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**R&D personnel in selected EU and OECD countries, by personnel groups and sectors<sup>1</sup>**

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 <sup>2</sup> sector
		Number	Per 1,000 employed persons	Share in %				
Germany	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	16.7	63.4	20.8	15.8
	2022	486,011	299,409	785,420	17.2	64.3	20.3	15.4
	2023	498,500	318,900	817,400	17.8	65.2	19.8	14.9
Belgium <sup>3</sup>	2019	60,619	32,906	93,524	19.2	61.7	27.7	10.7
	2020	62,448	33,518	95,966	19.7	63.3	27.1	9.6
	2021	76,233	42,932	119,165	24.0	68.2	23.8	8.0
	2022	80,383	45,159	125,542	24.8	68.6	23.1	8.3
	2023	83,274	46,847	130,121	25.6	68.9	23.0	8.1
Denmark	2019	44,671	17,558	62,229	20.7	60.4	35.7	3.9
	2020	44,553	17,496	62,049	20.9	60.1	36.0	4.0
	2021	45,017	17,152	62,169	20.5	59.2	36.8	3.9
	2022	53,081	17,613	70,694	22.4	59.4	37.0	3.6
	2023	53,860	17,865	71,725	22.4	59.2	37.2	3.6
Finland	2019	39,984	11,510	51,494	19.4	57.7	33.0	9.3
	2020	41,707	11,812	53,519	20.7	58.8	31.9	9.3
	2021	43,554	12,934	56,488	21.3	60.9	30.0	9.0
	2022	44,793	12,238	57,031	20.8	59.2	31.7	9.0
	2023	46,483	13,242	59,725	21.6	59.2	31.8	9.0
Japan	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
	2023	699,232	228,170	927,402	13.5	67.6	24.3	8.2
Austria	2019	52,794	30,866	83,660	18.4	70.0	22.7	7.3
	2020	51,892	30,161	82,053	18.3	69.3	23.2	7.5
	2021	56,533	30,926	87,459	19.2	69.2	23.8	7.0
	2022	59,646	32,629	92,275	19.7	69.2	23.8	7.0
	2023	63,702	34,847	98,549	20.9	69.2	23.8	7.0
Sweden	2019	78,629	13,543	92,172	17.7	70.1	24.0	5.9
	2020	80,089	15,374	95,463	18.5	71.5	22.6	5.9
	2021	84,695	13,699	98,394	18.9	73.7	20.5	5.8
	2022	90,304	15,392	105,696	19.6	74.5	19.9	5.7
	2023	93,770	12,571	106,341	19.5	73.7	20.4	5.9

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						Business enterprise sector	Higher education sector	Government and PNP <sup>2</sup> sector
		Number	Per 1,000 employed persons	Share in %				
Switzerland	2019	47,534	38,696	86,230	16.9	60.3	38.5	1.2
	2020	-	-	-	-	-	-	-
	2021	52,222	38,610	90,832	17.8	59.5	39.3	1.2
	2022	-	-	-	-	-	-	-
	2023	-	-	-	-	-	-	-
South Korea	2019	430,690	94,985	525,675	19.4	77.1	13.6	9.3
	2020	446,739	98,696	545,435	20.3	76.4	14.2	9.3
	2021	470,728	106,371	577,099	21.2	77.3	13.8	8.9
	2022	488,774	113,422	602,196	21.4	75.9	15.2	8.9
	2023	490,256	120,568	610,824	21.5	75.2	15.8	9.0
United Kingdom <sup>4</sup>	2019	-	-	-	-	-	-	-
	2020	-	-	-	-	-	-	-
	2021	-	-	-	-	-	-	-
	2022	-	-	-	-	-	-	-
	2023	-	-	-	-	-	-	-
United States <sup>5</sup>	2019	1,469,294	-	-	-	-	-	-
	2020	1,549,132	-	-	-	-	-	-
	2021	1,664,939	-	-	-	-	-	-
	2022	1,681,676	1,044,962	2,726,638	17.0	72.2	18.4	9.4
	2023	-	-	-	-	-	-	-

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 March 2025").

2 PNP: private non-profit institutions.

3 As of 2021, the business enterprise sector includes external personnel.

4 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. The revised estimates for R&D personnel have not yet been included in the OECD database.

5 Due to lack of official data for the different employment sectors, the total researchers figure is an OECD estimate up to 2021. As of 2022, it is based on official personnel data available for all sectors.

Last update: April 16, 2025

Source: OECD (Main Science and Technology Indicators March 2025) and calculations of the German Centre for Higher Education Research and Science Studies

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