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**Federal Government expenditure on science, research and development, by funding areas and funding priorities<sup>12</sup>**

		Millions of €			
Funding area Funding priority		ACTUAL			
		2016		2017	
		Total	Of which, R&D	Total	Of which, R&D
<b>A</b>	<b>Health research and health industry</b>	2,543.3	2,280.6	2,714.4	2,427.4
AA	Health research and health industry	2,470.4	2,262.2	2,623.4	2,404.6
AB	Radiation protection	72.9	18.4	91.0	22.8
<b>B</b>	<b>Bioeconomy</b>	261.8	261.4	279.9	279.3
<b>C</b>	<b>Civil security research</b>	102.3	98.0	138.7	135.1
<b>D</b>	<b>Nutrition, agriculture and consumer protection</b>	809.2	670.5	895.0	738.7
DA	Nutrition	55.9	30.3	56.6	31.9
DB	Sustainable agricultural economy and rural areas	504.2	452.3	562.8	491.5
DC	Health and economic consumer protection	249.2	187.9	275.6	215.3
<b>E</b>	<b>Energy research and energy technologies</b>	1,616.4	1,281.3	1,630.4	1,303.6
EA	Efficient energy conversion	570.7	568.9	611.3	609.4
EB	Renewable energy	436.6	435.4	414.2	412.8
EC	Nuclear safety and waste management	226.5	133.2	191.7	136.7
ED	Decommissioning of nuclear facilities	246.1	8.3	276.5	8.8
EF	Fusion research	136.4	135.6	136.6	136.0
<b>F</b>	<b>Climate, environment, sustainability</b>	1,431.1	1,217.8	1,542.7	1,312.4
FA	Climate, climate protection; global change	253.1	247.7	286.4	276.9
FB	Coast, marine and polar research, geosciences	502.4	447.8	527.8	474.7
FC	Environmental and sustainability research	414.5	320.8	443.0	342.0
FD	Ecology, nature conservation, sustainable use	261.1	201.4	285.5	218.7
<b>G</b>	<b>Information and communication technologies</b>	750.9	715.8	896.5	801.1
GA	Software systems; knowledge technologies	206.7	205.0	261.1	254.8
GB	Communication technologies and services	137.1	135.3	161.4	159.7
GC	Electronic, electronic systems	262.9	259.5	314.2	261.4
GD	Microsystems technology	40.8	39.9	40.8	39.9
GE	Multimedia - development of convergent information and communication technology	103.4	76.1	119.1	85.4
<b>H</b>	<b>Vehicle and traffic technologies including maritime technologies</b>	361.0	254.8	385.0	268.3
HA	Vehicle and traffic technologies	306.1	211.7	323.1	218.8
HB	Maritime technologies	54.9	43.1	61.9	49.5
<b>I</b>	<b>Aerospace</b>	1,618.5	1,615.9	1,670.6	1,667.8
IA	Aviation	271.7	271.3	291.4	291.0
IB	National space research and space technology	547.1	546.3	616.4	615.5
IC	European Space Agency (ESA)	799.7	798.3	762.8	761.3
<b>J</b>	<b>Research and development to improve working conditions and in the service sector</b>	149.3	90.5	172.2	110.8
JA	Research to improve working conditions	112.8	58.8	129.6	73.1
JB	Research in the service sector	36.5	31.7	42.6	37.6
<b>K</b>	<b>Nanotechnologies and materials technologies</b>	679.4	658.3	734.5	709.9
KA	Nanotechnologies	266.4	261.2	269.3	263.7
KB	Materials technologies	413.0	397.1	465.3	446.1
<b>L</b>	<b>Optical technologies</b>	214.3	209.2	225.1	219.4
<b>M</b>	<b>Production technologies</b>	236.0	233.5	243.8	240.6
<b>N</b>	<b>Regional planning and urban development; construction research</b>	110.3	109.0	120.0	117.1
NA	Regional planning, urban development, housing	31.0	31.0	31.5	31.4
NB	Construction research	79.3	77.9	88.6	85.7

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**Federal Government expenditure on science, research and development, by funding areas and funding priorities<sup>12</sup>**

		Millions of €			
Funding area Funding priority		ACTUAL			
		2016		2017	
		Total	Of which, R&D	Total	Of which, R&D
<b>O</b>	<b>Innovations in education</b>	905.0	438.3	1,014.9	522.9
OA	Educational reporting, international assessments	453.7	162.1	499.5	188.6
OB	Educational research	433.7	258.5	483.2	302.2
OC	New media in education	17.6	17.6	32.1	32.1
<b>P</b>	<b>Humanities; economics and social sciences</b>	1,396.9	1,084.6	1,478.8	1,128.8
PA	Humanities research	875.0	591.8	932.8	611.1
PB	Social scientific research	265.4	238.8	268.0	242.3
PC	Economic and finance scientific research	95.2	95.2	94.2	94.2
PD	Infrastructures	161.3	158.8	183.8	181.2
<b>Q</b>	<b>Innovation funding for SMEs</b>	1,134.3	1,124.3	1,077.0	1,064.9
QA	Start-up support	91.8	91.8	86.4	86.4
QB	Technology support for SMEs	687.1	682.8	604.6	600.0
QC	Technology transfer and innovation consulting	149.8	144.6	149.1	142.1
QD	Research infrastructure SMEs	205.6	205.1	236.9	236.3
<b>R</b>	<b>Innovation-relevant underlying conditions and other cross-cutting activities</b>	550.0	449.3	639.0	526.8
RA	Technology Assessment	2.1	2.1	2.2	2.2
RB	Structural cross-cutting activities	74.4	49.7	101.7	76.8
RC	Demographical change	72.4	72.4	86.0	86.0
RD	Sports promotion and sports research	27.2	27.2	25.2	25.2
RE	Others	373.9	297.9	423.8	336.5
<b>T</b>	<b>Funding organisations, restructuring of the research field in acceding areas; construction of universities and primarily university-specific special programmes<sup>4</sup></b>	3,832.8	729.0	4,242.5	741.2
TA	Basic funding of research institutions	0.6	0.4	0.6	0.4
TB	Others	3,832.3	728.7	4,241.9	740.8
<b>U</b>	<b>Large-scale equipment for basic research</b>	1,222.3	1,222.0	1,169.4	1,169.1
<b>Z</b>	<b>Global reduced expenditure; budget reserve<sup>5</sup></b>	0,0	0.0	0.0	0.0
<b>Total of civil funding areas</b>		<b>19,925.2</b>	<b>14,744.2</b>	<b>21,270.2</b>	<b>15,485.2</b>
<b>S</b>	<b>Military scientific research</b>	938.7	871.2	1,206.7	1,137.6
SA	Military medical and military psychological research	50.3	15.0	54.7	18.1
SB	Defense technological research	861.5	841.8	1,124.0	1,104.1
SC	Social scientific research	2.6	2.6	2.8	2.8
SD	Military historical research	10.6	10.6	11.4	11.4
SE	Geoscientific research	13.7	1.2	13.7	1.2
<b>Total expenditure</b>		<b>20,863.9</b>	<b>15,615.4</b>	<b>22,476.9</b>	<b>16,622.8</b>

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**Federal Government expenditure on science, research and development, by funding areas and funding priorities<sup>12</sup>**

		Millions of €			
Funding area Funding priority		TARGET <sup>3</sup>			
		2018		2019	
		Total	Of which, R&D	Total	Of which, R&D
<b>A</b>	<b>Health research and health industry</b>	2,828.8	2,552.4	2,987.8	2,692.1
AA	Health research and health industry	2,748.8	2,535.8	2,904.0	2,674.5
AB	Radiation protection	80.0	16.6	83.8	17.6
<b>B</b>	<b>Bioeconomy</b>	280.3	279.8	285.1	284.6
<b>C</b>	<b>Civil security research</b>	154.5	151.1	158.1	154.4
<b>D</b>	<b>Nutrition, agriculture and consumer protection</b>	1,094.3	868.5	1,095.9	847.4
DA	Nutrition	53.8	30.6	52.7	28.6
DB	Sustainable agricultural economy and rural areas	721.3	582.5	723.3	570.4
DC	Health and economic consumer protection	319.2	255.3	319.9	248.4
<b>E</b>	<b>Energy research and energy technologies</b>	1,838.6	1,451.2	2,178.2	1,787.5
EA	Efficient energy conversion	956.0	954.3	1,185.1	1,183.3
EB	Renewable energy	213.0	211.8	309.9	308.7
EC	Nuclear safety and waste management	205.3	138.4	215.5	145.5
ED	Decommissioning of nuclear facilities	328.1	11.2	328.1	11.2
EF	Fusion research	136.2	135.5	139.7	138.9
<b>F</b>	<b>Climate, environment, sustainability</b>	1,662.0	1,405.8	1,832.7	1,559.1
FA	Climate, climate protection; global change	348.6	309.6	352.2	310.3
FB	Coast, marine and polar research, geosciences	557.6	508.6	677.0	628.1
FC	Environmental and sustainability research	511.4	410.7	535.5	425.7
FD	Ecology, nature conservation, sustainable use	244.4	176.9	268.0	195.1
<b>G</b>	<b>Information and communication technologies</b>	1,433.2	1,205.5	1,418.3	1,186.7
GA	Software systems; knowledge technologies	328.9	319.7	317.4	306.3
GB	Communication technologies and services	172.5	170.9	177.8	176.1
GC	Electronic, electronic systems	449.2	276.1	453.4	280.0
GD	Microsystems technology	341.4	340.6	319.0	318.1
GE	Multimedia - development of convergent information and communication technology	141.1	98.2	150.7	106.2
<b>H</b>	<b>Vehicle and traffic technologies including maritime technologies</b>	601.0	491.1	650.3	536.8
HA	Vehicle and traffic technologies	518.1	423.9	556.2	458.5
HB	Maritime technologies	82.9	67.1	94.1	78.3
<b>I</b>	<b>Aerospace</b>	1,829.5	1,827.1	1,875.8	1,873.1
IA	Aviation	309.7	309.4	344.0	343.6
IB	National space research and space technology	663.4	662.7	670.8	669.9
IC	European Space Agency (ESA)	856.4	855.1	861.0	859.6
<b>J</b>	<b>Research and development to improve working conditions and in the service sector</b>	177.8	118.4	185.6	125.0
JA	Research to improve working conditions	135.9	80.9	138.8	83.0
JB	Research in the service sector	41.9	37.5	46.7	41.9
<b>K</b>	<b>Nanotechnologies and materials technologies</b>	746.6	722.2	828.7	803.2
KA	Nanotechnologies	341.5	335.7	405.9	399.6
KB	Materials technologies	405.2	386.5	422.8	403.6
<b>L</b>	<b>Optical technologies</b>	226.3	221.7	237.0	232.0
<b>M</b>	<b>Production technologies</b>	241.5	239.2	262.1	259.5
<b>N</b>	<b>Regional planning and urban development; construction research</b>	151.1	145.6	151.6	146.4
NA	Regional planning, urban development, housing	57.1	54.5	54.5	52.2
NB	Construction research	94.0	91.1	97.1	94.2

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**Federal Government expenditure on science, research and development, by funding areas and funding priorities<sup>1,2</sup>**

Millions of €				
Funding area Funding priority	TARGET <sup>3</sup>			
	2018		2019	
	Total	Of which, R&D	Total	Of which, R&D
<b>O Innovations in education</b>	1,109.7	605.7	1,168.7	642.0
OA Educational reporting, international assessments	493.9	184.5	517.5	203.3
OB Educational research	531.4	336.9	562.4	349.9
OC New media in education	84.3	84.3	88.8	88.8
<b>P Humanities; economics and social sciences</b>	1,589.2	1,240.1	1,669.5	1,312.5
PA Humanities research	997.8	682.7	1,036.0	710.4
PB Social scientific research	297.7	266.2	325.6	296.7
PC Economic and finance scientific research	110.6	110.6	115.5	115.5
PD Infrastructures	183.0	180.6	192.5	189.9
<b>Q Innovation funding for SMEs</b>	1,172.3	1,161.6	1,221.1	1,209.5
QA Start-up support	91.4	91.4	129.3	129.3
QB Technology support for SMEs	636.9	633.0	661.2	656.9
QC Technology transfer and innovation consulting	197.0	190.6	183.9	177.1
QD Research infrastructure SMEs	247.1	246.7	246.7	246.2
<b>R Innovation-relevant underlying conditions and other cross-cutting activities</b>	704.2	555.2	768.9	584.4
RA Technology Assessment	2.3	2.3	2.3	2.3
RB Structural cross-cutting activities	139.7	82.3	191.6	105.0
RC Demographical change	91.3	91.3	92.2	92.2
RD Sports promotion and sports research	31.5	31.5	28.7	28.7
RE Others	439.5	347.8	454.0	356.2
<b>T Funding organisations, restructuring of the research field in acceding areas; construction of universities and primarily university-specific special programmes<sup>4</sup></b>	3,723.1	757.7	3,833.7	796.6
TA Basic funding of research institutions	0.5	0.3	0.6	0.4
TB Others	3,722.6	757.4	3,833.1	796.2
<b>U Large-scale equipment for basic research</b>	1,336.6	1,336.3	1,401.8	1,401.4
<b>Z Global reduced expenditure; budget reserve<sup>5</sup></b>	-302.5	-302.5	-367.3	-367.3
<b>Total of civil funding areas</b>	<b>22,598.3</b>	<b>17,033.4</b>	<b>23,843.7</b>	<b>18,066.8</b>
<b>S Military scientific research</b>	1,116.7	1,064.2	1,574.9	1,521.0
SA Military medical and military psychological research	53.1	20.8	53.1	20.8
SB Defense technological research	1,045.4	1,029.6	1,503.7	1,486.5
SC Social scientific research	2.6	2.6	2.6	2.6
SD Military historical research	10.7	10.7	10.7	10.7
SE Geoscientific research	4.8	0.4	4.8	0.4
<b>Total expenditure</b>	<b>23,715.0</b>	<b>18,097.6</b>	<b>25,418.6</b>	<b>19,587.8</b>

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. Possible rounding differences.

2 Including "Energy and climate fund". Research funding in the area of electro mobility is financed by the "Energy and climate fund". 2016, including future investments.

3 Distribution among funding areas and funding priorities partly estimated or extrapolated.

4 Including universities of the federal armed forces and the Federal University of Applied Administrative Sciences.

5 ACTUAL figures are needed to break down the BMBF's total expenditure reduction by funding areas and funding priorities.

Last update: April 2019

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