

■ Table 1.7.11 1 / 2

R&D personnel in selected EU and 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 employed persons	Share in %			
Germany ³	2018	433,685	274,019	707,704	15.8	63.7	20.8	15.5
	2019	450,697	284,887	735,584	16.2	64.7	20.0	15.3
	2020	450,796	283,035	733,831	16.3	63.7	20.7	15.6
	2021	461,645	292,295	753,940	16.8	63.4	20.8	15.8
	2022	484,823	299,737	784,560	17.2	64.4	20.2	15.4
Finland	2018	37,891	12,120	50,011	19.0	57.4	32.8	9.7
	2019	39,984	11,510	51,494	19.3	57.7	33.0	9.3
	2020	41,707	11,812	53,519	20.5	58.8	31.9	9.3
	2021	43,554	12,934	56,488	21.2	60.9	30.0	9.0
	2022	44,792	12,239	57,031	20.7	59.2	31.7	9.0
France	2018	305,439	147,948	453,387	16.1	61.0	26.5	12.6
	2019	313,374	148,518	461,891	16.2	61.4	26.2	12.4
	2020	321,398	152,752	474,150	16.6	60.4	27.4	12.2
	2021	333,800	162,450	496,250	16.9	60.9	26.9	12.2
	2022	345,617	168,073	513,690	17.1	61.0	27.0	12.0
Italy	2018	152,307	193,318	345,625	13.6	63.3	23.5	13.2
	2019	160,824	195,030	355,854	14.0	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
	2022	160,741	162,241	322,982	12.6	57.5	27.7	14.7
Sweden ⁴	2018	75,151	16,860	92,011	18.3	73.4	21.1	5.4
	2019	78,629	13,543	92,172	18.2	70.1	24.0	5.9
	2020	80,089	15,374	95,463	19.1	71.5	22.6	5.9
	2021	84,695	13,699	98,394	19.5	73.7	20.5	5.8
	2022	90,142	15,431	105,573	20.3	74.6	19.9	5.6
United Kingdom ⁵	2018	-	-	-	-	-	-	-
	2019	-	-	-	-	-	-	-
	2020	-	-	-	-	-	-	-
	2021	-	-	-	-	-	-	-
	2022	-	-	-	-	-	-	-

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Japan	2018	678,134	218,767	896,901	13.2	68.2	23.4	8.4
	2019	681,821	221,546	903,367	13.2	68.3	23.4	8.3
	2020	689,889	221,731	911,620	13.4	68.5	23.3	8.2
	2021	704,502	237,522	942,024	13.8	68.1	23.7	8.2
	2022	705,551	234,518	940,069	13.8	68.2	23.8	8.0
Canada	2018	174,690	75,760	250,450	13.1	63.3	30.0	6.8
	2019	182,140	73,990	256,130	13.1	62.7	30.3	7.0
	2020	196,010	77,440	273,450	15.6	64.2	29.2	6.5
	2021	207,410	81,760	289,170	15.2	65.0	28.6	6.4
	2022	-	-	-	-	-	-	-
United States ⁶	2018	1,410,376	-	-	-	-	-	-
	2019	1,435,217	-	-	-	-	-	-
	2020	1,513,964	931,607	2,445,571	16.3	73.5	18.0	8.6
	2021	1,639,258	1,007,240	2,646,498	17.1	74.5	17.7	7.8
	2022	-	-	-	-	-	-	-

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 July 2024”).

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. As of 2018, revised estimates for R&D personnel in the business sector 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 July 2024) 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>