Industry & Infrastructure Domain Business Plan

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MITSUBISHI HEAVY INDUSTRIES, LTD.

Contents

1-1. Overview (Domain Reorganization)

The Industry & Infrastructure domain (I&I domain) was launched as part of a larger Companywide reorganization of domains carried out in April 2017. Chemical Plants, Land Transportation Systems, and Shipbuilding & Ocean Development are being consolidated into the I&I domain to create synergies in engineering and other areas, and also to advance reforms of commercial ship operations.

【Until March 2017】

Energy & Environment

- Thermal Power
- Nuclear Power
- Renewable Energy
- Chemical Plants

Commercial Aviation & Transportation Systems

- Commercial / Cruise Ships
- Land Transportation Systems
- Commercial Aircraft
- MRJ
- Aero Engines

Integrated Defense & Space Systems

- Defense Systems
- Space Systems

Machinery, Equipment & Infrastructure

- Compressors
- Metals Machinery
- Material Handling Equipment
- Turbochargers
- Engines
- Air-Conditioning & Refrigeration
- Machinery & Equipment

【From April 2017】

Power Systems

- Thermal Power
- Compressors
- Aero Engines
- Nuclear Power
- Renewable Energy

Industry & Infrastructure

- Metals Machinery
- Material Handling Equipment
- Turbochargers
- Engines
- Air-Conditioning & Refrigeration
- Machinery & Equipment
- Commercial / Cruise Ships
- Land Transportation Systems
- Chemical Plants

Aircraft, Defense & Space

- Commercial Aircraft
- MRJ
- Defense Systems
- Space Systems

Business		Group company
Material Handling Equipment		Mitsubishi Nichiyu Forklift Co., Ltd., UniCarriers Corporation
Engines		Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.
Turbochargers		Mitsubishi Heavy Industries Engine & Turbocharger, Ltd.
Metals Machinery		Primetals Technologies
Air-Conditioning & Refrigeration		Mitsubishi Heavy Industries Thermal Systems, Ltd.
Automotive Thermal Systems		Mitsubishi Heavy Industries Automotive Thermal Systems Co., Ltd.
Machinery & Equipment	Mechatronics Systems・ITS	Mitsubishi Heavy Industries Mechatronics Systems, Ltd.
	Rubber & Tire Machinery	Mitsubishi Heavy Industries Machinery Technology Corporation
	Paper Converting Machinery & Newspaper Offset Press	Mitsubishi Heavy Industries Printing & Packaging Machinery, Ltd.
	Machine Tool	Mitsubishi Heavy Industries Machine Tool Co., Ltd.
Environmental Systems		Mitsubishi Heavy Industries Environmental & Chemical Engineering Co., Ltd.

Business	Division
Commercial Ships	Ship & Ocean Division
Cruise Ships	Ship & Ocean Division, Engineering Headquarters
Chemical Plants	Engineering Headquarters
Land Transportation Systems	Engineering Headquarters, Transportation Systems Division

1-1. Overview (Net Sales by Main Businesses)

MITSUBISHI HEAVY INDUSTRIES

Industrial & Precision Instruments

Paper Converting Machinery, Box-making machines

Mechatronics Systems, ITS

Electronic Road Pricing (ERP) Systems

Metals Machinery

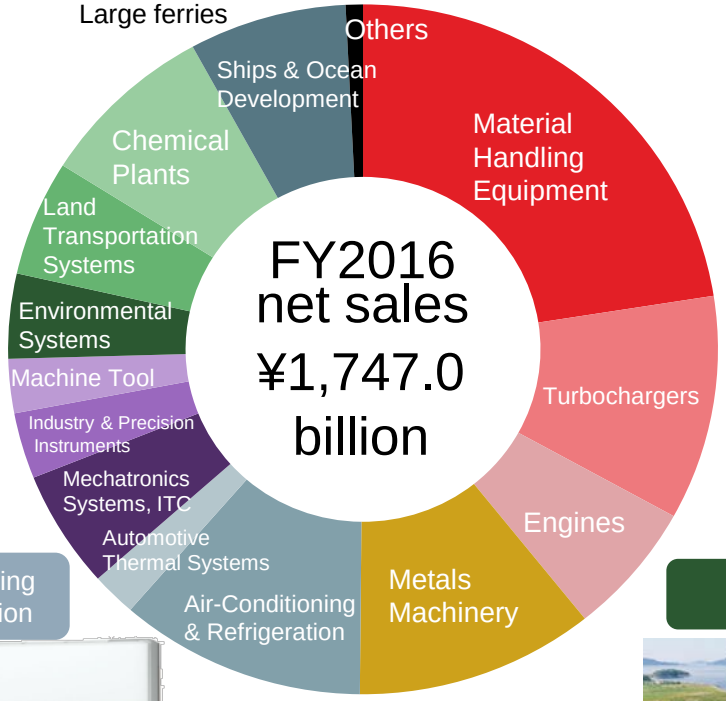
Hot Strip Mills

Air-conditioning & Refrigeration

Residential air-conditioners

Shipbuilding & Ocean Development

Large ferries



M-FET

- Material Handling Equipment
- Turbochargers
- Engines

Turbochargers

Forklift trucks

Chemical Plants

Polyethylene plant

Environmental Systems

Waste-to-Energy Plants

Land Transportation Systems

Transportation systems

M-FET: Mitsubishi Heavy Industries Forklift, Engine & Turbocharger Holdings, Ltd.
ITS: Intelligent Transportation System

1-2. FY2016 Major Projects and Orders Received

Metals Machinery

Order from the Netherlands for continuous slab caster

Shipbuilding & Ocean Development

Handover of large-scale cruise ship

ITS

Orders for electronic toll collection (ETC) systems

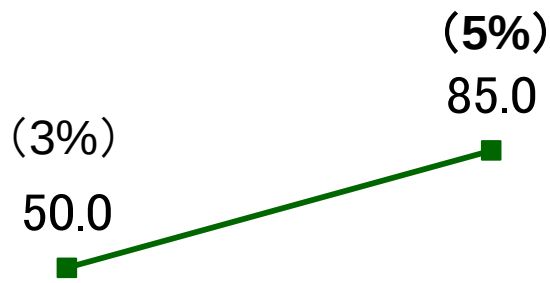
Land Transportation Systems

Orders for automated guideway transit (AGT) systems

2-1. FY2016 Summary & FY2017 Outlook

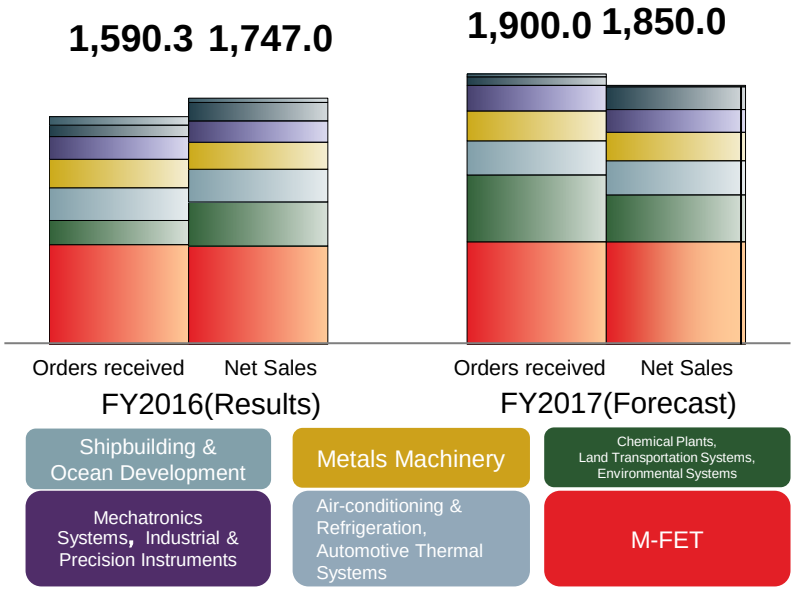
Operating income

（In billion yen）



Orders received / Net sales

（In billion yen）



【FY2016 Summary】

■ Orders received

Orders increased largely due to the merger with UniCarriers, but a sluggish global economy and market meant orders for Chemical Plants (which had been robust in FY2015), Commercial Ships and Land Transportation Systems decreased.

■ Net sales

In spite of decreased revenue in Metals Machinery, overall net sales expanded due to the merger with UniCarriers, and to scale expansion in Turbochargers and Land Transportation Systems.

■ Operating income

Income declined in Metals Machinery, which is undergoing PMI, and in Commercial Ships (LNG carriers) .

【FY2017 Outlook】

■ Orders received

Orders are projected to grow by ¥300 billion through expansion of our engineering businesses.

■ Net sales

Sales are projected to increase ¥100 billion, mainly on scale expansion in Material Handling Equipment, Turbochargers, etc.

■ Operating income

Income is projected to increase ¥35 billion from FY2016, to ¥85 billion by increasing sales, accelerating PMI, and structural reforms in the business of Commercial Ships.

PMI：Post Merger Integration

2-2. Business Strategies

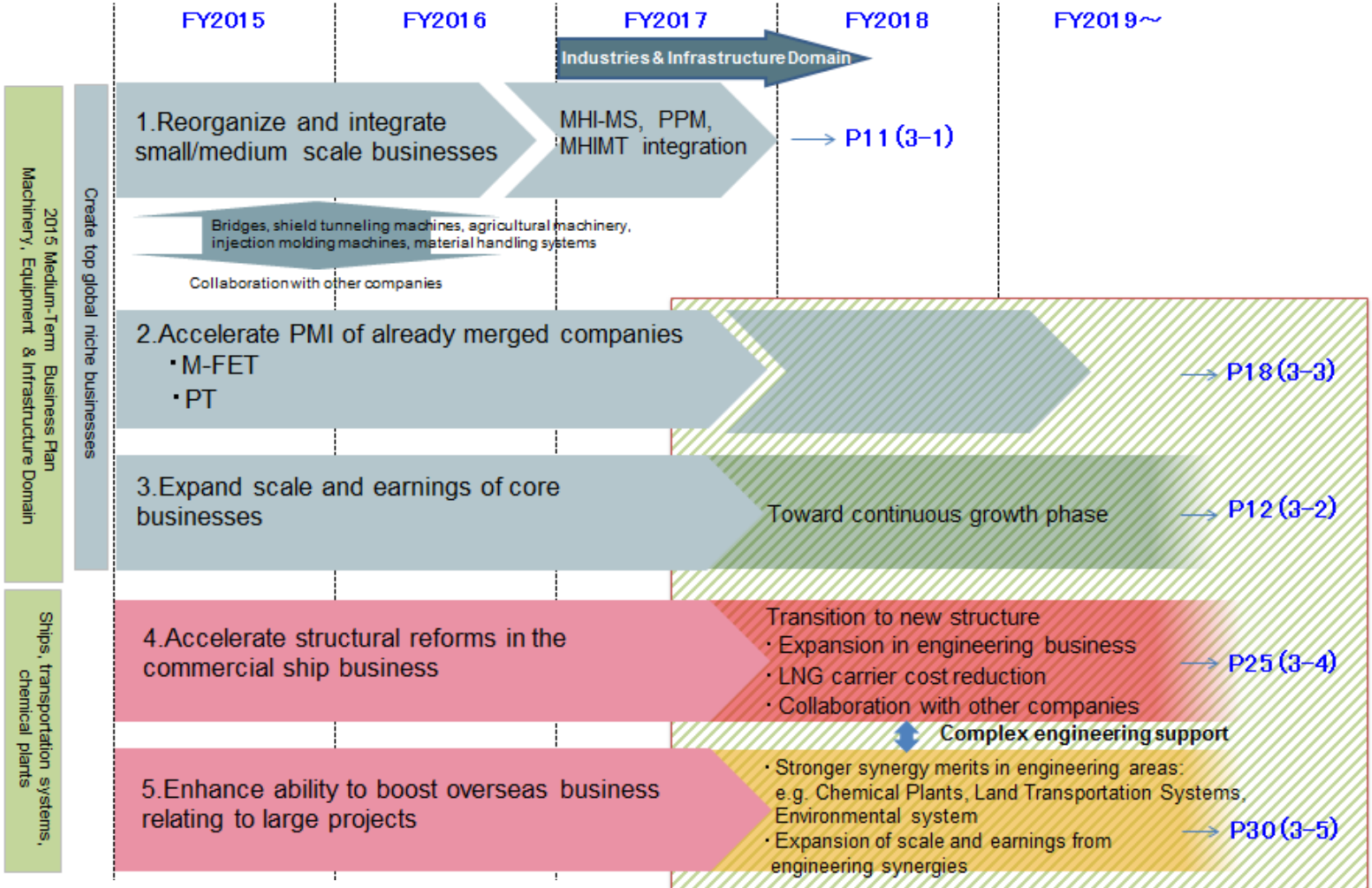
1）2015 Business Plan progress status and future measures

	Basic policies	Progress status	Future measures
1	Reorganize and integrate small/medium scale businesses	Concentration of small/medium businesses into core competencies is proceeding smoothly.	MHI-MS, PPM and MHIMT will be merged to enhance the flow and efficiency of resources (staff, equipment, funds etc.). Resources will be concentrated into anticipated growth areas, and fixed costs will be reduced to strengthen the organization
2	Accelerate PMI at merged companies	PMI at PT is on schedule but the market remains sluggish. Business scale has expanded at M-FET after the acquisition of UC.	At PT, recovery in earning capacity will be pursued through accelerated PMI. At M-FET, early PMI merits will be sought by fully integrating MN and UC's operations.
3	Expand scale and earnings of core businesses	Turbocharger business scale and earnings are expanding amid market growth.	In addition to the Turbocharger business, efforts will be made to expand business scale and earnings in Air-Conditioning & Refrigeration, ITS and Paper Converting Machinery.
4	Accelerate structural reforms in the Commercial Ship business	Although delivery of the second ship to AIDA was completed, the LNG ship cost target was not reached and construction work is behind schedule.	Activities will be carried out to reduce costs and shorten construction time, and the business will be strengthened, especially in engineering.
5	Enhance ability to boost overseas business relating to large projects	Engineering-related businesses – with strong elements of EPC in Chemical Plants, Land Transportation Systems and Environmental Systems – is being consolidated into the I&I domain.	Project management capabilities will be strengthened by focusing resources, and will also be applied to project and risk management of other products in the I&I domain.

PT：Primetals Technologies、M-FET:Mitsubishi Heavy Industries Forklift, Engine & Turbocharger Holdings, Ltd.、MN:Mitsubishi Nichiyu Forklift Co., Ltd.、
UC：UniCarriers、PPM：Mitsubishi Heavy Industries Printing & Packing Machinery, Ltd.、MHIMT：Mitsubishi Heavy Industries Machinery Technology Corporation、
MHI-MS：Mitsubishi Heavy Industries Mechatronics Systems, Ltd.、ITS：Intelligent Transportation System、PMI：Post Merger Integration、
EPC：Engineering Procurement Construction

2-2. Business Strategies

2）2015 Business Plan progress status and future measures(schedule)

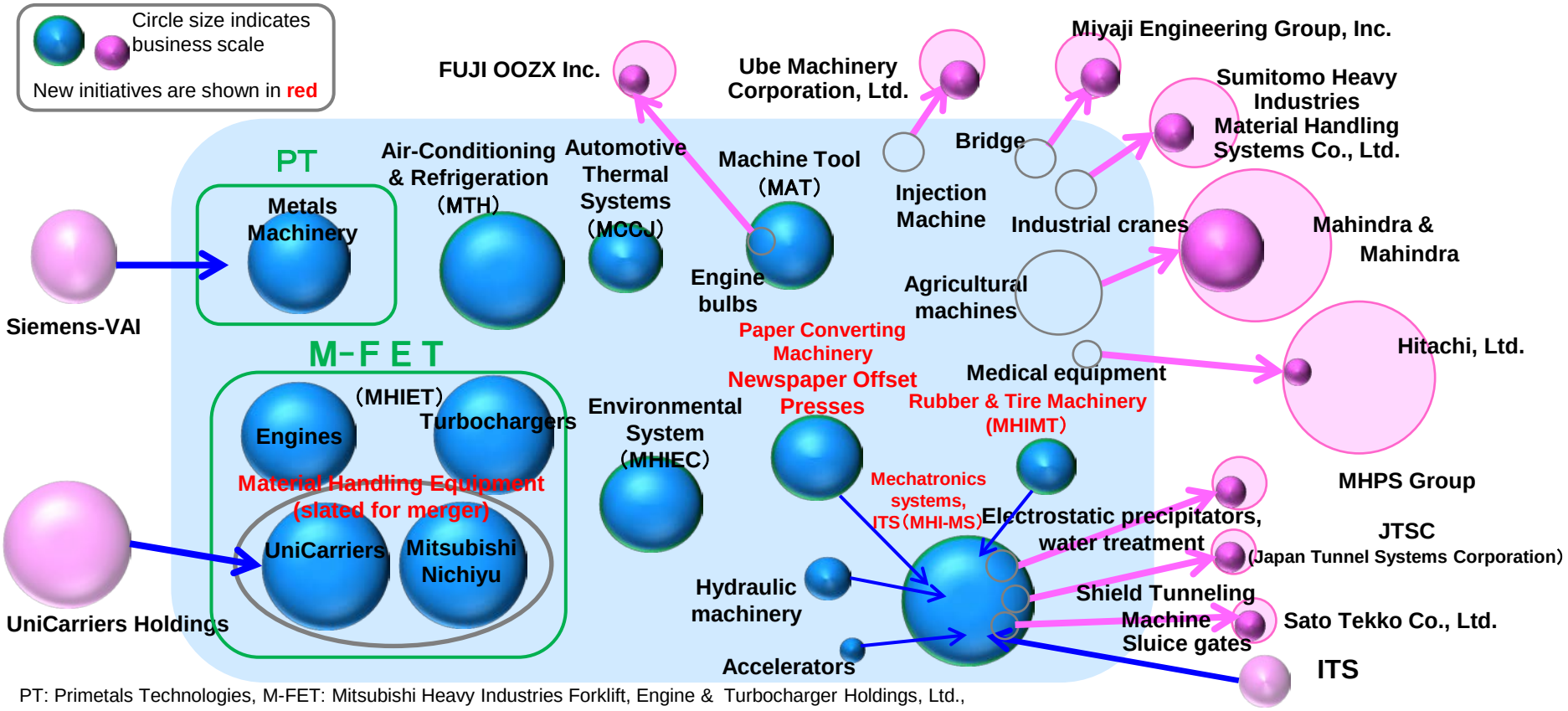


MHI-MS: Mitsubishi Heavy Industries Mechatronics Systems, Ltd、
PPM: Mitsubishi Heavy Industries Printing & Packing Machinery, Ltd 、
MHIMT: Mitsubishi Heavy Industries Machinery Technology Corporation 、

PT:Primetals Technologies、M-FET:Mitsubishi Heavy Industries Forklift, Engine & Turbocharger Holdings 、PMI:Post Merger Integration

3-1. Concentration into Core Competencies

Focus areas for core competencies in machinery, equipment & infrastructure business
- Core businesses: Globalization, PMI acceleration
- Small/medium scale businesses: Pursue enhanced flow and efficiency of staff/equipment/funds through consolidation
- Downsizing/withdrawal businesses: Development through collaboration with other companies



PT: Primetals Technologies, M-FET: Mitsubishi Heavy Industries Forklift, Engine & Turbocharger Holdings, Ltd.,
MHIET: Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. MTH: Mitsubishi Heavy Industries Thermal Systems Co., Ltd., MCCJ: Mitsubishi Heavy Industries Automotive Thermal Systems Co., Ltd., MHIEC: Mitsubishi Heavy Industries Environmental & Chemical Engineering Co., Ltd., MAT: Mitsubishi Heavy Industries Machine Tool Co., Ltd., PPM: Mitsubishi Heavy Industries Printing & Packing Machinery, Ltd, MHIMT: Mitsubishi Heavy Industries Machinery Technology Corporation, MHI-MS: Mitsubishi Heavy Industries Mechatronics Systems, Ltd, ITS: Intelligent Transportation System

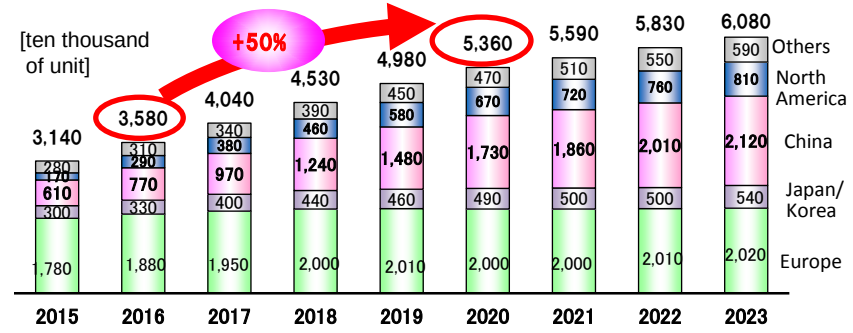
3-2. Strengthening of Core Businesses

Turbochargers

Business environment

- Worldwide enhancement of environmental regulations (exhaust emissions)
- Expanding demand through 2025 for turbochargers (on rising adoption of turbochargers) amid trend toward engine down-sizing and lower fuel consumption
- With further tightening of regulations, increasing shift to electrified vehicles (after 2025)
  - ・Rising demand for electric vehicles (EV)
  - ・Increasing adoption of hybrid and plug-in vehicles
  - ・Rising ratio of the adoption of turbochargers in engine-powered vehicles

※Global trend in turbocharger market (up to 3.5ton)



Key management policies

- ◆Develop and launch products in response to market changes
- ◆In FY2017, complete global production system for 11 million units
- ◆Sustain growth on expansion of global developments

Business strategies

1) Response to market changes (diversification of power trains)

All automakers are boosting their average fuel efficiency through a product mix of EV, HV/PHV and engine-powered models.

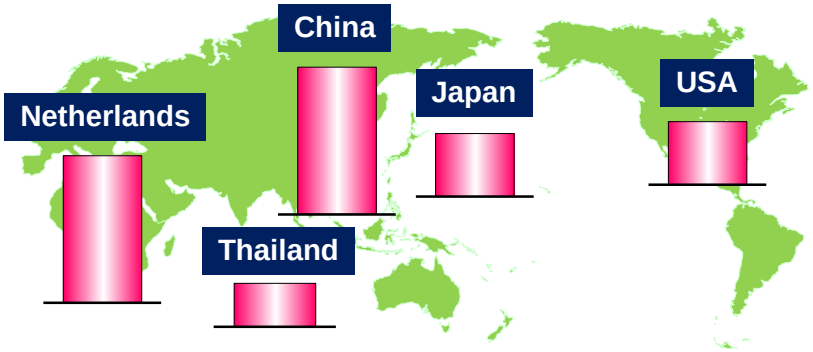
- ・Reduce fuel consumption in engine-powered vehicles
  Development of gasoline VG (variable geometry) turbochargers※1 and Electric 2-stage Turbocharging System
- ・ Response to electrified vehicles
  Development of HV-dedicated turbochargers
  Introduction of turbochargers for series hybrids※2

※1 Variable geometry turbocharger for gasoline engines
※2 Hybrid system in which engine produces electricity that drives the motor

2) Strengthen global structure

- ・Launch new production lines at Sagamihara and China bases
- ・Establish global quality control system
- ・Expand procurement in low-cost countries
- ・Enhance technology response capability by overseas bases

Global production system (11 million units)



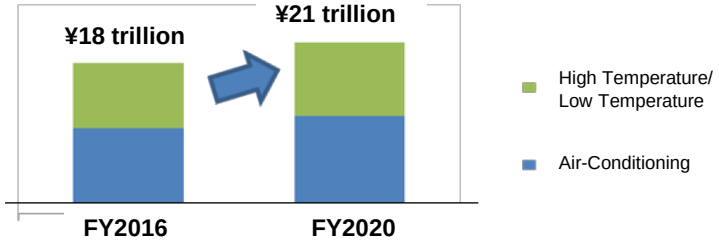
3-2. Strengthening of Core Businesses

Air-Conditioning & Refrigeration

Business environment

◆Market scale and trends

Global demand for air-conditioning and refrigeration systems is expected to continue expanding in the mid-long term along with environmental protection moves (energy conservation, CO2 emission cuts), etc.



◆Market share, others.

・Hold top share in domestic market for refrigeration systems

・Possess world-class energy/environmental technologies

・Offer world's foremost product lineup

(centrifugal chillers, commercial/residential air- conditioning systems, high-temperature heat pumps, natural catalyst freezers, electric refrigeration units for transportation)

Key management policies

◆Expand market scale along with market growth

◆Grow thermal solutions business through various product lineups and energy/environment technologies

◆Grow global businesses and servicing business, and enhance management efficiency

Business strategies

1) Expand thermal solutions business (grow business in refrigeration / high-temperature heat pumps)

・Launch new high-performance, low-GWP * refrigerants responding to new refrigerant regulations (air-conditioners, centrifugal chillers and air/water to water heat pumps)

・Propose heat pumps as a replacement for boilers used in plant processes (drying, washing, sterilization, etc.)

・Reinforce marketing in Europe, China and Asia (new products, servicing)

Low-temperature area

Refrigeration units employing a Natural Refrigerant for logistics centers

High-temperature area

High-efficiency heat pump type hot air generators

Ultrahigh efficiency packaged air-conditioner "EXCEEDHYPER" "AirFlex" in pursuit of comfort

2) Expand and reinforce global businesses and servicing business

・Expand sales of Air Flex, providing outstanding comfort, through reinforcement of production system at production base in Thailand

・Reinforce global marketing of Centrifugal Chillers (especially China, Southeast Asia, Middle East)

・Enhance in-house service network for Centrifugal Chillers (Thailand, Singapore, Malaysia, etc.)

Production base in Thailand
New factory construction (to be completed in January 2018)

*GWP : Global Warming Potential

3-2. Strengthening of Core Businesses

ITS

Business environment

The global market is in an expansionary trend, especially in Asia, North America and Europe. The domestic market is flat. The scale of the ITS market as a whole is approx. ¥2 trillion. The market MHI serves is approx. 10% of the total.

◆Domestic market

Business is evolving mainly in toll collection systems such as ETC (Electronic Toll Collection Systems), etc.

- Stable demand for both renewal and new systems is emerging.

◆Overseas market

Business is under expansion, mostly ERP (Electronic Road Pricing systems).

- Singapore: ERP is transitioning to next-generation systems, creating related business opportunities.
- Southeast Asia, etc.: Road networks are progressing along with economic growth. ITS-related infrastructure is in an expansionary trend centered on collection systems.

Key management policies

- Sustain earning capacity based on domestic and Singaporean markets.
- Expand the target market leveraging completion of the next-generation ERP in Singapore, and develop new business.
- Build a third pillar of business in Asia.

ITS: Intelligent Transportation System, ETC: Electronic Toll Collection System

Business strategies

◆Domestic market

- Stimulate demand through new models of both toll collection systems and ETC.
- Launch new systems through technology development and advance response to needs relating to collection measures, etc.

◆Overseas market

- Singapore: Accomplish the next-generation ERP on order, and develop new business based on the new ERP platform.
- South east Asia, etc.: Forge a business model through project formation based on system proposals responding to the specific needs of each countries

ETC system (Japan)

Electronic Road Pricing system(ERP) (Singapore)

Automated toll collection machine (Japan)

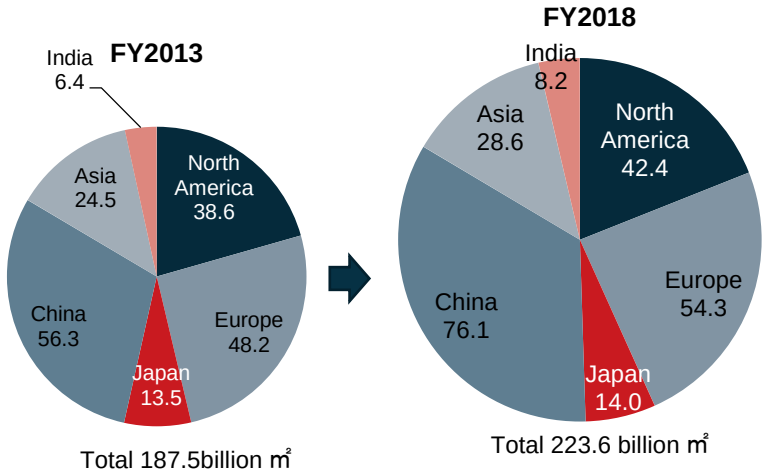
ETC system demonstration testing (Malaysia)

3-2. Strengthening of Core Businesses

Paper Converting Machinery

Business environment

Corrugated Cardboard demand trend (Billion ㎡)



(Source : Freedonia Custom Research Inc.)

Along with increasing population, economic growth and growth of e-commerce, demand for corrugated cardboard as a ''hidden infrastructure'' supporting logistics is in a global expansionary trend.

Key management policies

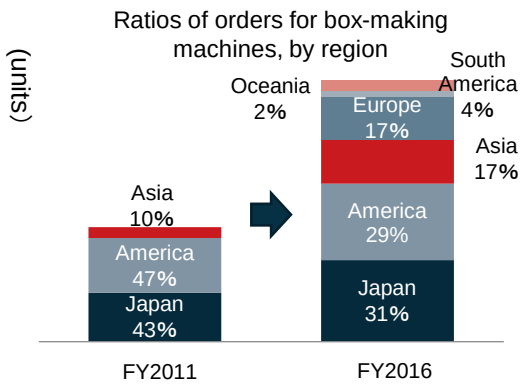
Use the global increase in demand for recyclable packaging materials as a business opportunity. Enhance product appeal and cost competitiveness to expand business scale and earnings

- Japan: firmly sustain top share (above 50%)
- World: aim for No.2 global share (currently No.3)

Business strategies

1) Expand global customer base (currently 23 countries)

※* based on core EVOL orders

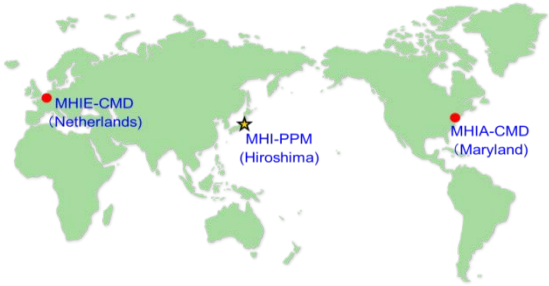


Japan
(North America)
USA
Canada
(Asia/Oceania)
China
Korea
Singapore
Taiwan
Vietnam
Thailand
Indonesia
Australia
Total: 23 countries

(Europe)
UK
Italy
Germany
Netherlands
Poland
Switzerland
Spain
Norway
Russia
South Africa
(Latin America)
Mexico
Brazil

(as of end-FY2016)

2) Global network of servicing business

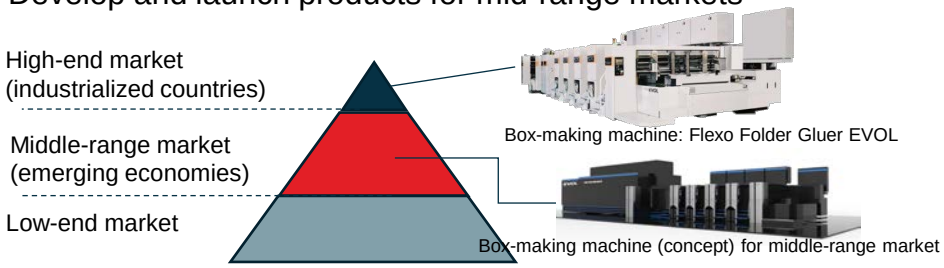


- Utilize resources of MHI Group (parts depots, service personnel, etc.)
- Expand rebuilding business for high-operating machinery installed overseas
- Enhance quality of services and higher efficiency through active use of QRM※

※QRM:Quick Response Manufacturing
Collaboration with University of Wisconsin QRM Center

3) Launch strategic products in growth markets

Develop and launch products for mid-range markets



3-2. Strengthening of Core Businesses

Chemical Plants

Business environment

◆Market trends

・Gas prices falling due to increased shale gas production

・Added value from natural gas

・Expanding business opportunities in fertilizer, methanol and petrochemical plants (North America, Russia, Central Asia, Sub-Saharan Africa, etc.)

Key management policies

◆Secure business continuity in global competition; Create new business model
(New portfolio, business investments, after- services)

◆Higher efficiency of personnel resources
(Project IT, collaboration with partners etc.)

EOR：Enhanced Oil Recovery

Business strategies

1) New business models

・Stabilize profitability through execution of on-going projects, and increase opportunities for investments and business partnership

・Further participate in operation and maintenance through project investments

・Enhance technological strength and expand after-services business applying knowledge gained through business participation

2) Expansion of CO2-EOR business

・Completed large-scale CO2 recovery plant with the world's largest processing capacity (2016, USA)

・Further strengthen technologies and cost reduction in preparation for higher oil prices

3) Sales activities focused on strategic regions

・Consecutive orders received from Turkmenistan and Uzbekistan (5 plants ordered from Russia and Central Asia since 2010)

・Expand sales activity in North America, Russia, Central Asia and sub-Saharan Africa

CO2 recovery plant (USA)

Fertilizer plant (Tatarstan, Russia)

3-2. Strengthening of Core Businesses

Land Transportation Systems

Business environment

◆Market trends:

・Despite decline in projects involving yen loans (Southeast Asia) and resource exporting countries (Middle East), self-financed projects are progressing relatively smoothly.

・Amid growing air passenger numbers, airport expansion plans are robust, generating demand for new, extended or updated airport APMs.

Key management policies

◆Develop total solutions business in urban transport based on our strength in system integration and AGT systems

◆Establish business foundation as a transportation system integrator with dual strengths in engineering and manufacturing

APM: Automated People Mover
AGT: Automated Guideway Transit

Business strategies

1) Target for large-scale urban transport projects

・Engage primarily in promising EPC business negotiations mainly in the Middle East and Southeast Asia
・Enhance project execution capability sharing track record in previously executed construction work
・Strengthen relationships with partners suitable for each project

2) Develop AGT business

・Increase the share of overseas airport APM projects
・Expand marketing of urban AGTs
(FY2016: order received for Yurikamome carriage replacements)
・Enhance the product lineup with completion of a high-speed AGT (120km/h)

3) O&M business initiatives

・Make active use of O&M expertise cultivated at overseas Group companies, etc.
・Acquire O&M business targeted at already ordered or planned projects
・Promote use of the MIHARA Test Center

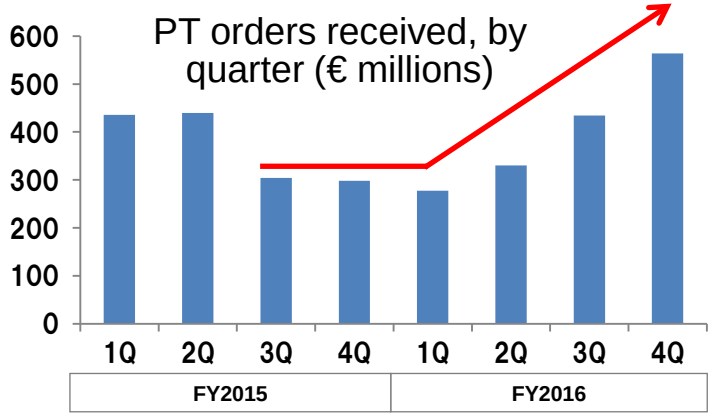
Thailand Red Line

Macao LRT

EPC: Engineering, Procurement ,Construction
O&M: Operation&Maintenance

3-3. Implementation of PMI（Metals Machinery）

Orders received now in a gradual recovery trend



Worldwide manufacturing capacity surplus continues

Promote PMI to enable profit even at €1.5 bn. scale

【EBITDA improvement target】

(FY2016→2019)

＋€85m

PMI (business integration process) → **Further PMI and implementation of growth strategy** → **Sustained growth**

- Consolidate organization (completed)
  - Business segments: 10 → 7
  - Organizational functions: 26 → 9
- Optimize work force scale (8,000 → 7,100)
- Eliminate redundant R&D costs (completed)

- Consolidate overseas locations (Approx.40 → 26)
- Expand market share through implementation of growth strategy
  - → Improved utilization of key technologies
  - → Reform of business model
  - → Expansion of alliance

Achieve top global position and stabilization of earnings

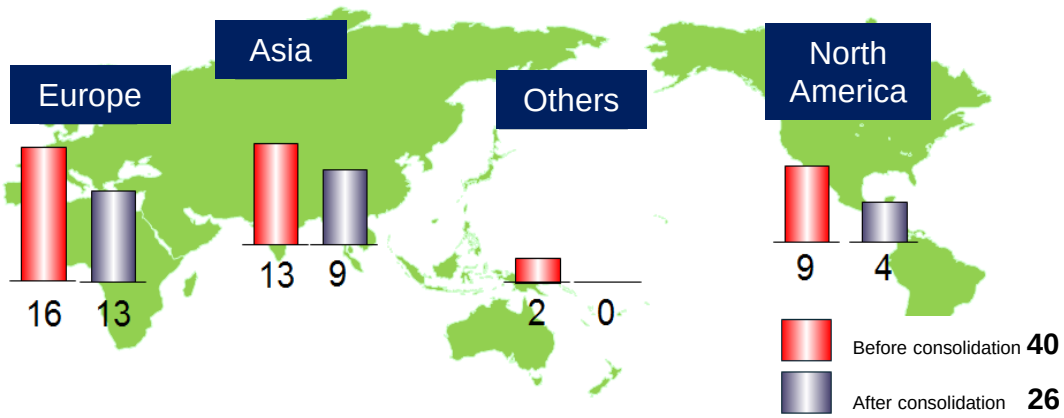
Completion of PMI

FY2015	FY2016	FY2017	FY2018	FY2019	FY2020～
Orders received €1.5B	Orders received €1.6B	Orders received €1.7~1.8B		Orders received Over €1.9B	

PMI：Post Merger Integration　EBITDA：Earning Before Interest, Taxes, Depreciation and Amortization

3-3. Implementation of PMI (Metals Machinery)

1) Strengthen organization through consolidation of overseas bases (approx. 40 → 26)



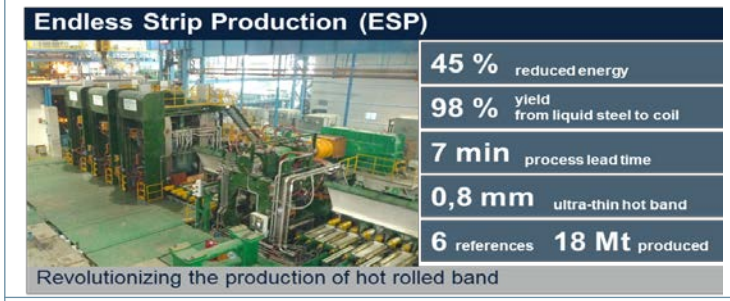
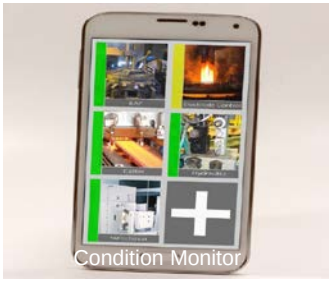
1. Streamline redundant facilities of former Mitsubishi Hitachi Metals Machinery and Siemens VAI
2. Reorganize facilities in line with each market.
3. Optimize manufacturing facilities

2) Strengthen price competitiveness and earning capacity through optimization of design, procurement and manufacturing processes

1. Market analysis reflecting customer demand and prices/technologies of competing companies
2. Establish market-leading target prices and costs
3. Review design concept matching target costs
   - ・Weight and parts reductions, simplification
   - ・Design standardization and modularization
   - ・Changes in materials and parts
4. Establish procurement and manufacturing cost model to achieve target costs
   - ・Enhance supply chain management
   - ・Design with full consideration of manufacturing processes
   - ・Improve productivity, shorten construction periods
5. Establish product cost model and enhance further cost reductions

3-3. Implementation of PMI（Metals Machinery）

3) Share expansion through implementation of growth strategies reflecting technology trends and customer needs

Technology trends	Core areas of implementation
1. High-quality, low-cost production 	＜Production of high-tensile, deep-drawing steel sheets＞ Endless Strip Production Line ・Reduction of initial costs through compact design ・Reduced production costs through achievement of continuous casting and rolling Through Process Optimization ・Higher yields of steel sheet quality achieved through prediction model
2. Manpower savings, smart production  	＜Industrie 4.0, IoT＞ Condition Monitoring System ・More efficient machine maintenance using mobile tools ・Avoidance of operating glitches through introduction of predictive maintenance (dangerous work robot) LiquiRobo (dangerous work robot) ・Unmanned performance of molten steel handling
3. Energy savings, production with low environmental impact  	＜Iron sources diversification process＞ MIDREX (directly reduced iron) ・Reduction of CO2 through processing without coal (use of natural gas) CO Gas Fermentation (bioethanol production) ・Higher added value of blast furnace and converter furnace gas Quantum EAF (new type of electric furnace) ・Melting at low power through waste heat recovery

3-3. Implementation of PMI（M-FET）

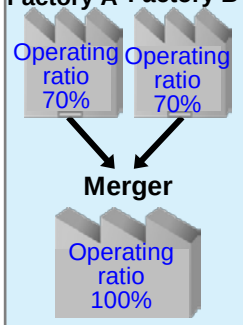
Current PMI plan is underway and ahead of schedule

Defensive **PMI acceleration (through MN and UC merger)**

Approach
- Integration and elimination of redundant functions and sites
- Reinforcement of procurement and factory productivity enhancement

Outcome
- Reduction of fixed costs △10%
- Operating income margin improvement 4→8%

Integration Process



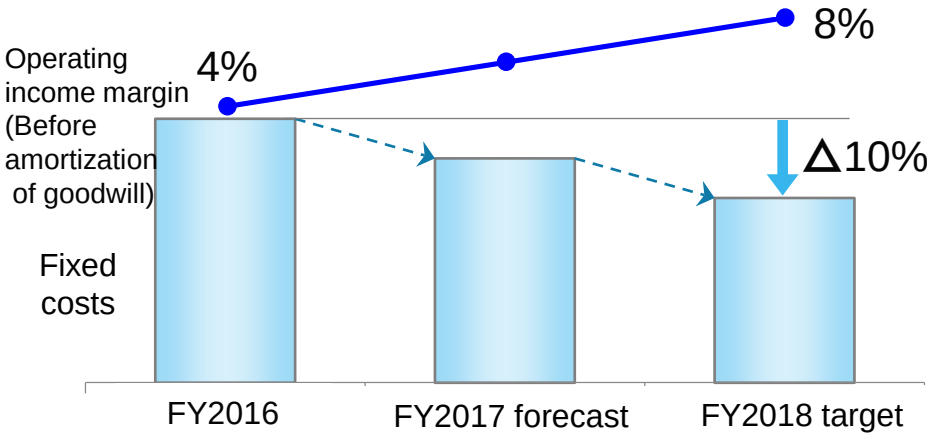
Apply lessons learned from PMI programs at MHPS and PT

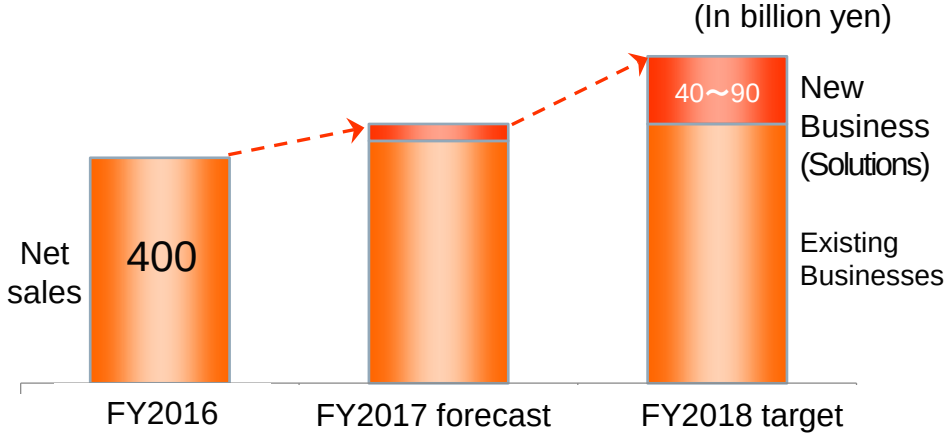
Aggressive **Shift from single product to solutions business**

Approach
- Next-generation forklift trucks
- AGV(Automated Guided Vehicles), logistics robots
- V2G (Vehicle to Grid) etc.

Outcome
- Sales expansion: 400 billion → Over ¥500 billion

Laser Guide Type AGF (Automated Guided Forklift) (launched in Japanese market in April)





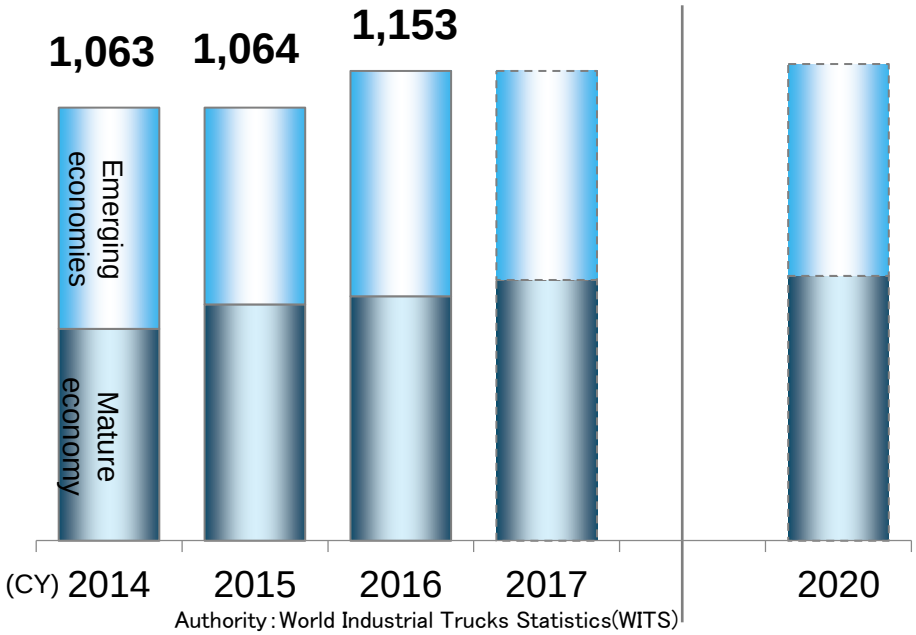
MN：Mitsubishi Nichiyu Forklift Co., Ltd. UC：UniCarriers Corporation MHPS：Mitsubishi Hitachi Power Systems, Ltd. PT：Primetals Technologies PMI：Post Merger Integration

3-3. Implementation of PMI（M-FET） - Market

1. Forklift truck market

- Global market as a whole is solid
  (Europe is robust, China is recovering)
- Mature economies are shifting to electric trucks.
- In emerging economies, growth is sustained, centering on engine trucks.

Forklift truck global sales volume (unit: 1,000 vehicles)



Authority：World Industrial Trucks Statistics(WITS)

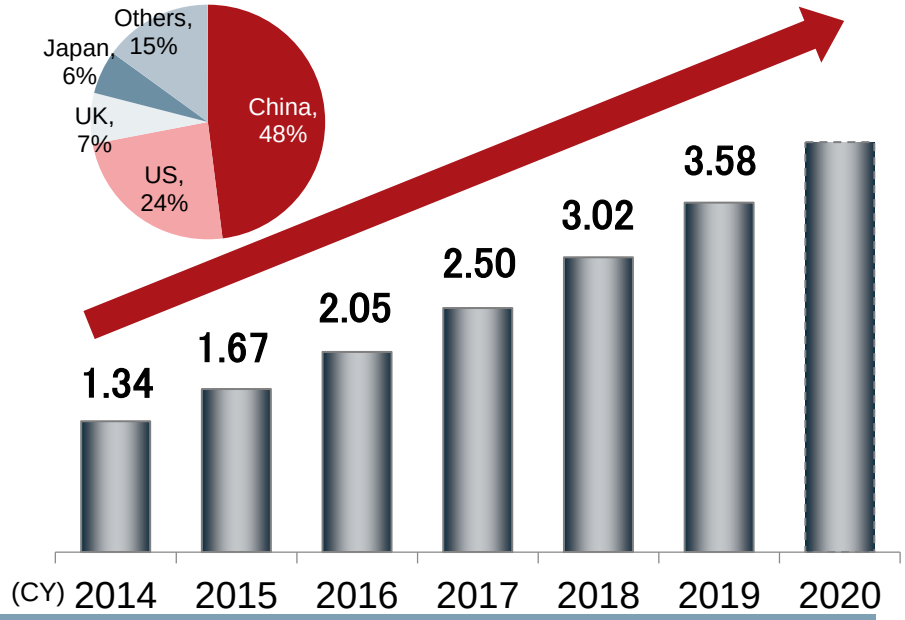
2. Electronic commerce market

Worldwide, electronic (e-) commerce is expanding dramatically. In line with this, optimization needs at logistics workplaces are increasing.

Logistics solutions market is expanding rapidly.
(unmanned operation, automation,
energy savings, higher safety, etc.)

Scale of global B-to-C e-commerce market (unit: trillion USD)

【Country breakdown (2015)】

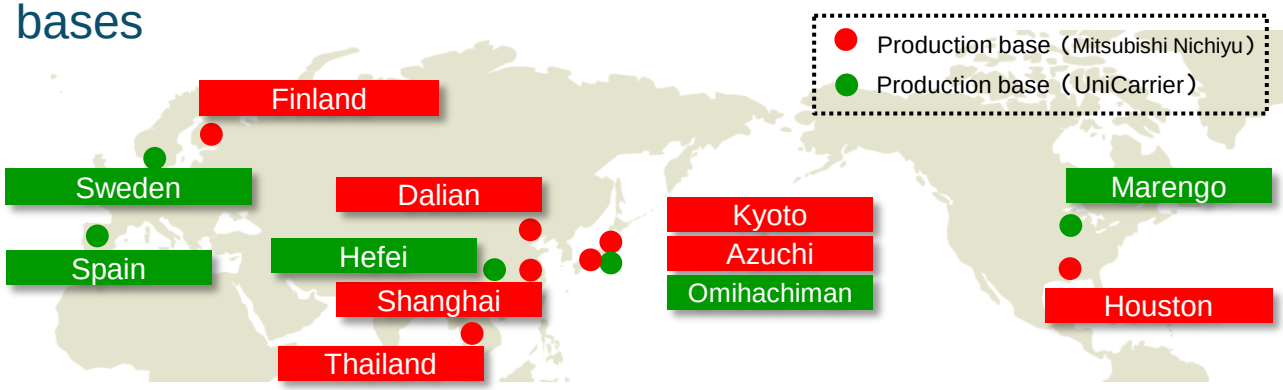


3-3. Implementation of PMI（M-FET）- Progress Status

1. Optimization of production bases

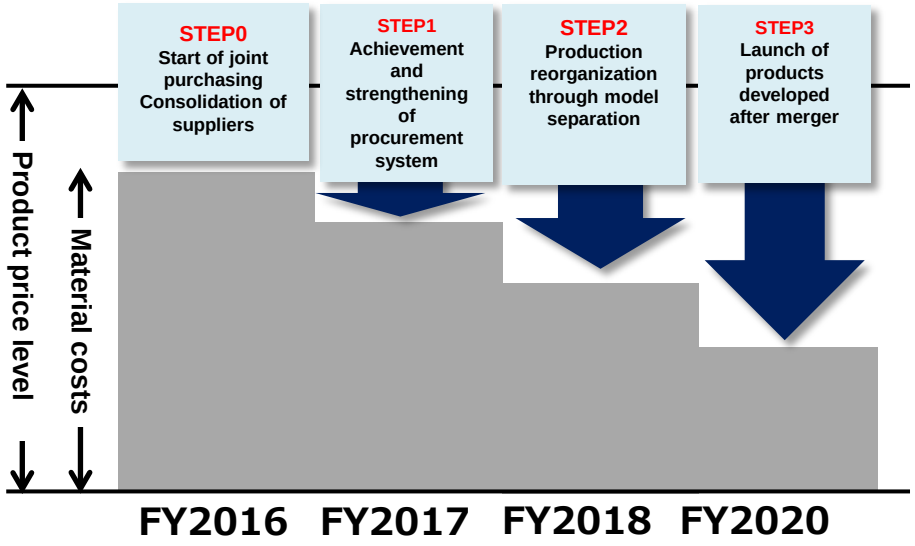
America: 2
Europe: 3
Japan: 3
China: 3
Asia: 1

Optimization through function separation and consolidation of redundant functions

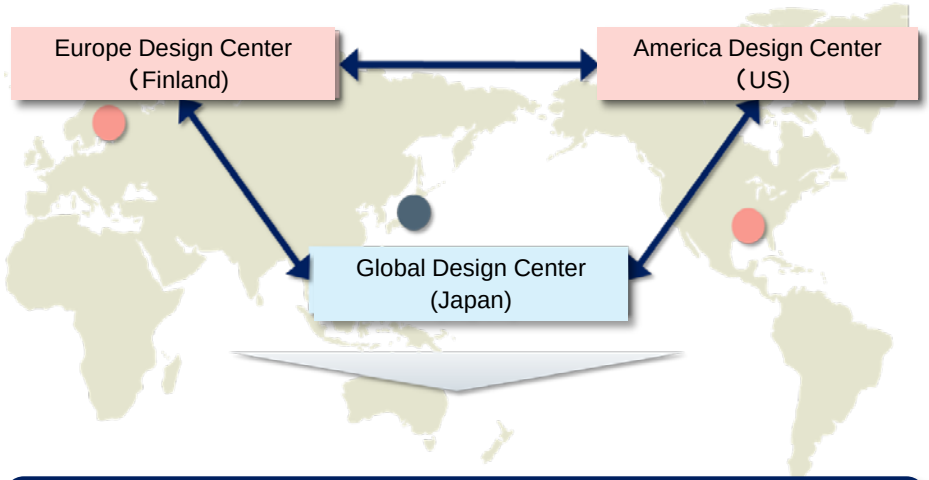


2. Cost reforms through procurement system reinforcement

- Achievement and strengthening of procurement system through integration / Separation of models / Cost reforms achieved through market launch of products developed after merger



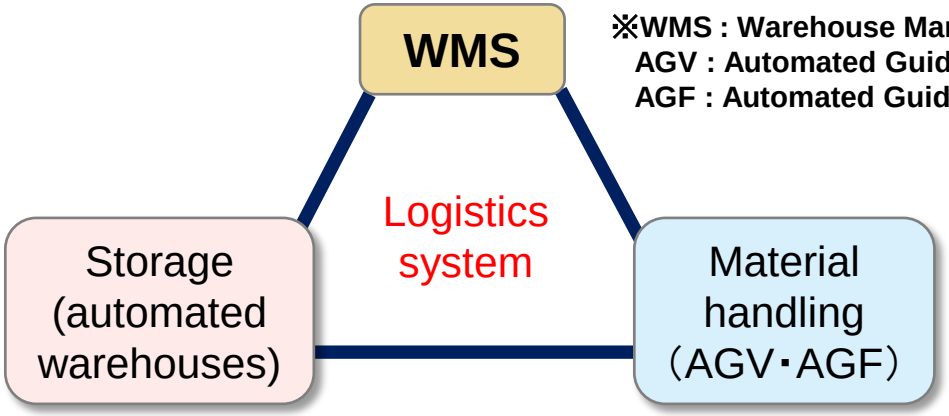
3. Reinforcement of global development structure



Starting from development structure, accelerating globally unified operation and implementing multi-brand/global strategies

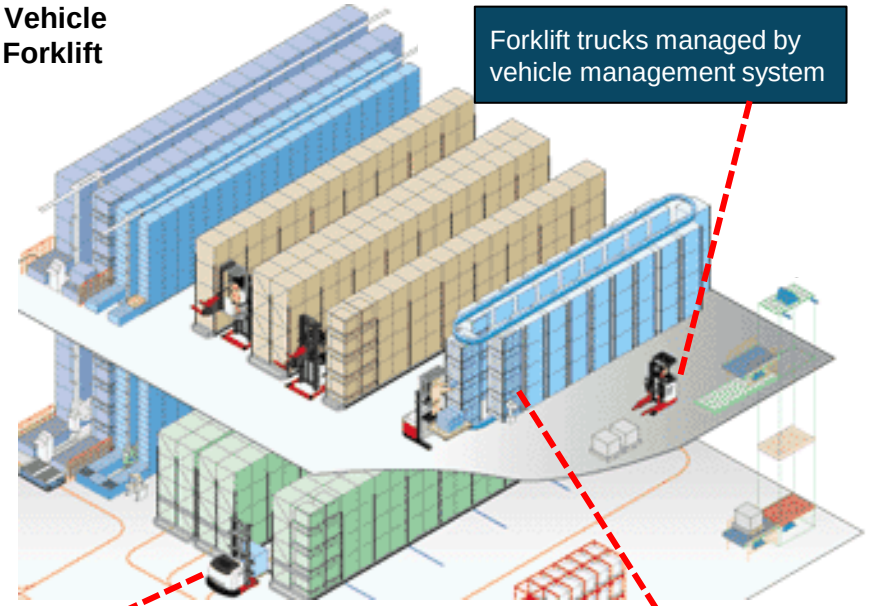
3-3. Implementation of PMI（M-FET）- Growth Areas

1. Respond to unmanned operation and manpower saving needs



※WMS : Warehouse Management System
AGV : Automated Guided Vehicle
AGF : Automated Guided Forklift

【Logistics solutions image】

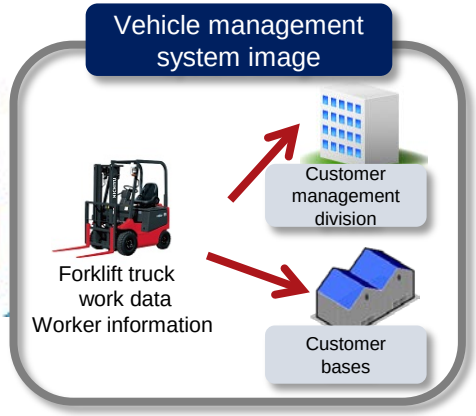


2. Initiatives toward higher efficiency, and safety/security needs

・Vehicle management system using telematics
・Proposal of newest safety measures

Forklift truck drive recorder

Blue light

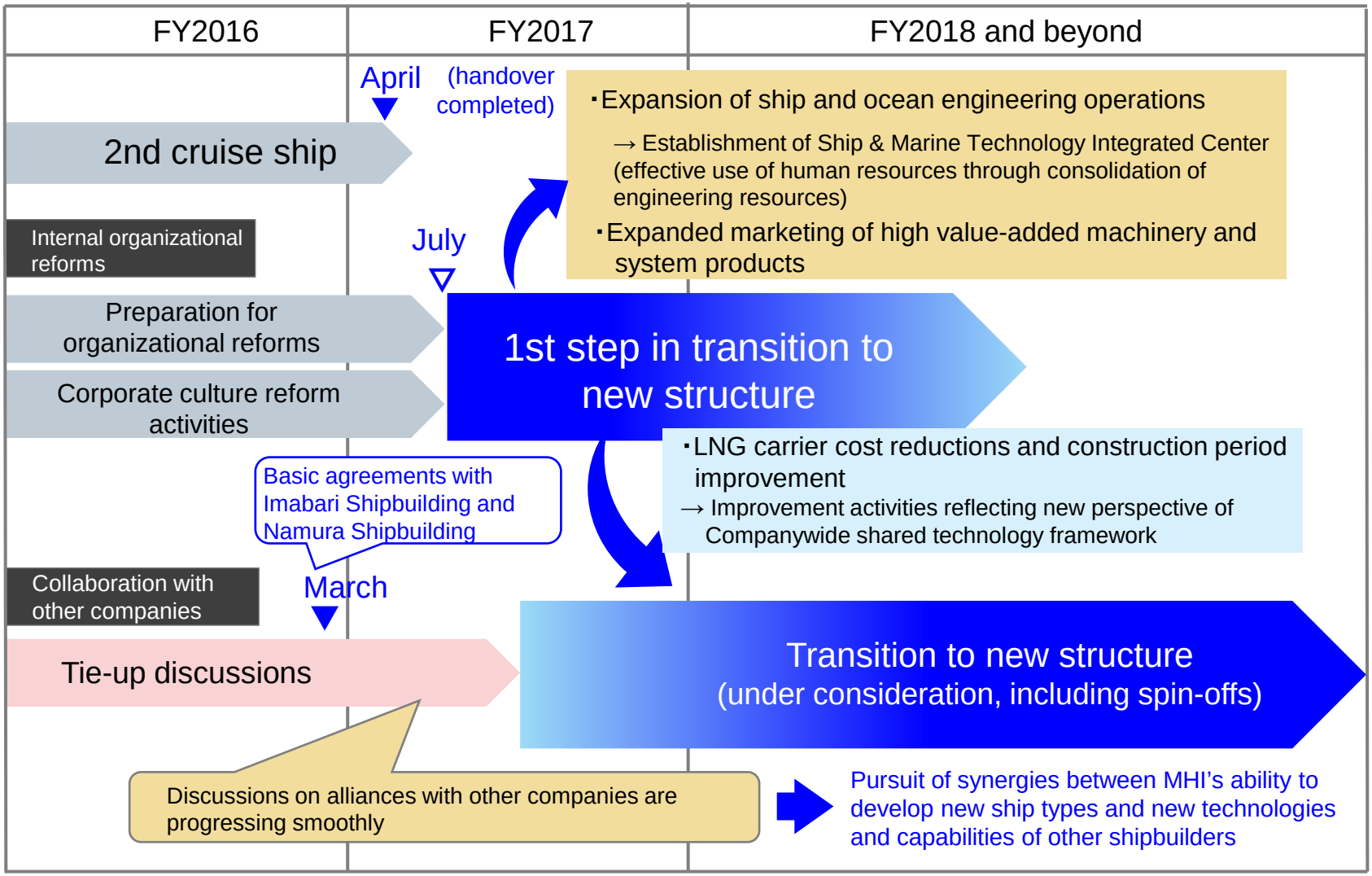


Laser-guided AGF for Japanese market “Platter Auto”

Automated warehouse “Caspack”

3-4. Structural Reforms in Commercial Ship Business

【Business Structural Reforms Timetable】

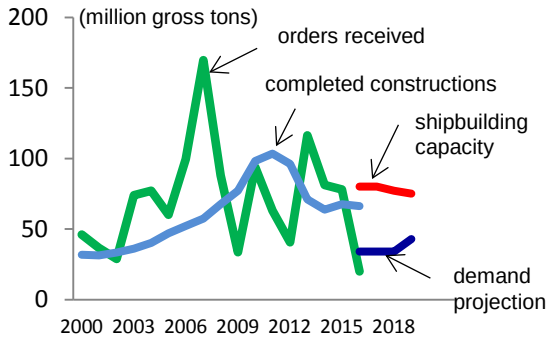


3-4. Structural Reforms in Commercial Ship Business – Transition to New Structure

Market Environment

＜orders received, completed constructions, demand projection, shipbuilding capacity＞

Owing to high volume of new ship completions, hull supply gap is significant; severity in industrial carriers continues.



- Gas carriers: Despite delays in LNG development projects amid falling oil prices, projects in East Africa and Canada's west coast, together with replacement demand for existing ships.
- Govt. ships: Some demand, especially for patrol ships.
- ROPAX (ferries): Replacement demand exists both in Japan and overseas. In Europe especially, there are some 150 ships older than 20 years.
- Ship & ocean engineering: Demand exists to respond to energy saving and tightening of environmental regulations e.g. exhaust gas in tandem with SOx regulations applying to all global waters starting in 2020.

Ropax : Roll-on/Roll-off Passenger Ship/Ferry

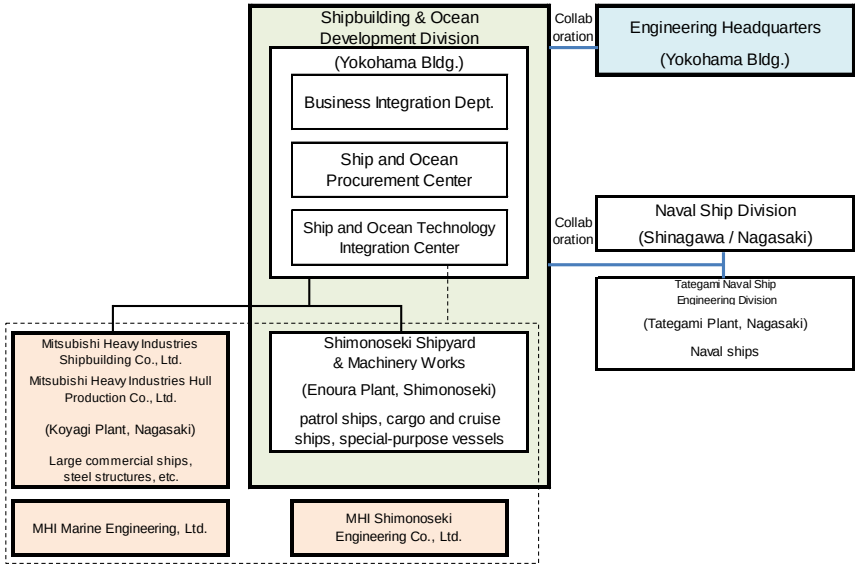
Transition to New Structure

As the 1st phase in the transition to a new structure, reorganization will be implemented in July 2017.

→ Clarification of structure of responsibility for business execution functions

1) Reinforcement of core engineering business through consolidation of following functions at Yokohama Bldg. and ties with Engineering Headquarters
   - Business integration
   - Unified integration of engineering resources
   - Project management
   - Implementation of cost reductions through procurement reforms
2) 2nd phase is under consideration.

MHI Ship & Ocean Business Structure (as of July 1, 2017)



3-4. Structural Reforms in Commercial Ship Business - Initiatives for Ships Primarily Involving Outfitting Work

Applying the experience in complex ship engineering acquired through cruise ship construction, response capability will be strengthened and differentiated in ROPAX, small/medium cruise ships, and special purpose vessels. Step by step, response will be made for extremely high-density outfitted ships.

Engineering Headquarters

Advanced EPC management methods

Nagasaki

- Hull technology capability (multilayer thin-plate structure)
- Experience in construction of large-scale cruise ships for overseas customers

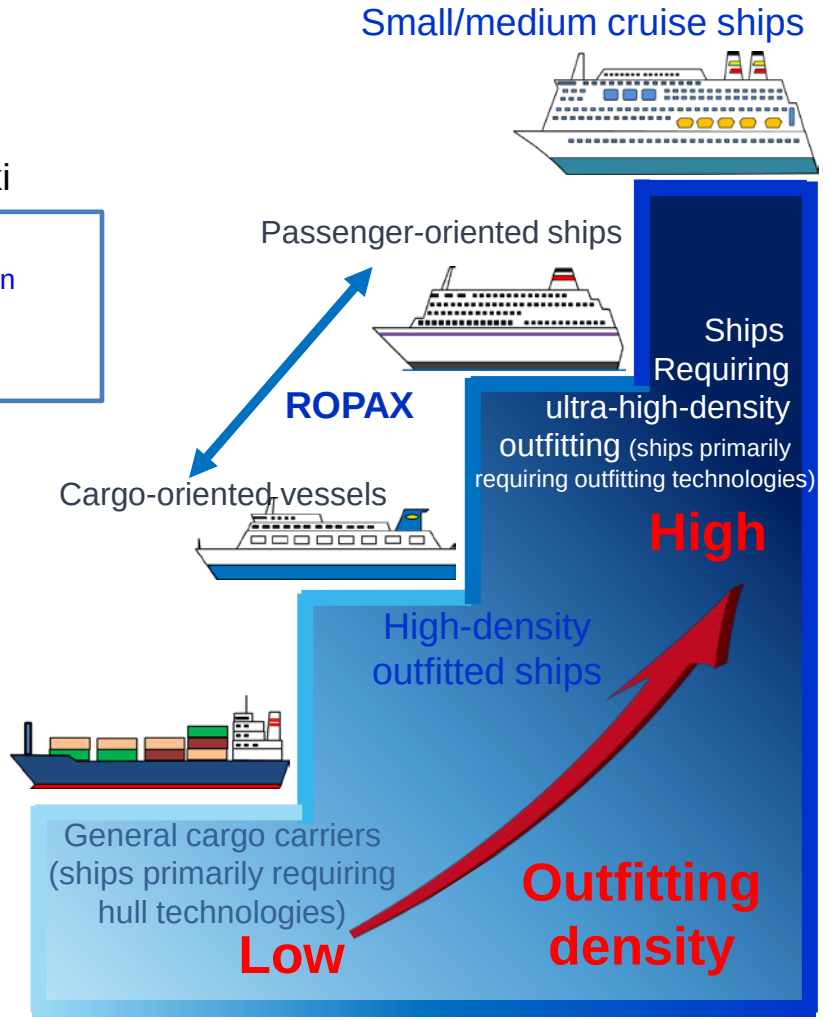
Shimonoseki

- Outfitting technology capability
- Abundant construction experience in domestic ferries

Integration

Through engineering synergies, strengthening of design, procurement and construction capabilities Toward becoming Japan's No.1 ship outfitting technology group

- Unification of design resources in Nagasaki and Shimonoseki
- Formation of process management system covering all aspects from initial design through construction
- Strengthening of collaboration and tie-ups with domestic partners and European suppliers



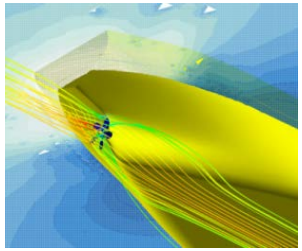
Ropax : Roll-on/Roll-off Passenger Ship/Ferry

3-4. Structural Reforms in Commercial Ship Business - Expansion of Ship & Ocean Engineering Business

・Expansion of business scope leveraging the Company's strengths in ship & ocean engineering
→ Promotion of alliances with other companies
・Initiatives in new fields through cooperation with other domains

Hull form development engineering

Leveraging ability to develop ship types, provision of energy-saving type ships responding to greenhouse gas regulations



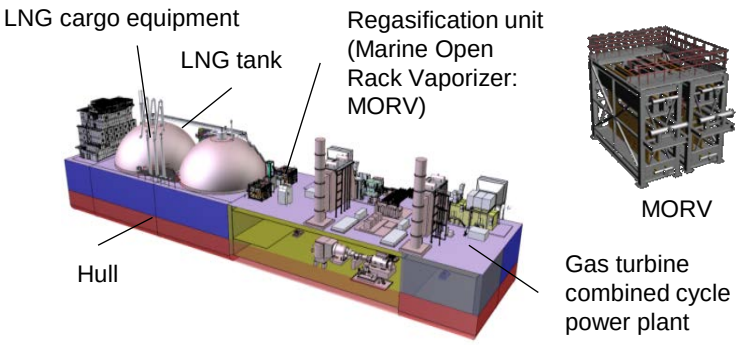
Use of development tools

One of world's largest private-sector testing tanks

Floating LNG thermal power plants

Needs exist in Southeast Asia, etc. because of ability to minimize land facilities and change their location.

Provision of total solutions in LNG thermal power plants by integrating shipbuilding & marine technologies with plant engineering, etc.

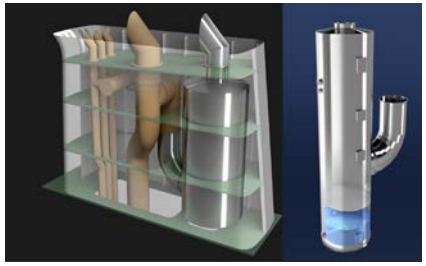


MHI Floating Power Plant (MFPP)

SOx scrubber system

From 2020, regulations on SOx discharge will be strengthened for all global waters.
(adopted by International Maritime Organization [IMO])

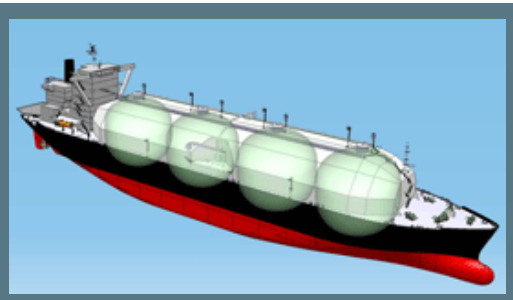
Development and supply of scrubber systems that remove SOx from exhaust gas, as a substitute for use of low-sulfur fuels



SOx scrubber tower (right) and equipment installed in smokestacks (example)

3-4. Structural Reforms in Commercial Ship Business
- LNG Carrier Cost Improvements and Shorter Construction Periods

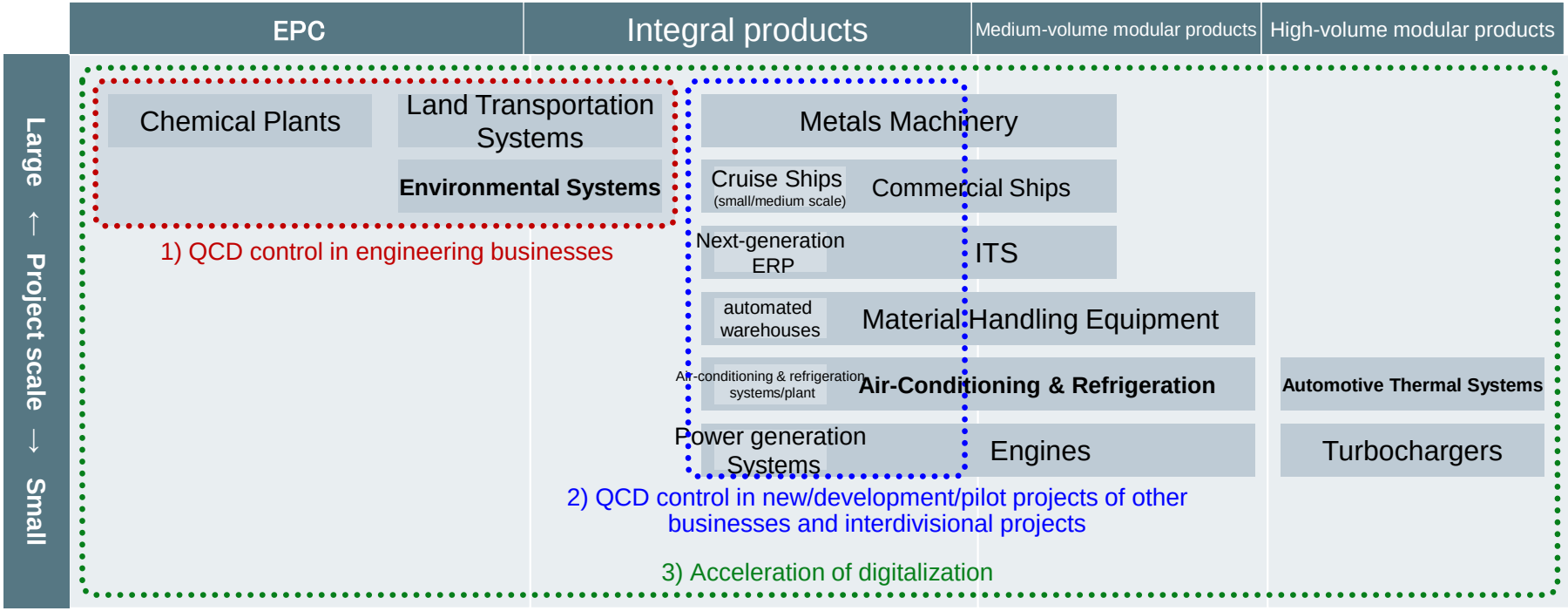
LNG carrier construction is adversely affected by cost deterioration and delayed work schedules caused by late receipt of materials, etc.
Improvement measures are being implemented, incorporating the perspective of the shared technology framework.



Issues	Measures
Shorter engine-related lead time	・Rearrangement of medium-term plans for production areas and work schedules according to equipment deliveries; shorter work periods by reviewing staff ・Streamlining of manufacturing processes through fine segmentation of work processes and application to project management
Shorter tank-related lead time	・Improvement and reinforcement of existing facilities, enhancement of production capacity through input of technicians ・Analysis of work processes, including partner companies. Standardization of shortest work processes; carried out and unified at all companies.
Shorter dock-related lead time	・Improvement of relations through work process analysis ・Reinforcement by bringing in internal and external staff to processes experiencing bottlenecks

3-5. Enhancement of Engineering Synergies

	3 Strategies	
1	Enhance project management capabilities, as core competence of engineering business, and control QCD (Quality, Cost, Delivery)	QCD control (see next page)
2	Apply project management capabilities of engineering business to new/development/pilot projects of other businesses and interdivisional projects	
3	Accelerate digitalization for product competitiveness with core technologies of control and communication, and expand business fields	Digitalization (see page 32)



3-5. Enhancement of Engineering Synergies – QCD control

October 2016: Report of Cruise Ship Business Evaluation Committee

Organization behavior not asking for other divisions' support	Insufficient policies and essentials for project implementation	Insufficient QCD control capabilities	Insufficient monitoring of cost and schedule

March 2017: Formulation of "Companywide Project Implementation Essentials"

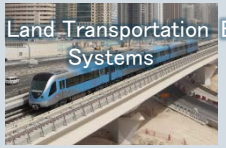
Knowledge sharing of project management for Engineering Headquarters	Support of project implementation by Engineering Headquarters

FY2017 measures

Project administration	Project organization	IT systems
Deployment of project management methods	Support for establishment of matrix type organization for projects	Visualization of project status

QCD risk control and secure project implementation

Engineering businesses



Commercial Ships

Cruise Ships (small/medium scale)

New/Development/ Pilot projects

Next-generation ERP

Interdivisional projects

- Metals Machinery
- Material Handling Equipment
- Air-Conditioning & Refrigeration
- Mechatronics Systems, Industrial & Precision Instruments
- Engines

3-5. Enhancement of Engineering Synergies – Digitalization

MHI technologies

Unmanned transport technologies

Land Transportation Systems (APM・AGT)

Material Handling Equipment (Automated Guided Forklift automated warehouses)

Control technologies

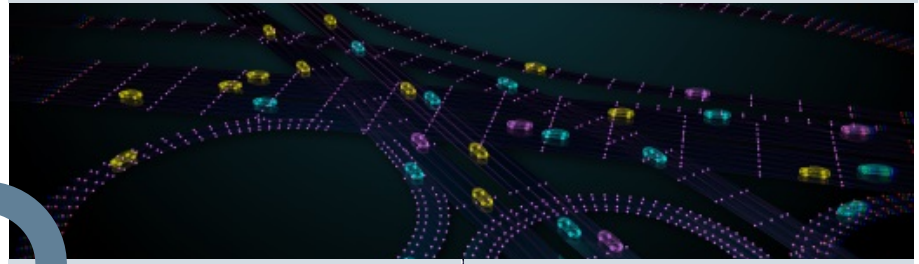
Primetals Technologies Erlangen (PTEA)

Wireless communication-applied technologies

ITS (ETC・ERP)

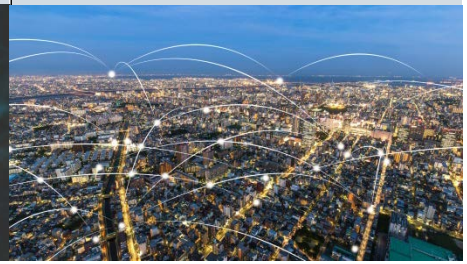
Cutting-edge technologies

Automated vehicle technologies



AI technologies

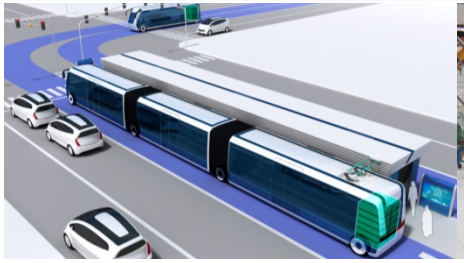
Mobile communication technologies



Acceleration of digitalization

Next generation product/system development

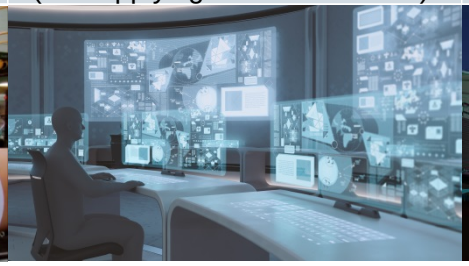
Urban mobility systems



Logistics solutions

IoT platforms/application development

Control/communication platforms (with applying wireless network)



O&M applications

4. Summary

1) Achieving Targets

Implement all measures to achieve FY2017 targets (net sales: ¥1.85 trillion / operating income: ¥85 and target further expansion of both sales and income .

2) Securing Profitability

1) Complete all restructuring and integration activities small/medium scale businesses within this fiscal year
2) Pursue highly profitable structure through accelerated and anticipated implementation of PMI at Primetals and M-FET
3) Strengthen earning capacity in Commercial Ships implementing various measures for LNG Carriers
4) Increase operation income reinforcing project management and risk management through consolidation of engineering businesses

3) Business Expansion and Growth

1 Sustain growth in core businesses
2 Expansion through resource management in engineering businesses
3 Create and develop new businesses fields through engineering synergies

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