

Innovative
Total
Optimization 

MHI Core Technologies

Mitsubishi Heavy Industries, Ltd.

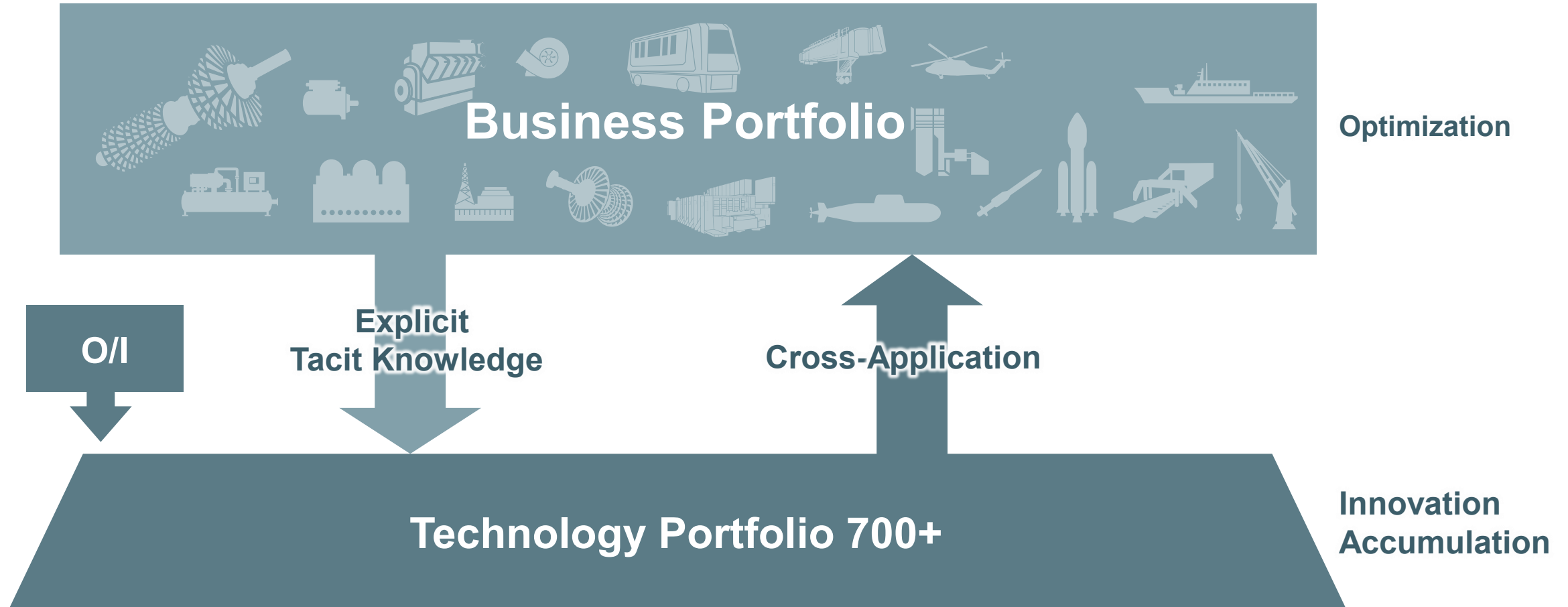
- 1. Shared Technology Framework**
- 2. Core Technologies for Competitiveness**
- 3. Technology Management for Sustainable Growth**

1. Shared Technology Framework



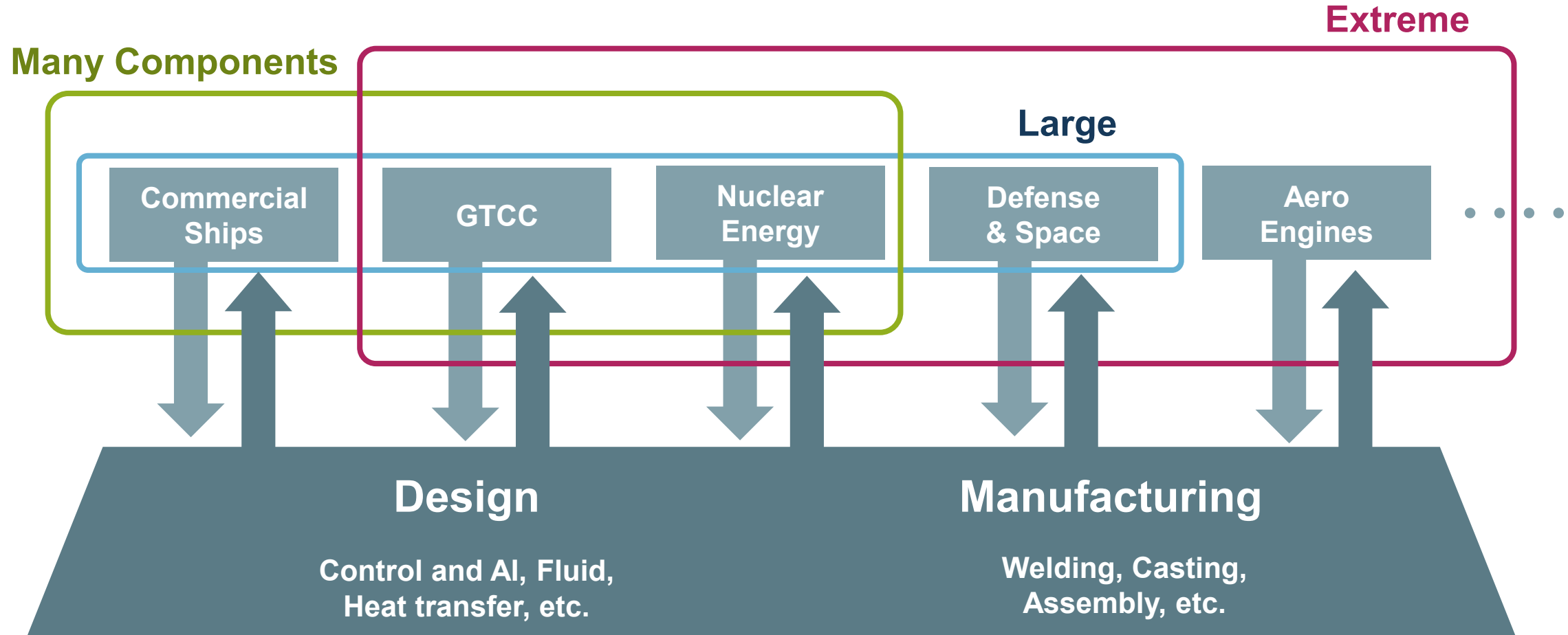
1. Shared Technology Framework

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



1. Shared Technology Framework

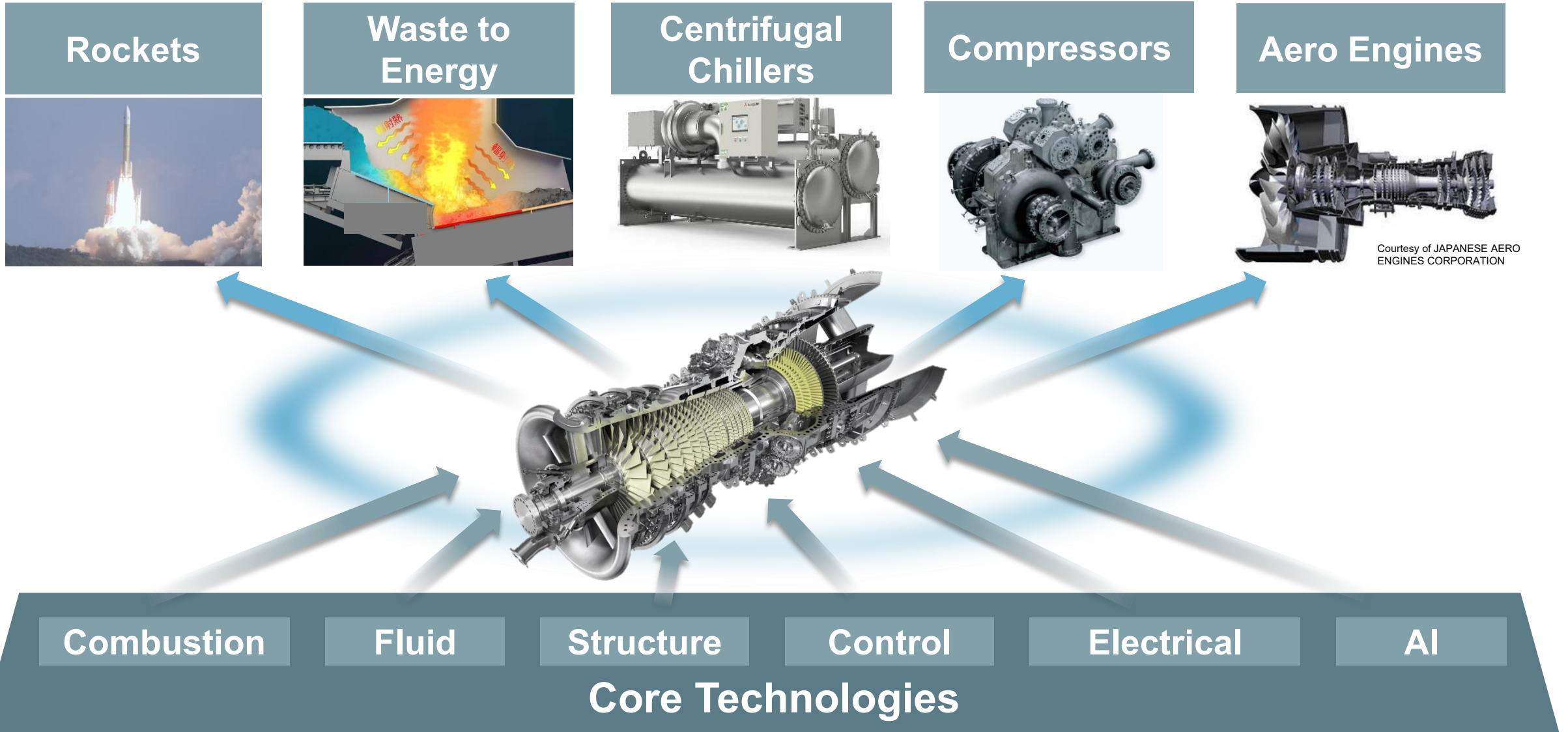
- Design and manufacturing technologies shared across products enable efficient development and improvement of products and services.





2. Core Technologies for Competitiveness

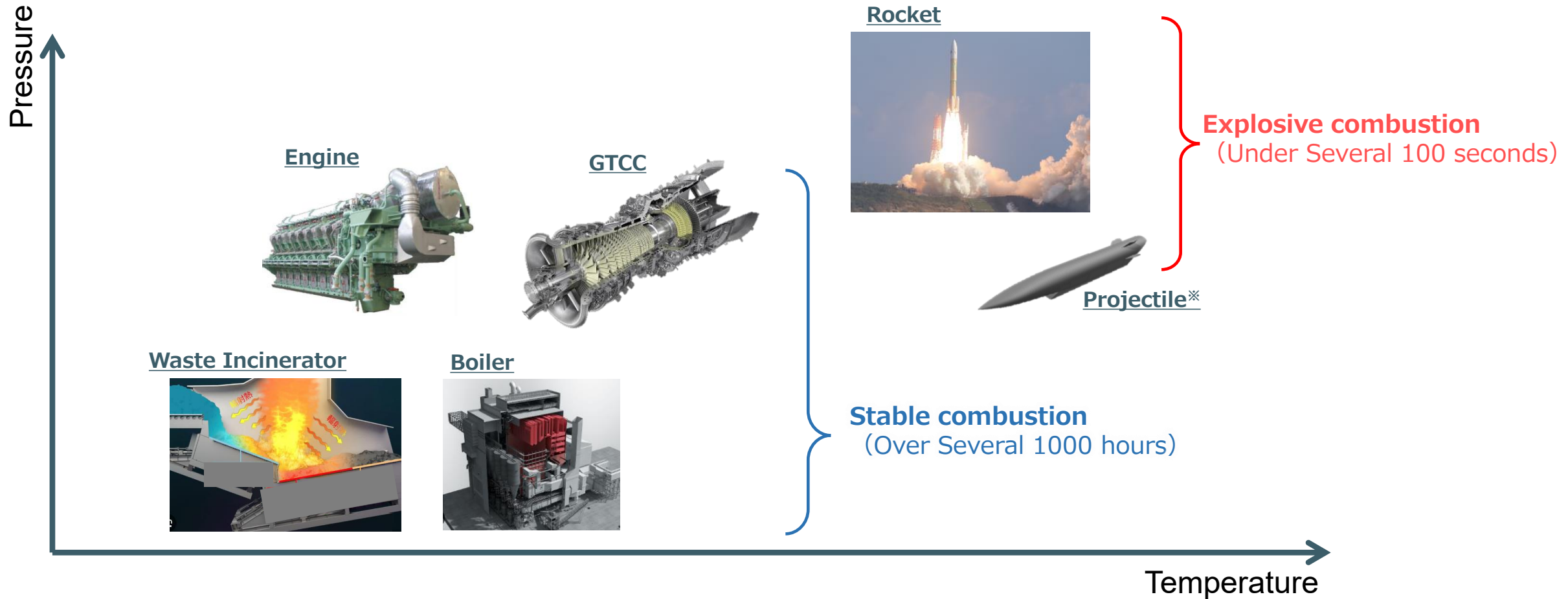
2. Core Technologies for Competitiveness



2. Core Technologies for Competitiveness / Combustion

- Stable & High-efficiency combustion, Explosive combustion

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

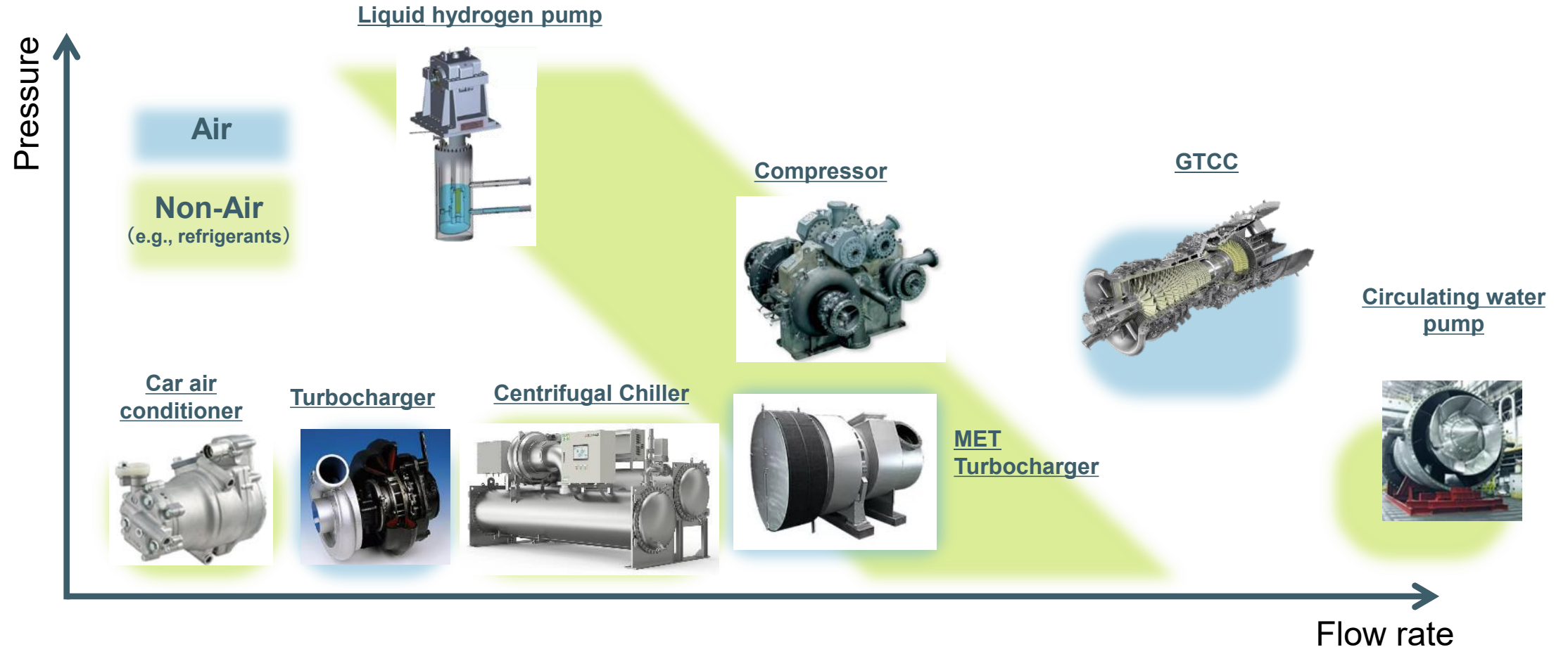


※ Progress and Budget in Fundamental Reinforcement of Defense Capabilities : Overview of FY2026 Budget

2. Core Technologies for Competitiveness / Fluid

- Handling of various fluid, High energy efficiency

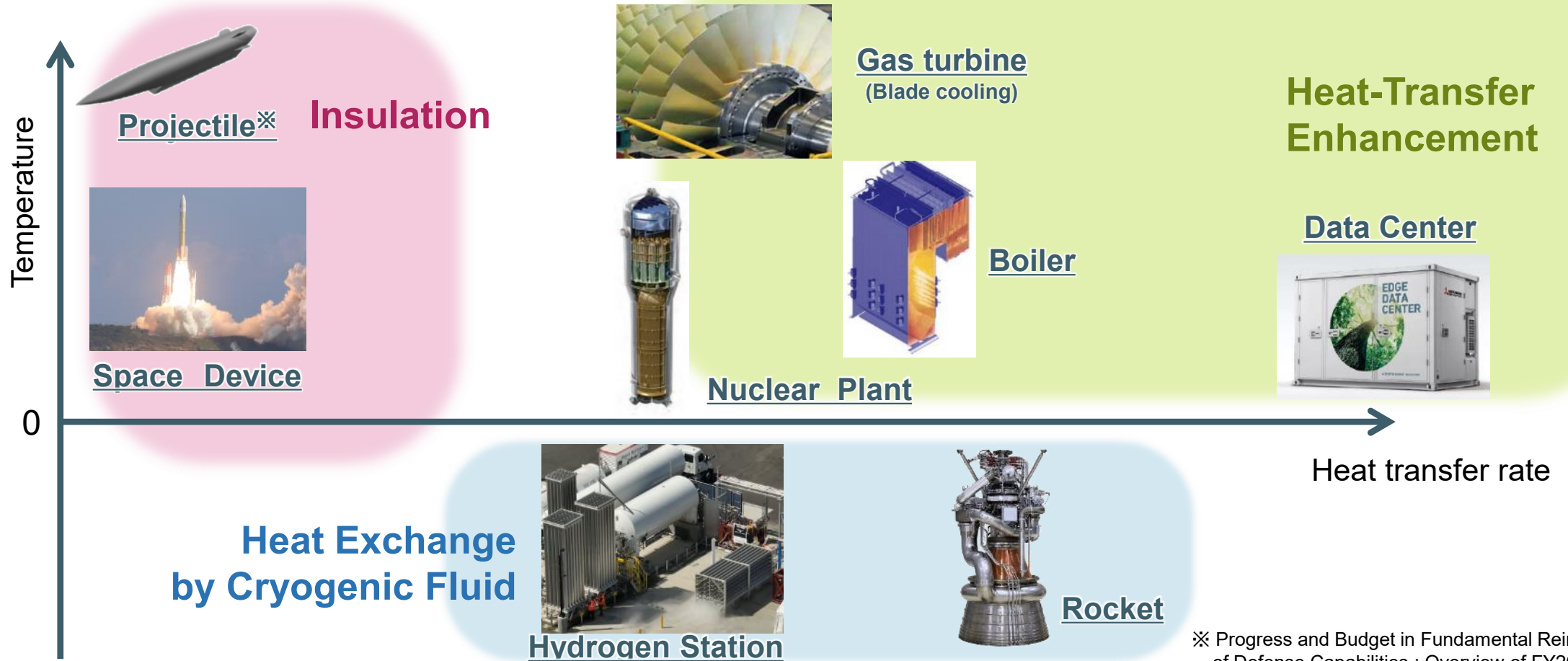
Application : Compressor, Pump, GTCC, Chiller, Turbocharger, etc.



2. Core Technologies for Competitiveness / Heat Transfer

■ Control heat and temperature

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

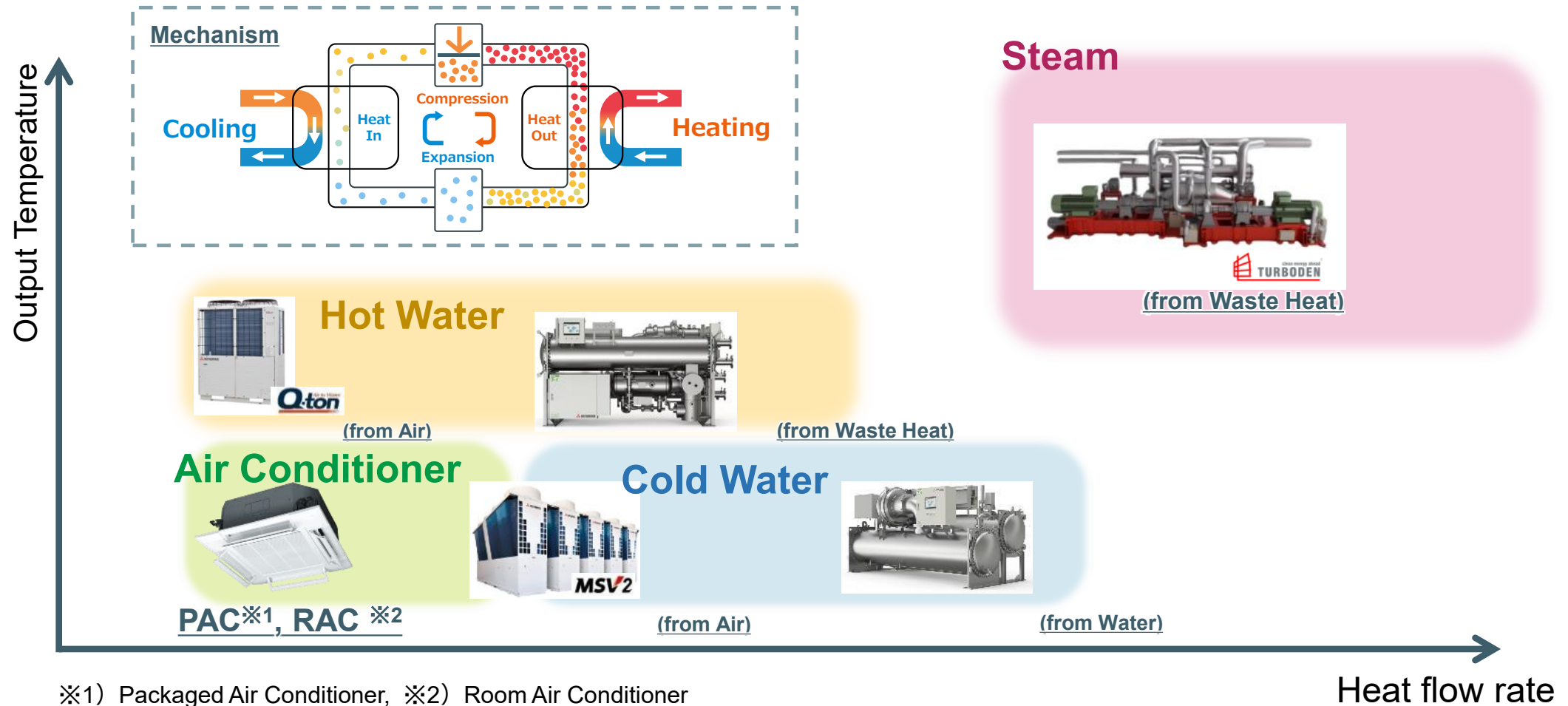


※ Progress and Budget in Fundamental Reinforcement of Defense Capabilities : Overview of FY2026 Budget

2. Core Technologies for Competitiveness / Heat Pump

- Heating and cooling by lower energy, CO₂ reduction

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

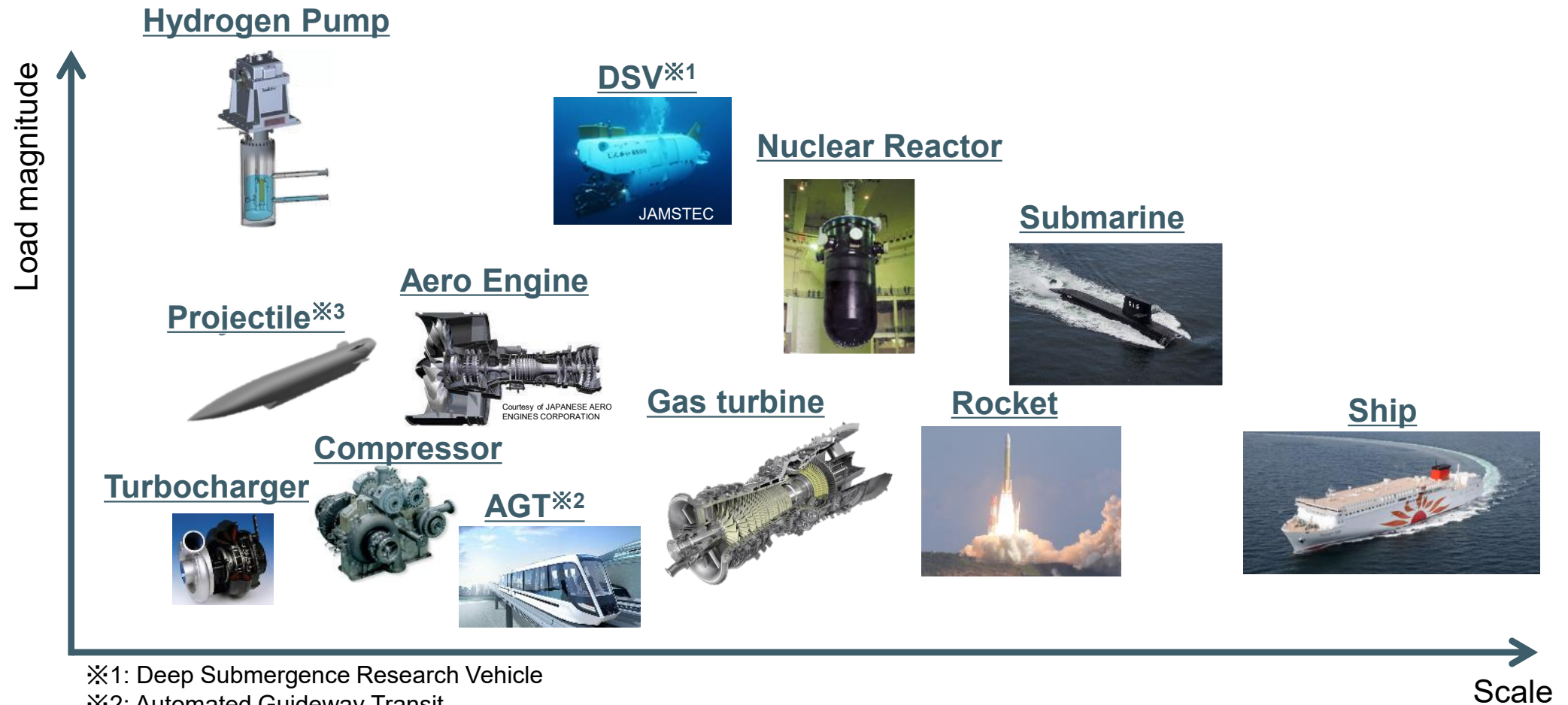


※1) Packaged Air Conditioner, ※2) Room Air Conditioner

2. Core Technologies for Competitiveness / Structural

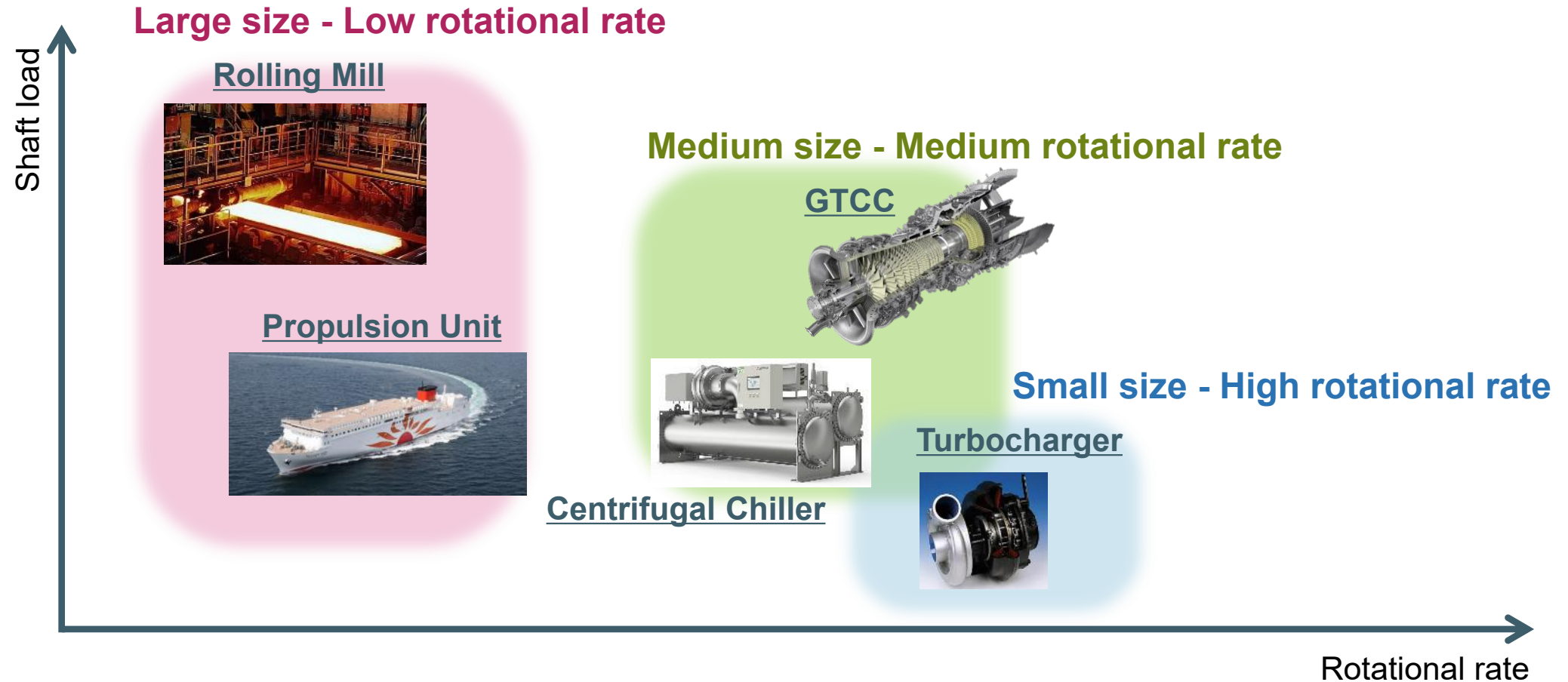
- Light and highly reliable structure

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



2. Core Technologies for Competitiveness / Tribology

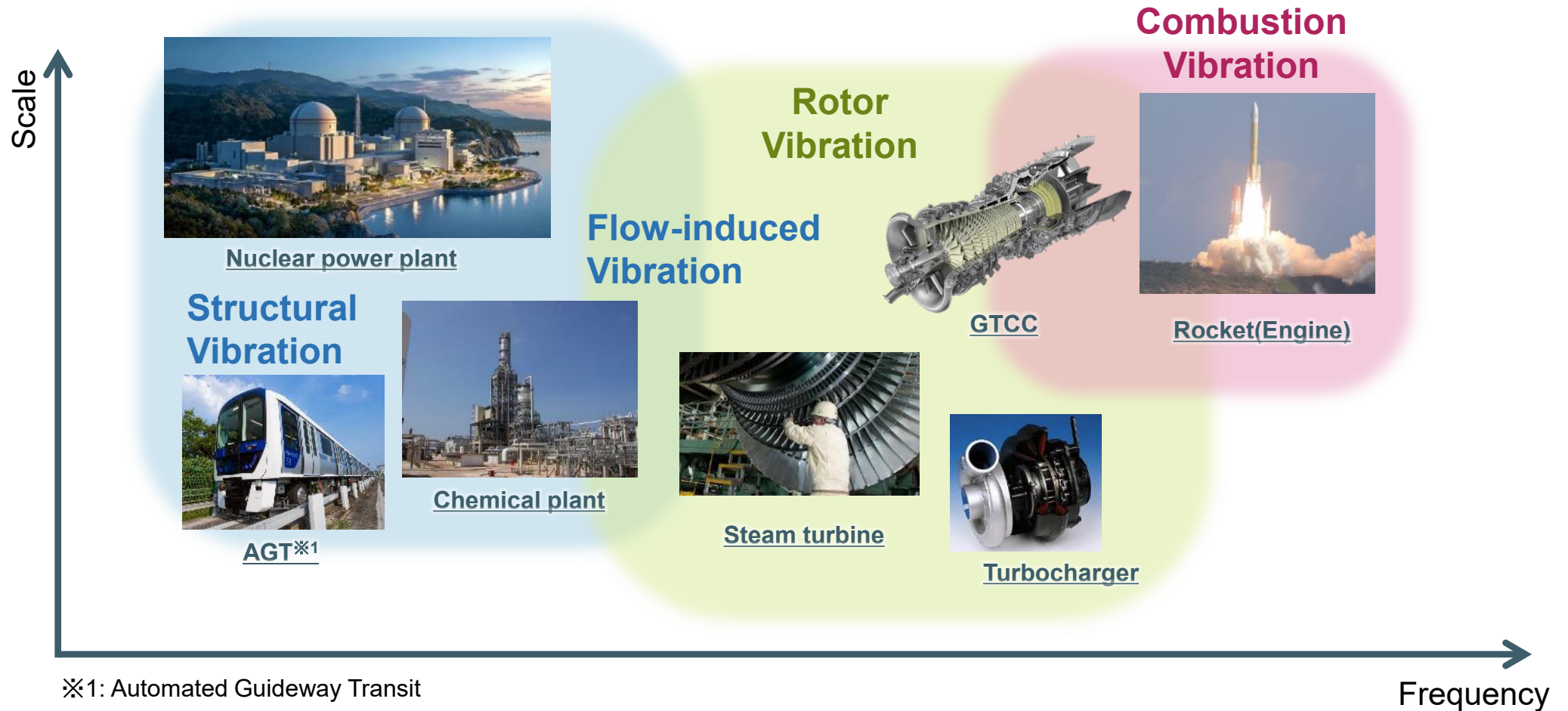
- Control of friction/wear/ lubrication, Highly reliable and efficient product
Application : Rolling Mill, GTCC, Centrifugal Chiller, Turbocharger, etc.



2. Core Technologies for Competitiveness / Vibration

■ Reduction and control of vibration

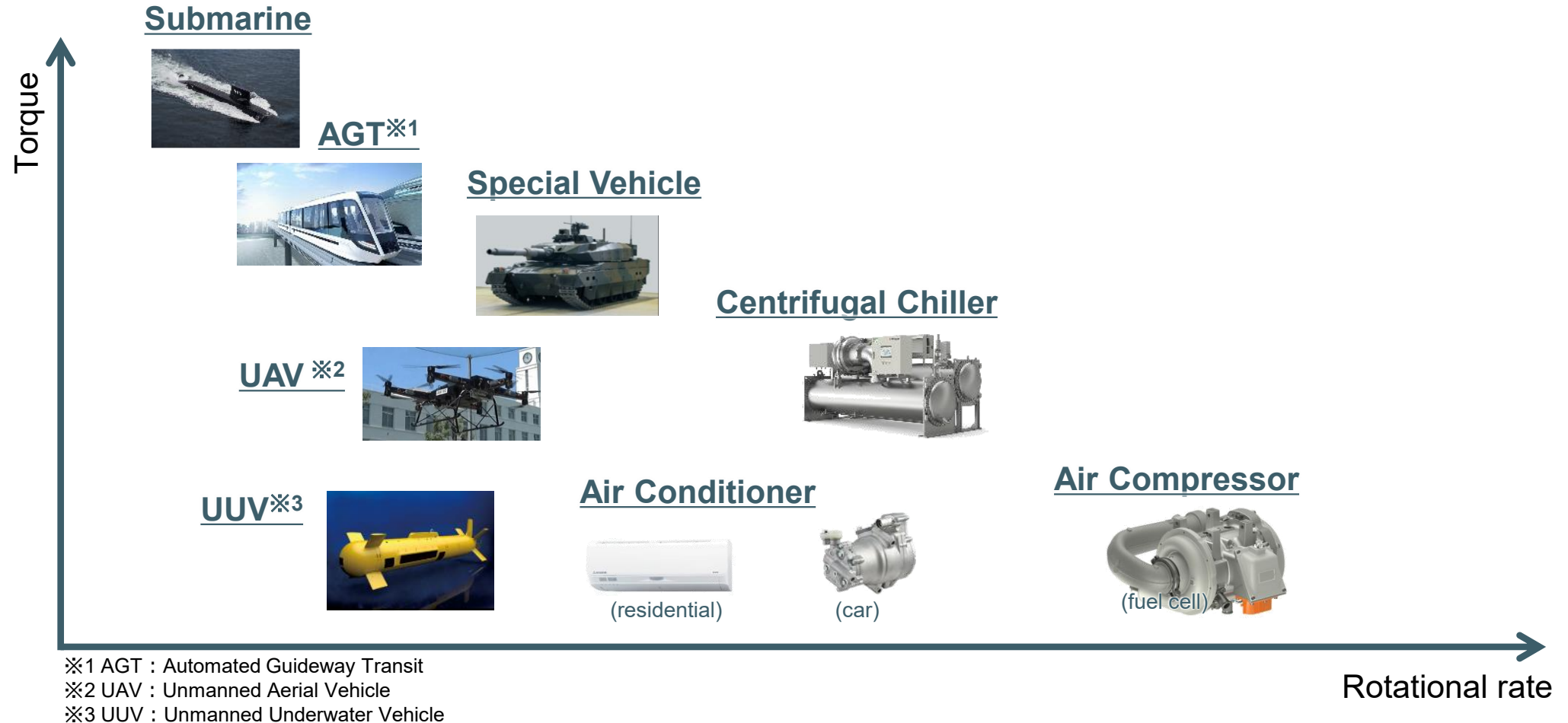
Application : Transportation system, Nuclear, Turbine, Rocket, etc.



2. Core Technologies for Competitiveness / Power Electronics

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

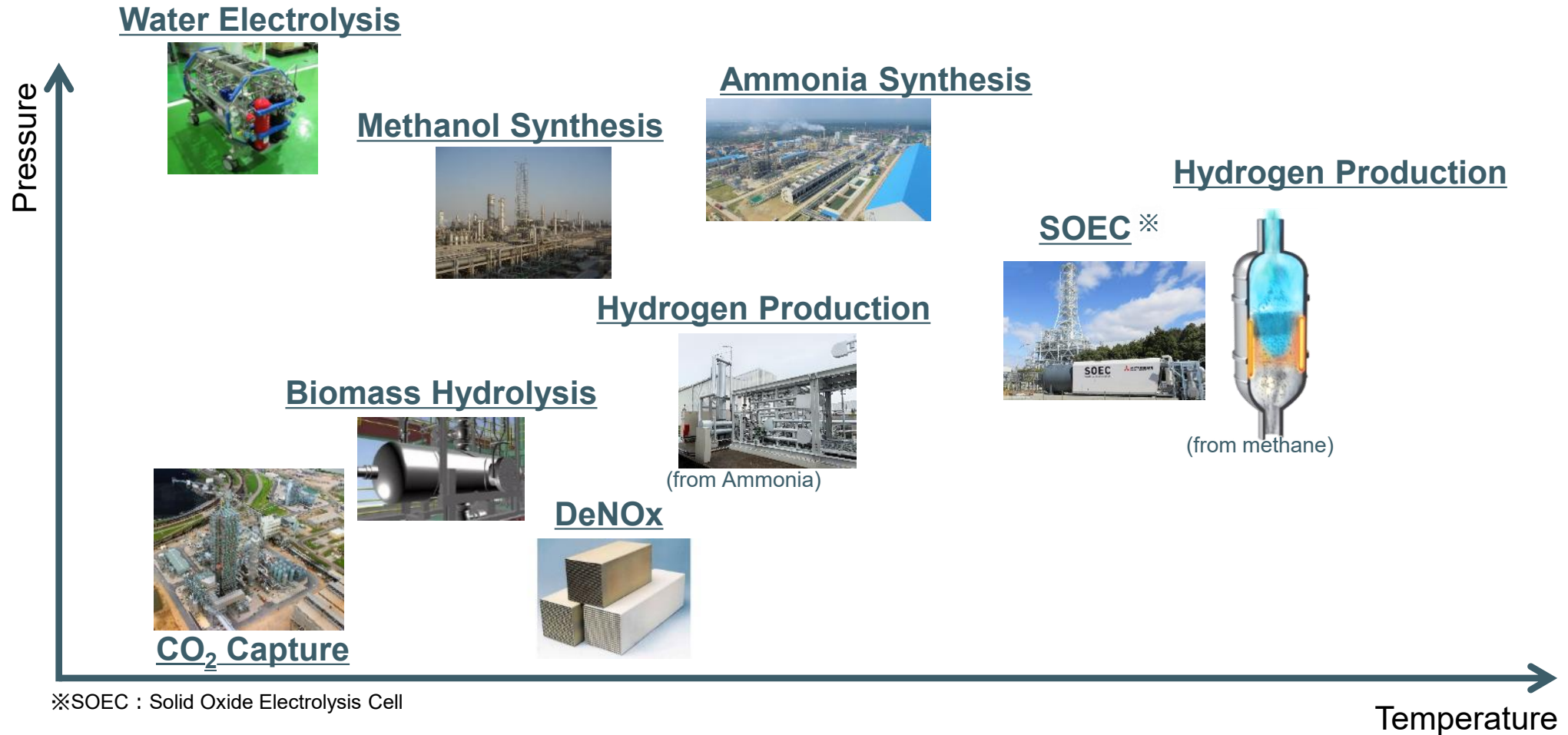
Application : Submarine, AGT, UUV, Air Conditioner, Air Compressor, etc.



2. Core Technologies for Competitiveness / Chemical Reaction

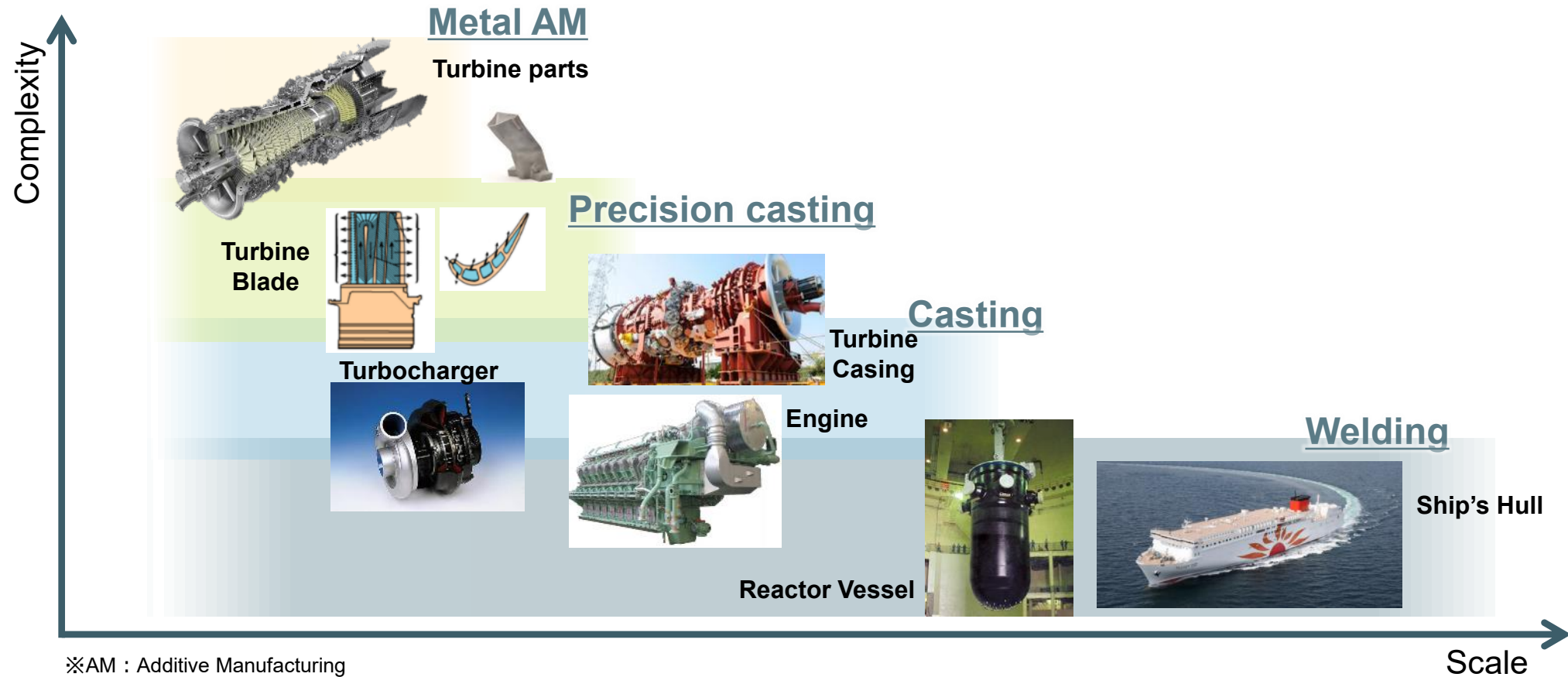
- Production of valuable materials, Removal of environmental pollutant

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



2. Core Technologies for Competitiveness / Manufacturing Process

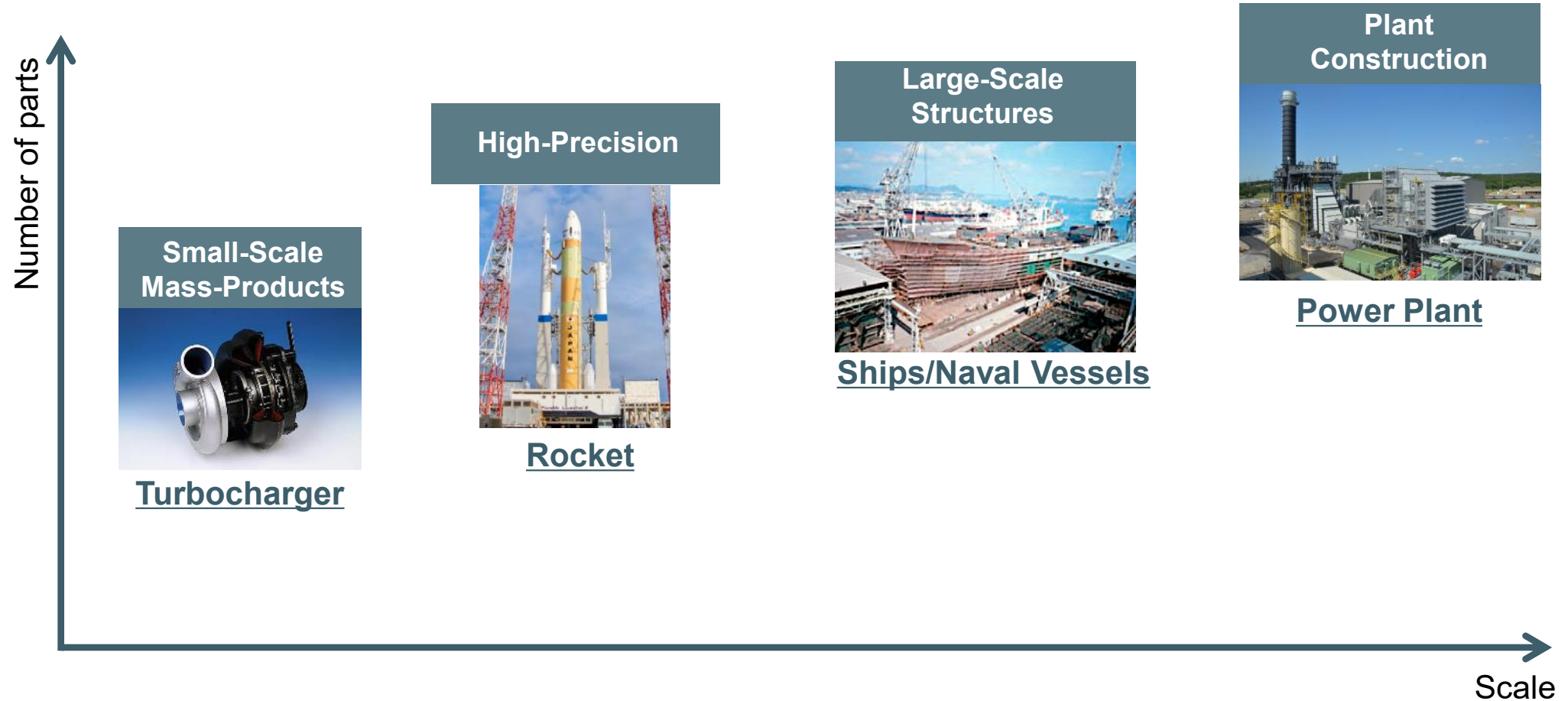
- Large and complex-shaped component, Cost minimization
Application : Turbine Parts, Casing, Hull, etc.



2. Core Technologies for Competitiveness / Assembly

- Precise control and environment-adaptive assembly

Application : Mass Production, Project Production, Construction

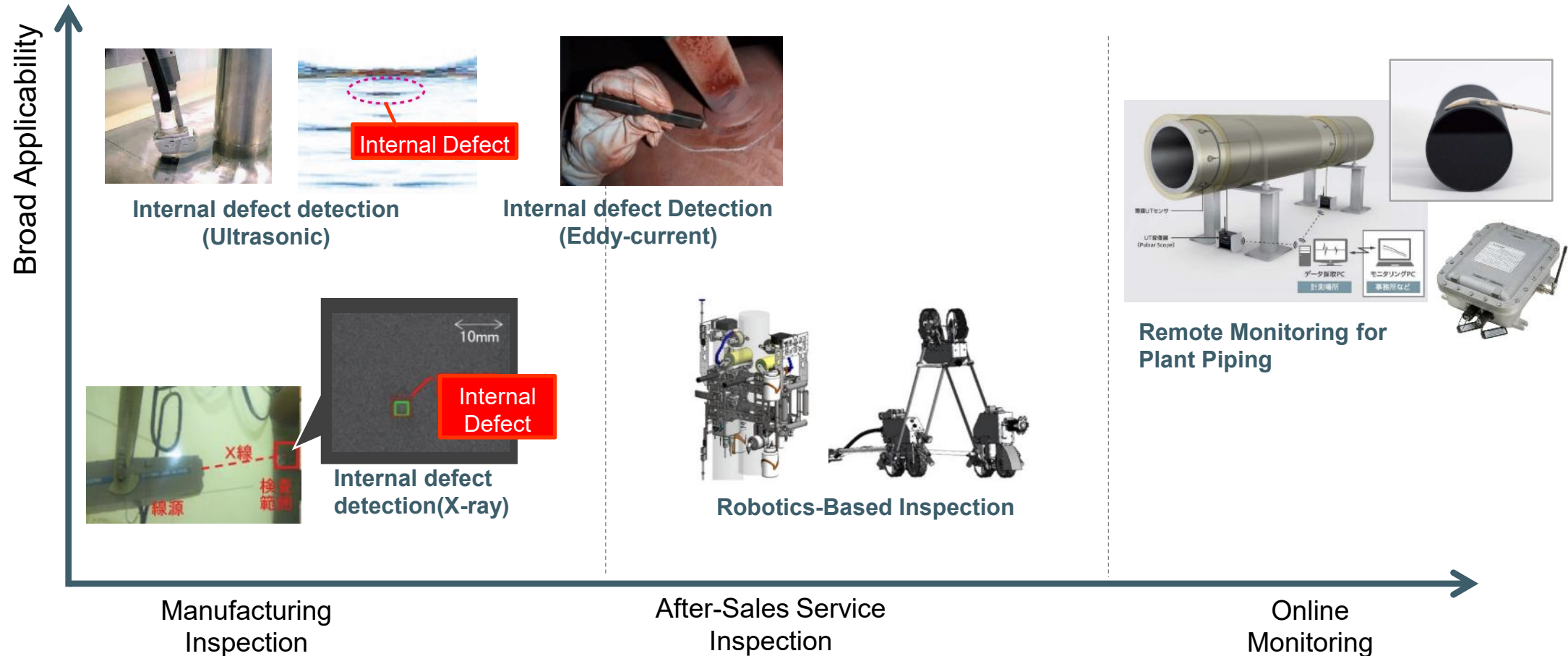


2. Core Technologies for Competitiveness / NDI※ and Measurement

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

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

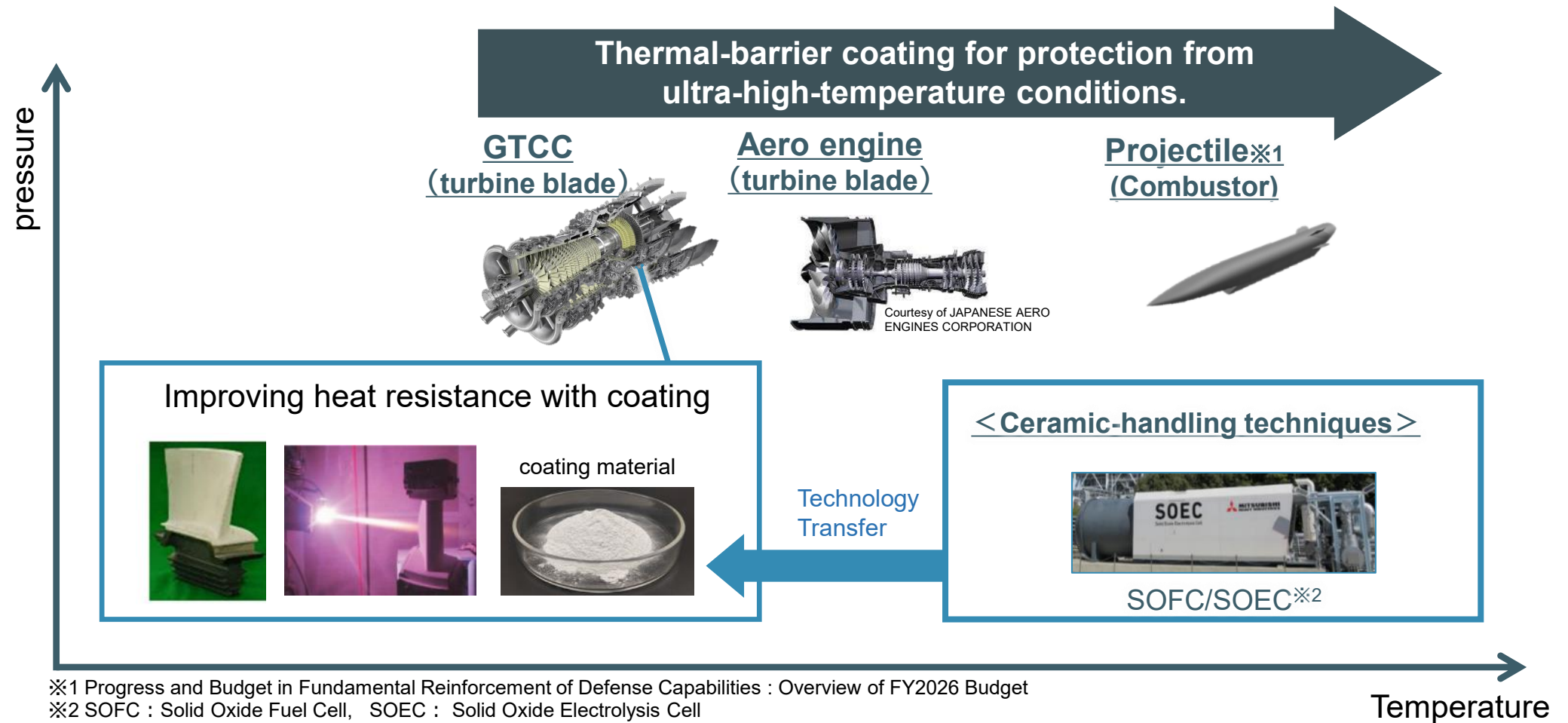
※) NDI : Non-Destructive Inspection



2. Core Technologies for Competitiveness / Thermal Spraying

- High-temperature resistance.

Application : Components and Systems Operating in High-temperature Environments



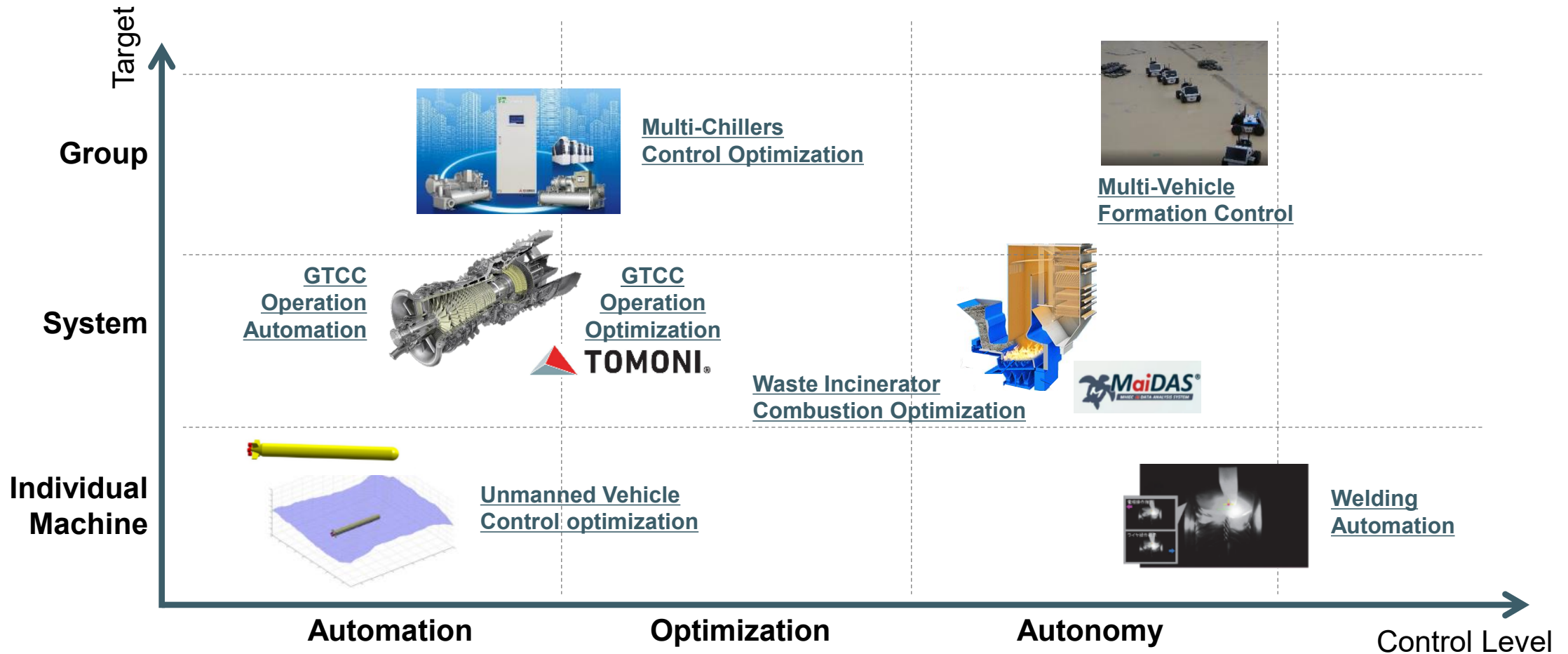
※1 Progress and Budget in Fundamental Reinforcement of Defense Capabilities : Overview of FY2026 Budget

※2 SOFC : Solid Oxide Fuel Cell, SOEC : Solid Oxide Electrolysis Cell

2. Core Technologies for Competitiveness / Control

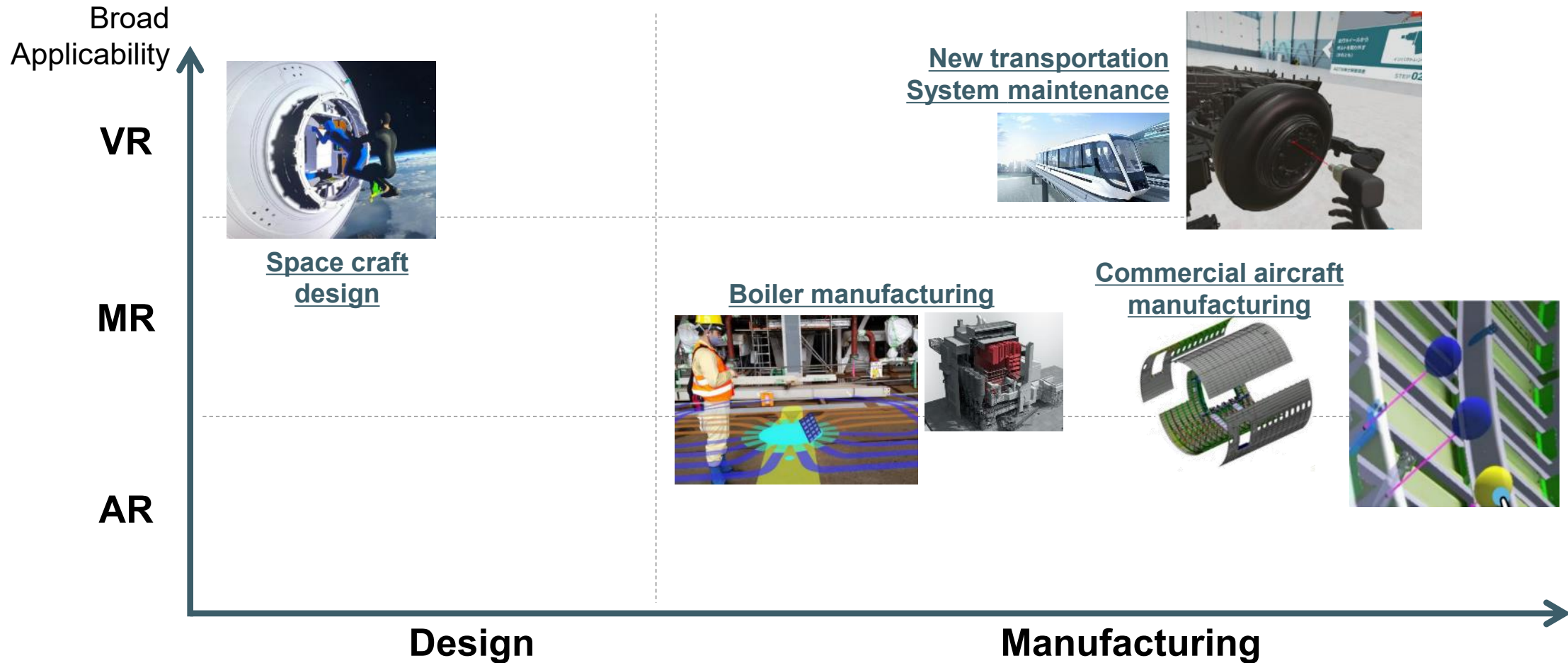
■ Advanced control for safe and efficient system operation.

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.

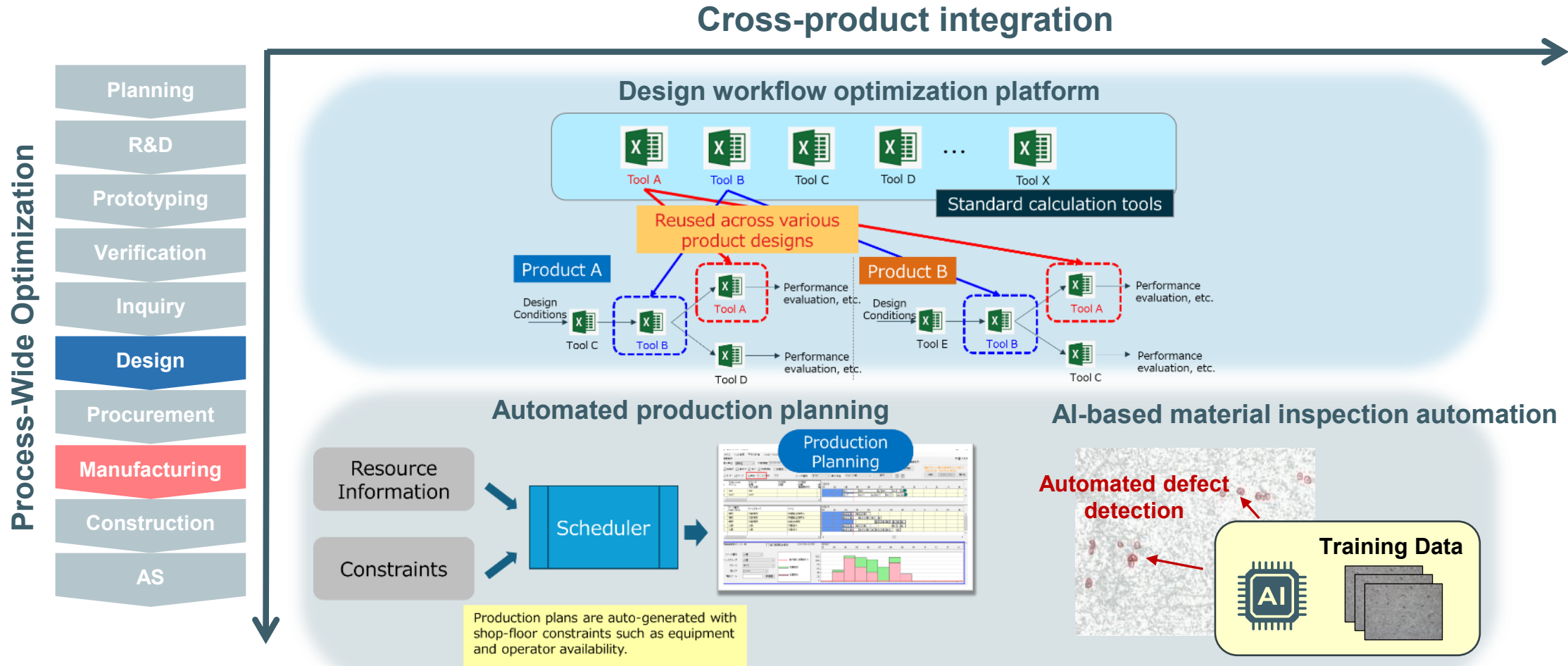


※XR : A collective term for VR(Virtual reality)、MR(Mixed reality) 、AR(Augmented reality)

2. Core Technologies for Competitiveness / AI & DX

■ Task automation, Design workflow optimization

Application : Design and Manufacturing process optimization for all products.

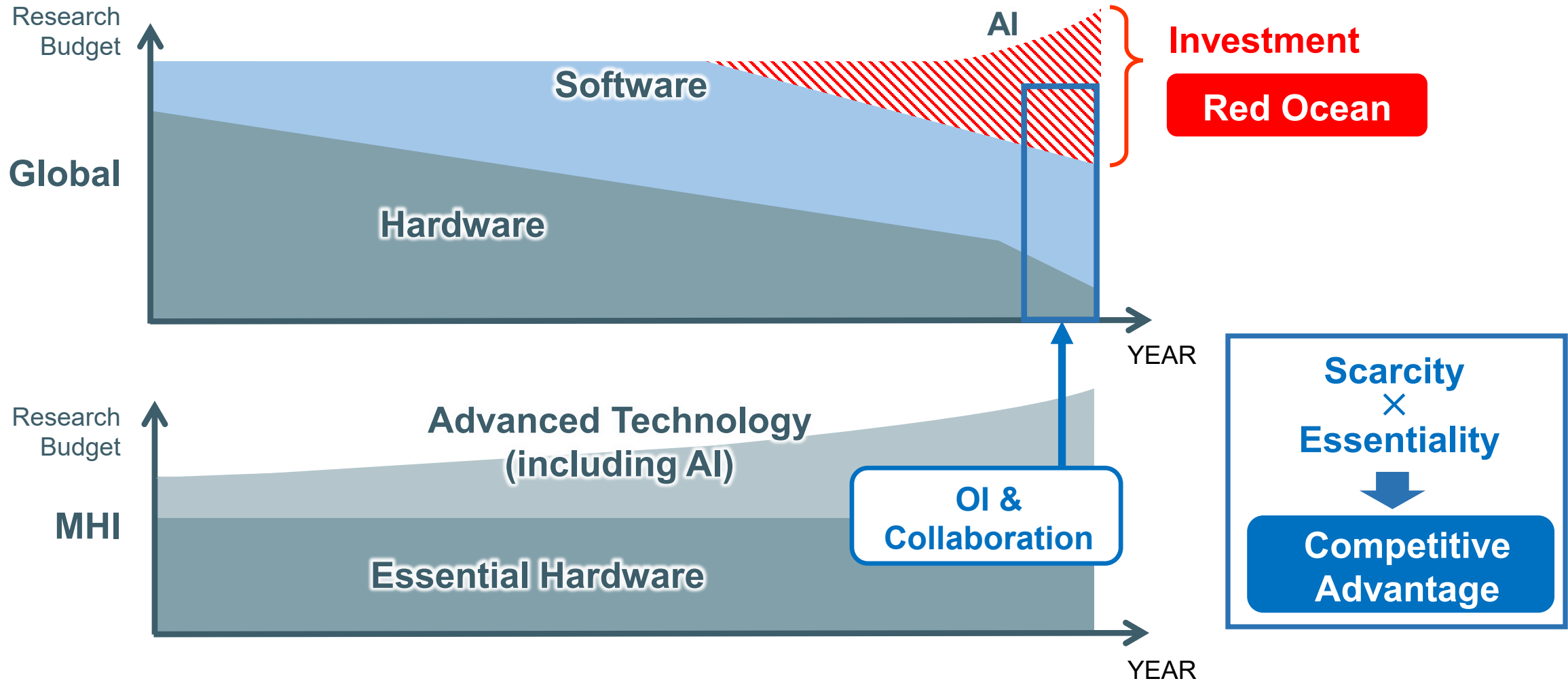


3. Technology Management for Sustainable Growth

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 most concentrated in the center and fade out towards the edges, creating a sense of depth and movement.

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.

