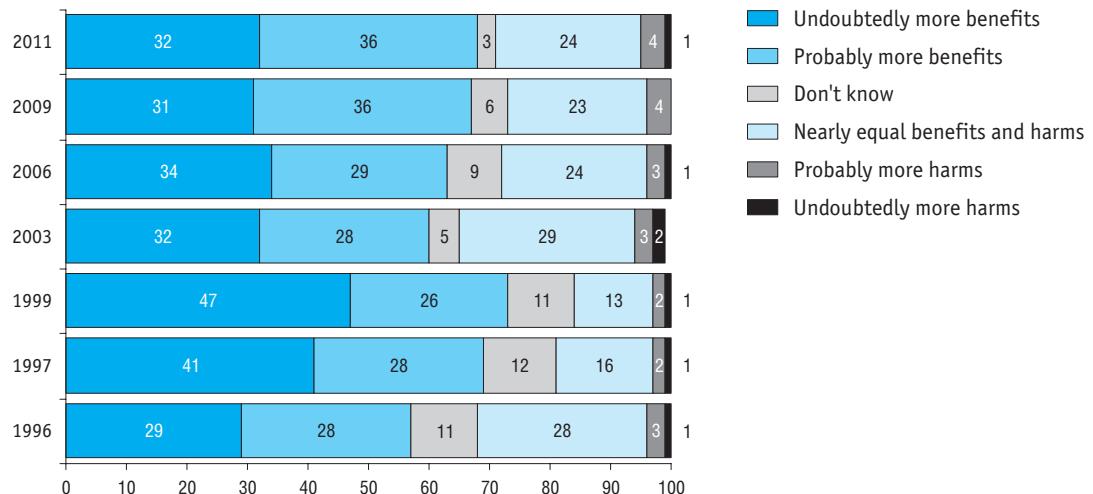
At present, Russia should primarily develop scientific research aimed at...



* The sum exceed 100% because respondents could give several answers (no more than three options).

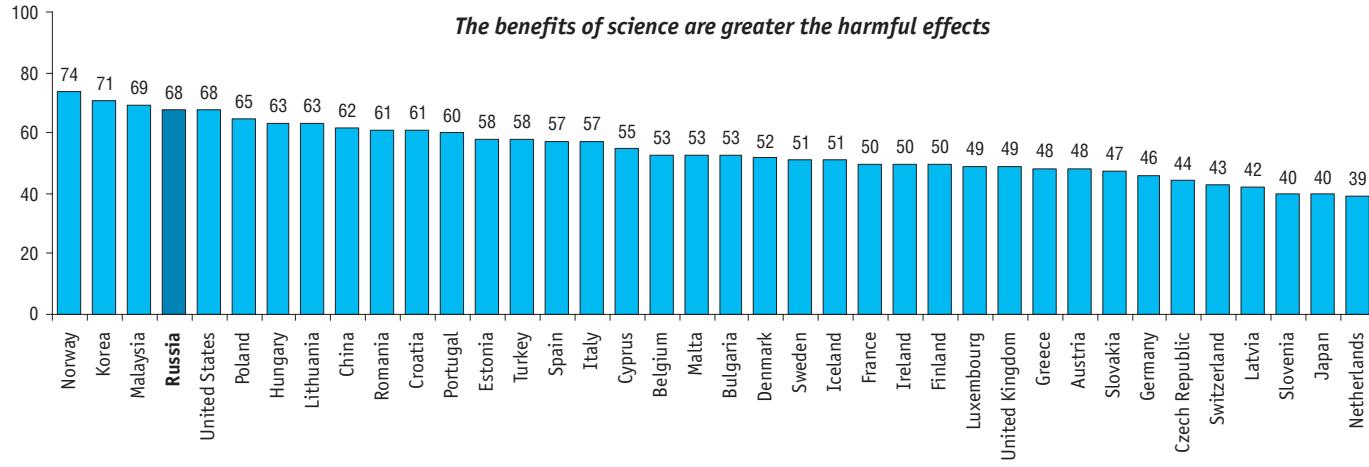
9.7. ASSESSMENTS OF S&T DEVELOPMENT EFFECTS (as a per cent of respondents)

(Russia) *Ultimately, does science provide more benefits or more harms?*



(continued)

The benefits of science are greater the harmful effects

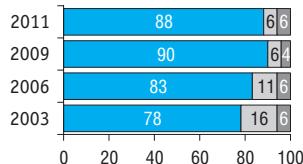


* Data: Russia – 2011, the European countries – 2010, the United States – 2008, China – 2007, Republic or Korea – 2006, Malaysia – 2004, Japan – 2001.

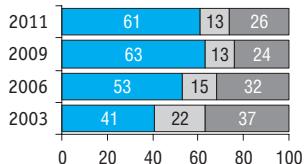
9.8. ASSESSMENTS OF S&T IMPACT ON VARIOUS ASPECTS OF LIFE BY RUSSIA'S POPULATION (as a per cent of respondents)

S&T has an impact...

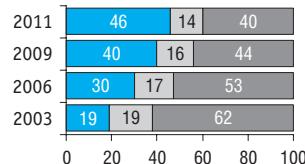
on living standard



people's health



environment



- █ Mainly positive
- Don't know
- Mainly negative

(2011) *Do you agree or disagree with the following sentences?*

Because of science and technology, there will be more opportunities for the next generation



- █ Agree
- Don't know
- Disagree

With the application of science and new technology, work will become more interesting



Even if it brings no immediate benefits, scientific research that advances the frontiers of knowledge is necessary and should be supported by the federal government



Science and technology are making our lives healthier, easier, and more comfortable



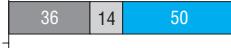
- █ Agree
- Don't know
- Disagree

It is not important for me to know about science in my daily life



- █ Disagree
- Don't know
- Agree

We depend too much on science and not enough on faith



- █ Disagree
- Don't know
- Agree

Science makes our way of life change too fast



- █ Disagree
- Don't know
- Agree

10. International Comparisons



10.1. GROSS DOMESTIC EXPENDITURE ON R&D
(million current PPP \$)

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|-----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Russia | 8122.3 | 10726.9 | 12852.3 | 14563.6 | 16317.2 | 16487.8 | 18115.0 | 22866.6 | 26562.7 | 30060.9 | 33528.9 | 32752.0 |
| CIS countries | | | | | | | | | | | | |
| Armenia | ... | 11.5 | 19.6 | 20.4 | 22.5 | 22.6 | 27.0 | 31.5 | 33.1 | 38.4 | 43.6 | ... |
| Azerbaijan | ... | 59.7 | 67.9 | 67.7 | 82.8 | 86.2 | 83.0 | 89.9 | 115.2 | 134.1 | 217.6 | ... |
| Belarus | ... | 377.7 | 397.0 | 371.3 | 399.8 | 470.3 | 566.5 | 629.3 | 1041.2 | 912.6 | 813.3 | ... |
| Kazakhstan | ... | 129.1 | 182.2 | 235.6 | 260.4 | 288.7 | 373.7 | 365.7 | 354.3 | 387.7 | 419.2 | ... |
| Kyrgyzstan | ... | 10.2 | 12.1 | 14.2 | 17.4 | 17.2 | 17.7 | 21.8 | 24.5 | 22.3 | 19.8 | ... |
| Republic of Moldova | ... | ... | ... | ... | 22.4 | 26.7 | 33.9 | 37.3 | 53.4 | 57.7 | 53.8 | ... |
| Tajikistan | ... | ... | 5.5 | 4.8 | 5.3 | 5.9 | 9.3 | 11.5 | 8.1 | 9.2 | 11.8 | ... |
| Turkmenistan | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Ukraine | ... | 1550.2 | 1841.2 | 1920.2 | 2390.2 | 2680.3 | 3074.4 | 2765.5 | 2774.4 | 2865.9 | 2485.7 | ... |
| Uzbekistan | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| OECD countries | | | | | | | | | | | | |
| Australia | ... | 7941.8 | ... | 9885.3 | ... | 11698.0 | ... | 15450.8 | ... | 18755.0 | ... | ... |
| Austria | 2889.2 | 4474.4 | 4788.2 | 5229.8 | 5697.2 | 6005.6 | 6802.6 | 7374.0 | 7922.7 | 8868.2 | 8931.4 | 9193.2 |
| Belgium | 3798.7 | 5570.6 | 6066.4 | 6010.9 | 5890.7 | 6029.4 | 6171.1 | 6708.8 | 7173.2 | 7737.3 | 7684.9 | ... |
| Canada | 11306.9 | 16689.6 | 18995.1 | 19145.3 | 20135.2 | 21681.8 | 23090.0 | 24070.4 | 24705.3 | 24217.6 | 24551.3 | 23991.1 |
| Chile | ... | ... | ... | ... | ... | ... | ... | ... | 754.4 | 963.5 | ... | ... |
| Czech Republic | 1261.6 | 1863.4 | 1992.1 | 2063.9 | 2296.7 | 2455.8 | 2947.6 | 3553.3 | 3895.6 | 3953.7 | 4094.8 | ... |
| Denmark | 2186.3 | ... | 3764.5 | 4147.2 | 4223.9 | 4336.7 | 4418.9 | 4852.8 | 5315.2 | 6225.2 | 6283.8 | ... |
| Estonia | ... | 81.3 | 102.3 | 116.6 | 139.0 | 170.3 | 207.2 | 290.1 | 313.1 | 377.6 | 379.5 | 408.5 |
| Finland | 2171.1 | 4444.7 | 4565.2 | 4814.7 | 4950.7 | 5388.6 | 5601.2 | 6061.9 | 6641.5 | 7472.9 | 7457.8 | 7555.0 |

(continued)

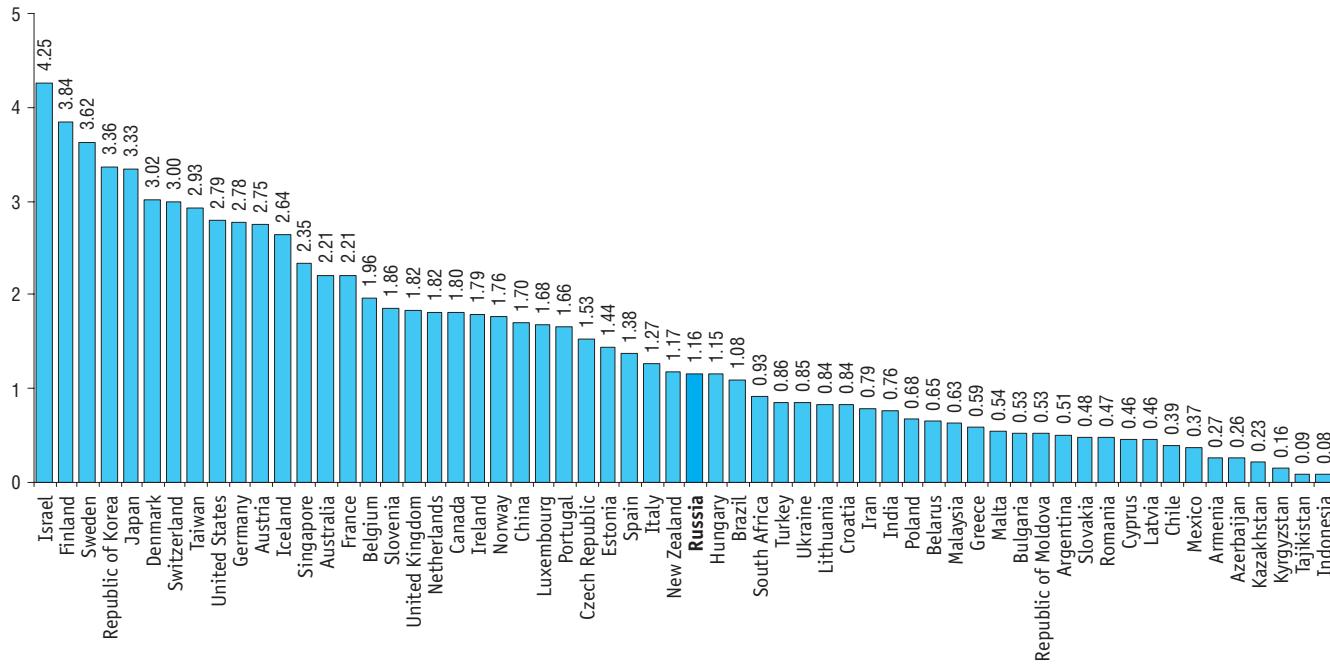
| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|-------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|
| France | 27451.3 | 32957.1 | 35797.7 | 38152.9 | 36845.0 | 37985.7 | 39235.7 | 41969.6 | 44044.8 | 46262.3 | 47953.5 | ... |
| Germany | 40190.0 | 52341.9 | 54415.9 | 56657.0 | 59416.7 | 61329.9 | 64298.8 | 70156.4 | 74071.8 | 81849.4 | 82730.7 | ... |
| Greece | 677.0 | ... | 1269.0 | ... | 1419.1 | 1469.1 | 1615.5 | 1747.8 | 1867.9 | ... | ... | ... |
| Hungary | 667.6 | 976.7 | 1270.5 | 1492.6 | 1457.8 | 1437.7 | 1615.7 | 1851.1 | 1872.1 | 2069.0 | 2333.8 | ... |
| Iceland | 95.1 | 216.4 | 256.2 | 263.8 | 250.9 | ... | 287.1 | 326.1 | 310.8 | 330.3 | ... | ... |
| Ireland | 814.5 | 1222.3 | 1293.1 | 1430.2 | 1613.3 | 1830.1 | 2009.4 | 2251.5 | 2541.6 | 2754.2 | 3164.6 | ... |
| Israel | 2665.7 | 6314.8 | 6871.9 | 7051.7 | 6377.2 | 6889.4 | 7146.6 | 7791.1 | 9088.1 | 9460.5 | 8810.1 | 9266.7 |
| Italy | 11683.2 | 15246.6 | 16800.4 | 17268.9 | 17289.5 | 17482.6 | 17999.0 | 20186.3 | 22331.9 | 24510.2 | 24752.6 | ... |
| Japan | 82347.8 | 98896.0 | 103992.5 | 108166.2 | 112275.4 | 117453.0 | 128694.6 | 138612.9 | 147768.2 | 148719.2 | 137908.6 | ... |
| Luxembourg | ... | 387.1 | ... | ... | 451.9 | 485.4 | 495.3 | 616.0 | 640.3 | 683.7 | 708.5 | ... |
| Mexico | 1939.0 | 3359.7 | 3631.1 | 4171.3 | 4392.1 | 4749.5 | 5346.2 | 5548.7 | 5719.6 | ... | ... | ... |
| Netherlands | 6554.0 | 9062.3 | 9548.2 | 9698.0 | 9864.7 | 10419.9 | 10904.4 | 11715.4 | 12070.1 | 12419.2 | 12273.8 | ... |
| New Zealand | 608.4 | ... | 963.0 | ... | 1108.3 | ... | 1189.3 | ... | 1422.5 | ... | ... | ... |
| Norway | 1733.3 | ... | 2662.4 | 2792.2 | 2994.9 | 3090.4 | 3330.3 | 3767.4 | 4192.9 | 4655.3 | 4734.1 | ... |
| Poland | 1810.8 | 2604.6 | 2610.2 | 2472.2 | 2474.7 | 2770.7 | 2982.4 | 3194.0 | 3623.1 | 4159.7 | 4874.9 | ... |
| Portugal | 708.2 | 1324.1 | 1471.3 | 1453.2 | 1443.5 | 1551.1 | 1755.2 | 2396.7 | 2991.8 | 3984.7 | 4411.0 | ... |
| Republic of Korea | 13304.8 | 18558.5 | 21258.7 | 22506.8 | 24008.7 | 27878.8 | 30618.3 | 35296.3 | 40742.7 | 43906.4 | ... | ... |
| Slovakia | 411.5 | 384.3 | 411.4 | 398.3 | 419.5 | 403.9 | 440.1 | 481.9 | 518.3 | 593.4 | 595.5 | ... |
| Slovenia | 393.0 | 482.1 | 549.1 | 577.6 | 519.5 | 620.0 | 674.9 | 795.5 | 795.9 | 977.8 | 1043.6 | ... |
| Spain | 4997.6 | 7789.4 | 8416.2 | 9808.5 | 10904.9 | 11787.4 | 13330.8 | 16053.7 | 18328.6 | 20434.8 | 20496.4 | ... |
| Sweden | 6292.9 | ... | 10372.3 | ... | 10361.7 | 10451.9 | 10509.9 | 11936.9 | 11960.5 | 13448.9 | 12494.9 | ... |
| Switzerland | ... | 5765.1 | ... | ... | ... | 7471.5 | ... | ... | ... | 10512.7 | ... | ... |
| Turkey | 1203.9 | 2823.0 | 3017.1 | 3008.9 | 2839.8 | 3569.0 | 4617.5 | 5190.1 | 7053.4 | 7712.4 | 8681.2 | ... |
| United Kingdom | 21886.9 | 27855.0 | 29173.7 | 30635.7 | 31035.7 | 32023.9 | 34080.7 | 37007.5 | 38760.4 | 40096.4 | 40279.5 | 40384.4 |
| United States | 184077.0 | 268121.0 | 278239.0 | 277066.0 | 289736.0 | 300293.0 | 323047.0 | 347809.0 | 373185.0 | 398194.0 | ... | ... |

(continued)

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|------|
| EU countries which are not OECD members | | | | | | | | | | | | |
| Bulgaria | ... | 258.5 | 247.8 | 284.5 | 310.2 | 336.3 | 347.4 | 390.3 | 429.7 | 503.1 | 554.2 | ... |
| Cyprus | ... | 32.8 | 37.4 | 45.9 | 54.8 | 63.1 | 74.8 | 86.4 | 98.7 | 105.8 | 113.5 | ... |
| Latvia | ... | 84.3 | 85.0 | 96.7 | 93.3 | 113.4 | 167.6 | 240.0 | 232.6 | 253.9 | 167.6 | ... |
| Lithuania | ... | 177.9 | 223.4 | 242.7 | 278.4 | 336.0 | 364.5 | 432.7 | 499.7 | 529.0 | 478.3 | ... |
| Malta | ... | ... | ... | 19.9 | 19.8 | 42.4 | 48.0 | 55.6 | 56.2 | 58.9 | 56.9 | ... |
| Romania | 975.3 | 468.2 | 558.7 | 579.8 | 643.8 | 732.5 | 831.6 | 1091.8 | 1441.9 | 1877.7 | 1471.5 | ... |
| Other countries | | | | | | | | | | | | |
| Argentina | ... | 1477.1 | 1397.1 | 1158.6 | 1358.7 | 1625.2 | 1930.8 | 2321.3 | 2678.8 | ... | ... | ... |
| Brazil | ... | 12451.2 | 13212.6 | 13015.2 | 13082.5 | 13354.8 | 15372.6 | 16954.9 | 20036.7 | 21649.4 | ... | ... |
| China | 10509 | 27182.5 | 31696 | 39557.6 | 47126.7 | 57782.3 | 71054.9 | 86669.5 | 102408 | 120775 | 154147.4 | ... |
| Croatia | ... | 510.6 | 479.4 | 536.3 | 574.7 | 670.2 | 590.3 | 558.7 | 666.1 | 809.9 | 743.1 | ... |
| Georgia* | ... | 21.1 | 25.0 | 20.9 | 27.8 | 34.0 | 27.8 | ... | ... | ... | ... | ... |
| India | ... | 12275.6 | 12816.4 | 13321.6 | 14593.2 | 16575.9 | 19617.9 | 21790 | 24439.4 | ... | ... | ... |
| Indonesia | ... | 335.9 | 250.1 | ... | ... | ... | ... | ... | ... | ... | 803.5 | ... |
| Iran | ... | ... | 2542.8 | 2756.2 | 3715.3 | 3496.4 | 4726.8 | 4701 | ... | 6465.2 | ... | ... |
| Malaysia | ... | 993.7 | ... | 1522.2 | ... | 1660.7 | ... | 2090.5 | ... | ... | ... | ... |
| Singapore | 1024.4 | 2491.3 | 2782 | 3010.3 | 3124.5 | 3669.3 | 4246.7 | 4708.4 | 5731.5 | 6480.1 | 5626.5 | ... |
| South Africa | ... | ... | 2280.2 | ... | 2726.5 | 3153.9 | 3654.2 | 4135.3 | 4436.4 | 4689.3 | ... | ... |
| Taiwan | 5528.7 | 8764.1 | 9378 | 10476 | 11690 | 13109.1 | 14527 | 16572.4 | 18492.5 | 20511.6 | 21571.8 | ... |

* Till 18th August 2009, Georgia was a member of CIS.

10.2. GROSS DOMESTIC EXPENDITURE ON R&D AS A PER CENT OF GROSS DOMESTIC PRODUCT: 2010*



* Or nearest years for which data is available.

10.3. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D BY SECTOR OF PERFORMANCE: 2010*

| | Gross domestic expenditure on R&D | Government sector | Business enterprise sector | Higher education sector | Private non-profit sector |
|-----------------------|-----------------------------------|-------------------|----------------------------|-------------------------|---------------------------|
| Russia | 100 | 31.0 | 60.5 | 8.4 | 0.2 |
| CIS countries | | | | | |
| Armenia | 100 | 88.8 | ... | 11.2 | ... |
| Azerbaijan | 100 | 71.7 | 22.0 | 6.3 | — |
| Belarus | 100 | 26.5 | 52.0 | 7.3 | 14.2 |
| Kazakhstan | 100 | 38.5 | 32.7 | 15.2 | 13.5 |
| Kyrgyzstan | 100 | 64.6 | 23.3 | 12.1 | — |
| Republic of Moldova | 100 | 77.1 | 11.3 | 11.6 | — |
| Tajikistan | 100 | 86.2 | ... | 13.8 | ... |
| Turkmenistan | ... | ... | ... | ... | ... |
| Ukraine | 100 | 38.7 | 54.8 | 6.5 | — |
| Uzbekistan | ... | ... | ... | ... | ... |
| OECD countries | | | | | |
| Australia | 100 | 12.3 | 60.8 | 24.2 | 2.7 |
| Austria | 100 | 5.3 | 70.6 | 23.8 | 0.3 |
| Belgium | 100 | 8.6 | 67.3 | 23.7 | 1.4 |
| Canada | 100 | 10.5 | 50.7 | 38.2 | 0.6 |
| Chile | 100 | 9.7 | 40.4 | 40.8 | 9.1 |
| Czech Republic | 100 | 21.4 | 60.0 | 18.1 | 0.5 |
| Denmark | 100 | 2.9 | 66.8 | 30.0 | 0.3 |
| Estonia | 100 | 11.0 | 44.7 | 42.2 | 2.2 |
| Finland | 100 | 9.3 | 71.0 | 19.7 | ... |
| France | 100 | 16.3 | 61.9 | 20.6 | 1.2 |

* Or nearest years for which data is available.

(continued)

| | Gross domestic expenditure on R&D | Government sector | Business enterprise sector | Higher education sector | Private non-profit sector |
|-------------------|--------------------------------------|-------------------|----------------------------|-------------------------|---------------------------|
| Germany | 100 | 14.9 | 67.5 | 17.6 | ... |
| Greece | 100 | 20.9 | 28.6 | 49.2 | 1.3 |
| Hungary | 100 | 20.1 | 57.2 | 20.9 | ... |
| Iceland | 100 | 17.8 | 54.6 | 25.1 | 2.5 |
| Ireland | 100 | 5.6 | 65.4 | 29.0 | ... |
| Israel | 100 | 4.1 | 80.1 | 12.6 | 3.2 |
| Italy | 100 | 13.9 | 51.5 | 31.4 | 3.2 |
| Japan | 100 | 9.2 | 75.8 | 13.4 | 1.6 |
| Luxembourg | 100 | 17.3 | 73.7 | 9.0 | ... |
| Mexico | 100 | 25.2 | 47.4 | 26.1 | 1.3 |
| Netherlands | 100 | 12.7 | 47.1 | 40.2 | ... |
| New Zealand | 100 | 27.3 | 42.7 | 30.0 | ... |
| Norway | 100 | 16.4 | 51.6 | 32.0 | ... |
| Poland | 100 | 34.3 | 28.5 | 37.1 | 0.1 |
| Portugal | 100 | 7.4 | 46.7 | 35.4 | 10.6 |
| Republic of Korea | 100 | 12.1 | 75.4 | 11.1 | 1.4 |
| Slovakia | 100 | 33.9 | 41.0 | 25.0 | 0.0 |
| Slovenia | 100 | 20.8 | 64.6 | 14.6 | 0.1 |
| Spain | 100 | 20.1 | 51.9 | 27.8 | 0.2 |
| Sweden | 100 | 4.4 | 70.4 | 25.1 | 0.1 |
| Switzerland | 100 | 0.7 | 73.5 | 24.2 | 1.6 |
| Turkey | 100 | 12.6 | 40.0 | 47.4 | ... |
| United Kingdom | 100 | 9.2 | 62.0 | 26.5 | 2.4 |
| United States | 100 | 10.6 | 72.6 | 12.8 | 3.9 |

(continued)

| | Gross domestic expenditure on R&D | Government sector | Business enterprise sector | Higher education sector | Private non-profit sector |
|--|--------------------------------------|-------------------|----------------------------|-------------------------|---------------------------|
| EU countries which are not OECD members | | | | | |
| Bulgaria | 100 | 55.2 | 30.0 | 14.0 | 0.8 |
| Cyprus | 100 | 21.4 | 22.1 | 42.5 | 14.0 |
| Latvia | 100 | 24.7 | 36.4 | 38.9 | ... |
| Lithuania | 100 | 23.6 | 23.7 | 52.7 | ... |
| Malta | 100 | 5.7 | 62.4 | 31.9 | ... |
| Romania | 100 | 34.9 | 40.2 | 24.7 | 0.2 |
| Other countries | | | | | |
| Argentina | 100 | 38.9 | 30.3 | 28.8 | 1.9 |
| Brazil | 100 | 21.3 | 40.2 | 38.4 | 0.1 |
| China | 100 | 18.7 | 73.2 | 8.1 | ... |
| Croatia | 100 | 27.2 | 40.4 | 32.3 | ... |
| India | 100 | 61.7 | 33.9 | 4.4 | – |
| Indonesia | 100 | ... | ... | 37.9 | ... |
| Iran | 100 | 56.1 | 10.6 | 33.3 | ... |
| Malaysia | 100 | 5.2 | 84.9 | 9.9 | – |
| Singapore | 100 | 11.3 | 61.6 | 27.1 | ... |
| South Africa | 100 | 20.3 | 58.6 | 19.9 | 1.1 |
| Taiwan | 100 | 16.8 | 70.1 | 12.8 | 0.4 |

10.4. PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE ON R&D BY SOURCE OF FUNDS: 2010*

| | Gross domestic expenditure on R&D | Government | Business enterprise sector | Other funds from national sources | Funds from abroad |
|-----------------------|-----------------------------------|---------------|----------------------------|-----------------------------------|-------------------|
| Russia | 100 | 70.3** | 25.5 | 0.6 | 3.5 |
| CIS countries | | | | | |
| Armenia | 100 | 59.9 | ... | ... | 4.2 |
| Azerbaijan | 100 | 74.3 | 24.8 | 0.8 | 0.1 |
| Belarus | 100 | 62.5 | 28.8 | 0.2 | 8.5 |
| Kazakhstan | 100 | 31.4 | 50.7 | 16.9 | 1.0 |
| Kyrgyzstan | 100 | 63.6 | 36.4 | — | — |
| Republic of Moldova | 100 | — | — | — | 6.5 |
| Tajikistan | 100 | 82.1 | 1.1 | 0.6 | ... |
| Turkmenistan | ... | ... | ... | ... | ... |
| Ukraine | 100 | 49.8 | 25.9 | 0.4 | 22.3 |
| Uzbekistan | ... | ... | ... | ... | ... |
| OECD countries | | | | | |
| Australia | 100 | 34.9 | 61.4 | 1.9 | 1.7 |
| Austria | 100 | 41.2 | 43.3 | 0.4 | 15.0 |
| Belgium | 100 | 22.2 | 61.4 | 3.5 | 13.0 |
| Canada | 100 | 33.4 | 47.6 | 12.1 | 6.9 |
| Chile | 100 | 33.8 | 43.7 | 19.2 | 3.3 |
| Czech Republic | 100 | 43.9 | 45.8 | 1.1 | 9.2 |
| Denmark | 100 | 28.4 | 60.2 | 2.7 | 8.7 |
| Estonia | 100 | 48.8 | 38.5 | 1.4 | 11.3 |
| Finland | 100 | 24.0 | 68.1 | 1.3 | 6.6 |

* Or nearest years for which data is available.

** Including federal budget appropriations, general university funds and government sector institutions' funds (e.g. own funds of R&D-performing institutions).

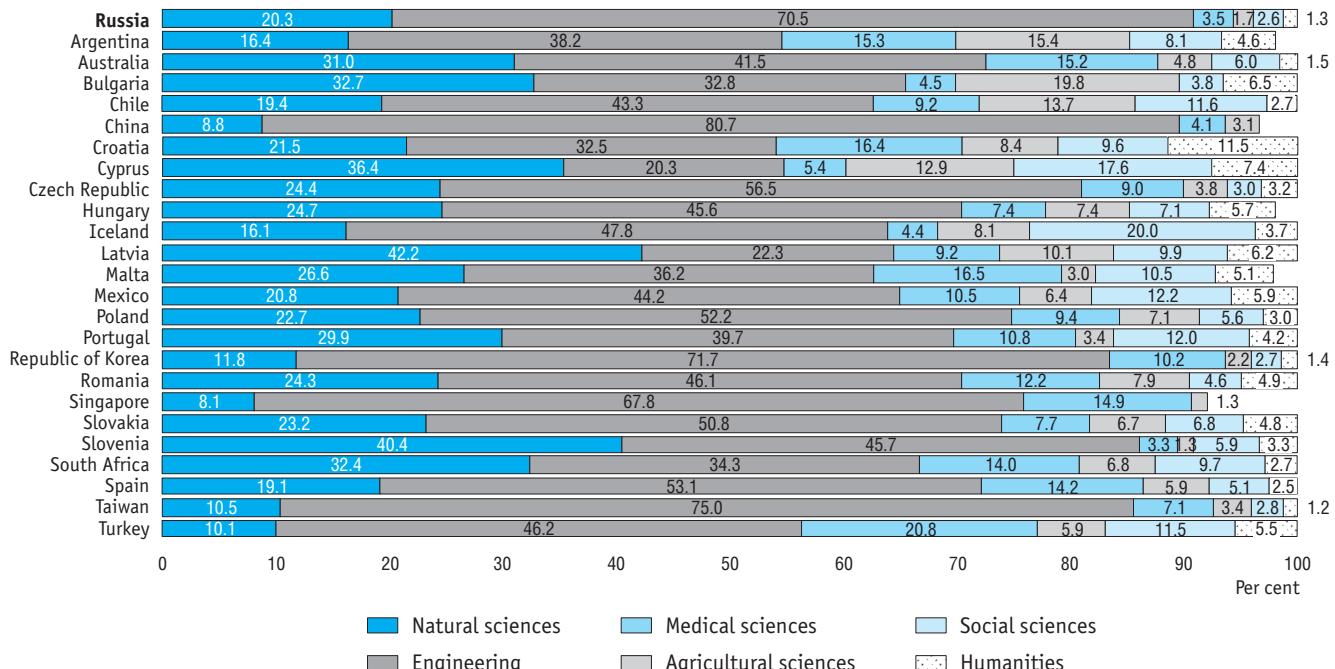
(continued)

| | Gross domestic expenditure on R&D | Government | Business enterprise sector | Other funds from national sources | Funds from abroad |
|-------------------|--------------------------------------|------------|----------------------------|--------------------------------------|-------------------|
| France | 100 | 38.9 | 50.7 | 2.3 | 8.0 |
| Germany | 100 | 28.4 | 67.3 | 0.3 | 4.0 |
| Greece | 100 | 46.8 | 31.1 | 3.1 | 19.0 |
| Hungary | 100 | 42.0 | 46.4 | 0.7 | 10.9 |
| Iceland | 100 | 38.8 | 50.3 | 0.8 | 10.0 |
| Ireland | 100 | 32.5 | 50.4 | 1.8 | 15.4 |
| Israel | 100 | 14.3 | 79.0 | 3.6 | 3.1 |
| Italy | 100 | 42.9 | 45.2 | 4.1 | 7.8 |
| Japan | 100 | 17.7 | 75.3 | 6.6 | 0.4 |
| Luxembourg | 100 | 18.2 | 76.0 | 0.1 | 5.7 |
| Mexico | 100 | 50.2 | 45.1 | 3.3 | 1.4 |
| Netherlands | 100 | 40.9 | 45.1 | 3.1 | 10.8 |
| New Zealand | 100 | 42.7 | 40.1 | 12.4 | 4.8 |
| Norway | 100 | 46.8 | 43.6 | 1.4 | 8.2 |
| Poland | 100 | 60.4 | 27.1 | 7.0 | 5.5 |
| Portugal | 100 | 43.7 | 48.1 | 5.2 | 3.0 |
| Republic of Korea | 100 | 25.4 | 72.9 | 1.4 | 0.3 |
| Slovakia | 100 | 50.6 | 35.1 | 1.6 | 12.8 |
| Slovenia | 100 | 35.7 | 58.0 | 0.3 | 6.0 |
| Spain | 100 | 45.6 | 45.0 | 3.8 | 5.7 |
| Sweden | 100 | 27.4 | 58.8 | 3.2 | 10.5 |
| Switzerland | 100 | 22.8 | 68.2 | 3.0 | 6.0 |
| Turkey | 100 | 34.0 | 41.0 | 24.0 | 1.1 |
| United Kingdom | 100 | 30.7 | 45.4 | 6.2 | 17.7 |
| United States | 100 | 27.1 | 67.3 | 5.7 | ... |

(continued)

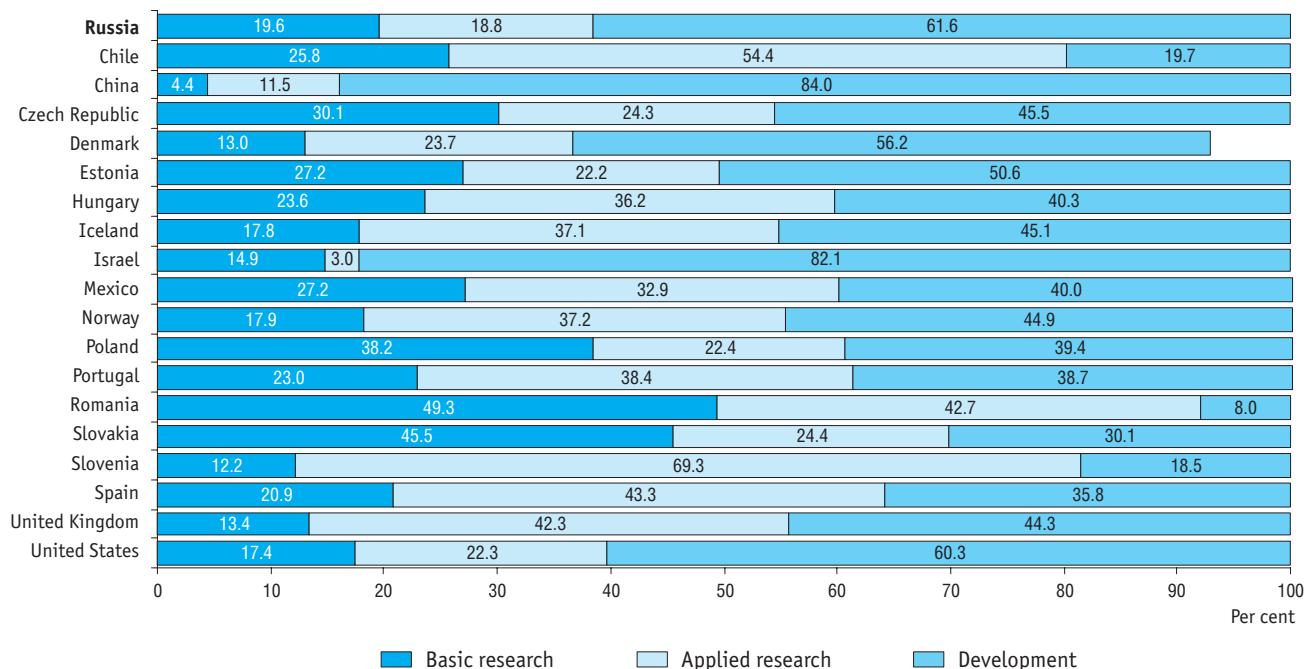
| | Gross domestic expenditure on R&D | Government | Business enterprise sector | Other funds from national sources | Funds from abroad |
|--|--------------------------------------|------------|----------------------------|--------------------------------------|-------------------|
| EU countries which are not OECD members | | | | | |
| Bulgaria | 100 | 61.2 | 30.6 | 1.4 | 6.8 |
| Cyprus | 100 | 64.1 | 17.8 | 3.5 | 14.7 |
| Latvia | 100 | 44.7 | 36.9 | 3.0 | 15.4 |
| Lithuania | 100 | 53.9 | 21.0 | 11.9 | 13.1 |
| Malta | 100 | 31.3 | 51.4 | 0.1 | 17.2 |
| Romania | 100 | 54.9 | 34.8 | 2.0 | 8.3 |
| Other countries | | | | | |
| Argentina | 100 | 67.5 | 29.3 | 2.5 | 0.6 |
| Brazil | 100 | 54.0 | 43.9 | 2.2 | ... |
| China | 100 | 23.4 | 71.7 | ... | 1.3 |
| Croatia | 100 | 51.2 | 39.8 | 2.1 | 7.0 |
| India | 100 | 66.1 | 33.9 | - | ... |
| Indonesia | 100 | 84.5 | 14.7 | 0.2 | ... |
| Iran | 100 | 61.6 | 30.9 | 7.4 | ... |
| Malaysia | 100 | 2.4 | 84.5 | 6.6 | 0.2 |
| Singapore | 100 | 29.9 | 63.5 | 1.3 | 5.3 |
| South Africa | 100 | 45.1 | 42.6 | 0.8 | 11.4 |
| Taiwan | 100 | 28.9 | 69.7 | 1.3 | 0.0 |

10.5. GROSS DOMESTIC EXPENDITURE ON R&D BY FIELD OF SCIENCE AND TECHNOLOGY: 2010*



* Or nearest years for which data is available.

10.6. INTRAMURAL CURRENT EXPENDITURE ON R&D BY TYPE OF ACTIVITY: 2010*



* Or nearest years for which data is available.

10.7. GOVERNMENT BUDGET APPROPRIATIONS ON R&D
(million current PPP \$)

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|-----------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Russia | 5977.1 | 4784.6 | 6004.7 | 7169.6 | 9087.9 | 9047.1 | 12704.5 | 15356.7 | 18515.6 | 20829.0 | 26930.8 | 25815.7 |
| OECD countries | | | | | | | | | | | | |
| Australia | 2297.5 | 2851.3 | 3194.9 | 3260.2 | 3666.3 | 3289.9 | 3676.0 | 3938.0 | 3820.5 | 3901.2 | 4694.0 | 4784.0 |
| Austria | 1230.3 | 1429.8 | 1535.5 | 1637.5 | 1640.8 | 1759.4 | 1827.3 | 1981.1 | 2042.0 | 2331.5 | 2544.4 | 2838.2 |
| Belgium | 1164.8 | 1597.2 | 1710.4 | 1856.0 | 1915.1 | 1911.7 | 1987.2 | 2202.5 | 2284.9 | 2683.5 | 2644.5 | ... |
| Canada | 3812.8 | 4574.3 | 5352.9 | 5566.4 | 5901.7 | 6178.9 | 6777.1 | 6883.4 | 7551.4 | 7933.5 | ... | ... |
| Chile | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Czech Republic | ... | ... | ... | 852.9 | 956.1 | 990.5 | 1148.4 | 1303.6 | 1469.4 | 1497.2 | 1701.9 | 1896.7 |
| Denmark | 792.3 | 1170.7 | 1179.4 | 1206.6 | 1204.7 | 1245.0 | 1285.4 | 1418.8 | 1630.4 | 1849.4 | 2058.4 | 2124.2 |
| Estonia | ... | 44.9 | 45.0 | 62.9 | 67.6 | 73.7 | 90.1 | 129.3 | 139.8 | 188.9 | 185.3 | 237.4 |
| Finland | 929.9 | 1302.4 | 1336.7 | 1384.2 | 1437.0 | 1574.6 | 1651.7 | 1782.7 | 1850.7 | 1972.7 | 2119.2 | 2170.1 |
| France | 13264.4 | 14738.0 | 16151.8 | 17125.4 | 16844.5 | 16927.7 | 18084.5 | 16167.6 | 15810.5 | 16171.9 | 17011.0 | 17443.8 |
| Germany | 16068.8 | 16806.2 | 17224.2 | 17769.8 | 18630.1 | 18904.5 | 19865.0 | 21015.7 | 22530.7 | 24225.4 | 25857.8 | 28075.3 |
| Greece | 400.6 | 619.6 | 620.6 | 616.5 | 662.3 | 797.7 | 889.5 | 979.7 | 919.2 | 985.3 | ... | ... |
| Hungary | ... | ... | ... | ... | ... | ... | 708.7 | 675.3 | 748.3 | 885.8 | 932.8 | 1001.4 |
| Iceland | 44.9 | 76.2 | 82.0 | 90.3 | 96.5 | 87.3 | 91.0 | 93.0 | 95.5 | 110.1 | 123.6 | ... |
| Ireland | 204.0 | 331.1 | 380.9 | 428.1 | 510.6 | 631.9 | 736.7 | 802.1 | 975.3 | 995.6 | 1028.9 | ... |
| Israel | 884.2 | 1293.8 | 1333.0 | 1278.1 | 1256.8 | 1198.6 | 1115.0 | 1130.7 | 1139.7 | 1261.0 | 1276.6 | 1303.0 |
| Italy | 6730.8 | 9368.9 | 10457.9 | ... | ... | ... | 11050.6 | 10912.6 | 12174.4 | 12622.8 | 12556.6 | 11829.2 |
| Japan | 14285.7 | 21223.0 | 23206.8 | 24652.7 | 25753.1 | 26852.9 | 27617.8 | 28682.7 | 29220.8 | 30559.9 | 31072.5 | 32203.7 |
| Luxembourg | ... | 30.1 | 39.0 | 47.3 | 60.4 | 71.6 | 83.7 | 121.5 | 149.1 | 195.1 | 216.7 | 257.6 |
| Mexico | 1261.7 | 2117.1 | 2144.4 | 2223.6 | 2706.2 | 2369.4 | 2599.5 | 2662.5 | ... | ... | ... | ... |

(continued)

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|------------------------|---------|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|---------|
| Netherlands | 2830.8 | 3614.0 | 3729.2 | 3802.6 | 3800.1 | 3955.6 | 3958.2 | 4408.5 | 4602.2 | 4902.6 | 5338.9 | 5295.8 |
| New Zealand | 308.3 | ... | 453.5 | ... | 479.2 | ... | ... | 572.0 | 629.2 | 684.9 | ... | ... |
| Norway | 823.2 | 1057.1 | 1150.8 | 1272.7 | 1347.3 | 1463.2 | 1554.6 | 1805.1 | 1981.3 | 2125.1 | 2282.1 | 2323.3 |
| Poland | 1141.0 | 1539.3 | 1619.3 | ... | ... | 1554.2 | 1547.5 | 1811.2 | 2012.9 | 2083.7 | 2446.2 | ... |
| Portugal | 560.2 | 1019.4 | 1102.1 | 1272.1 | 1199.2 | 1278.9 | 1581.1 | 1684.9 | 1929.2 | 2285.5 | 2452.2 | 2787.7 |
| Republic of Korea | ... | 5024.7 | 5918.6 | 6701.1 | 7021.6 | 7664.8 | 8539.3 | 9329.9 | 10594.7 | 11895.0 | 13209.6 | 14542.8 |
| Slovakia | 171.7 | 212.9 | 218.0 | 219.8 | 217.2 | 236.7 | 244.1 | 267.6 | 238.6 | 347.7 | 374.2 | 393.3 |
| Slovenia | ... | 174.0 | 185.6 | 207.9 | 222.8 | 262.2 | 272.7 | 285.0 | 286.5 | 300.5 | 440.3 | ... |
| Spain | 3011.2 | 5173.9 | 6099.0 | 7323.4 | 7623.9 | 5933.5 | 6479.5 | 9154.3 | 10971.9 | 11696.0 | 12228.8 | ... |
| Sweden | 2087.4 | 1730.9 | 2046.6 | 2278.6 | 2489.5 | 2532.3 | 2535.0 | 2725.5 | 2782.2 | 2907.1 | 3162.0 | ... |
| Switzerland | ... | 1458.1 | ... | 1671.3 | ... | 1927.8 | ... | 2115.3 | ... | 2683.0 | ... | ... |
| Turkey | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| United Kingdom | 8799.3 | 10357.6 | 10807.3 | 12872.8 | 13122.7 | 13169.9 | 13228.0 | 14072.5 | 14250.9 | 14656.3 | 15146.3 | ... |
| United States | 68791.0 | 83612.5 | 91505.1 | 103056.7 | 114866.1 | 126270.5 | 131259.0 | 136019.0 | 141890.3 | 144390.8 | 165316.5 | ... |
| Other countries | | | | | | | | | | | | |
| Argentina | ... | 833.1 | 757.2 | 664.7 | 762.3 | 840.6 | 1035.0 | 1225.3 | 1534.8 | 1765.6 | ... | ... |
| China | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Romania | 555.0 | 177.9 | 226.3 | 217.1 | 266.0 | 322.3 | 441.6 | 795.5 | 1020.9 | 1291.2 | 954.1 | 862.6 |
| Singapore | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| South Africa | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Taiwan | ... | 2831.7 | 3474.7 | 3690.0 | 4096.4 | 4504.3 | 4639.9 | 5639.3 | 5641.2 | 5973.3 | 6361.1 | 6611.0 |

10.8. R&D PERSONNEL: 2010*
(person-years; in full-time equivalent)

| | R&D personnel | Researchers |
|-----------------------|---------------|---------------|
| Russia | 839992 | 442071 |
| CIS countries | | |
| Armenia | 6926 | 5542 |
| Azerbaijan | 17401 | 11041 |
| Belarus | 33516 | 20571 |
| Kazakhstan | 15793 | 10095 |
| Kyrgyzstan | 3533 | 2290 |
| Republic of Moldova | 4573 | 2861 |
| Tajikistan | 2791 | 1722 |
| Turkmenistan | ... | ... |
| Ukraine | 118747 | 61858 |
| Uzbekistan | ... | ... |
| OECD countries | | |
| Australia | 136696 | 91617 |
| Austria | 58002 | 34501 |
| Belgium | 60005 | 37214 |
| Canada | 242686 | 148983 |
| Chile | 12571 | 5959 |
| Czech Republic | 50961 | 28759 |
| Denmark | 57507 | 35306 |
| Estonia | 5430 | 4314 |
| Finland | 56069 | 40849 |

* Or nearest years for which data is available. For CIS countries (except Russia, Republic of Moldova and Ukraine), Iran and Indonesia – head-count data. Data for Indonesia covers different years.

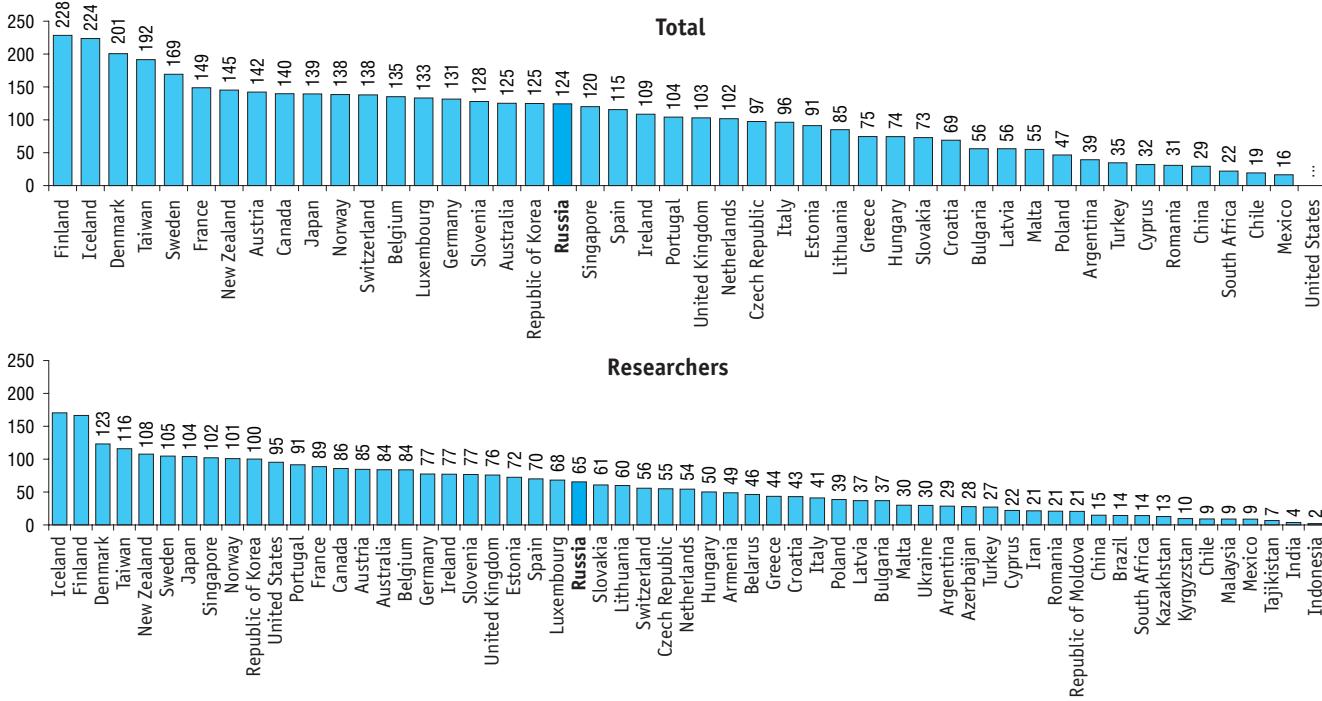
(continued)

| | R&D personnel | Researchers |
|-------------------|---------------|-------------|
| France | 384513 | 229130 |
| Germany | 529526 | 311519 |
| Greece | 35629 | 20817 |
| Hungary | 29795 | 20064 |
| Iceland | 3753 | 2861 |
| Ireland | 20786 | 14765 |
| Israel | ... | ... |
| Italy | 239246 | 101821 |
| Japan | 878418 | 655530 |
| Luxembourg | 4689 | 2401 |
| Mexico | 70293 | 37930 |
| Netherlands | 87874 | 46958 |
| New Zealand | 24700 | 18300 |
| Norway | 36091 | 26273 |
| Poland | 73581 | 61105 |
| Portugal | 52313 | 45909 |
| Republic of Korea | 294440 | 236137 |
| Slovakia | 15952 | 13290 |
| Slovenia | 12410 | 7446 |
| Spain | 220777 | 133803 |
| Sweden | 75847 | 46892 |
| Switzerland | 62066 | 25142 |
| Turkey | 73521 | 57759 |
| United Kingdom | 319487 | 235373 |
| United States | ... | 1412639 |

(continued)

| | R&D personnel | Researchers |
|--|---------------|-------------|
| EU countries which are not OECD members | | |
| Bulgaria | 18230 | 11968 |
| Cyprus | 1205 | 820 |
| Latvia | 5485 | 3621 |
| Lithuania | 12094 | 8490 |
| Malta | 895 | 485 |
| Romania | 28398 | 19271 |
| Other countries | | |
| Argentina | 53187 | 38681 |
| Brazil | 240482 | 133266 |
| China | 2291252 | 1152311 |
| Croatia | 11015 | 6931 |
| India | 391149 | 154827 |
| Indonesia | 55118 | 41143 |
| Iran | 141871 | 107810 |
| Malaysia | 13416 | 9694 |
| Singapore | 35896 | 30530 |
| South Africa | 30802 | 19384 |
| Taiwan | 196893 | 119185 |

10.9. R&D PERSONNEL PER 10 000 EMPLOYMENT: 2010*
(head-count)



* Or nearest years for which data is available. For CIS countries (except Russia, Republic of Moldova and Ukraine) calculation based on head-count data; for other countries – on full-time equivalent.

10.10. PERCENTAGE DISTRIBUTION OF RESEARCHERS BY SECTOR OF PERFORMANCE: 2010*

| | Government sector | Business enterprise sector | Higher education sector |
|-----------------------|-------------------|----------------------------|-------------------------|
| Russia | 32.8 | 47.8 | 19.1 |
| CIS countries | | | |
| Armenia | 67.7 | ... | 32.3 |
| Azerbaijan | 75.5 | 14.2 | 10.3 |
| Belarus | 27.5 | 52.7 | 4.7 |
| Kazakhstan | 34.0 | 8.3 | 35.8 |
| Kyrgyzstan | 54.8 | 13.4 | 31.7 |
| Republic of Moldova | 71.1 | 10.7 | 18.2 |
| Tajikistan | 67.8 | ... | 32.2 |
| Turkmenistan | ... | ... | ... |
| Ukraine | 51.8 | 37.3 | 10.8 |
| Uzbekistan | ... | ... | ... |
| OECD countries | | | |
| Australia | 9.0 | 29.4 | 58.2 |
| Austria | 4.4 | 63.3 | 31.9 |
| Belgium | 7.7 | 46.8 | 44.7 |
| Canada | 6.0 | 60.6 | 33.1 |
| Chile | 9.4 | 29.5 | 54.3 |
| Czech Republic | 21.8 | 44.0 | 33.6 |
| Denmark | 3.7 | 61.6 | 34.1 |
| Estonia | 11.9 | 30.4 | 55.6 |
| Finland | 11.0 | 57.9 | 30.1 |

* Or nearest years for which data is available. For CIS countries (except Russia, Republic of Moldova and Ukraine) and Indonesia calculation based on head-count data; for other countries – on full-time equivalent.

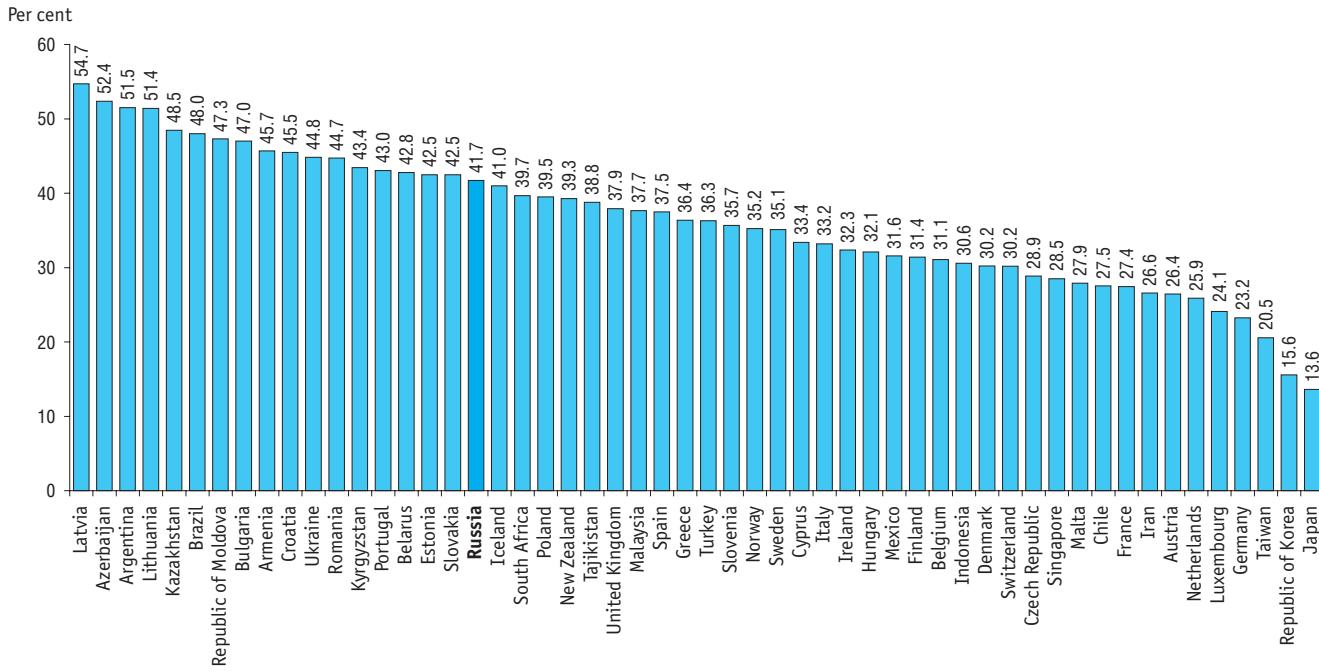
(continued)

| | Government sector | Business enterprise sector | Higher education sector |
|-------------------|-------------------|----------------------------|-------------------------|
| France | 11.9 | 56.7 | 30.1 |
| Germany | 15.8 | 57.7 | 26.5 |
| Greece | 10.6 | 30.2 | 59.5 |
| Hungary | 24.6 | 44.7 | 30.7 |
| Iceland | 19.1 | 39.4 | 39.3 |
| Ireland | 3.7 | 52.4 | 43.9 |
| Israel | ... | ... | ... |
| Italy | 16.3 | 37.7 | 42.3 |
| Japan | 5.0 | 74.8 | 19.0 |
| Luxembourg | 27.4 | 57.1 | 15.5 |
| Mexico | 19.3 | 42.5 | 35.8 |
| Netherlands | 14.5 | 43.6 | 41.9 |
| New Zealand | 11.5 | 25.7 | 62.8 |
| Norway | 16.9 | 48.2 | 34.9 |
| Poland | 21.6 | 16.1 | 62.3 |
| Portugal | 7.3 | 23.6 | 61.2 |
| Republic of Korea | 6.6 | 77.5 | 14.7 |
| Slovakia | 20.8 | 12.4 | 66.8 |
| Slovenia | 29.2 | 44.0 | 26.6 |
| Spain | 18.1 | 34.5 | 47.2 |
| Sweden | 3.2 | 62.1 | 34.8 |
| Switzerland | 1.9 | 41.1 | 57.0 |
| Turkey | 9.9 | 36.4 | 53.7 |
| United Kingdom | 3.5 | 34.2 | 60.6 |
| United States | ... | 80.0 | ... |

(continued)

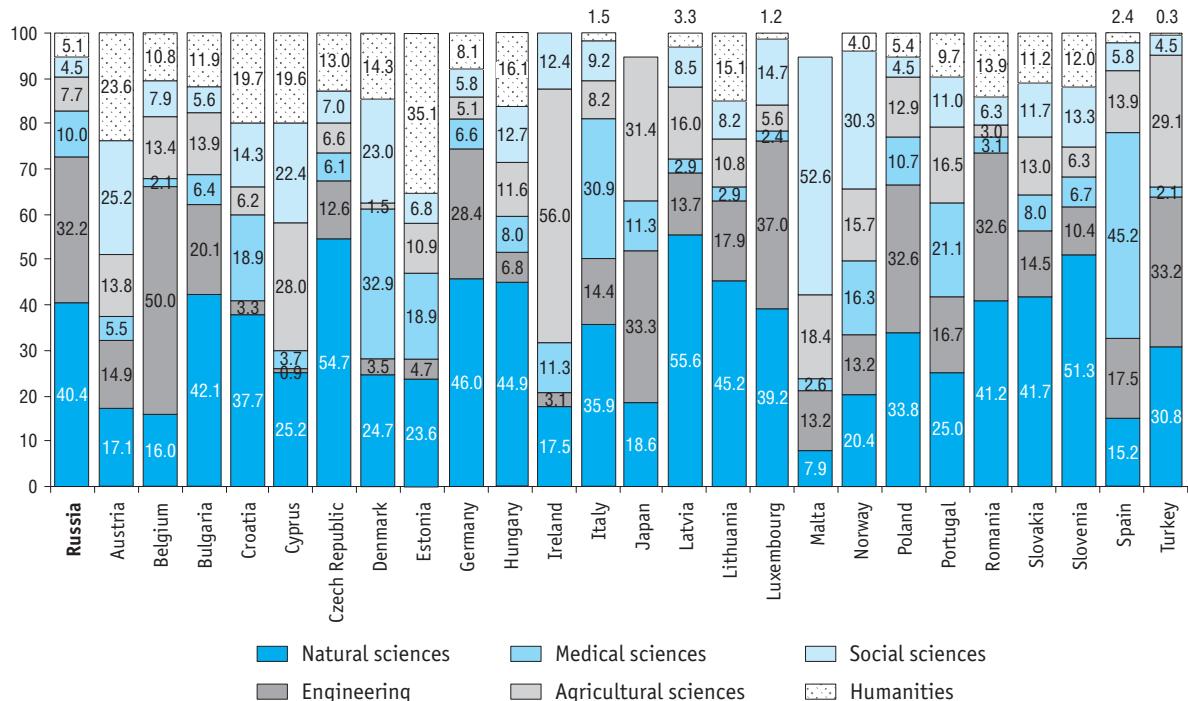
| | Government sector | Business enterprise sector | Higher education sector |
|--|-------------------|----------------------------|-------------------------|
| EU countries which are not OECD members | | | |
| Bulgaria | 48.5 | 14.4 | 36.7 |
| Cyprus | 12.8 | 25.6 | 54.3 |
| Latvia | 19.6 | 8.8 | 71.7 |
| Lithuania | 20.4 | 13.0 | 66.5 |
| Malta | 7.8 | 49.5 | 42.7 |
| Romania | 29.8 | 31.8 | 37.9 |
| Other countries | | | |
| Argentina | 44.1 | 10.8 | 43.5 |
| Brazil | 5.1 | 37.3 | 56.8 |
| China | 19.0 | 61.4 | 19.5 |
| Croatia | 29.3 | 18.6 | 52.0 |
| India | 48.7 | 37.0 | 14.3 |
| Indonesia | 31.3 | 1.9 | 66.8 |
| Iran | 33.6 | 15.0 | 51.5 |
| Malaysia | 11.0 | 36.4 | 52.6 |
| Singapore | 6.0 | 53.3 | 40.7 |
| South Africa | 15.7 | 31.8 | 51.3 |
| Taiwan | 12.1 | 61.7 | 25.8 |

10.11. FEMALE PROPORTION IN THE NUMBER OF RESEARCHERS: 2010*



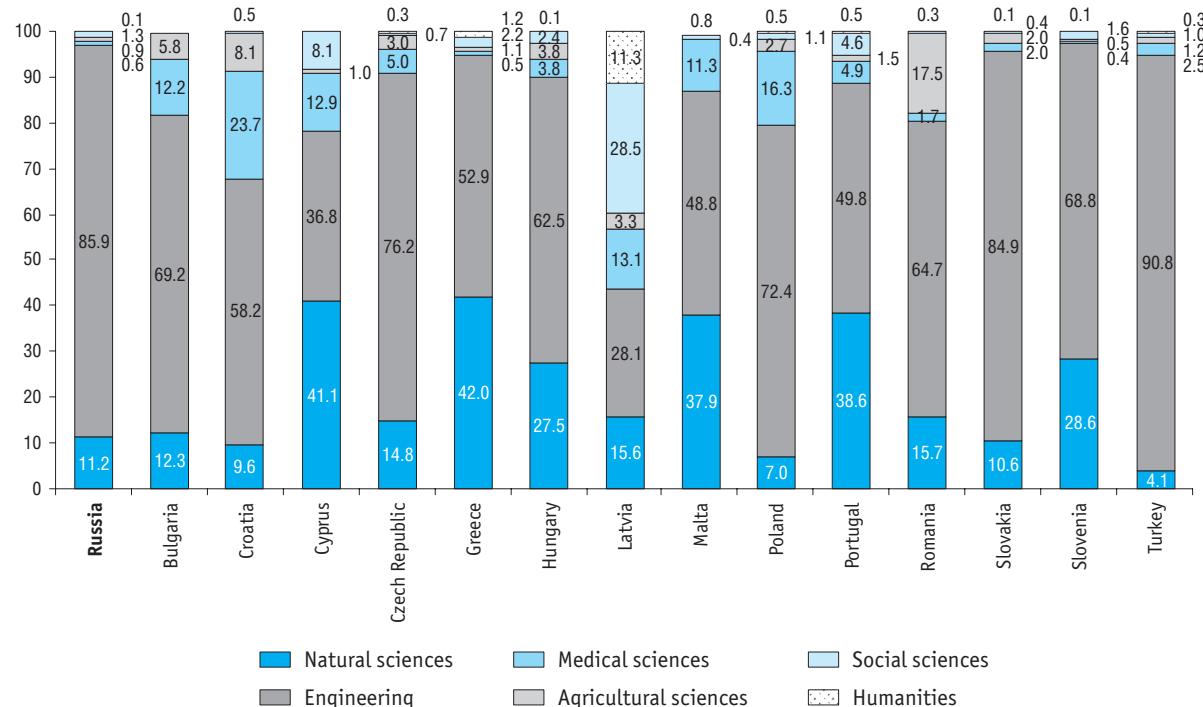
* Or nearest years for which data is available. Calculated on head-count data.

10.12. PERCENTAGE DISTRIBUTION OF RESEARCHERS IN THE GOVERNMENT SECTOR BY FIELD OF SCIENCE AND TECHNOLOGY: 2010*



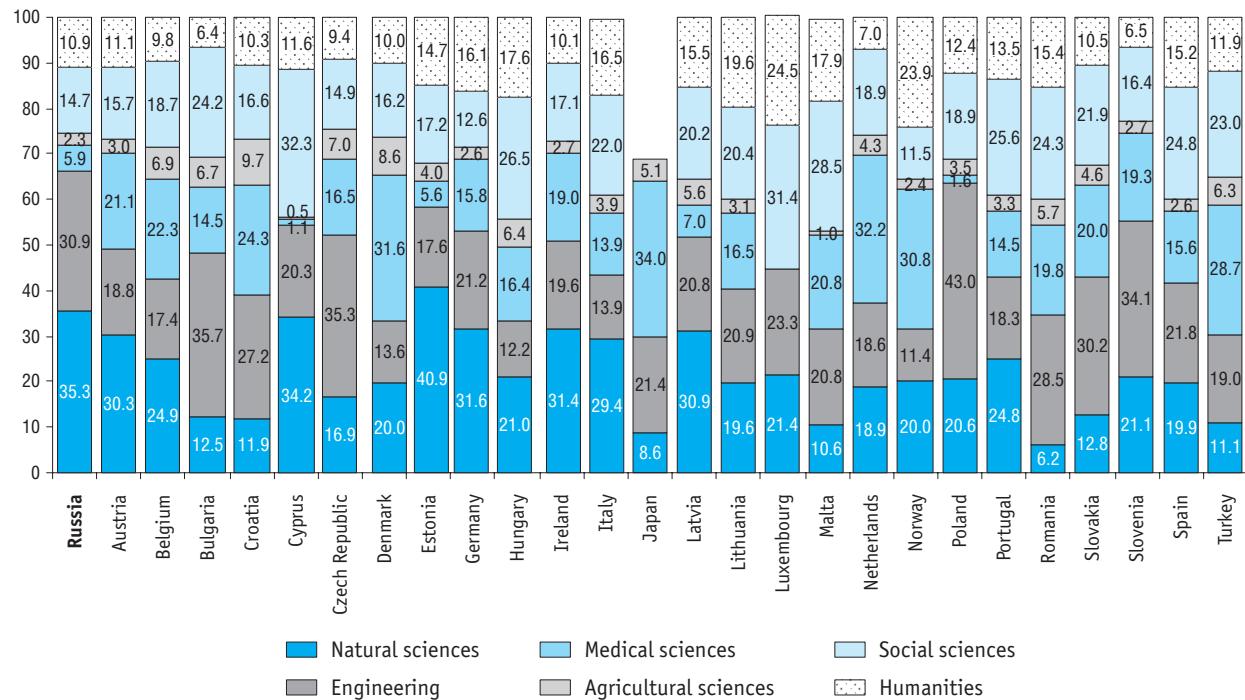
* Or nearest years for which data is available. For Russia calculation based on head-count data; for other countries – on full-time equivalent.

**10.13. PERCENTAGE DISTRIBUTION OF RESEARCHERS IN THE BUSINESS ENTERPRISE SECTOR
BY FIELD OF SCIENCE AND TECHNOLOGY: 2010***



* Or nearest years for which data is available. For Russia calculation based on head-count data; for other countries – on full-time equivalent.

**10.14. PERCENTAGE DISTRIBUTION OF RESEARCHERS IN THE HIGHER EDUCATION SECTOR
BY FIELD OF SCIENCE AND TECHNOLOGY: 2010***



* Or nearest years for which data is available. For Russia calculation based on head-count data; for other countries – on full-time equivalent.

10.15. PUBLICATIONS AND CITATIONS IN SCIENTIFIC JOURNALS INDEXED IN WEB OF SCIENCE

| | Number of publications | | Number of citations 2006–2010* | Number of citations per publication 2006–2010* |
|-----------------------|------------------------|---------------|-----------------------------------|---|
| | 2010 | 2006–2010* | | |
| Russia | 29157 | 118869 | 280697 | 2.36 |
| CIS countries | | | | |
| Armenia | 630 | 2037 | 8776 | 4.31 |
| Azerbaijan | 480 | 1431 | 1875 | 1.31 |
| Belarus | 1035 | 4387 | 8876 | 2.02 |
| Kazakhstan | 273 | 1091 | 1830 | 1.68 |
| Kyrgyzstan | 61 | 249 | 469 | 1.88 |
| Republic of Moldova | 256 | 952 | 3099 | 3.26 |
| Tajikistan | 56 | — | — | — |
| Turkmenistan | 9 | — | — | — |
| Ukraine | 5001 | 19581 | 41710 | 2.13 |
| Uzbekistan | 333 | 1434 | 3732 | 2.60 |
| OECD countries | | | | |
| Australia | 43496 | 154518 | 928178 | 6.01 |
| Austria | 13007 | 45878 | 301310 | 6.57 |
| Belgium | 18843 | 67657 | 479861 | 7.09 |
| Canada | 60570 | 226447 | 1482075 | 6.54 |
| Chile | 5337 | 18058 | 82382 | 4.56 |
| Czech Republic | 11567 | 35056 | 154662 | 4.41 |
| Denmark | 12723 | 47055 | 372465 | 7.92 |
| Estonia | 1602 | 4786 | 22996 | 4.80 |
| Finland | 11023 | 41930 | 276823 | 6.60 |

* Number of publications and citations received in 2006–2010 by publications for the same period.

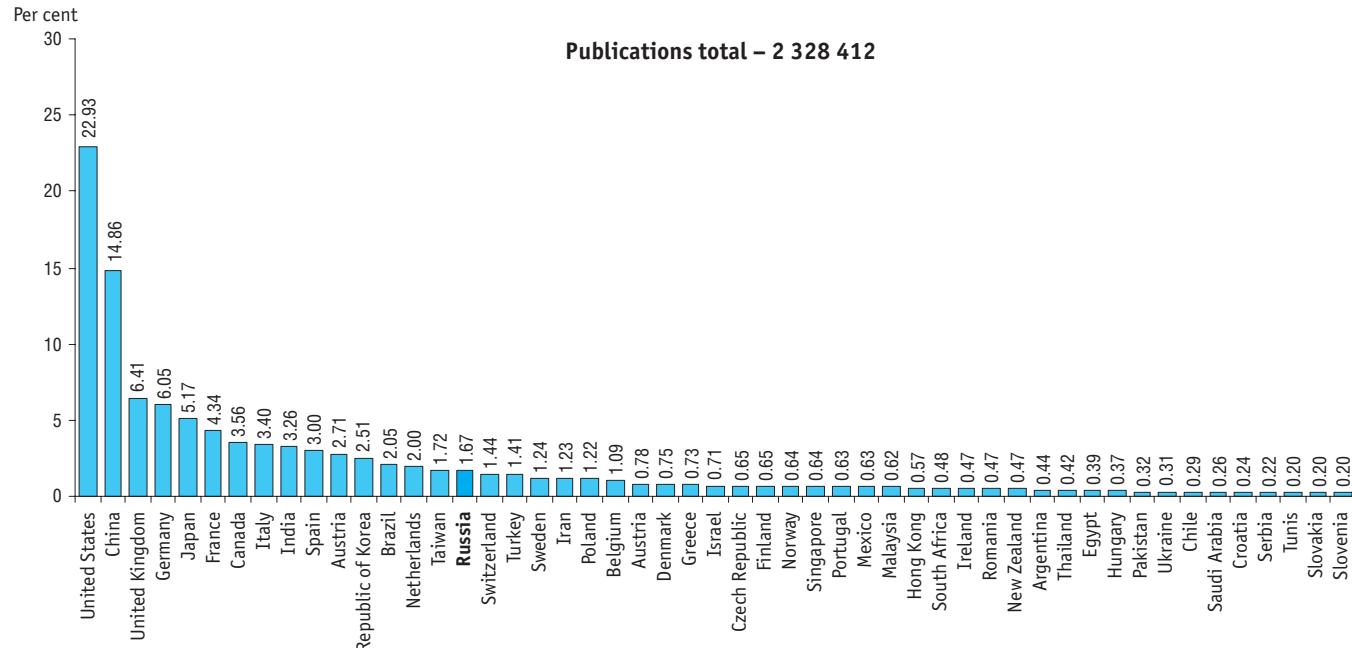
(continued)

| | Number of publications | | Number of citations 2006–2010* | Number of citations per publication 2006–2010* |
|-------------------|------------------------|------------|-----------------------------------|---|
| | 2010 | 2006–2010* | | |
| France | 70893 | 260242 | 1636165 | 6.29 |
| Germany | 99737 | 366829 | 2480085 | 6.76 |
| Greece | 11513 | 43775 | 206640 | 4.72 |
| Hungary | 5709 | 23567 | 120999 | 5.13 |
| Iceland | 867 | 2798 | 23639 | 8.45 |
| Ireland | 9546 | 24365 | 155827 | 6.40 |
| Israel | 12775 | 50984 | 313892 | 6.16 |
| Italy | 57272 | 210433 | 1291026 | 6.14 |
| Japan | 84845 | 339872 | 1719573 | 5.06 |
| Luxembourg | 636 | 1579 | 7389 | 4.68 |
| Mexico | 10570 | 38375 | 139830 | 3.64 |
| Netherlands | 33907 | 123368 | 955329 | 7.74 |
| New Zealand | 7861 | 28763 | 155953 | 5.42 |
| Norway | 10371 | 37123 | 227179 | 6.12 |
| Poland | 21791 | 78029 | 270916 | 3.47 |
| Portugal | 10798 | 33655 | 169029 | 5.02 |
| Republic of Korea | 45045 | 149590 | 560517 | 3.75 |
| Slovakia | 3460 | 11839 | 42544 | 3.59 |
| Slovenia | 3631 | 12487 | 45695 | 3.66 |
| Spain | 50000 | 173482 | 954522 | 5.50 |
| Sweden | 21299 | 83705 | 604411 | 7.22 |
| Switzerland | 24255 | 88930 | 751174 | 8.45 |
| Turkey | 24427 | 86905 | 229981 | 2.65 |
| United Kingdom | 107208 | 408597 | 2981294 | 7.3 |
| United States | 376938 | 1443503 | 10700022 | 7.41 |

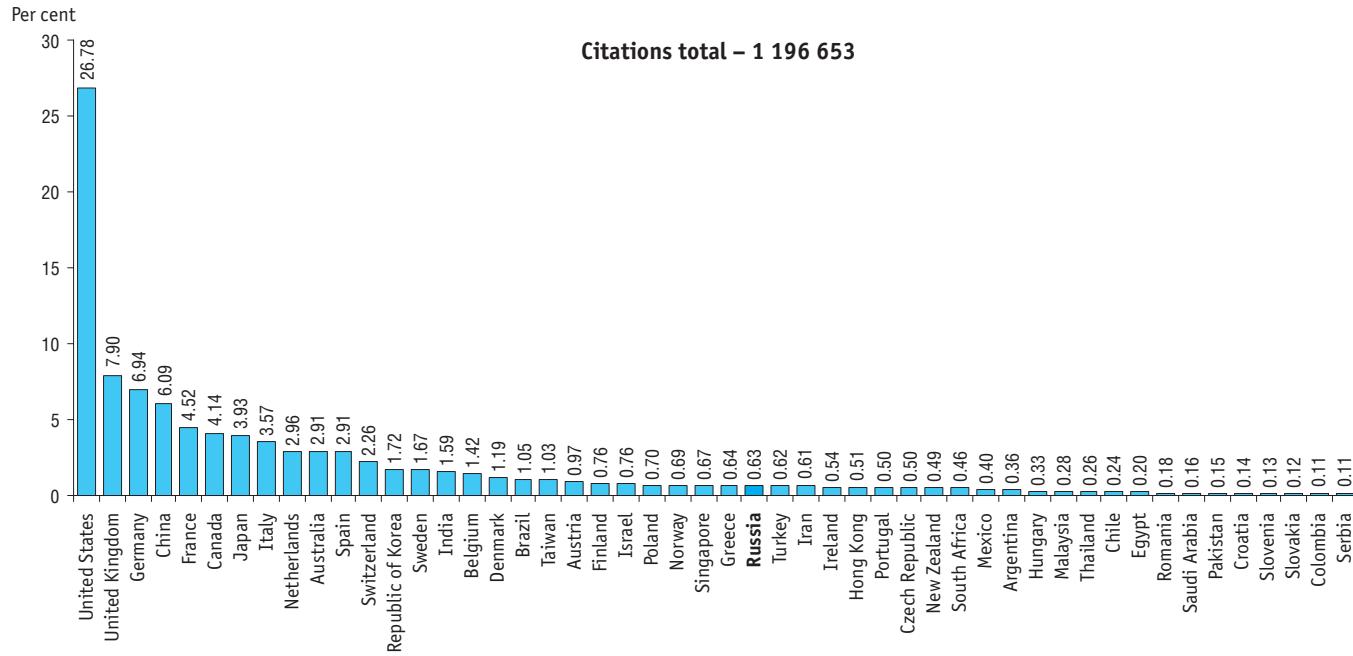
(continued)

| | Number of publications | | Number of citations | Number of citations per publication |
|--|------------------------|------------|---------------------|-------------------------------------|
| | 2010 | 2006–2010* | 2006–2010* | |
| EU countries which are not OECD members | | | | |
| Bulgaria | 3156 | 9447 | 33085 | 3.50 |
| Cyprus | 1214 | 2166 | 7852 | 3.63 |
| Latvia | 759 | 1737 | 5744 | 3.31 |
| Lithuania | 2195 | 7430 | 19401 | 2.61 |
| Malta | 233 | 453 | 2243 | 4.95 |
| Romania | 9955 | 21521 | 47561 | 2.21 |
| Other countries | | | | |
| Argentina | 7789 | 28467 | 119567 | 4.20 |
| Brazil | 34176 | 119283 | 369607 | 3.10 |
| China | 179476 | 484102 | 1727251 | 3.57 |
| Croatia | 3341 | 12019 | 34124 | 2.84 |
| Egypt | 5373 | 18667 | 50328 | 2.70 |
| Georgia | 436 | 1540 | 4162 | 2.70 |
| India | 45775 | 157113 | 487819 | 3.10 |
| Indonesia | 1256 | 3477 | 14985 | 4.31 |
| Iran | 18949 | 50242 | 129596 | 2.58 |
| Malaysia | 7661 | 15218 | 34807 | 2.29 |
| Pakistan | 4352 | 13087 | 32478 | 2.48 |
| Saudi Arabia | 3392 | 9395 | 20965 | 2.23 |
| Serbia | 4062 | 11251 | 25001 | 2.22 |
| Singapore | 10470 | 33528 | 182974 | 5.46 |
| South Africa | 7612 | 28604 | 124953 | 4.37 |
| Taiwan | 28185 | 94342 | 348313 | 3.69 |
| Thailand | 5172 | 19118 | 77102 | 4.03 |

10.16. COUNTRY SHARES IN THE TOTAL NUMBER OF PUBLICATIONS IN SCIENTIFIC JOURNALS INDEXED IN SCOPUS: 2010

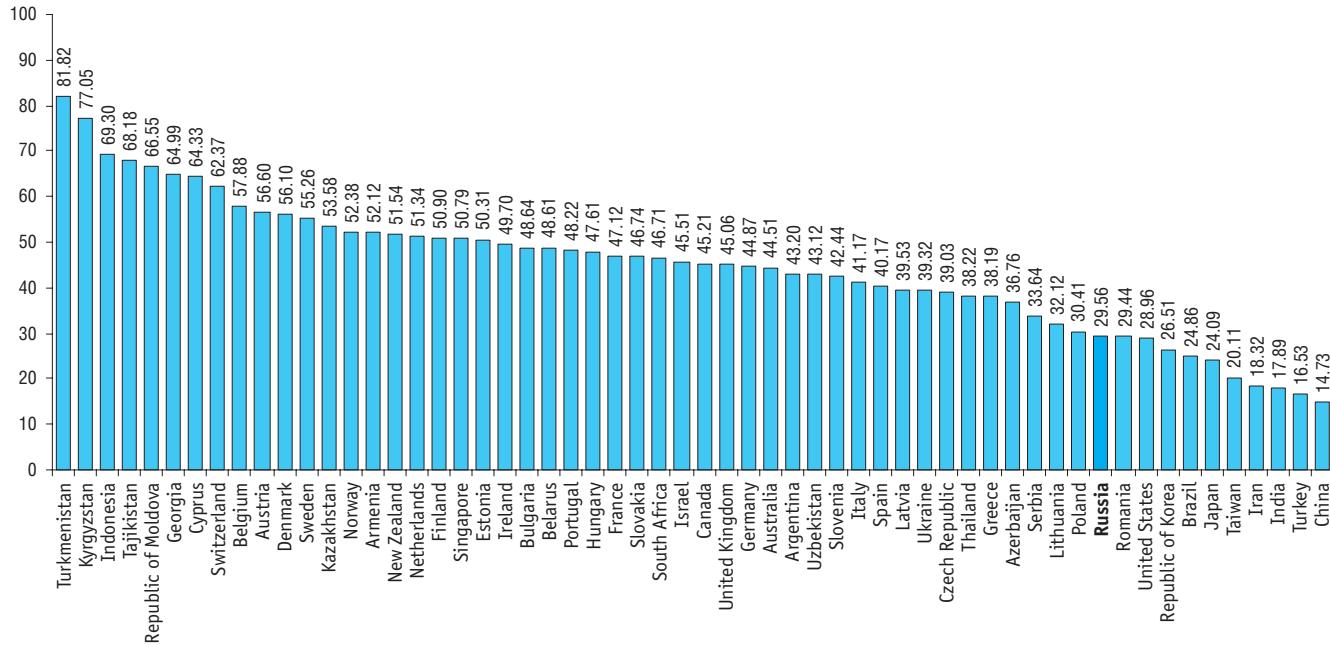


10.17. COUNTRY SHARES IN THE TOTAL NUMBER OF CITATIONS IN SCIENTIFIC JOURNALS INDEXED IN SCOPUS: 2010*

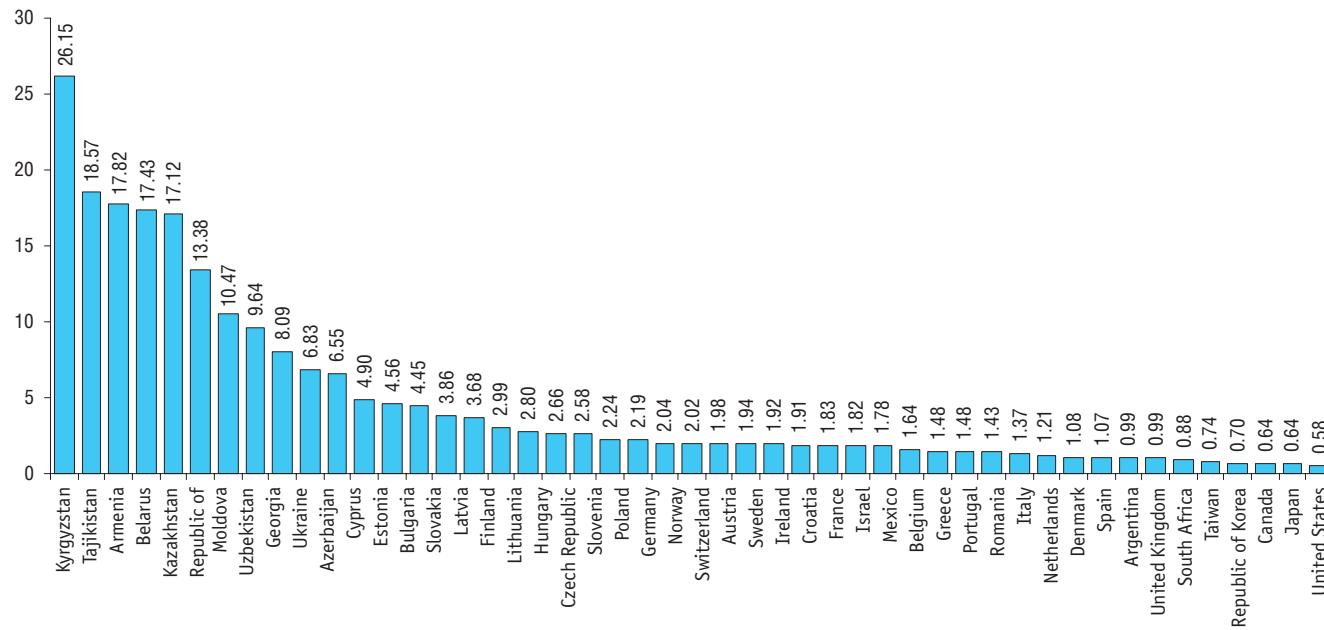


* Number of citations received in 2010 by publications for the same year.

**10.18. PUBLICATIONS IN CO-AUTHORSHIP WITH FOREIGN RESEARCHERS AS A PER CENT OF A TOTAL COUNTRY PUBLICATIONS
IN SCIENTIFIC JOURNALS INDEXED IN SCOPUS: 2010**



**10.19. PUBLICATIONS IN CO-AUTHORSHIP WITH RUSSIAN RESEARCHERS AS A PER CENT OF A TOTAL COUNTRY PUBLICATIONS
IN SCIENTIFIC JOURNALS INDEXED IN SCOPUS: 2010**



10.20. PATENT APPLICATIONS FILED BY RESIDENTS AND NON-RESIDENTS IN NATIONAL PATENT AGENCIES

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Russia | 22202 | 28688 | 29989 | 29225 | 30651 | 30192 | 32254 | 37691 | 39439 | 41849 | 38564 | 42500 |
| CIS countries | | | | | | | | | | | | |
| Armenia | 285 | 127 | 155 | 207 | 157 | 6 | 208 | 193 | 140 | 230 | 127 | 142 |
| Azerbaijan | 251 | ... | ... | ... | ... | ... | 287 | ... | ... | 227 | ... | ... |
| Belarus | 1039 | 1198 | 1144 | 1274 | 1380 | 1265 | 1462 | 1525 | 1662 | 1730 | 1926 | 1933 |
| Kazakhstan | 1373 | 1515 | 1706 | ... | 1798 | ... | 1626 | 1557 | ... | 173 | ... | ... |
| Kyrgyzstan | 148 | 84 | 98 | 128 | 180 | ... | ... | ... | 158 | 138 | ... | 140 |
| Republic of Moldova | 309 | 250 | 454 | 269 | 296 | 306 | 388 | 312 | 347 | 295 | 139 | 143 |
| Tajikistan | 65 | 52 | 84 | 39 | 31 | 34 | 36 | 26 | ... | ... | 12 | 10 |
| Turkmenistan | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Ukraine | 5960 | 7224 | 8818 | 2754 | 3073 | 5779 | 5592 | 5890 | 6163 | 5697 | 4814 | 5312 |
| Uzbekistan | 1058 | 968 | 1246 | 918 | 1102 | 478 | 444 | 509 | 522 | 448 | 412 | 632 |
| OECD countries | | | | | | | | | | | | |
| Australia | 14061 | 22001 | 22735 | 22545 | 21594 | 22833 | 23857 | 26003 | 26840 | 26346 | 23681 | 24887 |
| Austria | 2186 | 2301 | 2099 | 2261 | 2333 | 2514 | 2505 | 2649 | 2672 | 2627 | 2555 | 2673 |
| Belgium | 1087 | 820 | 835 | 748 | 707 | 636 | 622 | 651 | 617 | 708 | 817 | 760 |
| Canada | 26592 | 39622 | 39716 | 39741 | 37228 | 38201 | 39888 | 42038 | 40131 | 42089 | 37477 | 35449 |
| Chile | 1706 | 3120 | 2750 | 2538 | 2405 | 2867 | 3007 | 3215 | 3806 | 3952 | 1717 | 1076 |
| Czech Republic | 3519 | 4939 | 4752 | 5557 | 3579 | 1252 | 830 | 836 | 908 | 854 | 881 | 982 |
| Denmark | 1484 | 1870 | 1945 | 1984 | 1925 | 2015 | 1823 | 1691 | 1857 | 1829 | 1649 | 1768 |
| Estonia | 79 | 804 | 717 | 719 | 602 | 124 | 38 | 45 | 63 | 72 | 96 | 97 |
| Finland | 3791 | 2903 | 2660 | 2369 | 2187 | 2220 | 2059 | 2018 | 2015 | 1946 | 1933 | 1833 |
| France | 15896 | 17353 | 17104 | 16908 | 16850 | 17290 | 17275 | 17249 | 17109 | 16419 | 15693 | 16580 |

(continued)

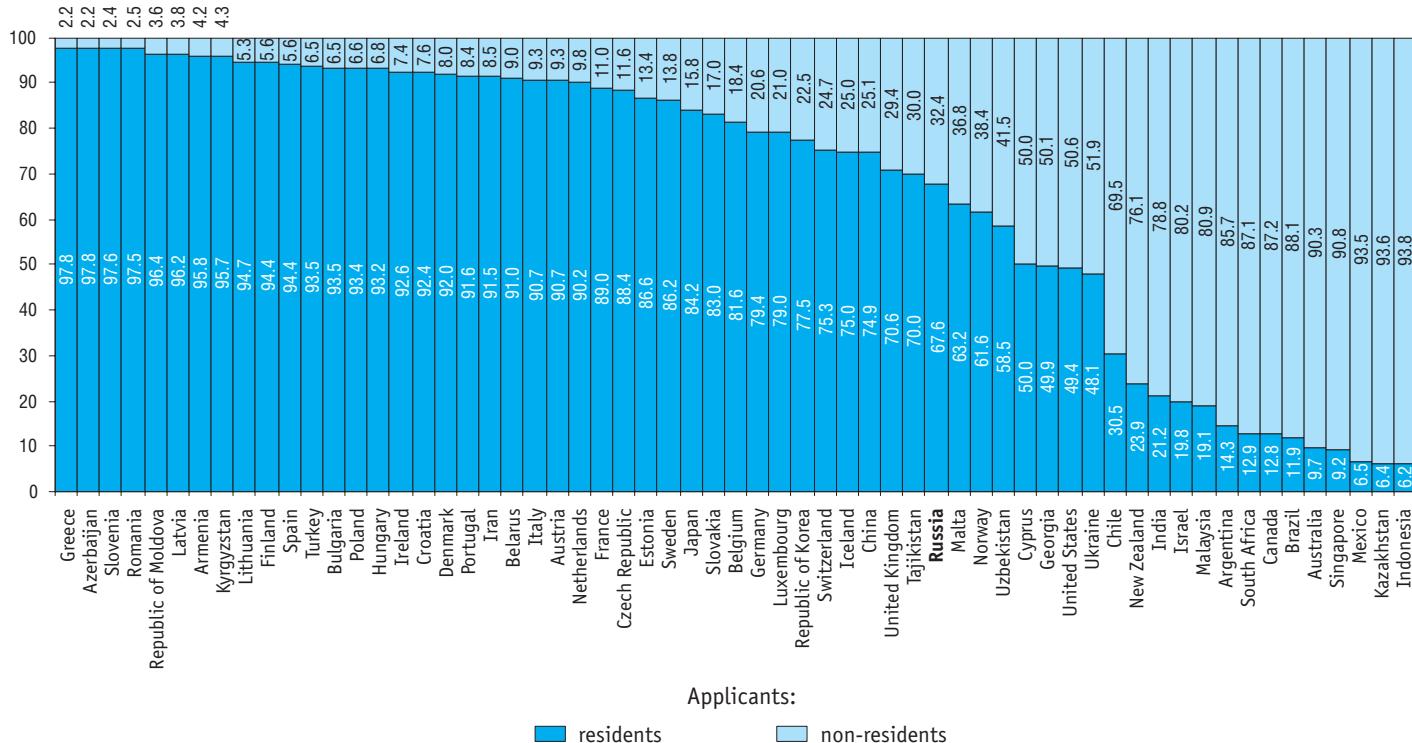
| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Germany | 46158 | 62142 | 60475 | 58187 | 58481 | 59234 | 60222 | 60585 | 60992 | 62417 | 59583 | 59245 |
| Greece | 312 | 340 | 434 | 412 | 420 | 407 | 482 | 562 | 595 | 658 | 720 | 744 |
| Hungary | 2889 | 4937 | 5448 | 5906 | 4810 | 2657 | 1202 | 924 | 791 | 772 | 787 | 696 |
| Iceland | 68 | 876 | 762 | 450 | 805 | 529 | 592 | 371 | 114 | 81 | 86 | 76 |
| Ireland | 990 | 1080 | 1169 | 982 | 939 | 845 | 864 | 935 | 925 | 1007 | 961 | 792 |
| Israel | 4425 | 6802 | 9875 | 6308 | 5898 | 6414 | 5124 | 7496 | 8009 | 7742 | 6774 | 7306 |
| Italy | ... | 9273 | ... | ... | ... | ... | ... | ... | 10125 | 9449 | 9717 | ... |
| Japan | 368831 | 419543 | 440248 | 421805 | 413093 | 423081 | 427078 | 408674 | 396291 | 391002 | 348596 | 344598 |
| Luxembourg | 104 | 176 | 121 | 83 | 24 | 41 | 88 | 52 | 40 | 71 | 84 | 100 |
| Mexico | 5234 | 13061 | 13565 | 13062 | 12207 | 13198 | 14435 | 15505 | 16599 | 16581 | 14281 | 14576 |
| Netherlands | 2692 | 2994 | 2653 | 2603 | 2861 | 2743 | 2850 | 2716 | 2446 | 2732 | 2854 | ... |
| New Zealand | 4719 | 7048 | 7275 | 6948 | 6873 | 6531 | 7005 | 7365 | 7844 | 5724 | 6358 | 6636 |
| Norway | 5408 | 6700 | 6431 | 6287 | 5861 | 5490 | 5986 | 6076 | 6656 | 5430 | 3604 | 1813 |
| Poland | 3860 | 7303 | 6530 | 6605 | 6241 | 7740 | 6583 | 2812 | 2753 | 2778 | 3140 | 3430 |
| Portugal | 201 | 146 | 163 | 179 | 165 | 187 | 205 | 220 | 281 | 405 | 617 | 545 |
| Republic of Korea | 78499 | 102010 | 104612 | 106136 | 118651 | 140115 | 160921 | 166189 | 172469 | 170632 | 163523 | 170101 |
| Slovakia | 1669 | 2040 | 1942 | 1858 | 1647 | 453 | 250 | 283 | 345 | 242 | 239 | 282 |
| Slovenia | 430 | 431 | 408 | 401 | 370 | 384 | 373 | 299 | 346 | 307 | 385 | 453 |
| Spain | 2600 | 3194 | 2995 | 3134 | 3180 | 3184 | 3353 | 3427 | 3532 | 3884 | 3803 | 3779 |
| Sweden | 4865 | 5068 | 4500 | 3955 | 3728 | 3230 | 2960 | 2859 | 2925 | 2855 | 2649 | 2549 |
| Switzerland | 3720 | 2551 | 2453 | 2293 | 2227 | 2176 | 2098 | 2102 | 2034 | 2033 | 2078 | 2155 |
| Turkey | 1690 | 3433 | 3212 | 1838 | 837 | 917 | 1146 | 1232 | 2021 | 2397 | 2732 | ... |
| United Kingdom | 27521 | 32747 | 32081 | 31531 | 31624 | 29954 | 27988 | 25745 | 24999 | 23379 | 22465 | 21929 |
| United States | 228142 | 295895 | 326471 | 334445 | 342441 | 356943 | 390733 | 425966 | 456154 | 456321 | 456106 | 490226 |

(continued)

| | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| EU countries which are not OECD members | | | | | | | | | | | | |
| Bulgaria | 731 | 940 | 1068 | 1024 | 958 | 396 | 313 | 291 | 239 | 271 | 266 | 260 |
| Cyprus | ... | 70 | 48 | 69 | 97 | 94 | 64 | 34 | 19 | 21 | 12 | 8 |
| Latvia | 300 | 179 | 180 | 214 | 115 | 151 | 169 | 151 | 147 | 215 | 243 | 185 |
| Lithuania | 133 | 127 | 123 | 131 | 113 | 114 | 115 | 99 | 82 | 105 | 107 | 114 |
| Malta | 24 | 116 | 133 | 202 | ... | 471 | ... | 805 | 39 | 48 | 29 | 19 |
| Romania | 2232 | 1290 | 1405 | 1841 | 1174 | 1137 | 984 | 876 | 886 | 1031 | 1091 | 1418 |
| Other countries | | | | | | | | | | | | |
| Argentina | 4264 | 6636 | 5779 | 4861 | 4557 | 4602 | 5269 | 5617 | 5743 | 5582 | 4916 | 4717 |
| Brazil | 7448 | 17376 | 17204 | 16022 | 17704 | 19272 | 20005 | 24074 | 21825 | 22917 | 21944 | 22686 |
| China | 18699 | 51906 | 63450 | 80232 | 105317 | 130384 | 173327 | 210501 | 245161 | 289838 | 314604 | 391177 |
| Croatia | 600 | 875 | 961 | 1031 | 1086 | 1224 | 1012 | 436 | 437 | 401 | 318 | 278 |
| Georgia* | 707 | 456 | 503 | 446 | 403 | 458 | 461 | 535 | 162 | 247 | 468 | 359 |
| India | 6566 | 8538 | 10592 | 11465 | 12613 | 17466 | 24382 | 28928 | 35218 | 36812 | 34287 | ... |
| Indonesia | 2874 | 3890 | 3926 | 3843 | 3300 | 3668 | 4304 | 4612 | ... | ... | ... | ... |
| Iran | 407 | 616 | 993 | 1195 | 1642 | 2782 | 4494 | 6527 | ... | ... | ... | ... |
| Malaysia | 4052 | 6227 | 5934 | 4937 | 5062 | 5442 | 6286 | 4800 | 2372 | 5303 | 5737 | 6463 |
| Singapore | 2557 | 8236 | 8656 | 8199 | 7874 | 8585 | 8605 | 9163 | 9951 | 9692 | 8736 | 9773 |
| South Africa | 6365 | 3295 | 6393 | 6600 | 6225 | 6789 | 7004 | 7605 | 8317 | 7941 | 6735 | 6383 |

* Till 2009, August 18, Georgia was a member of CIS.

10.21. PERCENTAGE DISTRIBUTION OF PATENT APPLICATIONS BY APPLICANTS AND COUNTRY: 2010*



* Or nearest years for which data is available.

10.22. PATENT APPLICATIONS FILED AT THE EUROPEAN PATENT OFFICE*

| | Number of applications | | | | Number of applications per million of population | | | | Number of applications per million of labor force | | | |
|-----------------------|------------------------|-------|-------|-------|--|-------|-------|-------|---|-------|-------|-------|
| | 2005 | 2006 | 2007 | 2008 | 2005 | 2006 | 2007 | 2008 | 2005 | 2006 | 2007 | 2008 |
| Russia | 300 | 268 | 284 | 300 | 2.1 | 1.9 | 2.0 | 2.1 | 4.1 | 3.6 | 3.8 | 4.0 |
| OECD countries | | | | | | | | | | | | |
| Australia | 1088 | 956 | 932 | 879 | 53.0 | 45.9 | 44.1 | 40.9 | 102.8 | 88.3 | 84.1 | 77.8 |
| Austria | 1495 | 1695 | 1807 | 1932 | 182.2 | 205.3 | 218.2 | 232.2 | 370.7 | 411.0 | 428.9 | 454.3 |
| Belgium | 1442 | 1455 | 1512 | 1519 | 138.0 | 138.4 | 142.9 | 142.4 | 311.7 | 313.0 | 319.5 | 317.8 |
| Canada | 2321 | 2276 | 2409 | 2482 | 71.8 | 69.7 | 73.0 | 74.4 | 133.4 | 128.9 | 133.8 | 135.6 |
| Czech Republic | 107 | 152 | 178 | 200 | 10.5 | 14.9 | 17.3 | 19.3 | 20.7 | 29.3 | 34.2 | 38.2 |
| Denmark | 1129 | 1070 | 1225 | 1275 | 208.6 | 197.1 | 224.8 | 232.9 | 390.3 | 366.5 | 420.2 | 432.1 |
| Estonia | 6 | 21 | 28 | 35 | 4.7 | 15.8 | 21.0 | 25.9 | 9.7 | 30.9 | 41.1 | 49.9 |
| Finland | 1302 | 1322 | 1336 | 1327 | 248.6 | 251.5 | 253.2 | 250.3 | 496.7 | 499.1 | 499.6 | 490.9 |
| France | 8271 | 8339 | 8485 | 8557 | 131.8 | 131.9 | 133.4 | 133.7 | 300.0 | 300.6 | 303.6 | 299.0 |
| Germany | 23650 | 23602 | 24138 | 24557 | 286.7 | 286.3 | 293.3 | 298.7 | 573.3 | 567.3 | 577.3 | 584.4 |
| Greece | 110 | 105 | 112 | 127 | 10.0 | 9.5 | 10.0 | 11.3 | 22.8 | 21.5 | 22.7 | 25.8 |
| Hungary | 135 | 163 | 185 | 195 | 13.4 | 16.2 | 18.3 | 19.4 | 32.2 | 38.5 | 43.5 | 46.3 |
| Iceland | 29 | 29 | 29 | 28 | 99.6 | 97.3 | 92.8 | 88.8 | 178.3 | 169.0 | 159.0 | 153.6 |
| Ireland | 266 | 275 | 309 | 324 | 64.8 | 65.4 | 71.7 | 73.7 | 130.5 | 129.1 | 139.7 | 145.1 |
| Israel | 1357 | 1254 | 1332 | 1390 | 202.8 | 184.1 | 192.2 | 197.1 | 495.3 | 446.2 | 460.3 | 439.0 |
| Italy | 4846 | 4957 | 5150 | 5349 | 82.9 | 84.4 | 87.1 | 89.7 | 198.2 | 201.0 | 208.2 | 213.1 |
| Japan | 21367 | 21028 | 20838 | 20239 | 167.2 | 164.6 | 163.1 | 158.5 | 321.3 | 315.9 | 312.5 | 304.3 |
| Luxembourg | 97 | 108 | 115 | 115 | 211.3 | 230.0 | 240.7 | 238.1 | 479.9 | 526.7 | 541.6 | 541.2 |
| Mexico | 85 | 78 | 81 | 90 | 0.8 | 0.7 | 0.8 | 0.9 | 2.0 | 1.8 | 1.8 | 2.0 |

* By the priority year at the national level.

(continued)

| | Number of applications | | | | Number of applications per million of population | | | | Number of applications per million of labor force | | | |
|--|------------------------|-------|-------|-------|--|-------|-------|-------|---|-------|-------|-------|
| | 2005 | 2006 | 2007 | 2008 | 2005 | 2006 | 2007 | 2008 | 2005 | 2006 | 2007 | 2008 |
| Netherlands | 3427 | 3630 | 3687 | 3711 | 210.2 | 222.2 | 225.4 | 226.2 | 402.5 | 422.3 | 421.8 | 420.1 |
| New Zealand | 163 | 175 | 163 | 155 | 39.0 | 41.4 | 38.2 | 36.0 | 75.4 | 79.1 | 72.6 | 68.4 |
| Norway | 484 | 475 | 519 | 563 | 105.1 | 102.4 | 110.9 | 118.8 | 202.5 | 195.0 | 207.9 | 218.2 |
| Poland | 123 | 140 | 201 | 226 | 3.2 | 3.7 | 5.3 | 5.9 | 7.2 | 8.3 | 11.9 | 13.3 |
| Portugal | 116 | 107 | 123 | 144 | 11.1 | 10.1 | 11.6 | 13.6 | 21.0 | 19.1 | 21.9 | 25.7 |
| Republic of Korea | 5056 | 5056 | 5640 | 6048 | 105.0 | 104.7 | 116.4 | 124.4 | 213.0 | 210.9 | 232.9 | 249.7 |
| Slovakia | 31 | 40 | 42 | 50 | 5.7 | 7.3 | 7.9 | 9.2 | 11.6 | 14.9 | 16.0 | 18.5 |
| Slovenia | 107 | 97 | 117 | 119 | 53.4 | 48.3 | 58.3 | 59.1 | 105.0 | 94.8 | 113.2 | 114.1 |
| Spain | 1342 | 1331 | 1459 | 1545 | 31.2 | 30.4 | 32.8 | 34.1 | 64.3 | 61.7 | 65.7 | 67.6 |
| Sweden | 2362 | 2562 | 2740 | 2928 | 262.1 | 283.2 | 300.6 | 318.9 | 501.0 | 537.5 | 566.2 | 597.8 |
| Switzerland | 3145 | 3143 | 3270 | 3351 | 424.1 | 421.4 | 435.5 | 441.3 | 711.8 | 698.8 | 711.3 | 715.2 |
| Turkey | 165 | 188 | 232 | 270 | 2.3 | 2.6 | 3.3 | 3.8 | 6.6 | 8.2 | 10.0 | 11.3 |
| United Kingdom | 5419 | 5514 | 5501 | 5511 | 90.2 | 91.3 | 90.4 | 90.1 | 180.0 | 180.4 | 178.9 | 177.1 |
| United States | 35000 | 32277 | 32169 | 31602 | 118.2 | 108.0 | 106.6 | 103.8 | 233.7 | 212.7 | 209.0 | 203.1 |
| EU countries which are not OECD members | | | | | | | | | | | | |
| Bulgaria | 24 | 27 | 29 | 32 | 3.1 | 3.5 | 3.7 | 4.2 | 7.2 | 7.9 | 8.2 | 9.1 |
| Cyprus | 17 | 6 | 9 | 10 | 22.1 | 8.3 | 12.0 | 13.2 | 45.0 | 16.9 | 23.7 | 26.3 |
| Latvia | 18 | 17 | 20 | 24 | 8.0 | 7.4 | 8.8 | 10.4 | 16.3 | 14.6 | 17.0 | 19.4 |
| Lithuania | 9 | 10 | 10 | 10 | 2.6 | 2.8 | 2.9 | 3.0 | 5.6 | 6.1 | 6.1 | 6.4 |
| Malta | 11 | 8 | 9 | 10 | 27.9 | 19.4 | 21.1 | 23.9 | 70.3 | 48.2 | 51.5 | 57.5 |
| Romania | 29 | 20 | 33 | 36 | 1.3 | 0.9 | 1.5 | 1.7 | 2.9 | 2.0 | 3.3 | 3.6 |

(continued)

| | Number of applications | | | | Number of applications per million of population | | | | Number of applications per million of labor force | | | |
|------------------------|------------------------|------|------|------|--|------|------|------|---|------|------|-------|
| | 2005 | 2006 | 2007 | 2008 | 2005 | 2006 | 2007 | 2008 | 2005 | 2006 | 2007 | 2008 |
| Other countries | | | | | | | | | | | | |
| Brazil | 201 | 224 | 256 | 279 | 1.1 | 1.2 | 1.3 | 1.5 | 2.1 | 2.3 | 2.6 | 2.8 |
| China | 1634 | 1808 | 2272 | 2703 | 1.2 | 1.4 | 1.7 | 2.0 | 2.1 | 2.3 | 2.9 | 3.4 |
| Croatia | 33 | 35 | 32 | 32 | 7.5 | 7.8 | 7.2 | 7.2 | 16.5 | 17.4 | 16.4 | 16.6 |
| India | 583 | 537 | 595 | 620 | 0.5 | 0.5 | 0.5 | 0.5 | 1.4 | 1.2 | 1.3 | 1.4 |
| Singapore | 251 | 261 | 273 | 277 | 58.7 | 59.8 | 60.9 | 60.0 | 96.6 | 94.8 | 92.9 | ... |
| South Africa | 134 | 158 | 163 | 168 | 2.8 | 3.3 | 3.3 | 3.4 | 8.2 | 9.2 | 9.3 | ... |
| Taiwan | 742 | 857 | 1064 | 1217 | 32.6 | 37.5 | 46.3 | 52.8 | 71.6 | 81.5 | 99.3 | 112.2 |

10.23. «TRIADIC» PATENT FAMILIES*

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Russia | 63 | 59 | 70 | 96 | 62 | 73 | 51 | 51 | 52 | 50 | 66 | 65 | 65 | 63 | 63 |
| OECD countries | | | | | | | | | | | | | | | |
| Australia | 236 | 236 | 279 | 300 | 292 | 364 | 321 | 343 | 336 | 359 | 357 | 348 | 310 | 290 | 288 |
| Austria | 223 | 214 | 259 | 270 | 258 | 273 | 256 | 320 | 337 | 381 | 426 | 443 | 424 | 413 | 416 |
| Belgium | 376 | 362 | 435 | 397 | 374 | 327 | 336 | 342 | 326 | 412 | 410 | 444 | 420 | 397 | 376 |
| Canada | 390 | 430 | 533 | 534 | 521 | 520 | 531 | 588 | 571 | 647 | 665 | 675 | 642 | 598 | 602 |
| Chile | 2 | 3 | 0 | 2 | 2 | 2 | 5 | 5 | 3 | 5 | 5 | 6 | 5 | 6 | 9 |
| Czech Republic | 3 | 12 | 11 | 16 | 10 | 9 | 11 | 14 | 15 | 14 | 14 | 19 | 21 | 21 | 21 |
| Denmark | 189 | 227 | 217 | 271 | 237 | 218 | 221 | 228 | 244 | 292 | 309 | 276 | 301 | 300 | 279 |
| Estonia | 0 | 4 | 2 | 2 | 1 | 1 | 2 | 1 | 4 | 0 | 1 | 6 | 7 | 6 | 8 |
| Finland | 319 | 357 | 449 | 452 | 446 | 343 | 347 | 273 | 300 | 337 | 341 | 348 | 355 | 347 | 336 |
| France | 1975 | 2159 | 2216 | 2286 | 2341 | 2118 | 2179 | 2205 | 2255 | 2394 | 2384 | 2491 | 2471 | 2453 | 2456 |
| Germany | 4919 | 5529 | 5692 | 6157 | 6004 | 5763 | 5632 | 5486 | 5427 | 5615 | 5757 | 6076 | 6047 | 5859 | 5764 |
| Greece | 2 | 13 | 9 | 12 | 6 | 5 | 6 | 8 | 13 | 9 | 15 | 14 | 14 | 13 | 11 |
| Hungary | 25 | 25 | 32 | 18 | 41 | 27 | 31 | 29 | 41 | 44 | 41 | 44 | 49 | 47 | 44 |
| Iceland | 6 | 7 | 4 | 6 | 7 | 11 | 4 | 8 | 4 | 2 | 4 | 4 | 3 | 3 | 4 |
| Ireland | 31 | 30 | 37 | 38 | 74 | 31 | 50 | 51 | 65 | 68 | 75 | 74 | 75 | 78 | 76 |
| Israel | 161 | 215 | 289 | 299 | 278 | 317 | 314 | 263 | 290 | 345 | 452 | 420 | 375 | 361 | 339 |
| Italy | 622 | 705 | 739 | 677 | 662 | 632 | 706 | 708 | 705 | 750 | 741 | 770 | 752 | 735 | 718 |
| Japan | 9596 | 10691 | 11316 | 11722 | 12974 | 14471 | 13952 | 14125 | 14372 | 14079 | 13828 | 13729 | 13861 | 13744 | 13322 |
| Luxembourg | 14 | 16 | 16 | 22 | 22 | 20 | 26 | 13 | 20 | 23 | 20 | 24 | 17 | 19 | 16 |
| Mexico | 11 | 10 | 9 | 10 | 11 | 9 | 13 | 10 | 15 | 16 | 14 | 17 | 16 | 15 | 13 |

* Patent applications filed synchronically at the European Patent Office, the US Patent & Trademark Office, and the Japanese Patent Office.

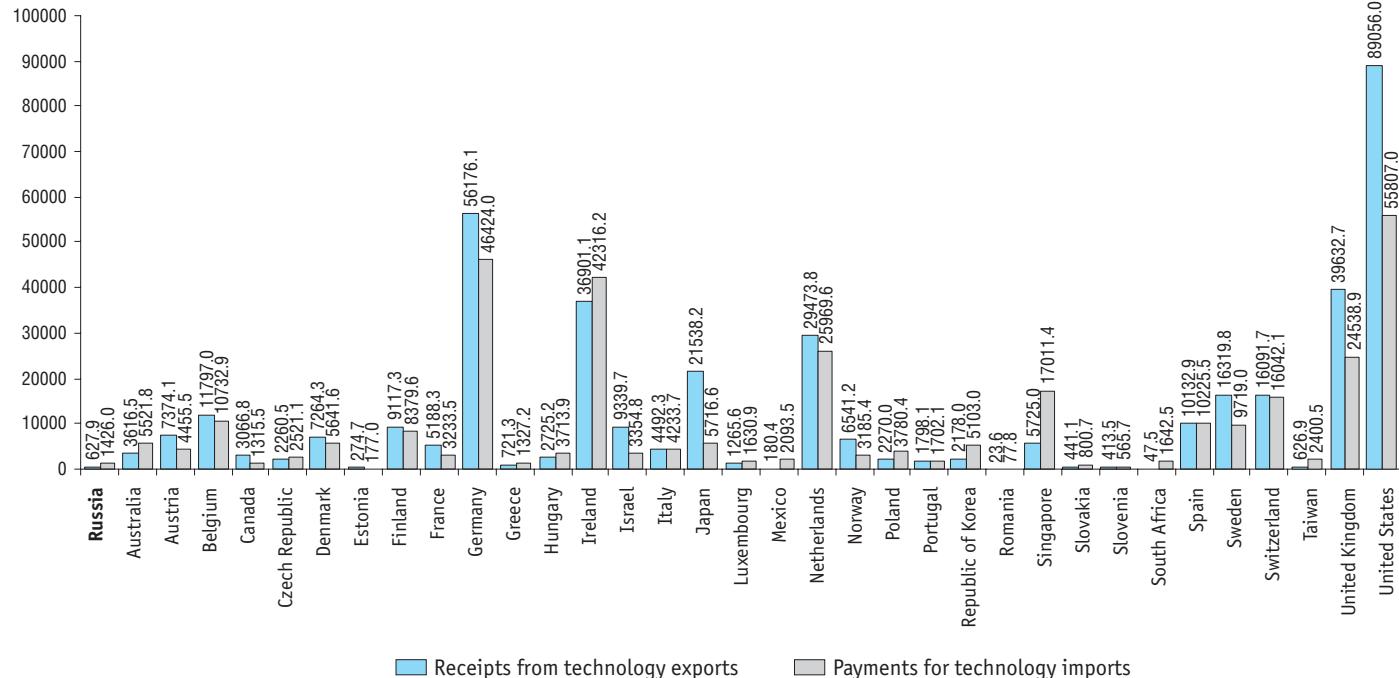
(continued)

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Netherlands | 771 | 812 | 838 | 853 | 913 | 1015 | 1051 | 959 | 969 | 986 | 970 | 1034 | 948 | 964 | 926 |
| New Zealand | 21 | 31 | 40 | 52 | 47 | 46 | 42 | 61 | 57 | 63 | 59 | 60 | 53 | 47 | 43 |
| Norway | 87 | 76 | 101 | 95 | 106 | 100 | 89 | 106 | 98 | 105 | 123 | 124 | 117 | 115 | 122 |
| Poland | 5 | 10 | 9 | 4 | 9 | 9 | 11 | 11 | 11 | 16 | 13 | 13 | 19 | 21 | 23 |
| Portugal | 3 | 4 | 8 | 5 | 5 | 3 | 6 | 6 | 7 | 6 | 12 | 16 | 24 | 21 | 21 |
| Republic of Korea | 331 | 323 | 388 | 468 | 581 | 728 | 910 | 1207 | 1686 | 1961 | 2120 | 2121 | 2053 | 1863 | 1959 |
| Slovakia | 2 | 1 | 5 | 3 | 3 | 2 | 2 | 3 | 5 | 1 | 2 | 2 | 3 | 3 | 3 |
| Slovenia | 7 | 5 | 5 | 12 | 4 | 8 | 6 | 14 | 14 | 12 | 17 | 12 | 18 | 18 | 15 |
| Spain | 82 | 92 | 108 | 127 | 124 | 144 | 157 | 161 | 155 | 216 | 219 | 213 | 221 | 225 | 226 |
| Sweden | 760 | 922 | 984 | 852 | 878 | 608 | 667 | 692 | 671 | 694 | 828 | 938 | 943 | 928 | 900 |
| Switzerland | 770 | 816 | 823 | 804 | 767 | 804 | 804 | 802 | 839 | 871 | 863 | 895 | 899 | 883 | 879 |
| Turkey | 2 | 4 | 4 | 7 | 3 | 4 | 9 | 8 | 8 | 13 | 12 | 20 | 22 | 22 | 24 |
| United Kingdom | 1588 | 1669 | 1646 | 1789 | 1633 | 1604 | 1593 | 1639 | 1653 | 1648 | 1656 | 1655 | 1666 | 1641 | 1618 |
| United States | 12361 | 13050 | 13933 | 14499 | 14548 | 13720 | 13567 | 14423 | 14760 | 15136 | 15311 | 15166 | 14505 | 13923 | 13715 |
| EU countries which are not OECD members | | | | | | | | | | | | | | | |
| Bulgaria | 2 | 1 | 2 | 2 | ... | 1 | 1 | 2 | 4 | 2 | 1 | 0 | ... | ... | ... |
| Cyprus | ... | 0 | 0 | 0 | 3 | 0 | 5 | 2 | 1 | 1 | 1 | ... | ... | ... | ... |
| Latvia | 2 | 1 | 2 | ... | 1 | 3 | 1 | 2 | 3 | 1 | 2 | 1 | ... | ... | ... |
| Lithuania | ... | 1 | ... | 1 | 1 | 1 | 0 | 3 | 14 | 6 | 1 | ... | ... | ... | ... |
| Malta | ... | 2 | ... | 1 | ... | 3 | 3 | 1 | ... | ... | 1 | ... | ... | ... | ... |
| Romania | 2 | 2 | 2 | 0 | 2 | 0 | 0 | 1 | 4 | 4 | 5 | 4 | 3 | 3 | 2 |

(continued)

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Other countries | | | | | | | | | | | | | | | |
| Argentina | 6 | 10 | 5 | 9 | 7 | 7 | 6 | 7 | 6 | 7 | 10 | 10 | 10 | 7 | 7 |
| Brazil | 20 | 18 | 29 | 27 | 25 | 29 | 46 | 30 | 22 | 20 | 11 | 6 | ... | ... | ... |
| China | 21 | 22 | 44 | 48 | 59 | 71 | 103 | 153 | 216 | 223 | 308 | 421 | 484 | 503 | 667 |
| Croatia | 6 | 6 | 8 | 8 | 3 | 6 | 6 | 18 | 7 | 5 | 1 | 3 | ... | ... | ... |
| India | 8 | 17 | 19 | 38 | 45 | 48 | 78 | 126 | 96 | 81 | 55 | 34 | ... | ... | ... |
| Singapore | 22 | 35 | 31 | 49 | 56 | 69 | 84 | 83 | 96 | 127 | 112 | 111 | 117 | 132 | 125 |
| South Africa | 25 | 31 | 33 | 37 | 27 | 37 | 23 | 27 | 32 | 29 | 35 | 33 | 31 | 29 | 27 |
| Taiwan | 18 | 40 | 36 | 36 | 46 | 40 | 54 | 102 | 93 | 112 | 156 | 190 | 213 | 203 | 221 |

10.24. RECEIPTS FROM TECHNOLOGY EXPORTS AND PAYMENTS FOR TECHNOLOGY IMPORTS: 2010*
(million US dollars)



* Or other nearest years for which data is available.

Technical Notes

Advanced manufacturing technologies – technologies and technological processes involving machines, devices, equipment and instruments based on microelectronics or computer-controlled, and used in designing, manufacturing or product processing.

Applied research is original investigation that acquires new knowledge in order to solve particular problem. Applied research is undertaken to determine possible uses for the findings of basic research and aids in discovering new methods or ways of achieving specific and predetermined objectives.

Basic research is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view. It results in hypotheses, theories, methods, etc. Basic research can be realized in recommendations for additional applied research for exposing the possibilities to apply the obtained results, as well as scientific publications, etc.

Bibliometric indicators (tables 6.1, 10.15; figure 6.2–6.3 and 10.16–10.19) are calculated on the basis of the data provided by Elsevier Scopus and SJR – Scimago Journal & Country Rank. Data on publications and citations for 2006–2010 (figure 6.4, table 10.15) has been provided by Thomson Reuters Web of Science and Essential Science Indicators (ESI). The term «publication» refers to scientific articles (type of document «Article»), conference papers (type of document «Proceedings paper» or «Conference paper») and reviews (type of document «Review»). A publication

is associated with a country if it is listed in the affiliated address of one of the co-authors. Data provided as of November 2011.

Development is a systematic work drawing on existing knowledge gained from research and/or practical experience, and is directed to producing new materials, products processes or devices, and also services, systems or methods; or to improving substantially those already produced.

Doctoral courses are one of the training forms for highly qualified R&D and teaching personnel that may lead to a doctor of science degree. Persons having, a candidate of science degree can be admitted to doctoral courses. The duration of training at doctoral courses should not exceed three years.

Enterprises engaged in technological innovation are those involved in development and introduction of technologically new or improved products or services, technologically new or improved processes or techniques of service production (transfer), and other types of innovative activities.

Expenditure on innovation is the actual expenditure related to implementation of various types of innovative activity performed within an enterprise (a sector, region, country). Innovation expenditure comprises current and capital expenditure. Innovation statistics covers the expenditure of technological, organisational and marketing innovations.

Federal budget appropriations on civil S&T – federal budget funds allocated for civil-purpose basic and applied scientific research. In accordance with the new budget classification adopted in Russia since 2005, January 1, appropriations earlier included in the subsections 0601 «Basic

Research» and 0602 «Development of Perspective Technologies and Priority Objectives of S&T Progress» of the section 06 «Basic Research and Promotion of Science and Technology Progress» of the federal budget are attributed to basic and applied research, respectively.

Fixed (capital) assets of research and development (R&D) comprise:

- buildings and installations;
- machinery and equipment, including experimental devices, research instruments, automation means, and computers, etc.;
- transportation means;
- instruments, appliances, and other fixed assets on the balance of R&D institutions and their experimental bases, used in their main activities.

Gross domestic expenditure on R&D – actual expenditure on research and development performed in the country (including those funded from abroad but excluding payments made in other countries). Its estimation is based on statistical accounting of expenditure on R&D performed by organisations during the reference year regardless of source of funds.

Gross domestic expenditure on R&D comprises:

- **current expenditure** – wages, social security payments, expenditure on acquisition of equipment due to prime cost of projects, other material costs (acquired raw or fabricated materials, completing devices, half-finished products, fuel, energy, production works and services, etc.), and other current costs;
- **capital expenditure** includes that on land, construction or acquisition of buildings, acquisition of equipment included in fixed assets, etc.

Gross domestic expenditure on R&D is estimated at current and constant prices calculated using the GDP deflator.

Innovative activities are all types of economic activities related to the transformation of ideas (usually the result of research and development or other scientific achievements) into technologically new or significantly improved goods and services, introduced to the market, as well as new or significantly improved technological processes used in service production (transfer) or implemented in manufacturing modes. Innovative activities envisage a complex of scientific, technological, organisational, financial and commercial actions that lead to innovation.

Innovative activity of an enterprise characterizes the degree of involvement an enterprise has in innovation in general, or in specific innovative activities, within a certain period. The level of innovative activity is generally defined as the ratio of enterprises engaged in technological, organisational and marketing innovations to the total enterprises surveyed in a country, sector, region, etc. within a specific period of time.

Innovative goods and services are products (goods and services) that have undergone technological modification in the last three years. By degree of novelty innovative goods and services include newly introduced (or technologically modified) and improved products.

Innovative services – a service is considered to be a technological innovation when its characteristics or modes of use are either new or significantly improved technologically (in terms of quality). The use of significantly improved techniques of service production (transfer) is also a technological innovation. Innovation surveys have been targeting the service sector since 1998, covering its different branches, that is to say

communications, financial intermediation, and other business activities. Communications have been regularly surveyed during the entire period considered.

License is a legal agreement between an owner (licenser) and a grantee (licensee) on the transmission for a contingent consideration of exclusive rights to the utilization of industrial property or know-how, occurring under certain conditions and for certain period of time. A patent license agreement provides the right to use patents, and defines the volume of transferred rights, the validity period, the territory coverage, and also the type of payment.

Marketing innovation includes newly implemented or significantly improved marketing methods, that incorporate major changes in product package and design, innovative sales, as well as the presentation and promotion of products and new pricing strategies. Marketing innovations are aimed at better addressing customer needs and the expansion of consumer goods and services, and developing new markets with the objective of increasing a range of sales.

Nanotechnology – a set of methods and techniques for the analysis, design, and manufacture of nanostructures, devices, and systems, including targeted control and modification of the shape, size, interaction, and integration of the nanoscale elements that constitute them (about 1–100 nm at least in one dimension), which either bring improvement or induce the emergence of additional performance and/or consumer properties of the obtained products.

Organisational innovation – are the implementation of new organisational methods in a firm's business practices, workplace organisation

or external relations. Organisational innovations are aimed at increasing effectiveness of an enterprise performance by reducing administrative and transaction costs, improving workplace organisation (working time) and thereby increasing labour productivity, gaining access to market assets, and reducing supply costs.

A patent for invention is a document granted by the government to an inventor that entitles priority, authorship and exclusive right to use the invention for an agreed period of operation.

Postgraduate courses are the main form of training the teaching and R&D personnel in the system of postgraduate professional education that may lead to a candidate of science degree. In accordance with the current Nomenclature of Scientific Occupations accepted in the Russian Federation, the postgraduate training is implemented by field of science and technology and scientific discipline. Persons having higher (university or equivalent) education are admitted to postgraduate courses. Postgraduate courses training includes full-time or part-time forms. The duration of study in the former case should not exceed three years, in the latter one – four years.

Research and development (R&D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications.

R&D personnel includes persons whose creative activities are aimed at the advancement of scientific knowledge or search for new areas of its application, as well as direct services related to R&D performance.

R&D personnel is subdivided into the following categories:

- **researchers** are professionals engaged in R&D and the creation of new knowledge, products, processes, methods, and systems, as well as in the management of these activities. Researchers usually have higher education (university or equivalent) degrees;
- **technicians** take part in R&D, performing technical functions, as a rule, under the supervision of researchers. Technicians generally have secondary professional education and (or) necessary professional experience and knowledge;
- **supporting staff** includes staff members performing supporting functions connected with R&D: employees of planning and finance units, patent services, S&T information units, S&T libraries; workers engaged in assembling, adjusting, maintaining and repairing scientific equipment and instruments; workers of pilot (experimental) production units; laboratory assistants without higher or secondary professional education;
- **other auxiliary personnel** includes staff members performing general functions connected with the activities of an organisation as a whole (employees of accounting departments, personnel departments, units for material and technical supplies, secretarial and clerical staff, etc.).

Sectors of R&D performance:

- **government sector** includes institutions subordinated to government ministries and agencies, responsible for state administration and satisfaction of public needs in general, as well as non-profit institutions completely or mainly financed and controlled by the government;

- **business enterprise sector** includes all organisations and enterprises whose main activity is connected with production of goods or services for sale, including those owned by the state, as well as private non-profit institutions serving the abovementioned organisations;
- **higher education sector** includes universities and other higher education institutions irrespective of financing sources and legal status, as well as research institutes, experimental stations, and clinics directly controlled by higher education institutions, or associated with them;
- **private non-profit sector** consists of private institutions that are not aiming to gain profit (professional societies, voluntary associations, etc.) and private individual organisations.

Sources of R&D funding – primary sources of financing R&D – are determined based on the fact of direct transfer of funds from the institution-customer to the institution-performer. As a whole, R&D funds of the reporting institution are divided into those which can be attributed as their own and those that are received from other external institutions.

The sources of R&D funding comprise:

- government (including the federal budget, regional and local (municipal) budgets);
- general university funds;
- non-budget funds (Russian Foundation for Technological Development, regional development funds, sectoral and intersectoral funds for research and experimental development, regional ecological funds, etc.);

- funds from abroad;
- government sector institutions' funds;
- business enterprise sector funds;
- higher education sector funds;
- private non-profit sector funds;
- own funds of institutions.

Technological innovations are the final result of innovative activities, embodied in a technologically new or improved product or service introduced on a market, a technologically new or improved process or technique of service production (transfer) used in practice. An accomplished innova-

tion is one that is introduced to the market or implemented into the production process.

The technology balance of payments registers the volume of commercial transactions related to international technology and other intangible assets transfers (exports and imports).

Trade in technology with foreign countries comprises all contracts on exports and imports of technologies and engineering services, including contracts between joint ventures and foreign enterprises registered in Russia, as well as their branches (offices) registered in Russia and their foreign mother companies.

SCIENCE AND TECHNOLOGY INDICATORS IN THE RUSSIAN FEDERATION
Data Book

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