# *APTSIS 20* Overview

## *APTSIS 20*

Medium-Term Management Plan (FY2016–FY2020)

**Basic policy**

Be a high growth/high profit-model company through businesses
in the Performance Products, Industrial Materials and Health Care domains

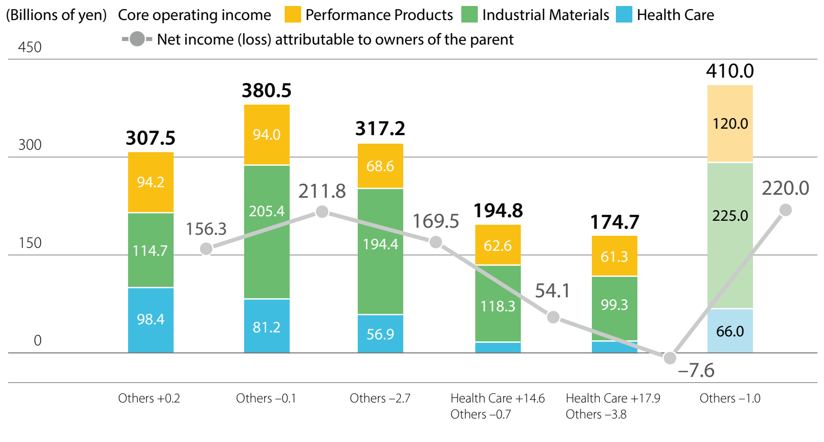
**Growth** | **Efficiency** | **Strengthening foundations**

- Promotion of integration and synergies in the MCHC Group
- Accelerate overseas business development and advance well-integrated management
- Strengthen portfolio management with an awareness of earnings
- Realize a highly productive corporate structure through cost-cutting and other measures
- Strengthen our financial position
- Thorough safety and compliance measures

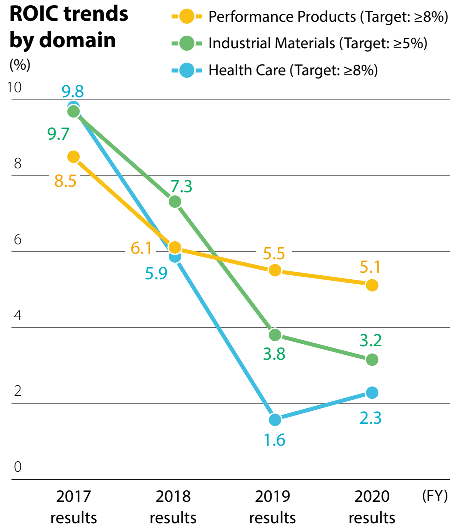
## MOE Management of Economics

### Numerical targets (KPIs based on MOE) and results

(Note) Figures for past fiscal periods (up to and including FY2019) are the business results figures announced at the time.




| (FY) | 2016 results | 2017 results | 2018 results | 2019 results | 2020 results | 2020 targets |
|---|---|---|---|---|---|---|
| ROE (%) | 15.1 | 17.8 | 12.7 | 4.2 | −0.6 | 13.0 |
| ROS (%) | 9.1 | 10.2 | 8.1 | 5.4 | 5.4 | 9.0 |
| Net D/E ratio (times) | 1.06 | 0.89 | 1.26 | 1.79 | 1.73 | 1.00 |




**Review**

**Restructuring exceeded the target, but other numerical targets were missed, partly due to the deteriorating economic environment and delayed execution of growth strategies.**

Thanks to business portfolio reforms under the previous medium-term management plan, *APTSIS 20*, fiscal 2017 saw an increase in sales revenue in the Industrial Materials domain and expanded sales volume, mainly in the Performance Products domain, resulting in new records for both core operating income and net income attributable to owners of the parent. From fiscal 2018, sales revenue went into decline under the deteriorating economic conditions arising from the economic downturn, trade friction between the United States and China, the impact of the COVID-19 pandemic and other factors. This trend was accentuated by further impacts, notably the inability of the Health Care domain to record royalty revenue due to ongoing arbitration proceedings. Numerical targets other than for restructuring were missed for a number of reasons, including delays in the execution of growth strategies particularly in the Performance Products and Health Care domains. We will redouble our efforts to strengthen our business foundations while also working to transform business models in existing businesses and foster new businesses.

### Main business measures and results

| Performance Products | Industrial Materials | Health Care |
|---|---|---|
| **Enhancing portfolio management**<br>• Accelerate portfolio transformation<br>• Pursue growth strategies in focus markets | **Strengthening foundations**<br>• MMA, industrial gases: Maintain and grow global share<br>• Improve petrochemical product performance and optimize production | **Ethical pharmaceuticals**<br>• Strengthen the product pipeline<br>• Develop business in the United States |
| **Synergies and collaborations following the creation of Mitsubishi Chemical**<br>• Synergies (cumulative FY2017–FY2020): Business collaboration/growth ¥24.3 billion, streamlining ¥21.7 billion (Target: Business collaboration/growth ¥35 billion, streamlining ¥15 billion) | | **Life Science**<br>• Commercialize regenerative medicine<br>• Develop healthcare and medical ICT business |
| **Strengthening marketing capabilities and access to the global market (establishing RHQs*, etc.)** | | • FY2020 ratio of overseas revenue: 45.0% (Target: 50%) |
| **Early commercialization of the seeds of next-generation businesses (R&D, open innovation, digital transformation (DX))** | | |
| **More in-depth KAITEKI Management, promote work style reforms** | | |

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**Strengthening foundations**

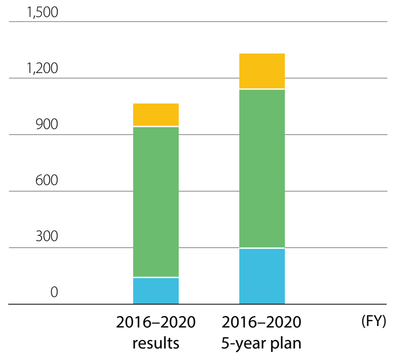
* RHQ: Regional headquarters

### Resource allocation (investment and loans, capital expenditures, R&D expenditures)

Progress in overseas business development for industrial gases, investment of approx. ¥1.4 trillion over five years in the Industrial Materials domain

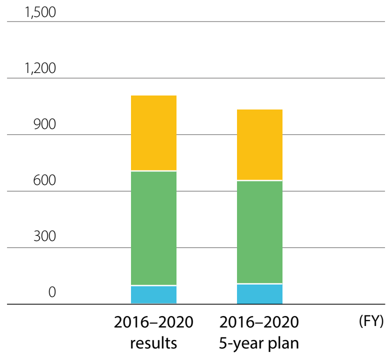
Performance Products | Industrial Materials | Health Care | Others

**Investments and loans**



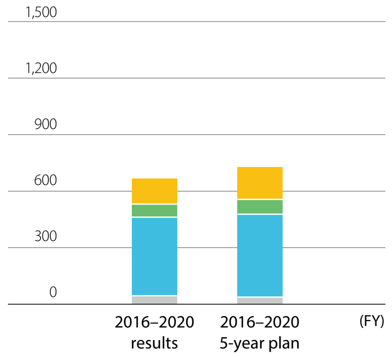

Performance Products and Health Care domains were below target, but investment and loans of approx. ¥1.1 trillion over five years executed mostly in the Industrial Materials domain, including industrial gases

**Capital expenditures**




Capital expenditures of approx. ¥1.1 trillion over five years implemented to actively increase capacity in the Performance Products and Industrial Materials domains

**R&D expenditures**

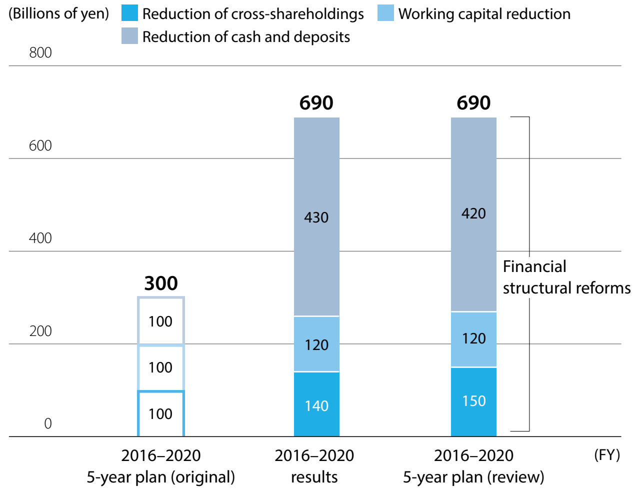



Invested approx. ¥670 billion over five years in R&D, mostly in the Health Care domain

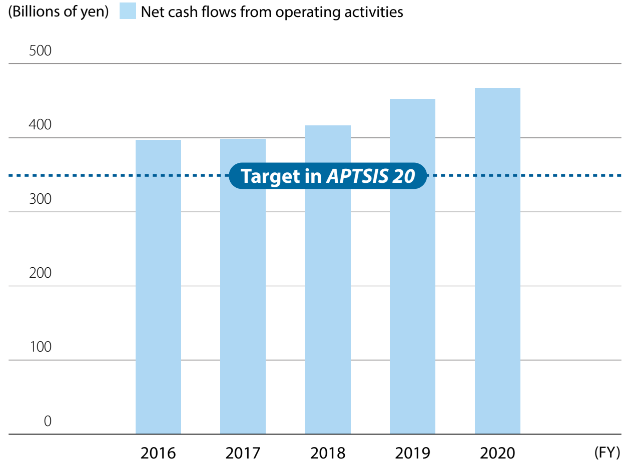
### Cash flow generation

Enhanced cash flow generation capabilities through greater asset efficiency and other measures (reaching the target of ¥690 billion over five years)

**Breakdown of cash generated**



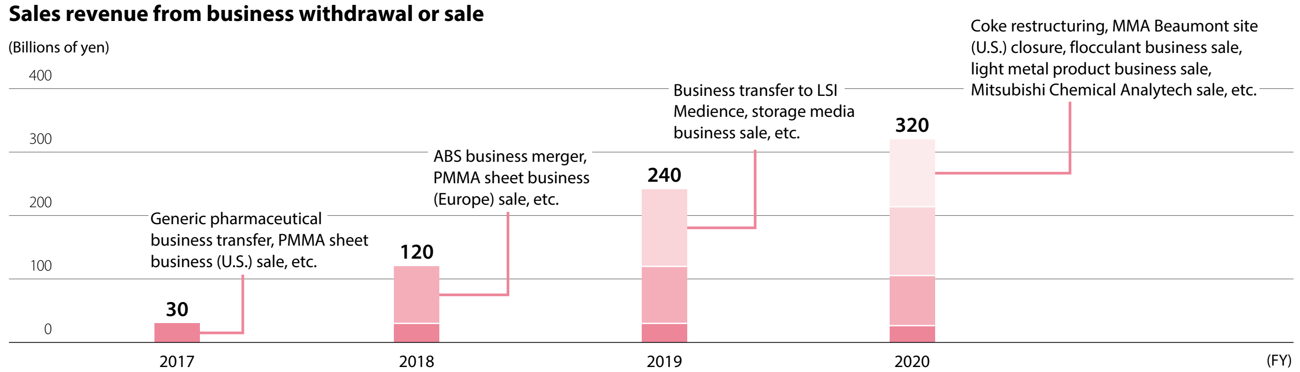

**Changes in net cash flows from operating activities**




### Strengthening foundations (business restructuring)

Achieved corporate streamlining, affiliate cuts and restructuring of ¥320 billion, above the target (equating to ¥300 billion in sales revenue over the duration of the medium-term management plan)

**Sales revenue from business withdrawal or sale**



# *APTSIS 20* Overview

## Measures by business domain

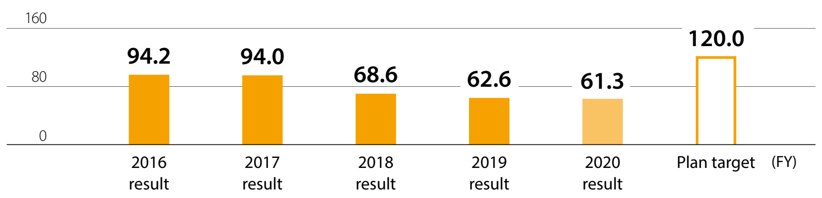
(Note) Figures for past fiscal periods (up to and including fiscal 2019) are the business results figures announced at the time.

### Performance Products Domain

| 5-year total | Targets | Results |
|---|---|---|
| Total investment*1 | ¥560 billion | ¥519 billion |
| R&D expenditures | ¥170 billion | ¥135 billion |

*1 Target after revision of medium-term management plan

**Core operating income**




**Steady progress in portfolio transformation**
**Growth strategies in focus markets still underway**

Although capacity and sales were expanded in the film business in line with growth in demand, and progress was also made to grow the business through the acquisition of semiconductor-related businesses and other measures, core operating income was below target due to the deteriorating economic environment and delays in initially planned growth measures, including sales growth for automotive lightweight composites, increased overseas business development for packaging materials and origination of new businesses.

Restructuring progressed, however, and we achieved steady growth in the resin compound and lithium-ion battery materials businesses, in semiconductor-related businesses and in the film business.

**Measures and results**

| Measures | Results | |
|---|---|---|
| Accelerate portfolio transformation | **Outcomes**<br>● Restructuring progress: Sale of the ABS resin, storage media, flocculant and light metals businesses | |
| Pursue growth strategies in focus markets | **Outcomes**<br>● Established resin compound growth strategy<br>● Strengthened the foundations of the battery materials business (joint venture with Ube Industries, development of new natural graphite-based anode materials)<br>● Strengthened semiconductor cleaning services business through Cleanpart acquisition<br>● Expanded capacity and sales in the film business (optical films, polyester films)<br>● Gained access to advanced technologies through Gelest acquisition (Si chemicals, semiconductor miniaturization technologies)<br>● Built business model for carbon fiber composite materials for luxury vehicles | **Measures not achieved**<br>● Growth in lightweight materials, battery-related businesses (due to slowdown in automotive sales and delayed expectations for EV uptake*3)<br>● Increase business development overseas for packaging materials driven by progress in developing circular economies<br>● Establish a biomedical applications business<br>● Expand sales of semiconductor materials (due to deterioration in semiconductor market conditions and the market environment) |
| Major investments | ● Converted The Nippon Synthetic Chemical Industry Co., Ltd. into a wholly owned subsidiary in November 2016 in order to strengthen our business foundations further (purchase amount: approx. ¥43 billion)<br>● Acquired Cleanpart Group GmbH, a provider of semiconductor-related services in Europe and the United States, in October 2018 to strengthen our semiconductor business<br>● Acquired Gelest, Inc., a U.S. manufacturer of organic and inorganic hybrid chemicals, in October 2020 to expand our technology platforms | |

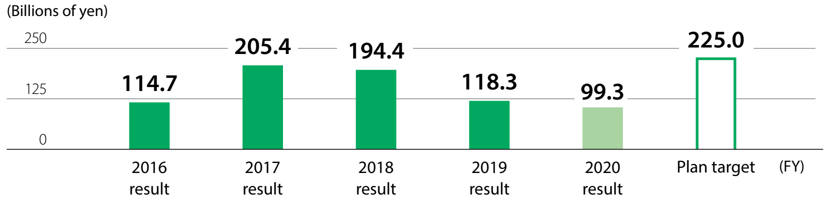
*3 Our estimate

### Industrial Materials Domain

| 5-year total | Targets | Results |
|---|---|---|
| Total investment*1 | ¥1,390 billion | ¥1,406 billion |
| R&D expenditures | ¥80 billion | ¥68 billion |

*1 Target after revision of medium-term management plan

**Core operating income**




**Steady progress in restructuring and measures to increase global share, despite impact of environmental changes**

Core operating income in the Industrial Materials domain was below target because of declining market conditions for MMA and other products, due to trade friction between China and the United States and COVID-19 impacts, as well as declining coke sales volumes as domestic crude steel production was scaled back.

However, we were able to execute restructuring plans, including our withdrawal from the terephthalic acid business in India and China, and make progress in other areas, including operations using our new ethylene method (Alpha technology) at The Saudi Methacrylates Company (SAMAC), a new plant in the Middle East aimed at growing and stabilizing earnings in the MMA business, and the development of a global system spanning four regions in the industrial gases business through major M&A in Europe and the United States.

**Measures and results**

| Measures | Results |
|---|---|
| Growing global share | **Outcomes**<br>● MMA: Full-scale operations using our Alpha technology started at a new Middle East plant (SAMAC) by our joint venture with Saudi Basic Industries Corporation (SABIC)<br>● Industrial gases: Business expansion through acquisition of operations in Europe and the United States, including from Linde AG (Germany) and Praxair, Inc. (U.S.) |
| Restructuring | **Outcomes**<br>● Withdrew from terephthalic acid business (India, China)<br>● Unified ethylene plant operations at the Okayama Plant<br>● Improved product mix with higher-performance polyethylene<br>● Expanded wide-area coordination for utilities<br>● Closed the Beaumont MMA site (U.S.) |
| Major investments | ● JV with SABIC started full-scale operations in April 2018 at the new Middle East plant (SAMAC) (total business expenditure: approx. ¥100 billion) MMA monomer production capacity: 250,000 metric tons/year; PMMA production capacity: 40,000 metric tons/year<br>● To capture industrial gases market share in Europe, where MCHC was not operating, and progress business globalization further, acquired some of Praxair, Inc.'s European assets in December 2018, including industrial gas operations in Germany, Spain and Italy; carbon dioxide business in the United Kingdom and other regions; and the helium-related business (acquisition value: approx. ¥640 billion)<br>● Acquired part of a HyCO*4 business and related assets from Linde Gas North America LLC (U.S.), a subsidiary of Linde AG (Germany), through industrial gas subsidiary Matheson Tri-Gas, Inc. (U.S.) in February 2019 (acquisition value: approx. ¥46 billion) |

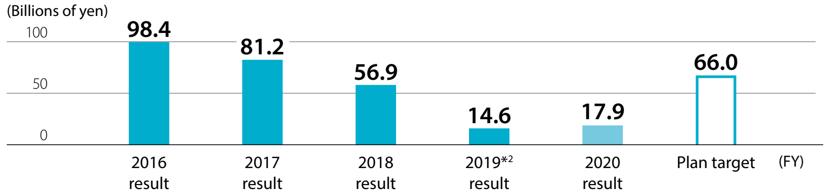
*4 HyCO: hydrogen ($H_2$) and carbon monoxide (CO), which are separated from natural gas using steam methane reforming equipment. The HyCO business provides large-scale supply of $H_2$ and CO to customers in oil refining and petrochemical industries by way of a pipeline.

### Health Care Domain

| 5-year total | Targets | Results |
|---|---|---|
| Total investment*1 | ¥408 billion | ¥245 billion |
| R&D expenditures | ¥440 billion | ¥418 billion |

*1 Target after revision of medium-term management plan

**Core operating income**




*2 Figures do not include results from discontinued operations.

**Established a sales base in the US, but was unable to generate results due to development delays and the non-recording of royalties during arbitration proceedings**

We launched *RADICAVA* for amyotrophic lateral sclerosis (ALS) in the United States in August 2017 and established a sales base in the United States, which had been an issue since the formation of Mitsubishi Tanabe Pharma.

However, core operating income fell below target due to delays in the development of ND0612 for Parkinson's disease and the virus-like particle (VLP) vaccine of plant origin MT-2271 to prevent seasonal influenza, as well as our inability to book royalties from *Gilenya* for multiple sclerosis during arbitration proceedings on the contract provisions that began in February 2019. We made steady progress in clinical trials with regenerative medicine products using Multilineage-differentiating stress enduring cells (Muse cells), despite delays versus the initial development plans caused by COVID-19.

**Measures and results**

| Measures | Results | |
|---|---|---|
| Pipeline reinforcement | **Outcomes**<br>● Obtained POC*5 (late-stage development): 10 discoveries (4 internationally and 6 domestically) | |
| U.S. development | **Outcomes**<br>● Launched *RADICAVA* | **Measures not achieved**<br>● Grow *RADICAVA* sales<br>● Recorded an impairment loss owing to delays in the development of ND0612 for Parkinson's disease and the VLP vaccine MT-2271 against seasonal influenza |
| Regenerative medicine (Muse cell-based products) | **Outcomes**<br>● Conducting clinical trials for the indications of acute myocardial infarction, ischemic stroke, epidermolysis bullosa, spinal cord injury and ALS<br>● Established Tonomachi CPC (cell processing center) and created mass cell culture techniques | |
| Restructuring | **Outcomes**<br>● Reorganized LSI Medience: Completed strategic capital partnership with PHC Holdings Corporation | |
| Major investments | ● In October 2017, acquired as a wholly owned subsidiary the Israel-based company NeuroDerm Ltd., a pharmaceutical company with superior technology development capabilities that combines pharmaceuticals and medical devices and researches new formulations for Parkinson's disease drugs (total amount: approx. ¥120 billion)<br>● Converted Mitsubishi Tanabe Pharma into a wholly owned subsidiary in March 2020 with the goal of adapting to environmental changes in healthcare, including the expansion of drug discovery modalities, and creating further synergies between MCHC Group companies (purchase amount: approx. ¥490 billion) | |

*5 POC: Proof of concept, demonstrating the feasibility of a new discovery or concept