

# Machinery & Steel Structures Business Operation

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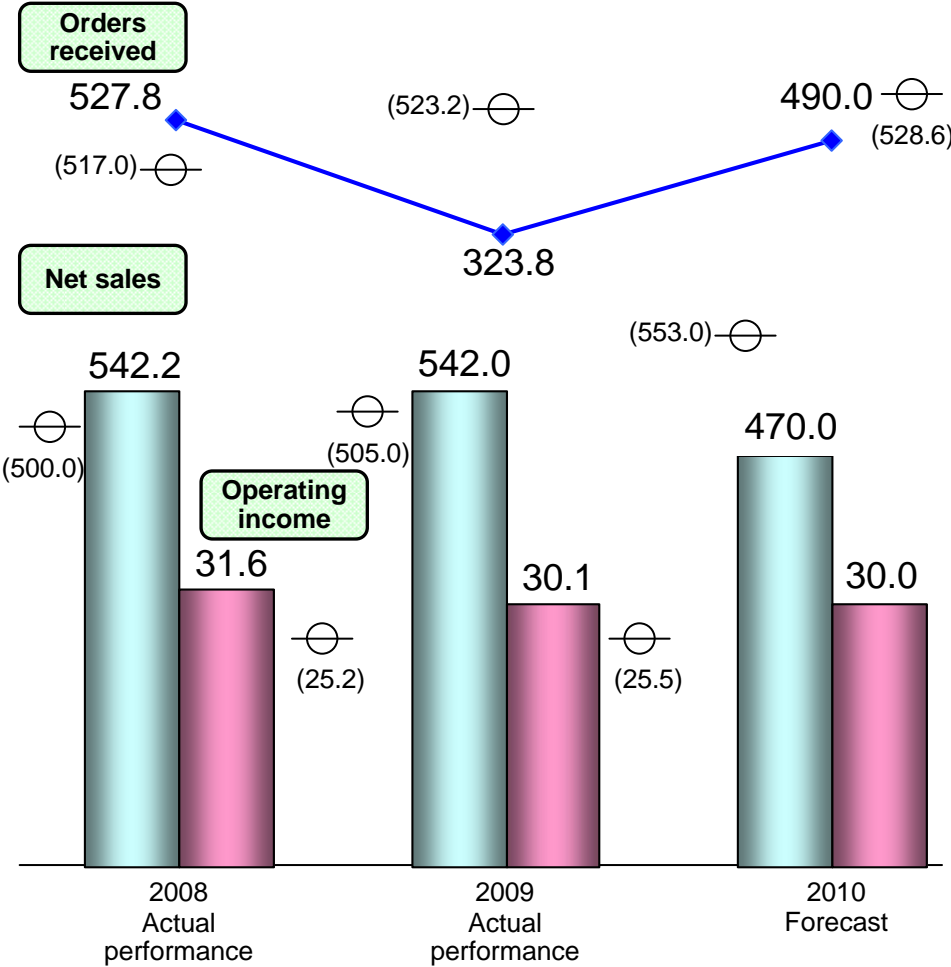
 **MITSUBISHI HEAVY INDUSTRIES, LTD.**

1. Summing Up of 2008 Business Plan
2. Target Figures in 2010 Business Plan
3. Strategies to Achieve the Business Plan
4. Reform Process
  - (1) Decentralization
  - (2) Reconstruction of printing and packaging machinery business
5. Growth Process
  - (1) Business model reform
  - (2) Robust regional strategies
6. Summary

# 1. Summing Up of 2008 Business Plan

(JPY 100 million)

## Achievements of numeric targets



### Orders

FY2009 figures were significantly lower than targets due to the delayed impact of the global economic downturn, which manifested itself in the deferment of fertilizer plants and Iron and Steel machinery (FY2010 is recovering)

### Net sales

Both net sales and operating income in general exceeded the figures in the plan as the construction of large-size chemical and transportation plants and iron and steel machinery progressed steadily.

### Operating income

### Achievements

1. Enhanced profitability by business structure reform
2. Development of foundations for long-term growth

### Challenges

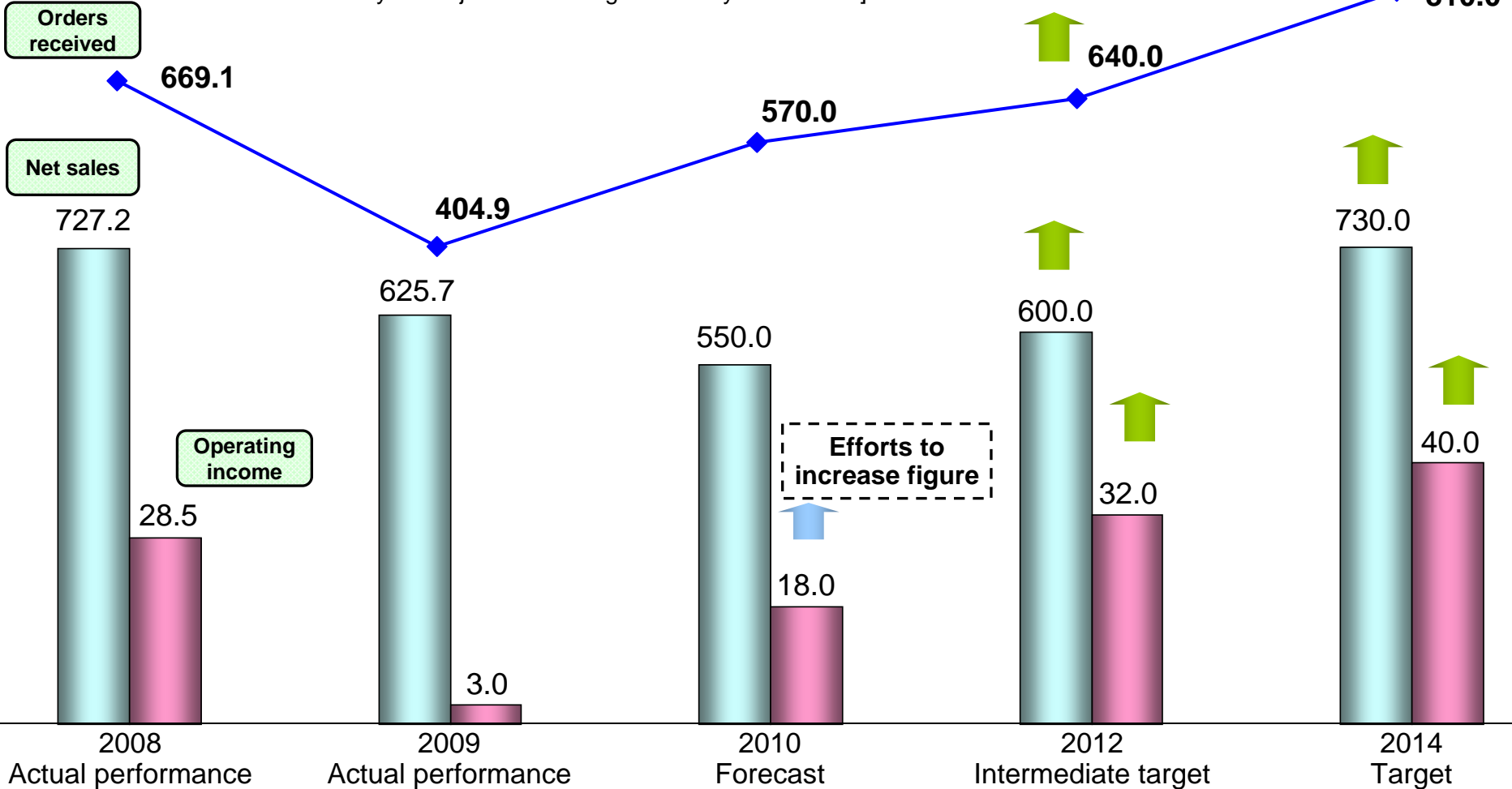
1. Quick recovery in orders received
2. Further upgrading of capability to respond globally
3. Reconstruction of printing and packaging machinery businesses

⊖ = 2008 Business Plan figures

## 2. Target Figures in 2010 Business Plan

(JPY 100 million)

[The figures include printing and packaging machinery as well as the food packaging machinery and injection molding machinery businesses]



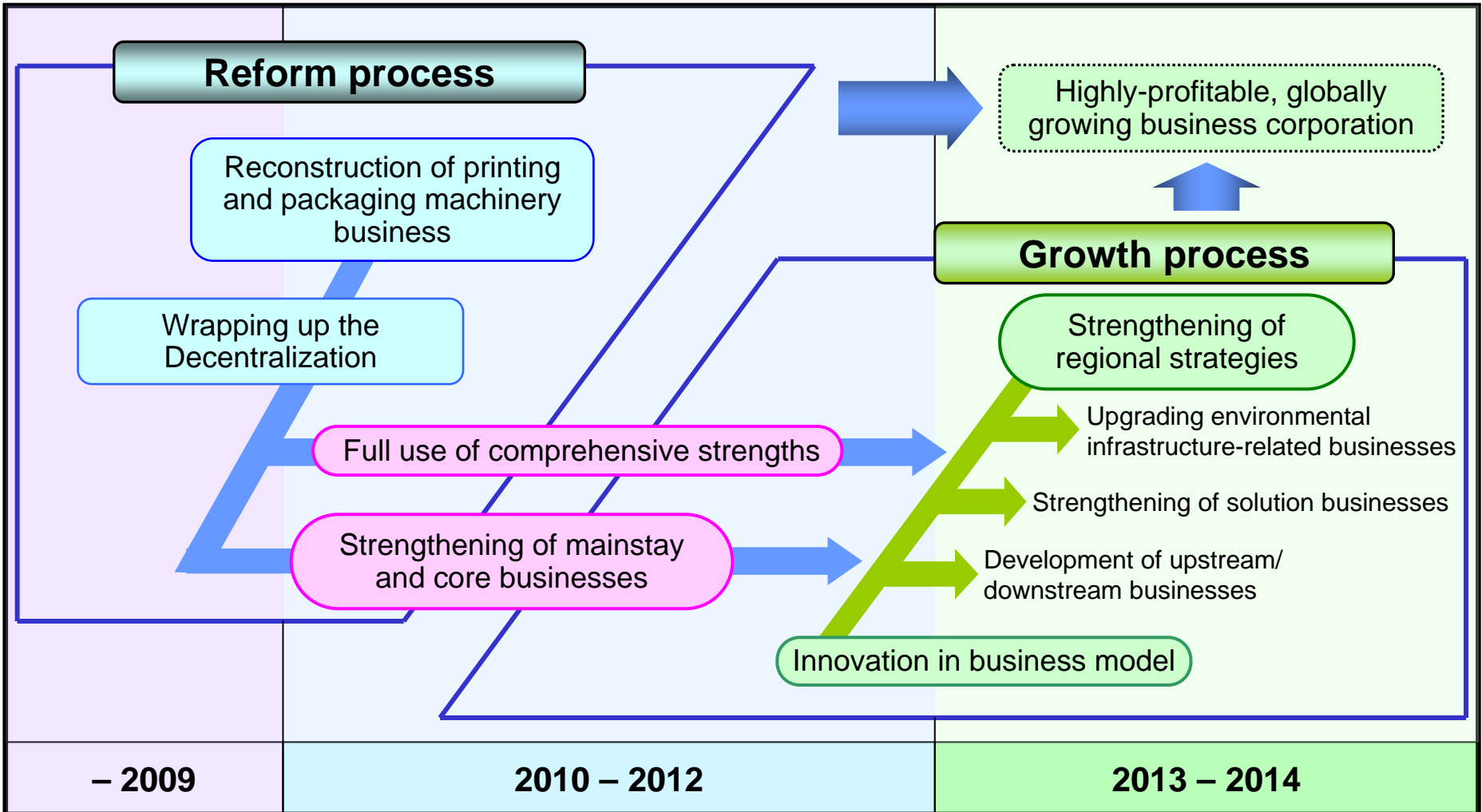
**Business structural reforms**  
(Promotion of Decentralization)

**Early completion of reform process**

**Achievement of growth process ahead of schedule**

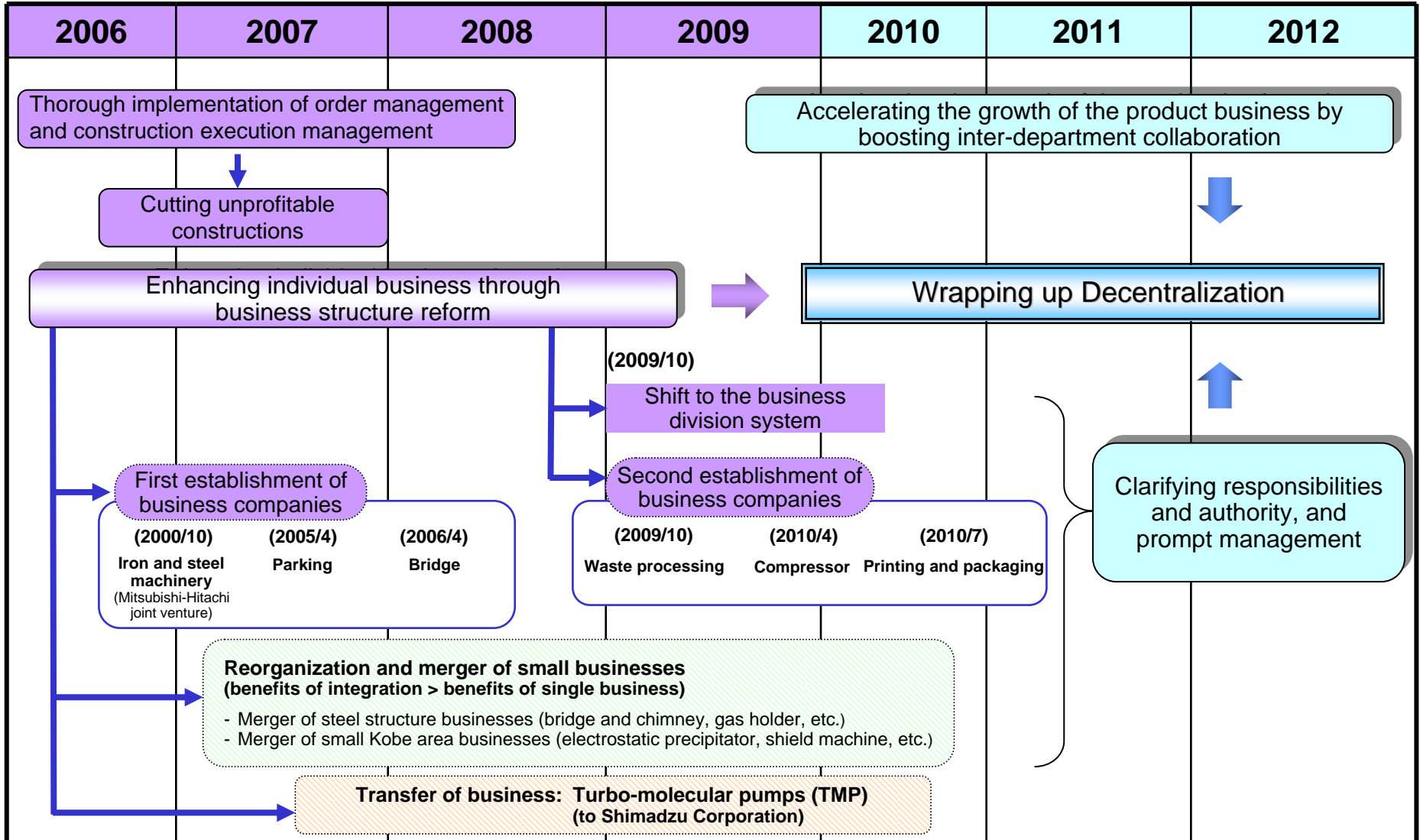
# 3. Strategies to Achieve the Business Plan

- (1) Early completion of the reform process, which aims to achieve high profitability
- (2) Acceleration of global growth by completing the growth process ahead of schedule



# 4. Reform Process

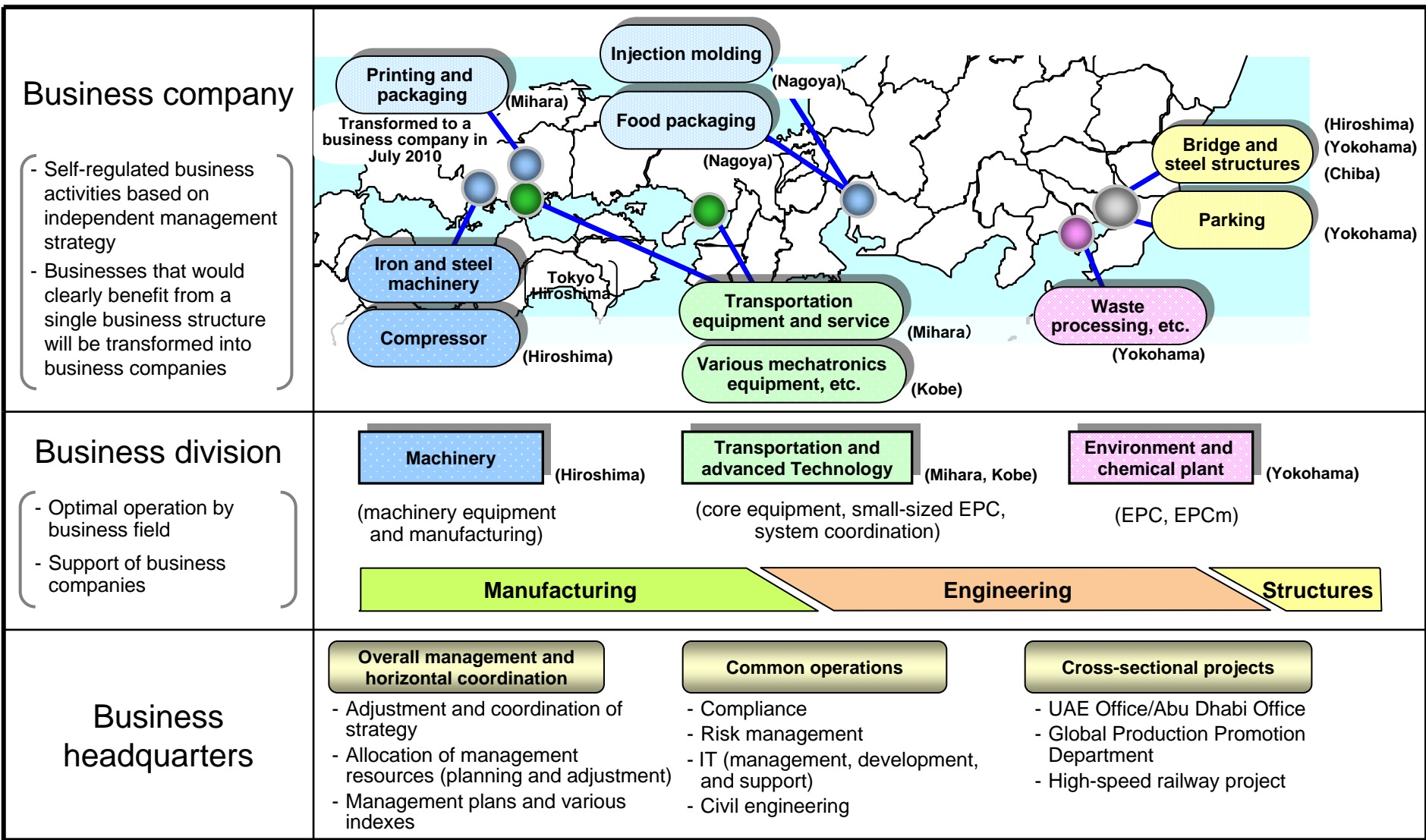
## (1) Decentralization



# 4. Reform Process

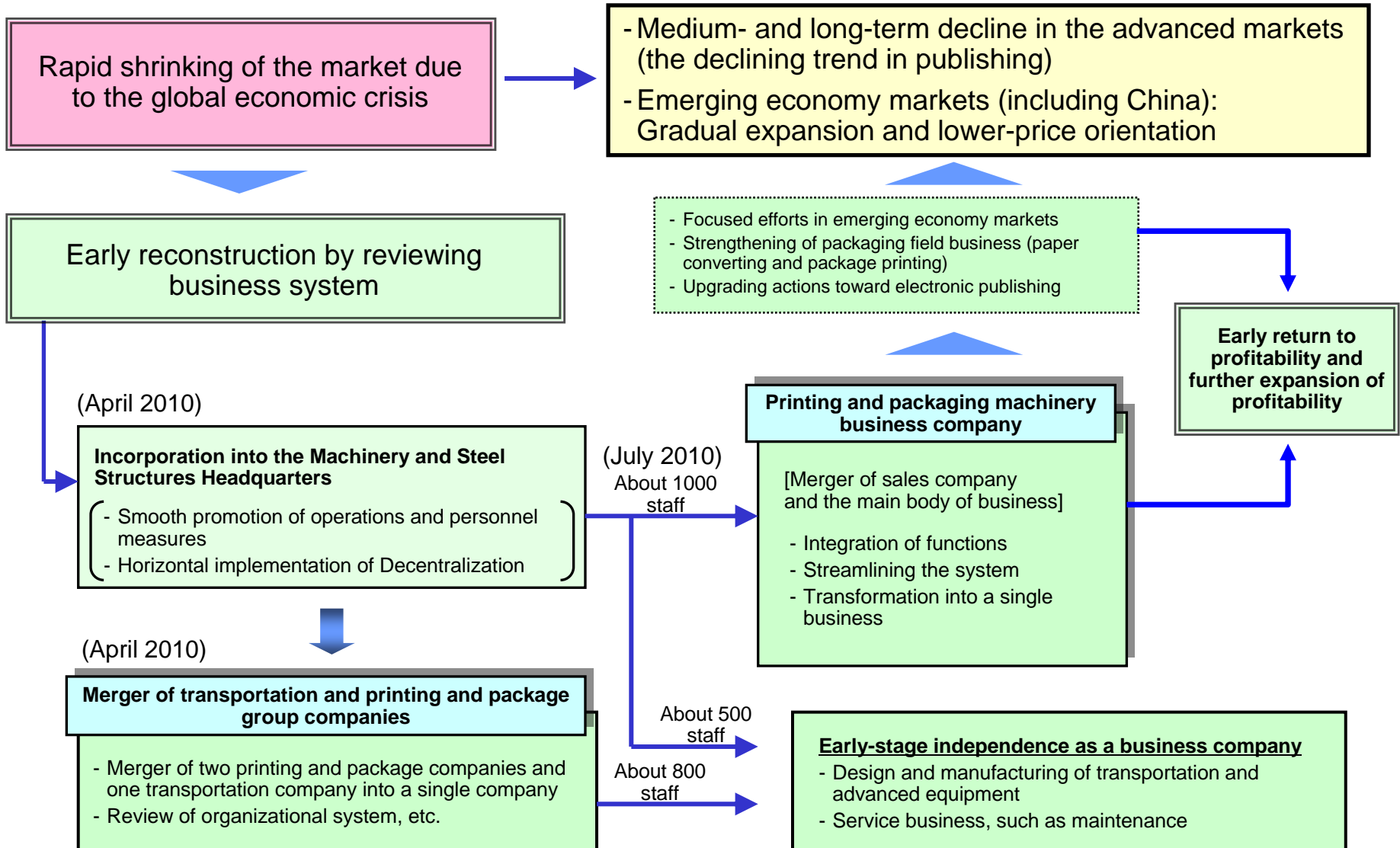
## (1) Decentralization

(products that were transformed into business companies and the relationship between related business divisions and business headquarters)



# 4. Reform Process

## (2) Reconstruction of printing and packaging machinery business





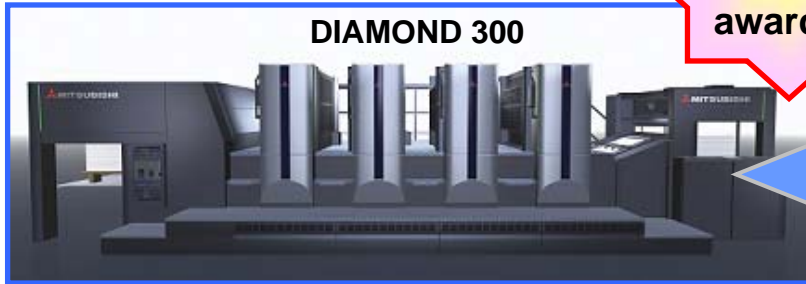
# 4. Reform Process

## (2) Reconstruction of printing and packaging machinery business (focused products)

### Printing machinery (sheet-fed offset press)

New type of sheet-fed offset press

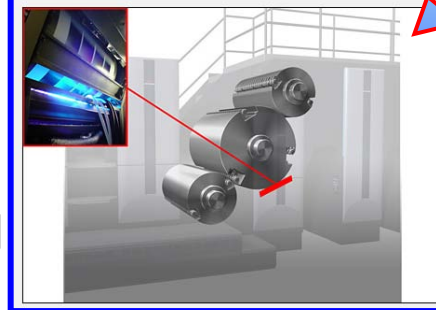
DIAMOND 300



G design

**Gold Award**  
awarded

LED-UV  
drying system



New  
technology

Power consumption is cut by 70-80%  
Able to be installed in double-sided printing machines

### Printing machinery (newspaper offset press)

Newspaper  
offset press  
DIAMONDSTAR



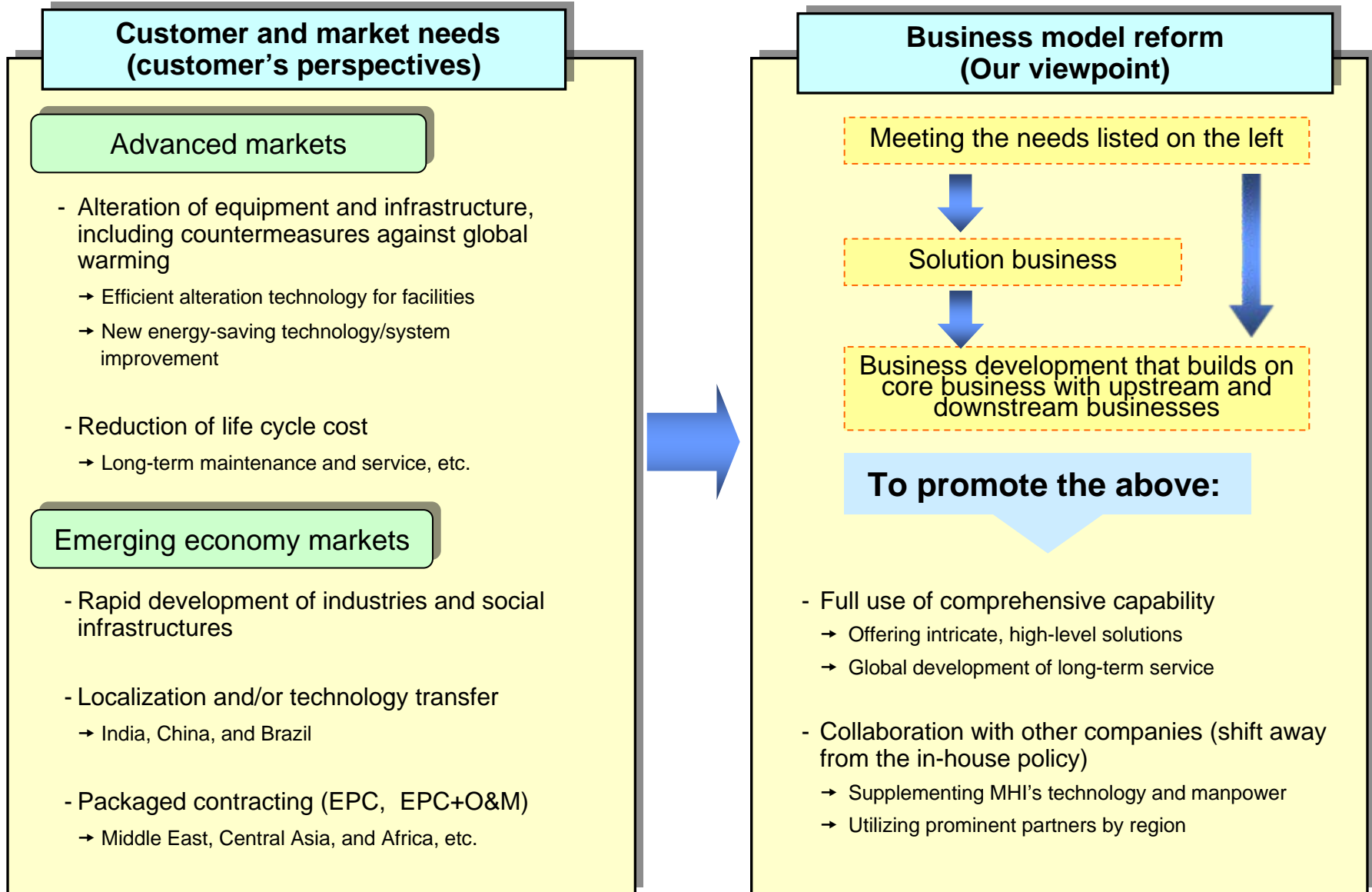
### Paper converting machinery

State-of-the-art  
box making  
machine  
EVOL  
(box making)



# 5. Growth Process

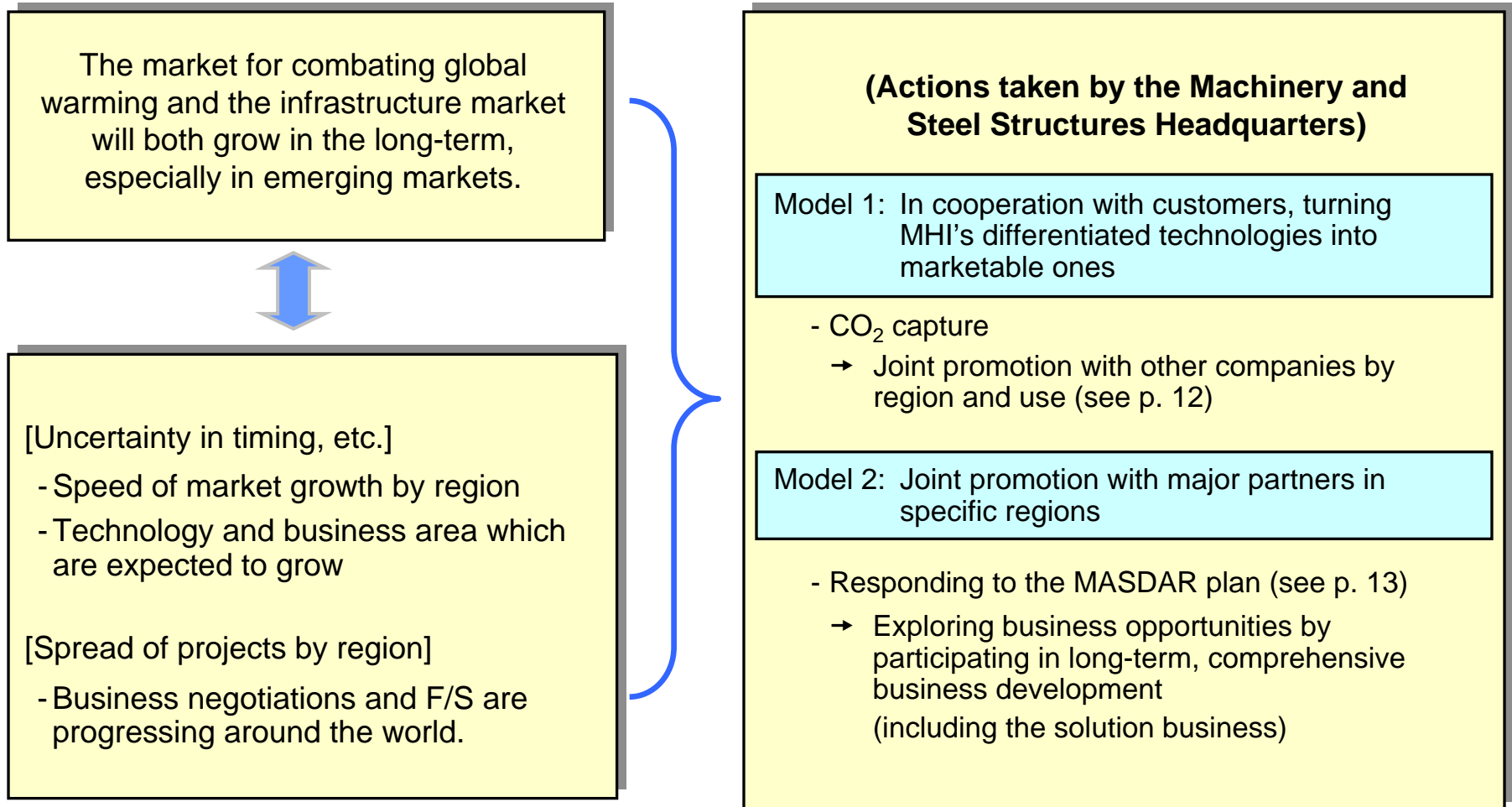
## (1) Business model reform (Part I)



# 5. Growth Process

## (1) Business model reform (Part II)

### (i) Environmental and infrastructure-related businesses (actions)

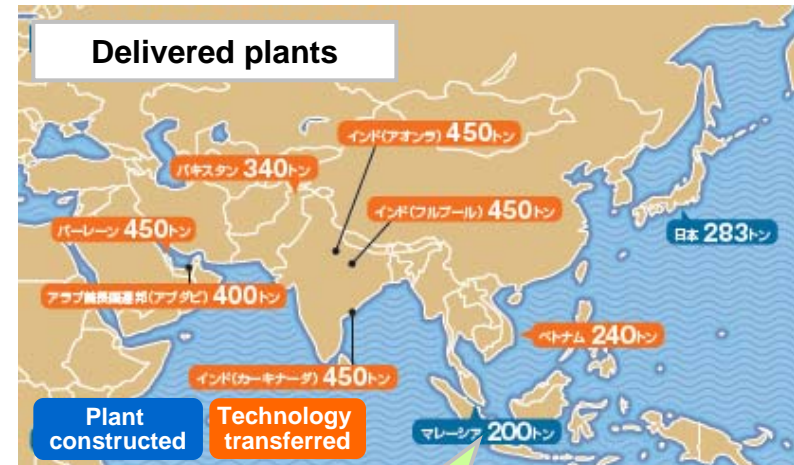


# 5. Growth Process

## (i) Environmental and infrastructure-related businesses (Example Initiative 1)

### Joint promotion of CO<sub>2</sub> capture business

- (i) Capture of CO<sub>2</sub> emitted by coal burning
  - Constructing a verification plant that collects 100,000-150,000 tons of CO<sub>2</sub> jointly with Southern Company of the United States (construction began in April 2010)
  - Basic design order received from E.ON-UK of the United Kingdom to build a plant capable of collecting 2 million tons a year (June 2009)
  
- (ii) Capture of CO<sub>2</sub> emitted by gas burning
  - Collaboration with Abu Dhabi/MASDAR (Negotiating basic design package and promotion methods for the near future)
  
- (iii) Others
  - CO<sub>2</sub> capture plant for increased urea output Promoting order taking (nine orders received)
  - Promoting a review of CO<sub>2</sub> capture from Integrated coal Gasification Combined Cycle (IGCC) with MHI's Power Systems Headquarters



CO<sub>2</sub> capture plant designed for Malaysia  
Capacity: 200 tons/day

# 5. Growth Process

## (i) Environmental and infrastructure-related businesses (Example Initiative 2)

### Participation in the MASDAR plan

Zero-emissions eco-friendly city in Abu Dhabi



Artist's rendition of the completed MASDAR-City

Quoted from the MASDAR web page

Fusion of transportation infrastructure and energy infrastructure  
(Rendition of MHI's proposal)

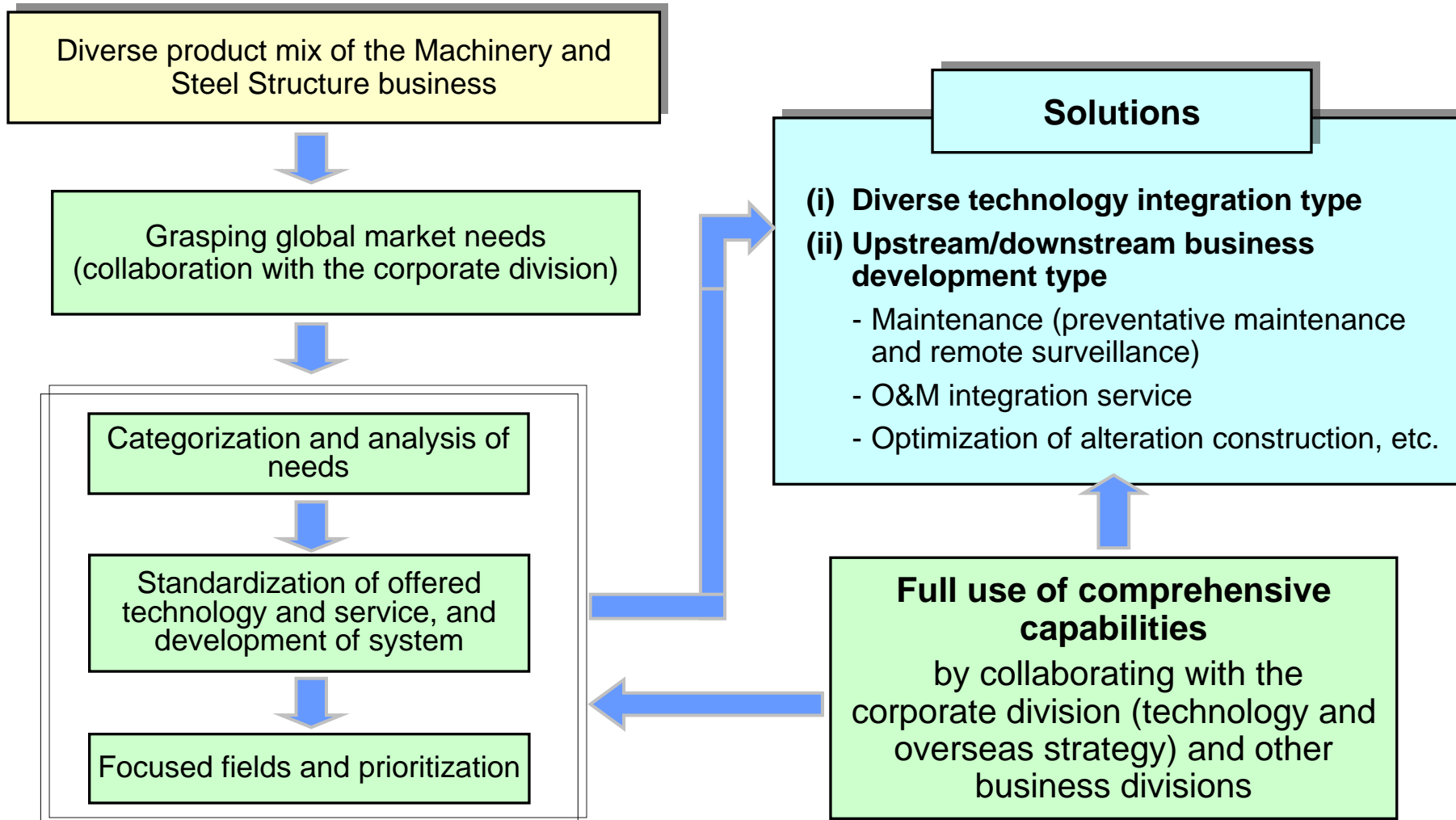


	Needs	MHI products and corresponding technology
Environment/ Industry	- Catching and storing CO <sub>2</sub> emitted by power stations	CO <sub>2</sub> capture plant
	- Substitution of natural gas for boosting crude oil output	EOR, CO <sub>2</sub> compressor
	- Modernization of port facilities	Container cranes, yard, unloader facility, etc.
Social Infrastructure	- Transportation systems	Integrates Transport System, Electronic Road Pricing, LRT/APM
	- Energy savings in other areas	Regional energy management, eco-house designed for the Middle East, etc. Regional air conditioning/heating system
	- Short-range aviation network	MRJ

# 5. Growth Process

## (1) Business model reform

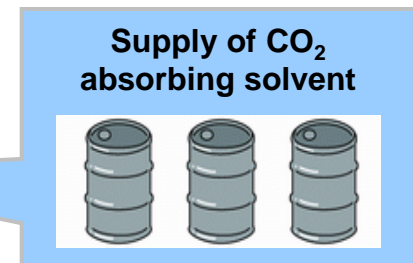
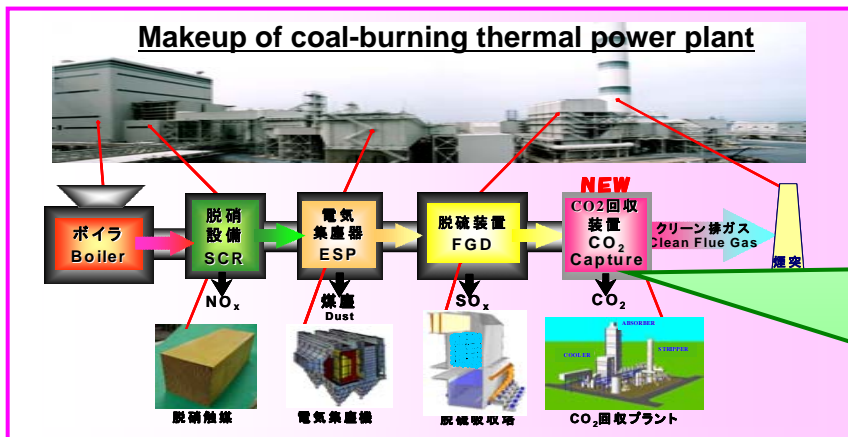
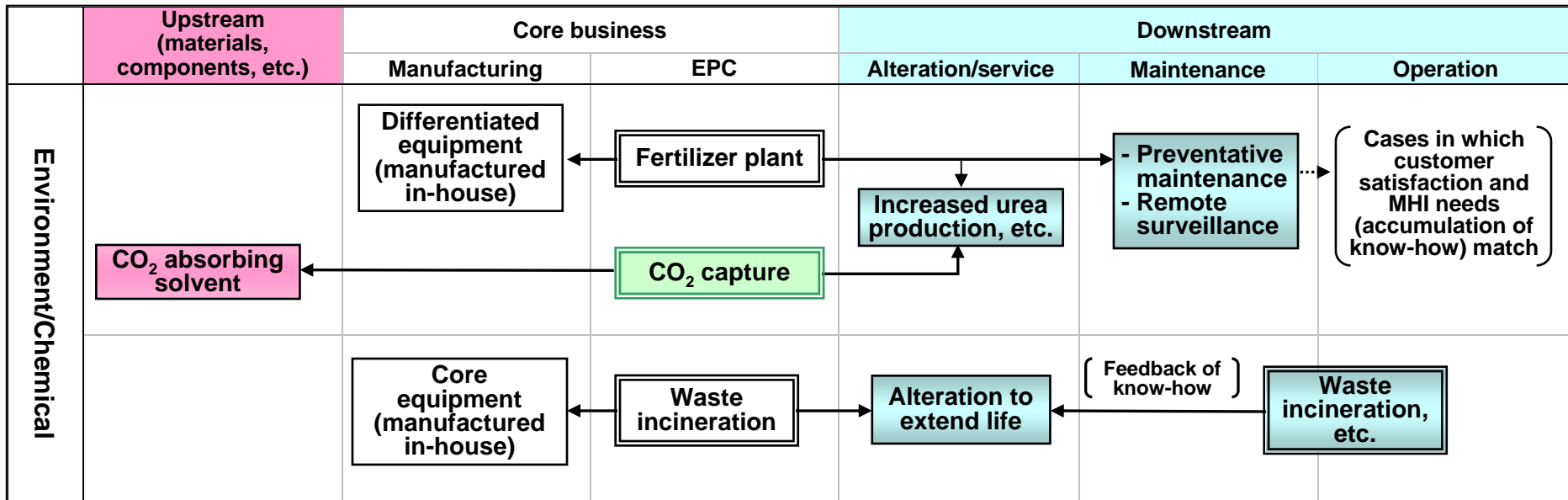
### (ii) Strengthening of solution business



# 5. Growth Process

## (1) Business model reform

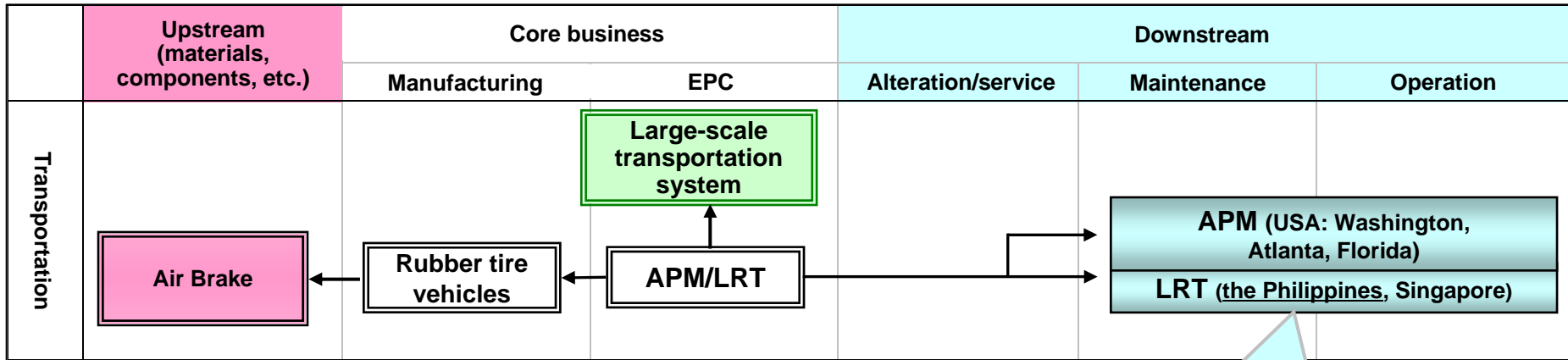
### (iii) Developing into upstream/downstream business (1/3)



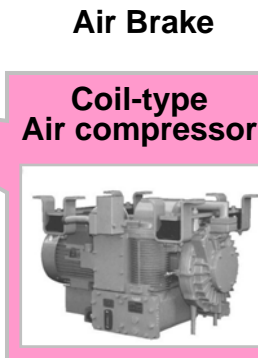
# 5. Growth Process

## (1) Business model reform

### (iii) Developing into upstream/downstream business (2/3)



Large-scale transportation system

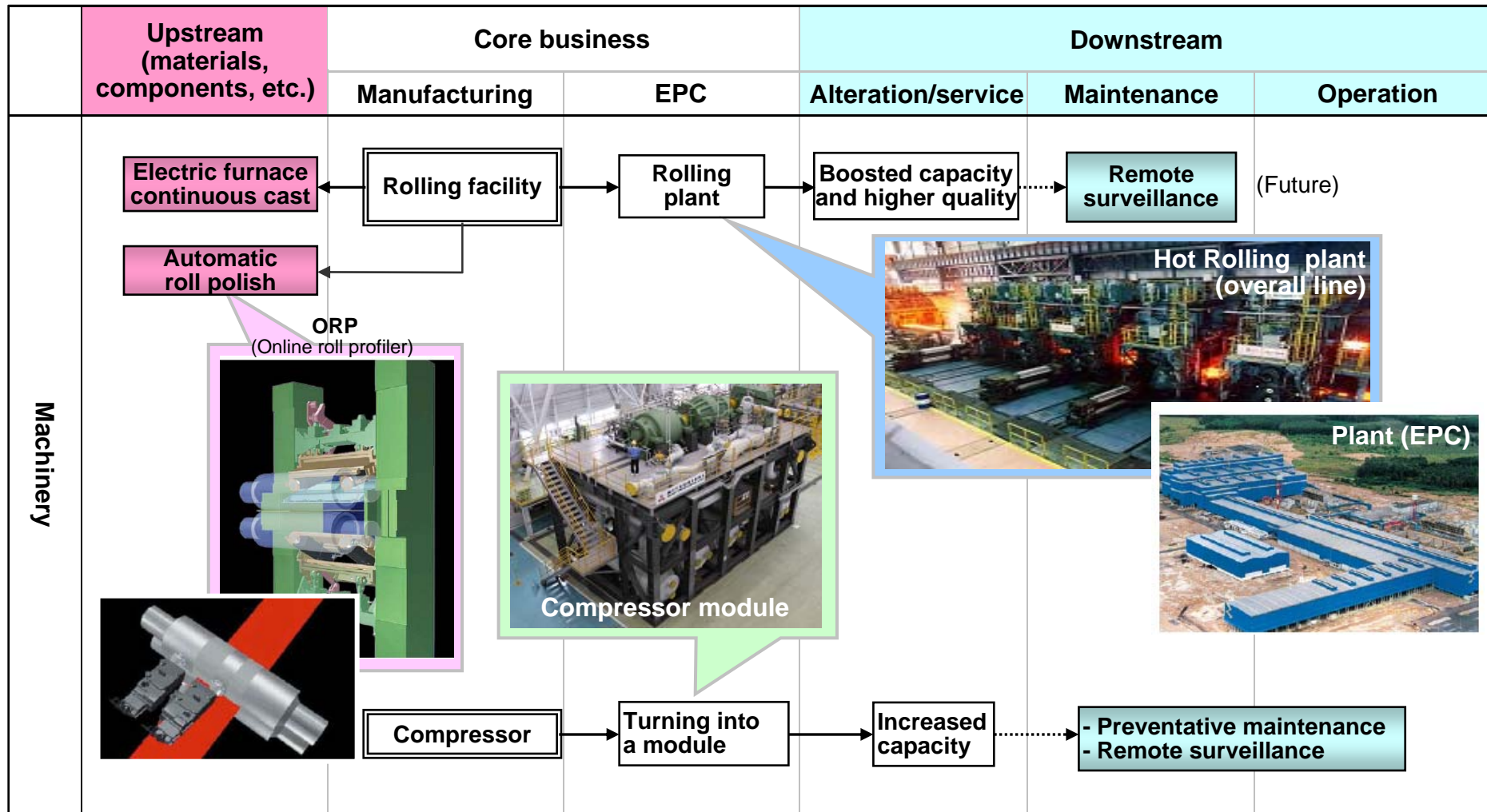




# 5. Growth Process

## (1) Business model reform

### (iii) Developing into upstream/downstream business (3/3)



# 5. Growth Process

## (2) Robust regional strategies (Part I)

### Existing market strategy

Japan, South Korea, Taiwan,  
the United States, and Southeast Asia

- Achieving lower-cost corporate culture by increasing the efficiency of business system
- Boosting profits by strengthening service and solution businesses

### Emerging market strategy

China

**- Responding to the local production orientation**

→ Developing localized business that covers production to sales/AS

India

**- Use as a low-cost production base**

Middle East  
and Africa

**- Intensive and comprehensive market development that focuses on targets**

**- Collaboration with major local partners**

**- Upgrading actions toward EPC (+ O&M) business negotiations**

Brazil

**- Localization of service business (including repair and alteration)**

**- Actions toward EPC business negotiations (Collaboration with local construction companies, etc.)**

# 5. Growth Process

## (2) Robust regional strategies (Part II)

### Development of domestic bases

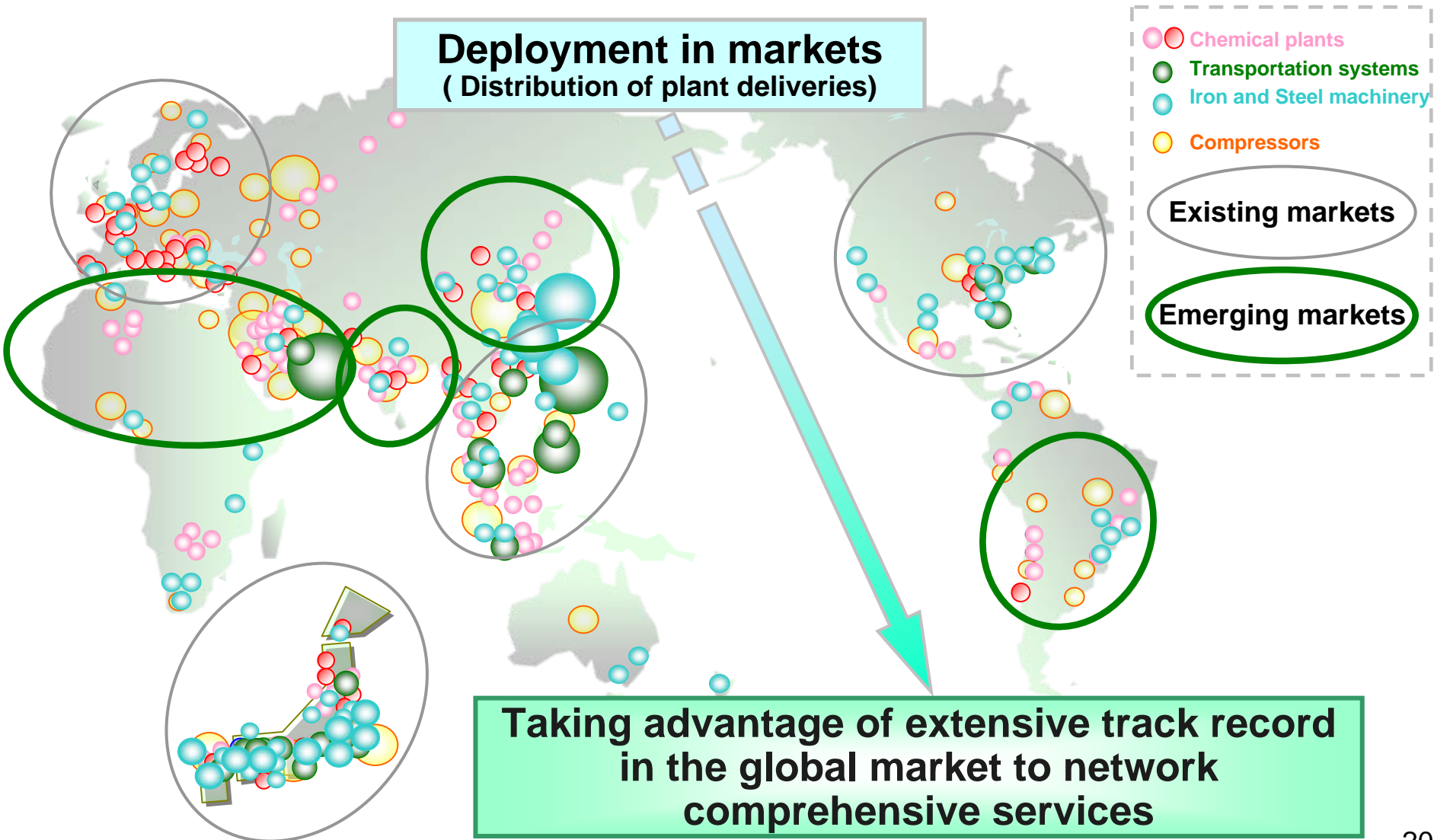
- Phased focusing onto core functions and main body of technology
  - R&D, design, production of differentiated components, etc. Production Technology Enhancement Center, high-level testing and test run facilities, and small-sized high-value-added components
- Development of inter-base functions in Japan (elimination of duplication, etc.)

### Development of overseas bases

- Efficient distribution of production bases → promotion of the shared factory plan
- Development and upgrading of LCE (low-cost engineering) bases
- Merger of existing bases (the United States and Europe)
- Strengthening of sales and service network (including utilization of external sources) → Especially China, India, and the Middle East

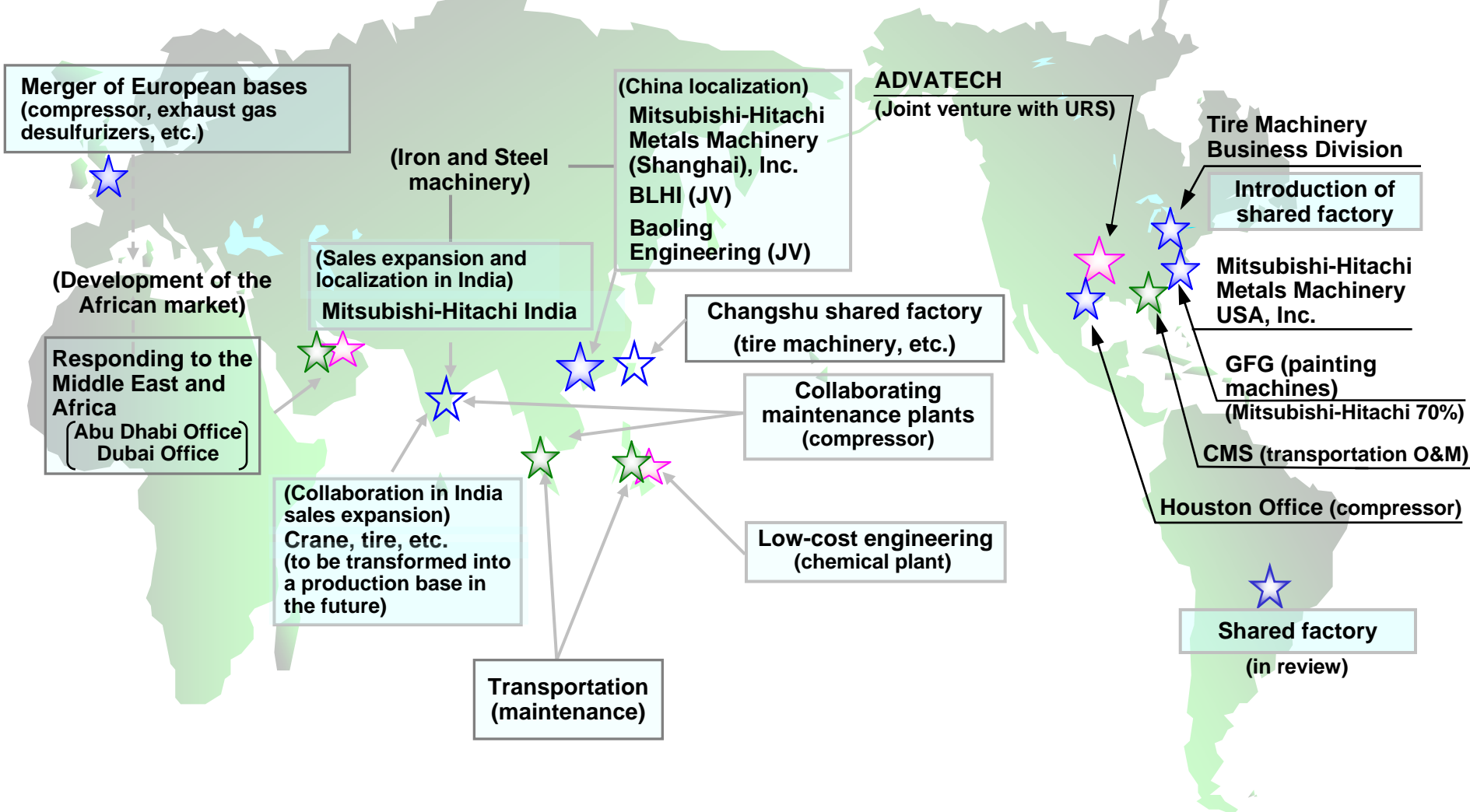
# 5. Growth Process

## (2) Robust regional strategies (Part III)



# 5. Growth Process

## (2) Robust regional strategies (Part IV, plans for the development of overseas facilities)



# 5. Growth Process

## (2) Robust regional strategies (Part V, shared factories)

### Shared factory concept

Promotion of overseas advancement for small- and medium-sized businesses



Pursuit of benefits from the joint production method

- Shared plant management staff, etc.
- Strengthening the ability to effectively respond to fluctuations in construction volume by product
- Efficient use of facilities and workers

#### (Other benefits)

- Integrated organization brings:
  - More efficient business execution
  - Higher levels of risk management

Tire machines, etc.  
(Established: February 2010)



Changshu Ryoju Machinery Co., Ltd.

Iron and steel machinery, tire machinery, etc.  
(Plan to be finalized within FY 2010)



# 6. Summary (1/2)

Makeup concept for product business: high-ranking global share and/or stable profits + state-of-the-art technology

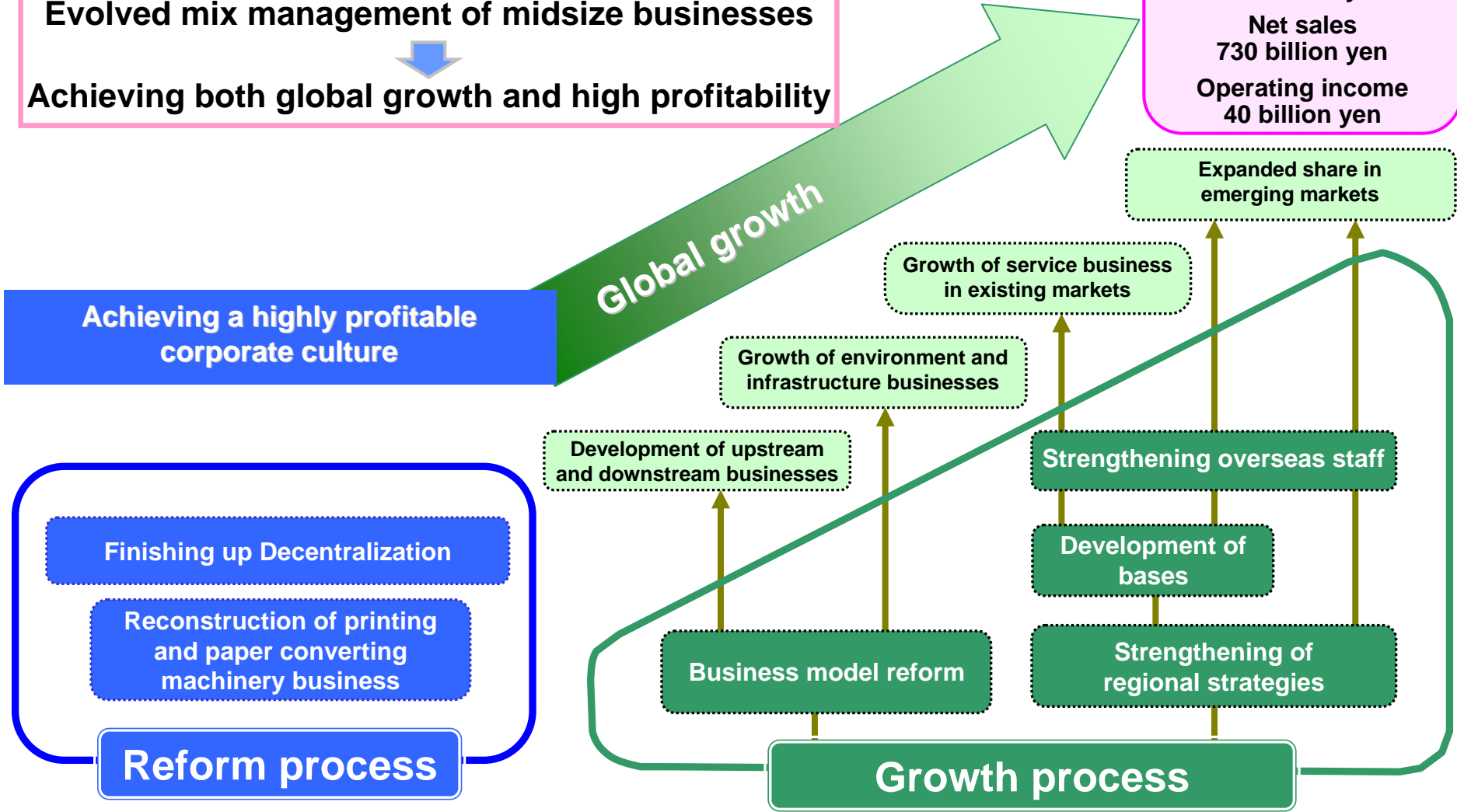
(注) ( ) = Global Share Ranking, (N) = Next Generation Product

Business	Environment & Chemical Plant	Transportation Systems & Advanced Equipment	Machinery			Printing and Packaging/ Injection Molding Machine/ Food Packaging Machinery	Steel Structures, etc
			Iron & Steel Machinery	Compressor	Others		
Domain	EPC	EPC·Manufacture·O&M	Manufacture (+EPC)	Manufacture	Manufacture	Manufacture	Manufacture, etc
Industry/Social Infrastructure	Fertilizer Plant (2~3)	ITS (Singapore/Electronic Road Pricing)	Cold Strip Mills Cold Rolling (1) Hot Rolling (2)	Compressors All Types (5~6)	Printing Machinery	Chimneys	
	Methanol Plant (2~3)	Motome Servo Motors	Plating Equipment Plating (4~5)	Compressors Ethylene (1~2)	All Types (5~6) Curing Press (1)	Bridge	
	CO2 Capture Plant (1)	100% Low Floor LRV	Pickling (2~3)	Material Handling Machine	Packaging Machinery	Integrated Parking System	
	Waste treatment System				Injection Molding Food Packaging Machine		
Energy/Environment/Resources	Desulfurization Plant (1~2)	APM	Compressors Hot Rolling	CO2 Compressors		Integrates Parking System with Recharge station for EV	
	Carbon Capture & Storage	High Speed Railways	Pipeline Compressors			Electrostatic Precipitators	
	Enhanced Oil Recovery	Smart Communities			Medical Equipment (N)		
	Alternative fuels						
Advanced Technology	Bio Ethanol Demonstration Plant		CO2 Compressors CO2 EOR CCS				
	Accelerators				Organic EL (N)		

# 6. Summary (2/2)

Prompt shift from reform to growth process  
 ↓  
 Evolved mix management of midsize businesses  
 ↓  
 Achieving both global growth and high profitability

**FY 2014 target**  
 Orders  
 810 billion yen  
 Net sales  
 730 billion yen  
 Operating income  
 40 billion yen







Our Technologies, Your Tomorrow

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