

FURTHER GRI INFORMATION

PRODUCTION, PURCHASING AND SUPPLIER NETWORK

BMW Group Carbon footprint

in t CO ₂	2019	2020	2021	2022	2023
Total emissions ¹	147,257,699	132,064,779	137,592,164	130,743,357	134,699,641
SCOPE 1: DIRECT GREENHOUSE GAS EMISSIONS					
Total emissions	678,403	678,967	699,713	694,057	713,933
BMW Group locations ^{2, 3, 4}	586,638	604,620	631,304	614,117	595,257
Company vehicles ^{5, 6, 7}	85,667	72,554	66,442	76,491	113,431
Company-owned planes ⁸	6,098	1,793	1,967	3,449	5,245
SCOPE 2: INDIRECT GREENHOUSE GAS EMISSIONS					
Total emissions	354,095	130,090	134,849	91,300	110,141
Electricity/heat purchased by BMW Group locations ^{2, 4, 9}	354,095	130,090	134,849	91,300	110,141

¹ The CO₂ emissions listed account for approximately 90% of the BMW Group's total **Scope 1 to Scope 3 emissions**. The methodology used to calculate CO₂ emissions changed in the reporting year 2023 for the items "Purchased Goods and services" and "Logistics – material supply of the plants and distribution of vehicles". The prior-year figures have been adjusted retrospectively.

² Carbon emissions (excluding climate-impacting gases other than carbon dioxide) generated by vehicle production (BMW Group plants and BMW Motorcycle, excluding partner plants and contract manufacturing) and by other BMW Group locations not directly related to production (e.g. research centres, sales centres, office buildings).

³ This amount includes 15,881 t CO₂ from the direct use of biomass.

⁴ Calculation of Scope 1 and Scope 2 emissions, using the operational control approach in accordance with the GHG Protocol. Leased space without the direct influence of the BMW Group on energy supply is therefore not included.

⁵ Includes the emissions of company cars and function-related vehicles of the BMW Group plants, as well as the 12 major markets. Emissions are preferably calculated on the basis of tank refills. This is the case for the plants and/or markets in Australia, Austria, Brazil, France, Germany, Hungary, India, Italy (only Alphabet Italia S.p.A. and BMW Bank GmbH, Milan), Japan, Mexico, South Africa, South Korea (only BMW Financial Services Korea Co., Ltd., Seoul), Thailand and the UK. In the remaining cases, they are determined based on kilometres driven. For the USA, the data are partly extrapolated for 2023 because the information was not yet available for the entire period at the time the data was collected. For BMW Italia S.p.A. and BMW Italia Retail S.r.l., values for the reporting period are calculated based on average kilometres per day. For system-related reasons, the refuelling of company vehicles includes both business and private trips, except refuelling paid for by employees themselves.

⁶ Emissions from company cars (Scope 1) are also included on a pro-rata basis under employee commuting and use phase (both Scope 3). A distinction in the systems is currently not possible.

⁷ The increase in this metric is the result of the scope being increased as compared to the previous year. Reporting was only submitted for Germany and the international test sites up to and including 2022. During the 2023 reporting year, all BMW Group plants and the 12 major markets were integrated into the figure. A calculation based on the Scope from 2022 results in a comparative value for 2023 of 80,869 t CO₂ (+5.7% compared to previous year). No retrospective adjustment was made. As a result, the figures for 2023 are not directly comparable with previous years.

⁸ As a result of the extensive travel restrictions in place during the pandemic, 2019 is used as a base year for more meaningful comparisons in terms of civil aviation.

⁹ Scope 2 emissions calculated using the market-based method in accordance with the GHG Protocol Scope 2 guidance; mainly based on the emissions factors for electricity, district heating and fuels reported by the VDA (each in the latest version dated 12/2023) and occasionally using local emissions factors; alternative calculation using the location-based method: 1,195,818 t CO₂.

BMW Group Carbon footprint

in t CO ₂ /CO ₂ e ¹	2019	2020	2021	2022	2023
SCOPE 3: INDIRECT GREENHOUSE GAS EMISSIONS					
Total emissions	146,225,201	131,255,722	136,757,602	129,958,000	133,875,567
Logistics - material supply of the plants and distribution of vehicles ²	2,178,437	1,939,191	2,203,818	2,200,661	2,746,124
Business trips ³	129,646	25,217	29,765	66,170	115,469
Employees' commuter traffic ^{4,5}	146,298	166,586	139,999	145,284	166,273
Purchased Goods and Services ^{6,7}	31,486,873	29,094,346	33,131,882	33,029,416	34,267,874
Use phase ^{4,8}	110,899,066	98,782,354	99,805,490	92,947,849	94,774,779
Logistics - aftersales logistics	115,863	97,171	130,210	174,017	183,417
Disposal ^{1,7,9}	1,269,018	1,150,857	1,316,438	1,394,603	1,621,631

¹ Carbon emissions in the supply chain, including in transport logistics, as well as in upstream fuel production (well-to-tank) are referred to as CO₂e.

² The methodology used to calculate carbon emissions changed in the reporting year 2023. Each vehicle is assigned an average value based on the CO₂e assessment of individual transport movements. The values in the time series were adjusted to reflect the new methodology. The emission factors were also adjusted retrospectively (values prior to change in methodology and adjustment of transport logistics emission factors, excluding aftersales logistics: 2019: 1,454,534 t CO₂e, 2020: 1,225,688 t CO₂e, 2021: 1,748,700 t CO₂e, 2022: 2,100,161 t CO₂e) [↗ Glossary](#).

³ Includes business trips by plane, rail and rental car. As a result of the extensive travel restrictions in place during the pandemic, 2019 is used as a base year for more conclusive comparisons in terms of business travel.

⁴ Emissions from company cars (Scope 1) are also included on a pro-rata basis under employee commuting and use phase (both Scope 3). A distinction in the systems is currently not possible.

⁵ 2019 is not directly comparable to the other years because an improved data basis was available from 2020 onwards. In some cases, figures have been extrapolated based on data collected at major national and international BMW Group locations. The sites in Farnborough, UK, and Woodcliff Lake, USA, were included in the calculation for the first time in the reporting year 2023.

⁶ The methodology used to calculate carbon emissions changed in the 2023 reporting year. Previously, the CO₂e values were calculated on the basis of a small set of TÜV-validated life cycle assessments performed for European vehicles. Enhancements to the IT system have made it possible to perform a differentiated calculation for all vehicles taking into account different energy mixes and carbon emission factors for different production regions (see [↗ Glossary](#)). The values in the time series were adapted using this new methodology (values based on prior methodology: 2019: 18,505,921 t CO₂e, 2020: 16,234,959 t CO₂e, 2021: 18,534,765 t CO₂e, 2022: 19,758,702 t CO₂e). The values for 2019 through 2021 as well as 2023 shown in the table according to the new methodology were subjected to a reasonable assurance audit. The carbon-reducing measures are taken into account from 2022 onwards. The implementation of measures for 2022 was subjected to a limited assurance audit.

⁷ Energy consumption values (lower calorific value) in the "Purchased goods and services" category and the "Disposal" category are estimated using the methodology specified in footnote (9): 113,179 GWh in the "Purchased goods and services" category and 908 GWh in the "Disposal" category.

⁸ The absolute emissions in the use phase are based on the [↗ Carbon emissions of the new vehicle fleet worldwide, including upstream emissions \(Scope 3 downstream, well-to-wheel\)](#). The total value in t CO₂ is the result of multiplying the average value with all BMW Group vehicles sold in the reporting period and an assumed average mileage of 200,000 km (as per VDA 900-100).

⁹ CO₂e calculated based on life cycle assessments as per ISO 14040/44 of representative vehicles from the product lines using the "LCA for Experts" tool provided by Sphera (including climate-impacting gases CO₂, CH₄, N₂O, SF₆, NF₃). For definition, see [↗ Glossary](#).

Energy consumption^{1,2}

in MWh	2019	2020	2021	2022	2023
TOTAL ENERGY CONSUMPTION					
Total energy consumption	6,348,009	6,040,824	6,476,955	6,295,990	6,380,652
TOTAL ENERGY CONSUMPTION BY AREA					
Vehicle production	5,226,227	4,946,865	5,329,550	4,750,321	4,954,639
Motorcycle production	120,583	114,072	125,450	101,574	105,614
Non-manufacturing areas	1,001,199	979,887	1,021,955	906,175	890,617
CHP losses ³	-	-	-	537,919	429,782
TOTAL ENERGY CONSUMPTION BY SOURCE					
Electricity	2,653,855	2,320,314	2,453,215	2,542,434	2,711,392
Community heating	367,040	274,484	284,763	307,163	354,015
Community cooling	33,688	33,322	31,882	28,455	23,516
Natural gas	3,117,505	3,206,948	3,517,068	3,253,638	3,170,701
of which CHP losses	425,796	498,299	508,318	477,588	398,874
Biogas (landfill gas)	164,957	192,911	177,564	144,266	107,864
of which CHP losses	68,560	65,065	67,038	60,331	30,908
Solar (photovoltaics)	1,703	2,316	2,344	2,209	4,123
Other fossil fuels	7,760	9,368	8,908	16,730	7,931
Other biogenic fuels	1,501	1,161	1,211	1,095	1,109

¹ Energy consumption generated by vehicle production (BMW Group plants including BMW Motorcycle, excluding partner plants and contract manufacturing) and by other BMW Group locations not directly related to production (e.g. research centres, sales centres, office buildings).

² Upper calorific value

³ CHP losses refer to the losses resulting from converting a fuel source into electricity and heat in a combined heat and power plant (CHP plant). These are listed separately as of the 2022 reporting year. Energy consumption for the automotive production, motorcycle production and non-manufacturing sites was not adjusted retrospectively for previous years. As a result, the figures for 2022 are not directly comparable with previous years.

Transport logistics: carriers and CO₂ emissions¹

	2022	2023		
MATERIAL SUPPLY OF THE PLANTS (INBOUND)²				
Transport volume in million tkm	26,600	23,099		
CO ₂ e emissions in t	974,238	1,229,301		
DISTRIBUTION OF VEHICLES (OUTBOUND)³				
Transport volume in million tkm	25,511	31,263		
CO ₂ e emissions in t	1,226,423	1,516,823		
TOTAL MATERIAL SUPPLY OF THE PLANTS AND DISTRIBUTION OF VEHICLES (INBOUND AND OUTBOUND)				
Transport volume in million tkm	52,111	54,362		
CO ₂ e emissions in t	2,200,661	2,746,124		
CUSTOMER SUPPORT LOGISTICS (AFTERSALES LOGISTICS)				
Transport volume in million tkm	2,447	2,267		
CO ₂ e emissions in t	174,017	183,417		
PERCENTAGE SHARE OF CARRIERS IN TOTAL IN TERMS OF TRANSPORT VOLUME AND CO₂ EMISSIONS				
	tkm	g CO₂e	tkm	g CO₂e
Sea in %	77.1	43.4	76.7	41.7
Road in %	14.4	31.7	14.2	30.9
Rail in %	7.3	5.5	7.5	5.2
Air in %	1.2	19.4	1.6	22.2

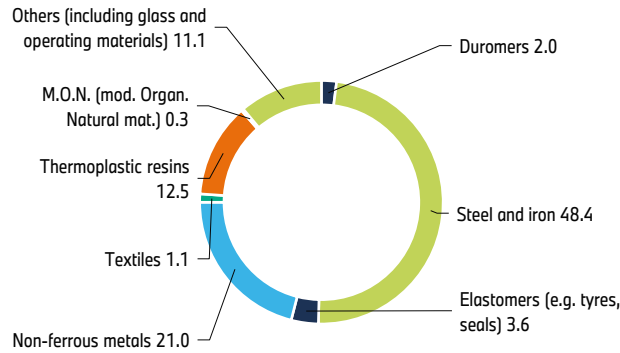
¹ From 2022, application of the international GLEC Framework directive in the version applicable during the yearly tranche, along with CleanCargo and DIN EN 16258/ISO 14083 still being in force. The methodology used to calculate carbon emissions changed in the reporting year 2023. Each vehicle is assigned an average value based on the CO₂e assessment of individual transport movements. The values in the time series were adapted using the new methodology. The emission factors were also adjusted retrospectively (values prior to change in methodology and adjustment of transport logistics (inbound and outbound) emission factors, excluding aftersales logistics: 2022: 2,100,161 t CO₂e). For more information about calculating the CO₂e emissions, please refer to the [Glossary](#).

² Figures relate to spare parts deliveries to vehicle production facilities (BMW Group and partner plants, excluding contract manufacturing). Further information can be found in the [Glossary](#). In some cases, figures have been extrapolated for individual months.

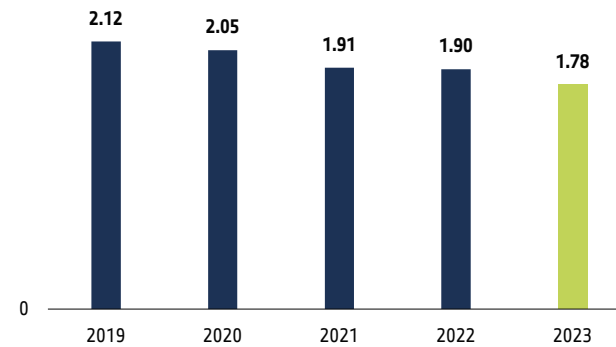
³ These figures refer to the distribution of manufactured vehicles (BMW Group, contract manufacturing and partial volumes for partner plants) to markets worldwide. [Glossary](#).

Average distribution of materials in BMW Group vehicles^{1,2}

in %



Potable water consumption per vehicle produced^{1,2,3}

in m³

¹ Calculated using unit-adjusted averages for the BMW 1 Series, 2 Series, 3 Series, 4 Series, 5 Series, 6 Series, 7 Series, 8 Series, the X1, X2, X3, X4, X5, X6, X7 of Rolls-Royce, MINI and M-GmbH, as well as the BEV vehicles i3 long, i4, i5, i7, iX, iX1, iX2, iX3, MINI E, Rolls-Royce Spectre and PHEV versions.

² The number of vehicles produced (BMW Group plants, partner plants and contract manufacturing) increased year-on-year to around 2.66 million vehicles (2022: around 2.38 million). Based on an average vehicle weight of BMW Group vehicles of around 2.0 tonnes, the total weight of input materials is around 4.9 million tonnes. To calculate the individual material flows, the total weight is multiplied by the average distribution of the materials in BMW Group vehicles.

¹ Efficiency indicator calculated from the potable water consumption measured for automobile production (BMW Group plants, excluding partner plants and contract manufacturing) divided by the number of vehicles produced in automobile production (BMW Group plants and partner plants, excluding contract manufacturing).

² Potable water consumption refers to water purchased from external water suppliers. If a BMW Group location does not purchase water from an external supplier, the primary source of supply is counted as potable water. This applies to the BMW Group plants in San Luis Potosí, Mexico, and Araquari, Brazil, where groundwater is the main source.

³ Value of the base year 2016 to the target reduction of -25% by 2030: 2.00.

Water consumption*

in m ³	2019	2020	2021	2022	2023
Water consumption	5,417,428	4,722,310	4,924,477	4,840,161	5,049,144
of which potable water in %	87.4	86.3	85.1	84.0	83.8
of which groundwater in %	12.6	13.6	14.6	15.7	15.9
of which surface water in %	0.0	0.0	0.0	0.0	0.1
of which rainwater in %	0.0	0.1	0.3	0.3	0.2

* Water used by automotive production (BMW Group plants, excluding partner plants and contract manufacturing).

Waste¹

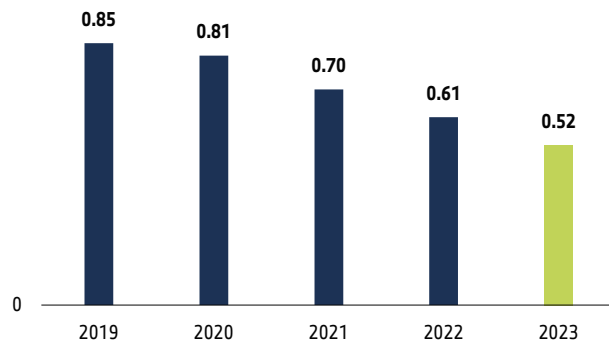
in t	2019	2020	2021	2022	2023
Total waste	780,911	775,459	829,498	818,387	927,880
Materials for recycling ²	771,162	768,292	822,848	812,274	922,554
Waste for disposal	9,749	7,168	6,650	6,113	5,326

¹ Waste generated by automotive production (BMW Group plants, excluding partner plants and contract manufacturing).

² Includes both recycling and thermal recovery.

VOC Solvent emissions per vehicle produced*

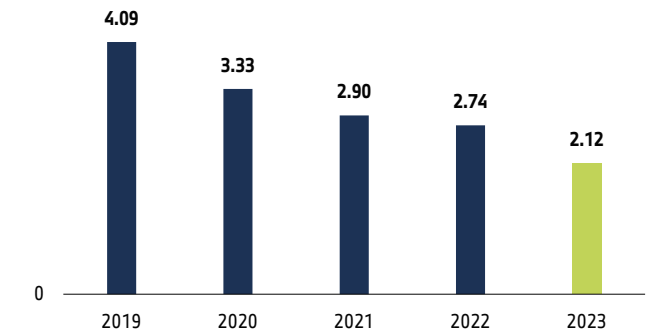
in kg



* The efficiency indicator is calculated on the basis of solvent emissions (VOCs) generated by automobile production (BMW Group plants, excluding partner plants and contract manufacturing) divided by the number of vehicles produced in automobile production (BMW Group plants and partner plants, excluding contract manufacturing).

Waste for disposal per vehicle produced*

in kg



* Efficiency ratio calculated on the basis of waste for disposal in automobile production (BMW Group plants, excluding partner plants and contract manufacturing) divided by the total number of vehicles produced in automobile (BMW Group plants and partner plants, excluding contract manufacturing).

Sustainability assessment of relevant supplier locations^{1,2}

in %	2022	2023
Proportion of suppliers of production-related material with implemented preventive measures at the time of awarding	70	55
Proportion of suppliers of production-related material with agreed preventive measures at the time of awarding	22	31

¹ Basis: industry-specific sustainability questionnaire.

² A new version of the questionnaire containing additional requirements was introduced. As a result, some suppliers had to redo their questionnaires. Some suppliers had to implement additional preventive measures.

Notifications of potential violations in the supply chain

	2022	2023
Number of notifications of potential violations of our sustainability principles received through our reporting channels	8	11
of which number of notifications that were clarified during the reporting year*	4	6
of which number of justified notifications that were clarified during the reporting year	-	-

* All notifications are processed until they are fully resolved, including across several financial years. Five notifications received in 2023 were still at the internal processing stage at the end of the financial year and had not yet been fully resolved. Similarly, four notifications from 2022 were still being processed in 2023 that had not been fully resolved by the end of the 2022 financial year. Three of these notifications were resolved in 2023 and were proven unjustified. The remaining notification will continue to be processed during the next financial year.

EMPLOYEES AND SOCIETY

Employees at end of year¹

	2019	2020	2021	2022	2023
BMW Group	126,016	120,726	118,909	149,475	154,950
Automotive	113,719	108,676	106,928	137,056	142,441
Motorcycles	3,503	3,474	3,418	3,711	3,996
Financial Services	8,684	8,473	8,466	8,616	8,413
Other	110	103	97	92	100
Employees with fixed-term contracts ²	3,489	2,892	2,503	15,039	14,536
Employees in part-time employment ³	6,318	6,433	6,846	7,315	7,973

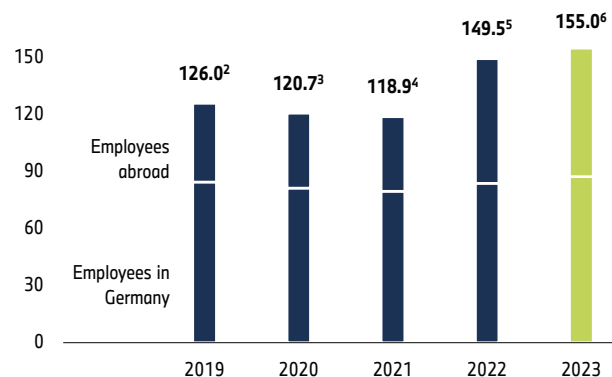
¹ The term "employee" has been redefined with effect from the reporting year 2020 (for definition, see [Glossary](#)).

² Around 24% of these are women employed at BMW AG. For system-related reasons, this data is only collected for BMW AG.

³ Permanent and fixed-term employees.

Employees in Germany and abroad¹

Number of employees in thousands



¹ The term "employee" has been redefined with effect from the reporting year 2020 (for definition, see [Glossary](#)).

² Of this figure, 38.2% clock-controlled production employees of the BMW Group.

³ Of this figure, 37.9% clock-controlled production employees of the BMW Group.

⁴ Of this figure, 38.0% clock-controlled production employees of the BMW Group.

⁵ Of this figure, 42.5% clock-controlled production employees of the BMW Group.

⁶ Of this figure, 41.9% clock-controlled production employees of the BMW Group.

Share of employees represented by a trade union or falling under collective bargaining agreements¹

in %	2019	2020	2021	2022	2023
Germany (BMW AG) ²	100	100	100	100	100
UK (Plants Hams Hall, Oxford, Swindon, Goodwood, Transport and Logistics Centre (Bognor Regis))	85	84	83	82	82
China (Dadong, Tiexi incl. Lydia plants)	100	100	100	100	100
Austria (Steyr plant) ²	100	100	100	100	100
South Africa (Rosslyn plant, Sales, IT, Financial Services)	59	63	70	70	70
USA (Spartanburg plant, no collective bargaining agreements in place)	-	-	-	-	-
Mexico (San Luis Potosí plant) ²	100	100	100	100	100

¹ Status: 31.12.2023.

² Excluding senior management and representatives. [↗ GRI Index: 2-30](#)

Alternative ways of working at BMW AG¹

Number of employees	2019	2020	2021	2022	2023
Part-time employment ²	5,440	5,568	5,951	6,388	6,949
in % of total number of employees	6.6	7.0	7.7	7.8	8.2
Mobile work ³	36,208	43,309	41,180	43,707	45,673
in % of total number of employees	70.8	87.2	84.3	85.9	85.4
Vollzeit Select model	5,474	4,747	3,736	4,170	4,833
in % of total number of employees	6.6	6.0	4.8	5.1	5.7
Sabbaticals	764	653	464	560 ⁴	657
in % of total number of employees	0.9	0.8	0.6	0.7 ⁴	0.8
Parental leave	4,082	4,158	4,211	4,183	3,938
in % of total number of employees	4.9	5.2	5.4	5.1	4.6

¹ The term "employee" has been redefined with effect from the reporting year 2020 (for definition, see [↗ Glossary](#)).

² Of which 4,118 were female (60%). For systemic reasons, this number is only calculated for BMW AG.

³ Only workers in administrative positions who engaged in mobile work.

⁴ As a result of changes in the way information is recorded, data for 2022 have been retrospectively adjusted (Values before adjustment: 493 employees in sabbaticals; 0,6% of total number of employees).

Number of employees per country with production site(s)*

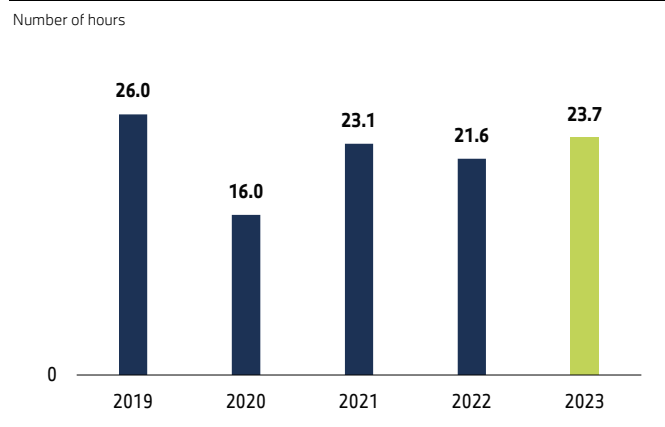
	Total	of which fixed-term	Share of women in %
Germany	87,304	844	18
China	28,076	12,623	15
USA	12,736	-	25
UK	6,743	65	18
Austria	3,857	126	16
Mexico	3,703	2	35
South Africa	2,867	436	23
Brazil	861	2	22
Thailand	691	157	29
India	572	3	9
Hungary	915	38	18

* Status: 31 December 2023.

Average training hours at the BMW AG Academy, by employee category

Employee category	2021	2022	2023
Non-tariff employees	30.7	26.4	38.2
"Meister" (master craftsmen)	27.0	43.1	68.9
Tariff	10.8	14.1	20.7

Average number of hours of training and further education per employee of the BMW Group*



* Training for BMW Group employees at consolidated and non-consolidated subsidiaries worldwide. Data is collated on the basis of direct input by participants and, to a small extent, by extrapolation. Data also includes e-learning formats. ↗ GRI Index: 404-1

Total number of employees leaving BMW AG, by reason for leaving¹

Number	2019	2020	2021	2022	2023
Total	2,794	4,535	3,720	3,191	3,107
Part-time retirement, retirement, death	1,700	1,884	1,938	2,110	2,105
Voluntarily left Company (termination or suspension of employment contract by employee)	1,029	2,601 ²	1,749 ²	1,011	911
Dismissed by employer	65	50	33	70	91

¹ Figures refer to employees with permanent contracts.

² Increase mainly due to a set of personnel measures.

Share of local employees in management positions at major Company locations*

	2019	2020	2021	2022	2023
Germany	99.7	99.7	99.8	99.7	99.5
UK	87.5	89.8	89.5	88.8	90.2
USA	87.4	89.1	88.3	89.2	88.5
Austria	82.3	78.7	79.1	77.7	78.7
South Africa	82.7	85.9	85.4	88.4	85.8
India	82.1	68.4	78.4	80.0	75.6
Brazil	78.2	84.9	85.1	88.2	86.0
China	73.7	78.8	82.2	85.1	84.5
Thailand	57.1	57.8	60.0	65.2	67.4
Mexico	48.4	62.9	67.8	72.7	74.2

* "Local" refers to managers with local contracts. People deployed to work at the location who do not have a local employment contract are not included. These are reflected in the difference to 100 in each case.

Principal hazard spots

in %

