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Federal Government expenditure on science, research and development, by funding areas and funding priorities¹²

		Millions of €			
Funding area Funding priority		ACTUAL			
		2020		2021	
		Total	Of which, R&D	Total	Of which, R&D
A	Health research and health industry	3,950.3	3,620.5	3,497.6	3,159.0
AA	Health research and health industry	3,857.0	3,600.2	3,397.5	3,128.1
AB	Radiation protection	93.2	20.3	100.1	30.9
B	Bioeconomy	308.2	307.9	297.4	297.1
C	Civil security research	153.1	151.0	127.3	125.1
D	Nutrition, agriculture and consumer protection	995.3	821.9	1,046.7	873.0
DA	Nutrition	55.5	32.6	56.5	32.0
DB	Sustainable agricultural economy and rural areas	610.8	532.0	637.3	564.4
DC	Health and economic consumer protection	329.0	257.3	353.0	276.6
E	Energy research and energy technologies	1,871.4	1,442.4	2,097.7	1,679.9
EA	Efficient energy conversion	877.3	875.1	733.5	731.2
EB	Renewable energy	393.7	364.6	734.0	732.3
EC	Nuclear safety and waste management	225.5	147.9	250.0	160.4
ED	Decommissioning of nuclear facilities	334.7	15.5	338.0	14.8
EF	Fusion research	40.1	39.2	42.2	41.2
F	Climate, environment, sustainability	1,682.6	1,422.9	1,716.3	1,500.7
FA	Climate, climate protection; global change	307.1	293.8	321.0	305.0
FB	Coast, marine and polar research, geosciences	533.9	489.4	583.9	536.4
FC	Environmental and sustainability research	487.0	364.8	467.2	367.6
FD	Ecology, nature conservation, sustainable use	354.6	274.8	344.3	291.8
G	Information and communication technologies	1,577.1	1,411.0	1,488.4	1,377.6
GA	Software systems; knowledge technologies	401.8	399.8	453.6	451.7
GB	Communication technologies and services	200.7	198.7	282.6	280.5
GC	Electronic, electronic systems	454.7	343.6	401.9	349.8
GD	Microsystems technology	340.0	338.9	130.4	129.2
GE	Multimedia - development of convergent information and communication technology	179.9	130.0	219.9	166.4
H	Vehicle and traffic technologies including maritime technologies	551.6	439.0	534.3	430.0
HA	Vehicle and traffic technologies	466.2	366.5	443.5	350.4
HB	Maritime technologies	85.4	72.5	90.7	79.6
I	Aerospace	1,972.8	1,969.6	2,270.3	2,266.9
IA	Aviation	379.6	379.1	513.0	512.5
IB	National space research and space technology	732.5	731.5	829.3	828.3
IC	European Space Agency (ESA)	860.6	858.9	927.9	926.2
J	Research and development to improve working conditions and in the service sector	193.4	128.0	226.9	158.6
JA	Research to improve working conditions	149.2	89.6	184.1	121.9
JB	Research in the service sector	44.2	38.4	42.8	36.7
K	Nanotechnologies and materials technologies	838.5	824.9	897.4	880.4
KA	Nanotechnologies	314.9	308.9	327.4	320.6
KB	Materials technologies	523.6	516.1	570.0	559.8
L	Optical technologies	237.2	231.2	358.5	352.1
M	Production technologies	295.4	292.4	307.8	304.7
N	Regional planning and urban development; construction research	132.3	123.5	157.3	148.3
NA	Regional planning, urban development, housing	28.4	28.4	37.3	37.3
NB	Construction research	103.9	95.1	120.0	111.0

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Federal Government expenditure on science, research and development, by funding areas and funding priorities¹²

		Millions of €			
Funding area Funding priority		ACTUAL			
		2020		2021	
		Total	Of which, R&D	Total	Of which, R&D
O	Innovations in education	1,065.5	562.0	1,072.3	461.9
OA	Educational reporting, international assessments	518.9	208.1	515.3	138.5
OB	Educational research	507.8	315.2	524.9	291.3
OC	New media in education	38.8	38.8	32.1	32.1
P	Humanities; economics and social sciences	1,711.4	1,342.1	1,830.1	1,415.3
PA	Humanities research	1,054.8	714.7	1,063.2	687.3
PB	Social scientific research	354.6	328.5	381.9	346.2
PC	Economic and finance scientific research	126.0	126.0	121.6	121.6
PD	Infrastructures	176.0	172.9	263.4	260.2
Q	Innovation funding for SMEs	1,163.3	1,153.3	1,277.7	1,267.6
QA	Start-up support	159.9	159.9	196.4	196.4
QB	Technology support for SMEs	562.3	557.1	625.9	620.3
QC	Technology transfer and innovation consulting	169.6	165.3	180.4	176.6
QD	Research infrastructure SMEs	271.5	270.9	275.0	274.4
R	Innovation-relevant underlying conditions and other cross-cutting activities	1,040.9	848.5	1,126.1	920.2
RA	Technology Assessment	2.5	2.5	2.6	2.6
RB	Structural cross-cutting activities	427.1	334.3	409.4	310.8
RC	Demographical change	82.3	82.3	82.7	82.7
RD	Sports promotion and sports research	28.0	28.0	27.2	27.2
RE	Others	501.0	401.4	604.2	496.8
T	Funding organisations, restructuring of the research field in acceding areas; construction of universities and primarily university-specific special programmes⁵	2,919.6	760.2	3,070.7	862.4
TA	Basic funding of research institutions	0.7	0.4	0.7	0.4
TB	Others	2,918.9	759.8	3,069.9	862.0
U	Large-scale equipment for basic research	1,409.0	1,408.6	1,531.7	1,531.3
Z	Global reduced expenditure; budget reserve⁶	-	-	-	-
Total of civil funding areas		24,068.8	19,260.7	24,932.3	20,012.3
S	Military scientific research	1,491.9	1,422.6	1,786.5	1,716.6
SA	Military medical and military psychological research	68.6	22.9	109.4	66.2
SB	Defense technological research	1,405.6	1,384.8	1,658.2	1,634.1
SC	Social scientific research	2.9	2.9	4.7	4.7
SD	Military historical research	11.7	11.7	11.4	11.4
SE	Geoscientific research	3.1	0.3	2.8	0.3
Total expenditure		25,560.7	20,683.3	26,718.8	21,728.9

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Federal Government expenditure on science, research and development, by funding areas and funding priorities¹²

Millions of €					
Funding area Funding priority	ACTUAL		TARGET ³		
	2022		2023 ⁴		
	Total	Of which, R&D	Total	Of which, R&D	
A Health research and health industry	3,644.7	3,277.3	3,629.8	3,305.2	
AA Health research and health industry	3,549.6	3,247.5	3,544.8	3,285.5	
AB Radiation protection	95.0	29.8	85.0	19.7	
B Bioeconomy	312.3	311.9	256.8	256.4	
C Civil security research	125.1	122.9	129.1	127.9	
D Nutrition, agriculture and consumer protection	1,099.8	921.6	1,238.6	1,037.4	
DA Nutrition	64.7	39.7	89.2	63.2	
DB Sustainable agricultural economy and rural areas	661.3	590.1	734.9	661.1	
DC Health and economic consumer protection	373.7	291.8	414.5	313.0	
E Energy research and energy technologies	2,255.3	1,821.1	2,829.0	2,365.0	
EA Efficient energy conversion	827.2	824.8	1,623.8	1,622.9	
EB Renewable energy	777.8	776.1	531.7	528.5	
EC Nuclear safety and waste management	250.4	166.4	264.2	167.8	
ED Decommissioning of nuclear facilities	356.5	11.3	374.4	11.2	
EF Fusion research	43.5	42.5	35.0	34.6	
F Climate, environment, sustainability	1,814.7	1,592.9	2,362.0	1,874.8	
FA Climate, climate protection; global change	350.0	337.1	656.1	453.1	
FB Coast, marine and polar research, geosciences	611.8	565.2	665.0	619.7	
FC Environmental and sustainability research	517.0	407.0	593.6	444.9	
FD Ecology, nature conservation, sustainable use	335.9	283.6	447.3	357.1	
G Information and communication technologies	1,759.7	1,588.8	3,142.9	2,956.5	
GA Software systems; knowledge technologies	516.0	513.8	621.7	618.3	
GB Communication technologies and services	396.9	394.7	533.6	531.0	
GC Electronic, electronic systems	481.2	368.7	521.5	401.9	
GD Microsystems technology	90.8	89.6	932.1	931.6	
GE Multimedia - development of convergent information and communication technology	274.8	221.9	534.2	473.7	
H Vehicle and traffic technologies including maritime technologies	727.9	618.2	850.4	721.4	
HA Vehicle and traffic technologies	633.2	537.4	712.3	600.7	
HB Maritime technologies	94.7	80.8	138.1	120.7	
I Aerospace	2,174.3	2,170.9	2,516.4	2,513.4	
IA Aviation	449.0	448.4	689.6	689.1	
IB National space research and space technology	803.1	802.1	934.4	933.5	
IC European Space Agency (ESA)	922.2	920.4	892.3	890.8	
J Research and development to improve working conditions and in the service sector	211.9	140.9	295.6	218.8	
JA Research to improve working conditions	173.0	108.2	267.7	198.4	
JB Research in the service sector	38.9	32.7	27.9	20.4	
K Nanotechnologies and materials technologies	1,022.8	1,001.6	1,031.1	1,007.8	
KA Nanotechnologies	331.7	324.9	439.1	433.0	
KB Materials technologies	691.1	676.7	592.0	574.8	
L Optical technologies	404.4	397.8	418.7	408.1	
M Production technologies	355.6	352.4	248.1	246.0	
N Regional planning and urban development; construction research	162.0	148.2	331.4	224.3	
NA Regional planning, urban development, housing	45.0	39.3	153.6	95.1	
NB Construction research	117.1	108.9	177.8	129.2	

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Federal Government expenditure on science, research and development, by funding areas and funding priorities¹²

Millions of €					
Funding area Funding priority		ACTUAL		TARGET ³	
		2022		2023 ⁴	
		Total	Of which, R&D	Total	Of which, R&D
O	Innovations in education	1,085.3	476.8	1,138.3	519.4
OA	Educational reporting, international assessments	630.4	161.6	657.3	183.6
OB	Educational research	434.8	295.1	451.3	306.1
OC	New media in education	20.1	20.1	29.7	29.7
P	Humanities; economics and social sciences	1,887.0	1,397.9	1,980.7	1,493.8
PA	Humanities research	1,201.7	747.9	1,284.2	840.0
PB	Social scientific research	404.5	372.5	391.6	351.4
PC	Economic and finance scientific research	118.1	118.1	130.7	130.7
PD	Infrastructures	162.7	159.4	174.4	171.8
Q	Innovation funding for SMEs	1,447.0	1,436.3	1,844.8	1,835.7
QA	Start-up support	201.9	201.9	165.8	165.8
QB	Technology support for SMEs	662.5	656.4	802.0	797.2
QC	Technology transfer and innovation consulting	324.6	320.7	606.0	602.2
QD	Research infrastructure SMEs	258.0	257.4	270.9	270.5
R	Innovation-relevant underlying conditions and other cross-cutting activities	1,125.9	909.1	1,380.2	1,162.6
RA	Technology Assessment	2.7	2.7	5.1	5.1
RB	Structural cross-cutting activities	478.0	372.8	738.5	625.5
RC	Demographical change	85.2	85.2	80.4	80.4
RD	Sports promotion and sports research	31.1	31.1	33.2	33.2
RE	Others	529.0	417.3	523.1	418.5
T	Funding organisations, restructuring of the research field in acceding areas; construction of universities and primarily university-specific special programmes⁵	3,139.4	1,016.3	3,283.1	1,043.1
TA	Basic funding of research institutions	0.7	0.5	0.0	0.0
TB	Others	3,138.6	1,015.8	3,283.1	1,043.1
U	Large-scale equipment for basic research	1,585.4	1,585.0	1,660.2	1,659.6
Z	Global reduced expenditure; budget reserve⁶	-	-	-484.0	-484.0
Total of civil funding areas		29,505.9	23,904.2	30,083.3	24,493.2
S	Military scientific research	2,171.2	2,097.6	1,990.4	1,934.8
SA	Military medical and military psychological research	65.4	20.9	174.7	139.2
SB	Defense technological research	2,079.8	2,057.4	1,799.4	1,781.0
SC	Social scientific research	6.2	6.2	2.8	2.8
SD	Military historical research	12.5	12.5	11.6	11.6
SE	Geoscientific research	7.3	0.7	1.8	0.2
Total expenditure		28,511.5	23,385.4	32,073.7	26,428.0

Federal Government expenditure on science, research and development, by funding areas and funding priorities^{1,2}

- 1 According to the Federal Government's planning system 2009. Expenditure was implemented in accordance with the Federal Government's planning system 2009. Expenditure of non-university research organisations are distributed among funding areas and funding priorities. Discrepancies with regard to earlier publications are due to subsequent changes of assignments to funding areas and funding priorities or rather due to subsequent changes in the allocation to R&D. Possible rounding differences.
- 2 Until 2022, including "Energy and climate fund"; as of 2023, including "Climate and transformation fund".
- 3 Distribution among funding areas and funding priorities partly estimated or extrapolated.
- 4 Target expenditure 2023 including "Climate and transformation fund" but excluding other funds from section 60 "General financial management" - chapter 6002 "General appropriations". These are collected retrospectively. Without the supplementary budget of 28 December 2023.
- 5 Including universities of the federal armed forces and the Federal University of Applied Administrative Sciences.
- 6 ACTUAL figures are needed to break down the BMBF's total expenditure reduction by funding areas and funding priorities.

Last update: January 4, 2024

This table also appears in the Federal Report on Research and Innovation as Table 5.

Source: Special evaluation of the Federal Ministry of Education and Research

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<https://www.govdata.de/dl-de/by-2-0>