

First estimates of Research & Development in 2013

R&D expenditure just over 2% of GDP in the EU28 in 2013

Almost two thirds performed in the business sector

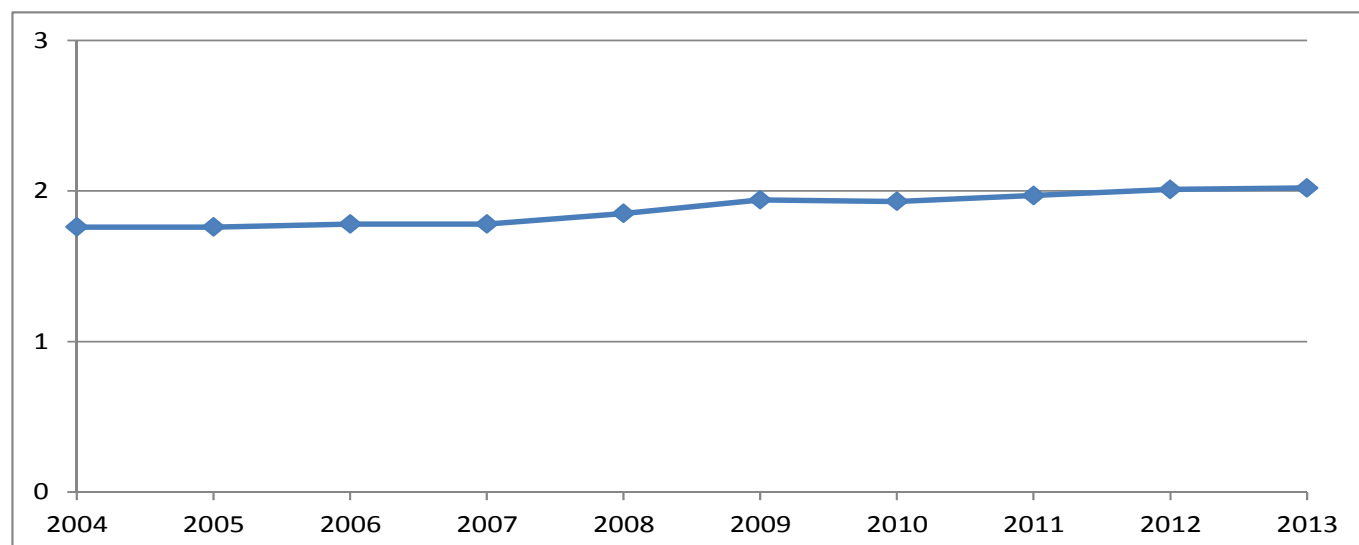
Eurostat publishes in this News Release R&D intensity, where the denominator (GDP) is for the first time based on the European System of Accounts 2010 (ESA 2010) methodology. On average, the use of ESA 2010 GDP leads to a downwards revision of the EU28 series on R&D intensity by around 0.07 percentage points.

In 2013, the **EU28** Member States spent almost €275 billion on Research & Development¹ (R&D). The R&D intensity², i.e. R&D expenditure as a percentage of GDP, stood at 2.02% in the EU28 in 2013, compared with 1.76% in 2004. This level remained however lower in the **EU28** than in other major economies. R&D intensity was much higher in **South Korea** (4.04% in 2011) and **Japan** (3.38% in 2011) as well as, to a lesser extent, in the **United States** (2.81% in 2012), while in both **China** (1.98% in 2012) and **Russia** (1.11%) the R&D intensity was below that of the EU28. In order to provide a stimulus to the EU's competitiveness, an increase of the R&D intensity in the EU28 is one of the five headline targets of the Europe 2020 strategy³.

The business enterprise sector continued to be the main sector in which R&D expenditure was performed accounting for 64% of total R&D conducted in 2013, followed by the higher education sector (23%), the government sector (12%) and the private non-profit sector (1%).

This information is published by Eurostat, the statistical office of the European Union.

Research and development intensity in the EU28, 2004-2013
(R&D expenditure as % of GDP)



Highest R&D intensity in the Nordic Member States

In 2013, the highest R&D intensities were recorded in **Finland** (3.32%), **Sweden** (3.21%) and **Denmark** (3.05%), all above 3% of GDP, followed by **Germany** (2.94%) and **Austria** (2.81%). At the opposite end of the scale, ten Member States recorded an R&D intensity below 1% of GDP: **Romania** (0.39%), **Cyprus** (0.48%), **Latvia** (0.60%), **Bulgaria** (0.65%), **Greece** (0.78%), **Croatia** (0.81%), **Slovakia** (0.83%), **Malta** (0.85%), **Poland** (0.87%) and **Lithuania** (0.95%). Compared with 2004, R&D intensity increased in twenty-two Member States, decreased in **Croatia** (from 1.03% in 2004 to 0.81% in 2013), **Luxembourg** (from 1.63% to 1.16%) and **Sweden** (from 3.39% to 3.21%), and remained almost stable in **Romania**, **Finland** and the **United Kingdom**.

Research and development expenditure in the EU28 Member States

	R&D intensity (R&D expenditure as % of GDP)		R&D expenditure (in millions of euro)	
	2004	2013	2004	2013
EU28	1.76	2.02	194 341	273 464
Belgium	1.81	2.28	5 404	9 015
Bulgaria	0.48	0.65	99	267
Czech Republic	1.15	1.91	1 100	2 997
Denmark	2.42	3.05	4 897	7 731
Germany	2.42	2.94	54 967	82 482
Estonia	0.85	1.74	83	326
Ireland*	1.18	1.58	1 840	2 723
Greece	0.53	0.78	1 021	1 427
Spain	1.04	1.24	8 946	13 052
France	2.09	2.23	35 693	47 160
Croatia	1.03	0.81	345	355
Italy	1.05	1.25	15 253	20 203
Cyprus	0.34	0.48	47	86
Latvia	0.40	0.60	47	139
Lithuania	0.75	0.95	137	332
Luxembourg	1.63	1.16	448	523
Hungary	0.87	1.41	721	1 415
Malta	0.49	0.85	24	64
Netherlands	1.82	1.98	9 469	12 743
Austria	2.17	2.81	5 250	9 074
Poland	0.56	0.87	1 139	3 436
Portugal	0.73	1.36	1 110	2 322
Romania	0.38	0.39	235	558
Slovenia	1.37	2.59	379	935
Slovakia	0.50	0.83	174	611
Finland	3.31	3.32	5 253	6 684
Sweden	3.39	3.21	10 426	13 995
United Kingdom	1.61	1.63	29 834	32 784
Iceland**	2.69	2.49	364	263
Norway	1.57	1.69	3 290	6 530
Switzerland*	2.82	3.13	8 486	15 357
Serbia*	:	0.91	:	287
Turkey*	0.52	0.92	1 630	5 646
China*	1.23	1.98	19 097	127 059
Japan***	3.13	3.38	117 396	143 701
Russia	1.15	1.11	5 473	17 710
South Korea***	2.68	4.04	15 595	32 371
United States*	2.49	2.81	245 711	353 007

: Data not available

* 2012 data instead of 2013

** 2005 data instead of 2004 and 2011 data instead of 2013

*** 2011 data instead of 2013

2013 data are preliminary for all countries, except for Croatia, Hungary, Poland, Romania, Slovakia, Finland and Russia.

Estimated data - 2004: Greece, Portugal, Sweden; 2012: Ireland; 2013: EU28, Denmark, Germany, Austria, Sweden, the United Kingdom.

Research and development expenditure in the EU28 Member States by performing sector
(% of total)

	Business enterprise sector		Government sector		Higher education sector		Private non-profit sector	
	2004	2013	2004	2013	2004	2013	2004	2013
EU28	63	64	13	12	22	23	1	1
Belgium	69	69	8	9	22	22	1	0
Bulgaria	24	61	67	30	9	9	1	1
Czech Republic	62	54	22	18	15	27	0	0
Denmark	68	65	7	2	24	32	1	0
Germany	70	68	14	15	17	17	-	-
Estonia	39	48	13	9	45	42	2	1
Ireland*	66	72	8	5	27	23	-	-
Greece	31	35	20	27	48	37	1	1
Spain	54	53	16	19	30	28	0	0
France	63	65	17	13	19	21	1	1
Croatia	42	50	21	26	37	24	-	-
Italy	48	54	18	15	33	28	2	3
Cyprus	21	15	36	14	35	57	7	13
Latvia	44	28	19	29	36	43	-	-
Lithuania	21	25	25	20	54	55	-	-
Luxembourg	88	61	11	23	1	15	-	-
Hungary	41	69	30	15	25	14	-	-
Malta	66	54	3	10	31	36	-	-
Netherlands	54	58	13	11	33	32	-	-
Austria	68	69	5	5	27	26	0	0
Poland	29	44	39	27	32	29	0	0
Portugal	36	47	16	6	37	38	12	9
Romania	55	31	34	49	10	20	0	0
Slovenia	67	77	20	13	13	10	0	0
Slovakia	49	46	30	20	20	33	0	0
Finland	70	69	9	9	20	22	0	0
Sweden	74	68	3	4	23	28	0	0
United Kingdom	63	65	11	7	25	26	2	2

* 2012 data instead of 2013

- not applicable

0 means less than 0.5%

Figures may not add up to 100% due to rounding

Highest share of R&D conducted within the business sector in Slovenia and Ireland...

The main sector in which R&D was performed in 2013 was the business enterprise sector in all Member States, except **Greece**, **Cyprus**, **Latvia**, **Lithuania** (where the higher education sector was the dominant performing sector) and **Romania** (where almost half of the R&D expenditure was conducted within the government sector).

The highest shares of R&D expenditure performed in the business sector were observed in **Slovenia** (77%), **Ireland** (72% in 2012), **Belgium**, **Hungary**, **Austria** and **Finland** (all 69%), **Germany** and **Sweden** (both 68%) and **Denmark**, **France** and the **United Kingdom** (all 65%). Compared with 2004, the share of R&D conducted in the business enterprise sector increased in fifteen Member States, decreased in twelve, while it remained stable in **Belgium**.

...and within the government sector in Romania and the higher education sector in Cyprus and Lithuania

For the government sector, the highest share was by far registered in **Romania** (49%), followed by **Bulgaria** (30%), **Latvia** (29%), **Greece** and **Poland** (both 27%) and **Croatia** (26%). The highest shares of R&D conducted within the higher education sector were recorded in **Cyprus** (57%), **Lithuania** (55%), **Latvia** (43%) and **Estonia** (42%).

1. **Research and development**, abbreviated as R&D, refers to creative work undertaken on a systematic basis in order to increase the stock of knowledge (including knowledge of man, culture and society), and the use of this knowledge to devise new applications.
2. **R&D intensity** for a country is defined as the total R&D expenditure as a percentage of gross domestic product (GDP). All GDP figures used for the calculation of R&D intensity for EU28 Member States are based in this news release on the ESA 2010 methodology. For more information, see: http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/2-17102014-BP/EN/2-17102014-BP-EN.PDF
3. For more information on the Europe 2020 strategy: http://ec.europa.eu/europe2020/index_en.htm

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