

# StepsBridge

Building Business Bridges

## Software defined vehicles

*- In the view of Chinese car manufacturers*



[stepsbridge.com](https://stepsbridge.com)

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About 15 years experience in the automotive industry in roles like General Manager, Project Manager and Business Development Manager. Profound knowledge and broad connections with German and Chinese automotive industry.

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# AGENDA

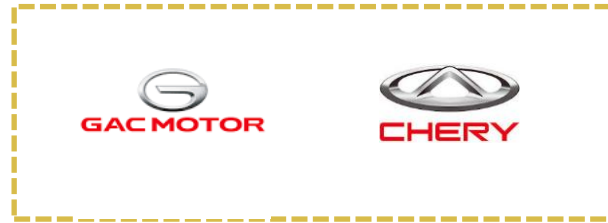
- **Overview**
- Chinese OEMs in Europe
- Aftermarket in China
- Chinese OEM IAM initiatives in Europe
- Challenges Vs. Opportunities

## Three major waves:

- 1<sup>st</sup> wave 1950 - 1970s : the key state-owned car manufacturers were founded



- 2<sup>nd</sup> wave 1980s - 2000s: Open & Reform boosted private and regional state-owned ones



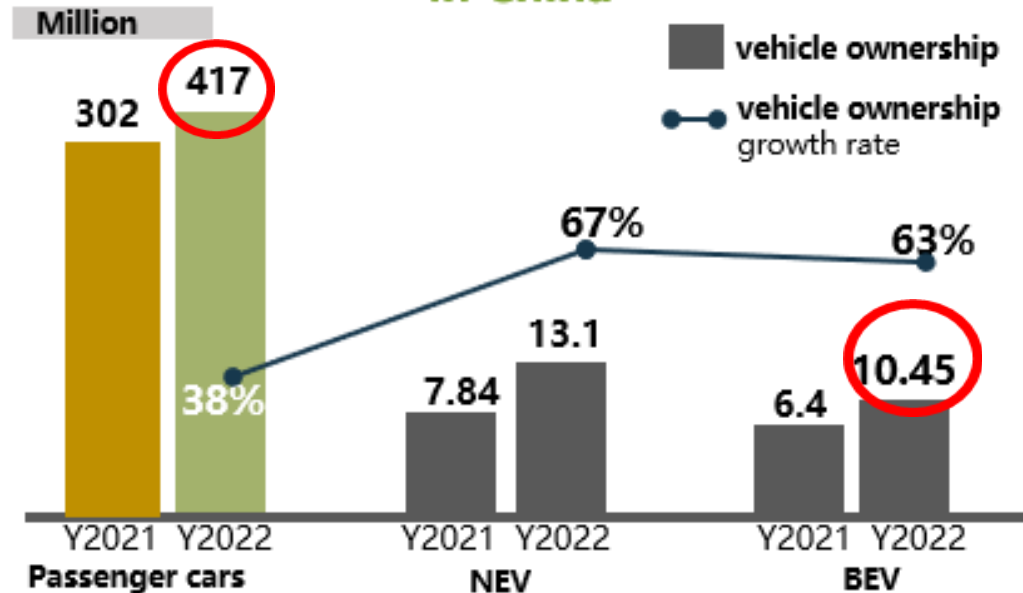
- 3<sup>rd</sup> wave 2014 till now: the EV start-ups and traditional OEM related EV start-ups



## Total car parc and BEV parc

- China has got the biggest Car Parc in the world. Total passenger car parc in China in 2022 reached 417 million.
- EV is the fastest growing segment.** In 2022, The EV penetration in new car market reached 25.6%. BEV shows stronger growth compared to PHEV. **The total BEV parc reached 10.45 million.**
- Chinese brands take the most of the share in China EV market. **Top 10 OEMs take 82.4% EV market and 9 are Chinese OEMs.**

### 2021-2022 total passenger car fleet in China

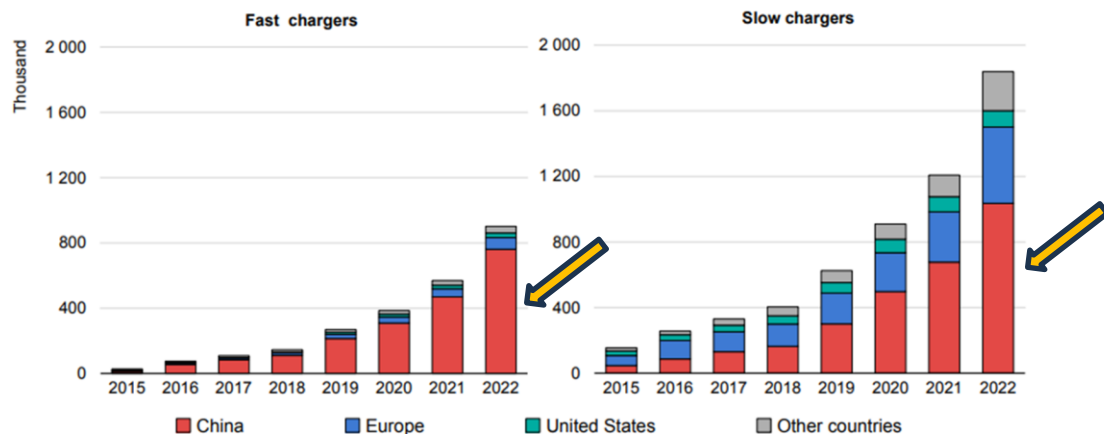


% in 2022	OEM	Volume 2022 in Thousand	Market share
Top 3 52.7%	BYD	1.862	27.0%
	SAIC	1.059	15.4%
	Tesla	711	10.3%
Top 5 64.8%	Dongfeng	502	7.3%
	Geely	329	4.8%
	GAC	311	4.5%
	Changan	284	4.1%
	Chery	247	3.6%
	JAC	198	2.9%
	FAW	172	2.5%
Top 10 82.4%			

## The key factors which boost the EV growth in China

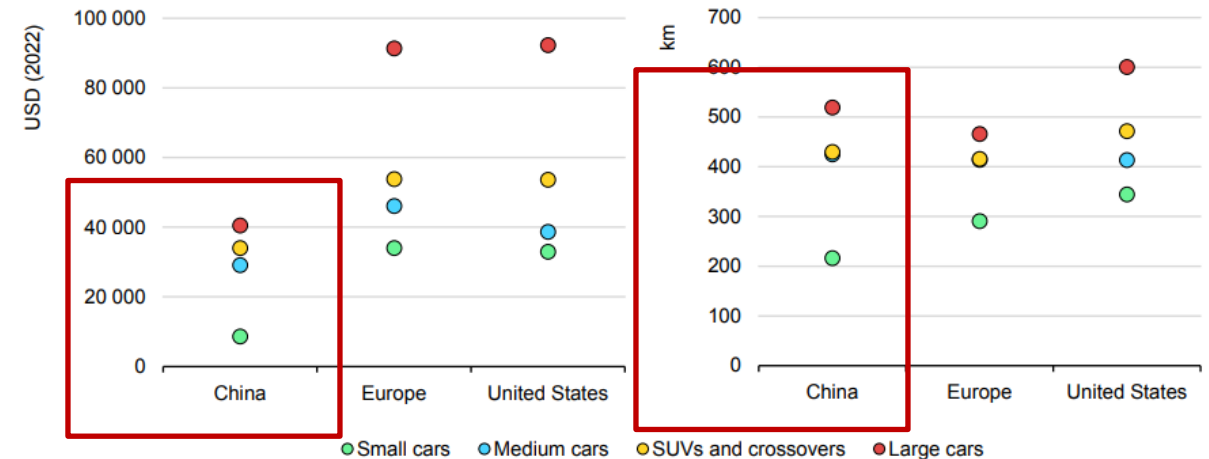
- Strong incentive policy (2010 – 2023)
- Various models availability
- Moderate price with decent driving range
- Well-developed charging infrastructure

**Figure 1.13** Installed publicly accessible light-duty vehicle charging points by power rating and region, 2015-2022



Data Source: IEA Global EV Outlook 2023

**Figure 1.7** Sales-weighted average retail price (left) and driving range (right) of BEV passenger cars in selected countries, by size, in 2022



Data Source: IEA Global EV Outlook 2023

- Well developed charging facilities. By the end of 2022, there are in total **1.1 million AC chargers** and **760 000 DC chargers**. Latest data from CAAM (July 2023) the ratio of vehicle to charging point has **reached 1:1**.

## The new retail models

- **Direct sales** is the most applied business model by the EV brands in China.
- **Direct sales + authorized dealer** is also popular with OEM related new brands like GAC-Aion.



## The new service models

- **OEM self-owned + authorized service center**

Brand	Service	Self-owned	Authorized service center
NIO	NIO Service	246	N/A
Xpeng	Xpeng Service	235	N/A
Li-Auto	Li-Auto Repair	290	257 (Body & Paint)
Hozon-Neta	Customer Center	0	217
LeapMotor	Service Center	0	245
Voyah	Service Center	0	20 delivery center 64 service center 1 body & paint; 2 tuning
Zeekr	Zeekr Center	100	0

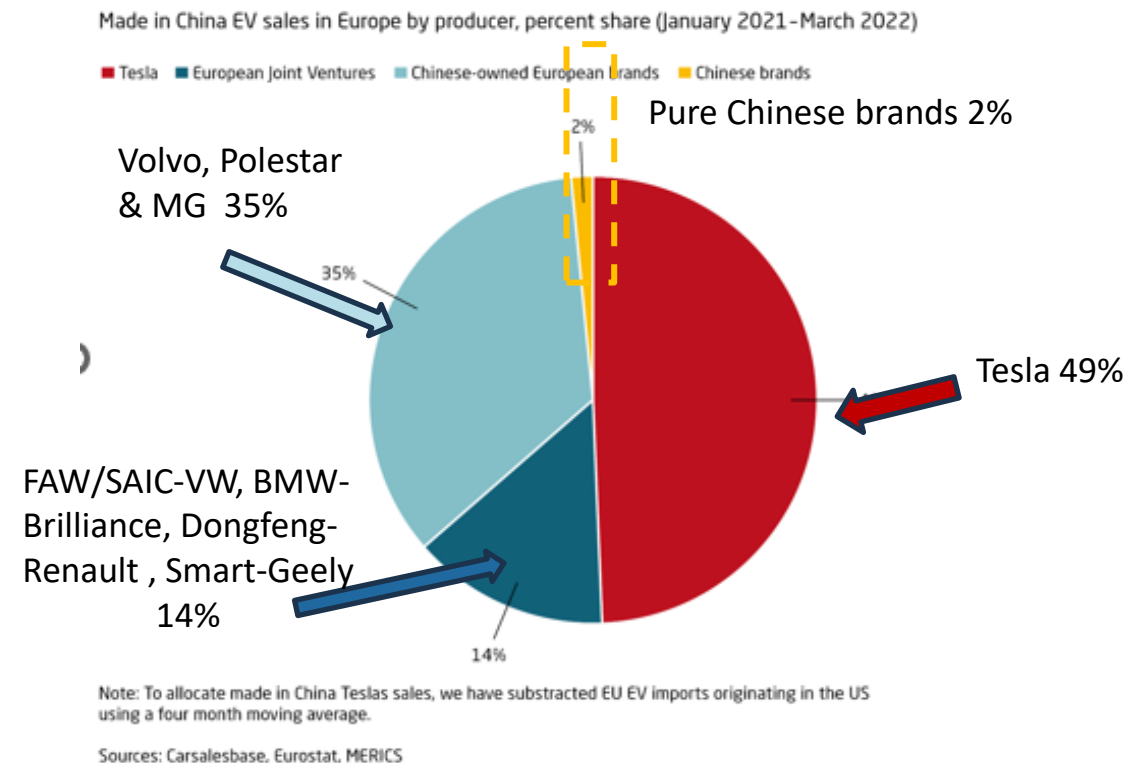
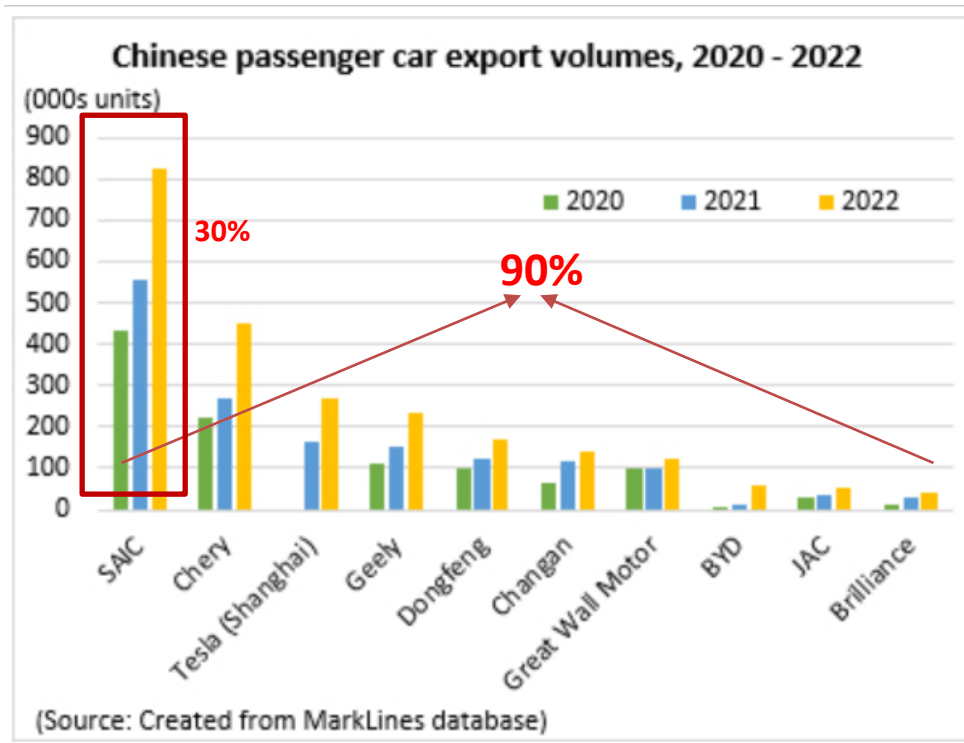
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## The 4th wave of Chinese automotive industry: going abroad

- China became the No. 1 car export country in 2023; more than **50% of the exports are EVs**. It is expected around **1.1 million** vehicles exported from China to Europe per year by 2026.
- The top 10 export automakers account for 90% of total exports (3.1 million units) in 2022, with SAIC ranking first with 30%.
- The export number of pure Chinese brands in Europe is not playing a big roll yet, but they are getting stronger.

Top 10 export automakers in China



- Back in 2018 Chinese OEMs have started small volume exports to Europe. But it only caused European market attention with MG and Aiyas EV entrance after 2019.

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## Chinese OEMs sales and service models in Europe

- The sales models of Chinese OEMs are quite flexible, from direct to customer online sales to traditional importer model.
- Service is heavily depending on the local partners, including authorized IAM partners.

Brand	NIO	Lynk & Co	Xpeng	MG	Aiways	WEY	Ora	Hongqi	BYD	Elaris
Models	EL7, ET5, ET7	Lynk & Co 01	G3,G9, P7	MG EZS, EHS, 4, 5 Marval R	U5, U6	Coffee 01	Funky Cat	E-HS 9	Atto 3, Tang, Han	BEO, DYO
Sales	Own retail			Agency			Importer+			Elaris online
	DTC Online									
			Strategic Partners and General Distributors							
Aftersales service	Separate service partner		Same parter for sales and service				Same partner for sales and service			Euromaster
	GAS	Authrioized Service partner	Emil Frey, Bilia	Dealers, Parnters	ATU	Emil Frey	Emil Frey	Heddin	RSA, Heddin, BYD Dealers	
Physical Outlets	Self expereince center or community space		Brand store/Pop-up store/Showrooms			Importers/General Distributors				Only online
Digital	Beyond the car		Focus on the car			Beyond the car		Focus on the car		N.A
Loyalty strategy	Strong focus on continual engagement		Need-based engagement			Some focus on continual engagement		Need-based engagement		
Volume 2021	600	30,000	500	52,000	3000	0	0	0	1000	0
Volume 2022	1400	27,000	700	113,700	1,300	30	200	2088	4,100	~200

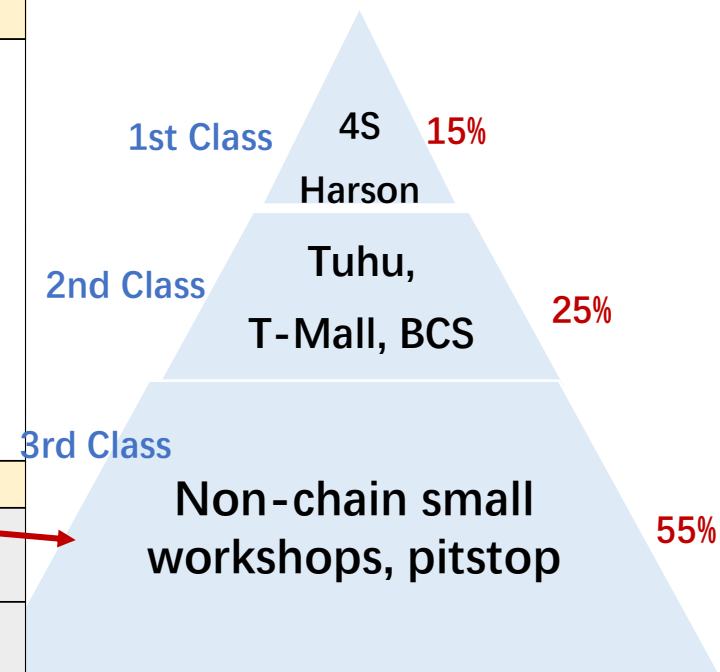
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## Aftermarket structure: Authorized and IAM

- There are over 400.000 service workshops in China, more than 380.000 are IAM workshops.
- Service workshops are categorized with 3 classes: 1st and 2nd Classes can make diagnostics, repair and maintenance; while 3rd class can only make the simple/fast repair.

China Aftermarket Value Chain and Business Channels								
	OEM	IAM			DIY			
<b>Upstream</b> Parts manufacturer	OEM/Tier 1	IAM Parts Manufacturer			IAM Parts Manufacturer			
<b>Midstream</b> Parts distributor	↓ OEM/Tier 1	↓ Distributor	↓ B2B e-Commerce	↓ B2C e-Commerce	↓ Distributor	↓ B2B e-Commerce	↓ B2C e-Commerce	
<b>Downstream</b> Parts retailer/Workshop/ Driver	↓	↓			↓	↓		
	4S-stores	Non-chain workshops	Workshops Chains	e-Commerce hard-franchised workshops	Retail chain	Supermarket		
	↓ Consumer	↓	↓	↓	↓	↓	↓	↓
<b>Downstream market share</b>	~ 60%	~ 35%			~ 5%			
<b>Trend</b>	↘	↗			→			



## Key Aftermarket players and their business trends

- Becoming the integrated players is the major trend in Chinese aftermarket.
- Based on the core business and provide SaaS (software as a service) brings new profit.

Business Model		Key players		Upstream	Midstream		Downstream	
				Parts Manufacturer	Parts distributors	E-Commerce (parts/service)	Workshops	SaaS service
Model 1	M2B2b2C integration	Dealer Group	Zhongsheng	x	● ←	x	●	x
		Repair workshop chain	Harson	x	● ←	x	●	x
		OEM	SAIC Chexiang	x	● ←	x	●	→ ●
		Parts manufacturer	Bosch	● →	●	x	→ ●	→ ●
		Parts manufacturer	Michelin	● →	●	x	→ ●	→ ●
Model 2	S2c integration	Internet	Tuhu	● ←	● ←	● →	→ ●	→ ●
Model 3	Traffic broker	Internet	Lechebang	x	● ←	● →	→ ●	→ ●
Model 4	B2B Parts e-commerce	Internet	Batulu	x	● ←	● →	→ ●	→ ●
		Insurance	PICC Bangbang Car Service	x	● ←	● →	→ ●	→ ●


● Aftermarket initiate layout : a company's initial business layout while it enters aftermarket

● Extended business layout: a company further completes the value chain integration based on its initial layout

x No layout yet: till today there is no such business yet

## Diagnostic tools and the key providers in Chinese aftermarket

- The diagnostic tools are available to both authorized and IAM. 8 of the Top 10 diagnosis tool providers are Chinese companies.
- The average price of a comprehensive diagnostic computer is about 500-800 Euro and covers more than 90% of the vehicle models. The average annual update is about 5-6 times.
- There are many OBD diagnosis tools for simple checks. They cost around 50-80 Euro for 3rd Class workshops

Brands	Logo	Specialties
Launch		Fist Chinese diagnostic solution provider, focus on car diagnostics, testing, maintenance and tire inspections
Autel		Dedicated to the production and sales of electronic products, diagnostic solutions and equipments
JBG		Focus on R&D/production/sales of automotive electronics and computer products
FCAR		Dedicated to commercial vehicle repair and diesel diagnostics
Syokean		Provides a comprehensive service platform for the repair shops, integrating the entire system from repair and operation to management..
Eucleia		Professional automotive intelligent dual-mode Eco-diagnostic equipment supplier
ADS		Vehicle comprehensive diagnostic and failure analyzer , esp. heavy duty diesel vehicle
Xtool		Automotive intelligent module diagnostic tools / telematics hardware/ Internet of Things intelligent hardware

## EV repair is divided into two parts: vehicle & battery

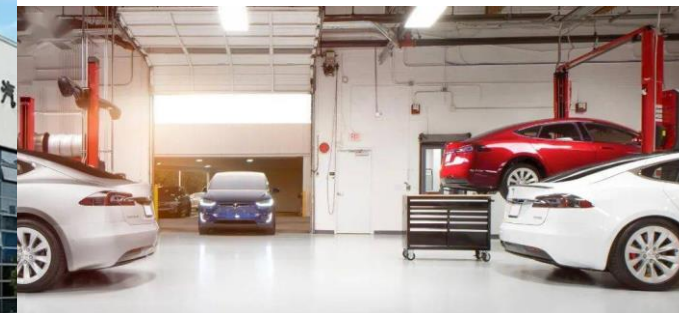
- **Vehicle :** OEM service network and franchised partners get full access. IAM can make battery pack check, air conditioning compressor test, and general maintenance such as: airbag reset, smart key matching, tire pressure reset
- **Battery:** Battery manufacturer got the full access to BMS data. Battery manufacturer aftermarket specialists do battery cell repair or replacement. OEM technical specialists (trained by battery manufacturer) can conduct some repair of the pack. OEM authorized service partners (trained by OEM specialists) can conduct the battery health check and battery data analysis
- **OTA:** Some EV OEMs develop their own tools and launch cloud-based diagnosis platform to make regular vehicle data reports, OTA upgrades, and other software related services.



## EV OEM initiatives with IAM workshops

More and more IAM players work with EV makers, battery manufacturers and Charging Points Operators to get into EV R&M market.

- JD Car Service ( [www.car.m.jd.com](http://www.car.m.jd.com) ) work with
  - Shell : Shell products sales, service, Shell Recharg
  - Prinx ( Tire manufacturer) : products, EV tire service
  - BMW and Chery: customer tailored services
- Harson work as the authorized service parter for Xpeng. NIO, Li Auto, HiPhi, Arcfox and so on.
- Harmony Repair work with Leapmotor as its national delivery and service partner
- Zhongxin work with Tesla as its nationwide Body & Paint partner



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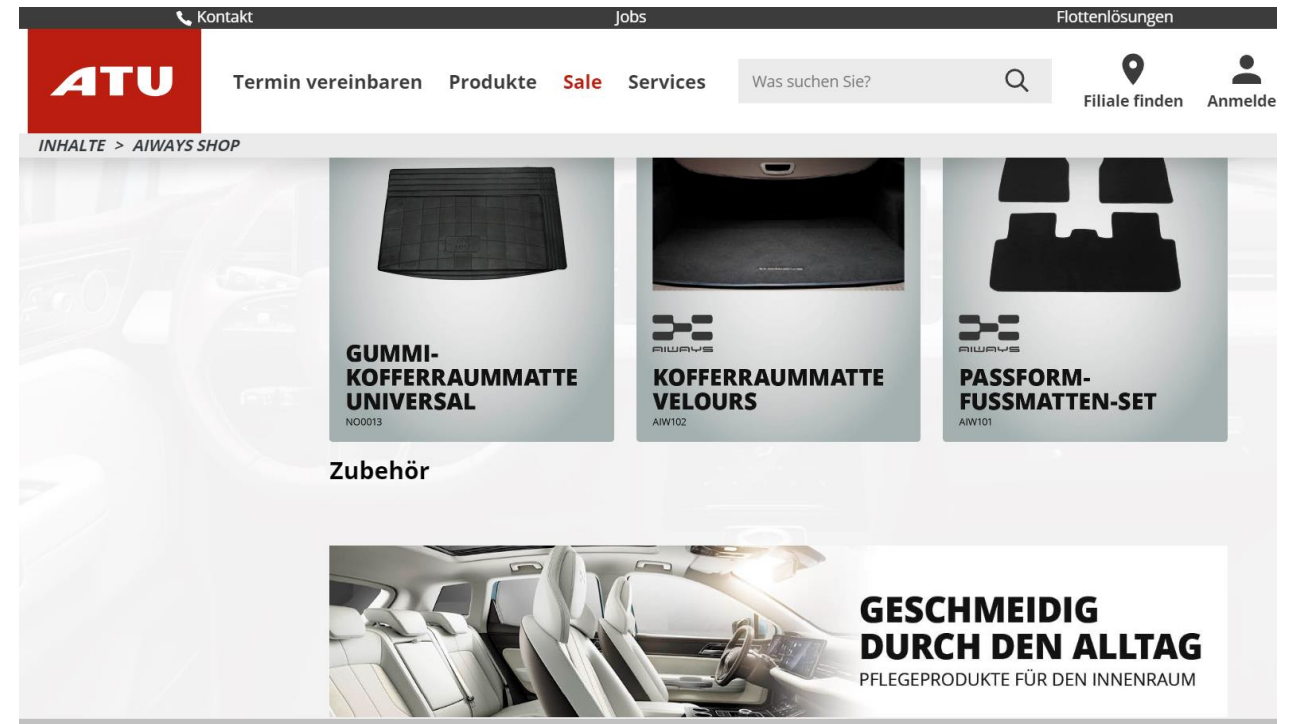
## NIO & Global Automotive Service

- **Authorized partnership:** Global Automotive Service (G.A.S.) is the official workshop service provider for NIO in Germany
- **Wide Service Scope:** G.A.S network provide inspection, maintenance and repair, as well as other bodywork, paint, tire and glass work. Claims management is offered via the G.A.S. subsidiary G.A.R. (Global Automotive Repair) and the claims service provider DMS (Damage Management System), which is part of the G.A.S. Group.
- **Parts supply:** Wittich GmbH as the partner of G.A.S for parts, tools and equipment now is NIO's parts supplier for the repair shops.
- **Pick up service:** when service is required, the Nio "user" calls G.A.S via app or hotline - and his vehicle is picked up and return at his address. If the workshop visit takes longer, the user is provided with a free replacement car.
- **Start with key workshops:** In Germany, G.A.S. has 1,700 workshops under contract, of which 17 major service partners initially specialize in Nio models.



## Aiways & ATU

- **Authorized partnership:** ATU is official and authorized service partner for Aiways in Germany. There are 40 ATU workshops in Germany are specialized in Aiways.
- **OEM warranty services:** ATU services for Aiways are from tires, maintenance, bodywork repairs, warranty covered services and even software update.
- **Brand online shop space:** There is an Aiways online shop on ATU website---Aiways@ATU Shop, where Aiways users can find a selection of additional products and accessories specially tailored to Aiways - including complete winter wheels, snow chains and floor mats.



## Elaris & Euromaster

- Elaris is a Germany start-up company which registered as an importer for Chinese EVs.
- Elaris carries the **Apple concept**, use factories in China that know how to build cars and modify Chinese vehicles according to the wishes for the European market.
- Euromaster is **official service partner** of Elaris and also Elaris cars can also be purchased by the Euromaster workshops.
- Elaris offers its customers special insurance from **Gothaer**.
- Elaris sources spare parts through a cooperation with the online platform **Autohelden**.



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# Challenge of Chinese Evs in Europe

## Main Challenges in Europe

- Lack of brand recognition
- Not sufficient service network in place
- Uncompetitive remarketing price
- Lack of market confidence in the survivability
- Not able to maintain competitive price
- Insufficient charging infrastructure
- Experiences and advantages in China can not be utilized
- Difficulties in warehousing and spare parts supply

## Chinese EV brand Individual Challenges



The first EV Chinese brand entered Europe but it is under great financial pressure .



Although MG set the slogan for Europe is Recharge Yourself, the BEVs take less than half of the total sales.



Polestar announced its delay for its first SUV EV model Polestar 3 until the first quarter of 2024 and cut its annual production guidance of 2023.



NIO started with its aggressive marketing and unique battery swap concept in Europe but the sales performance looks not promising.



The HQ management restructure and financial pressure strongly restrain the Xpeng's European development.



Great Wall Motor partners with Emil Frey but till now there are no clear roles of each party on ORA.

The PHEV market is decreasing as the incentives are withdrawn, which brings extra challenge to WEY



BYD is No.1 EV maker in the world since April 2023, but China contributes most of it. The European key partner of BYD is Hedin Mobility whose strength is concentrated in Nordic countries.

## **Chinese EV OEMs will adhere to the European rules and open the vehicle repair data to IAM**

Europe IAM has the opportunities

- To leverage the existing warehouse, spare parts supplier and workshops and work with Chinese EVs.
- To be the authorized service partner for Chinese EVs.
- To become battery specialists by getting certificate from Chinese leading battery manufacturers.
- To be the sales agency to provide product consultation, test drive and delivery services.
- To be remarketing partner
- To be E-mobility service provider by operating a fleet of small Chinese EVs.
- To get into the EV parts or battery recycling, remanufacturing and repurposing industry

Thank  
you

