strategy&
Part of the PwC network

Electric Vehicle Sales Review Q3 2022

Foresight to drive the industry
October 2022

This publication has been developed in collaboration between Strategy&, PwC's global strategy consulting business, alongside PwC Autofacts' Automotive industry and function experts. Together, we transform organizations by developing actionable strategies that deliver results.

At PwC, our purpose is to build trust in society and solve important problems. We're a network of firms in 156 countries with over 295,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com.

PwC refers to the PwC network and/or one or more of its member firms, each of which is a separate legal entity.
Please see www.pwc.com/structure for further details.

www.pwc.com

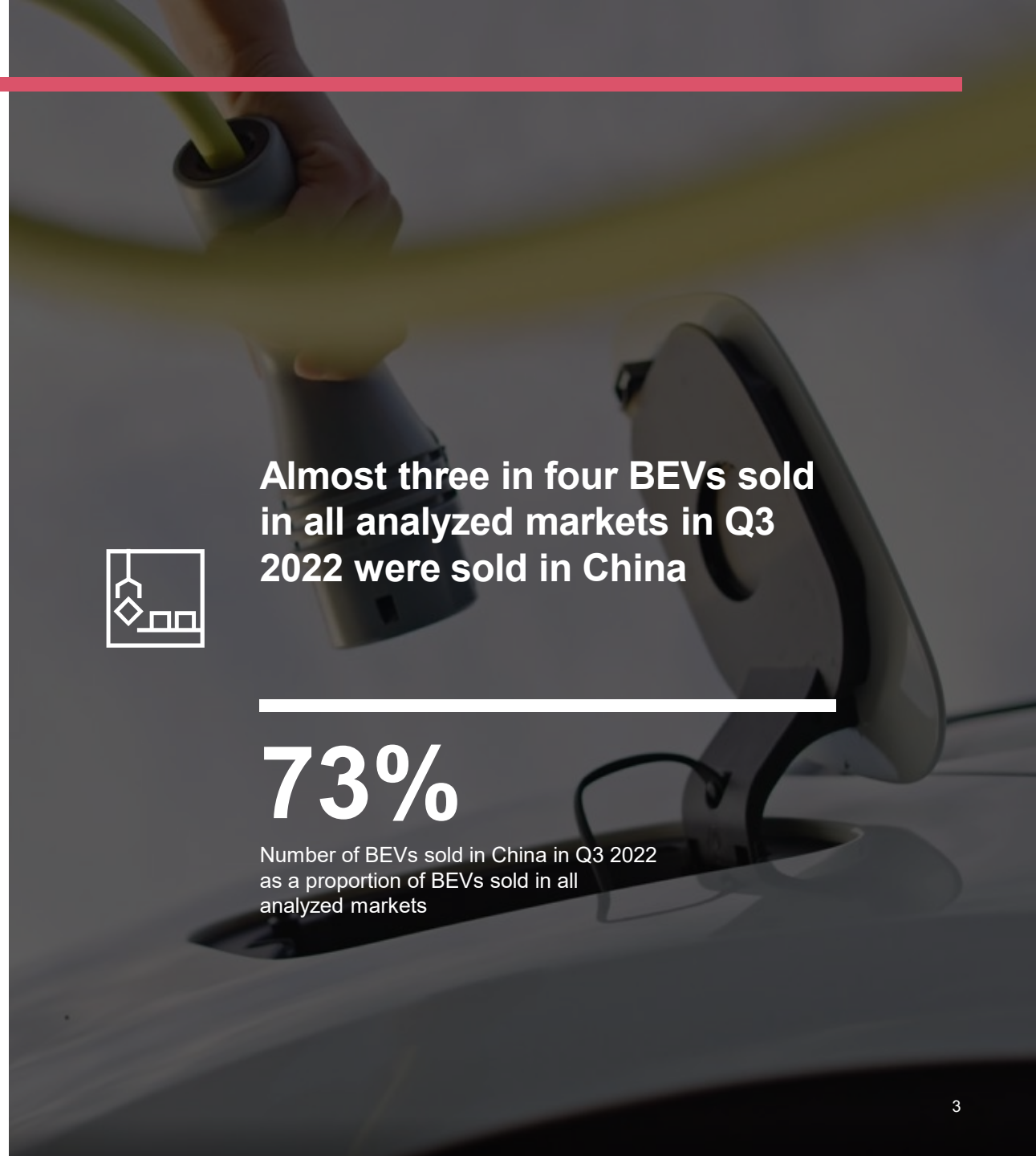
China tightens its grip on global BEV market

Global BEV sales reached the two million mark for the first time in the third quarter of 2022, growing by 75% compared to the corresponding period last year. Much of that increase can be attributed to China, where the BEV market continued to expand at breakneck speed. More than 1.5 million BEVs were sold there in Q3 2022, representing a 94% increase vs. Q3 2021.

Constant rapid growth in such a huge market has inevitably cemented China's BEV standing on the global stage. In the year 2020, just over one half of the total number of BEVs sold in all analyzed markets were sold in China. In Q3 2022, that figure had risen to 73%. Flushed with this success and furnished with all the BEV expertise they have developed at home, Chinese OEMs are now seeking to consolidate their foothold in Europe. Compared to their previous market entries in the past decade, the playing field has now been significantly leveled.

After taking some time to spark into life, the BEV market in the United States continues to gather momentum. Indeed, it was the only country that could boast higher BEV growth than China in Q3 2022, registering an increase of 100% vs. Q3 2021. Furthermore, with the recently signed US Inflation Reduction Act, there is significant upside potential in 2023 for the OEMs with local production.

With OEMs and consumers now increasingly focused on BEVs, the PHEV market has been suffering the consequences. While BEV sales grew in all analyzed markets vs. Q3 2021 with the exception of Italy and Norway, PHEV sales declined in all European markets analyzed, and in USA and South Korea too. Again showing its dominant position in the global marketplace, however, China bucked this trend to a remarkable degree. PHEV sales in China increased by 167% vs. Q3 2021 to 448,000, amounting to almost two in three PHEVs sold in all analyzed markets in Q3 2022.



Almost three in four BEVs sold in all analyzed markets in Q3 2022 were sold in China

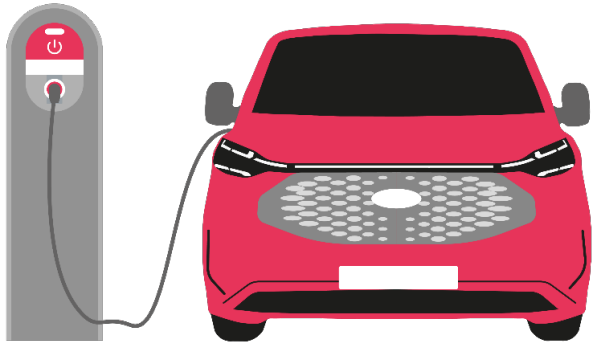
73%

Number of BEVs sold in China in Q3 2022 as a proportion of BEVs sold in all analyzed markets

BEV manufacturers turn their attention to eLCV market and fleet deals

Range of eLCVs in the pipeline

In a further sign that BEVs have entered the market mainstream, several traditional European OEMs and new players have revealed upcoming electric light commercial vehicles, eLCVs, a category that includes small to large-sized vans and pickup trucks.



Ford is to launch the electric version of the diesel Transit Custom, the best-selling European van. The Ford E-Transit Custom, which will go on sale in late 2023, will have a WLTP range of around 380 km with a 74 kWh battery. As Ford aims to phase out its sale of diesel vans in Europe by 2035, it will need to persuade its customers to embrace the electric model in order to retain its pre-eminent position in the regional LCV market.[1]

Maxus, a wholly owned subsidiary of the Chinese manufacturer SAIC, has unveiled two new eLCVs. The new Mifa 9 van and the T90 EV pickup are scheduled for delivery in the UK in the first quarter of 2023 and will be subsequently offered in other European markets. This will be the first BEV pickup offered in Europe. The T90 EV pickup is the electric version of the T90 that is available in China.[2]

Meanwhile, Renault has revealed its new Trafic E-Tech, an electric version of the company's medium-sized van. The WLTP range is around 240 km with a 52 kWh battery. It becomes the latest model in the brand's van range to be accorded with an electric version, following the Kangoo E-Tech and the Master E-Tech.[3]

eLCV developer BrightDrop, a subsidiary of General Motors, is expanding its range of eLCVs and carts with the launch of the Trace Grocery. The electric cart is the company's first product that has been designed for online grocery and retail order fulfillment.[4]

Fleet deals secure BEV sales volume

A number of OEMs have recently announced large-scale BEV fleet orders, in this way securing future sales volumes and recouping some of their huge investment in BEV manufacture and development.

For example, General Motors will provide Hertz with 175,000 Chevrolet, Buick, GMC, Cadillac and BrightDrop BEVs over the next five years in North America, the largest single purchase by any fleet customer to date.[5]

In a similar development, China's BEV manufacturer BYD has signed a European long-term agreement to sell approximately 100,000 BEVs to German car rental company Sixt in the period up to 2028.[6]

Meanwhile, Uber has formed a partnership with Free2Move, a Stellantis company, to convert 50% of its vehicle fleet in France to BEVs. The agreement is set to open up an important new channel for Stellantis to increase sales of its BEVs.[7]

Beyond the immediate financial gain, OEMs believe that these deals will help to build long-term success by boosting brand recognition and allowing many more people to drive a BEV. A positive experience in a rental car, for example, will increase the likelihood that a consumer will decide to purchase a BEV from that OEM and recommend one to others.

Sources
[1] Financial Times, 8 September 2022
[2] Electrive, 30 May 2022
[3] Parkers, 20 September 2022
[4] InsideEVs, 21 September 2022
[5] WARD'S AutoWorld, 22 September 2022
[6] InsideEVs, 5 October 2022
[7] Yahoo, 7 October 2022

Transformation and energy costs grapple BEV manufacturers

Partnerships limit financial exposure

OEMs and suppliers are bearing huge transformation costs as they move away from internal combustion engines, ICEs, and embrace an electrified future. One way to keep these costs under control has been to enter into partnerships. Indeed, several partnerships set to involve the manufacture and procurement of batteries have recently been announced.

Volkswagen has formed a US$2.9 billion battery parts joint venture with Belgian materials firm Umicore to focus on cathode production and recycling metals from battery materials.[1]

Honda has recently entered into two such partnerships. The company is joining forces with Korean battery company LG Energy Solution to build a new US$4.4 billion lithium-ion battery plant for BEVs in the United States.[2] Meanwhile, its Chinese unit will establish a joint venture with Dongfeng Motor Group and Guangzhou Automobile Group to procure batteries for BEVs, as well as strengthening its existing partnership with battery maker CATL to ensure a stable battery supply.[3]

General Motors is partnering with Canadian battery recycler Lithion Recycling to produce new batteries from recovered battery materials.[4]

Other recently formed partnerships involve the manufacture of BEVs themselves. Mercedes-Benz Vans and Rivian have formed a European joint venture to produce bespoke large eLCVs for both companies.[5] Moreover, Sony Honda Mobility, a BEV production partnership between Honda and tech company Sony, aim to deliver its first vehicles by 2026.[6]

OEMs reassess charging deals

Meanwhile, record energy costs are forcing companies to reassess any charging deals they offer to customers. Chinese OEM Xpeng has ended its lifetime free charging for new buyers across its infrastructure network.[7] Tesla has responded to soaring energy costs by significantly increasing the price of using its Supercharger network. For example, Supercharger rates in Germany jumped 92% from August 2021 to September 2022.[8]

Energy costs present opportunity for solar cars

Given high energy prices, there has never been a more auspicious time for solar cars to capture the consumer imagination.

Sono Motors, a German start-up, has unveiled its solar-powered BEV, the Sono Sion. The family car has an outer shell made of 456 solar cells that constantly charge the car in sunny conditions. The company says it will still require traditional battery charging, but that the solar power charging will be sufficient for most urban commutes.[9]

Dutch start-up Lightyear is getting ready to deliver what it calls the “world’s first production-ready solar car”. The company estimates that the solar cells on the Lightyear 0 can add up to 70 km per day to the car’s 625-km range from traditional battery charging.[10]

Aptera, a US start-up, has moved a step nearer to starting production on its three-wheeler solar BEV by announcing that Singapore-based Maxeon technologies will supply its solar cells.[11] A Chinese team has gone one step further by creating a solar vehicle, the Tianjin, that runs entirely on energy from the sun.[12]

Sources

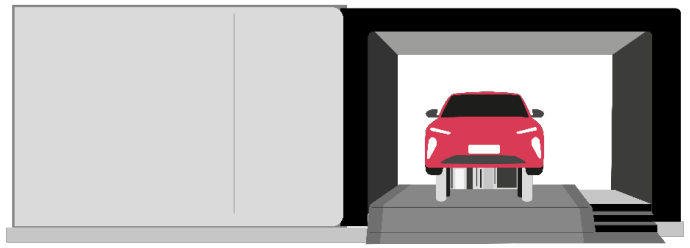
[1] Reuters, 26 September 2022
[2] CNBC, 29 August 2022
[3] Aljazeera, 7 September 2022
[4] Techcrunch, 23 September 2022
[5] InsideEVs, 9 September 2022
[6] Reuters, 13 October 2022
[7] Technode, 7 May 2022
[8] Electrive, 20 September 2022
[9] PCQuest, 12 September 2022
[10] The Criven, 7 September 2022
[11] Autoevolution, 4 October 2022
[12] Elektrek, 12 July 2022

Chinese OEMs step up their European game

Having achieved rapid growth in the Chinese domestic BEV market and developed strong expertise in the field, a significant number of Chinese OEMs are now seeking to enter the European market.

The timing of their move appears opportune. European OEMs have been struggling with supply issues, while there is a relative dearth of affordable, entry-level BEVs on the market, a category in which several Chinese OEMs specialize. Moreover, as the consumer market undergoes its large-scale transition from ICE vehicles to BEVs, past loyalties to particular brands are being weakened.

The potential prize of success in the European market is of course substantial. The PwC Automotive Industry Outlook forecasts that around 12 million BEVs will be sold in Europe in 2030, representing almost two in three of all vehicles sold in the region.



The European market entry strategy of Chinese OEMs has so far involved a range of retail concepts that aim to attract new customers. These new retail and service concepts tend to also be less cost intensive with greater control. NIO, for example, which has pioneered battery swapping in China, plans to open 120 swapping stations in Europe by 2023.[1]

The latest PwC Autofacts forecast suggests that by 2030, the Chinese newcomers will have captured between 3.8% and 7.9% of European BEV market share. The eventual figure will depend to a large extent on how these OEMs are perceived by consumers. Indeed, the substantial investment necessary to make inroads in Europe will not come without risks. Chinese brands are still relatively unknown in Europe, and have much work to do to build a strong BEV reputation, particularly when it comes to premium models.

One thing is certain, based on the current import regulations, we will see China grow as a BEV export hub. More European OEMs are expected to source BEVs from China. Therefore, between European OEMs and Chinese newcomers we anticipate a steep increase over the coming years in the number of BEVs sold in Europe but manufactured in China.

Chinese BEV share in EU27+UK+EFTA in 2030*

Scenario	BEV market share
Base	5.1%
Upside	7.9%
Downside	3.8%

Scenario assumptions:

Base

- Some large fleet deals
- Pricing in line with direct competitors
- General customer acceptance, but below established competitors
- Overall BEV regulatory assumptions for Europe and Fit for 55 ICE ban in 2035

Upside

- More large fleet deals
- Faster BEV adoption
- Aggressive pricing
- Higher customer acceptance

Downside

- More difficulty with customer awareness and/or acceptance
- Some possible EU restrictions on foreign production

Sources
[1] Batteries News, 10 October 2022
*PwC Autofacts Analysis

Domestic brands are best sellers in respective markets

Top BEV models so far in 2022

European Top 4

	Model	Sales Jan-Sep ’22
1	Fiat 500 electric	35,850
2	Tesla Model Y	32,313
3	Tesla Model 3	29,553
4	Dacia Spring	23,513
5	Peugeot 208 EV	21,580
6	Renault ZOE	19,953
7	Renault Twingo EV	18,346
8	Hyundai Kona Electric	17,383
9	Volkswagen ID.4, ID.5	15,340
10	Volkswagen ID.3	14,168

USA*

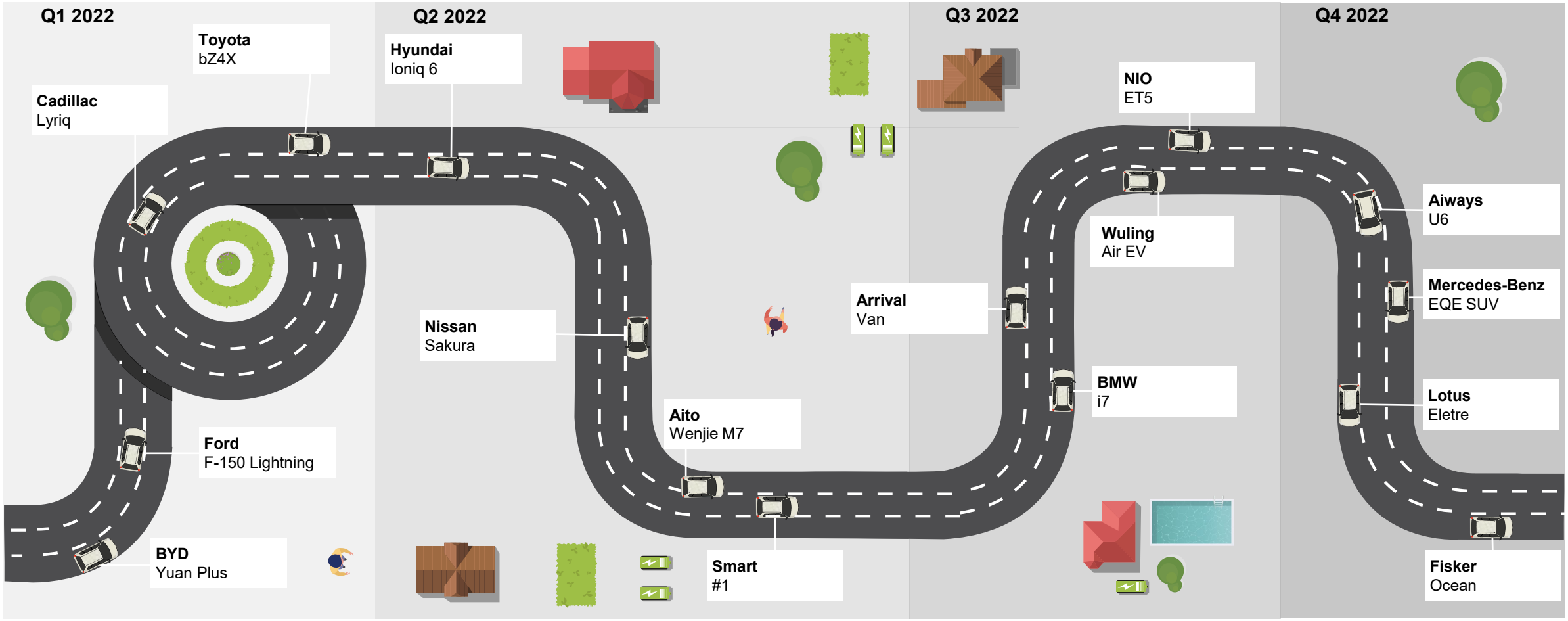
Model	Sales Jan-Aug ’22
Tesla Model Y	134,978
Tesla Model 3	123,634
Ford Mustang Mach-E	25,596
Tesla Model S	20,032
Tesla Model X	19,739
Hyundai Ioniq 5	16,929
Kia EV6	15,612
Chevrolet Bolt EV/EUV	11,788
Volkswagen ID.4	9,127
Nissan LEAF	8,740

China

Model	Sales Jan-Sep ’22
Wuling Hongguang Mini	297,063
Tesla Model Y	219,112
BYD Dolphin	126,909
BYD Yuan Plus	105,736
BYD Han EV	104,551
Tesla Model 3	99,039
BYD Qin Plus EV	84,305
Aion Y	82,099
Chery QQ Ice Cream	80,744
Li Xiang One	76,804

Source: PwC Autofacts Analysis, KBA, AAA Data, DGT, UNRAE, CPCA, BYD, InsideEVs
*Registration data used as a proxy of sales, non-exhaustive list based on available information

New BEV launches drive market growth

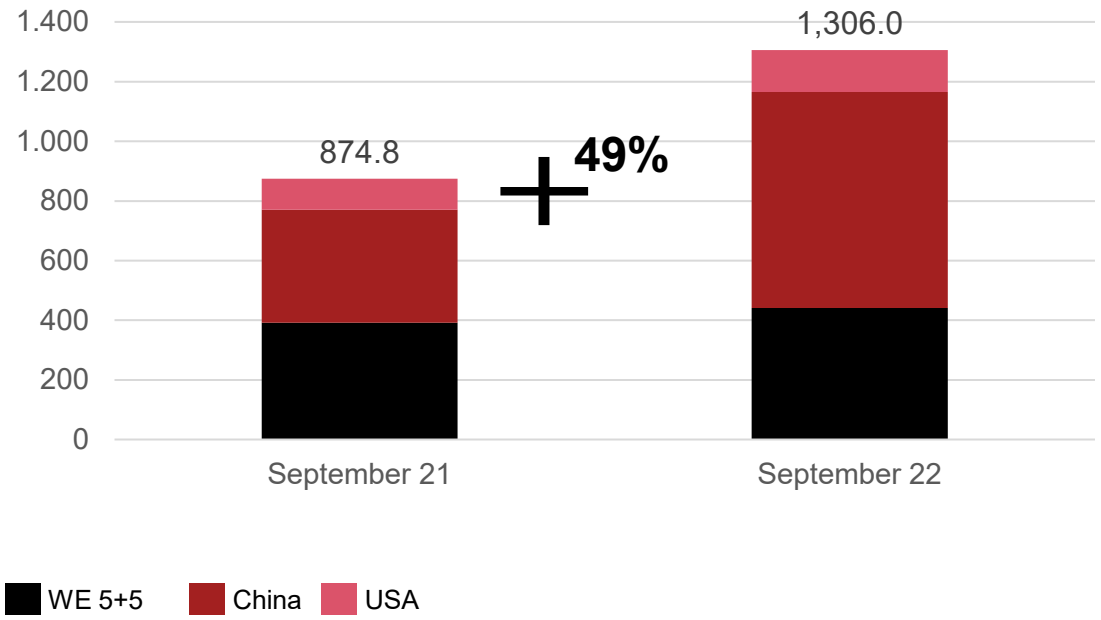


Source: S&P Global Mobility Start of Production Forecast (September 2022)

EV sales continue to grow

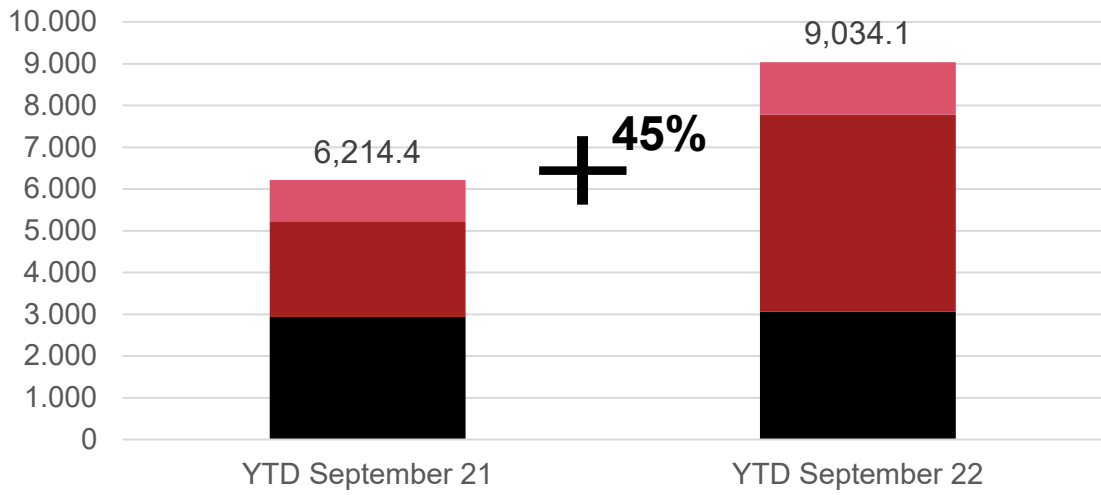
Key Markets

September 21 vs. September 22 (in ’000 units)



Electric Vehicles (EVs*)

YTD September 21 vs. YTD September 22 (in ’000 units)



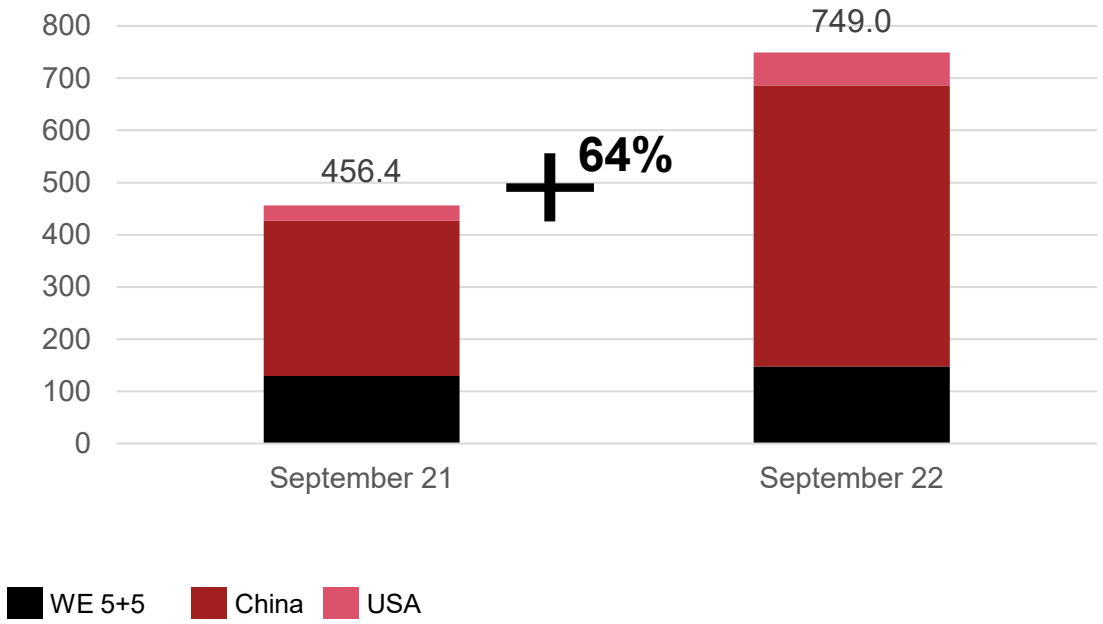
*EV= Battery Electric + Plug-in Hybrids + Full Hybrids

BEVs are gaining traction in the US

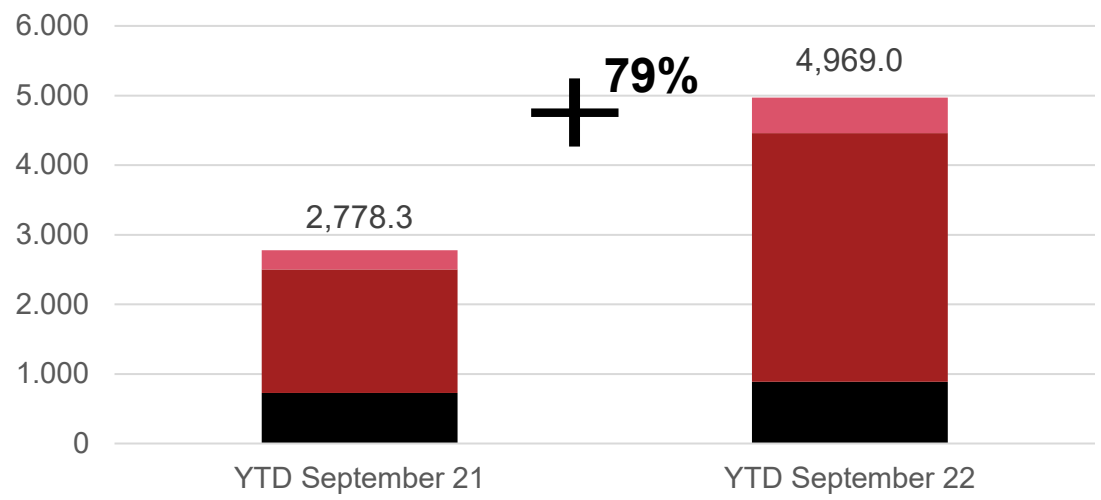
Key Markets

Battery Electric Vehicles (BEVs)

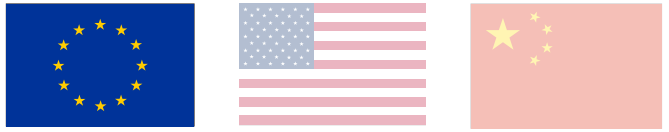
September 21 vs. September 22 (in ’000 units)



YTD September 21 vs. YTD September 22 (in ’000 units)



Western Europe 5+5



European Top 5: France, Germany, Italy, Spain, and UK

Despite continuing supply issues and a gloomy economic outlook, BEV sales in the top 5 European markets grew by 18% in the third quarter of 2022 in comparison with the corresponding period in 2021.

France registered the highest BEV growth in this period, up by 38% in Q3 2022 vs. Q3 2021. BEV market share in France has doubled in less than two years, up from 7% in the year 2020 to 14% in Q3 2022. Germany and the UK now have a virtually identical BEV market share for YTD 2022, at just under 15%. In terms of BEV units sold, however, Germany is by some distance the largest market in Europe. Germany registered 105,000 BEV sales in Q3 2022, almost reaching the total of UK and France combined.

Italy and Spain continue to lag significantly behind, with combined BEV sales of only 19,000 in Q3 2022, and BEV market shares of around 4% for the year to date. In stark contrast to the global trend, BEV Q3 sales in Italy actually fell by 35% compared to the same period last year.

Other European markets: (+5)

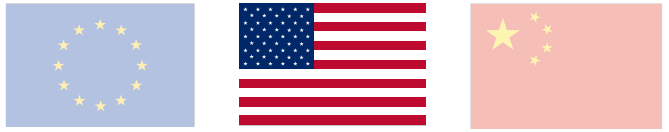
In the other European markets analyzed, Sweden and the Netherlands recorded the largest increases in BEV sales, up by 25% and 20% respectively in Q3 2022 vs. Q3 2021. Norway's BEV sales actually fell by 21% in the same period. With BEV market share already standing at 78% for the year to date, by far the highest in the world, there are probably few customers left to attract.

WE 5+5	2022 Q3	Comparison to 2021 Q3
BEV	312,000	+13%
PHEV	178,000	-10%
Hybrid	523,000	+8%
Total	**1,013,000**	**+6%**

Focus Market: Turkey

BEV sales in Turkey during Q1-Q3 2022 increased by 160% YoY to 4,056 units. PHEV sales during the same period increased by 14% YoY, to 537 units. Hybrid sales increased moderately by 3% YoY, however, it remains the most popular type of powertrain in Turkey, accounting for 7% of market share year to date. BEVs and PHEVs together only account for less than 1% of total sales.

United States



USA

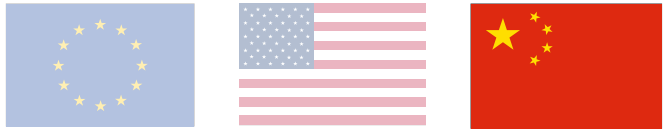
US BEV sales doubled in the third quarter of 2022 compared with the same period last year, continuing the market's rapid recent rise. BEV market share has more than trebled in less than two years, up from 1.6% for the year 2020 to 5% for the year 2022 to date. On the other hand, the PHEV and hybrid markets appear to be slowing, with both registering declines in sales in Q3 2022 vs. Q3 2021. Indeed, it seems that BEV sales will soon overtake hybrid sales in the US.

The newly introduced Inflation Reduction Act, signed into law in August 2022, is set to add further impetus to the market. The new incentive promises tax credits of up to $7,500 for EVs assembled in North America. The credit will comprise two halves – US$3,750 credit for meeting the stated requirements on critical minerals, and a further credit of US$3,750 for satisfying the requirements on battery components. Other foreign governments are seeking to persuade the US to accord the same tax breaks for EVs assembled elsewhere in the world.

USA	2022 Q3	Comparison to 2021 Q3
BEV	187,000	+100%
PHEV	41,000	-12%
Hybrid	192,000	-6%
Total	**419,000***	**+22%**

*Numbers may not add up due to rounding

China and other countries in Asia



China

China registered more than 1.5 million BEV sales in Q3 2022, almost double the amount in the same period in 2021. PHEV sales grew at an even faster rate, increasing by 167% in Q3 2022 vs. Q3 2021. Total EV sales in Q3 2022 thereby surpassed the two million mark for the first time. BEV market share for the year to date stands at 18%, up from just 4% in the year 2020.

Japan

Japan's EV market relies almost exclusively on the sale of hybrids. There were around 7,500 BEV sales in Q3 2022, a mere fraction of the 270,000 hybrid sales. Hybrid market share stands at 48% for the year to date, dwarfing BEV market share of just 1%.

South Korea

BEV sales in South Korea increased by 71% in Q3 2022 from the equivalent period in 2021, continuing its rapid recent growth. BEV market share for the year to date stands at 11%, compared to just 2% for the year 2020.

China*	2022 Q3	Comparison to 2021 Q3
BEV	1,517,000	+94%
PHEV	448,000	+167%
Hybrid	53,000	+11%
Total	**2,018,000**	**+102%**

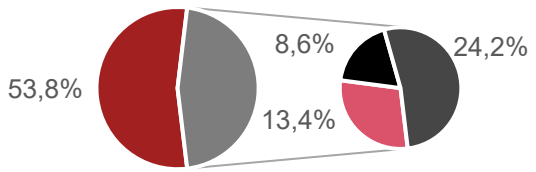
*Partially estimated

Shares of EV registrations

EV registrations YTD Sep 2022

WE 5+5

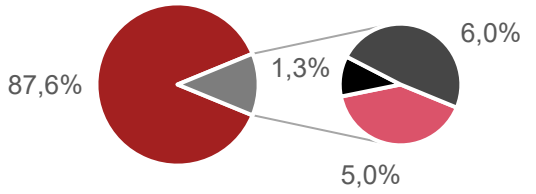
Total registrations	6,632,150
EV registrations	3,063,854



of which BEV	887,772
of which PHEV	568,366
of which Hybrid	1,607,716

USA

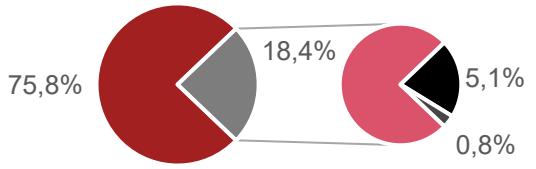
Total registrations	10,118,499
EV registrations	1,256,249



of which BEV	510,225
of which PHEV	135,151
of which Hybrid	610,874

China

Total registrations	19,460,000
EV registrations	4,713,947



of which BEV	3,571,000
of which PHEV	984,559
of which Hybrid	158,388

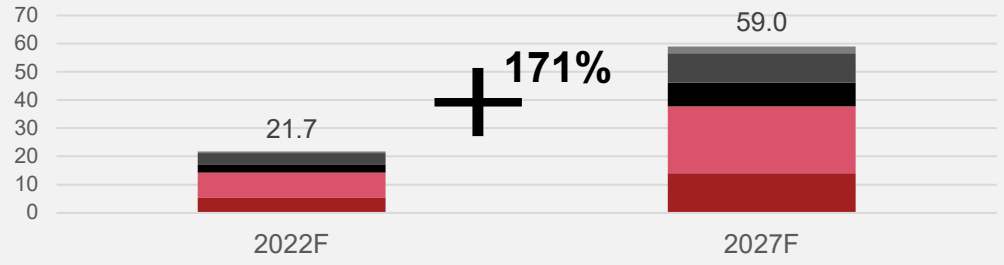
ICE BEV PHEV Hybrid

Electrified vehicle assembly forecast by region

1

EV Assembly by Region

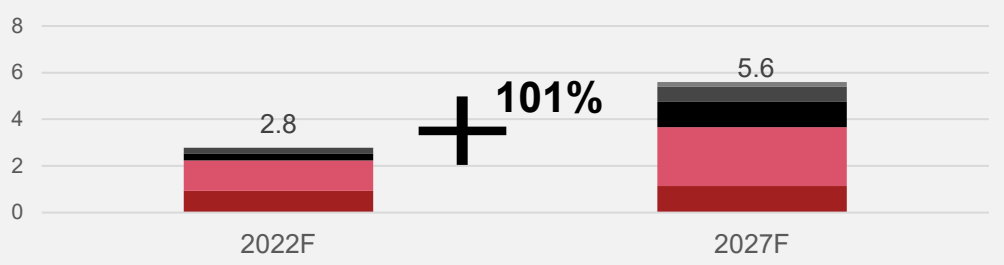
2022F vs. 2027F (in million units)



2

Plug-in Hybrid Vehicle Assembly

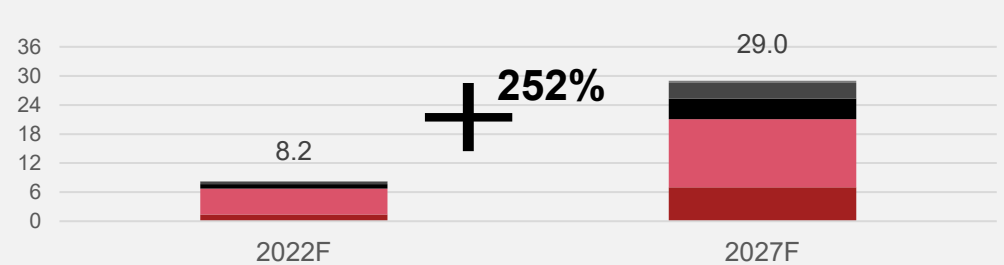
2022F vs. 2027F (in million units)



3

BEV Vehicle Assembly

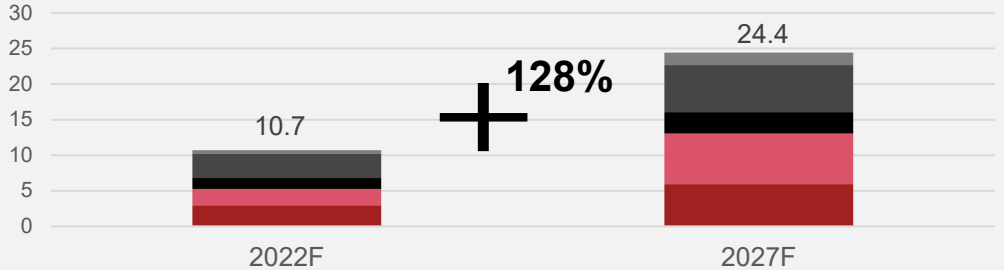
2022F vs. 2027F (in million units)



4

Full and Mild Hybrid Vehicle Assembly

2022F vs. 2027F (in million units)



Western + Central Europe | China | NAFTA | Asia-Pacific (w/o China) | RoW

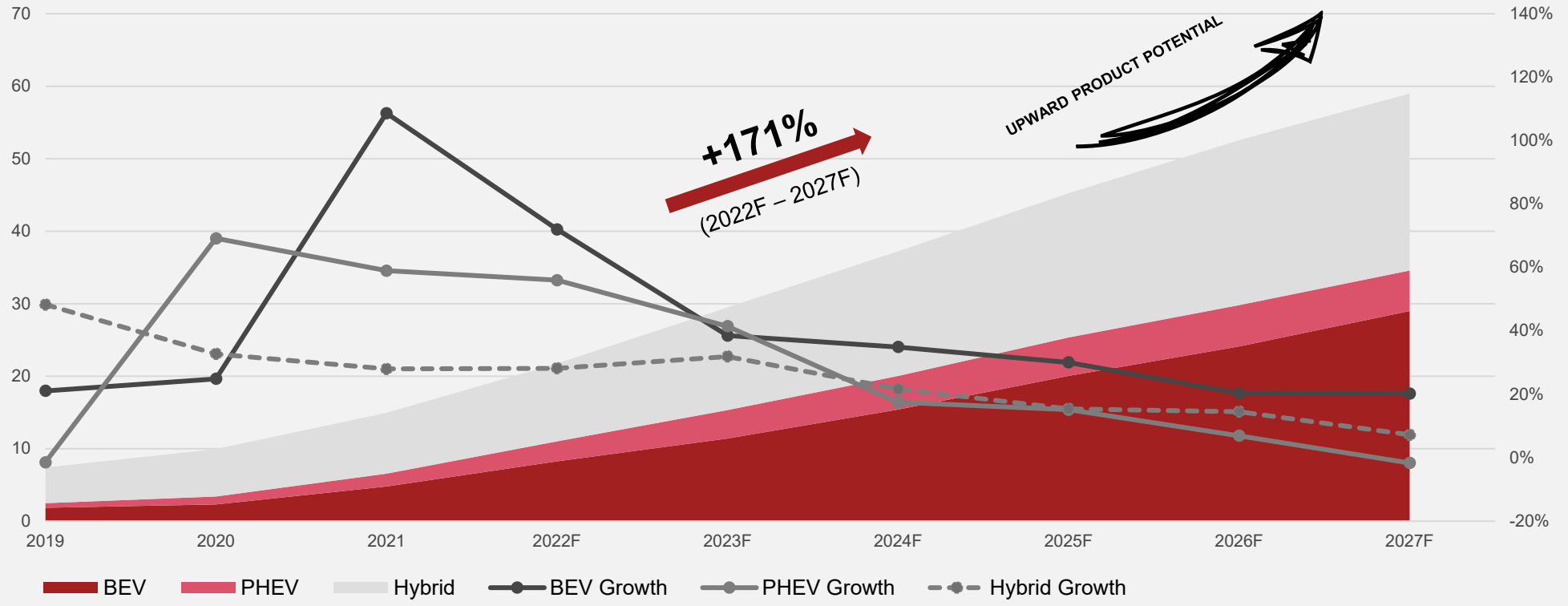
Source: Assembly Forecast by S&P Global Mobility, September 2022 Release

Electric vehicle assembly forecast

5

Global EV assembly by powertrain type

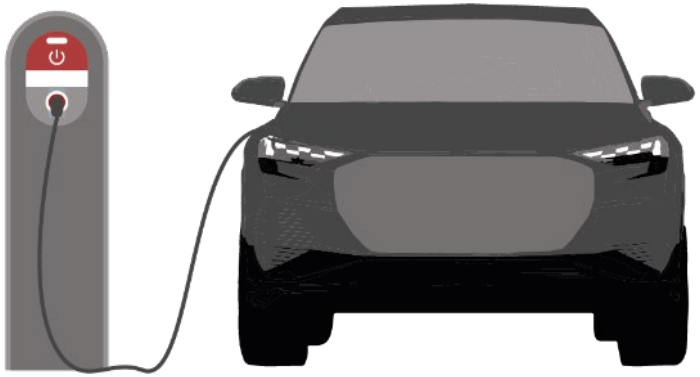
2019 – 2027F (in million units, percent)



Source: Assembly Forecast by S&P Global Mobility, September 2022 Release

Overview: BEV model launches

2022 (not exhaustive)

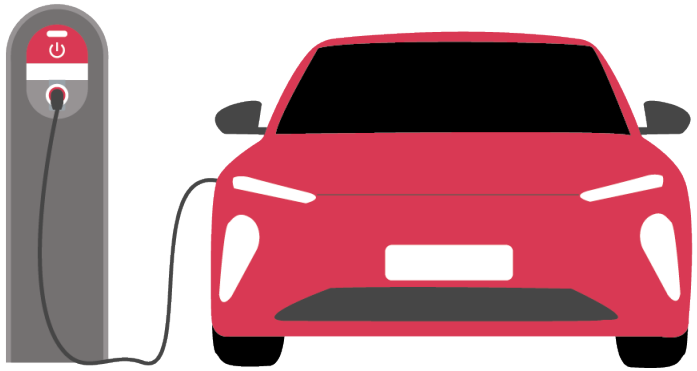


Brand	Model	Launch	Quarter
Aiways	U6	2022	Q4
Beijing	EX7	2022	Q4
China Motor	Light Truck	2022	Q4
Citroen	C4 X	2022	Q4
Denza	D-SUV	2022	Q4
Fisker	Ocean	2022	Q4
Li Xiang	L8	2022	Q4
Livan	RL7	2022	Q4
Livan	RL9	2022	Q4
Lotus	Eletre	2022	Q4
Mercedes-Benz	EQE SUV	2022	Q4
Polestar	Polestar 3	2022	Q4
Toyota	bZ3	2022	Q4
WM	M7	2022	Q4
Zeekr	009	2022	Q4

Source: S&P Global Mobility Start of Production Forecast (September 2022)

Overview: BEV model launches

2023–2026 (not exhaustive)

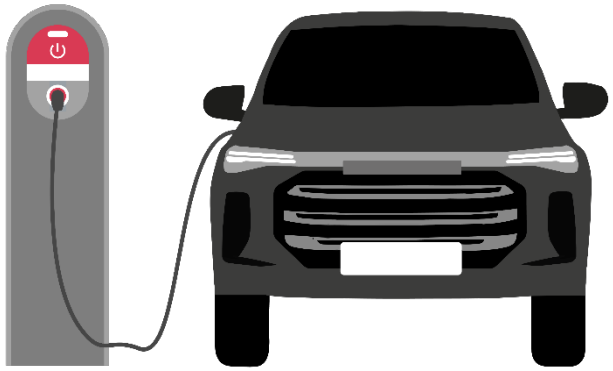


Brand	Model	Launch
Audi	A6 e-tron	2024
BMW	i5	2023
BMW	iX5	2026
BrightDrop	Zevo 400	2023
Buick	Envision EV	2026
Cadillac	Escalade IQ	2026
Chevrolet	Blazer EV	2023
Chrysler	Airflow	2025
Hongqi	eHS5	2023
Hyundai	Ioniq 3	2026
Jeep	Recon	2024
Jeep	Wagoneer S	2024
Kia	EV3	2025
Lucid	Gravity	2024
Mercedes-Benz	EQG	2024

Source: S&P Global Mobility Start of Production Forecast (September 2022)

Overview: BEV model launches

2023–2026 (not exhaustive)



Brand	Model	Launch
Nissan	Micra	2025
Nissan	Pathfinder EV	2026
Opel	Crossland	2024
Polestar	Polestar 4	2023
Porsche	718	2025
Renault	5	2024
Tesla	C-CUV EV	2026
Tesla	Cybertruck	2023
Toyota	bZ1X	2023
Volkswagen	ID.1	2026
Volkswagen	ID.7	2023
Volkswagen	Trinity	2026
Volvo	D-CUV EV	2025
Wuling	Sunshine	2026
Xpeng	D-SUV	2025

Source: S&P Global Mobility Start of Production Forecast (September 2022)

Electric vehicle sales data

Germany, UK, France, Italy, Spain, WE-5

		YTD 2022	Market Share	YTD 2021	YoY YTD	22 Q3	QoY 22 Q3	Sep 22	MoY Sep 22	Aug 22	MoY Aug 22	Jul 22	MoY Jul 22
	BEV	272,473	14.6%	236,695	15.1%	105,210	19.6%	44,389	31.9%	32,006	10.9%	28,815	13.2%
	PHEV	215,647	11.5%	241,064	-10.5%	76,767	-0.9%	28,336	24.1%	24,719	0.9%	23,712	-21.4%
	Hybrid	344,703	18.5%	334,008	3.2%	111,463	-1.5%	40,097	7.4%	35,116	-3.1%	36,250	-8.6%
Germany	Total EV	832,823	44.6%	811,767	2.6%	293,440	5.3%	112,822	20.3%	91,841	2.5%	88,777	-6.8%
	BEV	175,614	14.5%	125,141	40.3%	60,365	17.8%	38,116	16.5%	10,006	35.4%	12,243	9.9%
	PHEV	73,961	6.1%	87,012	-15.0%	22,698	-21.3%	12,281	-11.5%	3,884	-23.1%	6,533	-34.0%
	Hybrid	365,971	30.3%	365,258	0.2%	127,606	3.7%	72,863	14.3%	18,861	-10.5%	35,882	-6.1%
UK	Total EV	615,546	50.9%	577,411	6.6%	210,669	3.7%	123,260	11.7%	32,751	-2.3%	54,658	-7.8%
	BEV	140,965	12.7%	106,931	31.8%	47,621	38.1%	22,483	32.4%	12,326	24.3%	12,812	69.1%
	PHEV	88,554	8.0%	101,793	-13.0%	25,744	-14.4%	11,618	-1.2%	6,900	-7.9%	7,226	-33.3%
	Hybrid	237,962	21.4%	215,429	10.5%	73,893	16.7%	29,529	18.9%	19,607	15.5%	24,757	15.2%
France	Total EV	467,481	42.0%	424,153	10.2%	147,258	15.2%	63,630	18.8%	38,833	12.9%	44,795	12.3%
	BEV	35,868	3.7%	47,054	-23.8%	10,926	-35.0%	5,059	-40.3%	2,291	-29.1%	3,576	-30.0%
	PHEV	48,447	5.0%	53,051	-8.7%	11,763	-23.1%	4,180	-26.3%	2,605	-20.1%	4,978	-21.8%
	Hybrid	330,554	33.9%	328,587	0.6%	103,627	21.2%	39,656	21.3%	27,701	35.7%	36,270	12.0%
Italy	Total EV	414,869	42.5%	428,692	-3.2%	126,316	7.4%	48,895	4.4%	32,597	21.2%	44,824	2.2%
	BEV	24,321	4.1%	17,067	42.5%	8,079	24.5%	3,743	21.3%	1,797	23.3%	2,539	30.6%
	PHEV	34,719	5.8%	29,861	16.3%	10,633	-0.5%	4,191	6.0%	2,781	3.1%	3,661	-9.4%
	Hybrid	174,690	29.1%	161,490	8.2%	57,084	11.1%	21,026	27.5%	15,726	12.8%	20,332	-2.9%
Spain	Total EV	233,730	38.9%	208,418	12.1%	75,796	10.6%	28,960	23.1%	20,304	12.2%	26,532	-1.5%
	BEV	649,241	11.3%	532,888	21.8%	232,201	17.9%	113,790	19.9%	58,426	14.9%	59,985	17.1%
	PHEV	461,328	8.0%	512,781	-10.0%	147,605	-9.1%	60,606	4.3%	40,889	-4.9%	46,110	-24.8%
	Hybrid	1,453,880	25.2%	1,404,772	3.5%	473,673	8.5%	203,171	16.0%	117,011	7.7%	153,491	0.5%
WE-5	Total EV	2,564,449	44.5%	2,450,441	4.7%	853,479	7.2%	377,567	15.1%	216,326	6.8%	259,586	-2.1%

Legend

MoY = Month-on-Year
QoY = Quarter-on-Year
YoY = Year-on-Year
YTD = Year-to-Date

Source: PwC Autofacts Analysis, KBA, SMMT, PFA, ANFIA, ANFAC, SCB, OFV, RAI, auto-schweiz, Statistik Austria, CAAM, JADA

Electric vehicle sales data

Sweden, Norway, Netherlands, Switzerland, Austria, WE 5+5

		YTD 2022	Market Share	YTD 2021	YoY YTD	22 Q3	QoY 22 Q3	Sep 22	MoY Sep 22	Aug 22	MoY Aug 22	Jul 22	MoY Jul 22
	BEV	58,950	27.6%	37,616	56.7%	18,590	25.2%	7,871	5.1%	5,927	23.3%	4,792	87.5%
	PHEV	47,486	22.2%	59,888	-20.7%	12,314	-6.3%	4,387	-8.2%	3,668	-19.6%	4,259	11.8%
	Hybrid	21,065	9.9%	19,234	9.5%	7,040	31.9%	2,608	49.7%	2,796	49.9%	1,636	-5.4%
Sweden	Total EV	127,501	59.6%	116,738	9.2%	37,944	13.8%	14,866	6.1%	12,391	10.3%	10,687	32.0%
	BEV	79,931	77.8%	80,550	-0.8%	25,754	-20.7%	11,384	-18.4%	9,247	-21.7%	5,123	-23.9%
	PHEV	10,324	10.0%	28,554	-63.8%	3,960	-45.6%	1,669	-33.5%	1,401	-46.1%	890	-58.9%
	Hybrid	5,670	5.5%	8,046	-29.5%	2,422	17.7%	812	39.5%	955	28.0%	655	-10.2%
Norway	Total EV	95,925	93.3%	117,150	-18.1%	32,136	-23.2%	13,865	-18.6%	11,603	-23.4%	6,668	-30.7%
	BEV	49,033	21.8%	31,923	53.6%	17,329	19.7%	5,985	7.6%	6,105	36.4%	5,239	18.2%
	PHEV	26,146	11.6%	23,410	11.7%	7,402	-0.9%	2,999	10.7%	2,370	4.5%	2,033	-18.5%
	Hybrid	56,642	25.2%	55,877	1.4%	17,126	-2.2%	6,116	-1.7%	5,574	8.8%	5,436	-11.8%
Netherlands*	Total EV	131,821	58.6%	111,210	18.5%	41,857	6.1%	15,100	4.2%	14,049	18.4%	12,708	-2.9%
	BEV	26,513	16.3%	20,423	29.8%	8,521	5.1%	4,212	5.1%	2,294	2.3%	2,015	8.6%
	PHEV	13,643	8.4%	15,797	-13.6%	4,222	-22.4%	1,585	-13.3%	1,250	-31.1%	1,387	-22.9%
	Hybrid	39,974	24.6%	38,825	3.0%	12,469	-5.0%	4,915	2.2%	4,054	-0.5%	3,500	-17.5%
Switzerland	Total EV	80,130	49.3%	75,045	6.8%	25,212	-5.5%	10,712	0.6%	7,598	-6.6%	6,902	-12.6%
	BEV	24,104	14.8%	24,134	-0.1%	9,611	9.4%	4,554	26.6%	2,639	-17.5%	2,418	21.5%
	PHEV	9,439	5.8%	11,340	-16.8%	2,897	-14.8%	1,214	10.6%	853	-24.2%	830	-29.4%
	Hybrid	30,485	18.7%	32,826	-7.1%	9,831	-4.1%	3,489	9.2%	3,464	10.2%	2,878	-26.5%
Austria	Total EV	64,028	39.2%	68,300	-6.3%	22,339	-0.4%	9,257	17.3%	6,956	-6.9%	6,126	-13.5%
	BEV	887,772	13.4%	727,534	22.0%	312,006	13.2%	147,796	14.1%	84,638	9.4%	79,572	15.7%
	PHEV	568,366	8.6%	651,770	-12.8%	178,400	-10.4%	72,460	2.0%	50,431	-8.9%	55,509	-23.7%
	Hybrid	1,607,716	24.2%	1,559,580	3.1%	522,561	7.8%	221,111	15.4%	133,854	8.3%	167,596	-1.1%
WE 5+5	Total EV	3,063,854	46.2%	2,938,884	4.3%	1,012,967	5.6%	441,367	12.5%	268,923	4.9%	302,677	-2.7%

Legend

MoY = Month-on-Year
QoY = Quarter-on-Year
YoY = Year-on-Year
YTD = Year-to-Date

Source: PwC Autofacts Analysis, KBA, SMMT, PFA, ANFIA, ANFAC, SCB, OFV, RAI, auto-schweiz, Statistik Austria, CAAM, JADA
*Partially estimated

Electric vehicle sales data

China, Japan, USA, South Korea, Analyzed Markets

		YTD 2022	Market Share	YTD 2021	YoY YTD	22 Q3	QoY 22 Q3	Sep 22	MoY Sep 22	Aug 22	MoY Aug 22	Jul 22	MoY Jul 22
	BEV	3,571,000	18.4%	1,776,000	101.1%	1,517,000	94.0%	538,000	81.1%	522,000	97.0%	457,000	107.7%
	PHEV	984,559	5.1%	367,140	168.2%	447,600	166.6%	168,400	175.6%	144,100	156.4%	135,100	167.0%
	Hybrid	158,388	0.8%	148,462	6.7%	53,289	10.6%	17,593	-10.8%	17,821	25.1%	17,875	25.8%
China*	Total EV	4,713,947	24.2%	2,291,602	105.7%	2,017,889	102.2%	723,993	91.6%	683,921	103.9%	609,975	114.2%
	BEV	22,234	1.3%	14,964	48.6%	7,482	14.1%	3,279	32.4%	2,034	-5.6%	2,169	12.6%
	PHEV	30,497	1.8%	16,442	85.5%	11,633	134.1%	4,623	152.8%	2,863	104.8%	4,147	137.9%
	Hybrid	792,800	47.7%	774,546	2.4%	269,852	5.4%	104,676	28.4%	76,555	-4.5%	88,621	-6.0%
Japan	Total EV	845,531	50.8%	805,952	4.9%	288,967	8.0%	112,578	31.1%	81,452	-2.7%	94,937	-3.1%
	BEV	510,225	5.0%	274,777	85.7%	187,322	100.3%	63,243	111.8%	57,673	102.6%	66,406	88.6%
	PHEV	135,151	1.3%	119,659	12.9%	40,561	-12.3%	14,444	2.5%	13,198	-13.5%	12,919	-23.6%
	Hybrid	610,874	6.0%	589,495	3.6%	191,562	-5.8%	62,934	3.4%	65,262	-4.1%	63,366	-14.8%
USA	Total EV	1,256,249	12.4%	983,931	27.7%	419,445	22.3%	140,621	34.2%	136,133	21.8%	142,691	12.8%
	BEV	115,403	11.4%	67,495	71.0%	49,631	71.1%	20,485	95.4%	14,438	28.9%	14,708	100.9%
	PHEV	9,909	1.0%	15,991	-38.0%	2,722	-41.9%	841	-61.8%	979	-9.0%	902	-36.0%
	Hybrid	189,143	18.8%	151,995	24.4%	59,558	5.0%	19,176	14.1%	18,830	-2.5%	21,552	4.6%
South Korea	Total EV	314,455	31.2%	235,481	33.5%	111,911	23.8%	40,502	37.3%	34,247	8.4%	37,162	26.7%
	BEV	5,106,634	13.1%	2,860,770	78.5%	2,073,441	74.7%	772,803	64.7%	680,783	77.2%	619,855	86.0%
	PHEV	1,728,482	4.4%	1,171,002	47.6%	680,916	61.0%	260,768	73.5%	211,571	63.6%	208,577	45.5%
	Hybrid	3,358,921	8.6%	3,224,078	4.2%	1,096,822	4.6%	425,490	14.8%	312,322	2.3%	359,010	-3.7%
Analyzed Markets	Total EV	10,194,037	26.2%	7,255,850	40.5%	3,851,179	44.9%	1,459,061	47.4%	1,204,676	47.1%	1,187,442	39.8%

Legend

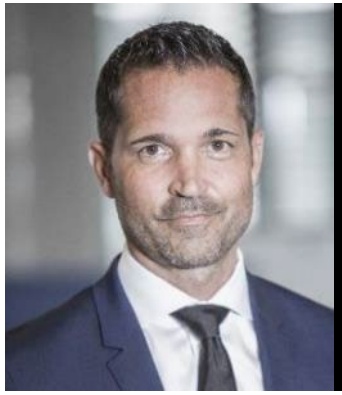
MoY = Month-on-Year
QoY = Quarter-on-Year
YoY = Year-on-Year
YTD = Year-to-Date

Source: PwC Autofacts Analysis, KBA, SMMT, PFA, ANFIA, ANFAC, SCB, OFV, RAI, auto-schweiz, Statistik Austria, CAAM, JADA
*Partially estimated

Authors and PR contact

Felix Kuhnert
Partner, Automotive Industry Leader,
PwC Germany
Phone: +49 711 25034-3309
felix.kuhnert@pwc.com

Steven van Arsdale
Manager, PwC Autofacts®,
PwC Germany
Phone: +49 69 9585-2914
steven.james.van.arsdale@pwc.com



Jörn Neuhausen
Director,
Strategy& Germany
Phone: +49 211 3890-345
joern.neuhausen
@strategyand.de.pwc.com

Annabelle Kliesing
Senior Communications Lead,
Strategy& Germany
Phone: +49 89 54525-613
annabelle.kliesing@pwc.com

strategy&
Part of the PwC network

Thank you

strategyand.pwc.com