

Government budget allocations for R&D (GBARD)

Statistics Explained

*Data extracted in January 2025
Planned article update: 4 August 2025*

Highlights

" In 2023, the total government budget allocations for R&D (GBARD) across the EU stood at € 123 557 million, equivalent to 0.72% of GDP. "

" The government budget allocations for R&D at EU level stood at € 275.3 per person in 2023, a 52.0% increase compared with 2013 (€ 181.1 per person). "

[Country codes](#) Statistics on Government Budget Allocations for R&D (GBARD) in the [European Union](#) provide users with data measuring government support to [research and development \(R&D\)](#) activities, and thereby inform about the priority governments give to different public R&D funding activities. In the recent document [Political Guidelines for the next European Commission 2024-2029](#), investment in R&D is put 'at the centre of our economy. We will increase our **research spending** to focus more on strategic priorities [...]. Europe must also be at the cutting edge between emerging science, tech and industry, the nexus that will make this tech revolution faster and more transformative.' GBARD covers not only government-financed R&D performed in government establishments but also government-financed R&D in the other 3 national sectors (business enterprise, higher education, private non-profit) as well as to the rest of the world sector. The socioeconomic objective "General advancement of knowledge", regardless of the sources of funds, represents more than 50% of GBARD. The data are compiled by national authorities using data collected from public budgets. This type of fund-based approach for reporting R&D involves identifying all the budget items that may support R&D activities and measuring or estimating their R&D content. Research and Development (R&D) is central to many European and national level policies that aim to increase the competitiveness of the EU's economies and the welfare of its citizens and is a cross cutting subject relevant to the political priorities of the European Commission.

Total GBARD across the EU

In 2023, the total provisional government budget allocations for R&D (GBARD) across the EU stood at € 123 557 million (Table 1), equivalent to 0.72% of GDP (Table 2).

Government budget allocations for R&D, 2013 - 2023

(€ million)

	2013	2023
EU⁽⁴⁾⁽⁵⁾	79 911.34	123 557.14
Belgium	2 522.46	3 864.50
Bulgaria	102.48	213.44
Czechia	1 027.91	1 626.36
Denmark ⁽⁵⁾	2 636.56	3 276.99
Germany	25 371.00	44 090.06
Estonia ⁽⁴⁾	153.96	337.30
Ireland	721.60	1 051.18
Greece ⁽¹⁾	858.64	1 280.89
Spain	5 682.18	8 996.56
France	14 980.59	18 265.74
Croatia	268.70	533.18
Italy	8 444.30	13 461.03
Cyprus	60.30	138.29
Latvia	32.46	118.00
Lithuania	125.64	278.46
Luxembourg	324.72	505.69
Hungary ⁽²⁾	662.73	615.63
Malta	21.51	52.47
Netherlands	4 794.30	8 532.03
Austria ⁽²⁾⁽³⁾	2 587.59	4 095.49
Poland	1 438.38	3 817.02
Portugal	674.57	802.29
Romania ⁽⁶⁾	297.42	493.44
Slovenia ⁽¹⁾	174.51	400.35
Slovakia	289.23	453.92
Finland	2 017.90	2 348.65
Sweden ⁽¹⁾	3 639.71	3 908.19
Iceland ⁽⁷⁾	89.49	291.21
Norway	3 191.92	3 693.06
Switzerland	:	8 064.84
North Macedonia	1.89	:
Serbia	136.52	270.96
Türkiye	2 705.08	3 833.02
Albania	:	40.95
Japan ⁽²⁾	27 840.25	62 308.73
China (except Hong Kong)	13 325.77	18 004.58
South Korea ⁽⁷⁾	11 793.81	21 698.52
United States ⁽⁷⁾	82 529.93	186 986.96

⁽¹⁾ break in time series in 2023

⁽²⁾ definition differs in 2013

⁽³⁾ definition differs in 2023

⁽⁴⁾ estimated in 2013

⁽⁵⁾ estimated in 2023

⁽⁶⁾ break in time series in 2013

⁽⁷⁾ provisional data for 2023

(:) data not available

Source: Eurostat (online data code: GBA_NABSFN07);

OECD Government budget allocations for R&D for data on Japan, China (except Hong Kong), South Korea and the United States.

Government budget allocations for R&D, 2013 - 2023

(% of GDP)

	2013	2023
EU⁽⁴⁾⁽⁵⁾	0.69	0.72
Belgium	0.64	0.65
Bulgaria	0.24	0.23
Czechia	0.64	0.51
Denmark⁽⁵⁾	1.02	0.87
Germany	0.88	1.05
Estonia⁽⁴⁾	0.80	0.88
Ireland	0.39	0.21
Greece⁽¹⁾	0.48	0.57
Spain	0.55	0.60
France	0.71	0.65
Croatia	0.60	0.68
Italy	0.52	0.63
Cyprus	0.33	0.44
Latvia	0.15	0.30
Lithuania	0.36	0.38
Luxembourg	0.66	0.64
Hungary⁽²⁾	0.65	0.31
Malta	0.26	0.26
Netherlands	0.72	0.80
Austria⁽²⁾⁽³⁾	0.81	0.87
Poland	0.37	0.51
Portugal	0.40	0.30
Romania⁽⁶⁾	0.21	0.15
Slovenia⁽¹⁾	0.48	0.63
Slovakia	0.39	0.37
Finland	0.99	0.86
Sweden⁽¹⁾	0.83	0.72
Iceland⁽⁷⁾	0.74	1.01
Norway	0.81	0.82
Switzerland	:	0.98
North Macedonia	0.02	:
Serbia	0.36	0.36
Türkiye	0.38	0.37
Albania	:	0.19
Japan⁽²⁾	0.71	1.60
China except Hong Kon	0.18	0.11
South Korea⁽⁷⁾	1.09	1.28
United States⁽⁷⁾	0.65	0.73

(1) break in time series in 2023

(2) definition differs in 2013

(3) definition differs in 2023

(4) estimated in 2013

(5) estimated in 2023

(6) break in time series in 2013

(7) provisional data for 2023

(:) data not available

Source: Eurostat (online data code: GBA_NABSF07);

OECD Government budget allocations for R&D for data on Japan, China (except Hong Kong), South Korea and the United States.

The provisional government budget allocations for R&D per person at EU level stood at € 275.3 in 2023 (Table 3). The highest allocations per person were recorded in Luxembourg (€ 765.3), followed at a distance by Denmark (€ 552.4) and Germany (€ 522.6). On the other hand, the EU countries with the lowest R&D budget allocations per person were Hungary (€ 64.1), Latvia (€ 62.7), Bulgaria (€ 33.1) and Romania (€ 25.9).

Government budget allocations for R&D, 2013 - 2023

(€ per inhabitant)

	2013	2023
EU⁽⁴⁾⁽⁵⁾	181.1	275.3
Belgium	226.5	329.1
Bulgaria	14.2	33.1
Czechia	97.7	150.2
Denmark⁽⁵⁾	470.6	552.4
Germany	315.1	522.6
Estonia⁽⁴⁾	116.6	246.9
Ireland	156.5	199.4
Greece⁽¹⁾	78.0	123.0
Spain	121.6	187.1
France	228.4	267.9
Croatia	63.3	138.5
Italy	140.1	228.2
Cyprus	69.6	150.2
Latvia	16.0	62.7
Lithuania	42.2	97.5
Luxembourg	604.6	765.3
Hungary⁽²⁾	67.0	64.1
Malta	51.0	96.8
Netherlands	285.7	479.0
Austria⁽²⁾⁽³⁾	306.2	449.8
Poland	37.8	103.9
Portugal	64.2	76.3
Romania⁽⁶⁾	14.9	25.9
Slovenia⁽¹⁾	84.8	189.1
Slovakia	53.5	83.6
Finland	371.8	422.1
Sweden⁽¹⁾	380.9	371.4
Iceland⁽⁷⁾	278.0	751.0
Norway	631.9	672.8
Switzerland	:	914.9
North Macedonia	0.9	:
Serbia	19.0	40.8
Türkiye	35.8	44.9
Albania	:	14.8
Japan⁽²⁾	218.60	501.1
China except Hong Kon	9.70	12.8
South Korea⁽⁷⁾	233.90	419.6
United States⁽⁷⁾	260.30	557.80

(1) break in time series in 2023

(2) definition differs in 2013

(3) definition differs in 2023

(4) estimated in 2013

(5) estimated in 2023

(6) break in time series in 2013

(7) provisional data for 2023

(:) data not available

Source: Eurostat (online data code: GBA_NABSF07)

OECD Government budget allocations for R&D for data on Japan, China (except Hong Kong), South Korea and the United States.

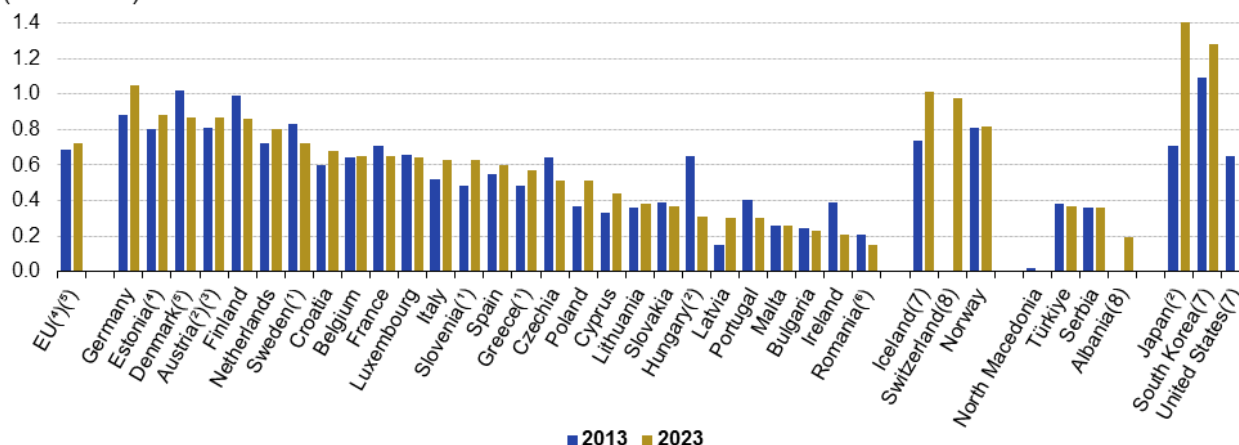
Evolution of GBARD in the EU during the 2013 - 2023 decade

GBARD figures for the 2013 - 2023 decade show an increase at EU level from € 79 911 million to € 123 557 million (Table 1), an increase of 54.6%. GBARD during the decade in observation more than tripled in Latvia (from € 32.5 million to € 118.0 million) and it more than doubled in 7 EU countries: Poland (from € 1 438.4 million to € 3 817.0 million), Malta (from € 21.5 million to € 52.5 million), Slovenia (from € 174.5 million to € 400.4 million), Cyprus (from € 60.3 million to € 138.3 million), Lithuania (from € 125.6 million to € 278.5 million), Estonia (from € 154.0 million to € 337.3 million) and Bulgaria (from € 102.5 million to € 213.4 million). The total allocations further increased by more than 50% in 12 more EU countries, with an increase of more than 75% in Croatia (+98.4%) and the Netherlands (+78.0%). At the other end of the scale, with low GBARD increases during the 2013 - 2023 decade, with less than 20% increase were Portugal (18.9%), Finland (16.4%) and Sweden (7.4%). Hungary recorded a decrease (-7.1%).

GBARD figures as a percentage of GDP show an increase at EU level for the 2013 - 2023 decade (Figure 1), from 0.69% of GDP in 2013 to 0.72% of GDP in 2023. The GBARD as a percentage of GDP recorded an increase in 15 EU countries, notably Germany (+0.17 percentage points (pp)), Slovenia and Latvia (both with +0.15 pp), Poland (+0.14 pp), Cyprus and Italy (both with +0.11 pp) and Greece (+0.09 pp). GBARD as a percentage of GDP recorded no growth for Malta and a negative growth for the rest of the 12 EU countries during the decade 2013 - 2023, with 1 country recording a decrease of only 0.01 pp and with Czechia and Finland (both with -0.13 pp), Denmark (-0.15 pp), Ireland (-0.18 pp) and Hungary (-0.34 pp) recording the most declines.

Government budget allocations for R&D, 2013 - 2023

(% of GDP)



(*) break in time series in 2023

(*) definition differs in 2013

(*) definition differs in 2023

(*) estimated in 2013

(*) estimated in 2023

(*) break in time series in 2013

(7) provisional data for 2023

(8) data not available

Source: Eurostat (online data code: GBA_NABSF07);

OECD Government budget allocations for R&D for data on Japan, China (except Hong Kong), South Korea and the United States.

eurostat

Figure 1: Government budget allocations for R&D, 2013 & 2023 (% of GDP) Source: Eurostat (GBA_NABSF07)

As the changes in GBARD expressed as a percentage of the GDP can reflect a change in the GDP, it is useful to look at the changes in the allocations per capita as well. The government budget allocations for R&D per person increased by 52.0% between 2013 and 2023 in the EU, from € 181.1 to € 275.3 per person. Over the last decade, the largest percentage increases in government budget allocations for R&D per person were recorded in Latvia (+291.9%, from € 16.0 in 2013 to € 62.7 per person in 2023), Poland (+174.9%, from € 37.8 in 2013 to € 103.9 per person in 2023), Bulgaria (+133.1%, from € 14.2 to € 33.1 per person) and Lithuania (+131.0%, from € 42.2 to € 97.5 per person). It should be noted as well, that changes in GBARD per capita may reflect population changes of the countries as well.

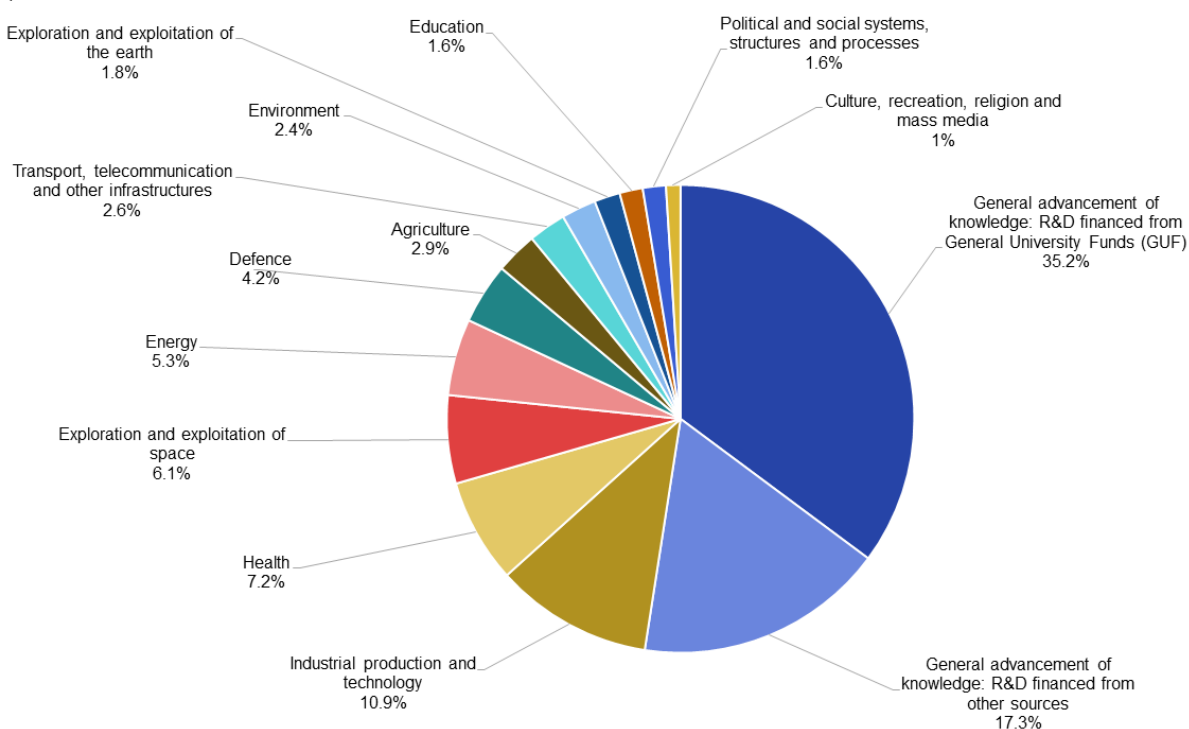
GBARD by socioeconomic objectives (NABS 2007)

GBARD data are broken down by socioeconomic objectives in accordance with the nomenclature for the analysis and comparison of scientific programmes and budgets (NABS 2007). Figure 2 presents the 2023 distribution of GBARD by socioeconomic objective, where the most representative objectives were:

- General advancement of knowledge: R&D financed from general university funds (GUF): 35.2%;
- General advancement of knowledge: R&D financed from other sources than GUF: 17.3%;
- Industrial production and technology: 10.9%;
- Health: 7.2%;
- Exploration and exploitation of space: 6.1%.

Distribution of government budget allocations for R&D by NABS, 2023

(%)



Note: all data are estimated.

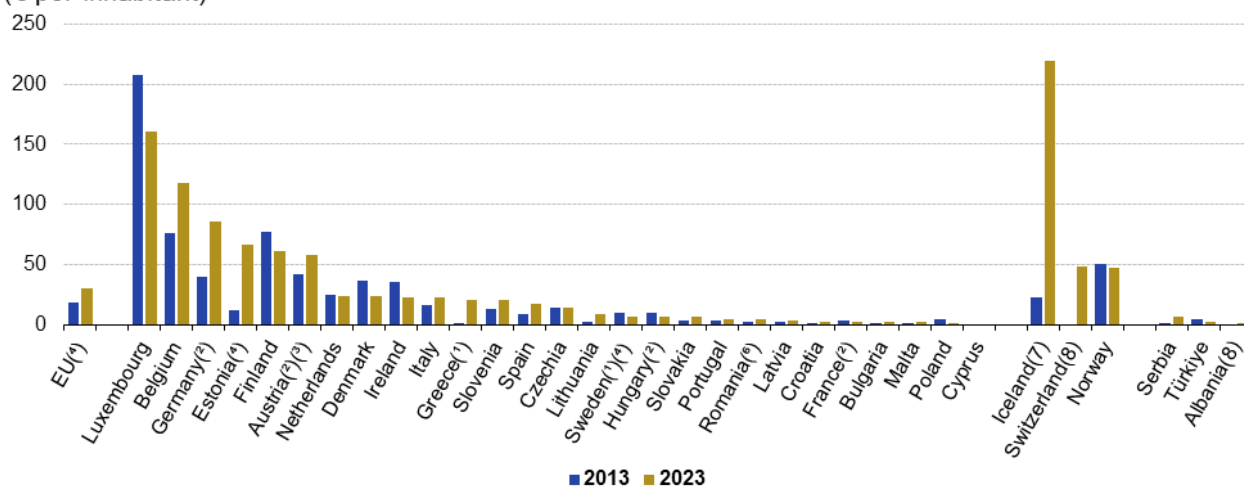
Source: Eurostat (online data code: GBA_NABSFN07)

Figure 2: Distribution of government budget allocations for R&D by NABS (%) Source: Eurostat (GBA_NABSFN07)

Figure 3 shows a 66% increase in the EU spending per inhabitant in the "Industrial production and technology" socioeconomic objective between 2013 and 2023. The EU countries that spent the most per inhabitant in this objective in 2023 were Luxembourg, Belgium, Germany, Estonia and Finland (more than double the EU average). Regarding the socioeconomic objective "Health", an increase of +55% in the spending per inhabitant in the period 2013 to 2023 in the EU can be seen in Figure 4. The highest increases were recorded in Malta, Croatia, Slovenia, Sweden, Cyprus, Bulgaria and Latvia. These countries' large relative increase reflects a small absolute increase of a low absolute 2013 figure. Among the countries where spending per inhabitant is already significantly higher than the EU average, the increase was substantial in the Netherlands (+172%), Italy (+101%), Germany (+89%), Denmark (+62%) and Austria (+52%).

Government budget allocations for R&D - Industrial production and technology (NABS06)

(€ per inhabitant)



(*) break in time series in 2023
 (2) definition differs in 2013
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 (5) estimated in 2023
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 (7) provisional data for 2023
 (8) data not available

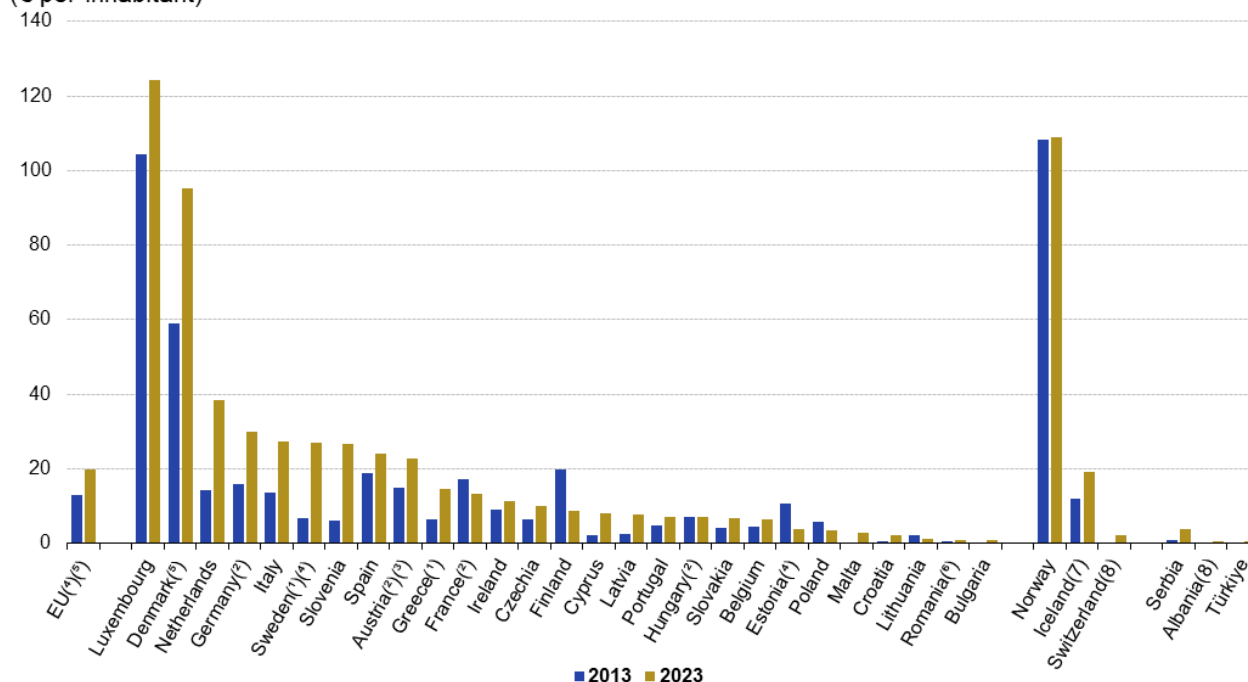
Source: Eurostat (online data code: GBA_NABSF07)



Figure 3: Government budget allocations for R&D - Industrial production and technology (NABS06) (€ per inhabitant) Source: Eurostat (GBA_NABSF07)

Government budget allocations for R&D - Health (NABS07)

(€ per inhabitant)



(*) break in time series in 2023

(*) definition differs in 2013

(*) definition differs in 2023

(*) estimated in 2013

(*) estimated in 2023

(*) break in time series in 2013

(7) provisional data for 2023

(8) data not available

Source: Eurostat (online data code: GBA_NABSF07)

eurostat

Figure 4: Government budget allocations for R&D - Health (NABS07) (€ per inhabitant) Source: Eurostat (GBA_NABSF07)

Source data for tables and graphs

- [Government budget allocations for R&D \(GBARD\): graphs and tables](#)

Data sources

Since the beginning of 2021, the collection of R&D statistics is based on Commission Implementing [Regulation \(EU\) No 1197/2020](#) of 30 July 2020. Statistics on science, technology and innovation were collected until the end of 2020 based on Commission Implementing [Regulation \(EU\) No 995/2012](#) concerning the production and development of Community statistics on science and technology. More information on the changes and new data requirements introduced by the European Business Statistics regulation can be found in the Statistics Explained article on [European Business Statistics](#).

GBARD data are compiled using the methodology laid out in the Guidelines for collecting and reporting data on research and experimental development - [Frascati Manual, OECD, 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development](#) which is the internationally recognised standard methodology for collecting R&D statistics. Eurostat's guidelines on methodology for compiling the GBARD data is the [European Business Statistics Methodological Manual for R&D Statistics](#).

Eurostat's free online reference database contains national data from 1980 onwards, though the data availability differs according to country. European aggregates are available from 2000 onwards. GBARD data are provided to Eurostat directly by the national statistical authorities of Member States of the European Union and the EFTA, candidate and potential candidate countries. Data for Japan, China, the United States and South Korea are

extracted from the [OECD database](#) .

GBARD covers not only government-financed R&D performed in government establishments but also government-financed R&D in the other 3 national sectors: business enterprise (BES), private non-profit (PNP), higher education (HES) as well as the rest of the world, including international organisations (§ 12.16, Frascati Manual, OECD 2015). Government budget allocations for R&D (GBARD) are all provisions allocated to R&D in central (federal) government, regional (state) and local (municipal) government. They therefore refer to budget provisions, not to actual expenditure. Local government budget funds may not be included if their contribution is not significant or if the data cannot be collected.

GBARD data cover all public budget spending related to R&D and are linked to policy issues by means of a classification by "objectives" or "goals" (NABS 2007). Programmes are allocated between socioeconomic objectives, on the basis of intentions at the time the funds are committed and not the actual content of the projects concerned.

Context

Statistics on Government Budget Allocations for R&D (GBARD) are an important component of research and development (R&D) statistics within the European Union (EU).

Research and Development (R&D) is central to many European and national level policies that aim to increase the competitiveness of the EU's economies and the welfare of its citizens. R&D was put forward as a driving theme in the [Political Guidelines for the next European Commission 2024-2029](#) .

One of the key aims of the EU during the last couple of decades has been to encourage increasing levels of research investment, in order to provide a stimulus to the EU's competitiveness. In May 2021, the European Commission adopted a Communication on a global approach to research and innovation - [Europe's global approach to cooperation in research and innovation: strategic, open, and reciprocal](#) . This Communication underlines the EU's desire to play a leading role in supporting international research and innovation partnerships, while delivering innovative solutions that support green and digital solutions in line with the sustainable development goals. It engages the EU to promote resilience, prosperity, competitiveness, economic and social well-being.

Explore further

Other articles

- [R&D expenditure](#)
- [Technology in European Neighbourhood East countries](#)
- [R&D personnel](#)
- [SDG 9 - Industry, innovation and infrastructure](#)

Database

- [Science, technology and innovation \(scitech\)](#) , see:

Government budget allocations for R&D (GBARD) (gba)

[GBARD by socioeconomic objectives \(NABS 2007\) \(gba_nabsfin07\)](#)

- [OECD GBARD datatabase](#)

Dedicated section

- [Science, technology and innovation – Overview](#)

Publications

- [Key figures on Europe — 2024 edition](#)
- [Key figures on European business — Statistics illustrated — 2024 edition](#)
- [Eurostat regional yearbook — 2023 edition](#)

Main tables

- [Science, technology and innovation \(t_scitech\)](#) see:

Government budget allocations for R&D (GBARD) (t_gba)

[Share of government budget appropriations or outlays on research and development \(tsc00007\)](#)

[Share of GBAORD allocated to defence and total civil socioeconomic objectives \(tsc00008\)](#)

Methodology

- [Science, technology and innovation - methodology](#)

Legislation

Since the beginning of 2021, the collection of R&D statistics is based on Commission Implementing [Regulation \(EU\) No 1197/2020](#) of 30 July 2020. Previously, these data were collected under [Regulation \(EU\) No 995/2012](#) concerning the production and development of Community statistics on science and technology.