

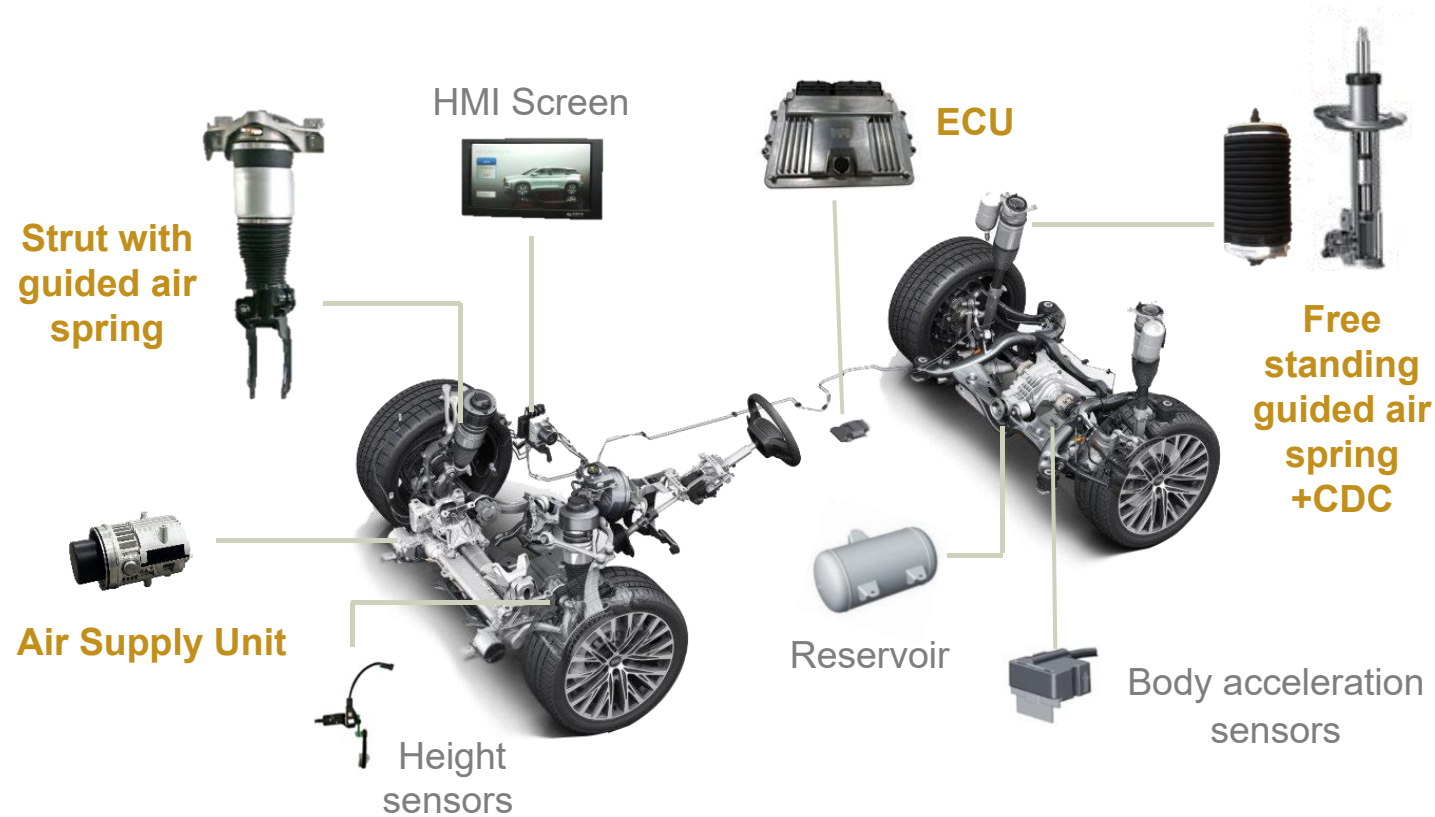
China's Leading Air Suspension Supplier

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## **KHAT Introduction**

# Product Description: Electronically Controlled Suspension System

**KHAT®**



- ❑ Isolate high frequency vibrations: prolong battery life and improve comfort
- ❑ Maintain body height and ground clearance: battery protection
- ❑ Raise vehicle body to improve off-road performance
- ❑ Lower vehicle body at high speeds: reduces energy consumption and improves safety
- ❑ Reduce high-frequency noises: improve NVH performance
- ❑ Reduce pitch and roll: improve control and safety
- ❑ ECS has become one of the key elements of quality vehicles.
- ❑ Electronic control is necessary for any future intelligentization.

*Make Driving Safe, Pleasurable, and Affordable*

# KHAT Plant Layout



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- ❑ KHAT is China's first supplier of both **Air Suspension System** and **Dual Chamber Air Spring** for PV.
- ❑ 13 vehicles in supply: VOYAH, Li Auto, DENZA, ZEEKR, LYNK&CO, CHANGAN Auto, AVATR, CHERY, BAIC, LEVC etc.
- ❑ Moreover, obtained the nominations from BYD, AION, XPENG, **SAIC AUDI (Air Spring & Closed-loop ASU)**, **VOLKSWAGEN ANHUI (Dual Chamber Air Spring)**.
- ❑ KH Changchun was founded by Academician Konghui Guo in June 2007, providing technical services in term of vehicle dynamic performance.
- ❑ KHAT specializes in core algorithms for ECS systems, system integration, air spring adaptation design & verification, chassis tuning, production process development, etc.
- ❑ The annual production capacity of air springs is 1 million sets. Production plants are located in Huzhou, Chongqing and Wuhan (CDC). The R&D center and the headquarters are in Suzhou.
- ❑ Has 950 employees and 127 pieces of intellectual property. Awards and honors include the national high-tech enterprise, national first set qualification, national specialized and new “little giant” firm, etc.
- ❑ Passed the Volkswagen audit Formel Q in March of 2024 and was officially listed in the Volkswagen supplier base.
- ❑ 270 thousand sets supplied in 2023, annual turnover reached RMB1.22 billion (USD 171.5 million).
- ❑ Over 600 thousand sets estimated to be supplied in 2024, annual turnover will achieve of at least RMB2.5 billion (USD 351.5 million)

# Core Team Members



**Chuck Kuok**  
Chairman/CEO

Founder of KHAT Zhejiang  
Former CEO of Changchun KH since 2008  
20 years of business management experience  
MBA, University of Nottingham  
MME, University of Hong Kong  
BSc, College of Automotive Studies, Jilin University



**Prof. Konghui Guo**  
CAE Academician

Academician of CAE (first in the automotive sector)  
Chief engineer of the automotive research institute at FAW Group  
Former vice principal of College of Automotive Studies, Jilin University  
Top expert and world renowned scientist in vehicle dynamics



**Jian Miao**  
VP, Operations

Project management and financial management  
Former director of asset management office of FAW Group  
Rich experience in AMC of business and finance integration



**Yang Liu**  
VP, Head of Electric Control R&D Department

Many years of experience in chassis dynamic performance analysis, algorithm development, verification of ECS systems, design, and key parts development



**Mian Wang**  
VP, Head of Parts R&D Department

Design, R&D, mass production testing and key components upgrades (e.g. air springs, valve pumps, etc.)  
15 years of experience in development and in production of chassis suspension



**Chengxiang Qian**  
VP, Supplies

Product procurement, material control, and enterprise quality system construction  
Former operations director of Honghan Optoelectronics and Lixin electric



**Jinlin Liu**  
VP, Production Equipment

MBA  
15 years of experience in the field of automotive component engineering technology & equipment  
Rich experience in enterprise management  
Founder of Hemeida



**Yidong Xu**  
VP, Board Secretary

5 years of experience at a listed company  
13 years of industry investment experience

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## Core Team Members

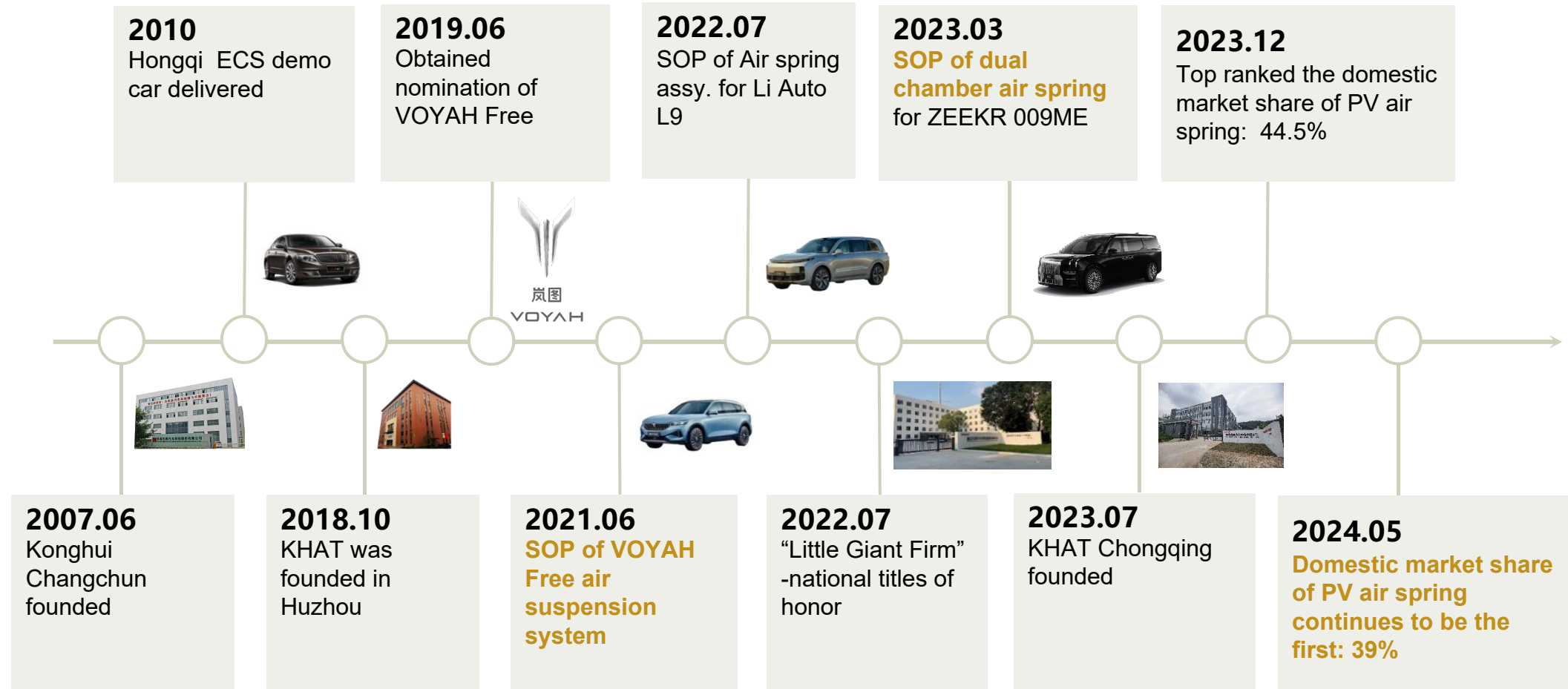


- One of the first academicians elected when the Chinese Academy of Engineering was founded, and the first academician in the automotive industry, professor and doctoral supervisor at Jilin University, and the only academician and industry leader in the chassis field in China
- Former chief engineer of FAW Automotive Research Institute. Former vice principal of the College of Automotive Studies, Jilin University
- A renowned expert in China's automotive industry and one of the world's renowned top scientists in vehicle dynamics
- Led the development of China's first set of automotive air suspension products in 1956
- Has taught over 300 top professional talents for China's automotive industry. Professor Guo has devoted his life to the independent innovation and industrialization of automotive technologies.



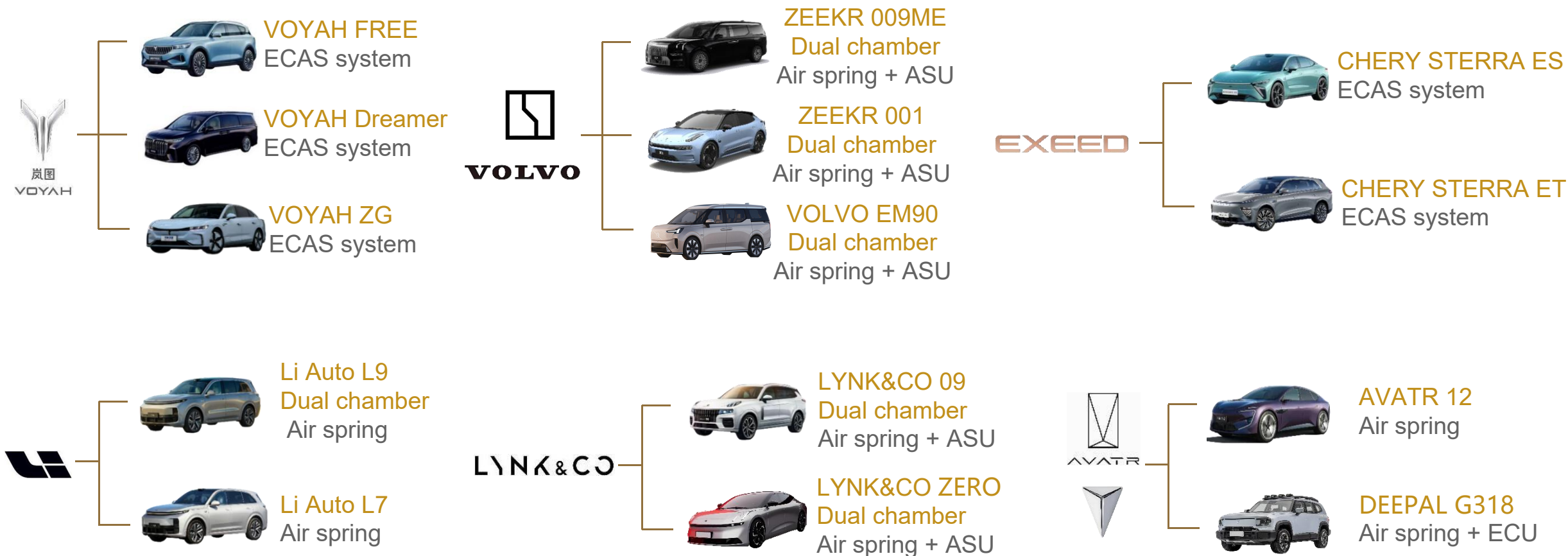
**Prof. Konghui Guo**  
**Founder & Technical Leader**  
**of KHAT**

# KHAT Milestones



## Series Products

**KHAT®**



Cumulative sets supplied (as of Jun 25, 2024): Air spring: 490,000 sets    ECU: 87,000 sets    ASU: 120,000 sets

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# Awards

**KHAT®**



LI AUTO 2023 TOP Award



CHANGAN 2023 Innovation Support Award



VOYAH 2023 Outstanding Supplier



GEELY 2023 Innovation award

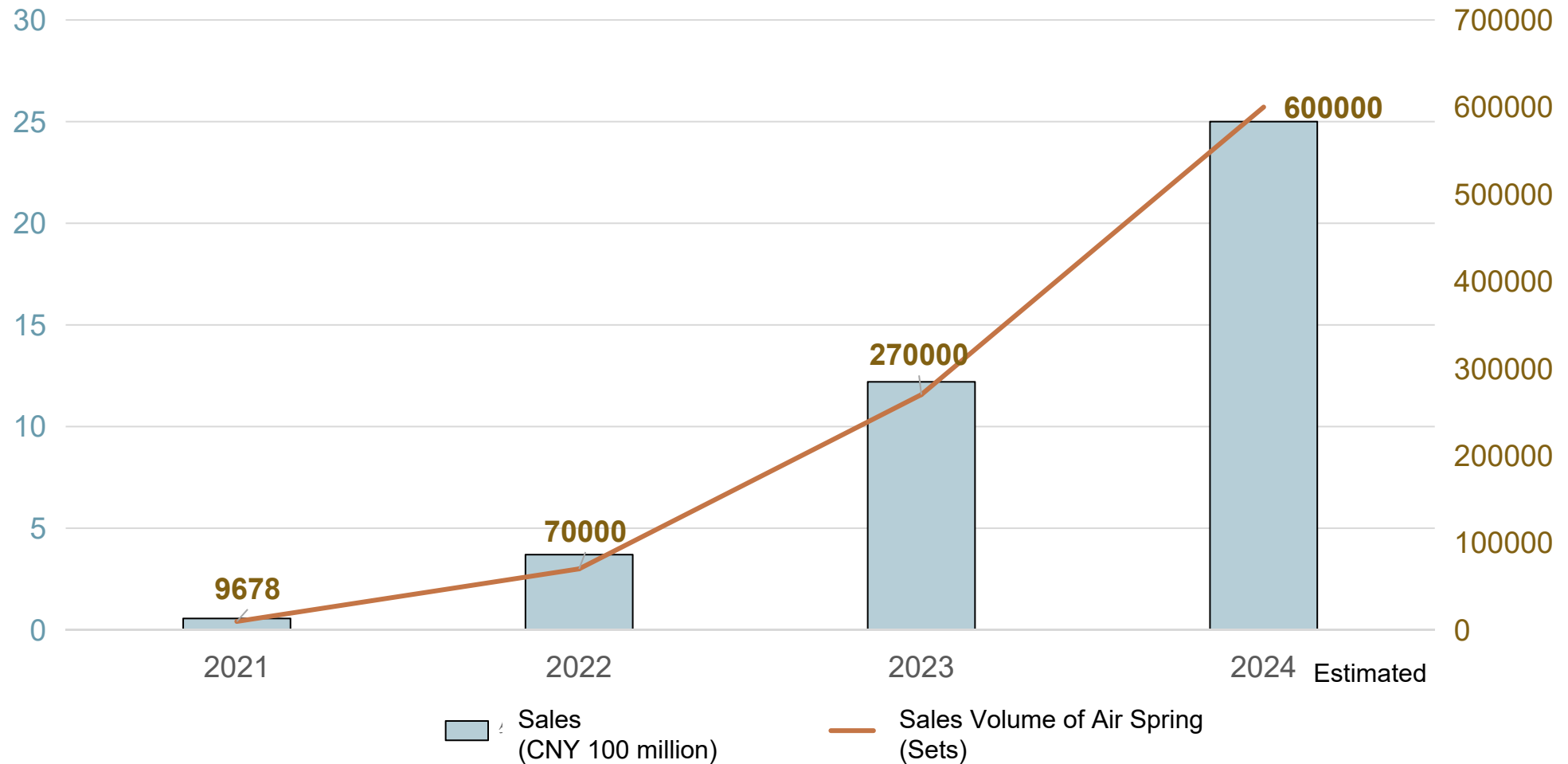


CHERY Excellent Development Award

## Growth Since Start of KHAT



### Sales volume & revenue

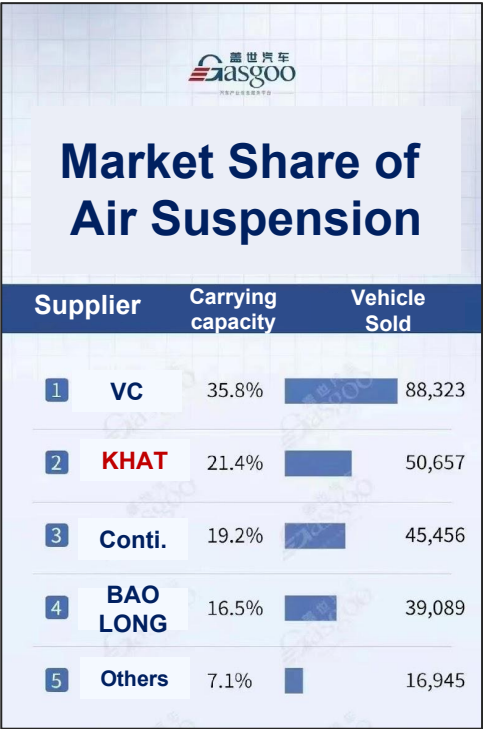


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# Domestic Market Share



In 2022, the market share of air spring is Second in China  
Source: GASGOO



2022 Total: 240,470 sets

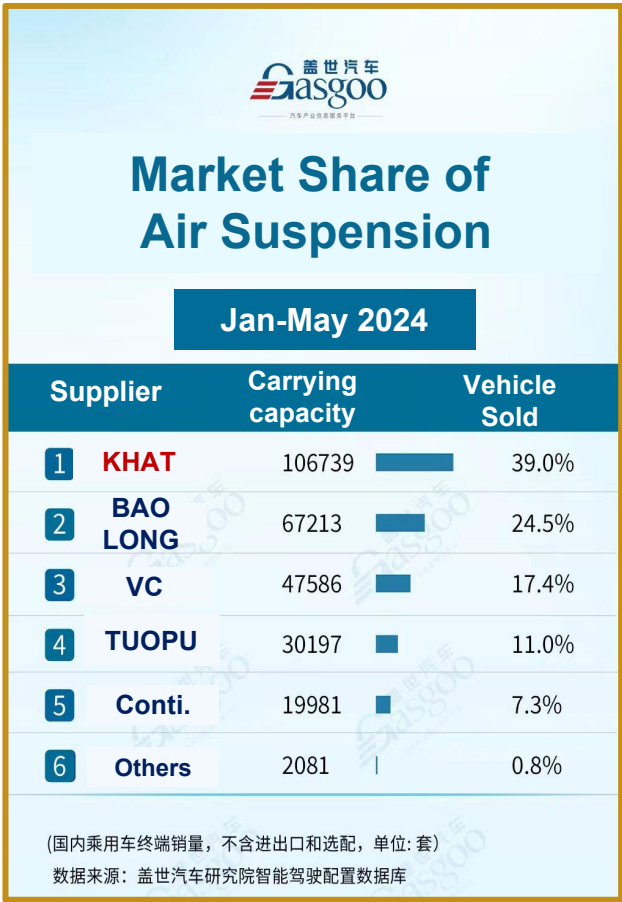
In 2023, champion of air spring market share in China: 44.5%  
Source: GASGOO



2023 Total: 563,834 sets

May 2024, champion of air spring market share in China: 39%

Source: GASGOO



**KHAT has obtained 48 nominations from 17 OEMs**



SAIC AUDI 上汽奥迪



厂家 Suppliers	配套车型 Vehicle models supplied
孔辉 KHAT	LI AUTO L7/L9、ZEEKR 001/009、VOLVO EM90、VOYAH DREAMER/FREE、CHERY STEAR ES/ET、AVATR (HUAWEI) 12、LYNK&CO 09
保隆 Baolong	LI AUTO L8、NIO EC7、XPENG X9、BYD N7
拓普 Tuopu	AITO M9、XIAOMI SU7
威巴克 VC	BMW i3, BMW X5, AUDI A6, E-Class, XPENG G9
大陆 Conti	NIO ES8, TANK 900, IM LS7

# Domestic Layout



## KHAT Wuhan: Production Plant

Product type: CDC



## KHAT Chongqing: Production Plant

Product type: Air Spring



## KHAT Guangzhou: Production Plant



## KHAT Changchun: R&D Center

Algorithm & System Integration Dept.



## KHAT Suzhou:

### R&D Center / Production Plant

Group Headquarters, R&D Center

Product type: Closed-loop ASU, ECU



## KHAT Shanghai: R&D Center

Electric Ctrl R&D Institute



## KHAT Zhejiang: Production Plant

Product type: Air Spring, ASU, ECU





## Highly Automated Production Line












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# Products in Supply & in R&D



2023				2024				2025				2026			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Single Chamber Air Spring 		Dual Chamber Air Spring 						Triple Chamber Air Spring 							
ASU 				TIO 									ASU V3		
					CDC					Active Rolling Control		Predictable Active Suspension			
ECAS+CDC 				EPB 	ECAS+CDC+EPB			ECAS+CDC+EPB+RWS							

ECAS = Electronically Controlled Air Suspension

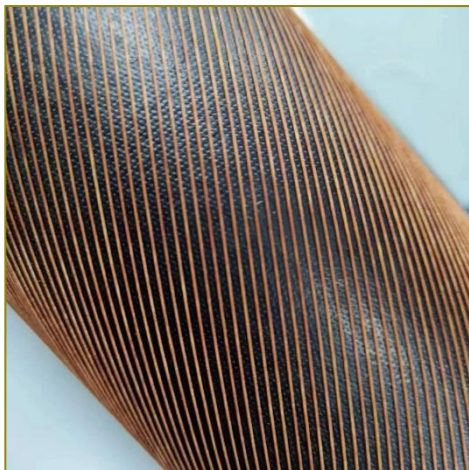
ASU = Air Supply Unit

TIO = Three In One (Integration of air compressor, valve block and ECU)

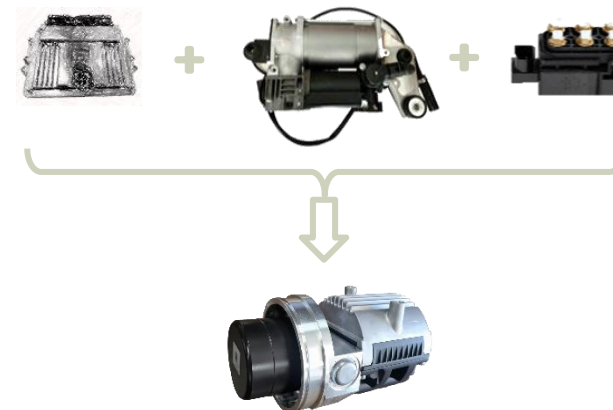
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## Products in R&D

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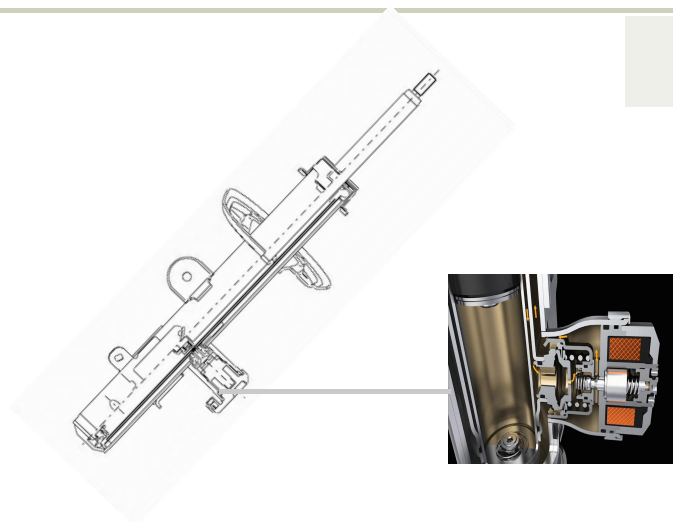
**BBW (Bellow By Winding)**



**TIO (Closed Loop ASU)**

**CDC**

**Active Rolling Control**



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1. Proven control algorithm for ECAS & CDC system
2. Electronic suspension system integration and compatibility as well as key component design, development, verification and chassis tuning capabilities
3. Self-developed ability of R&D test rigs and equipment
4. Production process and production line design ability (20 self made air spring assembly lines in operation)
5. Reliable supply chain with price advantages
6. Quality control capabilities accumulated from 13 of SOP projects
7. Cost reduction advantage as the result of the leading domestic supplier and annual production of 600,000 sets of air spring
8. Sustainable innovation capabilities in electronically controlled suspension system

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