APTSIS 25 Step 1 (FY2021–FY2022)

Toward a Rapid Recovery from COVID-19 Impacts and Strengthening of the Business Foundation

Formulating a two-step plan in light of COVID-19 impacts

We have taken a two-step approach to the formulation of *APTSIS 25*, creating *Step 1* and *Step 2* plans in light of future uncertainties brought about by COVID-19. In *Step 1*, we prioritize a swift business recovery, strengthened business foundation and footholds for growth. In *Step 2*, we focus on growth acceleration.

COVID-19 impact analysis	Planning perspectives
Pandemic impact and global trends	Reinforce business foundations (streamline operations and overhaul human resources systems)
Global economic recovery scenario based on COVID-19 impact	Business strategies ● Accelerate reorganization and restructuring of at-risk businesses ● Growth strategies in light of the impact of COVID-19
Impact by business area	Health Care business growth strategies

Principle Management Measures in *APTSIS 25 Step 1*

Management foundations

Streamline management and rationalization

- Save ¥22 billion by rationalizing the business infrastructure
- Pare assets by ¥180 billion through asset efficiency measures

Human resources system and work style reforms

- Attract diverse talent through job-specific and performance-based pay ▶ P. 47
- Embrace new world of work ▶ P. 47-48

Organizational restructuring and global management

- Reorganize MCC (build an organizational structure matching growth business areas in KAITEKI Vision 30)
- Realize the "One MCC" structure (build a regional headquarters-based management structure that drives global growth)

DX strategies ▶ P. 53

Business foundations

Business model reform ▶ P. 29

Next-generation businesses initiatives and CVC ▶ P. 55

Business strategies

Business portfolio strategies

1. Accelerate reorganization and restructuring of at-risk businesses ▶ P. 30
2. Secure footholds in fields where growth is accelerating amid changing social needs ▶ P. 31
3. Health Care business growth strategies ▶ P. 32

Financial strategies

Financial strategies, improved financial position, financial target, resource allocation policy

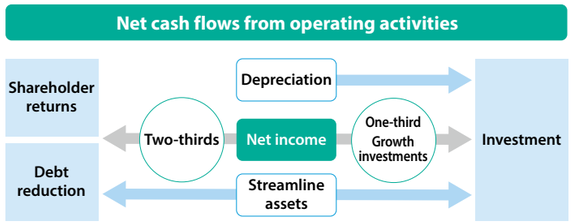
Sustainability management ▶ P. 43

Financial strategies

Increase corporate value by balancing shareholder returns, financial position improvements, and growth business investments

Pursue ROE of at least 8% under *Step 1*

- **Shareholder returns:** The initial fiscal 2021 dividend forecast of ¥24 per share is consistent with basic policy (a medium-term consolidated dividend payout ratio of 30%)
- **Growth investments:** Allocate one-third of net income to growth investments

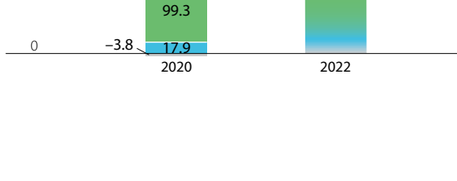


Improved financial position

Keep improving the financial position and aim to restore the net debt-to-equity (D/E) ratio to under 1.0x level by fiscal 2023

Undertake ¥180 billion in financial structural reforms during *APTSIS 25 Step 1* through measures to improve asset efficiency (improve cash conversion cycle (CCC), reduce cross-shareholdings, etc.)

Steadily reduce net interest-bearing debt



Details of measures to improve asset efficiency (Billions of yen)

	APTSIS 25 Step 1 (FY2021–FY2022)
Lower cross-shareholdings	65
Improve CCC	40
Lower cash and deposits and sell assets, etc.	75
Total asset efficiency improvements	180

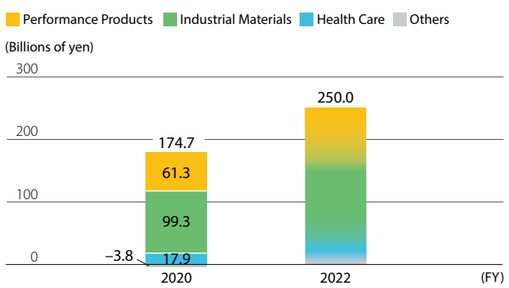
Financial target

Core operating income	¥250 billion
Net income attributable to owners of the parent	¥120 billion
ROE	10%

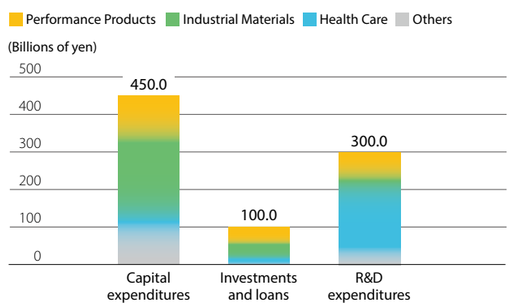
Resource allocation policy

- **Capital expenditures:** Maximize within the scope of depreciation and amortization
- **Investments and loans:** Prioritize areas with growth acceleration prospects
- **R&D expenditures:** Strengthen Performance Products and Health Care R&D

Core operating income



Investments during *Step 1*



APTSIS 25 Step 1 (FY2021–FY2022)

Business model reform

Reform business models in line with changes to the business environment

During this period of major global socioeconomic change, it is essential to be in step with social developments and fundamentally transform business models in order to achieve sustainable growth. Rather than simply supplying industrial materials, the MCHC Group will transform business models with the goal of broadening the scope of our solutions and optimization services across all social systems and creating higher-level solutions and social value.

Strengthen the solution provision structure

Further expand carbon fiber composite materials business in the mobility field and provide total solutions including in chemical and material recycling

Strengthen carbon fiber composite materials business *Step 1*

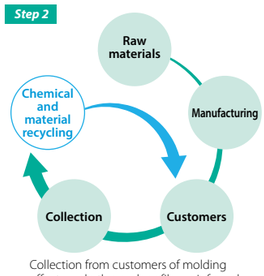
- Strengthen business centered on PCM*1 and CF-SMC*2
- Build new CF-SMC manufacturing facilities in Italy to create a structure for providing integrated solutions for parts design, molding, painting and assembly

Toyota's GR Yaris employs CF-SMC
(Photo provided by Toyota Motor Corporation)

*1 PCM: Prepreg Compression Molding
*2 CF-SMC: Carbon Fiber-Sheet Molding Compound

Build recycling business model *Step 2*

- In addition to existing technologies, cultivate technologies from acquired European recycling companies to build a recycling business model for carbon fiber composite materials and engineering plastics that help lower CO_2 emissions



Collection from customers of molding offcuts and other carbon fiber reinforced (thermo) plastics

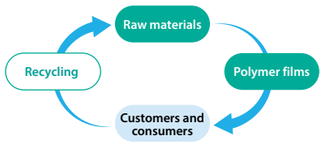
Promote chemical materials recycling

Help create a circular economy for plastics by managing the supply chain with customers and consumers

Engage in PIR*1 and PCR*2

- Reduce environmental impact through chemical and material recycling technologies
- Build a chemical refinery
- Create a waste plastics collection system

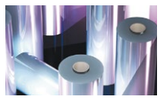
*1 PIR: Post Industrial Recycling
*2 PCR: Post Consumer Recycling



Design easily recyclable products

- Use materials informatics*
- Develop advanced monomaterial films
- Apply multilayer separation techniques

* Materials informatics (MI): AI-based method to design new materials and explore alternative materials rapidly and efficiently.



Biaxially oriented polyester film

Heat-shrinkable film

Develop chemical recycling technology

- Chemically recycle PET bottles
- Seek innovative startup partners (corporate venture capital activities)

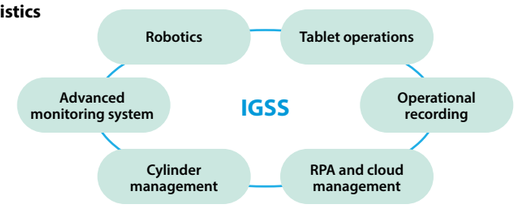
PET bottles

Developing an Intelligent Gas Supplying System (IGSS)

Develop an innovative next-generation gas supplying system that materializes smart factories and cultivate diverse applications through customization and packaged services

Drive DX among customers and through production sites and logistics

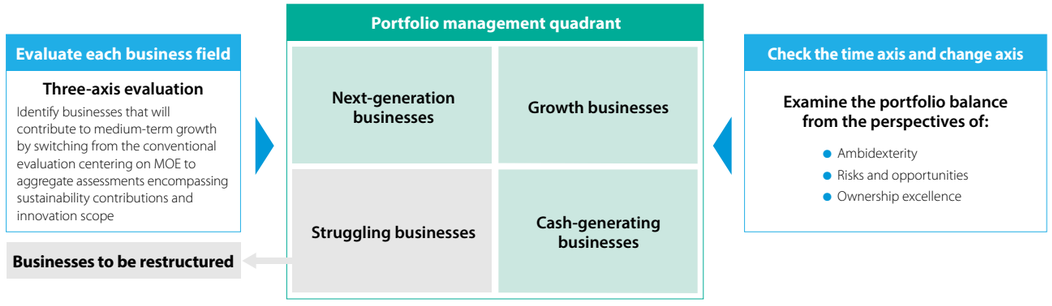
- Build an Intelligent Gas Supplying System (IGSS) that integrates cylinder transportation and management, routine inspections and gas monitoring system
- Drive DX to run plants remotely and optimize operations to cut costs by improving efficiency and saving labor
- Make order receipt processes more efficient and less labor intensive by promoting online ordering



Business portfolio strategies

Basic policy on portfolio reform—Shift to quadrant portfolio management based on three-axis evaluation (MOS, MOT and MOE)

Aim to foster growth businesses that have been identified as areas with growth potential from among our business areas that address social issues. We will conduct aggregate assessments encompassing MOS perspectives (can the business reduce environmental impacts in the future or help address social issues) and MOT perspectives (is there scope for technological innovation or technological applications for other solutions) as well as MOE perspectives (profitability or market growth potential) in order to identify those businesses that will contribute to medium-term growth.



1 Accelerate reorganization and restructuring of at-risk businesses

We will restructure businesses with the goal of creating more resilient operations versus external factors and more stable earnings structures. We will pursue business model transformation to increase our competitive edge through even stronger ties with oil refining in the petrochemicals business and to respond to changing demand structures for coke. We will work to stabilize MMA business profits through a number of measures, including globalizing business infrastructure and finalizing our decision on a U.S. project using MCC's new proprietary ethylene method (Alpha technology).

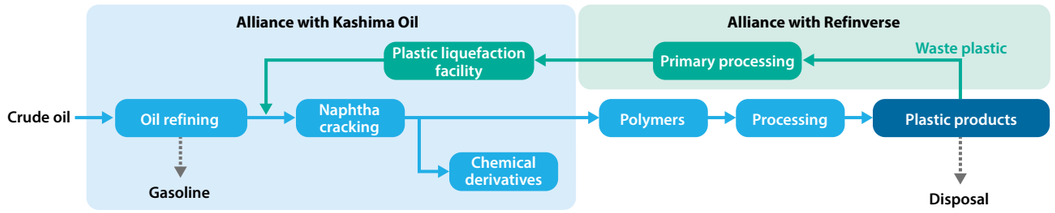
Petrochemicals **Stronger ties with oil refining**

Optimizing the integrated operations at Kashima Oil and MCC

- Crack butane and other fuels to create petrochemical raw materials
- Optimize naphtha quality and explore exchanges of utilities and infrastructure

Explore chemical recycling of waste plastics

- Set up plastic liquefaction facilities for waste plastics P. 81
- Invest in Refinverse to secure waste plastic materials



Coke **Business model reform to shift to overseas export business**

Trends in domestic steel industry consolidation

- Cease operations at five of 25 blast furnaces in Japan by 2023 (reduction of 9 million metric tons in annual crude steel production leading to a decrease of 4 million metric tons in annual coke demand)

MCHC coke business reforms

- Reduce the number of coke ovens at the Kagawa Plant from 323 to 250 to optimize operations
- Double export shipping lines to two

MMA **Globalize business infrastructure and stabilize earnings** P. 82

Globalize business infrastructure

- Maintain the global supply chain management system using DX
- Move relevant headquarter functions to Singapore

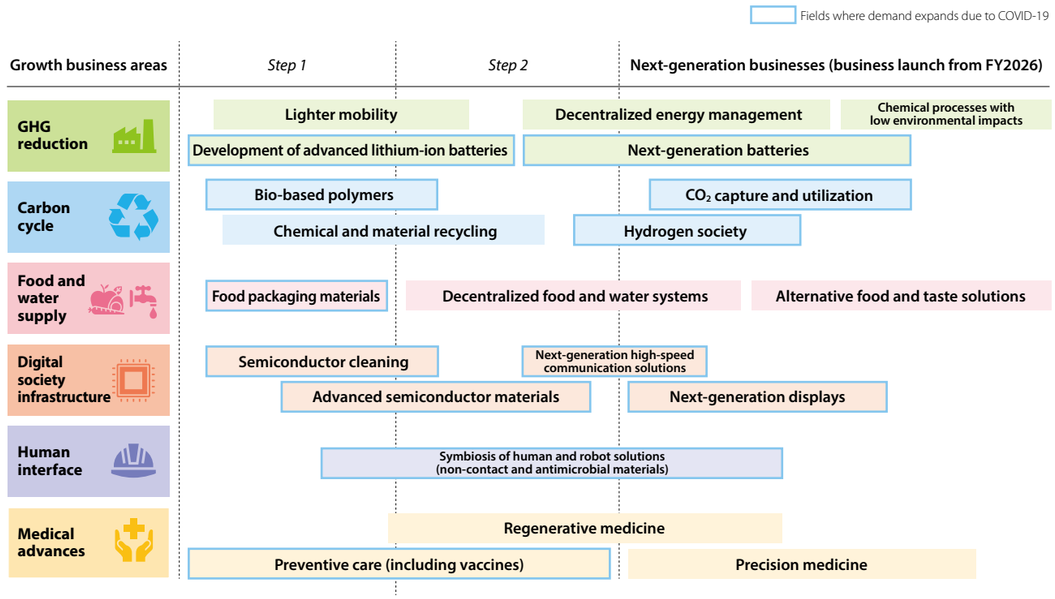
Push ahead with the U.S. project

- Acquired land in Geismar, Louisiana for plant construction, with goal of starting operations in 2025

APTSIS 25 Step 1 (FY2021–FY2022)

2 Secure footholds in fields where growth is accelerating amid changing social needs

Looking ahead to 2050, we have analyzed trends in the market and technological evolution from today through 2030 to identify candidate businesses and then selected out growth business areas based on market growth potential, scope for technological innovation and market size. We are working to progress business model transformation and technological innovation, with a focus on the various changes underway, including social needs, which have been accelerated by the COVID-19 pandemic.



Business strategies in *Step 1* and *Step 2*

GHG reduction

Help popularize EVs and expand adoption of renewable energy

Lithium-ion battery materials Step 1
- Joint electrolyte venture in Japan with Ube Industries
- Expanding sales of new anode materials

Next-generation battery materials Step 2
- Accelerate development through open innovation

Carbon cycle

Help materialize low-environmental impact cycles and reach beyond-zero emissions targets through biodegradable polymers and artificial photosynthesis technology

Focus on biomass and biodegradable polymers Step 1 Step 2
- Expand biomass polymer products for consumer durables
- Focus on biomass and biodegradability for medical and single-use tableware applications requiring plastics

Artificial photosynthesis Next-generation businesses
- Develop new photocatalysts for efficient hydrogen production (Schedule: Large-scale verification tests in 2030, social implementation in 2040)
- Studying energy saving in the CO_2 resource recovery reaction process
- Pilot testing a new methanol synthesis technique

Food and water supply

Reduce food losses and contribute to circular economies

Respond to increased demand Step 1
- Cater to rising pandemic-driven demand for high-barrier, light, easy peel and other high-performance products
- Looking to expand production capacity of the ethylene vinyl alcohol copolymer *Soarnol* and biodegradable polymer *BioPBS*

Boost recycling and reduction technologies Step 2
- Enhance chemical and material recycling technologies, as well as raw material conversion and processing and molding technologies

Digital society infrastructure

Expansion of the semiconductor-related solutions business through combination of advanced materials development with services to reduce environmental impact ▶ P. 78

3 Health Care business growth strategies Medical advances

For pharmaceuticals, we aim to develop precision medicine*, particularly in the fields of the central nervous system and immuno-inflammation, and launch more products from fiscal 2025. We are also focusing on the vaccine business and aim to generate more than ¥100 billion in vaccine sales by fiscal 2025. We are advancing the development and commercialization of Muse cell-based regenerative medicine products and aim to file in fiscal 2021 and obtain approval in fiscal 2022.

* Precision medicine: Providing the right treatment at the right time to the right patient by taking into account differences between patients' genes, environments and lifestyles.

Preventive care — Generate more than ¥100 billion in vaccine business sales by fiscal 2025 Step 1 Step 2 ▶ P. 86

Help prevent infectious diseases by developing VLP vaccines and adjuvants
- Medicago Inc. (Canada) initiatives
  VLP vaccine for COVID-19 (MT-2766)
  Seasonal flu VLP vaccine (MT-2654)

Continue efforts to prevent infectious diseases in children and adults and maintain stable vaccine supplies in Japan
- Collaboration with the BIKEN Group
  Pediatric 5-in-1 combined vaccine (MT-2355)
  Varicella vaccine: Raise awareness of shingles

Regenerative medicine — Advance development and commercialization of Muse cell-based regenerative medicine products, aiming to file in fiscal 2021 and obtain approval in fiscal 2022 Step 1 Step 2 Next-generation businesses ▶ P. 86

Initiatives for multiple indications
- Clinical trials underway in six diseases

Collaborations for commercialization
- Establish a collaborative structure to drive commercialization using proprietary cell manufacturing technologies and alliances with Group companies and research institutions

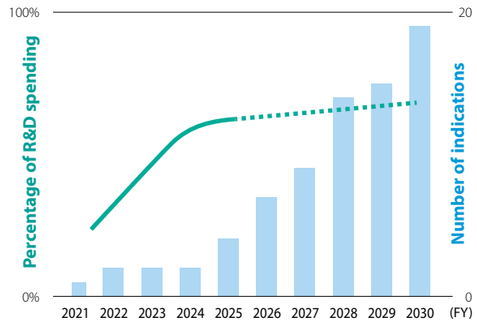
Overseas expansion
- Start consultations with U.S. authorities to prepare for clinical trials. At the same time, seek development and other partners

Precision medicine — Expand the pipeline Next-generation businesses

Expand the portfolio by combining the central nervous system and immuno-inflammation research infrastructure and modalities

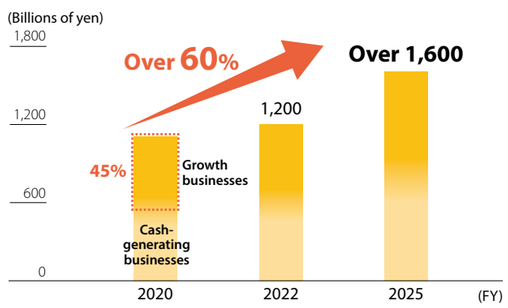
Central nervous system	Modalities
Drug discovery from validated genes Target gene verification	Gene Nucleic acid RNA-targeting small molecule
Immuno-inflammation	
Phenotypes analyzed drug discovery by stratification of patient group Analysis of clinical specimen and patient data	Small molecule Middle molecule Antibody

Aim to increase precision medicine R&D spending and launch more products after fiscal 2025



Performance Products and Health Care business expansion goals

Performance Products sales revenue



Health Care sales revenue