

金力永磁  
JLMAG

# JL MAG 2023 Annual Results Presentation

Stock Code: 300748.SZ / 06680.HK

*March 2024*



用稀土创造美好生活

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# Company Overview



# Company Overview

- JL MAG is a high-tech enterprise engaging in the R&D, production and sales of high-performance NdFeB Permanent Magnets (PMs), magnetic components and the recycling and comprehensive utilization of Rare Earth Permanent Magnets (REPMs), and a leading supplier of high-performance REPMs in the fields of new energy, energy conservation and environmental protection

## Downstream Applications of Our Products

- JL MAG's products are widely used in the fields such as New energy vehicles (NEVs) and automotive parts, energy-saving variable frequency air-conditioners (VFACs), wind power generation, 3C, robots and industrial servo motors, energy-saving elevators and rail transit
- We have established long-term and stable cooperative relationships with leading domestic and foreign companies in various sectors



NEVs



Energy-saving VFACs



3C



PM Wind  
Turbine Generators



Energy-saving Elevators



Robots and  
Industrial Servo Motors



Rail Transit

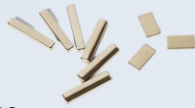
## Contributing to Carbon Neutrality and the Era of Intelligence and Electrification

- High-performance REPM is essential core materials in the fields of clean energy, energy conservation and environmental protection. They help reduce the power consumption of various motors and have significant energy-saving effects. The downstream applications of REPMs are broad, and in line with the energy-saving and environmental protection principles vigorously advocated by the nation and are of great significance to the nation's realization of energy-saving and emission reduction goals, making outstanding contributions to the early realization of reaching "carbon peak and carbon neutrality" in the world
- Artificial intelligence (AI) is increasingly becoming the core technology driving the new round of technological revolution and industrial transformation, with tremendous potential to empower various industries. Products in various fields such as 3C, VR, AI, and smart electronics are thriving towards intelligent upgrading, which is expected to open up greater development space for REPMs



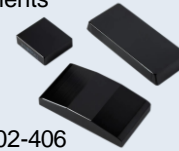
## NEVs and Automotive Parts

- The use of REPMs in NEV drive motors, ABS (anti-lock braking system), EPS (electronic steering system) and automotive parts can increase the power density of the motors and improve their operating efficiency
- Magnet Series: H, SH, UH and EH
- Remanence range (T): 1.14-1.46
- Coercivity range (kA/M): 1,352-2,706
- Maximum energy product (KJ/m<sup>3</sup>): 247-422
- Maximum working temperature (°C): 120-200
- Major customers: the world's top ten new energy vehicle manufacturers



## PM Wind Turbine Generators

- REPMs are used in PM wind turbines, which feature simple structure, low operation and maintenance costs, long service life, good grid-connected performance and high-power generation efficiency, and are more suitable for operation in low wind speed environments
- Magnet Series: H and SH
- Remanence range (T): 1.28-1.44
- Coercivity range (kA/M): 1,273-1,752
- Maximum energy product (KJ/m<sup>3</sup>): 302-406
- Maximum working temperature (°C): 60-120
- Major customers: four of the world's top five wind power generator manufacturers



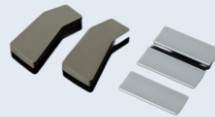
## Energy-saving VFACs

- Using REPMs in the motors of household appliances enables them to run at different speeds, improves their operational efficiency, reliability and performance and reduces their operating costs
- Magnet Series: SH and UH
- Remanence range (T): 1.28-1.46
- Coercivity range (kA/M): 1,592-2,149
- Maximum energy product (KJ/m<sup>3</sup>): 302-422
- Maximum working temperature (°C): 120-150
- Major customers: eight of the world's top ten VFAC compressor manufacturers



## Energy-saving Elevators

- Using REPMs, elevator manufacturers can produce elevator traction machines of higher power, smaller size, lower noise and less operating costs
- Magnet Series: H and SH
- Remanence range (T): 1.22-1.42
- Coercivity range (kA/M): 1,352-1,910
- Maximum energy product (KJ/m<sup>3</sup>): 287-398
- Maximum working temperature (°C): 80-120



## Robotics and Industrial Servo Motors

- Using REPMs in the servomotors of industrial robots helps to improve the power density and performance of relevant parts of the servomotors while reducing their sizes
- Magnet Series: N, M, H and SH
- Remanence range (T): 1.14-1.48
- Coercivity range (kA/M): 955-1,990
- Maximum energy product (KJ/m<sup>3</sup>): 247-438
- Maximum working temperature (°C): 60-120



# Production Bases and Production Workflow

- The company's blank production capacity has reached **23,000 tonnes** annually. The Baotou Phase II, Ningbo project, and Ganzhou High-efficiency and Energy-saving Motors Magnets Base Project are currently under construction as scheduled. The company is expected to achieve **40,000 tonnes** of production capacity of high-performance REPMs and establish advanced production line of magnetic components in 2025

## Ganzhou Production Base



- NdFeB PM blanks production capacity: **15,000 tonnes/year**
- High-efficiency and Energy-saving Motors Magnets Base Project is under construction as scheduled

## Baotou Production Base



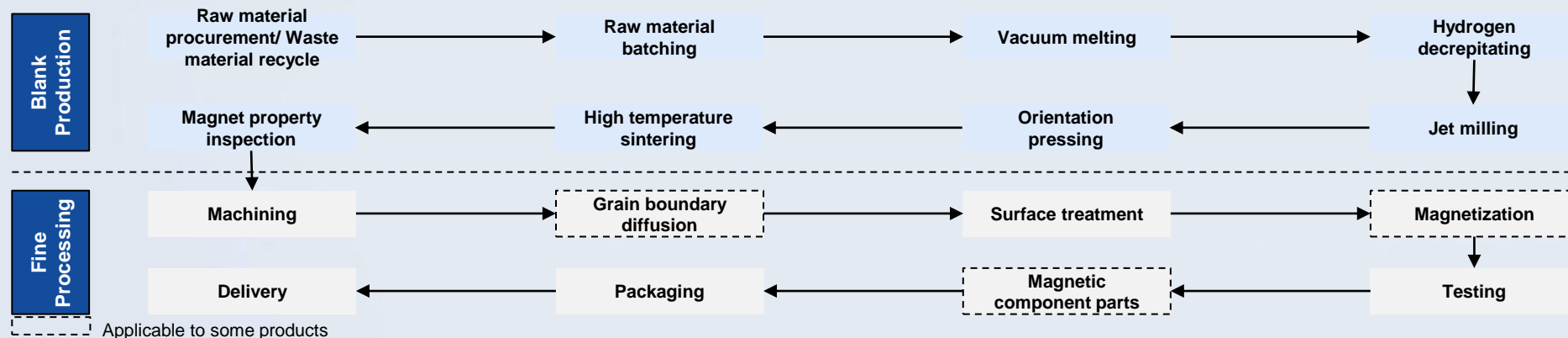
- NdFeB PM blanks production capacity: **8,000 tonnes/year (Phase I)**
- Phase II project with an annual capacity of **12,000 tonnes**, is expected to gradually ramp up production in 2024

## Ningbo Production Base



- Ningbo Project with an annual output of **3,000 tonnes** of high-end Magnets and **100 million units/sets** of components, is expected to be progressively put into operation in 2024

## Production Workflow Chart





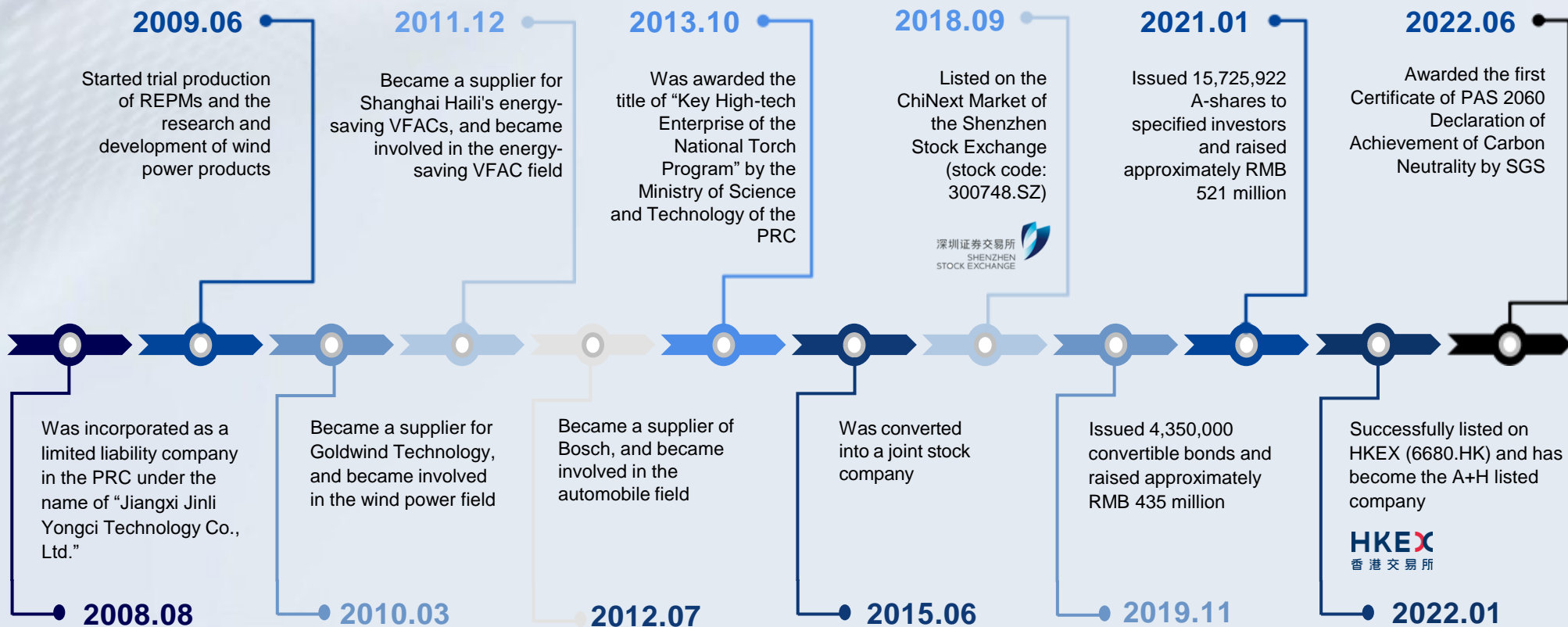
# Top Ten Shareholders of the Company



## Top Ten Shareholders (As of December 31, 2023)

Name	Shareholder Type	Shareholding Percentage
Jiangxi Ruide Venture Investment Co., Ltd.	Domestic Non-state Owned Legal Person	28.79%
HKSCC NOMINEES LIMITED	Oversea Legal Person	14.93%
Ganzhou Industrial Investment Holding Group Co., Ltd.	State-owned Legal Person	5.14%
Goldwind Investment Holding Co., Ltd.	Domestic Non-state Owned Legal Person	4.98%
Shaanxi Coal Industry Company Limited	State-owned Legal Person	3.99%
Ganzhou Xinsheng Investment Management Center (Limited Partnership)	Domestic Non-state Owned Legal Person	1.75%
Hong Kong Securities Clearing Company Limited	Oversea Legal Person	1.38%
China Universal Asset Management Co., Ltd.– Social Insurance Fund 17022 Combination	Other	0.75%
Tian'an Life Insurance Company – Dividend Products	Other	0.71%
Ganzhou Geshuo Investment Management Center	Domestic Non-state Owned Legal Person	0.64%

# Development History







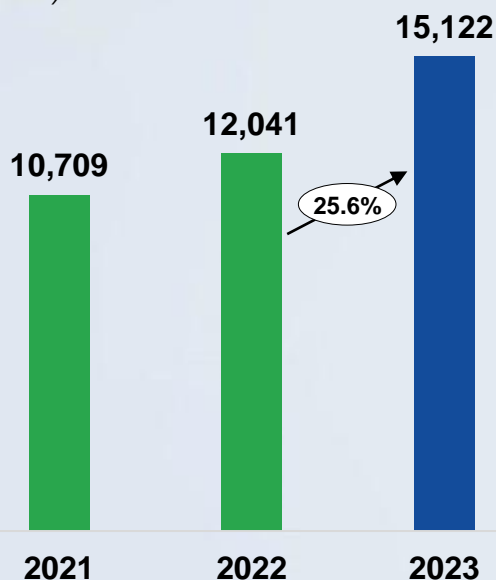
# Operation Updates

# Focus on Core Business with Stable Operations

- During the reporting period, **the sales volume of the company's NdFeB magnetic steel continued to rise**, increasing from 12,041 tonnes in 2022 to approximately 15,122 tonnes in 2023, up 25.6% YoY
- Due to significant fluctuations and a downward trend in the prices of rare earth raw materials during the reporting period, coupled with intensified industry competition, the average selling price of our NdFeB magnetic steel decreased compared to 2022, resulting in reduced revenue. Taking metal Neodymium (tax included) as an example, the average price<sup>1</sup> from January to December 2023 was 651,400 RMB/tonne, which represents a decrease of 35.6% from the average price of 1,012,100 RMB/tonne in 2022
- Excluding the foreign exchange gains of RMB 150 million obtained from the Hong Kong stock listing in 2022, and the additional R&D expenses of about RMB 16.4 million in 2023, the net profit attributable to owners of the parent for 2023 **maintained stable** compared to 2022

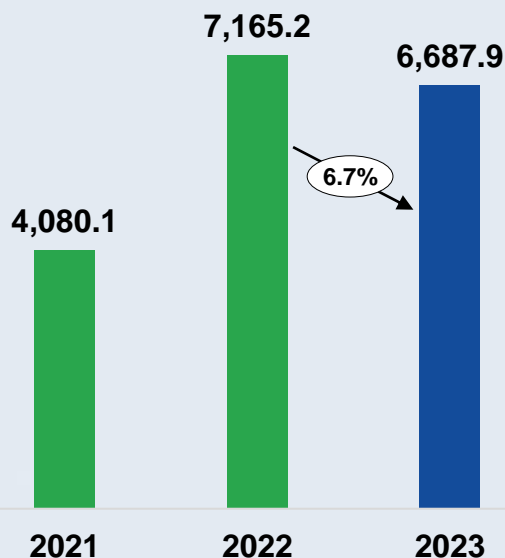
## Sales Volume of High-performance REPMs

(Tonnes)



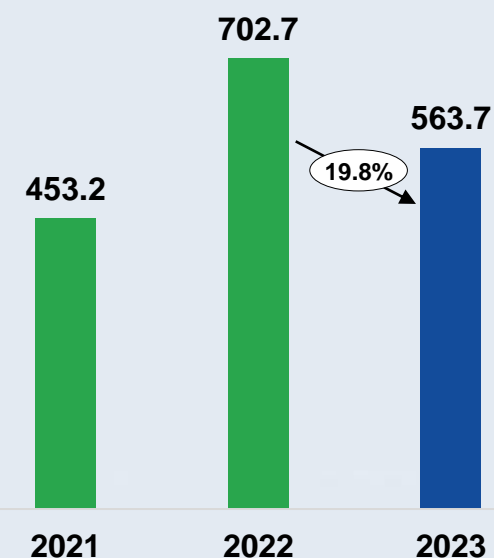
## Revenue

(RMB Million)



## Net Profit Attributable to Owners of the Parent

(RMB Million)

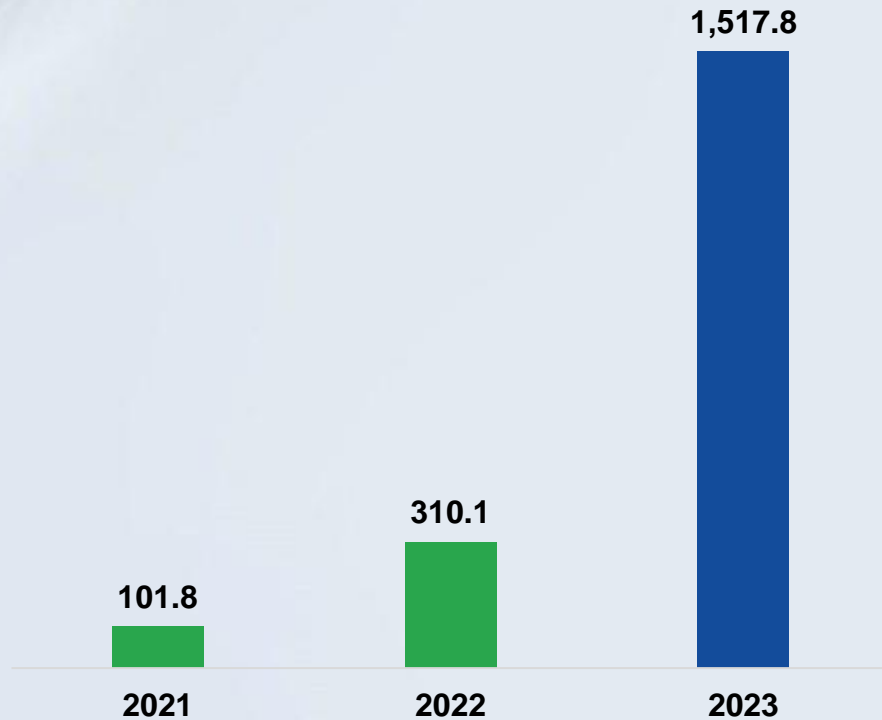


# Significant Cash Flow Improvement, High Dividend Payout Ratio

- During the reporting period, the net cash flow generated from operating activities significantly increased compared to 2022, reaching RMB 1,517.8 million, up 389.5%, primarily due to improvement of sales collection and optimization of payment methods.
- For the fiscal year 2023, the company anticipates a dividend payout of approximately RMB 347.6 million, which represents over 60% of the net profit. A cash dividend of RMB 2.6 per 10 shares (tax included) will be distributed to all shareholders<sup>1</sup>

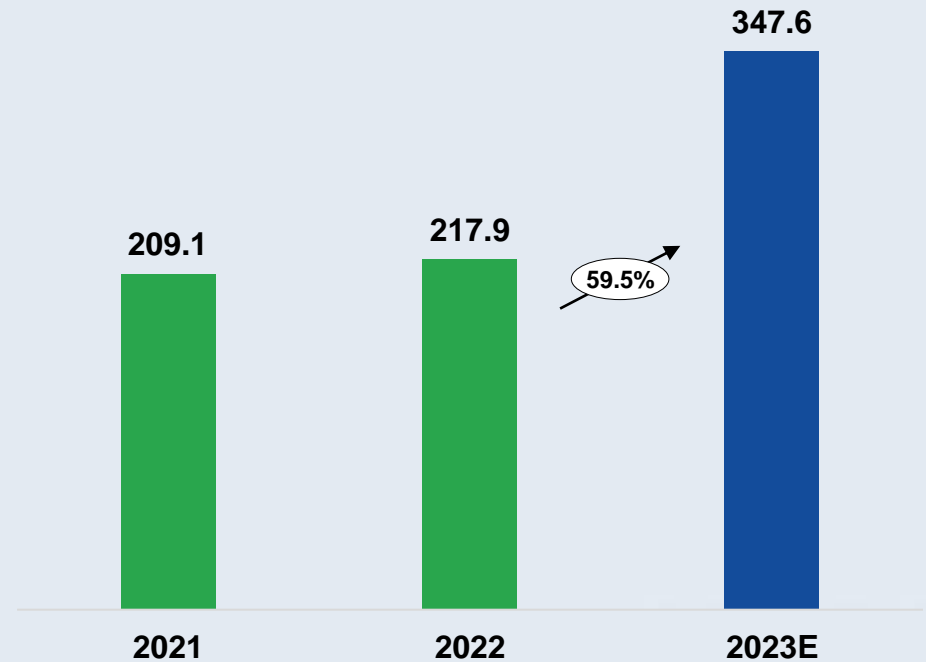
## Net Cash Flows from Operating Activities

(RMB Million)



## Cash Dividends

(RMB Million)



Note: 1. The cash dividend amount declared for 2023 is an estimated figure, subject to approval by the shareholders at the company's Annual General Meeting for the year 2023 before it can be finalized



## NEVs and Automotive Parts

2023

¥3,303.2mn

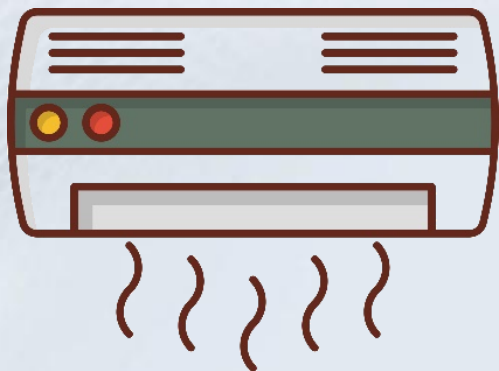
YoY Growth

14.33%

- The company's products are utilized by the top ten global new energy vehicle manufacturers in the production of drive motors
- The sales volume of magnetic steel products for NEV motors was sufficient to equip approximately **3.9 million** passenger NEVs in 2023, aiding in the reduction of carbon emissions by about **8.04 million** tonnes per year
- According to data released by CleanTechnica, the global sales of new energy passenger vehicles in 2023 amounted to approximately **13.69 million** units



# Continued Leadership in Market Share for Energy-Saving VFACs and Wind Power Business



## Energy-saving VFACs for 2023

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¥1,323.7mn

- Eight of the top ten global producers of VFACs compressors are our clients
- In 2023, the sales volume of magnetic steel for energy-saving VFACs could be used to equip about **54 million** VFACs compressors, aiding in the reduction of carbon emissions by about **19.53 million** tonnes per year

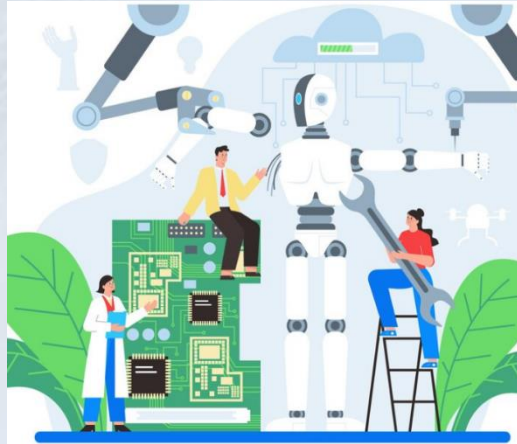
## Wind Power Generation for 2023

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¥584.8mn

- In the field of wind power generation, five of the top ten global wind turbine manufacturers are our clients
- The sales volume of products in the wind power sector can be used to equip wind turbines with an installed capacity of about **3.9GW**, aiding in the reduction of carbon emissions by about **6.45 million** tonnes per year.





## Robots and Industrial Servo Motors

2023

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¥217mn

In October 2023, the Ministry of Industry and Information Technology released the “Guidelines for the Innovative Development of Humanoid Robots”, elevating the humanoid robot industry to the level of national guidance for the first time. The Company follows industry trend, actively collaborates with world-renowned clients in the R&D of magnetic components for humanoid robots

# Optimized Product Structure with Production Capacity Utilization Rate exceeding 90% in 2023

## Total Output of High-performance REPMs

**2023**

**15,154t**

**YoY Growth**

**18.52 %**

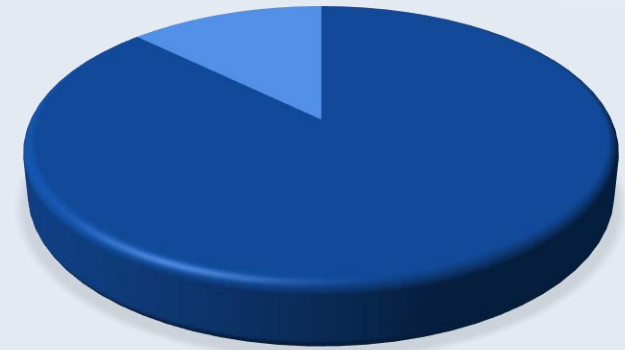
## Using Grain Boundary Diffusion (GBD) Technology

**2023**

**13,226t**

**YoY Growth**

**32.72 %**



■ GBD Products ■ Non-GBD Products

GBD Product accounted for **87.28%** of the Company's total product output, representing a year-on-year increase of **9.34ppts**

# Further Scale Up in Production Capacity

- The Baotou Phase II with an annual output of 12,000 tonnes, Ningbo Project with an annual output of 3,000 tonnes of high-end Magnets and 100 million units/sets of components, and Ganzhou High-efficiency and Energy-saving Motors Magnets Base Project are currently under construction as scheduled. The company **is expected to achieve 38,000 tonnes of annual blanks production capacity at the end of 2024.**

## Existing and Under Construction Capacity

No.	Capacity (tonnes/year)	Location	Projects	Status	Time to Reach Full Capacity
1	15,000	Ganzhou City	-	Reached full capacity	2021
2	8,000	Baotou City	Base project for high-performance REPMs	Reached full capacity	June 2022
3	3,000	Ningbo City	Project with an annual output of 3,000 tonnes of high-end magnets and 100 million sets of components	Construction completed	End of 2024
4	12,000	Baotou City	Base project for high-performance REPMs (Phase II)	Under construction	End of 2024
5	2,000	Ganzhou City	Base project for magnets used in high-efficiency and energy-saving motors	Under construction	2025
<b>Total</b>	<b>40,000</b>		-		



# Continuous Increase in R&D Investment

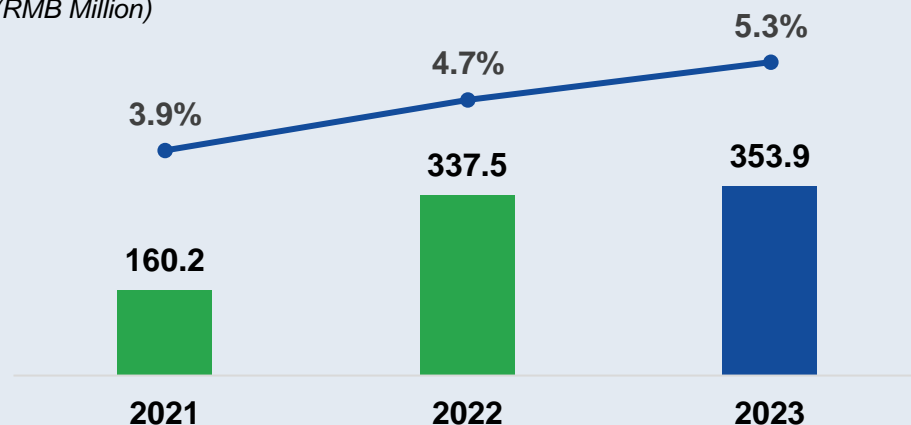
- In addition to maintaining R&D investments in the enhancement of high-performance REPMs, formula optimization, and recycling, the company is also continuously increasing R&D investments in magnetic components for humanoid robots, as well as in robotics and automation equipment. This is aimed at enhancing the company's capabilities in the R&D and production of high-end PMs, improving automation and informatization levels and strengthening market competitiveness in the areas of humanoid robots, NEVs, and other sectors

## Recent R&D Projects (Excerpt)

Major R&D Project	Progress	Expected Impact on the Company's Future Development
R&D and Industrialization of Key Processes for High-Performance Sintered NdFeB Magnetic Steel for NEVs	Mass Production	Developing magnetic steel with high residual magnetism and good temperature resistance to meet the needs of NEVs motors, facilitating expansion into the NEVs market
Development and Application of Recycling Technology for Sintered NdFeB Materials	Mass Production	The recycling of sintered NdFeB materials is a full-element, short-process recycling technology for waste magnetic steel, which improves the Company's green recycling industry chain and utilization efficiency of waste magnetic steel, reduces recycling process costs, and decreases carbon emissions during recycling
Research on High-Reliability Magnetic Steel and Precision Components Key Technologies and Green Fabrication	Pilot Stage	Developing high-reliability magnetic steel products in conjunction with precision component technology to create precision component products that meet various customer requirements, establishing more advanced precision component automatic production lines
Development of IoT Application Technology for Equipment	Development and Testing Phase	Enhancing capability of production line process detection, production equipment and material consumption monitoring. Achieving real-time monitoring of processing product parameters in production, improving product quality, optimizing production processes. The application of IoT also integrates sensor technology with manufacturing technology for remote monitoring of product equipment operation records and equipment fault diagnosis

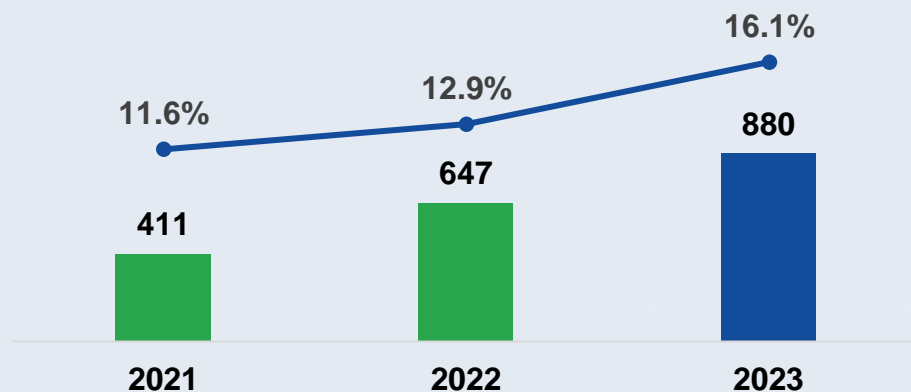
## Continuous Increase in Ratio of R&D Expenses to Revenue

(RMB Million)



## Continuous Growth in Proportion of R&D Staff to Total Employees

(Number of Persons)



# Maintained High Dividend Payout Ratio

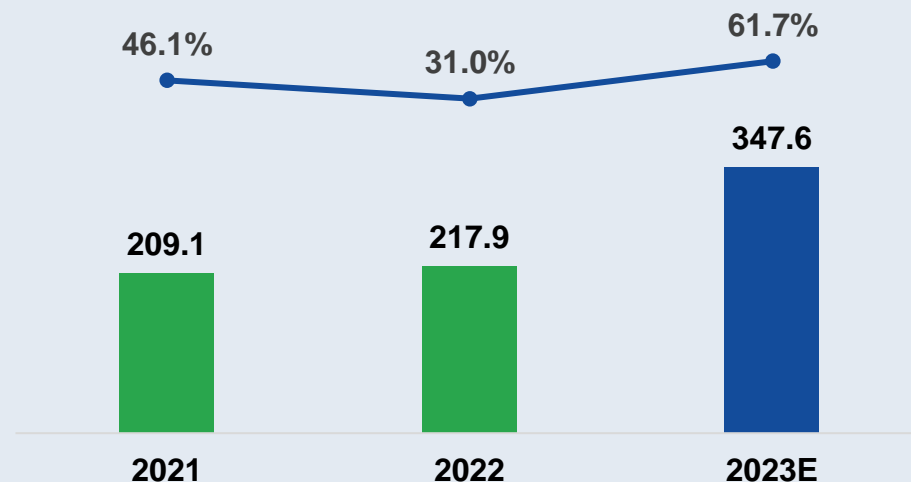
- Since its listing, the Company has seen significant growth in its business scale and actively adopted a cash dividend policy, allowing investors to fully enjoy the development achievements of the Company
- In the long term, the Company is optimistic about its future development and has actively repurchased shares in the A-share market to boost market confidence and protect the interests of the small and medium shareholders

## A-share Repurchase Completed

- On October 30, 2023, the Company held a board meeting and approved the "Resolution on the Share Repurchase Plan." As of December 22, 2023, the Company has cumulatively repurchased 8,015,784 shares through centralized bidding transactions, accounting for c. 0.60% of current total share capital
- The highest transaction price for the repurchase was RMB 20.55 per share, and the lowest was RMB 19.22 per share, with a total transaction amount of RMB 159,983,171.22. The Company's share repurchase plan has been fully implemented

## Ratio of Cash Dividends Declared to Net Profit

(RMB Million)



- Since its listing in 2018, the company has conducted cash dividends every year, with a cumulative cash dividend of **over RMB 600 million. The cumulative cash dividend amount accounts for more than 35% of the cumulative net profit**
- The profit distribution plan for 2023 is to **distribute a cash dividend of RMB 2.6 per 10 shares (tax included)** to all shareholders, based on the share capital of A-shares and H-shares as of the equity registration date specified in the dividend distribution implementation announcement, deducting the number of A-shares held in the company's A-share repurchase account
- The estimated dividend amount is RMB 347.6 million , accounting for more than 60% of the net profit



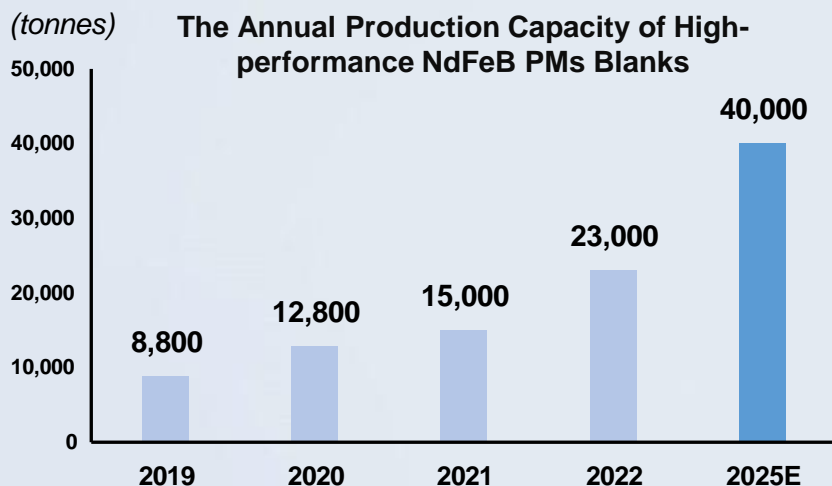
# **Company Strategy**

# Further Scale Up Production Capacity

## Expanding production capacity of high-performance NdFeB PMs to respond to the increasing demand from downstream industries

- 1 Currently, the Company's total annual production capacity of high-performance NdFeB PMs blanks amounts to 23,000 tonnes, with a capacity utilization rate exceeding 90%
- 2 The Baotou Phase II, Ningbo project, and Ganzhou High-efficiency and Energy-saving Motors Magnets Base Project are currently under construction as scheduled, which are expected to operate progressively in 2024
- 3 The company is expected to achieve 40,000 tonnes annually of blanks production capacity of high-performance REPMs and establish advanced production line of magnetic components in 2025
- 4 The Company has planned and commenced the construction of the “Mexico Project of an annual output of 1 million units/sets of magnetic components”

## Strategic Goal



- In January 2023, the company established a wholly-owned subsidiary, JLMAG MEXICO, S.A. DE C.V., in Mexico. The company has planned an investment in Mexico to construct the “Project of an annual output of 1 million units/sets of magnetic components”, which will have an annual output capacity of 1 million sets of magnetic components upon completion.
- The company adheres to an international development strategy and will actively promote the projects’ implementation and enhance market competitiveness in sectors such as humanoid robots and new energy vehicles, providing more favorable conditions for expanding into overseas markets.



# Increase R&D Efforts and Expand Product Mix

- The Company plans to further intensify its R&D innovation efforts to enhance production technology, enrich existing product portfolio, and foster cooperation with leading industry clients

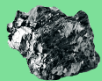
Continue R&D projects to solidify the Company's existing technology and optimize formulations, launch new products and technologies of high-performance REPMs , promptly meet customer demands for PMs upgrades and humanoid robot magnetic component, and lead technological innovation in the industry



Maintain the Company's technological edge in the production of high-performance NdFeB PMs, incorporate the latest international technological advancements and best practices for improvement, and further upgrade proprietary technology



Increase R&D investment, including further reducing the use of medium and heavy rare earths in the production of more widely used high-performance NdFeB PMs



Expand the Company's R&D team by recruiting industry experts and talents, and strengthen the Company's internal training and talent development



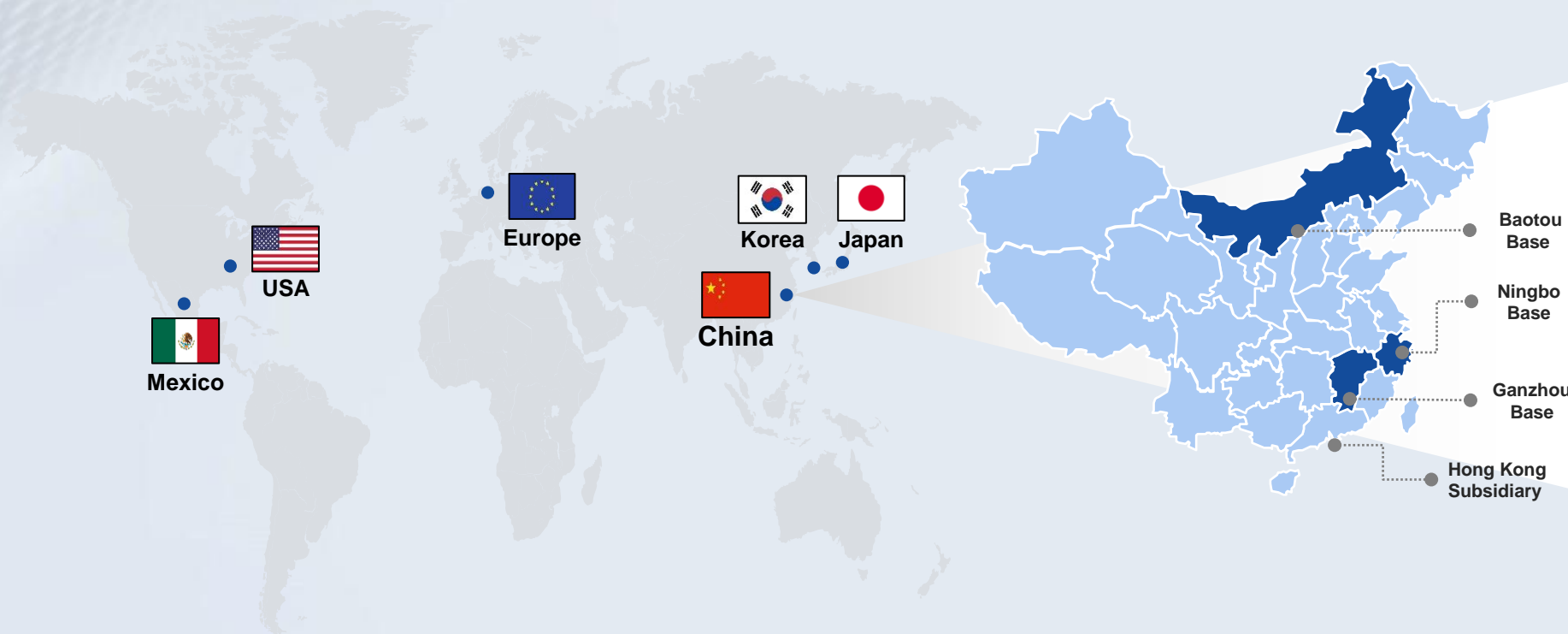
Enhance the Company's production facilities by improving automation levels, to promote capacity enhancement while ensuring product quality and consistency.



# Extend Global Footprints

- Policies reducing carbon emissions have been enacted among countries with targets to achieve carbon neutrality. REPMs with energy-saving advantages and wide applications, are expected to experience robust growth both domestically and internationally in the future
- Currently, the Company have established subsidiaries in Hong Kong SAR, Europe, Japan, Korea, US, and Mexico. We plan to further develop overseas subsidiaries and extend global footprint to more regions, so as to capture a greater share of the global market

## Seizing Opportunities for Industry Growth, Actively Expanding into Overseas Markets



# Actively Fulfilling the Social Responsibility of Low-carbon and Sustainable Development

- The Company has reduced its carbon emissions through various measures such as constructing photovoltaic power stations, lean production, technological innovation, process energy saving, efficiency enhancement, equipment upgrading, and switching to green electricity. By supplying REPMs to leading enterprises in new energy and environmental protection, the Company supports the global goal of achieving carbon neutrality

## Construction of a 'Green Sponge Factory' at Ningbo



## Utilization of Green Power

- ✓ In 2023, the total amount of green electricity used by the Company reached 115.65 million kWh, accounting for 41% of annual electricity consumption, of which Baotou Company's green electricity usage totaled 43.36 million kWh, achieving a green electricity usage ratio of 58%
- ✓ During the reporting period, the "Rooftop Distributed Photovoltaic Power Station Project" in cooperation with Ganzhou Tiancheng Tongchuang Intelligent Energy Co., Ltd., a subsidiary of Goldwind Technology, has been completed and connected to the grid, with the total installed capacity reached 2.61 MW. It generated 2.42 million kWh of rooftop photovoltaic power in 2023, covering an area of 16,000 square meters, and reducing carbon emissions by an average of 1,735 tonnes per year. The joint project of the 3.2 MW distributed photovoltaic power generation between JL MAG (Baotou) and China Resources New Energy Investment Co., Ltd. have published government announcement, and is expected to be integrated into the power grid in 2024

The Company's products contributed to a total carbon reduction of about **34.02 million** tonnes in 2023

The proportion of environmentally friendly materials used in product packaging reached **54.5%**

The Ganzhou Base continues to hold **ISO14064** and **PAS2060** carbon neutrality certificates

The use of recycled rare earth raw materials accounted for **29.4%** of the total rare earth raw materials used in 2023



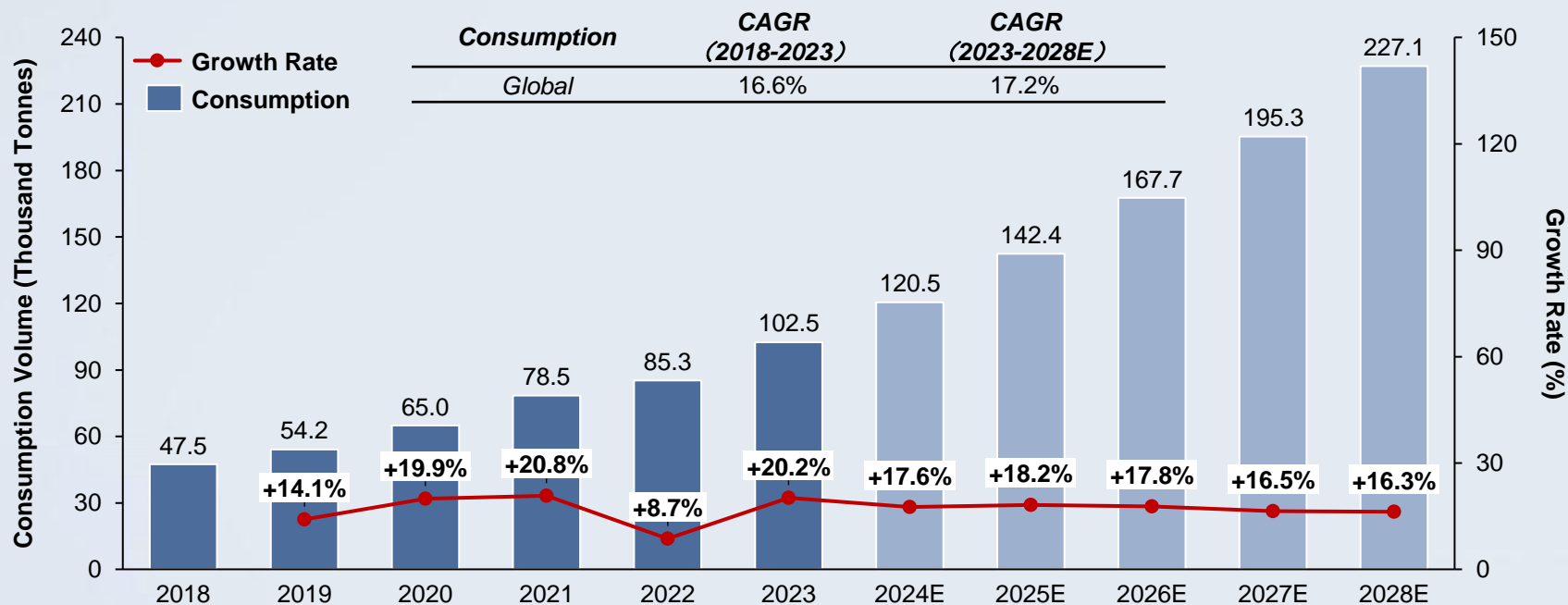
**Appendix:  
Industry Overview**



# Broad Applications and Rapid Demand Growth of High-Performance REPMs

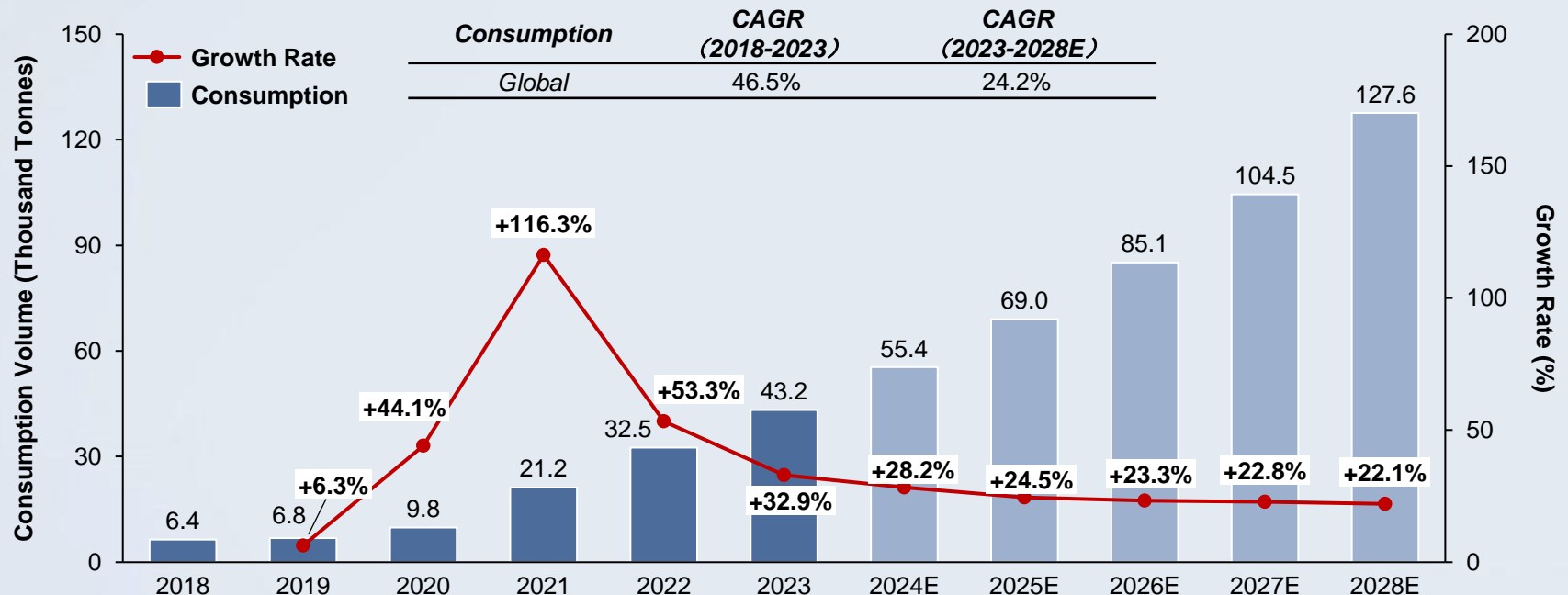
- According to a report by Frost & Sullivan, over 50% of global electricity consumption is attributed to motors. Compared to traditional motors, REPMs motors can save up to 15% to 20% of energy. Furthermore, the application of REPMs enables the miniaturization and lightweight design of variable-frequency household appliances, NEVs and automotive parts, 3C products, aligning with consumer preferences
- The global consumption of high-performance REPMs increased from 47,500 tonnes in 2018 to 102,500 tonnes in 2023, with a CAGR of approximately 16.6%. By 2028, the global consumption of high-performance REPMs is expected to reach 227,100 tonnes, with a CAGR of 17.2% from 2023 to 2028

## Global Consumption of High-Performance REPMs - from 2018 to 2028E



- Currently, numerous global automakers have announced their plans for NEVs and are actively expanding their NEVs production capacities. High-performance NdFeB PMs, as core components of NEV drive motors, are expected to continue experiencing strong demand in the future
- According to a report by Frost & Sullivan, the global consumption of REPMs in the NEVs market increased from 6,400 tonnes in 2018 to 43,200 tonnes in 2023, with a CAGR of approximately 46.5%. By 2028, the consumption of REPMs in the global NEV market is expected to reach 127,600 tonnes, with a CAGR of 24.2% from 2023 to 2028

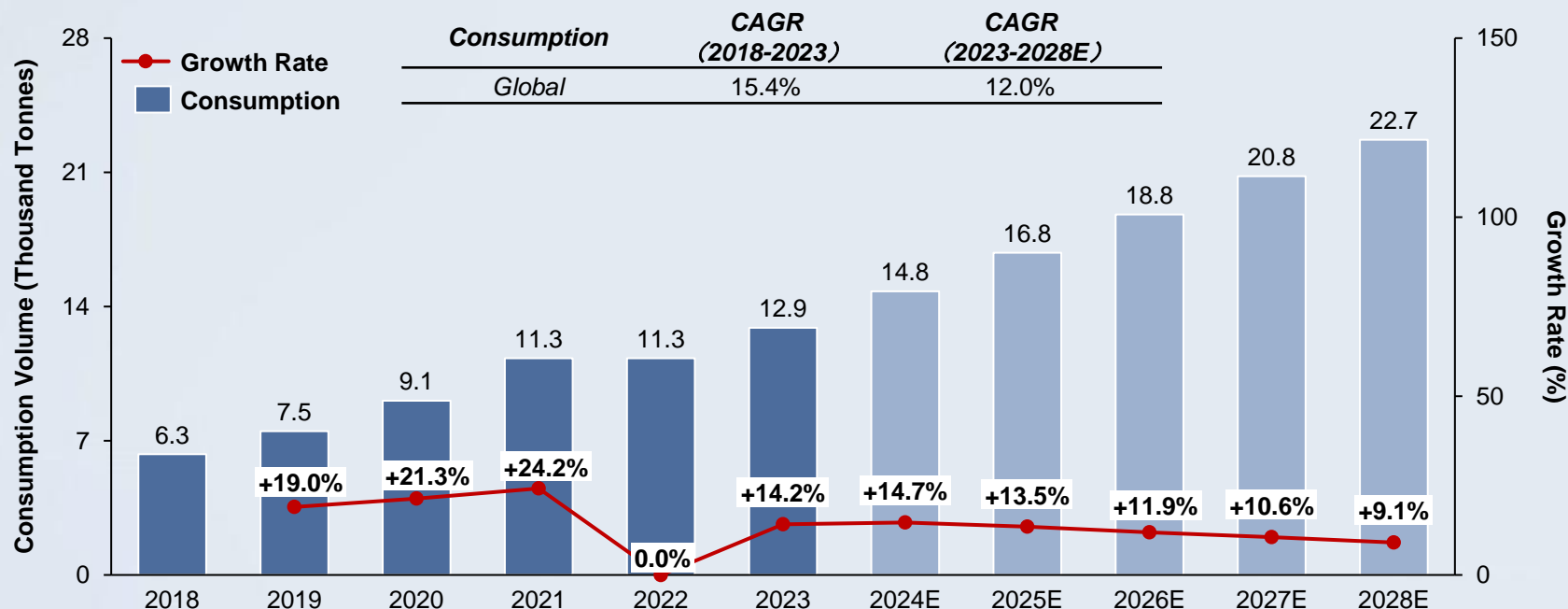
## Global Consumption of REPMs in the NEVs Market - from 2018 to 2028E



# Energy-saving VAFCs Sector

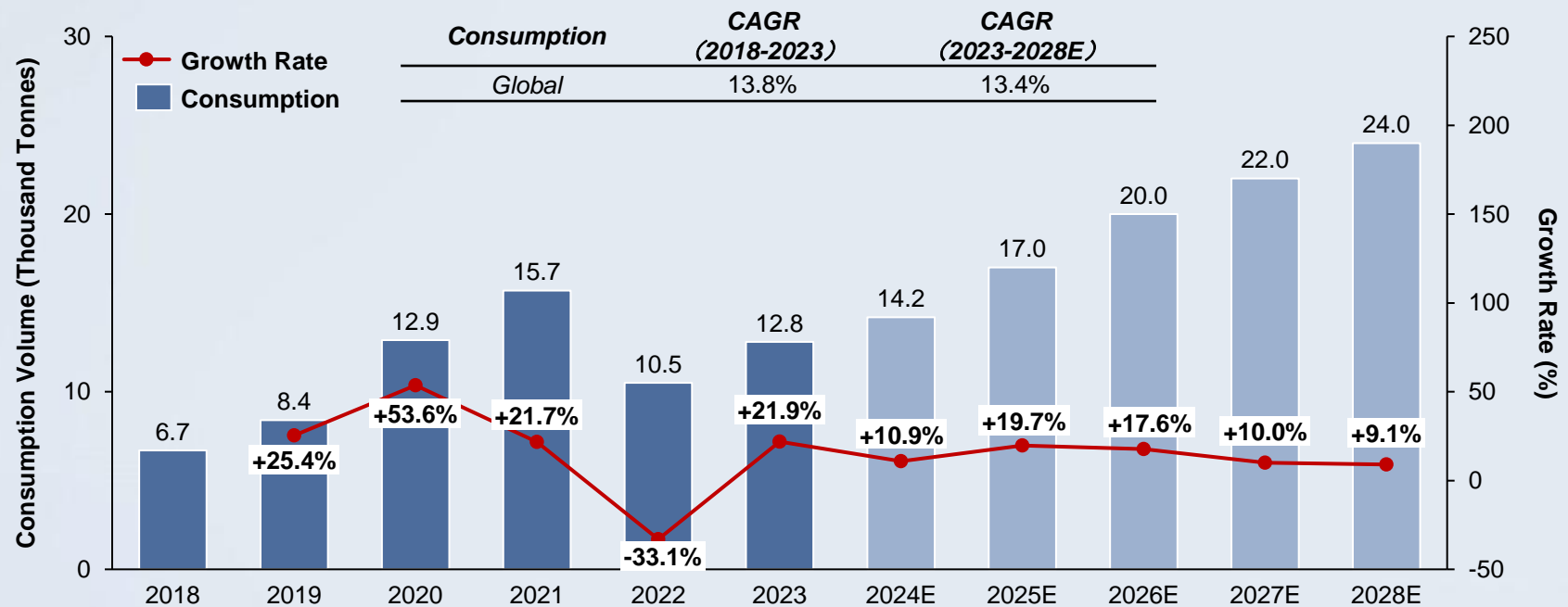
- With the official implementation of the "Room Air Conditioners Energy Efficiency Limits and Grades" on July 1, 2020, fixed-frequency air conditioning have been phased out, and high-efficiency VFACs have become the market mainstream. High-performance NdFeB magnetic steel, as core material for VFAC compressors, is expected to see a significant increase in demand in the future
- According to a report by Frost & Sullivan, the global consumption of REPMs in the energy-saving VFAC market increased from 6,300 tonnes in 2018 to 12,900 tonnes in 2023, with a CAGR of approximately 15.4%. By 2028, the global consumption of REPMs in energy-saving VFACs is expected to reach 22,700 tonnes, with a CAGR of about 12.0% from 2023 to 2028

## Global Consumption of REPMs in the VAFCs Market - from 2018 to 2028E



- In the future, as turbine units become larger, especially with the rapid increase in the proportion of offshore wind power installations, the market share of PM motors will further increase, which will in turn further promote the growth in consumption of high-performance NdFeB PMs
- According to a report by Frost & Sullivan, the consumption of REPMs in the global wind power market increased from 6,700 tonnes in 2018 to 12,800 tonnes in 2023, with a CAGR of approximately 13.8%. By 2028, the consumption of REPMs in the global wind power market is expected to reach 24,000 tonnes, with a CAGR of 13.4% from 2023 to 2028

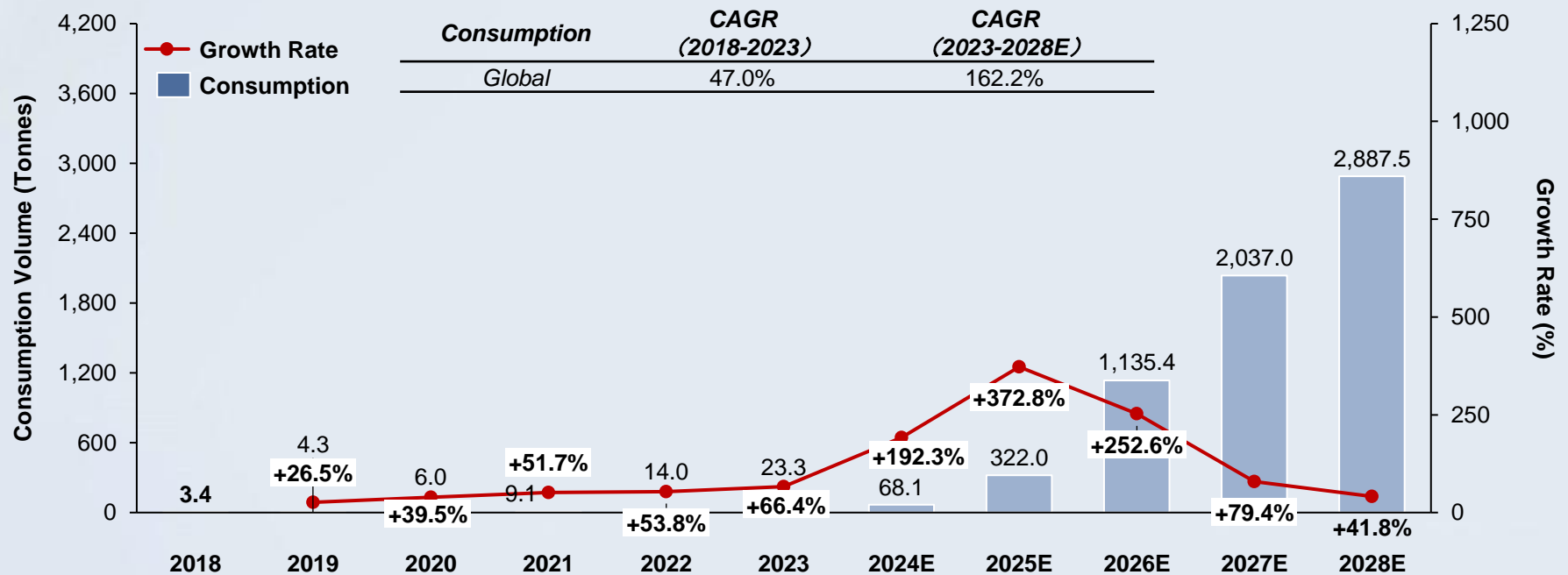
## Global Consumption of REPMs in the Wind Power Market - from 2018 to 2028E



# Robots and Industrial Servo Motors Sector

- In October 2023, the Ministry of Industry and Information Technology issued the 'Guidelines for the Innovative Development of Humanoid Robots', elevating the humanoid robot industry to a national level for the first time. The guidelines aim to establish an innovation system by 2025, achieve breakthroughs in core technologies, and ensure the supply of core components. By 2027, humanoid robots are expected to form a strong industrial chain and competitiveness, reaching a world-leading level
- According to a report by Frost & Sullivan, by 2028, the global industrial robot market's consumption of REPMs is expected to reach 6,600 tonnes, with a CAGR of 13.5% from 2023 to 2028. The global humanoid robot market's consumption of REPMs is projected to reach 2,887.5 tonnes, with a CAGR of approximately 162.2% from 2023 to 2028

## Global Consumption of REPMs in the Humanoid Robot Market - from 2018 to 2028E







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### Q&A



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Thank You