

Vertical lifting solution  
Simple Efficient Safe





# Introduction

## Inovance

Shenzhen Inovance Technology Co., Ltd. (stock code: 300124) focuses on the R&D, production and sales of industrial automation drive and control products. It is positioned to serve mid- to high-end equipment manufacturers on the basis of industrial automation control technology with independent intellectual property rights. Inovance provides customers with customized solutions to achieve growth of both corporate value and customer value.

The main products are low-voltage AC drives, medium-voltage AC drives, integrated and special controllers, servo systems, PLC, HMI, permanent magnet synchronous motors, electric vehicle motor controllers, rail transit traction systems, etc.; with intelligent manufacturing, new energy, and industrial Internet as the focus, Inovance's products are widely used in elevators, cranes, machine tools, metal products, wires and cables, plastics, printing and packaging, textile and chemical fiber, building materials, metallurgy, coal mining, municipal engineering, automobiles, and rail transit.

Inovance is a national high-tech enterprise proficient in core platform technologies such as high performance vector frequency conversion, PLC technology, servo technology and permanent magnet synchronous motors. It has a large and technology-leading R&D team which specializes in the research of core platform technologies and applied technologies and product development. As of December 31, 2017, the company had 746 patents with certificates, including 229 invention patents, 413 utility model patents and 104 appearance patents. In 2017, the company acquired 47 new invention patents, 46 new utility model patents and 23 new appearance patents.

Inovance owns more than 10 subsidiaries in Suzhou, Hangzhou, Nanjing, Shanghai, Ningbo, Changchun, and Hong Kong. As of December 31, 2017, the company has 5,687 employees, of whom 1405 are specialized in research and development, accounting for 24.7% of the total number of employees.

In 2017, the company achieved sales revenue of 4.778 billion yuan, up 30.55% year-on-year, and net profit attributable to shareholders of listed companies of 1.065 billion yuan, up 14.24% year-on-year. Inovance has been selected as "CCTV Top 10 Socially Responsible Companies of Top 50 Listed Companies in China 2017", "Jiangsu Top 100 Innovative Enterprises 2017", the first batch of companies receiving special support from the key national R&D program "Intelligent Robots", "Forbes Asia's 200 Best Under A Billion 2016", and "China's Top 100 Best Employers of the Year 2015."

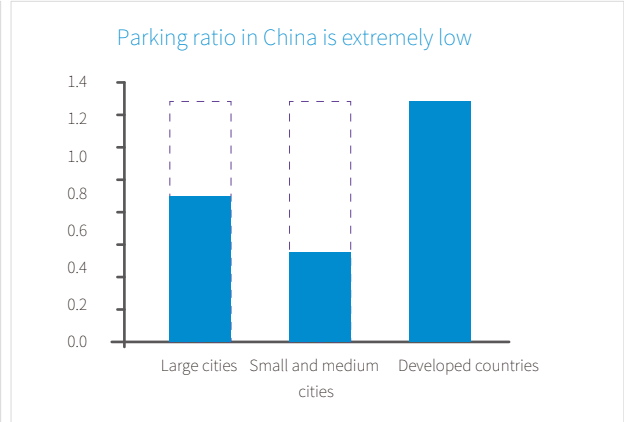
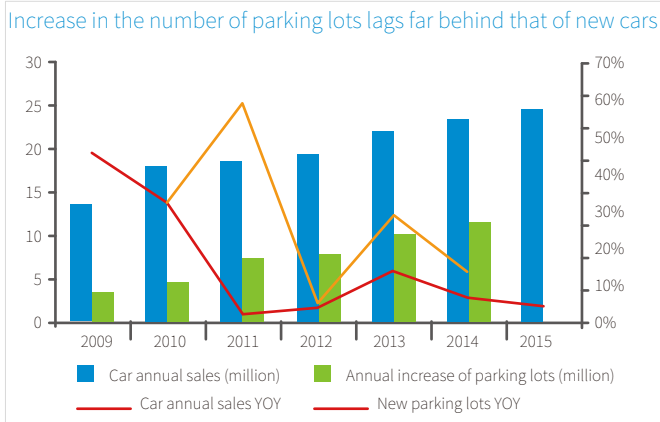
## Monarch

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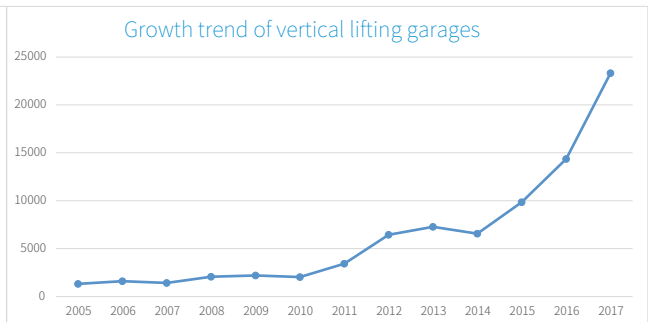
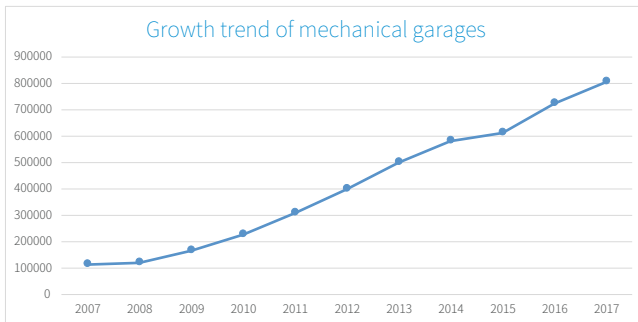
Suzhou MONARCH Control Technology Co., Ltd. was established in December 2003 to leverage Inovance's leading AC drive technologies and a team of professional talents to offer the elevator industry with a great variety of control and drive products. As at the end of April 2018, more than 1.5 million MONARCH integrated controllers had been put into service. In China, 1/4 of the elevators use MONARCH's control system.

# Stereo garages become urban symbol

- The cars owned by Chinese people has far outnumbered parking lots in China. Parking lot planning has become a challenge to urban transport planning.



- Considering the increasing car ownership, the demand for mechanical stereo garages is also increasing.



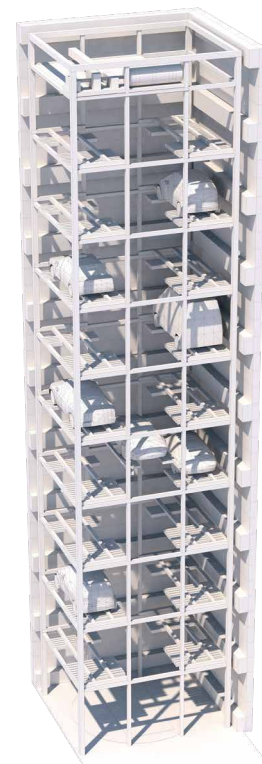
- Compared with traditional garages, stereo garages use land more efficiently.

50m <sup>2</sup> area	Traditional	Vertical lifing and traverse	Vertical lifting
Capacity	3-4	16	50

- The vertical lifing garage-led intelligent parking industry will see a boost.

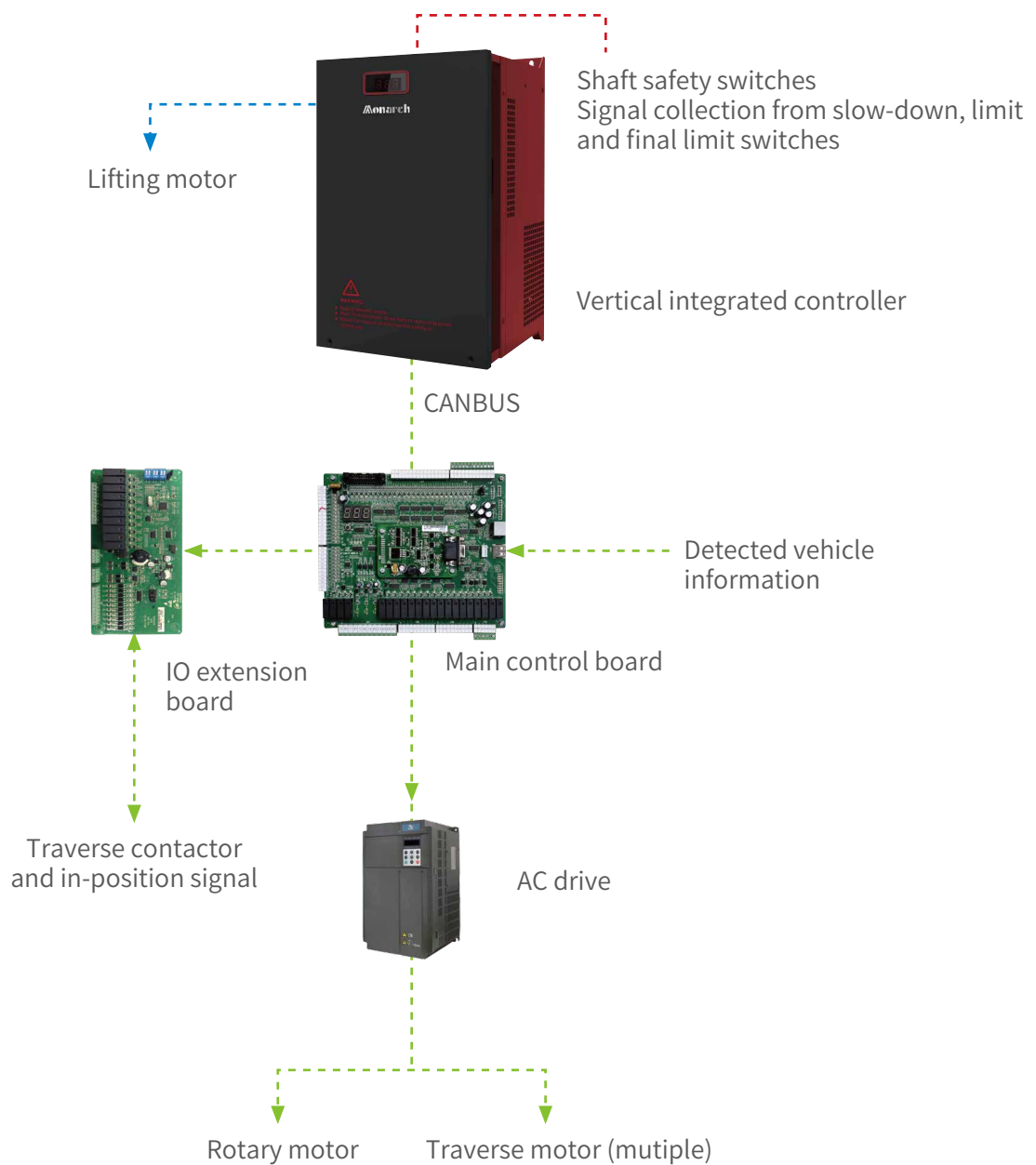
Larger capacity.

The advanced control system enables easy and efficient control of mechanical equipment and thus enhances user experience.



# See the future with Monarch's leading elevator control technology

## Topology



## Description

In the solution, a main control board and an intergrated controller are used to replace the traditional way of PLC + AC drive. The main control board is responsible for overall logic control , while the integrated controller, which is capable of control in vertical direction, enables direct parking in replacement of the traditional multi-speed parking to increase efficiency and simplify the commissioning. IoT and the magnetoscale are also optional to increase safety and stability of the system.

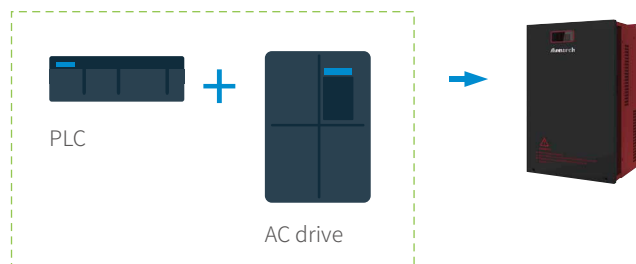
# Product portfolio

Picture	Name	Model	Description
	Integrated controller	CP1000	Control and drive the lifting mechanism
	Main control board	CP1000-MCB-H	Control traverse and rotary mechanisms, logical interaction
	AC drive	MD290	Drive the traverse and rotary motors
	HMI	IT6000 series	HMI and manual control
	Extension IO	MCTC-KZ-G1	Remote IO interface
	Upgrade packages		IoT, magnetoscale

# Advantages

## Simple

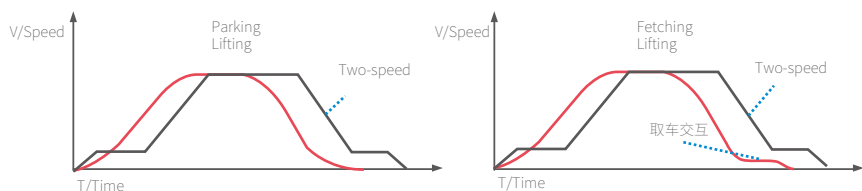
Integration of control and drive replaces the traditional way of PLC + AC drive.



## Efficient

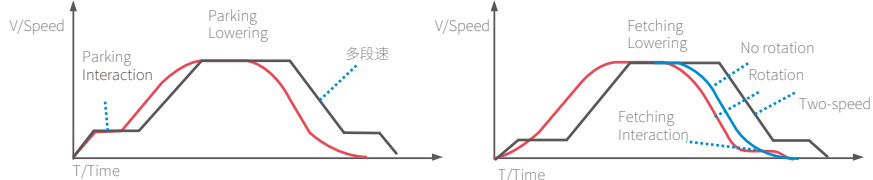
### Fast parking and fetching

The direct parking technology, in replacement of the traditional multi-speed parking technology, increases the efficiency by approximately 20%. The lifting and lowering speed can be up to 4 m/s if the mechanical conditions permit.



### Fast commissioning

One-button auto-tuning enables easy and fast commissioning as programming is not required any more.



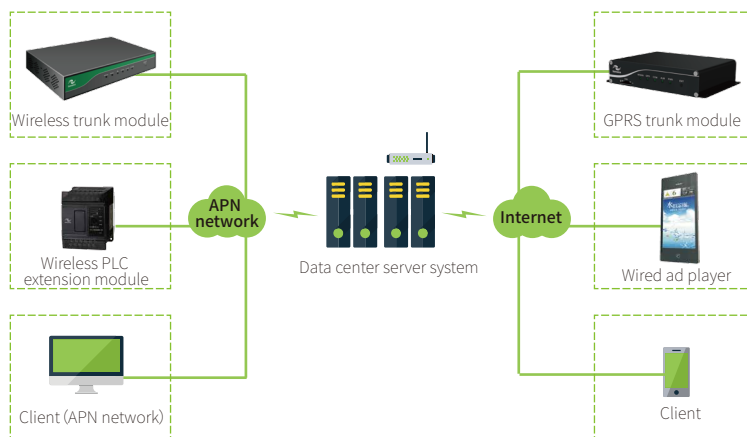
## Safe

### IoT

IoT is used to remotely collect the information on the shaft and vehicles and monitor the running status in real time.

### Magnetscale absolute positioning

Magnetscale absolute positioning keeps the system away from runaway and mis-parking.



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