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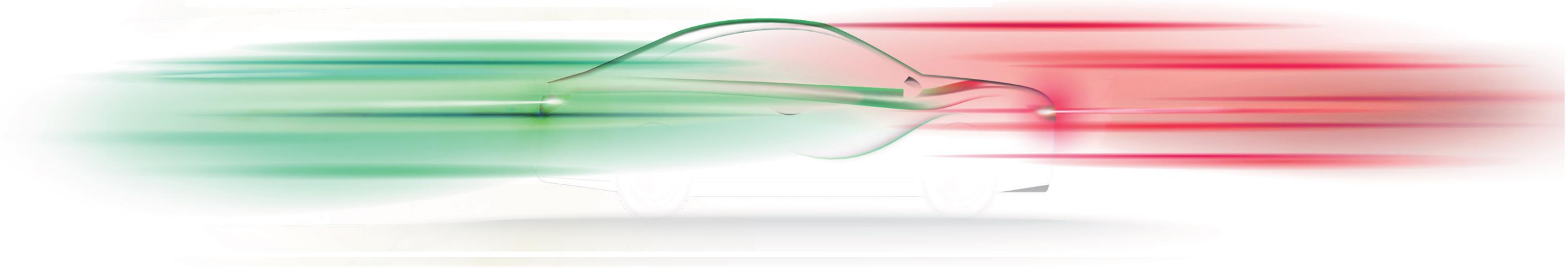
ICE - Agenzia per la promozione all'estero e l'internazionalizzazione delle imprese italiane

意大利对外贸易委员会

Ministero degli Affari Esteri
e della Cooperazione Internazionale

China Auto Market Report

June 2023



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China Auto Market Overview

1.1 China Domestic Automobile Market Data

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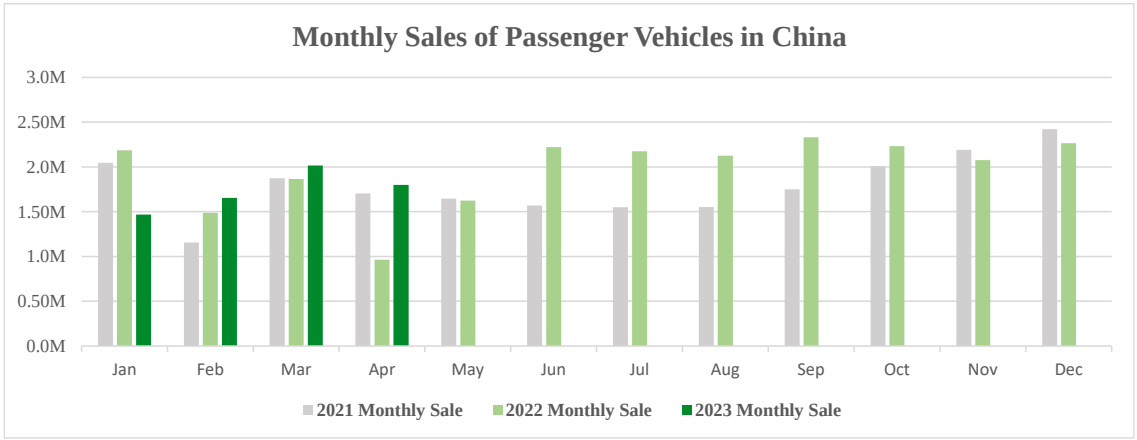
Passenger Vehicles Market Data in China



Monthly Sales Figure of Passenger Vehicles in China

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021 Monthly Sale	2.04M	1.16M	1.87M	1.70M	1.65M	1.57M	1.55M	1.55M	1.75M	2.01M	2.19M	2.42M
2022 Monthly Sale	2.19M	1.49M	1.86M	0.97M	1.62M	2.22M	2.17M	2.13M	2.33M	2.23M	2.07M	2.27M
2023 Monthly Sale	1.47M	1.65M	2.02M	1.80M								

Comment

In January and February, 2023, on the Chinese auto market, passenger vehicle sales reached 1.47 millon and 1.65 million, respectively. In January sales decreased 32.9% year-over-year and 35.2% month-on-month. In February sales were up 10.9% year-over-year and 12.5% month-on-month. Total sales of passenger car from January to February, 2023 were 3.12 million, down 15.2% year-over-year.

In March and April, there were 2.02M and 1.80M passenger cars sold respectively in Chinese auto market. Sales data in April fell by 10.2% month-on-month and increased by 85.3% year-on-year. From January to April, the cumulative sales of passenger cars reached 6.91M, a cumulative increase of 6.2% year-on-year. Due to the epidemic control policy in April last year, many regions such as Shanghai were blocked, caused the sales base became low, which affected this relatively large year-on-year increase in single-month sales.

Chart Maker: CIMP Group

Data Source: CADA

China Auto Market Overview

1.1 China Domestic Automobile Market Data

NEVs Market Data in China

Monthly Sales Figure of NEVs in China

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021 Monthly Sale	179.2K	109.6K	225.8K	206.2K	217.4K	255.7K	270.6K	321.0K	357.5K	383.4K	449.9K	530.9K
2022 Monthly Sale	431.4K	333.7K	484.3K	298.9K	447.2K	596.4K	592.9K	666.2K	707.5K	713.6K	786.3K	814.0K
2023 Monthly Sale	407.8K	524.9K	617.5K	603.7K								

Comment

In January and February, 2023, China's new energy vehicles sales reached 407.8 thousand and 524.9 thousand respectively. In January sales were down 5.47% YoY and down 49.90% YoY. In February sales were up 57.28% YoY and up 28.70% YoY. From January to February 2023, total sales of new energy vehicles were 932.7 thousand, an increase of 21.89% year-on-year.

In March and April, there were 617.5K and 603.7K new energy vehicles sold respectively in China. Sales data in April fell by 2.2% month-on-month and increased by 114.5% year-on-year. From January to April, a total amount of 2.11M new energy vehicles have been sold, a cumulative increase of 42.8% year-on-year. China’s new energy vehicle market is still growing rapidly.

China Auto Market Overview

1.1 China Domestic Automobile Market Data

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Passenger Vehicles Market Data in China

Jan-Apr Top 10 Retailed Selling Manufacturers of Passenger Vehicles

Rank	Brands	Sales	% YoY	% Share
1	BYD	702.6K	79.2%	11.8%
2	FAW-VW	509.8K	1.4%	8.5%
3	Changan	409.4K	7.0%	6.9%
4	Geely	360.4K	3.2%	6.0%
5	SAIC-VW	338.7K	-2.7%	5.7%
6	GAC-Toyota	265.8K	-9.2%	4.4%
7	SGMW	259.1K	-19.2%	4.3%
8	SAIC-GM	252.3K	-19.4%	4.2%
9	FAW-Toyota	227.5K	15.7%	3.8%
10	BMW Brillance	217.6K	8.4%	3.6%

NEVs Market Data in China

Jan-Apr Top 10 Retailed Selling Manufacturers of NEVs

Rank	Brands	Sales	% YoY	% Share
1	BYD	702.6K	81.3%	38.2%
2	Tesla	177.4K	61.5%	9.6%
3	GAC-Aion	121.3K	110.3%	6.6%
4	SGMW	111.6K	-15.9%	6.1%
5	Geely	88.0K	52.3%	4.8%
6	Changan	79.2K	98.6%	4.3%
7	Li	78.3K	118.1%	4.3%
8	Nio	37.7K	22.2%	2.0%
9	GWM	34.7K	-10.0%	1.9%
10	Neta	33.5K	-14.0%	1.8%

Data Source: CADA

China Auto Market Overview

1.1 China Domestic Automobile Market Data

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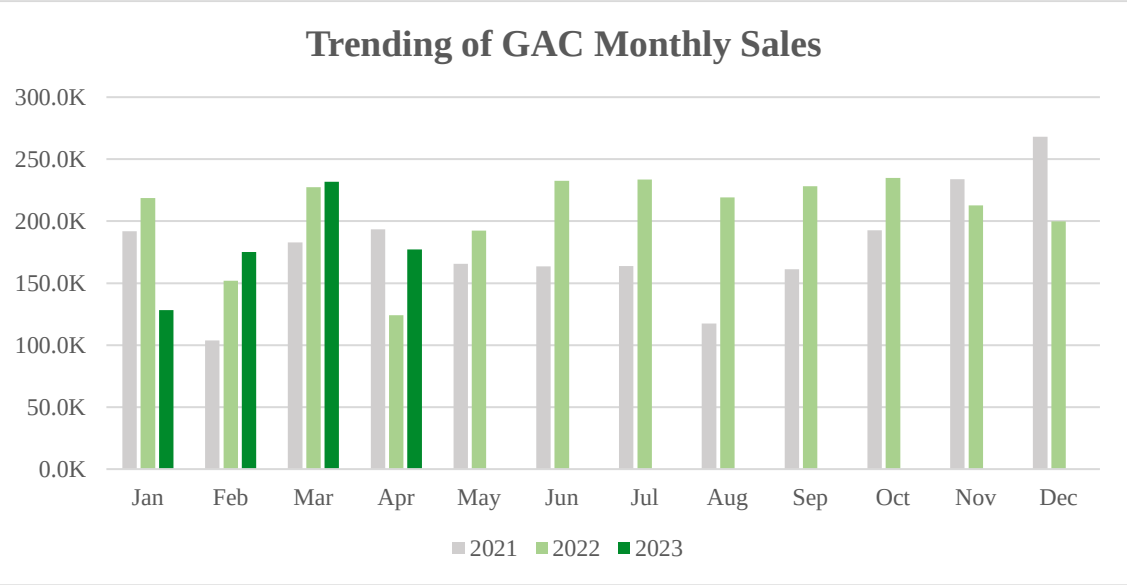
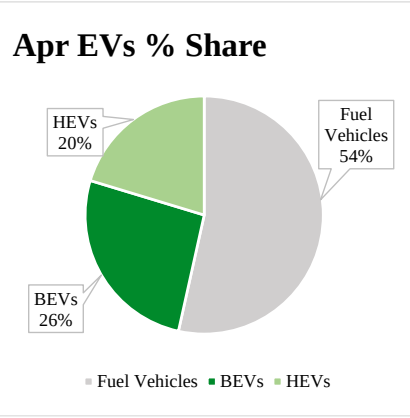
China's Major Domestic Manufacturers Data: GAC



广汽集团 GAC GROUP

In April, 2023, GAC Group sold 177,224 vehicles, a year-on-year increase of 42.57% compared with 2022, which was the third consecutive month that GAC Group has recorded year-on-year sales growth. It is worth mentioning that GAC Group sold 231,735 vehicles in March, and it was the highest monthly sales since December 2021. From January to April, GAC Group sold a total of 717,099 vehicles, a slight decrease of 2.10% compared with the same period last year.

New Energy Vehicle is the rapid growth point of GAC Group. Since January to April, GAC Group has been sold its New Energy Brand- Aion with a total of 119,330, an increase of 116.6% compared with 2022. BEVs accounted for 26% of the group sales in April. But the sales of its Japanese brand cars are shrinking, and the cumulative sales of GAC-Honda have fallen by an astonishing 26% year-on-year, which was a dangerous signal for GAC-Honda.



Jan-Apr Performance of Brands Under GAC

Brands	Sales	% YoY	% Share
GAC-Honda	174.9K	-26.0%	24.4%
GAC-Toyota	292.0K	-7.5%	40.7%
Trumpchi	112.8K	2.1%	15.7%
Aion	119.3K	116.6%	16.6%
Others	18.0K	20.4%	2.5%

Monthly Sales Figure of GAC Group

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	191.8K	103.9K	182.9K	193.5K	165.7K	163.6K	163.7K	117.4K	161.2K	192.6K	233.9K	268.0K
2022	218.6K	151.9K	227.5K	124.3K	192.4K	232.5K	233.6K	219.3K	228.1K	234.8K	212.7K	199.7K
2023	128.4K	175.1K	231.7K	177.2K								

China Auto Market Overview

1.1 China Domestic Automobile Market Data

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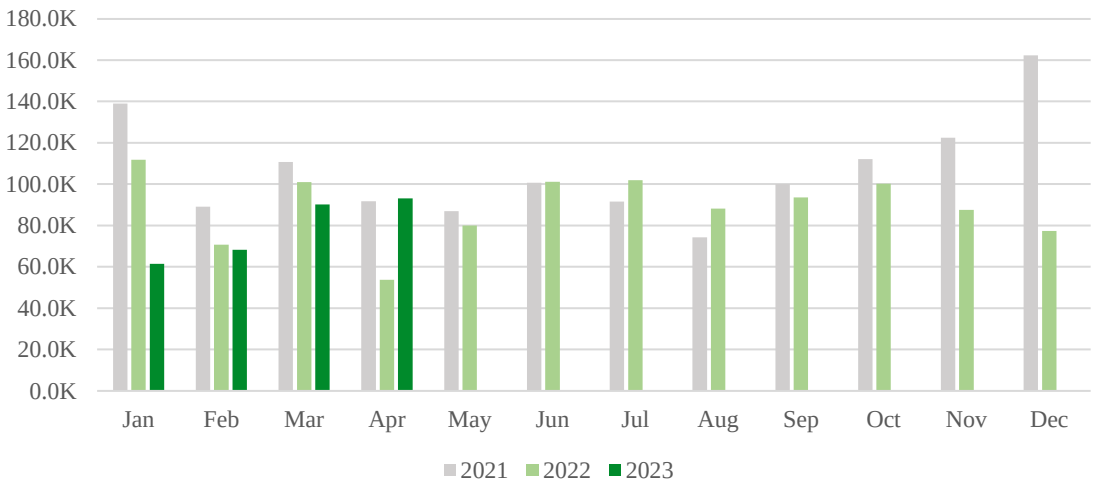
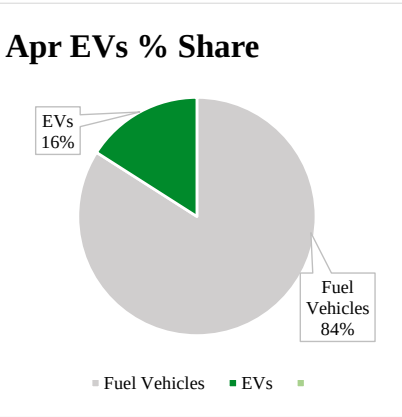
China's Major Domestic Manufacturers Data: GWM



长城汽车 Great Wall

In April 2023, Great Wall Motor Group sold 93,107 vehicles, a year-on-year increase of 73.1%, ending the decline of seven consecutive months since September 2022. From January to April, Great Wall Motors sold a total of 313,075 vehicles, a decrease of 7.18% compared with last year.

Compared with other auto manufacturers in China, Great Wall Motors launched its new energy models a bit late, accounting only 16% of its sales in April. Among the sales performance of Great Wall Motors' sub-brands from January to April, WEY suffered the largest decline, a 65.2% year-on-year decrease. The new energy models launched last year did not bring sales growth to WEY.



Jan-Apr Performance of Brands Under GWM

Brands	Sales	% YoY	% Share
Haval	178.0K	-9.1%	56.9%
WEY	5.8K	-65.2%	1.8%
GWM Pickups	67.5K	20.1%	21.6%
Ora	26.7K	-27.6%	8.5%
Tank	35.1K	10.4%	11.2%

Monthly Sales Figure of GWM Group

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	139.0K	89.1K	110.7K	91.8K	87.0K	100.7K	91.6K	74.3K	100.0K	112.1K	122.5K	162.4K
2022	111.8K	70.8K	100.9K	53.8K	80.1K	101.2K	101.9K	88.2K	93.6K	100.2K	87.6K	77.4K
2023	61.5K	68.2K	90.2K	93.1K								

China Auto Market Overview

1.1 China Domestic Automobile Market Data

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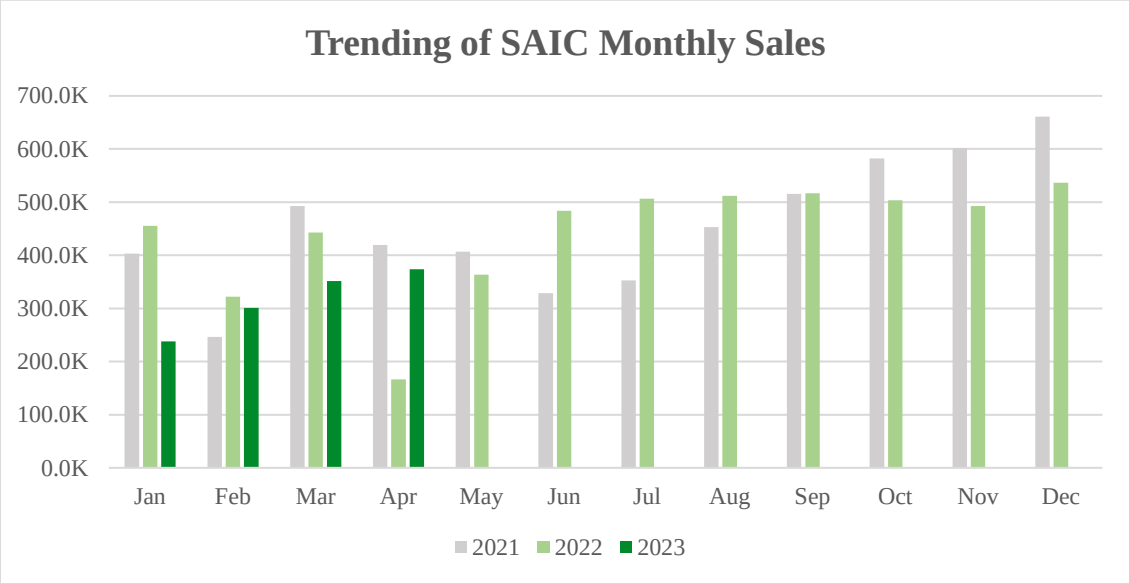
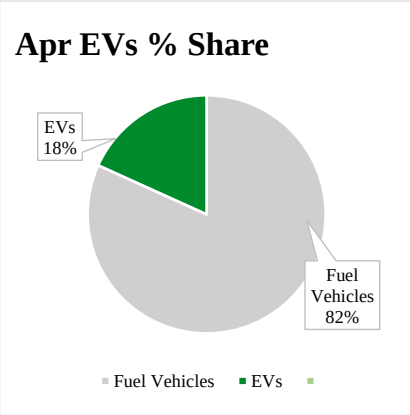
China's Major Domestic Manufacturers Data: SAIC



SAIC 上汽集团 SAIC MOTOR

In April 2023, SAIC Motor sold 373,949 vehicles, a year-on-year increase of 124.5%, which achieved three consecutive months of growth and also reversed the six-month decline in terms of year-on-year growth in a single month. From January to April, SAIC sold a total of 1,265,117 vehicles, a decrease of 8.8% compared with last year.

In April, SAIC's self-owned brand sales reached 203,000 vehicles, a year-on-year increase of 81.9%, accounting for 54.2% of the group's overall sales. SAIC 4 New Energy Vehicles were sold 68,000 units, a year-on-year increase of 80.6%. Among them, sales of Roewe and MG new energy vehicles exceeded 26,000 units, a year-on-year increase of 606.6%.



Jan-Apr Performance of Brands Under SAIC

Brands	Sales	% YoY	% Share
SAIC-VW	314.7K	-12.9%	24.9%
SAIC-GM	266.0K	-10.9%	21.0%
*SAIC	264.7K	24.5%	20.9%
SGMW	297.8K	-25.9%	23.5%
SAIC-Maxus	70.0K	16.7%	5.5%

Monthly Sales Figure of SAIC Motors

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	403.1K	246.5K	492.9K	419.5K	406.7K	328.6K	352.5K	453.4K	515.8K	582.1K	601.4K	661.0K
2022	455.6K	322.0K	443.0K	166.6K	363.6K	483.6K	506.8K	512.1K	517.1K	503.3K	492.7K	536.4K
2023	238.0K	301.3K	351.8K	373.9K								

China Auto Market Overview

1.1 China Domestic Automobile Market Data

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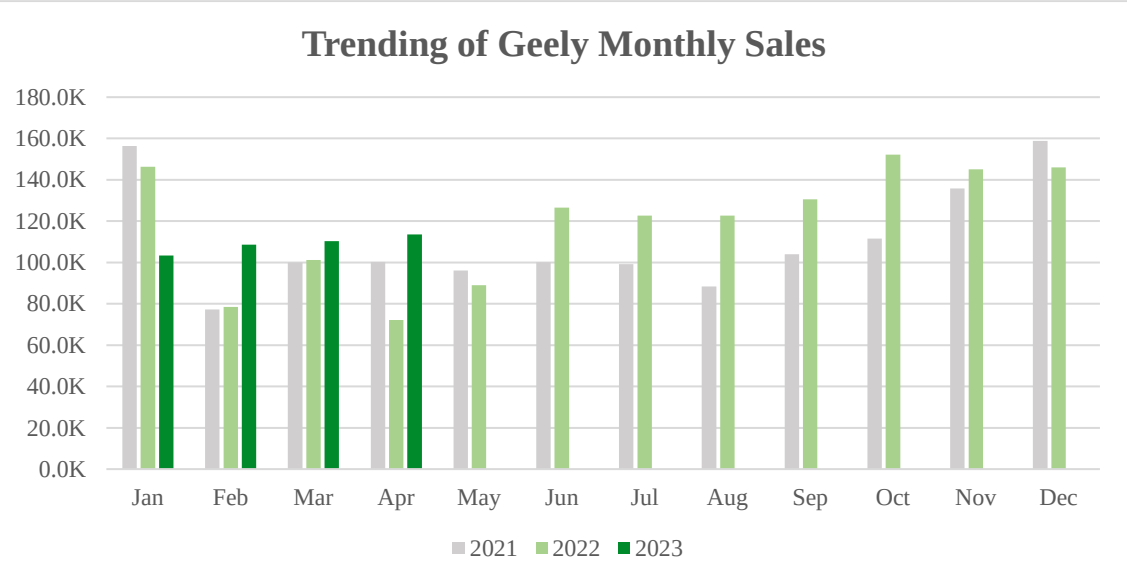
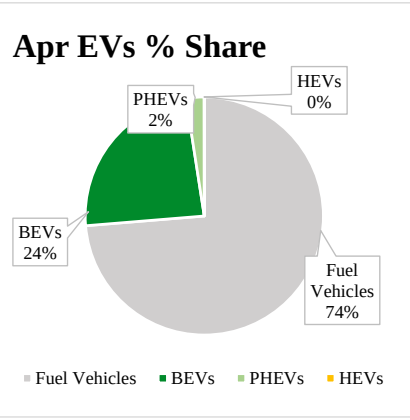
China's Major Domestic Manufacturers Data: Geely



吉利汽车 GEELY AUTO

In April 2023, Geely Group sold 113,642 vehicles, a year-on-year increase of 58%, achieving three consecutive months of growth. From January to April, Geely sold a total of 436,095 vehicles, an increase of 10% compared with the same period last year.

In April, among the Geely's new car sales, New Energy Vehicles have accounted for more than 25%. The monthly sales of BEVs reached 27,107 units, a year-on-year increase of 148%. However, the sales of HEVs have decreased significantly. In April 2022, 1,518 vehicles were sold, but in April 2023, only 16 vehicles were sold, a drop of nearly 100%.



Jan-Apr Performance of Brands Under Geely

Brands	Sales	% YoY	% Share
Geely	295.8K	0.8%	67.8%
Geometry	57.9K	74.0%	13.3%
Lynk&Co	51.2K	-3.0%	11.7%
Zeekr	23.3K	125.0%	5.4%
Livan	7.9K	-6.0%	1.8%

Monthly Sales Figure of Geely Group

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	156.3K	77.2K	100.0K	100.3K	96.2K	100.2K	99.3K	88.3K	103.9K	111.6K	135.9K	158.8K
2022	146.4K	78.5K	101.2K	72.2K	89.1K	126.6K	122.6K	122.6K	130.5K	152.3K	145.1K	146.0K
2023	103.5K	108.7K	110.3K	113.6K								

1.1 China Domestic Automobile Market Data

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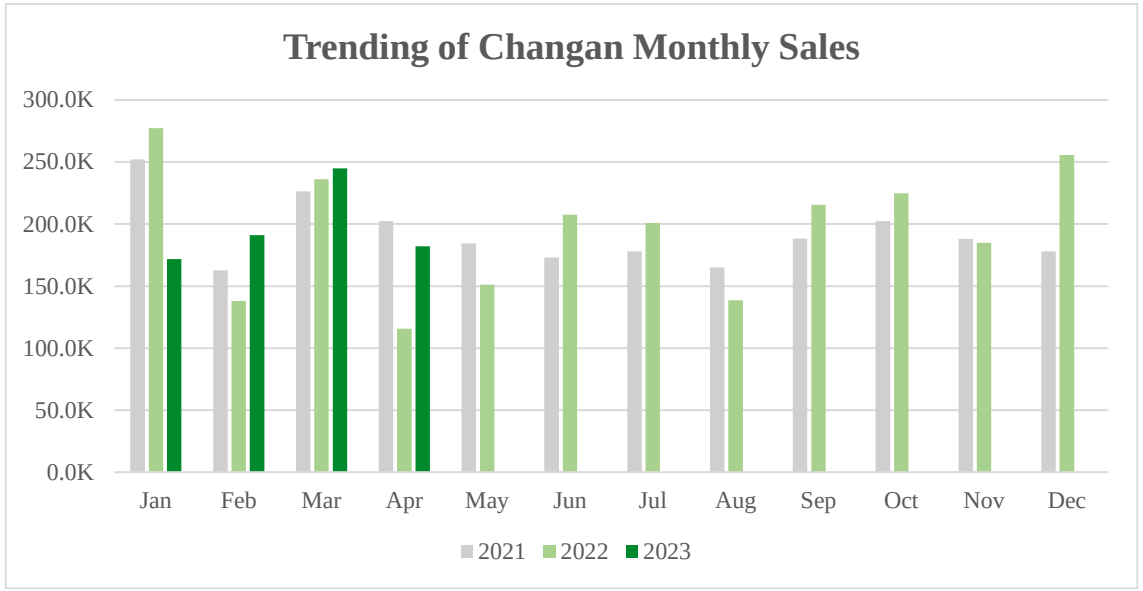
China's Major Domestic Manufacturers Data: Changan Group



长安汽车 CHANGAN

In April 2023, Changan Automobile Group sold 181,980 vehicles, a year-on-year increase of 57.23%. Since February, it has achieved year-on-year sales growth in a single month for three consecutive months. From January to April, Changan Automobile sold a total of 789,788 vehicles, a slight increase of 2.94% compared with last year.

The sales of Changan Automobile's self-owned brand were 671,940 units, a year-on-year increase of 7.99%; the sales of self-owned passenger car were 508,275 units, a year-on-year increase of 19.20%, but its joint venture brands suffered a large decline as some Chinese manufacturers,. Changan's self-owned new energy bands were sold 22,496 vehicles in April, an year-on-year increase of 111.77% ; the cumulative sales from January to April were 107,035 vehicles, an year-on-year increase of 102.08%.

Jan-Apr Performance of Brands Under Changan

Brands	Sales	% YoY	% Share
Changan-Ford	58.8K	-18.7%	7.4%
Changan-Mazda	17.9K	-59.9%	2.3%
Changan	671.9K	8.0%	85.1%
Others	41.2K	NA	5.2%

Monthly Sales Figure of Changan Group

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	252.0K	162.7K	226.4K	202.3K	184.5K	173.0K	177.9K	165.1K	188.3K	202.3K	188.0K	178.0K
2022	277.2K	138.1K	236.1K	115.7K	151.1K	207.4K	200.9K	138.7K	215.4K	224.8K	184.8K	255.8K
2023	171.8K	191.0K	245.0K	182.0K								

China Auto Market Overview

1.1 China Domestic Automobile Market Data

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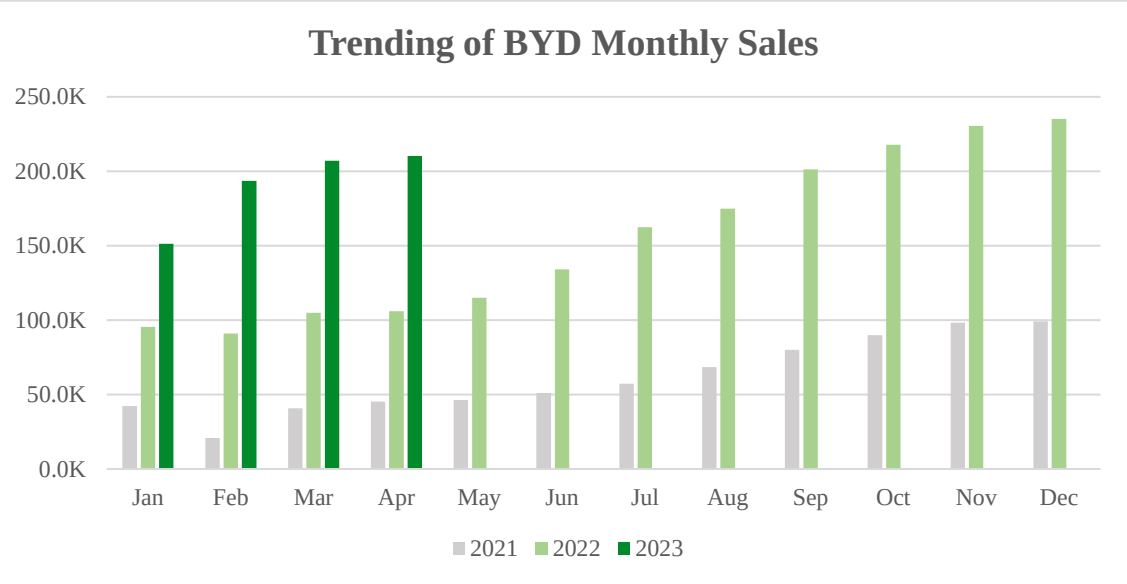
China's Major Domestic Manufacturers Data：BYD

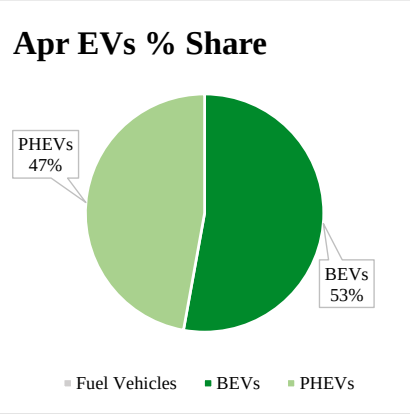


比亚迪汽车

In April 2023, BYD sold 210,295 vehicles, a year-on-year increase of 98.3%. Since 2021, BYD has maintained a nearly doubling year-on-year growth almost every month. From January to April, BYD Auto sold a total of 762,371 vehicles, a surge of 91.8% compared with last year.

At present, BYD has stopped selling fuel vehicles. According to the sales data in April, the sales of BEVs are slightly higher than PHEVs. Currently, BYD is actively expanding overseas markets. In April 2023, a total of 14,827 new energy passenger vehicles were sold overseas.

In terms of power batteries, the total installed capacity of new energy vehicle power batteries and energy storage batteries in April 2023 was about 9.954GWh, and the cumulative installed capacity in 2023 was about 36.945GWh.



Apr Passenger Vehicles

	Apr Sales	% Share
Fuel Vehicles	0	0.0%
BEVs	110.2K	52.8%
PHEVs	98.4K	47.2%

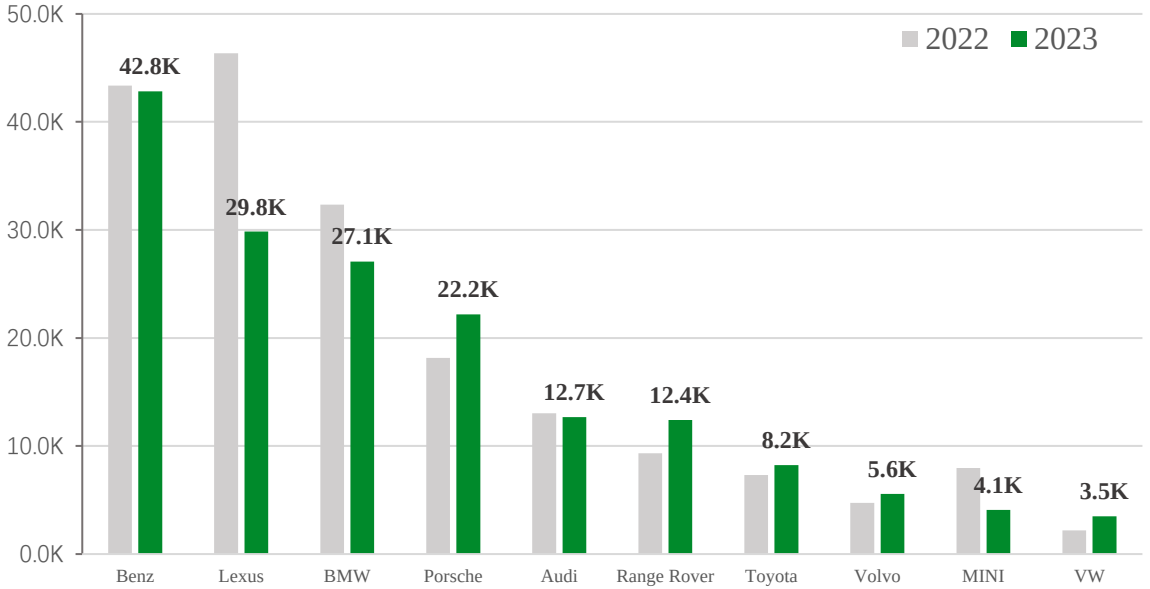
Monthly Sales Figure of BYD

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	42.4K	20.9K	40.8K	45.2K	46.3K	51.0K	57.4K	68.5K	80.1K	89.9K	98.3K	99.1K
2022	95.4K	91.1K	104.9K	106.0K	114.9K	134.0K	162.5K	174.9K	201.3K	217.8K	230.4K	235.2K
2023	151.3K	193.7K	207.1K	210.3K								

China Auto Market Overview

1.2 China Automobiles Imports Data Update

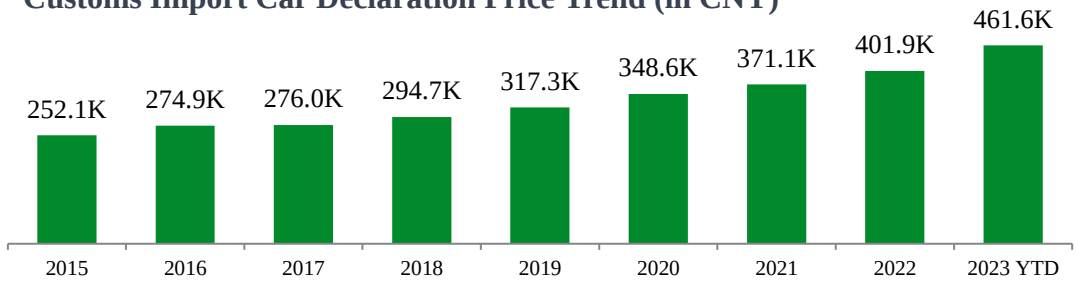
2023 Q1 Top 10 Imported Brands in China



From January to March 2023, the total sales volume of imported cars is 179.4K. Mercedes-Benz ranked first in sales with 42.8K units, while Lexus fell by more than 30%, and BMW ranked third; the top ten brands Porsche, Land Rover, Toyota, Volvo, and Volkswagen all achieved positive growth, of which Volkswagen's growth rate exceeded 50%; In terms of the brands declining, the sales of MINI and Lexus dropped significantly, down 48.7% and 35.6% respectively.

Analysis of Imported Vehicles Value

Customs Import Car Declaration Price Trend (in CNY)



Imported Car Brand Attribute Structure Table For March 2023

	March (Pcs)				Q1 Total (Pcs)			
Segment	2022	2023	%YoY	%Share	2022	2023	%YoY	%Share
Super Luxury	0.8K	0.8K	0.65%	1.18%	2.0K	2.1K	3.92%	1.15%
Luxury	59.1K	58.1K	-1.64%	88.77%	177.5K	159.2K	-10.30%	88.98%
Non-Luxury	5.1K	0.7K	27.38%	10.05%	16.0K	17.7K	10.13%	9.86%

From 2015 to 2023, the customs declaration unit price of imported car increased from 252,100 CYN to 461,600 CNY. This was due to the upgrade of consumption upgrading, the trend of localization of low-cost products, and the recent depreciation of the exchange rate. The overall imported car market showed signs of recovery, with the sales of non-luxury cars this month rising by 27.38% year-on-year, and the cumulative year-on-year increase of 10.13% from January to March. But the Luxury cars are still the main sales force, accounting for 88.98% from January to March.

2: OEM & Auto Technology Market

2.1 Government Policy Update

2.2 Auto Technology News Update

The Ministry of Industry and Information Technology released the catalog of Tax Reductions for New Energy Vehicles

On April 17, 2023, the Ministry of Industry and Information Technology of the People's Republic of China issued Motor Vehicle Manufacturers and Products (B/N 369), Catalogue of Energy-Saving and New Energy Vehicle Models Enjoying Vehicle and Vessel Tax Reduction and Exemption (B/N 48) and Catalogue of New Energy Vehicle Models Exempting from Vehicle Purchase Tax (B/N 64). Among them, new energy vehicles from many well-known car companies have been included in the vehicle purchase tax exemption list, such as FAW Hongqi E-QM5, GWM Ora Funky Cat, Ora Lightning Cat, BYD Tengshi N7, BYD Seal, Wuling Binguo, Xpeng G6, Neta E, Neta GT and other models.

Comment:

In recent years, with the maturity of automobile technology and the improvement of the consumer market, the sales of new energy vehicles have grown rapidly, driven by policies such as vehicle purchase tax exemption, gradually becoming a bright spot in the industrial and consumer fields. The launch of more new energy vehicle models means that the entire new energy vehicle market will have a broader space for development.

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中华人民共和国工业和信息化部公告

2023年　第9号

根据《中华人民共和国行政许可法》《国务院对确需保留的行政审批项目设定行政许可的决定》《财政部 税务总局 工业和信息化部 交通运输部关于节能 新能源车船享受车船税优惠政策的通知》（财税〔2018〕74号）、《工业和信息化部 财政部 国家税务总局关于调整享受车船税优惠的节能 新能源汽车产品技术要求的公告》（2022年第2号）、《财政部 税务总局 工业和信息化部 科技部关于免征新能源汽车车辆购置税的公告》（2017年第172号）、《中华人民共和国工业和信息化部 财政部 国家税务总局公告》（2018年第17号）、《工业和信息化部 财政部 税务总局关于调整免征车辆购置税新能源汽车产品技术要求的公告》（2021年第13号）、《财政部 税务总局 工业和信息化部关于延续新能源汽车免征车辆购置税政策的公告》（2022年第27号）等有关规定，现将许可的《道路机动车辆生产企业及产品》（第369批）以及经商国家税务总局同意的《享受车船税减免优惠的节约能源 使用新能源汽车车型目录》（第四十八批）、《免征车辆购置税的新能源汽车车型目录》（第六十四批）予以公告。

附件：

1. 道路机动车辆生产企业及产品（第369批）.doc.doc
2. 享受车船税减免优惠的节约能源 使用新能源汽车车型目录（第四十八批）.doc
3. 免征车辆购置税的新能源汽车车型目录（第六十四批）.doc

工业和信息化部

2023年4月17日

Screenshot of Announcement Issued by The Ministry of Industry and Information Technology of the People's Republic of China

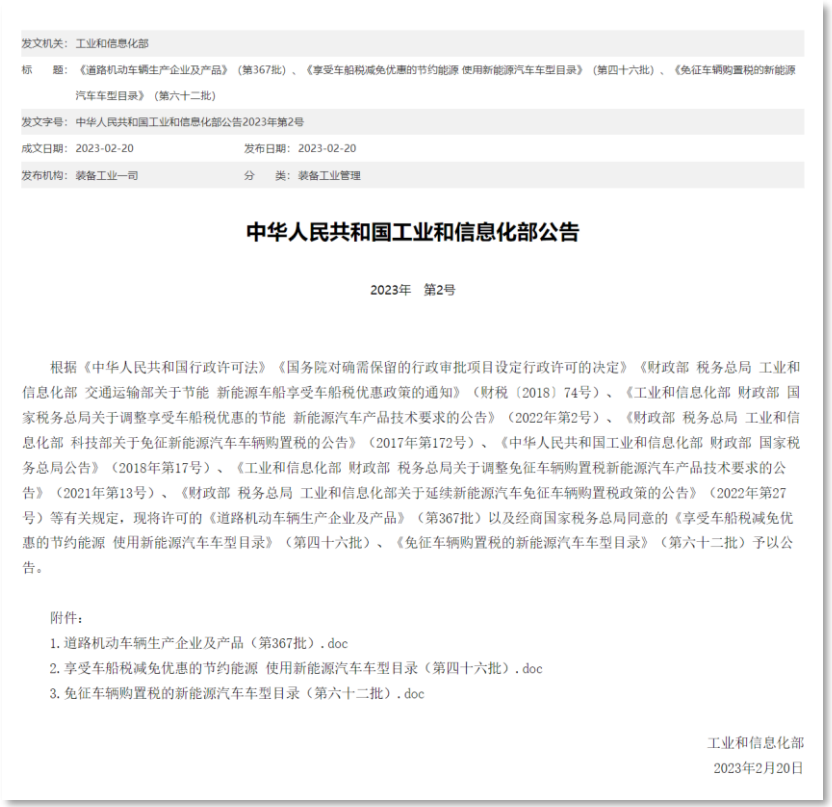
Source: https://wap.miit.gov.cn/jgsj/zbys/wjfb/art/2023/art_f851602893454ab5a365aeb091f9b6de.html

Ministry of Industry and Information Technology (MIIT) released the latest Catalog of New Energy Vehicle Models Exempt from Vehicle Purchase Tax

On February 20, 2023, MIIT of China released the 62rd Catalog of New Energy Models Exempt from Vehicle Purchase Tax. It is reported that, in the new Catalog of New Energy Vehicle Models Exempt from Vehicle Purchase Tax, Mercedes-Benz, BMW, Dongfeng Motor, BYD, SAIC-GM, Geely, Leap Motor, Ford Motor, GAC, Changan Motor, etc. are listed. The purchase tax exemption catalog involves 74 models of pure electric passenger cars and 32 models of plug-in hybrid passenger cars.

Comment:

Since China has exempted new energy vehicles from vehicle purchase tax in 2014, this fiscal policy has entered its tenth year. In recent years, along with the maturity of technology, market improvement, and driven by policies such as vehicle purchase tax exemption, the sales of new energy vehicles have grown rapidly and gradually become a new highlight in the industry and consumer market.



发文机关：工业和信息化部

标　　题：《道路机动车辆生产企业及产品》（第367批）、《享受车船税减免优惠的节约能源 使用新能源汽车车型目录》（第四十六批）、《免征车辆购置税的新能源汽车车型目录》（第六十二批）

发文字号：中华人民共和国工业和信息化部公告2023年第2号

成文日期：2023-02-20　　发布日期：2023-02-20

发布机构：装备工业一司　　分　　类：装备工业管理

中华人民共和国工业和信息化部公告

2023年　第2号

根据《中华人民共和国行政许可法》《国务院对确需保留的行政审批项目设定行政许可的决定》《财政部 税务总局 工业和信息化部 交通运输部关于节能 新能源车船享受车船税优惠政策的通知》（财税〔2018〕74号）、《工业和信息化部 财政部 国家税务总局关于调整享受车船税优惠的节能 新能源汽车产品技术要求的公告》（2022年第2号）、《财政部 税务总局 工业和信息化部 科技部关于免征新能源汽车车辆购置税的公告》（2017年第172号）、《中华人民共和国工业和信息化部 财政部 国家税务总局公告》（2018年第17号）、《工业和信息化部 财政部 税务总局关于调整免征车辆购置税新能源汽车产品技术要求的公告》（2021年第13号）、《财政部 税务总局 工业和信息化部关于延续新能源汽车免征车辆购置税政策的公告》（2022年第27号）等有关规定，现将许可的《道路机动车辆生产企业及产品》（第367批）以及经商国家税务总局同意的《享受车船税减免优惠的节约能源 使用新能源汽车车型目录》（第四十六批）、《免征车辆购置税的新能源汽车车型目录》（第六十二批）予以公告。

附件：

1. 道路机动车辆生产企业及产品（第367批）.doc
2. 享受车船税减免优惠的节约能源 使用新能源汽车车型目录（第四十六批）.doc
3. 免征车辆购置税的新能源汽车车型目录（第六十二批）.doc

工业和信息化部

2023年2月20日

Announcement on MIIT Official Website

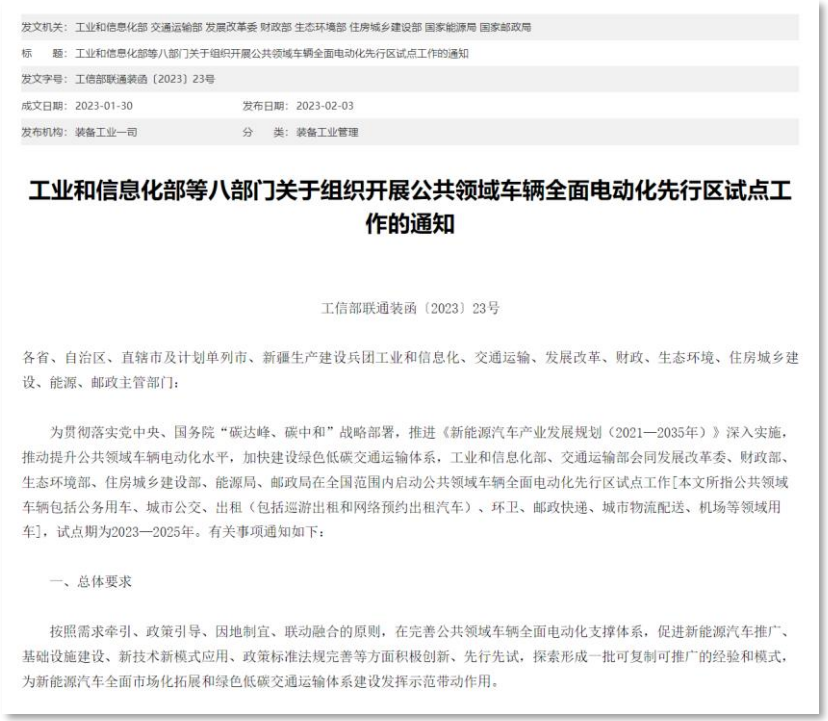
Source: https://wap.miit.gov.cn/jgsj/zbys/wjfb/art/2023/art_f851602893454ab5a365aeb091f9b6de.html

Ministry of Industry and Information Technology (MIIT) and other eight departments issued a notice on carrying out the pilot project of the full electrification of public sector vehicles

In order to enhance the vehicle electrification level in the public sector and accelerate the construction of green low-carbon transportation system, on February 3, 2023, the Ministry of Industry and Information Technology and other eight departments issued a notice on carrying out the pilot project of the full electrification of public sector vehicles, and the pilot period is 2023-2025. The main goal is: the proportion of new energy vehicles among new and updated vehicles significantly increase in the pilot area, and in the field of urban public transport, taxi, sanitation, postal express, urban logistics and distribution areas, reach 80%.

Comment:

The launch of the pilot work will help establish and improve the intelligent transportation system, green energy supply system and new information and communication network system to adapt to the innovative development of new energy vehicles, and realize the efficient interaction between new energy vehicles and power grids.



发文机关：工业和信息化部 交通运输部 发展改革委 财政部 生态环境部 住房城乡建设部 国家能源局 国家邮政局

标　　题：工业和信息化部等八部门关于组织开展公共领域车辆全面电动化先行区试点工作的通知

发文字号：工信部联通装函〔2023〕23号

成文日期：2023-01-30　　发布日期：2023-02-03

发布机构：装备工业一司　　分　　类：装备工业管理

工业和信息化部等八部门关于组织开展公共领域车辆全面电动化先行区试点工作的通知

工信部联通装函〔2023〕23号

各省、自治区、直辖市及计划单列市、新疆生产建设兵团工业和信息化、交通运输、发展改革、财政、生态环境、住房城乡建设、能源、邮政主管部门：

为贯彻落实党中央、国务院“碳达峰、碳中和”战略部署，推进《新能源汽车产业发展规划（2021—2035年）》深入实施，推动提升公共领域车辆电动化水平，加快建设绿色低碳交通运输体系，工业和信息化部、交通运输部会同发展改革委、财政部、生态环境部、住房城乡建设部、能源局、邮政局在全国范围内启动公共领域车辆全面电动化先行区试点工作[本文所指公共领域车辆包括公务用车、城市公交、出租（包括巡游出租和网络预约出租汽车）、环卫、邮政快递、城市物流配送、机场等领域用车]，试点期为2023—2025年。有关事项通知如下：

一、总体要求

按照需求牵引、政策引导、因地制宜、联动融合的原则，在完善公共领域车辆全面电动化支撑体系，促进新能源汽车推广、基础设施建设、新技术新模式应用、政策标准法规完善等方面积极创新、先行先试，探索形成一批可复制可推广的经验和模式，为新能源汽车全面市场化拓展和绿色低碳交通运输体系建设发挥示范带动作用。

Notice on MIIT Official Website

Source: https://wap.miit.gov.cn/zwgk/zcwj/wjfb/tz/art/2023/art_9d131c56611b486fb5226619e60d149b.html

Guangzhou: Opinions on the Implementing the New Development Concept Accurately to Promote the Carbon Neutrality and Carbon Peak Goals

On February 21, Guangzhou Municipal Government released the "Opinions on the Implementing the New Development Concept Accurately to Promote the Carbon Neutrality and Carbon Peak Goals". The Opinions mentioned that the transportation energy structure should be continuously optimized. Accelerate the promotion of the application of new energy vehicles, and promote the construction of new energy vehicle charging and exchange stations (piles), hydrogen refueling stations, etc. Actively guide the renewal and elimination of old vehicles and ships to upgrade and transformation of "oil to gas" "oil to electricity".

Comment:

Achieving the goals of Carbon Neutrality and Carbon Peak is the urgent need to promote the harmonious coexistence of human and nature. It is an inevitable requirement to promote high-quality economic and social development, an inevitable choice to deepen the construction of ecological civilization, and a necessary way to enhance the climate resilience of cities. Since the launch of the national low-carbon city pilot project in 2012, Guangzhou has been exploring inthe transformation of industrial structure, optimization of energy structure, enhancement of carbon sink capacity and construction of sound carbon emission market, which has laid a solid foundation for the promotion of carbon compliance and carbon neutrality.

Interpretation of the Policy

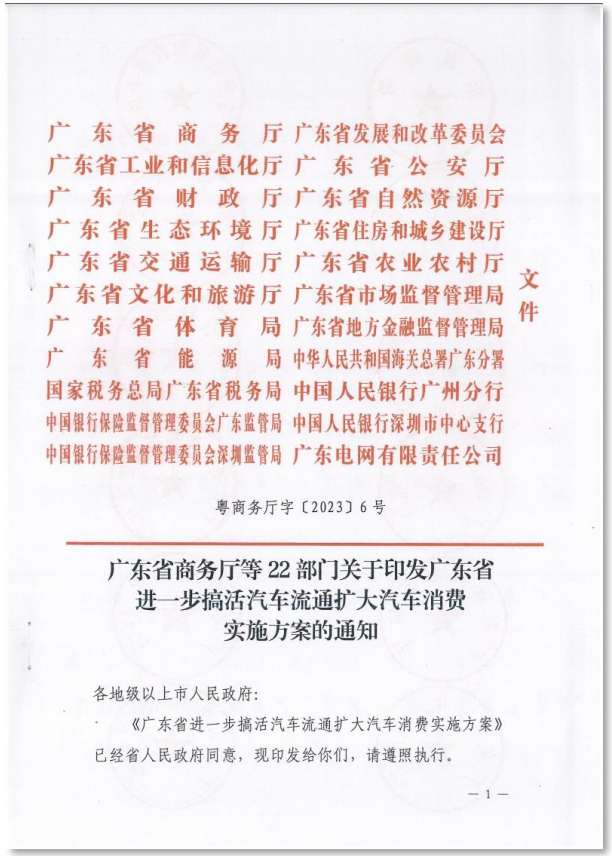
Source: https://www.gz.gov.cn/zwgk/zcjd/zcjd/content/post_8813254.html

Guangdong: Notice on the issuance of Guangdong Province to Further Stimulate the Circulation of Cars to Expand Auto Consumption Implementation Plan

On February 20, 2023, Guangdong Provincial Department of Commerce Official Website announced that the Guangdong Provincial Department of Commerce and other 22 departments issued the "Notice on the issuance of Guangdong Province to Further Stimulate the Circulation of Cars to Expand Auto Consumption Implementation Plan". The Plan is based on supporting the purchase and appliance of new energy vehicles, activating the second-hand car market, expanding auto renewal consumption, expanding auto consumption, promoting the sustainable and healthy development of parallel import of automobiles, optimizing the environment for auto appliance, and enriching auto financial services, with 13 specific measures deployed in the seven areas above.

Comment:

The automotive industry is a strategic and pillar industry of the national economy. As the country's biggest province in automobile production and consumption, last year, the automotive industry became Guangdong's eighth trillion-dollar industry cluster, playing an important role in the steady and healthy development of the economy. The Implementation Plan not only contains short-term stimulating policies, such as the implementation of extending purchase tax exemption policy after expiration, holding car trade-in activities; also contains long-term guiding policies, such as the expansion of car culture and tourism consumption, exploring the implementation of urban roadside night parking policy. In short, the purpose is to promote the high-quality development of the automotive industry, to achieve effective improvement in quality and reasonable growth in quantity.



广东省商务厅 广东省发展和改革委员会
广东省工业和信息化厅 广东省公安厅
广东省财政厅 广东省自然资源厅
广东省生态环境厅 广东省住房和城乡建设厅
广东省交通运输厅 广东省农业农村厅
广东省文化和旅游厅 广东省市场监督管理局
广东省体育局 广东省地方金融监督管理局
广东省能源局 中华人民共和国海关总署广东分署
国家税务总局广东省税务局 中国人民银行广州分行
中国银行保险监督管理委员会广东监管局 中国人民银行深圳市中心支行
中国银行保险监督管理委员会深圳监管局 广东电网有限责任公司

文件

粤商务厅字〔2023〕6号

广东省商务厅等22部门关于印发广东省进一步搞活汽车流通扩大汽车消费实施方案的通知

各地级以上市人民政府：

《广东省进一步搞活汽车流通扩大汽车消费实施方案》已经省人民政府同意，现印发给你们，请遵照执行。

— 1 —

Cover of the Notice

Source: http://www.gd.gov.cn/attachment/0/514/514056/4098063.pdf

New energy vehicles/charging infrastructure, the Ministry of Finance of the People's Republic of China extended subsidy funds for energy conservation and emission reduction to 2025

On April 21, 2023, the Ministry of Finance of the People's Republic of China issued a notice on revising the Interim Measures for the Management of Energy Conservation and Emission Reduction Subsidy Funds. The document pointed out that the implementation period will be revised from 2022 to 2025. At the same time, the scope of key support has been revised to include the liquidation of subsidy funds for the promotion and application of new energy vehicles, the liquidation of rewards and subsidies for charging infrastructure, and the demonstration and application of fuel cell vehicles.

1. In Article 2, revised "implementation period until 2022" to "implementation period until 2025".

2. In Article 3 Section 1, "The Key Support Scope of Subsidy Funds for Energy Conservation and Emission Reduction", (1) innovation of energy conservation and emission reduction systems and mechanisms; (2) construction of basic capabilities and public platforms for energy conservation and emission reduction; (3) energy conservation and emission reduction in key areas, key industries and key regions; (4) Demonstration, promotion, transformation and upgrading of key energy conservation and emission reduction technologies; (5) Other support scope approved by the State Council" Were revised to: (1) Liquidation of subsidy funds for the promotion and application of new energy vehicles; (2) Compensation liquidation for charging infrastructure; (3) Demonstration application of fuel cell vehicles; (4) Liquidation of circular economy pilot demonstration projects; (5) Provincial pilots of energy conservation and carbon reduction; (6) Relevant expenditures reported to the State Council for approval".

发文字号： 财建〔2023〕58号　　来　源： 财政部网站

主题分类：　　公文种类： 通知

成文日期： 2023年04月07日

关于修改《节能减排补助资金管理暂行办法》的通知

财建〔2023〕58号

各省、自治区、直辖市、计划单列市财政厅（局），新疆生产建设兵团财政局：

为进一步规范资金使用管理，按照预算管理有关规定，现对《节能减排补助资金管理暂行办法》（财建〔2020〕10号）作如下修改：

一、将第二条中的“实施期限至2022年”修改为“实施期限至2025年”。

二、将第三条第一款“节能减排补助资金重点支持范围”中的“（一）节能减排体制机制创新；（二）节能减排基础能力及公共平台建设；（三）重点领域、重点行业、重点地区节能减排；（四）重点关键节能减排技术示范推广和改造升级；（五）其他经国务院批准的支持范围”修改为“（一）新能源汽车推广应用补助资金清算；（二）充电基础设施奖补清算；（三）燃料电池汽车示范应用；（四）循环经济试点示范项目清算；（五）节能降碳省级试点；（六）报经国务院批准的相关支出”。

三、将第十一条中的“涉嫌犯罪的，依法移送司法机关处理”修改为“构成犯罪的，依法追究刑事责任”。

四、在第十一条后增加一款“各级财政、主管部门及其工作人员存在违反本办法行为的，以及其他滥用职权、玩忽职守、徇私舞弊等违法违纪行为的，按照《中华人民共和国预算法》及其实施条例、《中华人民共和国监察法》、《财政违法行为处罚处分条例》等有关规定追究相应责任。构成犯罪的，依法追究刑事责任”。

本通知自2023年1月1日起施行，请遵照执行。

财政部

2023年4月7日

Screenshot from Website of The State Council of the People's Republic of China

Source: http://www.gov.cn/zhengce/zhengceku/2023-04/24/content_5752916.htm

Comment:

China adheres to the path of green development. "Emission Peak" and "Carbon Neutrality" are closely related to the development of new energy vehicles. The policy release also promotes the update iteration and sustainable development of new energy vehicles to a certain extent.

The National Energy Administration issued the Guiding Opinions on Energy Work in 2023

On April 12, the National Energy Administration issued Guiding Opinions on Energy Work in 2023. Among them, it is proposed to consolidate and expand strategical advantageous industries. Effectively organize and implement the 14th Five-Year Plan for Scientific and Technological Innovation in the Energy Field, and establish project database for planning and implementation monitoring. Accurately identify the first batch of innovation platforms of energy research and development in the 14th Five-Year Plan, and strengthen the assessment, evaluation and daily management of innovation platforms. Accelerate research on key technologies for new energy storage and application technologies for green hydrogen storage, and promote large-scale application of energy storage and hydrogen energy.

Comment:

The Guiding Opinions for 2023 systematically arranges the key tasks in the energy field in 2023 from five aspects: Energy Supply Guarantee, Energy Green and Low-Carbon Transformation, Energy Industry Modernization, Regional Energy Coordinated Development, Energy Governance Capacity Construction, and High-Level Open Cooperation in the Energy Field, which more focus on the development of Regulatory Power Supply, New Energy, Energy Storage, Hydrogen Energy and other fields.

公开事项名称：国家能源局关于印发《2023年能源工作指导意见》的通知 国能发规划〔2023〕30号

索引号：000019705/2023-000045　　主办单位：国家能源局

制发日期：2023-04-06

国家能源局关于印发《2023年能源工作指导意见》的通知

国能发规划〔2023〕30号

各省(自治区、直辖市)能源局，有关省（自治区、直辖市）及新疆生产建设兵团发展改革委，各派出机构，中核集团、中国石油、中国石化、中国海油、国家管网集团、国家电网、南方电网、中国华能、中国大唐、中国华电、国家电投、中国三峡集团、国家能源集团、国投、华润集团、中煤集团、中广核：

为深入贯彻落实党中央、国务院有关决策部署，扎实做好2023年能源工作，持续推动能源高质量发展，国家能源局研究制定了《2023年能源工作指导意见》，现予发布，请各地、各单位结合实际情况抓好落实，并将执行情况于2023年12月底前函告我局。

附件：2023年能源工作指导意见

国家能源局

2023年4月6日

Screenshot from Website of The National Energy Administration

Source: http://zfxxgk.nea.gov.cn/2023-04/06/c_1310710616.htm

The General Office of the State Council issued the Opinions on Promoting the Stable Scale and Optimal Structure of Foreign Trade, cultivating the advantages of automobile exports

On April 25, the General Office of the State Council issued the Opinions on Promoting the Stable Scale and Optimal Structure of Foreign Trade, which pointed to cultivate the advantages of automobile exports. Business associations in various regions organize automobile companies and shipping companies to conduct direct-customer docking, and guide automobile companies to sign medium and long-term agreements with shipping companies. At the same time, the government encourages Chinese-funded banks and their overseas institutions to innovate financial products and services on the premise of compliance with laws and regulations and controllable risks, and provide financial support for auto companies overseas. Local units further support auto companies to establish and improve the international marketing service system, and enhance the ability to carry out brand promotion, business sales, and after-sales service overseas.

Comment:

The Opinions clearly pointed out that it is necessary to find ways to stabilize exports to advanced economies, and guide enterprises to deeply explore the markets of developing countries, ASEAN and other regional markets. This decision is beneficial for automobile companies to obtain a certain amount of financial support overseas, better carry out overseas brand promotion, and promote product export.

国务院办公厅关于推动外贸稳规模优结构的意见

发布时间：2023-04-26 来源：中国政府网 字号：[大] [中] [小]

国办发〔2023〕10号

各省、自治区、直辖市人民政府，国务院各部委、各直属机构：

外贸是国民经济的重要组成部分，推动外贸稳规模优结构，对稳增长稳就业、构建新发展格局、推动高质量发展具有重要支撑作用。为全面贯彻落实党的二十大精神，更大力度推动外贸稳规模优结构，确保实现进出口促稳提质目标任务，经国务院同意，现提出以下意见：

一、强化贸易促进拓展市场

（一）优化重点展会供采对接。推动国内线下展会全面恢复。办好中国国际进口博览会、中国进出口商品交易会、中国国际服务贸易交易会、中国国际消费品博览会等重点展会。支持中国进出口商品交易会优化展区设置和参展企业结构，常态化运营线上平台。各地方和贸促机构、商协会进一步加大对外贸企业参加各类境外展会的支持力度，加强组织协调和服务保障，持续培育境外自办展会、扩大办展规模。

（二）便利跨境商务人员往来。加强对外沟通，提高APEC商务旅行卡办理效率，加大工作力度推动其他国家畅通我商务人员申办签证渠道、提高办理效率。继续为境外客商办理来华签证提供便利。研究优化远端检测措施。尽快推进国际客运航班特别是国内重点航空枢纽的国际客运航班稳妥有序恢复，推动中外航空公司复航增班，更好为商务人员往来提供

Screenshot from Website of The State Council of the People's Republic of China

Source: https://www.mee.gov.cn/zcwj/gwywj/202304/t20230426_1028440.shtml

Black Sesame Technologies has been designated by FAW Hongqi Project, and the first two models will be mass-produced in 2024

In May, Black Sesame Technologies announced that it won the designated project for the mass production of smart driving chips for the first-generation FEEA3.0 electronic architecture platform project under FAW Hongqi. Based on the Huashan No. 2 A1000L series chips of Black Sesame Intelligent Technologies, FAW Hongqi will create a non-time-multiplexed, cost-effective driving and parking integrated autonomous driving domain control platform. The platform will be applied to 80% of FAW Hongqi's vehicle models. At the same time, the FAW Hongqi E001 and E202, the cooperative models developed by the two parties based on the Black Sesame Technologies A1000L chip, will be mass-produced in 2024 at the earliest.

Further Information:

About Black Sesame Technologies

Founded in 2016, Black Sesame Technologies is an industry-leading company of computing chip and platform for smart cars, specializing in R&D of high-performance computing chip and platform. Based on core IP and chips, Black Sesame Technologies provides full solution for autonomous driving and V2X scenarios, and it is dedicated to accelerating commercialization of autonomous driving solutions and contributing to the smart car value chain.

A1000L Chip Introduction

A1000L is the first autonomous-driving perception chip in China that is verified by both ISO26262 ASIL-B Functional Safety and AEC-Q100 Grade-2 standard, which could support L2/L2 + ADAS solutions.

Basic Specs

- 16nm FFC Automotive Process
- High-Performance ARM Cortex A55 CPU@1.5GHz
- Automotive grade dual-channel 32-bit LPDDR4

Joyson Electronics: Subsidiary reached strategic cooperation with Horizon Robotics

In May, Joynext, a subsidiary of Joyson Electronics, a supplier of automotive electronics and security, has signed a strategic cooperation agreement with Horizon Robotics. In the cooperation, Horizon Robotics provides intelligent car solutions based on “chips + reference algorithms + development tools”, including automotive grade chips, on-board computing platforms, visual perception, human-computer interaction, etc. Based on its own leading automotive grade autonomous driving technology accumulation, Joynext will jointly promote product development in the fields of Advanced Driver Assistance System (ADAS), autonomous driving, and intelligent human-computer interaction with Horizon Robotics, in order to accelerate the mass production of autonomous driving solutions.

Further Information:

About Joyson Electronics

Joyson Electronics is committed to the R&D and manufacture of intelligent cockpit, intelligent driving, E-Mobility and automotive safety, etc. Its headquarter is located in Ningbo, China, which owns the Intelligent Automotive Research Institute, the New Energy Research Institute, the Automotive Electronics Division and the Automotive Safety Division, etc. Since 2011, Joyson has acquired several companies: PREH GmbH, IMA GmbH, QUIN GmbH, and Key Safety Systems, TechniSat Automotive, and Takata assets.

About Horizon Robotics

Founded in 2015, Horizon Robotics is currently the main supplier of intelligent driving computing solutions and automotive smart chips in China. In 2020, Horizon Robotics has officially started the pre-installation mass production of automotive smart chips in China. At present, the cumulative shipment of Horizon Journey chips has exceeded 2 million pieces, and it has been designated projects with about 20 car companies for the pre-installation mass production of 70 models. Major OEM customers include: Audi, BYD, Changan Automobile, Great Wall Motor, Dongfeng Motor, GAC Group, Hongqi, JAC Group, Li Auto, Chery Automobile.

BYD new energy vehicle core parts industrial park settled in Changzhou, Jiangsu Province, with a total investment of about 10 billion yuan

On February 18, 2023, BYD new energy vehicle core parts industrial park project groundbreaking ceremony was held. The project was settled in Changzhou Binjiang Economic Development Zone, with a total investment of about 10 billion yuan. After the completion of the project, the annual output will be 300,000 sets of core components such as intelligent powertrain and transmission system and further help the construction of the city of new energy-Changzhou. Back in April 2019, BYD East China (Changzhou) Industrial Base settled in Luoxi Town in Changzhou National High-tech Zone, with a total investment of about 10 billion yuan and annual output value of 28 billion yuan in 2022.

Further Information:

- In November 2022, Hurun Research Institute released the "2022 Hurun China New Energy Industry Agglomeration City List", and Changzhou was ranked 5th among the 50 cities on the list. the list showed that Shenzhen, Shanghai, Beijing and Wuhan were ranked 1-4, and Changzhou was listed in the top five cities with the highest concentration of new energy industry in China.

- Changzhou has formed a 100-billion industry chain of complete new energy vehicle and core parts including vehicle manufacturing, power battery, motor, electric control, sensor, charging pile, etc. The number of midstream enterprises in the new energy vehicle industry chain exceeds 3,400, ranking first in China. BYD, Li Auto, CATL, CALB, SVOLT Energy Technology, BTR and other enterprises have set up factories in Changzhou.

Source: https://www.pcauto.com.cn/hj/article/1897293.htmlhttps://www.toutiao.com/article/7174706974687248900/?channel=&source=search_tab

XPeng Motors factory in Guangzhou officially put into operation to produce G9 and other models

On February 20, 2023, XPeng Motors' Guangzhou Intelligent Connected Manufacturing Base was officially put into operation. The plant is located in the Sino-Singapore Guangzhou Knowledge City in Guangzhou Development Zone, designed for an annual production capacity of 120,000 vehicles. After the XPeng Factory in Zhaoqing, it is another intelligent connected vehicle manufacturing plant gathering stamping, welding, painting, final assembly four major process workshops and pilot production of new models and other businesses in one. In the future, XPeng G9 and other models will be produced and delivered in this factory.

XPeng G9

Further Information:

XPeng Motors Capacity Planning

Foundry(The agreement with the Haima plant expired) →

Own Factories: Capacity Planning of 400,000 units

- **Zhaoqing Factory: A**fter expansion, the capacity upgrades from 100,000 units to 200,000 units, the maximum can reach 360,000 units. Phase I put into operation in May 2020, with an capacity of 100,000 units; Phase II start construction in August 2021, with a planned annual capacity of 100,000 units, and if the shift is increased, the total annual capacity will be up to 360,000 units.
- **Guangzhou Factory:** Planned production capacity of 100,000 units, planned to be put into production by the end of 2022 (actually put into production in February 2023)
- **Wuhan Factory:** Planned production capacity of 100,000 units, peak capacity of 150,000-200,000 units, planned to be put into production in 2023

XPeng Motors Guangzhou Factory

Source: https://www.toutiao.com/article/7202837000016101927/?channel=&source=search_tab

ITALIAN TRADE AGENCY

3: Aftermarket News

3.1 China Aftermarket Research

3.2 Car Body Film Industry Analysis

3.2 Information of Hot Selling Products

Current Situation and Future Development Trend of China's Auto Modification Market

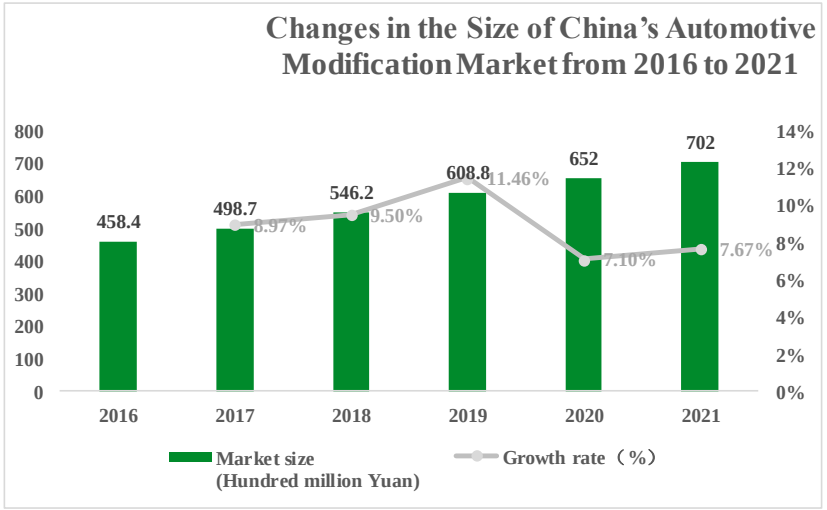
Custom modification has become the mainstream of global auto consumption and the main power to drive market growth. China's auto modification market is rapidly developing from the single part upgrade since 2010 to the complete vehicle modification upgrade. With the release of epidemic situation in China, the boom of modification consumption, driven by custom modification of complete vehicles and comprehensive modification of vehicles, will accelerate, which will drive the auto modification market to usher in a new round of growing opportunities.

Year	Market size (Hundred million Yuan)	Growth rate（%）
2016	458.4	
2017	498.7	8.97%
2018	546.2	9.50%
2019	608.8	11.46%
2020	652	7.10%
2021	702	7.67%

Changes in the Size of China’s Automotive Modification Market from 2016 to 2021

Market Scale: Modification Market Grows 50% in Five Years.

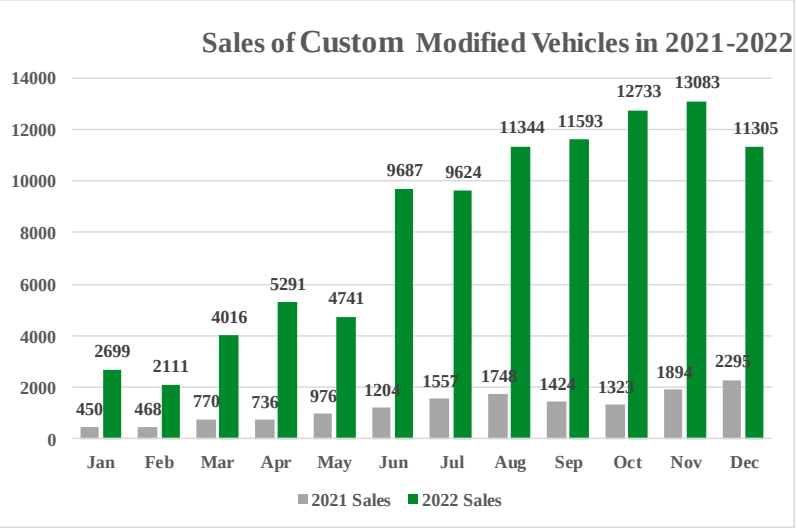
With the rise of "Generation Z" consumers and the rapid expansion of Chinese auto modification consumers, the market scale has been growing year by year. Data shows that the market size of China's auto modification market rose from 45.84 billion yuan in 2016 to 70.2 billion yuan in 2021, with a market growth rate of over 50% in five years. As the penetration rate of new vehicle modification increases, the domestic auto modification industry will usher in an explosive period.



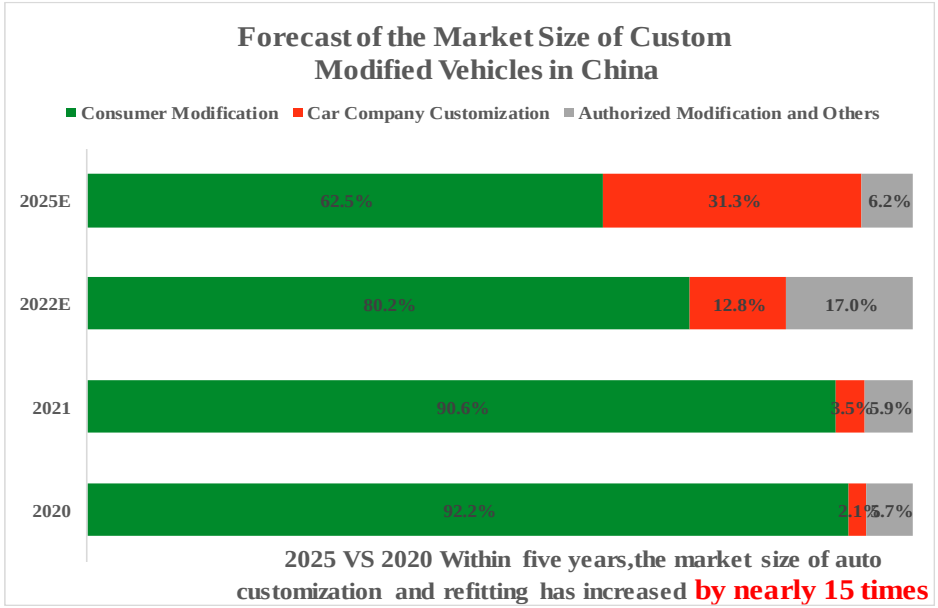
Data Source & Chart Maker: CIMP Group

Custom Complete Vehicles: Sales of Customized Modified Vehicles Boomed in 2022.

With the maturity of China's auto industry and the consumer groups become younger in average age, the concept of auto consumption is changing and the demand for auto modification is becoming greater. As seen from the chart below, the domestic sales of custom modified models have rapidly increased from 14,845 units in 2021 to 98,227 units in 2022. The annual sales of custom modification increased 5.6 times year-on-year and the sales growth rate is incredible.



The surge in sales of custom complete vehicles has accelerated the formation of a diversified development pattern of modification. Car companies accelerate the development of the auto modification industry, focus on building products and system layout and gradually carry out the transformation of the sales and service system. Modification will become an important part of services other than sales, after-sales, finance and insurance. It is expected that by 2025, the market share of custom modified vehicles will exceed 30%.



Data Source & Chart Maker: CIMP Group

Comprehensive Modification: more exhibitors and more abundant new modified products.

From the view of current stage, there are three development modes in China's auto modification industry: the first one is that OEMs provide the complete vehicle and the modification factories modify the vehicles; the second one is that OEMs and modification factories jointly develop; the third one is that OEMs provide a full set of service of auto modification.

The development of China's auto modification industry is still in its infancy and the industry standard is not uniform. CIMP AutoEcosystems 2023 can reflects the development of an industry.

Mode	Feature	Representative Brands
OEMs provide the complete vehicle and the modification factories modify the vehicles	Due to the varying qualifications and technology level, the quality of modification cannot be guaranteed.	Chengdu TOPFIRE
The Second Mode: Development mode in China auto modification market at present	This mode can combine technology of OEMs and that of modification factories to jointly develop new auto modification market, to guarantee the performance of modified vehicle to the maximum extent. However, problems of intellectual property and brand management exist as well.	IAT-Auto
The Third Mode: Development Trend in China auto modification market	OEMs provide independent auto modification services for the personalized auto modification market.	GAC Motor

Consumption Preferences: Nearly Half of the Consumers Show High Interest in Modification

Degree of interest	Proportion
Not interested at all	11%
A little interested, Pay attention to relevant information occasionally	47%
Very interested, often focus on relevant content and cases	26%
Consider modifying one's own car (or the car plan to buy)	8%
One's own car has been modified	8%

The Consumption Preferences of Chinese People on Auto Modification in 2022

The younger consumer group is also changing the auto consumption concept. The demand for auto modification among the younger generation of consumers is also getting greater. Data shows that the proportion of high interest group in modification in China is over 40%, first and second tier cities are the main force of modification, and middle-aged people are the mainstay of the modification world.

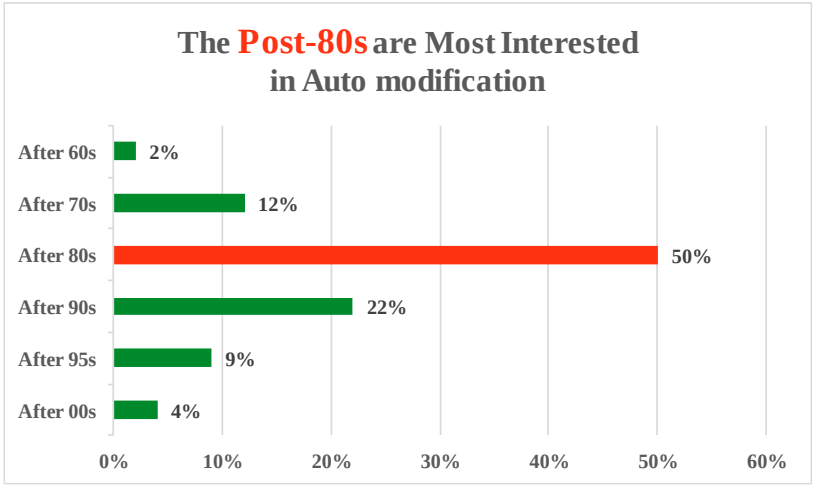
In general, in China, auto modification preferences can be summarized into three demands:

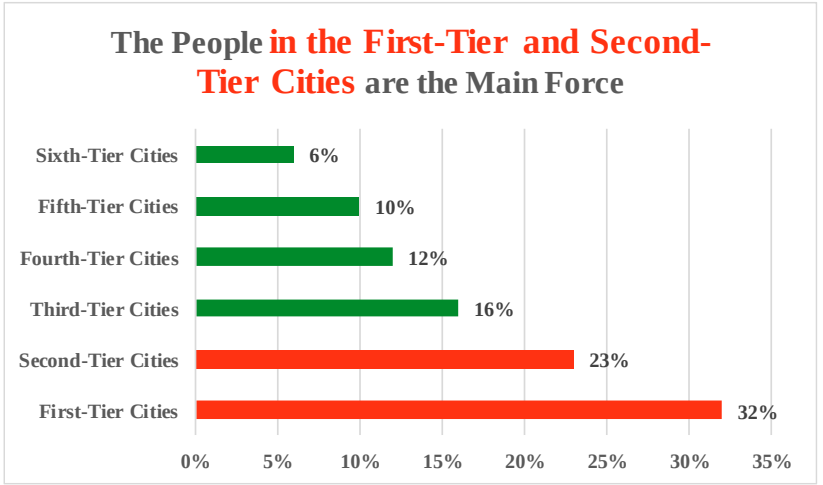
First, for better appearance and more individuality;

Second, for safer driving;

Third, for faster speed.

According to the survey data of China Association of Automobile Manufacturers, the modification items such as film, car body color change and upgrading car audio equipment account for 85% of the whole modification market.





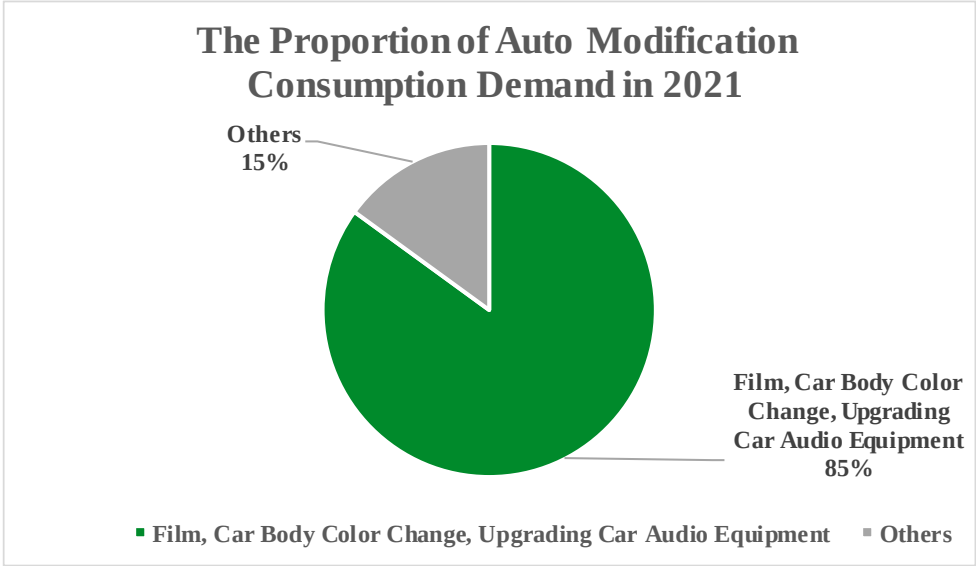
Data Source & Chart Maker: CIMP Group

Development Trend: China's Modification Market is in a Period Full of Opportunities.

1.Liberalized Policies. In recent years, China has issued a series of regulations and policies for auto modification, which provides a policy basis for the legalization and compliance of the development of commercial vehicle modification, vehicle body modification, off-road modified parts and other industries, indicating that the domestic auto modification policy is gradually liberalized, and it is expected to promote the development of the domestic auto modified part industry.

2.Expanding Scale. At present, the rate of auto modification in China is far lower than that in foreign auto markets. Assuming that the rate of auto modification reaches 50% in the future, the market scale will reach trillions in the future. In addition, as consumers gets younger in an average age, middle-class consumers continue to grow, which is conducive to the further expansion of the modification market scale.

3.New Opportunities. In the future, not only will new channels and standardized services gradually appear in the auto modification market, domestic and foreign modification brands will also usher in a period full of opportunities.



Data Source & Chart Maker: CIMP Group

Body film industry in China is in a period of rapid expansion

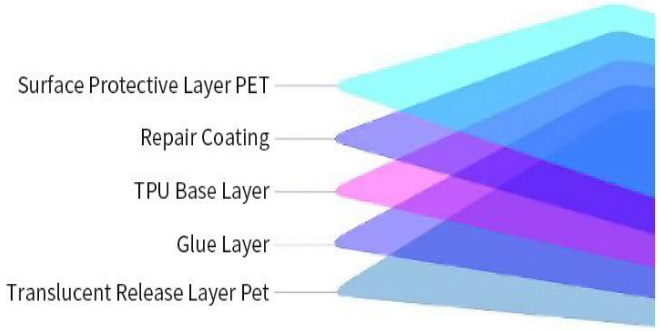
Car film can be divided into four types according to different demands: Heat-Insulating Film, Explosion-Proof Film(OMARK), Paint protective film and Color Changing Film. Among them, Heat-Insulating Film, Explosion-Proof Film are the window film, and Paint protective film and Color Changing Film are body film, which are used to protect car paint or change the color of car body. Since 2021, China's car body film market has maintained a rapid momentum, and it is currently the fastest-growing car film category in the Asia-Pacific region and the Chinese market.

Body film market in China has developed rapidly in the recent three years

Industry Status: TPU base material is replacing PVC

In recent years, with the increase of consumers' awareness of the beauty of cars, car body film has been gradually changed from high-end and luxury consumption to more popular and standard consumption, and this market demand is growing rapidly.

From the perspective of product form, body films have a five-layer structure: PET Film - Surface Coating - Base Layer – Pressure-sensitive adhesive (PSA)- Release Film. In the body film, the Surface Coating and Glue need to be applied to the PVC or TPU Base Film through the coating process, and such a production is very difficult. The Base Film is the core of the body film, and the commonly used Base Film Materials are PVC and TPU. TPU has Impact Resistance, Puncture Resistance, Scratch Resistance, Corrosion Resistance, Good Weather Resistance and Heat Repair functions. It will not leave residual glue when tearing the film, and the texture is good, so that users have a good sense of experience and it has the significant performance advantages compared with PVC. Although the main base film material in the current car body film market is still PVC, the market share of TPU base material is rising rapidly.



Five-layer structure of body film

Data Source & Chart Maker: CIMP Group

At present, the commercially available body film is sold in rolls. The general specification is 1.52m*15m or 22.8 square meters, and each car uses one roll for installation. The Chinese brand-K-Yang has an absolute advantage in substrate shipments, and Nkoda, Dingxin, NAR, BOP, and Quad, etc. are top sellers in Formed Film sales.

The operation mode of the body film production enterprise is mainly based on three modes: Brand Management, OEM production, and Terminal Operation.

Brand Management:

Enterprises focusing on brand management	
China's Representative Brands of Paint Protective Film	BOP, XPEL, V-Kool, LLumar, Quantum, Quad, etc.
China's Representative Brands of Color Changing Film	Arlon, Avery, 3M, AX etc.

The above-mentioned companies enhance the market competitiveness of their products by strong brand image and company concepts exposure, using their brand power to seize market share.

OEM Production:

Enterprises focusing on OEM production	
China's Representative Brands of Paint Protective Film/Color Changing Film	Nkoda, NAR, Namoer, Yuneng, Morthink, etc.

The main business of the above-mentioned manufacturers is OEM production, providing products for domestic and foreign brands and enterprises, which pays more attention to production technology and production efficiency.

Terminal Operation:

Enterprises focusing on terminal operation	
JoyVie Club	Operate the company through the whole store output
Jiangsu Chimei	Operate the company through the 4S store resident mode
JSZ	Operate the company through the 4S store resident mode
JEM	operate the company through outsourcing film installation business to 4S store
Chengchi	Operate the company through brand + resident mode

Compared with the above two types of cooperation models, Enterprises with terminal operation mode have richer channel resources and operating experience.

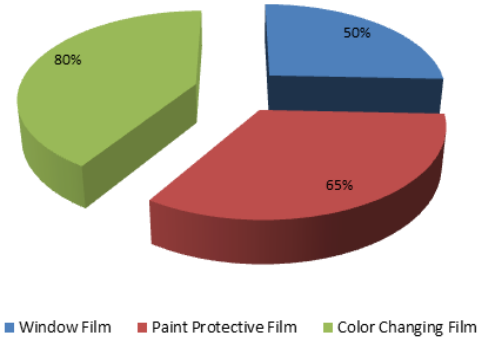
Market size: a potential size of 8.75 billion yuan

From a global perspective, from 2020 to 2023, due to the impact of the epidemic and the decline in new car sales, the overall scale of the global automotive window film market has shown a downward trend. However, the body film represented by Paint Protective Film and Color Changing Film has shown rapid growth in Chinese market.

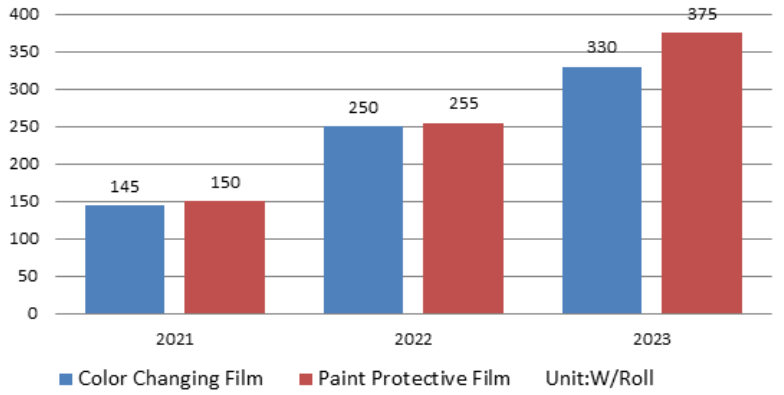
China is the world's largest car film production and sales country, and its production capacity exceeds 50% of global production. In the car body film industry, 60%-70% of the Paint Protective Film in global market share is from China, and the Color Changing Film in market share exceeds 80%. However, the Paint Protective Film and Color Changing Film from Chinese brands mainly towards to the middle and low-end consumer groups, while and high-end products are still dominated by imported brands.

In 2021, the sales volume of China's car body film is about 3 million rolls, and exceeded 5 million rolls in 2022, an increase of 66.7%. In 2023, the body film sales are expected to exceed 7 million rolls.

According to data from Caitong Securities, the potential market size of body film can reach 8.75 billion yuan, of which the potential scale of Paint Protective Film is 5 billion yuan, and the potential scale of Color Changing Film is 2.75 billion yuan.



Global Share of Window Films and Body Films Made in China

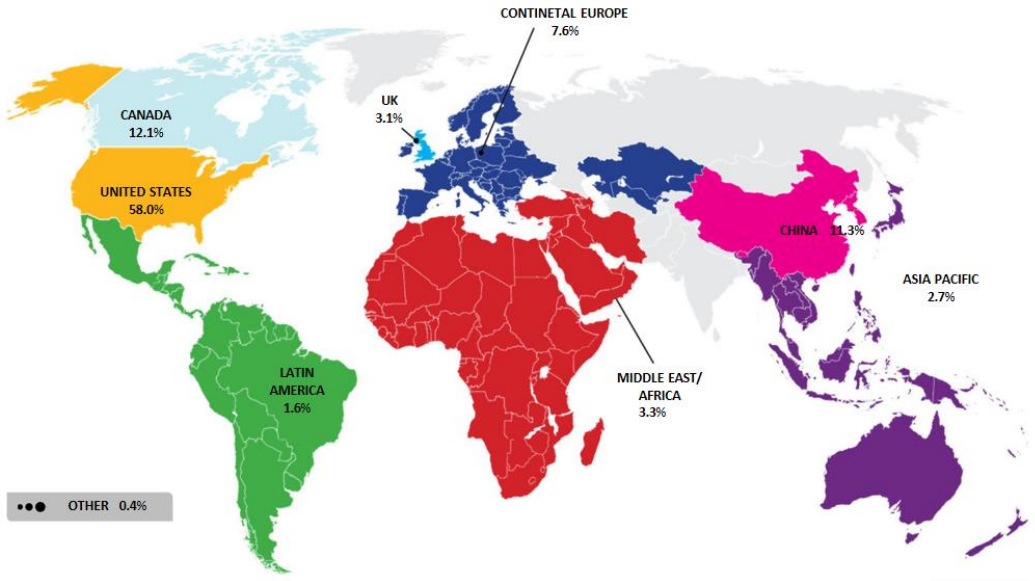


2021-2023 Changing Trend of Body Film in Chinese Market Share

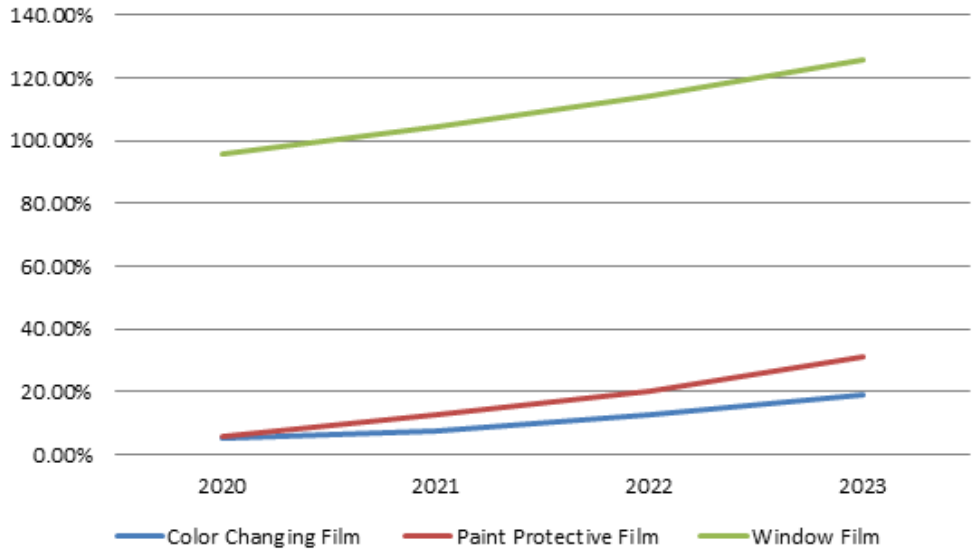
Data Source & Chart Maker: CIMP Group

Market Penetration: Installation rate is low but growing rapidly

Overall, the installation rate of body film in the Chinese market is still very low. From the perspective of new car installation rate, in 2021, the installation rate of Paint Protective Film in the new car market was about 7.5%, and in 2022 it exceeded 12.5%, an increase of 60%. The new car installation rate will be close to or slightly exceed 20% in 2023. Taking the Paint Protective Film of XPEL as an example, its sales in the United States has accounted for 58% of its global sales in 2022, while sales in the Asia-Pacific region and China has only accounted for 14%. Compared with the installation rate of Window Film of 95% in Chinese new cars, the market development space and speed of body film will continue to be improved in the future.



XPEL Paint Protective Film Analysis of Sales Market Proportion by Region in 2022



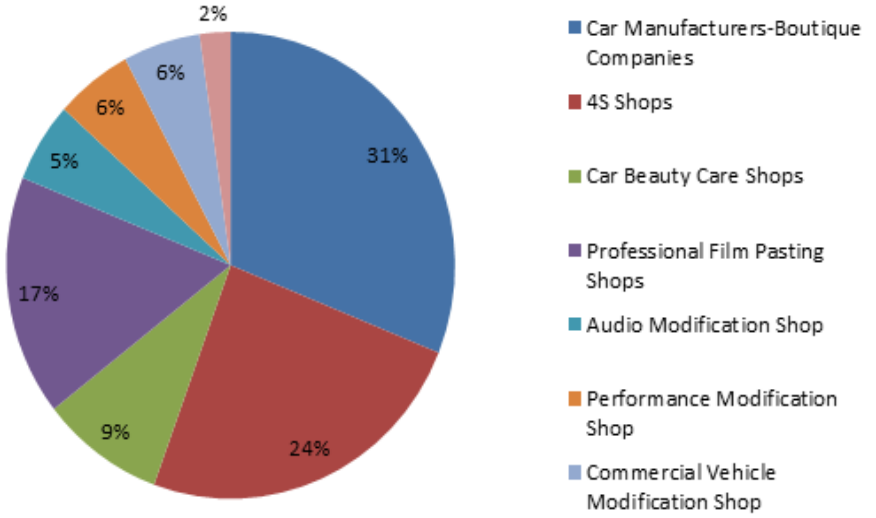
The 2020-2023 Trend of Installation Rate of Paint Protective Film and Color Changing Film (Compared with Window Film)

Data Source & Chart Maker: CIMP Group

Market Penetration: Installation rate is low but growing rapidly

From the perspective of the market demand structure of Chinese car body film, more diversified terminal sales channels began to introduce the Paint Protective Film and Color Changing Film projects. From the perspective of the proportion of sales channels, Car Manufacturers, Boutique Companies and 4S Shops have absolute unique advantages in new car resources, accounting for about 60% of the market share, while aftermarket service channels have the service advantages in the stock car market, accounting for about 40% of the market share.

From the perspective of sales area, the consumption of body film in East China and South China has the fastest growth while it is relatively low in Northwest and Southwest China. From the perspective of vehicle model distribution, the installation rate of body film of new energy vehicles is higher than that of traditional fuel vehicles, especially in Color Changing Film project. Taking Tesla models in East China as an example, more than 40% of Tesla owners choose to change the color, which shows the huge consumption potential of Color Changing Films in the new energy market.



Main Sales Channels and Proportions of Body Films in China

Body film has a higher penetration rate on E-commerce platforms

Data Source & Chart Maker: CIMP Group

Challenges and Opportunities: Consumption is gradually rising while with the challenges and opportunities coexisting

What opportunities mean is that the body film market is expanding rapidly. In the past two years, the numbe of companies entering the body film industry outside the automotive industry has increased significantly.

In terms of the challenges, in order to seize market share, competition among enterprises is intensifiec which was specifically reflected in the rapid decline in the sales price of PVC-based body film and th profits of enterprises. In April 2023, the EXW price of PVC Substrate Material Paint Protective Film l fallen below 400 CNY. At the same time, online sales channels, such as e-commerce, have a greater imp on offline sales.

For future market opportunities, as the China's policy on car body color changing is tempering down, consumption of car body film is quickly entering into a mature stage. Compared with direct spray-paint, consumer price of car Color Changing Film is still cost-effective. Taking Tesla as an example, the extra c of ordering a Tesla on the official website to modify the car color is 8,000 CNY, while the terminal consumer price of the Color Changing Film is about 5,000-10,000 CNY ,which is more cost-effective (The price depends on the quality, and there is a big difference, including the cost of the installation)

In the short term, the threat to the development of the body film market is mainly due to the single sales channel of the body film. The main sales volume of Paint Protective Film is concentrated in the incremental market of new cars, while the important sales volume of Color Changing Film comes from the stock market of old cars. At the same time, the number of companies entering the body film industry has increased recent years, which caused the possibility of price wars.

The additional cost of modifying the color on Tesla official website is 8,000 CNY

Data Source & Chart Maker: CIMP Group

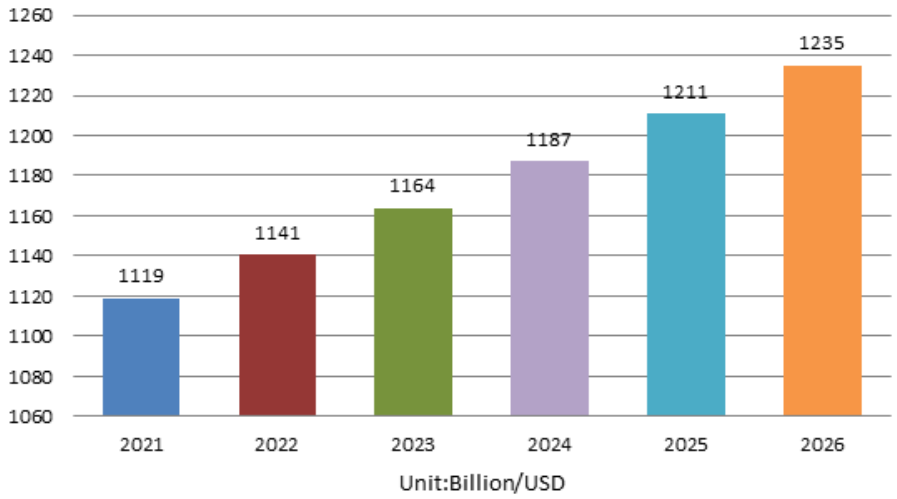
Development Prospects: more product forms will be derived

In the future, led by the Asia-Pacific region, especially the Chinese market, the scale of the global automotive film industry will further increase. It is predicted that in 2026, the global car film market will reach 123.5 billion USD, of which the share of car body films will further increase.

From the perspective of future development trend and market size of car body film, the car body film industry will attract more companies and professional stores to join and the installation rate will increase rapidly, and the market space will be further enlarged, with the acceleration of legalization and compliance of modification in China.

From the perspective of substrate and base material.development, since 2022-2023, the products of the body film market are gradually transferring from PVC substrate to TPU substrate, and it is expected that the mainstream products in the market will switch to TPU material in 2023-2024.

From the perspective of product patterns and forms because of TPU performance characteristics, we believe that in the next few years, more TPU substrate car films product forms will be derived and they will penetrate into the field of automotive interior modification, such as Light-Guiding Film, Photoresist Film , Projection Film, etc.



2021-2026 Global Automotive Film Market Scale Forecast

The Flexible Displaying Star Film was launched by Astrace Group in 2023

The Photosensitive Polymer Film applying to AR HUD was introduced by Holographic Optical Ceres

Data Source & Chart Maker: CIMP Group

Product: Meteorite Car- Paint Protective Film

Brand:

Meteorite

Introduction:

Meteorite Car- Paint Protective Film, it is a double UV curing coating and wear-resistant, so it has the ability of high anti-fouling, self-cleaning, zero rain spots, and no static electricity, which increases the brightness of the car paint by 50%.

Product: Honglong Seat -Model Y Intelligent Cockpit for Tesla

Brand:

Honglong

Introduction :

Honglong Model Y is the intelligent and comfortable cockpit in the rear row, with exquisite craftsmanship and Nappa leather, which supports the adjustment of 4 gears at the front and rear of the headrest, wireless charging, storage boxes, and smart touch screen functions.

Product: Caravan -Trumpchi M8 Grandmaster Special Electric Ceiling TV

Brand:

Caravan

Introduction:

Caravan -Trumpchi M8 Grandmaster Special Electric Ceiling TV is equipped with Cortex-A55 octa-core processor, high-definition view display effect , releasing your hands, supporting intelligent voice, KTV function, electric flip function.

Product: FXT -Wuling Binguo Special 10.3-Inch Smart Screen

Brand:

Wuling

Introduction :

The 10.3-inch smart screen dedicated to Wuling Binguo was independently developed and designed by the powerful factory of Shenzhen FXT Technology Co., Ltd., with 4G full metwork, high-definition panoramic images, DSP sound effects, and full lamination technology, covering more than 100 special models.

Product: WEMAER 360 Panoramic All-in-one Machine

Brand:

WEMAER

Introduction:

WEMAER-T5 series of 3D panoramic agreement all-in-one machine. anti-shake, anti-stripe interference performance improved, the view is clearer; a variety of styles of view UI options such as Volkswagen, Honda, Toyota and General Motors, equipped with Allwinner T5 main core, quad-core efficient CPU, more stable and smoother.

Product: Haoshun 5-in-1 Liquid Gold Cleaner

Brand:

Haoshun

Introduction :

Hoshun 5-in-1 Liquid Gold, consists of high concentration of PEA purifier, can help deeply remove carbon deposits from car injectors, intake valves and other parts. Meanwhile, it can also deeply clean the fuel system to improve power, reduce consumption and energy consumption, protect the engine, reduce exhaust emissions and prolong engine life.

Product: QLIANG TPU-Super Black series

Brand:

QLIANG

Introduction:

QLIANG TPU-Super Black Series, has more gorgeous full color than the common wrap film, adopt TPU main substrate, with high temperature resistance, oxidation resistance and small scratch self-repair function, comparable to the strong protection of paint protection film, while the gloss of the film surface is brighter than the common glossy black wrap film.

Product: Klarwind 4G - plasma parking air conditioner

Brand:

Klarwind

Introduction :

Klarwind 4G - plasma parking air conditioner, the masterpiece of passenger truck products designed by international brand team, 4G networking can control it conveniently, but also has a high performance sterilization and purification function.

Product: Onstar Lateral Rearward Active Safety System

Brand:

Onstar

Introduction:

Onstar lateral and rearward active safety system focuses on solving lateral and rearward safety problems during driving, with strong differentiation. It has 3 times the field of view of traditional rearview mirror, with intelligent functions such as enhanced night vision, steering automatic magnification and IP67 level waterproof, to protect drivers and car body during driving.

Product: Kaifute Intelligent Rear Cabin Control System

Brand:

Kaifute

Introduction:

Kaifute Intelligent Rear Cabin Control System developed large screen on the rear armrest of the car, with 14 functions such as rear adjustable passenger seat, air conditioning adjustment, lifting windows and steering safety reminder. It can be adapted to more than 100 models. It can not only make vehicles more commercial, but also assure safety, which is an innovative new product at present.

4: Appendix

4.1 Automotive Market & Tech Reports

4.1.1 2022 Chinese Market: New Vehicle Sales Up 2.2% to 26,864,000 units, Major Increases by BYD and Tesla

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4.1.1 2022 Chinese Market: New Vehicle Sales Up 2.2% to 26,864,000 units, Major Increases by BYD and Tesla

Summary

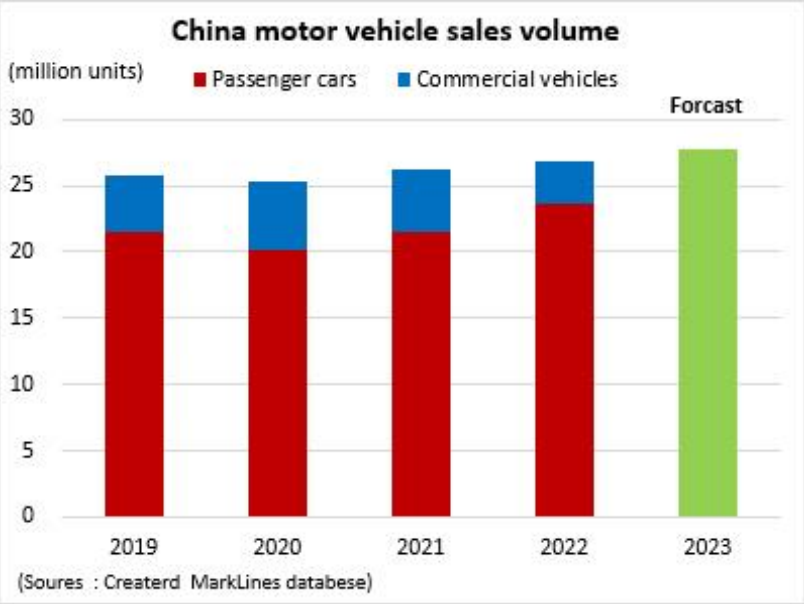
For the full year of 2022, new vehicle sales in the Chinese market increased by 2.2% year-over-year (y/y) to 26,864,000 units (based on factory shipments, including exports). The first half of the year was significantly affected by urban lockdowns caused by the COVID pandemic. The single month of April saw a significant drop in sales, down 47.6% y/y to 1,181,000 units. Due in part to the government's consumption stimulus measures from June onward, the market grew by 29.4% y/y to 7,414,000 units in the third quarter. According to a January 2023 announcement by the China Association of Automobile Manufacturers (CAAM), sales are expected to increase by about 3% in 2023.

By corporate group, the top three groups in sales are SAIC, FAW, and Dongfeng, the same as in 2021. In fourth place is the GAC Group, whose own-brand NEVs are performing well. Changan Automobile Group took fifth place, and in sixth was BYD, which boasts sales approximately 2.5 times higher than in 2021.

In the passenger car market, Chinese manufacturers performed well with 11,949,000 units, up 23.0% from the previous year, accounting for half of the market. All three Germany-based companies increased their sales volumes over the previous year. On the other hand, Japanese manufacturers, with the exception of the Toyota Group, performed poorly and their aggregate market share was lower than that of their German counterparts. U.S. manufacturers saw their market share fall below 10% due to the poor performance of Ford and GM, although Tesla performed well.

Sales of NEVs increased significantly from 3,521,000 units in 2021 to 6,887,000 units in 2022. The best-selling NEV passenger car in China continues to be the Wuling Hongguang MINIEV with 573,000 units sold. In second place was the Tesla Model Y, and in third place was BYD's Song DM. The NEV subsidy, which had been in place since 2018, ended in December 2022, but the tax incentives for NEV purchases will continue through December 2023.

In 2022, the number of vehicles exported was 3,111,000 units, about 1.5 times that of the previous year, of which 679,000 were NEVs. Imported passenger car sales continued to be led by the Lexus brand.



Sales volume in 2022 increased by 2.2% y/y to 26,864,000 units, to be around 3% in 2023

According to a report by the National Bureau of Statistics of China in January 2023, Chinese GDP for the full year of 2022 increased by 3.0% y/y to about CNY 121 trillion. Growth in the first quarter was 4.8% y/y, but only 0.4% y/y in the second quarter, 3.9% y/y in the third quarter, and 2.9% y/y in the fourth quarter.

New vehicle sales in 2022 rose slightly from the previous year to 26,864,000 units, up 2.2% y/y. Of this total, passenger car sales were up 9.7% to 23,563,000 units, while commercial vehicle sales fell sharply by 31.1% y/y to 3,301,000 units, as sales of buses, trucks, and semi-trailers all declined. According to an announcement by the China Association of Automobile Manufacturers (CAAM) on January 12, 2023, sales volume in 2023 is expected to increase by around 3% over 2022.

Chinese vehicle sales volume by vehicle type

	2018	2019	2020	2021	2022	Percentage change
Grand total	28,080.6	25,768.7	25,311.1	26,274.8	26,863.7	2.2%
Passenger car total	23,709.8	21,444.2	20,177.7	21,481.5	23,563.3	9.7%
Basic passenger cars (sedans/hatchbacks)	11,527.8	10,275.7	9,270.3	9,946.9	11,094.2	11.5%
SUVs	9,994.7	9,385.3	9,465.3	10,079.0	11,188.7	11.0%
MPVs	1,734.6	1,383.7	1,054.0	1,064.4	957.4	-10.1%

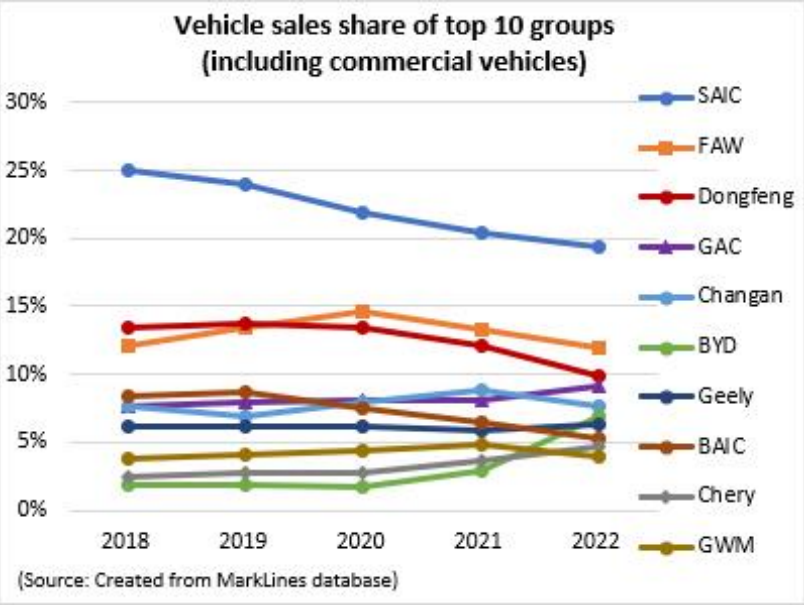
	2018	2019	2020	2021	2022	Percentage change
Minivans	452.6	399.5	388.0	391.3	323.1	-17.4%
Commercial vehicle total	4,370.8	4,324.5	5,133.3	4,793.3	3,300.5	-31.1%
Trucks	3,402.5	3,285.2	3,850.2	3,611.6	2,594.0	-28.2%
Semi-trailers	483.1	564.9	834.9	676.8	298.6	-55.9%
Buses	485.2	474.3	448.2	504.8	407.8	-19.2%

(Source: MarkLines database)

Sales volume by Group in 2022: Top 3 companies' sales volume down; BYD and GAC prospering

The 2022 sales volumes (including commercial vehicles) of the top three Chinese-affiliated Groups, which were the same as in 2021, all fell below the previous year's level. The top automaker, Shanghai Automotive Industry (Group) Corporation (SAIC Group), had a year-on-year decline of 3.2% to 5,192,000 units. Sales of SAIC Passenger Vehicle, which operates MG and Roewe, and SAIC-VW were strong, but sales of SAIC-GM's Buick and Cadillac brand vehicles were sluggish. In second place was China FAW Group (FAW Group) with sales of 3,215,000 units, down 8.4% from the previous year due to a decline in commercial vehicle sales. Dongfeng Motor Group Corporation (Dongfeng Group) was in third place, with sales of 2,652,000 units, down 17.0% from the previous year. It was affected by the departure of the foreign joint venture Dongfeng Yueda Kia from the Dongfeng Group and the sluggish sales of Dongfeng Nissan and Dongfeng Honda.

In fourth place was Guangzhou Automobile Group (GAC Group) with 2,435,000 units sold, up 13.6% from the previous year. The group was led by GAC Aion, whose NEV models performed well, GAC Motor Co., Ltd., with high-selling SUVs, and GAC Toyota Motor Co., Ltd., all whose vehicle types sold well. In fifth place with a year-on-year sales decrease of 11.0% was Changan Automobile Group. In sixth place was BYD, which entered the Top 10 rankings with its 2022 sales volume significantly increasing from 745,000 units in 2021 to 1,869,000 units. BYD's market share in 2021 was 2.8%, but reached 7.0% in 2022. Geely Group, which has strong sales of Livan Auto, which develops battery-swappable EVs, and Zeekr, a high-end electric vehicle brand, is in seventh place, with an 8.9% y/y increase to 1,686,000 units. Commercial vehicles, a focus of the company in recent years, also contributed to the increase in sales volume. In eighth place is Chery Automobile Group (Chery Group), whose Jetour brand and Chery-brand SUVs are performing well.



Automobile sales by major group

	2018	2019	2020	2021	2022
Shanghai Automotive Industry (Group) Corporation (SAIC)	7,012.5	6,172.9	5,534.1	5,364.6	5,191.5
China FAW Group (FAW)	3,419.4	3,461.9	3,707.9	3,510.1	3,215.2
Dongfeng Motor Group Corportionn (Dongfeng)	3,782.8	3,555.3	3,393.9	3,193.7	2,652.3
Guangzhou Automobile Group (GAC)	2,130.1	2,062.0	2,043.3	2,143.6	2,435.5
Changan Automobile (Group) (Changan/Chana)	2,141.1	1,766.5	2,007.4	2,305.6	2,052.9
BYD Automobile (BYD)	522.7	463.5	431.1	744.9	1,868.7
Geely Holding Group (Geely)	1,747.7	1,582.9	1,551.1	1,548.1	1,686.5
Beijing Automotive Group (BAIC)	2,374.5	2,233.3	1,886.2	1,691.3	1,420.2
Chery Automobile Holdings (Chery)	675.0	718.0	716.0	955.1	1,241.0
Great Wall Motor Company	1,053.0	1,060.3	1,111.6	1,281.0	1,067.5

(000s units)
(Source: Compiled from MarkLines database)
*The above figures include the volumes of the foreign-equity joint ventures.

Passenger car market in 2022: Chinese automakers capture majority share, BYD in 2nd place with 1.85 million units sold

Passenger car sales in China in 2022 were up 9.7% y/y to 23,563,000 units. Sales declined consecutively from March to May due to supply chain disruptions, plant shutdowns, and a shortage of semiconductors as a result of the urban lockdowns caused by the COVID pandemic. The government announced on May 31, 2022, that the vehicle purchase tax will be halved for passenger cars with engine displacements of 2.0L or less and priced under CNY 300,000 (excluding value-added tax). Since June, the market has been on a recovery trend.

Chinese manufacturers continued to do well, accounting for the majority of the market with 11,949,000 units, up 23.0% from the previous year, and five manufacturers exceeded sales of 1 million passenger cars. Emerging EV makers Hozon Auto, NIO, Li Auto, and Xpeng were also ranked within the top 15. One manufacturer performing particularly well was BYD, which declared the end of gasoline vehicle production in March 2022. BYD achieved sales of 1,853,000 units, up 153.8% from the previous year. The Yuan PLUS (called ATTO3 outside China), an EV launched in the first quarter of 2022, became a big hit with sales of 202,000 units for the year. Other major BYD models include the Song DM PHV with sales of 411,000 units and the Dolphin EV, which sold a total of 205,000 units. Among state-owned OEMs, the Chery Group and GAC Group, which saw significant increases in sales volumes, also enjoyed strong sales of NEV models.

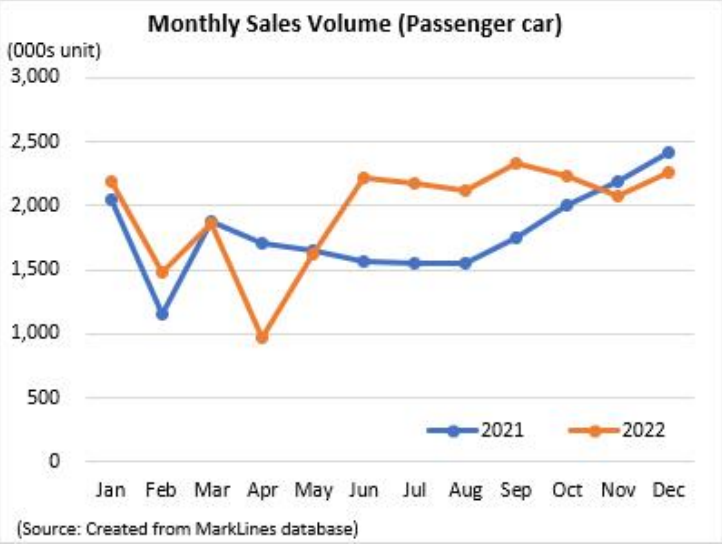
Japanese-affiliated automakers, with the exception of the Toyota Group, all posted declines in sales volume, down 4.1% from the previous year to 4,384,000 units. Market share was below that of the German-affiliated OEMs. Toyota introduced the Sienna in 2021, followed by the large MPV Granvia in 2022. SUV models continue to do well, with sales of the compact SUV Frontlander, reaching 99,000 units in 2022; a hybrid model will be introduced in 2023. Sales of the bZ4X launched in April 2022 were 7,000 units. Honda's sales of popular SUVs were sluggish, and sales decreased by 9.0% y/y to 1,403,000 units. In 2022, GAC Honda launched the e:NP1 and Dongfeng Honda the e:NS1 electric vehicles. Honda will cease production and sales of the Acura brand from 2023. The Renault-Nissan Group sold more than 100,000 BEVs in 2022, and although electrification is relatively advanced among Japanese automakers, overall passenger car sales fell 12.1% year-on-year, falling below 1 million units.

German manufacturers increased their sales by 3.3% over the previous year to 4,463,000 units. The Mercedes-Benz Group, which had the highest growth rate among the three German automakers, posted a 7.0% y/y increase to 645,000 units with an increase in all vehicle types. VW Group sales increased 2.6% y/y to 3,122,000 units. Of these, the ID. series numbered about 150,000 units. BMW Group increased its sales by 3.2% y/y to 695,000 units. The X5 SUV, the iX3, the i3 sedan and 5 series contributed to the sales increase.

Among U.S.-based automakers, Tesla performed extremely well, increasing sales 46.8% y/y to 711,000 units (including 271,000 exports) with just two models. Sales of the SUV Model Y increased significantly from 200,000 units in 2021 to 455,000 units in 2022. On the other hand, GM's sales of all vehicle types fell below the previous year's level, with a 12.1% year-on-year decline to 1,170,000 units in 2022, of which about 40,000 were BEV models. In December 2022, pilot production of the Buick Electra E5 began at the Ultium megafactory.

Sales by Korean automakers (Hyundai and Kia) continued to decline in 2022 with sales of 381,000 units, down 27.3% from the previous year. Under these circumstances, the Hyundai Motor Group established a hydrogen energy company in Guangzhou in October 2022.

Sales by France-based automakers rose slightly. In December 2022, GAC FCA's bankruptcy application was accepted by the court.



Passenger car sales volume and market share by country

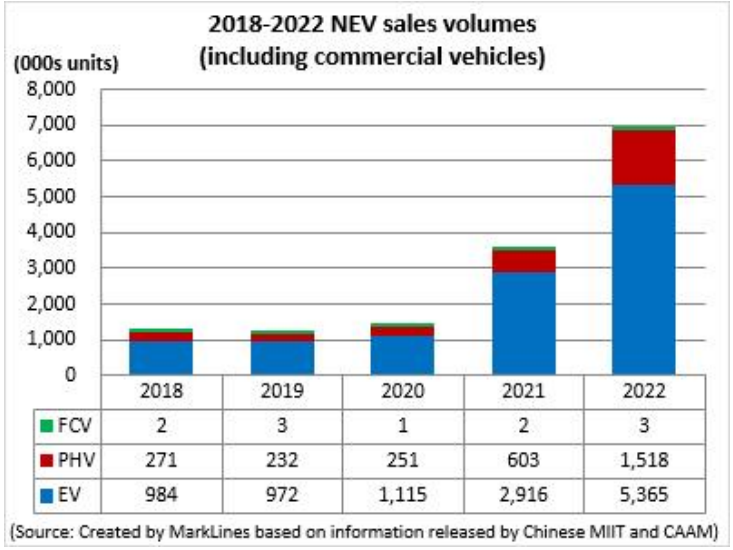
	2021		2022		change
	Volume (000s units)	Share	Volume (000s units)	Share	(y/y: units)
Chinese-affiliated	9,713	45.2%	11,949	50.7%	23.0%
Japanese-affiliated	4,573	21.3%	4,384	18.6%	-4.1%
German-affiliated	4,319	20.1%	4,463	18.9%	3.3%
U.S.-affiliated	2,195	10.2%	2,207	9.4%	1.5%
Korean-affiliated	524	2.4%	381	1.6%	-27.3%
French-affiliated	103	0.5%	129	0.2%	4.8%
Other and unspecified	55	0.3%	51	0.2%	-6.8%

(Source: Compiled from MarkLines database)

2022 NEV sales 6,887,000 units, with a market share of 25.6%; BYD accounts for nearly 30% of sales by OEM

According to a release by the China Association of Automobile Manufacturers (CAAM) in January 2022, NEV sales grew 93.4% year-over-year to 6,887,000 units in 2022, accounting for 25.6% of the market. Of this total, BEV sales increased by approximately 81.6% y/y to 5,365,000 units and PHVs increased by 151.6% to 1,518,000 units. There were 3,000 FCVs sold. Note that the NEV subsidy, which began in 2018, ended at the end of 2022.

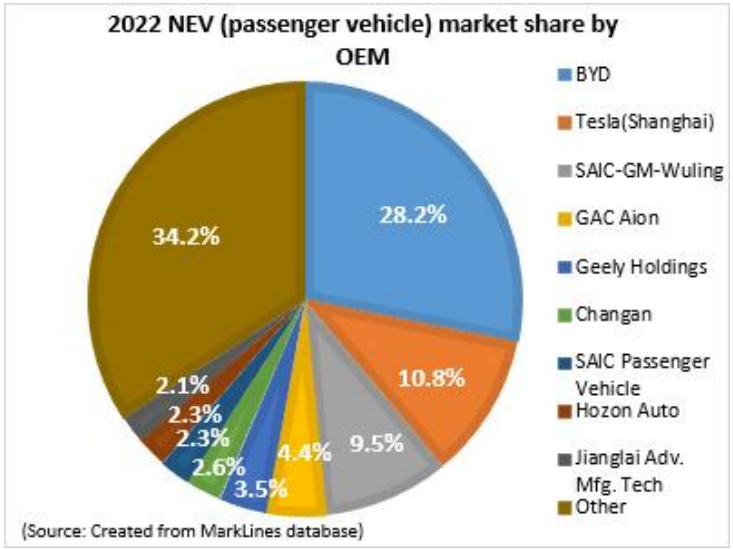
According to the Chinese Ministry of Industry and Information Technology (MIIT), there were a total of 5.21 million charging stations and 1,973 battery exchange stations across China as of the end of 2022. Of these, 2,593,000 charging stations and 675 battery replacement stations were newly built within 2022. In addition, the service network for the collection of drive batteries exceeds 10,000 locations.



	2018	2019	2020	2021	2022
FCV	2	3	1	2	3
PHV	271	232	251	603	1,518
EV	984	972	1,115	2,916	5,365

(Source: Created by MarkLines based on information released by Chinese MIIT and CAAM)

Among the top 10 vehicles sold in 2022, excluding the Wuling Hongguang MINIEV, all the others are Tesla and BYD models. BYD, in particular, has seven models in the rankings, accounting for nearly 30% of NEV share by manufacturer. Since about 270,000 units of Tesla's sales volume are exported overseas, it can be said that BYD is virtually leading the pack in China's domestic sales. GAC Aion, which had the sixth largest NEV share in 2021, is now in fourth place, and Geely has also increased its share from outside the top 10 to fifth place.



Sales volume of the top 10 NEV models

	Model	Manufacturer / Brand	Powertrain	2021	2022
1	Wuling Hongguang MINIEV	SAIC-GM-Wuling	EV	426,482	572,757
2	Model Y	Tesla (Shanghai)	EV	200,131	455,091
3	Song DM	BYD	PHV	79,508	411,026
4	Model 3	Tesla (Shanghai)	EV	283,999	255,774
5	Dolphin	BYD	EV	29,598	205,417
6	Yuan PLUS	BYD	EV	0	202,058
7	Qin PLUS DM-i	BYD	PHV	113,656	195,350
8	Han	BYD	EV	87,189	144,664
9	Han DM	BYD	PHV	30,476	129,351
10	Tang DM	BYD	PHV	48,152	125,687

(Units)
(Source: Compiled from MarkLines database)

Tesla (Shanghai) is the top NEV credit point earner, followed by BYD

According to the "FY2021 Passenger Car Corporate Average Fuel Consumption and NEV Credit Calculation Status Table" released by the government on the last day of June 2022, the average mass of finished passenger cars produced by 108 passenger car manufacturing companies in China was 1,514 kg, and the average fuel consumption (actual value) improved from 5.55 L/100 km in FY2020 to 4.99 L/100km. On the other hand, the average mass of imported passenger cars from the 21 companies supplying imported vehicles was 1,969 kg, and the average fuel consumption (actual value) was 7.81 L/100 km, up from 7.01 L/100 km in FY2020. According to the "Passenger Car Corporate Average Fuel Economy and NEV Credit Management Implementation Status 2022," HEV production increased from 430,000 units in 2020 to 610,000 units in 2021.

The number of companies that did not meet the average fuel consumption credit target was 64, 29 less than in FY2020. The company with the highest NEV credit points, as it was in FY2020, was Tesla (Shanghai) Co., Ltd. with 1,401,690 points, and import company Tesla Motors (Beijing) Co., Ltd. had 29 points. Combining the points of second-place BYD Auto Industry Co., Ltd. and third-place BYD Auto Co., Ltd. the total is 1,656,615 points, exceeding Tesla. SAIC-GM-Wuling, which produces the popular Hongguang MINIEV model, fell to 19th place. Among emerging EV automakers, XPeng and Hozon Auto are in sixth and ninth place, respectively, both moving up in the rankings from the previous year.

Total credit transactions in 2021 amounted to CNY 10.94 billion, with an average transaction price of CNY 2,088 per point. The average cruising range of finished vehicles (passenger cars produced in China) in 2021 was 395 km, an increase of 3.4% from the previous year. Models with a range of 200 km or less account for 19% of the market. In addition, the average electric power consumption in 2021 was 12.24 kWh/100 km.

Considering carbon dioxide emissions in future NEV credit provisions

In July 2022, a revised draft request for comments on the revision of the "Method for Simultaneous Management of Passenger Car Company Average Fuel Consumption and New Energy Vehicle Credits" was released. The main contents are briefly summarized below. Please note that the contents of the revised request for comment draft as of July 9, 2022, are currently being adjusted and may differ from the actual content at the time of promulgation.

1) Change of credit calculation formula for NEV passenger cars

2) Calculation and publication of average carbon dioxide emissions according to passenger car fuel consumption evaluation and indices

3) Change of handling of positive NEV credits purchased by passenger car companies

4) Addition of "Credit Point Trading Market Mechanism" In order to ensure smooth operation of the point trading market, a mechanism for the collection and redemption of positive points related to NEVs should be established.

5) Change in treatment of positive NEV credits and negative corporate average fuel consumption credits

China's installed capacity of drive batteries (2022)

In 2022, the capacity of batteries installed for drive applications increased by 90.7% y/y to 294.6 GWh. Of these, ternary batteries grew 48.6% to 110.4 GWh, and lithium iron phosphate batteries increased 130.2% to 183.8 GWh. In addition, 230.1 GWh of capacity is installed in EV passenger cars and 31.1 GWh in PHV passenger cars. In the Chinese NEV market, 57 companies supply in-vehicle drive batteries.

The following is a summary of the top 10 companies in terms of the capacity of drive batteries installed. At the top of the list is Contemporary Amperex Technology Co., Ltd. (CATL) with a 48.2% share of the market. In second place is BYD, which develops and manufactures its own batteries, with a market share of 23.45%. In third place is China Lithium Battery Technology Co., Ltd. (CALB).

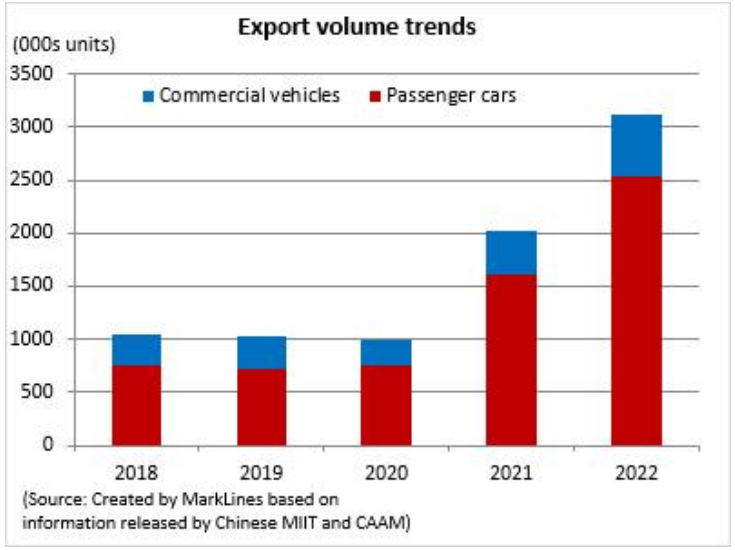
	Company	On-board capacity (GWh)	Market share (%)
1	Contemporary Amperex Technology Co., Ltd. (CATL)	142.02	48.20
2	BYD	69.10	23.45
3	China Lithium Battery Technology Co., Ltd. (CALB)	19.24	6.53
4	Gotion High-tech Co., Ltd.	13.33	4.52
5	Sunwoda Electronics Co., Ltd.	7.73	2.62
6	EVE Energy Co., Ltd. (EVE Energy)	7.18	2.44
7	SVOLT Energy Technology Co., Ltd. (SVOLT)	6.10	2.07
8	Farasis Energy, Inc. (Farasis Energy)	5.36	1.82
9	LG Energy Solution	5.20	1.77
10	REPT BATTERO Energy Co., Ltd. (Formerly Ruipu Energy Co., Ltd.)	4.52	1.53

(Source: From an announcement of the China Automotive Power Battery Industry Innovation Alliance)

Exports/Imports: Exports exceeded 3 million units; NEVs doubled to 679,000 units

Exports: According to a report by the China Association of Automobile Manufacturers (CAAM) on January 12, 2023, Chinese auto exports in 2022 grew 54.4% year-on-year to 3,111,000 units. Of this total, passenger cars grew 56.7% y/y to 2,529,000 units, while commercial vehicle exports increased 44.8% y/y to 582,000 units. NEV exports increased from 310,000 units in 2021 to 679,000 units in 2022. The top three exporters of finished vehicles are SAIC, Chery and Tesla.

Imports: According to an announcement by China's General Administration of Customs in January 2023, Chinese auto imports (including chassis) in 2022 were down 6.5% from the previous year to 878,000 units with an import value of USD 53.24 billion. The value of imported automotive parts fell 16.9% from the previous year to USD 31.3 billion.



Import volume in 2022 (passenger cars by manufacturer/brand): By manufacturer/brand, the Lexus brand continued to lead the imported car market with 164,000 units, down 16.5% from the previous year. Of these, 98,000 units were ES models. Of the top 10 manufacturers/brands, only Porsche and Toyota posted year-on-year increases.

	Manufacturer / Brand	2021	2022	Change y/y
1	Lexus	219.2	182.9	-16.5%
2	Mercedes-Benz	176.3	163.7	-7.1%
3	BMW	166.1	112.4	-32.3%
4	Porsche	93.5	94.4	1.0%
5	Audi	78.2	44.6	-43.0%
6	Land Rover	41.9	37.3	-11.0%
7	MINI	30.7	28.8	-6.1%
8	Toyota	26.0	26.8	3.1%
9	Volvo	24.3	21.1	-13.1%
10	Volkswagen	16.9	11.9	-29.3%

(000s units)
(Source: Compiled from MarkLines database)

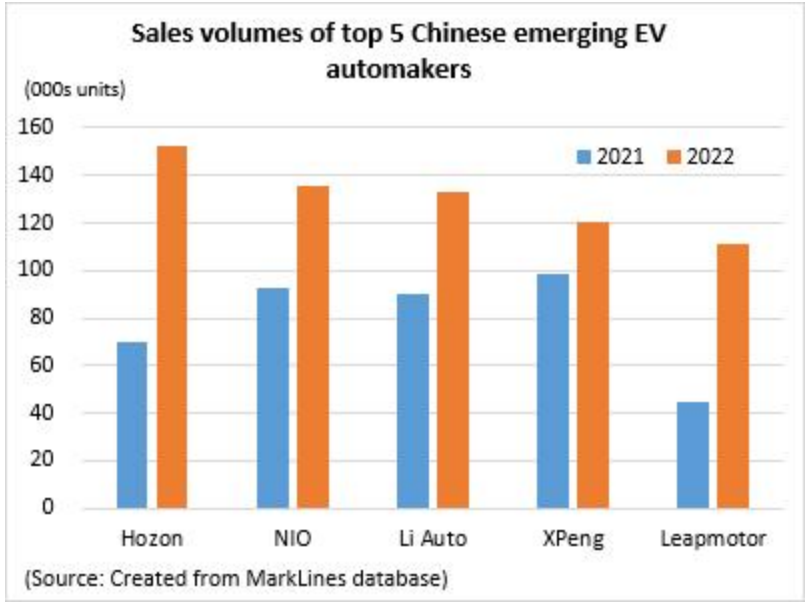
4.1.2 China Emerging EV Automakers: Developing Core Components and Promoting Production In-house Hozon, NIO, Li Auto, XPeng, Leapmotor

Summary

In 2022, China's new energy passenger car sales totaled 6,565,000 units, of which the share of sales by China's 15 emerging electric vehicle (EV) makers (companies established after 2010 and not affiliated with traditional automakers) was 11.4%, down 3.3 points from the previous year. Against this backdrop, the top five emerging Chinese EV makers (Hozon, NIO, Li Auto, XPeng, and Leapmotor) all had sales exceeding 100,000 units. Hozon New Energy Automobile Co., Ltd. (Hozon) topped the sales volume list for the first time among the 15 leading companies with 152,000 units, and Zhejiang Leapmotor Technology Co., Ltd. (Leapmotor) also entered the top group with a high growth rate. On the other hand, Guangzhou Xiaopeng Motors Technology Co., Ltd. (XPeng), the leader in 2021, fell to fourth place. WM Motor Technology Group Co. Ltd. (WM Motor) is also lagging far behind. The Chinese NEV (New Energy Vehicle: battery electric, plug-in hybrid, and fuel cell vehicles) market is becoming increasingly competitive and restructuring is accelerating.

By model, Shanghai NIO Automobile Co., Ltd. (NIO) and Li Auto Inc. (Li Auto) are focusing on the high-end market with prices above CNY 300,000, but may launch models below that in the future. Although Hozon and Leapmotor still rely relatively heavily on entry-level models priced below CNY 100,000, the share of entry-level models is on a declining trend compared to 2021. XPeng, whose main models are in the CNY 150,000 - 250,000 class, launched a high-end SUV with a price that exceeds CNY 300,000 for the first time.

This report presents recent major trends among the top five, in terms of sales volume, Chinese emerging EV manufacturers. Each of these companies has made in-house development and in-house production of core components a pillar of its strategy. Hozon announced its technology brand "Hozon Intelligent Technology" and established an in-house development and manufacturing system for key components such as electric drives and range extenders. According to some media reports, NIO will establish a battery technology company and build its first battery plant in Hefei City, Anhui Province. Li Auto already has production bases for range extenders, 5-in-1 electric drives, and SiC power modules in Sichuan and Jiangsu provinces. XPeng has established several companies involved in the development and manufacturing of batteries, motors, and other components. Leapmotor is deepening its vertical integration, and parts developed and manufactured in-house account for 70% of vehicle costs.



Chinese emerging EV manufacturers' sales volumes in 2022: Hozon tops the list; top 5 EV makers each exceed 100,000 units

According to MarkLines data, sales of new energy passenger cars in 2022 in China increased by about 97.2% year-over-year (y/y) to 6,565,000 units. Of these, the combined sales volume of the 15 emerging EV makers was 748,000 units, down 11.4% y/y (down 3.3 points from the previous year). In 2022, the sales of China's emerging EV makers will be even more concentrated among a few companies, with the top five companies all selling more than 100,000 units. These accounted for 87.3% of total sales, up 6.7 percentage points from 2021. In 2021, Hozon, which was in the second group of emerging players, took the top spot in sales volume, overtaking the top group: NIO, Li Auto, and XPeng. Leapmotor also entered the top group. On the other hand, WM Motor's sales fell by 33.3% y/y to 29,000 units, widening the gap with the top five companies. WM Motor Global Investment Limited, a subsidiary of WM Motor Holdings Limited, will be acquired by Apollo Future Mobility Group Limited (Apollo Mobility) for USD 2.023 billion in January 2023.

	2021	2022	y/y change
China NEV passenger car sales volume	3,328,301	6,564,506	97.2%
Chinese emerging EV makers’ share (15 companies)	14.7%	11.4%	-3.3%
Chinese emerging EV makers’ sales volume (15 companies)	490,602	747,736	52.4%
Top 5 of 15 Chinese emerging EV makers’ share	80.6%	87.3%	+6.7%
Top 5 Chinese emerging EV makers sales volume (units)	395,619	653,086	65.1%

(Source: MarkLines database)

EV sales volume of top 5 Chinese emerging EV manufacturers

No.	Company	Plant location	Vehicle type	Model name	Selling price (CNY 1000s)	2021 (units)	2022 (units)
1	Hozon	Tongzhou, Zhejiang Province Yichun, Jiangxi Province Nanning, Guangxi Zhuang Autonomous Region	Coupe	Neta S	202.8	-	2,205
			SUV	Neta V	83.9	49,646	98,847
				Neta U	135.8	20,028	51,021
		Total				69,674	152,073
2	NIO	Hefei, Anhui Province	Sedan	ET7	458	118	26,488
			Coupe	ET5	328	-	13,819
			SUV	ES6	386	41,739	45,451
				EC6	396	30,121	18,169
				ES7	468	-	16,113
				ES8	502	20,943	15,763
				Other	-	-	39
		Total				92,921	135,842

(Source: MarkLines database and official company websites; prices are for reference)

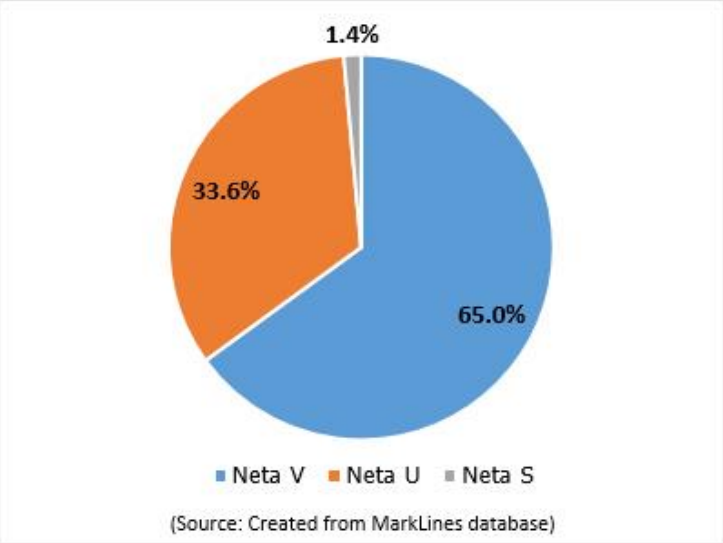
EV sales volume of top 5 Chinese emerging EV manufacturers

No.	Company	Plant location	Vehicle type	Model name	Selling price (CNY 1000s)	2021 (units)	2022 (units)
3	Li Auto	Changzhou, Jiangsu Beijing (under construction) Chongqing (under construction)	SUV	One	349.8	90,491	78,502
				L9	459.8	-	39,262
				L8	339.8	-	15,482
		Total				90,491	133,246
4	XPeng	Zhaoqing, Guangdong Province Guangzhou, Guangdong Province Wuhan, Hubei Province (under construction)	Coupe	P7	209.9	60,569	59,066
			Sedan	P5	156.9	7,865	37,982
			SUV	G3i	148.9	16,544	17,336
				G9	309.9	-	6,373
				G3	-	13,177	-
		Total				98,155	120,757
5	Leapmotor	Jinhua, Zhejiang Province Hangzhou, Zhejiang Province (under construction)	Mini-car	T03	59.9	39,410	61,919
			Sedan	C01	149.8	-	4,815
			Coupe	S01	-	290	63
			SUV	C11	155.8	4,678	44,371
		Total				44,378	111,168

(Source: MarkLines database and official company websites; prices are for reference)

Hozon : Promoting in-house development and production of key components; Thai plant scheduled to start production in 2024

According to MarkLines data, the sales volume of Hozon New Energy Automobile Co., Ltd. (Hozon) in 2022 reached 152,000 units, up 118.3% from the previous year, making it the top emerging EV manufacturer in China, up from third place in 2021. The electric SUVs Neta V and Neta U accounted for 65.0% (down 6.3 points y/y) and 33.6% (up 4.9 points y/y) of the total sales volume, respectively. Sales of the electric coupe Neta S, released in July 2022, totaled 2,205 units. The sales volume of Hozon for the two months, January and February 2023, is approximately 16,000 units. In March 2023, the company unveiled the Neta GT, a two-door, four-seater electric sports car. Sales are scheduled to begin in the first half of 2023.



Hozon sales composition (2022)

Neta S (2022 Guangzhou Motor Show)

In 2023, Hozon will increase investment in research and development, product platforms, commonization of products, and deepen its own full-stack research to build an advantage in smart technology and promote model changes. In addition, the company will engage in advanced research on new products and improve the brand of its CNY 300,000 class products. The company plans to achieve 300,000 vehicle deliveries by strengthening supply chain coordination, developing overseas markets, and other measures, with the goal of delivering 700,000 to 800,000 vehicles by 2025.

Hozon is aggressively developing key components. The company has adopted the "in-house development and in-house production + open partnership" model. In November 2022, the company released its technology brand "Hozon Intelligent Technology," which includes power systems, range extender systems, and computing systems, as well as the full-stack in-house developed central processing platform "Hozon Supercomputing," the 800V SiC high-performance electric drive system "Hozon Electric Drive," and a high-efficiency 3-in-1 range extender "Hozon Extended Range".

Neta GT (Source: Hozon Auto)

E/E architecture	First Generation Distributed architecture	Distributed architecture + backbone network with CAN (controller area network) + partial domain controllers (30 CAN node ECUs and 16 LIN (local interconnect network) node ECUs). Vehicle platform applied to Neta V and Neta U.
	Second Generation Domain intensive architecture	Domain controller + Ethernet architecture. Vehicle platform applied to Neta S and Neta U-II.
	Third Generation Centralized architecture	Hozon Supercomputing 1.0: Domain fusion + Ethernet architecture, fusion of multiple computing centers (vehicle control, intelligent driving, smart cockpit), area control. Vehicle platform applied to the Neta S+.
		Hozon Supercomputing 2.0: Vehicle central computing center + Ethernet + cloud computing. Some operations are performed in the cloud to ensure redundancy and safety. Vehicle platform: Models based on Neta S+ and Shanhai platform.
Electric drive systems	800V	The 800V SiC high-performance electric drive system consists of an SiC-based electronic control unit, an oil-cooled flat wire motor, and a high-precision reduction gear. The motor has a maximum output of 250kW and maximum torque of 420Nm. Acceleration to 100 kph is in the 3-second class, and a 5-minute charge provides a range of 200km. It is scheduled to be installed in vehicles in 2023.
		2023: 240kW + permanent magnet electric drive SiC; 2024: 180kW + asynchronous electric drive SiC; 2025: 270kW + permanent magnet electric drive SiC.
	400V	2023: 170-200kW permanent magnet electric drive using IGBTs (insulated-gate bipolar transistors); 2024: 135-170kW permanent magnet and asynchronous using IGBTs; 2025: 170-200kW permanent magnet electric drive with SiC.
Range extender	Control method	1) All electric drive mode: Cruising range of 300km, no need for a backup power supply, equivalent to a driving range of 400km or more.
		2) Extended range drive + battery charging: When the battery level is insufficient, the vehicle battery is placed in the lowest state and is not allowed to drop any lower.
		3) Extended range + battery drive: Satisfies the vehicle's maximum power output and long-distance demands during sudden acceleration or hill climbing.
		4) Security guard: In the event of severe battery insufficiency, extreme low-temperature environments, or abnormal charging/discharging of the drive battery, the range extender operates independently and can automatically shift to safe driving.

(Source: Hozon press releases and multiple media reports)

Industrial park	In January 2023, Hozon signed an agreement for a core components industrial park project. The planned investment is CNY 5.1 billion and will be built in three phases. The company will produce NEV range extender systems, thermal management systems, and smart cockpits. Annual production capacity will be 300,000 sets of range extender systems, 600,000 sets of thermal management systems, and 600,000 sets of smart cockpits. After the completion of the first and second phases, the project is expected to generate annual product value of approximately CNY 13 billion and create approximately 1,200 jobs.
Subsidiaries	In January 2023, Hozon Extended Range Technology (Anhui) Co., Ltd. was established in Huainan City, Anhui Province. With registered capital of CNY 40 million, the scope of business includes development and manufacture of automotive parts, manufacture of electronic components, motors, and transmissions, and software development.
	Hozon Technology Electric Drive (Tongcheng) Co., Ltd. was established in Tongcheng, Anhui Province, in December 2022. The company has a registered capital of CNY 100 million, and its business scopes includes the manufacturing of automotive components, research and development of motors and their control systems, and the manufacturing of battery components.
	Hozon Technology Tongling Co., Ltd. was established in November 2022 in Tongling, Anhui Province. The company has a registered capital of CNY 300 million and its business scope includes the research, development and manufacture of automotive components.

In the area of alliances, in July 2022, the company agreed to a comprehensive strategic partnership with Huizhou Desay SV Automotive Co., Ltd. in the areas of cockpit domain controllers, displays, wireless charging modules for cell phones, and software, and also announced the joint development of a next-generation BMS (battery management system) solution with Infineon Technologies China Co., Ltd. In August 2022, the company agreed to a comprehensive strategic partnership in the field of smart cockpit displays with display maker BOE Varitronix Ltd. and also agreed to a partnership with BlackBerry Limited for next-generation smart cockpit systems and smart driving systems. In October 2022, the company agreed to a strategic partnership with NVIDIA Corporation on AI chips and central computing platforms. In January 2023, the company and CATL (Contemporary Amperex Technology Co., Ltd.) agreed to a partnership on the CATL Integrated Intelligent Chassis (CIIC) project for an integrated smart chassis (skateboard chassis). The first model equipped with this technology will be introduced as early as the end of 2024. In March 2023, the company agreed to a strategic alliance in smart areas such as smart driving, smart cockpit, and intelligent body with Beijing Jingwei Hirain Technologies Co., Ltd., a leading automotive electronic products company.

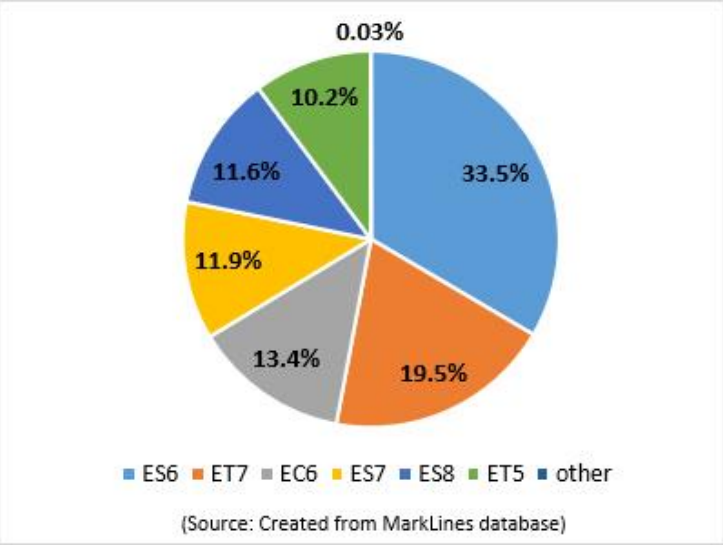
Hozon has established a sales subsidiary in Thailand and a European business unit to expand its business from Thailand to ASEAN, while simultaneously developing South Asian, Middle Eastern, South American, and EU markets. The right-hand drive version of the Neta V was launched in Thailand in August 2022. In March 2023, 3,600 units of Neta V were exported from Nansha Port in Guangzhou to Thailand. According to MarkLines data, 1,880 units were sold in Thailand through the end of February 2023. The company plans to deliver 10,000 vehicles to users in Thailand in 2023. The company also plans to manufacture in Thailand, and held a cornerstone laying ceremony for Neta Auto's Eco-Intelligent Plant in Bangkok in March 2023. The plant will have an annual production capacity of 20,000 units and will begin production in 2024.

Thailand plant plans (Source: Neta Auto)

Thailand	The cornerstone laying ceremony for the Thailand plant was held in Bangkok on March 10, 2023. The plant will be equipped for welding, painting, and assembly processes, with an annual production capacity of 20,000 units, and will begin production at the end of January 2024. The EV assembly plant will be jointly invested and constructed by Hozon and Bangchan General Assembly Co., Ltd.
	In September 2022, the company agreed to a comprehensive strategic alliance with PTT Public Company Limited, a major oil company in Thailand. The two companies will collaborate on the production and installation of charging equipment, public charging services, and strategic planning of production for the future.
	The right-hand drive version of the Neta V was launched in August 2022.
Myanmar	In October 2022, the company agreed to a strategic alliance with Myanmar GSE Co., Ltd., an automotive trading and car detailing company. The company will sell overseas versions of the Neta U, Neta V and other models.
Laos	In September 2022, the company agreed to a strategic alliance with Keo Group, a Laotian dealer. The overseas version of Neta U is now available.
Nepal	In April 2022, the company agreed to a strategic alliance with CG Motors, a Nepalese NEV company. The right-hand drive version of the Neta V was delivered in September 2022. In the future, the Neta S and Neta U will also be released.
Jordan	The Neta U and Neta V were exported to Jordan in February 2023.
Israel	In September 2022, the company agreed to a strategic partnership with Blilious Group, a leading Israeli car dealer. The company will sell Neta U and Neta V models.

NIO : Sustainable approach to energy supply, considering introducing middle-market models

Shanghai NIO Automobile Co., Ltd. (NIO) offers an extensive product lineup of seven models, including sedans, coupes, and SUVs (excluding supercars). All of the models are priced at over CNY 300,000. According to MarkLines data, NIO's 2022 sales volume grew 46.2% y/y to 136,000 units, placing it second among China's emerging EV automakers, the same ranking as the previous year. The ES6 electric SUV and ET7 electric sedan accounted for 33.5% and 19.5% of the sales volume, respectively. The ES7 electric SUV, launched in June 2022, sold 16,000 units. In December 2022, the company launched the EC7, an electric coupe SUV with a price starting at CNY 488,000. In the two months January and February 2023, NIO sales totaled about 20,000 units.



NIO sales composition (2022)

NIO ES7 (Source: NIO)

According to multiple media reports, NIO's second brand, internally codenamed Alps, will target the CNY 200,000 - 300,000 class mass market and begin deliveries in 2024. The internal codename for the third brand is Firefly, which will be a small car brand in the CNY 100,000 - 200,000 class market and be launched in the European market in the third quarter of 2024. The production plant will be located in the economic development zone in Chuzhou City, Anhui Province, and the plant owned by Anhui Leopard Automotive Co., Ltd. will be reorganized and integrated.

NIO EC7 (Source: NIO)

Cockpit of the NIO EC7 (Source: NIO)

R&D investment in 2022 reached CNY 10.84 billion, up 136% from the previous year, and the company continued to focus on in-house development of core technologies such as batteries and chips, as well as the construction of battery charging and replacement infrastructure. In 2023, the company plans to launch a 150kWh battery pack, which will apply all solid-state battery technology and have an energy density of 360Wh/kg. According to multiple media reports, NIO plans to build its first battery plant in Hefei, Anhui Province, to produce cylindrical batteries similar to the 4680 used in Tesla vehicles. Annual production capacity is expected to be 40GWh.

Battery company	NIO Battery Technology (Anhui) Co., Ltd. was established in October 2022 in Hefei, Anhui Province. With a registered capital of CNY 2 billion, the scope of business includes battery manufacturing, development and manufacturing of electronic specialty materials, manufacturing of automotive components, and software development. It will be wholly owned by Nio Holdings Ltd.
Battery-related alliances	In January 2023, NIO agreed to a five-year comprehensive strategic partnership with Contemporary Amperex Technology Co., Ltd. (CATL). The companies will collaborate in the areas of new brands, new projects, technical cooperation in new markets, supply-demand collaboration, expansion of overseas business, and business models based on long-life batteries.
	In February 2023, NIO established a comprehensive strategic partnership over the battery industry chain with lithium battery cathode material supplier Ningbo Ronbay New Energy Technology Co., Ltd.

As of March 31, 2023, NIO has installed 1,339 battery replacement stations, including 351 battery replacement stations on highways and 13 outside China; 1,285 super charging stations, including 6 outside China; 6,467 super charging stands, including 22 outside China; 1,154 destination charging stations; and 7,993 destination charging stands. Users of NIO vehicles also have access to over 1,068,000 third-party charging stations, including more than 388,000 outside China.

Plans	By 2023, 1,000 battery swap stations and 10,000 charging stands will be built, bringing the total number of battery replacement stations built to more than 2,300. Approximately 400 of the new battery swap stations are expected to be located at expressway service areas and entrances/exits; approximately 600 will be located in urban areas. The project will focus on installing battery swap stations in 3rd and 4th tier cities and county government centers where there are a certain number of users but battery exchange stations have yet to be installed.
	2025 battery charging/replacement network construction plan: Aiming to build a cumulative total of more than 4,000 battery exchange stations globally, with a coverage rate of 90% (battery exchange station within 3km of residence or workplace). The company will build its "Power Up Plan," a cumulative global total of 168 destination-based charging routes, covering major highways and cities with a fast battery replacement network.

Equipment	A third-generation battery swap station and a 500kW ultra-fast charging station were announced in December 2022. This exchange station can swap batteries up to 408 times per day. Large-scale mass production will begin in April 2023. The 500kW ultra-fast charging station can charge a battery from 10% to 80% in as little as 20 minutes for the 400V model and 12 minutes for the 800V model.
Networks	NIO has partnered with a group of 46 high-speed service area enterprises in 21 provincial-level administrative regions (cumulative as of March 2023). The company has already completed a rapid battery replacement network that includes five north-south highways, three east-west highways, and eight metropolitan areas (Beijing, Tianjin, Hebei Province; Yangtze River Delta; Guangdong, Hong Kong, Macau area; Chengdu, Chongqing; Shandong Peninsula; Middle Yangtze River region; Guanzhong; Central Plains).
	From the first half of 2023, a battery replacement navigation service on highways will be deployed step by step. When the navigation system is activated, the vehicle automatically plans the route on the highway and guides the user to the battery replacement station, allowing the user to complete the battery replacement and automatically return from the service area to the highway.
Alliances	NIO built battery charging and exchange stations jointly with China Petrochemical (Sinopec) Corporation, China National Petroleum Corporation (CNPC), Royal Dutch Shell, and China National Offshore Oil Corporation (CNOOC). In November 2022, NIO and CNOOC opened the first batch of battery swap stations in some highway service areas. The two companies will also jointly establish integrated energy refueling stations that integrate functions including refueling, charging, battery replacement, and shopping.

In October 2022, NIO set up a project base for its international business headquarters in Jiangqiao Town, Jiading District, Shanghai. The site is approximately 65,900 square meters in size, and will house an R&D center, offices, showrooms, and other functions.

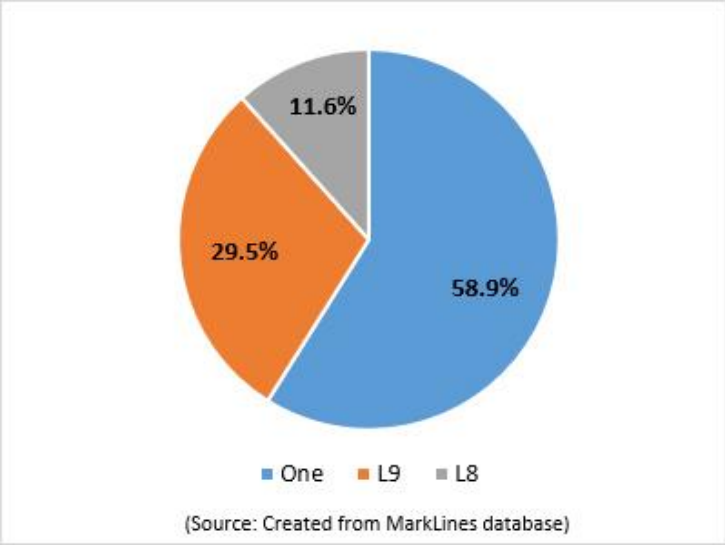
NIO entered the Norwegian market in 2021. According to MarkLines data, annual sales in Norway in 2022 were 1,135 units. In October 2022, NIO began offering services in the German, Dutch, Danish and Swedish markets, launching three models: ET7, ET5 and EL7 (ES7). The company is constructing battery exchange stations in Europe to provide battery charging and swap services to European users. As of early March 2023, NIO has 12 battery exchange stations, 6 super charging stations and 18 super charging stands in Europe, with access to over 388,000 third-party charging stands for its users. In addition, in February 2023, the company announced its participation in the Horizon project, a scientific research and innovation project to address climate change and achieve the UN Sustainable Development Goals. NIO also announced that it will use battery swap stations and smart EVs as energy storage units to provide power network ancillary services, as well as to conduct research in areas such as energy demand management and electricity trading.

Norwegian swappable battery station (Source: NIO)

Replacement battery service in Europe	Hungary	The NIO Power Europe Plant started operations in September 2022. The site covers an area of approximately 10,000 square meters, and its main businesses include the manufacture of battery exchange stations and after-sales services as well as research and development of electric power products.
	Norway	A second integrated battery charging and swap station became operational in Vestby in August 2022.
	Germany	The first battery replacement station went into operation in Zusmarshausen in September 2022.
		In December 2022, the company agreed to a partnership with Energie Baden-Württemberg AG (EnBW), a German fast-charging network operator. NIO battery swap stations will be installed at 20 EnBW "HyperNetz" fast charging stations.
	Sweden	The first battery replacement station went into operation in Varberg in November 2022.
	The Netherlands	The first battery replacement station became operational in Tilburg in December 2022 and the fourth battery replacement station began operations in Utrecht in February 2023.
	Denmark	The first battery swap station started operating at Slagelse in March 2023

Li Auto : Production to start at its Beijing plant by the end of 2023; becoming a world-leading AI company by 2030

At its 2023 Spring Media Conference, Li Auto made its core position as "the luxury EV brand that is the first choice for households". It was stated that luxury represents the group of users spending CNY 200,000 or more (79% are general household users), and that Li Auto will stick to the core of range-extended EVs (urban power consumption, long-distance power generation, camping power supply) and high-voltage EVs (normal charging at home, quick charging in the city, long-distance super charging). However, the company's product lineup at this time is all range-extended electric SUVs priced at over CNY 300,000. According to Li Auto's official website, a series of products is being built. In the product names, the letter indicates the platform and the number indicates the size.



Li Auto sales composition (2022)

L9 (2022 Guangzhou Motor Show)

According to MarkLines data, Li Auto's 2022 sales volume reached 133,000 units, up 47.2% y/y, ranking third among China's emerging EV automakers, the same as the year before. The One accounted for 58.9% of sales, the L9 for 29.5%, and the L8, which is the successor model to the One launched in September 2022, 11.6%. In January and February of 2023, Li Auto sold about 32,000 units, and its first five-seat SUV, the L7, starting at CNY 319,800, was launched in February 2023. The L6, a 5-seat mid-size SUV with a selling price below CNY 300,000, is scheduled to be launched in the future.

L7 (Source: Li Auto)

L7 cockpit (Source: Li Auto)

The Beijing plant, which will serve as the production base, plans to roll the first vehicle off the line by September 2023 and start regular production at the end of 2023 (first phase: annual production capacity of 100,000 units). Construction of Phase II of the Li Auto Industrial Park project, which will be an office center, began in June 2022 in Shunyi District, Beijing, with a total site area of 58,600 square meters. It is scheduled to be completed by the end of 2023.

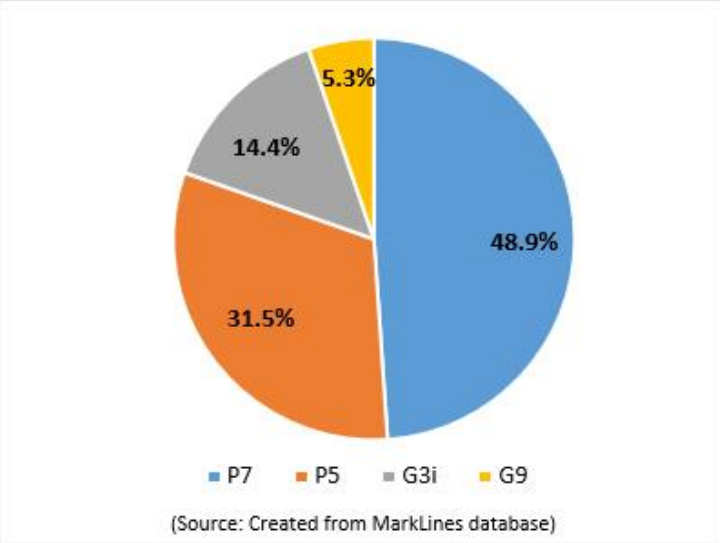
Li Auto's R&D expenditure for 2022 was CNY 6.78 billion, up 106.3% over the previous year. The proportion of in-house development and in-house production of core components is approximately 25% to 30%, and the company is actively promoting in-house production. The company has a range extender production site (annual production capacity of 500,000 units) in Mianyang, Sichuan, a 5-in-1 electric drive production site (annual production capacity of 600,000 units) in Changzhou, Jiangsu, and an SiC power module production site (annual production capacity of 2.4 million units) in Suzhou, Jiangsu. In addition, the Li Auto components industrial park project was signed in Changzhou in August 2022. The proximity of supply chain companies reduces costs, increases efficiency and improves parts availability.

Range extender	A range extender R&D and production facility was established in August 2021 in Mianyang, Sichuan Province. The production capacity of the first phase is planned to be 200,000 units, with production to begin in 2023. According to the 2023 Key Project List released by the Sichuan Provincial Government, the Mianyang Li Auto New Energy Industrial Park Project (Phase 1) is a new construction project.
Power semiconductors	Construction of a power semiconductor R&D and production facility began in August 2022 in Suzhou Hi-Tech Zone, Jiangsu Province. The site area is 12,000 square meters. The focus is on in-house development and production of SiC automotive power modules. Production will begin in 2024 with an annual capacity of 2.4 million half bridges. The high-voltage EV (ultra fast-charging EV) developed by Li Auto will be equipped with an 800V high-voltage electric drive system based on SiC power modules.

Li Auto has a vision of becoming the world's leading artificial intelligence company by 2030. The company already has four Artificial Intelligence algorithm teams that address the needs in four areas: smart cockpit, smart driving, smart factory, and retail artificial intelligence. In 2024, the company plans to launch NOA (Navigate on Autopilot) navigation driving assistance that can cover all cities, rather than for a single city, which is currently the mainstream. It will be realized based on large-scale modeling.

XPeng: Guangzhou plant to start production, all-scenario driver assistance to be achieved by 2023-2025

According to MarkLines data, XPeng's 2022 sales volume reached 121,000 units, up 23.0% from the previous year. The company ranked fourth among China's emerging EV makers, down three spots from last year. XPeng had the lowest growth rate among the top five companies. The electric coupe P7, the electric sedan P5, and the electric SUV G3i account for 48.9%, 31.5%, and 14.4% of the company’s total sales volume, respectively. Sales of the high-end electric SUV G9, released in September 2022, totaled 6,373 units. In January and February 2023, XPeng's sales volume was about 11,000 units. An upgraded version of the P7, the P7i, with prices starting from CNY 249,900, was launched in March 2023.



XPeng sales composition (2022)

XPeng G9 (2022 Guangzhou Motor Show)

The company began production in February 2023 at its own production site, the XPeng Guangzhou Intelligent Connected Manufacturing Plant in the China-Singapore Guangzhou Knowledge City. The annual production capacity is 120,000 units. In the future, models such as the G9 will be produced at this plant. The Wuhan plant is also currently under construction, with a planned annual production capacity of 100,000 units. Production is scheduled to begin in 2023.

XPeng P7i (Source: XPeng)

Cockpit of the XPeng P7i (Source: XPeng)

XPeng is also promoting in-house development and production of core components, and several affiliated companies have already been registered and established. In addition, construction of the Smart Car Accessory Parts Industrial Park, which will be jointly built by XPeng and the Guangdong Zhaoqing High Tech Zone Management Committee, began in May 2022, to promote the construction of an integrated industrial chain project.

Components companies	Guangzhou Pengyi Automotive Technology Co., Ltd., which is wholly owned by XPeng Power Battery (Hong Kong) Limited, was registered and established in October 2022. Its subsidiary, Guangzhou Pengbo Automotive Technology Co., Ltd. and its sub-subsidiary, Guangzhou Pengyue Power Battery Co., Ltd., were also registered and established in November 2022. The companies are each capitalized at CNY 5 billion, and their business scope includes the development and manufacture of automotive components, the development of motors and their control systems, the manufacture of motors, and the manufacture of batteries.
	Zhaoqing Xiaopeng Intelligent Manufacturing Research Institute Co., Ltd. was registered and established in January 2023. With a registered capital of CNY 1 million, the scope of business includes engineering, technology research, test development, and the development and manufacture of automotive components. It is wholly owned by Guangzhou Xiaopeng Motors Technology Co., Ltd.

As for charging infrastructure, the company announced its self-developed S4 ultra-fast charging stand in August 2022. The maximum output of the S4 stand is 480kW. The first S4 Super Charging Stations began operations in Beijing, Shanghai, Guangzhou, Shenzhen, and Wuhan in September 2022, followed by the installation of approximately 500 more in key cities and along major highways in 2023. By March 1, 2023, XPeng was operating 1,948 charging stations, of which 1,018 were operated by the company itself, 816 were fast charging stations and 202 were destination charging stations.

Charging affiliates	Guangzhou Penghui Automotive Technology Co., Ltd. which is a sub-subsidiary of XPeng Charging (Hong Kong) Limited, was registered and established in February 2023. With registered capital of CNY 5 billion, the company's scope of business includes engineering and technology research, test development, operation of EV charging infrastructure facilities, and centralized fast charging stations. Guangzhou Xiaopeng Smart Charging Technology Co., Ltd. became its wholly owned subsidiary in March 2023.

In the area of smart driving, the company announced the completion of Fuyao, an intelligent computing center for automated driving in Ulanqab, Inner Mongolia, in August 2022. Fuyao is built on the Alibaba Cloud intelligent computing platform with 600 PFLOPS of processing power and will be used to train automated driving models. In addition, trial operation was started in Guangzhou in September 2022 using XPeng's urban NGP (Navigation Guided Pilot) automated driving assistance functions. The plan is to achieve driver assistance in all scenarios from 2023-2025, and transition to fully automated and unmanned driving from 2025. XPeng's next-generation all-scenario driver assistance is named "XNGP" and includes NGP in areas without high-precision maps, parking NGP, high-speed NGP, and urban NGP. In addition, the company is also promoting commercial operation of robo-taxis, and the G9, which does not have a LiDAR unit on its roof top, obtained a license plate to participate in Guangzhou's intelligent connected car public road test in November 2022.

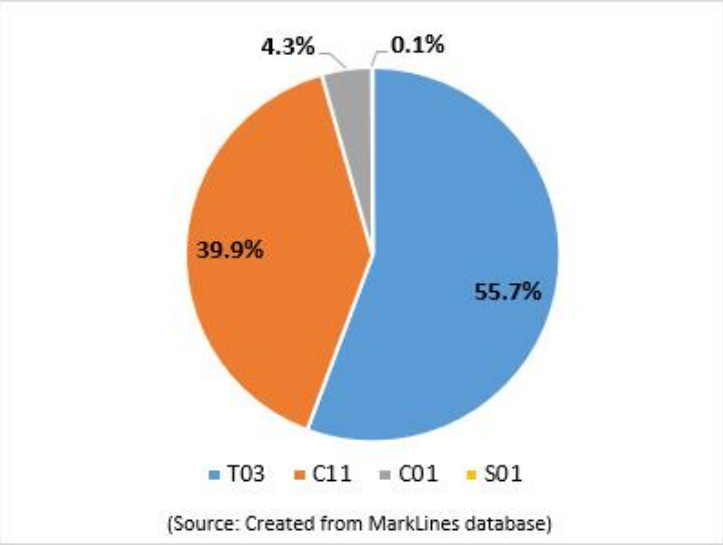
XNGP announcement plan (related to automated driving)	2023	H1: Urban NGPs will cover Guangzhou, Shenzhen, and Shanghai. Nationwide (all unmapped cities), it opens the ability to identify traffic lights and proceed straight through intersections.
		H2: Lane changing, overtaking, and turning functions open in most unmapped cities.
	2024	All scenes are connected to provide intelligent navigation assistance functions from parking space to parking space.

According to MarkLines data, XPeng's overseas sales volume in 2022 was 754 units. In January 2023, the company declared the expansion of its service network in Europe, opening four delivery service centers in Norway, the Netherlands, Sweden, and Denmark. In February 2023, the G9 and the improved P7 began pre-sales in these four countries.

Service network in Europe	Norway	A delivery service center opened in Lørenskog in February 2023.
	The Netherlands	The first delivery service center is scheduled to open in Badhoevedorp in the second quarter of 2023.
	Sweden	A delivery service center is scheduled to open in Järfälla in the second quarter of 2023.
	Denmark	The first delivery and service center is scheduled to open in Hillerød in May 2023.

Leapmotor : 70% of vehicle costs covered by parts developed in-house; exporting the T03 compact car to Israel

In September 2022, Zhejiang Leapmotor Technology Co., Ltd. (Leapmotor) was listed on the Hong Kong Stock Exchange. According to a public announcement, Leapmotor will focus on the mid- to high-end NEV market (CNY 150,000 - 300,000). The company is planning to launch 7 new EV models including sedans, SUVs, and MPVs by the end of 2025, at a pace of launching 1-3 models every year. Leapmotor will also launch range extender versions based on its in-house developed range extender technology.



Leapmotor sales composition (2022)

New product launch in 2023 (Source: Leapmotor)

According to MarkLines data, Leapmotor's 2022 sales volume reached 111,000 units, up 150.5% y/y, ranking fifth among China's emerging EV automakers, the same as the year before. This is the highest growth rate among the top five companies. The T03 compact EV accounted for 55.7% of sales volume (down 33.1 points from the previous year), while the C11 electric SUV accounted for 39.9% (up 29.4 points from the previous year). Sales of the C01 electric sedan, launched in September 2022, totaled 4,815 units. In the period January to February 2023, Leapmotor’s sales volume was approximately 4,000 units. A range extender version of the Leapmotor C11 was released in March 2023, equipped with a 1.2T range extender, with a CLTC overall mode driving range of 1,024km. Its price starts at CNY 149,800. On March 31, 2023, the company announced a strategic alliance with Qualcomm Incorporated (Qualcomm). A model equipped with Qualcomm's next-generation Snapdragon cockpit platform (SA8295P) is scheduled for release in 2023.

Leapmotor C01 (Source: Leapmotor)

Leapmotor C01 Cockpit (Source: Leapmotor)

At the 2023 Leapmotor new product launch, Leapmotor's chairman Jiangming ZHU said that Leapmotor's goal is not simply to make gasoline and electric vehicles the same price, but to make electric vehicles cheaper than gasoline vehicles. In addition, to become the "user's OEM factory", a company must fully meet the user's demands, always exceed the user's expectations, and provide consumers a standard model of CNY 150,000 - 200,000 that delivers the same level of fun as a CNY 300,000 - 400,000 luxury car.

Leapmotor develops all core software and hardware in-house for its smart EV core system and electronic components, covering 70% of the vehicle cost. The company outsources cells and interior/exterior parts, and promotes the in-house development and in-house production of all other parts, except for the in-house development and outsourced production of chassis and electric/electronic products. The vertically integrated business model simplifies the supply chain, lowers procurement costs, and ensures supply chain stability.

In-house R&D and production	Leapmotor Pilot: Algorithms (multi-sensor sensing fusion algorithms, planning and decision algorithms, control algorithms), hardware (AD control units and sensors)
	Leapmotor OS: Software (OS and upper-layer applications), hardware (smart cockpit control units and user interaction systems)
	Leapmotor Power: Vehicle controllers, thermal management systems, electric drive systems (motors, reducers, controllers), battery systems (battery management systems, battery packs and modules)
	E/E architecture: Central gateway modules, body control modules and other ECUs, unified layer (hardware interfaces, data communication protocol, and algorithms)
	Body, lighting systems
In-house R&D and outsourced production	Chassis (including suspension, etc.), automotive electrical and electronic products (including cooling, sound, etc.)
Outsourcing to third parties	Cells, interiors and exteriors

(Source: From a Leapmotor public notice)

The AI Smart Factory, built in Jinhua City, Zhejiang Province, according to the principles of Industry 4.0, has an annual production capacity of 200,000 units, and is equipped with a plant dedicated to batteries, motors, and electrical controls providing the capability to manufacture products such as battery packs, motor assemblies, and controllers in-house. In the future, Leapmotor plans to expand its investment in Jinhua City, Zhejiang Province, to increase its production capacity to 600,000 units with a production output value of over CNY 60 billion by 2025, and to directly employ approximately 40,000 people. In addition, the company plans to begin production of core components at its Hangzhou plant in the second half of 2023.

In September 2022, the T03 was exported to Israel as Leapmotor's first export model. Furthermore, with the European Type Approval, the car is now certified for sale in the European market and can be registered with a license plate number in EU member countries. In November 2022, the company opened its first overseas stores in Tel Aviv, Haifa, and Ramat Gan, Israel. According to MarkLines data, 188 units were sold in Israel as of the end of February 2023.

Leapmotor's Israeli dealer (Source: Leapmotor)

China to implement new national standard for automotive CMS from July 1, 2023

According to multiple press releases, the new Chinese national standard for automotive CMS (Camera Monitor System), i.e. GB15084-2022 “Motor vehicles - Device for indirect vision - Requirement of performance and installation”, was recently released, and will be implemented from July 1, 2023.

According to a Ministry of Industry and Information Technology (MIIT) official website press release dated January 12, the CMS is also known as the electronic rearview mirror in the industry, which replaces the conventional optical rearview mirror with the combination of cameras and monitors, has a display mode where the external cameras acquire images and display them on the in-cabin display after processing, and can be integrated with features such as blind spot warning and obstacle indication.

The new national standard includes requirements for rearview mirror parts (size, curvature radius, reflectivity, impact cushion, etc.), requirements for rearview mirror installation (number, mounting position, adjustability, field of view, etc.), CMS component-level requirements (image performance, time characteristics, round corner curvature, etc.), CMS installation requirements (system switching, magnification, monitor mounting position, field of view, etc.), test methods, safety regulations for electronic systems, etc.

From multiple press releases, an MIIT official website press release, and a National Public Service Platform for Standards Information official website press release <Jan 30, 2023>

Sales volume of EREVs in China expected to exceed 500,000 units by 2025

According to multiple press releases, the China Association of Automobile Manufacturers (CAAM) recently joined forces with relevant units to prepare and release the “Report on the Development of China’s Extended Range Electric Vehicle (EREV) Industry” (the “Report”), which expects the sales volume of EREVs in China to exceed 500,000 units by 2025.

The Report points out that the EREV is an electric vehicle equipped with an in-vehicle auxiliary power generation system (i.e., range extender) that consists of an engine, a generator, a controller, etc. In the event that the in-vehicle chargeable energy storage system fails to meet the vehicle’s driving requirements, the range extender provides electric power for the vehicle power system. Compared with hybrid electric vehicles, the power structure of EREVs is simpler and more mature. Driven by the policies and market demand, China’s EREV industry is developing well.

As an important product in the process of the electrification of the automobile industry, the EREV can well balance the experience of battery electric drive and energy replenishment and reduce consumers’ range anxiety and charging anxiety during use, according to Bingfeng FU, executive vice president of the CAAM. Concurrently, the Report believes that the diversification of New Energy Vehicle technical routes is an inevitable trend, and that the technologies for EREVs, battery electric vehicles and plug-in hybrid electric vehicles will co-exist for a long time in the future.

From multiple press releases

<Jan 30, 2023>

China maintains global leadership in NEV production and sales volumes

On January 27, according to multiple press releases, the latest statistics from the China Association of Automobile Manufacturers (CAAM) show that in 2022, China's New Energy Vehicle (NEV) industry continued to grow explosively, with production and sales volumes standing at 7,058,000 units and 6,887,000 units, respectively, up 96.9% and 93.4% year-over-year (y/y), remaining the world's number one for eight consecutive years.

China is the global leader in NEV market size. In China, 6,887,000 NEVs were sold in 2022, with market share rising to 25.6%, up 12.1% from 2021, and global sales share exceeding 60%. Specifically, 5,365,000 battery electric vehicles were sold, up 81.6% y/y; 1,518,000 plug-in hybrid electric vehicles were sold, up 150% y/y.

The competitiveness of independent Chinese new energy brands has improved significantly. In 2022, the domestic market share of new energy passenger vehicle sales of independent brands reached 79.9%, up 5.4% y/y; 679,000 NEVs were exported, up 120% y/y. China occupies 3 of the top 10 companies and groups in global NEV sales volume and 6 of the top 10 companies in installed power battery capacity.

China's NEV supporting environment is improving day by day. By the end of 2022, China had built 5,210,000 charging stands and 1,973 battery swapping stations nationwide, including 2,593,000 charging stands and 675 battery swapping stations newly added in 2022, which indicates that the pace of construction of charging and battery swapping infrastructure is accelerating notably; a total of over 10,000 power battery recycling service outlets have been established, basically realizing nearby recycling.

In addition, according to an official from the Ministry of Industry and Information Technology of China, China's NEV industry has currently entered a period of full market expansion, and is expected to maintain rapid growth in 2023.

From multiple press releases

<Jan 31, 2023>

China establishes first carbon publicity platform for its automotive industrial chain

According to multiple press releases dated February 9, the first carbon publicity platform for China's automotive industrial chain, which is also the world's first carbon footprint information publicity platform for the whole automotive industrial chain, was launched in Beijing.

The platform covers the carbon emission figures of over 5,000 products under the three categories of passenger vehicles, parts and automotive materials, including over 10 types of data and information such as carbon footprints, carbon emission reduction and carbon labels.

In this regard, an official from the China Automotive Technology and Research Center (CATARC) said that the launch of the platform will increase enterprises' motivation to reduce carbon emissions, while enabling consumers to identify low-carbon vehicle more clearly to guide green and low-carbon consumption.

From multiple press releases

<Feb 14, 2023>

Autonomous driving in China to be map-supported by 2025

On March 3, the Ministry of Natural Resources of the People's Republic of China (MNR) released the "Guidelines for the Construction of a Standard System for Basic Maps for Intelligent Vehicles (Edition 2023)", proposing that by 2025, over 10 key standards shall be developed first to initially build a standard system for basic maps for intelligent vehicles that can support driving automation applications, and by 2030, over 20 standards shall be developed to form a complete standard system for basic maps for intelligent vehicles.

The construction of the system mainly includes basic general purposes, production updates, application services, quality testing, safety management, etc., with a total of 31 national and industry standards for industries and fields relevant to basic maps for intelligent vehicles involved.

From an MNR press release

<Mar 10, 2023>

2023 China Auto Forum to be held from July 5 to 7 in Jiading, Shanghai

On March 10, the China Auto Forum Organizing Committee announced that the 2023 China Auto Forum with the theme of “New Era, New Mission, New Driving Force, Helping Build a Modern Industrial System” will be held from July 5 to 7 in Jiading, Shanghai.

This year’s forum will have 20 sessions in total, including “one closed-door summit + one conference forum + 18 thematic forums + umpteen press conferences”, as well as a number of releases, exhibitions and promotion events, which will focus on multiple themes such as dual carbon, intelligent connected vehicles, software-defined vehicles, chips, market consumption, data ecology, digitalization, and globalization.

It is expected that over 200 domestic and foreign top industry guests will speak at the conference, with over 2,000 global automotive and cross-border industry elites attending.

From a China Auto Forum press release

<Mar 16, 2023>

MIIT of China and other agencies issue carbon peaking and carbon neutrality guidelines

On April 23, the Ministry of Industry and Information Technology of China (MIIT) issued “Guidelines for the Construction of a Standard System for Carbon Peaking and Carbon Neutrality” (the Guidelines) with ten other government agencies including the Standardization Administration of China.

The Guidelines propose that the main goal is to basically establish a standard system for carbon peaking and carbon neutrality around basic general standards as well as such development needs as carbon emission reduction, carbon removal, and the carbon market. By 2025, no less than 1,000 national standards and industry standards (including those in foreign languages) shall be formulated and revised to significantly enhance consistency with international standards, realize full coverage of carbon accounting and verification for major industries, and steadily improve energy consumption and energy efficiency standards for key industries and products. No less than 30 relevant green and low carbon international standards shall be substantially involved to significantly improve the level of green and low carbon international standardization.

The Guidelines indicate that the standard system includes the four primary subsystems of a basic general standard subsystem, a carbon emission reduction standard subsystem, a carbon removal standard subsystem, and a marketization mechanism standard subsystem, which can be further divided into 15 secondary subsystems and 63 tertiary subsystems. The system covers carbon peaking and carbon neutrality work in key industries and fields such as energy, industry, transportation, urban and rural construction, water conservancy, agriculture and rural areas, forestry and grasslands, finance, public agencies, and residential life. It meets the requirements of various applications for regions, industries, parks, and organizations, and can be dynamically adjusted according to the development needs.

From an MIIT press release

<Apr 27, 2023>

Guangdong Province plans to build over 4,500 centralized charging stations by 2025

On May 24, the Energy Bureau of Guangdong Province issued the “Notification on the Issuance of the Implementation Plan of Guangdong Province for Promoting the High-Quality Development of Energy” (the Notification).

The Notification declares that Guangdong Province will accelerate the promotion and application of New Energy Vehicles (NEVs), vigorously promote the construction of NEV charging infrastructure, and accelerate the construction of moderately advanced, scientifically distributed, and safe and efficient charging networks and systems. By 2025, the province plans to build a total of over 4,500 centralized charging stations and over 250,000 public charging stands. It will actively conduct vehicle-network interaction demonstration and build V2G (vehicle to grid) demonstration projects of vehicle-network interactive charging stations in Guangzhou, Shenzhen, Foshan, Dongguan, and Zhuhai.

The Notification specifies that Guangdong Province will focus on the R&D of core hydrogen energy technologies and the manufacturing of advanced equipment, and accelerate the cultivation of a complete industrial chain integrating hydrogen preparation, hydrogen storage, hydrogen transportation, fuel cell stacks, key components, and power systems. The province will increase the supply capacity of hydrogen through multiple channels, moderately advance the construction of hydrogen storage, transportation, and refueling infrastructure, and form the Guangzhou-Shenzhen-Foshan-Dongguan automotive fuel cell industrial cluster around the core Greater Bay Area by virtue of the first-mover advantage of the low-temperature hydrogen fuel cell industry.

From an Energy Bureau of Guangdong Province press release

<May 29, 2023>

MOFCOM to further promote auto exports

On May 25, Jueting SHU, a spokesperson for the Ministry of Commerce of China (MOFCOM), said at a routine press conference that in recent years, China's auto exports have been growing while maintaining stability, with product structure being continuously optimized and the scale of trade gradually expanding. The 2021 and 2022 increases in China's auto exports both exceeded 1 million units, and 1.494 million units were exported from January to April 2023, up 76.5% year-over-year (y/y). Specifically, New Energy Vehicles made an important contribution to the increases in exports. Concurrently, the auto export market is becoming increasingly diversified, with vehicles exported to 204 countries and regions around the world from January to April. Specifically, vehicles worth USD 13.64 billion were exported to countries along the Belt and Road, up 120% y/y and accounting for 45.9% of the total; and vehicles worth USD 12.41 billion were exported to developed economies, up 120% y/y and accounting for 41.8% of the total.

The spokesperson said that the MOFCOM will next focus on the following three areas to support China's auto exports:

1) Strengthen transportation security, promote medium- and long-term strategic cooperation between automobile companies and shipping companies, encourage shipping companies to step up building ro-ro fleets, and enhance auto export transport capacity.

2) Encourage cooperation between automobile companies and Chinese and foreign financial institutions, and innovate financial products and services under the premise of legal compliance and controllable risks to better meet the needs of companies.

3) Support automobile companies in improving international marketing and after-sales service systems, enhance the ability to carry out brand promotion, exhibitions and sales, and after-sales services overseas, and establish a good brand image.

From an MOFCOM press release

<May 30, 2023>

China International Auto Parts Expo-CAPS

Locale: Beijing
Website: www.ap-show.com
Date: 07-09/06/2023
Introduction: China International Auto Parts Expo (CAPS for short), was founded in 2007, attracting more than 800 exhibitors from 50 countries and regions around the world, and more than 35 of the world's top 500 enterprises. With more than 60000 professional visitors, the exhibition has established long-term cooperation with 21 national embassies and business associations. It enjoys a good reputation in the industry, has a good reputation, and is known as the wind vane of auto parts. During the exhibition, more than 30 academic conferences will be held to build a "one-stop" procurement platform for China's automobile manufacturing industry chain with the theme of "Gathering excellent equipment to create the source of high-quality cars".

Shandong Automobile Industry Expo

Locale: Shandong
Website: http://www.iaeexpo.com/
Date: 16-17/06/2023
Introduction: China (Shandong) International Automobile Industry Exposition is the only professional show for commercial vehicles in Shandong. Years of success has earned this show a reputation as an ideal platform for promoting, branding and customer-bonding for business in auto industry.

All in CARAVANING 2023

Locale: Beijing
Website: http://www.aicshow.com/
Date: 16-18/06/2023
Introduction: All in CARAVANING is the most important indicator for the hot topics in the industry, providing the industry players with reliable information on the global caravan industry innovations and trends, as well as lots of business opportunities. In this August, the National Agriculture Exhibition Center will showcase a wide spectrum of caravanning products, including caravans and mobile homes, accessories, extension components, and campsites from international renowned brands. It will become the perfect international stage for the exhibitors' latest products showcase, and also the most effective trade platform for China's caravan vehicle industry.

China International Auto Aftermarket Fair-CIAAF 2023

Locale: Zhengzhou
Website: https://www.ciaaf.com.cn/
Date: 26-28/06/2023
Introduction: CIAAF is the leading B2B trade fair in the Chinese auto aftermarket industry. It provides a comprehensive exchange platform for exhibitors and visitors by offering the latest products and technologies, and it is an essential industry event.
Based in Central China and with an influence that stretches across the whole country, CIAAF is a major annual mid-year event for China's nationwide auto after-market players. These include 1st and 2nd tier distributors, dealerships, high-end retailers and more. The event covers channel expansion, optimization, brand name promotion, deal facilitation, information sharing, and in-depth discussion about industry opportunities. By working with e-commerce players and hosting vibrant O2O channels, and taking advantage of gift trade and department buyer resource, CIAAF provides one-on-one business matchup services that link up exhibitors and buyers, thereby delivering bigger added value for all.

Shanghai International Automotive Manufacturing Technology & Material Show-AMTS 2023

Locale: Shanghai
Website: https://www.shanghaiamts.com/
Date: 05-08/07/2023
Introduction: As the no. 1 international professional and innovative fair in Asia in the field of automotive manufacturing technology, Shanghai International Automotive Manufacturing Technology & Material Show (AMTS for short) has been convened for 10 years since 2004. Its exhibition area and exhibits contents are expanding constantly and professional audiences are doubled and redoubled, which have greatly promoted the development of international automotive manufacturing equipment and technical exchange and trade. The show provides a good opportunity for numerous international brands to enter the market of China and Asia.

Asia's Lightweight Automotive Trade Fair

Locale: Shanghai
Website: https://www.lightweightasia.com/
Date: 05-07/07/2023
Introduction: Lightweight Asia is a wonderful exhibition exclusively devoted to lightweight automotive solutions. This one-stop purchasing platform for logistics and urban public traffic systems features local and international lightweight automotive finished products and auxiliaries.
Lightweight Asia provides complete solutions for high performance materials and processes that are much sought after by designers, researchers, technicians and buyers from automobile manufacturers. The show is the ideal place for ambitious businesses to conduct in-depth technical exchange and uncover fresh industry trends.
Lightweight Asia will focus on core development trends and top priorities for automobile manufacturers. These will include lightweight materials, parts, processing solutions and structure optimization. Buyers from the downstream logistics and urban public traffic system sectors will join the event to negotiate integrated lightweight solutions.

China International New Energy Vehicle Electric Control Exhibition-MC EXPO

Locale: Shenzhen
Website: www.mc-expo.cn
Date: 04-06/08/2023
Introduction: China International New Energy Vehicle Electric Motor Control Exhibition, (MC expo for short), was held to continue to serve the new energy vehicle industry and promote its sustainable development. Make full use of the "two in one" mode of professional exhibitions and trade fairs, the "three in one" mode of exhibitions, order fairs and seminars, and the "four in one" mode of manufacturers, dealers, supporting suppliers and service providers. The exhibition is a model exhibition in the new energy automobile industry with market orientation, technical professionalism, effectiveness, user groups and activity characteristics, and truly becomes a new energy automobile industry market promotion, display of new products It is an activity platform for exchanging new technologies, releasing new information and exploring new business opportunities.

China Shanghai international automotive interiors and exteriors exhibition-CIAIE

Locale: Shanghai
Website: www.ciaie.com
Date: 04-06/08/2023
Introduction: China Shanghai international automotive interiors and exteriors exhibition (CIAIE for short). With the steady development of China's automobile industry, the 12th session has been successfully held. Exhibits include interior and exterior trim assembly, seats, intelligent cockpit, plastic parts, decorative parts, steering wheel, door panel, ceiling, body covering parts, body structure parts, exterior parts, cabin electronics, passive safety, bumper, rearview mirror, lamps and vehicle lighting, as well as new materials, new technologies, new equipment and new processes in the application field. The exhibition fully links the upstream and downstream industrial chains of automotive interior and exterior trim.

Automotive Testing Expo China

Locale: Shanghai
Website: https://www.testing-expo.com/china/zh/
Date: 09-11/08/2023
Introduction: Testing Expo - Automotive - China is the place to discover new testing, development and validation technologies for components and complete vehicles.
From NVH measurement tools, crash-testing services and durability/quality validation technologies to vehicle dynamics tools and NDT technology, Testing Expo - Automotive - China is China's largest, most significant vehicle testing exhibition, and boasts a free-to-attend conference too.

CHENGDU MOTOR SHOW

Locale: Chengdu
Website: www.cd-motorshow.com
Date: 25/08-03/09/2023
Introduction: CHENGDU MOTOR SHOW, founded in 1998, is the largest and highest specification annual automobile event in the western region. Chengdu International Automobile Exhibition has kept forging ahead, adhered to innovation and development, and after 24 years of growth and transformation, it has now stood out from many regional automobile exhibitions and ranked among the four A-level automobile exhibitions in China. Auto parts on display include engine, chassis system, brake system, driving system, steering system, body and parts system, exhaust system, tires and auto after-sales related products.

Shenzhen international charging station(pile)technology & equipment exhibition-CPTE

Locale: Shenzhen
Website: http://cp.szevexpo.com
Date: 06-08/09/2023
Introduction: Shenzhen international charging station(pile)technology & equipment exhibition (CPTE for short), founded in 2016, is an annual event with international influence and has been recognized by many well-known enterprises at home and abroad. CBTE Shenzhen Charging Pile Exhibition has played a positive role in promoting the development of China's new energy automobile industry. SYNCH: Shenzhen Electric Travel Exhibition, Shenzhen Battery Technology Exhibition, Shenzhen Energy Storage Technology and Application Exhibition, China International Charging Pile Operator Conference.

Automotive World China-AWC

Locale: Shenzhen
Website: www.automotiveworld.cn
Date: 11-13/10/2023
Introduction: Automotive World China (AWC for short). AWC is a combination of exhibitions and conferences focusing on intelligent and new energy related topics such as autopilot, Internet of Vehicles, smart cockpit, new energy, etc. Relying on the development needs of China's intelligent automobile industry, the exhibition will share the international resources and influence of Automotive World in Japan and will attract more than 500 domestic and foreign brand exhibitors, more than 20000 professional visitors from OEMs, primary supporting suppliers, secondary and tertiary suppliers, and upstream and downstream enterprises of the relevant industrial chain.

Auto Aftermarket Guangzhou-AAG

Locale: Guangzhou
Website: www.aag.org.cn
Date: 11-13/10/2023
Introduction: Auto Aftermarket Guangzhou (AAG for short) is a large-scale exhibition of auto parts, supplies and refitting, maintenance, testing and diagnostic equipment in South China. AAG is committed to building an efficient platform for international industrial technical exchanges and comprehensive business cooperation. Exhibits cover stamping, sheet metal processing, casting/forging, surface treatment/heat treatment, cutting/grinding, and resin forming of automotive engine/chassis/gearbox/body parts and semi products, and automotive parts, Processing equipment, abrasive tools, plastic molds, automation and testing equipment, mold related accessories, etc.

Wuhan Motor Show-WHMS 2023

Locale: Wuhan
Website: http://www.wh-motorshow.com/en/
Date: 13-18/10/2023
Introduction: As one of the most professional and charming automotive shows in the middle part of China, Wuhan Motor Show (WHMS for short) has been experienced its 16 consecutive successful years with the support of every exhibitor. WHMS - the top show for the automotive industry in middle China, has been a sensation among the auto shows and becomes one of the most popular and attractive fairs in China's automotive sector.

China Automobile Parts Fair

Locale: Taiyuan , Shanxi Province
Website: www.qipeihui.com
Date: 20-22/10/2023
Introduction: China automobile parts fair is a traditional grand event in China's auto parts industry. It was founded in 1965 and travels in different cities in China every spring and autumn. Each exhibition can attract more than 2000 exhibitors and more than 80000 visitors from all over the country. It is a domestic auto aftermarket exhibition with a long history and a large scale, which has played a positive role in promoting the development of China's auto aftermarket.

China International Automotive Technology Expo-Auto Tech China

Locale: Guangzhou
Website: http://www.china-autotech.com/
Date: 01-03/11/2023
Introduction: The 9th China International Automotive Technology Expo 2022 (Auto Tech for short) will be be held from May 25-27, 2022 at Guangzhou Poly World Trade Center Exhibition Hall in Guangzhou China. And it covers all the important topics of automotive industry such as automotive electronics, connected car, EV&HEV, lightweight, automotive test, autonomous driving etc, which will attract more than 500 global top industry companies to show the latest technologies and products for automotive industry. The event organizer will utilize the rich industry resources to invite OEMs, auto research institutes and Tier 1 suppliers to visit the show such as GAC, Nissan, Toyota, Honda, BYD, Tesla, Xiaopeng, Dongfeng, Changan, SAIC, Geely, GM, Mercedes-Benz, BMW, Volkswagen, NIO, FAW, Bosch, Continental, Magna and any others from China and all over the world.

AUTO GUANGZHOU

Locale: Guangzhou
Website: www.autoguangzhou.org.cn
Date: 17-26/11/2023
Introduction: AUTO GUANGZHOU, founded in 2003, is one of the three most influential automobile exhibitions in China and is known as the wind vane of China's automobile market. Guangzhou Auto Show is not only a gathering of auto brands and manufacturers from home and abroad, but also an excellent stage for the region and even China's auto industry to show its vitality and strength. With the vigorous development of China's auto industry, Guangzhou has become one of the most important production and distribution bases of auto parts in China, with an annual output value of more than 300 billion yuan. Toyota, Honda, Nissan, Volkswagen and many other auto parts manufacturers at home and abroad have also taken root in Guangzhou, and thousands of auto parts and post market distribution enterprises are scattered in various core areas of the city.

Automechanika Shanghai

Locale: Shanghai
Website: www.autopartsshanghai.com
Date: 29/11-02/12/2023
Introduction: Automechanika Shanghai has established its important position in the international market as an industry platform in the field of auto parts, maintenance, detection and diagnosis equipment and auto supplies. Focus on auto parts, electronics and systems, auto supplies, modification, repair and maintenance, tire hubs, etc.

International Exhibition of Automobile Accessories, China / Car Beauty Chain & Car Wash Show-CIAACE Beijing

Locale: Beijing

Website: www.yasn.net
Date: 28/02-02/03/2024
Introduction: CIAACE is the largest exhibition since the establishment of New China International Exhibition Center in Beijing. The exhibits are segmented into 6 sections, such as auto electronics, auto interior accessories, auto exterior accessories, car care products, auto tuning and other auto related products. In addition, the CIAACE provides exhibitors and attendees with various concurrent events like Forum on China Auto Consumption, new products release, network events and more.
CIAACE has been regarded as the can't-miss event for domestic business in the auto aftermarket, is climbing the global trade show ranking today.

China International Automotive Aftermarket Industry & Tuning (Shenzhen) Trade Fair-CIMP Auto Ecosystems Expo

Locale: Shenzhen

Website: www.autoecosystems.com
Date: 08-10/03/2024
Introduction: CIMP Auto Ecosystems Expo will build a four-in-one exhibition and trade pattern centered on Auto Modification Themed Exhibition, Auto Tech Themed Exhibition, Commercial Vehicle Themed Exhibition, RV and Camping Themed Exhibition. The exhibition scale will upgrade from 160,000 m2 to 200,000 m2, and 100+ OEMs and 4,480+ brands will exhibit in 12 exhibition areas covering passenger vehicle and commercial vehicle markets. CIMP Auto Ecosystems will build a complete ecological auto industry exhibition and continues to promote multi-dimensional development of domestic and foreign auto industry trade.

China International Trade Fair for Auto Service, Maintenance and Repair Technology and Equipment-AMR

Locale: Tianjin

Website: https://auto-maintenance.cn.messefrankfurt.com/tianjin/zh-cn.html

Date: 23-26/03/2024

Introduction: AUTO MAINTENANCE & REPAIR EXPO (AMR for short) is Asia's biggest and one of the world top 3 trade fairs. As a specialized show focusing on garage equipment and tools, AMR has attracted more and more overseas brands.

Beijing International Automotive Exhibition-Auto China

Locale: Beijing

Website: www.autochinashow.org

Date: 20-27/04/2024

Introduction: Auto China, jointly founded by the China National Automotive Industry Corporation (CNAIC) and China Council for the promotion of International Trade, is the leading auto and auto parts exhibition in China. Having establishment in 1990, Auto China is now the dominant auto show in China with positive impact to the global automotive and exhibition industry. It plays an active role in strengthening the exchanges and cooperation between Chinese and foreign automotive circles and in enhancing the development of the automotive industry of China.

Wenzhou International Auto Expo

Locale: Wenzhou

Website: www.autowenzhou.com
Date: 01-04/05/2024
Introduction: Wenzhou International Auto Expo will be held for a period of four days in Wenzhou, China. This international trade show is unique and different from others as it will make the leading experts related to automotive industry aware of the latest and advanced techniques which are required for making this sector more advanced.

Chengdu International Trade Fair for Automotive Parts and Aftermarket Services -CAPAS

Locale: Chengdu

Website: www.capas-chengdu.com
Date: 16-18/05/2024
Introduction: CAPAS, a one-stop platform for information exchange, marketing and trading in Southwest China, is organized by the China Council for the Promotion of International Trade, Messe Frankfurt (Shanghai) Co Ltd and Automotive Sub-Council (CCPIT-Auto) and the Sichuan Council of the China Council for the Promotion of International Trade (CCPIT-Sichuan).
The second edition of CAPAS is expected to attract 700 domestic and international exhibitors, who will showcase their full range of automotive OE and aftermarket products and services.
More than 15,000 professional visitors from around the world are expected to source in three exhibition halls covering 35,000 sqm of exhibition space.

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