

Industry & Infrastructure Business Plan

Takashi ISHIZUKA

Executive Vice President,
President and CEO of Industry & Infrastructure

July 12, 2019

Mitsubishi Heavy Industries, Ltd.

Good afternoon ladies and gentlemen, my name is Takashi Ishizuka, and I am President and CEO of the Industry & Infrastructure Domain, I&I. I assumed this position in April of this year. Nice to meet you all. We have many various businesses within our domain and there is not enough time to explain them all, so for the first 20 minutes, I will give you the overall portfolio and basic policy and strategy for the entire domain, so that we can have enough time to explain the details of each business in the form of responding to your questions in the Q&A session.

1. Business Overview

- 1-1. Sales Overview
- 1-2. Management Structure
- 1-3. FY2018 Major Topics

2. 2018 Medium-Term Business Plan Progress Status

- 2-1. Review of FY2018
- 2-2. 2018 Business Plan Numerical Targets
- 2-3. Core Strategies for FY2019/FY2020 and Medium/Long Term
- 2-4. Core Measures for FY2019/FY2020 and Medium/Long Term

3. Summary

[Supplementary Material]

- Supplement-1. **Material Handling Equipment**
- Supplement-2. **Thermal Systems**
- Supplement-3. **Turbochargers**
- Supplement-4. **Metals Machinery**
- Supplement-5. **Engines**
- Supplement-6. **Machinery Systems**
- Supplement-7. **Machine Tools**
- Supplement-8. **Commercial Ships**
- Supplement-9. **Engineering**

Here are the contents for today's presentation. The first topic I'd like to cover is the business overview. And the main part of the presentation will be the status of progress in the 2018 Medium-Term Business Plan. We will see an overview and the actual results from fiscal 2018, including numerical targets, and will then talk about the core strategies and measures to be taken for the final year of this business plan, meaning fiscal year 2020, as well as the strategies for the medium to long term, and then summarize.

In the final part of today's document, you can see supplementary materials for our individual I&I business units.

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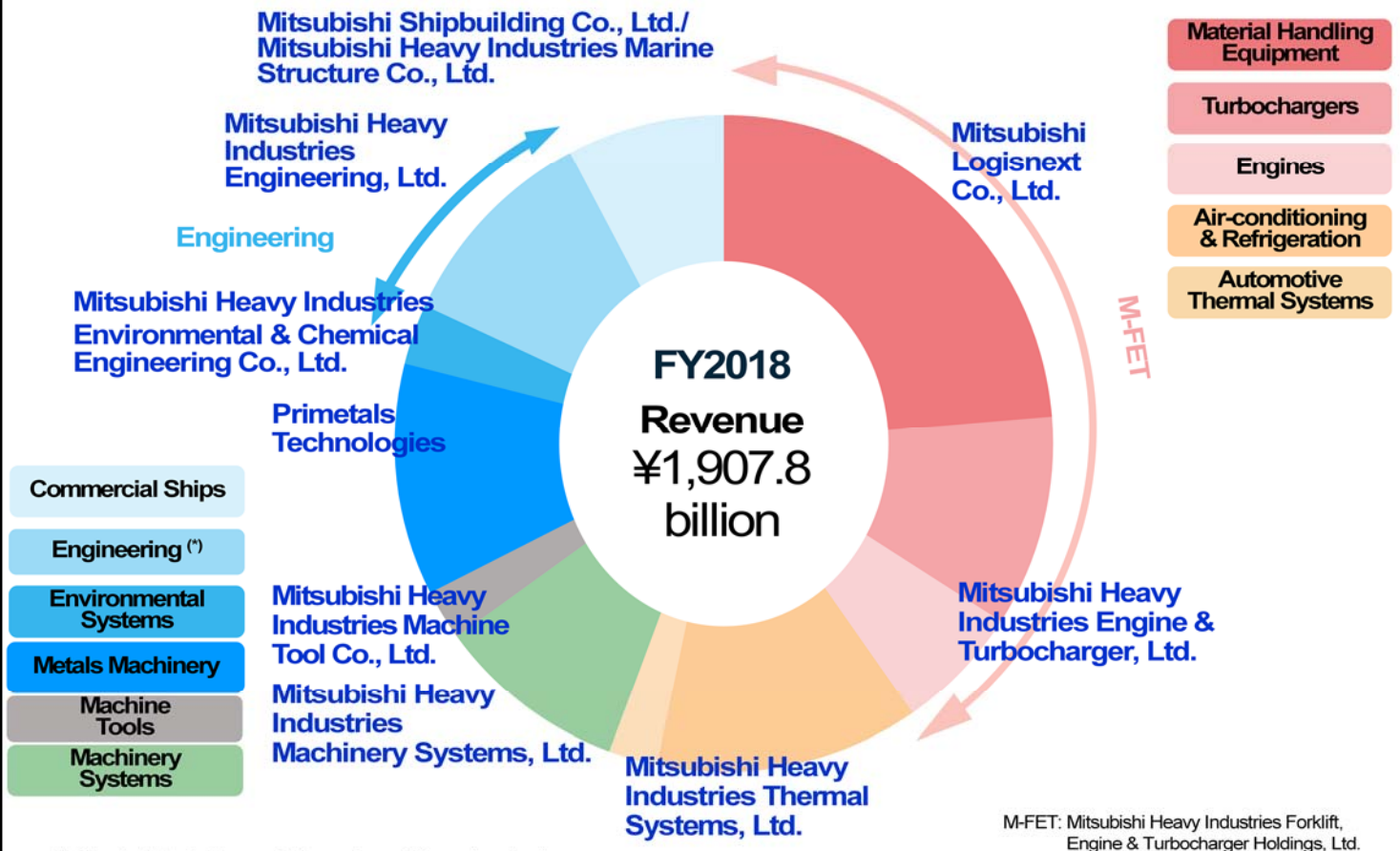
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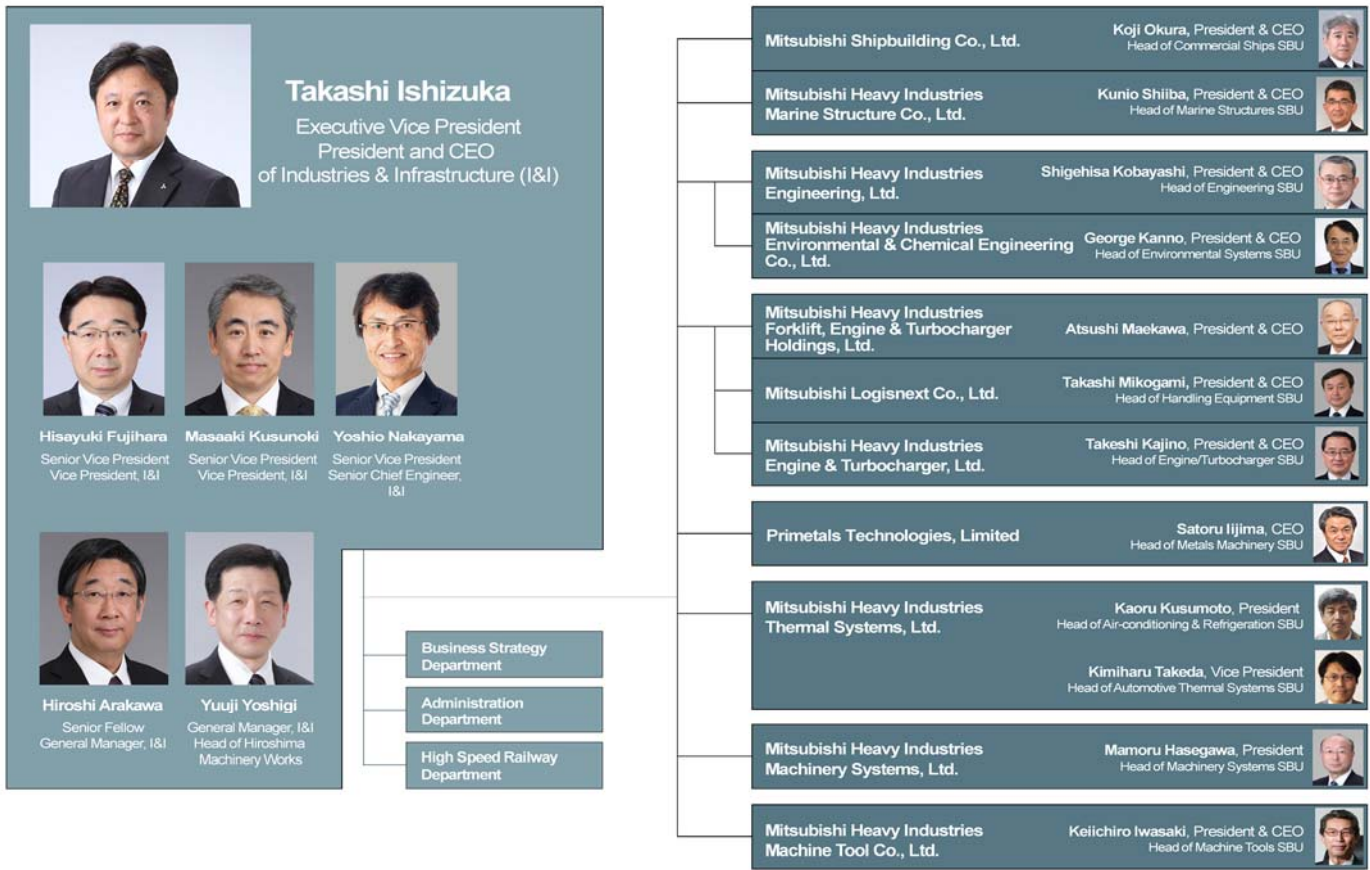
1-1. Sales Overview



(*) Chemical plants, Transportation systems, CO₂ capture plants

Let me start with the business overview. Here you can see revenue from our main business companies, which comes to roughly 1.9 trillion yen for last fiscal year, 2018. About half of MHI group revenues were from our domain. Here, on the upper right side and in the lower left side you can see our businesses, or Strategic Business Units, from material handling equipment clockwise all the way to the commercial ships. The sizes of each business in terms of revenue are shown in the color coded pie chart. On the external side of the pie chart, the business companies that are engaged in these different businesses are indicated in blue letters. As you can see, turbochargers, material handling equipment, engines, air-conditioning and refrigeration, and automotive thermal systems, what we call the mass and medium lot manufacturing businesses, account for over 50% of revenues.

1-2. Management Structure



Here is our current management structure. We will provide more details later, but as a domain function for MHI, we are not directly operating in any business activities, as all business is conducted by our business companies. Under the I&I domain, for management purposes, these companies are divided into seven groups. First, in the commercial ships group, we have Mitsubishi Shipbuilding and Mitsubishi Heavy Industries Marine Structure. Next, we have an engineering group that includes Mitsubishi Heavy Industries Engineering for chemical plants and transportation systems, and Mitsubishi Heavy Industries Environmental & Chemical Engineering for environmental systems. And then as the 3rd group, we have Mitsubishi Heavy Industries Forklift, Engine and Turbocharger, as holdings of Mitsubishi Logisnext and Mitsubishi Heavy Industries Engine and Turbocharger. Our 4th group is Primetals Technologies for metals machinery. Our 5th group consists of Mitsubishi Heavy Industries Thermal Systems including automotive thermal systems. Our 6th group is Mitsubishi Heavy Industries Machinery Systems for ITS, paper converting machinery and other industrial machineries. And lastly, our 7th group is Mitsubishi Heavy Industries Machine Tool. These are the management entities that we have within our domain.

1-3. FY2018 Major Topics

Commercial Ships



Christening and launch ceremony of KITAKAMI for Taiheiyo Ferry

Material Handling Equipment



Market launch of "Rack Fork Auto" laser-guided type AGF

AGF: Automated guided forklift

Metals Machinery



Strong orders for "EAF Quantum*" from steel manufacturing companies in China and other countries

* Newly developed electric arc furnace realizing significant reductions in power consumption, running costs and CO₂ emissions.

Air-conditioning & Refrigeration



"ETI-Z Series" of high-efficiency next-generation centrifugal chillers featuring low-GWP refrigerant won a METI Minister's Award for energy savings.

GWP: Global Warming Potential

And here you can see the major topics from fiscal 2018. On the left hand side, you can see some of our build-to-order products. In commercial ships, the Kitakami was christened and launched for our customer, Taiheiyo Ferry. In metals machinery, our joint venture with Siemens has entered into its 5th year, and the bottom-left picture is of our new type of electric arc furnace, which is receiving strong orders, mainly from China. On the right hand side, you can see some of our material handling equipment and air-conditioning and refrigeration businesses. These businesses are under the category of mass and medium-lot manufacturing businesses and are regarded as growth areas for MHI Group. You can see on the top-right a picture of what we call the AGF or Automated Guided Forklift. And on the lower right hand side you can see our new award winning next generation high efficiency centrifugal chiller featuring a low GWP refrigerant.

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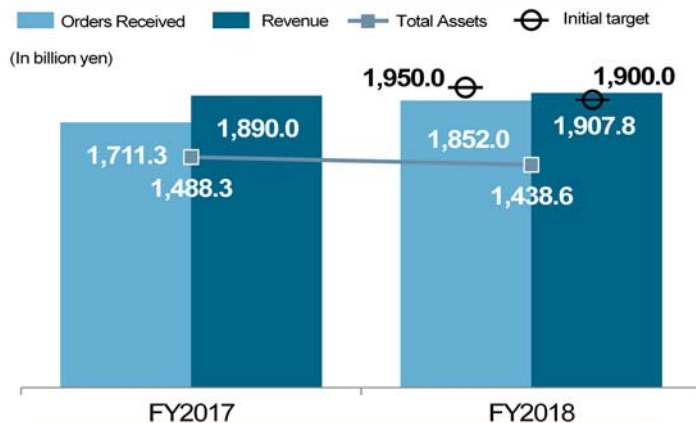
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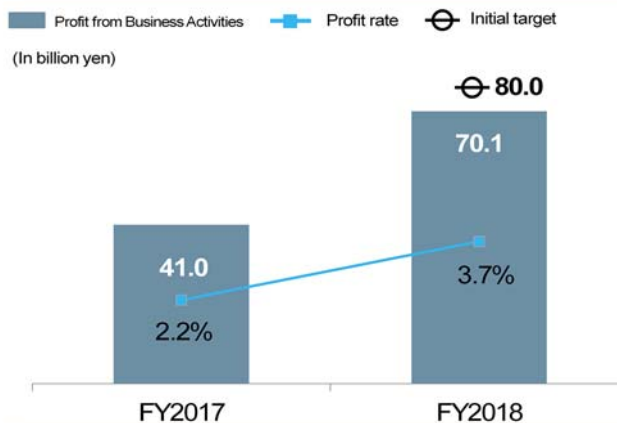
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2-1. Review of FY2018

Orders Received, Revenue, Total Assets



Profit from Business Activities



Results

Orders received

+¥140.6bn YoY
Commercial ships, chemical plants, material handling equipment
¥98.0bn below target
Chemical plant project deferment

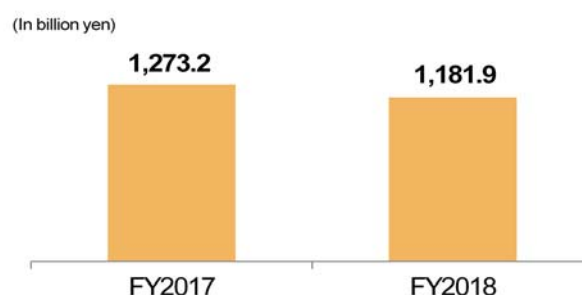
Revenue

+¥17.8bn YoY
¥7.8bn above target

Profit from business activities

+¥29.0bn YoY
Improvement in profitability of transportation systems,
Increased sales of material handling equipment
¥9.9bn below target
Deterioration in specific project profitability, etc.

Order Backlog



Now we'll take a look at the status of progress in the 2018 Medium-Term Business Plan. First let's compare the results from fiscal 2018 to fiscal 2017.

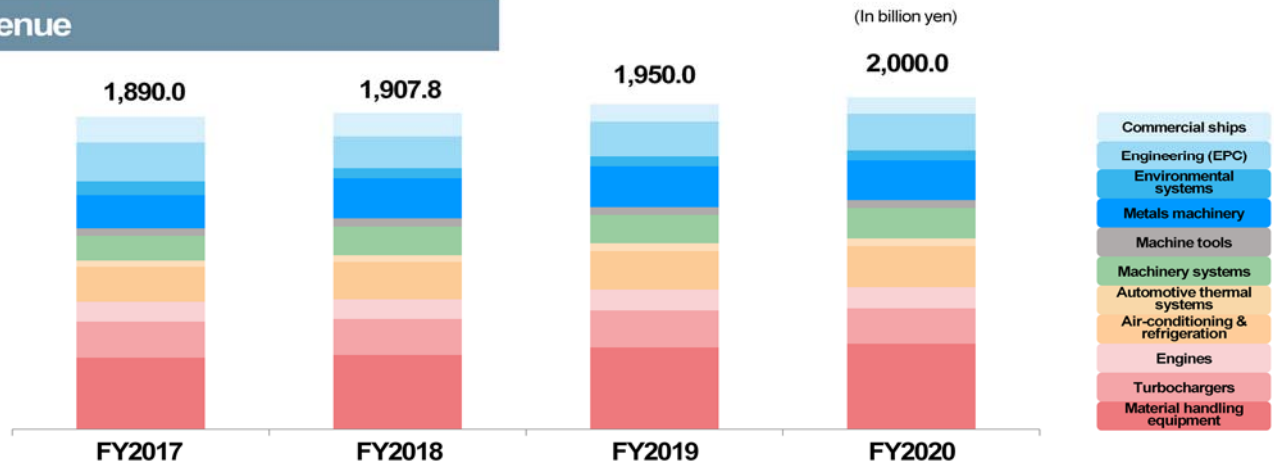
In the upper-left hand side we see orders received, revenue and total assets. The lighter blue indicates orders received and darker blue represents revenue, with the balloons as the initial targets for fiscal 2018 and the line chart showing the total assets. Orders received in fiscal 2017 totaled 1,711.3 billion yen. In fiscal 2018 we experienced growth of about 140 billion yen, totaling 1,852 billion yen. The drivers of growth were commercial ships, chemical plants and material handling equipment, which are still very vibrant today. Even though we saw an increase in orders during the period, we finished 100 billion yen behind our initial target. This was due mostly to postponed chemical plant projects.

As for revenue, in fiscal 2017, the total revenues were 1,890 billion yen and in fiscal 2018 we achieved 1,907.8 billion yen, a slight increase. Compared to our initial target, we can see an increase in performance, although slight.

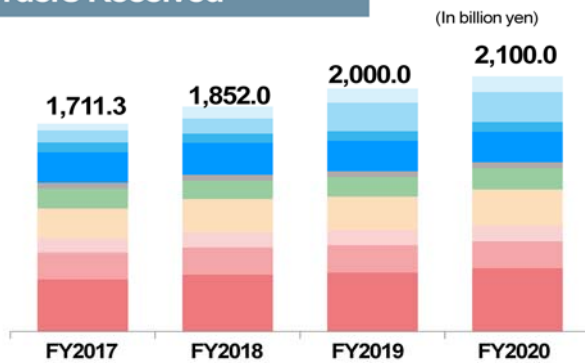
Profit from business activities took a big jump from 41 billion yen in fiscal 2017 to 70.1 billion yen in fiscal 2018, roughly a 30-billion-yen increase year on year. This is due to an increase in profitability of transportation systems and material handling equipment, as well as an increase in orders received. As you can see, the result however, is slightly below our initial targets due to the fact that profitability of specific projects have not been attained.

2-2. 2018 Business Plan Numerical Targets (1/2)

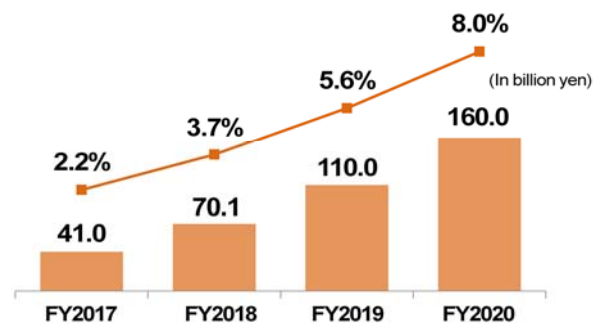
Revenue



Orders Received



Profit from Business Activities



Here are our numerical targets for the 2018 Medium-Term Business plan, showing fiscal 2019 and next fiscal 2020 as the final year of the business plan.

As for revenue, our target for fiscal 2019 is 1,950 billion yen, and 2 trillion yen for fiscal 2020. Both targets remain unchanged from our initial numbers.

And as for orders received, in fiscal 2019 we expect 2 trillion yen and in fiscal 2020 we are aiming for 2.1 trillion yen. These targets also remain unchanged.

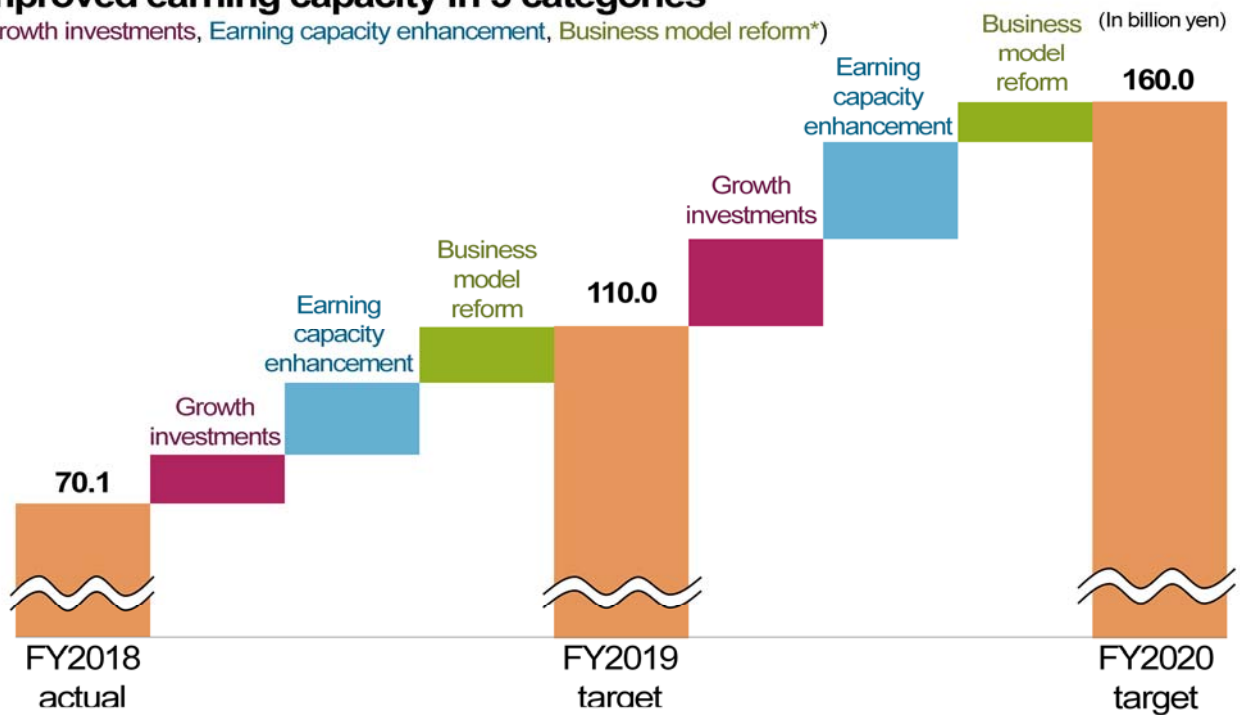
As you can see from the bar charts, the mass and medium-lot manufacturing businesses represented by warm colors will drive the increase of both orders received and revenues for the short term, while we enhance the orders of engineering related business and commercial ships, represented by the blue tone colors, so that they can contribute for revenues in the mid and long term ranges.

Our challenge is profit. Last year we were able to bring in 70.1 billion yen in profits, and we are scheduled to bring in 110 billion yen for fiscal 2019. For fiscal 2020, we're forecasting profits of 160 billion yen. This will be a big jump again and we will talk about the details in the following slides.

Breakdown of Profit from Business Activities Target

Improved earning capacity in 3 categories

(Growth investments, Earning capacity enhancement, Business model reform*)



* Business model reform : Shift areas of competition, / Shift to new business model

This is a waterfall chart of the breakdown in profit from business activities. Against the results from fiscal 2017, we aim to achieve 110 billion yen in fiscal 2019. Our core strategy is to manage our business portfolio with 3 categories considering the business environment, market trends, and positioning. And we will make it clear where and how each business can generate profit in order to make sure we are able to effectively drive our businesses. Though not written in this chart, we have forecasts projecting 160 billion yen as our 2020 target.

I&I Business Plan Strategies

- Completed the transformation of all business operations into individual business companies in 2018, consolidating to 7 business groups
- Place emphasis on raising profits through self sustained management of business companies and active use of MHI resources
- Review growth scenarios of existing businesses to assess and realize their maximum value in the medium/long term
 - Divide existing businesses into three categories:
 - **Growth investments**
 - **Earning capacity enhancement**
 - **Shift areas of competition/Shift to new business model**

Here, I'll explain the overall approach and initiatives of our domain for fiscal 2019, 2020, and the mid to long term. As mentioned before, last January we established an engineering company as well as two companies in commercial shipping: Mitsubishi Shipbuilding and Mitsubishi Heavy Industries Marine Structure. We completed the transformation of all I&I business operations into individual business companies that are organized into seven business groups. A year and a half has passed since we established this structure.

Our domain's basic policy is that management of business companies are to be self-sustained. We have also set up a structure that helps companies to be competitive against strong competitors in dedicated areas. We think, however, that is not enough; we would also like to take advantage of being part of Mitsubishi Heavy Industries Group, utilizing its comprehensive strength. We would like to utilize human resources and the expertise of Mitsubishi Heavy Industries' R&D Center or shared technology department in order to make business entities more competitive.

For us, strengthening the individual business does not mean pursuing the size and scale of the business but rather enhancing earning capacity. Raising profits is the most important policy in our domain. All measures taken to implement our strategies going forward will be taken with highest priority in raising profits.

And the third point is to review the growth scenario of existing businesses, responding to the changes of market trends and conditions. This is to assess and realize any dormant potential business capabilities that we can exert.

As mentioned, we have divided all our businesses into three categories, growth investments, earning capacity enhancement, shift of competitive areas/shift to new business model .

So these are the three categories in which we will seek the best ways to achieve higher profitability. So that's where we are in heading our way forward and this is the portfolio management of our domain.

2-3. Core Strategies for FY2019/FY2020 and Medium/Long Term (2/3)

	Business environment		Strategies for achieving Business Plan
	When formulating 2018 Business Plan	Current situation	
Material handling equipment Thermal systems Turbochargers	Expanding market	Possible impact from US-China trade frictions	Growth investments
Metals machinery Engines Machinery systems Machine tools	Market growth remains at same level Market in recovery mode Fierce competition		Earning capacity enhancement
Commercial ships	Supply/ demand gap	Intensifying competition (industry reorganization, etc.)	Shift areas of competition
Engineering	Increased EPC-related risk (shortage of skilled workers overseas, etc.)		Shift to new business model

Here you can see our businesses within their corresponding strategic categories.

The first category is growth investments, where we have our material handling equipment, thermal systems, and turbochargers, all which can be referred to as mass and medium lot manufacturing businesses. At the time of launching the midterm business plan last year, we expected growth in these areas and therefore invested in them accordingly. We have already begun to see some positive results.

For material handling equipment, after the establishment of a joint venture with UniCarrier and the promotion of its PMI (Post Merger Integration), we made an investment in sales. And as for the thermal systems business, our third plant in Thailand has been put into operation and we intend to achieve higher production capability. Enforcement of sales and sales networks are our biggest priority and we are investing in order to expand them. For example, as we have already publicized, we have established joint ventures in Turkey and Germany, within the air conditioning and transport refrigeration sectors. We are currently in continuous efforts to grow these businesses.

As for turbochargers, tightening of environmental and fuel performance regulations is advancing in each country and the electrification of vehicles is advancing faster than we presumed. However, we think the deployment rate of turbochargers will sustain growth until EVs are able to dominate the market. At the same time, we are also trying to develop new products for EVs and/or more diversified power trains. Therefore, turbochargers are still in the area of growth investments.

As you can see here, we labeled the possible impact from US-China trade friction as the current situation. Not only to this end, but mass and medium lot manufacturing businesses tend to be affected by short term

economic fluctuations. So the growth line may not be straight and there may be some ups and downs, but the business itself, I think, is in a growing trend.

The second category is enhancing earning capacity. We put metals machinery, engines, machinery systems and machine tools in this category. These businesses are flat or in a recovery state. We will manage these businesses appropriately in accordance with respective business situations in order to increase earnings capacity.

Lastly, we have the categories of shift the areas of competition and shift to new business models. We put commercial ships and engineering in this category. As for commercial ships, we see severe competition and a gap between supply and demand for new ships. And so we would shift to high value added areas like high-density outfitted ships and marine engineering businesses. As for engineering, in addition to the EPC business model, we want to develop a new business model and portfolio for diversifying profitability.



With this slide we show how we will create business growth within these three categories and increase earnings within the time frame of the 2018 medium term business plan to the medium to long term. Starting from the bottom side, we can see the earning capacity enhancement area, or the blue area. This category includes businesses which are currently strong in the Japanese market. We will make continuous growth of all the business in this category securing stable profits and enhancing earnings capacity. In the middle layer, we have the growth investment category. We intend to create business growth in this category securing earnings in the short and medium-term while commercial ships and engineering are expected to grow and expand earnings in the medium to long term in a way that their category shifts areas of competition and shifts to a new business model, resulting in profit generation (at the later part of time frame).

Growth Investments

**Expand revenue and profit
in growth markets**

- **Strengthen marketing**
(conversion to directly managed dealers, etc.)
[Material handling equipment, Thermal systems]
- **Develop and launch strategic products**
 - **Promote unmanned, automated operation**
[Material handling equipment]
 - **Environmentally friendly products**
[Material handling equipment, Thermal systems, Turbochargers]

Material handling equipment,
Thermal systems, Turbochargers



Laser-guided type
AGF

AGF: Automated guided forklift



Centrifugal chiller
featuring low-GWP
refrigerant

GWP: Global Warming Potential



Ultra-compact range
extender for electric
vehicles

From this slide we will explain the core strategies for these three categories.

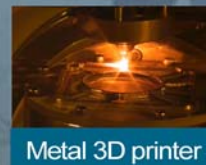
First, we take a look at the growth investments category with the so called mass and medium lot manufacturing businesses.

For material handling equipment and thermal systems, as mentioned before, strengthening the marketing capability is very important and we are enforcing a sales network for that very purpose for these two businesses. For example, for material handling equipment, we have acquired a mega dealer in North America as we have announced via press release. The company is now called Equipment Depot and their business covers not only new equipment but also the used vehicle and rental business through which we aim to make profits throughout the lifecycle of products. Through various aspects, we are making investments to strengthen marketing for these two businesses.

The second point is to launch strategic products for material handling equipment and thermal systems. As for material handling equipment, to ride on the momentum that we see on a global basis for the logistics revolution, we are promoting various growth strategies and think the promotion of unmanned and automated operation would be the key. And in terms of environmentally friendly products, as for material handling equipment we are promoting electrification of products and as for thermal systems we are developing and launching the low environmental impact products using natural refrigerants, and are strengthening our electric compressor business for electric vehicles.

Earning capacity enhancement
Promote higher efficiency in preparation for business environment changes
Metals machinery, Engines, Machinery systems, Machine tools

- Further structural reforms, following prior years' PMI Enhancement of life cycle businesses [Metals Machinery]
- Focus resources into core competencies [Engines]
- Promote resource sharing and personnel mobilization [Machinery systems]
- Pursue mass customization, launch new products [Machine tools]



Metal 3D printer



In the category of earning capacity enhancement, as for metals machinery, as I said earlier, the market itself has been in a recovery trend since the latter half of fiscal 2017 and we are seeing an increase in orders but the competition remains fierce and the situation remains tough. So we are pursuing structural reform through further optimization of organizations following the prior years' PMI which has been progressing very steadily. At the same time, while we are launching environmentally friendly products, we are expanding in business areas such as maintenance and after-sales services, as digitalization is evolving our business model allowing to better generate profits throughout product lifecycles. In terms of engines, we will focus on our core competencies for the high output segment of 1 to 3MW.

As for machinery systems, to better penetrate rather small sized business segments we are promoting resource sharing as well as personal mobilization. For box-making machines, we are looking into further growth possibilities and will take appropriate measures.

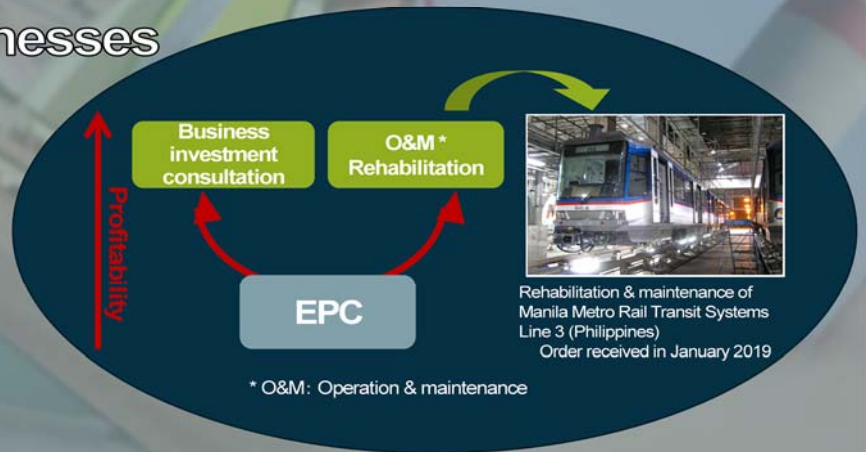
And as for machine tools, we are pursuing greater efficiency in business operations through mass customization, modular based designs and methods taken in the medium lot manufacturing business. As already announced through a press release, we have also entered into the 3D printer business and are aiming to penetrate possible growth areas.

Shift areas of competition,
Shift to new business model

Commercial ships,
Engineering

Improve earning capacity through differentiation

- **High value-added areas** (high-density outfitted ships, etc.)
[Commercial ships]
- **Marine engineering areas** (response to environmental regulations, etc.) [Commercial ships]
- **Lifecycle businesses**
[Engineering (EPC)]



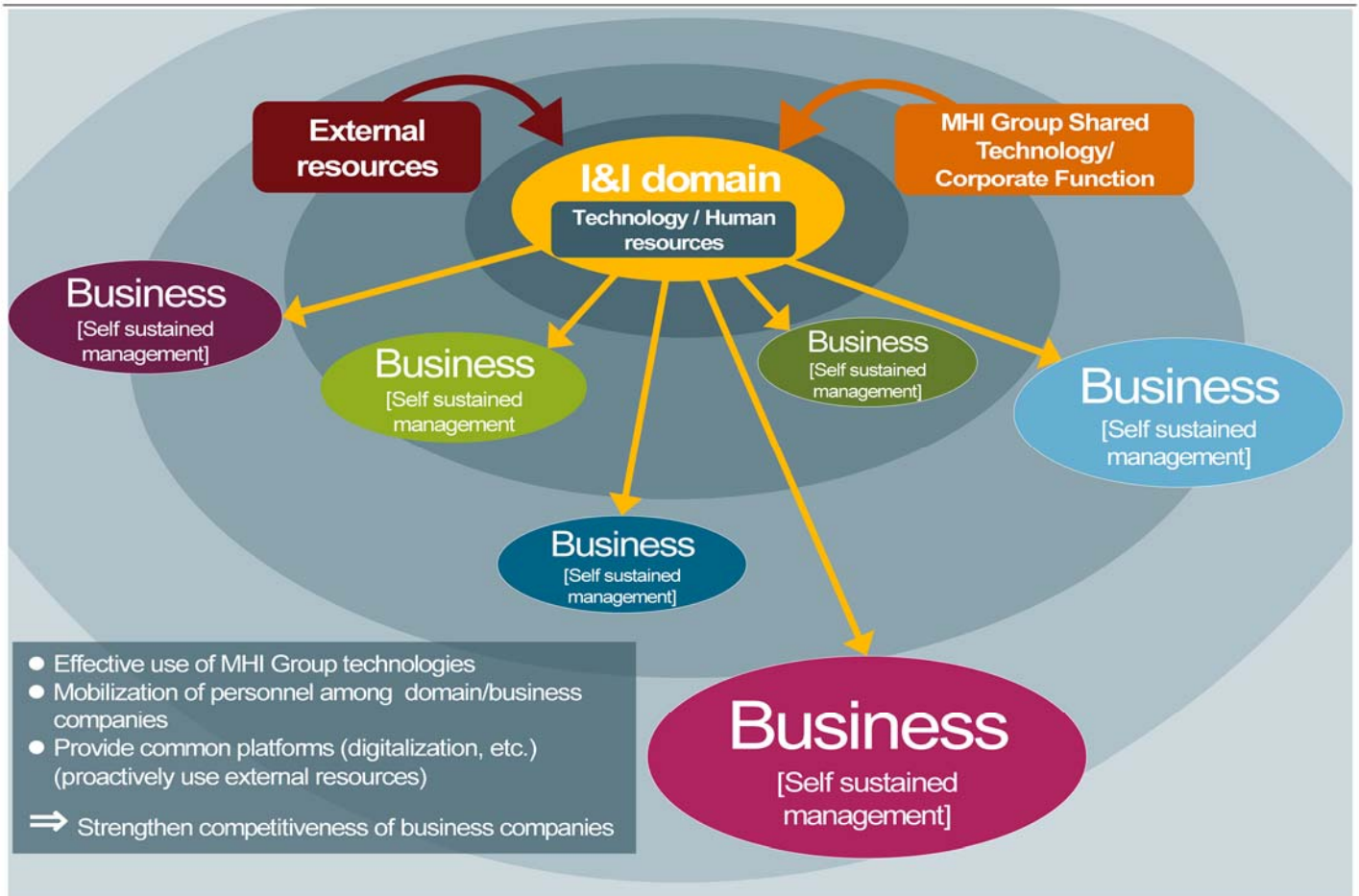
Finally, the category shift areas of competition and shift to new business models.

This covers commercial ships and engineering.

For commercial ships, as I said earlier, we are focusing on more high value added areas, the high density outfitted ships such as ferries as well as government ships, and marine engineering in response to environmental regulations, which has yielded products like SOx scrubbers and others. We are shifting our competitive field into those areas.

As for engineering, we are enhancing lifecycle based businesses.

As you can see here, the downstream and upstream of this smile curve, investment consultation businesses at downstream, the O&M(operation and maintenance) and rehabilitation at upstream , we are shifting into a new business model to secure earnings in those areas .



In this slide, we show the relation among MHI, the I&I domain and business companies to execute the before mentioned core strategies for the three categories.

Each of the businesses has its own history and its positioning is different from others and therefore there are varying distances amongst the businesses and domain or MHI. Some of them are managing the companies at distant, autonomous positions. Some of them are leading their business with close support from MHI.

For our business companies, we guarantee their self-sustained management and professionalism and we take cross functional actions so that they can effectively and flexibly make use of MHI group technologies and resources to align with their unique situations. We believe this is our strength.

For example, as for digitalization, as you can see here, though each business company could proceed by themselves, we, as domain are establishing a platform for common use in order to reduce costs. We will proceed in cooperation with the MHI corporate division and with outside resources to obtain professional expertise.

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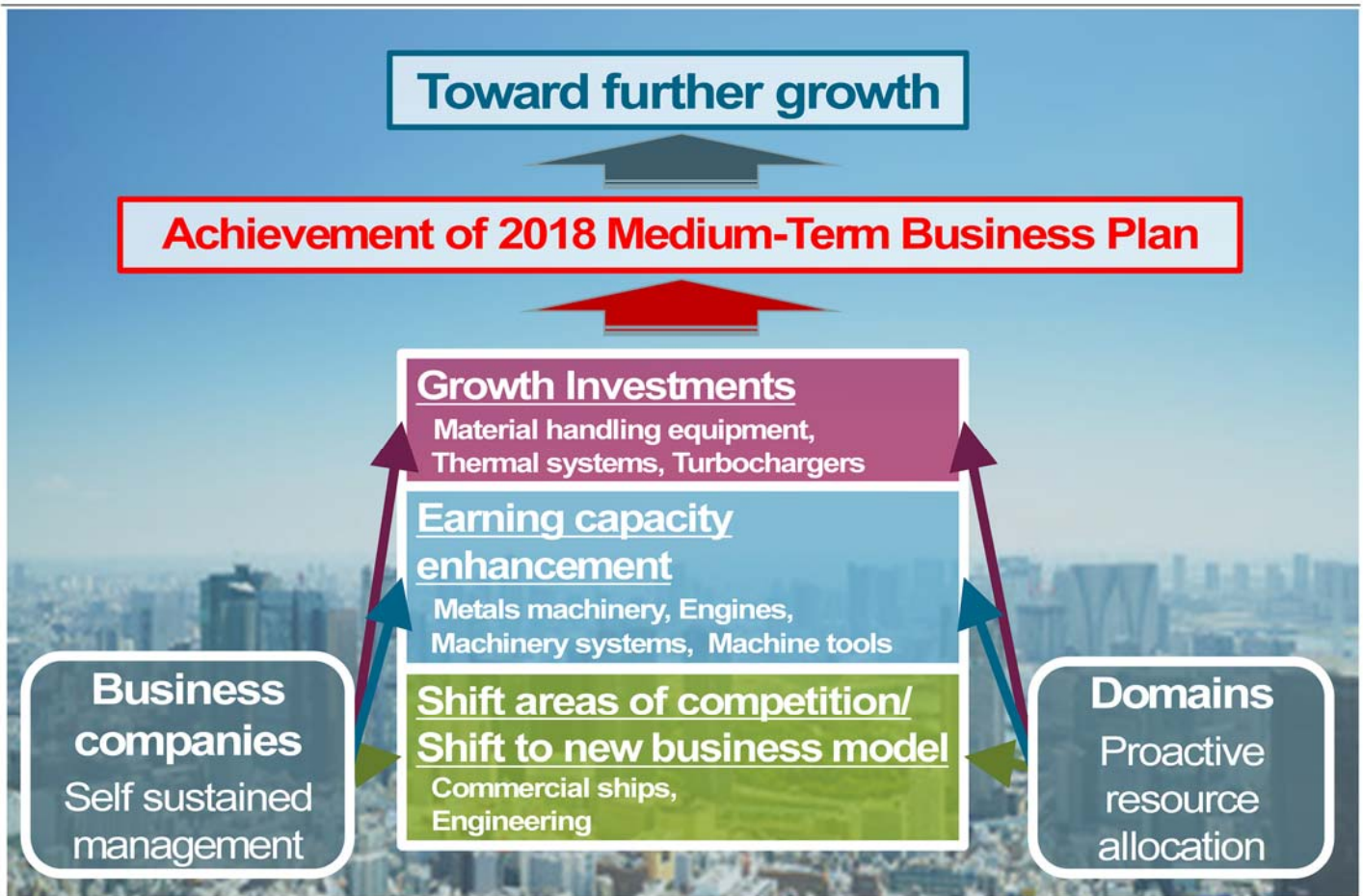
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And here is the summary. Within the domain our business companies are self-sustained entities, as is our basic policy. We, as a domain will help to sustain that all companies are strong enough in each dedicated segment by allocating proactively the MHI group resources to fulfill needs based on the mission and strategy of each company and each category respectively and that is also a basic principle of our domain. And through these activities we expect to achieve the targets of the 2018 mid-term plan and be able to grow further.

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Here is the supplement information. I would like to implement these details within the Q&A session. So thank you very much for your kind attention.

Business Environment

- Exponential expansion of e-commerce market
- Rapid increase in need for material handling solutions

- Automation (unmanned, manpower saving)
- Safety enhancement

Challenges

- Growth of conventional businesses
- Business model conversion
- Technology differentiation



Measures

- Expand base load business scale and improve earning capacity
⇒ Complete PMI, expand servicing operations, etc.
- Further growth centered on growth strategies

- Expansion of direct sales, entry into rental and used vehicle businesses
⇒ Acquisition of North American dealer, etc.
- Expansion of AGF (automated guided forklift) business
- Global collaboration with business partners
- Upfront investment in future technologies and businesses

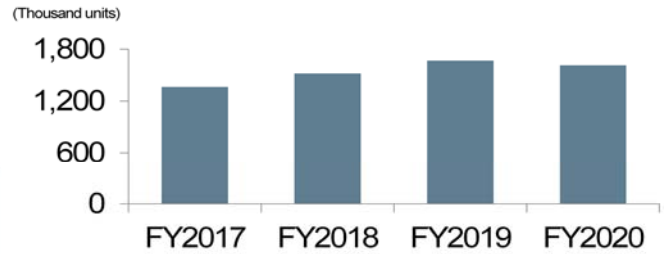


Laser guided type AGF
AGF: Automated guided forklift

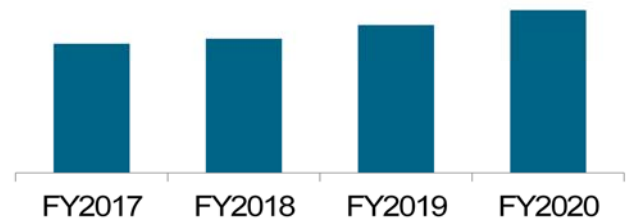


Human detection and tracking system

Market Scale



Business Scale (Revenue)



Business Environment

- Market to remain solid despite concerns over US-China trade frictions. Stable growth is expected to continue.
- Environmental awareness is increasing.
- Electric vehicles market is expanding.



Measures

- Strengthen sales network, especially in Europe and China
- Continually launch environment-friendly products
- Expand business in electric compressors for electric vehicles
- Strengthen R&D

Focus on expanding business scale through promotion of the above measures

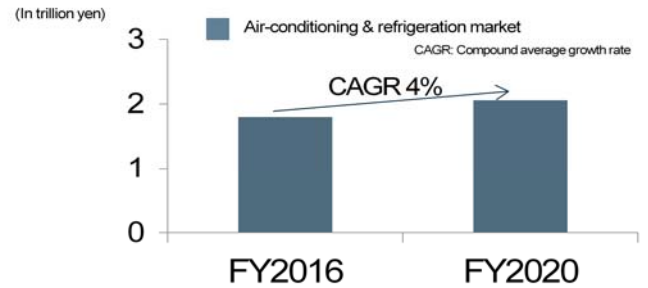


Natural Refrigeration condensing unit

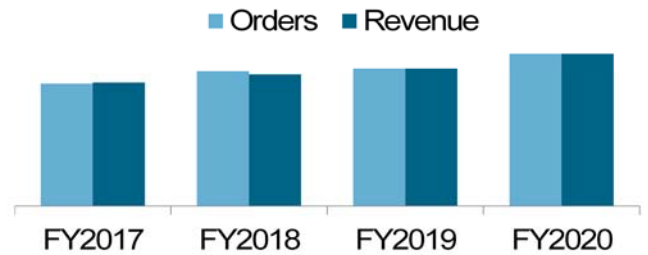


Electric compressor

Market Scale



Business Scale (Orders and Revenue)



Business Environment

- Power trains becomes more diversified due to tightening of environmental regulations.
- Motorization is expanding in emerging economies.
- US-China trade frictions

Challenges

- Strengthen development capability to offer products for a diversified power train line-up.
- Expand sales in emerging economies
- Enhance earning capacity

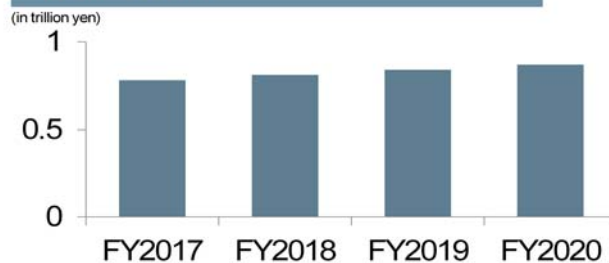


Measures

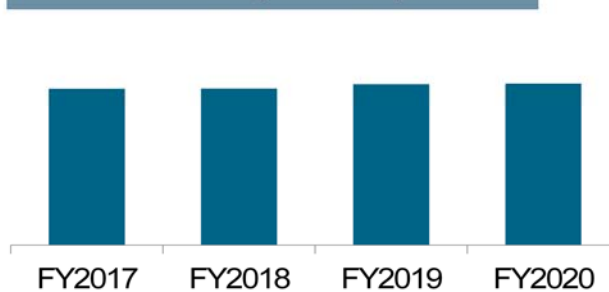
- Development of turbochargers designed for hybrid and plug-in hybrid vehicles which are expected to become the main-stream among fuel-efficient vehicles
- Development of lower-cost turbochargers for emerging economies
- Improvement of productivity by applying IoT to increase operating ratio, and strive to fully automate production lines



Market Scale



Business Scale (Revenue)



Business Environment

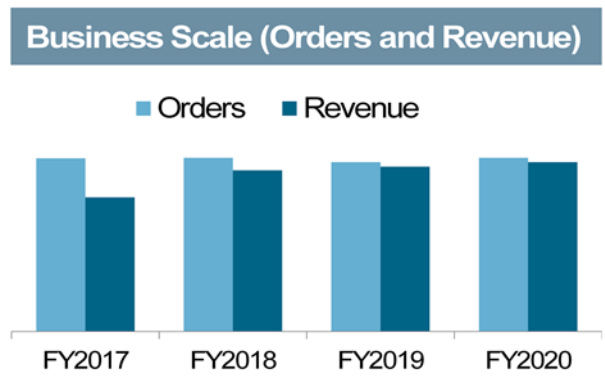
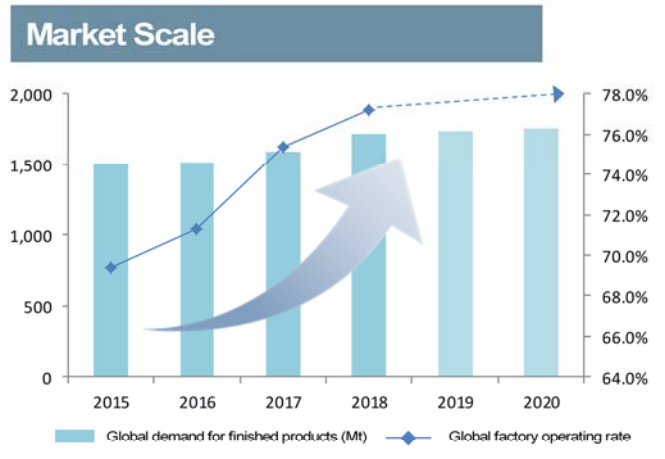
- The market is recovering
- Growing trend toward capital investment
- Environmental awareness is increasing.

Challenges

- Capture demand and expand market share
- Pursue further efficiency through further optimization of organization and processes

Measures

- **Focus on strategic products**
 - Expand sales of ESP lines
 - Expand portfolio of environment-friendly products
- **Strengthening of lifecycle business**
 - Expand maintenance servicing business
 - Expand and improve digitalization



ESP: Endless strip production (environment-friendly, integrated metal production line requiring low investment cost)
 Compared to conventional lines with separate processes for casting and rolling, ESP significantly reduces energy consumption, CO₂ emissions and running costs.

Business Environment

- Stable demand for stand-by generators is continuing. (data centers, large commercial facilities, etc.)
- Demand is appearing in emerging economies for distributed power systems, and in Japan for new power generation and urban development needs.

Challenges

- Further strengthen core competencies for high output segment (1-3 MW)
- Response to demand for power supply system combining renewable energy and DR and VPP



Measures

- Response to demand for stand-by generators
 - 1) Development of ultra-high-efficiency engines
 - 2) Expansion of generator set business
 - Achievement of high added value
 - Expansion of after-sale servicing business (Attract customers through IoT and AI)
- Development, demonstration and business development of hybrid electric power supply systems
- Development of new services in DR and VPP areas

DR: Demand response VPP: Virtual power plant

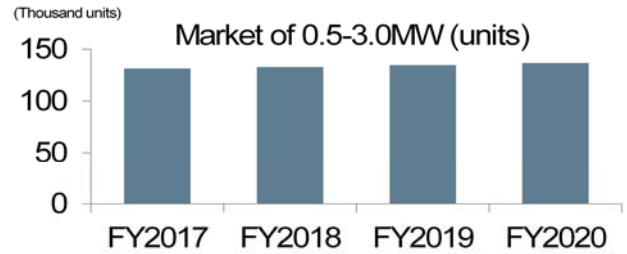


Engine for generators/Marine Engines

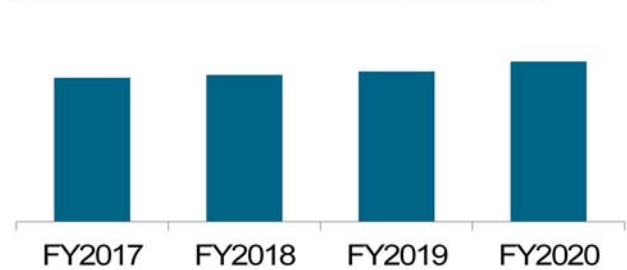


Engine Generator Equipment

Market Scale



Business Scale (Revenue)



Business Environment

- The domestic market, which accounts for 70% of revenue, is firm.
- Business is stable on multiple products and focus on after-sale services.

Challenges

- Although domestic business is forecast to remain stable, significant future growth is unlikely.



Measures

- Efficiency enhancement through optimal allocation: resource sharing and human resources mobilization
- Allocate resources into global markets where growth is anticipated (box making machinery, etc.)
- Further strengthening of earning capacity through application of digitalization in after-sale servicing business

Box Making Machines



Box making machine

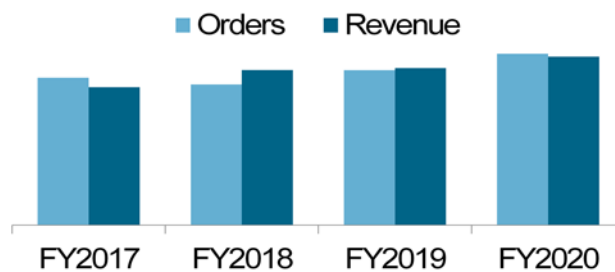
- High-performance, high-priced machines are well received in Japan, US and Europe.
- Development and launch of medium-performance, mid-priced machines
- Expansion of business scale through expanded and improved lineup

Digitalization of After-sale Services

- Manpower shortages and challenges in skill transfer are emerging at after-sale servicing sites.
- Promoting education of young employees and acquisition of multiple capabilities through video and voice-based digital tools



Business Scale (Orders and Revenue)



Business Environment

- Gears are becoming of increasingly higher precision (short term: vehicle applications, medium/long term: robot applications).
- Applications of metal 3D printing technology are poised to accelerate (medium/long term)
- Business negotiations are becoming delayed due to US-China trade frictions.



Measures

- Expanding sales of gear grinding machines
- Development of small-diameter modular gear cutting machines and tools
- Market entry of metal 3D printers
- Acceleration to MCMD

* MCMD: Mass Customization Modular Design



Gear grinding machine

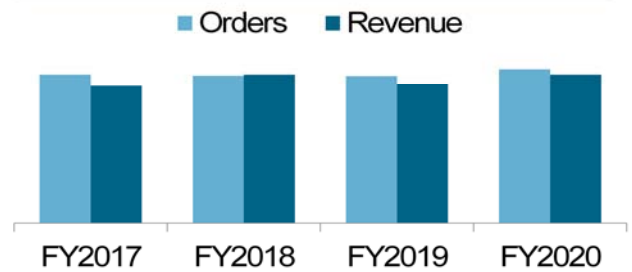


Double-column, 5-face milling machine



Metal 3D printer

Business Scale (Orders and Revenue)



Business Environment

- Demand is stable for domestic ferries and government ships
- Gas carriers face intensifying competition against Chinese and Korean companies. (Reorganization of Korean shipbuilders, etc.)
- Demand is increasing for environmental equipment supported by more stringent environmental regulations.



Measures

- Acceleration of shift to high-density outfitted ships (ferries, government ships, etc.)
- Realization of low-cost gas carriers
- Strengthening of marine engineering business (response to environmental regulations (SOx scrubber, FGSS, etc.) and safety regulations)
- Initiatives toward becoming the customer's lifecycle partner (cruise ship repair, etc.)

FGSS: Fuel gas supply system



Ferry



Special-purpose vessel

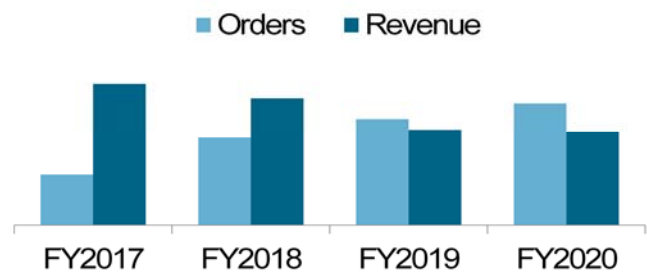


LPG carrier



SOx scrubber

Business Scale (Orders and Revenue)





Business Environment

- **Customer needs are increasingly sophisticated and complicated.**
(single product/technology ⇒ concept design to O&M management)
- **EPC business is becoming less profitable.**
(increasing construction costs)
- **Domestic and overseas engineering companies are shifting to new business model.**
- **Environmental awareness is increasing globally.**

O&M: Operation & maintenance
EPC: Engineering, procurement & construction

Business Scale (Orders and Revenue)



Challenges	Measures
New business model and portfolio for diversifying profitability	<ul style="list-style-type: none"> • Development of business considering plant lifecycle, concept design to O&M management. (expansion and improvement of project financing and engineering after-sales service business, etc.)
Improve profitability of large projects	<ul style="list-style-type: none"> • Project management through digitalization • Strengthening of risk management functions during bidding phase • Appropriate management of construction partners.
Accelerate development of core technologies	<ul style="list-style-type: none"> • Development of differentiated technologies for waste to energy plant, CO₂ recovery systems, APM, etc. <p style="text-align: right;"><small>APM: Automated People Mover</small></p>

MOVE THE WORLD FORWARD

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