



# MHI Core Technologies

Mitsubishi Heavy Industries, Ltd.

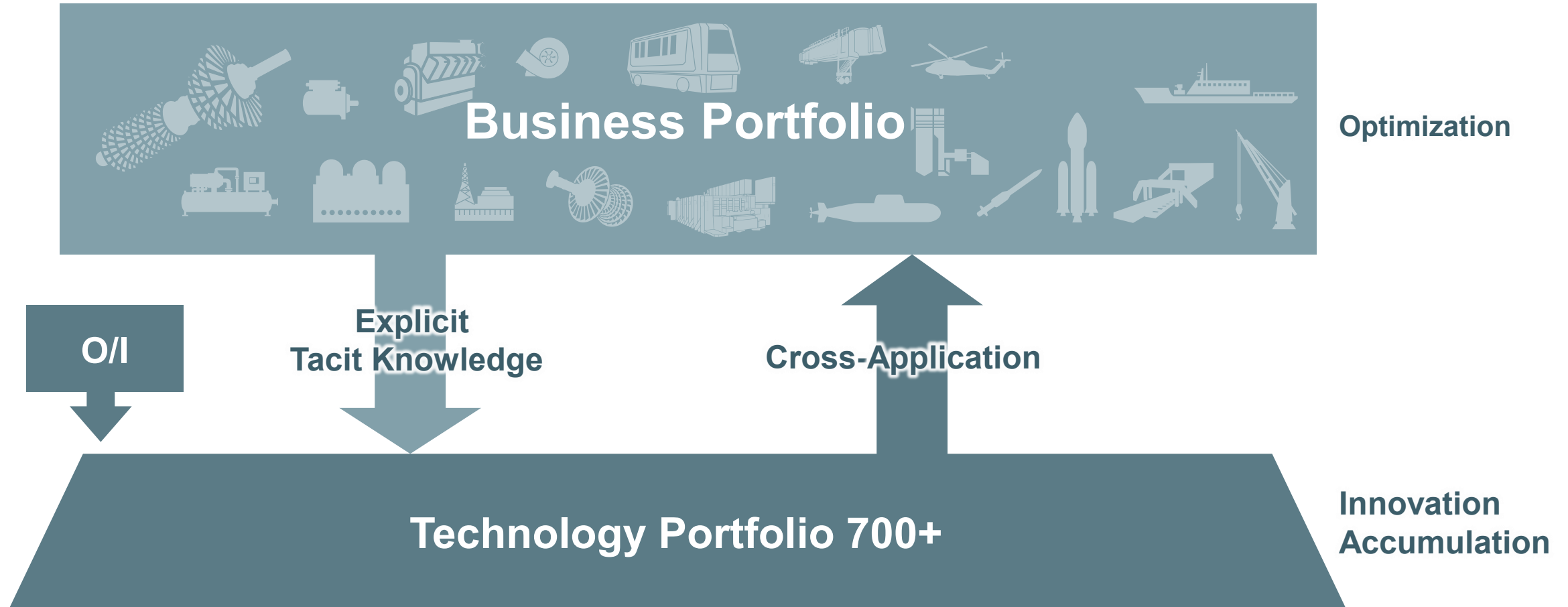
- 1. Shared Technology Framework**
- 2. Core Technologies for Competitiveness**
- 3. Technology Management for Sustainable Growth**

# 1. Shared Technology Framework



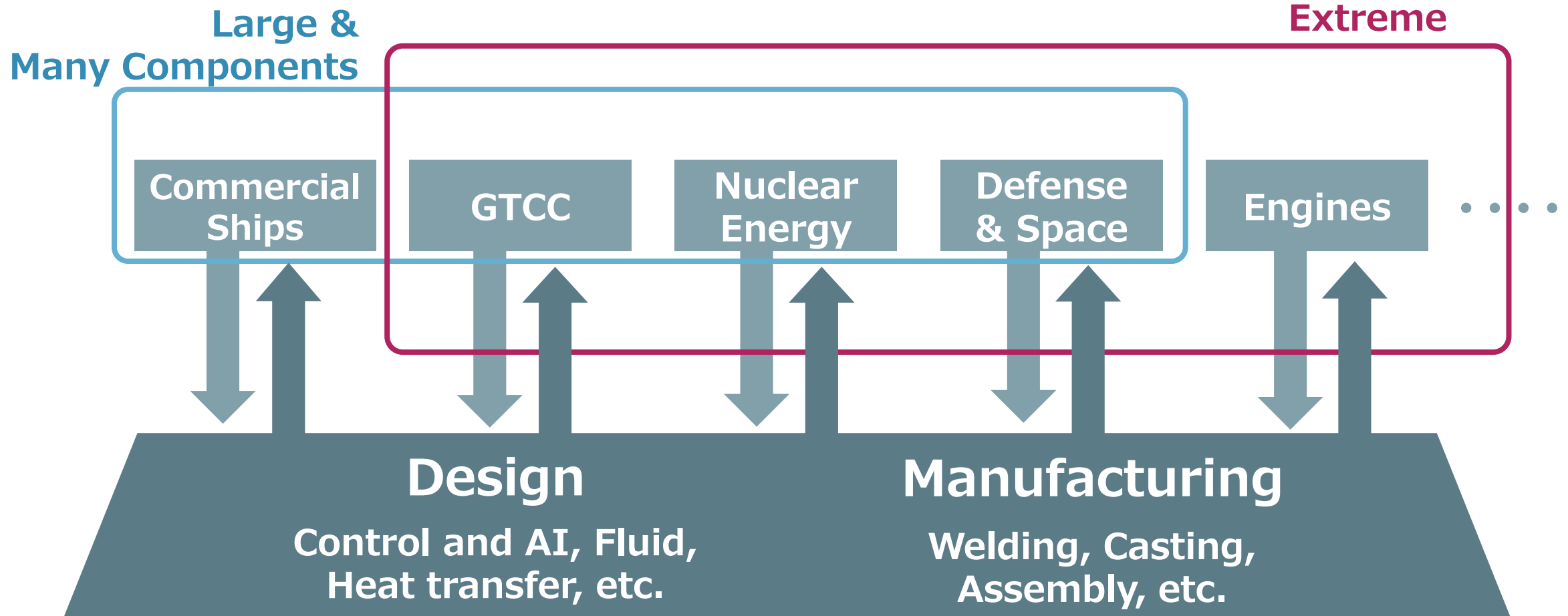
# 1. Shared Technology Framework

■ MHI applies its wide range of technologies across businesses to achieve fast product development.



# 1. Shared Technology Framework

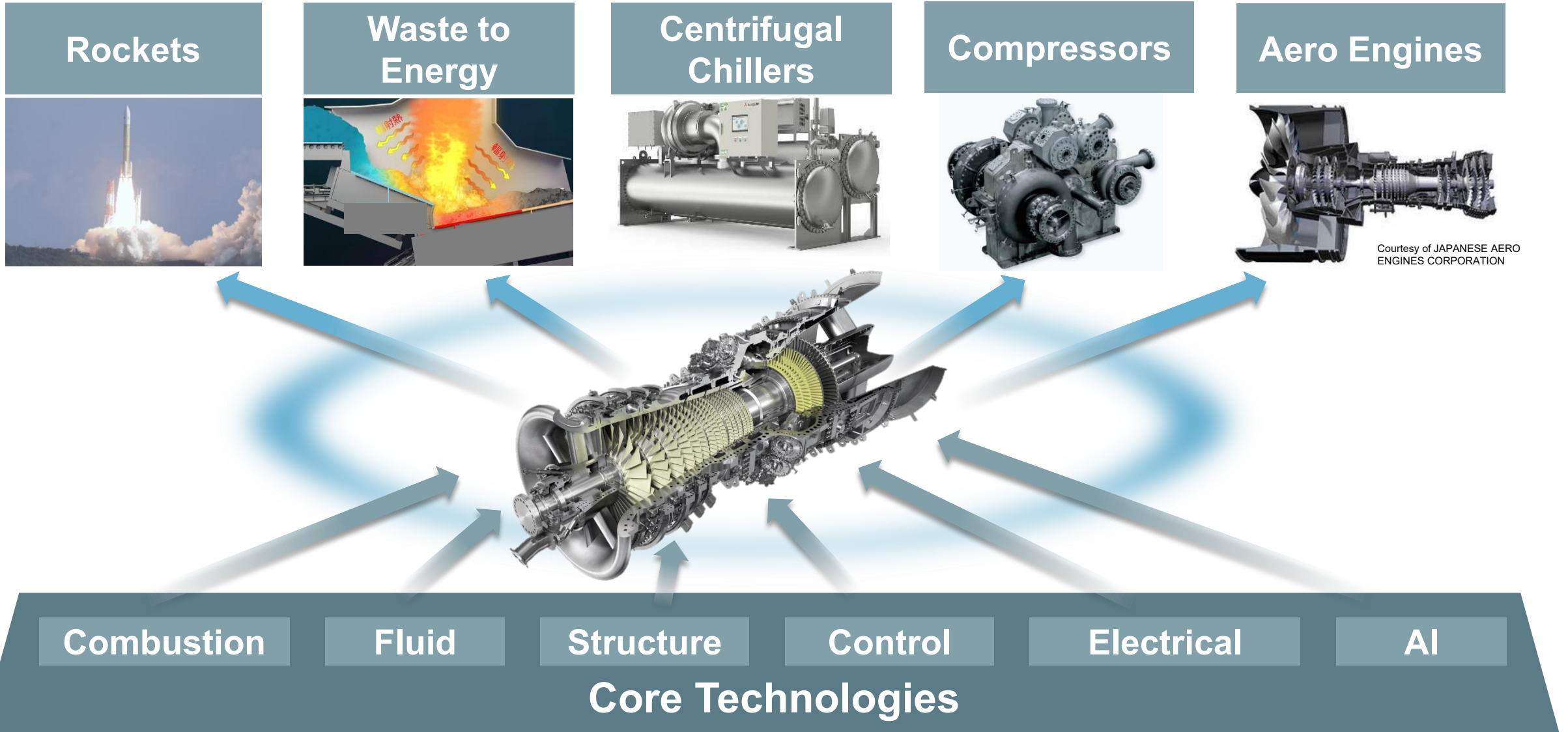
- Design and manufacturing technologies shared across products enable efficient development and improvement of products and services.





## 2. Core Technologies for Competitiveness

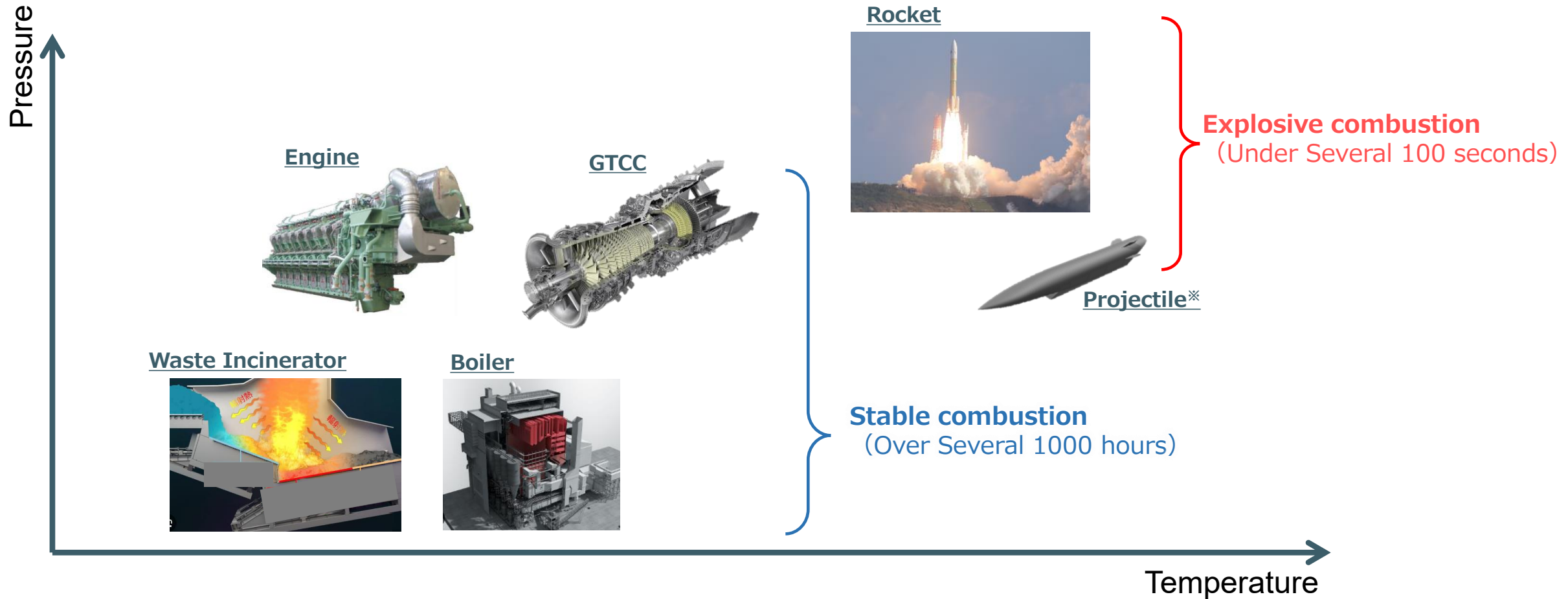
## 2. Core Technologies for Competitiveness



## 2. Core Technologies for Competitiveness / Combustion

- Stable & High-efficiency combustion, Explosive combustion

Application : GTCC, Engine, Boiler, Waste Incinerator, Rocket, Projectile, etc.

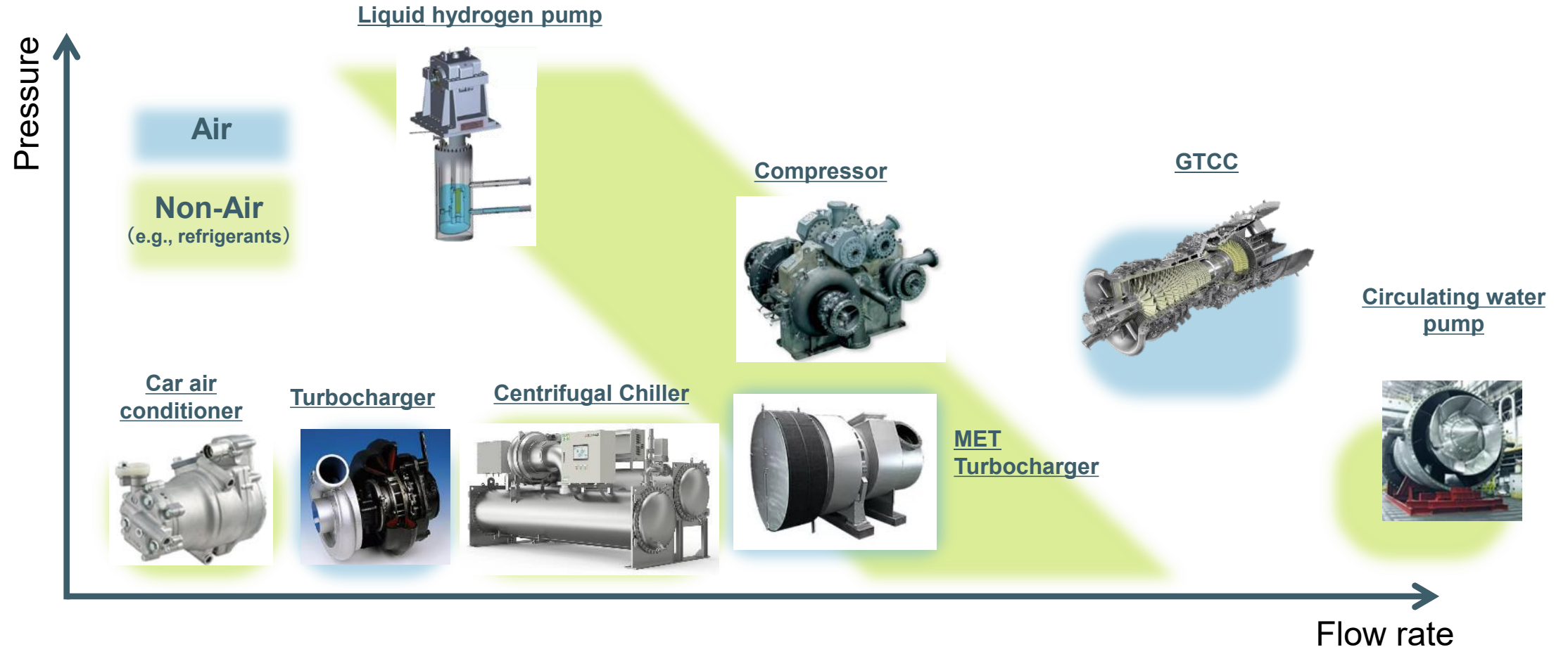


※ Progress and Budget in Fundamental Reinforcement of Defense Capabilities : Overview of FY2026 Budget

## 2. Core Technologies for Competitiveness / Fluid

- Handling of various fluid, High energy efficiency

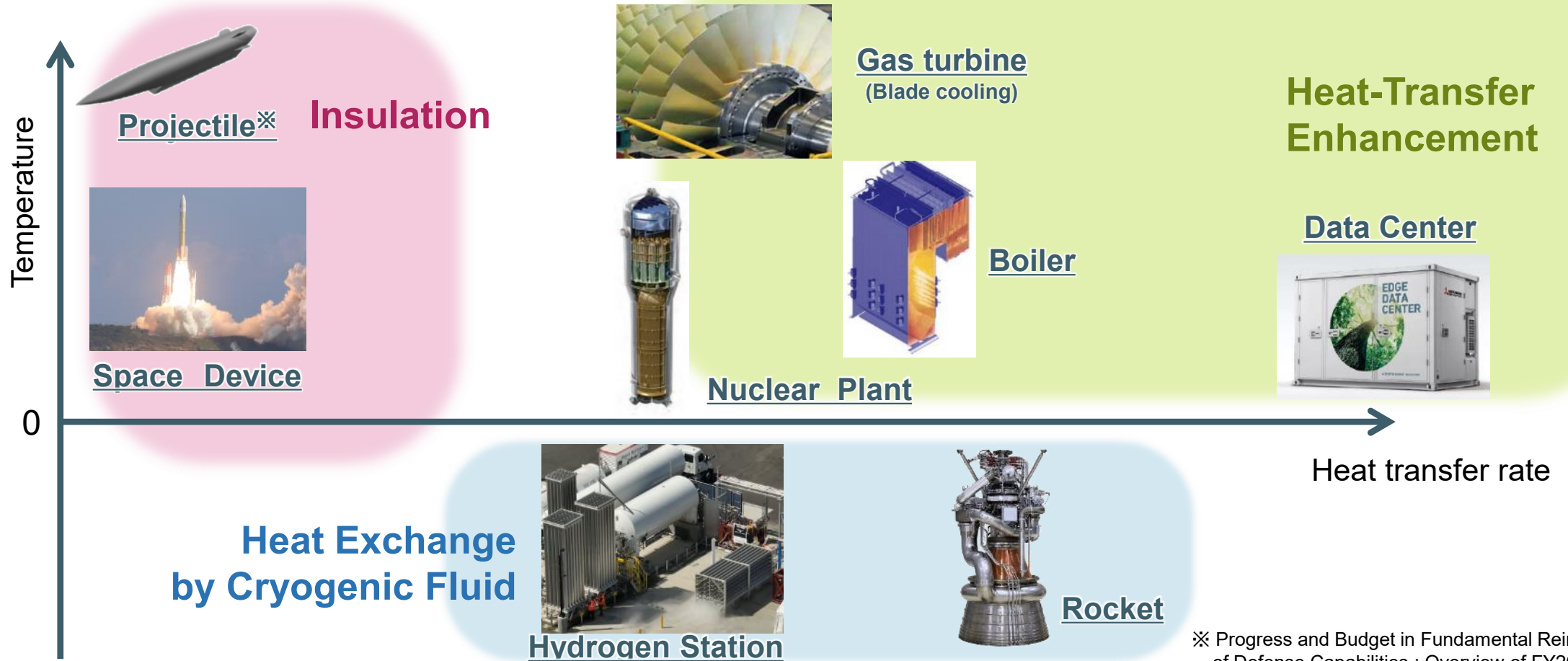
Application : Compressor, Pump, GTCC, Chiller, Turbocharger, etc.



## 2. Core Technologies for Competitiveness / Heat Transfer

### ■ Control heat and temperature

Application : GTCC, Boiler, Nuclear Plant, Data Center, Projectile, Space Device, etc.

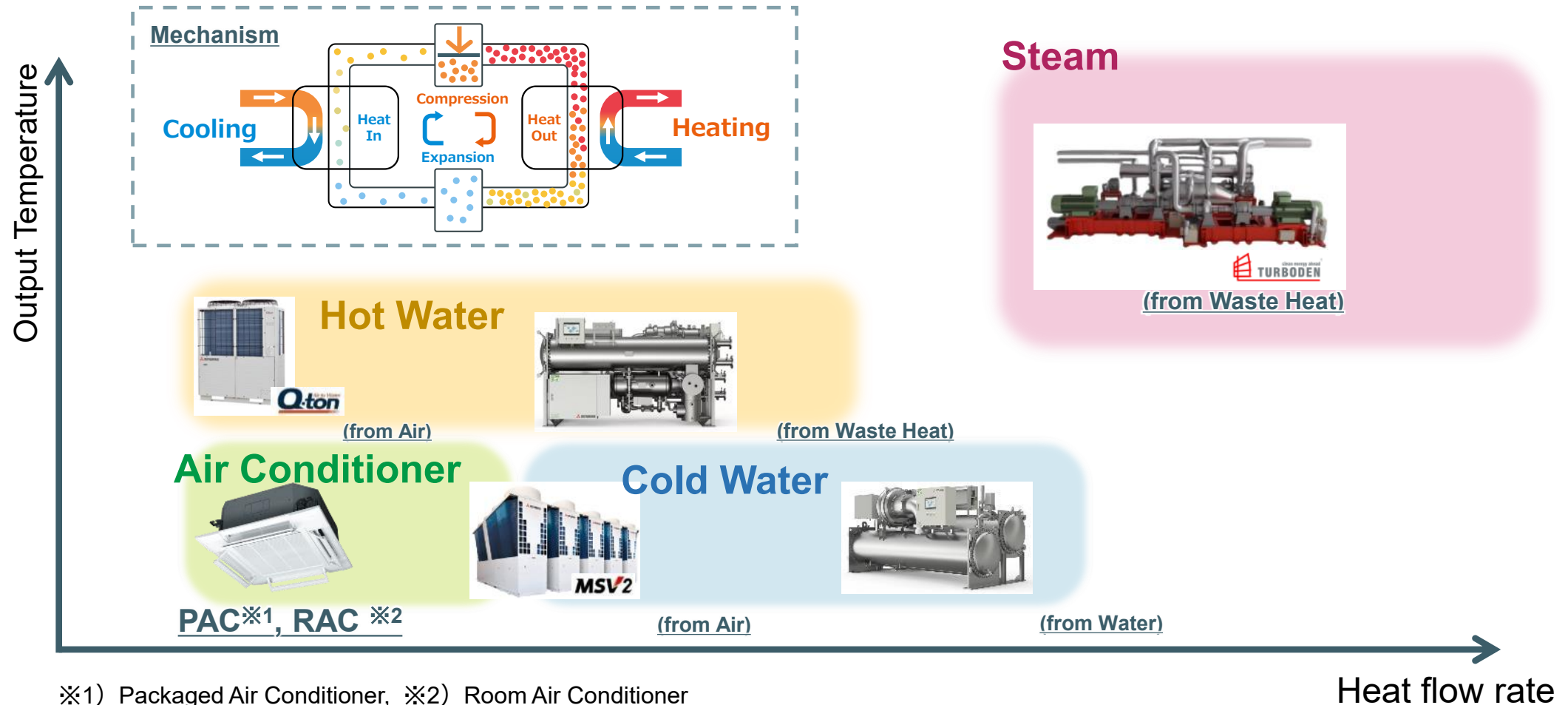


※ Progress and Budget in Fundamental Reinforcement of Defense Capabilities : Overview of FY2026 Budget

## 2. Core Technologies for Competitiveness / Heat Pump

- Heating and cooling by lower energy, CO<sub>2</sub> reduction

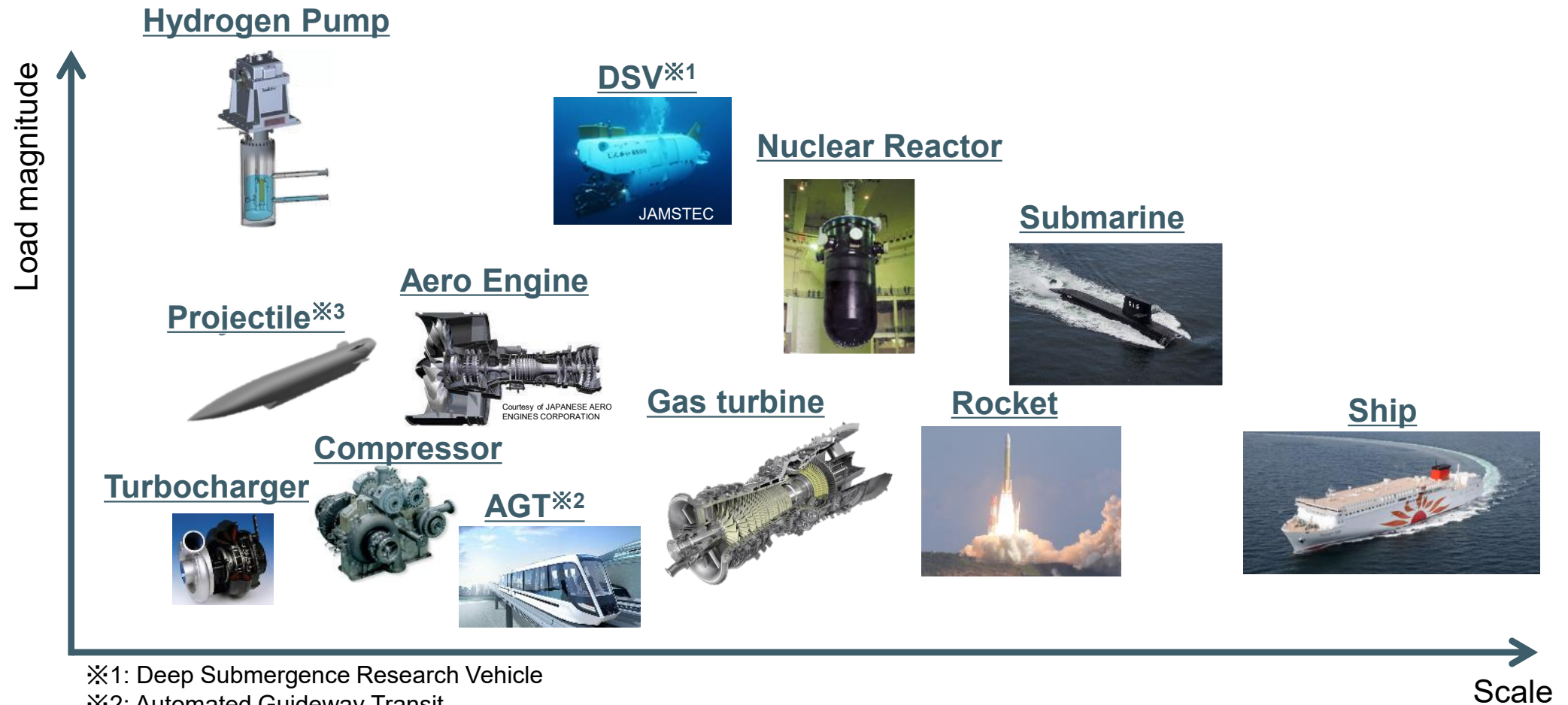
Application : Air Conditioner, Chiller, Water Heater, Steam Generator



## 2. Core Technologies for Competitiveness / Structural

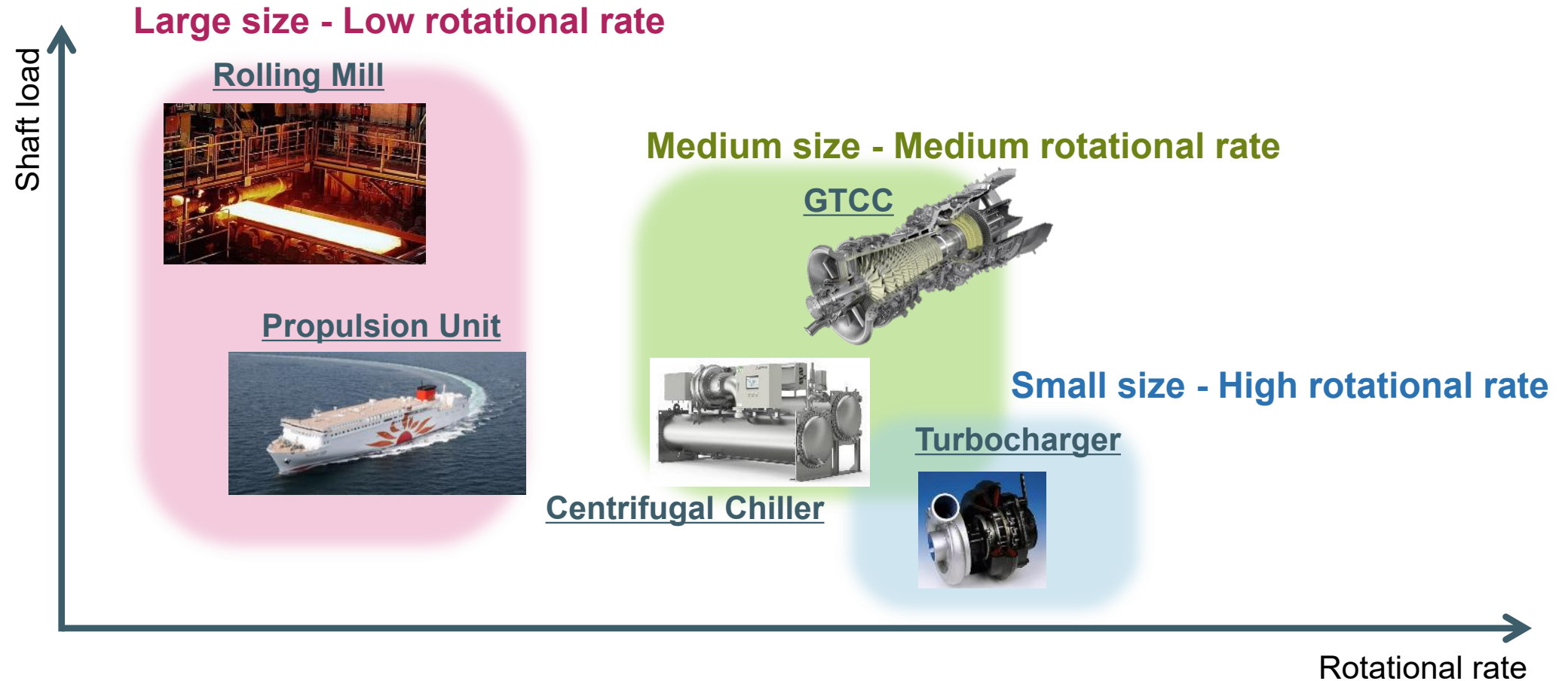
- Light and highly reliable structure

Application : Pump, Missile, Turbine, Compressor, Engine, AGT, etc.



## 2. Core Technologies for Competitiveness / Tribology

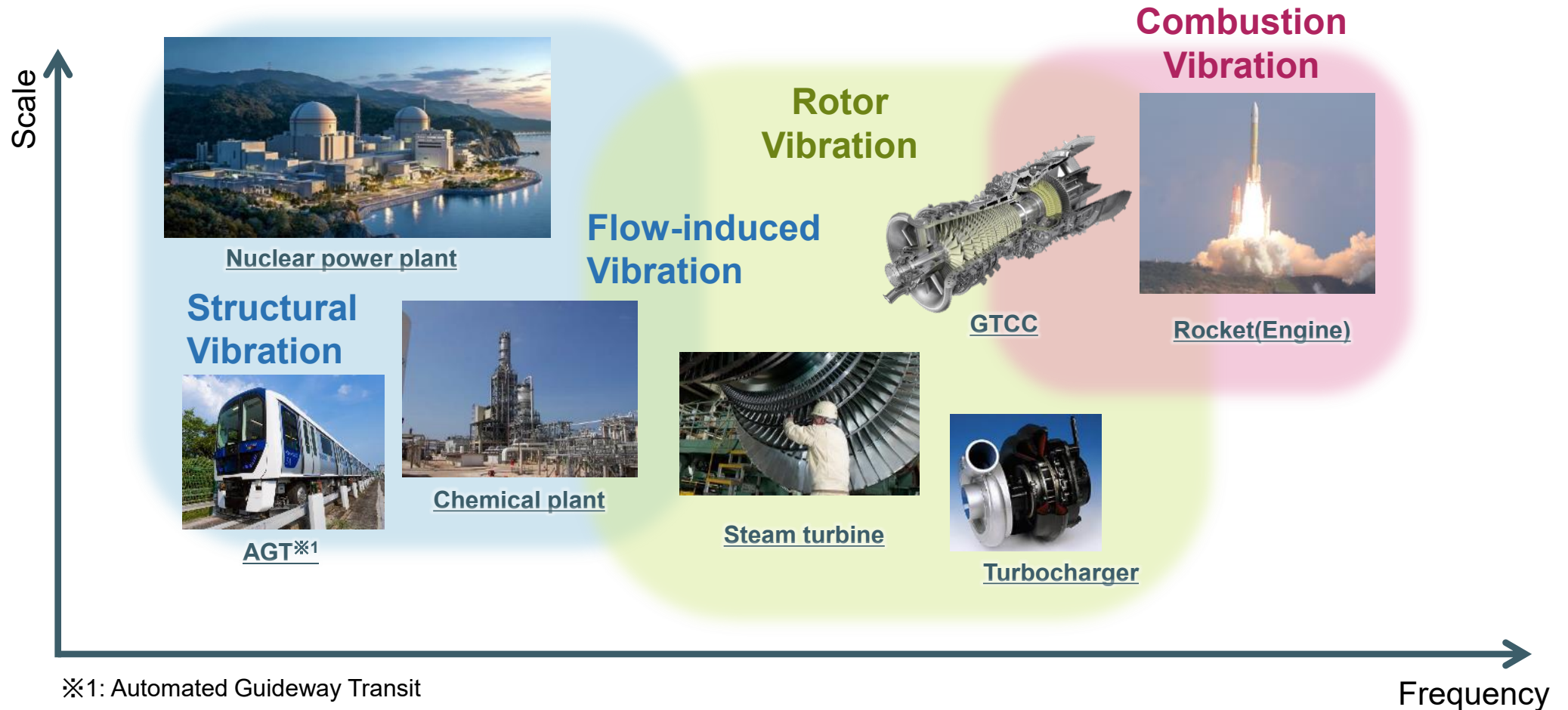
- Control of friction/wear/ lubrication, Highly reliable and efficient product  
Application : Rolling Mill, GTCC, Centrifugal Chiller, Turbocharger, etc.



## 2. Core Technologies for Competitiveness / Vibration

### ■ Reduction and control of vibration

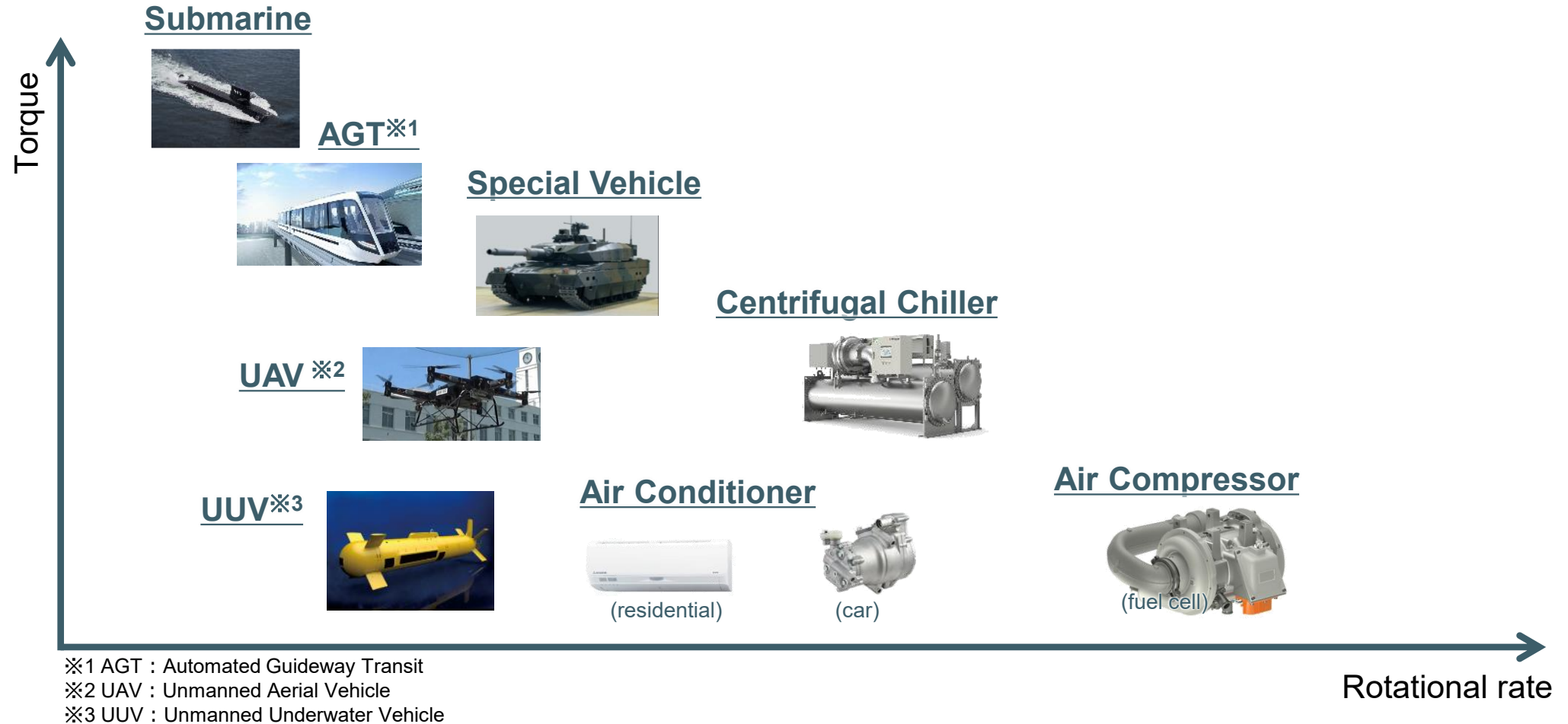
Application : Transportation system, Nuclear, Turbine, Rocket, etc.



## 2. Core Technologies for Competitiveness / Power Electronics

- Compact, Efficient, High-power and high-rotational rate products

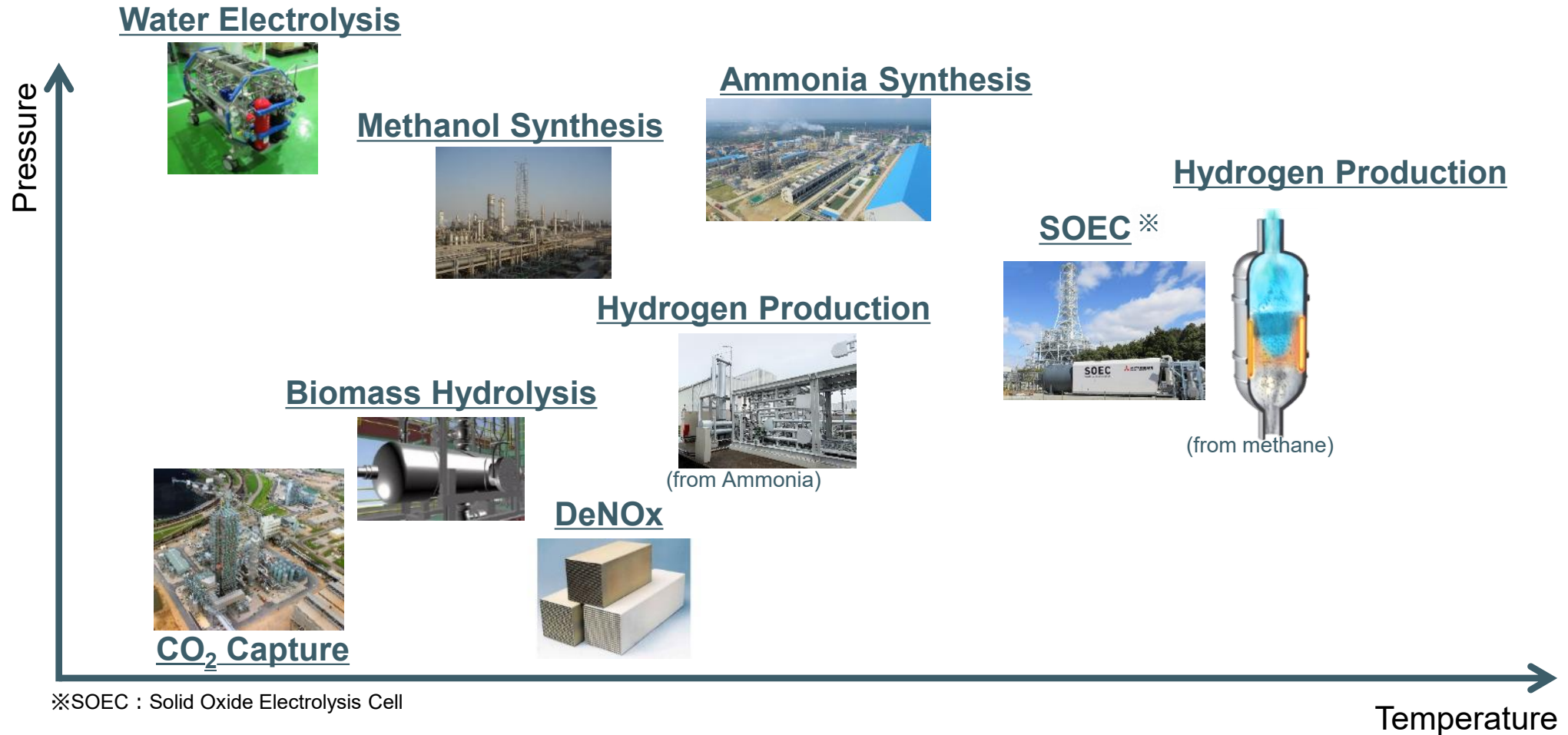
Application : Submarine, AGT, UUV, Air Conditioner, Air Compressor, etc.



## 2. Core Technologies for Competitiveness / Chemical Reaction

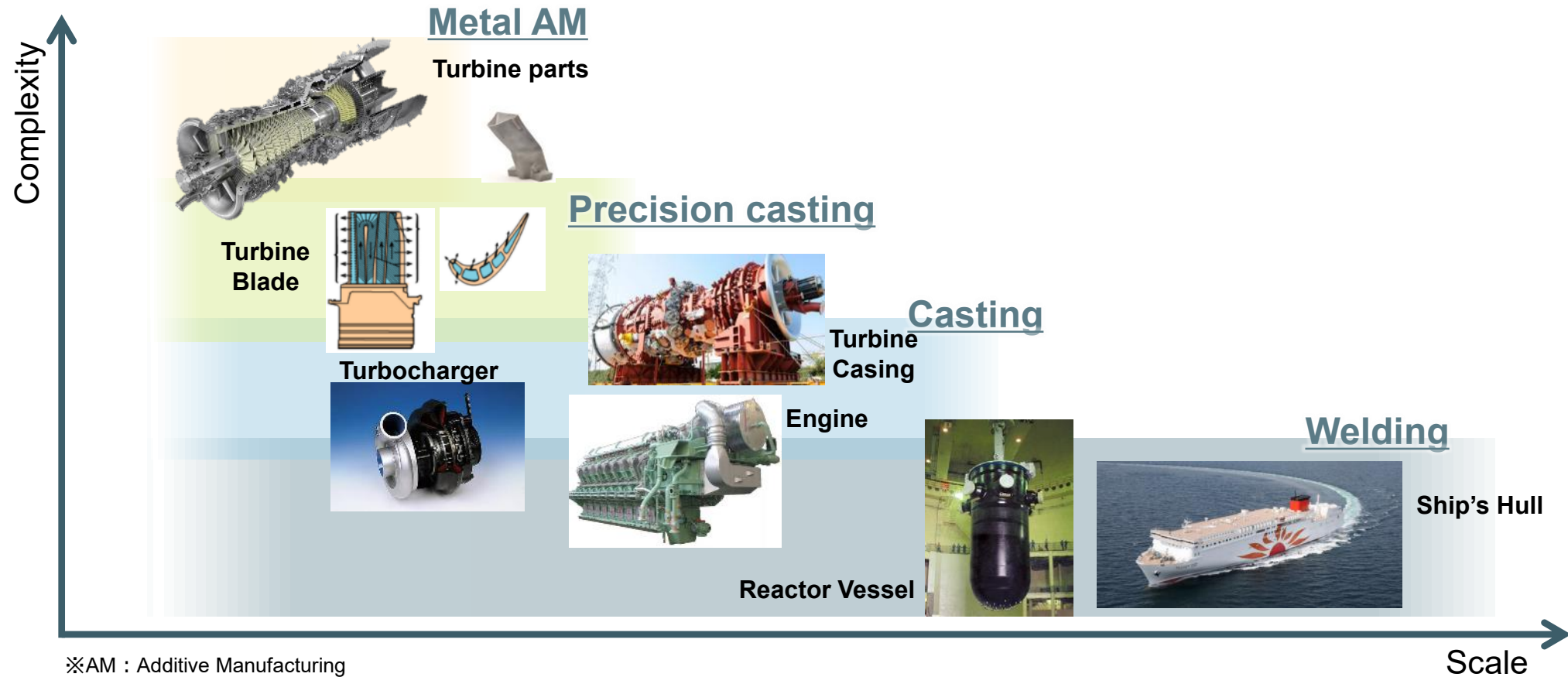
- Production of valuable materials, Removal of environmental pollutant

Application : Water Electrolysis, Ammonia Synthesis, Biomass Hydrolysis, etc.



## 2. Core Technologies for Competitiveness / Manufacturing Process

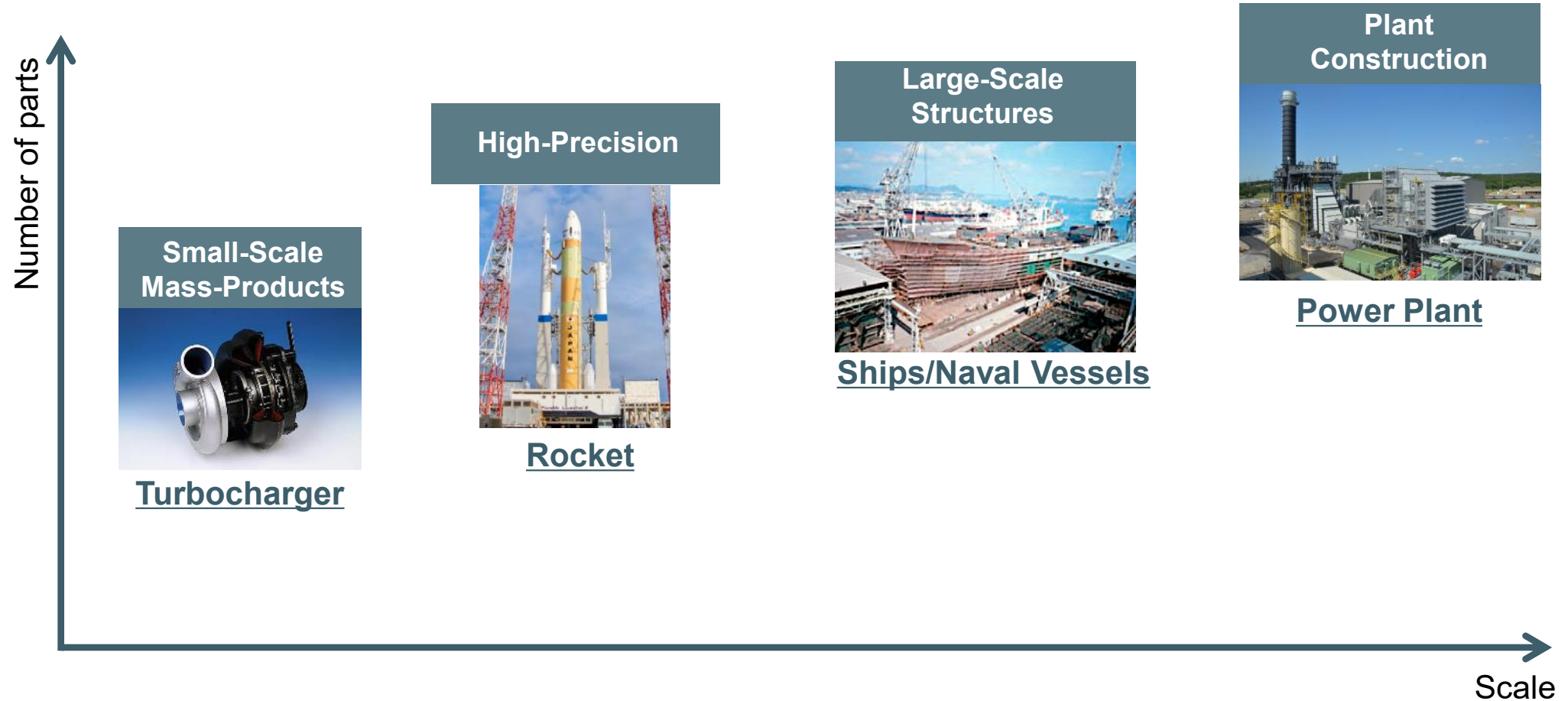
- Large and complex-shaped component, Cost minimization  
Application : Turbine Parts, Casing, Hull, etc.



## 2. Core Technologies for Competitiveness / Assembly

- Precise control and environment-adaptive assembly

Application : Mass Production, Project Production, Construction

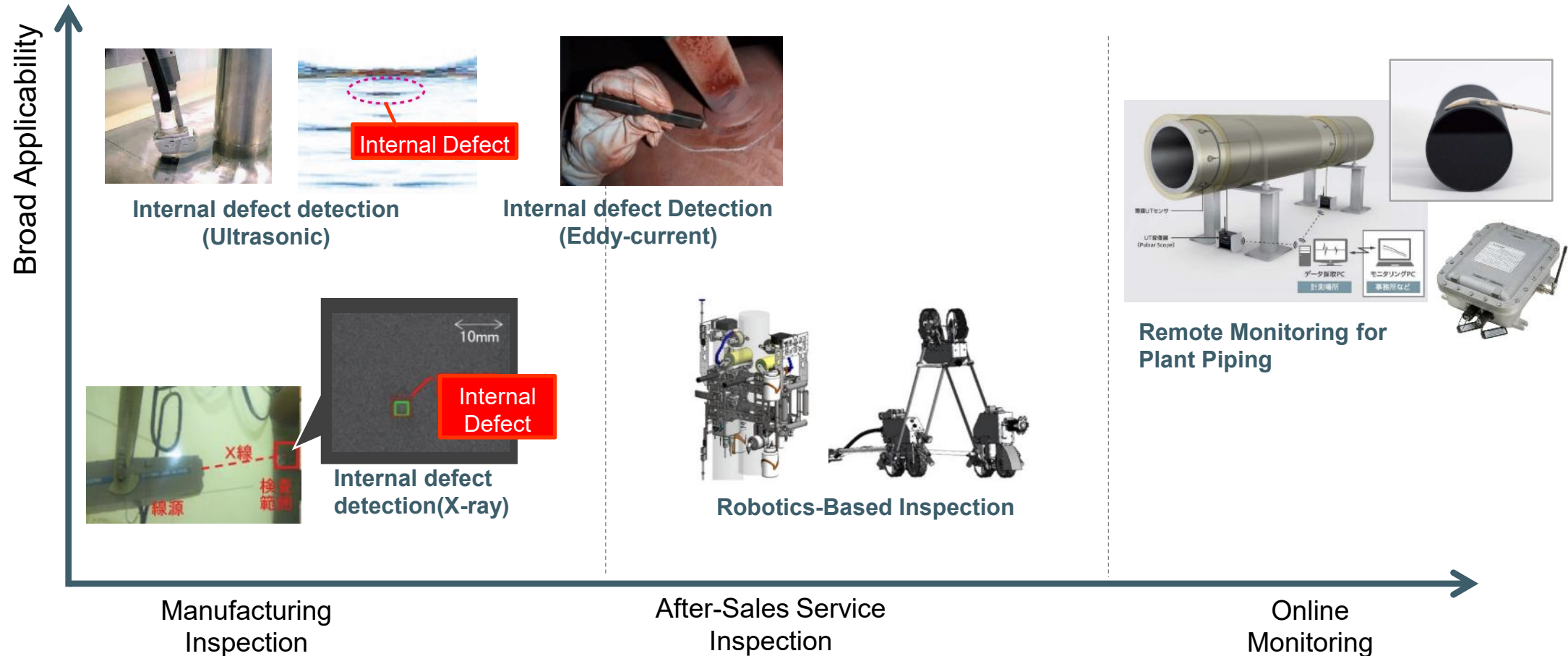


## 2. Core Technologies for Competitiveness / NDI※ and Measurement

※) NDI : Non-Destructive Inspection

- High-precision internal defect detection, Real-time remote monitoring

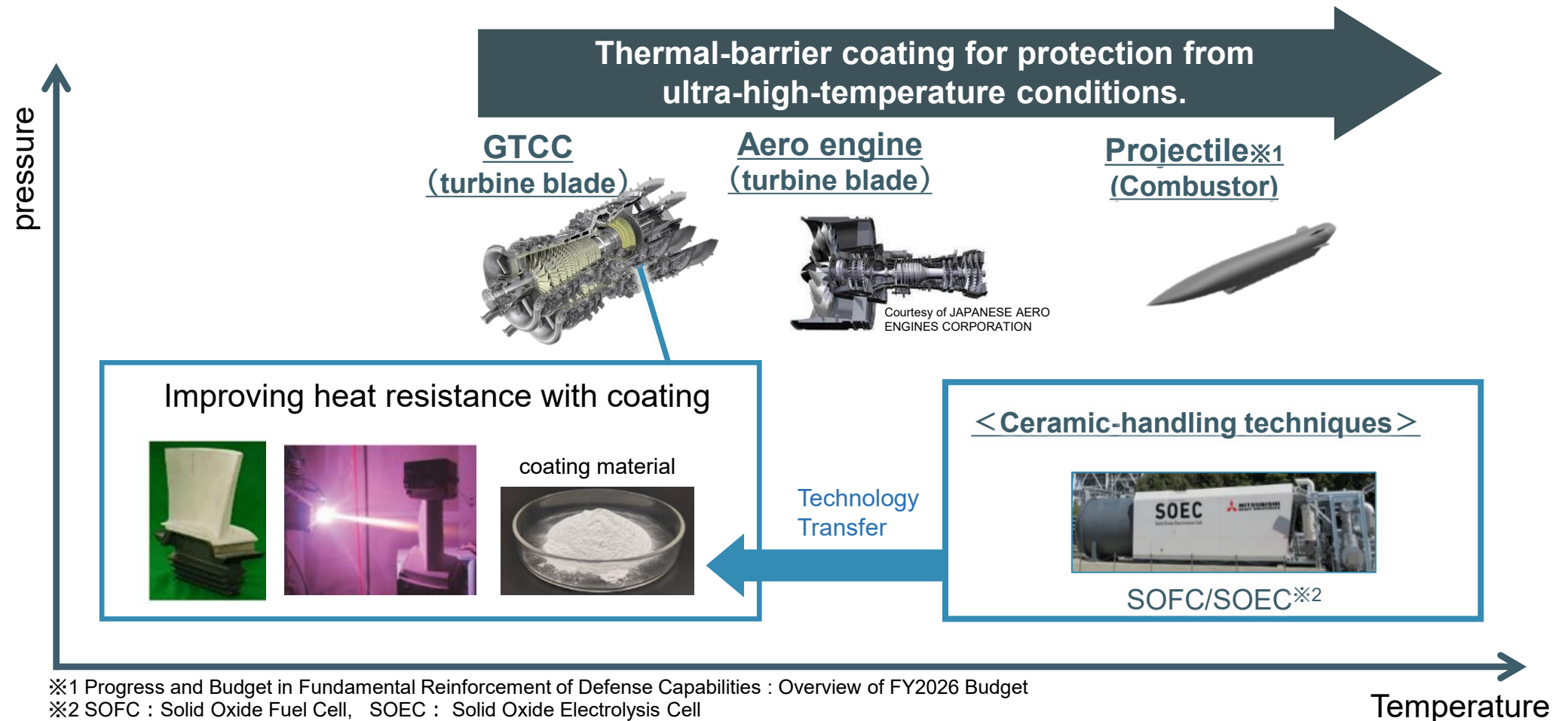
Application : Field Measurement Service, Nuclear, GTCC, etc.



## 2. Core Technologies for Competitiveness / Thermal Spraying

- High-temperature resistance.

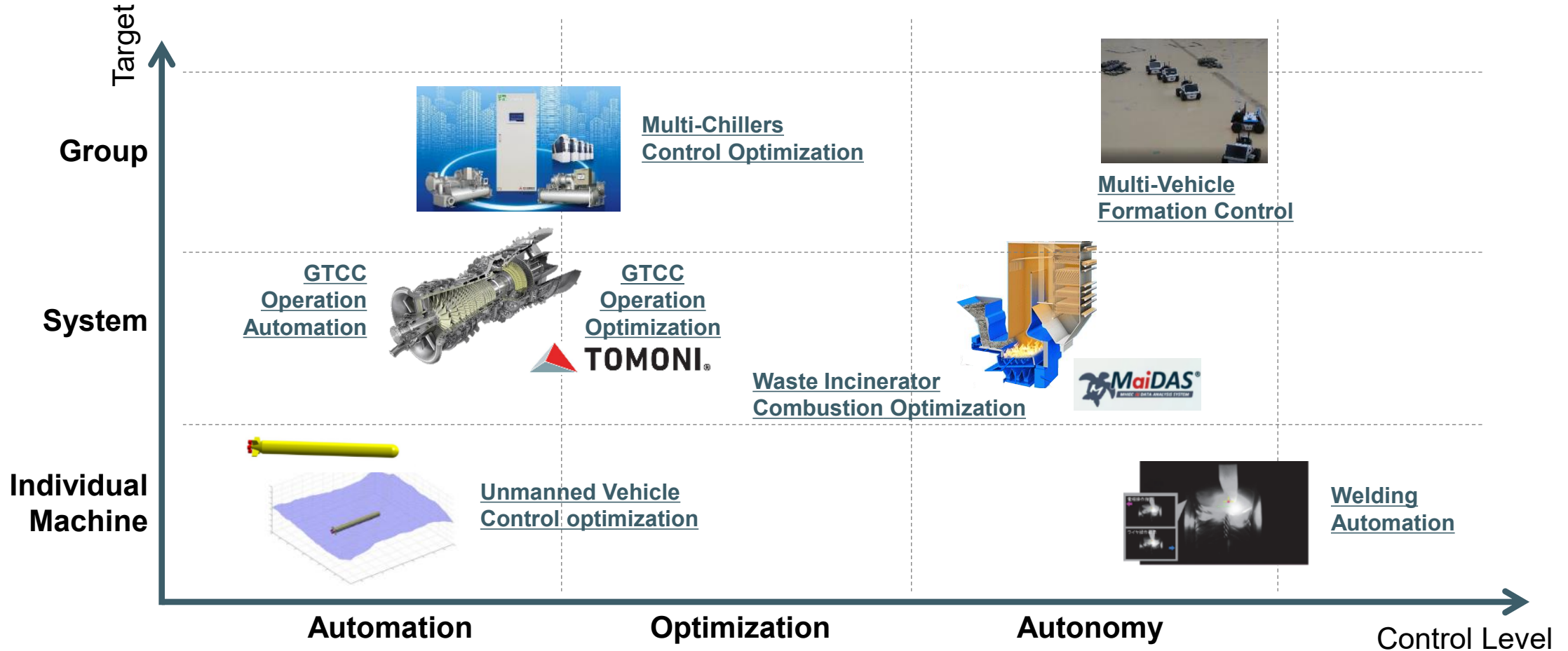
Application : Components and Systems Operating in High-temperature Environments



## 2. Core Technologies for Competitiveness / Control

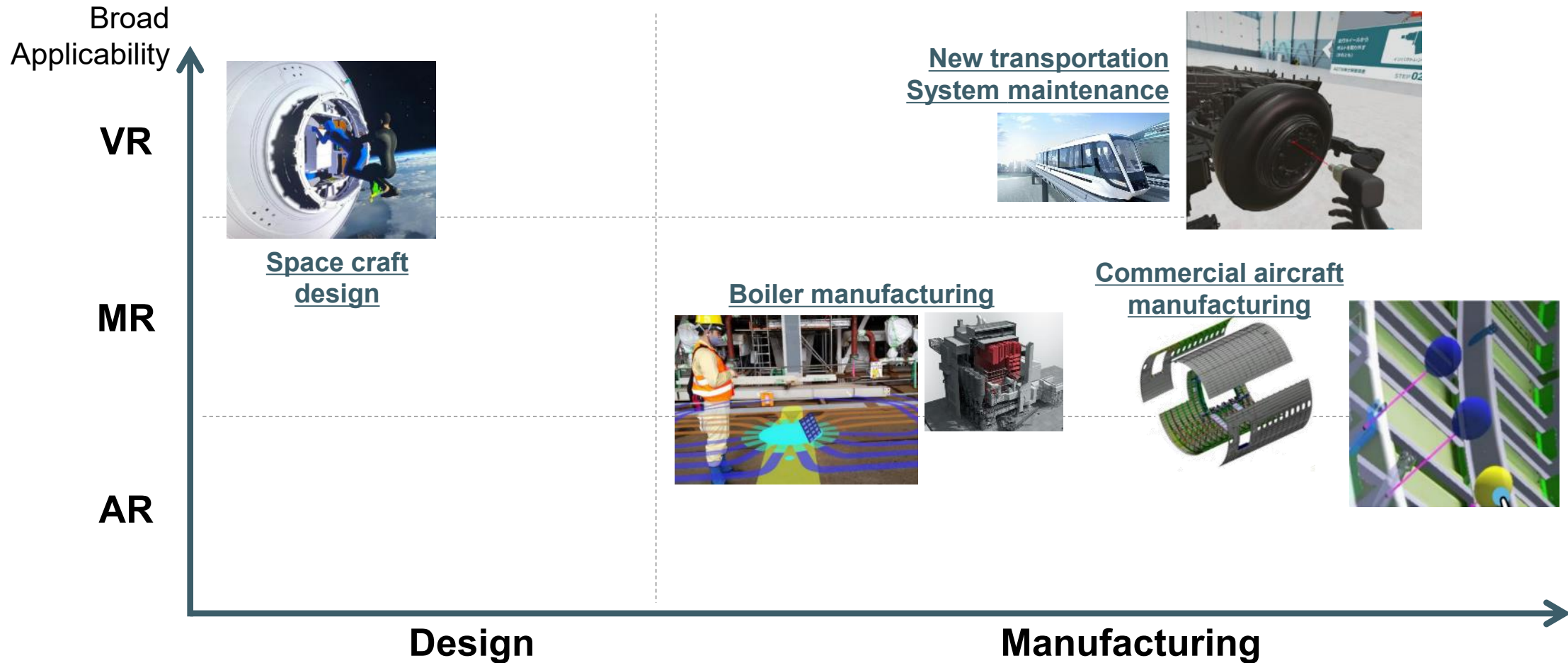
■ Advanced control for safe and efficient system operation.

Application : Autonomous systems and products requiring high-efficiency operation.



## 2. Core Technologies for Competitiveness / XR

- Space mapping and recognition, Intuitive interaction  
Application : Manufacturing site, Design workspace, etc.

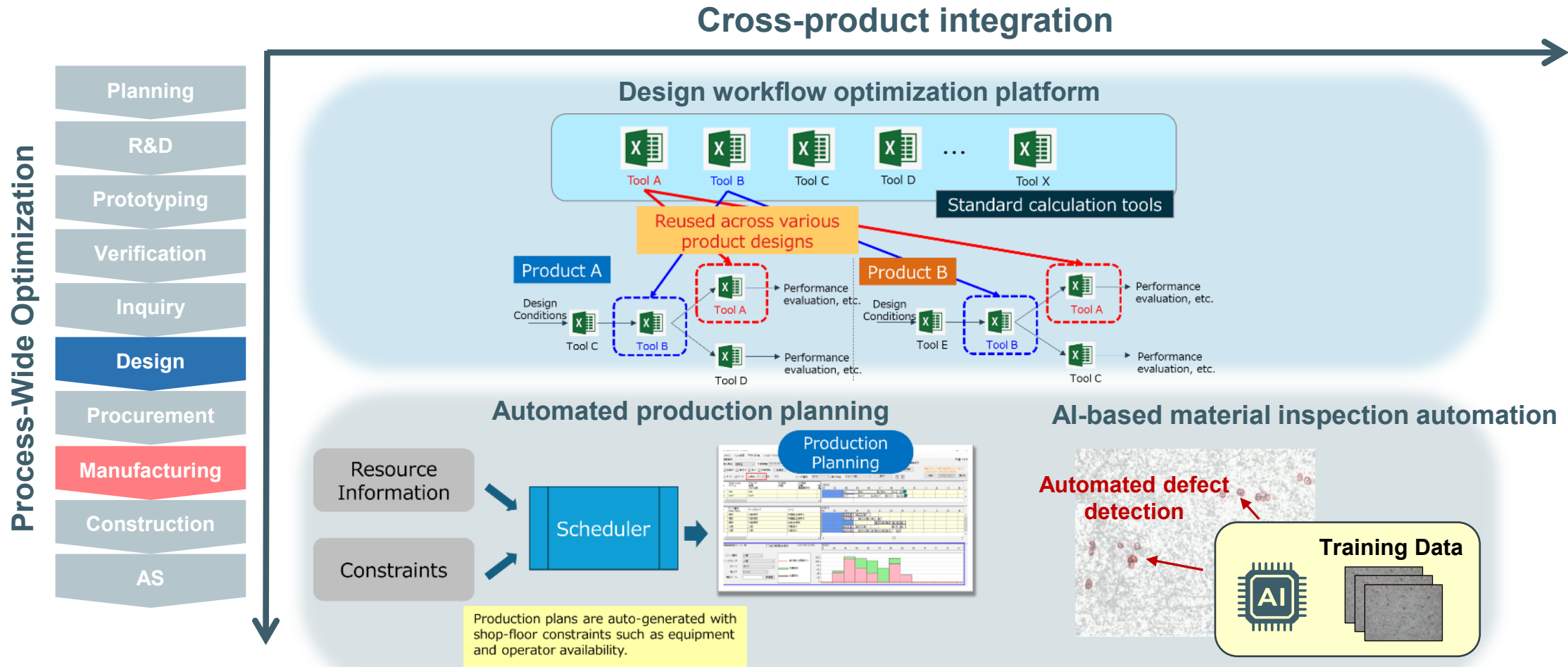


※XR : A collective term for VR(Virtual reality)、MR(Mixed reality) 、AR(Augmented reality)

# 2. Core Technologies for Competitiveness / AI & DX

■ Task automation, Design workflow optimization

Application : Design and Manufacturing process optimization for all products.

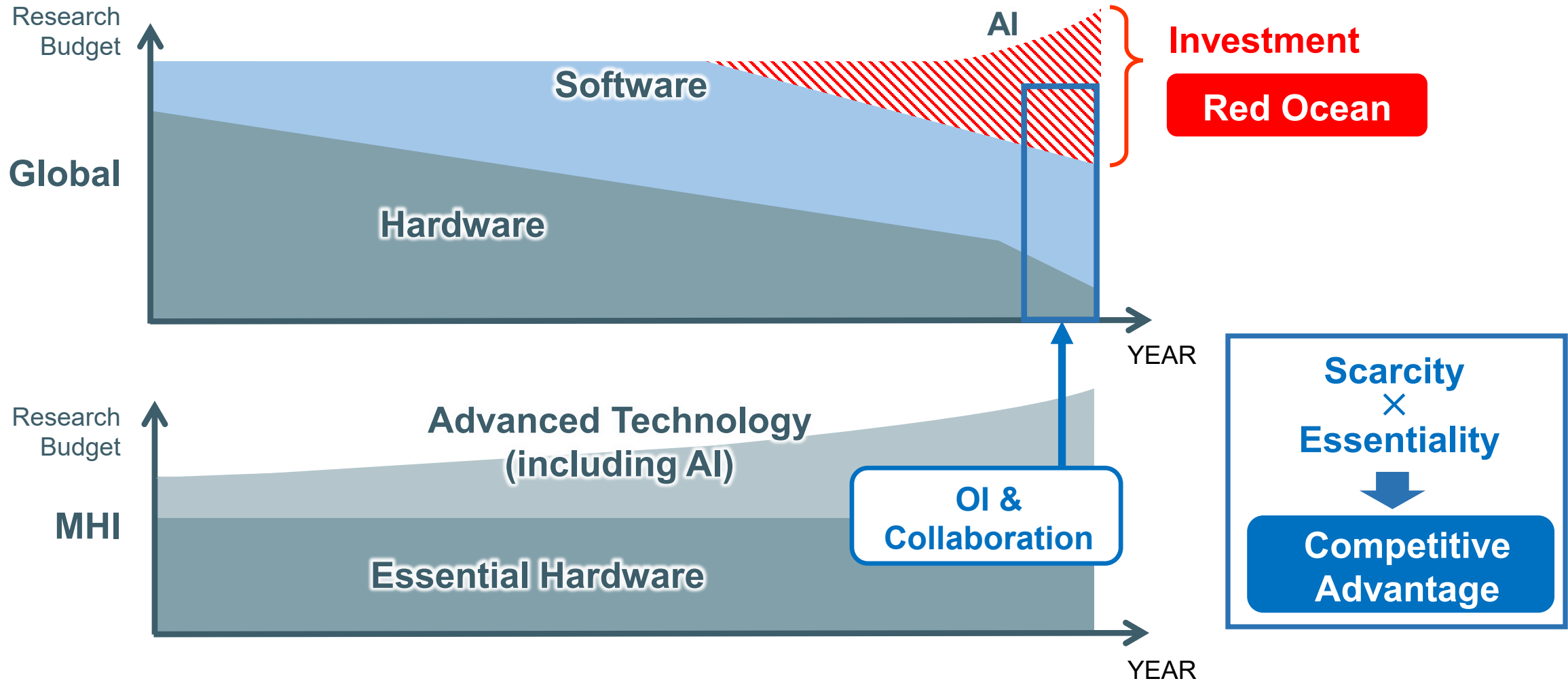


### 3. Technology Management for Sustainable Growth

An abstract graphic consisting of multiple overlapping, glowing blue lines that form a series of waves and peaks, resembling a signal or data visualization. The lines are thin and create a sense of depth and movement against the dark blue background.

### 3. Technology Management for Sustainable Growth

■ Combining advanced technologies with essential hardware is a key driver in strengthening our competitive advantage.



### 3. Technology Management for Sustainable Growth

- Shared technology framework enables optimization of business needs and technological capabilities.

