



# Tesla (TSLA.O/TSLA US)

Price as of Jan 13: US123

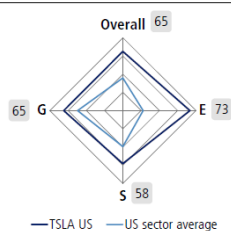
## Aggressive pricing – Short-term pain, but long-term gain

### Trading data

Mkt cap (US\$bn)	590.2
Outstanding shares (mn)	3,158
Institutional ownership (%)	45.3
3M avg. daily trading (mn)	74.0
52-week trading range (US\$)	177.1-402.7

Performance	3M	6M	12M
Absolute (%)	(39.0)	(22.6)	(46.8)
Relative (%)	(31.0)	(21.4)	(31.0)

### ESG score card



Source: Refinitiv, KGI securities

### Event

Tesla lowered its vehicle pricing by 6-20% across the US, Europe, and several other markets. The five-seat long-range Model Y now starts at US\$52,990 and is eligible for a US\$7,500 federal tax credit under IRA in the US, implying as much as 30% savings for consumers. The pricing cut in Europe is 1-17%.

### Impact

**Aggressive pricing strategy could result in addressable market expansion, strengthening market leadership & accelerating industry reshuffle.** While Tesla's pricing cuts partially reflect soft demand amid rising competition and a rate hike environment, we think the magnitude of the cuts may not be necessary in some markets due to its leading industry position and limited competition, such as in the US. As such, we think the firm's aggressive pricing strategy is intended to accelerate global automotive electrification and stimulate an industry reshuffle amid macro weakness, as few OEMs have the financial strength and cost reduction ability to match Tesla's pricing cuts. Management said the pricing cuts are a reflection of the downward cost trend. We think this refers to not only falling raw material costs, but also benefits from economies of scale and rising supply chain bargaining power driven by maximized production utilization. Furthermore, Tesla's unique business model has strong marginal benefits, as sales of one EV could generate recurring revenue from FSD software and insurance, as well as shorter payback time for its charging network.

**Short-term financial pain inevitable; we lower 2023F EPS to US\$4.37 & trim 2022-24F EPS CAGR to 27%.** We believe Model 3 and Y prices post pricing cuts will be more attractive to consumers. Tesla's Model 3 and Model Y, now starting at Rmb229.9k and Rmb259.9k in China, are strong competitors to Rmb150-250k rivals, which represents 20-23% of China's auto market. In the US, consumers can get a five-seat long-range Model Y starting at US\$45,490 if eligible for tax credits, putting more pressure on European and Japanese ICE peers, which offer premium models in the range of US\$38-45k. We raise Tesla's 2023F EV deliveries by 7% to 1.93mn units, up 47% YoY, but lower our sales forecast to 25% growth, to reflect substantial pricing cuts. We foresee notable margin erosion and earnings impact in 1Q23 before cost reductions gradually kick in upcoming quarters. We trim 1Q23F gross margin to 18.2% and EPS to US\$0.69 (down 41% QoQ). We revise down 2023F EPS by 23% to 8% growth. We believe 1Q23 will mark the near-term financial trough and project sequential earnings recovery. We forecast 2024F EPS will grow 49% based on EV delivery growth of 30% and gross margin recovery from 22.5% in 2023 to 25.5% in 2024..

### Key financials

	Dec-20A	Dec-21A	Dec-22F	Dec-23F	Dec-24F
Revenue (US\$mn)	31,536	53,823	81,300	102,014	124,112
Gross profit (US\$mn)	6,630	13,606	21,017	22,920	31,709
Operating profit (US\$mn)	1,994	6,523	13,776	14,979	23,282
EBITDA (US\$mn)	4,316	9,434	17,540	19,503	22,711
Net profit (US\$mn)	2,424	7,654	14,062	15,169	22,617
EPS (US\$)	0.75	2.26	4.05	4.37	6.52
Revenue growth (%)	28.3	70.7	51.1	25.5	21.7
EPS growth (%)	5,437.4	202.9	79.4	7.9	49.1
Gross margin (%)	21.0	25.3	25.9	22.5	25.5
Operating margin (%)	6.3	12.1	16.9	14.7	18.8
EBITDA margin (%)	13.7	17.5	21.6	19.1	18.3
Net debt to equity (%)	Net cash	Net cash	Net cash	Net cash	Net cash
Return on average equity (%)	4.3	20.0	27.8	22.7	25.6

Source: Company data, KGI Research estimates

**Figure 1: Breakdown of 4Q22 & 1Q23 forecast revisions vs. consensus**

US\$m	4Q22F						1Q23F							
	Revision	Previous	Chg. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)
Revenue	24,156	24,365	(0.9)	12.6	36.3	24,514	(1.5)	22,877	24,770	(7.6)	(5.3)	22.0	24,557	(6.8)
Gross profit	5,941	6,191	(4.0)	10.4	22.6	6,256	(5.0)	4,158	6,291	(33.9)	(30.0)	(23.8)	6,167	(32.6)
Operating profit	4,021	4,254	(5.5)	9.0	53.9	4,305	(6.6)	2,213	4,297	(48.5)	(45.0)	(38.6)	4,072	(45.6)
Net income	4,060	4,263	(4.8)	11.1	40.7	4,056	0.1	2,395	4,280	(44.0)	(41.0)	(35.8)	3,971	(39.7)
EPS (US\$)	1.17	1.23	(4.8)	11.1	38.2	1.14	2.5	0.69	1.23	(44.0)	(41.0)	(35.7)	1.10	(37.5)
Gross margin (%)	24.6	25.4	(0.8) ppts	(0.5) ppts	(2.8) ppts	25.5	(0.9) ppts	18.2	25.4	(7.2) ppts	(6.4) ppts	(10.9) ppts	25.1	(6.9) ppts
Op. margin (%)	16.6	17.5	(0.8) ppts	(0.5) ppts	1.9 ppts	17.6	(0.9) ppts	9.7	17.3	(7.7) ppts	(7.0) ppts	(9.5) ppts	16.6	(6.9) ppts
Net margin (%)	16.8	17.5	(0.7) ppts	(0.2) ppts	0.5 ppts	16.5	0.3 ppts	10.5	17.3	(6.8) ppts	(6.3) ppts	(9.4) ppts	16.2	(5.7) ppts

Source: Bloomberg; KGI Research

**Figure 2: Breakdown of 2022-24 forecast revisions vs. consensus**

US\$m	2022F					2023F					2024F							
	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)
Revenue	81,300	81,509	(0.3)	51.1	108,259	(24.9)	102,014	109,152	(6.5)	25.5	137,003	(25.5)	124,112	142,542	(12.9)	21.7	146,663	(15.4)
Gross profit	21,017	21,267	(1.2)	54.5	27,834	(24.5)	22,920	28,343	(19.1)	9.1	35,435	(35.3)	31,709	37,815	(16.1)	38.3	39,788	(20.3)
Operating profit	13,776	14,009	(1.7)	111.2	18,295	(24.7)	14,979	19,926	(24.8)	8.7	23,566	(36.4)	23,282	27,900	(16.6)	55.4	30,117	(22.7)
Net income	14,062	14,265	(1.4)	83.7	16,977	(17.2)	15,169	19,609	(22.6)	7.9	22,113	(31.4)	22,617	26,629	(15.1)	49.1	27,336	(17.3)
EPS (US\$)	4.05	4.11	(1.4)	438.3	4.90	(17.2)	4.37	5.65	(22.6)	7.9	6.13	(28.7)	6.52	7.68	(15.1)	49.1	7.78	(16.2)
Gross margin (%)	25.9	26.1	(0.2) ppts	0.6 ppts	25.7	0.1 ppts	22.5	26.0	(3.5) ppts	(3.4) ppts	25.9	(3.4) ppts	25.5	26.5	(1.0) ppts	3.1 ppts	27.1	(1.6) ppts
Op. margin (%)	16.9	17.2	(0.2) ppts	4.8 ppts	16.9	0.0 ppts	14.7	18.3	(3.6) ppts	(2.3) ppts	17.2	(2.5) ppts	18.8	19.6	(0.8) ppts	4.1 ppts	20.5	(1.8) ppts
Net margin (%)	17.3	17.5	(0.2) ppts	3.1 ppts	15.7	1.6 ppts	14.9	18.0	(3.1) ppts	(2.4) ppts	16.1	(1.3) ppts	18.2	18.7	(0.5) ppts	3.4 ppts	18.6	(0.4) ppts

Source: Bloomberg; KGI Research

**Figure 3: Breakdown of 2022-24 forecast revisions**

Unit	2022F				2023F				2024F			
	Revision	Previous	Chg. (%)	YoY (%)	Revision	Previous	Chg. (%)	YoY (%)	Revision	Previous	Chg. (%)	YoY (%)
Total	1,313,851	1,313,851	0.0	40.3	1,930,000	1,800,000	7.2	46.9	2,499,900	2,465,900	1.4	29.5
Model S/X	66,705	66,705	0.0	167.0	87,500	87,500	0.0	31.2	100,000	100,000	0.0	14.3
Model 3/Y	1,247,146	1,247,146	0.0	36.9	1,831,000	1,700,000	7.7	46.8	2,094,000	1,940,000	7.9	14.4
Cybertruck	0	0	-	-	10,400	11,400	(8.8)	-	135,000	179,200	(24.7)	1198.1
Semi	0	0	-	-	1,100	1,100	0.0	-	5,900	6,700	(11.9)	436.4

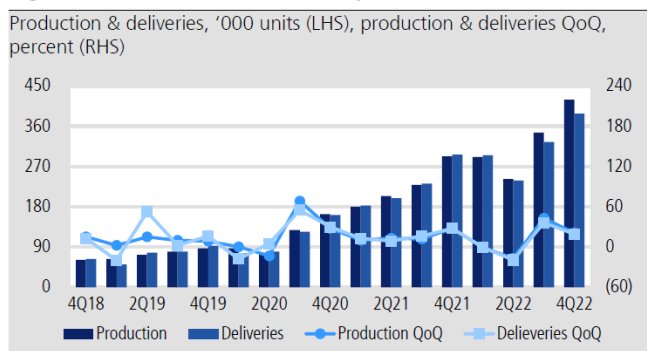
Source: KGI Research

**Figure 4: Breakdown of financial assumptions of auto business**

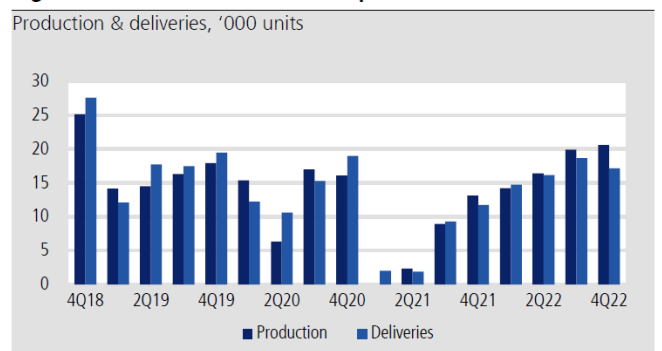
	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22F	1Q23F	2Q23F	3Q23F	4Q23F	1Q24F	2Q24F	3Q24F	4Q24F
EV shipments (k units)	184.9	201.3	241.4	308.7	310.0	254.7	343.8	405.3	440.1	476.7	499.8	513.4	545.7	591.0	652.0	711.2
Automotive revenue (US\$m)	8,484	9,854	11,778	15,653	16,182	14,258	18,406	21,149	19,906	21,585	22,661	23,379	23,965	25,062	26,846	28,393
ASP (US\$k)	45.9	49.0	48.8	50.7	52.2	56.0	53.5	52.2	45.2	45.3	45.3	45.5	43.9	42.4	41.2	39.9
Cost per vehicle (US\$k)	35.8	36.3	34.7	35.9	36.5	41.3	39.2	38.4	36.5	34.7	33.7	32.5	31.6	30.7	29.8	28.8
Automotive gross margin (%)	22.0	25.8	28.8	29.2	30.0	26.2	26.8	26.5	19.3	23.3	25.7	28.5	28.1	27.7	27.7	27.9

Note: All data excludes regulatory credits

Source: Company data; KGI Research

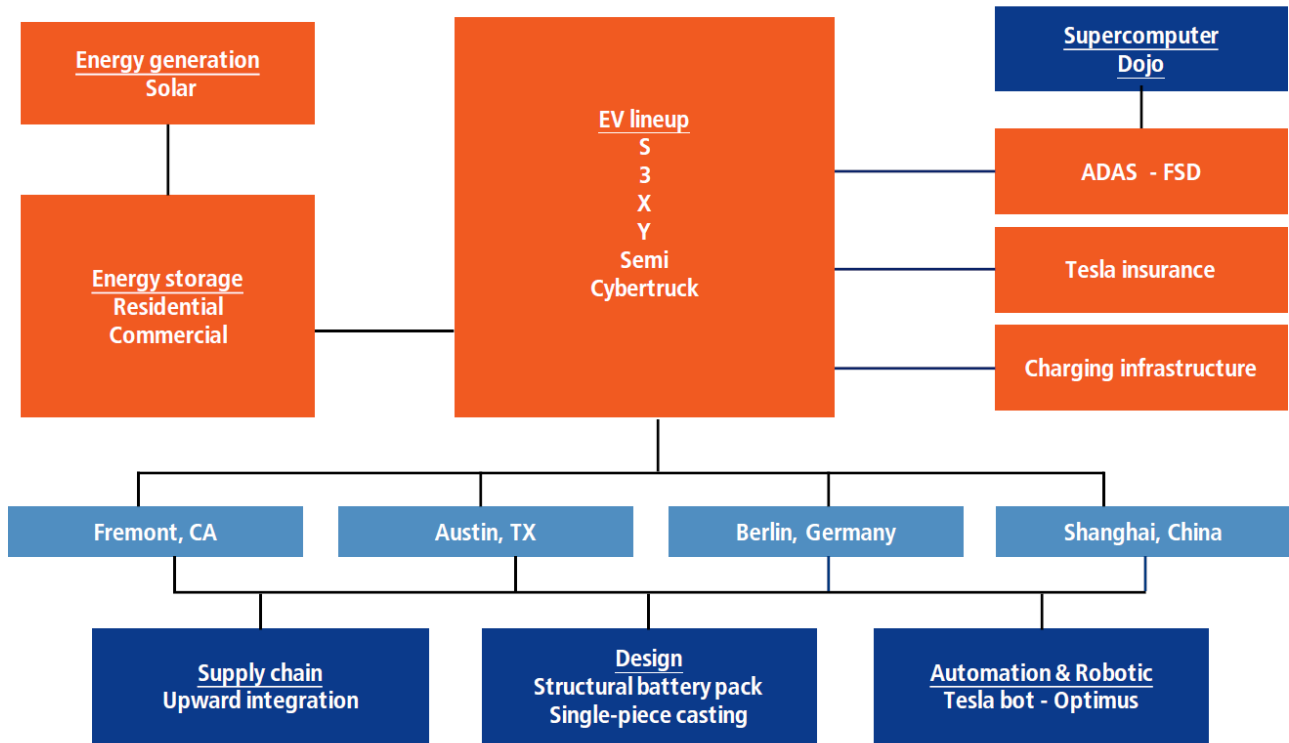
**Figure 5: Model 3 & Y combined production & deliveries**


Source: Tesla, KGI Research

**Figure 6: Model S & X combined production & deliveries**


Source: Tesla, KGI Research

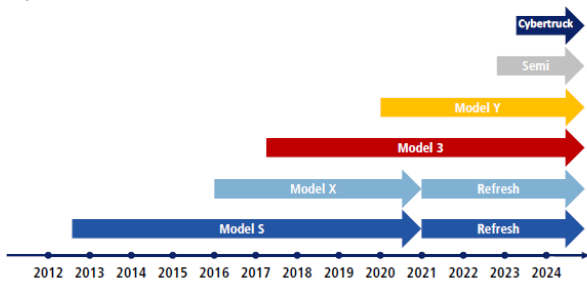
Figure 7: Tesla's ecosystem – A leading EV, AI & energy company



Source: KGI Research

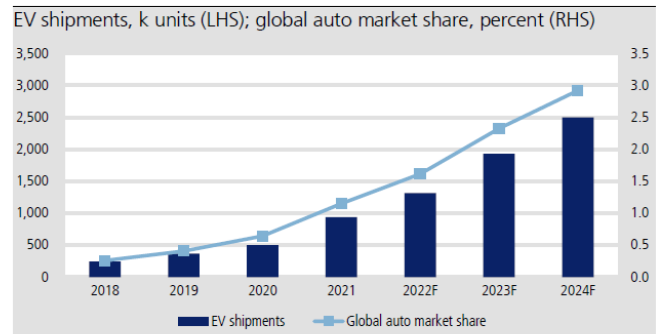
Figure 8: EV product lineup

EV shipments, k units



Source: Company data, KGI Research

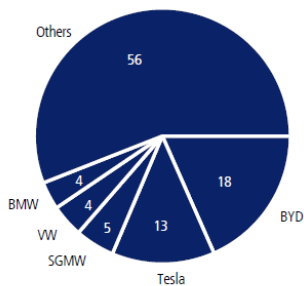
Figure 9: Global EV auto market share at below 2% implies massive long-term growth potential



Source: Company data, LMC; KGI Research

Figure 10: Global EV market share

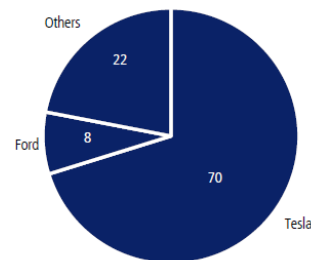
EV market share, percent



Source: EV-Volumes, KGI Research

Figure 11: US EV market share

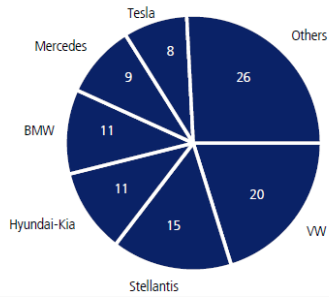
EV market share, percent



Source: EV-Volumes, KGI Research

Figure 12: Europe EV market share

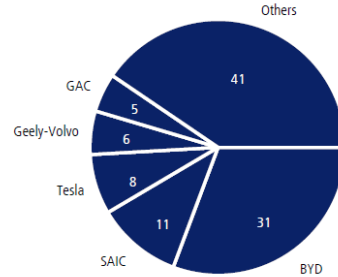
EV market share, percent



Source: EV-Volumes, KGI Research

Figure 13: China EV market share

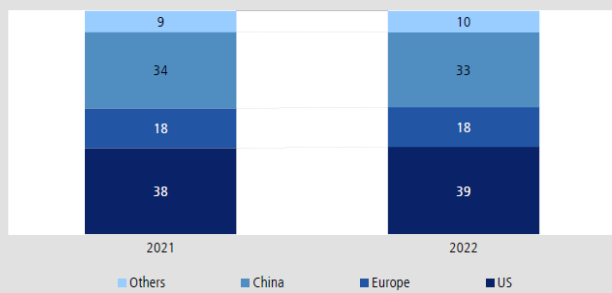
EV market share, percent



Source: EV-Volumes, KGI Research

Figure 14: Tesla shipments breakdown by region

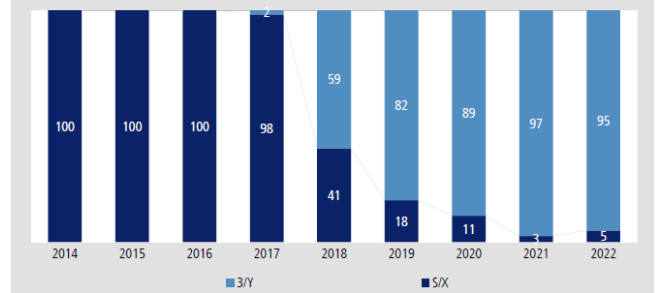
Shipments breakdown, percent



Source: Bloomberg, KGI Research

Figure 15: Models 3 & Y drove Tesla's EV delivery growth

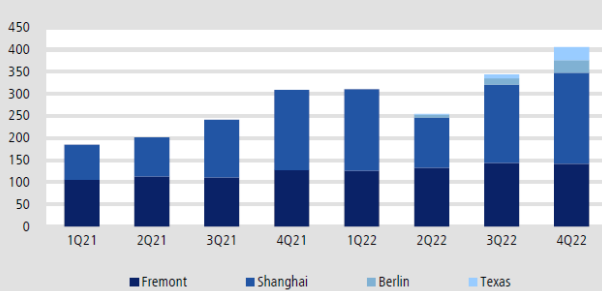
Shipments breakdown, percent



Source: Company data, KGI Research

Figure 16: Tesla EV shipments by production site

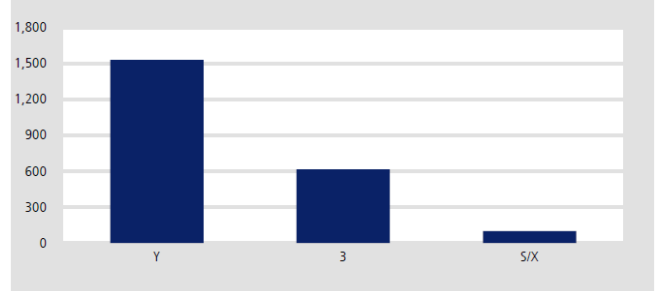
EV shipments, k units



Source: Company data, Troy Teslike, KGI Research

Figure 17: Tesla EV capacity by model based on current production plan

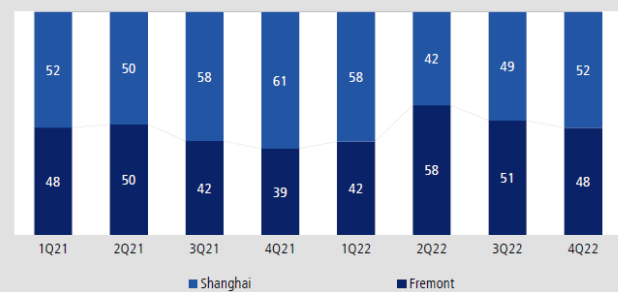
EV capacity, k units



Source: Company data, KGI Research

Figure 18: Model 3 shipments breakdown

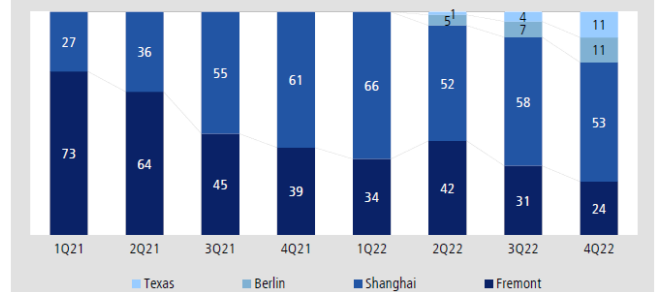
Shipments breakdown, percent



Source: Company data, Troy Teslike, KGI Research

Figure 19: Model Y shipments breakdown

Shipments breakdown, percent



Source: Company data, Troy Teslike, KGI Research

Figure 20: Models 3 & Y price change in major countries

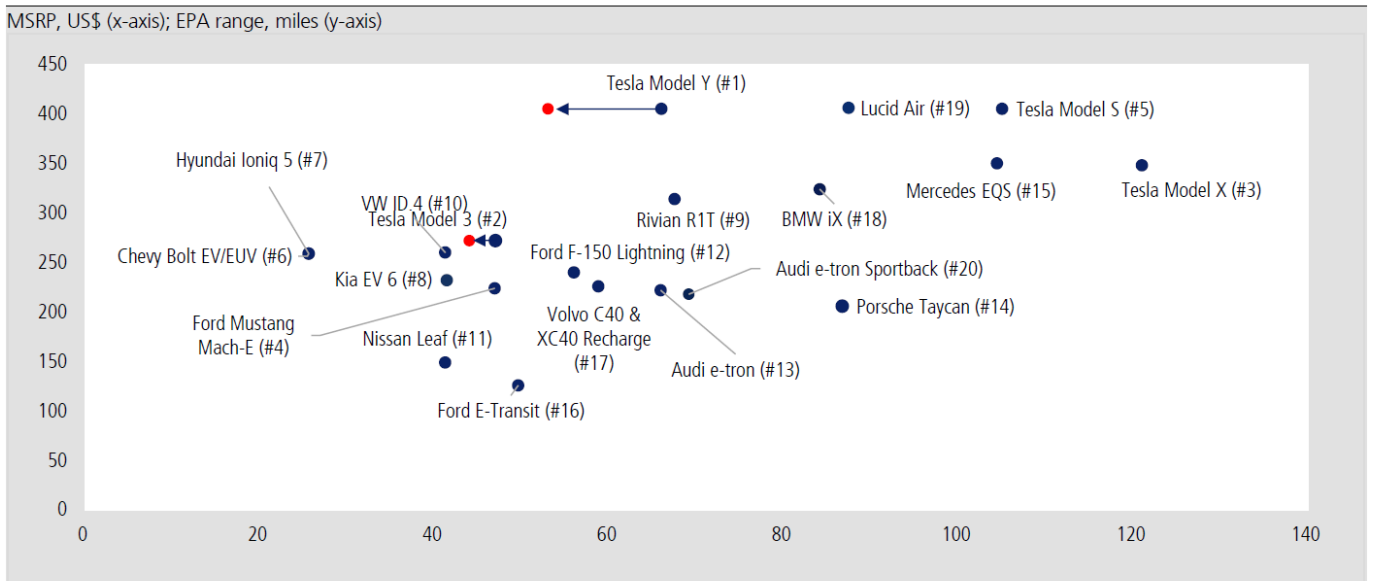
US	Old Price (US\$)	New Price (US\$)	Change (%)	Subsidy (US\$)	China	Old Price (Rmb)	New Price (Rmb)	Change (%)	Subsidy (Rmb)
Model 3 RWD	46,990	43,990	(6.4)	7,500	Model 3 RWD	276,988	229,900	(17.0)	-
Model 3 Performance	62,990	53,990	(14.3)	7,500	Model 3 Performance	349,900	329,900	(5.7)	-
Model Y AWD	61,990	50,990	(17.7)	7,500	Model Y RWD	299,988	259,900	(13.4)	-
Model Y Long Range	65,990	52,990	(19.7)	7,500	Model Y Long Range	357,900	309,900	(13.4)	-
Model Y Performance	69,990	56,990	(18.6)	7,500	Model Y Performance	397,900	359,900	(9.6)	-

Germany	Old Price (EUR€)	New Price (EUR€)	Change (%)	Subsidy (EUR€)	UK	Old Price (GBP£)	New Price (GBP£)	Change (%)	Subsidy (GBP£)
Model 3 RWD	49,990	43,990	(12.0)	3,000	Model 3 RWD	48,490	42,990	(11.3)	-
Model 3 Long Range	59,490	53,990	(9.2)	3,000	Model 3 Long Range	57,490	50,990	(11.3)	-
Model 3 Performance	63,490	60,990	(3.9)	3,000	Model 3 Performance	61,490	57,990	(5.7)	-
Model Y RWD	53,990	44,890	(16.9)	3,000	Model Y RWD	51,990	44,990	(13.5)	-
Model Y Long Range	56,990	54,990	(3.5)	3,000	Model Y Long Range	57,990	52,990	(8.6)	-
Model Y Performance	65,490	64,990	(0.8)	3,000	Model Y Performance	67,990	59,990	(11.8)	-

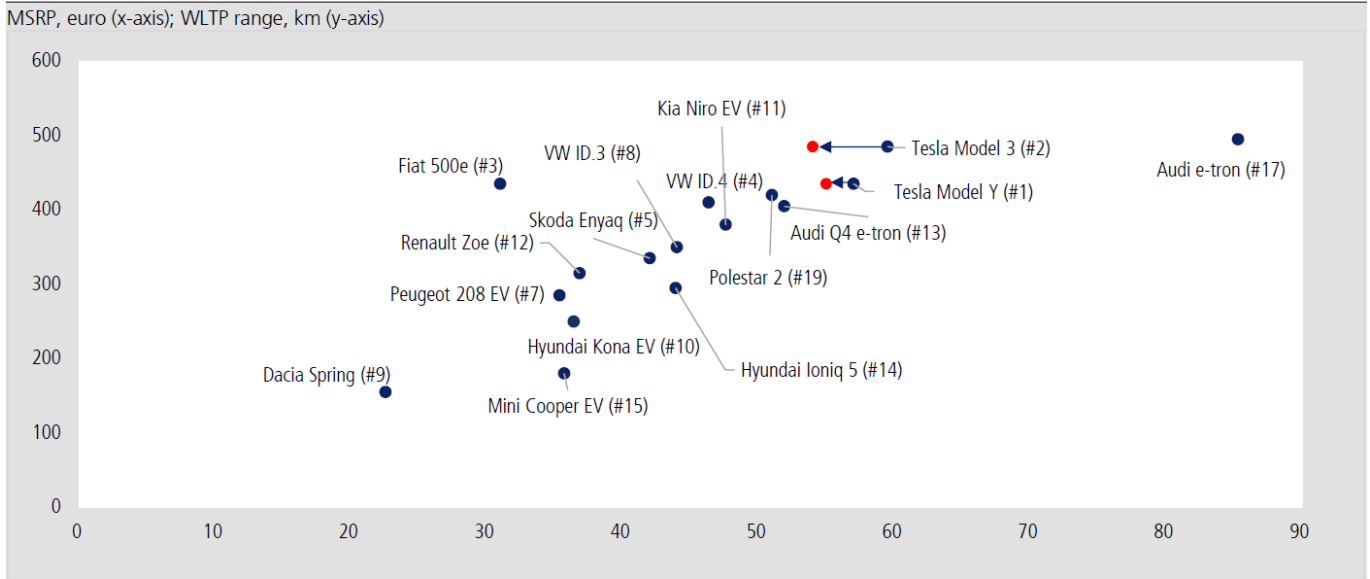
Source: Tesla; KGI Research

Figure 21: Stronger competitive advantage in US after price cut



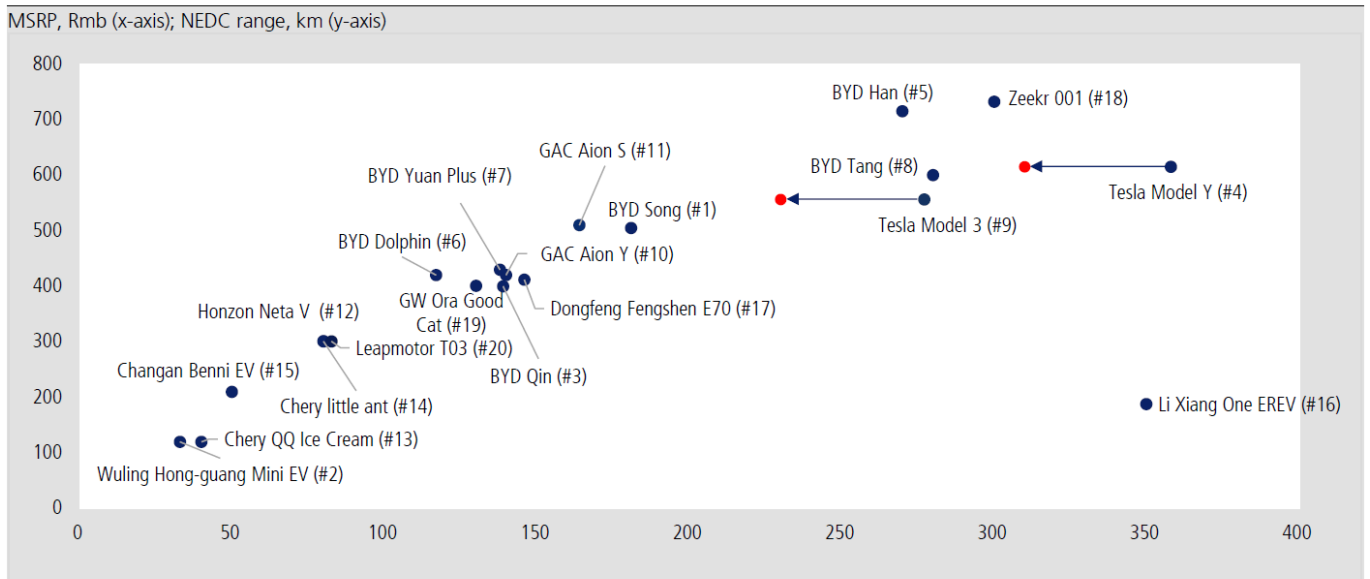
Source: KGI Research

Figure 22: Stronger competitive advantage in Europe after price cut



Source: KGI Research

Figure 23: Stronger competitive advantage in China after price cut



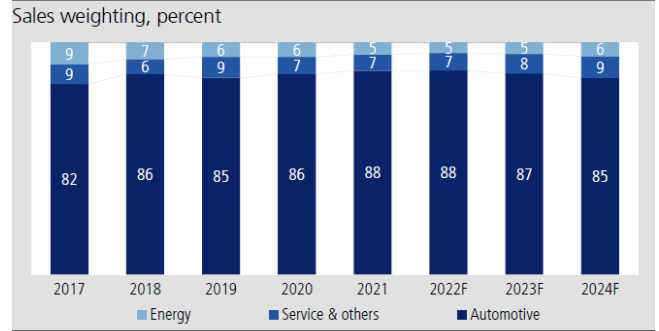
Source: KGI Research

Figure 24: Company profile

Established in 2003, Tesla was a dedicated electric vehicle maker before entering the solar business after acquiring SolarCity (US) in November 2016. As of 2021, Tesla was the largest EV vendor worldwide with sales of 936.2k units, representing a 15% EV market share. Headquartered in Austin, Texas, Tesla opened its first Gigafactory in Fremont, California in 2010, and started its global expansion in 2019. Gigafactory Shanghai commenced deliveries in January 2020, while two more factories, in Berlin and Texas, started deliveries in March and April this year, respectively.

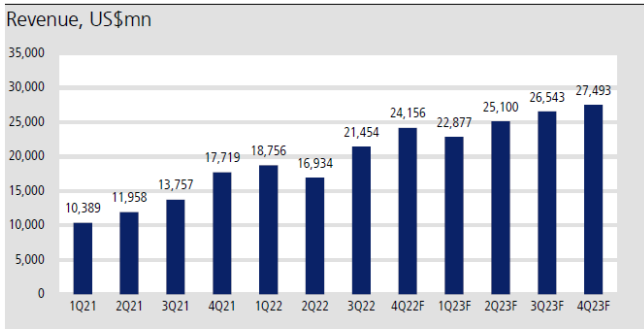
Source: Company data; KGI Research

Figure 25: Revenue mix



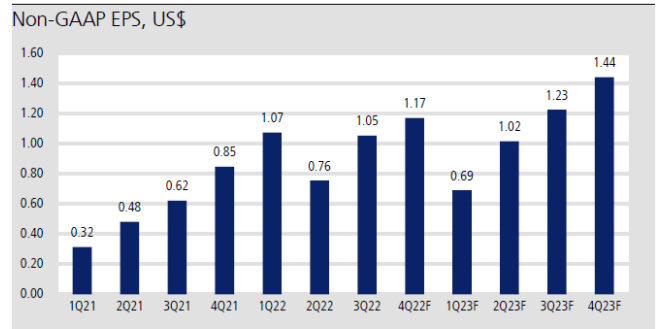
Source: Company data; KGI Research

Figure 26: Revenue



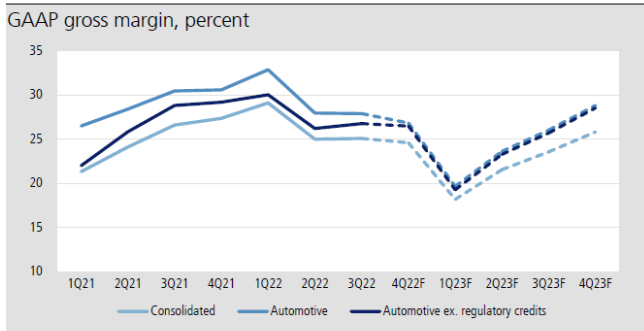
Source: Company data; KGI Research

Figure 27: Non-GAAP EPS



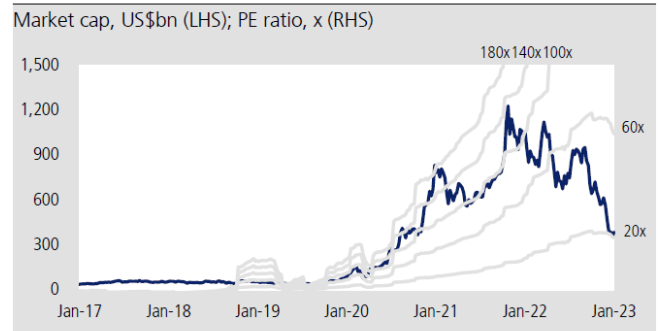
Source: Company data; KGI Research

Figure 28: GAAP gross margin



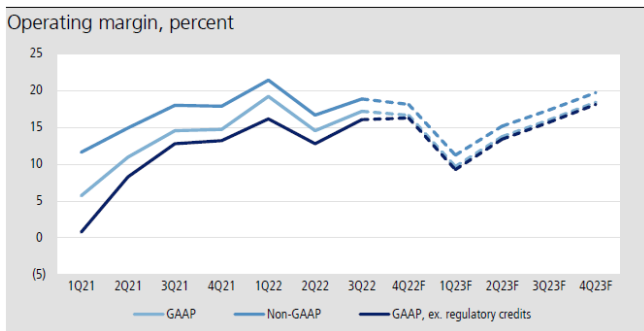
Source: Company data; KGI Research

Figure 29: 12M forward PE band



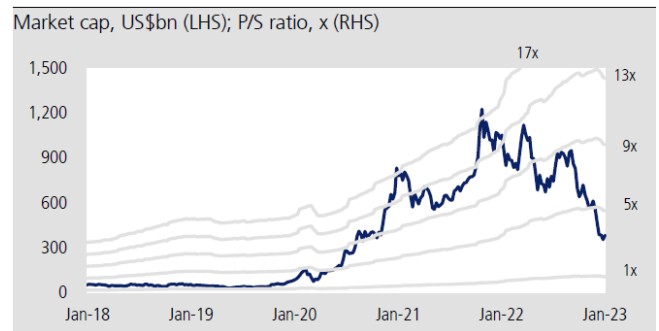
Source: Bloomberg; KGI Research

Figure 30: Operating margin



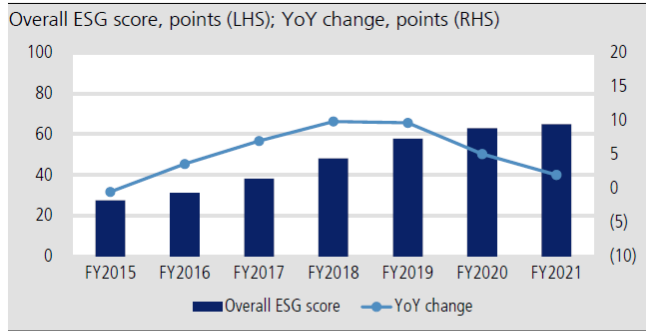
Source: Company data; KGI Research

Figure 31: 12M forward P/S band



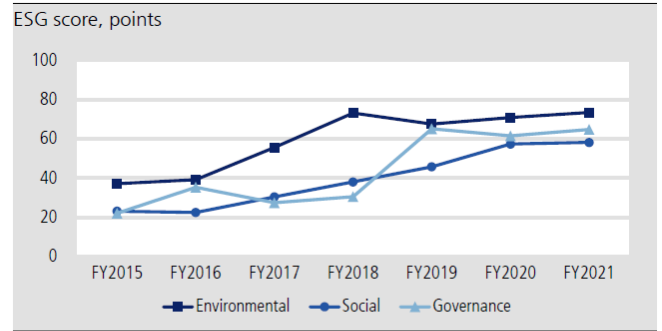
Source: Company data; KGI Research

Figure 32: Overall ESG score



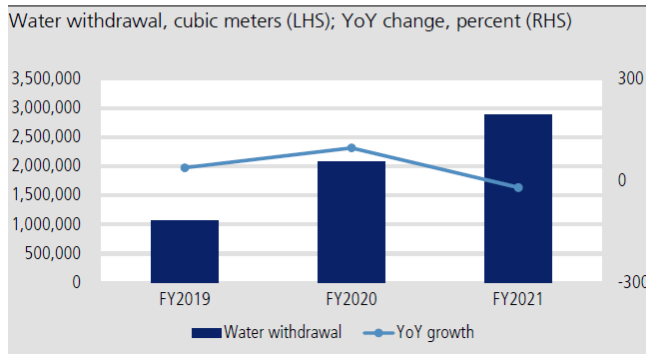
Source: Refinitiv; KGI Research; Company data

Figure 33: ESG score by category



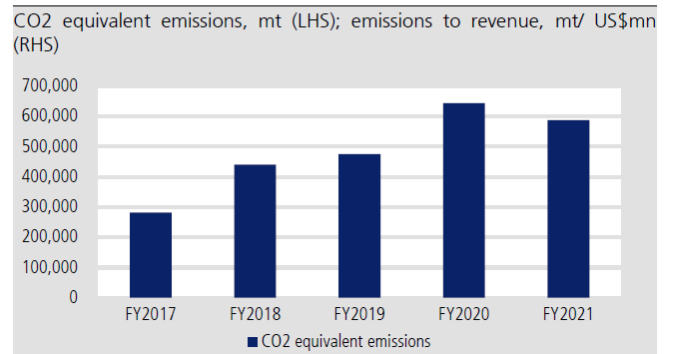
Source: Refinitiv; KGI Research; Company data

Figure 34: Water withdrawal



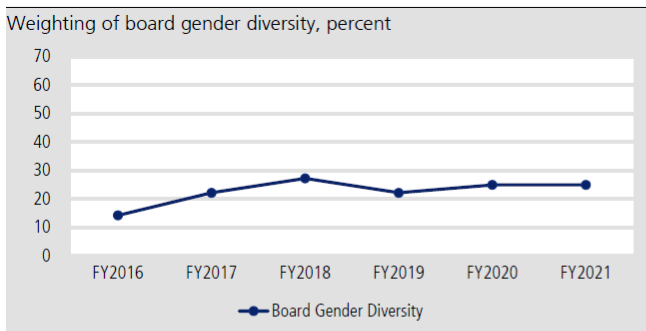
Source: Refinitiv; KGI Research; Company data

Figure 35: CO2 equivalent emissions



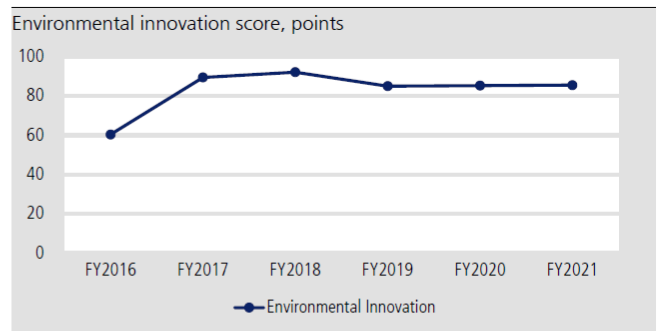
Source: Refinitiv; KGI Research; Company data

Figure 36: Board gender diversity



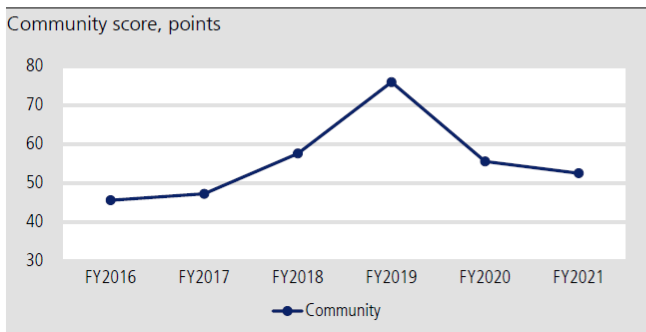
Source: Refinitiv; KGI Research; Company data

Figure 37: Environmental innovation



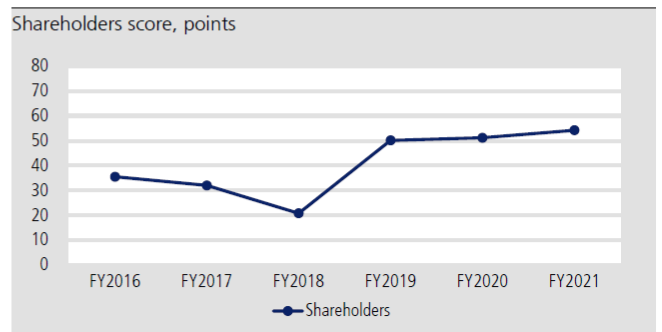
Source: Refinitiv; KGI Research; Company data

Figure 38: Community



Source: Refinitiv; KGI Research; Company data

Figure 39: Shareholders



Source: Refinitiv; KGI Research; Company data



Item	Definition
Energy use	Total direct and indirect energy consumption in gigajoules. - the total amount of energy that has been consumed within the boundaries of the company's operations - total energy use = total direct energy consumption + indirect energy consumption - purchased energy and produced energy are included in total energy use - for utilities, transmission/ grid loss as part of its business activities is considered as total energy consumed and data does not consider electricity produced to answer energy use (utility company produces to sell) - for utilities, raw materials such as coal, gas or nuclear used in the production of energy are not considered under 'total energy use'
Renewable energy purchased	Total primary renewable energy purchased in gigajoules. - energy consumed by the company from various sources and among the purchased energy, how much energy is renewable in nature (solar, wind, hydro, biomass, geothermal) are in scope - if there is no evidence that renewable energy is produced by the company, then we consider the reported energy figure as renewable energy purchased
Renewable energy use ratio	Renewable energy to total energy used
CO2 equivalent emissions	Direct CO2 and CO2 equivalent emissions in metric tons. - direct emissions from sources that are owned or controlled by the company (scope 1 emissions) - following gases are relevant: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorinated compound (PFCS), sulfur hexafluoride (SF6), nitrogen trifluoride (NF3)
CO2 equivalent emissions to sales	Direct CO2 and CO2 equivalent emissions (metric tons) to sales (NT\$m) - direct emissions from sources that are owned or controlled by the company (scope 1 emissions) - following gases are relevant: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorinated compound (PFCS), sulfur hexafluoride (SF6), nitrogen trifluoride (NF3)
Waste total	Total amount of waste produced in metric tons. - total waste = non-hazardous waste + hazardous waste - only solid waste is taken into consideration, exceptionally if liquid waste is reported in metric tons, then we do the summation to derive total including liquid waste - for sectors like mining, oil & gas, waste generation like tailings, waste rock, coal and fly ash are also considered
Waste recycling ratio	The waste recycling ratio as reported by the company. - waste recycling ratio = waste recycled/total waste*100 - waste to energy or waste incinerated with energy recovery are considered as waste recycled - waste recovered via composting is considered as recycled waste
Water withdrawal total	Total water withdrawal in cubic meters. - the total volume of water withdrawn from any water source that was either withdrawn directly by the reporting organization or through intermediaries such as water utilities - different sources of water like wells, town/utility/municipal water, river water, and surface water are considered
Environmental expenditures	Total amount of environmental expenditures. - all environmental investment & expenditures for environmental protection or to prevent, reduce, control environmental aspects, impacts, and hazards. It also includes disposal, treatment, sanitation, and clean-up expenditures
Turnover of employees	Percentage of employee turnover. - includes employees who left the company for any reason (voluntary or involuntary), such as resignations, retirement, natural departure/death, medical incapacitation, redundancy, layoffs, restructuring, dismissal, retrenchment or end of a fixed-term contract - employees turnover rate = (employees leaving/average number of employees)*100 - where the average number of employees = (employees at the end of the current year + employees at the end of the previous year)/2 - employees at the end of the current fiscal year = employees at the end of the previous fiscal year + new employees - employees leaving
Women managers	Percentage of women managers. - percentage of women managers among total managers of the company - if there is a breakdown by category in percentage, such as top, senior, middle, and junior management, then we consider the percentage of middle women managers - percentage of women managers = number of women managers/total number of managers*100
Women employees	Percentage of women employees. - percentage of women employees to the total number of employees of the company - percentage of women employees = number of women/total number of employees*100
Training hours total	Total training hours performed by all employees. - consider only employee training hours - includes all types of training given to general employees (such as health & safety, environmental, emergency response, skills & career development training) - if the value is given in days, multiply by 8, assuming that 1 day = 8 hours worked
Training hours per employee	Training hours per employee per year

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