

FY2015 Medium-Term Management Plan

Industrial Infrastructure Business

August 26, 2013

Fuji Electric Co., Ltd.

Industrial Infrastructure Business Group

- Business Overview
- Market Trends / Business Targets
- Business Strategies / Priority Measures
by Subsegment
- Measures to Expand Operations in Asia
- Plant and Equipment Investment / R&D
Expenditures

Business Overview

Transmission and Distribution

Power supply facilities providing stable supplies of energy



Power grid substations
(Large-capacity transformers)



Industrial substations
(Power receiving and distribution substation equipment)



Industrial power supplies
(Large-capacity rectifiers)
(No. 2 global share)

Machinery and Electronics Systems

Integrated machinery and electronic systems and heat management focused on combining electricity and heat



Drive control systems
(Motors for plants)



Industrial electric heating
(Induction furnace)
(Top domestic share)



Air-environment
(Internet data centers)

Instrumentation and Control Systems

Environmental measures and safe and secure equipment based on measuring instruments and control systems



Instrumentation systems
(Control systems)



Measuring instruments
(Gas analyzer)
(Top domestic share)

Equipment Construction

Equipment construction services supporting industrial infrastructure



Construction



Air conditioners



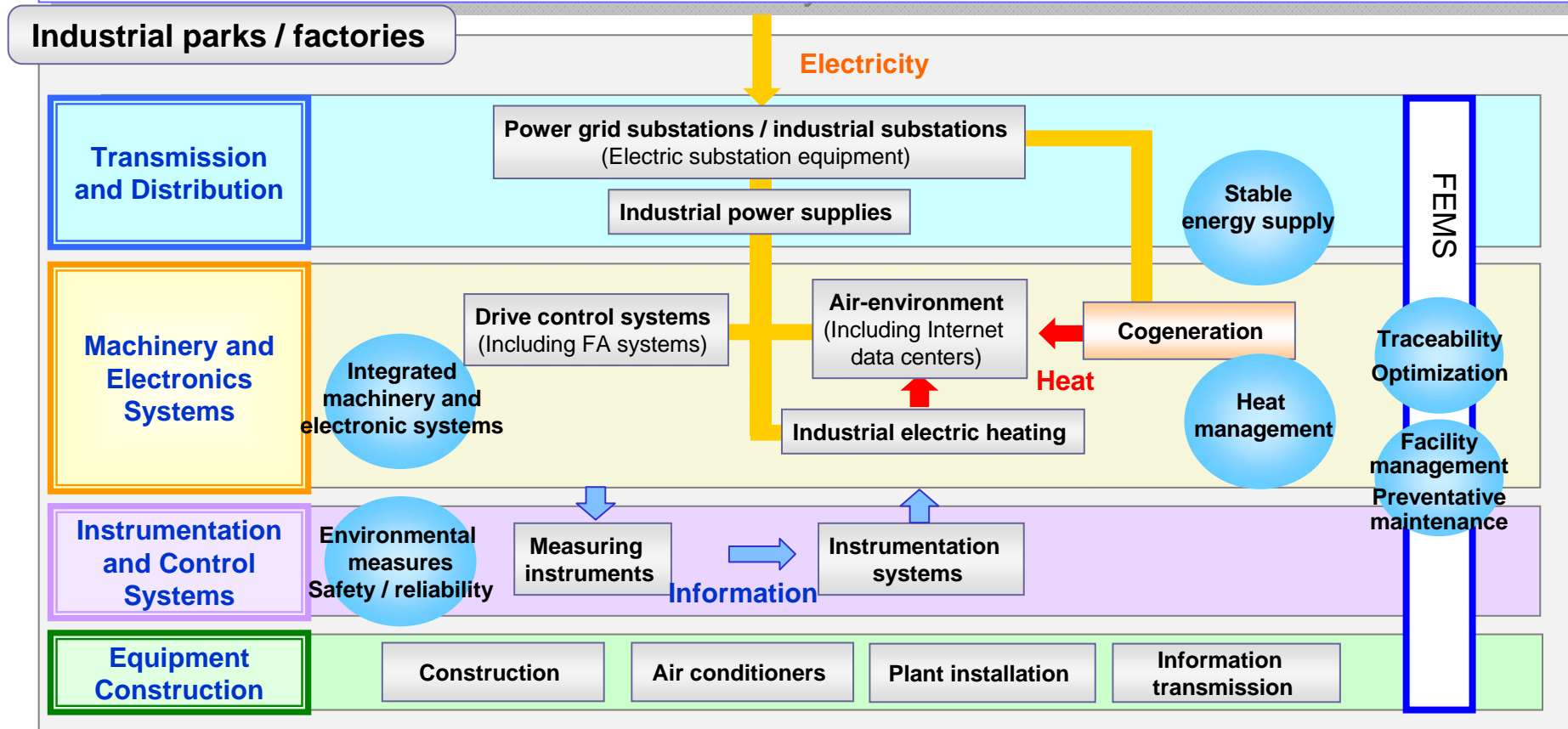
Plant installation

Major customers: Steelmaking, chemical, automotive, and other industries, and power and railway companies

Business Structure

Advance three-pronged strategy based on **stable supply of energy, energy saving, and safety & security**
Realize stable operation of facilities and production and energy efficiency

Smart factory construction



FEMS: Factory Energy Management System
FA: Factory Automation

Market Trends / Business Targets

Market Trends (Japan)

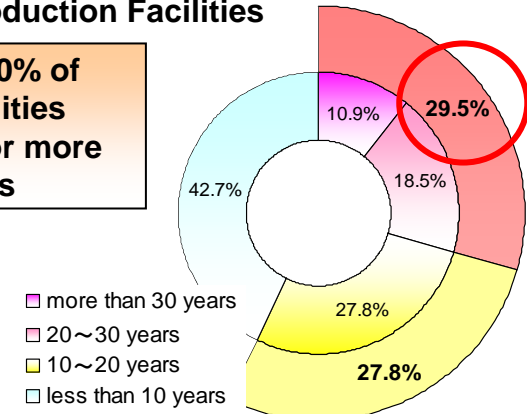
Rising capital investment in Japan,
growth in energy saving and upgrade investment

● **Capital Investment Trends Among Major Manufacturers**
(Those with capital of more than ¥1.0 billion)

FY2012 FY2013
¥7.2 trillion ⇒ ¥8.1 trillion

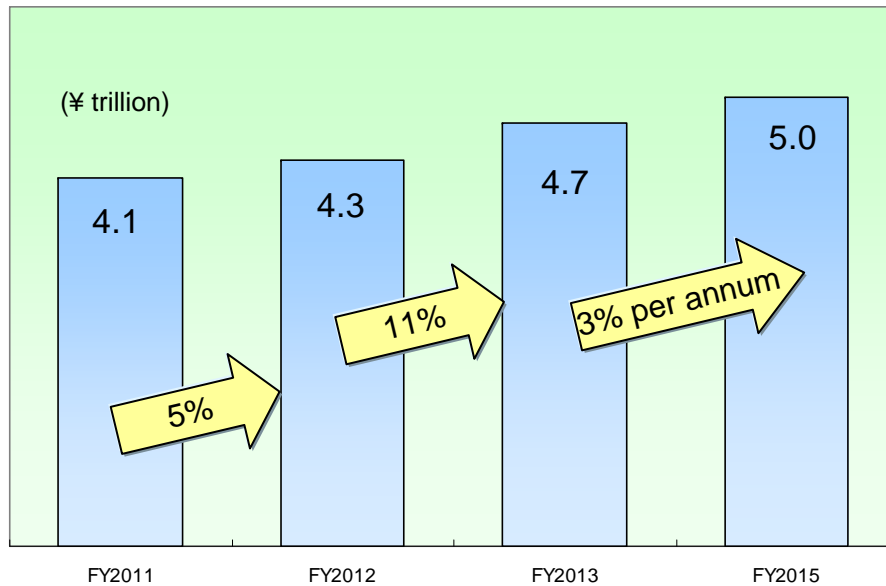
● **Age of In-use Production Facilities**

Approximately 30% of
production facilities
currently in use for more
than 20 years



Source: Production Facility Usage Period Survey, Ministry of Economy, Trade and Industry (May 31, 2013)

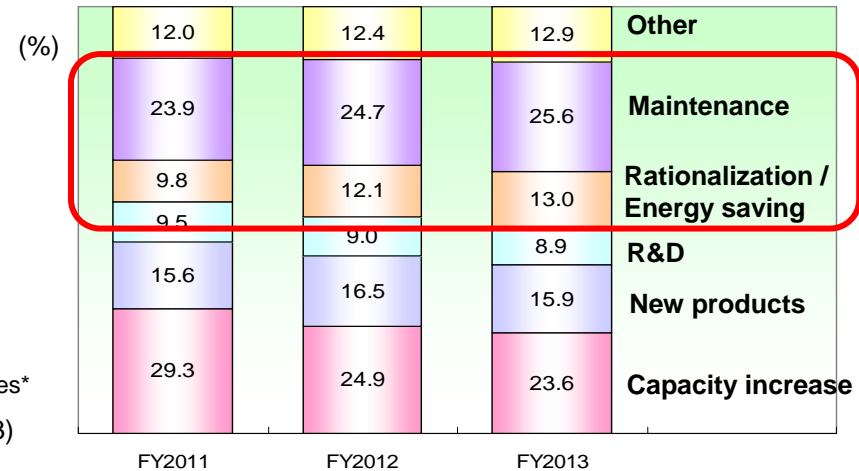
● **Capital Investment Trends in Japan**



Source: Development Bank of Japan Inc. (August 5, 2013)

* Fuji Electric's estimates based on releases by various think tanks (FY2015 capital investment calculated using growth rate for industrial infrastructure market)

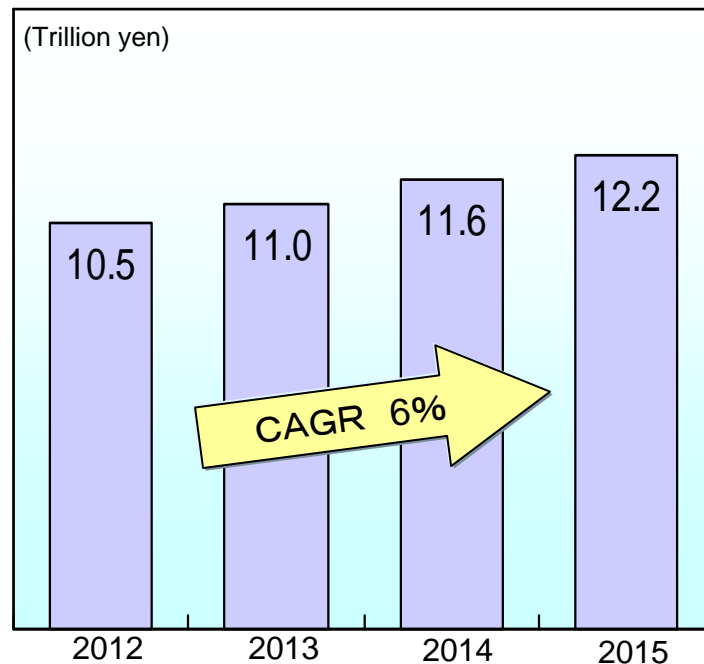
● **Reasons for Capital Investment**



Source: Development Bank of Japan Inc. (August 5, 2013)

Ongoing infrastructure investment and investment by Japanese companies in Asian markets

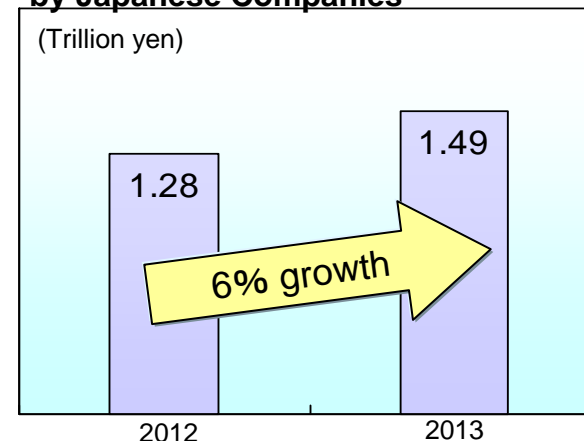
- **Growth Forecasts for Asian Energy and Environment Market**
(An Area of Operation for the Industrial Infrastructure Business)



Energy and environment market: Fuji Electric's estimates
(Energy and environment market consists of electricity transmission and distribution equipment, dispersed power sources, high-capacity industrial drive systems, industrial power supplies, and PA / FA control systems)

In this presentation, "Asia" excludes China and includes the Middle East.

- **Capital Investment in Asian Markets by Japanese Companies**



Source: Quarterly Survey of Overseas Subsidiaries, Ministry of Economy, Trade and Industry (June 26, 2013)

- **Japanese Companies Operating in Asian Industrial Parks**

	Industrial parks	Parks with Japanese companies	Number of Japanese companies	Industrial parks with Japanese injected capital
Indonesia	77	15	346	6
Thailand	73	31	783	1
Vietnam	213	51	388	7
Malaysia	296	101	504	—
Singapore	56	20	281	—

Source: ASEAN-Japan Centre's website (data as of March 31, 2013)

Basic Policies

- **Japan: Secure income by focusing on upgrade and energy saving demand**
- **Overseas: Strengthen initiatives to expand operations in Asia**

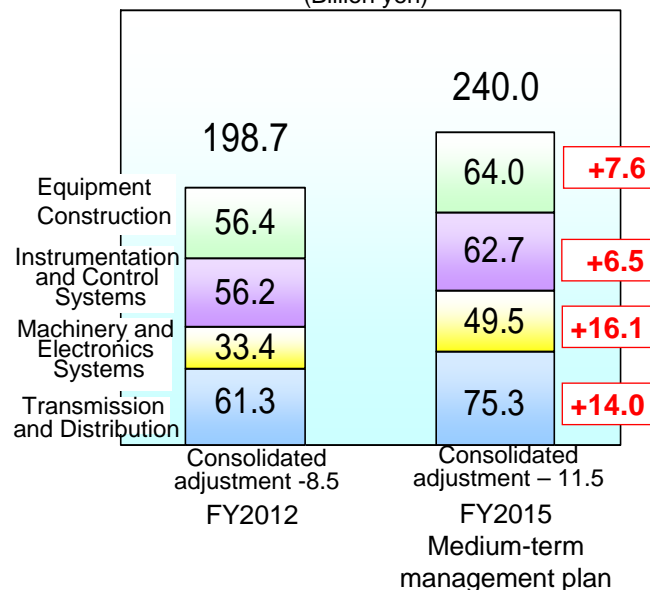
Overseas net sales

FY2012: ¥30.6 billion, 15% → FY2015: ¥57.3 billion, 24%

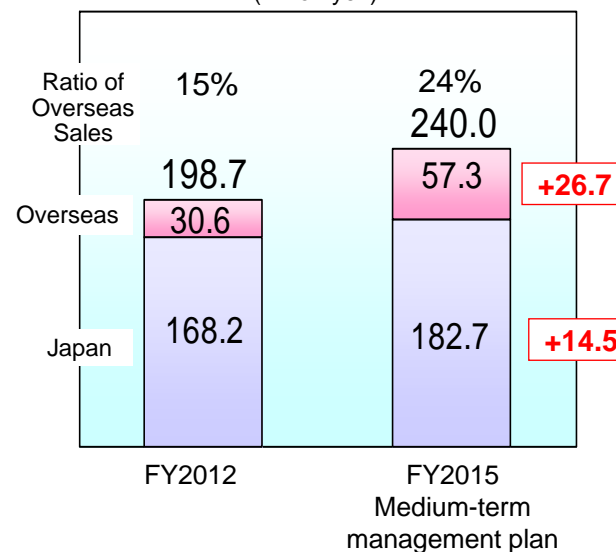
Overseas investment

FY2010–2012: ¥0.5 billion → FY2013–2015: ¥5.3 billion

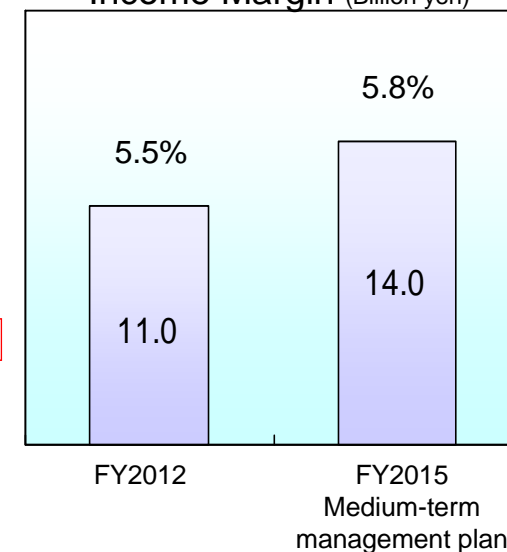
Net Sales by Subsegment
(Billion yen)



Net Sales in Japan / Overseas
(Billion yen)



Operating Income / Operating Income Margin (Billion yen)



Business Strategies / Priority Measures by Subsegment

Transmission and Distribution Business Strategies / Priority Measures

Business Strategies

Leverage collective strength to expand operations in Asia

Net sales +¥11.9 billion
Of which,

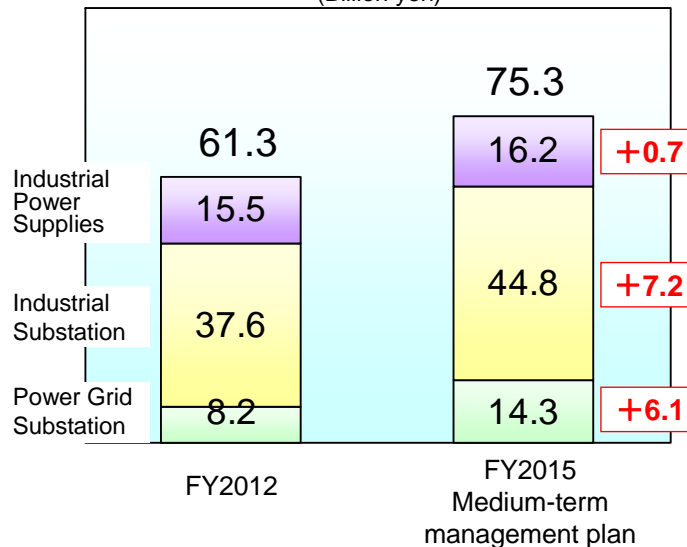
(power grid substations +¥8.6 billion
industrial substations +¥3.9 billion)

Priority Measures

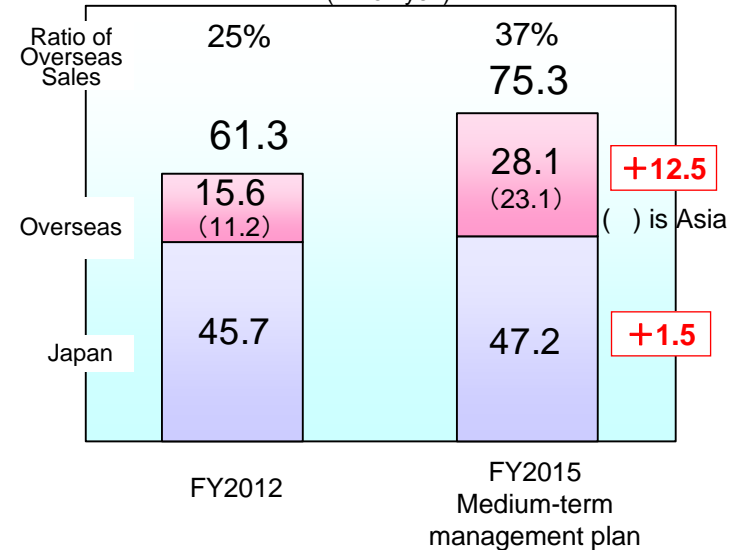
➤ Expand overseas production

- Construct substation equipment production site in Thailand
- Advance M&A activities (Fuji Tusco)
(Ratio of overseas production 6% → 33%)

Net Sales by Business Fields
(Billion yen)



Net Sales in Japan / Overseas
(Billion yen)



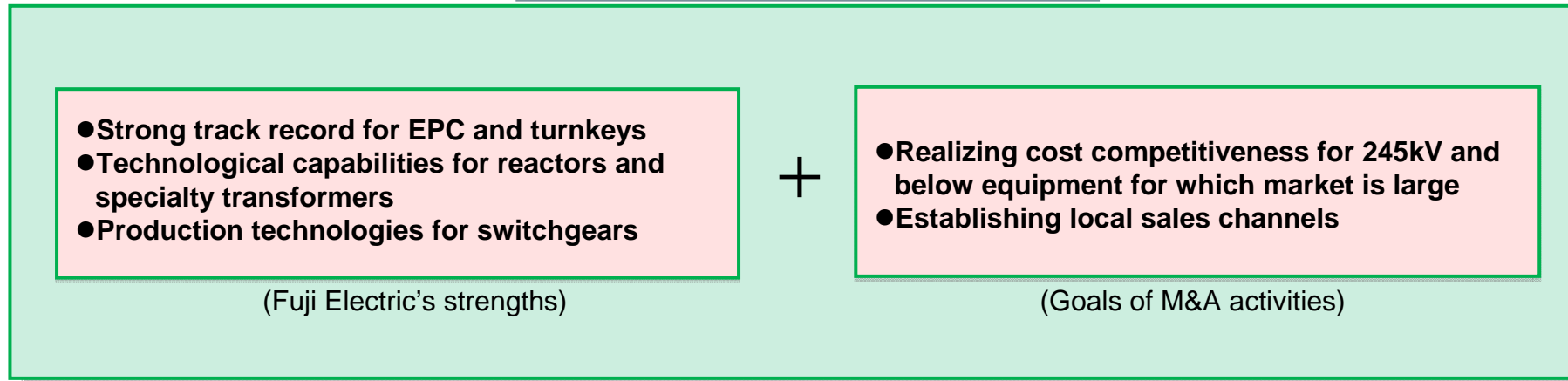
Transmission and Distribution

Basic Strategies for Operations in Asia

Expand operations by leveraging collective strength
(transformers, switchgears, switchboards, EPC compatibility)
– Increase sales of power grid substations and industrial substations –

Market / Customers	Market	Customers
	<ul style="list-style-type: none"> ●Brisk electricity infrastructure investment ●ASEAN Free Trade Area Increase in business opportunities following complete abolishment of tariffs in 2015	<ul style="list-style-type: none"> ●Industrial parks planned in several areas ●Japanese companies expanding into Asia

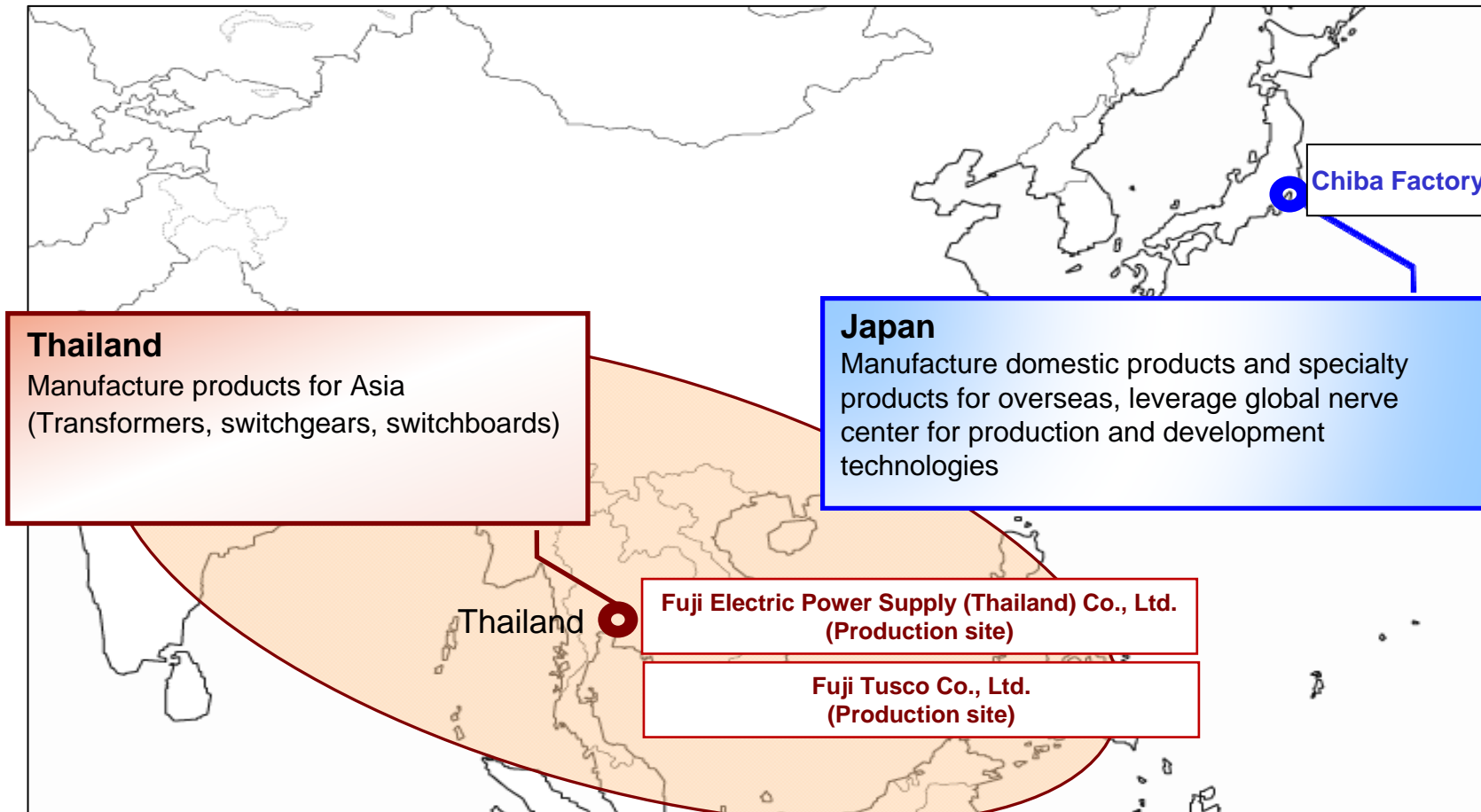
Asian market strategies



Transmission and Distribution

Priority Measures: Expand Overseas Production

- Construct production site in Thailand for manufacturing substation equipment primarily for Fuji Electric Power Supply (Thailand)
- Acquire production company for 245kV and below substation equipment (Fuji Tusco)



Transmission and Distribution

Priority Measures: Advance M&A activities (Fuji Tusco)

Acquire production sites, low-priced products, sales channels, and engineering functions through capital investment in Thai transformer manufacturer

Company name: Tusco Trafo Co., Ltd.

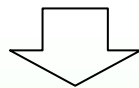
Location: Samutprakarn, Thailand

Amount of sales: THB 1,174,000,000 (approx. ¥4.0 billion, FY2012)

Description of business:

Manufacture, sales, and maintenance service of transformers, switchboards, etc.

Number of employees: 251



New company name: Fuji Tusco Co., Ltd.

Date of capital participation: October 1, 2013 (plan)

Ownership: 67.7%

(of which 49.0% is attributable to Fuji Electric Power Supply (Thailand))

Tusco Trafo Factory



Machinery and Electronics Systems

Business Strategies / Priority Measures

Business Strategies

Strengthen efforts to address upgrade demand

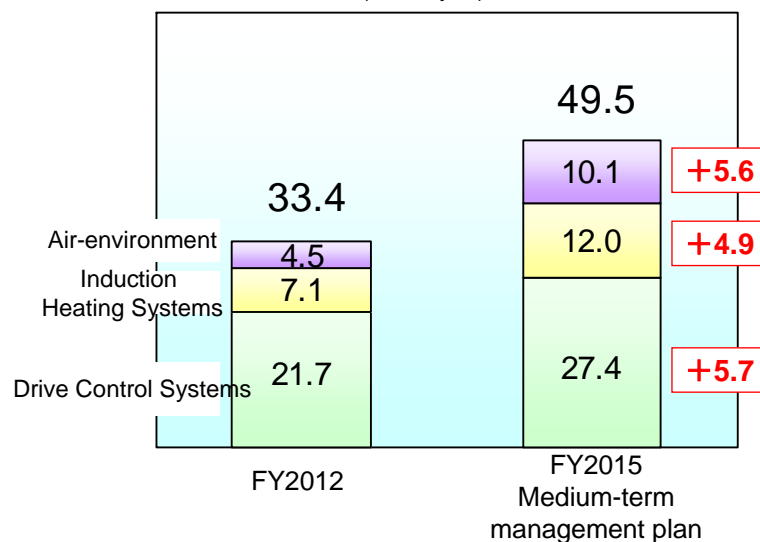
Focus on heat management

Priority Measures

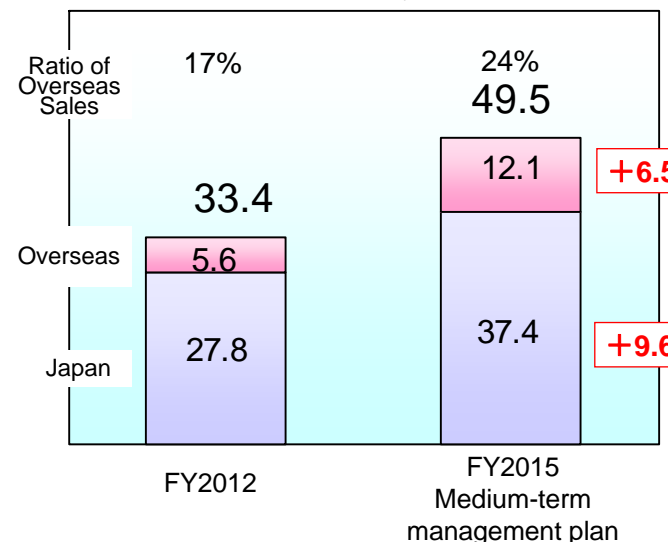
➤ Accelerate development of drive control system service operations

- Expand overseas induction heating system operations
- Expand air-environment (Internet data center) operations

Net Sales by Business Fields
(Billion yen)



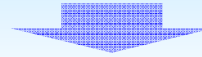
Net Sales in Japan / Overseas
(Billion yen)



Machinery and Electronics Systems

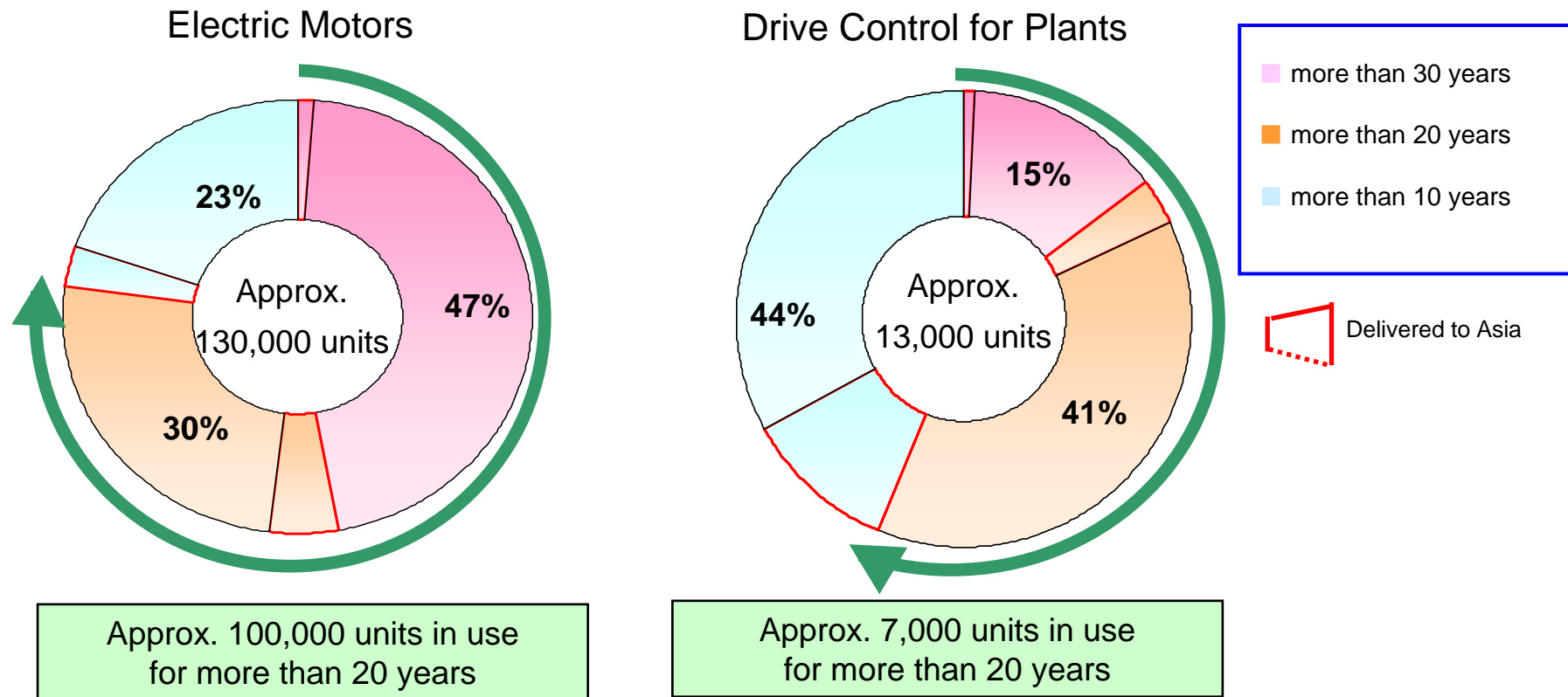
Priority Measures: Accelerate Development of Drive Control System Service Operations

Leverage strong delivery track record to target future upgrade demand



Japan: Secure income / Asia: Build foundations for business expansion








Products in Use for More Than 10 Years since Delivery



Machinery and Electronics Systems

Priority Measures: Expand Overseas Induction Heating System Operations

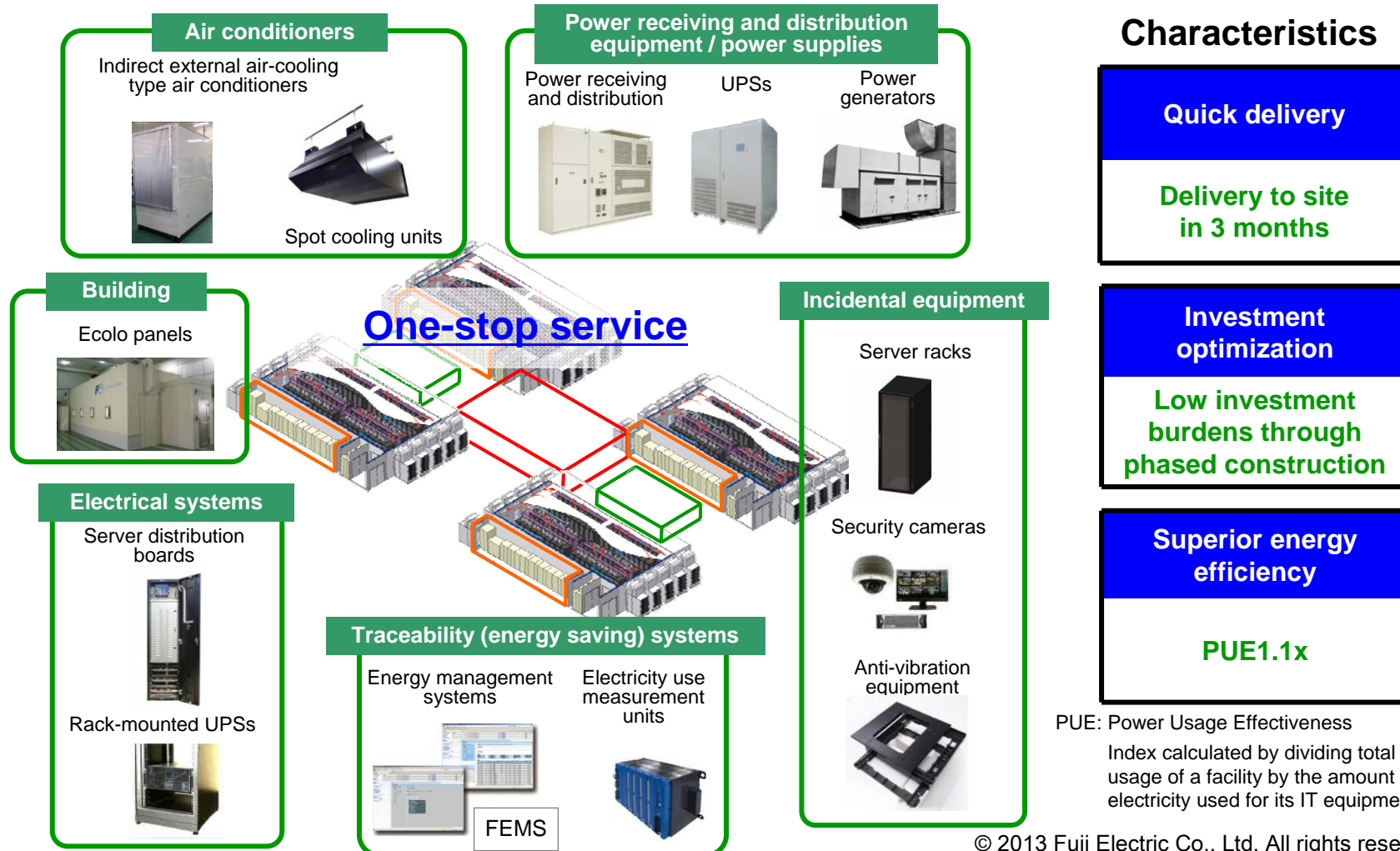
- Create energy-efficient **production facilities** in China and Southeast Asia
- Shift from providing standalone energy-efficient heating units to offering **integrated machinery and electronic systems**

	Characteristics			
Automotive Field	Induction melting furnaces  Higher energy efficiency	IH painting drying equipment  Higher energy efficiency	Induction melting furnaces Improvement in energy efficiency 5% (Compared to previous Fuji Electric products)	
Nonferrous Metal Field	Aluminum billet heaters  Higher energy efficiency	Stirrers (electromagnetic)  Improved productivity	Aluminum billet heaters Improvement in energy efficiency 15% (Compared to single-layer coil models)	
Steelmaking Field	Tundish heaters  Higher energy efficiency	Thin steel heaters  Improved productivity	Electric resistance tube welding equipment  Higher energy efficiency	Tundish heaters Improvement in energy efficiency 20% (Compared to plasma heaters)

Machinery and Electronics Systems

Priority Measures: Expand Internet Data Center Operations

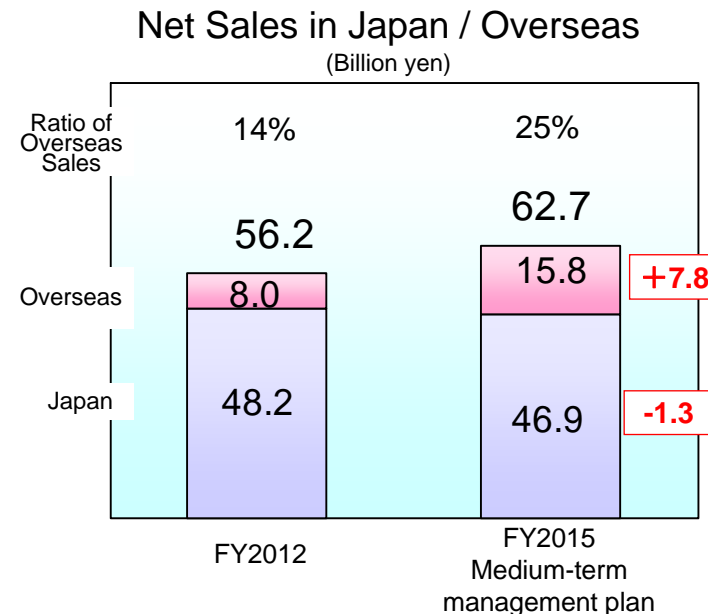
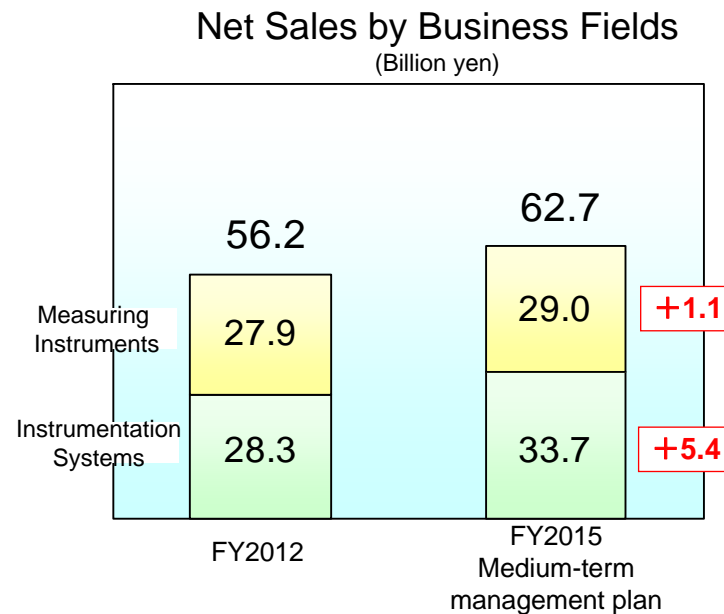
- Expand complete Internet data center business through partner strategies with IT companies
 - Differentiate services through bundling (module Internet data centers)
- One-stop service for construction, air conditioners, power supplies, traceability systems, and incidental server equipment for Internet data centers with quick delivery



Instrumentation and Control Systems

Business Strategies / Priority Measures

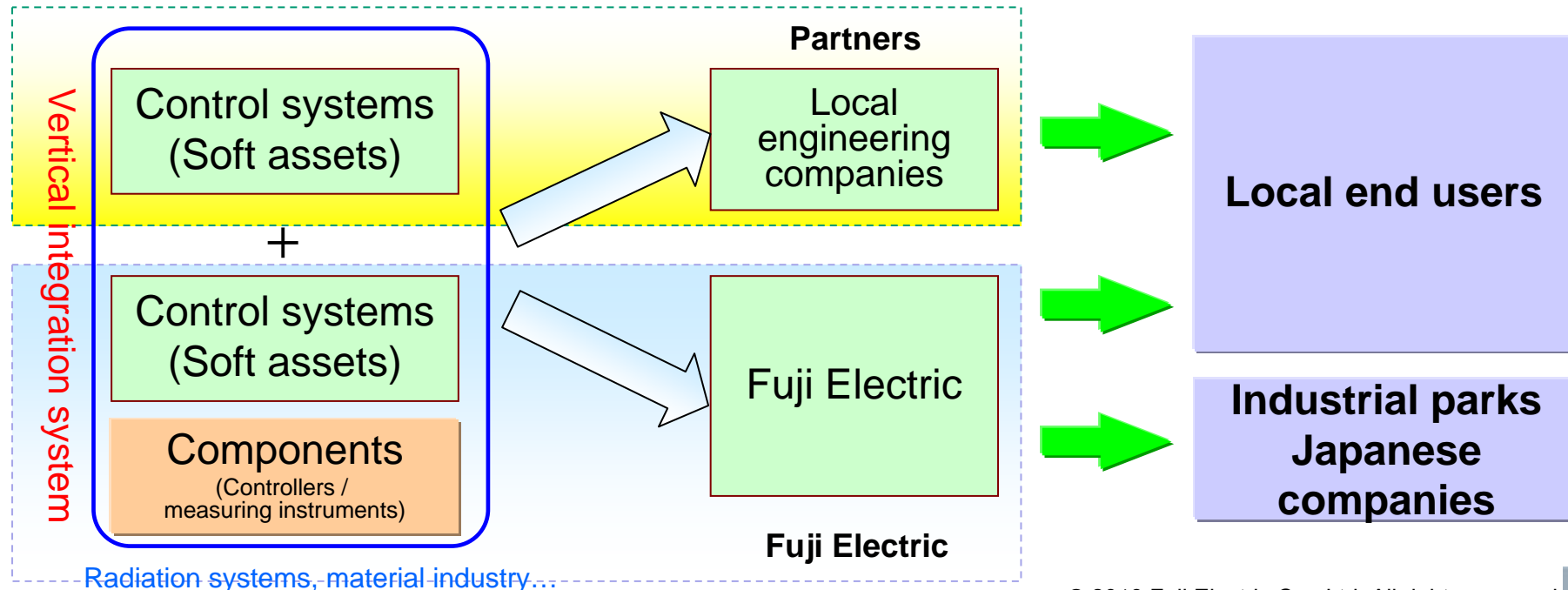
Business Strategies	Priority Measures
<p>Expand overseas sales</p> <p>Instrumentation systems: +¥4.3 billion Measuring instruments: +¥3.5 billion (Of which, radiation systems +¥2.5 billion)</p>	<ul style="list-style-type: none"> ➤ Accelerate local design <ul style="list-style-type: none"> → Expand network of overseas partners, localize engineering, and accelerate efforts to achieve compatibility with overseas standards ➤ Increase sales by introducing new component products <ul style="list-style-type: none"> → Strengthen lineup of products for energy and environment market <ul style="list-style-type: none"> - Bolster lineup of controllers - Introduce sensors that contribute to safety, security, and energy efficiency



Instrumentation and Control Systems

Priority Measures: Accelerate Local Design

- Instrumentation systems
Develop control system assets of partners and Fuji Electric using our controllers
→ Expand sales in Asia through coordination with partners
- Measuring instruments (radiation systems)
Introduce products compatible with overseas standards and certification systems, establish product sites
→ Expand operations in the Americas, China, and Asia

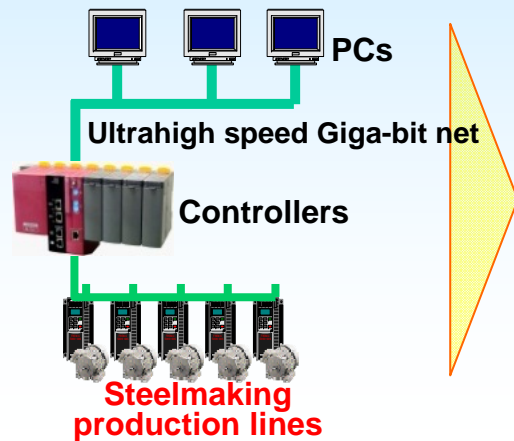


Instrumentation and Control Systems

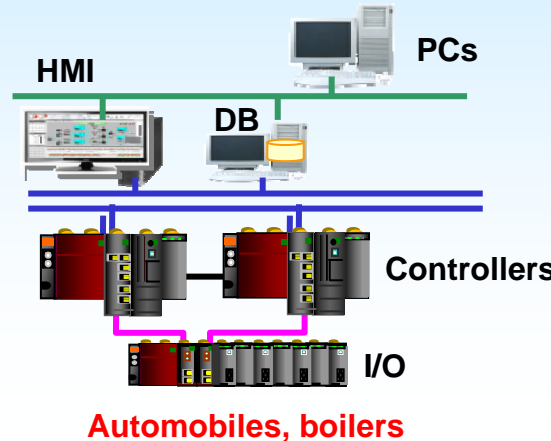
Priority Measures: Introduce New Component Products

- **Develop lineup of controllers to support solutions for key industries**
→ Expand range of offerings from drive control to process control, from small-scale to large-scale

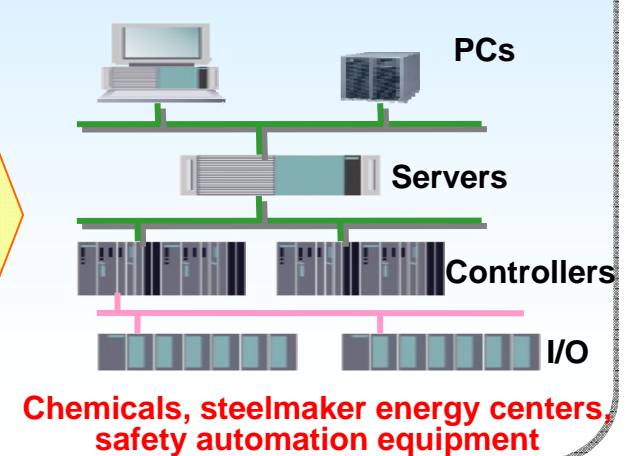
Controllers that realize high-speed control systems



Small- to medium-scale systems that leverage existing assets to enable downsizing



Large-scale systems that support process control around the world



- **Concentrate introduction of new products on measuring instruments that contribute to safety, security, and energy efficiency**

Realize energy-efficient systems



Ultrasonic flow meters



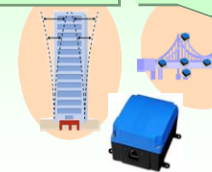
O₂ / CO₂ sensors



Explosion-proof analyzers

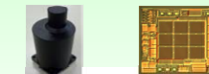
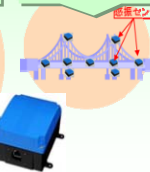
Contribute to safety and reliability

Building vibration evaluation



Vibration sensors

Bridge vibration evaluation

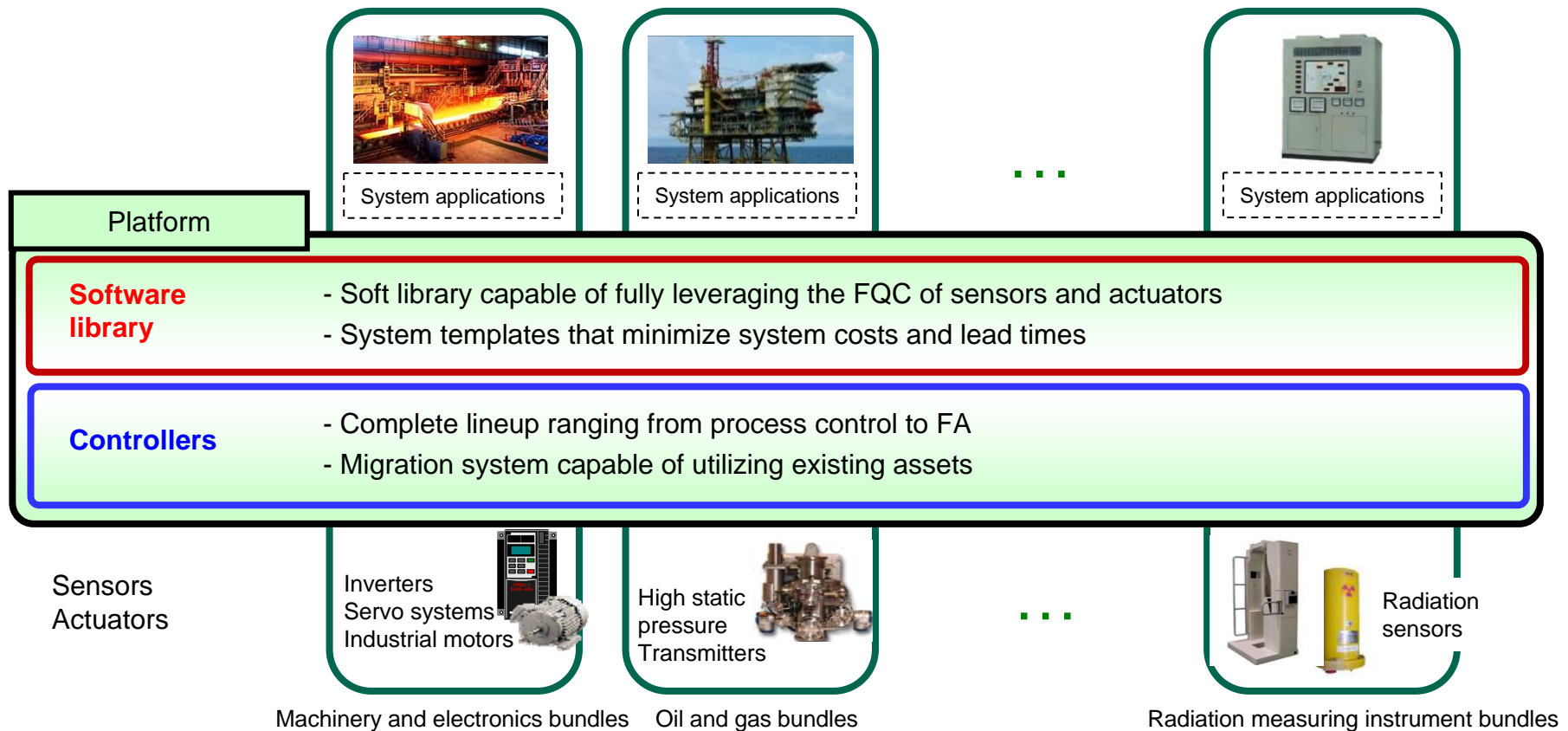


Lifespan evaluation

Instrumentation and Control Systems

Construction of Platforms to Support Sales Growth for Next Medium-Term Management Plan

- Utilize assets to minimize costs and lead times
- Create bundles that fully leverage the functionality and performance of sensors and actuators



Equipment Construction

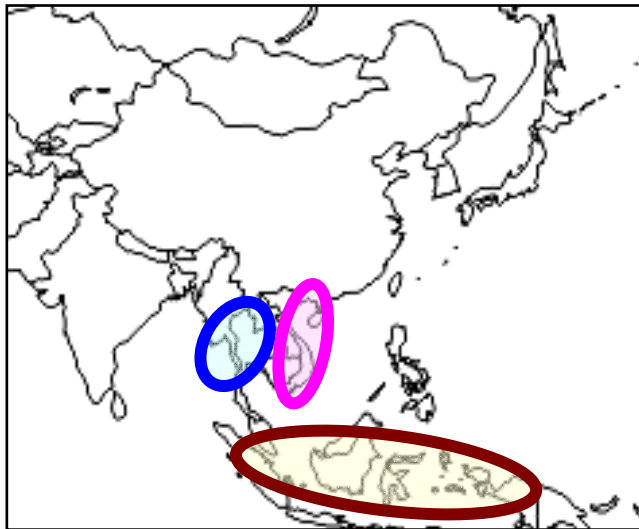
Business Strategies / Priority Measures

Business Strategies	Priority Measures
Startup new core businesses	<ul style="list-style-type: none">➤ Expand operations in the solar power generation system field➤ Expand operations in the Internet data center equipment construction field
Expand sales and orders in domestic upgrade business	<ul style="list-style-type: none">➤ Strengthen cost competitiveness➤ Improve technological and construction capabilities➤ Enhance service functions

Shared Initiatives

Measures to Expand Operations in Asia: Concentrate Development on Industrial Parks

Target industrial parks
→ ASEAN industrial parks



Thailand

Industrial parks 73
Japanese companies in industrial parks 783

Indonesia

Industrial parks 77 (Neighboring Jakarta: 50)
Japanese companies in industrial parks 346

Vietnam

Industrial parks 213
Japanese companies in industrial parks 388

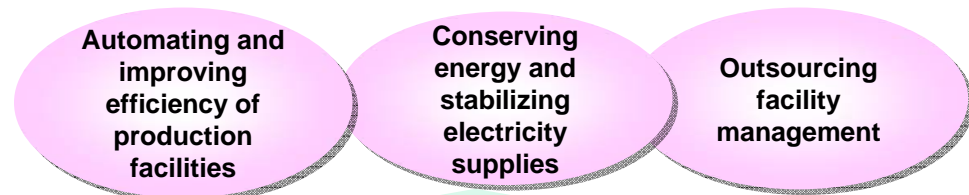
Source: ASEAN-Japan Centre's website

Operating Environment in Industrial Park and Factory Field

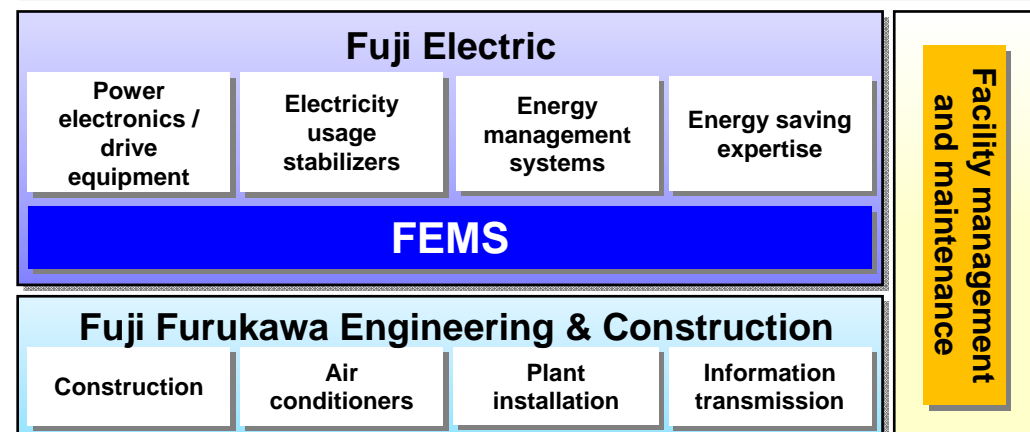
- Issues Faced by Japanese Companies Entering Industrial Parks

Present	Increasing production levels - Stable supply of energy - Stable facility operation (lack of maintenance technicians)
Future	Rising production costs -Energy cost reductions -Response to labor cost issues

Measures



Fuji Electric's technological expertise



Shared Initiatives

Measures to Expand Operations in Asia: Strengthen Engineering Systems

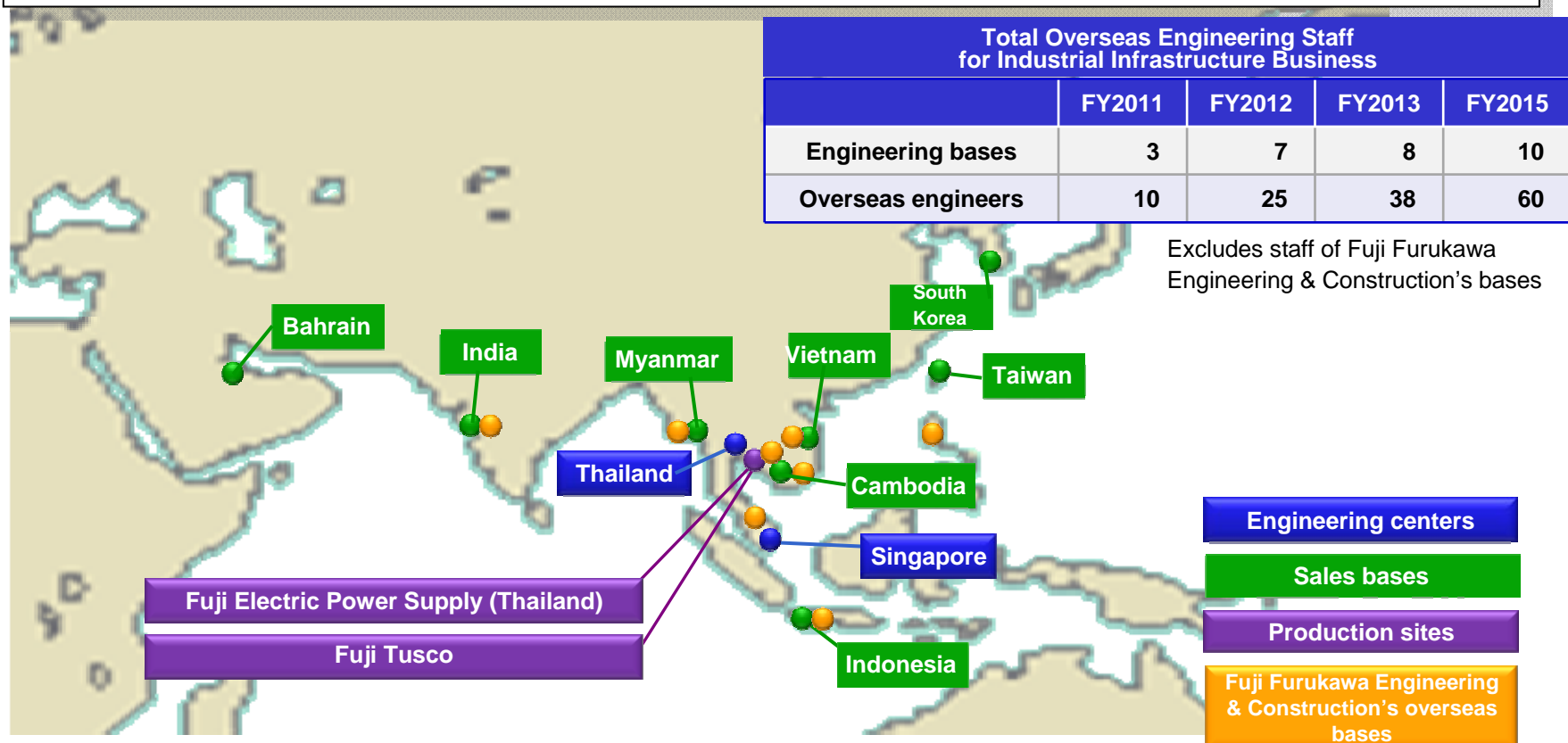
Enhance supply chains in Asia

●Strengthen engineering systems

- Position customer engineers in sales bases
- Reinforce engineering centers in Thailand and Singapore

●Leverage synergies with Fuji Furukawa Engineering & Construction

—Utilize bases and sales channels



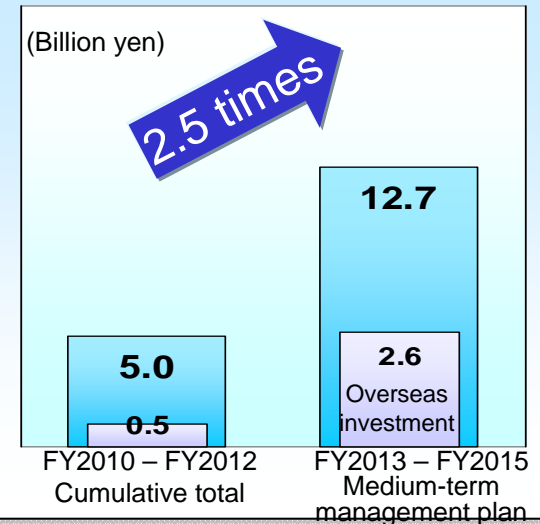
Planned base network for FY2015

Shared Initiatives

Plant and Equipment Investment / R&D Expenditures

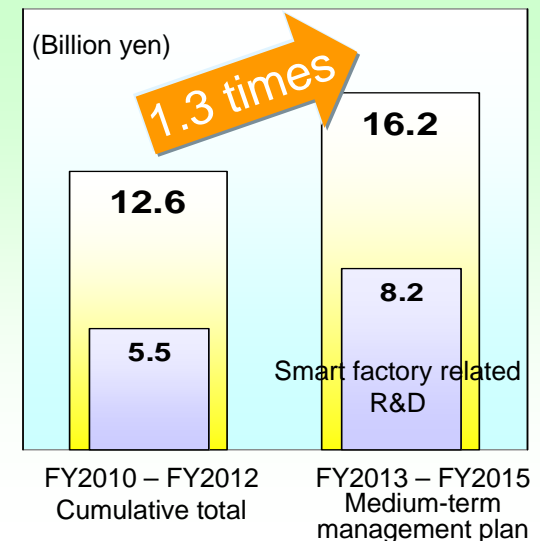
Plant and equipment investment

- Establish and strengthen production network in Asia
 - Commence production of substation equipment
 - Strengthen engineering bases
- Enhance development and testing facilities in domestic factories



R&D expenditures

- Develop products related to smart factories
 - Heat management (applied heating, heat pumps)
 - Integrated machinery and electronic solutions
 - Cloud FEMS for industrial parks
- Develop measuring instruments for the safety and security solutions market
 - Vibration sensors (structural health monitoring, motor diagnostics)



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