Status of
2015 Medium-Term Business Plan

February 2, 2017
Mitsubishi Heavy Industries, Ltd.
Shunichi Miyanaga, President and CEO
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I. FY2016 Forecast
## I. FY2016 Forecast – Overview

- Orders received, net sales and operating income may drop somewhat due to booking delays and other factors.
- The outlook for net income, FCF, etc. remains unchanged from when 1H results were announced, due primarily to asset management impact. (However, SONGS continues to be a variable factor.)

<table>
<thead>
<tr>
<th></th>
<th>FY2015 Actual</th>
<th>FY2016 Forecast (billions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Previous*</td>
</tr>
<tr>
<td>Orders received</td>
<td>4,485.5</td>
<td>4,800.0</td>
</tr>
<tr>
<td>Net sales</td>
<td>4,046.8</td>
<td>4,000.0</td>
</tr>
<tr>
<td>Operating income (Margin)</td>
<td>309.5 (7.6%)</td>
<td>240.0 (6.0%)</td>
</tr>
<tr>
<td>Net income</td>
<td>63.8</td>
<td>100.0</td>
</tr>
<tr>
<td>FCF</td>
<td>7.5</td>
<td>100.0</td>
</tr>
<tr>
<td>ROE</td>
<td>3.7%</td>
<td>5.8%</td>
</tr>
</tbody>
</table>

Foreign exchange rates: 119.7 yen/$, 132.6 yen/€  
*Upon release of FY2016 2Q results (October 2016)  
110 yen/$, 120 yen/€

SONGS: San Onofre Nuclear Generating Station
### I. FY2016 Forecast: Net Sales and Operating Income by Segment

<table>
<thead>
<tr>
<th>Segment</th>
<th>FY2015</th>
<th>FY2016</th>
<th>Status of domains</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Net sales</td>
<td>Operating income</td>
<td>Current forecast (A)</td>
</tr>
<tr>
<td></td>
<td>Net sales</td>
<td>Operating income</td>
<td>Net sales</td>
</tr>
<tr>
<td>Energy &amp; Environment</td>
<td>1,542.7</td>
<td>154.6</td>
<td>1,550.0</td>
</tr>
<tr>
<td>Commercial Aviation &amp; Transportation Systems</td>
<td>548.5</td>
<td>54.5</td>
<td>500.0</td>
</tr>
<tr>
<td>Integrated Defense &amp; Space Systems</td>
<td>485.0</td>
<td>25.7</td>
<td>450.0</td>
</tr>
<tr>
<td>Machinery, Equipment &amp; Infrastructure</td>
<td>1,432.3</td>
<td>80.0</td>
<td>1,450.0</td>
</tr>
<tr>
<td>Others</td>
<td>177.3</td>
<td>12.6</td>
<td>160.0</td>
</tr>
<tr>
<td>Eliminations or Corporate</td>
<td>-139.2</td>
<td>-18.1</td>
<td>-110.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>4,046.8</td>
<td>309.5</td>
<td>4,000.0</td>
</tr>
</tbody>
</table>

**Notes:**
- Overall level unchanged from when 1H results were announced, although forex fluctuations, etc. may affect some businesses.
- Net sales and operating income may still decline in tandem with booking delays to next fiscal year.
II. Progress of Main Measures

1. Overall Evaluation
2. Reorganization of Domains
3. Commercial Aircraft Business
4. Radical Reform of Commercial Ship Business
5. Three Major Joint-Venture Businesses
## II. 1. Overall Evaluation -1

<table>
<thead>
<tr>
<th>Results</th>
<th>Challenges</th>
</tr>
</thead>
</table>
| **Business scale** | - Some uncertainty around achieving 5 trillion yen scale  
- Delayed growth in core businesses owing to market sluggishness  
- Accelerating declines in orders for commercial aircraft (Tier1) and commercial ships |
| From original 3 trillion yen, expanded beyond 4 trillion yen thanks to proactive M&A initiatives | **Earning capacity** | - Slow growth in operating income ratio (FY2016 forecast: 6% [vs. 8.0% target])  
- Deterioration in earnings of Commercial Aviation & Transportation Systems domain, etc.  
- Delayed growth in earnings from core products (power generation systems, etc.) |
| Operating income/EBITDA have been lifted through structural reforms and advances in portfolio management  
Operating income: 2012 5.8% → 2015 7.6%  
EBITDA margin: 2012 10.0% → 2015 11.9% | **Financial foundation** | - Challenges for achieving targeted increase in equity capital  
- Deterioration exceeding factored-in cruise ship losses, MRJ development, etc. (recovery to require approx. 2 years) |
| Decreases in interest-bearing debt and D/E ratio, from thorough cash flow management and asset management (liquidation of non-core assets) | **Organizational efficiency** | - Delayed efficiency improvements in indirect management sectors  
- One reason for delayed achievement of earning capacity enhancement target  
- Insufficient strengthening of global response capability in tandem with clarification of local functions |
| Promotion of BPO of service operations Printing & copying (FXSVL), Overseas salary/attendance management (IBM)  
17 business transfers completed (including minority investment JVs) (2013 through FY2016-3Q)  
* See p.25-26 |
II. 1. Overall Evaluation -2

**External factors**

- Political/economic uncertainty worldwide (reaction against globalism, etc.) and increasing opacity of future prospects
  - Risk management and agile response to business opportunities are needed.
- Declining investment along with slump in prices of oil and other resources
- Falling demand for aircraft, commercial ships, etc.

**Internal factors**

- Insufficient ability to adapt to changes in market structure and rapid economic fluctuations
  - Delayed organizational efficiency enhancement
  - Insufficient production elasticity and human resources liquidity
- Delayed PMI at major JVs
- Insufficient ability to develop and maintain overseas markets

**2015 Business Plan will be difficult to achieve in FY2016 based on current measures alone**

**MHI currently focusing on additional measures described below; organization and systems for promoting those measures are now being considered**

**Additional measures**

- Reorganization of domains (rearrangement of SBUs)
- Promotion of radical reforms in commercial aircraft and commercial ship businesses
- Further acceleration of PMI of major JV businesses

**Organization and systems for promoting these additional measures are under consideration (p.21-22)**
Reorganization of Domains (Aims and Basic Strategies) (1)

Current

Energy & Environment

Commercial Aviation & Transportation Systems

Integrated Defense & Space Systems

Machinery, Equipment & Infrastructure

Engineering Headquarters

April 2017 (subject to change)

Power Systems

- Thermal power plants (MHPS)
- Turbo machinery other than MHPS
- Nuclear power, renewable energy

Industry & Infrastructure

- Core machinery business companies
- Engineering + related equipment operations

Aircraft, Defense & Space

- Integrated Defense & Space Systems segment
- Commercial Aviation Systems segment
- MRJ Business (under direct management of CEO)

MHPS: Mitsubishi Hitachi Power Systems, Ltd.
M-FET: Mitsubishi Heavy Industries Forklift, Engine & Turbocharger Holdings, Ltd.
PT: Primetals Technologies

MHIEC: Mitsubishi Heavy Industries Environmental Systems Co., Ltd.
PWPS: Pratt & Whitney Power Systems

Note: Name change from “Industry & Environmental/Social Systems”
Reorganization of Domains (Aims and Basic Strategies) (2)

Reasons for Reorganization

- Maintain goals of current 4-domain system
- Domain configuration helps clarify management concepts and roles in MHI Group’s growth

Customer/market oriented + Minimize top-down business operation

Roles and management concepts of each domain

Sustained contribution to earnings / stable growth (autonomous management in line with domain’s unique characteristics)

Power Systems
- Business model to better compete against GE and Siemens
  - Pursuit of synergies in turbo machinery business as a whole
  - Strengthening of servicing operations

Industry & Infrastructure
- Earnings expansion and creation of global niche products through portfolio management of machinery businesses
- Integration / strengthening of engineering businesses (business area expansion etc.)

Aircraft, Defense & Space
- Pursuit of synergies and growth potential for defense and space businesses
- Urgent measures for Tier1 business (see p.11)
- Rehabilitation of MRJ business (see p.12)

Establish foundation for growth and earnings stability under direct CEO oversight

Prioritize swift implementation without assigning domain CEO

MRJ: Mitsubishi Regional Jet
II. 3. Commercial Aircraft Business (1)

(1) Tier 1 business

→ Production volumes are projected to continue declining through the near term. The following radical emergency measures are being implemented.

**Major improvement of production lines**

- Accelerate actions against aging of Oye parts factory
  - Modernization of equipment / Formation of integrated production lines
    → Includes reconfiguration to Kobe/Hiroshima areas
  - Introduction of robotics, AI technology, etc.

- Modernization of equipment / Formation of integrated production lines
  → Includes reconfiguration to Kobe/Hiroshima areas

- Introduction of robotics, AI technology, etc.

**Review supply chain and reinforce business structure**

- Reform procurement processes through transfer of procurement functions (supplier concentration, etc.)

**Current**

Commercial Aircraft & Transportation Systems domain
Commercial Airplanes Division, Procurement Dept.

**After review**

Value Chain Headquarters Commercial Aircraft Procurement Center (new)

[Organizational restructuring to be carried out in April 2017]

**Consideration of utilizing redundant personnel**

- Strengthen production elasticity
- Improve fluidity of overall Group human resources

Specific measures now being formulated

**Strengthen cost competitiveness** (target: 20% reduction)

**Further improve quality and delivery aspects through modernization of equipment, etc.**

**Secure elastic production and procurement response capability**
II. 3. Commercial Aircraft Business (2)

(2) MRJ Business (Outline announced on January 23)

- Changes to delivery schedule of first aircraft
- Complete the development of the world’s most sophisticated regional jet by strengthening business promotion structure
  → Under direct management of CEO, expand use of international experts, innovate production processes, create specialized development teams and implement future differentiation technologies
- Strengthen relations (customer, partner, relevant institutions), marketing strategies and market responses
- Building sufficient response capability as a Group to increasing development costs and longer investment return periods
- Determination to undertake commercial aircraft business as a Group

Airframe in final assembly stage  Flight test in Japan  Test aircraft parked at Moses Lake
II. 4. Radical Reform of Commercial Ship Business (1)

(1) Aims of new structure

- Specialized management by spinning off businesses (now in planning)
  → Agile organization, swift decision-making, clarification of responsibility for securing profits, etc.
- Cost reductions through alliances with other companies
  → Effective production methods and joint purchasing / commonization of purchased items
- Near-term targets:
  - FY2020 Business scale: 150 billion yen  Operating margin: 6%
  - Address low activity level at Nagasaki in FY2018-20

Ships & Marine-related Business Structure

Nagasaki district:
Construction of: medium-size ships, special-purpose ships, naval vessels, large-scale ships*, steel structures and other valued added structures, etc.
* Production efficiency enhanced through alliances

Shimonoseki district:
Construction of: publicly owned ships, cargo-passenger ships, and other ships primarily involving outfitting work

Ship & Marine Business Department & Engineering Center
(names subject to change)

Other alliances*

* Imabari Shipbuilding Co., Ltd., Oshima Shipbuilding Co., Ltd. Namura Shipbuilding Co., Ltd.
II. 4. Radical Reform of Commercial Ship Business (2)

(2) Overall schedule, operation and sales forecasts, etc.

Operations forecast from FY2017 (manufacturing division)

<table>
<thead>
<tr>
<th>Cruise Ship Business Evaluation Committee</th>
<th>Preparation of organizational reforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Ship Nagasaki Reform Committee</td>
<td>Corporate culture reform activities</td>
</tr>
<tr>
<td>Discussions with tie-up partners</td>
<td></td>
</tr>
</tbody>
</table>

1st stage of new structure* (clarification of business responsibilities)

*2nd Step scheduled for FY2018

Net sales forecast

Order backlog

Orders under new structure*

Measures to deal with declining operations in Nagasaki and maintaining business
(1) Accelerate preparation of personnel and production facilities
(2) Collaborate with alliance partners

Strengthen earning capacity of Shimonoseki Shipyard operations

Ensure soundness of overall business

(Billions of yen)

<table>
<thead>
<tr>
<th>FY2016</th>
<th>FY2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Including construction tie-ups
II. 5. Three Major Joint-Venture Businesses (1) -- MHPS

(1) MHPS (1/2)

Comparisons with power divisions of competing companies (net sales, earning capacity)

MHI (Power Systems business + MHPS) continues to lag behind GE and Siemens in business scale and earning capacity.

Areas in which MHI should learn from competitors, to be improved and strengthened:

- Management that enables sustained growth, even while focusing on short-term profits
  → Consider examples from GE
- Diversified and dynamic local sales strength
  → Especially servicing operations
- Highly efficient global production and procurement systems
  → Response measures described on next page

Numerical targets for improvement (MHPS)

<table>
<thead>
<tr>
<th></th>
<th>2016 outlook</th>
<th>2018 target</th>
<th>2020 target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales (trillion)</td>
<td>1.1</td>
<td>1.3</td>
<td>Over 1.5</td>
</tr>
<tr>
<td>Operating income (margin) (billion)</td>
<td>100 (9%)</td>
<td>150 (12%)</td>
<td>200 (14%)</td>
</tr>
</tbody>
</table>

MHPS: Mitsubishi Hitachi Power Systems, Ltd.
II. 5. Three Major Joint-Venture Businesses (1) -- MHPS

(2) MHPS (2/2)

- Consider accelerating reorganization of domestic production bases
  → Improve productivity and promote utilization of assets by consolidating production lines and facilities by product
  → Reduce costs by streamlining supply chain

Basic concept of reorganization
(comprehensively evaluate costs and advantages of reorganization, potential impact, etc., and formulate implementation plan)

- Target set at cost improvement of 30 billion yen / year (equivalent to 2.5% of operating income)

- Pursue improvements through strategic global production and procurement systems

- Main overseas production bases
  - U.S. (Savannah): Gas turbines
  - India (L&T JV): Steam turbines, large-scale boilers
  - Philippines: Small/medium-scale boilers

Create bases for MHI Group’s turbo machinery development, etc.

Consolidate gas turbines
- Takasago Plant

Consolidate large-scale steam turbines
- Hitachi Plant

Boiler operations
(in near term, focus on peak response)

- Kure Plant
- Nagasaki Plant
II. 5. Three Major Joint-Venture Businesses (2) – M-FET

(2) Mitsubishi Forklift, Engine & Turbocharger Holdings

Now processing current PMI plan ahead of schedule (actions applying lessons learned from delayed PMI at MHPS and PT)

Forklift Trucks

- Accelerate PMI (MN/UC*: management integration)
  - Integration and elimination of redundant functions and bases
  - Strengthen procurement and improve factory productivity

- Expand from product business to solutions business

Engines and energy systems

- Concentrate on core competencies (products / models)
  - Pare down number of sales models (reduce by 30%)
  - Reallocate resources

- Develop next-generation products

Turbochargers

- Strengthen global structures
  - Further strengthen productivity (conversion to smart factories)
  - Strengthen marketing in Chinese market

- Develop next-generation products

Defensive measures

- Establish development centers in U.S. and Europe

- V2G (Vehicle to grid)
- Unmanned material handling systems, logistics robots
- Next-generation forklift trucks (fuel cells, lithium batteries)

- Establish engine and turbocharger development centers

- Introduce simulation tools
- Expand business in distributed power supply systems
- Remote monitoring and control

Proactive measures

- Strengthen development systems

- Variable-geometry turbochargers for gasoline engines
- Electric 2-stage turbochargers for hybrid vehicles
- Turbochargers for plug-in hybrid vehicles

Other

- Tie-ups with other companies
  - AI and IoT businesses (IBM, Fujitsu)
  - Logistics systems companies (Daifuku)
  - Mitsubishi Corp.

- Robot manufacturers

Note: MN: Mitsubishi Nichiyu Forklift Co., Ltd. UC: UniCarriers Corporation

MHPS: Mitsubishi Hitachi Power Systems, Ltd.
PT: Primetals Technologies
PMI: Post Merger Integration
II. 5. Three Major Joint-Venture Businesses (3) – PT

(3) PrimesTechs Technologies

**Market situation and response status**

- After market deterioration that exceeded expectations, signs of bottoming-out in some areas (see graph)

- Gradual expansion of market for remodeling/maintenance services
  → Providing customer-oriented lifecycle services through establishment of JVs, etc.

**Further acceleration of PMI**

- Realize organization that generates profits even at the current business scale (1.5 billion euros)
  
  *Consolidation of global corporate divisions and organization (from 26 to 9) (completed)*
  *Consolidation of business segments (from 10 to 7) (completed)*
  *Enhance efficiency of production bases (reorganization, etc. now in progress)*

- Establishment of electric control JV by MHI and PT
  → Effective use of MHI network

*[Major orders received in 3rd quarter of 2016]*

- Bangladesh/GPH Ispat: minimill (electric furnace + continuous rolling line)
- India/JSW Steel: Remodeling of continuous process of acid cleaning and cold rolling equipment
- Poland/Arcelor Mittal: top gas pressure recovery turbine plant

**Earnings improvement target:**

100 million euros / year
III. Summary - Toward Achievement of 2015 Business Plan (1/4)

(1) Gaps between 2016 outlook and 2017 targets

Response to gaps

A) 5 trillion yen business scale
- Booking of sales from increased orders received since FY2015
- Expansion of services business in Power Systems and engineering business in Industry & Infrastructure, etc.

B) Operating income
- Raise earnings through commercial ship business reforms, measures for commercial aircraft business and PMI results
- Increased income in tandem with increased sales
- SCM reforms, efficiency enhancement, etc.

C) Net income (non-operating and extraordinary profit/loss)
- Downsizing of extraordinary losses from end of cruise ship construction, etc.
- Expansion of operating income
- Recovery from temporary non-operating losses (Mitsubishi Motors)
III. Summary - Toward Achievement of 2015 Business Plan (2/4)

(2) Progression of Business Plan implementation (outlook)

**Business scale (net sales)**

- Growth of Power Systems Domain businesses
  - (Mainly MHPS)
- Growth of Industry & Infrastructure domain businesses
- Strengthening of solutions/servicing businesses
- Regional expansion of engineering business
- Strengthening of turbo machinery business
- M&A

FY2016

**Earnings (operating income)**

- Contribution from increased sales
  - (Except impact from acceleration of PMI)
- Acceleration of PMI in key JV businesses
- Reform of commercial ship business
- Radical measures for commercial aircraft business
- SCM reforms
- Organizational reforms, efficiency enhancement + Enhancement of risk management
- Acceleration of concentration into core competencies (including M&A)

FY2016 FY2017 FY2018
III. Summary - Toward Achievement of 2015 Business Plan (3/4)

(3) Considering introduction of new organizations, systems, etc. as “total reforms”

→ Move from reform to action in times of major external change and intensifying competition

- Organization geared to dealing with economic and social changes (e.g. globalization and anti-globalization trends), and grows through resilient and steady management

- Systems promoting human resources fluidity and stronger adaptability to external changes
- Systems of evaluation suited to management harmoniously integrating global and local aspects

Basic scheme to be announced in early May 2017
### (4) Implementation schedule and major events

<table>
<thead>
<tr>
<th>FY2016</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation of 2015 Business Plan measures</td>
<td>Partial overlap</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consideration of organization and systems (implementation plan)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordination and procedure (internally and with stakeholders), decisions made by management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steady, swift implementation of specific measures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>End of related issues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marunouchi relocation plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some measures are large in scale and will require time, so some implementation may be delayed into FY2018</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strengthening of global functions + strategic local management</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SONGS**

- Cruise ships

**PMI (MHPS, PT, M-FET)**

- Commercial ship business reforms, Commercial aircraft measures
- Delivery of first aircraft

**MRJ development**
Reference Materials

1. Accelerate Concentration into Core Competencies - P.25
2. Target Scope of Engineering Business, etc. - P.27
Net Sales and investment capital by position (Actual)

FY2011

- Grow/maintain: 1,957.3 billion yen, 1,047.7 billion yen
- Reform: 656.7 billion yen, 612.3 billion yen
- New: 92.0 billion yen, 182.5 billion yen
- Downscale/withdraw: 81.4 billion yen, 52.8 billion yen

Groupwide sales 2,820.9 billion yen

FY2015

- Grow/maintain: 2,940.2 billion yen, 1,463.1 billion yen
- Reform: 954.0 billion yen, 605.3 billion yen
- New: 0.8 billion yen, 361.7 billion yen
- Downscale/withdraw: 160.2 billion yen, 94.3 billion yen

Groupwide sales 4,046.8 billion yen


<table>
<thead>
<tr>
<th>Position</th>
<th>Product / Business</th>
<th>Sales increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grow/maintain</td>
<td>Hitachi (thermal power systems) Siemens (metals machinery) Toyo Engineering Works (A/C &amp; refrigeration)</td>
<td>Approx. 500 (billion yen)</td>
</tr>
<tr>
<td>Reform</td>
<td>PWPS/Turboden (GT) Nichiyu / UniCarriers (forklift trucks) Federal Broach (machine tools)</td>
<td>Approx. 300 (billion yen)</td>
</tr>
<tr>
<td>New</td>
<td>Vestas (offshore wind turbines) (equity method)</td>
<td></td>
</tr>
<tr>
<td>Downscale/Withdraw</td>
<td>Lithium-ion batteries, Industrial cranes Ship stabilizer control systems</td>
<td>(business transfer)</td>
</tr>
</tbody>
</table>

M&A in FY2016

<table>
<thead>
<tr>
<th>Company</th>
<th>Product/Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>JV (led by partner)</td>
<td>Ube Industries Injection molding machines</td>
</tr>
<tr>
<td>JV (led by partner)</td>
<td>JR West Real estate</td>
</tr>
<tr>
<td>Business transfer</td>
<td>Sato Tekko Sluices</td>
</tr>
<tr>
<td>Business transfer</td>
<td>Hitachi X-ray medical equipment</td>
</tr>
<tr>
<td>Business transfer</td>
<td>Kobe Diesel Marine diesel engines</td>
</tr>
<tr>
<td>Business transfer</td>
<td>Furuno Electric ETC onboard devices</td>
</tr>
</tbody>
</table>

* Reduction through transfers/divestments (see right)
### [Reference] 1. Acceleration of Concentration into Core Competencies (2) – M&As

<table>
<thead>
<tr>
<th>Acquisition</th>
<th>Company</th>
<th>Product/Business</th>
<th>Agreement date</th>
<th>Net sales contribution</th>
<th>Other results, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Broach (USA)</td>
<td>Machine tools</td>
<td>Apr 2012</td>
<td>Approx. JPY 5.0bn</td>
<td>Business expansion and stabilization from lineup integration</td>
<td></td>
</tr>
<tr>
<td>PWPS(USA) , Turboden(Italy)</td>
<td>Gas turbines</td>
<td>Dec 2012</td>
<td>Approx. JPY 80bn</td>
<td>Business expansion from added lineup in small/medium GT</td>
<td></td>
</tr>
<tr>
<td>Daily Equipment (USA)</td>
<td>Forklift trucks</td>
<td>Jan 2012</td>
<td>Approx. JPY 1.5bn</td>
<td>Expansion of after-sale servicing business</td>
<td></td>
</tr>
<tr>
<td>Concast (India)</td>
<td>Metals machinery</td>
<td>Jun 2012</td>
<td>Approx. JPY 2.5bn</td>
<td>Strengthening of upstream product lineup</td>
<td></td>
</tr>
<tr>
<td>Toyo Engineering Works</td>
<td>Refrigeration systems</td>
<td>Jan 2014</td>
<td>Approx. JPY 16bn</td>
<td>Strengthening of engineering business</td>
<td></td>
</tr>
<tr>
<td>UniCarriers Holdings</td>
<td>Forklift trucks</td>
<td>Jul 2015</td>
<td>Approx. JPY 185bn</td>
<td>Further business scale growth and expanded global market share</td>
<td></td>
</tr>
<tr>
<td>Nippon Yusoki</td>
<td>Forklift trucks</td>
<td>Nov 2012</td>
<td>Approx. JPY 130bn</td>
<td>Business expansion from achievement of full lineup</td>
<td></td>
</tr>
<tr>
<td>Hitachi</td>
<td>Thermal power generation systems</td>
<td>Nov 2012</td>
<td>Approx. JPY 300bn</td>
<td>Business expansion from full GT lineup (small to large), expansion of unique technologies</td>
<td></td>
</tr>
<tr>
<td>Siemens (Germany)</td>
<td>Metals machinery</td>
<td>May 2014</td>
<td>Approx. JPY 150bn</td>
<td>Business expansion from achievement of full lineup</td>
<td></td>
</tr>
<tr>
<td>Mahindra &amp; Mahindra (India)</td>
<td>Agricultural machinery</td>
<td>May 2015</td>
<td>(equity-based)</td>
<td>Stronger competitiveness in domestic and global markets</td>
<td></td>
</tr>
<tr>
<td>Vestas (Denmark)</td>
<td>Wind turbines</td>
<td>Sep 2013</td>
<td>(equity-based)</td>
<td>Early achievement of strategic model (8MW) development and order receipt targets</td>
<td></td>
</tr>
<tr>
<td>Ryobi</td>
<td>Commercial printing machinery</td>
<td>Jun 2013</td>
<td>(equity-based)</td>
<td>Business strengthening from product lineup and production integration</td>
<td></td>
</tr>
<tr>
<td>Fuji Xerox</td>
<td>Document-related</td>
<td>Oct 2013</td>
<td>-</td>
<td>Reductions in direct/indirect costs from standardization and effective document-related processes</td>
<td></td>
</tr>
<tr>
<td>Miyaji Engineering</td>
<td>Bridges</td>
<td>Nov 2014</td>
<td>(equity-based)</td>
<td>Scale merits, Market share increase</td>
<td></td>
</tr>
<tr>
<td>Japan Tunnel Systems</td>
<td>Tunneling shield machine</td>
<td>May 2015</td>
<td>(equity-based)</td>
<td>Assured capture of domestic demand and accelerate business expansion overseas</td>
<td></td>
</tr>
<tr>
<td>Fuji Oozx</td>
<td>Automobile engine valves</td>
<td>Jan 2016</td>
<td>(equity-based)</td>
<td>Market share expansion and enhanced market presence</td>
<td></td>
</tr>
<tr>
<td>Ube Machinery</td>
<td>Injection molding machines</td>
<td>Jul 2016</td>
<td>-</td>
<td>Expansion of product lineup and sales network, reductions in production costs</td>
<td></td>
</tr>
<tr>
<td>JR West</td>
<td>Real estate</td>
<td>Oct 2016</td>
<td>(equity-based)</td>
<td>Boost corporate value through partnership with JR West</td>
<td></td>
</tr>
</tbody>
</table>

### MHI-led JV partner –led equal

<table>
<thead>
<tr>
<th>Company</th>
<th>Product/Business</th>
<th>Agreement date</th>
<th>Net sales contribution</th>
<th>Other results, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHI Metaltech</td>
<td>Metals machinery</td>
<td>Jul 2013</td>
<td>Approx. JPY 10bn</td>
<td>Strengthened lineups of aluminum rolling mills, etc.</td>
</tr>
<tr>
<td>Mahindra &amp; Mahindra (India)</td>
<td>Agricultural machinery</td>
<td>May 2015</td>
<td>(equity-based)</td>
<td>Stronger competitiveness in domestic and global markets</td>
</tr>
<tr>
<td>Vestas (Denmark)</td>
<td>Wind turbines</td>
<td>Sep 2013</td>
<td>(equity-based)</td>
<td>Early achievement of strategic model (8MW) development and order receipt targets</td>
</tr>
<tr>
<td>Ryobi</td>
<td>Commercial printing machinery</td>
<td>Jun 2013</td>
<td>(equity-based)</td>
<td>Business strengthening from product lineup and production integration</td>
</tr>
<tr>
<td>Fuji Xerox</td>
<td>Document-related</td>
<td>Oct 2013</td>
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### Transfer

<table>
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<th>Company</th>
<th>Product/Business</th>
<th>Agreement date</th>
<th>Net sales contribution</th>
<th>Other results, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIDROMEK (Turkey)</td>
<td>Motor graders</td>
<td>Nov 2013</td>
<td>-</td>
<td>Promotion of business concentration into core competence</td>
</tr>
<tr>
<td>Delta Electronics (Taiwan)</td>
<td>Lithium rechargeable batteries</td>
<td>Apr 2014</td>
<td>-</td>
<td>Promotion of business concentration into core competence</td>
</tr>
<tr>
<td>Sumitomo Heavy Industries Material Handling Systems</td>
<td>Industrial cranes</td>
<td>May 2015</td>
<td>-</td>
<td>Promotion of business concentration into core competence</td>
</tr>
<tr>
<td>Michinori Holdings</td>
<td>Shonan Monorail</td>
<td>May 2015</td>
<td>-</td>
<td>Promotion of business concentration into core competence</td>
</tr>
<tr>
<td>Tohmei Industries</td>
<td>Ship stabilizers</td>
<td>Mar 2016</td>
<td>-</td>
<td>Promotion of business concentration into core competence</td>
</tr>
<tr>
<td>Sato Tekko</td>
<td>Sluice gates</td>
<td>May 2016</td>
<td>-</td>
<td>Promotion of business concentration into core competence</td>
</tr>
<tr>
<td>Hitachi</td>
<td>X-ray medical equipment</td>
<td>Aug 2016</td>
<td>-</td>
<td>Promotion of business concentration into core competence</td>
</tr>
<tr>
<td>Kobe Diesel</td>
<td>Marine diesel engines</td>
<td>Dec 2016</td>
<td>-</td>
<td>Promotion of business concentration into core competence</td>
</tr>
<tr>
<td>Furuno Electric</td>
<td>ETC onboard devices</td>
<td>Jan 2017</td>
<td>-</td>
<td>Promotion of business concentration into core competence</td>
</tr>
</tbody>
</table>

### Withdrawal

<table>
<thead>
<tr>
<th>Company</th>
<th>Product/Business</th>
<th>Agreement date</th>
<th>Net sales contribution</th>
<th>Other results, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecovix (Brazil)</td>
<td>Shipbuilding</td>
<td>Jan 2016</td>
<td>(equity-based)</td>
<td>Promotion of business concentration into core competence</td>
</tr>
</tbody>
</table>
Reference 2. Target scope of engineering business, etc. (1)

- Complex, large-scale EPC
  - Chemical plants (petrochemical, fertilizer)
  - Cruise ships (prototype)
  - Steel plants (rolling mills, etc.)
  - Cargo and passenger ships (small/medium-size ferries)
  - IGCC, USC
  - GTCC
  - Overseas nuclear power plants
  - High-speed railway systems
  - Large-scale metro systems
  - Transportation and urban systems
  - Domestic nuclear power plants
  - Environmental systems*
  - AQCS, CO2 recovery systems, etc.
  - Airport APMs

- Small/medium-scale EPC
  - GTCC
  - Domestic nuclear power plants
  - High-speed railway systems
  - Large-scale metro systems

- Fields expected to grow in future
  - ★

- Domains:
  - Total coordination of engineering:
  - Energy & Environment domain
  - Commercial Aviation & Transportation Systems domain
  - Machinery, Equipment & Infrastructure domain

- Terms:
  - EPC: Engineering, Procurement & Construction
  - IGCC: Integrated coal Gasification Combined Cycle
  - USC: Ultra Super Critical Boiler
  - GTCC: Gas Turbine Combined Cycle
  - AQCS: Air Quality Control System
  - APM: Automated People Mover

* Electrostatic precipitators, trash incinerators, etc.
[Reference] 2. Target scope of engineering business, etc. (2)

- GTCC: Gas Turbine Combined Cycle
- IGCC: Integrated coal Gasification Combined Cycle
- AGT: Automated Guideway Transit
- APM: Automated People Mover

- Sinop NPP
- Doha Metro
- Bangkok Urban railway
- LNG tanks
- Doha Metro
- Fertilizer plant
- Coal-fired power plant
- Metals machinery
- Coal-fired power plant
- Co2 recovery system
- AGT Yurikamome
- GTCC Yurikamome
- GTCC Fukushima
- IGCC Fukushima
- Metals machinery
- Airport APM (Orlando, Dulles, Miami, etc.)
- Polyethylene plant

- Airport APM
- Metals machinery

- Fertilizer plant
- Coal-fired power plant

- Energy & Environment
- Commercial Aviation & Transportation Systems
- Machinery, Equipment & Infrastructure