

indicators

ECONOMICS

Net sales, operating result (EBIT) and research and development costs, by business sector¹

€ million	Healthcare	Life Science	Performance Materials	Group
2019				
Net sales	6,714	6,864	2,574	16,152
Operating result (EBIT)	1,149	1,280	307	2,120
R&D costs ²	1,666	276	267	2,268
2020				
Net sales	6,639	7,515	3,380	17,534
Operating result (EBIT)	1,804	1,599	240	2,985
R&D costs ²	1,640	313	274	2,288

¹ As a non-operating segment, Corporate and Other is not shown here as a separate item, but rather under Segment Reporting in our [2020 Annual Report](#).

² Part of the non-financial report

business ethics

Part of the non-financial report

Compliance training

	2017 ¹	2018 ¹	2019 ^{2,3}	2020 Merck Group ^{4,5}	2020 thereof Merck KGaA ⁵
Total number of persons trained on anti-corruption guidelines⁶	17,044	11,404	36,109	28,827	3,880
Total number of employees trained on anti-corruption guidelines	13,345	11,155	35,673	28,805	3,877
% of employees trained on anti-corruption	25	22	63	50	45
by employee category					
Number of Role 2+ employees trained on anti-corruption	7,080	9,257	26,890	27,123	3,848
% of Role 2+ employees trained on anti-corruption	27	36	96	90	93
% of employees below Role 2 trained on anti-corruption	23	7	30	6	1
by region (%)					
Europe	18	19	71	51	45
North America	46	36	59	45	not applicable
Asia-Pacific (APAC)	25	16	47	44	not applicable
Latin America	19	12	62	44	not applicable
Middle East and Africa (MEA)	29	18	80	66	not applicable

- 1 In 2017 and 2018 the position assessment had not yet been carried out for employees of all Sigma-Aldrich legal entities in Germany, or for employees of Allergopharma. In the facts and figures, these employees are included under "employees below Role 2".
- 2 In 2019, the position assessment had not yet been carried out for employees of Versum Materials as well as of Allergopharma. In the figures, employees whose positions have not been assessed have been allocated to "employees below Role 2".
- 3 As of 2019, we changed our reporting method. Previously, our reports covered the active workforce who has been trained on a specific subject during a particular year. In 2019, we report on the active, trained workforce in the company, regardless of whether their training has already taken place prior to the reporting year. The possibility of trend forecasts for year-to-year comparisons is therefore limited.
- 4 In 2020, the position assessment had not yet been carried out for employees of Versum Materials. In the figures, employees whose positions have not been assessed have been allocated to "employees below Role 2".
- 5 In 2020, we began using our own global learning management tool and therefore now have a different reporting structure. As of 2020, we report on the active workforce that is part of the target group and has completed the training in the reporting year. The possibility of trend forecasts for year-to-year comparisons is therefore limited.
- 6 Includes contractors, external supervised workers (e.g. temps) and contract partners working on-site who were trained on anti-corruption guidelines (2020: 22).

The (employee) target audience for a specific training is related to the risk level associated with employee positions and Role levels. Target audiences therefore may not include all Group employees and also may vary from training to training.

In order to address the special responsibility held by management personnel, and staff with HR responsibility, trainings on anti-corruption guidelines for these employees are in focus. This applies to all employees rated Role 2+.

Our compliance and anti-corruption principles are communicated to all our business partners who undergo a Business Partner Risk Management (BPRM) process.

Internal audits on corruption and Human Rights Charter

	2017	2018	2019	2020 Merck Group	2020 thereof Merck KGaA ¹
Number of audits relating to corruption	50	54	50	52	26
% of audits relating to corruption	65	69	65	66	33
Number of audits relating to the workplace requirements of our Human Rights Charter	45	46	46	42	20

¹ Includes global audits which are conducted at the headquarters in Darmstadt and/or the management of the audited function is reporting into KGaA.

In 2020, during 42 of our audits conducted in 14 countries, we reviewed workplace parameters as per our Human Rights Charter. No violations were identified.

Human rights violations¹

	2017 ²	2018 ²	2019 ²	2020
Number of reported violations of Social and Labor Standards Policy	-	-	-	108
Number of confirmed Violations of Social and Labor Standards Policy	-	-	-	29
thereof number of incidents of discrimination	-	-	-	2

¹ In 2020, we modified our reporting structure for human rights violations. Previously, we reported on such violations in the "Reported compliance violations" table. Since 2020, we report on violations of the [Social and Labor Standards Policy](#), which was drafted and rolled out across the entire Group in 2019.

² Due to our revised reporting practices, we have decided not to report the data from previous years.

Reported compliance violations

	2017	2018	2019	2020 Merck Group	2020 thereof Merck KGaA
Total number of reported compliance violations					
Number of reported compliance incidents	39	72	75	81	8
Number of confirmed cases	14	19	30	41	3
Confirmed cases by category¹					
Bribery and corruption	3	3	9	6	0
Violation of cartel laws and fair competition rules	0	1	0	0	0
Fraudulent actions against Merck	1	5	8	11	0
Other violations of the Merck Compliance Principles for the relations with business partners	2	1	4	0	0
Other violations of Merck values, internal guidelines or legal requirements	8	9	9	24	3

¹ In 2020, we revised our case categories. The figures from previous years have been retroactively adjusted. You can find detailed information on the revised categories in the comment below the table.

Revisions to the table have resulted in the following changes: The category "Violation of the Human Rights Charter" is now being disclosed in the new "Human rights violations" table. As of 2020, the category "Violation of Data Privacy" will be reported separately in the "Data privacy" table.

The category "Violation of the Merck Pharmaceutical Guidelines" was partially merged with "Bribery and corruption". Going forward, the category "Other violations of values, internal guidelines or legal requirements" will include violations from "Manipulation of business documents" and "Infringements in the areas of finance, accounting and banking", along with violations that used to be reported in part under "Violation of the Merck Pharmaceutical Guidelines" or "Violation of Confidentiality Guidelines".

Data Privacy

	2017	2018	2019 ¹	2020 Merck Group	2020 thereof Merck KGaA
Reported violations of Data Privacy Guidelines	- ²	1	1	3	3
Customer Privacy³					
Total number of substantiated complaints received from outside parties	0	0	0	0	0
Total number of complaints from regulatory bodies	0	0	1	0	0
Total number of identified leaks, thefts, or losses of customer data	0	1	1	0	0

1 Since 2019, our reported figures have excluded the Consumer Health business, which was divested on December 1, 2018.

2 No violations reported to the authorities as the reporting obligation was introduced only in 2018 as part of the EU General Data Protection Regulation.

3 These data only reflect incidents classified as significant.

As of 2020, this table presents the number of reported cases of data privacy violations. In the previous years, we reported data privacy violations in one line combined with violations of confidentiality guidelines in the table entitled "Reported Compliance Violations". For more information, please see the table entitled [Reported Compliance Violations](#).

Legal actions

	2017	2018 ¹	2019	2020 Merck Group	2020 thereof Merck KGaA
Total number² of legal actions pending or completed (for anti-competitive behavior, violations of anti-trust or violations of monopoly legislation)	3	3	3	4	2
pending	3	3	3	4	2
completed	0	0	0	0	0

1 Since 2018, our reported figures have excluded the Consumer Health business, which was divested on December 1, 2018.

2 As published in the annual reports, the herein listed total number of legal actions refers to the significant legal risks as per the company's definition. The significance of legal risks is based on potential negative effects on projected financial objectives as well as on the probability of occurrence.

For further information please see our annual reports:

- [Annual Report 2017](#), pages 148-150 and pages 252-253, No. 27
- [Annual Report 2018](#), pages 146-148 and pages 247-251, No. 26
- [Annual Report 2019](#), pages 115-117 and pages 231-233, No. 26
- [Annual Report 2020](#), pages 125-127 and pages 252-256, No. 27

Employees

Part of the non-financial report

Total number of employees

As of Dec. 31	2017	2018	2019	2020 Merck Group	2020 thereof Merck KGaA
Total number of employees	52,941	51,749	57,071	58,127	8,578
Men	30,083	29,006	32,531	33,204	5,814
Women	22,858	22,743	24,540	24,923	2,764

Number of employees by hierarchical level

As of Dec. 31	2017 ¹	2018 ¹	2019 ²	2020 Merck Group	2020 thereof Merck KGaA
Total employees	52,941	51,749	57,071	58,127	8,578
Senior management (Role 6+)	197	193	190	193	68
Middle management (Role 4 & 5)	2,927	3,095	3,352	3,637	773
Low management (Role 3)	8,904	9,019	9,499	10,286	2,024
Other employees (below Role 3)	40,913	39,442	44,030	44,011	5,713
% of women (total)	43	44	43	43	32
thereof in senior management (Role 6+)	30	36	39	42	15
thereof in middle management (Role 4 & 5)	917	1,025	1,146	1,284	228
thereof in low management (Role 3)	3,714	3,795	4,029	4,352	703
thereof other employees (below Role 3)	18,197	17,888	19,326	19,245	1,818
% of men (total)	57	56	57	57	68
thereof in senior management (Role 6+)	167	157	151	151	53
thereof in middle management (Role 4 & 5)	2,010	2,070	2,206	2,353	545
thereof in low management (Role 3)	5,190	5,224	5,470	5,934	1,321
thereof other employees (below Role 3)	22,716	21,554	24,704	24,766	3,895
by age group					
Up to 29 years old (%)	15	15	15	15	14
thereof in senior management (Role 6+)	0	0	0	0	0
thereof in middle management (Role 4 & 5)	3	5	8	6	1
thereof in low management (Role 3)	194	211	190	199	64
thereof other employees (below Role 3)	7,479	7,279	8,362	8,365	1,096
30 to 49 years old (%)	62	61	60	60	52
thereof in senior management (Role 6+)	72	69	69	68	29
thereof in middle management (Role 4 & 5)	1,782	1,829	1,933	2,032	460
thereof in low management (Role 3)	6,308	6,206	6,516	6,926	1,280
thereof other employees (below Role 3)	24,733	23,536	25,859	25,948	2,689
50 years or older (%)	23	24	25	25	34
thereof in senior management (Role 6+)	125	124	121	125	39
thereof in middle management (Role 4 & 5)	1,142	1,261	1,411	1,599	312
thereof in low management (Role 3)	2,402	2,602	2,793	3,161	680
thereof other employees (below Role 3)	8,701	8,627	9,809	9,698	1,928

1 In 2017 and 2018 the position assessment had not yet been carried out for employees of all Sigma-Aldrich legal entities in Germany, or for employees of Allergo-pharma. In the facts and figures, these employees are included under "other employees (below Role 3)".

2 In 2019, the position assessment had not yet been carried out for employees of Versum Materials as well as of Allergopharma. In the figures, employees whose positions have not been assessed have been allocated to "other employees (below Role 3)".

Average number of employees by functional area¹

	2017	2018 ²	2019 ³	2020 ⁴
Group	52,053	53,809	53,645	57,612
thereof women	22,353	23,388	23,503	24,746
Production	15,571	16,240	16,455	17,624
thereof women	5,059	5,359	5,529	6,043
Logistics/Supply Chain	3,729	4,014	4,109	4,298
thereof women	1,442	1,569	1,626	1,734
Marketing and Sales/Commercials	15,115	15,479	13,970	14,127
thereof women	6,609	6,981	6,608	6,787
Administration	9,286	9,864	10,342	11,342
thereof women	4,798	5,067	5,194	5,499
Research and Development	6,789	7,245	7,561	7,504
thereof women	3,591	3,871	4,053	3,996
Infrastructure and Other	1,564	966	1,208	2,717
thereof women	854	541	493	687

- 1 The average employee headcount is calculated by adding up all employees at the end of each of the last 13 months, and dividing this total by 13.
- 2 The average employee headcount for fiscal 2018 incorporates the Consumer Health employees on a pro rata basis up until the end of November 2018 due to the divestment of the Consumer Health business as of December 1, 2018.
- 3 To calculate the average number of employees in fiscal 2019, the employee headcount of Versum Materials has been included on a pro rata basis as of October 2019 owing to the acquisition. They are allocated to the functional area "Infrastructure and Other".
- 4 The average employee headcount for fiscal 2020 incorporates the Allergopharma employees on a pro rata basis up until the end of March 2020 due to the divestment of the Allergopharma business as of March 31, 2020.

Number of employees by region

As of Dec. 31	2017	2018	2019	2020 Merck Group	2020 thereof Merck KGaA
Total	52,941	51,749	57,071	58,127	8,578
Europe	25,980	25,792	26,715	26,587	8,578
Women	11,627	11,464	11,909	11,743	2,764
Women (%)	45	44	45	44	32
Number of employees with temporary contracts	1,279	1,209	1,137	1,105	285
% of employees with temporary contracts	5	5	4	4	3
North America	10,520	10,978	12,829	13,312	0
Women	4,518	4,742	5,285	5,527	not applicable
Women (%)	43	43	41	42	not applicable
Number of employees with temporary contracts	138	148	158 ¹	139	not applicable
% of employees with temporary contracts	1	1	1 ¹	1	not applicable
Asia-Pacific (APAC)	11,294	10,486	12,728	13,518	0
Women	4,298	4,348	5,049	5,425	not applicable
Women (%)	38	41	40	40	not applicable
Number of employees with temporary contracts	2,603	2,846	3,263 ¹	3,362	not applicable
% of employees with temporary contracts	23	27	26 ¹	25	not applicable
Latin America	4,050	3,340	3,433	3,387	0
Women	1,896	1,648	1,690	1,630	not applicable
Women (%)	47	49	49	48	not applicable
Number of employees with temporary contracts	40	62	55	67	not applicable
% of employees with temporary contracts	1	2	2	2	not applicable
Middle East and Africa (MEA)	1,097	1,153	1,366	1,323	0
Women	519	541	607	598	not applicable
Women (%)	47	47	44	45	not applicable
Number of employees with temporary contracts	172	189	182	420	not applicable
% of employees with temporary contracts	16	16	13	32	not applicable

¹ Employees whose contract type had not yet been recorded in our database by December 31, 2019 were divided up proportionally between the categories "Employees with permanent contracts" and "Employees with temporary contracts".

Employees by business sector

As of Dec. 31	2017	2018	2019	2020
Healthcare employees	19,795	17,456	18,136	17,463
thereof women	9,656	8,884	9,232	8,788
thereof women (%)	49	51	51	50
Life Science employees	19,607	20,667	21,934	23,196
thereof women	8,276	8,837	9,487	10,175
thereof women (%)	42	43	43	44
Performance Materials employees	5,529	5,278	7,329	7,228
thereof women	1,455	1,411	1,712	1,666
thereof women (%)	26	27	23	23

Employees by contract type

As of Dec. 31	2017	2018	2019	2020
Total employees	52,941	51,749	57,071	58,127
Number of employees with permanent contracts	48,709	47,295	52,276 ¹	53,034
% of employees with permanent contracts	92	91	92 ¹	91
thereof women	20,741	20,545	22,237 ¹	22,500
thereof women (%)	43	43	43 ¹	42
Number of employees with temporary contracts	4,232	4,454	4,795 ¹	5,093
% of employees with temporary contracts	8	9	8 ¹	9
thereof women	2,117	2,198	2,303 ¹	2,423
thereof women (%)	50	49	48 ¹	48
full-time employees	50,498	49,273	54,265	55,220
% full-time	95	95	95	95
thereof women	20,677	20,577	22,208	22,572
thereof women (%)	41	42	41	41
part-time employees	2,443	2,476	2,806	2,907
% part-time	5	5	5	5
thereof women	2,181	2,166	2,332	2,351
thereof women (%)	89	87	83	81

¹ Employees whose contract type had not yet been recorded in our database by December 31, 2019 were divided up proportionally between the categories "employees with permanent contracts" and "employees with temporary contracts".

New employees

As of Dec. 31	2017	2018	2019 ¹	2020 Merck Group	2020 thereof Merck KGaA
Total number of new employee hires	7,285	7,129	7,924	6,669	500
by age group					
up to 29 years old	2,940	2,967	3,432	2,889	259
30 to 49 years old	3,848	3,728	4,055	3,347	223
50 or older	497	434	437	433	18
by gender					
Women	3,412	3,401	3,622	3,016	186
Men	3,873	3,728	4,302	3,653	314
by region					
Europe	3,058	2,560	2,529	2,160	500
North America	1,603	1,524	1,733	1,789	not applicable
Asia-Pacific (APAC)	1,955	2,222	2,729	2,206	not applicable
Latin America	497	583	578	396	not applicable
Middle East and Africa (MEA)	172	240	355	118	not applicable
Rate of new employee hires² (%)	14	14	14	11	6
by age group³					
up to 29 years old	40	42	43	43	52
30 to 49 years old	53	52	51	50	45
50 or older	7	6	6	7	3
by gender³					
Women	47	48	46	45	37
Men	53	52	54	55	63
by region³					
Europe	42	36	32	32	100
North America	22	21	22	27	not applicable
Asia-Pacific (APAC)	27	31	34	33	not applicable
Latin America	7	8	7	6	not applicable
Middle East and Africa (MEA)	2	3	5	2	not applicable

1 These figures exclude the approximately 2,400 Versum Materials and Intermolecular employees who are not classified as new hires because they joined Merck as part of the acquisitions.

2 Formula for calculating the rate of new employee hires: Total number of new employee hires divided by number of employees at the end of the fiscal year.

3 Formula for calculating the rate of new employee hires by age/gender/region: New employee hires of the focus group divided by the total number of new employee hires.

Staff turnover^{1,2}

	2017	2018 ³	2019	2020 Merck Group ⁴	2020 thereof Merck KGaA
Total turnover rate	9.05	9.09	9.07	8.22	3.30
Turnover rate by gender					
Men	8.75	9.03	8.69	8.22	3.30
Women	9.46	9.18	9.54	8.22	3.29
Turnover rate by age group					
Up to 29 years old	13.66	14.24	13.13	11.30	3.35
30 to 49 years old	8.38	8.53	8.90	7.74	2.50
50 or older	7.87	7.39	7.03	7.52	4.48
Turnover rate by region					
Europe	6.22	5.73	5.72	5.64	3.30
North America	11.02	9.90	11.02	9.79	not applicable
Asia-Pacific (APAC)	12.53	14.51	13.18	10.60	not applicable
Latin America	13.74	15.41	13.47	11.40	not applicable
Middle East and Africa (MEA)	11.22	9.77	12.14	11.80	not applicable
Total number of leavers	4,710	4,613	4,863	4,721	281
by gender					
Men	2,596	2,578	2,621	2,697	191
Women	2,114	2,035	2,242	2,024	90
by age group					
Up to 29 years old	1,058	1,061	1,042	974	40
30 to 49 years old	2,713	2,649	2,898	2,677	110
50 or older	939	903	923	1,070	131
by region					
Europe	1,488	1,457	1,500	1,490	281
North America	1,143	1,064	1,264	1,281	not applicable
Asia-Pacific (APAC)	1,387	1,468	1,484	1,394	not applicable
Latin America	570	522	459	398	not applicable
Middle East and Africa (MEA)	122	102	156	158	not applicable

1 The table contains unadjusted turnover rates. The rate excludes employees who depart due to parental leave or a long-term illness, as well as employees who are transitioning to the non-working phase of partial retirement.

2 Employee headcount is calculated as follows: Total number of leavers from the past 12 months divided by the average employee headcount multiplied by 100.

3 Since 2018, the figures exclude the Consumer Health business, which was divested on December 1, 2018.

4 The figures do not reflect the approximately 500 Allergopharma employees, who were not included in the employee turnover rate due to the divestment of the business.

In 2020, the average length of service for employees Group-wide was 9.6 years (2019: 9.5 years), with 16.2 years (2019: 16.3 years) for Merck KGaA employees.

Work-related accidents¹

	2017	2018	2019	2020 Merck Group ²	2020 thereof Merck KGaA
Lost Time Injury Rate (LTIR = work- place accidents resulting in missed days of work per one million man-hours)	1.5	1.2	1.6³	1.3	2.9
by region					
Europe	2.4	1.8	2.6 ³	2.4	2.9
North America	1.0	1.1	1.0 ³	0.7	not applicable
Asia-Pacific (APAC)	0.3	0.3	0.2	0.1	not applicable
Latin America	1.3	1.5	1.7	0.9	not applicable
Middle East and Africa (MEA)	0.0	0.7	0.0	0.4	not applicable
Number of deaths	0	0	0	0	0
by region					
Europe	0	0	0	0	0
North America	0	0	0	0	0
Asia-Pacific (APAC)	0	0	0	0	0
Latin America	0	0	0	0	0
Middle East and Africa (MEA)	0	0	0	0	0
by gender					
Women	0	0	0	0	0
Men	0	0	0	0	0

1 Including supervised workers

2 The data include the divested Allergopharma business up to March 31, 2020. See the [Report profile](#) for further information.

3 Figure retroactively adjusted

Both Merck employees as well as supervised workers have been included in the calculation of these indicators.

Through the LTIR, we record work-related accidents that involve at least one day of missed work. A work-related accident is an injury that results from the type of work, in the course of doing said work, and that has no internal cause. Work-related accidents are considered relevant if they occur on the premises, on business trips, during goods transport, as a result of external influences (e.g. natural disasters), or due to criminal acts involving personal injury. Commuting accidents and accidents during company sporting activities are not included. First-aid incidents are generally not included in the LTIR since these usually do not result in more than one day of missed work.

We aimed to sustainably lower our LTIR to 1.5 by 2020. In the reporting year, we succeeded in outperforming this ambitious figure, which we achieved for the first time in 2015.

The LTIR is the key occupational safety indicator for the Merck Group as a whole. Therefore, we do not publish any other indicators such as workplace accidents, lost days or days of absence. The LTIR is not broken down by gender as this differentiation is not relevant to our strategic planning.

For Merck KGaA (about 15% of the employees of the Merck Group), we only report work-related illnesses if these have been certified as an occupational illness by the employers' liability insurance association. In 2020, no cases of work-induced illness were verified.

Employees who regularly receive a performance and development evaluation

	2017 ¹	2018 ^{1,2}	2019	2020 Merck Group	2020 thereof Merck KGaA
% of employees who receive a performance and development evaluation	97	98	98	98	100
by gender					
Women	97	99	98	98	100
Men	97	98	98	98	100
by employee category					
Senior management (Role 6+)	100	100	100	100	100
Middle management (Role 4 & 5)	100	100	100	100	100
Low management (Role 3)	100	100	100	100	100
Other employees (below Role 3)	96	98	98	98	100

1 In 2017 and 2018 the position assessment had not yet been carried out for employees of all Sigma-Aldrich legal entities in Germany, or for employees of Allergo-pharma. In the facts and figures, these employees are included under "other employees (below Role 3)".

2 Since 2018, the figures exclude the Consumer Health business, which was divested on December 1, 2018.

Regular feedback and employee performance evaluations are essential to fairly ranking individual performance and to helping all employees follow their own career path at Merck. Our globally uniform Performance and Talent Management Process requires annual feedback meetings and performance assessments. Apart from evaluating employee performance, this helps us to identify individual development opportunities.

In Germany, all permanent employees have been participating in the Performance and Talent Management Process since 2013. In 2020, a total of 56,922 employees worldwide were involved in the process. The Performance and Talent Management Process is coordinated via our online platform HR4You.

Internationality of employees

As of Dec. 31	2017 ¹	2018 ¹	2019 ²	2020 Merck Group	2020 thereof Merck KGaA
Number of nationalities	131	136	139	141	87
Number of nationalities in management positions (Role 4 or above)	65	70	73	75	35
% of non-Germans in management positions (Role 4 or above)	64	64	64	66	11

1 In 2017 and 2018 the position assessment had not yet been carried out for employees of all Sigma-Aldrich legal entities in Germany, or for employees of Allergo-pharma.

2 In 2019, the position assessment had not yet been carried out for employees of Versum Materials as well as of Allergopharma.

Employee age by region

As of Dec. 31

Number of employees	Worldwide	North America	Europe (including Germany)	Merck KGaA	Asia-Pacific (APAC)	Latin America	Middle East and Africa (MEA)
2019							
Up to 29 years old	8,560	1,829	3,282	1,208	2,713	498	238
thereof women	3,983	773	1,595	440	1,225	289	101
30 to 49 years old	34,377	6,441	15,540	4,355	9,067	2,373	956
thereof women	15,076	2,733	7,191	1,465	3,531	1,200	421
50 or older	14,134	4,559	7,893	2,911	948	562	172
thereof women	5,481	1,779	3,123	814	293	201	85
Average age	41.7	44.4	43.0	43.4	36.8	40.3	38.6
Total employees	57,071	12,829	26,715	8,474	12,728	3,433	1,366
2020							
Up to 29 years old	8,570	1,906	3,193	1,161	2,800	472	199
thereof women	4,018	825	1,525	420	1,307	260	101
30 to 49 years old	34,974	6,615	15,416	4,458	9,669	2,323	951
thereof women	15,268	2,841	7,076	1,505	3,776	1,161	414
50 or older	14,583	4,791	7,978	2,959	1,049	592	173
thereof women	5,637	1,861	3,142	839	342	209	83
Average age	41.7	44.4	43.1	43.4	37.0	40.7	39.1
Total employees	58,127	13,312	26,587	8,578	13,518	3,387	1,323

Age of youngest employee

As of Dec. 31	2017	2018	2019	2020
Age of youngest employee, excluding apprentices	18	17	18	18

Voluntary insurance benefits (voluntarily introduced and (co-) financed)

As of Dec. 31	2017	2018	2019 ¹	2020 Merck Group ¹	2020 thereof Merck KGaA
% of employees with healthcare benefits ²	68	67	68	63	0
% of employees with Group accident insurance ³	42	39	36	41	4
% of employees with life insurance ⁴	58	58	58	56	0
% of employees with disability insurance (short-term and long-term) ⁵	35	37	39	39	0

1 The figures exclude Versum Materials and Intermolecular since the integration process is still underway. For more information, see [report profile](#).

2 Any spend on voluntarily introduced and (co-) financed healthcare benefits for employees and possibly their dependents. Not taking into consideration any mandatory social security cover (mostly covered by an insurance policy).

3 Any spend on voluntarily introduced and (co-) financed accident insurance that pays a defined amount in case of death or disability caused by a work-related accident (not taking into consideration any mandatory social security cover, e.g. workman's compensation).

4 Any spend on voluntarily introduced and (co-) financed life insurance cover that pays a defined amount of money in case of natural death (not accidental).

5 Any spend on voluntarily introduced and (co-) financed insurance cover that disability pays for salary continuation in case of inability to work caused by an insured incident.

All our employees are covered by either statutory or voluntary accident and health insurance. Employees of Merck KGaA are covered by statutory insurance as stipulated by the regulations in force in Germany.

We offer a company pension in numerous countries along with various programs for supplemental company pensions and survivor's benefits.

The global benefits listed in the table above are designed to provide additional security to our workforce and their families and to improve their quality of life. Benefits represent voluntarily employer-initiated as well as employer-financed assistance to our workforce in addition to the regular compensation package.

Our benefits offer meaningful choices, where possible, to support a diverse workforce and are sensitive to the needs and customs of the employees who use them, regardless of country, age, family status, interests, or values.

Long-term pension obligations and post-employment benefits

€ million	2017	2018	2019	2020
Present value of all defined benefit obligations as of Dec. 31	4,707	4,719	5,644	6,352
Pension expenses	304	319	357	408

Depending on the legal, economic and fiscal circumstances prevailing in each country, different retirement benefit systems are provided for the employees of the Merck Group. Generally, these systems are based on the years of service and salaries of the employees. Pension obligations of the Merck Group include both defined benefit and defined contribution plans and comprise both obligations from current pensions and accrued benefits for pensions payable in the future. In the Merck Group, defined benefit plans are funded and unfunded (see our [Annual Report 2020](#), Note on Provisions for pensions and other post-employment benefits).

Flexible working hours in Germany

As of Dec. 31	2017	2018	2019	2020
% of employees utilizing the "mywork@Merck" working model	40	42	43	48

In coordination with their teams and supervisors, employees taking advantage of "mywork@merck" can choose when and where they work.

For more information on flexible working models during Covid-19, see [Work-life balance chapter](#).

Parental leave¹

As of Dec. 31	2017	2018	2019	2020
Number of employees with a right to parental leave	353	308	375	351
thereof women (recorded via maternity leave in the respective year)	151	188	239	225
thereof men (recorded via special paternity leave in the respective year)	202	120	136	126
Number of employees who took parental leave ²	352	500	542	538
thereof women	150	240	248	265
thereof men	202	260	294	273
Number of employees on parental leave who worked part time during their leave	49	128	164	104
thereof women	47	109	140	73
thereof men	2	19	24	31
Number of employees who returned from parental leave ²	312	312	536	529
thereof women	143	65	243	252
thereof men	169	247	293	277
Return to work rate (%)	88.6	62.4	98.9	98.3
thereof women	95.3	27.1	98.0	95.1
thereof men	83.7	95.0	99.7	101.5
Number of employees still working for Merck one year after their return from parental leave	238	268	496	- ³
thereof women	89	26	218	- ³
thereof men	149	242	278	- ³
Retention rate (%)	89.8	93.1	92,5	- ³
thereof women	85.6	63.4	89,7	- ³
thereof men	92.5	97.9	94,9	- ³

- 1 Figures pertain only to Merck KGaA (which accounted for around 15% in 2020). Figures are calculated on the basis of the data from one entire year, which also includes those employees who took parental leave during the calendar year but who had not yet returned by Dec. 31.
- 2 Since parental leave can be taken for a period ranging from one month to three years, it is possible for employees to be recorded across a period of up to four calendar years. This explains why the number of employees on parental leave exceeds the number of employees who have a right to it. It also explains why the "Number of employees who returned from parental leave" might exceed the "Number of employees who took parental leave".
- 3 Figure will be available on December 31, 2021.

Employees with disabilities¹ (%)

As of Dec. 31	2017	2018	2019	2020
Employees with disabilities	4.3	4.3	4.4	4.7

- 1 Only pertains to Merck KGaA (which accounted for around 15% of Merck Group employees in 2020, calculations based on the German Social Code IX - SGB IX).

Apprentices in Germany

As of Dec. 31	2017	2018	2019	2020
Number of apprentices	588	604	589	607
% of apprentices	4.4	4.5	4.3	4.6

Environment

 Individual tables are part of the non-financial report

Total greenhouse gas emissions (Scope 1 and 2 of the GHG Protocol)¹

metric kilotons	2006 ²	2017	2018 ³	2019	2020 Merck Group ⁴	2020 Merck KGaA
Total CO₂eq⁵ emissions	754	653	636	630	2,010	132
Thereof						
direct CO ₂ eq emissions (Scope 1)	352	341	332	341	1,706	108
indirect CO ₂ eq emissions ⁶ (Scope 2)	402	312	304	289	304	24
Biogenic CO₂ emissions	0	13	13	13	13	0

1 In line with the Greenhouse Gas Protocol, for all previous years (up to the 2006 baseline) greenhouse gas emissions were calculated based on the current corporate structure as of Dec. 31 of the reporting year and retroactively adjusted for acquisitions or divestments of (parts of) companies, or for changes in emission factors (portfolio-adjusted). Exceptions to this are company units that were added as a result of the acquisition of Versum Materials. Figures dating back to the 2006 baseline are not available for these units.

2 Baseline for our emission targets is 2006.

3 Since 2018, our reported figures have excluded the Consumer Health business, which was divested on December 1, 2018.

4 Includes Versum Materials as of 2020. Excluding Versum Materials, our greenhouse gas emissions totaled 563 kilo tons in 2020.

5 eq = equivalent

6 The figures presented here have been calculated in accordance with the market-based method.

Our response to the Carbon Disclosure Project contains a detailed description of our calculation methods.

We have included the following gases in our calculation of direct and indirect CO₂eq emissions:

- Direct CO₂ emissions: CO₂, HFCs, PFCs, CH₄, N₂O, NF₃, SF₆.
- Indirect CO₂ emissions: CO₂.

In 2020, we emitted 0.11 kg of CO₂eq per euro of net sales.

Other relevant indirect greenhouse gas emissions (Scope 3 of the GHG Protocol)¹

	2017	2018	2019	2020
Total gross other indirect emissions (metric kilotons CO₂eq²)	328³	348³	339³	308
Fuel- and energy-related emissions, not included in Scope 1 or 2 (category 3)	118	131	127	119
Waste generated in operations (category 5) ⁴	43 ³	47 ^{3,5}	50 ³	85
Business travel - air travel (category 6)	98	103	86	14
Business travel - rail travel (category 6) ⁶	0.02	0.02	0.02	0.01
Business travel - rental car travel (category 6)	0.6	1.4	1.3	0.2
Employee commuting (category 7)	68	66	75	90 ⁴
Upstream leased assets (category 8) ⁷	0.0	0.0	0.0	0.0
Processing of sold products (category 10) ⁸	0.0	0.0	0.0	0.0
Downstream leased assets (category 13)	0	0	0	0
Franchises (category 14)	0	0	0	0

1 At present, we only record Scope 3 emissions globally, and not at site or legal entity level. For many categories, local allocations present a significant challenge. Currently the focus is on creating greater transparency with respect to our Scope 3 emissions at Group level. To this end, we are now analyzing emissions for the Scope 3 categories 1, 4 and 10 in particular.

2 eq = equivalent

3 Figure retroactively adjusted.

4 Since 2020, we apply a new calculation approach.

5 Since 2018, this figure has excluded the Consumer Health business, which was divested on December 1, 2018.

6 German Railway

7 Already covered under Scope 1 and 2 emissions

8 Merck produces a huge variety of intermediate products for various purposes. Due to their many applications and our customer structure, the associated greenhouse gas emissions cannot be tracked in a reasonable fashion.

No data are available for Scope 3 categories not listed above. Their relevance to Merck is assessed in the [Scope 3 document](#).

Biogenic emissions (Scope 3), if present, are not being recorded.

Emissions of ozone-depleting substances

metric tons	2017	2018 ¹	2019	2020
Total emissions of ozone-depleting substances	1.9	1.5	1.0	2.2
CFC-11eq ²	0.1	0.1	0.1	0.1

1 Since 2018, our reported figures have excluded the Consumer Health business, which was divested on December 1, 2018.

2 CFC-11eq is a unit of measure used to compare the potential of various substances to deplete the ozone. Reference value 1 indicates the potential of CFC-11 to cause the depletion of the ozone layer.

Substances included: R-12, R-22, R-123, R-141b, R-401a, R-402a, R408a, R-409a, R-502, R-503.

Source for the emission factors: Montreal Protocol.

Other air emissions

metric kilotons	2017	2018 ¹	2019	2020
Volatile organic compounds (VOC)	0.3	0.3	0.3	0.3
Nitrogen oxide	0.2	0.3	0.3	0.2
Sulfur dioxide	0.03	0.01	0.01	0.004
Dust	0.04	0.01	0.01	0.010

1 Since 2018, our reported figures have excluded the Consumer Health business, which was divested on December 1, 2018.

The VOC, nitrogen oxide, sulfur dioxide, and dust emissions reported here are attributable to production activities as well as energy generation. These figures do not include emissions from vehicles. Emissions are determined partially based on measurements and partially based on calculations or estimates. Only some sites are required to measure individual parameters.

Transport of finished goods, by means of transportation

	2017	2018	2019	2020
% truck	73	74	70	70
% boat	15	14	19	22
% airplane	12	12	11	8

The figures contain the volumes of the biggest global distribution centers of our Healthcare, Life Science and Performance Materials business sectors. These figures pertain to the total weight of transported products and indicate the primary means of transport.

In shipping finished goods from our production sites to the local warehouses of our subsidiaries, we have been working to reduce the use of air shipping in favor of sea freight. This change aims to both reduce costs as well as lower transport-related CO₂ emissions.

 Energy consumption¹

In GWh	2017	2018 ²	2019	2020 Merck Group	2020 thereof Merck KGaA
Total energy consumption	2,073	2,158	2,178	2,372	596
Direct energy consumption	1,205	1,261	1,288	1,265	529
Natural gas	1,140	1,194	1,222	1,178	521
Liquid fossil fuels ³	32	33	33	52	8
Biomass and self-generated renewable energy	33	34	33	35	0
Indirect energy consumption	868	897	890	1,107	67
Electricity	723	749	745	944	67
Steam, heat, cold	145	148	145	163	0
Total energy sold	0.1	0.0	0.1	0.2	0.0
Electricity	0.1	0.0	0.1	0.2	0.0
Steam, heat, cold	0	0	0	0	0
In TJ					
Total energy consumption	7,463	7,770	7,839	8,539	2,146
Direct energy consumption	4,338	4,541	4,637	4,554	1,905
Natural gas	4,104	4,298	4,399	4,241	1,876
Liquid fossil fuels ³	114	119	119	187	29
Biomass and self-generated renewable energy	120	124	119	126	0
Indirect energy consumption	3,125	3,229	3,202	3,985	241
Electricity	2,603	2,696	2,682	3,398	241
Steam, heat, cold	522	533	520	587	0
Total energy sold	0.4	0.0	0.5	0.7	0.0
Electricity	0.4	0.0	0.5	0.7	0.0
Steam, heat, cold	0.0	0.0	0.0	0.0	0.0

1 In line with the Greenhouse Gas Protocol, for all previous years (up to the 2006 baseline) energy consumption has been calculated based on the current corporate structure as of Dec. 31 of the reporting year and retroactively adjusted for acquisitions or divestments of (parts of) companies, or for changes in emission factors (portfolio-adjusted). Exceptions to this are company units that were added as a result of the acquisition of Versum Materials. Figures dating back to the 2006 baseline are not available for these units.

2 Since 2018, our reported figures have excluded the Consumer Health business, which was divested on December 1, 2018.

3 Light and heavy fuel oil, liquefied petroleum gas (LPG), diesel, biodiesel, gasoline and kerosene

At our sites in Billerica (MA, United States), Bedford (MA, United States), Molsheim (France), Tel Aviv (Israel), Rome (Italy), Guatemala City (Guatemala), Shizuoka-ken (Japan), and Shanghai (China), we use photovoltaics to produce power.

Merck currently only records purchased secondary energy – this is primarily electricity and, to a lesser extent, heat/steam/cold. Details on the local energy mix, including the respective percentage of primary energy, renewable energy, etc. are not available. Data on local energy efficiency in electricity or heat generation are not available either. Our production sites are located in countries with a widely varying energy mix.

Our Darmstadt and Gernsheim sites in Germany consume the most energy, representing 25% of our Group-wide total. Here, fossil energy (coal, gas, etc.) accounts for approx. 42%, nuclear energy approx. 14% and renewable energies approx. 44% of the energy mix. Renewable energies account for a higher share of electricity generation at production sites in Switzerland, with nuclear energy taking the lead in France. Based on an estimated global energy efficiency of 37% for the conversion and distribution of generated electricity, this results in a primary energy consumption of 2,551 GWh for 2020. Based on an estimated global energy efficiency of 85% for heat/steam/cold, this results in a primary energy consumption of 192 GWh for 2020. This yields a total primary energy consumption of 2,743 GWh for 2020. (The calcula-

tion is based on factors stated in the "Manual for energy management in practice - Systematically reducing energy costs" published by DENA, 12/2012.)

In 2020, Merck's energy intensity relative to net sales totaled 0.14 kWh/€.

Water withdrawal

millions of m ³	2017	2018 ¹	2019	2020 Merck Group	2020 Water stress areas
Total water withdrawal	14.0	14.7	14.0	14.2	0.7
Surface water (rivers, lakes)	1.9	2.1	1.9	1.9	0.0
Groundwater	7.3	7.2	6.8	6.7	0.4
Drinking water (from local suppliers)	4.8	5.3	5.2	5.5	0.3
Rain water and other sources	0.00	0.05	0.05	0.08	0.00

1 Since 2018, our reported figures have excluded the Consumer Health business, which was divested on December 1, 2018.

These figures do not include the ground water that we use for safety measures at our Gernsheim site in Germany. Here, the water is fed back directly into natural circulation.

The volume of seawater and produced water withdrawn is not significant and is therefore not reported separately.

Water reused

millions of m ³	2017	2018 ¹	2019	2020
Water reused	22.4	24.4	23.3	22.0

1 Since 2018, our reported figures have excluded the Consumer Health business, which was divested on December 1, 2018.

The recirculating cooling system at our Darmstadt, Germany facility accounts for the majority of reused water as it allows the water to be re-utilized multiple times. The volume of reused water is thus greater than the total volume of consumed water.

Wastewater volume

	2017	2018 ¹	2019	2020 Merck Group ²	2020 Water stress areas
Total wastewater volume (millions of m³)	13.1	13.5	13.2	13.4	0.6
Wastewater discharged directly	9.0	9.6	9.3	9.2	0.4
Wastewater discharged to third parties	3.7	3.9	3.8	4.1	0.2

1 Since 2018, our reported figures have excluded the Consumer Health business, which was divested on December 1, 2018.

2 In 2020, we optimized the way we measure wastewater at our Gernsheim site. The figures reported no longer include wastewater from the municipality of Biebesheim.

The volume of seawater and groundwater discharged is not significant and is therefore not reported separately.

Discrepancies between total wastewater volume and the sum of directly discharged wastewater and wastewater sent to third parties arise from other disposal methods, which, however, only result in minor amounts of wastewater.

Direct discharges correspond to the “freshwater” classification of the GRI. Indirect discharges correspond to their “other water” classification.

Wastewater quality¹

	2017	2018 ²	2019	2020
Chemical oxygen demand (metric tons of O ₂)	1,537	1,509	1,568 ³	2,001
Phosphorous (metric tons)	8	10	12	15
Nitrogen (metric tons)	234	260	481	291
Nickel (kg)	32	30	32	30
Lead (kg)	35	30	34	37
Cadmium (kg)	6	6	6	6
Mercury (kg)	1	0	0	0

1 In alignment with ICCA reporting requirements specified by Cefic, we track heavy metal emissions from lead, cadmium, nickel, and mercury.

2 Since 2018, our reported figures have excluded the Consumer Health business, which was divested on December 1, 2018.

3 Figure retroactively adjusted.

The wastewater treatment plant at our Gernsheim, Germany site also treats wastewater from the neighboring municipality of Biebesheim. The communal wastewater from Biebesheim is included in the emissions stated in the table.

Emissions are determined partially based on measurements and partially based on calculations or estimates. Only some sites are required to measure individual parameters.

These figures reflect the wastewater as it is when it leaves our facilities. Some of the substances in the water are then later removed by third-party purification plants before the water is ultimately discharged into the ecosystem.

Hazardous and non-hazardous waste

metric kilotons	2017	2018 ¹	2019	2020
Total waste	255	245	244	231
Hazardous waste disposed ²	43	44	44	38
Non-hazardous waste disposed ²	33	54	41	34
Hazardous waste recycled ³	72	75	78	89
Non-hazardous waste recycled ³	107	72	81	70

1 Since 2018, our reported figures have excluded the Consumer Health business, which was divested on December 1, 2018.

2 Disposed = incineration (without energy recovery) and landfill

3 Recycled = incineration (with energy recovery) and material recycling

We generally use external service providers in order to dispose of our waste outside our sites. Some material recycling of hazardous waste takes place directly at our sites (2020: approx. 46 metric kilotons).

Exported/Imported hazardous waste

metric kilotons	2017	2018 ¹	2019	2020
Exported ²	4.9	4.5	4.3	4.0
Imported	0.005	0.000	0.000	0.000

1 Since 2018, our reported figures have excluded the Consumer Health business, which was divested on December 1, 2018.

2 Disposal primarily within the EU and the United States.

In 2020, approx. 3% of hazardous waste was shipped internationally.

Waste by disposal method

	2017	2018 ¹	2019	2020
Total waste (metric kilotons)	255	245	244	231
Disposed waste	76	98	85²	72
Landfilled waste	13	35	26	17
Incinerated waste	63	63	59 ²	55
Recycled waste	179	147	159²	159
Material recycling	149	127	132	135
Waste-to-energy	30	20	27 ²	24
Recycling rate (%)	70	60	65²	69

1 Since 2018, our reported figures have excluded the Consumer Health business, which was divested on December 1, 2018.

2 Figure retroactively adjusted.

As in previous years, the total waste generated continues to be heavily influenced by the waste from construction and remodeling activities. Construction, excavation and demolition waste accounted for 21% of our waste in 2020. Around 37 metric kilotons of construction, excavation and demolition waste was recycled.

We generally use external service providers in order to dispose of our waste outside our sites. Some material recycling of hazardous waste takes place directly at our sites (2020: approx. 46 metric kilotons).

Significant spills

	2017	2018	2019	2020 ¹
Total number of significant spills	0	0	0	0

1 The data include the divested Allergopharma business up to March 31, 2020. See the [Report profile](#) for further information.

community

Spending on community engagement

€ million	2017	2018 ¹	2019	2020
Total spending	33.8	35.7	46.2	53.6

¹ From 2018 on, we are separating spending on programs of the Merck Foundation from our community involvement figures.

We calculate the value of pharmaceutical product donations according to the WHO Guidelines for Medicine Donations; for other product donations, we apply their fair value.

Community engagement spending by region¹

	Europe	North America	Asia-Pacific (APAC)	Latin America	Middle East and Africa (MEA)
2019					
€ million	10.6	3.4	2.3	0.5	29.3
%	23	7	5	1	64
2020					
€ million	15.1	5.8	4.2	2.6	25.9
%	28	11	8	5	48

¹ This table presents the regions across the globe in which we support initiatives. For projects that benefit multiple regions, we have calculated the amount per region by dividing the project spending evenly per country.

Focus of our local community engagement¹

%	2017	2018 ²	2019	2020
Global Health	38	34	33	36
Broad Minds: Education and culture	43	42	38	43
Sustainable Solutions: Environment	4	2	3	1
Disaster relief	2	2	2	1
Other	13	20	24	19

¹ Based on number of projects

² From 2018 on, we are separating spending on programs of the Merck Foundation from our community involvement figures.

Motivations for our community engagement¹

%	2017	2018 ²	2019	2020
Charitable activities	9	7	6	23
Community investment	84	88	91	72
Commercial initiatives in the community	7	5	3	5

1 Based on total spending on all projects

2 From 2018 on, we are separating spending on programs of the Merck Foundation from our community involvement figures.

We categorize the motivations for our activities based on the London Benchmarking Group model as well as the guidelines of the Bertelsmann Foundation for corporate social responsibility. Projects that primarily aim to make improvements within the community are classified as community investment.

Initiatives that are predominantly aimed at company-relevant factors such as image or personnel recruitment are classified as commercial initiatives in the community. Charitable activities cover any other projects that benefit a charitable organization, but cannot be listed under either of the other two motivation categories due to missing data or their narrow scope.