

■ Table 1.7.11 1 / 2

R&D personnel in EU countries and selected OECD countries, by personnel groups and sectors¹

Full-time equivalents								
Country	Year	Researchers	Technical and other personnel	R&D personnel total		Of which, working in the		
						Business enterprise sector	Higher education sector	Government and PNP ² sector
		Number		Per 1,000 labour force	Share in %			
Germany ³	2017	419,617	266,732	686,349	15.9	63.6	20.9	15.4
	2018	433,685	274,019	707,704	16.3	63.7	20.8	15.5
	2019	450,697	284,887	735,584	16.8	64.7	20.0	15.3
	2020	450,796	283,035	733,831	17.0	63.7	20.7	15.6
	2021	461,645	292,295	753,940	17.6	63.4	20.8	15.8
Finland	2017	37,047	11,952	48,999	18.0	57.4	32.7	9.9
	2018	37,891	12,120	50,011	18.1	57.4	32.8	9.7
	2019	39,984	11,510	51,494	18.6	57.7	33.0	9.3
	2020	41,707	11,812	53,519	19.4	58.8	31.9	9.3
	2021	43,554	12,934	56,488	20.1	60.9	30.0	9.0
France	2017	296,324	145,898	442,222	14.9	60.1	27.1	12.8
	2018	305,439	147,948	453,387	15.2	61.0	26.5	12.6
	2019	313,374	148,518	461,891	15.6	61.4	26.2	12.4
	2020	321,398	152,752	474,150	16.1	60.4	27.4	12.2
	2021	333,800	162,450	496,250	16.5	60.9	26.9	12.2
Italy	2017	140,378	177,250	317,628	12.2	60.4	25.3	14.3
	2018	152,307	193,318	345,625	13.3	63.3	23.5	13.2
	2019	160,824	195,030	355,854	13.7	63.2	23.5	13.2
	2020	156,989	185,297	342,286	13.7	61.9	24.2	14.0
	2021	158,960	174,143	333,103	13.2	59.5	25.8	14.7
Sweden ⁴	2017	73,132	15,796	88,928	16.5	71.7	22.7	5.6
	2018	75,151	16,860	92,011	16.9	73.4	21.1	5.4
	2019	78,629	13,543	92,172	16.8	70.1	24.0	5.9
	2020	80,089	15,374	95,463	17.3	71.5	22.6	5.9
	2021	84,695	13,699	98,394	17.6	73.7	20.5	5.8
United Kingdom ⁵	2017	295,842	148,777	444,619	13.3	52.3	42.8	4.9
	2018	-	-	-	-	-	-	-
	2019	-	-	-	-	-	-	-
	2020	-	-	-	-	-	-	-
	2021	-	-	-	-	-	-	-

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Japan	2017	676,292	214,457	890,749	13.3	67.7	23.8	8.4
	2018	678,134	218,767	896,901	13.2	68.2	23.4	8.4
	2019	681,821	221,546	903,367	13.1	68.3	23.4	8.3
	2020	689,889	221,731	911,620	13.3	68.5	23.3	8.2
	2021	704,502	237,522	942,024	13.7	68.1	23.7	8.2
Canada	2017	162,270	69,580	231,850	11.7	60.9	32.1	7.0
	2018	175,020	75,740	250,760	12.6	63.2	30.1	6.7
	2019	182,490	74,020	256,510	12.6	62.6	30.4	7.0
	2020	191,670	75,800	267,470	13.3	63.4	30.0	6.6
	2021	-	-	-	-	-	-	-
United States ⁶	2017	1,300,600	-	-	-	-	-	-
	2018	1,410,842	-	-	-	-	-	-
	2019	1,435,937	-	-	-	-	-	-
	2020	1,493,075	922,033	2,415,108	14.9	73.1	18.2	8.7
	2021	-	-	-	-	-	-	-

1 Some figures are revised, provisional, estimated, differently defined or only partly comparable with figures from previous years (see original edition of “Main Science and Technology Indicators 2022/2”).

2 PNP: private non-profit institutions.

3 Increases of expenditure on higher education are partly due to a methodological adjustment of the R&D coefficients.

4 Part of personnel data were reallocated from the category technical and other personnel to the category researchers. Government sector excludes R&D personnel from the county councils.

5 For the years from 2018 onwards, estimates for R&D personnel in the Business enterprise sector were significantly revised by the United Kingdom. These changes reflect an uplift recalibration to account for under-sampled businesses performing R&D. Revised estimates for R&D personnel in the business sector for 2018–2020 have not been included in the OECD database for the time being in order to check their relevance.

6 Until 2019, the OECD estimated the total number of researchers as no official data were available for various employment sectors. As of 2020, the United States resumed reporting on R&D personnel statistics. The new data correct previous OECD estimates downward, as OECD extrapolation methods apparently overestimated the growth of the number of researchers in the higher education sector before.

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Source: OECD (Main Science and Technology Indicators 2023/1) and calculations of the German Centre for Higher Education Research and Science Studies

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<https://www.govdata.de/dl-de/by-nc-1-0>