■ **Table 1.1.5 1 / 5**

Federal Government expenditure on science, research and development, by funding areas and funding priorities[1 2]

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

■ **Table 1.1.5 2 / 5**

Federal Government expenditure on science, research and development, by funding areas and funding priorities [1 2]

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 programmes [5]**	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 reserve [6]**	-	-	-	-
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**

■ **Table 1.1.5 3 / 5**

Federal Government expenditure on science, research and development, by funding areas and funding priorities [1] [2]

Millions of €

Funding area / Funding priority		TARGET [3]			
		2022		2023 [4]	
		Total	Of which, R&D	Total	Of which, R&D
A	**Health research and health industry**	3,995.2	3,645.1	3,629.8	3,304.6
AA	Health research and health industry	3,905.1	3,624.6	3,544.8	3,285.0
AB	Radiation protection	90.0	20.5	85.0	19.6
B	**Bioeconomy**	302.8	302.4	256.8	256.4
C	**Civil security research**	126.4	125.2	132.5	131.3
D	**Nutrition, agriculture and consumer protection**	1,286.7	1,070.3	1,238.6	1,040.0
DA	Nutrition	64.8	39.9	89.2	63.2
DB	Sustainable agricultural economy and rural areas	835.0	733.5	734.8	663.7
DC	Health and economic consumer protection	386.9	297.0	414.6	313.1
E	**Energy research and energy technologies**	2,989.5	2,527.6	2,740.2	2,271.0
EA	Efficient energy conversion	1,645.7	1,644.8	1,603.1	1,602.1
EB	Renewable energy	669.5	666.3	459.6	456.4
EC	Nuclear safety and waste management	258.1	164.0	268.2	166.7
ED	Decommissioning of nuclear facilities	374.4	11.2	374.4	11.2
EF	Fusion research	41.8	41.4	35.0	34.6
F	**Climate, environment, sustainability**	2,054.9	1,740.6	2,352.6	1,867.9
FA	Climate, climate protection; global change	386.5	344.6	652.8	451.0
FB	Coast, marine and polar research, geosciences	616.8	571.9	661.7	617.1
FC	Environmental and sustainability research	654.4	511.3	590.8	442.7
FD	Ecology, nature conservation, sustainable use	397.1	312.8	447.3	357.1
G	**Information and communication technologies**	2,407.5	2,230.4	3,142.9	2,956.5
GA	Software systems; knowledge technologies	546.0	542.7	621.7	618.3
GB	Communication technologies and services	440.7	438.1	533.6	531.0
GC	Electronic, electronic systems	502.4	391.1	521.5	401.9
GD	Microsystems technology	481.0	480.6	932.1	931.6
GE	Multimedia - development of convergent information and communication technology	437.3	378.0	534.2	473.7
H	**Vehicle and traffic technologies including maritime technologies**	828.2	648.4	848.8	712.8
HA	Vehicle and traffic technologies	690.9	534.8	712.9	600.7
HB	Maritime technologies	137.3	113.6	136.0	112.1
I	**Aerospace**	2,441.9	2,438.9	2,516.4	2,513.4
IA	Aviation	604.3	603.8	689.6	689.1
IB	National space research and space technology	916.3	915.3	934.4	933.5
IC	European Space Agency (ESA)	921.4	919.9	892.3	890.8
J	**Research and development to improve working conditions and in the service sector**	300.8	227.8	295.6	218.8
JA	Research to improve working conditions	273.2	207.8	267.7	198.4
JB	Research in the service sector	27.6	20.1	27.9	20.4
K	**Nanotechnologies and materials technologies**	1,048.7	1,016.0	1,030.2	998.7
KA	Nanotechnologies	478.7	472.6	439.1	433.0
KB	Materials technologies	570.0	543.4	591.1	565.7
L	**Optical technologies**	413.6	403.0	418.7	408.1
M	**Production technologies**	242.8	240.6	248.1	246.0
N	**Regional planning and urban development; construction research**	370.6	337.4	456.4	408.0
NA	Regional planning, urban development, housing	211.6	211.6	278.9	278.9
NB	Construction research	159.0	125.8	177.6	129.2

■ **Table 1.1.5 4 / 5**

Federal Government expenditure on science, research and development, by funding areas and funding priorities [1] [2]

Millions of €

Funding area / Funding priority		TARGET [3]			
		2022		2023 [4]	
		Total	Of which, R&D	Total	Of which, R&D
O	**Innovations in education**	1,282.2	540.9	1,138.1	519.4
OA	Educational reporting, international assessments	665.3	175.0	657.1	183.6
OB	Educational research	580.7	329.8	451.3	306.1
OC	New media in education	36.2	36.2	29.7	29.7
P	**Humanities; economics and social sciences**	2,032.5	1,519.2	1,980.7	1,475.1
PA	Humanities research	1,262.6	788.4	1,284.2	821.2
PB	Social scientific research	378.2	341.6	391.6	351.5
PC	Economic and finance scientific research	129.2	129.2	130.7	130.7
PD	Infrastructures	262.4	259.8	174.4	171.8
Q	**Innovation funding for SMEs**	1,662.4	1,653.3	1,846.5	1,837.4
QA	Start-up support	172.8	172.8	165.8	165.8
QB	Technology support for SMEs	735.2	730.3	803.7	798.9
QC	Technology transfer and innovation consulting	483.6	479.7	606.0	602.2
QD	Research infrastructure SMEs	270.8	270.5	270.9	270.5
R	**Innovation-relevant underlying conditions and other cross-cutting activities**	1,414.4	1,182.4	1,450.6	1,233.1
RA	Technology Assessment	2.6	2.6	5.1	5.1
RB	Structural cross-cutting activities	702.9	576.5	738.4	625.5
RC	Demographical change	86.2	86.2	80.4	80.4
RD	Sports promotion and sports research	31.8	31.8	33.2	33.2
RE	Others	590.9	485.1	593.5	489.0
T	**Funding organisations, restructuring of the research field in acceding areas; construction of universities and primarily university-specific special programmes [5]**	3,225.4	975.9	3,327.1	995.9
TA	Basic funding of research institutions	0.0	0.0	0.0	0.0
TB	Others	3,225.4	975.9	3,327.1	995.9
U	**Large-scale equipment for basic research**	1,588.4	1,587.8	1,660.2	1,659.6
Z	**Global reduced expenditure; budget reserve [6]**	-509.2	-509.2	-484.0	-484.0
Total of civil funding areas		**29,505.9**	**23,904.2**	**30,226.9**	**24,570.2**
S	**Military scientific research**	2,397.7	2,342.9	1,990.4	1,934.6
SA	Military medical and military psychological research	158.6	123.8	174.7	139.2
SB	Defense technological research	2,224.4	2,205.8	1,799.4	1,780.8
SC	Social scientific research	2.6	2.6	2.8	2.8
SD	Military historical research	10.7	10.7	11.6	11.6
SE	Geoscientific research	1.5	0.1	1.8	0.2
Total expenditure		**31,903.6**	**26,247.1**	**32,217.3**	**26,504.8**

■ **Table 1.1.5 5 / 5**

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.

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: August 14, 2023

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