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Foreword

This publication contains key data series selected from the OECD Main Science and Technology Indicators Database (MSTI) accessible at *https://oe.cd/msti*. This publication consists of 68 standard tables of data series regarding the resources devoted to research and experimental development (R&D) as well as some indicators of R&D output and the impact of scientific and technological activities. Also presented are the underlying economic series used to calculate these indicators. It is complemented by a description of the general methodology used as well as national specifications available at *http://www.oecd.org/sti/inno/MSTI_documentation_e.pdf*.

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Conventional signs and abbreviations

Signs and abbreviations

R&D terminology

BERD	Business enterprise Expenditure on R&D (intramural)
FTE	Full Time Equivalent (on R&D)
GBARD	Government Budget Allocations for R&D
GERD	Gross Domestic Expenditure on R&D (intramural)
GOVERD	Government Expenditure on R&D (intramural)
GUF	General University Funds
HERD	Higher Education Expenditure on R&D (intramural)
NSE	Natural Sciences and Engineering
PNP	Private Non Profit Institutions
R&D	Research and Experimental Development
SSH	Social Sciences and Humanities

For further explanations of the above terms, please see the OECD Frascati Manual 2015, http://oe.cd/frascati, which includes in particular a glossary of key terms (*www.oecd.org/sti/inno/Frascati-2015-Glossary.pdf*

Other

GDP	Gross Domestic Product
ISIC	International Standard Industrial Classification
PCT	Patent Co-operation Treaty
PPP	Purchasing Power Parity

Sources and methods

Detailed methodological information: http://www.oecd.org/sti/inno/MSTI_documentation_e.pdf.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Standard footnotes

b	Time series break.
c	Confidential statistical information.
d	Definition differs.
e	Estimated value.
k	Data included in another category.
l	Overestimated or based on overestimated data.
m	Underestimated or based on underestimated data.
p	Provisional value.
s	Unrevised breakdown not adding to the revised total.
v	The sum of the breakdown does not add to the total.
w	Includes data from another category.

The latest data for European countries, as well as Iceland, Norway, the Russian Federation, Switzerland and Turkey, were collected by Eurostat. From 2017, Eurostat follows slightly different, but generally compatible, conventions with regard to footnotes:

- Countries only use flags 'b', 'c', 'd', 'e' and 'p'.
- Only one flag may be submitted per data item (cell).
- The flags follow a hierarchy: p > b > d > e. As an example, an estimated (e) and provisional (p) data will be annotated with a 'p'.
- Estimated (e), overestimated (l) and underestimated (m) data are all annotated with an 'e' flag.
- 'd', 'k', 's', 'v' and 'w' flags are grouped as 'd' (definition differs).

In this publication, flags for these countries are published as they were received by the OECD from Eurostat, except in the following cases:

- The single-flag rule is not applied when this would lead to supress 'b' flags indicating breaks in series.
- 's' flags are not replaced with 'd'.

Contact details

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International Comparisons

Table 1. Gross domestic expenditure on R&D (GERD) at current prices and PPP

Million USD

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	21 157.1 e	..	22 376.2 e	..	..
Austria	6 837.0 e	12 863.3 e	13 143.4	14 344.9 e	14 567.3	15 849.7 p	16 621.7 p
Belgium	6 225.2	11 935.9	12 647.8	13 895.7	15 301.0	16 088.8 e	18 157.8 p
Canada	23 090.0	27 793.5 b	27 004.7	29 009.7	29 474.5	29 007.7 p	29 293.1 p
Chile	..	1 517.6 b	1 552.9	1 576.3 b	1 608.7	1 623.4 p	..
Colombia	582.0	1 876.0	2 016.9	1 968.0	1 812.8	2 107.4	2 208.2
Czech Republic	2 619.5	6 699.4	6 853.0	6 369.8	7 274.5	8 305.4	8 911.2 p
Denmark	4 429.5	7 877.7	8 515.7	9 208.0	9 654.7 p	10 063.1 p	10 370.7 p
Estonia	206.7	544.2	563.3	512.2	568.9	677.0	829.9 p
Finland	5 588.7	7 178.2	6 687.9	6 727.4	7 147.7	7 559.7	7 956.4
France	39 530.1	60 585.6 b	61 629.1	63 651.4	65 730.1 p	68 617.9 p	72 768.6 e
Germany	64 028.3	109 562.7	114 097.6	122 472.2	133 668.0	142 080.3	147 502.1 e
Greece	1 627.0	2 436.0	2 797.4	2 980.4	3 544.8	3 862.8	4 216.3 p
Hungary	1 586.8	3 408.4	3 533.6	3 235.5	3 802.3	4 695.7 b	4 902.5
Iceland	296.8	291.6	355.1	378.5	398.2	411.4	503.7
Ireland	2 006.5	3 622.8 e	3 839.4 e	3 997.4 e	4 626.5 e	4 818.6 e	5 420.0 e
Israel[1]	6 966.3 d	11 732.3 d	12 666.9 d	14 588.5 d	15 873.8 d e	17 366.9 d e	18 740.6 d e
Italy	18 241.2	29 448.3 e	29 994.8	33 076.6 b	34 488.8	37 044.5	38 755.7 p
Japan	128 694.6	169 554.1	168 514.0	160 269.3	166 621.7	172 785.9 b	173 267.1
Korea	30 618.3 d	73 099.8	76 922.0	80 816.0	90 289.9	99 025.7	102 521.4
Latvia	164.2	327.2	305.9	227.8	284.6	379.2	392.8 p
Lithuania	361	851	874	747	856	954	1 074 p
Luxembourg	498.8	712.3	769.4	835.9	849.6	831.9 e	893.8 p
Mexico	5 346.2	9 460.1	9 577.0	9 241.7	8 079.1 e	7 851.2 e	7 407.7 e
Netherlands	10 892.4	18 045.3	18 282.0	19 152.7	20 560.0	21 339.4	22 308.9 p
New Zealand	1 189.3	..	2 121.8	..	2 721.3	..	..
Norway	3 275.8	5 805.6	6 061.8	6 308.0	7 095.1	7 583.0	7 869.4
Poland	2 984.9	9 149.3	10 232.0	10 354.7	11 807.2	14 680.8	17 164.1
Portugal	1 808.2	3 856.2	3 819.8	4 179.9	4 490.5	4 848.0	5 303.8
Slovak Republic	441.0	1 379.5	1 886.4	1 273.5	1 450.2	1 442.1	1 468.6
Slovenia	676.5	1 505.7	1 433.0	1 406.9	1 407.2	1 571.0	1 758.6 p
Spain	13 251.1	19 356.2	19 815.3	20 633.5	22 293.2	23 650.8	24 874.2 p
Sweden	10 388.2 b	14 191.1 e	15 489.1 v	16 250.6 e	17 569.8 v	18 097.0 e	19 269.0 e
Switzerland	..	..	17 850.1	..	18 565.6	..	..
Turkey	4 595.6	15 933.0	17 734.3	19 855.1	21 572.2	23 590.2	24 243.4
United Kingdom	30 639.7	43 811.1 e	45 665.9	48 111.3 e	50 845.1	54 234.3	56 935.7 p
United States	328 128.0 d	477 003.0 d	495 893.0 d	522 652.0 d	556 343.0 d	607 474.0 d	657 459.0 d e
EU27 (from 01/02/2020)	196 273.8 e	329 078.9 e	341 613.9 e	360 092.7 e	386 984.9 e	413 001.8 e	437 083.0 e
OECD-Total	**779 379.8 e**	**1 204 305.3 e**	**1 242 303.2 e**	**1 293 574.1 e**	**1 375 620.0 e**	**1 477 291.1 e**	**1 560 967.7 e**
Argentina	2 220.4	4 976.3 p	5 363.8	4 693.4	5 782.0	..	..
China	86 177.6	346 266.3	366 080.9	393 015.5	420 815.6	465 501.0	525 693.4
Romania	844.7	1 569.5	2 090.9	2 301.4	2 675.5	2 854.3	2 995.1
Russian Federation	18 120.5	40 360.6	38 818.6	39 013.0	42 246.1	41 693.2	44 500.5
Singapore	5 384.3	9 625.0	10 503.9	10 407.4	10 227.7	10 530.5	..
South Africa	4 046.3	5 266.6	5 551.1	5 795.2	6 025.6	..	..
Chinese Taipei	15 284.0	31 773.2	33 058.8	34 340.6	36 522.7	40 392.5	43 993.8

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 2. Gross domestic expenditure on R&D (GERD) as a percentage of GDP

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	1.88 e	..	1.79 e	..	..
Austria	2.37 e	3.08 e	3.05	3.12 e	3.06	3.14 p	3.19 p
Belgium	1.79	2.37	2.43	2.52	2.67	2.67 e	2.89 p
Canada	1.97	1.71 b	1.69	1.73	1.67	1.56 p	1.54 p
Chile	..	0.38 b	0.38	0.37 b	0.36	0.35 p	..
Colombia	0.17	0.30	0.32	0.30	0.26	0.29	0.28
Colombia	0.2	0.3	0.3	0.3	0.3	0.3	0.3
Czech Republic	1.16	1.96	1.92	1.67	1.77	1.90	1.94 p
Denmark	2.39	2.91	3.05	3.09	3.03 p	3.02 p	2.96 p
Estonia	0.92	1.42	1.46	1.23	1.28	1.41	1.61 p
Finland	3.32	3.15	2.87	2.72	2.73	2.75	2.79
France	2.05	2.28 b	2.27	2.22	2.20 p	2.20 p	2.19 e
Germany	2.44	2.88	2.93	2.94	3.05	3.12	3.18 e
Greece	0.58	0.84	0.97	1.01	1.15	1.21	1.27 p
Hungary	0.92	1.35	1.34	1.18	1.32	1.51 b	1.48
Iceland	2.68	1.94	2.18	2.11	2.08	2.01	2.35
Ireland	1.19	1.52 e	1.18 e	1.17 e	1.22 e	1.17 e	1.23 e
Israel[1]	4.04 d	4.17 d	4.26 d	4.52 d	4.69 d e	4.85 d e	4.93 d e
Italy	1.04	1.34 e	1.34	1.37 b	1.37	1.42	1.45 p
Japan	3.18	3.40	3.28	3.16	3.21	3.28 b	3.24
Korea	2.52 d	4.08	3.98	3.99	4.29	4.52	4.64
Latvia	0.53	0.69	0.62	0.44	0.51	0.64	0.64 p
Lithuania	1	1	1	1	1	1	1 p
Luxembourg	1.57	1.26	1.30	1.30	1.27	1.17 e	1.19 p
Mexico	0.40	0.44	0.43	0.39	0.33 e	0.31 e	0.28 e
Netherlands	1.77	2.17	2.15	2.15	2.18	2.14	2.16 p
New Zealand	1.12	..	1.23	..	1.35	..	..
Norway	1.48	1.72	1.94	2.04	2.10	2.05	2.15
Poland	0.56	0.94	1.00	0.96	1.03	1.21	1.32
Portugal	0.76	1.29	1.24	1.28	1.32	1.35	1.40
Slovak Republic	0.49	0.88	1.16	0.79	0.89	0.84	0.83
Slovenia	1.42	2.37	2.20	2.01	1.87	1.95	2.04 p
Spain	1.10	1.24	1.22	1.19	1.21	1.24	1.25 p
Sweden	3.36 b	3.10 e	3.22 v	3.25 e	3.36 v	3.32 e	3.40 e
Switzerland	..	..	3.26	..	3.18	..	..
Turkey	0.56	0.86	0.88	0.94	0.95	1.03	1.06
United Kingdom	1.56	1.64 e	1.65	1.66 e	1.68	1.73	1.76 p
United States	2.52 d	2.72 d	2.72 d	2.79 d	2.85 d	2.95 d	3.07 d e
EU27 (from 01/02/2020)	1.68 e	2.00 e	2.01 e	1.99 e	2.03 e	2.07 e	2.10 e
OECD-Total	**2.12 e**	**2.32 e**	**2.31 e**	**2.31 e**	**2.35 e**	**2.42 e**	**2.47 e**
Argentina	0.42	0.59 p	0.62	0.53	0.56	..	..
China	1.31	2.02	2.06	2.10	2.12	2.14	2.23
Romania	0.41	0.38	0.49	0.48	0.50	0.50	0.48
Russian Federation	0.99	1.07	1.10	1.10	1.11	0.98	1.03
Singapore	2.15	2.08	2.18	2.08	1.92	1.84	..
South Africa	0.86	0.77	0.80	0.82	0.83	..	..
Chinese Taipei	2.33	2.98	3.00	3.09	3.19	3.36	3.50

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 3. Gross domestic expenditure on R&D (GERD) at 2015 prices and PPP

Million 2010 USD

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	21 157.1 e	..	21 226.8 e	..	..
Austria	9 095.0 e	13 159.0 e	13 143.4	13 698.8 e	13 758.3	14 509.5 p	14 944.7 p
Belgium	8 122.8	12 097.9	12 647.8	13 310.2	14 294.1	14 587.2 e	16 043.1 p
Canada	26 694.8	27 159.5 b	27 004.7	27 846.7	27 705.5	26 483.5 p	26 636.2 p
Chile	..	1 495.2 b	1 552.9	1 532.2 b	1 494.1	1 525.3 p	..
Colombia	661.1	1 837.8	2 016.9	1 884.4	1 689.1	1 893.4	1 918.7
Czech Republic	3 376.1	6 643.1	6 853.0	6 121.9	6 818.1	7 557.0	7 903.7 p
Denmark	6 192.0	7 937.1	8 515.7	8 901.1	8 952.4 p	9 139.3 p	9 192.9 p
Estonia	306.1	539.4	563.3	491.7	536.8	619.1	743.0 p
Finland	7 363.1	7 289.9	6 687.9	6 522.7	6 739.4	6 895.3	7 063.3
France	50 868.1	61 189.7 b	61 629.1	61 077.2	61 945.4 p	62 838.0 p	63 657.9 e
Germany	82 366.3	110 276.3	114 097.6	116 904.2	124 577.4	128 824.0	131 931.9 e
Greece	2 090.0	2 437.2	2 797.4	2 896.8	3 353.2	3 588.7	3 840.3 p
Hungary	2 204.2	3 420.1	3 533.6	3 179.8	3 702.5	4 467.2 b	4 575.0
Iceland	360.9	301.8	355.1	365.0	375.5	378.1	450.4
Ireland	2 734.8	3 943.3 e	3 839.4 e	3 882.1 e	4 421.0 e	4 571.7 e	5 084.1 e
Israel[1]	8 191.8 d	12 116.5 d	12 666.9 d	13 941.1 d	14 998.6 d e	16 033.8 d e	16 888.2 d e
Italy	24 566.5	29 761.0 e	29 994.8	31 016.5 b	31 619.5	33 129.2	33 839.7 p
Japan	154 716.3	172 493.2	168 514.0	163 004.0	169 181.2	173 280.4 b	172 613.6
Korea	33 986.3 d	76 694.7	76 922.0	79 364.7	88 135.8	95 437.7	100 054.6
Latvia	223.8	327.2	305.9	220.0	266.9	346.8	354.7 p
Lithuania	491	846	874	723	803	872	963 p
Luxembourg	714.2	716.0	769.4	801.9	797.9	760.8 e	790.7 p
Mexico	7 136.1	9 398.5	9 577.0	8 875.6	7 673.5 e	7 335.7 e	6 778.9 e
Netherlands	13 594.6	18 158.2	18 282.0	18 724.0	19 517.7	19 613.8	20 166.6 p
New Zealand	1 541.8	..	2 121.8	..	2 503.0	..	..
Norway	4 057.3	5 532.8	6 061.8	6 258.0	6 682.9	6 861.3	7 075.4
Poland	3 930.7	9 249.1	10 232.0	10 133.8	11 410.0	14 051.9	16 085.9
Portugal	2 356.9	3 893.2	3 819.8	4 014.3	4 280.1	4 503.0	4 784.8
Slovak Republic	555.1	1 359.3	1 886.4	1 310.4	1 513.1	1 486.9	1 500.2
Slovenia	826.2	1 510.5	1 433.0	1 352.1	1 316.6	1 434.0	1 554.0 p
Spain	17 016.1	19 392.1	19 815.3	19 883.4	20 817.7	21 864.3	22 468.1 p
Sweden	13 290.4 b	14 283.9 e	15 489.1 v	15 948.9 e	16 939.9 v	17 055.9 e	17 722.1 e
Switzerland	..	..	17 850.1	..	18 018.2	..	..
Turkey	6 932.3	16 326.4	17 734.3	19 603.8	21 401.6	23 713.3	24 827.0
United Kingdom	38 044.0	44 476.0 e	45 665.9	46 829.6 e	48 267.5	50 274.9	51 701.9 p
United States	392 700.4 d	481 544.0 d	495 893.0 d	517 225.1 d	540 406.2 d	576 237.2 d	612 714.0 d e
EU27 (from 01/02/2020)	255 040.1 e	331 998.4 e	341 613.9 e	345 437.6 e	363 014.1 e	377 678.7 e	390 520.0 e
OECD-Total	**954 965.2 e**	**1 218 635.6 e**	**1 242 303.2 e**	**1 269 450.5 e**	**1 328 140.3 e**	**1 395 744.1 e**	**1 452 243.5 e**
Argentina	2 670.4	5 001.4 p	5 363.8	4 502.1	4 857.0	..	..
China	93 020.7	336 250.7	366 080.9	399 390.2	430 329.7	464 705.2	514 797.7
Romania	1 334.9	1 586.9	2 090.9	2 157.3	2 420.9	2 518.6	2 501.9
Russian Federation	27 032.1	38 576.7	38 818.6	38 947.8	39 921.0	36 251.8	38 549.2
Singapore	5 975.9	9 744.1	10 503.9	10 319.3	9 953.8	9 890.1	..
South Africa	4 620.0	5 298.0	5 551.1	5 715.4	5 890.6	..	..
Chinese Taipei	18 040.6	32 369.4	33 058.8	34 745.1	37 159.2	40 133.8	42 945.4

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 4. Gross domestic expenditure on R&D (GERD) per capita at current prices and PPP

USD

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	888.4 e	..	909.5 e	..	..
Austria	831.2 e	1 505.5 e	1 523.1	1 641.3 e	1 656.3	1 793.4 p	1 872.3 p
Belgium	594.1	1 064.8	1 121.9	1 226.3	1 345.1	1 408.0 e	1 580.5 p
Canada	716.1	784.3 b	756.4	803.4	806.6	782.8 p	779.3 p
Chile	..	85.1 b	86.1	86.2 b	86.9	86.5 p	..
Colombia	14.0	40.5	43.1	41.6	37.9	43.6	45.1
Czech Republic	256.0	636.5	650.0	602.9	687.0	781.6	835.2 p
Denmark	817.4	1 396.0	1 498.7	1 607.3	1 674.7 p	1 736.8 p	1 782.8 p
Estonia	152.1	413.6	428.9	389.2	432.4	513.2	626.5 p
Finland	1 065.3	1 314.1	1 220.3	1 224.2	1 297.7	1 370.5	1 441.0
France	625.8	913.6 b	925.6	952.4	980.1 p	1 020.1 p	1 078.8 e
Germany	787.2	1 352.9	1 396.8	1 487.2	1 617.1	1 713.8	1 775.1 e
Greece	148.1	223.6	258.5	276.6	329.6	359.9	393.3 p
Hungary	157.3	345.4	359.0	329.7	388.5	480.3 b	501.7
Iceland	1 003.0	890.5	1 073.3	1 128.5	1 159.6	1 166.5	1 396.9
Ireland	482.3	778.7 e	817.6 e	841.7 e	963.4 e	991.4 e	1 100.0 e
Israel[1]	1 000.7 d	1 428.7 d	1 512.1 d	1 707.6 d	1 822.5 d e	1 955.5 d e	2 070.7 d e
Italy	313.5	484.4 e	493.9	545.6 b	569.7	612.7	642.3 p
Japan	1 007.4	1 332.3	1 325.7	1 262.6	1 315.0	1 366.5 b	1 373.6
Korea	635.4 d	1 440.5	1 507.8	1 577.9	1 757.9	1 918.8	1 982.7
Latvia	73.3	164.1	154.7	116.3	146.6	196.9	205.3 p
Lithuania	109	290	301	261	303	341	384 p
Luxembourg	1 071.0	1 275.8	1 351.2	1 431.0	1 423.1	1 366.5 e	1 438.2 p
Mexico	50.0	79.1	79.2	75.7	65.5 e	63.0 e	58.9 e
Netherlands	667.4	1 070.0	1 079.2	1 124.6	1 200.2	1 238.4	1 286.2 p
New Zealand	286.7	..	460.1	..	568.5	..	..
Norway	708.6	1 130.2	1 168.0	1 204.7	1 344.5	1 427.5	1 471.5
Poland	78.2	237.7	266.1	269.5	307.3	382.2	447.1
Portugal	172.2	370.8	368.8	404.8	436.0	471.4	515.6
Slovak Republic	81.9	254.6	347.9	234.5	266.7	264.8	269.3
Slovenia	338.1	730.3	694.5	681.4	681.2	758.2	841.8 p
Spain	303.5	416.7	427.0	444.2	479.1	506.1	528.1 p
Sweden	1 150.5 b	1 463.6 e	1 580.6 v	1 637.6 e	1 746.9 v	1 778.5 e	1 874.6 e
Switzerland	..	..	2 155.2	..	2 196.6	..	..
Turkey	67.2	206.4	226.7	250.4	268.6	289.8	293.6
United Kingdom	507.2	678.2 e	701.4	732.9 e	769.9	816.3	852.4 p
United States	1 108.6 d	1 497.0 d	1 545.2 d	1 617.2 d	1 710.7 d	1 858.0 d	2 001.2 d e
EU27 (from 01/02/2020)	451.7 e	741.6 e	768.2 e	807.9 e	866.9 e	923.6 e	975.5 e
OECD-Total	**636.0 e**	**913.4 e**	**936.5 e**	**969.1 e**	**1 024.8 e**	**1 094.5 e**	**1 150.3 e**
Argentina	57.5	116.6 p	124.4	107.7	131.3	..	..
China	65.9	253.2	266.3	284.2	302.7	333.6 e	375.5 e
Romania	39.6	78.8	105.5	116.8	136.6	146.5	154.6
Russian Federation	126.3	276.3	265.1	266.0	287.7	284.0	303.2
Singapore	1 262.1	1 759.6	1 897.7	1 856.1	1 822.5	1 867.4	..
South Africa	85.0	97.7	101.4	104.2	106.6	..	..
Chinese Taipei	671.2	1 355.9	1 407.2	1 458.8	1 549.5	1 712.3	1 863.9

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 5. Estimated civil GERD (Gross domestic expenditure on R&D) as a percentage of GDP

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	..	..	..	..	..	..	..
Belgium	1.79	..	..	..	..	..	..
Canada	..	..	..	..	..	..	..
Chile	..	0.37 b	0.38	0.37 b	0.35	0.35 p	..
Colombia	0.17	0.30	0.32	0.29	0.26	0.28	0.28
Czech Republic	1.15	1.95	..	..	..	..	..
Denmark	..	..	..	..	..	..	..
Estonia	0.91 e	1.41	..	..	1.27	..	..
Finland	3.30	3.13	..	..	..	..	..
France	1.88	2.21 b	..	..	..	..	..
Germany	2.41 e	2.86	..	..	..	..	..
Greece	..	..	..	..	..	..	..
Hungary	0.92	1.34	1.34	1.18	1.31	..	..
Iceland	2.68	1.94	2.18	2.11	2.08	2.01	2.35
Ireland	1.19	1.52 e	1.18 e	1.17 e	1.22 e	1.17 e	1.23 e
Israel[1]	4.04	4.17	4.26	4.52	4.69 e	4.85 e	4.93 e
Italy	..	..	..	..	..	..	..
Japan	3.15 e	3.37 e	3.25 e	..	..	..	..
Korea	2.46 d	3.92	3.84	3.86	4.11	4.36	4.47
Latvia	..	..	..	..	..	..	..
Lithuania	1	1	1	1	1	..	..
Luxembourg	1.57	1.26	1.30	1.30	1.27	1.17 e	1.19 p
Mexico	..	..	..	..	..	..	..
Netherlands	..	..	..	..	..	..	..
New Zealand	..	..	1.22	..	1.33	..	..
Norway	..	..	..	..	..	..	..
Poland	..	..	..	..	..	..	..
Portugal	0.75	1.28	1.23	1.27	1.31	..	..
Slovak Republic	0.49	0.87	1.16	0.79	0.88	..	..
Slovenia	1.42	2.37	2.20	..	..	..	..
Spain	..	1.21	1.19	1.16	1.17	..	..
Sweden	3.24 b	..	..	..	..	..	..
Switzerland	..	..	..	..	..	..	..
Turkey	..	0.84	0.86	0.92	..	..	..
United Kingdom	1.37	1.55 e	..	..	..	..	..
United States	2.09 d	..	..	..	..	..	..
EU27 (from 01/02/2020)	..	..	..	..	..	..	..
OECD-Total	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Argentina	0.42	0.59 p	..	..	..	..	..
China	..	..	..	..	..	..	..
Romania	0.41	0.38	..	..	..	..	..
Russian Federation	..	..	..	..	..	..	..
Singapore	..	..	..	..	..	..	..
South Africa	0.81	0.72	0.75	0.78	0.79	..	..
Chinese Taipei	2.26	2.96	2.98	3.05	3.15	3.32	3.43

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 6. Basic research expenditure as a percentage of GDP

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	..	..	0.54 d	..	0.54 d	..	..
Belgium	..	..	0.38	..	0.29	..	..
Canada	..	..	..	..	..	..	..
Chile	..	0.11 b m	0.13 m	0.11 b m	0.11 m	0.12 m p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	0.36	0.61	0.61	0.48	0.48	0.49	0.51 p
Denmark	0.45 e	0.59	0.58	..	0.56 p	..	..
Estonia	0.27	0.43	0.39	0.34	0.35	0.38	..
Finland	..	..	..	..	..	..	..
France	0.49	0.54	0.54	0.50 e	0.50 p	0.50 e p	..
Germany	..	..	..	..	..	..	..
Greece	..	..	0.35	..	0.36	..	..
Hungary	0.25	0.25 e	0.25 e	0.22 e	0.25 e	0.28 b e	..
Iceland	0.50	0.45	0.45	0.45	0.44	0.42 e	0.44
Ireland	0.28	..	0.22 e	..	0.20 e	..	..
Israel[1]	0.65 d e	0.52 d e	0.52 d e	0.52 d e	0.50 d e	0.50 d e	0.49 d e
Italy	0.29	0.32 e	0.33	0.32 b	0.30	0.31	..
Japan	0.38	0.42	0.39	0.40	0.42	0.41 b	0.40
Korea	0.39 d	0.72	0.69	0.64	0.62	0.64	0.68
Latvia	0.11	0.20	0.21	0.13	0.16	0.23	..
Lithuania	0	0	0	0	0	0	..
Luxembourg	..	..	0.49	..	0.46	..	..
Mexico	..	0.14	0.14	0.12	0.10 e	0.09 e	0.09 e
Netherlands	..	0.54 s	0.54 s	0.53 s	0.52 s	..	..
New Zealand	0.34	..	0.28	..	0.33	..	..
Norway	0.29	..	0.36	..	0.38	..	..
Poland	0.17	0.32	0.32	0.29	0.30	0.39	..
Portugal	0.19	0.30	0.29	0.29	0.29	0.29	0.30
Slovak Republic	0.23	0.40	0.50	0.32	0.33	0.34	0.33
Slovenia	0.20	0.43 b	0.39	0.35	0.33	0.37	..
Spain	0.19 m	0.28 e	0.27 e	0.26 e	0.26	0.26	..
Sweden	..	..	..	..	..	..	..
Switzerland	..	..	1.25	..	1.36	..	..
Turkey	..	..	..	..	..	..	..
United Kingdom	..	0.28 e	0.27 e	0.30 e	0.29 e	0.32 e	..
United States	0.47 d	0.47 d	0.46 d	0.48 d	0.48 d	0.49 d	..
EU27 (from 01/02/2020)	..	..	..	..	..	..	..
OECD-Total	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Argentina	0.11	..	0.21 b	0.15	0.14	..	..
China	0.07	0.10	0.10	0.11	0.12	0.12	0.13
Romania	0.09 m	0.13	0.15	0.12	0.10	0.10	..
Russian Federation	0.13 m	0.17 m	0.16 m	0.15 d	..	..	..
Singapore	0.44	0.42	0.48	0.49	0.46	0.44	..
South Africa	0.16	0.19	0.20	0.22	0.22	..	..
Chinese Taipei	0.24	0.28	0.28	0.27	0.26	0.24	0.24

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 7. Total researchers in full-time equivalent

FTE

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	28 470 d e	42 627 d e	43 562 d	46 993 d e	47 521 d	50 484 d p	52 554 d p
Belgium	33 146	50 820	53 178 b	54 280 e	54 010	57 898 e	62 606 p
Canada	136 700	161 982 b	162 960	158 980	158 890	..	..
Chile	..	7 585 d	8 175 d	8 985 d	9 099 d	9 205 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	24 169 b	36 040	38 081	37 338	39 181	41 198	42 500 p
Denmark	28 179	41 409	42 826	44 815	45 428 p	46 396 p	42 378 p
Estonia	3 331	4 324	4 187	4 338	4 674	4 968	4 992 p
Finland	39 582	38 281	37 516	35 908	37 047	37 891	39 984
France	202 507	271 772 b	277 631	285 488	295 754 p	305 243 p	314 101 e
Germany	272 148	351 923	387 982	399 605	419 617	433 685	449 464 e
Greece	19 593 d	29 877 d	34 708 d	29 403 d	35 000 d	36 688 d	40 084 d p
Hungary	15 878	26 213	25 316	25 804	28 426	37 606 d	39 295
Iceland	2 155	..	1 944 b	..	2 050	..	..
Ireland	11 587	24 543 e	24 521 e	24 316 e	25 673 e	25 265 e	25 892
Israel[1]	..	..	..	..	..	..	..
Italy	82 489 d	118 183 d	125 875 d	133 706 b d	140 378 d	152 523 d	160 623 d p
Japan	680 631 d	682 935 d	662 071 d	665 566 d	676 292 d	678 134 b d	681 821 d
Korea	179 812 d	345 463	356 447	361 292	383 100	408 370	430 690
Latvia	3 282 d	3 748 d	3 613 d	3 152 d	3 482 d	3 456 d	3 632 d p
Lithuania	7 637	9 075	8 167	8 525	8 741	8 938	9 584 p
Luxembourg	2 227	2 629	2 610	2 767	2 936	2 863	3 158 p
Mexico	43 922	31 315	34 282	38 883	39 125 e	39 189 e	41 745 e
Netherlands	47 854	83 710	83 488	87 612	91 023	95 475	99 096 p
New Zealand	12 986	..	25 000	..	26 000	..	..
Norway	21 200	29 237	30 632	31 913	33 632	34 337	35 897
Poland	62 162	78 622	82 594	88 165	114 585 d	117 789 d	120 780 d
Portugal	21 126	38 155	38 672	41 349	44 938	47 652	50 166
Slovak Republic	10 921 d	14 742 d	14 406 d	14 149 d	15 226 d	16 337 d	16 977 d
Slovenia	5 253	8 574	7 900	8 119	9 301	10 068	10 502 d p
Spain	109 720	122 235 d	122 437 d	126 633 d	133 213 d	140 120 d	143 974 d p
Sweden	55 001 b e	66 643 e	66 734 e	70 372 e	73 132	75 151 e	77 629
Switzerland	..	..	43 740	..	46 088	..	..
Turkey	39 139	89 657	95 161	100 158	111 893	126 249	135 515
United Kingdom	248 599 b e	276 584 e	284 483	288 922 e	295 934 e	305 795 e	317 472 p
United States	1 104 019 e	1 340 689 e	1 370 627 e	1 373 551 e	1 435 905 e	1 554 900 e	..
EU27 (from 01/02/2020)	1 126 163 e	1 503 435 e	1 565 747 e	1 616 029 e	1 711 788 e	1 791 537 e	1 855 348 e
OECD-Total	**3 708 135 e**	**4 678 113 e**	**4 786 140 e**	**4 863 802 e**	**5 085 832 e**	**5 347 423 e**	**..**
Argentina	31 868	51 665	52 970	54 805	53 184	..	..
China	1 118 698 d	1 524 280	1 619 028	1 692 176	1 740 442	1 866 109	2 109 460
Romania	22 958	18 109	17 459	18 046	17 518	17 213	17 350
Russian Federation	464 577	444 865	449 180	428 884	410 617	405 772	400 663
Singapore	23 789	36 647	39 182	39 207	38 898	39 272	..
South Africa	17 303	23 572	26 159	27 656	29 515	..	..
Chinese Taipei	88 859	142 458	144 836	147 141	149 886	153 998	159 160

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1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 8. Total researchers in full-time equivalent per thousand total employment

Per thousand

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	7.4 d e	10.0 d e	10.2 d	10.8 d e	10.8 d	11.2 d p	11.6 d e p
Belgium	7.8	11.1	11.5 b	11.6 e	11.4	12.0 e	12.8 e p
Canada	8.3	9.0 b	8.9	8.6	8.5 e	..	..
Chile	..	1.0 d	1.0 d	1.1 d	1.1 d	1.1 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	4.9 b	7.1	7.3	7.1	7.3	7.6	7.8 e p
Denmark	10.1	14.8	15.1	15.6	15.5 p	15.7 p	14.1 e p
Estonia	5.4	7.1	6.7	6.9	7.3	7.6	7.7 e p
Finland	16.4	15.2	14.9	14.2	14.5	14.4	15.0 e
France	7.7	9.9 b	10.1	10.4	10.6 p	10.9 p	11.0 e
Germany	6.9	8.2	9.0	9.2	9.5	9.7	9.9 e
Greece	4.2 d	6.7 d	8.0 d	6.6 d	7.9 d	8.1 d	8.8 d p
Hungary	3.9	6.2	5.9	5.8	6.2	8.1 d	8.3 e
Iceland	13.3	..	10.6 b	..	10.3 e	..	..
Ireland	5.9	12.6 e	12.3 e	11.9 e	12.2 e	11.6 e	11.6 e
Israel[1]	..	..	..	..	..	..	..
Italy	3.4 d	4.9 d	5.1 d	5.4 b d	5.6 d	6.0 d	6.3 d e p
Japan	10.4 d	10.4 d	10.0 d	10.0 d	10.0 d	9.9 b d	9.8 d e
Korea	7.9 d	13.3	13.6	13.7	14.3	15.2	15.9 e
Latvia	3.4 d	4.3 d	4.1 d	3.6 d	3.9 d	3.8 d	4.0 d e p
Lithuania	5	7	6	6	6	6	7 e p
Luxembourg	7.2	6.6	6.4	6.6	6.8	6.4	6.8 e p
Mexico	1.3	0.8	0.9	1.0	1.0 e	1.0 e	1.1 e
Netherlands	5.7	9.6	9.5	9.8	9.9	10.2	10.3 e p
New Zealand	6.3	..	10.6	..	10.2	..	..
Norway	9.1	10.9	11.3	11.8	12.2	12.3	12.6 e
Poland	4.4	5.0	5.2	5.5	7.0 d	7.2 d	7.4 d e
Portugal	4.2	8.5	8.5	8.9	9.4	9.7	10.1 e
Slovak Republic	5.2 d	6.6 d	6.4 d	6.1 d	6.4 d	6.8 d	6.9 d e
Slovenia	5.6	9.2	8.4	8.4	9.4	9.9	10.0 d e p
Spain	5.6	6.8 d	6.6 d	6.7 d	6.9 d	7.1 d	7.1 d e p
Sweden	12.6 b e	14.1 e	13.9 e	14.4 e	14.6 e	14.8 e	15.2 e
Switzerland	..	..	8.9	..	9.2	..	..
Turkey	2.0	3.5	3.6	3.7	4.0 e	4.4 e	4.9 e
United Kingdom	8.6 b e	9.0 e	9.1	9.1 e	9.2 e	9.4 e	9.7 e p
United States	7.7 e	9.0 e	9.1 e	8.9 e	9.2 e	9.8 e	..
EU27 (from 01/02/2020)	5.9 e	7.7 e	7.9 e	8.0 e	8.4 e	8.7 e	8.9 e
OECD-Total	**7.0 e**	**8.2 e**	**8.3 e**	**8.3 e**	**8.6 e**	**8.9 e**	**..**
Argentina	2.1	2.9	3.0	3.0	2.9	..	..
China	1.5 d	2.0	2.1	2.2	2.2	2.4	..
Romania	2.5	2.1	2.0	2.1	2.0	2.0	2.0
Russian Federation	6.8	6.2	6.2	5.9	5.7	5.6	5.6
Singapore	10.3	10.1	10.7	10.7	10.6	10.6	..
South Africa	1.4	1.6	1.7	1.8	1.8	..	..
Chinese Taipei	8.9	12.9	12.9	13.1	13.2	13.5	13.8

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 9. Total R&D personnel in full-time equivalent

FTE

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	47 625 d e	70 138 d e	71 396 d	75 165 d e	76 010 d	80 750 d p	84 060 d p
Belgium	53 517	72 795	77 520 b	79 109 e	82 686	88 031 e	96 158 p
Canada	218 590	236 470 b	244 880	228 590	229 170	..	..
Chile	..	15 887 d	15 261 d	16 626 d	16 608 d	15 594 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	43 370 b	64 444	66 433	65 783	69 736	74 969	79 245 p
Denmark	43 499	58 361	60 243	62 859	63 243 p	64 591 p	60 638 p
Estonia	4 362	5 790	5 636	5 772	6 048	6 183	6 448 p
Finland	57 471	52 130	50 367	47 429	48 999	50 011	51 494
France	349 681	423 903 b	428 643	432 245	441 509 p	452 970 p	463 738 e
Germany	475 278	605 252	640 516	657 894	686 349	707 704	734 200 e
Greece	33 603 d	43 316 d	49 658 d	41 790 d	47 585 d	51 279 d	54 833 d p
Hungary	23 239	37 329	36 847	35 757	40 432	54 654 d	56 943
Iceland	3 226	..	2 941	..	3 172	..	..
Ireland	16 690	33 494 e	34 346 e	34 374 e	35 992 e	35 817 e	36 906
Israel[1]	..	..	..	..	..	..	..
Italy	175 248 d	249 467 d	259 167 d	290 040 b d	317 628 d	345 669 d	355 362 d p
Japan	896 855 d	895 285 d	875 005 d	872 340 d	890 749 d	896 901 b d	903 367 d
Korea	215 345 d	430 868	442 027	447 408	471 201	501 175	525 675
Latvia	5 483 d	5 739 d	5 570 d	5 120 d	5 378 d	5 806 d	5 923 d p
Lithuania	11 002	11 791	10 607	10 924	11 577	11 956	12 941 p
Luxembourg	4 392	5 243	5 260	5 403	5 545	5 468	5 892 p
Mexico	83 685	52 237	57 016	65 828	65 412 e	64 602 e	66 889 e
Netherlands	93 599	136 174	139 382	144 482	150 399	156 875	160 234 p
New Zealand	18 929	..	33 000	..	36 000	..	..
Norway	29 966	40 297	42 409	43 918	46 234	46 601	48 721
Poland	76 761	104 359	109 249	111 789	144 103 d	161 993 d	164 006 d
Portugal	25 728	46 878	47 999	50 406	54 995	58 154	61 455
Slovak Republic	14 404 d	17 594 d	17 591 d	17 768 d	19 011 d	20 268 d	21 196 d
Slovenia	8 994	14 866	14 225	14 403	14 713	15 686	16 984 d p
Spain	174 773	200 233 d	200 866 d	205 873 d	215 744 d	225 696 d	231 413 d p
Sweden	77 557 b e	83 473 e	83 551 e	90 690 e	88 928 v	92 011 e	91 172 e
Switzerland	..	..	81 451	..	81 751	..	..
Turkey	49 251 e	115 444 e	122 288 e	136 953	153 552	172 119	182 847
United Kingdom	324 917 b e	396 281 e	413 860	417 390 e	443 597 e	463 476 e	486 088 p
United States	..	..	..	..	..	..	..
EU27 (from 01/02/2020)	1 876 603 e	2 406 244 e	2 482 214 e	2 556 322 e	2 697 337 e	2 840 667 e	2 927 280 e
OECD-Total	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Argentina	45 361	76 904	78 713	81 030	80 009	..	..
China	1 364 799 d	3 710 580	3 758 848	3 878 057	4 033 597	4 381 444	4 800 768
Romania	33 222	31 391	31 331	32 232	32 586	31 933	31 665
Russian Federation	919 716	829 190	833 654	802 317	778 155	758 462	753 796
Singapore	28 586	42 521	45 454	45 096	44 515	44 816	..
South Africa	28 798	38 465	41 055	42 533	44 259	..	..
Chinese Taipei	149 154	239 974	245 401	250 495	255 229	262 307	271 579

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 10. Total R&D personnel in full-time equivalent per thousand total employment

Per thousand

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	12.3 d e	16.5 d e	16.7 d	17.3 d e	17.2 d	18.0 d p	18.5 d e p
Belgium	12.5	15.9	16.8 b	16.9 e	17.4	18.3 e	19.7 e p
Canada	13.3	13.1 b	13.4	12.4	12.2 e	..	..
Chile	..	2.0 d	1.9 d	2.0 d	2.0 d	1.9 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	8.8 b	12.6	12.8	12.5	13.0	13.8	14.6 e p
Denmark	15.6	20.9	21.3	21.9	21.6 p	21.8 p	20.2 e p
Estonia	7.1	9.5	9.0	9.2	9.4	9.5	9.9 e p
Finland	23.8	20.6	20.0	18.7	19.1	19.0	19.3 e
France	13.3	15.5 b	15.6	15.7	15.9 p	16.1 p	16.3 e
Germany	12.1	14.2	14.9	15.1	15.5	15.8	16.2 e
Greece	7.2 d	9.7 d	11.5 d	9.4 d	10.7 d	11.4 d	12.0 d p
Hungary	5.6	8.8	8.5	8.0	8.9	11.7 d	12.1 e
Iceland	20.0	..	16.0	..	16.0 e	..	..
Ireland	8.5	17.3 e	17.3 e	16.8 e	17.1 e	16.5 e	16.5 e
Israel[1]	..	..	..	..	..	..	..
Italy	7.1 d	10.2 d	10.6 d	11.7 b d	12.6 d	13.6 d	14.0 d e p
Japan	13.7 d	13.6 d	13.2 d	13.0 d	13.2 d	13.1 b d	13.0 d e
Korea	9.4 d	16.6	16.9	16.9	17.6	18.7	19.4 e
Latvia	5.7 d	6.5 d	6.3 d	5.8 d	6.1 d	6.4 d	6.6 d e p
Lithuania	8	9	8	8	9	9	9 e p
Luxembourg	14.3	13.2	13.0	12.9	12.8	12.2	12.7 e p
Mexico	2.6	1.4	1.5	1.7	1.7 e	1.6 e	1.7 e
Netherlands	11.2	15.6	15.8	16.2	16.4	16.7	16.7 e p
New Zealand	9.2	..	14.1	..	14.2	..	..
Norway	12.9	15.0	15.7	16.2	16.8	16.7	17.2 e
Poland	5.5	6.6	6.8	6.9	8.8 d	9.9 d	10.0 d e
Portugal	5.1	10.4	10.5	10.8	11.5	11.8	12.4 e
Slovak Republic	6.9 d	7.9 d	7.8 d	7.7 d	8.0 d	8.4 d	8.7 d e
Slovenia	9.7	16.0	15.1	15.0	14.9	15.4	16.2 d e p
Spain	8.9	11.1 d	10.9 d	10.9 d	11.1 d	11.4 d	11.4 d e p
Sweden	17.8 b e	17.6 e	17.4 e	18.5 e	17.8 e v	18.1 e	17.8 e
Switzerland	..	..	16.6	..	16.3	..	..
Turkey	2.5 e	4.5 e	4.6 e	5.1	5.5 e	6.1 e	6.6 e
United Kingdom	11.3 b e	12.9 e	13.2	13.1 e	13.8 e	14.3 e	14.8 e p
United States	..	..	..	..	..	..	..
EU27 (from 01/02/2020)	9.8 e	12.2 e	12.5 e	12.7 e	13.2 e	13.7 e	14.0 e
OECD-Total	..	..	..	..	..	..	..
Argentina	2.9	4.4	4.4	4.5	4.4	..	..
China	1.8 d	4.8	4.9	5.0	5.2	5.6	..
Romania	3.6	3.6	3.7	3.8	3.8	3.7	3.7
Russian Federation	13.5	11.6	11.5	11.1	10.8	10.5	10.5
Singapore	12.3	11.7	12.4	12.3	12.1	12.1	..
South Africa	2.3	2.5	2.6	2.7	2.7	..	..
Chinese Taipei	15.0	21.7	21.9	22.2	22.5	22.9	23.6

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 11. Business-financed GERD (Gross domestic expenditure on R&D) as a percentage of GDP

As a percentage of GDP

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	1.08 e	1.47 e	1.52	1.65 e	1.67	1.69	1.71 p
Belgium	1.07	..	1.42	..	1.69	..	..
Canada	0.97	0.78 b	0.74	0.74	0.71	0.64 p	0.63 p
Chile	..	0.12 b	0.12	0.13 b	0.11	0.10 p	..
Colombia	0.04	0.14	0.13	0.14	0.10	0.12	0.12
Czech Republic	0.56	0.70	0.66	0.66	0.70	0.76	0.74 p
Denmark	1.42	..	1.81	..	1.77 p	..	..
Estonia	0.35	0.53	0.60	0.59	0.56	0.58	..
Finland	2.22	1.68	1.57	1.55	1.58	1.54	1.52
France	1.07	1.24	1.23	1.24	1.24 p	1.25 p	..
Germany	1.65 d	1.90 d	1.93 d	1.92 d	2.02 d	2.06 d	..
Greece	0.18	0.25	0.30	0.40	0.52	0.52	0.53 p
Hungary	0.36 d	0.65	0.67	0.67	0.69	0.79 b	..
Iceland	1.29	0.69	0.78	0.79	0.76	0.81	0.91
Ireland	0.69	0.79 e	0.58 e	0.57 e	0.64 e	0.59 e	..
Israel[1]	2.27 d	1.46 d	1.41 d	1.73 d	1.66 d e	1.77 d e	..
Italy	0.41	0.63 e	0.67	0.71 b	0.74	0.78	..
Japan	2.42	2.63	2.56	2.47	2.51	2.59 b	2.56
Korea	1.89 d	3.07	2.97	3.01	3.27	3.46	3.57
Latvia	0.18	0.19	0.12	0.09	0.12	0.14	..
Lithuania	0	0	0	0	0	0	..
Luxembourg	1.25	..	0.63	..	0.63	..	..
Mexico	0.17	0.07	0.07	0.07	0.06 e	0.05 e	0.05 e
Netherlands	0.82	1.20	1.17	1.20	1.23	1.21	..
New Zealand	0.46	..	0.54	..	0.63	..	..
Norway	0.69	..	0.86	0.88	0.90	0.86	..
Poland	0.19	0.37	0.39	0.51	0.54	0.64	..
Portugal	0.27	0.54	0.53	0.57	0.61	0.64	0.68
Slovak Republic	0.18	0.28	0.29	0.37	0.43	0.41	0.39
Slovenia	0.78	1.62	1.52	1.39	1.18	1.22	..
Spain	0.51	0.58	0.56	0.56	0.58	0.61	..
Sweden	2.15 b	..	1.84	..	2.04	..	..
Switzerland	..	..	2.07	..	2.18	..	..
Turkey	0.24 d	0.39	0.39	0.44	0.47	0.55	0.60
United Kingdom	0.65	0.79 e	0.81	0.86 e	0.90	0.95	..
United States	1.59 d	1.69 d	1.70 d	1.76 d	1.78 d	1.86 d	..
EU27 (from 01/02/2020)	0.93 e	1.11 e	1.12 e	1.15 e	1.19 e	1.21 e	..
OECD-Total	**1.32 e**	**1.42 e**	**1.42 e**	**1.44 e**	**1.47 e**	**1.52 e**	**..**
Argentina	0.13	..	0.11	0.10	0.10	..	..
China	0.88	1.53	1.54	1.60	1.62	1.64	1.70
Romania	0.15	0.13	0.18	0.24	0.27	0.29	..
Russian Federation	0.30	0.29	0.29	0.31	0.33	0.29	0.31
Singapore	1.26	1.10	1.15	1.07	1.00	0.98	..
South Africa	0.38	0.31	0.31	0.32	0.35	..	..
Chinese Taipei	1.56	2.30	2.33	2.40	2.53	2.70	2.83

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 12. Government-financed GERD (Gross domestic expenditure on R&D) as a percentage of GDP

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	0.85 e	1.10 d e	0.99	0.95 d e	0.84	0.94 d	0.96 p
Belgium	0.44	..	0.55	..	0.53	..	..
Canada	0.63 e	0.55 b e	0.54 e	0.53 e	0.54 e	0.52 p	0.51 p
Chile	..	0.17 b	0.16	0.17 b	0.17	0.17 p	..
Colombia	0.07	0.10	0.12	0.09	0.10	0.09	0.09
Czech Republic	0.52	0.65	0.62	0.59	0.61	0.65	0.65 p
Denmark	0.66	..	0.92 d	..	0.82 d p	..	..
Estonia	0.40	0.70	0.68	0.46	0.51	0.60	..
Finland	0.85	0.87	0.83	0.79	0.79	0.78	0.78
France	0.79	0.78	0.79	0.72	0.71 p	0.69 p	..
Germany	0.69 d	0.83 d	0.82 d	0.84 d	0.85 d	0.87 d	..
Greece	0.27	0.45	0.51	0.43	0.43	0.49	0.52 p
Hungary	0.46 d	0.45	0.46	0.31	0.42	0.49 b	..
Iceland	1.09	0.66	0.67	0.69	0.72	0.72	0.70
Ireland	0.38	0.42 e	0.31 e	0.30 e	0.28 e	0.29 e	..
Israel[1]	0.58 d	0.54 d	0.55 d	0.50 d	0.52 d e	0.51 d e	..
Italy	0.53	0.53 e	0.51	0.48 b	0.44	0.47	..
Japan	0.53 e	0.54 e	0.51 e	0.47 e	0.48 e	0.48 b e	0.48 e
Korea	0.58 d	0.94	0.94	0.90	0.93	0.93	0.96
Latvia	0.24	0.18	0.20	0.21	0.22	0.22	..
Lithuania	0	0	0	0	0	0	..
Luxembourg	0.26	..	0.61	..	0.55	..	..
Mexico	0.20	0.35	0.34	0.30	0.25 e	0.24 e	0.22 e
Netherlands	0.69	0.68	0.68	0.65	0.64	0.63	..
New Zealand	0.48	..	0.46	..	0.48	..	..
Norway	0.65	..	0.87	0.93	0.98	0.98	..
Poland	0.32	0.43	0.42	0.37	0.40	0.43	..
Portugal	0.42	0.61	0.55	0.55	0.54	0.55	0.56
Slovak Republic	0.28 e	0.36 e	0.37	0.32	0.31	0.32	0.33
Slovenia	0.53	0.52	0.44	0.41	0.43	0.46	..
Spain	0.47	0.51	0.50	0.48	0.47	0.47	..
Sweden	0.82 b	..	.. c	..	0.84	..	..
Switzerland	..	..	0.80	..	0.84	..	..
Turkey	0.28 d	0.32	0.34	0.33	0.32	0.33	0.31
United Kingdom	0.51	0.47 e	0.46	0.44 e	0.44	0.45	..
United States	0.78 d	0.71 d	0.69 d	0.65 d	0.65 d	0.66 d	..
EU27 (from 01/02/2020)	0.60 e	0.66 e	0.65 e	0.62 e	0.61 e	0.62 e	..
OECD-Total	**0.63 e**	**0.63 e**	**0.62 e**	**0.59 e**	**0.59 e**	**0.60 e**	**..**
Argentina	0.27	..	0.47	0.39	0.39	..	..
China	0.34	0.41	0.44	0.42	0.42	0.43	0.46
Romania	0.22	0.19	0.20	0.19	0.18	0.17	..
Russian Federation	0.62	0.74	0.77	0.75	0.73	0.66	0.68
Singapore	0.77	0.79	0.83	0.81	0.72	0.68	..
South Africa	0.33	0.34	0.36	0.38	0.39	..	..
Chinese Taipei	0.74	0.65	0.64	0.66	0.63	0.63	0.64

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 13. Percentage of Gross domestic expenditure on R&D (GERD) financed by the business enterprise sector

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	45.6 e	47.7 e	49.7	53.0 e	54.7	53.9 p	53.6 p
Belgium	59.7	..	58.6	..	63.5	..	..
Canada	49.3	45.8 b	44.0	42.7	42.7	41.1 p	41.0 p
Chile	..	31.9 b	32.8	35.1 b	31.4	29.9 p	..
Colombia	23.8	46.4	41.6	46.0	39.7	40.5	43.0
Czech Republic	48.2	35.9	34.5	39.5	39.3	39.9	38.2 p
Denmark	59.5	..	59.1	..	58.5 p	..	..
Estonia	38.5	37.1	41.0	48.2	43.6	40.8	..
Finland	66.9	53.5	54.8	57.0	58.0	55.8	54.3
France	51.9	54.5 b	54.0	56.0	56.1 p	56.7 p	..
Germany	67.5 d	66.0 d	65.7 d	65.2 d	66.2 d	66.0 d	..
Greece	31.1	29.8	31.4	40.2	44.8	42.5	41.6 p
Hungary	39.4 d	48.3	49.7	56.4	52.7	52.4 b	..
Iceland	48.0	35.7	35.8	37.7	36.4	40.2	38.9
Ireland	57.4	52.2 e	48.7 e	49.0 e	52.1 e	50.5 e	..
Israel[1]	56.2 d	35.1 d	33.2 d	38.3 d	35.3 d e	36.6 d e	..
Italy	39.7	47.3 e	50.0	52.1 b	53.7	54.6	..
Japan	76.1	77.3	78.0	78.1	78.3	79.1 b	78.9
Korea	75.0 d	75.3	74.5	75.4	76.2	76.6	76.9
Latvia	34.3	27.8	20.0	21.6	24.1	22.3	..
Lithuania	21	33	29	39	35	38	..
Luxembourg	79.7	..	48.3	..	49.6	..	..
Mexico	41.5	15.7	17.4	18.8	19.1 e	17.5 e	18.2 e
Netherlands	46.3	55.4	54.4	55.8	56.4	56.7	..
New Zealand	41.1	..	43.8	..	46.4	..	..
Norway	46.8	..	44.2	43.2	42.8	42.0	..
Poland	33.4	39.0	39.0	53.1	52.5	53.2	..
Portugal	36.3	41.8	42.7	44.4	46.5	47.3	48.3
Slovak Republic	36.6	32.2	25.1	46.2	49.0	48.8	46.8
Slovenia	54.8	68.4	69.2	69.2	63.1	62.6	..
Spain	46.3	46.4	45.8	46.7	47.8	49.5	..
Sweden	63.9 b	..	57.3 v	..	60.8 v	..	..
Switzerland	..	..	63.5	..	68.6	..	..
Turkey	43.3 d	45.3	44.6	46.7	49.4	53.6	56.3
United Kingdom	42.1	48.0 e	49.0	51.8 e	53.7	54.8	..
United States	63.3 d	61.9 d	62.5 d	63.2 d	62.5 d	63.1 d	..
EU27 (from 01/02/2020)	55.5 e	55.7 e	55.7 e	57.6 e	58.5 e	58.6 e	..
OECD-Total	**62.2 e**	**61.3 e**	**61.4 e**	**62.2 e**	**62.4 e**	**62.9 e**	**..**
Argentina	31.0	..	17.2	18.2	17.8	..	..
China	67.0	75.4	74.7	76.1	76.5	76.6	76.3
Romania	37.2	32.9	37.3	49.4	54.4	57.1	..
Russian Federation	30.0	27.1	26.5	28.1	30.2	29.5	30.2
Singapore	58.6	53.0	52.8	51.8	52.1	53.1	..
South Africa	43.9	40.8	38.9	39.4	41.5	..	..
Chinese Taipei	66.9	77.0	77.7	77.6	79.2	80.3	81.0

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 14. Percentage of Gross domestic expenditure on R&D (GERD) financed by government

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	35.9 e	35.6 d e	32.6	30.3 d e	27.6	29.8 d p	30.2 p
Belgium	24.7	..	22.5	..	20.0	..	..
Canada	31.8 e	32.1 b e	31.6 e	30.9 e	32.5 e	33.1 p	32.9 p
Chile	..	44.2 b	42.6	45.5 b	47.1	48.1 p	..
Colombia	43.0	32.7	36.3	32.1	36.6	32.4	30.7
Czech Republic	45.2	32.9	32.2	35.6	34.6	34.1	33.7 p
Denmark	27.6	..	30.2 d	..	27.2 d p	..	..
Estonia	43.5	49.5	46.4	37.6	40.2	42.8	..
Finland	25.7	27.5	28.9	28.9	29.0	28.3	27.8
France	38.6	34.3 b	34.8	32.4	32.4 p	31.6 p	..
Germany	28.5 d	28.7 d	27.9 d	28.5 d	27.7 d	27.8 d	..
Greece	46.8	53.3	53.1	42.6	37.6	40.6	40.6 p
Hungary	49.4 d	33.5	34.6	26.2	31.9	32.3 b	..
Iceland	40.5	34.1	30.8	32.9	34.5	36.0	29.8
Ireland	32.0	27.4 e	26.1 e	25.8 e	22.9 e	24.7 e	..
Israel[1]	14.5 d	13.0 d	12.8 d	11.1 d	11.0 d e	10.4 d e	..
Italy	50.7	39.7 e	38.0	35.2 b	32.3	32.7	..
Japan	16.8 e	16.0 e	15.4 e	15.0 e	15.0 e	14.6 b e	14.7 e
Korea	23.0 d	23.0	23.7	22.7	21.6	20.6	20.7
Latvia	46.0	25.6	32.7	47.7	43.6	34.3	..
Lithuania	63	33	35	39	36	32	..
Luxembourg	16.6	..	46.6	..	43.1	..	..
Mexico	49.2	81.3	79.7	77.6	76.8 e	78.2 e	76.7 e
Netherlands	38.8	31.3	31.6	30.2	29.4	29.6	..
New Zealand	43.2	..	37.1	..	35.8	..	..
Norway	43.6	..	44.9	45.7	46.7	48.0	..
Poland	57.7	45.2	41.8	38.9	38.3	35.4	..
Portugal	55.2	47.1	44.3	42.6	41.0	40.6	40.2
Slovak Republic	57.0 e	41.4 e	31.9	41.0	35.5	38.0	40.5
Slovenia	37.2	21.8	19.9	20.2	22.9	23.7	..
Spain	43.0	41.4	40.9	40.0	38.9	37.6	..
Sweden	24.4 b	..	.. c	..	25.0 v	..	..
Switzerland	..	..	24.4	..	26.5	..	..
Turkey	50.1 d	37.4	38.5	35.1	33.6	32.3	29.4
United Kingdom	32.7	28.4 e	27.7	26.3 e	26.0	25.9	..
United States	30.8 d	25.9 d	25.2 d	23.4 d	22.9 d	22.3 d	..
EU27 (from 01/02/2020)	35.6 e	32.9 e	32.2 e	31.2 e	30.1 e	30.0 e	..
OECD-Total	**29.7 e**	**27.3 e**	**26.8 e**	**25.7 e**	**25.0 e**	**24.6 e**	**..**
Argentina	65.3	..	76.4	73.1	70.7	..	..
China	26.3	20.3	21.3	20.0	19.8	20.2	20.5
Romania	53.5	48.5	41.7	39.6	35.9	33.3	..
Russian Federation	61.9	69.2	69.5	68.2	66.2	67.0	66.3
Singapore	35.7	38.0	38.2	38.9	37.5	37.0	..
South Africa	38.2	43.9	44.6	46.0	46.7	..	..
Chinese Taipei	31.5	21.9	21.2	21.4	19.8	18.8	18.2

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 15. Percentage of Gross domestic expenditure on R&D (GERD) financed by the Higher Education and PNP sectors

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	0.4 e	0.5 d e	1.1	0.5 d e	1.1	0.3 d p	0.3 d p
Belgium	3.3	..	2.4	..	3.5	..	..
Canada	10.1 e	14.0 b e	14.6 e	15.6 e	15.9 e	16.5 p	16.3 p
Chile	..	10.2 b	11.8	15.5 b	17.1	17.1 p	..
Colombia	29.0	18.8	17.0	16.6	18.5	22.4	19.6
Czech Republic	1.2	0.7	0.8	0.9	1.1	1.1	1.1 p
Denmark	2.8 d	..	4.4 d	..	5.4 d p	..	..
Estonia	1.0	1.0	0.5	0.6	1.3	1.7	..
Finland	1.2	1.7	1.8	2.0	2.2	2.0	2.4
France	1.9	3.5 b	3.5	3.8	3.7 p	4.0 p	..
Germany	0.3 d	0.3 d	0.3 d	0.3 d	0.3 d	0.3 d	..
Greece	3.1	3.7	2.9	2.7	2.6	2.5	2.8 p
Hungary	0.3 d	0.7	0.7	0.7	0.5	0.5 b	..
Iceland	0.3	6.9	8.1	8.1	4.6	5.2	0.8
Ireland	1.9	1.7 e	1.6 e	1.5 e	1.6 e	1.6 e	..
Israel[1]	4.6 d	1.5 d	1.5 d	1.4 d	1.1 d e	1.0 d e	..
Italy	1.7	3.6 e	3.7	2.9 b	2.3	2.1	..
Japan	6.8 e	6.3 e	6.1 e	6.2 e	6.1 e	5.8 b e	5.8 e
Korea	1.3 d	1.0	1.0	1.0	0.9	0.9	0.8
Latvia	1.2	2.3	2.2	2.9	2.5	1.8	..
Lithuania	6	0	2	3	4	3	..
Luxembourg	0.1	..	1.8	..	1.6	..	..
Mexico	8.2	2.5	2.3	2.9	3.3 e	3.5 e	4.0 e
Netherlands	2.8	2.6	2.5	2.5	2.3	2.5	..
New Zealand	10.6	..	11.4	..	10.1	..	..
Norway	1.6	..	1.6	1.7	1.7	1.7	..
Poland	3.2	2.4	2.4	2.6	3.2	4.4	..
Portugal	3.8	5.4	5.7	4.9	5.1	4.9	4.7
Slovak Republic	0.3	2.7	3.6	2.1	1.7	1.9	2.1
Slovenia	0.7	0.6	0.3	0.4	0.9	0.6	..
Spain	5.0	4.8	5.2	5.2	5.1	5.0	..
Sweden	3.6 b	..	4.3 v	..	4.0 v	..	..
Switzerland	..	..	1.9	..	1.9	..	..
Turkey	5.8 d	15.3	15.0	14.5	13.5	12.1	12.8
United Kingdom	5.9	6.1 e	6.3	6.4 e	5.9 b	5.6	..
United States	5.9 d	7.1 d	7.3 d	7.6 d	7.5 d	7.3 d	..
EU27 (from 01/02/2020)	1.7 e	..	2.2 e	..	2.2 e	..	..
OECD-Total	**4.9 e**	**5.3 e**	**5.3 e**	**5.5 e**	**5.4 e**	**5.3 e**	**5.2 e**
Argentina	2.9	..	3.1	2.4	2.3	..	..
China	..	..	..	..	..	..	..
Romania	4.0	1.5	1.8	1.2	1.7	0.6	..
Russian Federation	0.5	1.2	1.4	1.0	1.0	1.1	1.1
Singapore	1.3	2.0	2.2	3.0	3.3	3.0	..
South Africa	4.4	3.1	3.5	2.9	1.6	..	..
Chinese Taipei	1.4	0.9	0.9	0.8	0.8	0.7	0.7

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 16. Percentage of Gross domestic expenditure on R&D (GERD) financed by the rest of the world

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	18.0 e	16.2 e	16.6	16.2 e	16.6	16.1 p	15.9 p
Belgium	12.4	..	16.5	..	13.0	..	..
Canada	8.8	8.1 b	9.8	10.8	8.9	9.3 p	9.9 p
Chile	..	13.8 b	12.9	3.9 b	4.5	4.9 p	..
Colombia	4.2	2.1	5.1	5.3	5.2	4.7	6.6
Czech Republic	5.4	30.5	32.5	24.0	25.0	24.9	27.0 p
Denmark	10.1	..	6.3	..	8.9 p	..	..
Estonia	17.1	12.5	12.2	13.6	15.0	14.7	..
Finland	6.3 b	17.3	14.5	12.1	10.8	13.9	15.5
France	7.5	7.6 b	7.6	7.8	7.8 p	7.7 p	..
Germany	3.7 d	5.0 d	6.2 d	5.9 d	5.8 d	5.8 d	..
Greece	19.0	13.2	12.7	14.6	15.0	14.3	14.9 p
Hungary	10.7 d	17.5	15.0	16.6	14.9	14.8 b	..
Iceland	11.2	23.3	25.4	21.4	24.5	18.6	30.5
Ireland	8.6	18.7 e	23.6 e	23.6 e	23.4 e	23.2 e	..
Israel[1]	24.7 d	50.4 d	52.5 d	49.2 d	52.6 d e	52.0 d e	..
Italy	8.0	9.4 e	8.3	9.8 b	11.7	10.5	..
Japan	0.3	0.4	0.5	0.7	0.6	0.6 b	0.6
Korea	0.7 d	0.7	0.8	0.9	1.3	1.9	1.6
Latvia	18.5	44.2	45.0	27.8	29.8	41.5	..
Lithuania	10.5	33.8	34.3	19.2	24.4	26.2	..
Luxembourg	3.6	..	3.3	..	5.7	..	..
Mexico	1.1	0.5	0.6	0.7	0.9 e	0.9 e	1.1 e
Netherlands	12.0	10.7	11.5	11.5	11.9	11.2	..
New Zealand	5.2	..	7.7	..	7.7	..	..
Norway	8.1	..	9.2	9.5	8.8	8.2	..
Poland	5.7	13.4	16.7	5.5	6.0	7.0	..
Portugal	4.7	5.6	7.4	8.0	7.3	7.2	6.8
Slovak Republic	6.0	23.7	39.4	10.7	13.7	11.2	10.7
Slovenia	7.3	9.3	10.6	10.2	13.1	13.1	..
Spain	5.7	7.4	8.0	8.1	8.2	7.9	..
Sweden	8.1 b	..	.. c	..	10.1 v	..	..
Switzerland	..	..	10.2	..	5.3	..	..
Turkey	0.8	2.0	1.9	3.7	3.5	2.0	1.5
United Kingdom	19.3	17.5 e	17.1	15.6 e	14.4	13.7	..
United States	.. k	5.0 d	5.0 d	5.8 d	7.1 d	7.2 d	..
EU27 (from 01/02/2020)	7.1 e	9.1 e	9.8 e	9.0 e	9.2 e	9.2 e	..
OECD-Total	**..**	**6.1 e**	**6.4 e**	**6.6 e**	**7.1 e**	**7.2 e**	**..**
Argentina	0.8	..	3.3	6.3	9.2	..	..
China	0.9	0.8	0.7	0.7	0.6	0.4	0.1
Romania	5.3	17.0	19.2	9.9	7.9	9.0	..
Russian Federation	7.6	2.5	2.6	2.7	2.6	2.3	2.4
Singapore	4.4	7.0	6.8	6.3	7.1	6.9	..
South Africa	13.6	12.2	13.0	11.7	10.2	..	..
Chinese Taipei	0.2	0.2	0.2	0.2	0.2	0.1	0.1

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 17. Percentage of Gross domestic expenditure on R&D (GERD) performed by the business enterprise sector

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	53.4 e	..	52.7 e	..	..
Austria	69.8 e	71.3 e	71.4	70.2 b e	69.9	69.9 p	69.9 p
Belgium	68.0	69.9	69.9	68.6	70.2	69.8 e	70.5 p
Canada	55.8 d	53.2 b	53.3	53.5	52.3	50.9 p	51.4 p
Chile	..	33.4 b	34.3	37.7 b	34.2	33.6 p	..
Colombia	18.8	43.3	41.0	45.0	36.4	36.9	40.6
Czech Republic	58.2 b	55.2	54.3	61.1	62.9	61.9	61.6 p
Denmark	68.3	63.8	63.5	65.1	64.7 p	64.3 p	63.0 p
Estonia	45.1	43.5	46.1	51.5	47.2	42.3	53.3 p
Finland	70.8	67.7	66.7	65.8	65.3	65.7	65.6
France	62.1	63.6 b	63.7	65.1	65.3 p	65.5 p	65.7 e
Germany	69.2	67.7	68.7	68.2	69.1	68.9 e	69.0 e
Greece	31.0	33.9	33.0	42.2	48.8	48.2	45.9 p
Hungary	43.2 d	71.5 d	73.4 d	74.1 d	73.1 d	75.6 b d	75.1 d
Iceland	51.5	61.1 d	66.0 d	64.4 d	64.3 d	64.3 d	68.7 d
Ireland	65.5	71.0 e	71.8 e	72.2 e	75.4 e	72.9 e	74.5 e
Israel[1]	81.5 d	84.8 d	85.2 d	86.6 d	87.9 d e	88.3 d e	88.9 d e
Italy	50.4	56.7 e	58.2	60.8 b	62.4	63.3	62.7 p
Japan	76.4	77.8	78.5	78.8	78.8	79.4 b	79.2
Korea	76.9 d	78.2	77.5	77.7	79.4	80.3	80.3
Latvia	40.7	35.5	24.7	24.5	27.2	24.9	26.2 p
Lithuania	20.4	30.9	27.4	35.0	36.8	41.8	43.0 p
Luxembourg	86.4	53.7	52.7	55.5	55.8	53.2 e	50.5 p
Mexico	46.9	17.9	18.6	22.2	22.5 e	21.1 e	21.8 e
Netherlands	52.9	64.7	64.3	65.7	66.3	66.4	67.6 p
New Zealand	41.6	..	51.1	..	55.2	..	..
Norway	53.5	53.7	53.9	53.3	52.6	51.5	53.0
Poland	31.8	46.6	46.6	65.7 b	64.5	66.1	62.8
Portugal	38.5	46.4	46.4	48.4	50.4	51.4	52.5
Slovak Republic	49.8	36.8	28.0	50.4	54.1	54.1	54.8
Slovenia	58.8	77.3	76.3	75.7	74.8	74.2	73.8 p
Spain	53.8	52.9	52.5	53.7	55.0	56.5	56.1 p
Sweden	72.8 b	67.0 e	69.7 v	69.6 e	71.3 v	71.0 e	71.7 e
Switzerland	..	..	71.0	..	71.0	..	..
Turkey	33.8	49.8	50.0	54.2	56.9	60.4	64.2
United Kingdom	61.4	65.1 e	66.0	67.1 e	68.0	67.6	68.0 p
United States	68.9 d	71.4 d	71.8 d	72.6 d	72.9 d	73.4 d	73.9 d e
EU27 (from 01/02/2020)	62.3 e	63.3 e	63.7 e	65.2 e	66.0 e	66.1 e	66.1 e
OECD-Total	**67.6 e**	**68.8 e**	**69.1 e**	**70.0 e**	**70.6 e**	**71.0 e**	**71.3 e**
Argentina	32.2	20.1 p	21.2 b	23.9	27.1	..	..
China	68.3	77.3	76.8	77.5	77.6	77.4	76.4
Romania	49.7	41.5	44.0	55.2	56.7	59.3	57.8
Russian Federation	68.0	59.6	59.2	58.7	60.1	55.6	60.7
Singapore	66.1	60.2	59.7	58.4	59.4	60.7	..
South Africa	58.3	45.3	42.7	41.4	41.0	..	..
Chinese Taipei	67.0	77.0	77.6	77.5	79.0	80.3	80.9

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 18. Percentage of Gross domestic expenditure on R&D (GERD) performed by the higher education sector

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	30.6 e	..	34.0 e	..	..
Austria	24.7 e	23.7 e	23.5	22.2 b e	22.4	22.4 p	22.4 p
Belgium	22.3	20.6	20.3	21.2	19.8	19.7 e	19.2 p
Canada	34.0	37.7 b	39.3	39.4	40.1	41.7 p	41.2 p
Chile	..	39.0 b	38.5	43.1 b p	45.9	47.4 p	..
Colombia	48.3	34.0	31.6	26.6	29.2	31.5	27.2
Czech Republic	18.6	25.4	24.9	20.4	19.6	21.5	21.8 p
Denmark	24.6	33.5	33.9	32.4	32.1 p	32.4 p	33.8 p
Estonia	41.4	44.3	41.4	35.5	39.6	44.5	35.3 p
Finland	19.0	22.9	24.4	25.1	25.4	25.2	25.4
France	18.8	22.1 b	22.0	20.5	20.7 p	20.5 p	20.3 e
Germany	16.8	17.7	17.3	18.0 b	17.4	17.6	17.3 e
Greece	47.5	37.2	37.8	31.9	28.3	28.4	30.7 p
Hungary	25.1 d	13.5 d	12.1 d	11.1 d	13.3 d	12.7 b d	14.2 d
Iceland	22.0	32.8	29.4	30.8	31.5	31.5	28.1
Ireland	27.1	24.6 e	23.8 e	23.6 e	20.8 e	23.0 e	21.8 e
Israel[1]	14.9 d	12.4 d	12.1 d	10.9 d	9.6 d e	9.2 d e	8.7 d e
Italy	30.2 b	26.7 e	25.5 e	24.2 b e	23.6 e	22.8 e	23.0 e p
Japan	13.4	12.6	12.3	12.3	12.0	11.6 b	11.7
Korea	9.9 d	9.0	9.1	9.1	8.5	8.2	8.3
Latvia	40.6	40.5	49.7	43.8	46.7	52.4	54.8 p
Lithuania	54.6	52.1	55.5	38.9	35.3	35.9	36.5 p
Luxembourg	1.5	16.4	18.2	19.1	20.4	20.7 e	21.9 p
Mexico	28.7	48.8	50.3	50.4	50.2 e	51.2 e	50.8 e
Netherlands	34.7	29.2	29.7	28.3	28.0	27.7	26.7 p
New Zealand	32.5	..	28.0	..	24.7	..	..
Norway	30.8	31.0	31.1	32.6	33.7	34.6	34.3
Poland	31.6	29.2	28.9	31.4	32.9	31.7	35.6
Portugal	35.4	45.6	45.5	44.7	42.5	41.6	40.5
Slovak Republic	20.4	34.4	43.8	27.7	24.7	24.3	25.2
Slovenia	16.7	10.5	10.2	10.8	11.2	11.9	11.8 p
Spain	29.0	28.1	28.1	27.5	27.1	26.4	26.6 p
Sweden	22.0 b	29.0 e	26.7 v	26.8 e	24.9 v	25.3 e	23.7 b e
Switzerland	..	..	26.7	..	28.2	..	..
Turkey	54.6	40.5	39.7	36.3	33.5	30.3	29.2
United Kingdom	25.7	25.8 e	25.3	24.3 e	23.5	23.6	23.1 p
United States	14.3 d	13.1 d	13.0 d	13.0 d	12.8 d	12.3 d	..
EU27 (from 01/02/2020)	22.2 e	23.1 e	22.8 e	22.2 e	21.7 e	21.7 e	21.8 e
OECD-Total	**17.8 e**	**17.9 e**	**17.7 e**	**17.6 e**	**17.2 e**	**16.8 e**	**16.6 e**
Argentina	25.8	30.5 p	26.0	25.8	25.2	..	..
China	9.9	6.9	7.0	6.8	7.2	7.4	8.1
Romania	13.7	15.2	17.4	11.3	10.6	9.8	10.2
Russian Federation	5.8	9.8	9.6	9.1	9.0	9.7	10.6
Singapore	24.2	28.1	29.2	30.3	29.4	27.7	..
South Africa	19.3	28.5	30.5	32.7	33.6	..	..
Chinese Taipei	11.4	10.4	9.9	9.4	9.0	8.9	8.4

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 19. Percentage of Gross domestic expenditure on R&D (GERD) performed by the government sector

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	12.7 e	..	10.1 e	..	..
Austria	5.2 e	4.6 e	4.6	7.1 b e	7.1	7.1 p	7.1 p
Belgium	8.4	9.0	9.2	9.6	9.4	9.9 e	9.6 p
Canada	9.7	8.6 b	7.0	6.6	7.1	6.9 p	7.0 p
Chile	..	8.1 b	7.8	12.9 b	13.1	12.6 p	..
Colombia	5.7	3.2	2.5	7.4	8.4	7.8	8.8
Czech Republic	22.8 b	19.0	20.4	18.2	17.2	16.4	16.3 p
Denmark	6.5	2.3	2.2	2.2	3.0 p	3.0 p	2.8 p
Estonia	11.3	11.0	10.8	11.4	11.8	11.4	10.2 p
Finland	9.6	8.6	8.2	8.2	8.5	8.3	8.1
France	17.8	12.7 b	12.8	12.7	12.5 p	12.5 p	12.4 e
Germany	14.1 d	14.6 d	14.1 d	13.8 d	13.5 d	13.5 d	13.7 d e
Greece	20.3	27.7	28.1	25.0	22.1	22.4	22.6 p
Hungary	28.0 d	13.7 d	13.3 d	13.4 d	12.6 d	10.9 b d	10.0 d
Iceland	23.5	6.1	4.7	4.7	4.2	4.2	3.2
Ireland	7.4	4.4 e	4.4 e	4.2 e	3.9 e	4.2 e	3.8 e
Israel[1]	2.7 d	1.8 d	1.7 d	1.6 d	1.6 d e	1.5 d e	1.5 d e
Italy	17.3	13.6 e	13.1	12.6 b	12.4	12.4	12.7 p
Japan	8.3	8.3	7.9	7.5	7.8	7.8 b	7.8
Korea	11.9 d	11.2	11.7	11.5	10.7	10.1	10.0
Latvia	18.7	24.0	25.6	31.8	26.1	22.8	18.9 p
Lithuania	25.0	17.0	17.1	26.1	27.9	22.2	20.5 p
Luxembourg	12.1 d	29.9 d	29.1 d	25.5 d	23.9 d	26.0 d e	27.6 d p
Mexico	23.2	32.3	30.1	26.4	26.2 e	26.6 e	26.2 e
Netherlands	12.4 d	6.1 d	6.1 d	6.1 d	5.6 d	5.9 d	5.7 d p
New Zealand	25.9	..	21.0	..	20.1	..	..
Norway	15.7	15.2	15.0	14.2	13.7	13.9	12.7
Poland	36.4	24.0	24.4	2.5 b	2.3	1.9	1.3
Portugal	14.6	6.3	6.5	5.3	5.5	5.3	5.1
Slovak Republic	29.7 d	28.3 d	27.9	21.4	20.8	21.2	20.0
Slovenia	24.2	12.2	13.5	13.4	13.8	13.5	13.8 p
Spain	17.0	18.8	19.1	18.5	17.7	16.8	17.0 p
Sweden	4.9 b	3.7 e	3.4 v	3.4 e	3.6 v	3.6 e	4.5 b e
Switzerland	..	..	0.9 d	..	0.8 d	..	..
Turkey	11.6	9.7	10.3	9.5 d	9.6 d	9.2 d	6.6 d
United Kingdom	10.6	7.3 e	6.6	6.6 e	6.3	6.6	6.6 p
United States	12.3 d	11.3 d	11.0 d	10.0 d	9.7 d	9.9 d	9.9 d e
EU27 (from 01/02/2020)	14.7 e	12.8 e	12.7 e	11.8 e	11.6 e	11.4 e	11.5 e
OECD-Total	**12.0 e**	**10.9 e**	**10.7 e**	**10.0 e**	**9.8 e**	**9.7 e**	**9.7 e**
Argentina	39.7	47.7 p	51.2	49.5	46.8	..	..
China	21.8	15.8	16.2	15.7	15.2	15.2	15.5
Romania	34.2	43.0	38.3	33.3	32.4	30.6	31.8
Russian Federation	26.1	30.5	31.1	32.0	30.4	34.4	28.3
Singapore	9.7	11.7	11.1	11.2	11.1	11.5	..
South Africa	20.8	23.5	24.0	23.1	22.3	..	..
Chinese Taipei	21.0	12.3	12.1	12.8	11.7	10.7	10.6

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 20. Percentage of Gross domestic expenditure on R&D (GERD) performed by the private non-profit sector

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	3.24 e	..	3.21 e	..	..
Austria	0.30 e	0.47 e	0.49	0.49 e	0.55	0.55 p	0.55 p
Belgium	1.31	0.46	0.55	0.61	0.56	0.61 e	0.63 p
Canada	0.53	0.45 b	0.47	0.45	0.49	0.47 p	0.40 p
Chile	..	19.52 b	19.35	6.36 b	6.83	6.40 p	..
Colombia	27.25	19.41	24.92	21.08	26.00	23.84	23.36
Czech Republic	0.51	0.41	0.39	0.25	0.28	0.22	0.28 p
Denmark	0.67	0.41	0.35	0.35	0.30 p	0.30 p	0.35 p
Estonia	2.20	1.19	1.80	1.54	1.41	1.68	1.16 p
Finland	0.58	0.77	0.77	0.86	0.82	0.81	0.89
France	1.29	1.51 b	1.54	1.64	1.58 p	1.58 p	1.57 e
Germany	..	..	..	..	..	..	..
Greece	1.26	1.24	1.12	0.89	0.80	1.06	0.85 p
Hungary	..	..	..	..	..	..	..
Iceland	2.99	..	..	..	..	..	..
Ireland	..	..	..	..	..	..	..
Israel[1]	0.97 d	1.02 d	1.02 d	0.96 d	0.96 d e	0.97 d e	0.96 d e
Italy	2.12	3.04 e	3.19	2.48 b	1.71	1.46	1.65 p
Japan	1.86	1.34	1.33	1.38	1.38	1.27 b	1.34
Korea	1.36 d	1.52	1.64	1.59	1.41	1.41	1.43
Latvia	0.00	..	..	..	..	..	..
Lithuania	..	..	..	..	..	..	..
Luxembourg	..	..	..	..	..	..	..
Mexico	1.13	1.00	0.93	0.99	1.10 e	1.12 e	1.23 e
Netherlands	..	..	..	..	..	..	..
New Zealand	..	..	..	..	..	..	..
Norway	..	..	..	..	..	..	..
Poland	0.31	0.30	0.16	0.44	0.35	0.30	0.30
Portugal	11.52	1.72	1.58	1.60	1.56	1.62	1.91
Slovak Republic	0.08	0.41	0.40	0.49	0.41	0.42	0.03
Slovenia	0.22	0.04	0.04	0.02	0.22	0.33	0.61 p
Spain	0.14	0.17	0.20	0.24	0.21	0.26	0.27 p
Sweden	0.31 b	0.24 e	0.19 v	0.19 e	0.12 v	0.11 e	0.12 e
Switzerland	..	..	1.45	..	2.26	..	..
Turkey	..	..	..	..	..	..	..
United Kingdom	2.32	1.81 e	2.01	2.11 e	2.17	2.22	2.31 p
United States	4.44 d e	4.15 d e	4.19 d e	4.37 d e	4.55 d e	4.40 d e	..
EU27 (from 01/02/2020)	0.89 e	0.85 e	0.85 e	0.82 e	0.72 e	0.70 e	0.72 e
OECD-Total	**2.67 e**	**2.39 e**	**2.43 e**	**2.50 e**	**2.54 e**	**2.49 e**	**2.47 e**
Argentina	2.23	1.75 p	1.61	0.77 b	0.90	..	..
China	..	..	..	..	..	..	..
Romania	2.44	0.37	0.30	0.23	0.29	0.22	0.21
Russian Federation	0.18	0.13	0.14	0.21	0.41	0.30	0.43
Singapore	..	..	..	..	..	..	..
South Africa	1.60	2.65	2.76	2.85	3.14	..	..
Chinese Taipei	0.48	0.33	0.31	0.30	0.24	0.13	0.13

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 21. Total researchers in headcount

Headcount

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	..	..	78 051 d	..	83 648 d	..	..
Belgium	48 757	..	73 709 b	..	78 867	..	..
Canada	..	..	..	..	..	..	..
Chile	..	12 303 d	13 015 d	14 181 d	14 392 d	14 596 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	37 542	54 493	56 605	56 178	59 789	61 966	63 690 p
Denmark	43 460	58 735	60 492	60 782	61 961 p	..	..
Estonia	5 734	7 721	7 181	6 845	7 344	7 281	..
Finland	50 773	55 515	55 728	53 752	54 139	55 415	58 291
France	251 599	379 048 b	383 843	396 594	416 217 p	429 959 p	..
Germany	406 253	..	586 030	..	623 125	..	..
Greece	33 396 d	..	60 736 d	..	61 616 d	..	..
Hungary	31 407	39 190	38 418	38 915	42 729	54 970 d	..
Iceland	3 821	..	3 722 b	..	3 783	..	..
Ireland	17 653	..	33 117 e	..	34 791 e	..	..
Israel[1]	..	..	..	..	..	..	..
Italy	125 534 d	168 074 d	174 327 d	185 916 b d	195 560 d	212 671 d	..
Japan	861 901 d	926 671 d	907 455 d	917 725 d	930 720 d	935 658 d	942 180 d
Korea	234 702 d	437 447	453 262	460 769	482 796	514 170	538 136
Latvia	5 748 d	7 939 d	7 827 d	7 400 d	7 504 d	7 439 d	..
Lithuania	11 918.00	19 371.00	17 293.00	17 746.00	18 767.00	19 198.00	..
Luxembourg	2 443	..	3 207	..	3 540	..	..
Mexico	..	44 662	48 812	54 357	54 578 e	54 539 e	58 013 e
Netherlands	57 782	117 573	118 902	124 568	124 834	130 153	..
New Zealand	22 186	..	39 000	..	44 000	..	..
Norway	36 555	50 025	52 181	54 601	57 934	59 629	..
Poland	97 875	115 375	118 494	132 547	187 905 d	192 833 d	..
Portugal	37 769	78 736	81 005	85 780	89 659	96 123	100 823
Slovak Republic	17 526 d	25 080 d	24 396 d	26 720 d	26 861 d	28 755 d	28 851 d
Slovenia	7 644	12 155	11 308	11 282	14 079 d	15 388 d	..
Spain	181 023	210 104 d	214 227 d	218 680 d	225 995 d	234 798 d	..
Sweden	82 459 d	..	108 761 e	..	107 042 b	..	..
Switzerland	..	..	70 834	..	73 502	..	..
Turkey	83 856	181 544	190 784	191 769	210 769	230 030	243 773
United Kingdom	364 807 e	489 181 e	496 953 e	510 980 e	520 936 e	535 477 e	..
United States	..	..	..	..	..	..	..
EU27 (from 01/02/2020)	..	..	..	..	..	..	..
OECD-Total	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Argentina	49 050	83 837 p	82 407	86 562	84 284	..	..
China	..	..	..	..	..	..	..
Romania	29 608	27 535	27 253	27 801	27 367	27 471	..
Russian Federation	391 121 e	373 905 e	379 411 e	370 379 e	359 793 e	347 854 e	348 221
Singapore	27 969	40 699	43 159	43 177	42 838	43 310	..
South Africa	39 266	48 479	51 877	56 761	61 840	..	..
Chinese Taipei	115 954	181 589	183 022	184 898	187 971	193 035	199 144

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 22. Women researchers as a percentage of total researchers

Based on headcount

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	..	..	29.5 d	..	30.1 d	..	..
Belgium	29.6	..	34.1 b	..	34.8	..	..
Canada	..	..	..	..	..	..	..
Chile	..	31.5 d	33.0 d	33.1 d	34.4 d	34.4 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	28.8	27.2	26.9	26.7	26.8	26.6	27.2 p
Denmark	29.7	..	33.8	..	35.8 p	..	..
Estonia	40.8	44.0	43.9	43.6	42.2	43.9	..
Finland	30.2	32.1	32.3	32.5	33.2	33.7	33.7
France	28.0	26.7 b e	27.0 e	28.0	28.3 p	..	..
Germany	21.3	..	28.0	..	27.9	..	..
Greece	36.4 d	..	38.0 d	..	37.8 d	..	..
Hungary	34.2	30.4	30.8	30.8	30.5	28.0 d	..
Iceland	39.3	..	45.6 b	..	46.4	..	..
Ireland	30.3	..	36.1 e	..	36.3 e	..	..
Israel[1]	..	..	..	..	..	..	..
Italy	32.3 d	36.0 d	36.0 d	35.2 b d	34.3 d	33.9 d	..
Japan	11.9 d	14.7 d	15.3 d	15.7 d	16.2 d	16.6 d	16.9 d
Korea	12.9 d	18.5	18.9	19.7	20.1	20.4	21.0
Latvia	51.5 d	52.1 d	51.0 d	52.2 d	52.2 d	50.7 d	..
Lithuania	48.65	50.25	50.74	51.57	49.51	49.00	..
Luxembourg	18.2	..	28.4	..	28.1	..	..
Mexico	..	34.6	34.7	33.7	33.5 e	33.2 e	32.8 e
Netherlands	21.0	24.9	25.2	26.1	26.1	27.0	..
New Zealand	..	..	..	..	..	..	..
Norway	31.6	37.4	37.4	37.6	38.1	38.8	..
Poland	39.3	37.2	37.0	36.4	38.1 d	37.9 d	..
Portugal	44.4	44.3	44.1	43.5	43.7	43.3	42.8
Slovak Republic	41.5 d	42.5 d	42.2 d	41.4 d	41.9 d	41.2 d	41.0 d
Slovenia	34.8	36.1	36.5	34.5	32.3 d	32.5 d	..
Spain	36.7	39.6 d	40.0 d	40.2 d	40.5 d	40.8 d	..
Sweden	35.7 d	..	33.7 e	..	32.6 b	..	..
Switzerland	..	..	33.5	..	34.9	..	..
Turkey	36.1	36.9	37.3	36.7	37.0	36.8	37.0
United Kingdom	35.7 e	37.4 e	38.6 e	38.7 e	38.7 e	38.6 e	..
United States	..	..	..	..	..	..	..
EU27 (from 01/02/2020)	..	..	..	..	..	..	..
OECD-Total	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Argentina	50.5	52.9 p	52.6	53.0	53.8	..	..
China	..	..	..	..	..	..	..
Romania	45.3	46.0	46.2	45.8	46.7	46.2	..
Russian Federation	42.4 e	40.5 e	40.3 e	40.0 e	39.5 e	39.2 e	39.1
Singapore	26.3	30.1	30.2	30.7	30.7	30.8	..
South Africa	39.7	44.3	45.0	45.1	44.9	..	..
Chinese Taipei	19.6	22.1	22.2	22.3	22.6	22.6	22.7

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 23. Business enterprise expenditure on R&D (BERD) at current prices and PPP

Million USD

	2005	2014	2015	2016	2017	2018	2019
Australia	7 515.5	..	11 304.5	..	11 801.7	..	..
Austria	4 770.9 e	9 169.6 e	9 387.0	10 071.0 b e	10 178.5	11 074.6 p	11 614.0 p
Belgium	4 233.8	8 342.7	8 845.5	9 532.2	10 744.3	11 226.8 e	12 807.4 p
Canada	12 886.0 d	14 798.1 b	14 385.7	15 511.4	15 417.8	14 765.9 p	15 044.2 p
Chile	..	506.5	532.7	594.1	550.2	545.5 p	..
Colombia	109.5	812.9	826.6	884.7	660.7	778.6	896.5
Czech Republic	1 523.5 b	3 698.3	3 721.4	3 894.6	4 572.2	5 145.0	5 493.2 p
Denmark	3 023.3	5 023.4	5 405.2	5 991.4	6 242.0 p	6 467.3 p	6 533.8 p
Estonia	93.2	236.9	259.4	263.7	268.5	286.7	442.5 p
Finland	3 958.3	4 860.5	4 458.6	4 429.2	4 664.2	4 963.6	5 222.7
France	24 554.5	38 551.3	39 268.7	41 440.8	42 895.1 p	44 935.7 p	47 797.3 e
Germany	44 288.0	74 123.8	78 332.2	83 477.7	92 358.9	97 872.1 e	101 746.5 e
Greece	504.0	825.3	922.0	1 257.9	1 728.6	1 860.2	1 936.6 p
Hungary	685.1 d	2 437.9 d	2 595.1 d	2 398.7 d	2 779.9 d	3 550.0 b d	3 681.4 d
Iceland	152.9	178.1 d	234.3 d	243.9 d	256.1 d	264.7 d	346.2 d
Ireland	1 314.6	2 572.3 e	2 758.0	2 886.6 e	3 487.2	3 510.9 e	4 035.8
Israel[1]	5 677.4 d	9 953.1 d	10 792.5 d	12 629.5 d	13 953.2 d	15 335.5 d	16 661.7 d e
Italy	9 186.6	16 688.8	17 444.9	20 110.4 b	21 510.6	23 435.6	24 282.4 p
Japan	98 384.0	131 839.8	132 268.5	126 216.4	131 290.7	137 229.8	137 148.3
Korea	23 531.2 d	57 180.5	59 635.5	62 822.4	71 695.7	79 511.0	82 326.9
Latvia	66.9	116.2	75.6	55.7	77.4	94.3	103.1 p
Lithuania	73.54	262.84	239.40	261.29	315.02	399.14	461.70 p
Luxembourg	431.1	382.7	405.7	463.7	473.9	442.9	451.4 p
Mexico	2 510.0	1 689.7	1 782.4	2 053.8	1 818.8 e	1 658.6 e	1 615.4 e
Netherlands	5 761.6	11 676.6	11 747.2	12 581.6	13 638.0	14 177.3	15 081.8 p
New Zealand	495.1	..	1 083.9	..	1 502.5	1 689.5	..
Norway	1 752.6	3 118.9	3 266.6	3 360.3	3 732.6	3 906.6	4 170.2
Poland	947.8	4 262.3	4 765.4	6 799.5 b	7 614.9	9 702.7	10 785.9
Portugal	695.5	1 789.6	1 772.0	2 023.9	2 264.2	2 494.1	2 784.1
Slovak Republic	219.8	508.2	527.3	641.3	784.8	779.8	805.3
Slovenia	398.0	1 164.5	1 092.9	1 065.1	1 052.3	1 165.7	1 297.4 p
Spain	7 128.0	10 242.7	10 410.1	11 088.6	12 252.3	13 363.5	13 962.6 p
Sweden	7 564.0 b	9 514.1 e	10 794.2	11 307.5 e	12 531.6	12 840.0 e	13 816.0
Switzerland	..	..	12 672.2	..	13 175.6	..	..
Turkey	1 554.8	7 931.2	8 868.1	10 764.3	12 269.6	14 257.7	15 563.4
United Kingdom	18 809.0	28 541.9	30 156.9	32 274.8	34 596.5	36 644.4	38 729.1 p
United States	226 159.0 d	340 728.0 d	355 821.0 d	379 528.0 d	405 791.0 d	445 637.0 d	485 826.0 d e
EU27 (from 01/02/2020)	122 200.5 e	208 217.1 e	217 590.7 e	234 665.9 e	255 345.2 e	273 079.4 e	288 696.5 e
OECD-Total	**527 004.2 e**	**828 813.1 e**	**858 877.3 e**	**905 020.5 e**	**970 948.1 e**	**1 048 308.1 e**	**1 112 817.4 e**
Argentina	715.8	998.1 p	1 139.6 b	1 121.6	1 565.2	..	..
China	58 876.3	267 652.0	281 121.2	304 448.6	326 502.0	360 368.9	401 727.1
Romania	420.0	650.6	920.0	1 270.1	1 517.5	1 693.8	1 731.1
Russian Federation	12 317.7	24 058.9	22 982.7	22 903.7	25 408.6	23 178.5	26 993.5
Singapore	3 556.9	5 794.6	6 266.3	6 081.4	6 079.3	6 397.0	..
South Africa	2 357.5	2 385.4	2 371.6	2 399.9	2 467.7	..	..
Chinese Taipei	10 247.5	24 460.3	25 663.2	26 622.0	28 869.4	32 439.8	35 591.6

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 24. Business enterprise expenditure on R&D (BERD) as a percentage of GDP

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	1.05	..	1.00	..	0.94	..	..
Austria	1.66 e	2.20 e	2.18	2.19 b e	2.14	2.20 p	2.23 p
Belgium	1.22	1.66	1.70	1.73	1.87	1.87 e	2.04 p
Canada	1.10 d	0.91 b	0.90	0.92	0.87	0.79 p	0.79 p
Chile	..	0.13	0.13	0.14	0.12	0.12 p	..
Colombia	0.03	0.13	0.13	0.13	0.10	0.11	0.11
Czech Republic	0.68 b	1.08	1.04	1.02	1.11	1.18	1.20 p
Denmark	1.63	1.86	1.94	2.01	1.96 p	1.94 p	1.86 p
Estonia	0.41	0.62	0.67	0.63	0.60	0.60	0.86 p
Finland	2.35	2.13	1.91	1.79	1.78	1.81	1.83
France	1.27	1.45	1.44	1.45	1.44 p	1.44 p	1.44 e
Germany	1.69	1.95	2.01	2.00	2.11	2.15 e	2.19 e
Greece	0.18	0.28	0.32	0.42	0.56	0.58	0.59 p
Hungary	0.40 d	0.96 d	0.98 d	0.88 d	0.96 d	1.14 b d	1.11 d
Iceland	1.38	1.18 d	1.44 d	1.36 d	1.34 d	1.29 d	1.61 d
Ireland	0.78	1.08 e	0.85	0.85 e	0.92	0.85 e	0.91
Israel[1]	3.30 d	3.54 d	3.63 d	3.91 d	4.12 d	4.28 d	4.39 d e
Italy	0.53	0.76	0.78	0.83 b	0.85	0.90	0.91 p
Japan	2.43	2.64	2.58	2.49	2.53	2.60	2.57
Korea	1.94 d	3.19	3.08	3.10	3.41	3.63	3.73
Latvia	0.22	0.24	0.15	0.11	0.14	0.16	0.17 p
Lithuania	0.2	0.3	0.3	0.3	0.3	0.4	0.4 p
Luxembourg	1.36	0.68	0.69	0.72	0.71	0.62	0.60 p
Mexico	0.19	0.08	0.08	0.09	0.07 e	0.06 e	0.06 e
Netherlands	0.94	1.41	1.38	1.41	1.45	1.42	1.46 p
New Zealand	0.47	..	0.63	..	0.74	0.80	..
Norway	0.79	0.92	1.04	1.09	1.10	1.05	1.14
Poland	0.18	0.44	0.47	0.63 b	0.67	0.80	0.83
Portugal	0.29	0.60	0.58	0.62	0.67	0.69	0.74
Slovak Republic	0.25	0.32	0.32	0.40	0.48	0.45	0.45
Slovenia	0.83	1.83	1.67	1.52	1.39	1.44	1.51 p
Spain	0.59	0.66	0.64	0.64	0.67	0.70	0.70 p
Sweden	2.45 b	2.08 e	2.24	2.26 e	2.40	2.36 e	2.44
Switzerland	..	..	2.32	..	2.26	..	..
Turkey	0.19	0.43	0.44	0.51	0.54	0.62	0.68
United Kingdom	0.96	1.07	1.09	1.11	1.14	1.17	1.19 p
United States	1.73 d	1.94 d	1.95 d	2.02 d	2.08 d	2.16 d	2.27 d e
EU27 (from 01/02/2020)	1.05 e	1.27 e	1.28 e	1.30 e	1.34 e	1.37 e	1.39 e
OECD-Total	**1.43 e**	**1.60 e**	**1.60 e**	**1.62 e**	**1.66 e**	**1.72 e**	**1.76 e**
Argentina	0.14	0.12 p	0.13 b	0.13	0.15	..	..
China	0.89	1.56	1.58	1.63	1.64	1.66	1.71
Romania	0.21	0.16	0.21	0.27	0.29	0.30	0.28
Russian Federation	0.68	0.64	0.65	0.65	0.67	0.55	0.63
Singapore	1.42	1.26	1.30	1.21	1.14	1.12	..
South Africa	0.50	0.35	0.34	0.34	0.34	..	..
Chinese Taipei	1.57	2.29	2.33	2.39	2.53	2.70	2.83

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 25. Business enterprise expenditure on R&D (BERD) at 2010 prices and PPP

Million 2010 USD

	2005	2014	2015	2016	2017	2018	2019
Australia	8 957.8	..	11 304.5	..	11 195.5	..	..
Austria	6 346.6 e	9 380.4 e	9 387.0	9 617.4 b e	9 613.2	10 138.2 p	10 442.3 p
Belgium	5 524.4	8 456.0	8 845.5	9 130.5	10 037.2	10 179.0 e	11 315.8 p
Canada	14 897.8 d	14 460.5 b	14 385.7	14 889.6	14 492.4	13 481.0 p	13 679.7 p
Chile	..	499.1	532.7	577.5	511.0	512.6 p	..
Colombia	124.5	796.4	826.6	847.1	615.6	699.6	778.9
Czech Republic	1 963.6 b	3 667.2	3 721.4	3 743.0	4 285.4	4 681.4	4 872.1 p
Denmark	4 226.3	5 061.3	5 405.2	5 791.7	5 788.0 p	5 873.6 p	5 791.8 p
Estonia	138.0	234.8	259.4	253.2	253.3	262.2	396.1 p
Finland	5 215.1	4 936.2	4 458.6	4 294.5	4 397.8	4 527.4	4 636.5
France	31 597.2	38 935.6	39 268.7	39 764.8	40 425.2 p	41 150.6 p	41 813.1 e
Germany	56 972.2	74 606.6	78 332.2	79 682.6	86 077.7	88 740.4 e	91 006.2 e
Greece	647.5	825.7	922.0	1 222.7	1 635.2	1 728.2	1 763.9 p
Hungary	951.7 d	2 446.3 d	2 595.1 d	2 357.4 d	2 707.0 d	3 377.2 b d	3 435.4 d
Iceland	185.9	184.3 d	234.3 d	235.2 d	241.5 d	243.2 d	309.5 d
Ireland	1 791.8	2 799.8 e	2 758.0	2 803.3 e	3 332.3	3 331.0 e	3 785.6
Israel[1]	6 676.2 d	10 278.9 d	10 792.5 d	12 069.1 d	13 184.0 d	14 158.3 d	15 014.8 d e
Italy	12 372.1	16 866.0	17 444.9	18 857.9 b	19 721.0	20 958.7	21 202.3 p
Japan	118 277.0	134 125.0	132 268.5	128 370.0	133 307.4	137 622.5	136 631.0
Korea	26 119.6 d	59 992.6	59 635.5	61 694.3	69 985.3	76 630.1	80 345.9
Latvia	91.2	116.2	75.6	53.8	72.6	86.2	93.1 p
Lithuania	100.1	261.1	239.4	253.0	295.4	364.8	414.0 p
Luxembourg	617.4	384.7	405.7	444.8	445.0	405.1	399.3 p
Mexico	3 350.3	1 678.7	1 782.4	1 972.4	1 727.5 e	1 549.7 e	1 478.3 e
Netherlands	7 191.0	11 749.7	11 747.2	12 300.0	12 946.7	13 030.8	13 633.5 p
New Zealand	641.8	..	1 083.9	..	1 382.0	1 530.6	..
Norway	2 170.7	2 972.3	3 266.6	3 333.6	3 515.7	3 534.8	3 749.5
Poland	1 248.1	4 308.8	4 765.4	6 654.5 b	7 358.8	9 287.0	10 108.3
Portugal	906.6	1 806.8	1 772.0	1 943.7	2 158.1	2 316.6	2 511.7
Slovak Republic	276.7	500.7	527.3	659.9	818.9	804.0	822.6
Slovenia	486.1	1 168.2	1 092.9	1 023.6	984.6	1 064.1	1 146.4 p
Spain	9 153.2	10 261.6	10 410.1	10 685.5	11 441.4	12 354.1	12 612.0 p
Sweden	9 677.2 b	9 576.3 e	10 794.2	11 097.5 e	12 082.4	12 101.4 e	12 706.8
Switzerland	..	..	12 672.2	..	12 787.1	..	..
Turkey	2 345.3	8 127.0	8 868.1	10 628.0	12 172.5	14 332.1	15 938.1
United Kingdom	23 354.4	28 975.1	30 156.9	31 415.0	32 842.6	33 969.2	35 168.9 p
United States	270 664.9 d	343 971.7 d	355 821.0 d	375 587.2 d	394 166.9 d	422 722.0 d	452 761.9 d e
EU27 (from 01/02/2020)	158 653.4 e	210 127.7 e	217 590.7 e	225 124.1 e	239 553.2 e	249 708.7 e	257 969.8 e
OECD-Total	**643 918.1 e**	**839 530.5 e**	**858 877.3 e**	**889 401.7 e**	**939 005.2 e**	**992 369.8 e**	**1 037 709.6 e**
Argentina	860.8	1 003.1 p	1 139.6 b	1 075.8	1 314.8	..	..
China	63 551.4	259 910.3	281 121.2	309 386.7	333 883.8	359 752.9	393 400.7
Romania	663.7	657.8	920.0	1 190.6	1 373.0	1 494.6	1 446.1
Russian Federation	18 375.5	22 995.6	22 982.7	22 865.4	24 010.2	20 153.5	23 383.6
Singapore	3 947.7	5 866.3	6 266.3	6 029.9	5 916.5	6 007.9	..
South Africa	2 691.7	2 399.6	2 371.6	2 366.9	2 412.4	..	..
Chinese Taipei	12 095.8	24 919.3	25 663.2	26 935.6	29 372.6	32 232.0	34 743.5

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 26. Business enterprise expenditure on R&D (BERD) as a percentage of value added in industry

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	1.55	..	1.55	..	1.43	..	..
Austria	2.52 e	3.38 e	3.36	3.38 b e	3.29	3.37 p	3.43 e p
Belgium	1.92	2.70	2.74	2.80	3.03	3.03 e	3.30 e p
Canada	1.67 d	1.42 b	1.44 e	1.49 e	1.40 e	1.27 e p	1.26 e p
Chile	..	0.18	0.19	0.21	0.18	0.18 e p	..
Colombia	0.05	0.19	0.20	0.20	0.14	0.16	0.17
Czech Republic	0.98 b	1.58	1.52	1.49	1.64	1.76	1.79 e p
Denmark	2.83	3.20	3.33	3.43	3.33 p	3.29 p	3.12 e p
Estonia	0.61	0.94	1.05	1.02	0.95	0.93	1.34 e p
Finland	3.84	3.76	3.38	3.16	3.07	3.13	3.16 e
France	2.15	2.51	2.50	2.51	2.51 p	2.51 p	2.51 e
Germany	2.62	3.06	3.16	3.14	3.31	3.38 e	3.47 e
Greece	0.29	0.53	0.59	0.80	1.04 e	1.08 e	1.08 e p
Hungary	0.63 d	1.53 d	1.57 d	1.40 d	1.54 d	1.83 b d	1.77 d e
Iceland	2.38	2.02 d	2.44 d	2.30 d e	2.33 d e	2.24 d e	2.80 d e
Ireland	1.14	1.54 e	1.12	1.09 e	1.18 e	1.07 e	1.16 e
Israel[1]	5.45 d e	6.01 d	6.10 d	6.58 d	6.95 d e	7.18 d e	7.36 d e
Italy	0.83	1.25	1.27	1.35 b	1.38	1.46	1.48 e p
Japan	3.21	3.68	3.55	3.43	3.48	3.59 e	3.54 e
Korea	2.74 d e	4.54 e	4.42	4.46	4.91	5.26	5.40 e
Latvia	0.32	0.39	0.25	0.17	0.23	0.26	0.27 e p
Lithuania	0.2	0.4	0.4	0.4	0.5	0.6	0.6 e p
Luxembourg	2.04	1.01	1.00	1.04	1.02	0.91	0.88 e p
Mexico	0.25	0.11	0.11	0.12	0.10 e	0.09 e	0.08 e
Netherlands	1.44	2.17	2.12	2.19	2.24	2.22	2.29 e p
New Zealand	0.69	..	0.98	..	1.15	1.22	..
Norway	1.19	1.43	1.68	1.81	1.81	1.72	1.90 e
Poland	0.26	0.62	0.66	0.90 b	0.94	1.13	1.19 e
Portugal	0.49	1.03	0.98	1.06	1.14	1.19	1.26 e
Slovak Republic	0.36	0.46	0.46	0.58	0.71	0.67	0.68 e
Slovenia	1.26	2.80	2.56	2.33	2.11	2.17	2.26 e p
Spain	0.88	1.07	1.03	1.02	1.06	1.12	1.11 e p
Sweden	3.98 b	3.42 e	3.65	3.67 e	3.89 e	3.84 e	3.97 e
Switzerland	..	..	3.38	..	3.32	..	..
Turkey	0.28	0.62	0.63	0.74	0.77 e	0.88 e	0.97 e
United Kingdom	1.55	1.76	1.80	1.85	1.88	1.91	1.95 e p
United States	2.69 d	3.09 d	3.11 d	3.24 d	3.30 d	3.43 d	3.60 d e
EU27 (from 01/02/2020)	1.64 e	2.03 e	2.04 e	2.07 e	2.13 e	2.18 e	2.21 e
OECD-Total	**2.17 e**	**2.47 e**	**2.47 e**	**2.51 e**	**2.57 e**	**2.65 e**	**2.73 e**
Argentina	0.20	0.19 e p	0.21 b e	0.20 e	0.24 e	..	..
China	1.03 e	1.85 e	1.89 e	1.97 e	2.00 e	2.03 e	2.09 e
Romania	0.29	0.23	0.31	0.38	0.41	0.43	0.40
Russian Federation	1.01 e	0.99	0.96	0.96	0.98	0.80	0.92
Singapore	1.69 e	1.55 e	1.61 e	1.51 e	1.41 e	1.37 e	..
South Africa	0.71 e	0.51 e	0.50 e	0.50 e	0.50 e	..	..
Chinese Taipei	2.11 e	3.03	3.08	3.15	3.29	3.52	3.72

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1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 27. Business enterprise researchers in full-time equivalent

FTE

	2005	2014	2015	2016	2017	2018	2019
Australia	23 794	..	33 016	..	34 576	..	..
Austria	18 155 d e	27 361 d e	27 872 d	29 615 d e	29 948 d	31 816 d p	33 120 d p
Belgium	16 769	27 384	28 474 b	29 532 e	29 358	31 819 e	35 518 p
Canada	84 410	93 647 b	95 580	91 750	90 040	..	..
Chile	..	2 248 d	2 237 d	2 651 d	2 627 d	2 528 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	9 716 b	17 892	19 161	19 185	20 206	21 150	21 707 p
Denmark	17 624	23 975	25 011	26 976	27 496 p	28 082 p	24 044 p
Estonia	883	1 268	1 152	1 318	1 585	1 652	1 950 p
Finland	21 967	21 369	21 296	20 257	20 544	21 328	22 865
France	106 837	161 744	165 845	170 571	180 446 p	188 817 p	197 361 e
Germany	166 874	198 076 e	230 823	235 758 e	252 759	261 634 e	272 943 e
Greece	6 033 d	4 938 d	5 035 d	5 608 d	9 660 d	10 041 d	10 252 d p
Hungary	5 008	15 577	15 026	15 247	17 527	21 467 d	22 801
Iceland	1 012	..	813 b	..	876	..	..
Ireland	6 768	11 246 e	11 296	11 185 e	12 569	12 192 e	12 938
Israel[1]	..	..	..	..	..	..	..
Italy	27 939 d	44 322 d	50 500 d	56 197 b d	62 478 d	73 335 d	78 034 d p
Japan	481 496 d	506 134 d	486 198 d	488 828 d	498 732 d	504 746 d	507 473 d
Korea	137 706 d	274 638	284 136	287 869	311 566	334 810	354 381
Latvia	468 d	776 d	604 d	582 d	647 d	684 d	758 d p
Lithuania	716.0	2 434.0	1 888.0	1 956.0	2 554.0	2 832.0	3 101.0 p
Luxembourg	1 696	1 015	1 048	1 194	1 275	1 134	1 192 p
Mexico	19 888	8 925	10 107	14 500	15 268 e	15 971 e	18 242 e
Netherlands	22 898	56 376	55 608	59 700	62 672	66 601	69 724 p
New Zealand	3 700	..	7 400	..	8 100	9 000	..
Norway	10 239 d	14 314 d	14 921 d	15 330 d	16 342 d	16 679 d	17 539
Poland	9 412	24 960	28 746	40 838 b	53 947 d	56 727 d	57 913 d
Portugal	4 014	11 203	11 785	13 426	15 407	16 746	19 220
Slovak Republic	1 947 d	2 645 d	2 789 d	2 846 d	3 333 d	3 918 d	4 216 d
Slovenia	1 936	4 637	4 191	4 489	5 757	6 270	6 378 d p
Spain	35 034	44 689 d	45 151 d	47 222 d	49 571 d	54 360 d	54 888 d p
Sweden	36 697 b d	44 433 e	45 067	47 127 e	51 843	54 720 e	55 498
Switzerland	..	..	21 893	..	22 909	..	..
Turkey	9 456	41 847	45 313	52 463	62 305	75 308	83 706
United Kingdom	93 717	102 221	105 774	110 149	113 807	123 022	133 038 p
United States	..	960 000	981 000	973 000	1 023 000	1 127 000	..
EU27 (from 01/02/2020)	531 938 e	758 668 e	809 821 e	854 347 e	925 089 e	982 713 e	1 022 641 e
OECD-Total	**2 196 791 e**	**2 872 394 e**	**2 946 502 e**	**3 006 719 e**	**3 181 873 e**	**3 400 090 e**	**..**
Argentina	3 763	3 204	4 554 b	4 614	5 155	..	..
China	696 413 d	946 077	1 014 614	1 048 147	1 055 746	1 143 157	1 216 670
Romania	10 319	5 244	4 234	4 857	4 467	4 643	4 606
Russian Federation	237 959	207 593	208 604	198 561	193 425	179 312	192 210
Singapore	14 238	18 518	19 761	19 383	19 336	20 207	..
South Africa	5 896	4 636	4 627	4 777	5 482	..	..
Chinese Taipei	51 202	97 019	100 106	102 721	105 558	109 276	113 300

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1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 28. Business enterprise researchers as a percentage of national total

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	63.8 d e	64.2 d e	64.0 d	63.0 d e	63.0 d	63.0 d p	63.0 d p
Belgium	50.6	53.9	53.5 b	54.4 e	54.4	55.0 e	56.7 p
Canada	61.7	57.8 b	58.7	57.7	56.7	..	..
Chile	..	29.6 d	27.4 d	29.5 d	28.9 d	27.5 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	40.2 b	49.6	50.3	51.4	51.6	51.3	51.1 p
Denmark	62.5	57.9	58.4	60.2	60.5 p	60.5 p	56.7 p
Estonia	26.5	29.3	27.5	30.4	33.9	33.3	39.1 p
Finland	55.5	55.8	56.8	56.4	55.5	56.3	57.2
France	52.8	59.5 b	59.7	59.7	61.0 p	61.9 p	62.8 e
Germany	61.3	56.3 e	59.5	59.0 e	60.2	60.3 e	60.7 e
Greece	30.8 d	16.5 d	14.5 d	19.1 d	27.6 d	27.4 d	25.6 d p
Hungary	31.5	59.4	59.4	59.1	61.7	57.1 d	58.0
Iceland	46.9	..	41.8 b	..	42.7	..	..
Ireland	58.4	45.8 e	46.1 e	46.0 e	49.0 e	48.3 e	50.0
Israel[1]	..	..	..	..	..	..	..
Italy	33.9 d	37.5 d	40.1 d	42.0 b d	44.5 d	48.1 d	48.6 d p
Japan	70.7 d	74.1 d	73.4 d	73.4 d	73.7 d	74.4 b d	74.4 d
Korea	76.6 d	79.5	79.7	79.7	81.3	82.0	82.3
Latvia	14.3 d	20.7 d	16.7 d	18.5 d	18.6 d	19.8 d	20.9 d p
Lithuania	9.4	26.8	23.1	22.9	29.2	31.7	32.4 p
Luxembourg	76.1	38.6	40.2	43.1	43.4	39.6	37.7 p
Mexico	45.3	28.5	29.5	37.3	39.0 e	40.8 e	43.7 e
Netherlands	47.8	67.3	66.6	68.1	68.9	69.8	70.4 p
New Zealand	28.5	..	29.6	..	31.2	..	..
Norway	48.3 d	49.0 d	48.7 d	48.0 d	48.6 d	48.6 d	48.9
Poland	15.1	31.7	34.8	46.3 b	47.1 d	48.2 d	47.9 d
Portugal	19.0	29.4	30.5	32.5	34.3	35.1	38.3
Slovak Republic	17.8 d	17.9 d	19.4 d	20.1 d	21.9 d	24.0 d	24.8 d
Slovenia	36.9	54.1	53.1	55.3	61.9	62.3	60.7 d p
Spain	31.9	36.6 d	36.9 d	37.3 d	37.2 d	38.8 d	38.1 d p
Sweden	66.7 b d e	66.7 e	67.5 e	67.0 e	70.9	72.8 e	71.5
Switzerland	..	..	50.1	..	49.7	..	..
Turkey	24.2	46.7	47.6	52.4	55.7	59.6	61.8
United Kingdom	37.7 b e	37.0 e	37.2	38.1 e	38.5 e	40.2 e	41.9 p
United States	..	71.6 e	71.6 e	70.8 e	71.2 e	72.5 e	..
EU27 (from 01/02/2020)	47.2 e	50.5 e	51.7 e	52.9 e	54.0 e	54.9 e	55.1 e
OECD-Total	**59.2 e**	**61.4 e**	**61.6 e**	**61.8 e**	**62.6 e**	**63.6 e**	**..**
Argentina	11.8	6.2	8.6 b	8.4	9.7	..	..
China	62.3 d	62.1	62.7	61.9	60.7	61.3	57.7
Romania	44.9	29.0	24.3	26.9	25.5	27.0	26.5
Russian Federation	51.2	46.7	46.4	46.3	47.1	44.2	48.0
Singapore	59.8	50.5	50.4	49.4	49.7	51.5	..
South Africa	34.1	19.7	17.7	17.3	18.6	..	..
Chinese Taipei	57.6	68.1	69.1	69.8	70.4	71.0	71.2

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 29. Business enterprise researchers in full-time equivalent per thousand employment in industry

Per thousand

	2005	2014	2015	2016	2017	2018	2019
Australia	3.2	..	3.9	..	3.9	..	..
Austria	6.2 d e	8.5 d e	8.7 d	9.1 d e	9.1 d	9.5 d p	9.7 d e p
Belgium	5.7	8.8	9.1 b	9.3 e	9.1	9.7 e	10.7 e p
Canada	6.8	7.0 b	7.1	6.7	6.5 e	..	..
Chile	..	0.4 d	0.4 d	0.4 d	0.4 d	0.4 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	2.5 b	4.4	4.6	4.5	4.7	4.9	5.0 e p
Denmark	9.5	13.1	13.4	14.1	14.0 p	14.1 p	11.9 e p
Estonia	1.9	2.8	2.4	2.8	3.2	3.3	3.9 e p
Finland	12.8	12.1	12.1	11.5	11.5	11.7	12.3 e
France	5.9	8.7	8.9	9.1	9.5 p	9.8 e p	10.1 e
Germany	5.8	6.4 e	7.4	7.5 e	7.9	8.1 e	8.4 e
Greece	1.7 d	1.4 d	1.5 d	1.6 d	2.8 d e	2.9 d	2.9 d p
Hungary	1.6	4.9	4.7	4.5	5.1	6.0 d	6.3 e
Iceland	8.7	..	6.2 b	..	6.1 e	..	..
Ireland	4.4	7.9 e	7.7	7.4 e	8.0 e	7.6 e	7.9 e
Israel[1]	..	..	..	..	..	..	..
Italy	1.5 d	2.5 d	2.8 d	3.1 b d	3.4 d	3.9 d	4.1 d e p
Japan	8.8 d	9.5 d	9.2 d	9.1 d	9.2 d	9.2 d	9.1 d e
Korea	7.2 d	13.2	13.5	13.6	14.7	15.8	16.6 e
Latvia	0.6 d	1.2 d	0.9 d	0.9 d	1.0 d	1.0 d	1.1 d e p
Lithuania	0.7	2.4	1.8	1.9	2.5	2.7	2.9 e p
Luxembourg	6.9	3.3	3.4	3.7	3.8	3.3	3.3 e p
Mexico	0.8	0.3	0.4	0.5	0.5 e	0.5 e	0.6 e
Netherlands	3.8	9.0	8.8	9.2	9.4	9.7	10.0 e p
New Zealand	2.4	..	4.2	..	4.3	4.8	..
Norway	6.9 d	8.4 d	8.7 d	9.0 d	9.5 d	9.5 d	9.8 e
Poland	0.8	2.0	2.3	3.2 b	4.2 d	4.4 d	4.5 d e
Portugal	1.0	3.3	3.4	3.8	4.2	4.5	5.1 e
Slovak Republic	1.2 d	1.5 d	1.6 d	1.6 d	1.8 d	2.1 d	2.2 d e
Slovenia	2.5	6.2	5.5	5.8	7.2	7.6	7.6 d e p
Spain	2.3	3.4 d	3.3 d	3.4 d	3.5 d	3.7 d	3.7 d e p
Sweden	12.9 b d	14.1 e	14.2	14.7 e	15.7 e	16.3 e	16.3 e
Switzerland	..	..	6.0	..	6.2	..	..
Turkey	0.6	1.9	2.1	2.4	2.7 e	3.2 e	3.6 e
United Kingdom	4.4	4.6	4.6	4.7	4.8	5.2	5.5 e p
United States	..	9.3	9.4	9.1	9.4	10.3	..
EU27 (from 01/02/2020)	3.7 e	5.2 e	5.5 e	5.8 e	6.1 e	6.4 e	6.6 e
OECD-Total	**5.5 e**	**6.8 e**	**6.9 e**	**7.0 e**	**7.3 e**	**7.7 e**	**..**
Argentina	..	..	..	..	..	..	..
China	..	..	..	..	..	..	..
Romania	1.3	0.7	0.6	0.7	0.6	0.6	0.6
Russian Federation	4.7	3.9	3.9	3.7	3.6	3.4	3.6
Singapore	7.0	5.9	6.2	6.1	6.1	6.3	..
South Africa	0.6 e	0.4 e	0.4	0.4	0.5	..	..
Chinese Taipei	5.9	10.1	10.3	10.5	10.7	11.0	11.3

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 30. Total business enterprise R&D personnel in full-time equivalent

FTE

	2005	2014	2015	2016	2017	2018	2019
Australia	43 687	..	70 467	..	74 991	..	..
Austria	32 780 d e	49 539 d e	50 534 d	51 895 d e	52 478 d	55 751 d p	58 036 d p
Belgium	31 613	42 391	44 508 b	46 564	50 106	54 207 e	60 601 p
Canada	142 030	144 462 b	155 350	140 150	138 520	..	..
Chile	..	5 087 d	4 398 d	4 946 d	4 525 d	3 925 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	21 116 b	35 256	36 365	37 263	39 968	42 349	44 792 p
Denmark	28 359	35 431	36 898	38 855	38 975 p	39 805 p	36 202 p
Estonia	1 398	1 798	1 694	1 855	2 086	2 150	2 639 p
Finland	32 109	29 634	29 770	27 634	28 148	28 720	29 713
France	194 991	248 145	251 444	255 805	265 496 p	276 130 p	286 968 e
Germany	304 502	371 706 e	404 767	413 027 e	436 571	451 057 e	470 407 e
Greece	11 665 d	7 750 d	8 131 d	9 102 d	13 004 d	13 944 d	14 232 d p
Hungary	7 393	22 177	21 030	20 825	24 719	31 027 d	33 124
Iceland	1 530	..	1 604 d	..	1 799 d	..	..
Ireland	10 338	17 821 e	18 383	18 203 e	19 542	18 956 e	19 733
Israel[1]	43 049 d	69 854 d	72 914 d	83 408 d	89 876 d	93 800 d	..
Italy	70 725 d	129 271 d	136 725 d	164 471 b d	191 960 d	218 822 d	225 168 d p
Japan	609 808 d	611 027 d	592 175 d	586 593 d	603 407 d	611 500 d	617 060 d
Korea	153 400 d	314 019	323 652	328 948	355 601	383 321	405 212
Latvia	1 370 d	1 382 d	1 145 d	896 d	956 d	1 221 d	1 174 d p
Lithuania	1 190.0	3 307.0	2 714.0	2 630.0	3 783.0	4 304.0	4 756.0 p
Luxembourg	3 662	3 066	3 066	3 234	3 252	3 086	3 183 p
Mexico	42 331	16 226	18 895	26 313	26 506 e	26 529 e	28 471 e
Netherlands	48 588	94 612	97 443	102 614	107 496	112 807	115 795 p
New Zealand	6 100	..	11 000	..	14 000	15 000	..
Norway	15 399	20 597	21 637	22 171	23 766	23 766	25 152
Poland	13 966	37 253	42 054	55 758 b	72 966 d	85 981 d	86 742 d
Portugal	6 133	17 348	18 283	19 367	22 022	23 662	26 793
Slovak Republic	3 524 d	4 133 d	4 405 d	4 643 d	5 654 d	6 524 d	7 113 d
Slovenia	4 347	9 696	9 222	9 569	9 954	10 471	11 327 d p
Spain	75 345	87 642 d	87 432 d	90 129 d	95 667 d	104 474 d	106 435 d p
Sweden	56 106 b	57 307 e	57 691	64 276 e	63 729	67 554 e	64 641
Switzerland	..	..	50 825	..	49 353	..	..
Turkey	14 992	61 945	66 667	72 579	87 918	104 376	114 931
United Kingdom	145 401	192 221	206 153	209 584	231 234	250 059	270 417 p
United States	..	1 366 000	1 399 000	1 393 000	1 475 000	1 619 000	..
EU27 (from 01/02/2020)	982 304 e	1 326 240 e	1 387 200 e	1 465 174 e	1 575 600 e	1 684 347 e	1 741 956 e
OECD-Total	**..**	**4 244 537 e**	**4 358 441 e**	**4 443 328 e**	**4 725 028 e**	**5 046 930 e**	**..**
Argentina	7 155	9 979	12 214 b	12 742	12 876	..	..
China	883 130 d	2 896 352	2 910 799	3 012 081	3 119 809	3 424 780	3 668 433
Romania	16 157	10 437	10 128	10 785	11 525	12 081	11 628
Russian Federation	524 049	423 134	426 372	402 097	389 191	359 385	390 817
Singapore	17 076	21 638	23 044	22 387	22 228	23 136	..
South Africa	12 236	12 928	12 458	12 549	12 953	..	..
Chinese Taipei	96 714	180 435	186 804	192 127	196 992	203 456	210 576

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 31. Total business enterprise R&D personnel as a percentage of national total

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	68.8 d e	70.6 d e	70.8 d	69.0 d e	69.0 d	69.0 d p	69.0 d p
Belgium	59.1	58.2	57.4 b	58.9 e	60.6	61.6 e	63.0 p
Canada	65.0	61.1 b	63.4	61.3	60.4	..	..
Chile	..	32.0 d	28.8 d	29.8 d	27.2 d	25.2 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	48.7 b	54.7	54.7	56.6	57.3	56.5	56.5 p
Denmark	65.2	60.7	61.2	61.8	61.6 p	61.6 p	59.7 p
Estonia	32.0	31.1	30.1	32.1	34.5	34.8	40.9 p
Finland	55.9	56.8	59.1	58.3	57.4	57.4	57.7
France	55.8	58.5 b	58.7	59.2	60.1 p	61.0 p	61.9 e
Germany	64.1	61.4 e	63.2	62.8 e	63.6	63.7 e	64.1 e
Greece	34.7 d	17.9 d	16.4 d	21.8 d	27.3 d	27.2 d	26.0 d p
Hungary	31.8	59.4	57.1	58.2	61.1	56.8 d	58.2
Iceland	47.4	..	54.5 d	..	56.7 d	..	..
Ireland	61.9	53.2 e	53.5 e	53.0 e	54.3 e	52.9 e	53.5
Israel[1]	..	..	..	..	..	..	..
Italy	40.4 d	51.8 d	52.8 d	56.7 b d	60.4 d	63.3 d	63.4 d p
Japan	68.0 d	68.2 d	67.7 d	67.2 d	67.7 d	68.2 b d	68.3 d
Korea	71.2 d	72.9	73.2	73.5	75.5	76.5	77.1
Latvia	25.0 d	24.1 d	20.6 d	17.5 d	17.8 d	21.0 d	19.8 d p
Lithuania	10.8	28.0	25.6	24.1	32.7	36.0	36.8 p
Luxembourg	83.4	58.5	58.3	59.9	58.6	56.4	54.0 p
Mexico	50.6	31.1	33.1	40.0	40.5 e	41.1 e	42.6 e
Netherlands	51.9	69.5	69.9	71.0	71.5	71.9	72.3 p
New Zealand	32.2	..	33.3	..	38.9	..	..
Norway	51.4	51.1	51.0	50.5	51.4	51.0	51.6
Poland	18.2	35.7	38.5	49.9 b	50.6 d	53.1 d	52.9 d
Portugal	23.8	37.0	38.1	38.4	40.0	40.7	43.6
Slovak Republic	24.5 d	23.5 d	25.0 d	26.1 d	29.7 d	32.2 d	33.6 d
Slovenia	48.3	65.2	64.8	66.4	67.7	66.8	66.7 d p
Spain	43.1	43.8 d	43.5 d	43.8 d	44.3 d	46.3 d	46.0 d p
Sweden	72.3 b e	68.7 e	69.0 e	70.9 e	71.7 v	73.4 e	70.9 e
Switzerland	..	..	62.4	..	60.4	..	..
Turkey	30.4 e	53.7 e	54.5 e	53.0	57.3	60.6	62.9
United Kingdom	44.8 b e	48.5 e	49.8	50.2 e	52.1 e	54.0 e	55.6 p
United States	..	..	..	..	..	..	..
EU27 (from 01/02/2020)	52.3 e	55.1 e	55.9 e	57.3 e	58.4 e	59.3 e	59.5 e
OECD-Total	..	..	..	..	..	..	..
Argentina	15.8	13.0	15.5 b	15.7	16.1	..	..
China	64.7 d	78.1	77.4	77.7	77.3	78.2	76.4
Romania	48.6	33.2	32.3	33.5	35.4	37.8	36.7
Russian Federation	57.0	51.0	51.1	50.1	50.0	47.4	51.8
Singapore	59.7	50.9	50.7	49.6	49.9	51.6	..
South Africa	42.5	33.6	30.3	29.5	29.3	..	..
Chinese Taipei	64.8	75.2	76.1	76.7	77.2	77.6	77.5

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1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 32. Total business enterprise R&D personnel in full-time equivalent per thousand employment in industry

Per thousand

	2005	2014	2015	2016	2017	2018	2019
Australia	5.9	..	8.3	..	8.5	..	..
Austria	11.1 d e	15.5 d e	15.7 d	16.0 d e	15.9 d	16.6 d p	17.1 d e p
Belgium	10.7	13.6	14.2 b	14.6	15.5	16.5 e	18.2 e p
Canada	11.5	10.8 b	11.5	10.3	10.0 e	..	..
Chile	..	0.8 d	0.7 d	0.8 d	0.7 d	0.6 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	5.3 b	8.6	8.7	8.8	9.4	9.8	10.4 e p
Denmark	15.3	19.3	19.7	20.3	19.9 p	19.9 p	17.9 e p
Estonia	3.0	3.9	3.6	3.9	4.2	4.3	5.3 e p
Finland	18.8	16.8	17.0	15.6	15.8	15.7	16.0 e
France	10.8	13.4	13.5	13.7	14.0 p	14.3 e p	14.7 e
Germany	10.6	11.9 e	12.9	13.1 e	13.6	13.9 e	14.4 e
Greece	3.2 d	2.3 d	2.5 d	2.7 d	3.8 d e	4.0 d	4.1 d p
Hungary	2.3	7.0	6.5	6.2	7.1	8.7 d	9.1 e
Iceland	13.2	..	12.3 d	..	12.5 d e	..	..
Ireland	6.7	12.5 e	12.5	12.0 e	12.5 e	11.8 e	12.0 e
Israel[1]	22.9 d	28.5 d	29.2 d	32.4 d	34.1 d	35.2 d	..
Italy	3.9 d	7.2 d	7.6 d	9.0 b d	10.3 d	11.6 d	11.9 d e p
Japan	11.1 d	11.5 d	11.2 d	11.0 d	11.2 d	11.1 d	11.1 d e
Korea	8.0 d	15.1	15.4	15.6	16.8	18.1	19.0 e
Latvia	1.8 d	2.1 d	1.7 d	1.3 d	1.4 d	1.8 d	1.7 d e p
Lithuania	1.1	3.3	2.7	2.5	3.7	4.1	4.5 e p
Luxembourg	15.0	10.0	9.8	10.0	9.7	8.9	8.9 e p
Mexico	1.7	0.6	0.7	0.9	0.9 e	0.9 e	0.9 e
Netherlands	8.0	15.1	15.3	15.8	16.2	16.5	16.6 e p
New Zealand	3.9	..	6.3	..	7.5	7.9	..
Norway	10.3	12.0	12.7	13.1	13.8	13.6	14.1 e
Poland	1.3	3.0	3.4	4.4 b	5.7 d	6.7 d	6.7 d e
Portugal	1.6	5.1	5.3	5.5	6.0	6.3	7.1 e
Slovak Republic	2.2 d	2.4 d	2.5 d	2.5 d	3.0 d	3.4 d	3.7 d e
Slovenia	5.7	13.0	12.2	12.4	12.5	12.7	13.4 d e p
Spain	4.9	6.7 d	6.5 d	6.5 d	6.7 d	7.2 d	7.1 d e p
Sweden	19.7 b	18.2 e	18.2	20.1 e	19.3 e	20.1 e	19.0 e
Switzerland	..	..	14.0	..	13.5	..	..
Turkey	0.9	2.9	3.0	3.3	3.8 e	4.4 e	5.0 e
United Kingdom	6.8	8.6	9.0	9.0	9.8	10.5	11.3 e p
United States	..	13.2	13.3	13.0	13.6	14.8	..
EU27 (from 01/02/2020)	6.8 e	9.2 e	9.5 e	9.9 e	10.5 e	11.0 e	11.3 e
OECD-Total	**..**	**10.1 e**	**10.3 e**	**10.3 e**	**10.8 e**	**11.4 e**	**..**
Argentina	..	..	..	..	..	..	..
China	..	..	..	..	..	..	..
Romania	2.0	1.4	1.4	1.5	1.6	1.6	1.6
Russian Federation	10.3	8.0	8.0	7.5	7.3	6.7	7.4
Singapore	8.4	6.8	7.2	7.0	7.0	7.2	..
South Africa	1.3 e	1.2 e	1.1	1.1	1.1	..	..
Chinese Taipei	11.1	18.7	19.2	19.6	19.9	20.4	21.0

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 33. Business-financed BERD (Business enterprise expenditure on R&D) at 2015 prices and PPP

Million 2015 USD

	2005	2014	2015	2016	2017	2018	2019
Australia	8 422.1	..	10 874.8	..	10 750.2	..	..
Austria	..	..	6 324.8	..	7 260.3 b	..	..
Belgium	4 571.5	..	7 006.5	..	8 665.7	..	..
Canada	12 287.6 d w	11 573.5 b	11 014.1	10 990.5	10 921.1	9 992.7 p	10 032.1 p
Chile	..	441.8	470.8	506.8	439.8	416.7 p	..
Colombia	122.1	780.2	789.6	831.2	604.8	685.9	767.9
Czech Republic	1 547.7 b	2 289.0	2 250.5	2 314.6	2 567.0	2 889.8	2 901.0 p
Denmark	3 634.9	..	4 955.8	..	5 151.7 p	..	..
Estonia	110.9	188.2	216.7	222.0	220.0	231.3	..
Finland	4 741.9	3 781.9	3 552.2	3 607.5	3 811.7	3 751.8	3 737.8
France	25 490.0	32 254.5	32 193.2	33 086.6	33 621.7 p	34 492.2 p	..
Germany	52 452.1 e	68 188.5 e	70 386.9	71 515.1 e	77 851.8	80 251.9 e	..
Greece	554.7	651.3	759.1	1 070.9	1 375.7	1 408.1	1 473.9 p
Hungary	740.7 d	1 572.9	1 681.0	1 734.6	1 896.6	2 275.8 b	..
Iceland	157.9	101.7	122.3	132.8	135.2	147.9	172.1
Ireland	1 542.5	2 027.9 e	1 841.6	1 871.9 e	2 264.3	2 263.4 e	..
Israel[1]	4 487.3 d	4 078.9 d	4 038.6 d	5 154.0 d	5 147.6 d	5 710.3 d	..
Italy	9 499.0	13 763.1	14 685.9	15 864.4 b	16 316.6	17 441.5	..
Japan	116 282.4	131 907.2	129 997.8	125 900.5	130 902.7	135 418.3	134 544.0
Korea	24 667.8 d	56 537.6	56 089.3	58 475.7	65 661.3	71 532.3	75 286.5
Latvia	56.3	69.3	36.2	35.3	50.3	61.5	..
Lithuania	83.9	197.7	173.4	221.9	238.3	290.6	..
Luxembourg	565.9	..	367.1	..	389.5	..	..
Mexico	2 908.8	1 394.0	1 549.3	1 559.8	1 367.8 e	1 198.2 e	1 151.6 e
Netherlands	5 684.3	9 567.4	9 436.1	9 951.3	10 459.8	10 551.0	..
New Zealand	516.9	..	826.8	..	1 048.4	1 159.2	..
Norway	1 772.0	2 314.7	2 555.2	2 569.8	2 742.2	2 763.2	..
Poland	1 036.2	3 419.6	3 801.3	5 266.8 b	5 847.6	7 289.6	..
Portugal	828.2	1 593.0	1 588.7	1 735.3	1 942.2	2 077.4	2 256.4
Slovak Republic	187.8	373.6	411.1	559.6	701.3	707.6	687.2
Slovenia	414.8	998.3	959.1	908.3	805.2	870.9	..
Spain	7 317.7	8 449.1	8 528.1	8 788.7	9 419.6	10 225.6	..
Sweden	8 334.8 b	..	8 681.7	..	10 097.4	..	..
Switzerland	..	..	10 824.0	..	11 826.0	..	..
Turkey	2 129.5	7 279.1	7 770.0	9 026.8	10 450.9	12 533.6	13 821.4
United Kingdom	15 065.9	20 468.8	21 759.0	23 665.7	25 354.4	26 895.1	..
United States	244 444.4 d w	293 264.5 d	304 487.0 d	321 665.0 d	332 111.9 d	357 811.6 d	..
EU27 (from 01/02/2020)	134 185.1 e	176 129.8 e	181 325.5 e	189 922.2 e	203 065.9 e	211 359.5 e	..
OECD-Total	**574 445.0 e**	**727 932.8 e**	**743 005.1 e**	**771 579.6 e**	**810 418.8 e**	**858 532.1 e**	**..**
Argentina	813.8	..	904.2 b	804.7	856.2	..	..
China	57 984.8	243 596.6	263 460.9	292 918.7	317 317.5	343 852.0	377 954.5
Romania	381.8	389.6	639.5	919.8	1 194.5	1 330.8	..
Russian Federation	6 847.5	8 061.8	7 853.0	8 798.6	9 827.0	8 447.6	9 267.0
Singapore	3 466.1	4 910.6	5 325.6	5 114.5	4 976.6	5 099.3	..
South Africa	1 838.6	1 951.7	1 954.4	2 015.4	2 276.1	..	..
Chinese Taipei	11 822.6	24 524.0	25 275.1	26 536.3	28 959.5	31 756.6	34 256.6

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 34. Business-financed BERD (Business enterprise expenditure on R&D) as a percentage of value added in industry

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	1.46	..	1.49	..	1.38	..	..
Austria	..	..	2.26	..	2.48 b	..	..
Belgium	1.59	..	2.17	..	2.61	..	..
Canada	1.38 d w	1.14 b	1.10 e	1.10 e	1.05 e	0.94 e p	0.93 e p
Chile	..	0.16	0.17	0.18	0.16	0.14 e p	..
Colombia	0.05	0.19	0.19	0.19	0.14	0.16	0.17
Czech Republic	0.77 b	0.98	0.92	0.92	0.98	1.08	1.07 e p
Denmark	2.43	..	3.05	..	2.97 p	..	..
Estonia	0.49	0.76	0.88	0.89	0.82	0.82	..
Finland	3.49	2.88	2.69	2.65	2.66	2.59	2.55 e
France	1.73	2.08	2.05	2.09	2.09 p	2.11 p	..
Germany	2.41 e	2.79 e	2.84	2.82 e	3.00	3.05 e	..
Greece	0.25	0.42	0.49	0.70	0.87 e	0.88 e	0.90 e p
Hungary	0.49 d	0.98	1.01	1.03	1.08	1.23 b	..
Iceland	2.02	1.12	1.27	1.30 e	1.30 e	1.36 e	1.56 e
Ireland	0.98	1.12 e	0.75	0.73 e	0.80 e	0.73 e	..
Israel[1]	3.66 d e	2.38 d	2.28 d	2.81 d	2.71 d e	2.90 d e	..
Italy	0.64	1.02	1.07	1.14 b	1.15	1.22	..
Japan	3.16	3.62	3.49	3.36	3.42	3.53 e	3.48 e
Korea	2.59 d e	4.27 e	4.16	4.23	4.61	4.91	5.06 e
Latvia	0.20	0.23	0.12	0.11	0.16	0.18	..
Lithuania	0.2	0.3	0.3	0.4	0.4	0.4	..
Luxembourg	1.87	..	0.90	..	0.89	..	..
Mexico	0.22	0.09	0.10	0.09	0.08 e	0.07 e	0.06 e
Netherlands	1.14	1.77	1.70	1.77	1.81	1.80	..
New Zealand	0.56	..	0.75	..	0.87	0.92	..
Norway	0.97	1.12	1.31	1.39	1.41	1.34	..
Poland	0.22	0.50	0.52	0.71 b	0.75	0.89	..
Portugal	0.45	0.90	0.88	0.95	1.02	1.07	1.14 e
Slovak Republic	0.24	0.34	0.36	0.50	0.61	0.59	0.57 e
Slovenia	1.07	2.39	2.24	2.06	1.73	1.78	..
Spain	0.71	0.88	0.84	0.84	0.87	0.92	..
Sweden	3.43 b	..	2.94	..	3.25 e	..	..
Switzerland	..	..	2.89	..	3.07	..	..
Turkey	0.26	0.55	0.56	0.63	0.66 e	0.77 e	0.84 e
United Kingdom	1.00	1.25	1.30	1.39	1.45	1.51	..
United States	2.43 d w	2.64 d	2.66 d	2.77 d	2.78 d	2.91 d	..
EU27 (from 01/02/2020)	1.39 e	1.70 e	1.70 e	1.74 e	1.81 e	1.85 e	..
OECD-Total	**1.94 e**	**2.14 e**	**2.14 e**	**2.18 e**	**2.21 e**	**2.29 e**	**..**
Argentina	0.19	..	0.17 b e	0.15 e	0.16 e	..	..
China	0.94 e	1.74 e	1.77 e	1.87 e	1.90 e	1.94 e	2.01 e
Romania	0.17	0.14	0.22	0.29	0.35	0.38	..
Russian Federation	0.38 e	0.35	0.33	0.37	0.40	0.34	0.36
Singapore	1.48 e	1.30 e	1.37 e	1.28 e	1.19 e	1.16 e	..
South Africa	0.49 e	0.41 e	0.41 e	0.42 e	0.47 e	..	..
Chinese Taipei	2.07 e	2.99	3.03	3.10	3.25	3.47	3.67

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 35. Percentage of Business enterprise expenditure on R&D (BERD) financed by the business enterprise sector

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	94.0	..	96.2	..	96.0	..	..
Austria	..	..	67.4	..	75.5 b	..	..
Belgium	82.8	..	79.2	..	86.3	..	..
Canada	82.5 d w	80.0 b	76.6	73.8	75.4	74.1 p	73.3 p
Chile	..	88.5	88.4	87.8	86.1	81.3 p	..
Colombia	98.1	98.0	95.5	98.1	98.2	98.0	98.6
Czech Republic	78.8 b	62.4	60.5	61.8	59.9	61.7	59.5 p
Denmark	86.0	..	91.7	..	89.0 p	..	..
Estonia	80.3	80.2	83.5	87.7	86.8	88.2	..
Finland	90.9	76.6	79.7	84.0	86.7	82.9	80.6
France	80.7	82.8	82.0	83.2	83.2 p	83.8 p	..
Germany	92.1 e	91.4 e	89.9	89.7 e	90.4	90.4 e	..
Greece	85.7	78.9	82.3	87.6	84.1	81.5	83.6 p
Hungary	77.8 d	64.3 d	64.8 d	73.6 d	70.1 d	67.4 b d	..
Iceland	84.9	55.2 d	52.2 d	56.4 d	56.0 d	60.8 d	55.6 d
Ireland	86.1	72.4 e	66.8	66.8 e	68.0	68.0 e	..
Israel[1]	67.2 d	39.7 d	37.4 d	42.7 d	39.0 d	40.3 d	..
Italy	76.8	81.6	84.2	84.1 b	82.7	83.2	..
Japan	98.3	98.3	98.3	98.1	98.2	98.4	98.5
Korea	94.4 d	94.2	94.1	94.8	93.8	93.3	93.7
Latvia	61.7	59.7	47.9	65.6	69.3	71.3	..
Lithuania	83.9	75.7	72.4	87.7	80.7	79.6	..
Luxembourg	91.7	..	90.5	..	87.5	..	..
Mexico	86.8	83.0	86.9	79.1	79.2 e	77.3 e	77.9 e
Netherlands	79.0	81.4	80.3	80.9	80.8	81.0	..
New Zealand	80.5	..	76.3	..	75.9	75.7	..
Norway	81.6	77.9	78.2	77.1	78.0	78.2	..
Poland	83.0	79.4	79.8	79.1 b	79.5	78.5	..
Portugal	91.4	88.2	89.7	89.3	90.0	89.7	89.8
Slovak Republic	67.9	74.6	78.0	84.8	85.6	88.0	83.5
Slovenia	85.3	85.5	87.8	88.7	81.8	81.8	..
Spain	79.9	82.3	81.9	82.2	82.3	82.8	..
Sweden	86.1 b	..	80.4	..	83.6	..	..
Switzerland	..	..	85.4	..	92.5	..	..
Turkey	90.8	89.6	87.6	84.9	85.9	87.5	86.7
United Kingdom	64.5	70.6	72.2	75.3	77.2	79.2	..
United States	90.3 d w	85.3 d	85.6 d	85.6 d	84.3 d	84.6 d	..
EU27 (from 01/02/2020)	84.6 e	83.8 e	83.3 e	84.4 e	84.8 e	84.7 e	..
OECD-Total	**89.3 e**	**86.7 e**	**86.5 e**	**86.7 e**	**86.2 e**	**86.4 e**	**..**
Argentina	94.5	..	79.3 b	74.8	65.1	..	..
China	91.2	93.7	93.7	94.7	95.0	95.6	96.1
Romania	57.5	59.2	69.5	77.3	87.0	89.0	..
Russian Federation	37.3	35.1	34.2	38.5	40.9	41.9	39.6
Singapore	87.8	83.7	85.0	84.8	84.1	84.9	..
South Africa	68.3	81.3	82.4	85.1	94.4	..	..
Chinese Taipei	97.7	98.4	98.5	98.5	98.6	98.5	98.6

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 36. Percentage of Business enterprise expenditure on R&D (BERD) financed by government

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	4.0	..	2.2	..	2.4	..	..
Austria	..	..	12.0	..	3.7 b	..	..
Belgium	6.2	..	5.5	..	3.4	..	..
Canada	2.6 d	4.5 b	4.6	5.4	6.5	6.6 p	6.4 p
Chile	..	9.3	9.7	11.7	13.0	18.2 p	..
Colombia	1.9	2.0	4.5	1.9	1.8	2.0	1.4
Czech Republic	15.6 b	9.2	7.6	6.1	7.0	7.0	6.8 p
Denmark	2.4 d	..	2.7 d	..	2.0 d p	..	..
Estonia	6.9	10.3	8.4	4.7	4.4	5.7	..
Finland	3.8	3.0	3.6	3.6	3.1	2.8	2.5
France	10.1	7.8	8.8	7.7	8.0 p	7.5 p	..
Germany	4.5 e	3.4 e	3.3	3.4 e	3.2	3.1 e	..
Greece	5.6	10.5	8.8	3.3	4.1	6.0	4.8 p
Hungary	3.9 d	16.5 d	19.4 d	8.3 d	13.6 d	16.3 b d	..
Iceland	2.8	9.0 d	7.8 d	8.4 d	9.2 d	11.4 d	7.8 d
Ireland	4.1	6.0 e	5.0	5.0 e	4.6	4.6 e	..
Israel[1]	4.8 d	3.7 d	3.2 d	2.8 d	2.8 d	2.3 d	..
Italy	11.0	5.7	5.5	3.5 b	3.5	4.9	..
Japan	1.2	1.0	1.0	0.9	0.9	0.8	0.8
Korea	4.6 d	5.1	5.1	4.2	4.7	4.4	4.4
Latvia	12.7	1.4	1.6	2.6	6.1	3.7	..
Lithuania	1.8	1.8	2.2	1.5	1.2	1.6	..
Luxembourg	5.2	..	6.9	..	6.5	..	..
Mexico	11.0	16.2	11.3	18.8	18.4 e	19.9 e	18.9 e
Netherlands	3.4	6.2	6.3	6.0	5.7	6.4	..
New Zealand	11.4	..	11.0	..	11.9	11.7	..
Norway	7.9	8.5	8.6	9.4	9.4	9.9	..
Poland	13.7	11.5	10.0	16.3 b	13.9	13.5	..
Portugal	4.2	9.1	5.5	3.8	4.2	5.6	5.8
Slovak Republic	26.7	3.9	6.5	3.7	2.5	2.5	3.4
Slovenia	7.0	7.7	4.3	3.1	5.3	6.2	..
Spain	13.6	9.7	9.4	8.9	8.7	9.0	..
Sweden	4.5 b	..	.. c	..	4.7	..	..
Switzerland	..	..	1.4	..	1.0	..	..
Turkey	6.9	8.9	10.6	9.9	9.0	10.0	11.7
United Kingdom	8.3	9.3	8.7	7.8	7.6	6.9	..
United States	9.7 d	7.8 d	7.6 d	6.4 d	6.2 d	5.7 d	..
EU27 (from 01/02/2020)	7.3 e	6.2 e	6.2 e	5.4 e	5.1 e	5.3 e	..
OECD-Total	**6.8 e**	**5.9 e**	**5.9 e**	**5.2 e**	**5.0 e**	**4.9 e**	**..**
Argentina	4.5	..	7.1 b	2.0	3.4	..	..
China	4.6	4.2	4.3	3.7	3.4	3.2	3.8
Romania	36.8	19.0	13.7	12.2	7.2	4.9	..
Russian Federation	53.6	62.7	63.4	59.0	56.6	56.2	57.3
Singapore	6.3	5.5	4.8	5.1	4.7	4.3	..
South Africa	16.2	5.2	3.8	3.1	2.3	..	..
Chinese Taipei	2.2	1.5	1.4	1.4	1.3	1.4	1.3

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 37. Percentage of Business enterprise expenditure on R&D (BERD) financed by the Higher Education and PNP sectors

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	0.33	..	0.05	..	0.02	..	..
Austria	..	..	0.06	..	0.12	..	..
Belgium	0.04	..	0.02	..	0.05	..	..
Canada	.. k	0.80 b	1.18	1.34	1.78	1.71 p	1.74 p
Chile	..	0.23	0.08	0.08	0.10	0.16 p	..
Colombia	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Czech Republic	0.10 b	0.04	0.05	0.07	0.08	0.07	0.07 p
Denmark	0.16 d	..	0.31 d	..	0.75 d p	..	..
Estonia	0.01	0.06	0.03	0.07	0.04	0.12	..
Finland	0.01	0.06	0.02	0.02	0.03	0.02	0.05
France	0.05	0.09	0.08	0.07	0.08 p	0.09 p	..
Germany	0.17 d	0.20 d	0.15 d	0.19 d e	0.13 d	0.13 d e	..
Greece	0.37	0.04	0.01	0.02	0.05	0.03	0.05 p
Hungary	0.06 d	0.05 d	0.04 d	0.05 d	0.04 d	0.03 b d	..
Iceland	0.00	3.58 d	6.18 d	6.70 d	2.12 d	2.93 d	0.08 d
Ireland	0.00	0.09 e	0.03	0.03 e	0.14	0.14 e	..
Israel[1]	0.61 d	0.59 d	0.57 d	0.53 d	0.49 d	0.47 d	..
Italy	0.11	0.36	0.34	0.14 b	0.14	0.14	..
Japan	0.10	0.17	0.12	0.09	0.10	0.07	0.03
Korea	0.06 d	0.05	0.06	0.04	0.05	0.06	0.05
Latvia	..	..	..	..	..	..	..
Lithuania	0.2	0.4	0.5	0.1	0.1	0.1	..
Luxembourg	0.02	..	..	..	..	..	..
Mexico	0.02	0.12	0.66	0.84	0.95 e	1.06 e	1.17 e
Netherlands	0.33	0.66	0.68	0.65	0.73	0.92	..
New Zealand	1.05	..	.. c	..	.. c	1.70	..
Norway	0.01	0.04	0.05	0.04	0.00	0.02	..
Poland	0.08	0.11	0.14	0.10 b	0.11	0.06	..
Portugal	0.00	0.02	0.02	0.03	0.03	0.02	0.04
Slovak Republic	0.03	0.00	0.01	0.00	0.00	0.00	0.00
Slovenia	0.48	0.05	0.00	0.00	0.53	.. c	..
Spain	0.68	0.18	0.85	0.24	0.22	0.18	..
Sweden	0.20 b	..	0.38	..	0.17	..	..
Switzerland	..	..	0.52	..	0.45	..	..
Turkey	2.02 d	0.09	0.14	0.12	0.27	0.16	0.03
United Kingdom	0.02 d	0.68 d	0.62 d	0.84 d	1.28	0.98	..
United States	.. k	0.15 d	0.14 d	0.27 d	0.15 d	0.10 d	..
EU27 (from 01/02/2020)	0.16 e	0.20 e	0.21 e	0.18 e	0.17 e	0.17 e	..
OECD-Total	**0.10 e**	**0.20 e**	**0.20 e**	**0.25 e**	**0.22 e**	**0.18 e**	**..**
Argentina	0.00	..	0.00 b	0.03	0.03	..	..
China	..	..	..	..	..	..	..
Romania	0.16	0.20	0.28	0.32	0.34	0.08	..
Russian Federation	0.04	0.16	0.18	0.05	0.05	0.05	0.05
Singapore	0.08	0.01	0.01	0.01	0.05	0.01	..
South Africa	1.02	2.79	2.71	2.72	0.32	..	..
Chinese Taipei	0.04	0.01	0.01	0.01	0.02	0.01	0.01

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 38. Percentage of Business enterprise expenditure on R&D (BERD) financed by the rest of the world

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	1.6	..	1.6	..	1.6	..	..
Austria	..	..	20.6	..	20.7	..	..
Belgium	11.0	..	15.3	..	10.2	..	..
Canada	14.9 d	14.7 b	17.6	19.5	16.4	17.6 p	18.5 p
Chile	..	1.9	1.9	0.5	0.8	0.3 p	..
Colombia	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Czech Republic	5.4 b	28.3	31.9	32.0	33.0	31.2	33.6 p
Denmark	11.4	..	5.3	..	8.2 p	..	..
Estonia	12.7	9.4	8.1	7.5	8.7	5.9	..
Finland	5.3 b	20.4	16.7	12.4	10.2	14.3	16.8
France	9.2	9.3	9.1	9.0	8.7 p	8.6 p	..
Germany	3.3	5.0 e	6.7	6.7 e	6.3	6.3 e	..
Greece	8.3	10.6	8.9	9.1	11.7	12.5	11.6 p
Hungary	18.1 d	19.2 d	15.8 d	18.0 d	16.3 d	16.3 b d	..
Iceland	12.2	32.2 d	33.8 d	28.4 d	32.8 d	24.8 d	36.5 d
Ireland	9.8	21.5 e	28.2	28.2 e	27.3	27.3 e	..
Israel[1]	27.4 d	56.0 d	58.8 d	53.9 d	57.7 d	56.9 d	..
Italy	12.1	12.3	10.0	12.2 b	13.6	11.7	..
Japan	0.4	0.5	0.6	0.9	0.8	0.7	0.7
Korea	0.9 d	0.6	0.8	1.0	1.4	2.2	1.8
Latvia	25.6	38.9	50.5	31.9	24.5	25.1	..
Lithuania	14.1	22.1	24.9	10.7	18.0	18.7	..
Luxembourg	3.1	..	2.6	..	5.9	..	..
Mexico	2.1	0.6	1.2	1.3	1.5 e	1.7 e	2.0 e
Netherlands	17.2	11.7	12.7	12.5	12.8	11.7	..
New Zealand	7.0	..	10.5	..	11.0	10.8	..
Norway	10.5	13.6	13.1	13.5	12.6	11.9	..
Poland	3.2	9.0	10.1	4.4 b	6.5	7.9	..
Portugal	4.5	2.7	4.9	6.9	5.7	4.7	4.4
Slovak Republic	5.3	21.5	15.5	11.5	11.9	9.4	13.1
Slovenia	7.2	6.8	8.0	8.2	12.4	11.9	..
Spain	5.8	7.8	7.9	8.6	8.7	8.0	..
Sweden	9.1 b	..	.. c	..	11.6	..	..
Switzerland	..	..	12.6	..	6.1	..	..
Turkey	0.3	1.4	1.6	5.0	4.9	2.4	1.5
United Kingdom	27.1	19.4	18.5	16.0	13.9	13.0	..
United States	.. k	6.8 d	6.7 d	7.7 d	9.4 d	9.6 d	..
EU27 (from 01/02/2020)	7.9 e	9.7 e	10.2 e	10.0 e	10.0 e	9.8 e	..
OECD-Total	**..**	**7.2 e**	**7.4 e**	**7.9 e**	**8.5 e**	**8.6 e**	**..**
Argentina	1.0	..	13.6 b	23.2	31.4	..	..
China	1.0	0.9	0.9	0.8	0.8	0.4	0.1
Romania	5.5	21.6	16.5	10.3	5.5	5.9	..
Russian Federation	9.1	2.1	2.2	2.5	2.4	1.8	3.1
Singapore	5.9	10.8	10.2	10.1	11.2	10.8	..
South Africa	14.5	10.7	11.1	9.1	3.0	..	..
Chinese Taipei	0.0	0.1	0.1	0.1	0.1	0.1	0.1

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 39. Business enterprise expenditure on R&D (BERD) performed in the pharmaceutical industry at current prices and PPP

Million USD

	2005	2014	2015	2016	2017	2018	2019
Australia	178.0 e	..	..	..	..	..	..
Austria	269.7 e	379.6 e	368.0	388.6 e	400.8	..	..
Belgium	814.5 e	1 948.5	1 989.3	2 617.4	2 871.3	..	..
Canada	878.1 d e	375.5 d	400.6 d	410.9 d	452.9 d	..	..
Chile	..	28.0	28.8	39.7 e	40.0	46.9	..
Colombia	..	..	..	..	..	..	..
Czech Republic	55.1	84.6	86.9	90.5	89.6	111.4	99.8
Denmark	..	1 162.6	1 238.7	1 484.8	1 410.4	..	..
Estonia	..	2.1	1.6	0.8	1.4	1.1	..
Finland	..	148.5	143.2	162.9	170.9	175.2	..
France	..	1 058.7 e	1 099.9 e	1 087.7	1 078.7	..	..
Germany	3 891.4 e	5 247.0	5 084.0	6 003.0	6 217.8	7 094.4	..
Greece	..	82.9 e	69.3	73.7 e	88.1	..	..
Hungary	279.2 e	433.2	406.8	414.5	400.1	553.9	..
Iceland	..	0.2	1.0	1.4	1.1	1.4	..
Ireland	..	186.9 e	179.1	280.6 e	430.2	..	..
Israel[1]	..	279.0 d	349.6 d	341.7 d	263.3 d	191.1 d	..
Italy	452.2 e	691.7	729.4	841.7	868.5	897.1	..
Japan	8 087.5	14 510.5	14 088.5	12 808.7	13 941.7	13 544.6	12 923.0
Korea	444.0	1 287.1	1 576.2	1 511.3	1 629.6	1 825.1	2 038.2
Latvia	..	5.4	5.4	5.7	8.5	9.2	..
Lithuania	..	17.1	5.0	1.2 e	1.6 e	1.8	..
Luxembourg	..	..	..	..	..	..	..
Mexico	216.8 e	120.3	129.9	126.7	112.2	102.3	99.7
Netherlands	..	316.7	318.5	296.2	319.6	..	..
New Zealand	..	..	..	..	..	..	..
Norway	52.1 e	36.8	33.2	35.5	41.5	44.7	..
Poland	71.0	150.7	215.9	179.9	262.8	303.7	..
Portugal	63.8 e	129.7	127.4	154.1	173.6	204.5	..
Slovak Republic	..	8.7	6.3	10.7	5.8	5.0	4.6
Slovenia	124.1 e	275.4	308.0	311.6	..	..	..
Spain	711.1 e	873.0	892.6	982.4	1 106.1	1 194.7	..
Sweden	..	764.4 e	860.8 e	828.3 e	847.8 e	..	..
Switzerland	2 295.3 e	4 194.0 e	4 480.7	4 611.3 e	4 672.8	..	..
Turkey	..	198.4	201.5	176.8	226.9	357.3	223.6
United Kingdom	..	572.6	560.2	556.1	710.3	658.3	..
United States	34 839.0 d	56 612.0 d	58 675.0 d	64 628.0 d	66 202.0 d	74 592.0 d	..
EU27 (from 01/02/2020)	..	..	..	..	..	..	..
OECD-Total	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Argentina	..	..	..	..	..	..	..
China	..	10 383.9	11 405.1	12 246.0	12 767.7	13 741.4	14 471.1
Romania	19.2 e	38.8	27.9	37.0	20.9	20.8	..
Russian Federation	..	..	..	..	..	..	..
Singapore	76.8 e	..	..	..	..	..	..
South Africa	..	..	..	..	..	..	..
Chinese Taipei	118.1	476.5	447.8	535.3	530.3	505.4	490.5

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, ANBERD database: Research and Development Expenditure in Industry

Table 40. Business enterprise expenditure on R&D (BERD) performed in the computer, electronic and optical industry at current prices and PPP

Million USD

	2005	2014	2015	2016	2017	2018	2019
Australia	182.7 e	..	..	..	..	..	..
Austria	1 234.0 e	854.1 e	909.6	1 013.0 e	1 065.6	..	..
Belgium	556.1 e	550.1	578.5	625.0	682.3	..	..
Canada	2 398.6 d e	838.8 d	877.4 d	951.9 d	975.0 d	..	..
Chile	..	1.7	1.0	1.3 e	1.3	2.0	..
Colombia	..	..	..	..	..	..	..
Czech Republic	105.2	147.5	152.7	185.6	206.7	236.4	283.3
Denmark	..	412.4	438.3	492.1	517.3	..	..
Estonia	..	8.0	12.4	17.0	26.2	28.9	..
Finland	2 111.4 e	1 916.4	1 506.6	1 318.1	1 292.3	1 281.6	..
France	..	4 648.8 e	4 675.6 e	4 929.3	4 885.6	..	..
Germany	6 607.9 e	9 762.4	9 691.3	10 147.5	10 391.5	11 240.3	..
Greece	..	20.1 e	19.6	25.3 e	34.6	..	..
Hungary	57.2 e	35.7	37.8	45.8	44.7	67.0	..
Iceland	..	2.8	2.4	2.9	3.6	4.3	..
Ireland	..	289.2 e	339.6	313.4 e	338.2	..	..
Israel[1]	1 486.5 d e	1 518.7 d	1 460.6 d	1 545.3 d	1 691.0 d	1 973.7 d	..
Italy	1 518.7 e	1 771.2	1 856.5	1 391.9	1 494.9	1 586.8	..
Japan	..	28 017.8	27 878.6	24 901.7	25 398.4	26 707.7	25 618.8
Korea	11 753.5	30 402.1	29 888.6	31 758.2	36 759.2	41 075.0	41 799.1
Latvia	..	5.8	6.6	7.4	6.6	11.1	..
Lithuania	..	17.8	18.2	18.9	35.2	36.3	..
Luxembourg	..	..	..	..	..	..	..
Mexico	73.0 e	62.8	89.1	82.2	72.8	66.4	64.6
Netherlands	..	848.5	760.7	814.3	868.1	..	..
New Zealand	..	..	..	..	..	..	..
Norway	178.9 e	195.6	196.7	188.6	196.0	219.5	..
Poland	29.3	94.7	115.3	125.7	174.7	411.4	..
Portugal	121.8 e	49.8	53.1	64.1	63.7	62.6	..
Slovak Republic	12.4	7.2	9.0	12.2	11.8	13.6	12.2
Slovenia	66.7 e	69.1	66.5	57.1	59.7	49.6	..
Spain	319.2 e	257.0	246.1	263.8	304.9	321.2	..
Sweden	..	1 949.4 e	2 220.3	1 200.2 e	255.4	..	..
Switzerland	799.1 e	1 718.7 e	1 776.7	1 725.0 e	1 616.5	..	..
Turkey	279.2 e	237.1	292.7	1 408.3	1 888.1	2 272.6	2 383.7
United Kingdom	..	1 440.9	1 422.3	1 582.8	1 505.4	1 692.3	..
United States	49 725.0 d e	73 891.0 d	72 110.0 d	77 385.0 d	78 575.0 d	83 697.0 d	..
EU27 (from 01/02/2020)	..	..	..	..	..	..	..
OECD-Total	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Argentina	..	..	..	..	..	..	..
China	..	41 543.2	46 312.1	50 056.7	52 894.3	59 213.8	63 556.6
Romania	8.3 e	16.2	37.7	44.9	15.1	5.3	..
Russian Federation	..	..	..	..	..	..	..
Singapore	1 451.8 e	..	..	..	..	..	..
South Africa	..	..	..	..	..	..	..
Chinese Taipei	7 230.4	17 778.6	18 859.2	19 437.5	21 282.3	23 887.8	26 679.4

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, ANBERD database: Research and Development Expenditure in Industry

Table 41. Business enterprise expenditure on R&D (BERD) performed in the aerospace industry at current prices and PPP

Million USD

	2005	2014	2015	2016	2017	2018	2019
Australia	39.3 e	..	..	..	..	..	..
Austria	5.7 e	60.2 e	73.1	79.8 e	75.5	..	..
Belgium	77.9 e	..	..	..	..	..	..
Canada	708.6 d e	1 317.5 d	1 293.2 d e	1 256.8 d	1 127.6 d	..	..
Chile	..	..	..	..	..	..	..
Colombia	..	..	..	..	..	..	..
Czech Republic	37.6	69.4	47.5	61.5	92.8	84.2	136.9
Denmark	..	..	..	0.7	2.8	..	..
Estonia	0.0	0.0	0.0	0.0	0.0	0.0	..
Finland	..	5.2 e	8.4	6.8	8.0 e	..	..
France	..	3 963.7 e	3 857.4 e	3 657.1	3 412.2	..	..
Germany	2 285.8 e	2 342.5	2 193.7	2 300.7	2 002.3	2 317.3	..
Greece	..	..	..	..	..	..	..
Hungary	..	..	..	..	..	..	..
Iceland	..	0.2	0.1	0.0	0.0	0.0	..
Ireland	..	..	..	..	..	..	..
Israel[1]	..	..	..	..	..	..	..
Italy	924.0 e	1 049.6	991.1	1 727.2	1 837.6	1 745.6	..
Japan	12.4	477.7	657.1	733.3	834.3	792.0	631.5
Korea	165.5	86.6	275.1	440.2	391.2	414.5	509.3
Latvia	..	..	..	..	..	..	..
Lithuania	..	0.0	..	..	..	..	..
Luxembourg	..	..	..	..	..	..	..
Mexico	..	30.5	27.1	34.3	30.3	27.7	26.9
Netherlands	..	..	..	..	..	..	..
New Zealand	..	..	..	..	..	..	..
Norway	..	1.1 e	1.1	1.0 e	0.9 e	1.7 e	..
Poland	30.4	92.4	104.7	100.5	116.8	128.5	..
Portugal	..	..	..	..	..	..	..
Slovak Republic	..	..	..	..	..	..	..
Slovenia	0.0 e	2.0	1.8	1.7	..	..	..
Spain	386.8 e	525.8	597.9	631.6	656.7	723.2	..
Sweden	..	..	..	..	..	..	..
Switzerland	..	..	..	..	..	..	..
Turkey	..	..	..	..	..	..	..
United Kingdom	..	2 137.3	2 109.9	2 403.0	1 959.2	2 301.4	..
United States	15 005.0 d	26 181.0 d	27 464.0 d	26 645.0 d	26 383.0 d	24 291.0 d	..
EU27 (from 01/02/2020)	..	..	..	..	..	..	..
OECD-Total	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Argentina	..	..	..	..	..	..	..
China	..	..	..	..	..	..	..
Romania	..	7.8	0.7	2.1	4.3	7.5	..
Russian Federation	..	..	..	..	..	..	..
Singapore	21.9 e	..	..	..	..	..	..
South Africa	..	..	..	..	..	..	..
Chinese Taipei	..	..	..	..	..	..	..

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, ANBERD database: Research and Development Expenditure in Industry

Table 42. Business enterprise expenditure on R&D (BERD) performed in service industries at current prices and PPP

Million USD

	2005	2014	2015	2016	2017	2018	2019
Australia	3 085.1 e	6 742.6 e	6 672.0	7 237.1 e	7 260.3	..	..
Austria	1 306.3 e	3 409.1 e	3 463.6	3 540.7 e	3 341.0	..	..
Belgium	1 253.5 e	3 572.5	3 818.5	3 896.8	4 546.0	..	..
Canada	5 189.8 d e	8 135.0 d	7 869.6 d e	8 700.8 d e	8 901.2 d e	..	..
Chile	..	220.9	202.5	245.5	245.1	278.4	..
Colombia	..	..	..	..	..	..	..
Czech Republic	556.0	1 708.1	1 685.3	1 738.6	2 036.3	2 250.9	2 428.8
Denmark	..	2 073.6	2 306.9	2 787.4	2 659.3	..	..
Estonia	50.4	155.0	173.3	175.4	170.1	187.6	..
Finland	737.2 e	1 277.3	1 301.8	1 381.7	1 514.3	1 673.6	..
France	..	17 785.5 e	18 148.6 e	19 279.4	20 823.2	..	..
Germany	4 682.3 e	9 219.6	11 093.4	12 029.1	13 210.7	13 699.9	..
Greece	..	556.4 e	649.5	838.2 e	1 074.1	..	..
Hungary	162.6 e	1 277.2	1 477.3	1 200.9	1 404.7	1 717.3	..
Iceland	..	132.5	174.3	179.8	184.3	183.5	..
Ireland	..	1 515.6 e	1 663.6	1 646.5 e	1 896.1	..	..
Israel[1]	3 497.4 d e	7 614.5 d	8 391.7 d	10 156.9 d	11 324.6 d	12 368.4 d	..
Italy	2 584.7 e	4 533.3	4 865.9	5 738.9	6 341.3	7 153.8	..
Japan	9 828.6	16 299.8	16 041.7	14 892.8	15 493.8	16 447.7	15 635.4
Korea	1 611.2	4 722.2	4 801.7	5 432.5	5 982.8	7 201.9	8 729.7
Latvia	..	..	39.6	..	33.5	..	..
Lithuania	..	145.8	152.8	173.3 e	204.5	223.2	..
Luxembourg	..	..	125.6	..	185.5	..	..
Mexico	457.5	656.5	651.3	735.8	651.6	594.2	578.8
Netherlands	..	3 277.1	3 626.1	4 045.2	4 182.1	..	..
New Zealand	202.2	503.5 e	564.9	743.9 e	944.8	1 070.4	..
Norway	886.3 e	1 818.2	1 943.2	2 028.7	2 287.8	2 367.5	..
Poland	461.3	2 130.2	2 472.5	4 371.9 e	4 425.8	5 322.0 e	..
Portugal	314.5 e	1 003.2	1 010.5	1 117.9	1 299.2	1 387.3	..
Slovak Republic	117.1 e	162.7	169.7	187.9	226.8	233.6	284.6
Slovenia	71.0 e	380.9	310.5	255.3	262.0	294.6	..
Spain	2 975.2 e	5 039.8	5 179.2	5 428.2	6 000.6	6 739.5	..
Sweden	..	2 755.2 e	3 177.4	4 237.1 e	5 563.4	..	..
Switzerland	1 237.2 e	3 817.5 e	4 065.1	4 065.3 e	3 937.3	..	..
Turkey	343.3 e	3 717.1	4 276.6	4 473.9	4 888.1	5 622.8	5 836.6
United Kingdom	..	16 810.5	17 735.2	18 277.0	20 481.4	21 571.2	..
United States	65 828.5 d e	102 696.0 d e	114 677.0 d e	120 230.0 d	138 819.0 d	164 122.0 d	..
EU27 (from 01/02/2020)	..	..	..	..	..	..	..
OECD-Total	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Argentina	..	..	315.4	323.6	530.8	..	..
China	..	..	..	..	..	..	..
Romania	47.1 e	286.0	506.7	774.7	954.7	1 100.3	..
Russian Federation	..	..	..	..	..	..	..
Singapore	1 242.0 e	..	..	..	..	..	..
South Africa	858.4	..	..	..	..	..	..
Chinese Taipei	733.7	2 025.4	2 088.3	2 171.0	2 397.7	2 657.6	2 757.4

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, ANBERD database: Research and Development Expenditure in Industry

Table 43. Higher education expenditure on R&D (HERD) at current prices and PPP

Million USD

	2005	2014	2015	2016	2017	2018	2019
Australia	..	6 984.6	6 479.6 e	7 500.9	7 603.8 e	8 257.0	..
Austria	1 689.8 e	3 047.5 e	3 089.8	3 187.4 b e	3 268.6	3 556.3 p	3 729.5 p
Belgium	1 389.2	2 464.7	2 571.1	2 939.9	3 034.7	3 171.9 e	3 488.9 p
Canada	7 841.7	10 478.3	10 612.6	11 441.2	11 827.9	12 105.2 p	12 072.1 p
Chile	..	591.3 b	598.4	678.7 b p	737.7	768.9 p	..
Colombia	280.9	638.5	637.4	522.6	528.5	662.8	601.7
Czech Republic	486.2	1 702.5	1 706.8	1 302.6	1 427.9	1 784.1	1 942.1 p
Denmark	1 090.8	2 641.4	2 890.3	2 980.3	3 097.1 p	3 263.1 p	3 505.0 p
Estonia	85.6	241.0	232.9	182.0	225.5	301.5	292.8 p
Finland	1 064.0	1 641.9	1 631.0	1 691.2	1 814.6	1 906.8	2 019.7
France	7 442.5	13 402.3 b	13 549.9	13 074.9	13 589.6 p	14 052.4 p	14 785.7 e
Germany	10 726.2	19 416.8	19 719.5	22 092.1 b	23 204.5	24 976.2	25 528.1 e
Greece	772.6	905.2	1 057.0	950.3	1 003.1	1 096.4	1 293.0 p
Hungary	399.0 d	460.0 d	428.1 d	360.6 d	505.4 d	596.7 b d	696.0 d
Iceland	65.2	95.8	104.2	116.8	125.4	129.6	141.5
Ireland	543.6	891.4	913.2 e	942.7	960.1 e	1 107.3	1 180.4 e
Israel[1]	1 035.2 d	1 450.6 d	1 534.7 d	1 590.9 d	1 520.7 d	1 596.4 d e	1 622.4 d e
Italy	5 509.9 b	7 863.1 e	7 652.7 e	7 989.4 e	8 129.6 e	8 462.1 e	8 921.2 e p
Japan	17 250.4	21 326.7	20 690.3	19 741.3	20 015.6	19 973.5 b	20 259.1
Korea	3 040.0 d	6 614.4	6 995.9	7 382.2	7 658.0	8 144.0	8 487.1
Latvia	66.6	132.6	151.9	99.7	132.9	198.6	215.4 p
Lithuania	197.1	443.8	485.3	290.9	301.9	342.9	392.3 p
Luxembourg	7.5	116.9	139.8	159.3	173.0	172.3 e	195.9 p
Mexico	1 536.9	4 617.5	4 820.9	4 658.3	4 057.4 e	4 019.0 e	3 761.8 e
Netherlands	3 775.3	5 269.5	5 423.6	5 410.8	5 761.0	5 910.4	5 951.5 p
New Zealand	386.3	..	593.4	..	670.9	..	..
Norway	1 010.1	1 802.0	1 883.6	2 055.0	2 392.0	2 625.8	2 697.4
Poland	942.5	2 668.0	2 954.6	3 249.2	3 881.5	4 648.9	6 109.3
Portugal	640.1	1 758.6	1 739.7	1 869.3	1 910.1	2 018.2	2 146.2
Slovak Republic	90.1	474.8	826.1	353.0	357.8	350.1	369.9
Slovenia	113.3	157.4	146.0	152.4	157.7	187.2	207.5 p
Spain	3 846.5	5 444.4	5 572.1	5 678.1	6 037.9	6 244.2	6 614.7 p
Sweden	2 284.9	4 111.2 e	4 136.8	4 358.4 e	4 380.9	4 582.1 e	4 561.1 b
Switzerland	..	4 415.2	4 761.8	..	5 234.7	..	..
Turkey	2 509.8	6 457.8	7 033.2	7 206.7	7 237.2	7 153.6	7 073.8
United Kingdom	7 885.7	11 294.4	11 564.8	11 668.8	11 938.6	12 786.2	13 140.7 p
United States	47 006.0 d	62 352.0 d	64 621.0 d	67 774.0 d	71 108.0 d	74 897.0 d	..
EU27 (from 01/02/2020)	43 579.1 e	75 883.8 e	77 760.0 e	80 038.1 e	84 085.8 e	89 783.5 e	95 268.9 e
OECD-Total	**138 376.5 e**	**214 975.4 e**	**219 941.5 e**	**227 358.9 e**	**236 003.9 e**	**248 280.0 e**	**258 394.8 e**
Argentina	573.5	1 516.2	1 393.4	1 211.2	1 458.4	..	..
China	8 523.0	23 894.1	25 798.7	26 881.0	30 258.6	34 487.7	42 652.1
Romania	115.5	238.9	364.7	260.4	284.6	279.9	305.7
Russian Federation	1 047.3	3 947.4	3 723.3	3 552.1	3 810.9	4 034.4	4 728.7
Singapore	1 305.6	2 705.4	3 069.1	3 158.3	3 008.9	2 920.5	..
South Africa	781.3	1 503.5	1 695.5	1 893.0	2 024.3	..	..
Chinese Taipei	1 745.7	3 298.9	3 280.0	3 226.7	3 277.8	3 590.7	3 700.2

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 44. Higher education expenditure on R&D (HERD) as a percentage of GDP

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	0.62	0.57 e	0.62	0.61 e	0.62	..
Austria	0.59 e	0.73 e	0.72	0.69 b e	0.69	0.71 p	0.72 p
Belgium	0.40	0.49	0.49	0.53	0.53	0.53 e	0.56 p
Canada	0.67	0.65	0.67	0.68	0.67	0.65 p	0.63 p
Chile	..	0.15 b	0.15	0.16 b p	0.16	0.17 p	..
Colombia	0.08	0.10	0.10	0.08	0.08	0.09	0.08
Czech Republic	0.22	0.50	0.48	0.34	0.35	0.41	0.42 p
Denmark	0.59	0.98	1.04	1.00	0.97 p	0.98 p	1.00 p
Estonia	0.38	0.63	0.60	0.44	0.51	0.63	0.57 p
Finland	0.63	0.72	0.70	0.68	0.69	0.69	0.71
France	0.39	0.50 b	0.50	0.46	0.46 p	0.45 p	0.45 e
Germany	0.41	0.51	0.51	0.53 b	0.53	0.55	0.55 e
Greece	0.27	0.31	0.37	0.32	0.33	0.34	0.39 p
Hungary	0.23 d	0.18 d	0.16 d	0.13 d	0.18 d	0.19 b d	0.21 d
Iceland	0.59	0.64	0.64	0.65	0.66	0.63	0.66
Ireland	0.32	0.37	0.28 e	0.28	0.25 e	0.27	0.27 e
Israel[1]	0.60 d	0.52 d	0.52 d	0.49 d	0.45 d	0.45 d e	0.43 d e
Italy	0.32 b	0.36 e	0.34 e	0.33 e	0.32 e	0.32 e	0.33 e p
Japan	0.43	0.43	0.40	0.39	0.39	0.38 b	0.38
Korea	0.25 d	0.37	0.36	0.36	0.36	0.37	0.38
Latvia	0.21	0.28	0.31	0.19	0.24	0.33	0.35 p
Lithuania	0.4	0.5	0.6	0.3	0.3	0.3	0.4 p
Luxembourg	0.02	0.21	0.24	0.25	0.26	0.24 e	0.26 p
Mexico	0.11	0.21	0.22	0.20	0.16 e	0.16 e	0.14 e
Netherlands	0.61	0.63	0.64	0.61	0.61	0.59	0.58 p
New Zealand	0.36	..	0.34	..	0.33	..	..
Norway	0.46	0.53	0.60	0.67	0.71	0.71	0.74
Poland	0.18	0.28	0.29	0.30	0.34	0.38	0.47
Portugal	0.27	0.59	0.57	0.57	0.56	0.56	0.57
Slovak Republic	0.10	0.30	0.51	0.22	0.22	0.20	0.21
Slovenia	0.24	0.25	0.22	0.22	0.21	0.23	0.24 p
Spain	0.32	0.35	0.34	0.33	0.33	0.33	0.33 p
Sweden	0.74	0.90 e	0.86	0.87 e	0.84	0.84 e	0.81 b
Switzerland	..	0.84	0.87	..	0.90	..	..
Turkey	0.31	0.35	0.35	0.34	0.32	0.31	0.31
United Kingdom	0.40	0.42	0.42	0.40	0.40	0.41	0.41 p
United States	0.36 d	0.36 d	0.35 d	0.36 d	0.36 d	0.36 d	..
EU27 (from 01/02/2020)	0.37 e	0.46 e	0.46 e	0.44 e	0.44 e	0.45 e	0.46 e
OECD-Total	**0.38 e**	**0.41 e**	**0.41 e**	**0.41 e**	**0.40 e**	**0.41 e**	**0.41 e**
Argentina	0.11	0.18	0.16	0.14	0.14	..	..
China	0.13	0.14	0.14	0.14	0.15	0.16	0.18
Romania	0.06	0.06	0.09	0.05	0.05	0.05	0.05
Russian Federation	0.06	0.10	0.11	0.10	0.10	0.10	0.11
Singapore	0.52	0.59	0.64	0.63	0.56	0.51	..
South Africa	0.17	0.22	0.24	0.27	0.28	..	..
Chinese Taipei	0.27	0.31	0.30	0.29	0.29	0.30	0.29

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 45. Higher education expenditure on R&D (HERD) at 2015 prices and PPP

Million 2015 USD

	2005	2014	2015	2016	2017	2018	2019
Australia	..	6 847.4	6 479.6 e	7 115.4	7 213.2 e	7 549.2	..
Austria	2 247.9 e	3 117.5 e	3 089.8	3 043.8 b e	3 087.1	3 255.6 p	3 353.3 p
Belgium	1 812.6	2 498.2	2 571.1	2 816.1	2 835.0	2 875.8 e	3 082.5 p
Canada	9 065.9	10 239.2	10 612.6	10 982.5	11 118.0	11 051.8 p	10 977.2 p
Chile	..	582.5 b	598.4	659.8 b p	685.1	722.4 p	..
Colombia	319.2	625.5	637.4	500.4	492.4	595.5	522.8
Czech Republic	626.7	1 688.2	1 706.8	1 251.9	1 338.3	1 623.3	1 722.5 p
Denmark	1 524.9	2 661.3	2 890.3	2 881.0	2 871.8 p	2 963.5 p	3 106.9 p
Estonia	126.8	238.9	232.9	174.7	212.7	275.8	262.1 p
Finland	1 401.8	1 667.4	1 631.0	1 639.8	1 710.9	1 739.2	1 793.0
France	9 577.1	13 536.0 b	13 549.9	12 546.1	12 807.1 p	12 868.7 p	12 934.5 e
Germany	13 798.2	19 543.3	19 719.5	21 087.7 b	21 626.4	22 645.9	22 833.4 e
Greece	992.4	905.7	1 057.0	923.7	948.9	1 018.6	1 177.7 p
Hungary	554.3 d	461.6 d	428.1 d	354.4 d	492.1 d	567.7 b d	649.5 d
Iceland	79.3	99.1	104.2	112.6	118.3	119.1	126.5
Ireland	741.0	970.3	913.2 e	915.5	917.5 e	1 050.6	1 107.2 e
Israel[1]	1 217.3 d	1 498.1 d	1 534.7 d	1 520.3 d	1 436.9 d	1 473.9 d e	1 462.1 d e
Italy	7 420.4 b	7 946.6 e	7 652.7 e	7 491.8 e	7 453.3 e	7 567.7 e	7 789.6 e p
Japan	20 738.3	21 696.4	20 690.3	20 078.2	20 323.0	20 030.7 b	20 182.7
Korea	3 374.4 d	6 939.7	6 995.9	7 249.6	7 475.3	7 848.9	8 282.9
Latvia	90.8	132.6	151.9	96.2	124.6	181.6	194.6 p
Lithuania	268.1	440.9	485.3	281.6	283.1	313.4	351.8 p
Luxembourg	10.7	117.5	139.8	152.8	162.5	157.6 e	173.3 p
Mexico	2 051.5	4 587.5	4 820.9	4 473.8	3 853.7 e	3 755.2 e	3 442.5 e
Netherlands	4 711.9	5 302.5	5 423.6	5 289.7	5 469.0	5 432.5	5 380.0 p
New Zealand	500.7	..	593.4	..	617.1	..	..
Norway	1 251.1	1 717.3	1 883.6	2 038.7	2 253.1	2 375.9	2 425.2
Poland	1 241.2	2 697.1	2 954.6	3 179.9	3 750.9	4 449.7	5 725.5
Portugal	834.3	1 775.5	1 739.7	1 795.2	1 820.7	1 874.5	1 936.2
Slovak Republic	113.3	467.8	826.1	363.2	373.3	360.9	377.8
Slovenia	138.4	157.9	146.0	146.5	147.5	170.9	183.4 p
Spain	4 939.4	5 454.5	5 572.1	5 471.7	5 638.3	5 772.6	5 974.9 p
Sweden	2 923.2	4 138.1 e	4 136.8	4 277.5 e	4 223.9	4 318.5 e	4 194.9 b
Switzerland	..	4 524.3	4 761.8	..	5 080.3	..	..
Turkey	3 786.0	6 617.3	7 033.2	7 115.4	7 180.0	7 190.9	7 244.1
United Kingdom	9 791.4	11 465.8	11 564.8	11 358.0	11 333.4	11 852.7	11 932.7 p
United States	56 256.3 d	62 945.6 d	64 621.0 d	67 070.3 d	69 071.1 d	71 045.7 d	..
EU27 (from 01/02/2020)	56 696.2 e	76 554.1 e	77 760.0 e	76 869.7 e	78 968.8 e	82 254.5 e	85 287.9 e
OECD-Total	**171 365.3 e**	**216 895.5 e**	**219 941.5 e**	**222 022.6 e**	**226 538.2 e**	**233 018.6 e**	**238 566.2 e**
Argentina	689.8	1 523.8	1 393.4	1 161.8	1 225.1	..	..
China	9 199.8	23 203.0	25 798.7	27 317.0	30 942.7	34 428.7	41 768.0
Romania	182.5	241.5	364.7	244.1	257.5	247.0	255.3
Russian Federation	1 562.3	3 772.9	3 723.3	3 546.1	3 601.2	3 507.9	4 096.3
Singapore	1 449.1	2 738.9	3 069.1	3 131.6	2 928.3	2 742.9	..
South Africa	892.1	1 512.5	1 695.5	1 867.0	1 979.0	..	..
Chinese Taipei	2 060.5	3 360.8	3 280.0	3 264.7	3 334.9	3 567.7	3 612.1

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 46. Percentage of Higher education expenditure on R&D (HERD) financed by the business sector

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	5.1	..	5.1	..	4.9	..
Austria	..	..	5.3	..	5.1	..	..
Belgium	10.9	11.7	12.9	12.1	11.7	..	..
Canada	8.4	7.7	7.9	7.9	7.8	7.8 p	7.8 p
Chile	..	3.3 b	3.0	2.8 b p	2.6	3.2 p	..
Colombia	7.6	6.9	5.2	4.8	11.0	11.4	8.5
Czech Republic	0.8	2.4	4.0	4.7	5.1	4.6	3.8 p
Denmark	2.4	1.9	2.5	2.6	2.7 p	..	..
Estonia	5.2	4.4	5.4	7.4	5.8	6.9	..
Finland	6.5	4.0	3.7	3.7	3.2	2.9	3.1
France	1.6	2.5 b	2.8	2.6	2.7 p	2.8 p	..
Germany	14.6 d	14.1 d	13.9 d	13.8 b d	13.3 d	13.5 d	..
Greece	8.9	6.0	7.6	7.3	8.4	8.5	7.9 p
Hungary	11.8 d	9.1 d	8.0 d	9.6 d	6.1 d	5.4 b d	..
Iceland	11.3	3.4	2.0	2.3	0.8	0.5	1.8
Ireland	2.7	2.7	2.9 e	3.2	3.4 e	3.6	3.9 e
Israel[1]	7.3 d	9.5 d	8.6 d	9.5 d	7.2 d	6.9 d e	..
Italy	1.4 b	1.3 e	1.3 e	1.3 e	6.0 e	6.0 e	..
Japan	2.8	2.6	2.6	2.8	2.9	3.2 b	3.4
Korea	15.2 d	11.2	12.3	12.6	13.7	14.3	14.3
Latvia	15.4	7.1	7.8	5.6	5.9	4.2	..
Lithuania	3.8	13.9	11.6	12.2	6.8	6.4	..
Luxembourg	1.4	..	1.1	1.2	1.3	0.9 e	..
Mexico	1.2 e	0.2	0.3	0.4	0.4 e	0.3 e	0.3 e
Netherlands	7.8	7.7	7.9	7.8	8.3	8.7	..
New Zealand	8.0	..	3.5	..	4.5	..	..
Norway	4.7	..	3.1	3.1	2.3	2.3 e	..
Poland	5.4	2.8	2.6	3.0	3.5	3.9	..
Portugal	1.2	1.6	1.9	1.8	1.9	2.0	2.1
Slovak Republic	0.7	2.4	1.6	1.9	2.1	0.7	0.8
Slovenia	9.0	12.6	11.4	10.6	8.7	8.5	..
Spain	6.9	5.9	5.7	5.1	5.2	5.5	..
Sweden	5.1	..	4.0	..	3.6	..	..
Switzerland	..	10.0	9.8	..	9.7	..	..
Turkey	22.7 d	1.1	1.2	1.2	1.3	1.9	1.7
United Kingdom	4.6	4.3	4.4	4.4	4.4	4.4	..
United States	5.0 d	5.1 d	5.2 d	5.3 d	5.3 d	5.4 d	..
EU27 (from 01/02/2020)	6.9 e	6.7 e	6.7 e	6.9 e	7.2 e	7.3 e	..
OECD-Total	**6.1 e**	**5.6 e**	**5.7 e**	**5.8 e**	**6.0 e**	**6.2 e**	**..**
Argentina	0.6	0.2	0.1	0.3	0.3	..	..
China	36.7	33.7	30.2	29.0	28.5	26.6	26.2
Romania	7.5	6.9	5.1	6.2	6.6	5.7	..
Russian Federation	29.3	27.3	27.4	27.7	28.2	29.1	32.2
Singapore	1.7	7.3	5.5	5.9	6.1	4.2	..
South Africa	11.6	10.6	7.8	7.8	5.2	..	..
Chinese Taipei	5.8	8.3	9.3	9.7	10.0	9.9	11.2

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 47. Higher education researchers in full-time equivalent

FTE

	2005	2014	2015	2016	2017	2018	2019
Australia	..	68 528	..	69 287	..	..	..
Austria	8 962 d e	13 462 d e	13 658 d	13 363 d e	13 513 d	14 356 d p	14 945 d p
Belgium	13 853	19 157	20 362 b	19 601	19 705	19 882 e	20 900 p
Canada	43 400	58 550	58 850	59 240	60 290	..	..
Chile	..	3 600 d	4 004 d	4 357 d	4 520 d	4 601 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	7 762 b	10 965	11 357	10 511	10 875	12 001	12 663 p
Denmark	8 242	15 854	16 193	16 233	16 042 p	16 384 p	16 566 p
Estonia	1 905	2 443	2 431	2 426	2 452	2 718	2 439 p
Finland	12 879	12 381	12 240	11 987	12 731	12 824	13 411
France	66 290	78 409 b	79 622	81 565	81 771 p	82 633 p	82 830 e
Germany	65 363	100 992	103 148	109 877 b	112 143	114 868	117 300 e
Greece	11 356 d	18 801 d	22 149 d	17 241 d	17 853 d	18 588 d	21 319 d p
Hungary	5 911	5 860	5 610	5 592	6 032	9 547 d	9 999
Iceland	585	1 033	892 b	1 151	927	..	..
Ireland	4 400	12 836	12 731 e	12 627	12 523 e	12 421	12 319 e
Israel[1]	..	9 639 d e	9 590 d e	9 524 d e	9 802 d e	9 981 d e	..
Italy	37 073 b d	48 198 d	48 841 d e	50 816 d e	51 362 d e	51 989 d e	55 057 d e p
Japan	156 176 d	137 586 d	137 078 d	138 095 d	138 697 d	134 740 b d	135 509 d
Korea	27 416 d	41 938	40 866	40 759	38 813	40 736	41 448
Latvia	2 224 d	2 291 d	2 318 d	1 944 d	2 264 d	2 200 d	2 308 d p
Lithuania	5 116.0	5 241.0	4 830.0	4 992.7	4 574.5	4 521.4	4 946.8 p
Luxembourg	157	906	945	972	1 048	1 085	1 234 p
Mexico	16 691 e	14 921	16 677	17 008	16 746 e	16 414 e	16 886 e
Netherlands	17 928	21 921	22 342	22 244	22 788	23 029	23 300 p
New Zealand	7 481	..	16 000	..	16 000	..	..
Norway	7 512	10 296	10 976	11 795	12 538	13 051	13 836
Poland	40 449	39 695	40 126	44 414	56 397 d	57 049 d	59 947 d
Portugal	10 956	24 978	25 043	26 106	27 562	28 831	28 812
Slovak Republic	6 458 d	8 959 d	8 508 d	8 154 d	8 745 d	9 279 d	9 664 d
Slovenia	1 695	2 180	2 069	1 951	2 020	2 104	2 277 d p
Spain	54 028	57 156 d	57 107 d	58 413 d	62 542 d	64 007 d	66 630 d p
Sweden	15 125 b	19 616 e	18 215	19 726 e	17 501	16 676 e	18 217 p
Switzerland	..	..	21 375	..	22 724	..	..
Turkey	25 434	41 269	43 293	40 996	42 916	44 240	46 055
United Kingdom	141 762 b e	163 838	167 463	167 519	170 971	171 527	172 669 p
United States	..	..	..	..	..	..	..
EU27 (from 01/02/2020)	409 884 e	537 394 e	544 587 e	557 373 e	577 997 e	592 039 e	612 349 e
OECD-Total	**..**	**1 410 414 e**	**..**	**1 461 935 e**	**..**	**..**	**..**
Argentina	14 200	23 153	21 701	22 781	20 720	..	..
China	221 908 d	282 304	298 728	307 923	327 891	352 836	502 611
Romania	5 386	6 378	6 480	6 314	6 413	5 832	5 773
Russian Federation	70 494	91 501	92 503	83 024	75 977	80 678	82 749
Singapore	8 187	16 180	17 275	17 418	17 140	16 565	..
South Africa	9 235	15 804	18 367	19 629	20 996	..	..
Chinese Taipei	23 180	30 621	29 828	29 099	28 810	28 767	28 793

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1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 48. Higher education researchers as a percentage of national total

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	31.5 d e	31.6 d e	31.4 d	28.4 d e	28.4 d	28.4 d p	28.4 d p
Belgium	41.8	37.7	38.3 b	36.1 e	36.5	34.3 e	33.4 p
Canada	31.7	36.1 b	36.1	37.3	37.9	..	..
Chile	..	47.5 d	49.0 d	48.5 d	49.7 d	50.0 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	32.1 b	30.4	29.8	28.2	27.8	29.1	29.8 p
Denmark	29.2	38.3	37.8	36.2	35.3 p	35.3 p	39.1 p
Estonia	57.2	56.5	58.1	55.9	52.5	54.7	48.9 p
Finland	32.5	32.3	32.6	33.4	34.4	33.8	33.5
France	32.7	28.9 b	28.7	28.6	27.6 p	27.1 p	26.4 e
Germany	24.0	28.7	26.6	27.5 b	26.7	26.5	26.1 e
Greece	58.0 d	62.9 d	63.8 d	58.6 d	51.0 d	50.7 d	53.2 d p
Hungary	37.2	22.4	22.2	21.7	21.2	25.4 d	25.4
Iceland	27.2	..	45.9 b	..	45.2	..	..
Ireland	38.0	52.3 e	51.9 e	51.9 e	48.8 e	49.2 e	47.6 e
Israel[1]	..	..	..	..	..	..	..
Italy	44.9 b d	40.8 d	38.8 d e	38.0 b d e	36.6 d e	34.1 d e	34.3 d e p
Japan	22.9 d	20.1 d	20.7 d	20.7 d	20.5 d	19.9 b d	19.9 d
Korea	15.2 d	12.1	11.5	11.3	10.1	10.0	9.6
Latvia	67.8 d	61.1 d	64.2 d	61.7 d	65.0 d	63.7 d	63.5 d p
Lithuania	67.0	57.8	59.1	58.6	52.3	50.6	51.6 p
Luxembourg	7.1	34.5	36.2	35.1	35.7	37.9	39.1 p
Mexico	38.0 e	47.6	48.6	43.7	42.8 e	41.9 e	40.4 e
Netherlands	37.5	26.2	26.8	25.4	25.0	24.1	23.5 p
New Zealand	57.6	..	64.0	..	61.5	..	..
Norway	35.4	35.2	35.8	37.0	37.3	38.0	38.5
Poland	65.1	50.5	48.6	50.4	49.2 d	48.4 d	49.6 d
Portugal	51.9	65.5	64.8	63.1	61.3	60.5	57.4
Slovak Republic	59.1 d	60.8 d	59.1 d	57.6 d	57.4 d	56.8 d	56.9 d
Slovenia	32.3	25.4	26.2	24.0	21.7	20.9	21.7 d p
Spain	49.2	46.8 d	46.6 d	46.1 d	46.9 d	45.7 d	46.3 d p
Sweden	27.5 b e	29.4 e	27.3 e	28.0 e	23.9	22.2 e	23.5 p
Switzerland	..	..	48.9	..	49.3	..	..
Turkey	65.0	46.0	45.5	40.9	38.4	35.0	34.0
United Kingdom	57.0 b e	59.2 e	58.9	58.0 e	57.8 e	56.1 e	54.4 p
United States	..	..	..	..	..	..	..
EU27 (from 01/02/2020)	36.4 e	35.7 e	34.8 e	34.5 e	33.8 e	33.0 e	33.0 e
OECD-Total	**..**	**30.1 e**	**..**	**30.1 e**	**..**	**..**	**..**
Argentina	44.6	44.8	41.0	41.6	39.0	..	..
China	19.8 d	18.5	18.5	18.2	18.8	18.9	23.8
Romania	23.5	35.2	37.1	35.0	36.6	33.9	33.3
Russian Federation	15.2	20.6	20.6	19.4	18.5	19.9	20.7
Singapore	34.4	44.1	44.1	44.4	44.1	42.2	..
South Africa	53.4	67.0	70.2	71.0	71.1	..	..
Chinese Taipei	26.1	21.5	20.6	19.8	19.2	18.7	18.1

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 49. Higher education Total R&D personnel in full-time equivalent

FTE

	2005	2014	2015	2016	2017	2018	2019
Australia	..	78 038	..	79 008	..	..	..
Austria	12 353 d e	17 479 d e	17 682 d	17 484 d e	17 680 d	18 783 d p	19 553 d p
Belgium	17 767	23 733	26 156 b	24 953	25 060	25 312 e	26 592 p
Canada	56 950	72 510	72 720	73 210	74 350	..	..
Chile	..	7 361 d	7 190 d	8 058 d	8 233 d	8 078 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	10 972 b	16 525	16 868	15 201	15 803	18 226	19 647 p
Denmark	11 561	20 956	21 258	21 969	21 742 p	22 205 p	21 983 p
Estonia	2 176	3 103	3 062	2 969	3 015	3 233	2 953 p
Finland	17 453	16 034	15 515	15 157	16 007	16 418	17 002
France	98 743	119 081 b	120 480	119 367	119 286 p	119 932 p	119 920 e
Germany	94 522	132 542	134 032	141 661 b	143 753	147 160	151 200 e
Greece	17 401 d	23 924 d	27 383 d	20 404 d	21 986 d	23 431 d	26 278 d p
Hungary	8 194	7 937	7 706	7 476	8 442	12 994 d	14 111
Iceland	742	1 232	1 062	1 360	1 096	..	..
Ireland	5 220	14 847	15 012 e	15 178	15 399 e	15 664	15 979 e
Israel[1]	9 011 d	11 340 d e	11 283 d e	11 205 d e	11 532 d e	11 743 d e	..
Italy	66 976 b d	75 235 d	76 858 d e	80 226 d e	80 358 d e	81 233 d e	84 098 d e p
Japan	209 734 d	209 101 d	208 579 d	210 683 d	212 212 d	210 100 b d	211 602 d
Korea	42 157 d	74 861	72 745	72 482	70 037	71 333	71 727
Latvia	2 856 d	3 177 d	3 241 d	3 147 d	3 448 d	3 553 d	3 721 d p
Lithuania	6 699.0	6 260.0	5 737.0	5 895.3	5 386.6	5 318.9	5 876.3 p
Luxembourg	169	989	1 057	1 097	1 164	1 210	1 376 p
Mexico	25 218 e	21 721	23 998	25 130	25 136 e	24 999 e	26 023 e
Netherlands	32 305	33 237	33 604	33 300	34 350	34 742	35 100 p
New Zealand	9 660	..	18 000	..	19 000	..	..
Norway	9 420	13 010	13 952	14 937	15 675	16 237	16 957
Poland	44 763	44 304	44 961	51 652	65 325 d	70 172 d	73 196 d
Portugal	11 680	26 870	27 001	28 265	30 078	31 451	31 556
Slovak Republic	7 146 d	9 297 d	8 815 d	8 623 d	9 056 d	9 620 d	9 996 d
Slovenia	2 099	2 667	2 555	2 321	2 395	2 659	2 888 d p
Spain	66 996	73 428 d	73 327 d	75 191 d	79 286 d	80 318 d	83 048 d p
Sweden	17 686 b	22 410 e	21 435	21 918 e	20 196	19 453 e	21 080 p
Switzerland	..	..	29 717	..	31 523	..	..
Turkey	25 434 e	41 269 e	43 293 e	52 576 b	54 289	56 364	59 031
United Kingdom	152 634 b e	183 023 e	186 724	186 770	190 078	190 526	191 795 p
United States	..	..	..	..	..	..	..
EU27 (from 01/02/2020)	570 624 e	713 301 e	722 993 e	734 201 e	758 555 e	781 772 e	806 258 e
OECD-Total	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Argentina	15 507	27 896	26 015	27 434	28 128	..	..
China	227 163 d	334 794	354 861	360 049	382 160	410 893	565 478
Romania	6 803	8 966	9 008	8 627	8 416	7 695	7 600
Russian Federation	97 672	121 526	121 680	110 379	101 628	107 756	116 732
Singapore	9 337	17 386	18 532	18 634	18 278	17 608	..
South Africa	10 611	17 944	20 812	22 061	23 415	..	..
Chinese Taipei	25 752	34 135	33 177	32 349	31 866	31 896	31 871

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 50. Government intramural expenditure on R&D (GOVERD) at current prices and PPP

Million USD

	2005	2014	2015	2016	2017	2018	2019
Australia	..	2 292.1	2 686.5 e	2 261.0	2 253.0 e	2 261.4	..
Austria	355.9 e	585.3 e	602.3	1 016.3 b e	1 040.8	1 132.4 p	1 187.5 p
Belgium	520.6	1 073.8	1 161.7	1 339.0	1 436.5	1 591.8 e	1 746.3 p
Canada	2 238.7	2 392.8	1 878.9	1 927.8	2 084.5	2 000.6 p	2 059.7 p
Chile	..	123.6	121.3	203.3	211.0	205.0 p	..
Colombia	32.9	60.4	50.3	145.8	152.4	163.5	194.3
Czech Republic	596.5 b	1 271.0	1 398.3	1 156.9	1 254.1	1 357.9	1 450.6 p
Denmark	285.7	180.5	190.0	203.9	286.8 p	302.3 p	295.4 p
Estonia	23.3	59.7	60.8	58.5	66.9	77.4	85.0 p
Finland	534.0	620.7	546.6	548.8	610.3	628.2	643.5
France	7 024.1	7 717.1	7 861.0	8 089.8	8 208.8 p	8 547.1 p	9 042.8 e
Germany	9 014.2 d	16 022.1 d	16 045.8 d	16 902.4 d	18 104.6 d	19 232.0 d	20 227.5 d
Greece	329.9	675.3	787.0	745.6	784.5	865.1	951.1 p
Hungary	444.3 d	468.3 d	469.6 d	434.0 d	477.5 d	510.6 b d	490.2 d
Iceland	69.8	17.7	16.5	17.9	16.6	17.1	16.1
Ireland	148.3	159.1	168.2	168.1	179.3	200.5	203.8
Israel[1]	186.4 d	208.9 d	211.0 d	227.3 d	247.7 d	266.5 d	276.4 d e
Italy	3 158.8	4 001.6	3 940.2	4 155.8	4 259.5	4 604.6	4 911.8 p
Japan	10 669.1	14 116.7	13 310.5	12 098.2	13 019.4	13 394.8	13 534.3
Korea	3 631.6 d	8 196.6	9 032.6	9 329.8	9 660.2	9 975.7	10 244.6
Latvia	30.7	78.4	78.4	72.4	74.3	86.4	74.3 p
Lithuania	90.1	144.7	149.2	195.0	239.0	212.2	219.8 p
Luxembourg	60.1 d	212.7 d	224.0 d	212.9 d	202.6 d	216.7 d e	246.4 d p
Mexico	1 238.8	3 058.3	2 884.6	2 438.1	2 114.2 e	2 086.0 e	1 939.4 e
Netherlands	1 355.4 d	1 099.2 d	1 111.1 d	1 160.4 d	1 159.6 d	1 251.7 d	1 275.6 d p
New Zealand	308.1	..	445.2	..	547.9	..	..
Norway	513.1	884.7	911.7	892.8	970.4	1 050.6	1 001.8
Poland	1 085.2	2 191.5	2 496.0	260.3 b	269.8	285.4	217.7
Portugal	264.3	241.6	247.7	219.7	246.2	257.4	272.2
Slovak Republic	130.8 d	390.9 d	525.6	273.0	301.7	306.1	293.0
Slovenia	163.7	183.2	193.5	189.1	194.1	212.8	242.9 p
Spain	2 258.7	3 636.5	3 791.0	3 817.0	3 955.1	3 979.8	4 229.8 p
Sweden	506.9 b	531.7 e	529.3	553.2 e	636.3	654.5 e	869.5 b
Switzerland	..	148.7 d	156.9 d	..	155.3 d	..	..
Turkey	531.0	1 544.0	1 833.0	1 884.2 d	2 065.4 d	2 178.9 d	1 606.2 d
United Kingdom	3 234.9	3 181.6	3 028.1	3 153.1	3 208.3	3 599.3	3 750.1 p
United States	40 378.0 d	54 106.0	54 666.0	52 499.0	54 124.0	60 224.0	64 961.0 e
EU27 (from 01/02/2020)	28 755.2 e	42 182.5 e	43 347.0 e	42 423.2 e	44 733.5 e	47 249.1 e	50 112.6 e
OECD-Total	**93 161.0 e**	**131 765.6 e**	**133 247.6 e**	**128 911.3 e**	**134 150.6 e**	**143 985.3 e**	**151 334.4 e**
Argentina	881.6	2 375.2	2 744.5	2 324.7	2 706.5	..	..
China	18 778.4	54 720.2	59 161.1	61 685.9	64 055.0	70 644.4	81 314.3
Romania	288.6	674.2	799.9	765.5	865.7	874.3	952.1
Russian Federation	4 723.4	12 302.6	12 059.5	12 474.0	12 851.4	14 355.5	12 587.6
Singapore	521.8	1 125.0	1 168.6	1 167.7	1 139.6	1 213.0	..
South Africa	842.7	1 237.9	1 331.1	1 337.0	1 344.3	..	..
Chinese Taipei	3 217.1	3 908.6	4 014.3	4 389.7	4 286.1	4 310.8	4 644.1

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 51. Government intramural expenditure on R&D (GOVERD) as a percentage of GDP

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	0.20	0.24 e	0.19	0.18 e	0.17	..
Austria	0.12 e	0.14 e	0.14	0.22 b e	0.22	0.22 p	0.23 p
Belgium	0.15	0.21	0.22	0.24	0.25	0.26 e	0.28 p
Canada	0.19	0.15	0.12	0.11	0.12	0.11 p	0.11 p
Chile	..	0.03	0.03	0.05	0.05	0.04 p	..
Colombia	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Czech Republic	0.26 b	0.37	0.39	0.30	0.30	0.31	0.32 p
Denmark	0.15	0.07	0.07	0.07	0.09 p	0.09 p	0.08 p
Estonia	0.10	0.16	0.16	0.14	0.15	0.16	0.17 p
Finland	0.32	0.27	0.23	0.22	0.23	0.23	0.23
France	0.36	0.29	0.29	0.28	0.28 p	0.27 p	0.27 e
Germany	0.34 d	0.42 d	0.41 d	0.41 d	0.41 d	0.42 d	0.44 d
Greece	0.12	0.23	0.27	0.25	0.25	0.27	0.29 p
Hungary	0.26 d	0.19 d	0.18 d	0.16 d	0.17 d	0.16 b d	0.15 d
Iceland	0.63	0.12	0.10	0.10	0.09	0.08	0.07
Ireland	0.09	0.07	0.05	0.05	0.05	0.05	0.05
Israel[1]	0.11 d	0.07 d	0.07 d	0.07 d	0.07 d	0.07 d	0.07 d e
Italy	0.18	0.18	0.18	0.17	0.17	0.18	0.18 p
Japan	0.26	0.28	0.26	0.24	0.25	0.25	0.25
Korea	0.30 d	0.46	0.47	0.46	0.46	0.45	0.46
Latvia	0.10	0.17	0.16	0.14	0.13	0.15	0.12 p
Lithuania	0.2	0.2	0.2	0.2	0.3	0.2	0.2 p
Luxembourg	0.19 d	0.38 d	0.38 d	0.33 d	0.30 d	0.31 d e	0.33 d p
Mexico	0.09	0.14	0.13	0.10	0.09 e	0.08 e	0.07 e
Netherlands	0.22 d	0.13 d	0.13 d	0.13 d	0.12 d	0.13 d	0.12 d p
New Zealand	0.29	..	0.26	..	0.27	..	..
Norway	0.23	0.26	0.29	0.29	0.29	0.28	0.27
Poland	0.20	0.23	0.24	0.02 b	0.02	0.02	0.02
Portugal	0.11	0.08	0.08	0.07	0.07	0.07	0.07
Slovak Republic	0.15 d	0.25 d	0.32	0.17	0.18	0.18	0.17
Slovenia	0.34	0.29	0.30	0.27	0.26	0.26	0.28 p
Spain	0.19	0.23	0.23	0.22	0.21	0.21	0.21 p
Sweden	0.16 b	0.12 e	0.11	0.11 e	0.12	0.12 e	0.15 b
Switzerland	..	0.03 d	0.03 d	..	0.03 d	..	..
Turkey	0.07	0.08	0.09	0.09 d	0.09 d	0.09 d	0.07 d
United Kingdom	0.16	0.12	0.11	0.11	0.11	0.11	0.12 p
United States	0.31 d	0.31	0.30	0.28	0.28	0.29	0.30 e
EU27 (from 01/02/2020)	0.25 e	0.26 e	0.26 e	0.23 e	0.24 e	0.24 e	0.24 e
OECD-Total	**0.25 e**	**0.25 e**	**0.25 e**	**0.23 e**	**0.23 e**	**0.24 e**	**0.24 e**
Argentina	0.17	0.28	0.32	0.26	0.26	..	..
China	0.28	0.32	0.33	0.33	0.32	0.32	0.35
Romania	0.14	0.16	0.19	0.16	0.16	0.15	0.15
Russian Federation	0.26	0.33	0.34	0.35	0.34	0.34	0.29
Singapore	0.21	0.24	0.24	0.23	0.21	0.21	..
South Africa	0.18	0.18	0.19	0.19	0.19	..	..
Chinese Taipei	0.49	0.37	0.36	0.39	0.37	0.36	0.37

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 52. Government intramural expenditure on R&D (GOVERD) at 2015 prices and PPP

Million 2015 USD

	2005	2014	2015	2016	2017	2018	2019
Australia	..	2 247.1	2 686.5 e	2 144.8	2 137.3 e	2 067.6	..
Austria	473.5 e	598.8 e	602.3	970.6 b e	983.0	1 036.6 p	1 067.7 p
Belgium	679.3	1 088.4	1 161.7	1 282.6	1 341.9	1 443.2 e	1 543.0 p
Canada	2 588.2	2 338.2	1 878.9	1 850.6	1 959.4	1 826.5 p	1 872.9 p
Chile	..	121.8	121.3	197.6	196.0	192.6 p	..
Colombia	37.4	59.2	50.3	139.6	142.0	146.9	168.8
Czech Republic	768.8 b	1 260.3	1 398.3	1 111.9	1 175.4	1 235.6	1 286.6 p
Denmark	399.4	181.9	190.0	197.1	266.0 p	274.5 p	261.8 p
Estonia	34.5	59.2	60.8	56.2	63.2	70.8	76.1 p
Finland	703.5	630.4	546.6	532.1	575.4	573.0	571.3
France	9 038.8	7 794.0	7 861.0	7 762.6	7 736.1 p	7 827.1 p	7 910.7 e
Germany	11 595.9 d	16 126.4 d	16 045.8 d	16 133.9 d	16 873.3 d	17 437.6 d	18 092.3 d
Greece	423.8	675.6	787.0	724.7	742.1	803.7	866.3 p
Hungary	617.2 d	469.9 d	469.6 d	426.5 d	465.0 d	485.8 b d	457.5 d
Iceland	84.9	18.4	16.5	17.2	15.7	15.7	14.4
Ireland	202.1	173.2	168.2	163.2	171.3	190.2	191.2
Israel[1]	219.2 d	215.7 d	211.0 d	217.2 d	234.1 d	246.0 d	249.1 d e
Italy	4 254.1	4 044.1	3 940.2	3 897.0	3 905.1	4 118.0	4 288.8 p
Japan	12 826.3	14 361.4	13 310.5	12 304.6	13 219.4	13 433.2	13 483.2
Korea	4 031.0 d	8 599.7	9 032.6	9 162.3	9 429.7	9 614.3	9 998.1
Latvia	41.8	78.4	78.4	69.9	69.7	79.0	67.1 p
Lithuania	122.6	143.7	149.2	188.8	224.1	194.0	197.1 p
Luxembourg	86.1 d	213.8 d	224.0 d	204.3 d	190.3 d	198.2 d e	218.0 d p
Mexico	1 653.6	3 038.4	2 884.6	2 341.6	2 008.0 e	1 949.0 e	1 774.8 e
Netherlands	1 691.7 d	1 106.0 d	1 111.1 d	1 134.4 d	1 100.8 d	1 150.5 d	1 153.1 d p
New Zealand	399.5	..	445.2	..	504.0	..	..
Norway	635.5	843.1	911.7	885.7	914.1	950.6	900.7
Poland	1 429.1	2 215.4	2 496.0	254.7 b	260.7	273.2	204.1
Portugal	344.5	243.9	247.7	211.0	234.7	239.1	245.6
Slovak Republic	164.6 d	385.2 d	525.6	281.0	314.8	315.6	299.3
Slovenia	199.9	183.7	193.5	181.7	181.6	194.3	214.6 p
Spain	2 900.4	3 643.3	3 791.0	3 678.3	3 693.3	3 679.2	3 820.7 p
Sweden	648.5 b	535.1 e	529.3	543.0 e	613.5	616.8 e	799.7 b
Switzerland	..	152.4 d	156.9 d	..	150.7 d	..	..
Turkey	801.0	1 582.2	1 833.0	1 860.3 d	2 049.0 d	2 190.3 d	1 644.8 d
United Kingdom	4 016.7	3 229.9	3 028.1	3 069.1	3 045.6	3 336.5	3 405.4 p
United States	48 324.0 d	54 621.1	54 666.0	51 953.9	52 573.6	57 127.2	60 539.9 e
EU27 (from 01/02/2020)	37 415.6 e	42 494.6 e	43 347.0 e	40 615.2 e	41 853.3 e	43 082.8 e	44 607.1 e
OECD-Total	**114 513.3 e**	**133 158.8 e**	**133 247.6 e**	**126 207.6 e**	**129 136.1 e**	**135 584.2 e**	**140 196.9 e**
Argentina	1 060.3	2 387.1	2 744.5	2 229.9	2 273.5	..	..
China	20 269.5	53 137.4	59 161.1	62 686.4	65 503.2	70 523.7	79 628.9
Romania	456.1	681.7	799.9	717.6	783.3	771.5	795.3
Russian Federation	7 046.4	11 758.9	12 059.5	12 453.2	12 144.1	12 481.9	10 904.2
Singapore	579.1	1 139.0	1 168.6	1 157.8	1 109.0	1 139.2	..
South Africa	962.2	1 245.3	1 331.1	1 318.6	1 314.2	..	..
Chinese Taipei	3 797.4	3 982.0	4 014.3	4 441.4	4 360.7	4 283.2	4 533.4

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 53. Percentage of Government intramural expenditure on R&D (GOVERD) financed by the business sector

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	9.9	..	10.3	..	10.0	..
Austria	..	..	6.0	..	8.7	..	..
Belgium	9.2	3.6	6.2	5.8	5.4	..	..
Canada	3.8	2.1	0.9	0.9	0.9	1.0 p	1.0 p
Chile	..	3.3	2.7	1.8	2.0	1.6 p	..
Colombia	0.0	0.5	0.9	0.3	0.3	0.0	0.0
Czech Republic	9.4 b	3.8	2.8	4.0	3.6	3.9	3.6 p
Denmark	2.1	1.7	1.2	2.1	3.9 p	..	..
Estonia	0.0	1.3	1.6	2.9	1.8	1.7	..
Finland	12.4	8.3	8.7	9.1	7.4	7.8	7.4
France	7.4	8.0	7.6	8.1	7.9 p	8.0 p	..
Germany	9.9 d	11.2 d	11.3 d	11.2 d	10.1 d	9.9 d	..
Greece	1.3	3.1	4.5	3.2	5.6	3.3	3.3 p
Hungary	10.3 d	7.8 d	8.8 d	6.0 d	5.2 d	6.6 b d	..
Iceland	7.4	15.3	15.5	12.2	3.8	21.7	4.9
Ireland	4.1	1.9	0.8	0.9	3.9	3.0	2.7
Israel[1]	7.7 d	2.1 d	2.1 d	2.2 d	2.1 d	2.0 d	..
Italy	2.4	4.1	4.2	3.8	4.3	3.8	..
Japan	0.7	1.9	2.3	2.4	2.8	2.7	2.5
Korea	4.3 d	2.8	2.3	3.0	3.4	3.0	3.0
Latvia	15.6	15.6	16.9	9.7	9.7	10.6	..
Lithuania	6.6	12.3	13.3	13.5	11.9	10.9	..
Luxembourg	3.9 d	..	1.3 d	1.1 d	2.1 d	3.2 d e	..
Mexico	1.2 e	1.8	2.7	3.1	3.2 e	2.9 e	3.1 e
Netherlands	14.6 d	8.2 d	7.8 d	7.8 d	8.6 d	9.2 d	..
New Zealand	19.0	..	18.2	..	17.0	..	..
Norway	10.6	9.6	7.4	8.0	7.5	7.0	..
Poland	14.3	.. c	4.5	5.3 b	4.8	3.9	..
Portugal	2.0	1.2	1.9	5.9	5.0	5.6	2.8
Slovak Republic	8.5 d	13.4 d	8.6	12.0	8.8	4.1	3.7
Slovenia	12.1	7.8	8.0	6.8	.. c	.. c	..
Spain	7.3	5.8	6.0	5.6	5.9	6.9	..
Sweden	1.3 b	..	3.9	..	6.8	..	..
Switzerland	..	0.0 d	2.4 d	..	3.9 d	..	..
Turkey	1.5	2.6	2.8	2.1 d	1.9 d	1.7 d	2.7 d
United Kingdom	9.9	12.0	2.2	1.8	1.6	2.8	..
United States	0.0 d	0.4 d	0.4 d	0.4 d	0.4 d	0.3 d	..
EU27 (from 01/02/2020)	8.1 e	8.0 e	8.0 e	8.3 e	7.9 e	7.7 e	..
OECD-Total	**3.5 e**	**3.7 e**	**3.5 e**	**3.7 e**	**3.6 e**	**3.5 e**	**..**
Argentina	0.2	0.2	0.3	0.5	0.2	..	..
China	4.9	4.1	3.9	4.7	4.6	4.4	4.6
Romania	16.1	17.0	15.2	18.0	13.3	12.0	..
Russian Federation	11.4	11.5	11.6	9.1	9.7	9.6	9.4
Singapore	2.3	4.3	4.0	3.5	3.1	3.0	..
South Africa	7.9	3.2	4.7	5.9	4.1	..	..
Chinese Taipei	3.0	3.0	2.7	2.6	3.4	3.2	2.8

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 54. Government researchers in full-time equivalent

FTE

	2005	2014	2015	2016	2017	2018	2019
Australia	..	7 637	..	7 483	..	..	..
Austria	1 232 d e	1 654 d e	1 682 d	3 624 d e	3 665 d	3 894 d p	4 053 d p
Belgium	2 274	4 062	4 041 b	4 290	4 486	5 642 e	5 750 p
Canada	8 360	9 250	7 930	7 400	7 930	..	..
Chile	..	769 d	863 d	1 296 d	1 163 d	1 316 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	6 564 b	6 979	7 393	7 500	7 908	7 879	7 968 p
Denmark	2 105	1 384	1 426	1 392	1 700 p	1 736 p	1 594 p
Estonia	474	533	514	504	549	489	524 p
Finland	4 374	4 089	3 550	3 209	3 318	3 236	3 260
France	25 889 d	28 065	28 445	28 890	29 077 p	29 207 p	29 310 e
Germany	39 911	52 854 b	54 011 d	53 971 d	54 715 d	57 183 d	59 221 d
Greece	2 076 d	5 844 d	7 256 d	6 263 d	7 184 d	7 768 d	8 220 d p
Hungary	4 959	4 776	4 680	4 965	4 867	6 592 d	6 495
Iceland	501	..	239 b	143	247	..	..
Ireland	419	461	494	504	580	652	635
Israel[1]	..	..	..	..	..	..	..
Italy	14 454 d	21 045 d	21 592 d	21 711 d	22 118 d	22 712 d	22 996 d p
Japan	34 035 d	30 373 d	30 242 d	30 238 d	30 610 d	30 585 d	30 532 d
Korea	12 791 d	24 750	26 431	27 170	27 185	27 364	28 686
Latvia	589 d	681 d	691 d	626 d	571 d	572 d	566 d p
Lithuania	1 805.0	1 400.0	1 449.0	1 576.6	1 612.6	1 584.3	1 536.0 p
Luxembourg	374	708	617	601	612	644	732 p
Mexico	6 589 e	6 772	6 798	6 670	6 450 e	6 189 e	6 034 e
Netherlands	7 028 d	5 413 d	5 538 d	5 668 d	5 563 d	5 845 d	6 072 d p
New Zealand	1 800	..	1 900	..	1 900	..	..
Norway	3 449 d	4 627	4 735	4 788	4 752	4 607	4 522
Poland	12 175	13 847	13 618	2 369 b	3 392 d	3 110 d	2 220 d
Portugal	3 338	1 447	1 351	1 340	1 477	1 558	1 600
Slovak Republic	2 503 d	3 123 d	3 084 d	3 087 d	3 078 d	3 088 d	3 090 d
Slovenia	1 591	1 744	1 629	1 667	1 502	1 661	1 778 d p
Spain	20 446	20 180 d	19 962 d	20 663 d	20 844 d	21 422 d	22 147 d p
Sweden	2 929 b d e	2 304 e	3 322 b e	3 362 e	3 788	3 700 e	3 914
Switzerland	..	466 d	472 d	..	455 d	..	..
Turkey	4 249	6 541	6 555	6 700 d	6 672 d	6 701 d	5 754 d
United Kingdom	9 311	7 769	7 057	7 047	7 015	6 869	6 885 p
United States	..	..	..	..	..	..	..
EU27 (from 01/02/2020)	170 209 e	192 983 e	196 533 e	187 964 e	192 540 e	200 016 e	203 788 e
OECD-Total	**295 019 e**	**336 983 e**	**340 368 e**	**329 520 e**	**335 410 e**	**346 790 e**	**353 380 e**
Argentina	13 285	24 814	26 266	27 168	26 975	..	..
China	200 377 d	295 899	305 686	336 106	356 805	370 116	390 179
Romania	7 082	6 409	6 659	6 755	6 526	6 597	6 801
Russian Federation	154 827	144 700	146 840	145 956	139 479	144 548	124 183
Singapore	1 364	1 950	2 146	2 407	2 423	2 501	..
South Africa	1 974	2 735	2 781	2 910	2 691	..	..
Chinese Taipei	13 789	14 229	14 343	14 797	15 044	15 688	16 824

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 55. Government researchers as a percentage of national total

Percentage

	2005	2014	2015	2016	2017	2018	2019
Australia	..	..	..	..	..	..	..
Austria	4.3 d e	3.9 d e	3.9 d	7.7 d e	7.7 d	7.7 d p	7.7 d p
Belgium	6.9	8.0	7.6 b	7.9 e	8.3	9.7 e	9.2 p
Canada	6.1	5.7 b	4.9	4.7	5.0	..	..
Chile	..	10.1 d	10.6 d	14.4 d	12.8 d	14.3 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	27.2 b	19.4	19.4	20.1	20.2	19.1	18.7 p
Denmark	7.5	3.3	3.3	3.1	3.7 p	3.7 p	3.8 p
Estonia	14.2	12.3	12.3	11.6	11.7	9.8	10.5 p
Finland	11.1	10.7	9.5	8.9	9.0	8.5	8.2
France	12.8 d	10.3 b	10.2	10.1	9.8 p	9.6 p	9.3 e
Germany	14.7	15.0 b	13.9 d	13.5 d	13.0 d	13.2 d	13.2 d e
Greece	10.6 d	19.6 d	20.9 d	21.3 d	20.5 d	21.2 d	20.5 d p
Hungary	31.2	18.2	18.5	19.2	17.1	17.5 d	16.5
Iceland	23.3	..	12.3 b	..	12.0	..	..
Ireland	3.6	1.9 e	2.0 e	2.1 e	2.3 e	2.6 e	2.5
Israel[1]	..	..	..	..	..	..	..
Italy	17.5 d	17.8 d	17.2 d	16.2 b d	15.8 d	14.9 d	14.3 d p
Japan	5.0 d	4.4 d	4.6 d	4.5 d	4.5 d	4.5 b d	4.5 d
Korea	7.1 d	7.2	7.4	7.5	7.1	6.7	6.7
Latvia	17.9 d	18.2 d	19.1 d	19.9 d	16.4 d	16.6 d	15.6 d p
Lithuania	23.6	15.4	17.7	18.5	18.4	17.7	16.0 p
Luxembourg	16.8	26.9	23.6	21.7	20.8	22.5	23.2 p
Mexico	15.0 e	21.6	19.8	17.2	16.5 e	15.8 e	14.5 e
Netherlands	14.7 d	6.5 d	6.6 d	6.5 d	6.1 d	6.1 d	6.1 d p
New Zealand	13.9	..	7.6	..	7.3	..	..
Norway	16.3 d	15.8	15.5	15.0	14.1	13.4	12.6
Poland	19.6	17.6	16.5	2.7 b	3.0 d	2.6 d	1.8 d
Portugal	15.8	3.8	3.5	3.2	3.3	3.3	3.2
Slovak Republic	22.9 d	21.2 d	21.4 d	21.8 d	20.2 d	18.9 d	18.2 d
Slovenia	30.3	20.3	20.6	20.5	16.1	16.5	16.9 d p
Spain	18.6	16.5 d	16.3 d	16.3 d	15.6 d	15.3 d	15.4 d p
Sweden	5.3 b d e	3.5 e	5.0 b e	4.8 e	5.2	4.9 e	5.0
Switzerland	..	..	1.1 d	..	1.0 d	..	..
Turkey	10.9	7.3	6.9	6.7 d	6.0 d	5.3 d	4.2 d
United Kingdom	3.7 b e	2.8 e	2.5	2.4 e	2.4 e	2.2 e	2.2 p
United States	..	..	..	..	..	..	..
EU27 (from 01/02/2020)	15.1 e	12.8 e	12.6 e	11.6 e	11.2 e	11.2 e	11.0 e
OECD-Total	**8.0 e**	**7.2 e**	**7.1 e**	**6.8 e**	**6.6 e**	**6.5 e**	**..**
Argentina	41.7	48.0	49.6	49.6	50.7	..	..
China	17.9 d	19.4	18.9	19.9	20.5	19.8	18.5
Romania	30.8	35.4	38.1	37.4	37.3	38.3	39.2
Russian Federation	33.3	32.5	32.7	34.0	34.0	35.6	31.0
Singapore	5.7	5.3	5.5	6.1	6.2	6.4	..
South Africa	11.4	11.6	10.6	10.5	9.1	..	..
Chinese Taipei	15.5	10.0	9.9	10.1	10.0	10.2	10.6

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 56. Government Total R&D personnel in full-time equivalent

FTE

	2005	2014	2015	2016	2017	2018	2019
Australia	..	14 715	..	14 773	..	..	..
Austria	2 318 d e	2 641 d e	2 674 d	5 208 d e	5 266 d	5 595 d p	5 824 d p
Belgium	3 589	6 381	6 470 b	6 653	6 946	7 866 e	7 844 p
Canada	17 860	18 050	15 410	14 300	15 120	..	..
Chile	..	1 372 d	1 495 d	2 223 d	2 295 d	2 316 d p	..
Colombia	..	..	..	..	..	..	..
Czech Republic	11 054 b	12 380	12 953	13 099	13 689	14 163	14 530 p
Denmark	3 240	1 686	1 792	1 720	2 256 p	2 304 p	2 221 p
Estonia	696	800	782	841	847	680	762 p
Finland	7 422	5 880	4 519	4 039	4 240	4 217	4 177
France	49 645 d	49 375	49 413	49 409	49 195 p	49 261 p	49 190 e
Germany	76 254 d	101 005 d	101 717 d	103 206 d	106 025 d	109 487 d	112 593 d
Greece	4 345 d	11 125 d	13 628 d	11 750 d	12 074 d	13 350 d	13 865 d p
Hungary	7 652	7 215	8 111	7 456	7 271	10 633 d	9 708
Iceland	849	..	275	185	277	..	..
Ireland	1 132	826	951	993	1 051	1 196	1 194
Israel[1]	..	..	..	..	..	..	..
Italy	32 684 d	38 506 d	38 669 d	38 490 d	38 756 d	39 442 d	39 781 d p
Japan	62 975 d	61 585 d	60 299 d	61 615 d	62 046 d	62 470 d	61 717 d
Korea	16 847 d	35 574	38 174	38 119	37 578	38 738	40 364
Latvia	1 256 d	1 180 d	1 184 d	1 077 d	974 d	1 032 d	1 028 d p
Lithuania	3 113.0	2 224.0	2 156.0	2 398.5	2 407.5	2 332.9	2 308.5 p
Luxembourg	560 d	1 187 d	1 136 d	1 072 d	1 129 d	1 172 d	1 333 d p
Mexico	14 837 e	13 158	12 959	13 183	12 674 e	12 091 e	11 494 e
Netherlands	12 706 d	8 325 d	8 335 d	8 568 d	8 553 d	9 326 d	9 339 d p
New Zealand	3 100	..	3 500	..	3 300	..	..
Norway	5 147	6 690	6 820	6 810	6 793	6 598	6 612
Poland	17 877	22 614	22 073	3 733 b	4 596 d	4 377 d	3 235 d
Portugal	4 533	2 037	2 066	2 098	2 212	2 283	2 315
Slovak Republic	3 717 d	4 147 d	4 335 d	4 414 d	4 213 d	4 060 d	4 079 d
Slovenia	2 517	2 490	2 437	2 501	2 323	2 497	2 664 d p
Spain	32 077	38 764 d	39 678 d	39 972 d	40 283 d	40 332 d	41 372 d p
Sweden	3 444 b e	3 404 e	4 234 b e	4 269 e	4 894	4 918 e	5 344
Switzerland	..	897 d	909 d	..	875 d	..	..
Turkey	8 825	12 230	12 328	11 799 d	11 345 d	11 379 d	8 886 d
United Kingdom	20 415	16 250	14 615	14 531	14 698	14 631	14 665 p
United States	..	..	..	..	..	..	..
EU27 (from 01/02/2020)	300 979 e	342 782 e	347 622 e	331 241 e	337 164 e	348 037 e	352 447 e
OECD-Total	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Argentina	21 688	37 757	39 271	40 248	38 245	..	..
China	254 506 d	479 435	493 200	505 927	531 629	545 771	566 858
Romania	10 055	11 866	12 080	12 663	12 500	11 986	12 220
Russian Federation	296 428	283 161	283 968	287 129	283 620	289 612	244 022
Singapore	2 173	3 497	3 879	4 075	4 009	4 073	..
South Africa	5 586	6 362	6 417	6 453	6 295	..	..
Chinese Taipei	25 673	24 322	24 408	25 031	25 460	26 411	28 612

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 57. Total GBARD (Government budget allocations for R&D) at current prices and PPP

Million USD

	2005	2015	2016	2017	2018	2019	2020
Australia	3 729.1 d	4 610.5 d	4 761.4 d	5 262.5 d	5 108.4 d p	5 137.0 d p	6 414.7 d p
Austria	1 836.6 d	3 436.2 d	3 701.4 d	3 728.7 d	3 813.0 d	3 942.5 d	4 329.5 p
Belgium	2 004.6	3 171.7	3 439.6	3 778.8	3 798.9	4 371.5	..
Canada	6 777.1 d	7 946.8 d	8 450.4 d	9 111.6 d	..	..	..
Chile	..	822.1	936.8	976.5	..	..	..
Colombia	171.2	614.0	509.0	566.4	599.5	663.6	..
Czech Republic	1 129.0	2 151.0	2 225.2	2 467.1	2 698.3	2 859.1	2 822.3 p
Denmark	1 329.3	2 794.4 e	2 694.4 e	2 829.1 e	2 953.2 e	3 101.8 p	3 280.2 p
Estonia	89.9 e	261.3 e	275.0 b	267.6	337.7	321.4	..
Finland	1 648.0	2 205.0	2 084.7	2 183.6	2 291.0	2 380.3	..
France	18 220.2	17 526.4	18 009.5	17 668.2	18 476.4	18 195.3	..
Germany	19 732.0	34 098.5	37 667.8	40 496.1	43 111.7	45 600.7	49 183.3 p
Greece	895.8	1 515.5	1 607.7	1 538.4	1 981.6	2 325.0	..
Hungary	696.1	725.4	1 060.3	1 001.3	929.3	901.7	..
Iceland	94.0	85.6	99.4	113.8	..	..	..
Ireland	710.7	909.4	905.6	930.6	967.8	994.2	..
Israel[1]	1 044.9 d	1 837.6 d	1 997.4 d	2 062.3 d	2 216.0 d	2 338.4 d	..
Italy	11 199.3	11 333.0	12 467.6	12 743.8	13 250.0	14 712.3	..
Japan	27 617.8 d	33 610.4 d	33 802.9 b d	34 138.3 d	37 029.0 d	40 934.9 d	42 341.8 d p
Korea	9 886.5 b d	22 029.6	22 297.4	22 348.5	22 811.3	24 008.6	..
Latvia	57.4	93.7	108.6	123.8	130.1	138.9	..
Lithuania	169.8	273.7	278.7	298.7	299.2	338.2 p	..
Luxembourg	81.5	379.9	394.5	410.3	421.8	481.6	..
Mexico	2 963.4	7 092.3 e	6 597.6	5 669.5 p	5 550.8	5 149.3	5 406.5 p
Netherlands	4 391.9	6 025.7	6 192.8	6 338.9	7 116.8	7 173.5	7 462.8 p
New Zealand	..	872.3	933.0	1 054.0	..	..	..
Norway	1 535.9	2 916.3	3 081.1	3 477.9	3 645.9	3 724.7	3 969.6 p
Poland	1 548.8	4 157.6	3 526.9	4 122.7	3 464.8	..	..
Portugal	1 045.6	1 174.1	1 240.2	1 270.4	1 303.8	1 324.6	..
Slovak Republic	244.6	672.8	600.7	593.6	630.3	681.0	677.8 p
Slovenia	273.3	268.5	282.1	299.1	337.3	390.7	..
Spain	6 440.7	9 089.8	9 422.4	9 505.6	9 919.7	10 355.2	..
Sweden	2 508.0	3 741.9	3 897.8	4 143.4	4 230.4	4 169.8	..
Switzerland	..	4 752.8	..	5 479.6	..	..	..
Turkey	..	6 913.4	7 345.4	7 738.7	7 973.5	7 873.2	6 770.7 p
United Kingdom	12 116.1	14 608.7	14 881.2	15 848.9	17 139.5	18 072.0	..
United States	111 332.0	115 220.0	126 093.0	127 306.0	144 459.0	149 971.0	164 453.0 p
EU27 (from 01/02/2020)	77 493.5 e	108 329.7 e	114 599.8 e	118 987.9 e	124 813.1 e	131 770.4 e	..
OECD-Total	**258 218.3 e**	**329 937.9 e**	**349 019.9 e**	**357 894.1 e**	**386 157.9 e**	**404 391.3 e**	**435 090.0 e**
Argentina	1 190.2 d	..	..	..	..	..	..
China	..	..	..	..	..	..	..
Romania	448.5	1 104.2	1 338.4	997.8	980.3	1 201.6	..
Russian Federation	6 038.6 b	18 647.9	16 646.7	15 664.0	17 049.2	19 182.3	..
Singapore	..	..	..	..	..	..	..
South Africa	..	..	..	..	..	..	..
Chinese Taipei	4 881.6	7 434.9	7 647.0	7 817.0	7 654.1	8 094.6	8 312.2

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, Main Science and Technology Indicators database

Table 58. Defence Budget R&D

As a percentage of total GBARD (Government budget allocations for R&D)

Percentage

	2005	2015	2016	2017	2018	2019	2020
Australia	6.9 d	7.7 d	7.4 d	7.4 d	7.2 d p	6.2 d p	5.6 d p
Austria	0.0 d	0.0 d	0.1 d	0.2 d	0.2 d	0.2 d	0.2 p
Belgium	0.3	0.1	0.1	0.1	0.1	0.1	..
Canada	4.1 d	2.6 d	2.2 d	..	..	..	..
Chile	..	0.0	0.0	0.0	..	..	..
Colombia	1.3	2.4	1.9	1.7	1.9	0.9	..
Czech Republic	2.5	1.3	1.2	1.3	1.2	1.1	1.1 p
Denmark	0.7	0.3 e	0.3 e	0.3 e	0.3 e	0.3 e p	0.3 e p
Estonia	1.0 e	1.5 e	2.3 b	1.9	3.4	1.7	..
Finland	3.3	1.9	1.9	2.2	2.4	2.5	..
France	20.8	7.2 d	6.4 d	8.2 d	6.9 d	1.4 d	..
Germany	5.8 s	3.1 s	2.7	3.8	3.3	4.4	4.3 p
Greece	0.5	0.1	0.9	1.8	1.7	1.5	..
Hungary	0.1	0.6	0.1	0.4	0.0	0.0	..
Iceland	0.0	0.0	0.0	0.0	..	..	..
Ireland	0.0	0.0	0.0	0.0	0.0	0.0	..
Israel[1]	..	..	..	..	..	..	..
Italy	3.6	0.8	0.6	0.6	0.6	0.6	..
Japan	4.0 d m	4.4 d m	3.0 b d	3.4 d	2.7 d	3.0 d	2.9 d p
Korea	12.4 b d	13.5	14.0	15.0	15.8	16.3	..
Latvia	1.1	1.9	2.7	.. c	..	..	..
Lithuania	0.2	0.1	0.3	0.1	0.2	0.3 p	..
Luxembourg	0.0	0.0	0.0	0.0	0.0	0.0	..
Mexico	0.0	0.2 e	0.1	0.2 p	0.1	0.2	0.2 p
Netherlands	2.0	1.3	1.2	1.1	1.2	1.2	1.3 p
New Zealand	..	0.0	0.0	0.0	..	..	..
Norway	6.4	3.8	3.7	3.5	3.5	3.5	3.5 p
Poland	1.3	5.1	15.5	9.2	5.8	..	..
Portugal	0.1	0.3	0.3	0.3	0.4	0.3	..
Slovak Republic	8.3 d	1.9	1.5	1.7	1.8	2.4	2.3 p
Slovenia	4.9	0.2	0.2	0.3	0.3	0.6	..
Spain	3.9	1.4	1.0	1.1	0.9	1.5	..
Sweden	17.4	3.3 d	3.4 e	3.0 e	3.7 e	2.8	..
Switzerland	..	0.4	..	0.3	..	..	..
Turkey	..	10.7	13.1	17.3	20.0	18.7	20.8 p
United Kingdom	23.5	16.4	15.9	15.2	14.1	11.4	..
United States	49.1	41.6	42.7	43.5	46.7	46.9	48.1 p
EU27 (from 01/02/2020)	8.1 e	2.8 e	2.8 e	3.3 e	2.8 e	2.4 e	..
OECD-Total	**26.0 e**	**18.0 e**	**18.7 e**	**19.1 e**	**20.8 e**	**20.5 e**	**..**
Argentina	0.4 d	..	..	..	..	..	..
China	..	..	..	..	..	..	..
Romania	1.7	1.6	1.7	4.5	7.7	8.3	..
Russian Federation	..	..	..	..	..	..	..
Singapore	..	..	..	..	..	..	..
South Africa	..	..	..	..	..	..	..
Chinese Taipei	10.6	2.5	5.2	6.4	7.0	9.8	8.1

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 59. Civil Budget R&D

As a percentage of total GBARD (Government budget allocations for R&D)

Percentage

	2005	2015	2016	2017	2018	2019	2020
Australia	93.1 d	92.3 d	92.6 d	92.6 d	92.8 d p	93.8 d p	94.4 d p
Austria	100.0 d	100.0 d	99.9 d	99.8 d	99.8 d	99.8 d	99.8 p
Belgium	99.7	99.9	99.9	99.9	99.9	99.9	..
Canada	95.9 d	97.4 d	97.8 d	..	..	..	..
Chile	..	100.0	100.0	100.0	..	..	..
Colombia	98.7	97.6	98.1	98.3	98.1	99.1	..
Czech Republic	97.5	98.7	98.8	98.7	98.8	98.9	98.9 p
Denmark	99.3	99.7 e	99.7 e	99.7 e	99.7 e	99.7 e p	99.7 e p
Estonia	99.0 e	98.5 e	97.7 b	98.1	96.6	98.3	..
Finland	96.7	98.1	98.1	97.8	97.6	97.5	..
France	79.2	92.8 d	93.6 d	91.8 d	93.1 d	98.6 d	..
Germany	94.2 s	96.9 s	97.3	96.2	96.7	95.6	95.7 p
Greece	99.5	99.9	99.1	98.2	98.3	98.5	..
Hungary	99.9	99.4	99.9	99.6	100.0	100.0	..
Iceland	100.0	100.0	100.0	100.0	..	..	..
Ireland	100.0	100.0	100.0	100.0	100.0	100.0	..
Israel[1]	..	..	..	..	..	..	..
Italy	96.4	99.2	99.4	99.4	99.4	99.4	..
Japan	96.0 d	95.6 d	97.0 b d	96.6 d	97.3 d	97.0 d	97.1 d p
Korea	87.6 b d	86.5	86.0	85.0	84.2	83.7	..
Latvia	98.9	98.1	97.3	.. c	..	..	..
Lithuania	99.8	99.9	99.7	99.9	99.8	99.7 p	..
Luxembourg	100.0	100.0	100.0	100.0	100.0	100.0	..
Mexico	100.0	99.8 e	99.9	99.8 p	99.9	99.8	99.8 p
Netherlands	98.0	98.7	98.8	98.9	98.8	98.8	98.7 p
New Zealand	..	100.0	100.0	100.0	..	..	..
Norway	93.6	96.2	96.3	96.5	96.5	96.5	96.5 p
Poland	98.7	94.9	84.5	90.8	94.2	..	..
Portugal	99.9	99.7	99.7	99.7	99.6	99.7	..
Slovak Republic	91.7 d	98.1	98.5	98.3	98.2	97.6	97.7 p
Slovenia	95.1	99.8	99.8	99.7	99.7	99.4	..
Spain	96.1	98.6	99.0	98.9	99.1	98.5	..
Sweden	82.6	96.7 d	96.6 e	97.0 e	96.3 e	97.2	..
Switzerland	..	99.6	..	99.7	..	..	..
Turkey	..	89.3	86.9	82.7	80.0	81.3	79.2 p
United Kingdom	76.5	83.6	84.1	84.8	85.9	88.6	..
United States	50.9	58.4	57.3	56.5	53.3	53.1	51.9 p
EU27 (from 01/02/2020)	91.9 e	97.2 e	97.2 e	96.7 e	97.2 e	97.6 e	..
OECD-Total	**74.0 e**	**82.0 e**	**81.3 e**	**80.9 e**	**79.2 e**	**79.5 e**	**..**
Argentina	99.6 d	..	..	..	..	..	..
China	..	..	..	..	..	..	..
Romania	98.3	98.4	98.3	95.5	92.3	91.7	..
Russian Federation	..	..	..	..	..	..	..
Singapore	..	..	..	..	..	..	..
South Africa	..	..	..	..	..	..	..
Chinese Taipei	89.4	97.5	94.8	93.6	93.0	90.2	91.9

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database

Table 60. Triadic patent families

By priority year

Number

	2005	2013	2014	2015	2016	2017	2018
Australia	479	309	324	344	354 e	367 e	370 e
Austria	411	380	399	393	398 e	415 e	427 e
Belgium	543	431	395	414	427 e	447 e	458 e
Canada	720	622	592	583	587 e	612 e	625 e
Chile	6	12	8	12	14 e	15 e	16 e
Colombia	2	2	5	5	5 e	5 e	6 e
Czech Republic	25	32	44	50	51 e	55 e	56 e
Denmark	390	264	307	316	320 e	330 e	337 e
Estonia	3	9	6	4	4 e	4 e	5 e
Finland	391	271	313	264	262 e	262 e	266 e
France	3 048	2 425	2 495	2 249	2 197 e	2 117 e	2 073 e
Germany	7 145	4 911	4 655	4 673	4 697 e	4 737 e	4 772 e
Greece	24	20	23	10	11 e	12 e	13 e
Hungary	58	20	35	36	36 e	35 e	34 e
Iceland	7	2	1	2	3 e	3 e	4 e
Ireland	99	94	108	98	100 e	105 e	108 e
Israel[1]	502	438	455	512	529 e	543 e	561 e
Italy	966	773	818	812	848 e	868 e	884 e
Japan	18 933	17 651	17 615	17 607	17 489 e	17 780 e	18 645 e
Korea	2 746	2 549	2 211	2 219	2 177 e	2 103 e	2 160 e
Latvia	10	3	1	4	6 e	6 e	7 e
Lithuania	1.0	4.3	4.7	3.6	2.8 e	3.0 e	3.1 e
Luxembourg	21	15	20	23	26 e	25 e	25 e
Mexico	19	20	28	30	29 e	29 e	29 e
Netherlands	1 762	1 139	1 288	1 116	1 137 e	1 096 e	1 091 e
New Zealand	73	71	101	68	65 e	66 e	66 e
Norway	141	104	111	100	105 e	109 e	108 e
Poland	18	59	54	81	81 e	91 e	95 e
Portugal	16	21	32	33	39 e	40 e	42 e
Slovak Republic	2	10	7	9	10 e	10 e	10 e
Slovenia	22	14	13	7	7 e	7 e	8 e
Spain	293	230	256	285	296 e	306 e	314 e
Sweden	970	588	676	718	714 e	742 e	772 e
Switzerland	1 084	1 117	1 180	1 199	1 232 e	1 257 e	1 275 e
Turkey	16	42	28	49	57 e	65 e	74 e
United Kingdom	2 165	1 825	1 674	1 646	1 670 e	1 690 e	1 714 e
United States	17 371	14 818	13 660	13 541	12 872 e	12 768 e	12 753 e
EU27 (from 01/02/2020)	16 250	11 733	11 972	11 620	11 696 e	11 745 e	11 830 e
OECD-Total	**60 483**	**51 289**	**49 936**	**49 512**	**48 853 e**	**49 125 e**	**50 201 e**
Argentina	16	6	10	11	11 e	11 e	11 e
China	524	2 191	2 835	3 213	3 792 e	4 472 e	5 323 e
Romania	7	13	9	13	13 e	14 e	15 e
Russian Federation	91	76	111	90	88 e	90 e	88 e
Singapore	170	130	148	121	117 e	121 e	120 e
South Africa	49	29	26	24	22 e	21 e	21 e
Chinese Taipei	145	337	388	443	460 e	489 e	518 e

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Patent database

Table 61. Share of countries in triadic patent families

By priority year

Percentage

	2005	2013	2014	2015	2016	2017	2018
Australia	0.77	0.56	0.60	0.63	0.65 e	0.67 e	0.65 e
Austria	0.66	0.69	0.74	0.73	0.74 e	0.75 e	0.75 e
Belgium	0.88	0.79	0.73	0.76	0.79 e	0.81 e	0.80 e
Canada	1.16	1.14	1.09	1.08	1.08 e	1.11 e	1.09 e
Chile	0.01	0.02	0.02	0.02	0.02 e	0.03 e	0.03 e
Colombia	0.00	0.00	0.01	0.01	0.01 e	0.01 e	0.01 e
Czech Republic	0.04	0.06	0.08	0.09	0.09 e	0.10 e	0.10 e
Denmark	0.63	0.48	0.57	0.58	0.59 e	0.60 e	0.59 e
Estonia	0.00	0.02	0.01	0.01	0.01 e	0.01 e	0.01 e
Finland	0.63	0.49	0.58	0.49	0.48 e	0.47 e	0.47 e
France	4.92	4.43	4.60	4.15	4.05 e	3.83 e	3.62 e
Germany	11.53	8.97	8.59	8.62	8.67 e	8.58 e	8.34 e
Greece	0.04	0.04	0.04	0.02	0.02 e	0.02 e	0.02 e
Hungary	0.09	0.04	0.06	0.07	0.07 e	0.06 e	0.06 e
Iceland	0.01	0.00	0.00	0.00	0.01 e	0.01 e	0.01 e
Ireland	0.16	0.17	0.20	0.18	0.19 e	0.19 e	0.19 e
Israel[1]	0.81	0.80	0.84	0.95	0.98 e	0.98 e	0.98 e
Italy	1.56	1.41	1.51	1.50	1.57 e	1.57 e	1.54 e
Japan	30.54	32.23	32.51	32.47	32.28 e	32.19 e	32.58 e
Korea	4.43	4.65	4.08	4.09	4.02 e	3.81 e	3.77 e
Latvia	0.02	0.01	0.00	0.01	0.01 e	0.01 e	0.01 e
Lithuania	0.0	0.0	0.0	0.0	0.0 e	0.0 e	0.0 e
Luxembourg	0.03	0.03	0.04	0.04	0.05 e	0.05 e	0.04 e
Mexico	0.03	0.04	0.05	0.05	0.05 e	0.05 e	0.05 e
Netherlands	2.84	2.08	2.38	2.06	2.10 e	1.98 e	1.91 e
New Zealand	0.12	0.13	0.19	0.12	0.12 e	0.12 e	0.12 e
Norway	0.23	0.19	0.20	0.18	0.19 e	0.20 e	0.19 e
Poland	0.03	0.11	0.10	0.15	0.15 e	0.17 e	0.17 e
Portugal	0.03	0.04	0.06	0.06	0.07 e	0.07 e	0.07 e
Slovak Republic	0.00	0.02	0.01	0.02	0.02 e	0.02 e	0.02 e
Slovenia	0.04	0.03	0.02	0.01	0.01 e	0.01 e	0.01 e
Spain	0.47	0.42	0.47	0.52	0.55 e	0.55 e	0.55 e
Sweden	1.56	1.07	1.25	1.32	1.32 e	1.34 e	1.35 e
Switzerland	1.75	2.04	2.18	2.21	2.27 e	2.28 e	2.23 e
Turkey	0.03	0.08	0.05	0.09	0.10 e	0.12 e	0.13 e
United Kingdom	3.49	3.33	3.09	3.04	3.08 e	3.06 e	2.99 e
United States	28.02	27.05	25.21	24.98	23.76 e	23.12 e	22.28 e
EU27 (from 01/02/2020)	26.21	21.42	22.09	21.43	21.59 e	21.26 e	20.67 e
OECD-Total	**97.57**	**93.64**	**92.16**	**91.32**	**90.17 e**	**88.93 e**	**87.72 e**
Argentina	0.03	0.01	0.02	0.02	0.02 e	0.02 e	0.02 e
China	0.84	4.00	5.23	5.93	7.00 e	8.10 e	9.30 e
Romania	0.01	0.02	0.02	0.02	0.02 e	0.03 e	0.03 e
Russian Federation	0.15	0.14	0.21	0.17	0.16 e	0.16 e	0.15 e
Singapore	0.28	0.24	0.27	0.22	0.22 e	0.22 e	0.21 e
South Africa	0.08	0.05	0.05	0.05	0.04 e	0.04 e	0.04 e
Chinese Taipei	0.23	0.62	0.72	0.82	0.85 e	0.89 e	0.90 e

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Patent database

Table 62. Patents in the ICT sector - applications filed under the PCT

By priority year

Number

	2005	2013	2014	2015	2016	2017	2018
Australia	385	395	404	392	396	352	..
Austria	211	149	161	151	174	167	..
Belgium	144	238	233	215	194	183	..
Canada	819	933	819	917	917	817	..
Chile	2	5	16	19	10	3	..
Colombia	3.0	5.0	6.3	6.8	5.1	8.0	..
Czech Republic	17	25	21	23	21	28	..
Denmark	161	145	152	155	138	129	..
Estonia	6	16	10	5	10	10	..
Finland	755	626	551	496	488	560	..
France	1 502	1 356	1 433	1 350	1 283	1 245	..
Germany	2 289	2 310	2 330	2 535	2 648	2 874	..
Greece	14	20	25	12	22	19	..
Hungary	27	55	67	59	75	54	..
Iceland	5	1	2	2	0	3	..
Ireland	84	109	124	136	173	144	..
Israel[1]	669	761	747	754	731	620	..
Italy	346	325	324	307	319	296	..
Japan	6 358	10 130	9 068	9 492	9 928	10 145	..
Korea	2 132	4 643	5 093	5 382	4 974	5 209	..
Latvia	4	1	3	7	1	3	..
Lithuania	2.1	7.0	6.0	4.0	4.3	4.3	..
Luxembourg	5	9	15	7	24	19	..
Mexico	14	22	33	50	44	42	..
Netherlands	1 266	598	587	593	543	458	..
New Zealand	43	38	33	37	31	33	..
Norway	99	85	71	73	78	96	..
Poland	13	53	71	103	79	63	..
Portugal	20	23	17	36	38	28	..
Slovak Republic	3	10	10	13	9	3	..
Slovenia	5	14	7	8	7	4	..
Spain	130	225	231	181	210	177	..
Sweden	688	1 149	1 356	1 421	1 444	1 460	..
Switzerland	218	308	277	260	338	311	..
Turkey	11	102	104	152	169	159	..
United Kingdom	1 348	1 397	1 443	1 361	1 412	1 410	..
United States	14 907	18 403	17 301	16 946	17 076	16 628	..
EU27 (from 01/02/2020)	7 714	7 517	7 791	7 875	7 941	7 955	..
OECD-Total	**34 707**	**44 689**	**43 150**	**43 662**	**44 014**	**43 765**	**..**
Argentina	7	4	5	12	3	4	..
China	1 817	12 795	14 484	18 943	22 031	24 135	..
Romania	6	29	31	36	21	12	..
Russian Federation	153	307	280	263	273	238	..
Singapore	192	188	216	242	232	289	..
South Africa	54	70	65	53	47	43	..
Chinese Taipei	64	242	283	221	249	381	..

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Patent database

Table 63. Patents in the biotechnology sector - applications filed under the PCT

By priority year

Number

	2005	2013	2014	2015	2016	2017	2018
Australia	219	149	163	163	157	164	..
Austria	61	67	75	77	63	65	..
Belgium	118	108	114	129	142	136	..
Canada	309	270	241	258	237	248	..
Chile	3	18	29	36	23	31	..
Colombia	1.0	8.3	4.7	10.4	6.8	10.9	..
Czech Republic	5	9	14	14	6	12	..
Denmark	193	179	196	164	167	177	..
Estonia	2	3	1	3	5	6	..
Finland	50	61	50	48	53	40	..
France	341	524	541	542	512	510	..
Germany	701	628	650	704	618	653	..
Greece	6	3	5	5	6	7	..
Hungary	10	16	10	16	13	12	..
Iceland	5	1	2	2	0	2	..
Ireland	27	31	35	29	36	25	..
Israel[1]	171	144	174	197	183	206	..
Italy	169	138	155	146	165	158	..
Japan	1 450	1 281	1 334	1 441	1 612	1 517	..
Korea	219	540	620	738	879	901	..
Latvia	1	1	1	1	3	2	..
Lithuania	1.3	6.5	5.1	4.0	2.8	6.7	..
Luxembourg	1	2	2	8	3	6	..
Mexico	11	21	18	25	22	18	..
Netherlands	234	234	223	254	230	216	..
New Zealand	53	32	26	26	24	25	..
Norway	32	47	62	35	47	28	..
Poland	10	35	37	33	25	20	..
Portugal	10	14	12	17	15	15	..
Slovak Republic	0	3	2	2	5	3	..
Slovenia	4	8	6	6	3	5	..
Spain	123	202	172	169	134	161	..
Sweden	135	109	115	115	140	117	..
Switzerland	150	189	186	216	202	215	..
Turkey	2	14	12	16	25	27	..
United Kingdom	518	457	513	534	496	484	..
United States	4 756	5 161	4 940	5 520	5 637	5 763	..
EU27 (from 01/02/2020)	2 207	2 387	2 429	2 493	2 354	2 360	..
OECD-Total	**10 100**	**10 712**	**10 748**	**11 705**	**11 897**	**11 989**	**..**
Argentina	10	16	13	6	4	2	..
China	122	577	654	846	1 118	1 484	..
Romania	1	2	3	2	0	1	..
Russian Federation	60	65	55	51	34	64	..
Singapore	64	115	99	89	104	102	..
South Africa	16	17	22	16	15	16	..
Chinese Taipei	11	42	86	91	87	83	..

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Patent database

Table 64. Trade balance and export market share: Pharmaceutical industry

	Trade balance (Million current USD)			Export market share (Percentage)		
	2012	2015	2018	2013	2016	2019
Australia	-6 168.0	-5 842.9	-5 293.5	0.64	0.48	0.65
Austria	1 039.6	369.5	172.3	1.86	1.68	1.79
Belgium	8 932.8	7 654.8	8 188.2	9.90	8.17	8.29
Canada	-7 624.7	-4 715.2	-5 914.4	1.04	1.56	1.28
Chile	-946.4	-1 114.3	-1 473.3	0.03	0.03	0.03
Colombia	-1 734.5	-1 966.3	-2 196.5	0.09	0.08	0.06
Czech Republic	-2 112.3	-1 666.1	-2 224.6	0.37	0.45	0.48
Denmark	7 434.8	8 722.4	11 076.7	2.37	2.48	2.85
Estonia	-320.5	-328.9	-478.1	0.01	0.02	0.02
Finland	-919.9	-1 254.7	-1 420.8	0.23	0.17	0.11
France	5 838.1	4 665.7	5 367.8	7.11	5.70	5.46
Germany	24 807.4	28 328.1	37 259.4	14.23	14.15	13.81
Greece	-2 516.9	-1 954.9	-2 019.9	0.26	0.22	0.33
Hungary	894.6	749.4	676.6	0.91	0.86	0.88
Iceland	-7.9	-47.7	-166.0	0.02	0.01	0.00
Ireland	25 950.3	27 000.2	41 314.8	5.30	6.15	8.33
Israel	4 874.2	4 608.3	3 195.0	1.15	1.24	0.45
Italy	-2 603.2	-2 468.8	-681.8	4.70	4.18	5.31
Japan	-20 348.6	-20 167.4	-20 475.7	0.68	0.81	0.99
Korea	-3 089.0	-2 862.6	-3 284.1	0.29	0.50	0.63
Latvia	-188.0	-200.0	-181.4	0.07	0.08	0.08
Lithuania	-436.6	-369.7	-343.1	0.10	0.15	0.13
Luxembourg	-361.8	-314.2	-406.6	0.02	0.02	0.02
Mexico	-3 418.4	-3 319.8	-3 701.7	0.37	0.30	0.23
Netherlands	6 276.0	8 353.9	11 594.8	4.45	4.41	4.50
New Zealand	-668.4	-533.3	-673.1	0.06	0.06	0.05
Norway	-1 149.4	-1 080.0	-1 402.2	0.15	0.13	0.12
Poland	-2 939.4	-2 231.4	-3 904.2	0.59	0.54	0.57
Portugal	-1 860.2	-1 568.1	-2 088.1	0.18	0.23	0.21
Slovak Republic	-1 408.9	-1 284.3	-1 555.8	0.09	0.11	0.07
Slovenia	1 624.4	1 474.2	1 591.7	0.57	0.51	0.84
Spain	-2 128.6	-3 198.4	-4 258.0	2.57	2.12	1.99
Sweden	3 957.3	4 478.1	4 746.9	1.62	1.49	1.67
Switzerland	36 446.3	41 235.8	47 548.1	11.67	13.17	13.04
Turkey	-3 612.8	-3 656.3	-3 553.0	0.15	0.16	0.22
United Kingdom	8 266.0	2 059.0	-372.3	6.15	6.11	4.29
United States	-25 273.1	-37 945.4	-67 899.7	8.16	9.28	8.67
EU27 (from 01/02/2020)	..	..	..	..	..	..
OECD-Total	**44 504.4**	**39 608.7**	**36 764.6**	**88.17**	**87.79**	**88.45**
Argentina	-1 293.3	-1 442.5	-1 822.8	0.19	0.19	0.11
China	-1 745.1	-6 522.2	-11 704.5	2.34	2.52	2.62
Romania	-2 038.8	-1 931.0	-2 669.7	0.23	0.14	0.14
Russian Federation	-12 882.1	-8 444.6	-10 146.4	0.11	0.12	0.13
Singapore	6 595.7	4 841.0	6 164.8	1.49	1.19	1.33
South Africa	-1 981.8	-1 830.8	-2 126.9	0.09	0.08	0.07
Chinese Taipei	-2 100.2	-2 417.3	-3 361.8	0.10	0.11	0.10

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, STAN Bilateral Trade in Goods by Industry and End-use Category database

Table 65. Trade balance and export market share: Computer, electronic and optical industry

	Trade balance (Million current USD)			Export market share (Percentage)		
	2012	2015	2018	2013	2016	2019
Australia	-23 675.8	-20 565.2	-24 834.0	0.16	0.18	0.18
Austria	-2 169.6	-1 239.1	-2 698.0	0.45	0.39	0.35
Belgium	-5 358.3	-2 618.7	-4 218.1	0.56	0.56	0.53
Canada	-28 405.5	-24 465.0	-27 574.9	0.61	0.59	0.53
Chile	-6 141.2	-5 771.5	-6 554.8	0.02	0.02	0.01
Colombia	-6 162.9	-5 936.7	-5 801.2	0.01	0.01	0.01
Czech Republic	2 267.0	-955.2	518.8	0.99	1.01	1.32
Denmark	-2 109.9	-1 675.4	-1 839.1	0.28	0.28	0.26
Estonia	-159.0	-95.7	-143.4	0.10	0.09	0.06
Finland	-2 020.3	-2 182.0	-3 251.4	0.14	0.14	0.15
France	-18 581.1	-17 011.2	-17 626.4	1.54	1.41	1.32
Germany	-6 601.0	-7 936.1	-5 171.6	4.74	4.91	4.98
Greece	-2 851.7	-1 703.8	-1 945.6	0.03	0.05	0.06
Hungary	3 644.6	455.7	336.3	0.78	0.61	0.68
Iceland	-216.2	-321.2	-491.0	0.00	0.00	0.00
Ireland	4 803.3	3 958.4	7 221.9	0.49	0.72	0.74
Israel	2 888.0	3 766.5	2 591.0	0.47	0.43	0.36
Italy	-16 822.9	-13 796.0	-14 990.5	0.69	0.66	0.64
Japan	6 727.6	-10 609.1	-9 156.7	4.07	3.76	3.44
Korea	61 159.7	63 978.4	96 757.0	5.71	5.75	5.63
Latvia	-274.3	-176.5	-417.7	0.05	0.06	0.05
Lithuania	-497.0	-454.1	-563.2	0.04	0.06	0.06
Luxembourg	-581.0	-540.1	-634.3	0.02	0.02	0.02
Mexico	-2 083.7	-5 932.6	-3 954.2	2.88	3.01	2.91
Netherlands	-2 173.5	-2 994.3	-5 643.0	2.96	2.68	2.69
New Zealand	-2 986.6	-2 983.5	-3 311.3	0.02	0.02	0.02
Norway	-4 805.9	-4 206.6	-5 416.1	0.13	0.11	0.10
Poland	-5 069.0	-4 268.9	-5 416.7	0.63	0.69	0.74
Portugal	-1 994.4	-2 102.1	-2 696.8	0.10	0.11	0.15
Slovak Republic	1 031.5	-558.0	-256.4	0.64	0.56	0.46
Slovenia	-363.7	-385.1	-587.2	0.04	0.04	0.05
Spain	-13 464.4	-14 660.6	-17 252.0	0.24	0.29	0.30
Sweden	-3 390.1	-3 654.4	-5 871.5	0.61	0.54	0.48
Switzerland	17 714.0	16 353.4	15 207.4	1.45	1.32	1.22
Turkey	-9 732.5	-12 405.5	-10 401.8	0.11	0.10	0.10
United Kingdom	-28 787.0	-32 184.2	-35 777.2	1.48	1.39	1.26
United States	-157 208.6	-181 709.4	-212 256.7	8.03	8.18	7.28
EU27 (from 01/02/2020)	..	..	..	..	..	..
OECD-Total	**-254 451.6**	**-297 585.3**	**-314 120.5**	**41.29**	**40.75**	**39.14**
Argentina	-6 761.4	-6 888.5	-6 025.6	0.01	0.01	0.01
China	161 022.9	184 852.3	160 469.8	27.79	26.36	26.17
Romania	-2 288.9	-3 270.4	-4 114.3	0.14	0.15	0.19
Russian Federation	-28 027.7	-16 133.3	-24 464.4	0.15	0.17	0.17
Singapore	28 348.4	36 350.8	27 757.5	5.58	5.32	4.78
South Africa	-7 733.1	-7 414.5	-7 445.5	0.07	0.07	0.05
Chinese Taipei	65 690.1	68 266.9	75 984.4	5.18	5.72	6.03

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, STAN Bilateral Trade in Goods by Industry and End-use Category database

Table 66. Trade balance and export market share: Aerospace industry

	Trade balance (Million current USD)			Export market share (Percentage)		
	2013	2016	2019	2012	2015	2018
Australia	771.55	-975.11	-870.93	0.37	0.39	0.40
Austria	-59.07	718.98	292.74	0.44	0.37	0.40
Belgium	775.63	86.72	470.96	0.49	0.54	0.62
Canada	3 177.25	2 814.56	1 243.42	3.72	3.85	3.32
Chile	-1 153.23	-965.72	-246.36	0.01	0.01	0.01
Colombia	-2 456.29	-928.02	-1 283.91	0.01	0.01	0.01
Czech Republic	421.52	280.66	433.50	0.20	0.18	0.23
Denmark	-30.43	-260.03	-225.54	0.10	0.14	0.10
Estonia	-5.72	-20.11	20.09	0.00	0.01	0.02
Finland	-445.20	-575.78	-513.50	0.07	0.16	0.03
France	29 066.73	20 523.22	34 483.37	18.40	15.99	14.89
Germany	15 006.77	21 746.89	23 173.06	14.34	12.35	11.36
Greece	-13.51	-158.29	-118.86	0.06	0.03	0.01
Hungary	-2.89	-635.23	-777.36	0.04	0.03	0.05
Iceland	-79.52	-269.37	16.44	0.00	0.00	0.00
Ireland	-7 582.50	-11 371.28	-18 845.65	0.81	1.60	1.46
Israel	1 143.52	1 543.66	-917.51	0.54	0.76	0.52
Italy	4 353.93	3 042.06	3 214.83	1.92	1.56	1.49
Japan	-3 839.49	-3 658.04	-6 241.54	1.82	1.97	1.76
Korea	-1 315.54	-2 735.55	-1 971.36	0.44	0.53	0.69
Latvia	-14.48	-31.41	-712.21	0.00	0.00	0.11
Lithuania	-28.75	-33.25	-39.95	0.02	0.01	0.01
Luxembourg	-1 661.56	-788.55	-388.93	0.07	0.05	0.03
Mexico	929.99	845.87	1 407.81	0.44	0.49	0.65
Netherlands	816.33	-1 316.27	-282.99	0.85	0.88	1.26
New Zealand	-901.24	-1 484.23	-1 678.05	0.03	0.02	0.02
Norway	-564.55	-544.65	-994.42	0.15	0.20	0.21
Poland	590.39	689.74	721.17	0.51	0.56	0.84
Portugal	-279.67	-555.09	-2 789.45	0.05	0.06	0.10
Slovak Republic	-32.77	-86.24	-97.46	0.01	0.01	0.01
Slovenia	-51.33	2.66	-56.42	0.01	0.02	0.03
Spain	3 636.58	2 175.38	2 894.45	1.52	1.28	1.59
Sweden	318.58	0.45	-66.64	0.24	0.19	0.19
Switzerland	47.77	-2 185.61	-844.31	0.61	0.67	0.45
Turkey	-1 665.73	-3 936.52	-2 912.55	0.22	0.24	0.29
United Kingdom	7 805.62	3 995.93	13 559.51	9.81	9.23	9.60
United States	69 865.91	86 993.38	75 055.51	30.20	33.43	31.38
EU27 (from 01/02/2020)	..	..	..	..	..	..
OECD-Total	**116 544.58**	**111 945.80**	**114 110.97**	**88.53**	**87.84**	**84.12**
Argentina	208.82	-878.02	62.80	0.15	0.06	0.03
China	-23 000.56	-20 727.18	-19 209.68	0.87	1.60	1.73
Romania	43.39	2.09	203.28	0.06	0.07	0.10
Russian Federation	978.87	-1 922.40	-1 170.85	1.69	0.94	0.89
Singapore	-1 905.02	-1 078.16	-7 552.16	2.56	2.67	4.15
South Africa	-289.05	-725.57	-696.37	0.15	0.17	0.08
Chinese Taipei	-312.54	-3 315.55	-3 367.92	0.17	0.21	0.68

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*
1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602
Source: OECD, STAN Bilateral Trade in Goods by Industry and End-use Category database

Annex. Background Economic Indicators

Table A. Gross domestic product at current prices and PPP

Million USD

	2005	2014	2015	2016	2017	2018	2019
Australia	717 705	1 118 494	1 126 908	1 215 297	1 251 096	1 326 164	1 346 385
Austria	288 087	417 060	430 976	460 283	476 564	504 355	520 804
Belgium	347 658	503 620	520 878	550 678	573 712	601 842	628 371
Canada	1 171 340	1 621 397	1 594 851	1 678 093	1 765 763	1 862 154	1 904 503
Chile	206 274	404 667	407 878	426 777	452 001	464 438	497 441
Colombia	351 495	618 793	624 119	665 398	693 117	736 866	786 809
Czech Republic	225 621	342 100	357 504	381 420	411 328	437 252	458 950
Denmark	185 074	270 331	278 748	297 719	319 130	332 918	350 812
Estonia	22 523	38 300	38 659	41 549	44 602	48 023	51 509
Finland	168 147	228 059	232 868	246 928	262 027	274 426	284 675
France	1 926 880	2 662 033	2 718 495	2 864 106	2 983 011	3 124 870	3 320 560
Germany	2 622 040	3 807 115	3 889 082	4 165 170	4 376 928	4 556 073	4 644 164
Greece	281 028	290 197	289 146	296 030	308 068	318 562	330 966
Hungary	172 222	253 001	263 571	273 926	288 404	311 152	331 727
Iceland	11 075	15 059	16 276	17 939	19 110	20 506	21 480
Ireland	168 261	238 264	324 636	340 946	378 128	413 286	441 285
Israel[1]	172 243	281 527	297 286	322 994	338 372	358 360	379 793
Italy	1 746 658	2 200 256	2 240 922	2 420 672	2 517 184	2 604 865	2 677 117
Japan	4 045 734	4 986 566	5 135 041	5 075 244	5 193 982	5 275 712	5 346 540
Korea	1 213 618	1 792 600	1 933 589	2 026 968	2 103 651	2 192 613	2 209 424
Latvia	31 069	47 460	49 362	52 339	55 645	59 356	61 333
Lithuania	48 212	82 647	83 762	88 700	95 492	101 826	108 290
Luxembourg	31 733	56 354	59 081	64 406	66 973	70 914	74 997
Mexico	1 341 775	2 173 227	2 230 189	2 383 253	2 460 766	2 556 351	2 608 650
Netherlands	614 044	830 318	851 885	890 489	943 740	997 730	1 031 484
New Zealand	106 148	168 108	172 180	187 638	202 035	210 921	217 979
Norway	220 982	338 506	313 231	308 522	337 994	370 296	365 502
Poland	530 377	968 368	1 020 393	1 075 393	1 141 694	1 214 377	1 296 589
Portugal	238 691	298 952	307 230	326 364	340 370	359 232	378 125
Slovak Republic	89 400	157 124	162 278	161 074	163 685	171 887	177 505
Slovenia	47 717	63 653	65 266	70 079	75 435	80 707	86 029
Spain	1 205 129	1 558 307	1 621 070	1 733 214	1 841 780	1 905 614	1 988 355
Sweden	309 213	457 508	481 171	500 424	522 477	544 916	566 046
Switzerland	310 494	524 917	546 806	570 267	584 052	610 525	626 977
Turkey	815 102	1 860 471	2 022 398	2 116 398	2 264 269	2 300 826	2 279 166
United Kingdom	1 968 627	2 667 371	2 771 840	2 896 753	3 021 844	3 133 332	3 242 466
United States	13 036 637	17 527 258	18 238 301	18 745 075	19 542 980	20 611 861	21 433 226
EU27 (from 01/02/2020)	11 678 781 e	16 443 233 e	16 987 123 e	18 075 198 e	19 032 539 e	19 938 089 e	20 790 731 e
OECD-Total	**36 782 762 e**	**51 869 988 e**	**53 717 874 e**	**55 938 527 e**	**58 417 409 e**	**61 065 108 e**	**63 076 033 e**
Argentina	527 729	839 897	867 177	885 228	1 037 824	1 041 835	1 045 206
China	6 588 930	17 121 277	17 796 747	18 712 097	19 887 035	21 746 511	23 523 357
Romania	204 714	411 274	428 132	478 202	531 675	569 588	626 661
Russian Federation	1 822 445	3 763 537	3 526 234	3 538 975	3 807 099	4 242 503	4 315 441
Singapore	250 652	461 713	481 393	501 247	532 833	571 120	585 578
South Africa	468 782	682 955	695 229	707 744	724 101	747 578	763 258
Chinese Taipei	654 736	1 066 101	1 102 034	1 112 783	1 143 252	1 202 813	1 257 449

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database (underlying sources described in section 10 of the documentation, *http://www.oecd.org/sti/inno/MSTI_documentation_e.pdf*.)

Table B. Implicit GDP price indices

Year 2010 = 1.000

	2005	2014	2015	2016	2017	2018	2019
Australia	0.790	1.005	1.000	1.037	1.057	1.093	1.114
Austria	0.830	0.978	1.000	1.018	1.027	1.045	1.063
Belgium	0.854	0.987	1.000	1.019	1.038	1.055	1.072
Canada	0.841	1.009	1.000	1.008	1.033	1.052	1.069
Chile	0.628	0.953	1.000	1.045	1.095	1.120	1.150
Colombia	0.656	0.976	1.000	1.051	1.105	1.155	1.205
Czech Republic	0.873	0.990	1.000	1.011	1.025	1.051	1.092
Denmark	0.839	0.996	1.000	1.003	1.014	1.020	1.028
Estonia	1	1	1	1	1	1	1
Finland	0.819	0.984	1.000	1.001	1.009	1.029	1.047
France	0.881	0.989	1.000	1.005	1.010	1.020	1.033
Germany	0.872	0.982	1.000	1.013	1.027	1.044	1.067
Greece	0.906	1.003	1.000	0.994	0.998	0.997	0.999
Hungary	0.711	0.973	1.000	1.014	1.054	1.105	1.158
Iceland	0.555	0.943	1.000	1.023	1.033	1.060	1.107
Ireland	0.917	0.929	1.000	1.010	1.027	1.030	1.062
Israel[1]	0.806	0.972	1.000	1.010	1.012	1.025	1.047
Italy	0.860	0.991	1.000	1.011	1.019	1.029	1.036
Japan	1.041	0.979	1.000	1.003	1.000	0.999	1.005
Korea	0.829	0.969	1.000	1.020	1.043	1.048	1.038
Latvia	0.6	1.0	1.0	1.0	1.0	1.1	1.1
Lithuania	1	1	1	1	1	1	1
Luxembourg	0.750	0.998	1.000	1.008	1.025	1.051	1.086
Mexico	0.641	0.972	1.000	1.056	1.127	1.183	1.230
Netherlands	0.887	0.992	1.000	1.005	1.017	1.042	1.073
New Zealand	0.801	0.993	1.000	1.024	1.053	1.064	1.095
Norway	0.732	0.980	1.000	1.019	1.042	1.068	1.093
Poland	0.803	0.990	1.000	1.003	1.022	1.034	1.067
Portugal	0.871	0.980	1.000	1.017	1.033	1.051	1.069
Slovak Republic	0.913	1.002	1.000	0.995	1.007	1.027	1.053
Slovenia	0.839	0.990	1.000	1.009	1.024	1.046	1.069
Spain	0.901	0.995	1.000	1.003	1.016	1.028	1.043
Sweden	0.837	0.979	1.000	1.015	1.037	1.062	1.090
Switzerland	0.953	1.012	1.000	0.994	0.990	0.997	0.997
Turkey	0.476	0.927	1.000	1.081	1.200	1.398	1.592
United Kingdom	0.823	0.993	1.000	1.022	1.041	1.065	1.088
United States	0.836	0.991	1.000	1.010	1.029	1.054	1.073
EU27 (from 01/02/2020)	..	..	..	..	..	..	..
OECD-Total	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Argentina	0.134	0.790	1.000	1.411	1.778	2.502	3.791
China	0.680	1.000	1.000	1.014	1.057	1.094	1.111
Romania	0.533	0.968	1.000	1.024	1.072	1.139	1.218
Russian Federation	0.362	0.932	1.000	1.028	1.083	1.204	1.249
Singapore	0.869	0.970	1.000	1.007	1.035	1.067	1.068
South Africa	0.526	0.951	1.000	1.072	1.129	1.173	1.220
Chinese Taipei	1.006	0.967	1.000	1.008	0.999	0.992	0.994

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

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Table C. Purchasing power parities

National currency per USD

	2005	2014	2015	2016	2017	2018	2019
Australia	1.39	1.45	1.47	1.45	1.48	1.47	1.47
Austria	0.88	0.80	0.80	0.78	0.78	0.76	0.76
Belgium	0.89	0.80	0.80	0.78	0.78	0.77	0.76
Canada	1.21	1.23	1.25	1.21	1.21	1.20	1.21
Chile	333.69	367.21	391.18	397.25	397.69	411.82	398.92
Colombia	961.49	1 232.89	1 289.32	1 298.14	1 328.02	1 338.01	1 349.41
Czech Republic	14.56	12.70	12.94	12.58	12.42	12.37	12.53
Denmark	8.57	7.33	7.31	7.08	6.87	6.77	6.66
Estonia	1	1	1	1	1	1	1
Finland	0.98	0.91	0.91	0.88	0.86	0.85	0.84
France	0.92	0.81	0.81	0.78	0.77	0.76	0.73
Germany	0.87	0.77	0.78	0.75	0.74	0.74	0.74
Greece	0.71	0.61	0.61	0.59	0.58	0.56	0.55
Hungary	130.93	129.41	132.55	132.03	136.04	139.31	143.23
Iceland	95.84	138.55	141.97	140.03	138.28	138.30	140.57
Ireland	1.01	0.82	0.81	0.79	0.79	0.79	0.81
Israel[1]	3.72	3.94	3.92	3.79	3.75	3.71	3.70
Italy	0.86	0.74	0.74	0.70	0.69	0.68	0.67
Japan	129.55	103.05	103.47	105.52	105.10	103.71	103.63
Korea	788.92	871.88	857.48	858.81	872.62	865.72	868.57
Latvia	0.4	0.5	0.5	0.5	0.5	0.5	0.5
Lithuania	0	0	0	0	0	0	0
Luxembourg	0.95	0.88	0.88	0.85	0.85	0.85	0.85
Mexico	7.13	8.05	8.33	8.45	8.91	9.20	9.37
Netherlands	0.90	0.81	0.81	0.80	0.78	0.78	0.79
New Zealand	1.54	1.44	1.48	1.44	1.43	1.42	1.44
Norway	9.01	9.28	9.93	10.04	9.75	9.60	9.76
Poland	1.87	1.77	1.77	1.73	1.74	1.75	1.76
Portugal	0.66	0.58	0.58	0.57	0.58	0.57	0.56
Slovak Republic	0.56	0.49	0.49	0.50	0.52	0.52	0.53
Slovenia	0.61	0.59	0.60	0.58	0.57	0.57	0.56
Spain	0.77	0.66	0.66	0.64	0.63	0.63	0.63
Sweden	9.48	8.73	8.85	8.82	8.85	8.86	8.88
Switzerland	1.69	1.28	1.24	1.20	1.19	1.18	1.16
Turkey	0.83	1.10	1.16	1.24	1.38	1.63	1.90
United Kingdom	0.71	0.70	0.69	0.69	0.68	0.68	0.68
United States	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EU27 (from 01/02/2020)	..	..	..	..	..	..	..
OECD-Total	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Argentina	1.10	5.45	6.87	9.29	10.26	14.02	20.71
China	2.84	3.76	3.87	3.99	4.18	4.23	4.21
Romania	1.40	1.63	1.66	1.60	1.61	1.67	1.69
Russian Federation	12.74	21.00	23.56	24.19	24.12	24.66	25.50
Singapore	0.85	0.86	0.88	0.88	0.89	0.88	0.87 e
South Africa	3.50	5.57	5.83	6.16	6.43	6.52	6.65
Chinese Taipei	18.38	15.25	15.48	15.78	15.73	15.25	15.02

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database (underlying sources described in section 10 of the documentation, *http://www.oecd.org/sti/inno/MSTI_documentation_e.pdf*.)

Table D. Value added in industry at current prices and PPP

Million USD

	2005	2014	2015	2016	2017	2018	2019
Australia	483 339	734 817	727 979	795 584	822 951	871 079	884 361 e
Austria	189 163	271 351	279 477	298 021	309 567	328 454	338 925 e
Belgium	220 965	309 467	322 702	340 848	355 122	370 421	387 578 e
Canada	772 894	1 042 316	1 001 146 e	1 040 256 e	1 103 829 e	1 164 086 e	1 190 559 e
Chile	150 597 e	279 286	278 517	288 811	303 706	309 347 e	331 330 e
Colombia	238 435	423 721	421 655	449 198	462 274	490 395	522 403
Czech Republic	155 817	234 396	245 602	261 121	278 461	293 109	306 089 e
Denmark	107 005	156 880	162 308	174 669	187 309	196 652	209 672 e
Estonia	15 380	25 154	24 735	25 870	28 349	30 810	33 101 e
Finland	103 138	129 152	131 847	140 184	151 749	158 601	165 110 e
France	1 144 059	1 533 004	1 570 322	1 648 926	1 709 949	1 787 759	1 908 040 e
Germany	1 691 833	2 424 686	2 477 878	2 656 206	2 786 305	2 899 402	2 936 155 e
Greece	172 166	156 353	155 720	156 570	166 299 e	171 929 e	180 034 e
Hungary	109 041	159 327	165 798	170 782	180 018	193 900	208 142 e
Iceland	6 436	8 806	9 608	10 600 e	11 011 e	11 816 e	12 377 e
Ireland	114 952	167 050	246 592	263 969	296 536 e	327 532 e	349 118 e
Israel[1]	104 189 e	165 656	176 806	191 903	200 798 e	213 477 e	226 246 e
Italy	1 108 896	1 339 992	1 368 415	1 486 645	1 553 672	1 601 233	1 642 790 e
Japan	3 061 437	3 586 371	3 726 978	3 681 071	3 769 218	3 826 527 e	3 877 900 e
Korea	858 894 e	1 260 737 e	1 348 198	1 407 070	1 459 754	1 512 572	1 524 169 e
Latvia	20 716	29 733	30 812	31 972	34 274	36 882	38 110 e
Lithuania	34 584	59 323	59 396	62 669	67 896	71 822	76 259 e
Luxembourg	21 125	37 830	40 612	44 784	46 487	48 856	51 499 e
Mexico	995 958	1 591 302	1 622 508	1 743 779	1 837 161	1 916 757	1 948 222 e
Netherlands	399 997	538 100	554 537	574 772	608 491	639 244	657 181 e
New Zealand	71 276	108 421	110 624	120 209	131 167	138 371	143 001 e
Norway	147 023	217 473	194 471	185 802	206 413	227 638	220 044 e
Poland	365 400	682 181	725 567	758 808	806 105	855 521	908 479 e
Portugal	141 398	174 424	180 421	191 178	199 133	209 606	220 178 e
Slovak Republic	61 334	110 753	114 060	109 634	110 418	116 998	118 821 e
Slovenia	31 688	41 581	42 737	45 786	49 779	53 688	57 467 e
Spain	807 808	961 410	1 010 192	1 083 769	1 160 660	1 197 496	1 252 702 e
Sweden	189 919	277 921	295 495	308 301	322 256 e	334 712 e	348 374 e
Switzerland	216 809	360 651	374 964	388 256	396 869	414 848	423 939 e
Turkey	552 853	1 280 546	1 397 187	1 445 924	1 587 360 e	1 628 070 e	1 605 848 e
United Kingdom	1 212 583	1 618 507	1 670 880	1 744 373	1 840 186	1 919 456	1 986 311 e
United States	8 398 985	11 023 460	11 457 897	11 725 359	12 279 548	12 982 536	13 499 879 e
EU27 (from 01/02/2020)	7 462 317 e	10 267 570 e	10 675 505 e	11 361 013 e	11 983 705 e	12 532 556 e	13 048 250 e
OECD-Total	**24 327 493 e**	**33 522 136 e**	**34 724 643 e**	**36 053 679 e**	**37 821 079 e**	**39 551 601 e**	**40 790 412 e**
Argentina	358 987	529 723 e	537 302 e	549 597 e	643 006 e	654 208 e	655 757 e
China	5 696 995 e	14 451 190 e	14 874 049 e	15 439 957 e	16 331 333 e	17 753 709 e	19 204 314 e
Romania	144 833	282 542	296 983	335 521	373 133	394 972	428 861
Russian Federation	1 222 530 e	2 426 263	2 382 232	2 384 606	2 588 076	2 899 776	2 932 355
Singapore	210 814 e	372 998 e	388 797 e	403 829 e	430 986 e	468 355 e	479 704 e
South Africa	330 979 e	471 176 e	476 954 e	483 345 e	497 087 e	507 172 e	518 578 e
Chinese Taipei	484 646 e	806 110	834 227	845 967	876 573	921 527	955 777

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database (underlying sources described in section 10 of the documentation, *http://www.oecd.org/sti/inno/MSTI_documentation_e.pdf*.)

Table E. Total population

Thousands

	2005	2014	2015	2016	2017	2018	2019
Australia	20 177	23 476	23 816	24 191	24 602	24 993	25 371
Austria	8 225	8 544	8 630	8 740	8 795	8 838	8 878
Belgium	10 479	11 209	11 274	11 331	11 375	11 427	11 489
Canada	32 244	35 437	35 703	36 109	36 543	37 058	37 589
Chile	16 283	17 836	18 045	18 278	18 522	18 770	19 038
Colombia	41 686	46 296	46 819	47 343	47 868	48 391	48 911
Czech Republic	10 234	10 525	10 543	10 565	10 590	10 626	10 669
Denmark	5 419	5 643	5 682	5 729	5 765	5 794	5 817
Estonia	1 359	1 316	1 313	1 316	1 316	1 319	1 325
Finland	5 246	5 463	5 481	5 495	5 508	5 516	5 522
France	63 168	66 312	66 581	66 831	67 063	67 265	67 456
Germany	81 337	80 983	81 687	82 349	82 657	82 906	83 093
Greece	10 987	10 892	10 821	10 776	10 755	10 733	10 722
Hungary	10 087	9 866	9 843	9 814	9 788	9 776	9 771
Iceland	296	327	331	335	343	353	361
Ireland	4 160	4 652	4 696	4 749	4 802	4 861	4 927
Israel[1]	6 961	8 212	8 377	8 543	8 710	8 881	9 050
Italy	58 191	60 789	60 731	60 628	60 537	60 459	60 339
Japan	127 755	127 262	127 110	126 933	126 706	126 443	126 140
Korea	48 185	50 747	51 015	51 218	51 362	51 607	51 709
Latvia	2 239	1 994	1 977	1 959	1 941	1 926	1 913
Lithuania	3 323	2 932	2 905	2 868	2 828	2 802	2 794
Luxembourg	466	558	569	584	597	609	622
Mexico	107 000	119 550	120 846	122 117	123 364	124 582	125 772
Netherlands	16 320	16 865	16 940	17 030	17 131	17 232	17 345
New Zealand	4 148	4 527	4 611	4 703	4 787	4 863	4 937
Norway	4 623	5 137	5 190	5 236	5 277	5 312	5 348
Poland	38 161	38 484	38 455	38 427	38 422	38 413	38 386
Portugal	10 503	10 401	10 358	10 326	10 300	10 284	10 286
Slovak Republic	5 387	5 419	5 422	5 431	5 438	5 446	5 453
Slovenia	2 001	2 062	2 063	2 065	2 066	2 072	2 089
Spain	43 663	46 455	46 410	46 450	46 533	46 729	47 104
Sweden	9 030	9 696	9 799	9 923	10 058	10 175	10 279
Switzerland	7 488	8 189	8 282	8 373	8 452	8 514	8 575
Turkey	68 435	77 182	78 218	79 278	80 313	81 407	82 579
United Kingdom	60 413	64 597	65 110	65 648	66 040	66 436	66 797
United States	295 993	318 631	320 918	323 186	325 220	326 949	328 527
EU27 (from 01/02/2020)	434 497 e	443 725 e	444 682 e	445 699 e	446 391 e	447 155 e	448 077 e
OECD-Total	**1 225 387 e**	**1 318 468 e**	**1 326 571 e**	**1 334 878 e**	**1 342 374 e**	**1 349 765 e**	**1 356 983 e**
Argentina	38 592	42 670	43 132	43 590	44 045	44 495	44 939
China	1 307 560	1 367 820	1 374 620	1 382 710	1 390 080	1 395 380 e	1 400 050 e
Romania	21 320	19 916	19 822	19 706	19 593	19 477	19 370
Russian Federation	143 519	146 091	146 406	146 675	146 842	146 831	146 765
Singapore	4 266	5 470	5 535	5 607	5 612	5 639	5 704
South Africa	47 602	53 912	54 750	55 620	56 522	57 354 e	58 182 e
Chinese Taipei	22 770	23 434	23 492	23 540	23 571	23 589	23 603

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

1. Information on data for Israel:http://dx.doi.org/10.1787/888932315602

Source: OECD, Main Science and Technology Indicators database (underlying sources described in section 10 of the documentation, *http://www.oecd.org/sti/inno/MSTI_documentation_e.pdf*.)

Table F. Total employment

Thousands

	2005	2014	2015	2016	2017	2018	2019
Australia	9 965	11 665	11 903	12 080	12 450	12 754	13 045 e
Austria	3 873	4 260	4 286	4 341	4 413	4 489	4 540 e
Belgium	4 273	4 577	4 617	4 675	4 752	4 817	4 893 e
Canada	16 407	18 091	18 262	18 454	18 798 e	19 042 e	19 441 e
Chile	6 079	7 903	8 028	8 115	8 276	8 390	8 501 e
Colombia	..	..	..	..	..	..	..
Czech Republic	4 923	5 109	5 182	5 264	5 346	5 418	5 432 e
Denmark	2 783	2 791	2 829	2 876	2 922	2 963	3 000 e
Estonia	618	610	623	625	642	650	650 e
Finland	2 419	2 526	2 524	2 535	2 562	2 626	2 671 e
France	26 321	27 334	27 391	27 567	27 842	28 114	28 430 e
Germany	39 311	42 721	43 122	43 655	44 248	44 854	45 255 e
Greece	4 647	4 454	4 323	4 470	4 447	4 509	4 565
Hungary	4 122	4 219	4 313	4 473	4 559	4 667	4 725 e
Iceland	162	178	184	191	199 e	205 e	204 e
Ireland	1 962	1 940	1 989	2 045	2 107 e	2 174 e	2 236 e
Israel[1]	2 924	3 847	3 934	4 026	4 124	4 195	4 266 e
Italy	24 511	24 357	24 516	24 849	25 138	25 342	25 474 e
Japan	65 531	65 934	66 220	66 852	67 501	68 626	69 251 e
Korea	22 831	25 897	26 178	26 409	26 725	26 822	27 123 e
Latvia	969	877	889	886	886	900	899 e
Lithuania	1 421	1 323	1 341	1 372	1 362	1 381	1 387 e
Luxembourg	308	396	406	418	433	449	465 e
Mexico	32 801	36 981	37 562	38 201	38 645	39 240	39 305 e
Netherlands	8 340	8 725	8 808	8 943	9 157	9 396	9 587 e
New Zealand	2 059	2 308	2 348	2 449	2 537	2 572	2 604 e
Norway	2 319	2 694	2 707	2 715	2 747	2 793	2 839 e
Poland	14 057	15 731	15 970	16 100	16 315	16 404	16 363 e
Portugal	5 041	4 513	4 576	4 650	4 803	4 914	4 953 e
Slovak Republic	2 089	2 223	2 267	2 321	2 372	2 420	2 445 e
Slovenia	930	932	944	961	990	1 021	1 047 e
Spain	19 704	17 988	18 491	18 885	19 388	19 817	20 258 e
Sweden	4 349	4 737	4 807	4 889	5 009 e	5 090 e	5 119 e
Switzerland	4 145	4 822	4 895	4 963	5 008	5 055	5 091 e
Turkey	19 489	25 633	26 330	26 907	27 867 e	28 395 e	27 760 e
United Kingdom	28 853	30 753	31 285	31 745	32 060	32 443	32 795 e
United States	143 979	148 513	151 000	153 586	155 491	157 921	159 714 e
EU27 (from 01/02/2020)	191 755 e	196 506 e	198 314 e	200 852 e	204 081 e	206 885 e	208 951 e
OECD-Total	**528 434 e**	**567 561 e**	**575 049 e**	**583 494 e**	**592 119 e**	**600 866 e**	**606 333 e**
Argentina	15 530	17 677	17 920	18 145	18 376	18 332	18 394
China	746 470	772 530	774 510	776 030	776 400	775 860	..
Romania	9 159	8 635	8 526	8 430	8 631	8 639	8 635
Russian Federation	68 339	71 539	72 324	72 393	72 316	72 532	71 933
Singapore	2 320	3 624	3 656	3 673	3 669	3 715	3 785
South Africa	12 769	15 146	15 741	15 780	16 169	16 394	16 350
Chinese Taipei	9 942	11 079	11 198	11 267	11 352	11 434	11 500

Note: Detailed metadata:*http://metalinks.oecd.org/msti/20210316/5d8c*

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Table G. Industrial employment

Thousands

	2005	2014	2015	2016	2017	2018	2019
Australia	7 453	8 406	8 506	8 583	8 835	9 020	9 226 e
Austria	2 951	3 206	3 212	3 245	3 299	3 360	3 399 e
Belgium	2 963	3 119	3 145	3 182	3 229	3 277	3 330 e
Canada	12 392	13 424	13 510	13 621	13 875 e	14 055 e	14 349 e
Chile	4 651 e	6 005	6 066	6 176	6 245	6 308	6 336 e
Colombia	..	..	..	..	..	..	..
Czech Republic	3 960	4 100	4 164	4 223	4 270	4 331	4 327 e
Denmark	1 858	1 836	1 871	1 917	1 961	1 997	2 026 e
Estonia	472	458	471	475	493	500	497 e
Finland	1 712	1 763	1 756	1 766	1 785	1 830	1 854 e
France	18 059	18 582	18 595	18 717	18 982	19 269 e	19 486 e
Germany	28 709	31 164	31 335	31 638	32 014	32 420	32 600 e
Greece	3 648	3 409	3 285	3 418	3 399 e	3 443	3 487
Hungary	3 178	3 181	3 231	3 359	3 467	3 563	3 640 e
Iceland	116	127	131	137	144 e	148 e	145 e
Ireland	1 538	1 431	1 468	1 520	1 562 e	1 606 e	1 644 e
Israel[1]	1 882	2 448	2 497	2 573	2 639	2 662	2 731 e
Italy	18 313	17 892	18 022	18 350	18 629	18 843	18 955 e
Japan	54 922	53 188	53 106	53 441	54 023	54 993	55 494 e
Korea	19 193	20 804	21 051	21 113	21 223	21 236	21 314 e
Latvia	747	673	685	679	678	692	692 e
Lithuania	1 084	1 013	1 021	1 041	1 035	1 053	1 053 e
Luxembourg	245	305	313	323	334	346	358 e
Mexico	25 303	28 082	28 456	29 087	29 497	30 048	29 996 e
Netherlands	6 089	6 246	6 350	6 480	6 651	6 838	6 977 e
New Zealand	1 574	1 713	1 741	1 810	1 874	1 891	1 915 e
Norway	1 492	1 710	1 706	1 698	1 716	1 749	1 787 e
Poland	11 097	12 302	12 516	12 658	12 841	12 874	12 869 e
Portugal	3 922	3 410	3 469	3 528	3 664	3 756	3 769 e
Slovak Republic	1 624	1 739	1 776	1 822	1 866	1 908	1 925 e
Slovenia	765	748	759	772	795	823	844 e
Spain	15 266	13 053	13 521	13 841	14 265	14 579	14 939 e
Sweden	2 842	3 141	3 169	3 199	3 297 e	3 364 e	3 396 e
Switzerland	3 173	3 595	3 628	3 651	3 668	3 697	3 710 e
Turkey	16 854	21 577	22 040	22 299	23 095 e	23 533 e	23 006 e
United Kingdom	21 280	22 331	22 824	23 255	23 548	23 763	24 014 e
United States	102 533	103 356	104 808	106 826	108 319	109 658	110 903 e
EU27 (from 01/02/2020)	143 565 e	144 792 e	145 980 e	147 970 e	150 621 e	152 871 e	154 282 e
OECD-Total	**399 208 e**	**419 533 e**	**424 203 e**	**430 423 e**	**437 216 e**	**443 431 e**	**446 993 e**
Argentina	..	..	..	..	..	..	..
China	..	..	..	..	..	..	..
Romania	7 918	7 556	7 334	7 257	7 424	7 462	7 428
Russian Federation	50 969	52 929	53 353	53 268	53 250	53 450	53 129
Singapore	2 040	3 161	3 182	3 192	3 179	3 218	3 275
South Africa	9 714 e	11 202 e	11 694	11 749	12 091	12 301	12 273
Chinese Taipei	8 727	9 624	9 735	9 797	9 876	9 958	10 014

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AVAILABLE ON LINE

Main Science and Technology Indicators

This biannual publication provides a set of indicators that reflect the level and structure of the efforts undertaken by OECD member countries and seven non-member economies (Argentina, China, Romania, Russian Federation, Singapore, South Africa, Chinese Taipei) in the field of science and technology. These data include final or provisional results as well as forecasts established by government authorities. The indicators cover the resources devoted to research and development, patent families and international trade in R&D-intensive industries. Also presented are the underlying economic series used to calculate these indicators. Series are presented for a reference year and for the last six years for which data are available.

ALSO AVAILABLE ON LINE

The data in this publication are also available on line via ***www.oecd-ilibrary.org*** under the title *OECD Science, Technology and R&D Statistics* (***https://doi.org/10.1787/strd-data-en***).

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