

# **FY2020 Financial Results and 2021 Medium-Term Business Plan Progress**

**May 10, 2021**

### **I. FY2020 Financial Results**

- Financial Results Overview
- Financial Position Overview
- Cash Flows
- Results by Segment
  - Order Intake & Backlog
  - Revenue
  - Profit from Business Activities
- Profit Bridge
- COVID-19 Impact
- Summary

### **II. FY2021 Forecast**

- Targets and Main Actions
- Forecast Overview
- Forecast by Segment

### **III. 2021 MTBP Progress**

- Energy Transition
- New Mobility & Logistics
- Strengthen Profitability
- Social Responsibility and Community Engagement

### **IV. Summary**

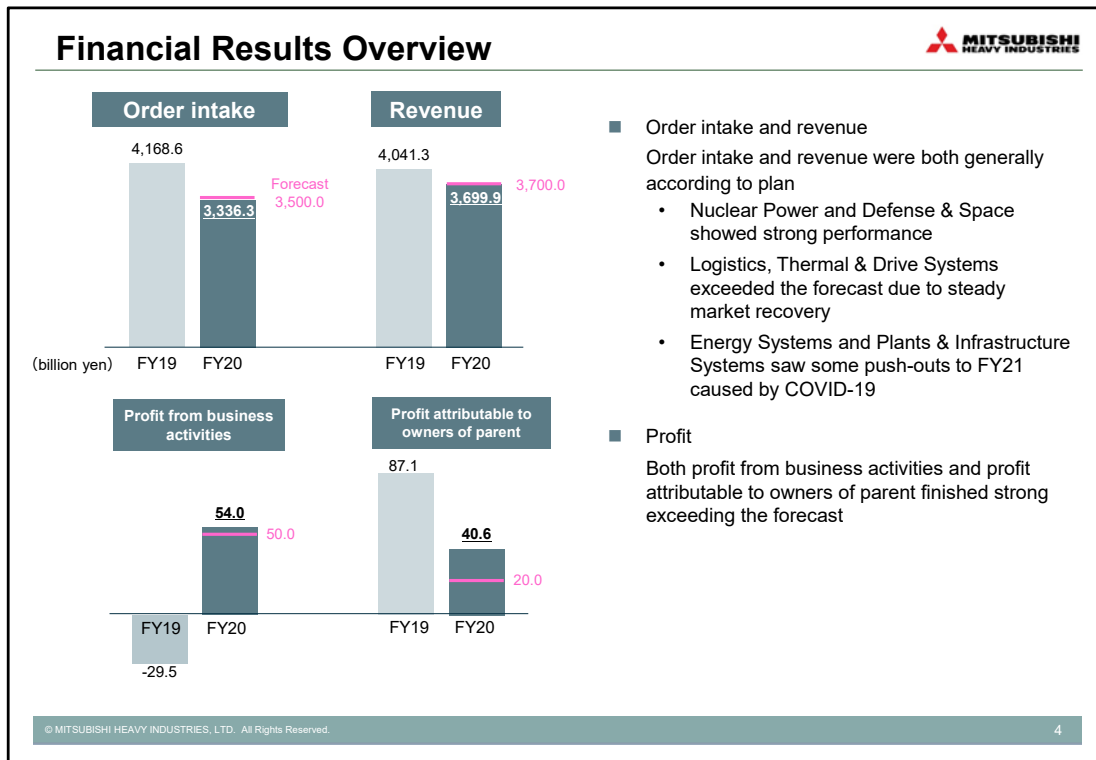
### **V. Appendix A**

**FY2020 Financial Results**

### **VI. Appendix B**

**2021 MTBP Progress**

## I. FY2020 Financial Results



I, CFO Kozawa, will explain the FY2020 Financial Results.

Order intake and revenue were generally in line with the plan, although they were lower than last year's results. Nuclear Power and Defense & Space remained strong throughout the fiscal year, and Logistics, Thermal & Drive Systems continued to recover after bottoming out in Q1.

As for the impact of COVID-19, Logistics, Thermal & Drive Systems has been steadily recovering since Q2. In the most recent quarter, it has nearly returned FY2019 Q4 levels. On the other hand, some of the businesses of order-made products such as Plants and Commercial Aviation are still affected. This point will be supplemented on page 13.

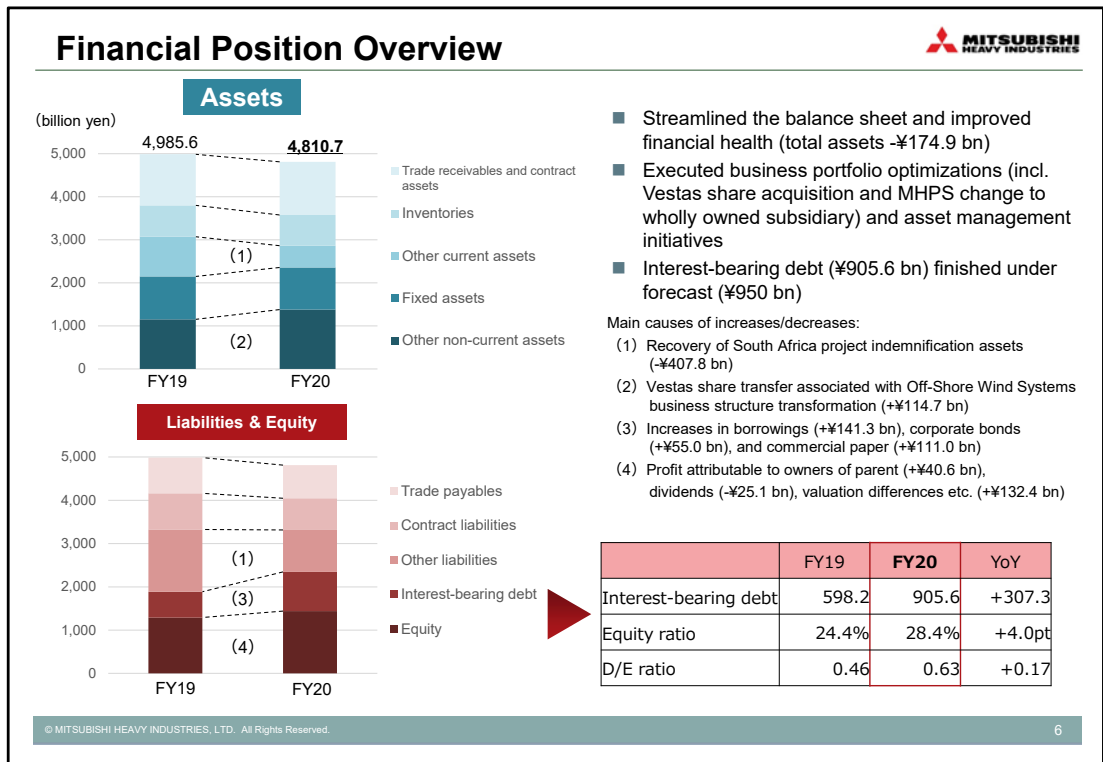
Regarding profit, both profit from business activities and profit attributable to owners of parent achieved the full-year forecast. Profit from business activities increased YoY, but profit attributable to owners of parent decreased. This is due to the fact that in FY2019, there was a nonrecurring gain in the SpaceJet business, which resulted in recording deferred tax assets related to losses incurred prior to FY2018.

## Financial Results Overview



(billion yen)

	(1)				YoY		(2)	(1) - (2)	
	FY2019		FY2020				SpaceJet	Businesses excl. SpaceJet	
	(Profit margin)		(Profit margin)					(Profit margin)	
Order intake	4,168.6		3,336.3		-832.3	(-20.0%)	-	3,336.3	
Revenue	4,041.3		3,699.9		-341.4	(-8.4%)	-	3,699.9	
Profit from business activities	(-0.7%)	-29.5	(1.5%)	54.0	+83.5	-	-116.2	(4.6%)	170.3
Profit attributable to owners of parent	(2.2%)	87.1	(1.1%)	40.6	-46.5	(-53.4%)	-83.2	(3.3%)	123.9
ROE	6.6%		3.1%		-3.5pt		-	-	
EBITDA	(2.8%)	115.1	(5.2%)	193.3	+78.2	(+68.0%)	-115.9	(8.4%)	309.2
Free cash flow	212.9		-277.1		-490.0	-	-129.4	-147.7	



MHI has long been committed to cash-flow oriented management and asset optimization through this approach. In FY2020, we executed business portfolio optimizations by reorganizing our Off-shore Wind Power joint venture with Vestas in Denmark and making Mitsubishi Hitachi Power Systems a wholly owned subsidiary.

As a result, we reduced total assets by ¥174.9 billion, and as I will explain later, we were able to keep interest-bearing debt below the fiscal year forecast level due to the improvement in free cash flow.

The equity ratio was 28.4%, a significant improvement over the previous fiscal year, partly due to an improvement in valuation difference due to rising stock market prices.

## Financial Position Overview



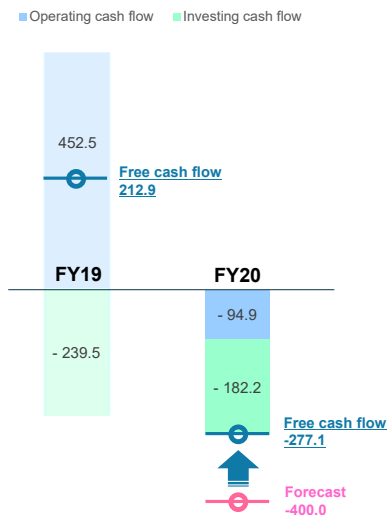
(billion yen)

	FY19	FY20	YoY
Trade receivables and contract assets	1,188.0	1,234.1	+46.1
Inventories	726.2	713.4	-12.8
Other current assets	924.2	507.0	-417.2
(Cash and cash equivalents)	(281.6)	(245.4)	(-36.2)
Total fixed assets	996.3	978.9	-17.4
Other non-current assets	1,150.8	1,377.1	+226.3
<b>Total assets</b>	<b>4,985.6</b>	<b>4,810.7</b>	<b>-174.9</b>
Trade payables	824.0	763.7	-60.3
Contract liabilities	835.4	731.8	-103.6
Other liabilities	1,437.8	970.1	-467.7
Interest-bearing debt	598.2	905.6	+307.4
Equity	1,290.0	1,439.3	+149.3
(Equity attributable to owners of the parent)	(1,218.3)	(1,366.3)	(+148.0)
<b>Total liabilities and equity</b>	<b>4,985.6</b>	<b>4,810.7</b>	<b>-174.9</b>

## Cash Flows



(billion yen)



### Free cash flow

Improved ¥122.9 bn vs. the forecast (-¥400 bn)

### Operating cash flow

Working capital initially increased\* but improved vs. the forecast due to advances received

\*Causes of working capital increases:

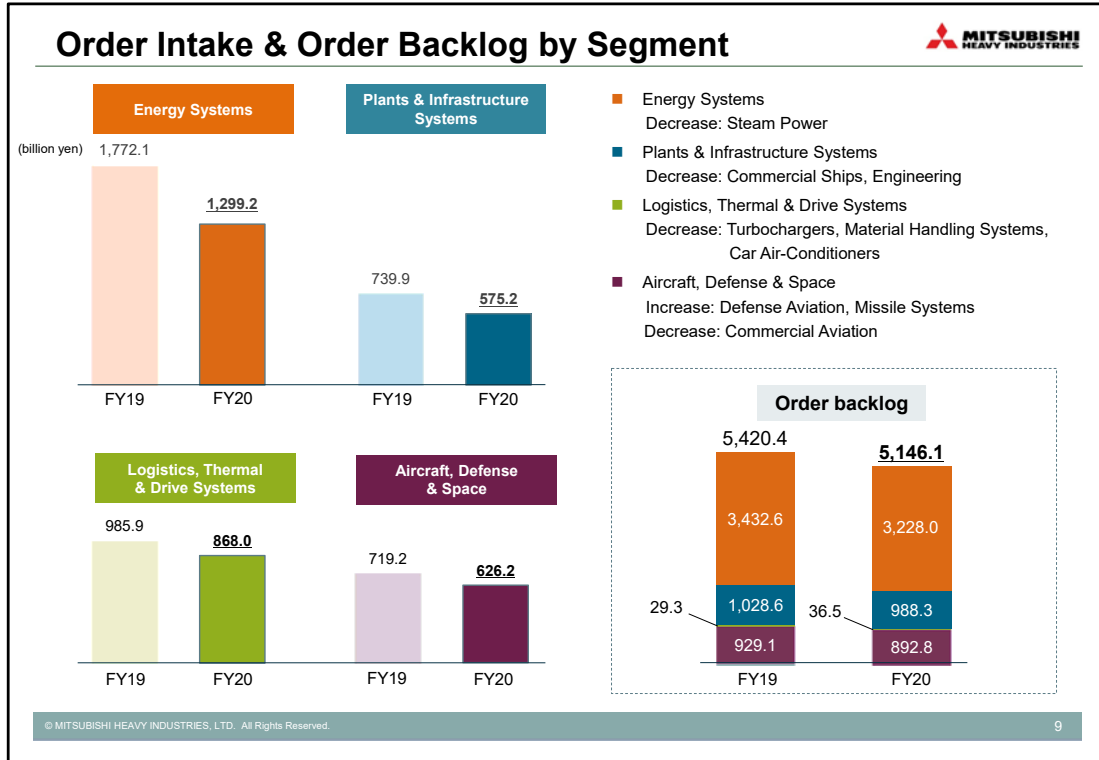
- Decreased cash inflows in Commercial Aviation due to lower revenues caused by COVID-19
- Increased cash outflows in Energy Systems and Plants & Infrastructure Systems from construction work progress in line with advances received in previous fiscal years

### Investing cash flow

Despite expenditures related to CRJ acquisition, the decrease in SpaceJet investment and cash flow produced by asset sales contributed to curbing total investment cash outflows

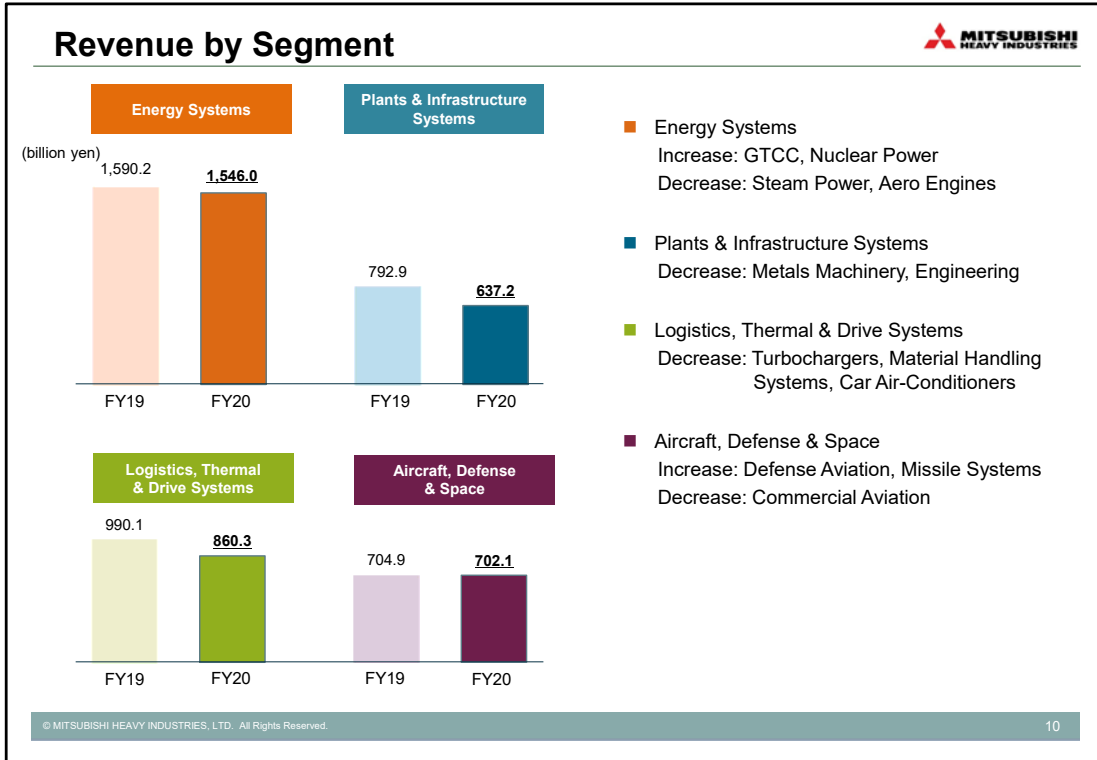
In addition to the large increase in cash outflows in line with advances received in previous fiscal years, the decrease in revenues due to the impact of COVID-19 unfortunately resulted in a free cash flow of negative ¥277.1 billion for this fiscal year. However, thanks to efforts to improve payment terms for construction projects, we were able to achieve an improvement of approximately ¥120 billion from the full-year forecast.



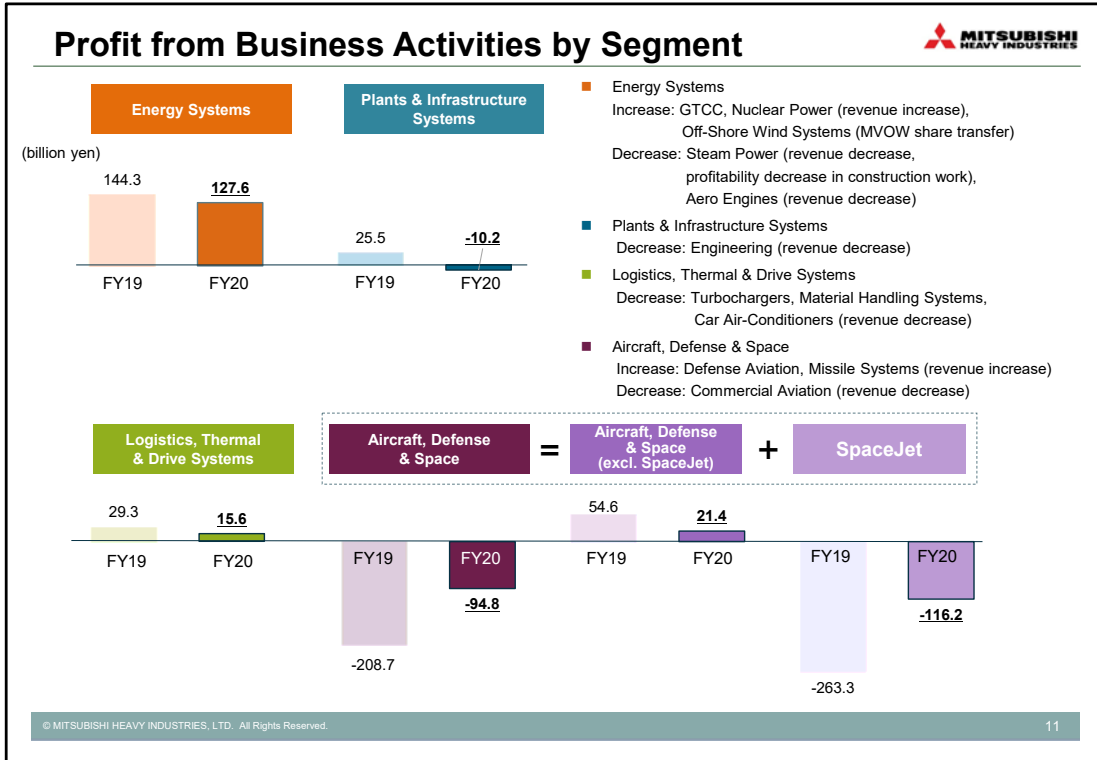


Supplementary information is provided on the table on page 58, so please refer to it as necessary.

Order intake during FY2020 was lower than the previous fiscal year in all segments. In addition to businesses directly affected by the impact of the market contraction caused by COVID-19 such as aviation-related businesses, Logistics, Thermal & Drive Systems, and plant businesses showed lower order intake decreased due to the postponement of contract negotiations caused by COVID-19.



Revenue from Energy Systems and Aircraft, Defense & Space was almost unchanged from the previous fiscal year, while Plants & Infrastructure Systems and Logistics, Thermal & Drive Systems declined.



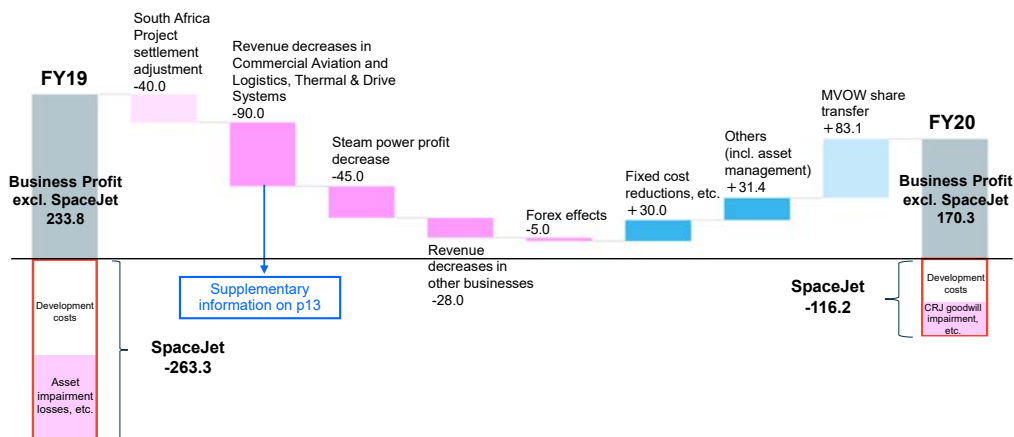
Only Aircraft, Defense & Space showed an increase in profit and a reduction in losses over the previous year. This was due to the fact that we were able to significantly reduce losses related to SpaceJet, despite a large decrease in profit from Commercial Aviation.

Please refer to the text to the upper right for details on profit increases and decreases in each business.

## Profit Bridge



- COVID-19 impact: Recovery seen in Logistics, Thermal & Drive Systems after bottoming out in Q1. Commercial Aviation recovery slowed due to market contraction after a resurgence of COVID-19 beginning in Q3.
- Combatting COVID-19 downturn: Improvements from fixed cost reductions and asset management exceeded the initial target of ¥45.0 bn
- SpaceJet: Losses (¥116.2 bn) finished slightly less than the forecast (¥120.0 bn)



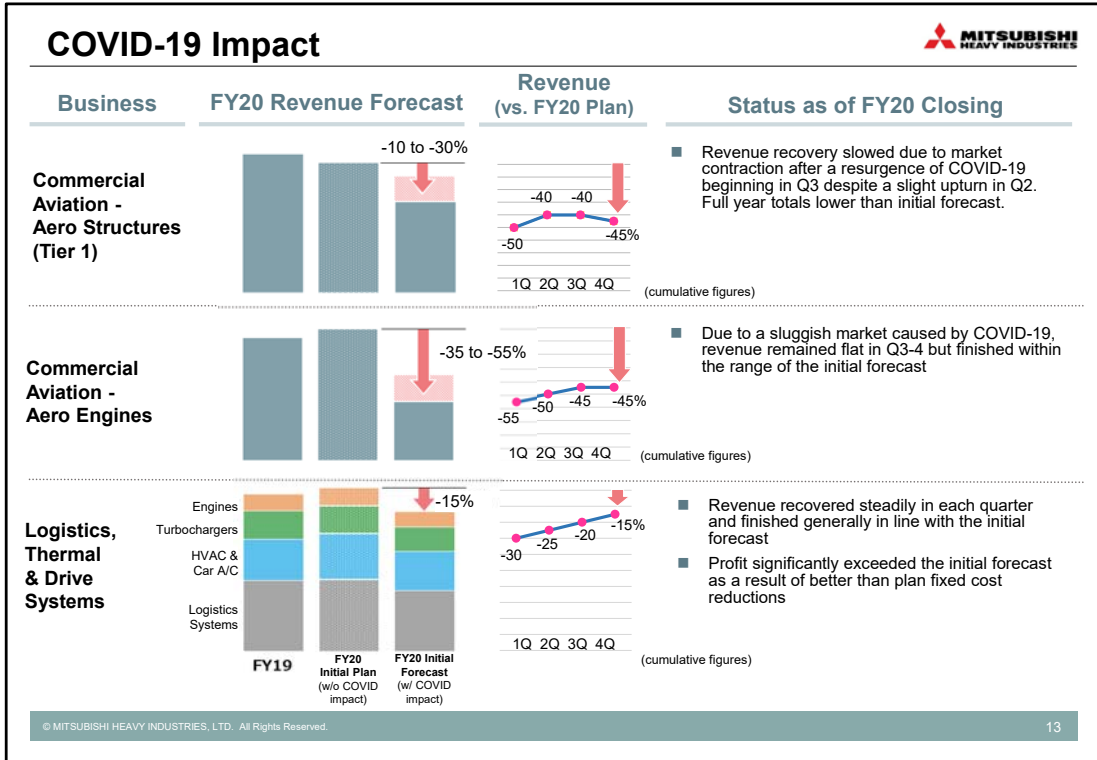
© MITSUBISHI HEAVY INDUSTRIES, LTD. All Rights Reserved.

12

The left-most bar, profit from business activities for FY2019, shows ¥263.3 billion in SpaceJet-related losses, and ¥233.8 billion in profit excluding SpaceJet. The right-most bar, profit from business activities for the current fiscal year, shows ¥116.2 billion in SpaceJet-related losses, and ¥170.3 billion in profit excluding SpaceJet. In the previous announcement, the forecast was ¥170 billion, so the results of profit from business activities excluding SpaceJet were almost in line with these figures.

Regarding SpaceJet, FY2019 includes ¥122.4 billion of impairment losses on assets acquired prior to FY2018, while FY2020 includes approximately ¥60 billion of nonrecurring expenses such as goodwill impairment related to the CRJ acquisition.

Revenue decreases in Commercial Aviation and Logistics, Thermal & Drive Systems, which are represented in the third bar from the left, are explained on the next page.



This page shows the assumptions regarding COVID-19 impact included in initial FY2020 plan together with results by quarter as compared to the plan.

FY2020 year-end revenue in Aero Structures Tier 1, which supplies aero structures mainly to Boeing, fell below the bottom range of the initial forecast. There was significant improvement from Q1 to Q2, but then recovery slowed from Q3-Q4.

Aero Engines progressed along the lower end of the initial forecast range in Q1 but picked up slightly from Q2 onward and achieved initial projections at the end of the year.

Logistics, Thermal & Drive Systems bottomed out in Q1 and has been recovering as expected or slightly better since Q2. Fixed cost reductions were also successful, and profit exceeded the initial forecast.

## Summary of FY2020 Results



- Achieved profit forecast
  - Profit from business activities and profit attributable to owners of parent both exceeded the forecast
  - Strong profits from GTCC, Nuclear Power, Logistics, Thermal & Drive Systems, and Defense & Space despite both positive and negative nonrecurring items
- Financial position
  - Streamlined the balance sheet and moved forward with asset optimization
  - Interest-bearing debt and D/E ratio improved vs. the forecast
- Business portfolio
  - Optimizing the business portfolio to focus on company strengths  
(Optimization of Off-Shore Wind Systems, sale of Machine Tools business, acquisition of Naval and Governmental Ships business, and sale of Koyagi Shipyard)
  - Made mid- to long-term investments in the Energy Transition space, a strategic growth area for MHI Group. This included start-up investment and participation in international development projects.

Although order intake fell short of the plan due to delays in contract negotiations in some businesses, revenue was in line with the announced figures and profits exceeded the announced figures.

Despite negative free cash flow, we have made steady progress in improving our balance sheet. We also executed business portfolio optimizations to focus on strength areas. We are also making mid- to long-term investments in the Energy Transition Space, including start-up investments.

We will continue these efforts going forward. This ends the explanation of the FY2020 financial results.

## II. FY2021 Forecast

**Regarding forward-looking statements:**

The forward-looking statements contained in these materials are based on judgments made in accordance with information available at the time of creation and include risks and uncertainties. As such, investors are recommended not to depend solely on these projections when making investment decisions. Actual results may vary significantly from these projections due to a number of factors, including but not limited to: economic trends affecting the Company's business environment, currency exchange rate fluctuations, and stock market trends in Japan. These financial projections should not be construed in any way as a guarantee by the Company.

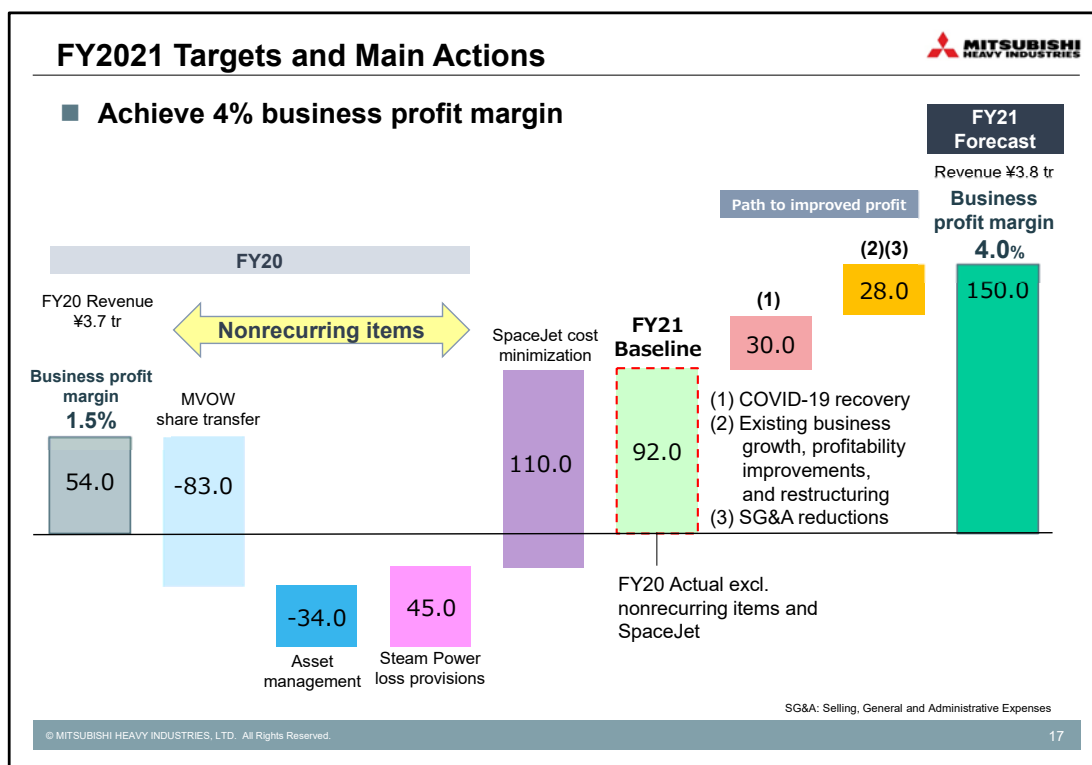
FY2021 Targets			MITSUBISHI HEAVY INDUSTRIES
	FY2020	FY2021	2021 MTBP FY2023
Revenue	¥3.7 tr	¥3.8 tr	¥4.0 tr
Business profit margin	1.5%	4%	7%
ROE	3.1%	7%	12%
Total assets	¥4.8 tr	¥4.7 tr	¥4.5 tr
Interest-bearing debt	¥0.9 tr	¥0.9 tr	¥0.9 tr
Equity	¥1.4 tr	¥1.5 tr	¥1.5 tr
D/E Ratio	0.6	0.6	0.6
Shareholder equity ratio	28%	30%	33%
Dividend per share	¥75	¥90	¥160

© MITSUBISHI HEAVY INDUSTRIES, LTD. All Rights Reserved. 16

First, please look at page 18. The plan for FY2021 is ¥3.6 trillion in order intake, ¥3.75 trillion in revenue, ¥150 billion in profit from business activities, ¥90 billion in profit attributable to owners of parent, and zero free cash flow. We planned to make significant improvements in each of these areas starting in FY2020.

Please go back to page 16. The main focus of the FY2021 plan is to begin steady progress towards achieving FY2023. We will improve profit indicators such as business profit margin and ROE and increase annual dividend per share from ¥75 in FY2020 to ¥90 while maintaining financial stability.





Here is a summary of the changes in profit from business activities between the FY2020 closing and the FY2021 forecast.

The baseline for FY2021 profit from business activities is ¥92 billion, starting with the ¥54 billion from FY2020 on the left-most bar. This excludes non-recurring items such as the gain on the sale of MVOW shares and sales of fixed assets (factories) and loss provisions in Steam Power and also reflects the pausing of SpaceJet development.

During the recovery from COVID-19, we expect a ¥30 billion improvement in FY2021, mainly in Logistics, Thermal & Drive Systems, and ¥28 billion from growing existing businesses and fixed cost reductions.

This concludes my explanation.

Mr. Izumisawa, our President and CEO will continue to explain 2021 Medium-Term Business Plan Progress.

## FY2021 Forecast Overview



(billion yen)

	FY2020 Actual		FY2021 Forecast		YoY	
	(profit margin)		(profit margin)		(profit margin)	
Order intake		3,336.3		3,600.0	+263.7	(+7.9%)
Revenue		3,699.9		3,750.0	+50.1	(+1.4%)
Profit from business activities	(1.5%)	54.0	(4.0%)	150.0	+96.0	(+177.4%)
Profit attributable to owners of parent	(1.1%)	40.6	(2.4%)	90.0	+49.4	(+121.5%)
ROE		3.1%		6.5%	+3.4pt	-
EBITDA	(5.2%)	193.3	(7.5%)	280.0	+86.7	(+44.8%)
FCF		-277.1		0.0	+277.1	-
Dividends		75 yen Interim: 0 yen Final: 75 yen		90 yen Interim: 45 yen Final: 45 yen		

Exchange rate assumptions  
 USD 1.00 = ¥110  
 EUR 1.00 = ¥130

Undetermined foreign  
 currency amounts  
 USD 3.3 bn  
 EUR 0.5 bn

## FY2021 Forecast by Segment



(billion yen)

	Order intake			Revenue			Profit from business activities		
	FY20 Actual	FY21 Forecast	YoY	FY20 Actual	FY21 Forecast	YoY	FY20 Actual	FY21 Forecast	YoY
Energy Systems	1,299.2	1,400.0	+100.8	1,546.0	1,600.0	+54.0	127.6	100.0	-27.6
Plants & Infrastructure Systems	575.2	700.0	+124.8	637.2	650.0	+12.8	-10.2	20.0	+30.2
Logistics, Thermal & Drive Systems	868.0	950.0	+82.0	860.3	950.0	+89.7	15.6	30.0	+14.4
Aircraft, Defense & Space	626.2	600.0	-26.2	702.1	600.0	-102.1	-94.8	20.0	+114.8
Others	-32.4	-50.0	-17.6	-45.7	-50.0	-4.3	15.8	-20.0	-35.8
<b>Total</b>	<b>3,336.3</b>	<b>3,600.0</b>	<b>+263.7</b>	<b>3,699.9</b>	<b>3,750.0</b>	<b>+50.1</b>	<b>54.0</b>	<b>150.0</b>	<b>+96.0</b>

## III. 2021 MTBP Progress

Now, I, President and CEO Izumisawa, will explain 2021 Medium-Term Business Plan Progress.

## MHI Group Mission



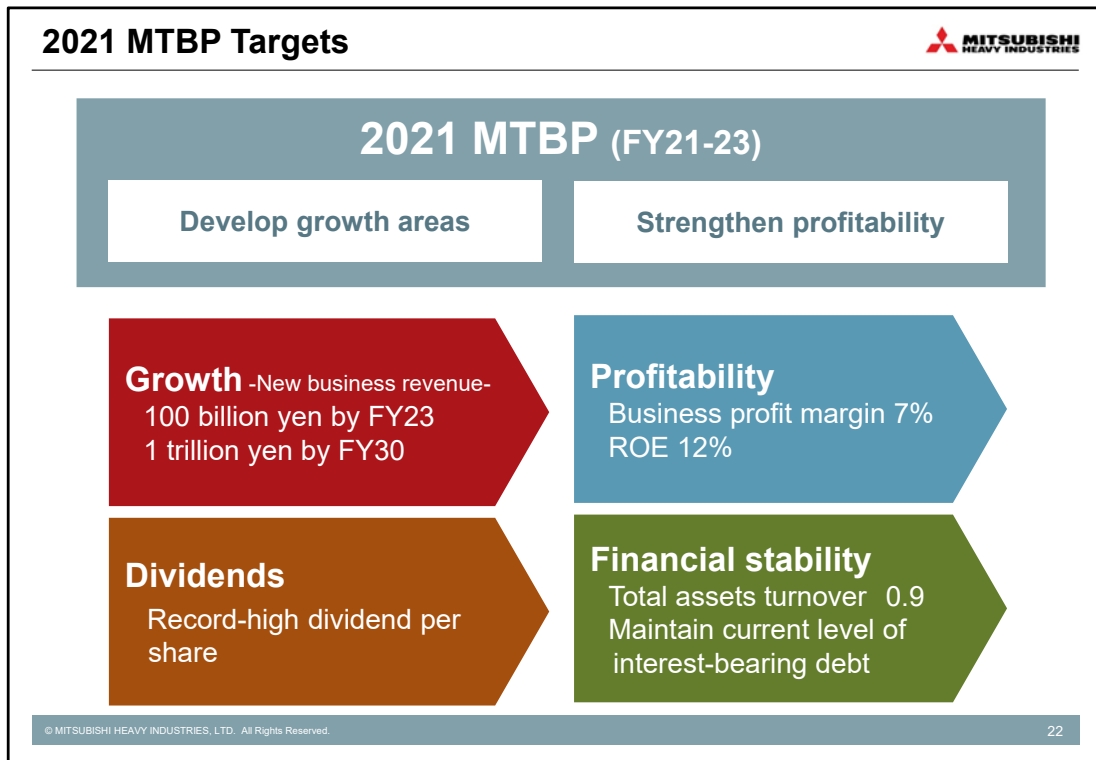
**Integrate cutting-edge technology into expertise built up over many years to provide solutions to the world's most pressing issues and provide better lives**

© MITSUBISHI HEAVY INDUSTRIES, LTD. All Rights Reserved.

21

MHI's mission is to integrate cutting-edge technology into expertise built up over many years to provide solutions to the world's most pressing issues and provide better lives.

## 2021 MTBP Targets



During the 2021 Medium-Term Business Plan period, MHI will develop growth areas and strengthen profitability while achieving targets in 4 major areas: growth, profitability, dividends, and financial stability.

## 2021 MTBP Targets



### 2021 MTBP (FY21-23)

Develop growth areas

Strengthen profitability

**Growth** -New business revenue-  
100 billion yen by FY23  
1 trillion yen by FY30

First, let me explain the development of growth areas.

Through the initiatives I will outline in this section, MHI will generate ¥100 billion in new business revenue by FY2023 and ¥1 trillion by FY2030.

# Energy Transition



## Decarbonization is accelerating around the World



	2030 GHG Emissions	Carbon Neutrality Target
<b>Japan</b>	<b>-46%</b> (vs. 2013 levels)	2050
<b>USA</b>	<b>-50-52%</b> (vs. 2005 levels)	-
<b>China</b>	<b>-65%</b> (vs. 2005 levels per unit GDP)	2060
<b>EU</b>	<b>-55%</b> (vs. 1990 levels)	2050
<b>UK</b>	<b>-78%</b> (vs. 1990 levels by 2035)	2050

Combine MHI Group's wide-ranging technologies to overcome challenges and help achieve the world's ambitious decarbonization targets

GHG: Greenhouse Gases

© MITSUBISHI HEAVY INDUSTRIES, LTD. All Rights Reserved.

25

Countries around the world are accelerating their decarbonization efforts. As summarized in this table, Japan, the USA, China, the EU, and the UK have each set targets for reducing greenhouse gas emissions by 2030 (2035 for the UK).

These are challenging goals, and MHI Group will contribute to achieving these targets with our technologies and resources.

### Build an innovative solutions ecosystem to realize a carbon neutral future

Decarbonize existing  
infrastructure



Build a hydrogen  
solutions ecosystem



Build a CO<sub>2</sub>  
solutions ecosystem



MHI believes that both short- and mid- to long-term efforts are necessary to achieve carbon neutrality. In the short-term, until the expansion of renewable energy and the establishment of hydrogen and CO<sub>2</sub> infrastructure is complete, we will need to decarbonize and effectively utilize existing infrastructure. In the medium- to long-term, we will work to build hydrogen and CO<sub>2</sub> solutions ecosystems.

## The Path to achieving Carbon Neutrality



**Decarbonize existing infrastructure**



**Build a hydrogen solutions ecosystem**



**Build a CO<sub>2</sub> solutions ecosystem**



## Decarbonization Solutions Ecosystem



**Stabilize power supplies and minimize costs to the broader community** by effectively **utilizing existing infrastructure** during the expansion of renewable energy

### Renewable Energy

- ✓ Carbon-free energy
- ✓ Large fluctuations in power supply (short- and long-term)



### Energy Storage

- ✓ Carbon-free energy
- ✓ Compensate for power supply fluctuations (short-term)



### Nuclear Power

- ✓ Carbon-free energy
- ✓ Stable power supply



### Thermal Power

- ✓ Decarbonization (hydrogen and CO<sub>2</sub> capture)
- ✓ Compensate for power supply fluctuations (long-term)



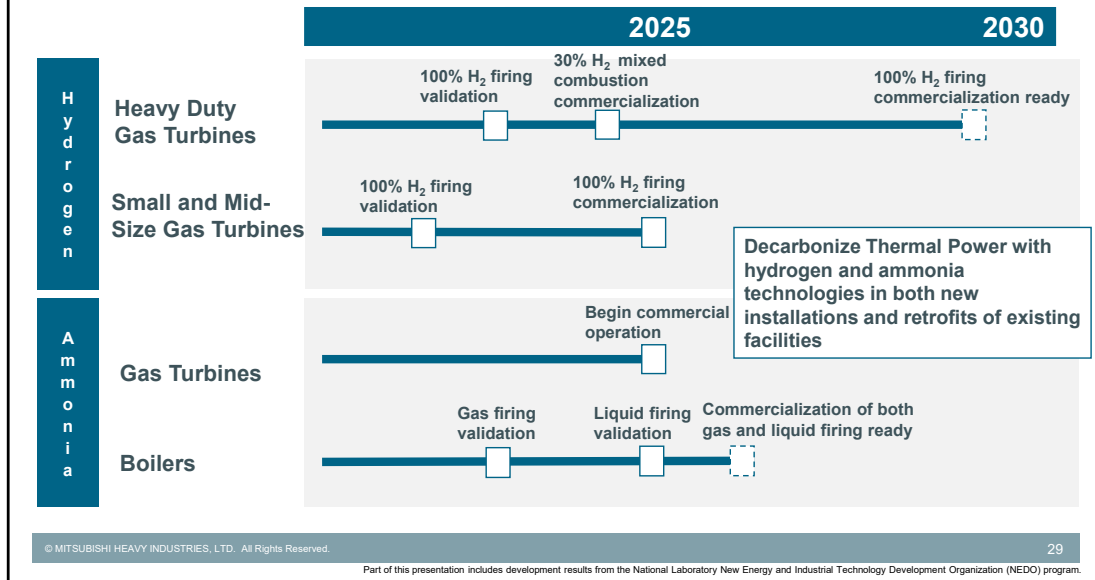
At present, use of renewable energy is spreading in the lead-up to carbon neutrality.

Electricity is essential to our lives and industry, and ways to compensate for the power supply fluctuations and additional costs associated with the introduction of renewable energy are also needed. To this end, MHI will work to use Nuclear Power as a base load power source and to decarbonize existing thermal power facilities.

## Decarbonizing Thermal Power



Validate and begin commercializing carbon-free power generation using hydrogen and ammonia by 2025



MHI Group is working to develop, validate, and commercialize carbon-free power generation technologies using hydrogen and ammonia.

We are currently conducting validation testing of 30% mixed hydrogen firing gas turbines, which will enable us to use hydrogen on existing equipment without major modifications. The goal is to commercialize this technology by 2025. We are also developing combustors, the key technology for 100% hydrogen firing, for both heavy duty and small and mid-sized gas turbines. We believe that we will be able to commercialize 100% hydrogen firing technology around 2030.

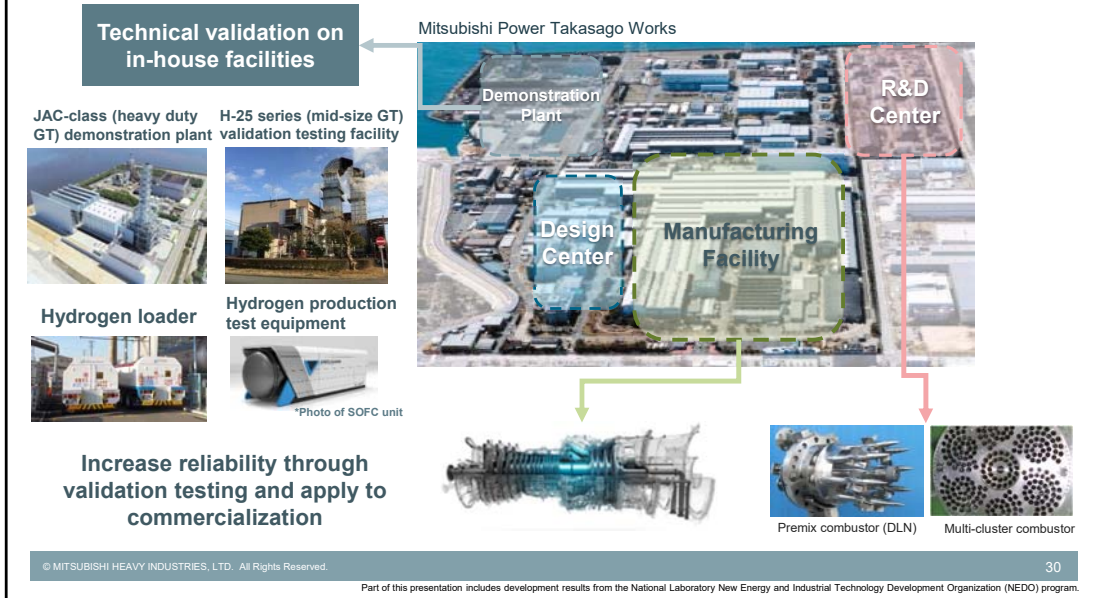
We are also developing ammonia technology and aim to commercialize it by around 2025 after validation testing.

Both hydrogen and ammonia technologies will be applied to not only new plants but also existing facilities through minimal modification, which will help to both eliminate CO<sub>2</sub> emissions and effectively utilize existing assets.

## Decarbonizing Thermal Power



Completed integration of development processes from R&D to validation and testing on in-house equipment



In order to support hydrogen and ammonia technology development, MHI has integrated development processes from R&D to validation at Mitsubishi Power Takasago Works.

Hydrogen combustor technology, the key component to the hydrogen-fired gas turbine, is being developed at the R&D center in the upper right-hand corner of this diagram, and equipment is manufactured at the manufacturing facility in the center. We are conducting validation testing on actual equipment at the demonstration plant shown in the upper left-hand corner.

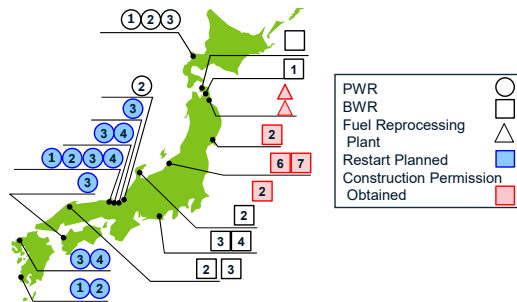
This integrated development process will ensure that any equipment is adequately validated and reliability verified before being delivered to the customer.

## Nuclear Power Contributions to Carbon Neutrality



- Supporting restart efforts for existing plants, building Specialized Security Facilities (SSF), and completing the nuclear fuel cycle
- Develop and commercialize a next-generation light water reactor with the world's highest level of safety

### Status of Plant Restarts



- ✓ Supporting restart efforts for 12 PWRs and working to support restart of other plants including BWRs
- ✓ Working to complete construction of a nuclear fuel reprocessing and MOX processing plant as the lead company  
MOX: A mixture of plutonium and uranium

### New Light Water Reactor



- ✓ Reinforce safety measures and increase resilience to natural disasters
- ✓ Introduce new safety concepts leveraging cutting-edge technology

**The world's safest  
nuclear reactor**

© MITSUBISHI HEAVY INDUSTRIES, LTD. All Rights Reserved.

31

Specialized Security Facilities (SSF): Large-scale facilities isolated from the main plant used to safely shut down a reactor in the event of a severe security incident

As indicated by the blue circles in the map to the left, MHI is supporting restart efforts for 12 PWR type nuclear power plants in Japan. In order to complete the nuclear fuel cycle, we are also working as the lead company to complete construction of a nuclear fuel reprocessing and a MOX processing plant.

In addition to these efforts, we have also started development of a next-generation light water reactor that will achieve the world's highest level of safety. This new type of plant will feature enhanced safety measures and improved resilience to natural disasters.

# The Path to achieving Carbon Neutrality



Decarbonize existing infrastructure



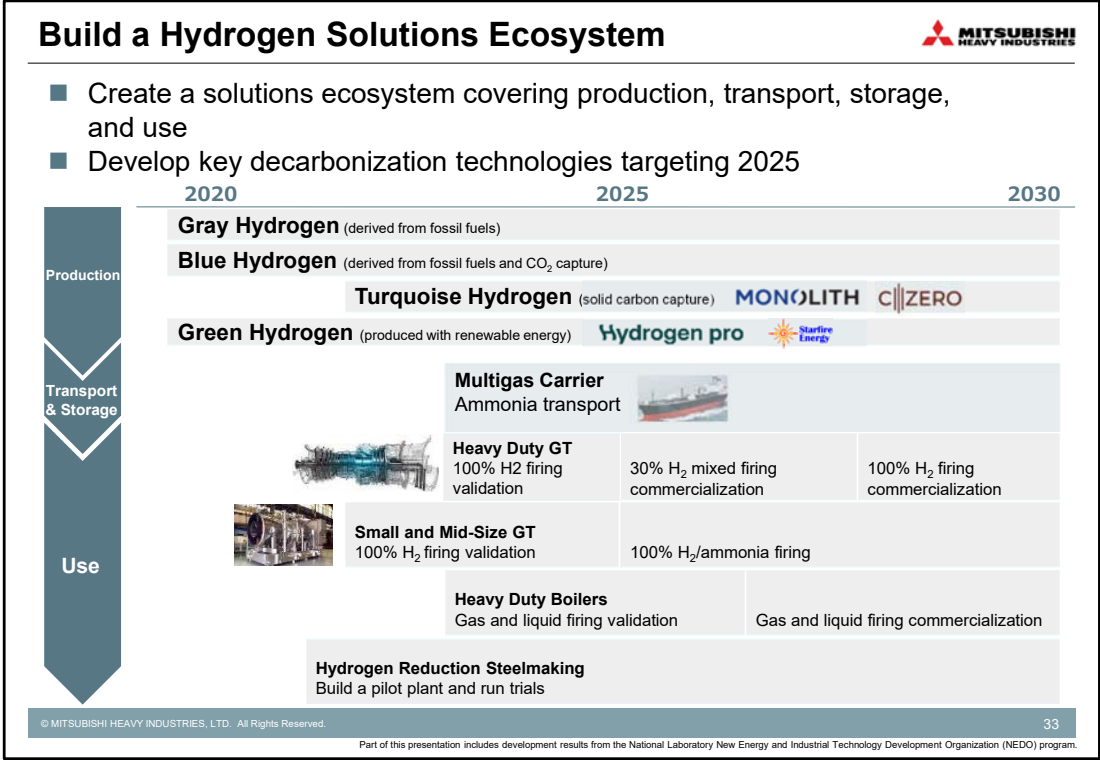
Build a hydrogen solutions ecosystem



Build a CO<sub>2</sub> solutions ecosystem





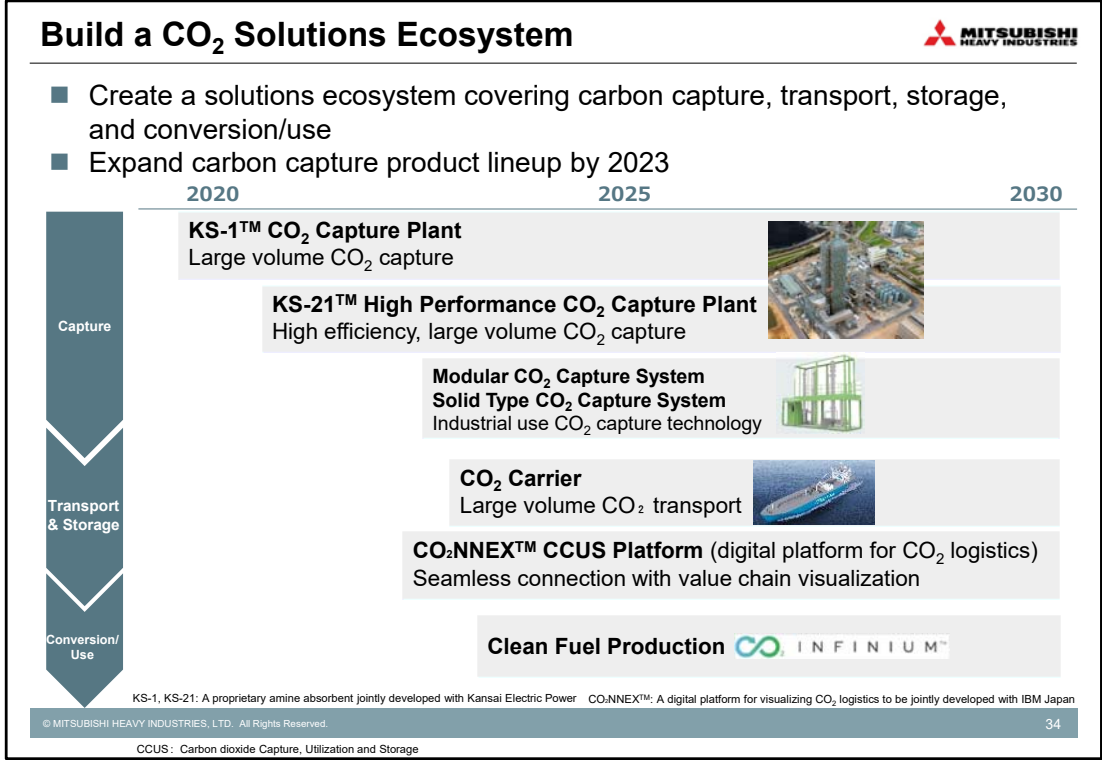


Building a hydrogen solutions ecosystem will require a wide range of technological development and investment in the production, transport, storage, and use of hydrogen.

Various hydrogen production technologies have been developed or proposed, such as gray, blue, and green hydrogen. MHI Group will form strategic partnerships with development companies to determine the scale-up potential of these technologies.

In the industrial sector, Primetals Technologies is building a pilot plant for hydrogen reduction steelmaking.

MHI Group hopes to finish development efforts for these technologies by 2025 and further contribute to building a hydrogen solutions ecosystem with the goal of commercialization.



MHI is working to build a CO<sub>2</sub> solutions ecosystem that covers CO<sub>2</sub> capture, transport, storage, and conversion/use. We have already commercialized the world's largest volume CO<sub>2</sub> capture system. Going forward, we will work to further improve the performance of the absorbent used in these systems.

We are also planning to commercialize modular CO<sub>2</sub> capture systems for the industrial sector. We have received many inquiries about CO<sub>2</sub> capture, mainly from the industrial sector, and we hope to turn this customer interest into actual projects.

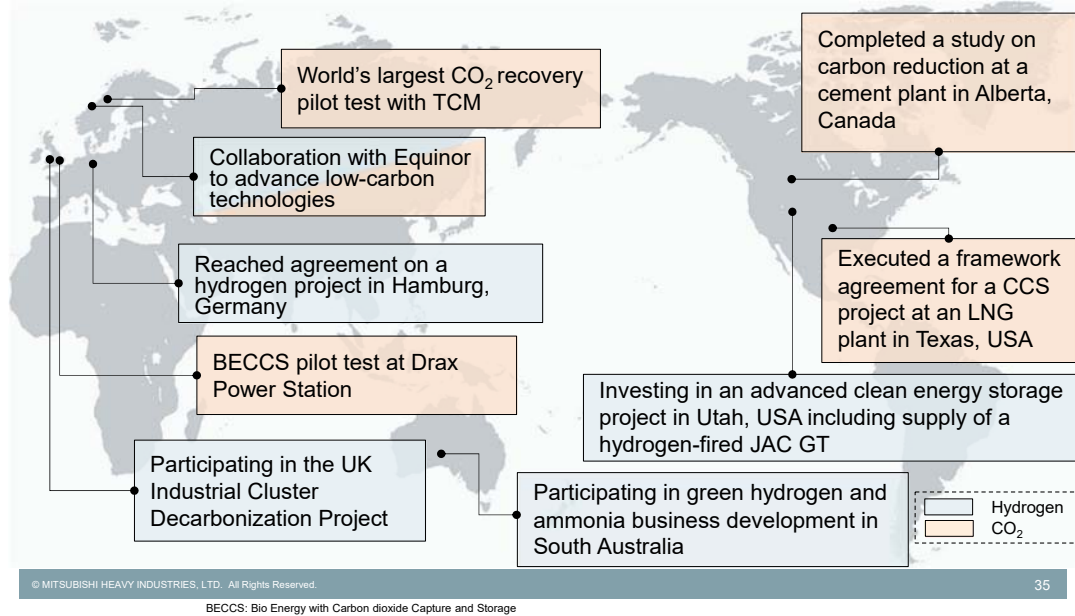
Storage, conversion, and use will be an important part of the CO<sub>2</sub> solutions ecosystem. As announced on May 6, as a joint development project with IBM Japan and other companies, we are currently developing the CO<sub>2</sub>NNEX CCUS platform, a digital platform for visualizing the distribution of CO<sub>2</sub> within the value chain. We will also consider the potential of CO<sub>2</sub>-based fuel production in the future.

An extensive knowledge base will be needed to realize these new hydrogen and CO<sub>2</sub> technologies. However, the situation is different in each region of the world. As such, MHI group will not commercialize these technologies on our own, but rather we will participate in projects in leading regions to advance commercialization efforts.

## Global Joint Hydrogen/CO<sub>2</sub> Business Development



Engaging in projects in leading regions, advancing commercialization efforts



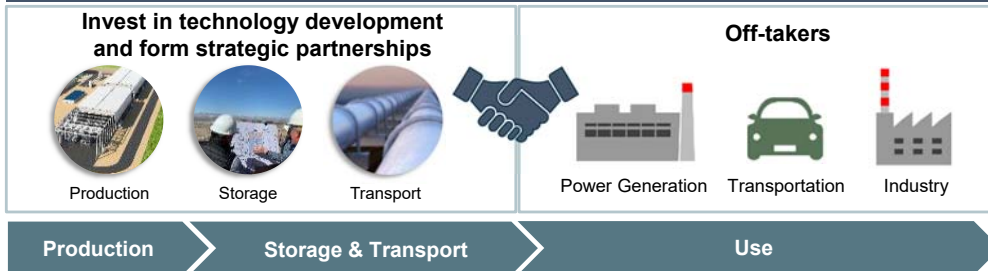
MHI is participating in various business development projects involving hydrogen and CO<sub>2</sub> technologies in North America, Europe, and Australia.

## Build a Hydrogen Solutions Ecosystem in North America



### Participating in advanced projects in North America

#### Build a hydrogen solutions ecosystem by connecting hydrogen users with production, storage, and transport



#### Active projects

Advanced Clean Energy Storage:  
Developing a 1,000 MW energy storage facility

Intermountain Power Agency: Won order for  
840 MW hydrogen-fired JAC-class GT

Entergy: Executed a Joint Development Agreement for hydrogen production, storage, and use

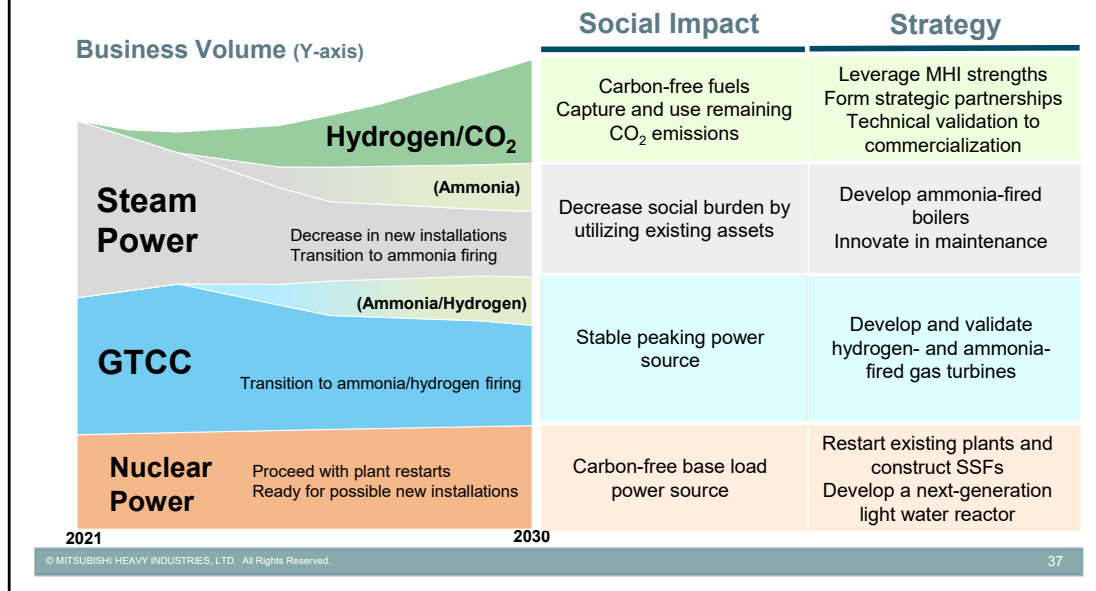
MHI Group is working to build a hydrogen solutions ecosystem in North America by connecting hydrogen users with production, storage, and transport. One such project, a 1,000 MW energy storage facility, will send stored hydrogen through a pipeline to a heavy duty gas turbine, which will use the hydrogen to generate electricity to power the region.

I expect that similar hydrogen solutions ecosystems will be developed around the globe in the future.

## Grow Businesses through the Energy Transition



Build hydrogen and CO<sub>2</sub> solutions business scale in addition to decarbonizing existing infrastructure



This page shows business volume projections for each technology during the Energy Transition.

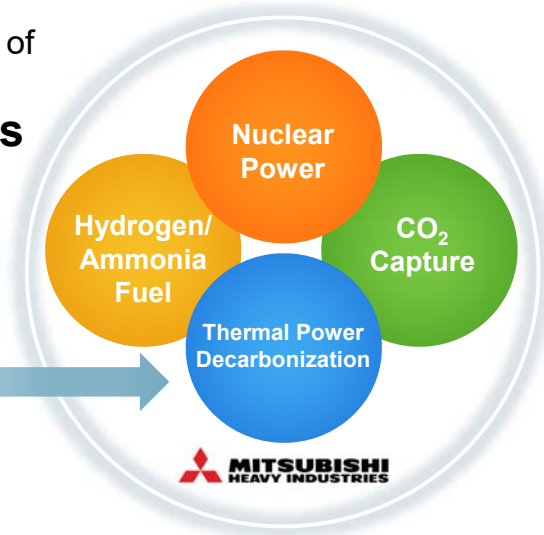
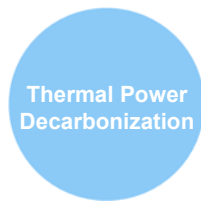
As for Nuclear Power, restart efforts for existing plants are expected to proceed to a certain extent, so we project flat or slight growth in this area.

Drying up of investment in conventional Thermal Power will lead to a significant decrease in new Steam Power installations. This downturn will be partially covered by expanding after-sales service, but we expect overall contraction in this business.

MHI will make up for these shortfalls by retrofitting existing thermal power facilities with low-carbon technologies, and also by commercializing the hydrogen and CO<sub>2</sub> capture solutions.

## Mitsubishi Power to be integrated into MHI (Oct 2021)

Contribute to the achievement of  
Carbon Neutrality as a  
**total energy solutions  
company**



As one step in advancing MHI's Energy Transition efforts, Mitsubishi Power will be integrated into MHI in October of this year. This will strengthen the Group and solidify our position as a total energy solutions company.

### **Strengthen MHI Group to build hydrogen and CO<sub>2</sub> solutions ecosystems**

- Dynamically integrate MHI and Mitsubishi Power resources
- Rapidly advance decarbonization of the existing Thermal Power business in parallel with hydrogen and CO<sub>2</sub> solutions ecosystems efforts

### **Transform the Thermal Power business structure to focus on decarbonization**

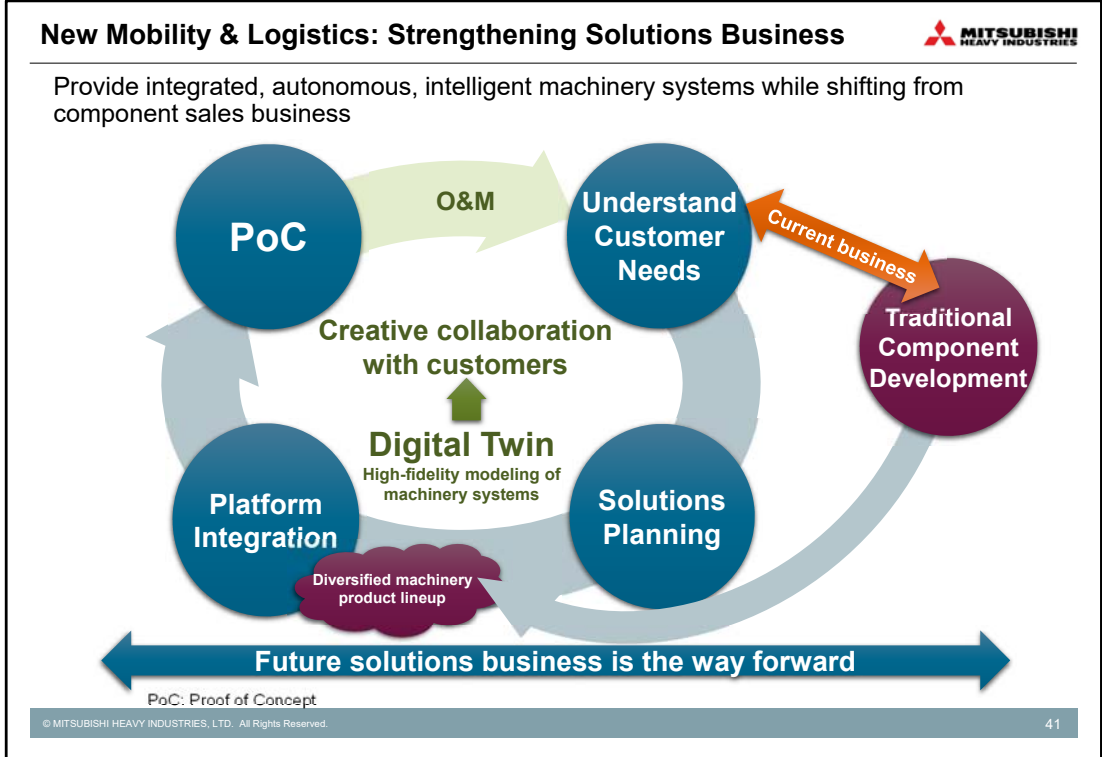
- Steam Power will take the following actions in the transition to decarbonization
  - ✓ Transform into an advanced maintenance and service business
  - ✓ Optimize production and increase competitiveness of steam turbines
- Consolidate functions from planning to execution in each business line, allowing streamlined organizations to improve operational flexibility

This integration will enable us to both quickly decarbonize Thermal Power, which is overseen by Mitsubishi Power, and build hydrogen and CO<sub>2</sub> solutions ecosystems, efforts promoted by MHI.

In parallel, we will transform the Thermal Power business structure to focus on decarbonization. Specifically, it will be transformed into an advanced maintenance and innovation-driven organization. We will also optimize production and increase competitiveness of steam turbines.

# New Mobility & Logistics



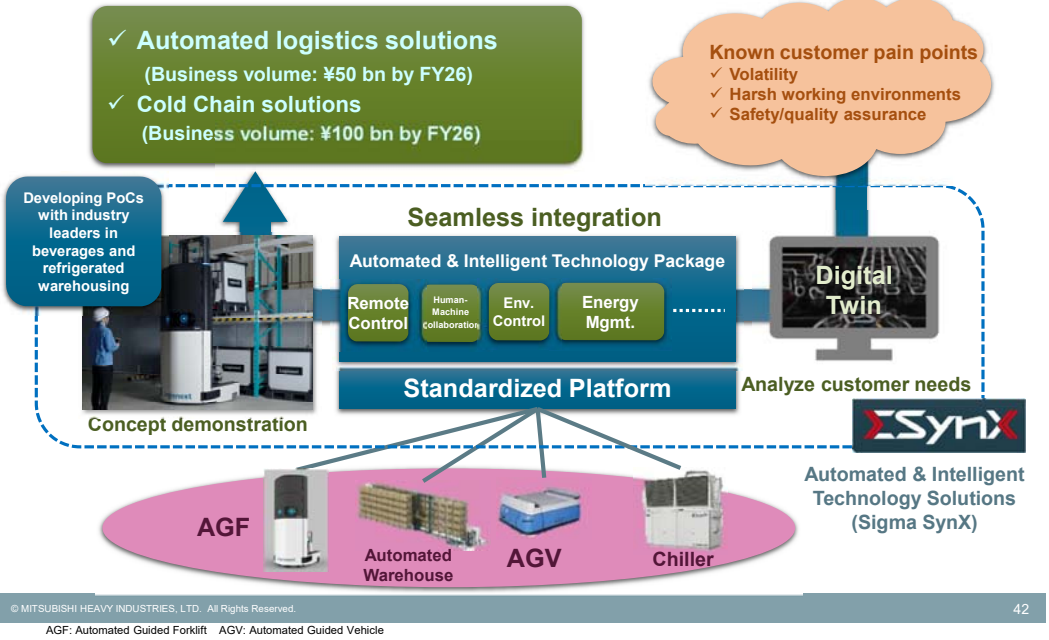


In the New Mobility & Logistics space, in addition to the conventional component sales business shown on the right side, MHI will expand our business scope to provide solutions to address customers' pain points by integrating diverse mechanical systems with autonomous and intelligent technologies.

We will provide solutions using simulations produced with the Digital Twin model and then work together with the customer to confirm the effectiveness of these solutions. We have already built a demonstration facility at our Research & Innovation Center in Takasago and are creatively collaborating with our customers.

## New Mobility & Logistics: Launching Logistics Solutions

Developing comprehensive logistics solutions

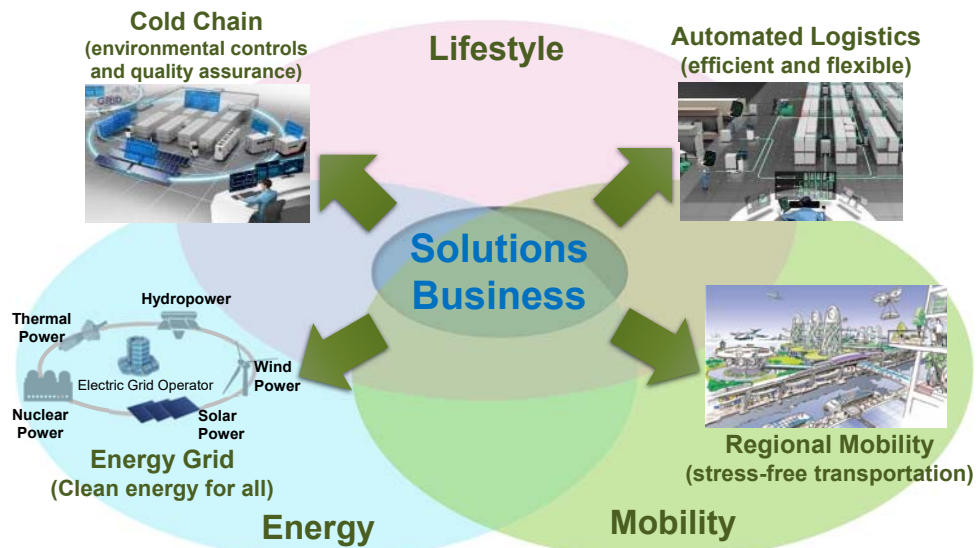


In the Logistics space, there are known customer pain points such as volatility due to demand fluctuations, labor shortages, and quality assurance. MHI will use the Digital Twin simulation platform to analyze these issues and produce potential solutions.

In order to realize these solutions, we will build a standardized platform that will seamlessly integrate not only our products, but also other company's products. This concept is currently in the development stage, and we have already started validation testing.

We are working with customers in the beverages and refrigerated warehousing industries to validate this concept, and we are starting to see good results.

Expand the solutions business to cover all product areas



MHI plans to expand the pilot program created for automated logistics and Cold Chain to the Mobility and Energy spaces in the future.

## 2021 MTBP Targets



### 2021 MTBP (FY21-23)

Develop growth areas

Strengthen profitability

#### Profitability

Business profit margin 7%  
ROE 12%

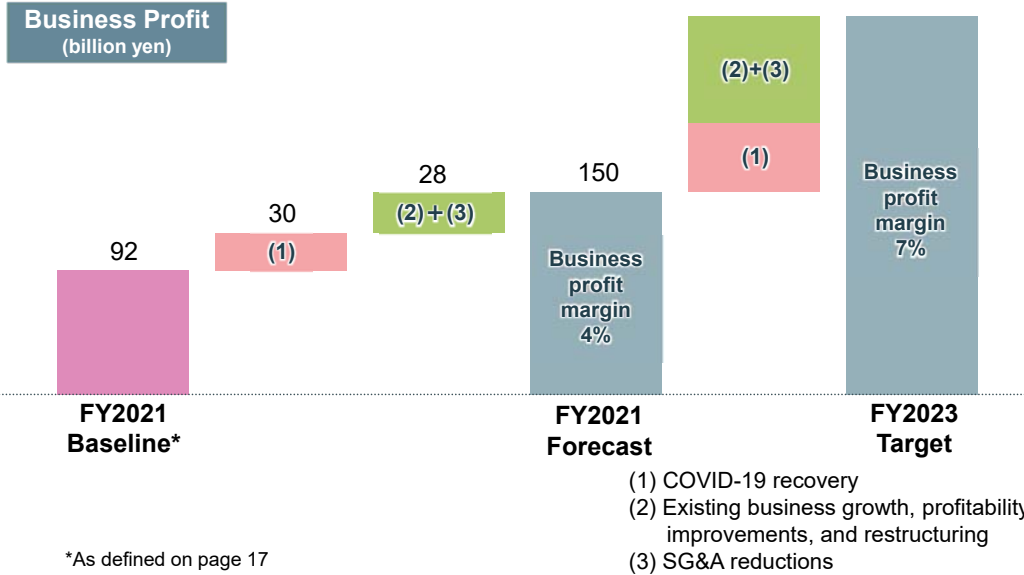
As another important initiative in the 2021 Medium-Term Business Plan, MHI will achieve a business profit margin of 7% in FY2023.

# Strengthen Profitability

## 2021 MTBP Overview



Strengthen profitability to achieve FY2023 targets



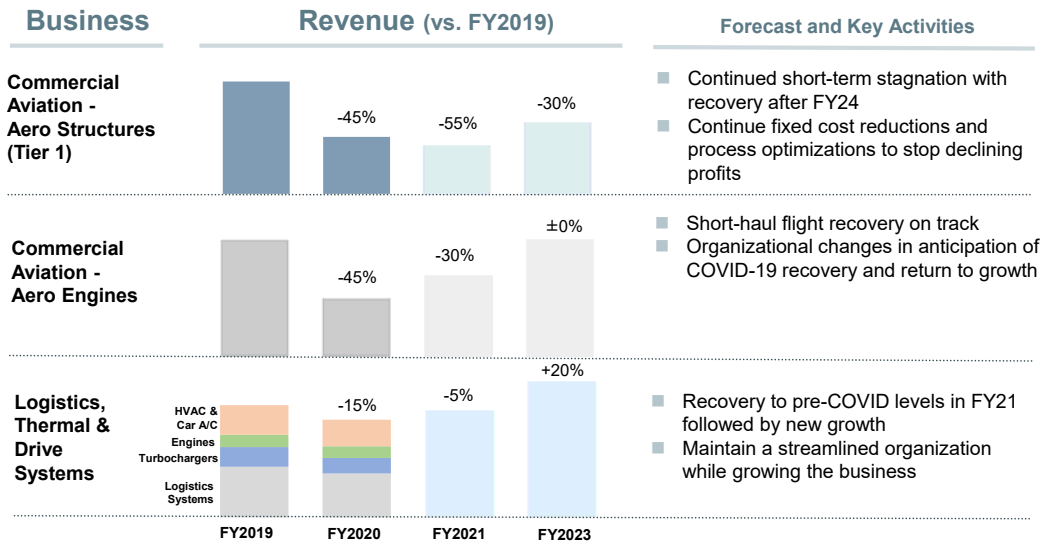
On the left is the baseline for FY2021, excluding nonrecurring items experienced in FY2020. MHI will achieve ¥150 billion in profit from business activities in FY2021 existing business growth, profitability improvements, and restructuring as well as SG&A reductions.

We will further strengthen profitability in order to achieve FY2023 targets. As a result, we will increase returns to our shareholders while investing in the future and increasing equity.

## (1) COVID-19 Recovery



- Aero Engines and Logistics, Thermal & Drive Systems are recovering steadily and expected to return to pre-COVID levels by 2023
- Aero Structures business will take time to recover; manufacturing process optimizations to continue



© MITSUBISHI HEAVY INDUSTRIES, LTD. All Rights Reserved.

47

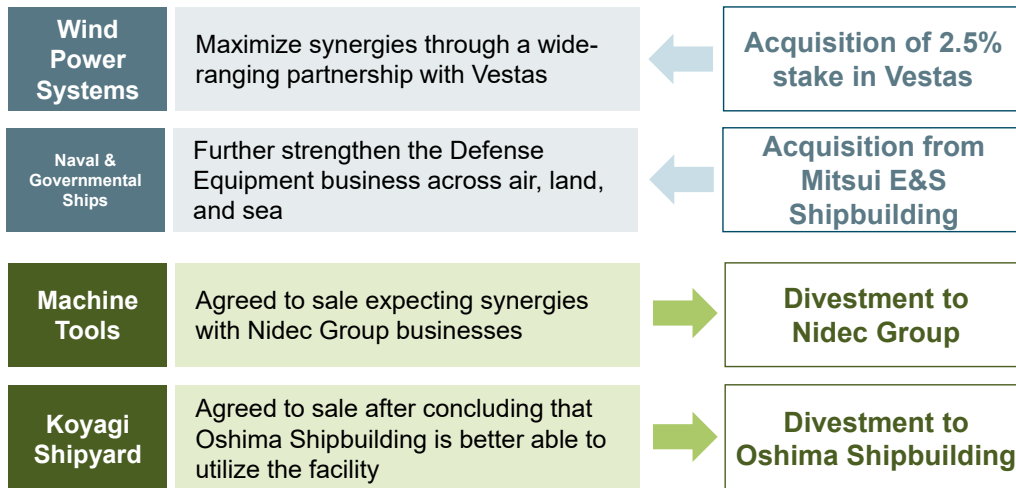
Regarding the effects of COVID-19, Aero Engines and Logistics, Thermal & Drive Systems are on the path to recovery and are expected to return to pre-COVID-19 levels by FY2023. Unfortunately, we believe that it will take more time for Aero Structures Tier 1 business to recover. We will continue to optimize manufacturing processes, including reducing fixed costs, in order to improve profitability.

The situation differs from business to business, but overall, we believe that the impact of COVID-19 is within the expected range.

**(2) Existing Business Growth, Profitability Improvements, and Restructuring:  
Portfolio Optimization**



- Executed the following transactions to optimize the business portfolio in FY2020
- Portfolio optimization to continue in FY2021 and beyond to strengthen profitability



© MITSUBISHI HEAVY INDUSTRIES, LTD. All Rights Reserved.

48

In FY2020, MHI executed 4 important transactions to help optimize our business portfolio.

In the Wind Power Systems business, we acquired a 2.5% stake in Vestas. We also signed a definitive agreement to acquire the Naval & Governmental Ships business from Mitsui E&S Shipbuilding.

We executed definitive agreements to divest our Machine Tools business and Koyagi Shipyard to Nidec Group and Oshima Shipbuilding, respectively.

We will continue to business portfolio optimizations in FY2021 and beyond.



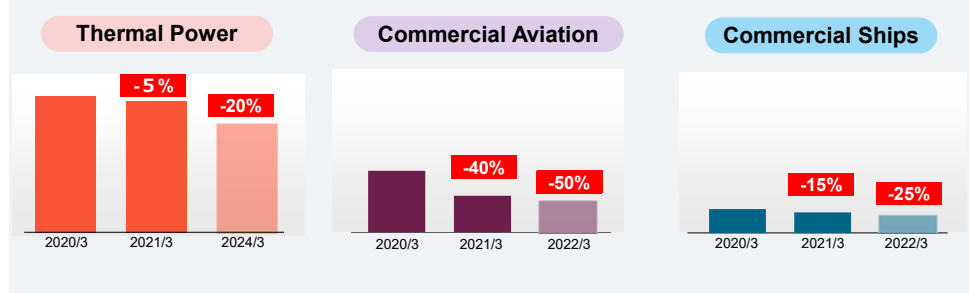
(2) Existing Business Growth, Profitability Improvements, and Restructuring:  
Reallocation of Human Resources



Implementing headcount adjustments in response to rapid market contraction

International ■ **Reduced headcount by approx. 3,000** (Sep 2019 – Mar 2021)

Japan ■ **1,500+ headcount adjustment** achieved as of March 2021  
■ Planning to **reallocate a further 1,500 personnel**, mainly in Thermal Power, shifting resources to growth areas



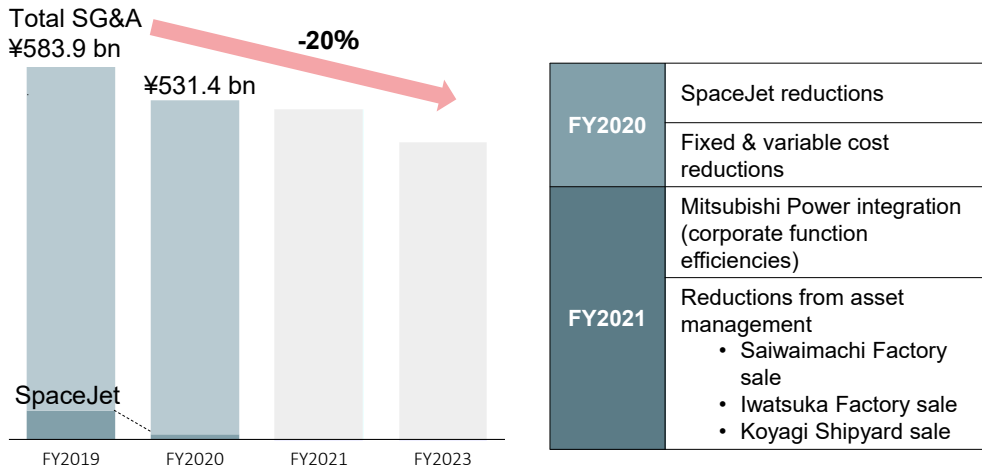
Regarding headcount adjustments, MHI has already reduced headcount by 3,000 at our international operations. In Japan, adjustments have been implemented for over 1,500 employees, mainly in Commercial Aviation and Commercial Ships. Going forward, we will implement further adjustments focusing on Thermal Power. We will complete these adjustments during the 2021 Medium-Term Business Plan period.

### (3) SG&A Reductions



FY2020: **Reduced SG&A by 52.1 billion yen (9%)** vs. FY2019 levels

FY2021: Further reductions planned through integration of Mitsubishi Power and asset management



© MITSUBISHI HEAVY INDUSTRIES, LTD. All Rights Reserved.

50

In FY2020, in addition to reducing SpaceJet development costs, MHI reduced both fixed and variable costs.

In FY2021, we will achieve operational efficiencies due to the integration of Mitsubishi Power and will further reduce SG&A through asset management and other initiatives.

# **Social Responsibility and Community Engagement SDGs Initiatives**

## Social Responsibility and Community Engagement



### Addressing humanity's problems through business



### Fostering innovation through creative collaboration

Opened Yokohama Hardtech Hub to support startups



### MHI Sports Challenge

Contributing to society with company-led sports activities while promoting the MHI Group brand



© MITSUBISHI HEAVY INDUSTRIES, LTD. All Rights Reserved.

52

As explained in previous sections, MHI is working to address humanity's problems through business with a focus on carbon neutrality. In this section, I would like to explain about our unique initiatives: the creation of open innovation through creative collaboration and the MHI Sports Challenge.

## Yokohama Hardtech Hub (YHH)

8

TOTAL FLOOR AREA  
HONMOKU PLANT

9

STARTUP COMPANIES  
IN YHH



17

MITSUBISHI  
HEAVY INDUSTRIES

- Incubating hardtech startups and facilitating efforts to innovate
- Opened in Oct 2020 at Honmoku Plant. 7 startups are active in the space.  
(Now accepting applications)

**Large, open space for prototyping and testing**

- Total floor space: **20,000 m<sup>2</sup>**
- Fully equipped with power supply, compressed air, cranes, A/C, and WiFi

**7 Tenant Startups** (as of April 2021)

 <small>Digitally integrated construction of wooden structures</small>	 <small>Design, testing, &amp; manufacture of equipment for use in space</small>
 <small>Development of automated injection mold exchange</small>	 <small>Vibration test services</small>
 <small>Materials development using computational science and machine learning</small>	 <small>Development and implementation of battery control systems</small>
 <small>Development of coating materials for semiconductor manufacturing equipment parts</small>	

**YHH Creative Collaboration Events**

**Raising creative collaboration awareness**

- First YHH Creative Collaboration Event  
"The Reality of Manufacturing in the Space Sector and the Value of Creative Collaboration"
- Planning the next event

© MITSUBISHI HEAVY INDUSTRIES, LTD. All Rights Reserved.
53

MHI opened Yokohama Hardtech Hub, a new hardtech start-up incubator project, at our Honmoku Plant last October. The 7 companies listed on the right have already moved in and are actively working on their own development projects.

We expect that YHH will produce new innovation and create synergies with our company.

## MHI Sports Challenge



MHI promotes giving back to society, social responsibility, employee engagement, and brand recognition through our corporate sports activities



© MITSUBISHI HEAVY INDUSTRIES, LTD. All Rights Reserved.

54

MHI has centralized our sports activities, which used to be conducted separately at each plant. In this way, we hope to strengthen each of our teams and work together as a group to engaging with our surrounding communities.

We will also continue our efforts to become a better company through working style reforms and diversity initiatives.

## IV. Summary

## Summary



- **Surpassed profit forecasts in FY2020**
- **Accelerating Energy Transition initiatives as decarbonization efforts take off around the globe**
- **Integrate Mitsubishi Power into MHI and drive forward as a total energy solutions company**
- **Expand into new areas while shifting from component sales to solutions in the New Mobility & Logistics space**
- **Further increase profitability in FY2021, and gain a foothold for achieving FY2023 targets**

In summation, despite the COVID-19 crisis, MHI was able to surpass our full-year profit forecasts in FY2020.

In order to achieve the 2021 Medium-Term Business Plan, we are accelerating Energy Transition initiatives in response to the quickening pace of decarbonization around the globe. As one means to achieve this goal, we will integrate Mitsubishi Power into MHI and drive forward as a total energy solutions company.

We will also work to expand our business into the New Logistics & Mobility space.

We will further strengthen profitability in FY2021 to favorably position ourselves to achieve FY2023 targets.

This concludes my explanation. Thank you very much for your attention.



## **V. Appendix A**

# **FY2020 Financial Results**

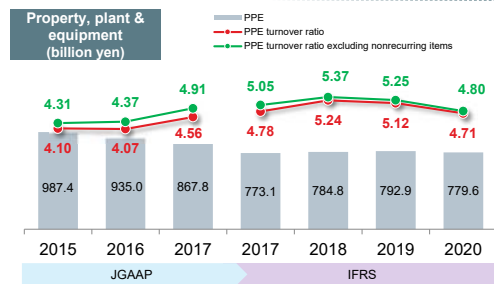
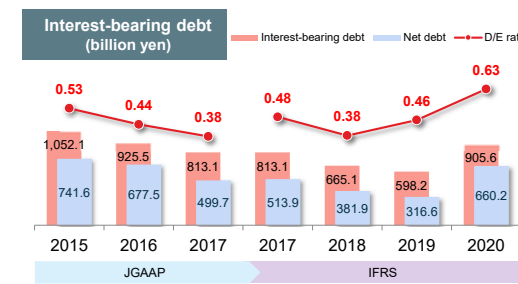
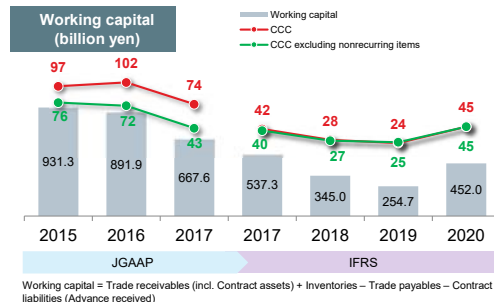
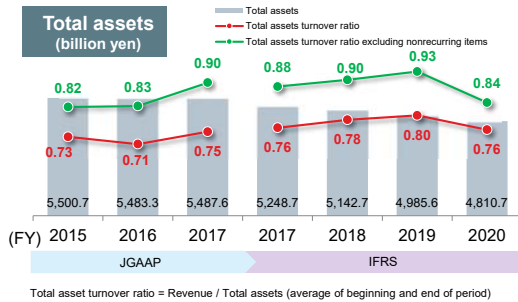
## 1. FY2020 Financial Results by Segment



(billion yen)

	Order intake			Revenue			Profit from business activities		
	FY19	FY20	YoY	FY19	FY20	YoY	FY19	FY20	YoY
Energy Systems	1,772.1	1,299.2	-472.9	1,590.2	1,546.0	-44.2	144.3	127.6	-16.7
Plants & Infrastructure Systems	739.9	575.2	-164.7	792.9	637.2	-155.7	25.5	-10.2	-35.7
Logistics, Thermal & Drive Systems	985.9	868.0	-117.9	990.1	860.3	-129.8	29.3	15.6	-13.7
Aircraft, Defense & Space	719.2	626.2	-93.0	704.9	702.1	-2.8	-208.7	-94.8	+113.9
Others	-48.5	-32.4	+16.1	-36.9	-45.7	-8.8	-20.0	15.8	+35.8
<b>Total</b>	<b>4,168.6</b>	<b>3,336.3</b>	<b>-832.3</b>	<b>4,041.3</b>	<b>3,699.9</b>	<b>-341.4</b>	<b>-29.5</b>	<b>54.0</b>	<b>+83.5</b>

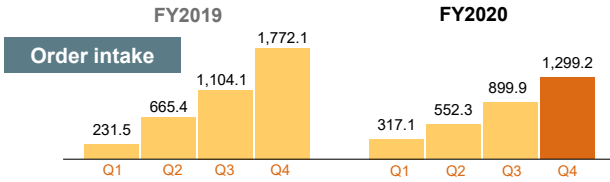
## 2. Financial Position



### 3. FY2020 Financial Results by Segment Energy Systems

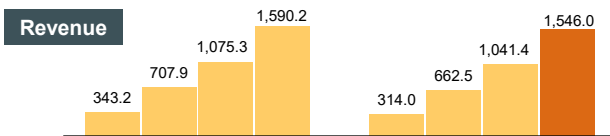


(billion yen; all figures cumulative totals)



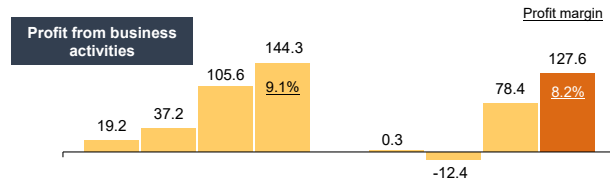
(Order intake for major businesses)

	FY2019	FY2020
GTCC	744.6	552.2
Steam Power	446.4	246.2
Nuclear Power	308.0	236.0



(Revenue for major businesses)

	FY2019	FY2020
GTCC	478.8	538.2
Steam Power	579.1	502.5
Nuclear Power	256.7	292.6

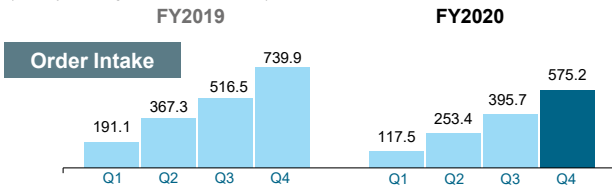


- Items with significant P/L impact:
  - Gain on MVOW share transfer (+¥83.1 bn)
  - Push-out of Thermal Power after-sales service work due to COVID-19 and Steam Power loss provisions (total -¥45.0 bn)
- Strong performance by GTCC and Nuclear Power contributed to revenue and profit generally in line with the forecast

### 3. FY2020 Financial Results by Segment Plants & Infrastructure Systems

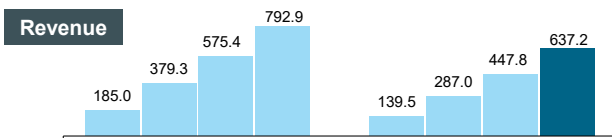


(billion yen; all figures cumulative totals)



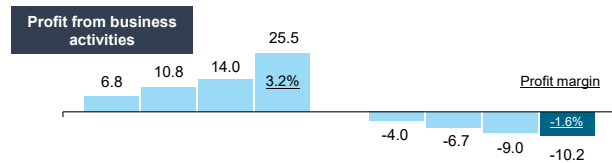
(Order intake for major businesses)

	FY2019	FY2020
Engineering	174.6	119.2
Metals Machinery	245.5	207.7
Machinery Systems	147.9	132.1



(Revenue for major businesses)

	FY2019	FY2020
Engineering	202.6	152.1
Metals Machinery	245.5	196.7
Machinery Systems	166.9	142.1

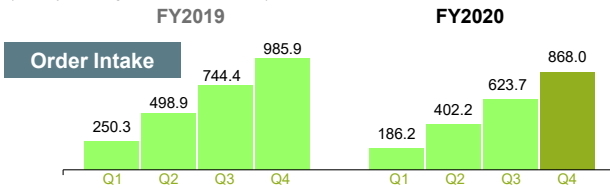


- Initial projections showed only minimal COVID-19 impact, however order intake decreased YoY due to slow contract negotiation progress
- Revenue decreased YoY due to construction delays in Engineering and Metals Machinery
- Finished at a loss due to the settlement of expenses for a completed international project and nonrecurring expenses such as restructuring costs

### 3. FY2020 Financial Results by Segment Logistics, Thermal & Drive Systems

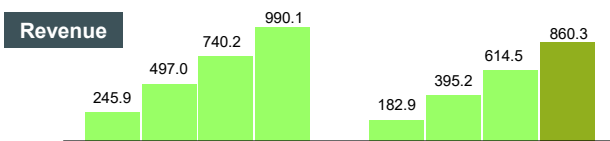


(billion yen; all figures cumulative totals)



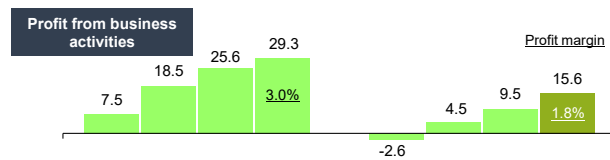
(Order intake for major businesses)

	FY2019	FY2020
Material Handling Systems	449.3	390.7
Engines & Turbochargers	286.2	243.3
HVAC & Car A/C	255.8	239.8



(Revenue for major businesses)

	FY2019	FY2020
Material Handling Systems	449.3	390.7
Engines & Turbochargers	283.4	239.9
HVAC & Car A/C	263.0	235.7

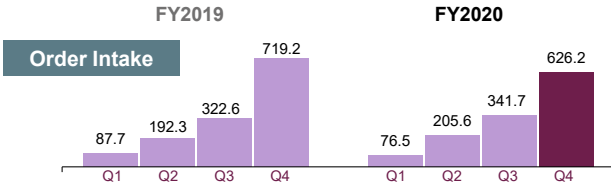


- Revenue recovered steadily in each quarter after 25% YoY downturn in Q1 due to COVID-19 impact
- After bottoming out in Q1, profit finished above forecast as a result of better than planned fixed cost reductions

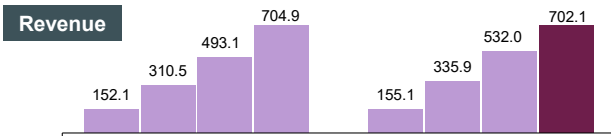
### 3. FY2020 Financial Results by Segment Aircraft, Defense & Space



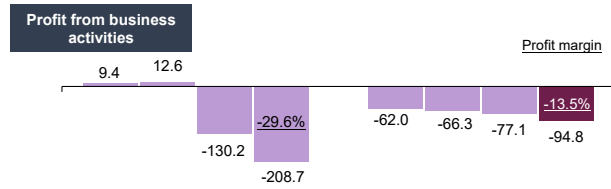
(billion yen; all figures cumulative totals)



	FY2019	FY2020
Defense & Space	493.8	487.5
Commercial aviation	225.3	138.7



	FY2019	FY2020
Defense & Space	474.2	524.4
Commercial aviation	230.6	177.6



- Aero Structures (Tier 1) revenue finished below the initial forecast after revenue recovery slowed due to market contraction after a resurgence of COVID-19 beginning in Q3
- Overall revenues from Aircraft, Defense & Space remained at FY19 levels due to strong Defense & Space sales and contribution from CRJ, the acquisition of which was completed in Q1
- SpaceJet losses (including impairment of goodwill from CRJ acquisition) were ¥116.2 bn, within the range of the initial forecast

## 4. FY2020 Financial Results

### Other data



#### Gas turbine orders booked and contract backlog (units)

Heavy Duty	FY2019	FY2020	
		Year	Q4
North America	7	4	-
Asia	10	4	2
EMEA	2	3	-
Other regions	2	2	2
Total	21	13	4
Contract backlog	47	48	

Small & Mid-Size	FY2019	FY2020	
		Year	Q4
North America	3	6	6
Asia	2	-	-
EMEA	6	-	-
Other regions	-	-	-
Total	11	6	6
Contract backlog	13	5	

#### Commercial Aviation deliveries (units)

777	Q1	Q2	Q3	Q4	Tot.
FY2019	12	13	10	9	44
FY2020	3	10	7	4	24

777X	Q1	Q2	Q3	Q4	Tot.
FY2019	4	1	3	2	10
FY2020	3	3	0	1	7

787	Q1	Q2	Q3	Q4	Tot.
FY2019	43	42	38	43	166
FY2020	18	32	20	14	84



## 5. Reference Data



### R&D Expenses, depreciation & amortization, and capital expenditures (billion yen)

	FY2018	FY2019	FY2020	FY2021 Forecast
R&D expenses	152.1	146.8	125.7	130.0
Depreciation & amortization	124.9	144.6	139.2	130.0
Capital expenditures	147.3	161.5	125.5	120.0

### Cash flows (billion yen)

	FY2018	FY2019	FY2020	FY2021 Forecast
Operating cash flow	404.9	452.5	-94.9	-
Investing cash flow	-161.8	-239.5	-182.2	-
Free cash flow	243.0	212.9	-277.1	0
Financing cash flow	-255.5	-204.4	-221.7	-

### Interest-bearing debt, D/E ratio

	FY2018	FY2019	FY2020	FY2021 Forecast
Interest debt balance (billion yen)	665.1	598.2	905.6	900.0
D/E ratio	0.38	0.46	0.63	0.6

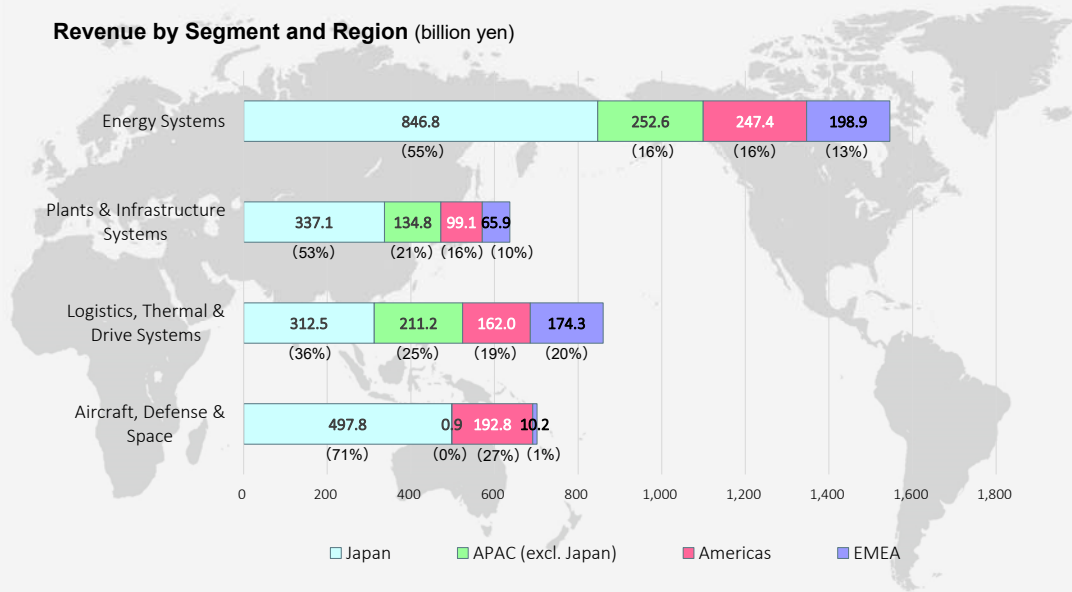
### JPY/USD exchange rates (JPY/USD)

	FY2018	FY2019	FY2020	FY2021 Forecast
Revenue recognition rate average	110.7	108.7	106.3	110
(Reference) Fiscal year end rate	111.0	108.8	110.7	-

## 5. Reference Data



Revenue by Segment and Region (billion yen)



## **VI. Appendix B 2021 MTBP Progress**

# 1. FY2020 Achievements and Key Activities in FY2021 (1/4)



## Energy Systems

	FY2020 Achievements	Key Activities in FY2021
GTCC	New GTCC demonstration power plant completed at Takasago Works (T-Point 2)	Take back No. 1 GT market share and reduce costs Improve profitability
Steam Power	Profits decreased due to domestic project cost increases Established taskforce for decarbonization proposals	Accelerate transformation into an after-sales service-focused organization Grow industrial business with energy solutions
Nuclear Power	Progress on restart efforts for light water reactors and construction of Specialized Security Facilities and nuclear fuel reprocessing plant	Continue reactor restarts and construction of Specialized Security Facilities and the nuclear fuel reprocessing plant Expand development of next-generation reactors
Off-Shore Wind Power	Strengthened partnership with Vestas Launched MHI Vestas Japan	Begin marketing and business development of on- and offshore wind power within Japan
Aero Engines	Completed new Nagasaki Plant for combustor manufacturing	Strengthen in-house production capabilities and cost competitiveness with the new state-of-the-art plant
Compressors	Worked to grow after-sales services to stabilize and increase profits	Develop and grow global after-sales services operations



Facility for long-term validation of next-generation high-efficiency JAC\* class GTs, which were the first in the world to achieve inlet temperatures of 1,650°C  
\*JAC: J-series Air-Cooled



Completed major equipment installation at Japan's first Specialized Security Facility for a nuclear power plant



MHIAEL's new Nagasaki Plant completed at Nagasaki Shipyard & Machinery Works

# 1. FY2020 Achievements and Key Activities in FY2021 (2/4)



## Plants & Infrastructure Systems

	FY2020 Achievements	Key Activities in FY2021
Commercial Ships	Marine SOx Scrubber Systems installed on 26 vessels	Strengthen maritime transport decarbonization and automation/electrification initiatives
Engineering	Received orders for carbon capture systems for a variety of CO <sub>2</sub> sources from customers in the U.S., Canada, and the U.K. (Basic design, pilot testing, etc.)	Strengthen carbon capture business and develop the decarbonization market
Metals Machinery	Grew sales for Endless Strip Production (ESP) equipment	Differentiate products through technological innovation with a focus on macro trends
Environmental Plants	Increased orders for life extension work on existing facilities	Increase orders for domestic projects
Machinery Systems	The first new models of box making and antiseptic filling machines entered service	Grow sales of new models and develop New Mobility businesses



**DIA-SOx® Series**  
Completed installation of Marine SOx Scrubber Systems on 26 vessels of 3 classes



**CO<sub>2</sub> Capture Test Equipment**  
Pilot testing of CO<sub>2</sub> capture equipment started at Drax Power Plant (U.K.)



**ESP Equipment**  
Rizhao Steel (China) launches its fifth ESP plant with equipment supplied by Primetals

# 1. FY2020 Achievements and Key Activities in FY2021 (3/4)



## Logistics, Thermal & Drive Systems

	FY2020 Achievements	Key Activities in FY2021
Material Handling Systems	Strengthened organization by promoting PMI activities including restructuring and merger of distributors	Achieve growth in Engineering and Solutions businesses
Turbochargers	Responded quickly to rapid changes in demand in the consumer automotive market	Strengthen development of products for electric vehicles
Engines	Developed a 2 MW unit for data centers and other applications Began hydrogen engine development	Concentrate on core businesses Promote data center power source products for distributed generation in Southeast Asia
HVAC Systems	Improved development capabilities and received awards for the MSV2 series of high-efficiency, air-cooled heat pump chillers	Expand product lineup and sales network to meet local needs
Car Air Conditioners	Began cooperation with European turbocharger business Restructured manufacturing and supply organizations	Respond to customer needs by expanding product lineup

### Q-ton Circulation



The MSV2 series high-efficiency, air-cooled heat pump chiller, which received the 2020 Agency for Natural Resources and Energy Commissioner's Award from the Energy Conservation Center, Japan

### Hydrogen Engine



Joint research with the National Institute of Advanced Industrial Science and Technology achieved stable combustion with 100% hydrogen

# 1. FY2020 Achievements and Key Activities in FY2021 (4/4)



## Aircraft, Defense & Space

	FY2020 Achievements	Key Activities in FY2021
Aero Structures (Tier 1)	Took such actions as headcount reductions in reaction to a significant decrease in aviation demand Implemented emergency fixed cost reductions	Improve productivity and prepare for market recovery by promoting minimally-manned and automated technologies
SpaceJet	Paused SpaceJet development	Continue type certification documentation activities and assess possible program restart
Defense	Executed contract with the Japan Ministry of Defense to lead development of next-generation fighter jet Completed development of a new class of multi-mission frigate and launched the first two ships of this class, "Mogami" and "Kumano"	Strengthen organization for the development of the next-generation fighter jet Steady execution of continuous new class frigate construction Complete construction of "Mogami" and "Kumano" Launch third and fourth ships of this class
Space	Made progress in development of the H3 Launch Vehicle	Successfully launch the first H3 Launch Vehicle

### Next-Generation Fighter Jet

Image source: Defense White Paper 2020



Executed contract with the Japan Ministry of Defense to lead development of next-generation fighter jet

### New Class Frigate



Launch ceremony for the new frigate "Mogami"

### H3 Launch Vehicle



©JAXA

Progress in development of the H3 Launch Vehicle

## 2. Nuclear Power Contributions to Carbon Neutrality



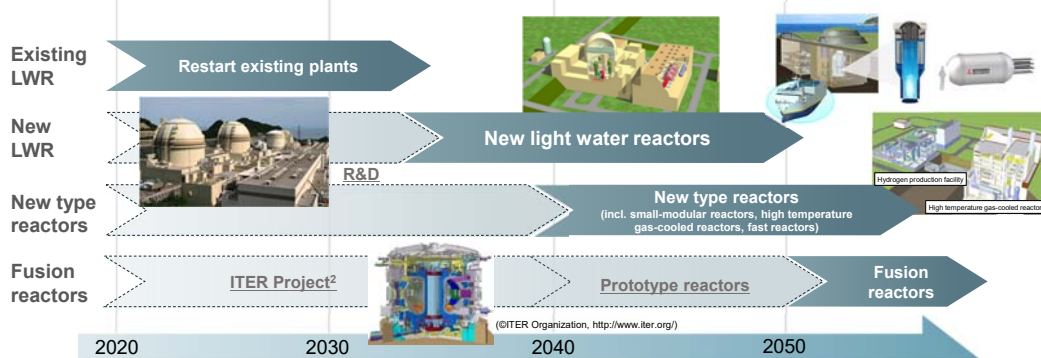
- Nuclear power is a **carbon-free, large-scale, stable power source** and is an **important source of base load power** including from the viewpoint of energy security. Nuclear power will continue to be essential for the achievement of Carbon Neutrality by 2050.
- **Short-term as well as medium- and long-term development plans** are under consideration for the continued use of nuclear power technology

Short-term: Restart existing plants (PWR, BWR). Build Specialized Security Facilities<sup>1</sup>. Complete the nuclear fuel cycle.

**Significantly reduce CO<sub>2</sub> emissions in the power sector with next-generation light water reactors.**

Mid-term: Develop and commercialize small-modular reactors, high temperature gas-cooled reactors, and fast reactors to **satisfy diversifying market needs**

Long-term: Make nuclear fusion—**the perpetual energy source of dreams—a reality**



<sup>1</sup> Specialized Security Facilities: Isolated, large-scale facilities used to safely shut down a reactor in the event of such security incidents as airplane strikes or terrorist attacks  
<sup>2</sup> ITER project: Large international project to realize experimental fusion reactor supported by governments (Japan, EU, US, Russia, China, Korea, India)



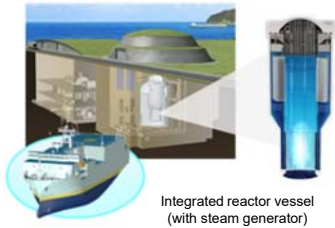
### 3. Future Nuclear Reactors: Meeting Society's Diversifying Needs

- Nuclear energy has **many potential uses** other than power generation, including heat utilization and energy sources for isolated areas including remote islands and space
- Pursuing development of new-type reactors to **satisfy diversifying market needs**

#### Small/Miniature Reactors (multi-purpose power source)

- Develop mobile reactors to supply power to isolated, remote areas, islands, and space

##### Small Light Water Reactors (for power generation or marine use)

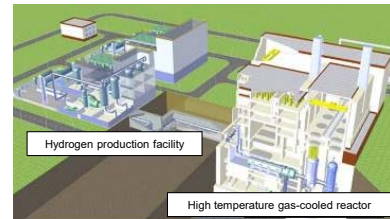


##### Miniature Reactors (container type)



#### High Temperature Gas-Cooled Reactors (for hydrogen production)

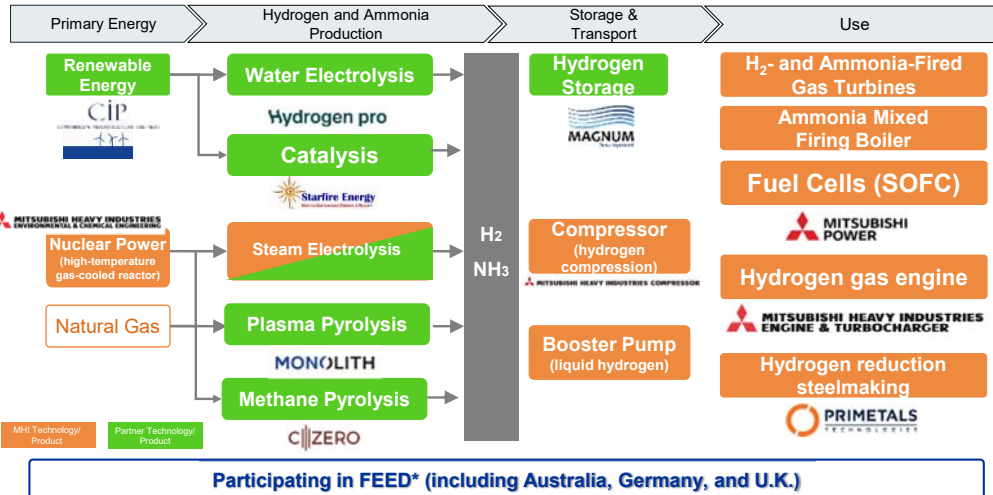
- Stably produces high volumes of hydrogen at temperatures of 900°C and above
- Prevent CO<sub>2</sub> emissions in steelmaking through hydrogen reduction



#### 4. Green Hydrogen and Ammonia: Value Chain Initiatives



- Expanding the scope of activities including strategic partnerships in order to develop a market for green hydrogen and ammonia
- Participating in FEED activities and pursuing business feasibility studies in the lead up to commercialization using these technologies as a jumping off point

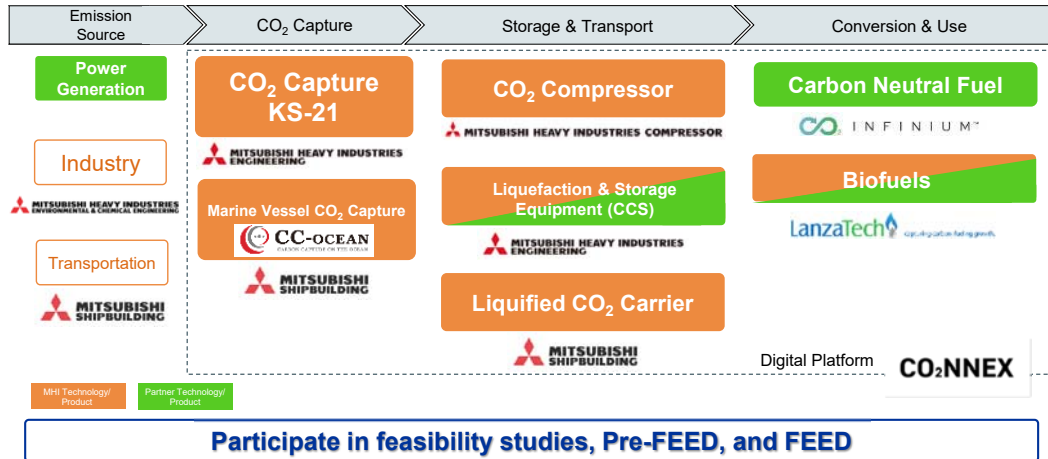


\*FEED: Front End Engineering Design, a precursor to EPC during which technical issues and cost estimates are considered

## 5. CO<sub>2</sub> Capture and Use: Value Chain Initiatives



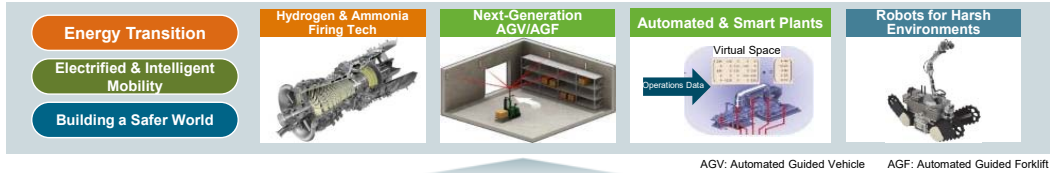
- MHI is growing the carbon value chain including carbon capture and storage with our proprietary technologies. We also boast the world's largest number of CO<sub>2</sub> capture installations.
- Interest from customers has taken off in recent years. Commercialization to follow successful validation in the field.




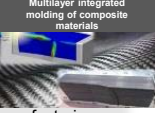

## 6. Technological Foundation to Support Growth Areas



- Building a technological foundation to support growth areas and to promote innovation



AGV: Automated Guided Vehicle AGF: Automated Guided Forklift

Advancement of Basic Technologies & Creation of New Functions	Initiatives Fostering Innovation
<ul style="list-style-type: none"> <li>Hydrogen &amp; ammonia combustion</li> <li>Thermal coating</li> <li>Testing of components and equipment</li> <li>Experimental measurement</li> </ul>  <ul style="list-style-type: none"> <li>Autonomous action &amp; swarm intelligence</li> <li>Automated machine health checks</li> <li>Human-robot collaboration</li> <li>Diagnostic imaging</li> </ul>  <ul style="list-style-type: none"> <li>Flexible molding of composite materials</li> <li>Innovative design &amp; manufacturing (AM)</li> <li>Mechanical, electrical, thermal and chemical coupled analysis</li> </ul>  <ul style="list-style-type: none"> <li>Encrypted controls</li> <li>Secure operation</li> <li>High-speed image processing</li> </ul>	<p><b>Innovation Laboratory</b> Develop cutting-edge, outside-the-box technologies R&amp;D of innovative technologies that have a major impact on people's lives</p> <p><b>Yokohama Hardtech Hub (YHH)</b> Make a space for creative collaboration where startups can make their ideas reality</p> <p><b>Introduce Pivot Development</b> Develop faster than startups Explored over 500 research topics in FY2020</p>

**MOVE THE WORLD FORWARD**

**mitsubishi**  
**heavy**  
**industries**  
**group**