

# Management Overview of Fiscal Year 2023

(ended March 31,2024)



May 8, 2024

## IHI Corporation

Hiroshi Ide  
Representative Director, President, and Chief Executive Officer

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- 1. Progress with Group Management Policies 2023**
- 2. Medium- and Long-Term Business Portfolio Stance**
- 3. Growth Businesses (Civil Aero-Engines, Defense, and Space)**
- 4. Development-Focus Businesses (Fuel Ammonia Value Chain)**
- 5. Looking beyond “Group Management Policies 2023”**

# Progress with Group Management Policies 2023



Advanced in each business category toward medium-and long-term growth objectives

Development -focus businesses	<ul style="list-style-type: none"> <li>Steadily developed fuel ammonia value chain business, notably by conducting the world's first fuel 20% ammonia substitution demonstration test at JERA's Hekinan Thermal Power Station</li> </ul>
Growth businesses	<ul style="list-style-type: none"> <li>Fully accounted for costs of additional inspection program for PW1100G-JM engines in fiscal 2023</li> <li>No change in expected number of aircraft on ground or related compensation and additional maintenance costs under program excluding forex impact</li> <li>Civil aero-engine business entered growth phase, while defense, space, and civil aviation maintenance, repair, and overhaul work expanded steadily</li> </ul>
Core businesses	<ul style="list-style-type: none"> <li>Lifted lifecycle business revenues and orders by 50% from fiscal 2019 level, and seek further profitability gains</li> <li>Accelerated transformation of low-profit businesses into lean entities through structural reforms, business portfolio reviews, and other initiatives</li> </ul>

- We made steady progress overall with Group Management Policies 2023 initiatives.

**Development-focus businesses:**

- We steadily developed the ammonia value chain business.

**Growth businesses:**

- Apart from the impact of foreign exchange rates there were no changes in expenses related to PW-1100G-JM engines, and we fully accounted for all expenses in FY2023.**
- We delivered steady growth in the civil aero-engine, defense, and space segments.

**Core Businesses:**

- We lifted lifecycle business revenues and orders by 50% from the FY2019 level.

Thorough companywide initiatives to bolster operating cash flow  
 Investments to foster medium- and long-term growth  
 while maintaining financial discipline

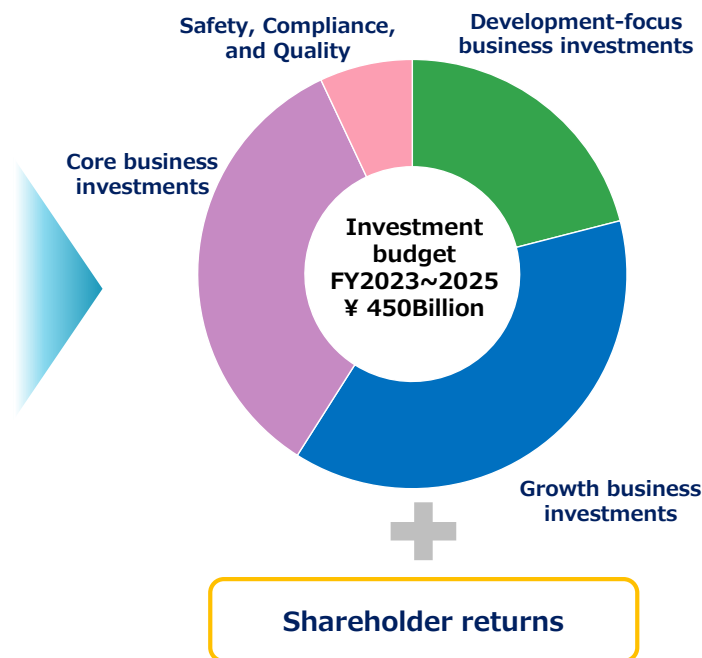
**Strengthen operating cash flows**

Key initiatives

- Expand civil aero-engine and defense businesses
- Expand profitability through lifecycle businesses
- Reduce working capital

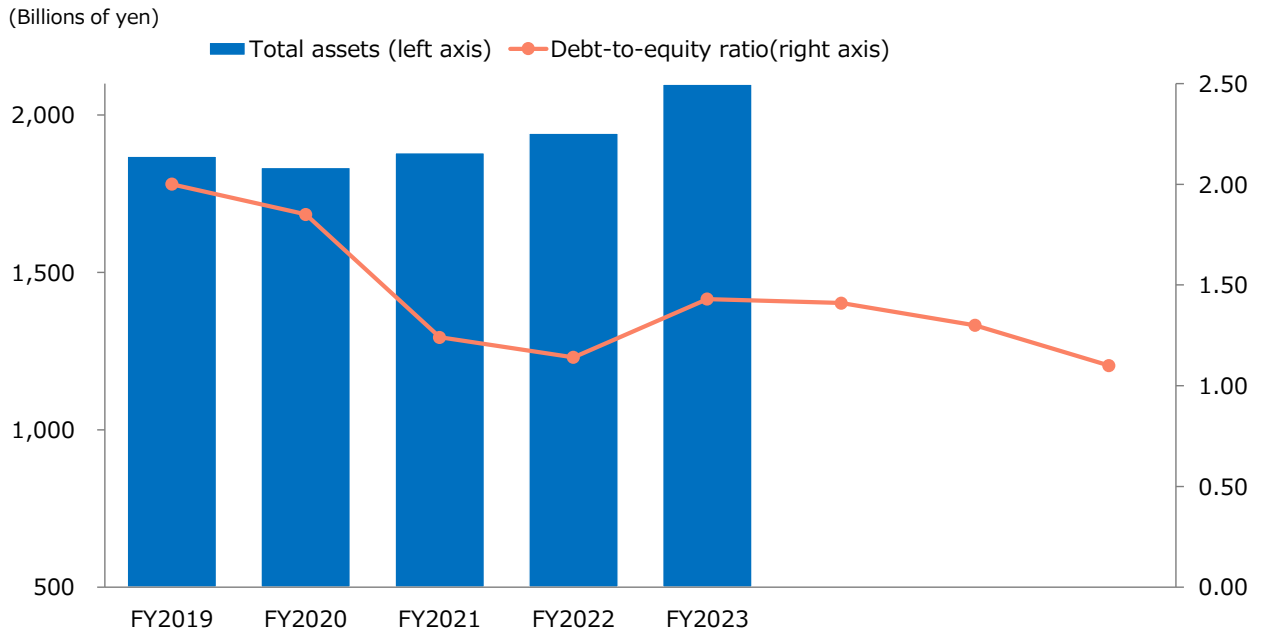
**Overhaul business portfolio**

**Divest assets**



- This slide presents our financial management approach.
- The left side shows our cash flow sources.
  - First, we are working companywide this fiscal year to strengthen operating cash flows.
  - We will overhaul our structure and business portfolio and divest around ¥50 billion in assets to generate cash flows.
- The right side presents our fund usage composition.
  - Under Group Management Policies 2023, we set our investment budget at ¥500 billion but have lowered it to ¥450 billion.
  - While retaining our policy of prioritizing investment allocations to growth and development-focus businesses, we will re-order our investment priorities, evaluate our profitability over the medium through long terms, and postpone investments to maintain financial discipline.
- On the shareholder returns front, our basic policy is to pay stable dividends in view of our current financial position and target a consolidated dividend payout ratio of 30% over the medium term while improving our financial position.

## Strengthening the Balance Sheet by Profit Growth, Streamlining the Business Portfolio and Asset Sales



Note: FY2023 represents the year ended March 31, 2024

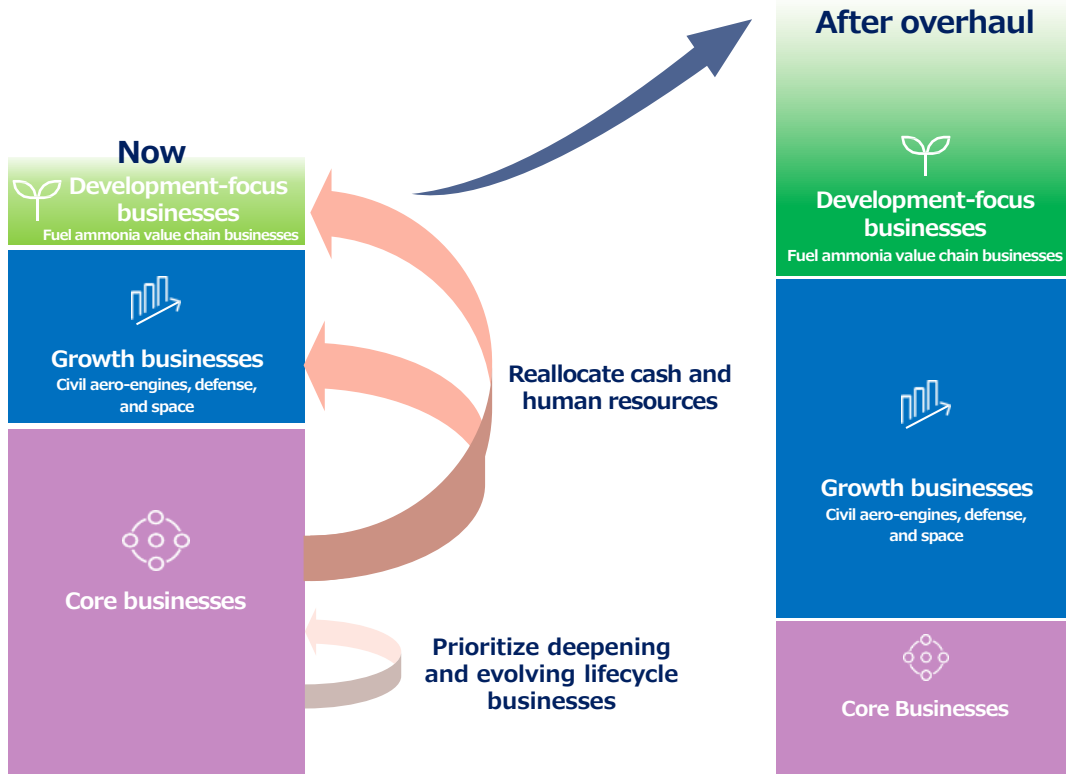
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- This slide shows our total assets and debt-to-equity ratio for fiscal 2019 and beyond.
- We acknowledge that our financial position is one of the key challenges.
- As mentioned earlier, we will bolster our financial position and manage our balance sheets through such measures as strengthening operating cash flows and divesting assets.
- Our first goal is to restore the end-fiscal 2022 debt-to-equity ratio level of 1.1 times.

# Medium- and Long-Term Business Portfolio Stance



## Development-focus and growth businesses to underpin medium- and long-term expansion



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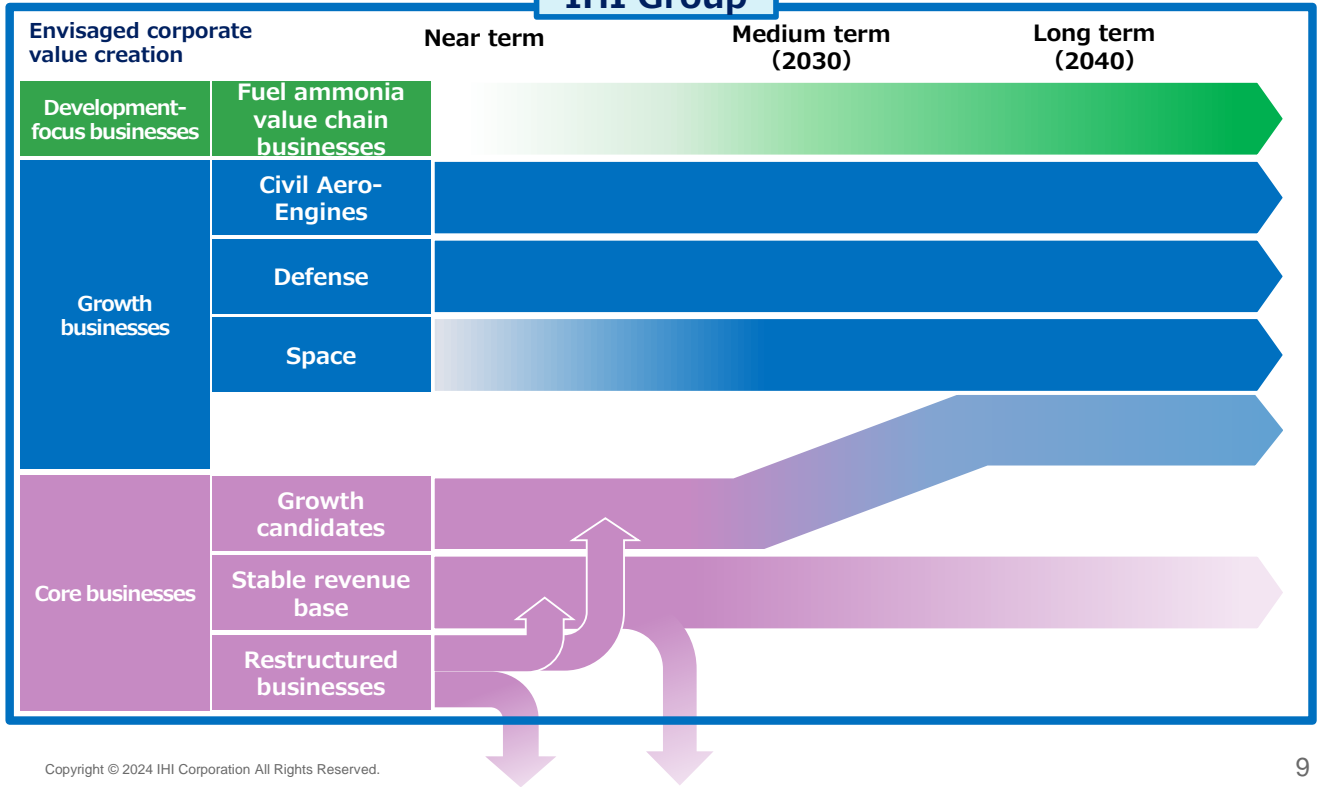
- The right bar presents the business portfolio we envision for the medium through long terms.
- As we have stated to date, growth and development-focus businesses will support our medium- to long-term growth.
- We will pursue sustainable expansion by shifting cash, people, and other management resources from core businesses to those growth and development-focus businesses.
- In core businesses, we will continue to prioritize deepening and evolving lifecycle businesses to enhance profitability.



# Medium- and Long-Term Business Portfolio Stance

Pursue sustainable growth by overhauling businesses

## IHI Group



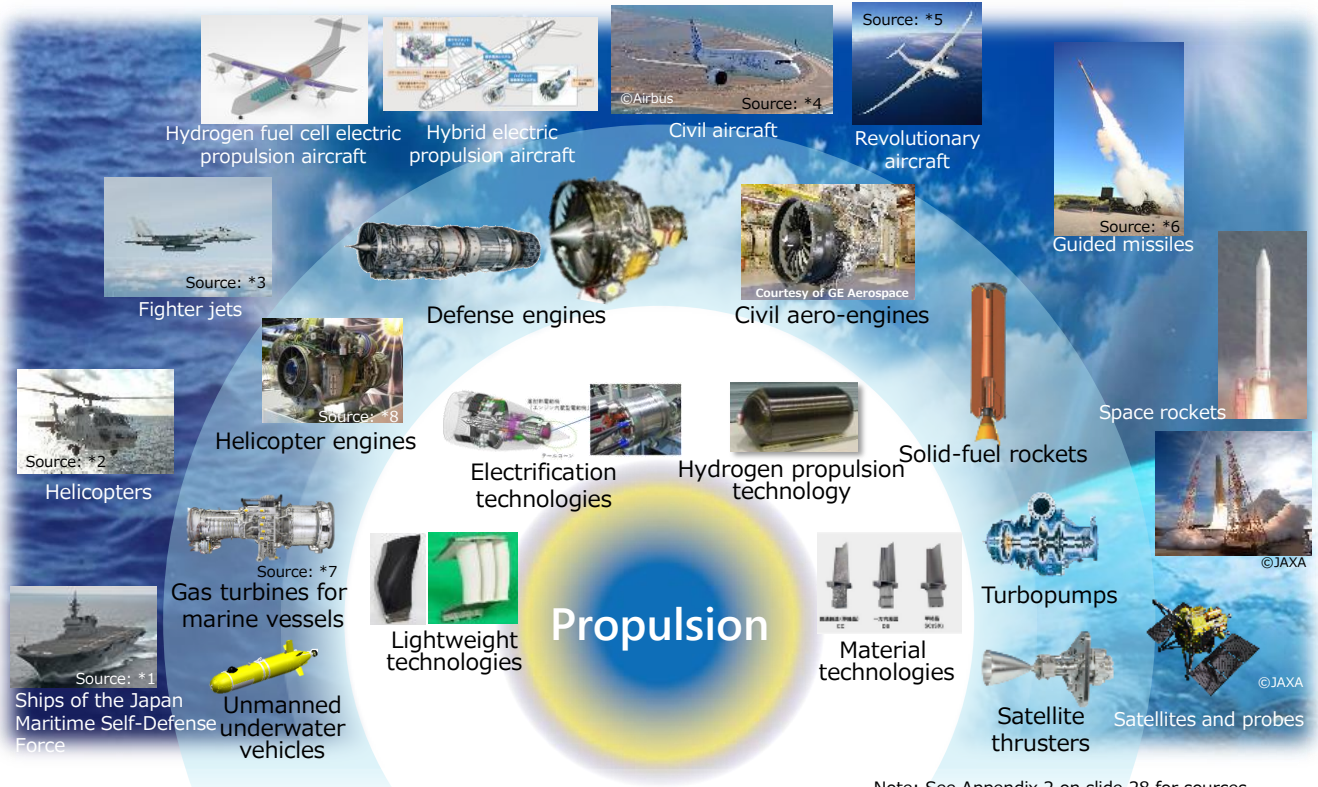
- This slide shows business composition transitions that will generate corporate value.
- As mentioned earlier, over the medium through long terms we want growth and development-focus businesses to be our principal corporate value drivers.
- The investment phase will continue for development-focus businesses for the foreseeable future. They should start contributing to revenues and earnings from 2030.
- The prime growth business drivers would be civil aero-engines and defense, while the space business should expand from around 2030.
- Regarding our core business,
  - We will accelerate deliberations on the portfolio.
  - We will build on our technological edge in each core business by classifying in the three categories presented below, taking into account such factors as the business environment, including projected market sizes and competition, and act accordingly.
  - We will share details as deliberations progress.

## **Growth Businesses** **(Civil Aero-Engines, Defense, and Space)**



**Growth Businesses**  
**Overview for Civil Aero-Engines, Defense, and Space**

**Supply core propulsion technologies from space to the oceans**

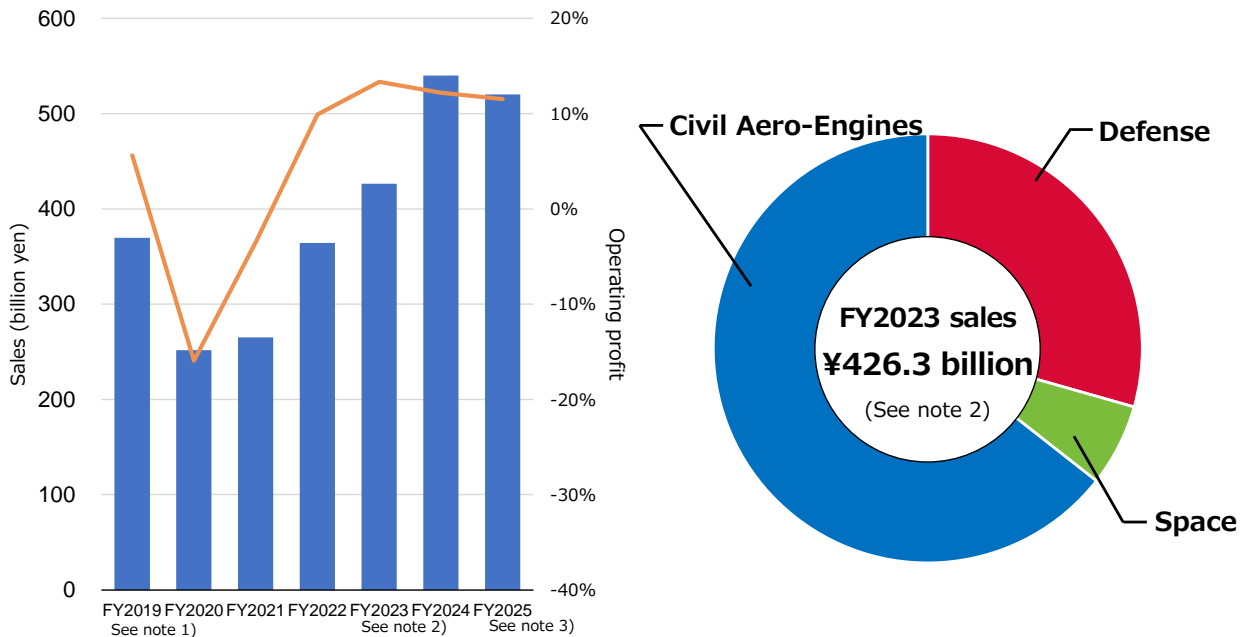


Note: See Appendix 2 on slide 28 for sources

- Here, you see the overall picture of our Aero-Engines, space, and defense businesses.
- A key strength lies in our core propulsion technologies, which span from space to the oceans.
  - For space, these include turbopumps for liquid-fuel, and solid-fuel rockets.
  - In Aero-Engines, they encompass turbo fan engines for both civilian and defense purposes, as well as engines for helicopters.
  - For the oceans, we are developing gas turbines for marine vessels, unmanned underwater vehicles and so on.
- While developing lightweight, material, and other underlying technologies, we are also continuing to develop electric and hydrogen propulsion technologies that will be essential for carbon-neutral aircraft.
- Even in projects in which we are not the prime contractor, we supply core components requiring advanced technological capabilities to primary manufacturers.

## Growth Businesses Overview for Civil Aero-Engines, Defense, and Space

Sales and operating profits have grown significantly,  
exceeding pre-pandemic levels



Note 1: FY2019 figures is based on IFRS

Note 2: Excluding impact of PW1100G-JM powder metallurgy issue in FY2023

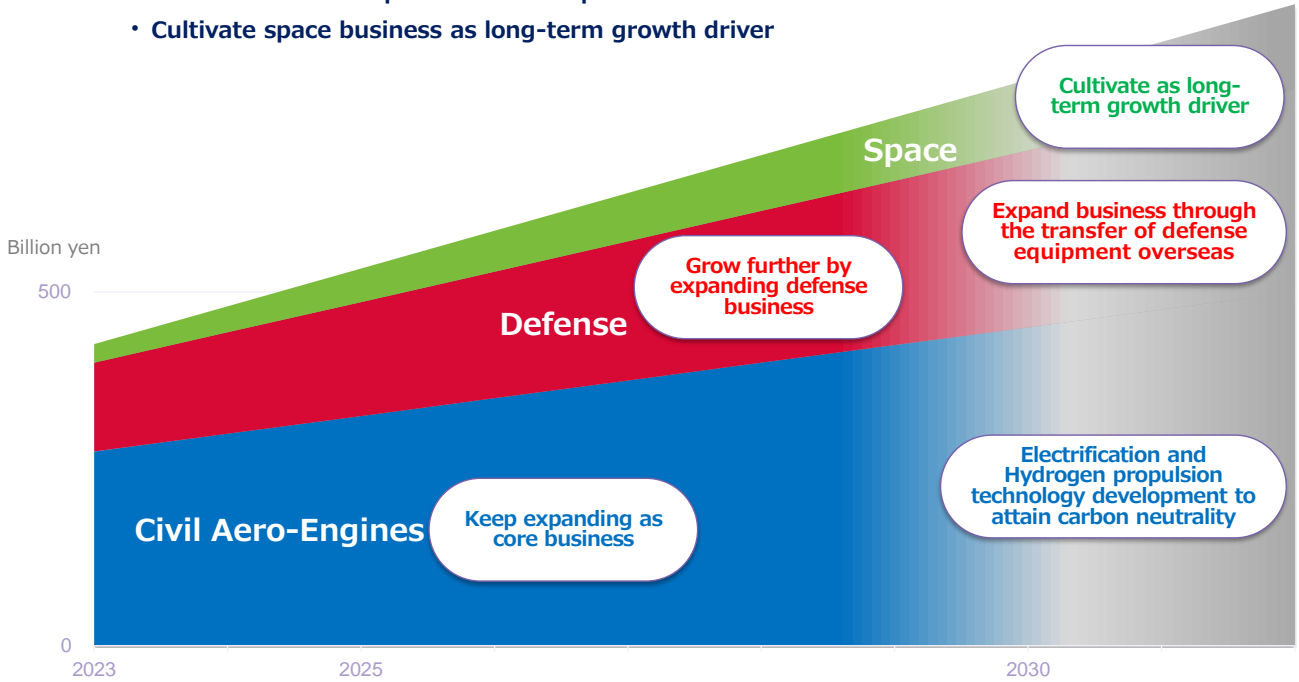
Note 3: FY2025 forecasts disclosed in Group Management Policies 2023 subject to revisions based on future exchange rate fluctuations

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- This slide overviews numbers for the civil-aero engines, defense, and space businesses.
- The bar graph on the left presents our sales and operating profit to date.
- The pie chart on the right shows sales compositions in fiscal 2023.
- As you can see, revenues and earnings have significantly exceeded the pre-pandemic levels of fiscal 2019.
- Please note that the forecasts for fiscal 2025 disclosed in Group Management Policies 2023 are subject to revision owing to exchange rate fluctuations and other factors, so consider that information as a reference.

Pursue sustainable growth in civil aero-engine, defense and space segments

- Generate steady growth in civil aero-engine business to meet rising air travel demand
- Expand defense business in response to Japan’s Basic Defense Policy , “Fundamental reinforcement of Japan’s defense capabilities”
- Cultivate space business as long-term growth driver



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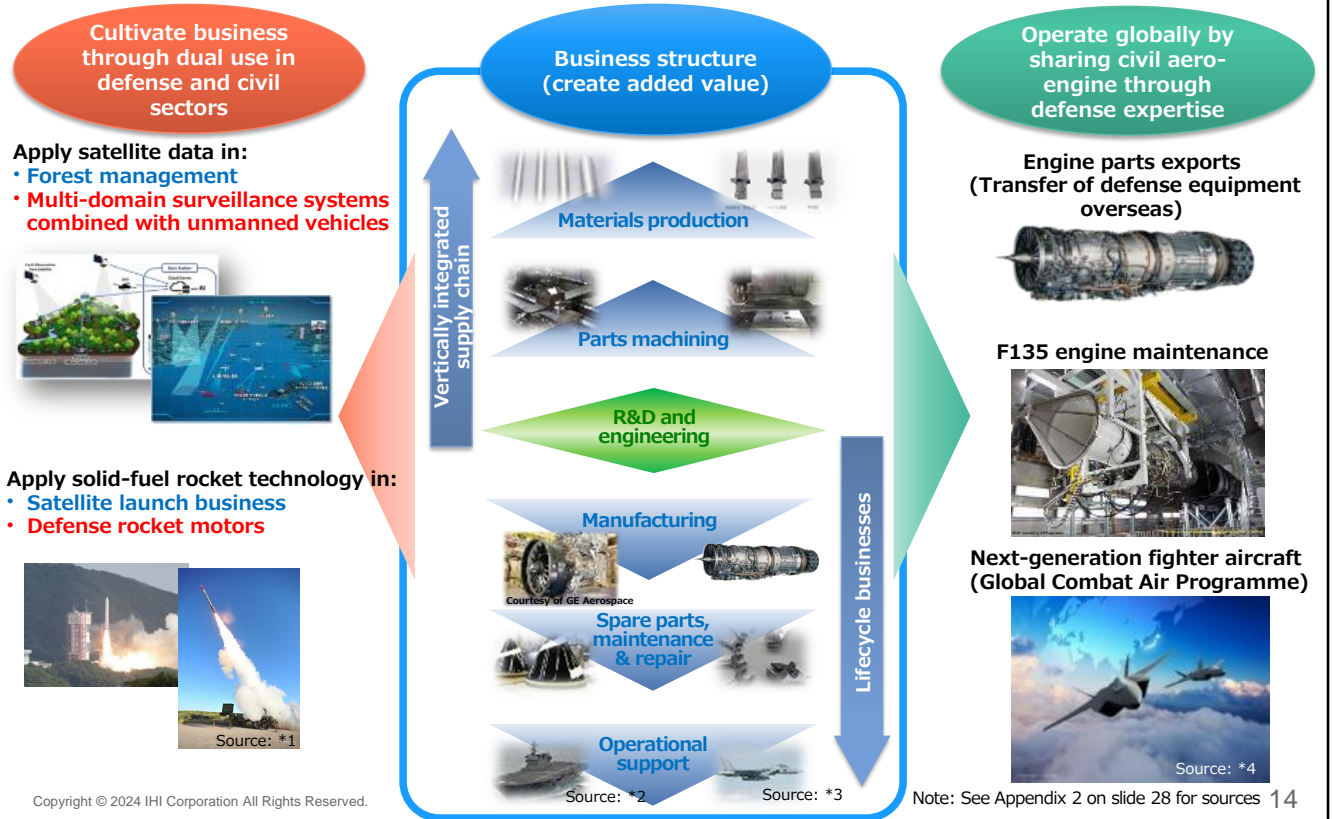
Note: Excluding impact of PW1100G-JM powder metallurgy issue in FY2023

- Here we present our envisaged business portfolio over the medium to long terms.
- The civil aero-engine and defense businesses should drive growth through around 2030.
  - We will capitalize on opportunities from an expanding civil aero-engine market to generate steady growth.
  - I will discuss defense business details later.
- We have several long-term goals.
  - In civil aero-engines, we will further reduce weight and enhance efficiency while developing and commercializing electric and hydrogen propulsion technologies to achieve carbon neutrality.
  - In defense, we look to expand our business by transferring defense equipment overseas.
  - Also, we seek to expand our space business, which we expect to see increasing demand and new market potential.

## Growth Businesses Future-Oriented Initiatives

IHI

Expand and create new businesses by synergizing technologies and expertise in civil and defense business



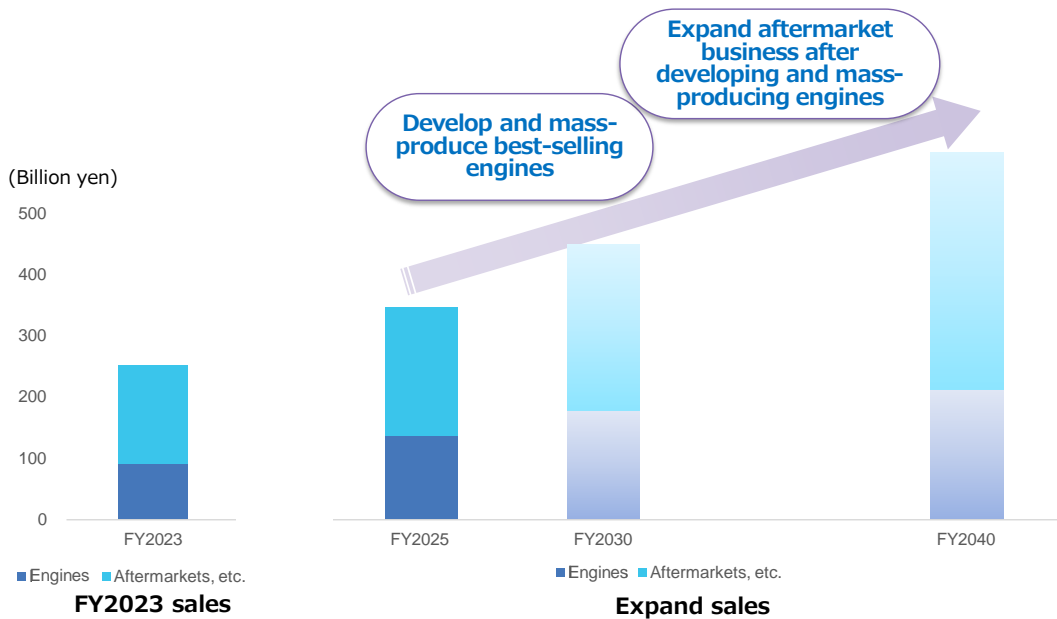
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Note: See Appendix 2 on slide 28 for sources 14

- Here, we show our business growth trajectory.
- The blue section in the center represents the value chain, beginning with R&D and engineering.
- A key IHI strength is that we can add value across the entire value chain, from upstream formed and fabricated materials manufacturing to operational support.
- The production and technology underpinnings that are among our core strengths originated with our defense business. We later leveraged these foundations to enter the global aero-engine business, which has grown significantly.
- We aim to grow over the medium through long terms by further exploiting synergies between our civil aero-engine and defense businesses.
- First, as you see on the right part of the slide, we will globalize our defense business.
  - We will collaborate with the Japanese government to contribute to its national security policy by tapping our experience in joint international projects for civil aero- engines in developing global defense projects.
- Then, as you see in the left of the slide, we will adopt a dual use approach.
  - We will employ advanced technologies that we have cultivated in the defense and civil sectors to seize new opportunities and expand our business.

**Expand sales and improve profitability by linking development and mass production to aftermarket business**

- Spare parts sales rebounding, particularly for small and medium-sized models, on air travel growth
- Seeking to enhance sales and profitability by leveraging virtuous circle in aftermarket business for engine development and mass production programs in which IHI has participated



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Note: Excluding impact of PW1100G-JM powder metallurgy issue in FY2023

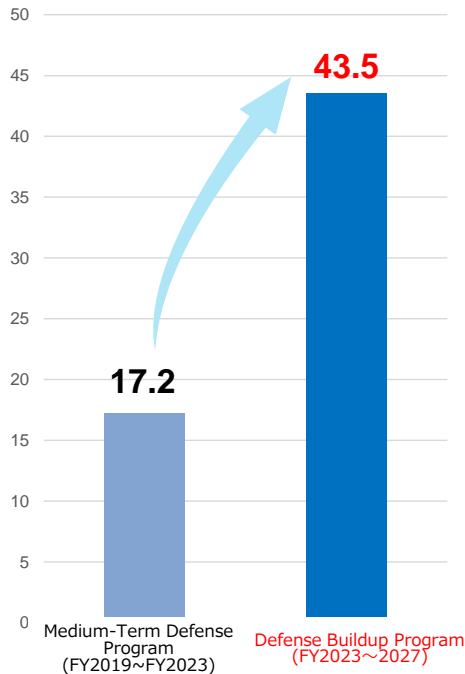
- On this slide, we illustrate the growth potential of our civil aero-engine business.
- As Japan's top manufacturer of these engines, we participate in development and mass-production programs for best-selling models in everything from small to large classes.
- Sales of new engines should continue increasing with air travel demand.
- Sales of profitable aftermarket offerings should thereby also rise.

Leverage technological prowess to contribute to  
"Fundamental reinforcement of Japan's defense capabilities"

- Japanese government aims to increase defense budget to 2% of GDP by FY2027

Large budget allocations, especially in areas within IHI core competencies

Defense buildup program budgets  
(Trillion yen)



Seven priority programs to Fundamental reinforcement of Japan's defense capabilities

Stand-Off Defense Capabilities	¥0.2→5 trillion	Source: *2
Integrated Air and Missile Defense Capabilities	¥1→3 trillion	Defense rocket motors
Unmanned Defense Capabilities	¥0.1→1 trillion	Unmanned underwater vehicles
Cross-Domain Operation Capabilities	Aero-engines	Source: *3
Mobile Deployment Capabilities/Civil Protection	Space Domain Awareness satellites	Source: *4
Command-and-Control and Intelligence-related Functions	Transport aircraft engines	
Sustainability and Resiliency	Maritime Domain Awareness	
	Aero-engine maintenance, repairs, and operations, and auxiliary capabilities	Nuclear, biological, and chemical warning systems and decontamination sets

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Source: \*1

Note: See Appendix 2 on slide 28 for sources

- Next, we show our defense business approach.
- As the graph on the left shows, Japanese defense budgets have expanded significantly in response to the government's policy of "Fundamental reinforcement of Japan's defense capabilities".
- The National Defense Strategy and other documents outline seven priority programs for this reinforcement. The government is allocating spending to areas where IHI has particular strengths.
- We will expand our business while harnessing our technological edge.

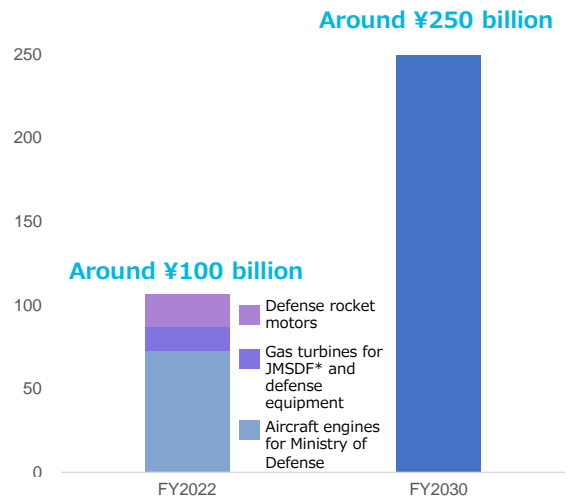
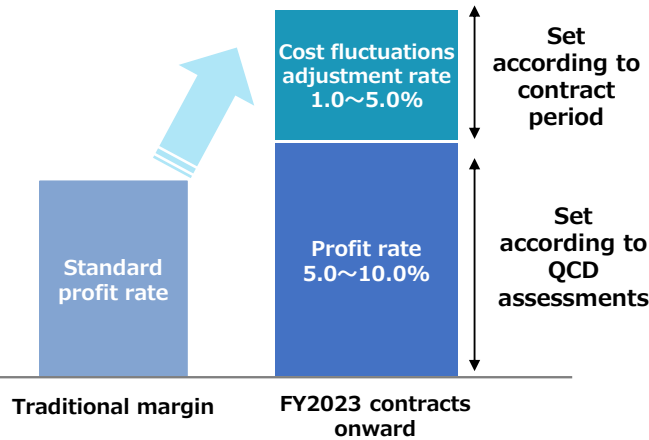


**Expanding sales and securing appropriate earnings in light of defense budget growth and institutional reforms**

**Enhancing profit margins as part of defense industry policy**

**IHI's defense business sales**

Targeting 2.5-fold sales growth and 10% profit margin compared with FY2022 levels



\* Japan Maritime Self-Defense force

- Corporate efforts reflected in profit margins through Ministry of Defense evaluations of quality, cost, and delivery management
- Deploying a cost fluctuation adjustment rate absorbs the risk of cost increases from higher prices and other uncontrollable factors

- Next, , we show our defense business sales expansion and profit margins.
- As mentioned earlier, Japan will expand its defense budget, and its new defense industry policy includes measures to enhance profit margins.
  - By having our strengths in quality, cost, and delivery management recognized as part of our corporate endeavors, we will be allowed to achieve a base profit margin of up to 10%.
  - There will also be a cost fluctuation adjustment rate of 1% to 5%, depending on contract periods, to account for price increases and other factors beyond our control.
- We target defense business sales of around ¥250 billion and a profit margin of 10% by fiscal 2030.

**Enhance collaboration with government and British and Italian companies to advance program**

- IHI has participated as engine provider since 2020 in Ministry of Defense's next-generation fighter aircraft development project
- Under GCAP, will play a vital role by stepping up collaboration with the public and private sectors
- Exercise our engineering capability to ensure GCAP's success and contribute to Japan's security and industrial advances



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- Finally, we would like to touch on the Global Combat Air Programme.
- We will play a vital role in engine development and help reinforce Japan's defense capabilities and international collaboration.
- On top of that, through this business we will:
  - Develop people who can play active roles in our global business
  - Train and deploy highly skilled engineers
  - Contribute to Japan's industrial progress

## **Development-Focus Businesses (Fuel Ammonia Value Chain)**

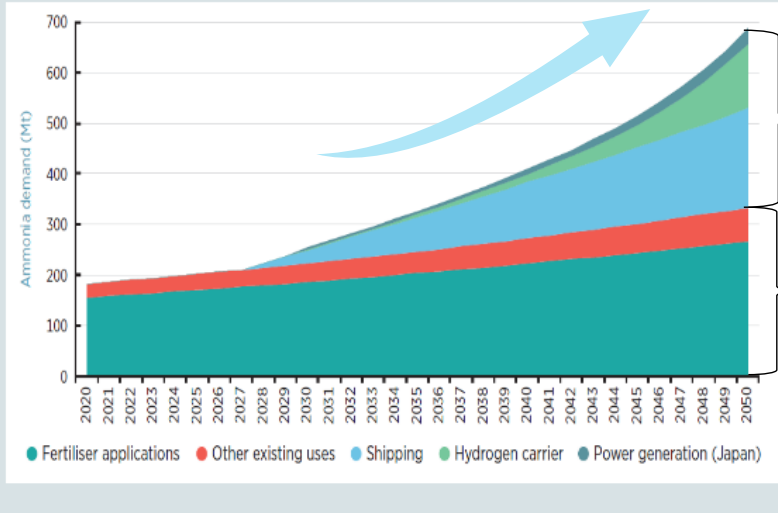


Development-Focus Businesses  
**Long-Term Expansion of Ammonia Market**

**Global ammonia demand expected to reach 700 million metric tons by 2050**

**Global ammonia demand**

Figure 2 Expected ammonia demand up to 2050 for the 1.5°C scenario



**New markets (around 400 million metric tons by 2050)**

- ✓ Power generation
- ✓ Hydrogen carriers
- ✓ Shipping

**Existing markets (around 300 million metric tons by 2050)**

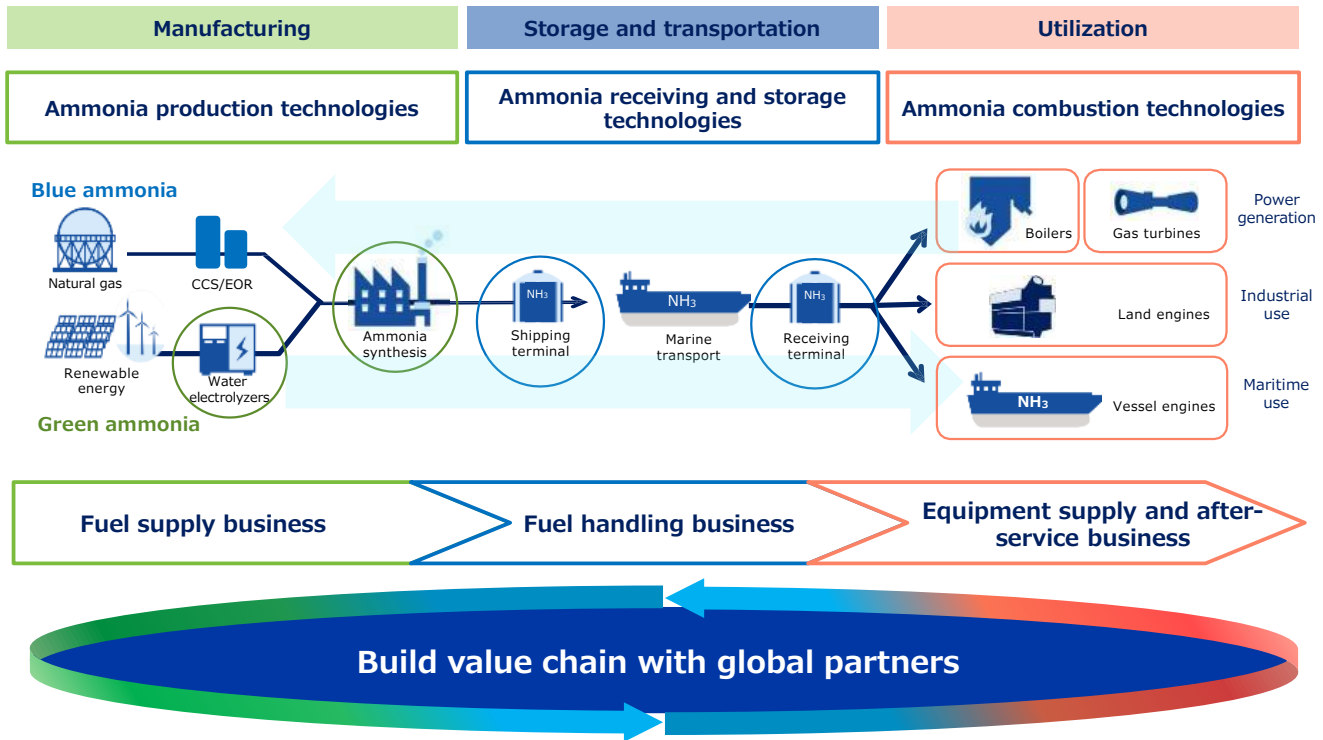
- ✓ Other existing uses
- ✓ Fertilizers applications

Source : IRENA Innovation Outlook Ammonia 2022

- This slide presents projections for global ammonia demand.
- New demand, primarily for fuel ammonia and hydrogen carriers, should surge from the second half of this decade.
- Global ammonia demand should more than triple to around 700 million metric tons by 2050.

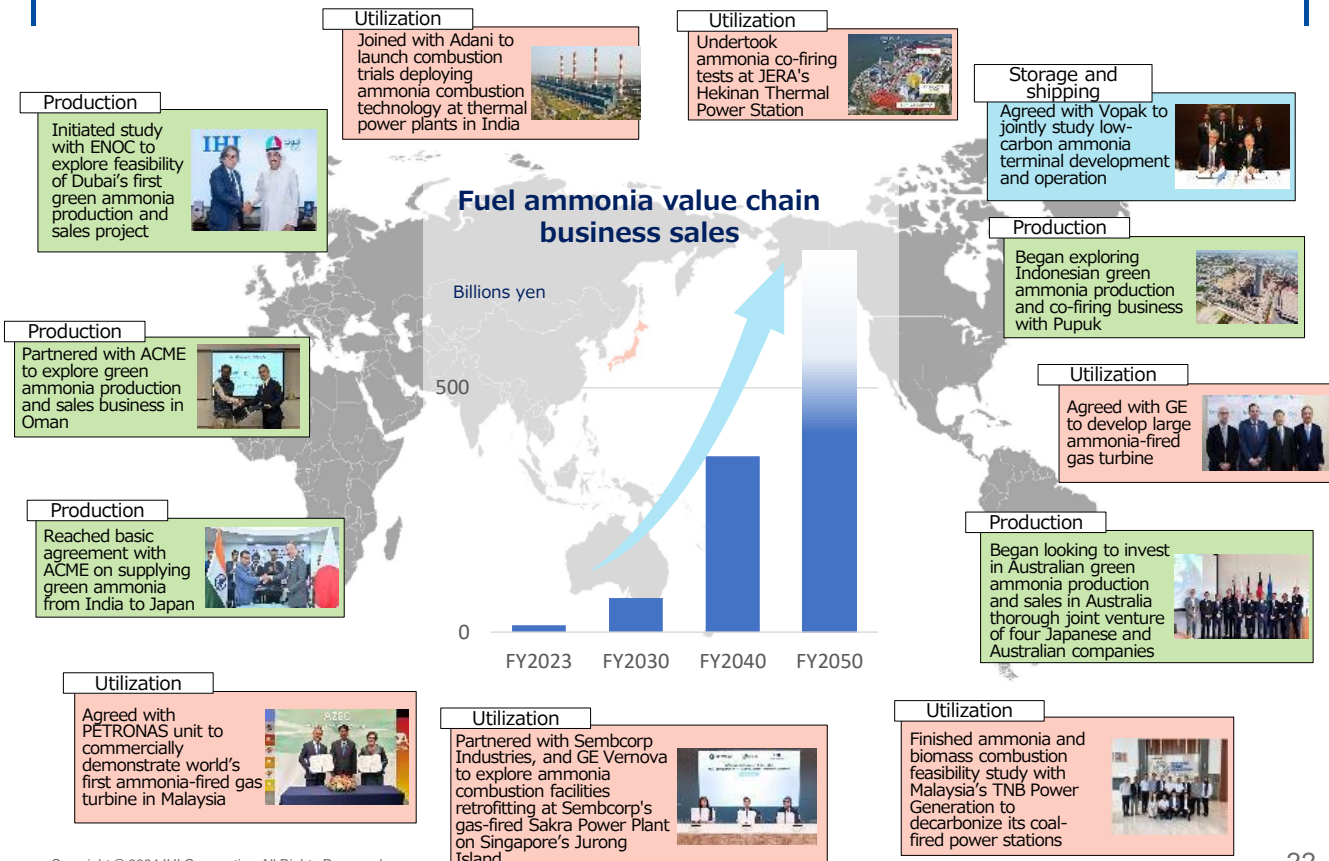
Development-Focus Businesses  
**Fuel Ammonia Value Chain Goals**

Leveraging technological prowess across entire value chain and aiming to expand revenues and maximize earnings upstream, midstream, and downstream



- Here, we overview the fuel ammonia value chain.
- We were the first company to focus on ammonia as a fuel for a carbon-free era. We have developed technologies for utilization, receiving and storage, and production.
- While maintaining our technological strengths, we have thus become one of few players involved in the entire value chain, from fuel production through receiving and storage and utilization.
- To create a carbon-free world, it is essential to build a value chain where upstream, midstream, and downstream processes work together seamlessly to generate value.
- We will leverage our technological strengths to help reach that goal, striving to expand sales and maximize earnings across the entire value chain.

# Development-Focus Businesses Progress with Ammonia Value Chain Businesses



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- This slide highlights efforts with global partners to build a value chain.
- While the investment phase will continue for the foreseeable future, we expect contributions to sales and earnings to begin from fiscal 2030, with our business growing significantly toward fiscal 2040.
- We will keep creating new value for customers by harnessing our internal technologies and the technologies and expertise of a range of partners to create a global value chain.

## Looking beyond “Group Management Policies 2023”



**By integrating, uniting, and enhancing the diverse technologies as the sources of our value, we forge new value for our customers moving beyond traditional products and services**

Technology is the cornerstone of everything we do and the value we deliver. It spans everything from the regular to the revolutionary. We enhance the strength and value of our technologies by strategically combining them.

Historically, we have focused on delivering value through products. In coming years, we will concentrate more on value itself, seamlessly aligning it with what our customers seek. We remain committed to forging meaningful connections with the value we provide.



**The IHI Group creates Value Chains**

# Appendix



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✓ Business Area Briefings (on September 27, 2023)

- [Resources, Energy & Environment](#)
- [Social Infrastructure](#)
- [Industrial Systems & General-Purpose Machinery](#)
- [Aero Engine, Space & Defense](#)

## Appendix 2: Links for Sources (some in Japanese only)

### P.11

- \*1 Maritime Self-Defense Force website <https://www.mod.go.jp/msdf/equipment/ships/ddh/izumo/>
- \*2 Maritime Self-Defense Force website <https://www.mod.go.jp/msdf/equipment/rotorcraft/patrol/sh60k/>
- \*3 Air Self-Defense Force website <https://www.mod.go.jp/asdf/equipment/sentouki/F-15/index.html>
- \*4 AIRBUS <https://mediacentre.airbus.com/element?id=542614>
- \*5 Wikimedia Commons [https://commons.wikimedia.org/wiki/File:Boeing\\_SUGAR\\_Volt\\_concept\\_aircraft\\_2010.jpg](https://commons.wikimedia.org/wiki/File:Boeing_SUGAR_Volt_concept_aircraft_2010.jpg)
- \*6 Air Self-Defense Force website <https://www.mod.go.jp/asdf/equipment/other/Patriot/index.html>
- \*7 GE Vernova <https://www.gevernova.com/gas-power/products/gas-turbines/Im2500>
- \*8 Wikimedia Commons [https://commons.wikimedia.org/wiki/File:CT7\\_T700\\_P1220751.jpg](https://commons.wikimedia.org/wiki/File:CT7_T700_P1220751.jpg) (Copyright: David Monniaux )

### P.14

- \*1 Air Self-Defense Force website <https://www.mod.go.jp/asdf/equipment/other/Patriot/index.html>
- \*2 Maritime Self-Defense Force website <https://www.mod.go.jp/msdf/equipment/ships/ddh/izumo/>
- \*3 Air Self-Defense Force website <https://www.mod.go.jp/asdf/equipment/sentouki/F-15/index.html>
- \*4 Ministry of Defense website <https://www.mod.go.jp/j/policy/defense/nextfighter/index.html>

### P.16

- \*1 Based on Medium-Term Defense Program (FY2019~FY2023) and Defense Build-Up Program
- \*2 Maritime Self-Defense Force website <https://www.mod.go.jp/msdf/release/202211/20221121-1.pdf>
- \*3 Northrop Grumman <https://wpcontent.ot5o9s93syrb.net/wp-content/uploads/GEOStar-1-DS-64.pdf>
- \*4 Cabinet Office website [https://www8.cao.go.jp/cstp/anzen\\_anshin/20221021\\_meti\\_3.pdf](https://www8.cao.go.jp/cstp/anzen_anshin/20221021_meti_3.pdf)

### P.18

- \*1 Ministry of Defense website <https://www.mod.go.jp/j/policy/defense/nextfighter/index.html>



Forward-looking figures shown in this material with respect to IHI's performance outlooks and other matters are based on currently available information, and therefore contain risks and uncertainties. Consequently, you should not place undue reliance on these performance outlooks in making investment decisions. Actual results could differ materially from those discussed in these performance outlooks due to several important factors. They include political environments in areas in which IHI operates, general economic conditions, and the yen exchange rate including its rate against the US dollar.