

KAITEKI Value for Tomorrow

APTSIS 20

Presentation to Investors

December 4, 2018

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The forward-looking statements are based largely on information available as of the date hereof, and are subject to risks and uncertainties which may be beyond Company control. Actual results could differ materially, due to numerous factors, including but not limited to the following: Group companies execute businesses in many different fields, such as information, electronics and displays, advanced moldings and composites, advanced polymers, MMA, petrochemicals, carbon products, industrial gases, and pharmaceuticals, and these business results are subjected to influences of world demands, exchange rates, price and procurement volume of crude oil and naphtha, trends in market prices, speed in technology innovation, National Health Insurance drug price revision, product liabilities, lawsuits, laws, and regulations.

List of Abbreviations

MCHC: Mitsubishi Chemical Holdings Corporation
 MCC: Mitsubishi Chemical Corporation
 MTPC: Mitsubishi Tanabe Pharma Corporation
 LSII: Life Science Institute, Inc.
 TNSC: Taiyo Nippon Sanso Corporation

DEV: Diamond Edge Ventures, Inc.
 MCA: Mitsubishi Chemical America, Inc.
 MCE: Mitsubishi Chemical Europe GmbH
 MCIS-UK: MC Ionic Solutions UK, Ltd.
 MCIS-US: MC Ionic Solutions US, Inc.
 UMBM: Changshu UM Battery Materials Co., Ltd.
 SAMAC: The Saudi Methacrylates Company

TCFD: Task Force on Climate-related Financial Disclosures
 WEF: World Economic Forum

ABS: Acrylonitrile butadiene styrene
 AI: Artificial intelligence
 AR: Augmented reality
 ASU: Air separation unit
 BMA: Butyl methacrylate
 CF: Carbon fiber
 CFRP: Carbon fiber reinforced plastic
 CVC: Corporate venture capital
 DX: Digital transformation
 EAP: Employee Assistance Program
 GHG: Greenhouse gas
 ICT: Information and communication technology
 IoT: Internet of things
 LCD: liquid crystal display
 LIB: Lithium-ion battery
 LLDPE: Linear low-density polyethylene
 MAA: Methacrylic acid
 MMA: Methyl methacrylate
 MOS: Management of Sustainability
 OLED: Organic light emitting diode
 PBS: Polybutylene succinate
 PCM: Pregreg compression molding
 PHV: Plug-in hybrid vehicle
 PMMA: Polymethyl methacrylate
 PP: Polypropylene
 PVC: Polyvinyl chloride
 RHQs: Regional headquarters
 SMC: Sheet molding compound
 VLP: virus-like particles
 VR: Virtual reality

CIO: Chief Innovation Officer
 CTO: Chief Technology Officer
 CMO: Chief Marketing Officer
 CDO: Chief Digital Officer

FY2017: April 1, 2017 – March 31, 2018

FY2018: April 1, 2018 – March 31, 2019

Note:

Product names, brand names, service names, and technology names used in this presentation material are denoted in italics and are trademarks or registered trademarks of the MCHC Group in Japan and/or overseas. Other product names, brand names, and service names may also be protected.

Today's Agenda

1. Operating Results and Forecasts, Priority Management Measures in *APTSIS 20*

1-1. Operating Results and Forecasts

1-2. Priority Management Measures (FY2016 – FY2018)

1-3. Growth Strategies for Focus Markets (FY2016 – FY2018)

1-4. Reinforcing Business Foundation for Fundamental Industrial Materials

1-5. Generating Integration Effects and Synergy due to Establishment of the New MCC

1-6. Intensifying Marketing and Access to the Global Market

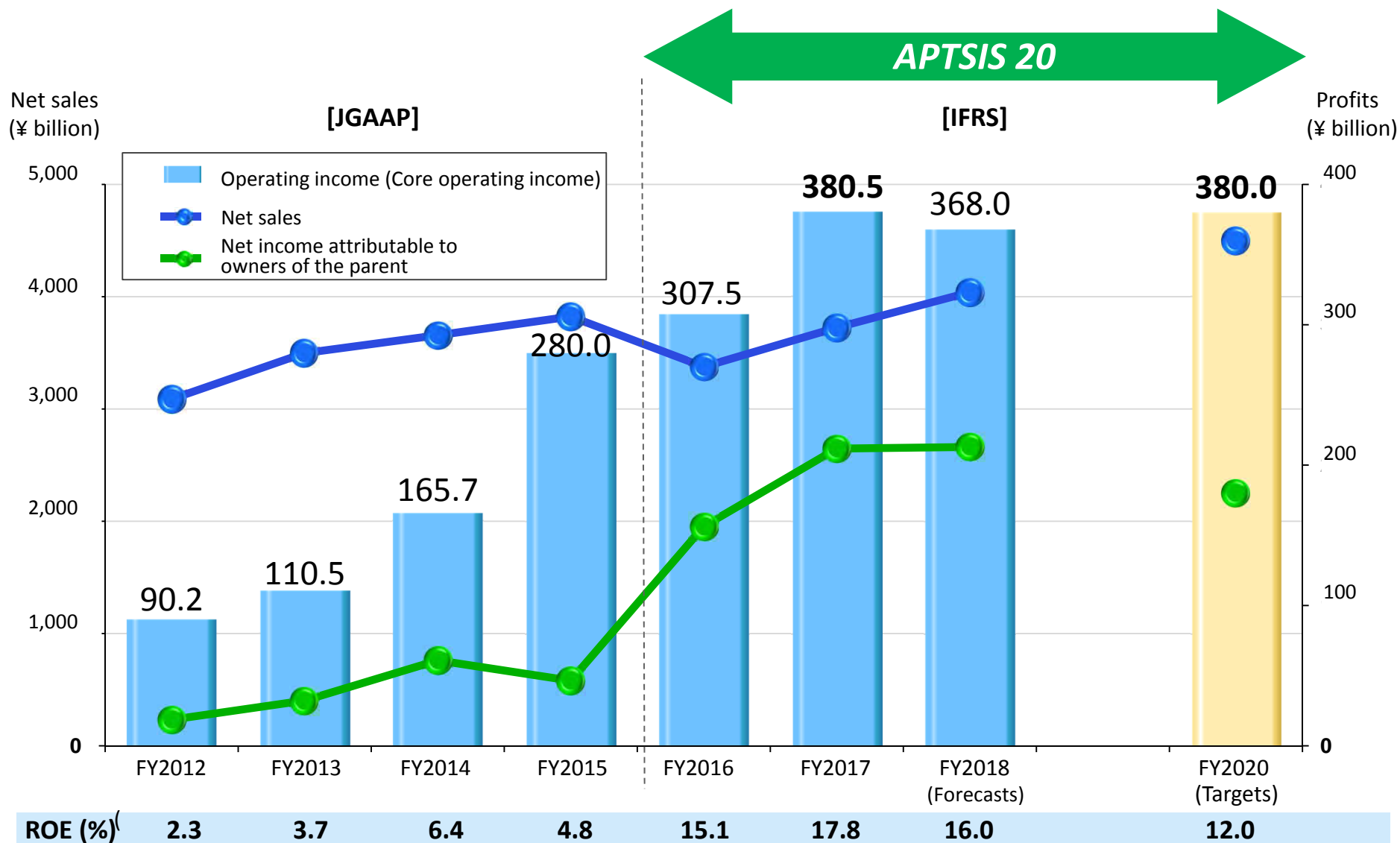
1-7. Early Commercialization of the Seeds of Next-generation Businesses

2. Review of *APTSIS 20*

3. Further Deepening of KAITEKI Management

Operating Results and Forecasts

■ Business results achieved the *APTSIS 20* profit targets in FY2017



Financial Index

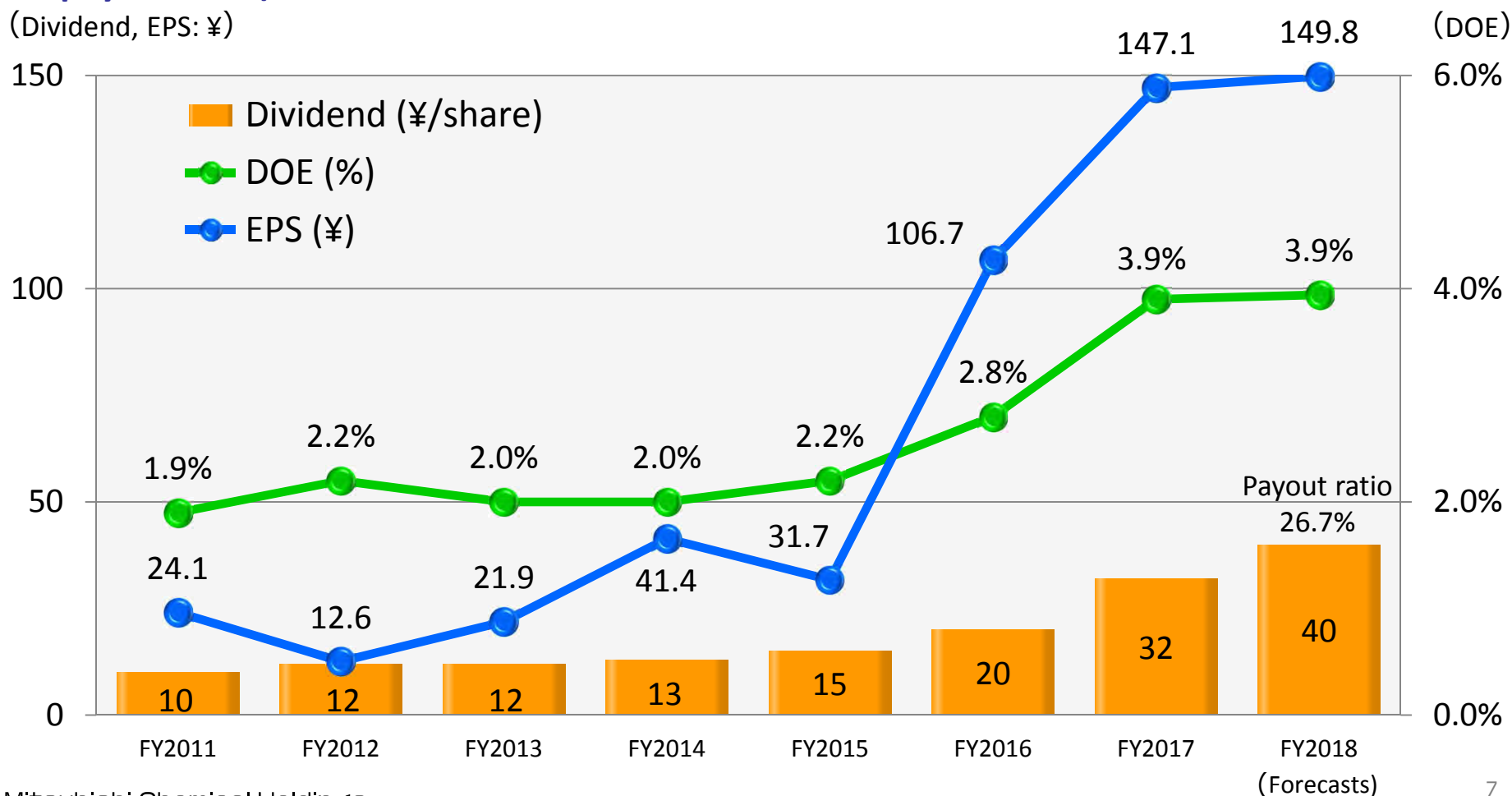
- Expected to achieve the numerical targets (ROS, net income, ROE) in *APTSIS 20*, same as the previous fiscal year

		FY2018 Forecasts	FY2020 Targets
Financial Index (MOE)	Core operating income	¥368 billion	¥380 billion
	ROS (Core operating income)	9%	8%
	Net income attributable to owners of the parent	¥213 billion	¥180 billion
	ROE	16%	12%
	Net D/E ratio	0.77 (1.2*)	0.8

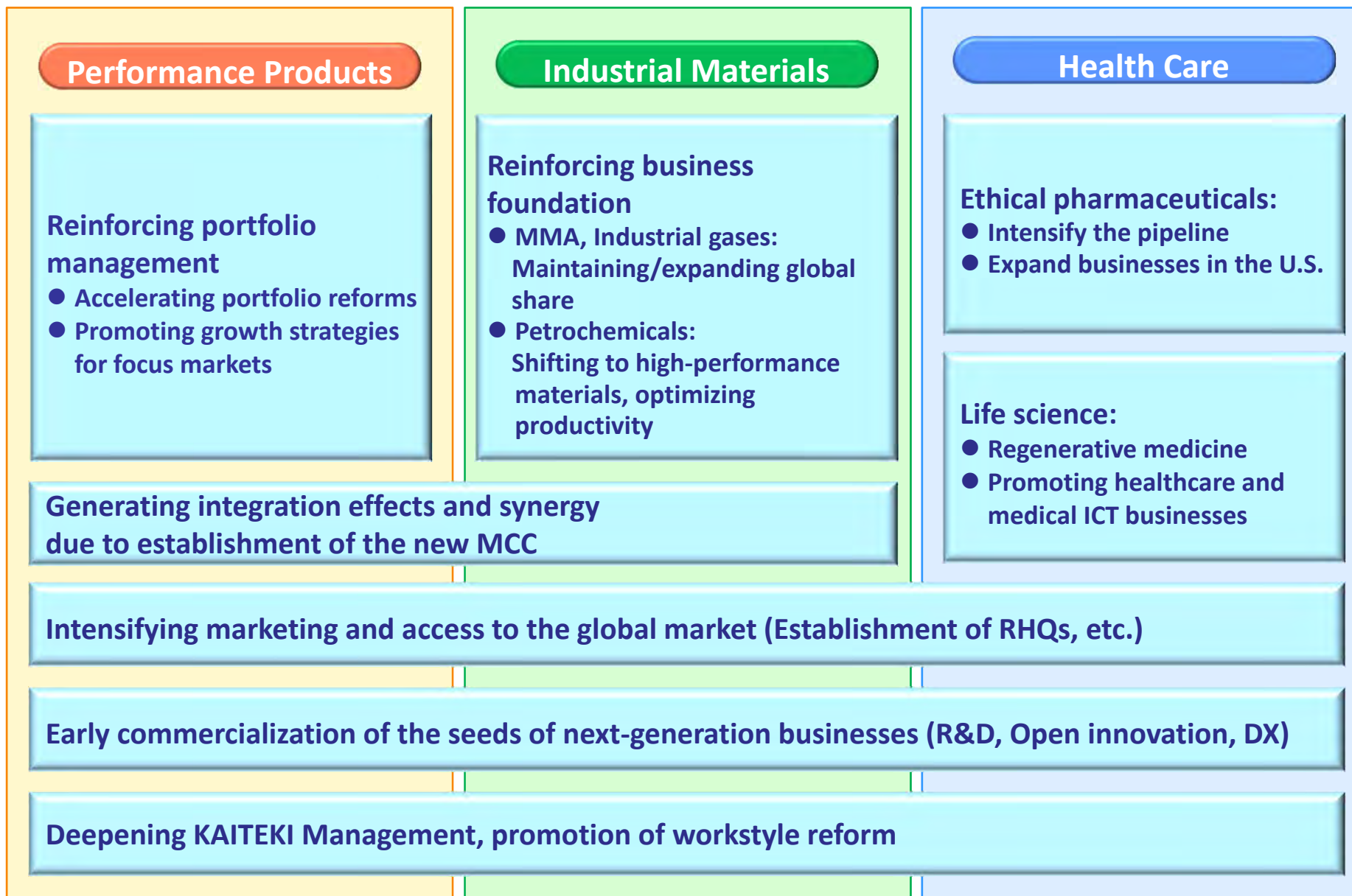
*A large-scale acquisition in the Industrial Gas segment in FY2018 is calculated based on announced value

Shareholder Returns

- Aim to enhance shareholder value by improving corporate value
- Balance dividend policy with growth investment and financial structure improvement, and implement stable dividend payments
(Set 30% of the medium-term profit level as a guideline for the consolidated dividend payout ratio)



Priority Management Measures

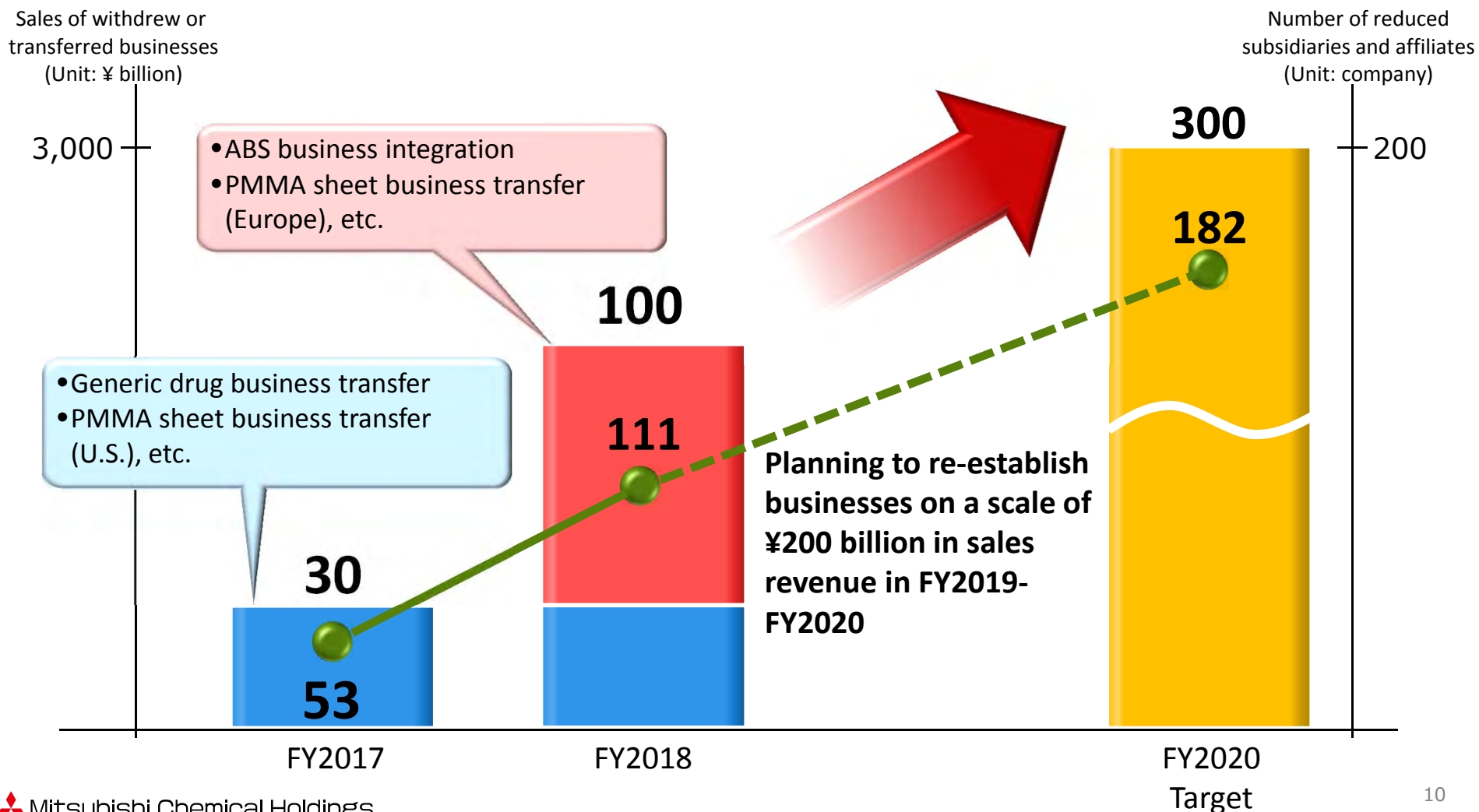


Intensifying Business Portfolio Management: Accelerating Reforms (1)



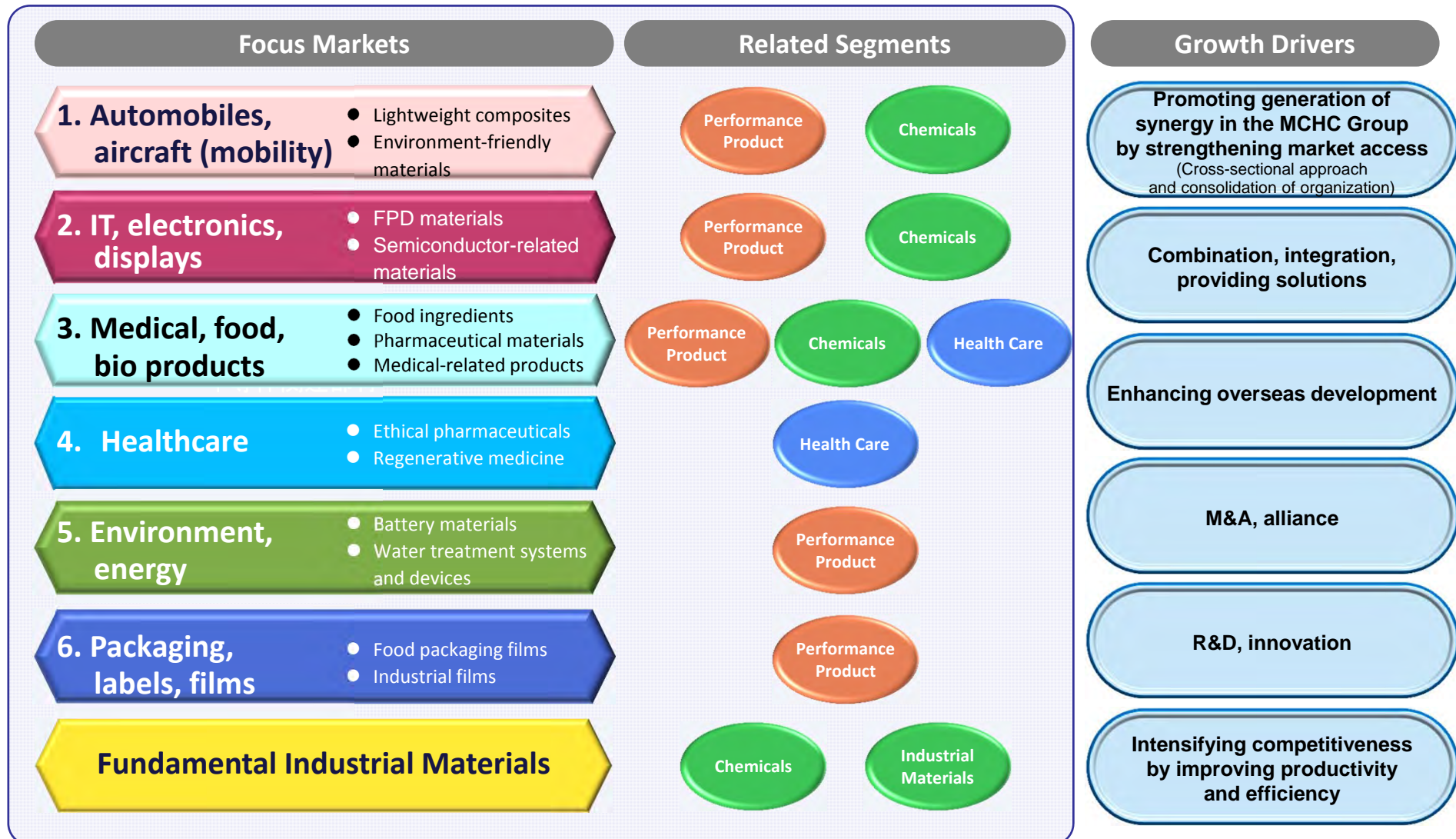
Intensifying Business Portfolio Management: Accelerating Reforms (2)

- Executed withdrawal and transfer of businesses on a scale of ¥100 billion in sales revenue, starting in FY2017
- Reducing number of subsidiaries and affiliates by 111 by the end of FY2018



Growth Strategies for Focus Markets and Reinforcing Business Foundation for Fundamental Industrial Materials

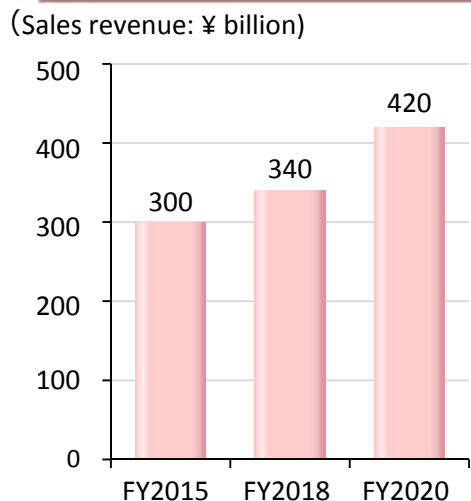
■ Accelerating growth centering on Growth Drivers, while generating synergy with related segments



Growth Strategies for Focus Markets (FY2016-FY2018)

Automobiles, Aircraft (Mobility)

Items in red are to be explained today



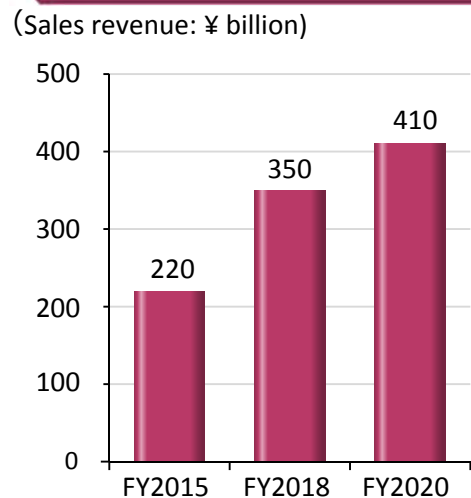
Growth measures

- Responding to trend toward Connected, Autonomous, Shared, Electric (CASE) in the automotive industry, reinforce response to environmental issues
- Reinforcing carbon fiber and composite material business and accelerate overseas expansion
- Accelerating overseas expansion of resin compound business

Progress

- **Reinforcing overseas network for carbon fiber and composite material business**
- Expanding adoption of CF-SMC: Toyota Prius PHV, other
- Higher performance of PP: A new PP manufacturing facility is under construction at the Goi Plant (150kt/y)
- **Acquired 2 overseas compound producers (India, Indonesia)**

IT, Electronics, Displays



Growth measures

- Reinforcing display-related product business: LCD, OLED materials
- Expanding semiconductor-related business: Expanding precision cleaning agent-related business, developing thermal management materials

Progress

- Optical films: A new line is under construction in China (starting operation in April 2019), *OPL Film*: A new line is under construction at the Kumamoto plant (starting operation in March 2020)
- **Precision cleaning of semiconductor manufacturing equipment : Acquired Cleanpart Group (October 2018)**

Growth Measures: Mobility (1)

- Reinforcing marketing and technological support for carbon fiber and composite materials used in automobiles and expand the business in Europe and the U.S.

Strengthening market access

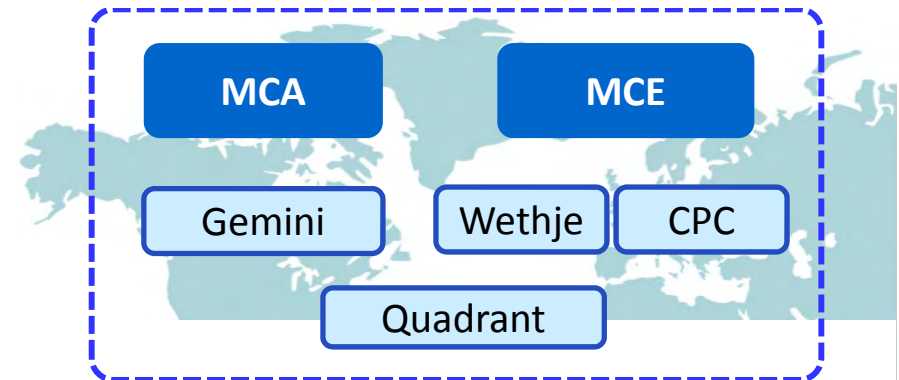
- Expanding the business by leveraging achievements of CF-SMC* and PCM** in Japan and overseas
- Making proposals to manufacturers/Tier 1 for design and development of composite materials, by establishing the composite application center in Europe and cooperating with companies involved in carbon fiber and composite materials and engineering plastics
- Established carbon fiber recycle technology and started operation of a test facility, and studying future mass production possibilities

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



MCC's CF-SMC adopted by the rear door frame of the Prius PHV
(Photos by Toyota Motor Corp.)

Roof of the Audi RS 5 Coupé using MCC's CFRP, optional specifications
(Photos by Audi)



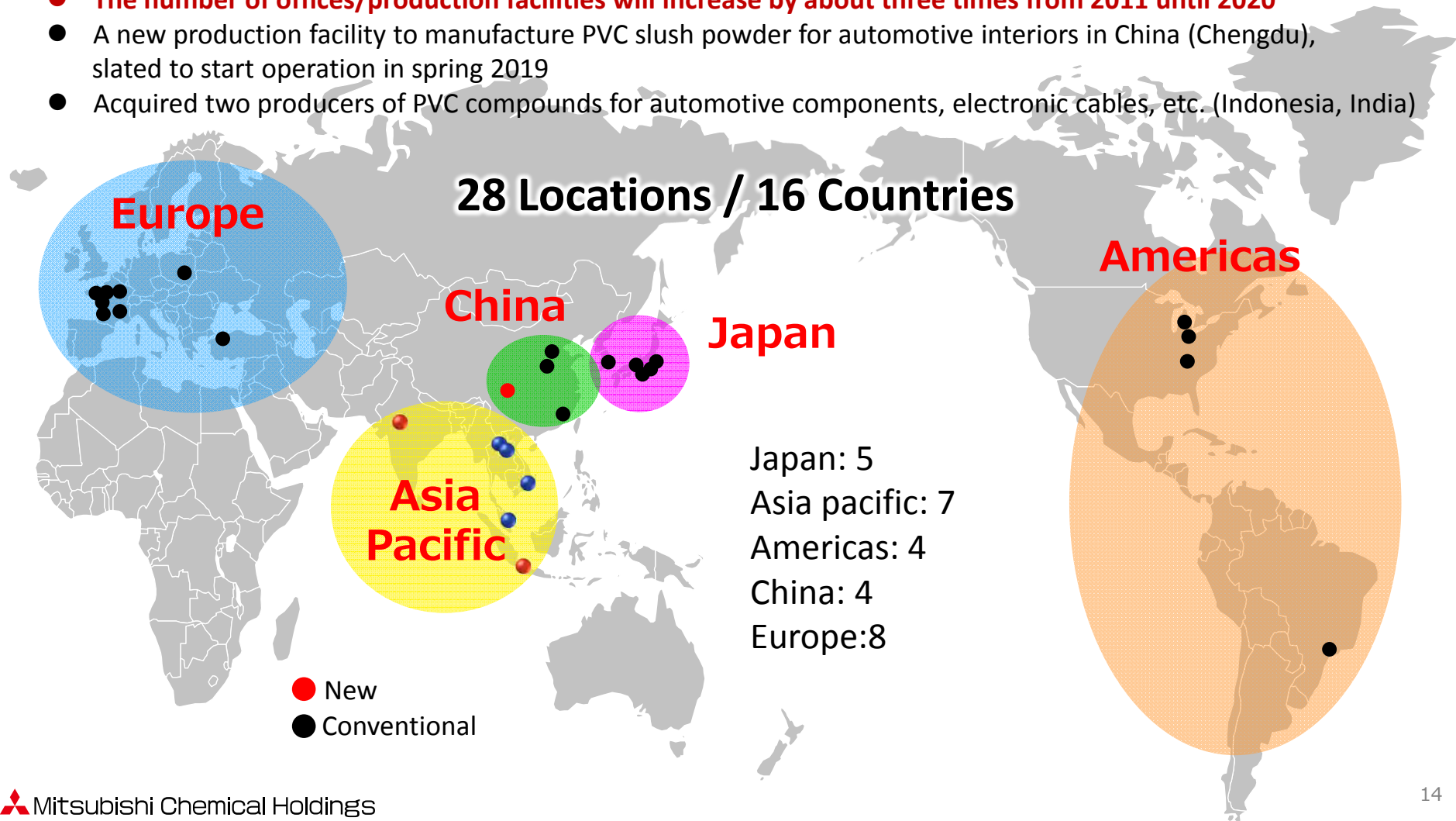
OEM for European and the U.S. Automakers, Tier 1

Growth Measures: Mobility (2)

- Stepping up efforts to establish a system of local production for local consumption by expanding the global network for the compound business

Enhancing overseas development

- The number of offices/production facilities will increase by about three times from 2011 until 2020
- A new production facility to manufacture PVC slush powder for automotive interiors in China (Chengdu), slated to start operation in spring 2019
- Acquired two producers of PVC compounds for automotive components, electronic cables, etc. (Indonesia, India)

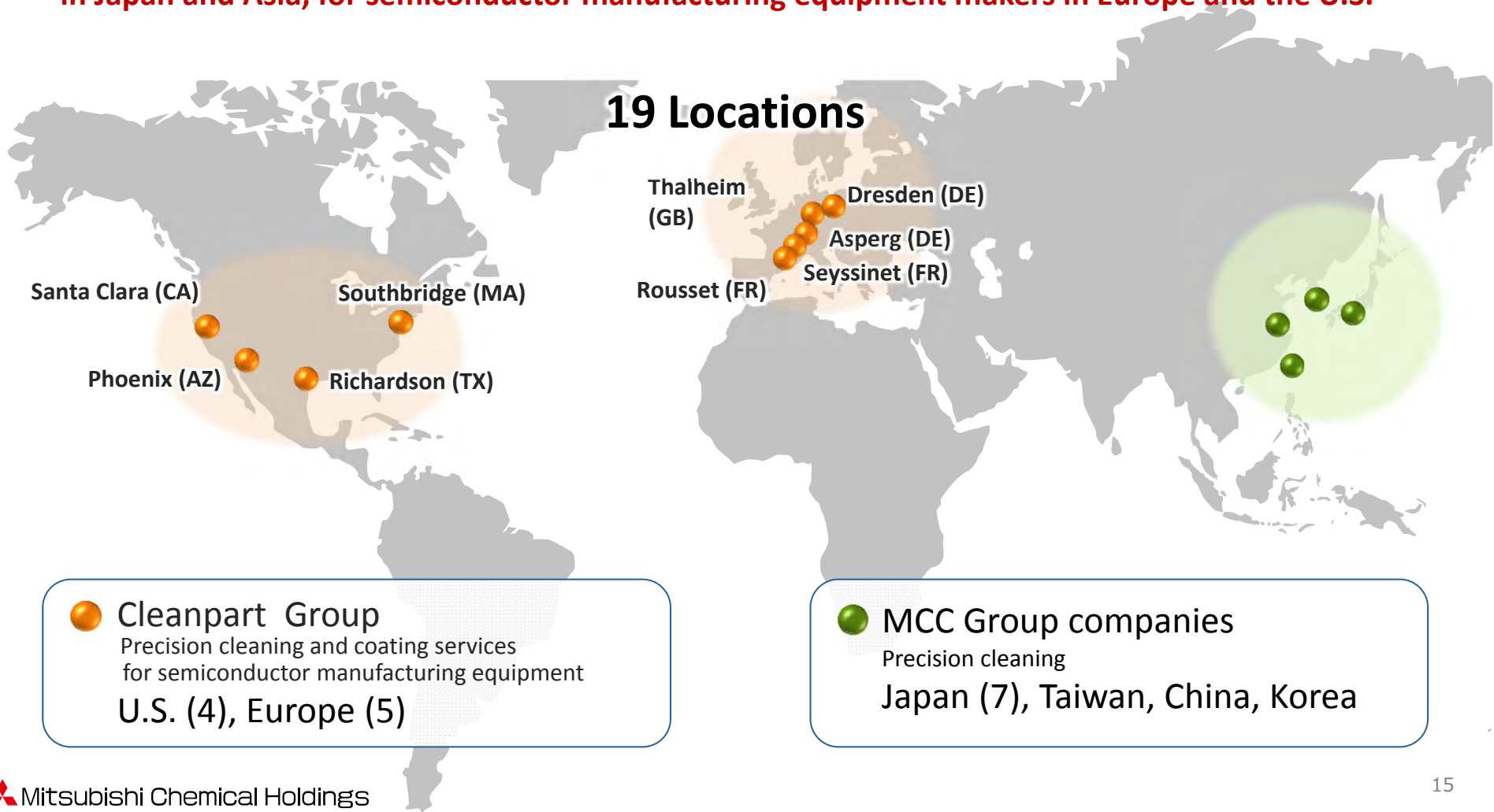


Growth Measures: IT, Electronics

- Establishing a structure to offer precision cleaning services on a global scale by acquiring Cleanpart Group GmbH

M&A, alliance

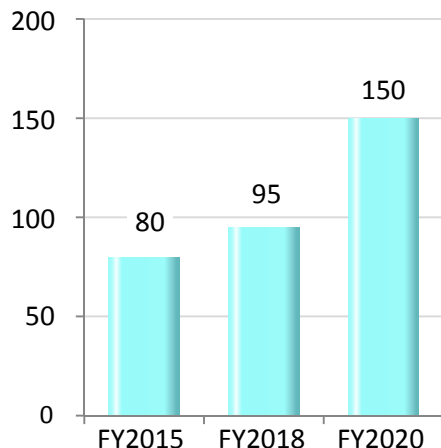
- Expanding the business by adopting advanced precision cleaning technology, which has been built up in Japan and Asia, for semiconductor manufacturing equipment makers in Europe and the U.S.



Growth Strategies for Focus Markets (FY2016-FY2018)

Medical, Food, Bio products

(Sales revenue: ¥ billion)



Growth measures

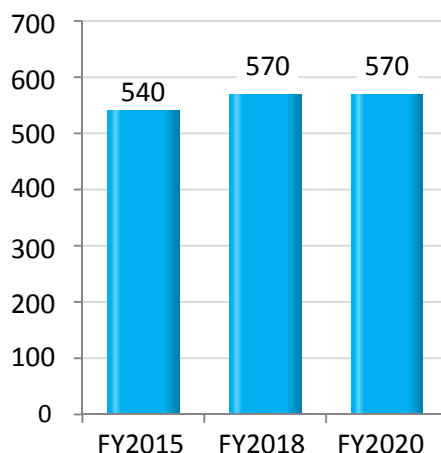
- Expanding the implant material business
- Expanding the nutrition-related business
- Expanding the medical use gas business

Progress

- Acquired a U.S. high-performance engineering plastic company (Piper Plastics, Inc.)
- Food emulsifier: Expanding sales mainly in China and other ASEAN countries
- Respiratory-related business including home healthcare services: **Acquired IMI Co., Ltd.**

Healthcare

(Sales revenue: ¥ billion)



Growth measures

- Reinforcing pipelines for ethical pharmaceuticals
- Developing the business in the U.S.
- Commercialization of VLP vaccine
- Commercialization of regenerative medicine

Progress

- **Expanding Radicava globally**
- **Advancing development of influenza VLP vaccine and constructing a manufacturing facility for commercialization**
- **Developing regenerative medical products using Muse cells and promoting commercialization**

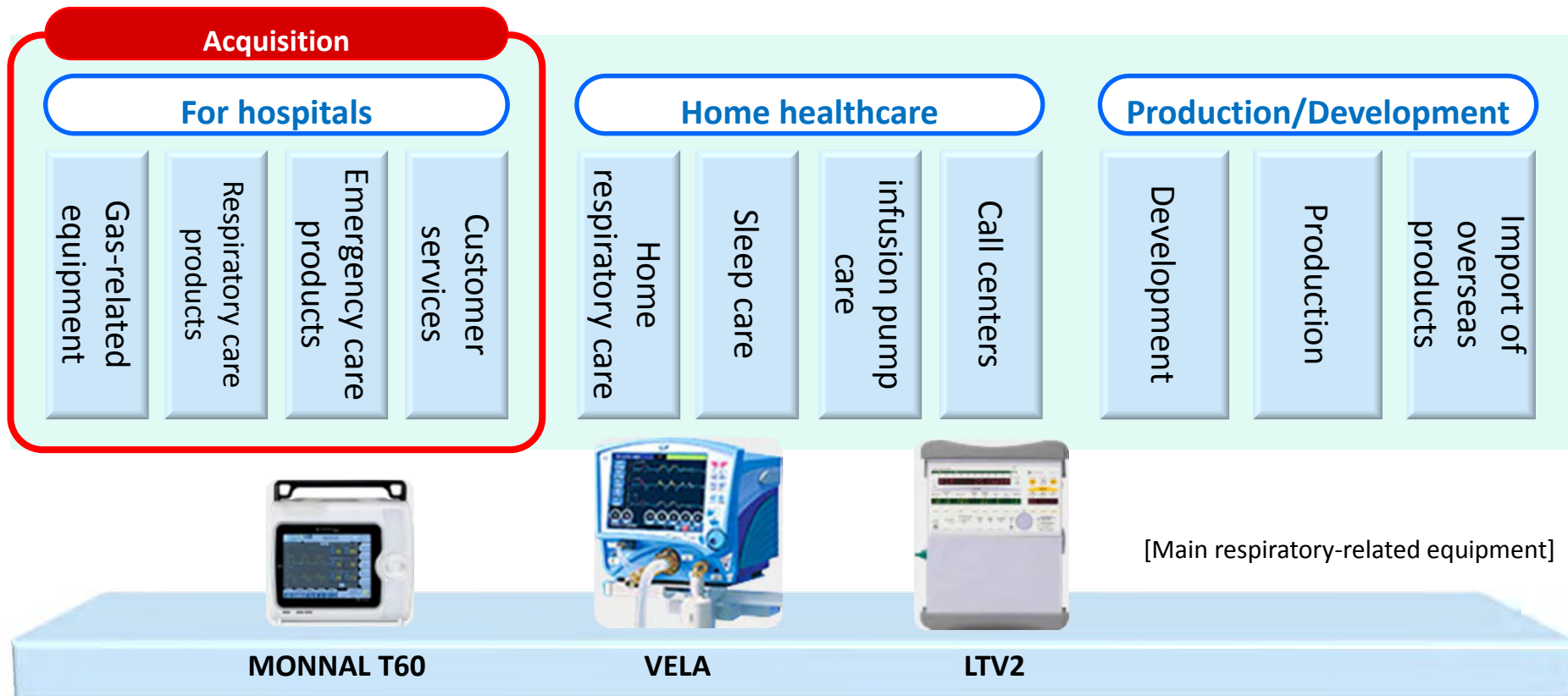
Growth Measures: Medical

■ Enhancing presence in the medical gas business field

Strengthening market access

Expanding into Respiratory-related Business including Home Healthcare Services

- Expanding the field and functions in both medical gas and medical equipment businesses, by acquiring the respiratory-related medical equipment sales company, IMI



Growth Measures: Healthcare (*Radicava*)

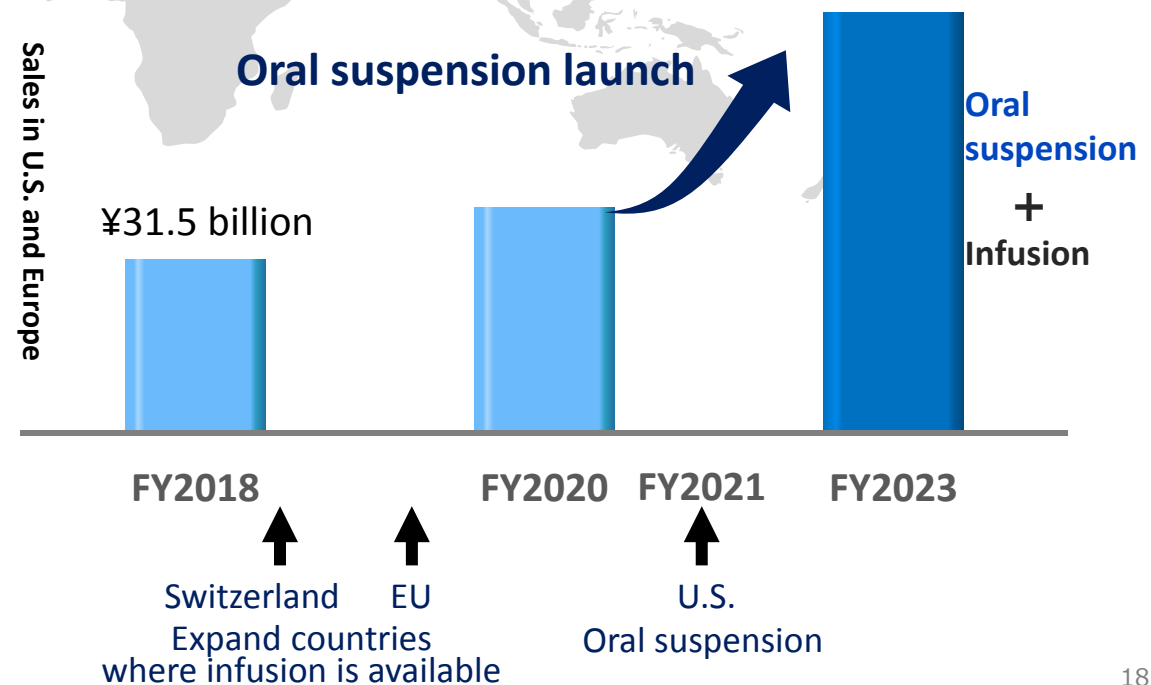
- Steady global expansion of infusion
- Maximize sales revenue by successively expanding to other countries, launching oral suspension (MT-1186) in the U.S. in FY2021

Enhancing overseas development



Advantage of *Radicava* oral suspension

Eliminating extended treatment time for patients resulting from intravenous infusion administration and limits on number of administration sites



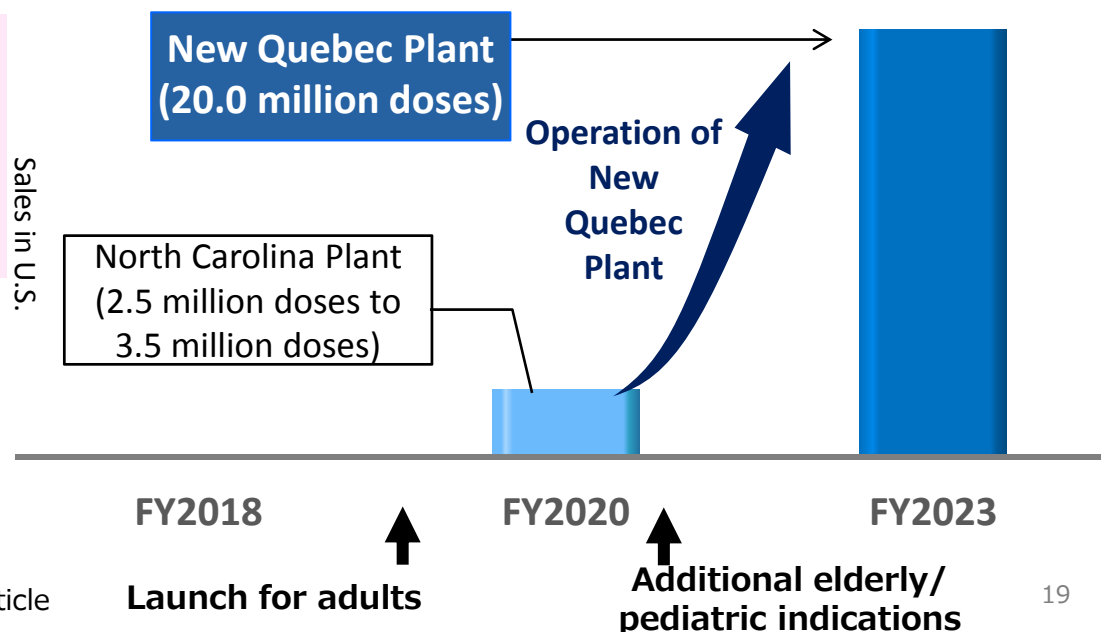
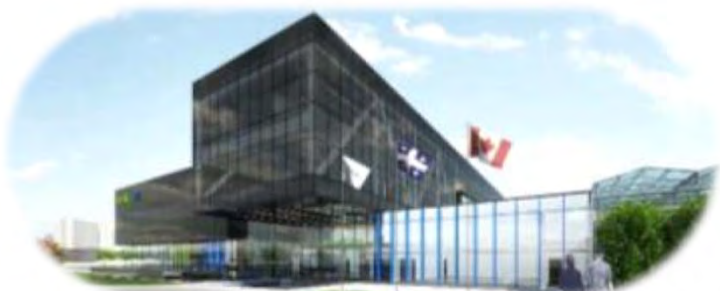
Growth Measures: Healthcare (VLP Vaccine)

■ Reliably promoting VLP vaccine pipeline and starting construction of a manufacturing facility for commercialization

R&D, innovation

Pipeline/Stage		R&D	Non-clinical trial	Phase 1	Phase 2	Phase 3	Application	
Seasonal Influenza	Adult	→					→	In preparation
	Pediatric					In preparation		
	Elderly					In progress		
Pandemic Influenza		→			In progress			
Rota virus		→		In progress				
Noro virus		→	In progress					

Starting construction of a manufacturing facility for commercialization (Capex: approx. ¥25.0 billion)
 Location: Quebec City, Canada
 Purpose: Manufacturing of commercial vaccines
 Slated to start supply: 2023



Growth Strategies: Healthcare (Regenerative Medicine: Muse Cells)

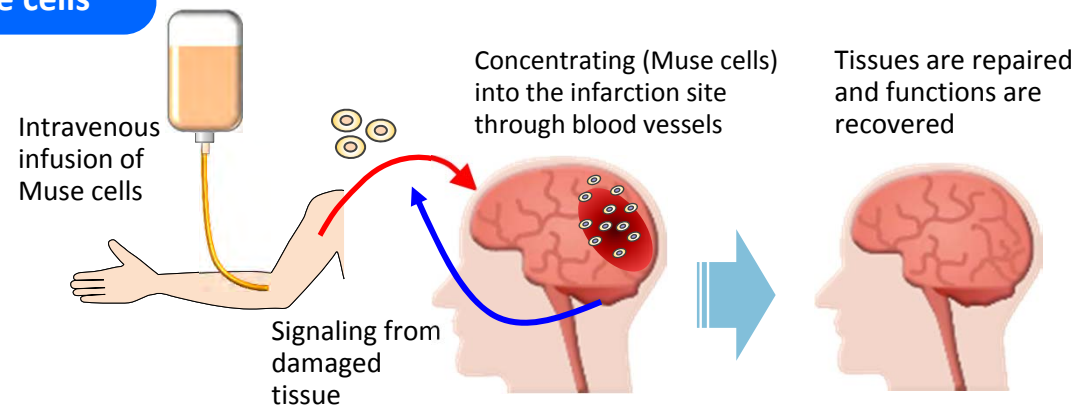
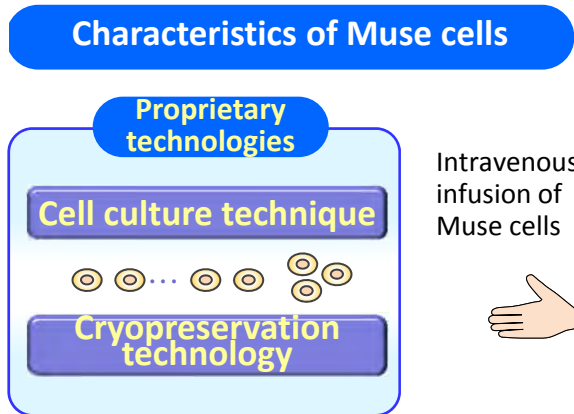
- Started clinical trials of regenerative medical products using Muse cells for **acute myocardial infarction** and **cerebral infarction**
- Pursuing expansion of indications, and accelerate the development
- Aiming for application in FY2020 and approval in FY2021
- **Established a manufacturing facility for regenerative medical products (Completion of construction: October 2018, Start of operation: January 2019)**
- Manufacturing cells using proprietary technologies and establishing the cold chain

R&D, innovation



Aiming to acquire approval as quickly as possible through parallel development of applications for several indications in addition to myocardial infarction and cerebral infarction

Cell Processing Center in the Life Innovation Center



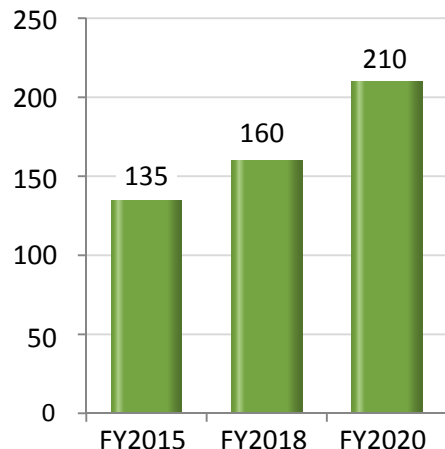
Migration capability/
Spontaneous differentiation capability

Muse cells, discovered by the team led by Prof. Mari Dezawa of Tohoku University in 2010, are pluripotent stem cells that exist in the human body

Growth Strategies for Focus Markets (FY2016-FY2018)

Environment, Energy

(Sales revenue: ¥ billion)



Growth measures

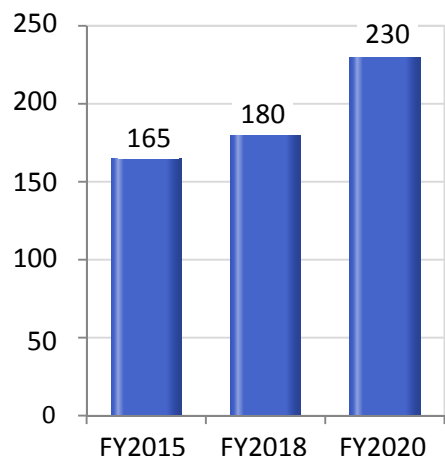
- Expanding LIB materials business
- Accelerating development of wastewater treatment in China and water supply treatment business in Japan
- Developing products that reduce environmental impact

Progress

- **Accelerating global expansion of electrolyte business (Europe/U.S./China)**
- Start of full-scale sales of wastewater treatment facilities for farming villages and pig farms in China
- **Accelerating development of other applications of BioPBS**

Packaging, Labels, Films

(Sales revenue: ¥ billion)



Growth measures

- Barrier application: Accelerating overseas expansion of food packaging film, reinforcing development of new high-barrier performance products
- High-performance films: Developing new products by combining the group's technologies

Progress

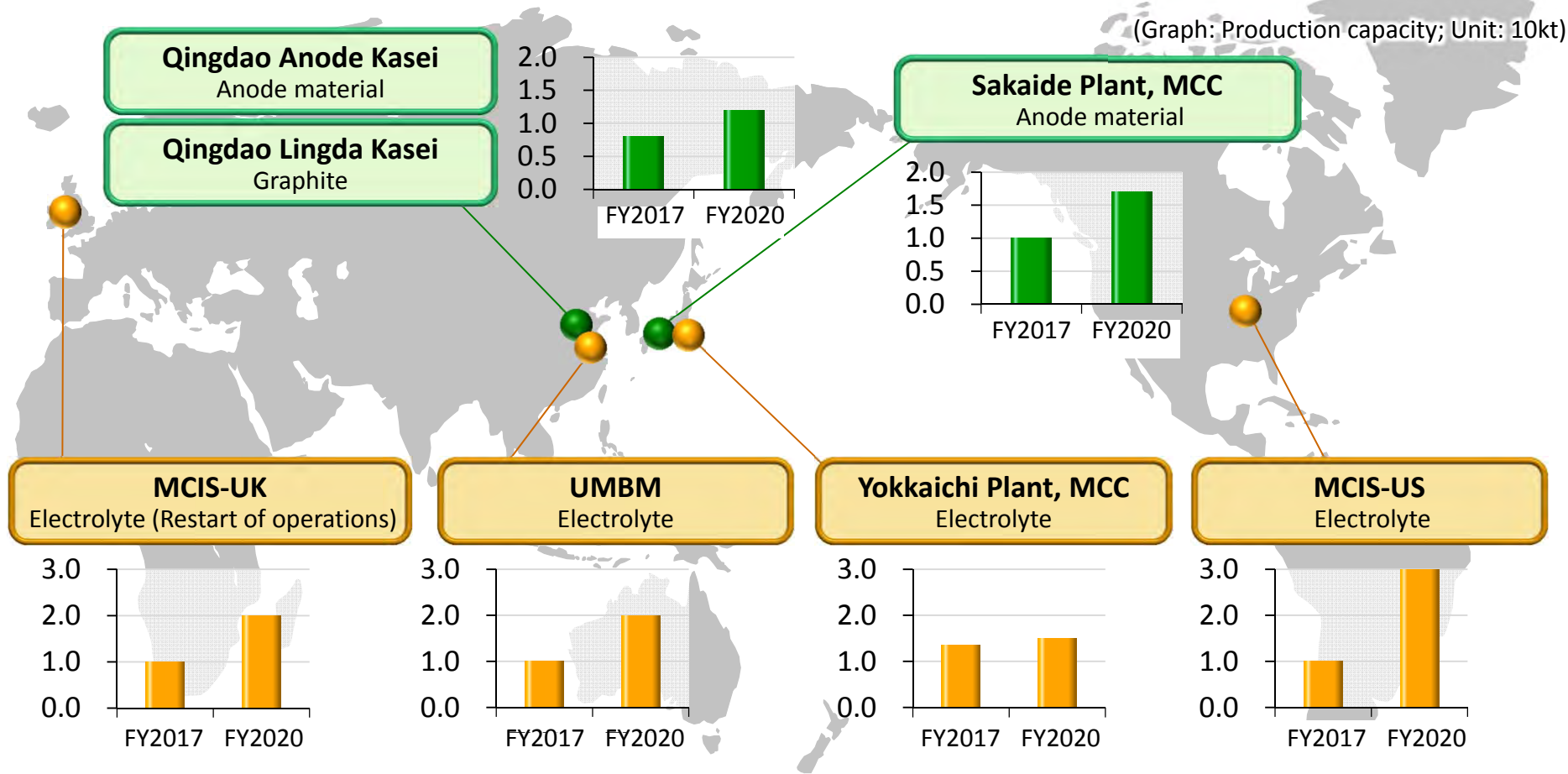
- **Started full-scale operation of a new polyester film line in the U.S. in 2018**
- **Launch of high-barrier performance deep-formed microwavable containers**
- **DIAMION production site is under construction in Thailand (Slated to start operation in 2020)**

Growth Measures: Environment, Energy (1)

■ **Maintaining the world's top share in electrolyte for LIB batteries for automobiles by accelerating investment in global production sites**

Enhancing overseas development

- Electrolyte: Restart of operations at the U.K. production site, Plan to increase total production capacity [43kt (2017) → 85kt (2020)]
- Anode material: Plan to expand production facilities at production sites in China [18kt (2017) → 29kt (2020)]



Growth Measures: Environment, Energy (2)

- Accelerating research and application development for biodegradable plastics and plant-derived polymers to contribute the establishment of a recycling-oriented society and achievement of SDGs

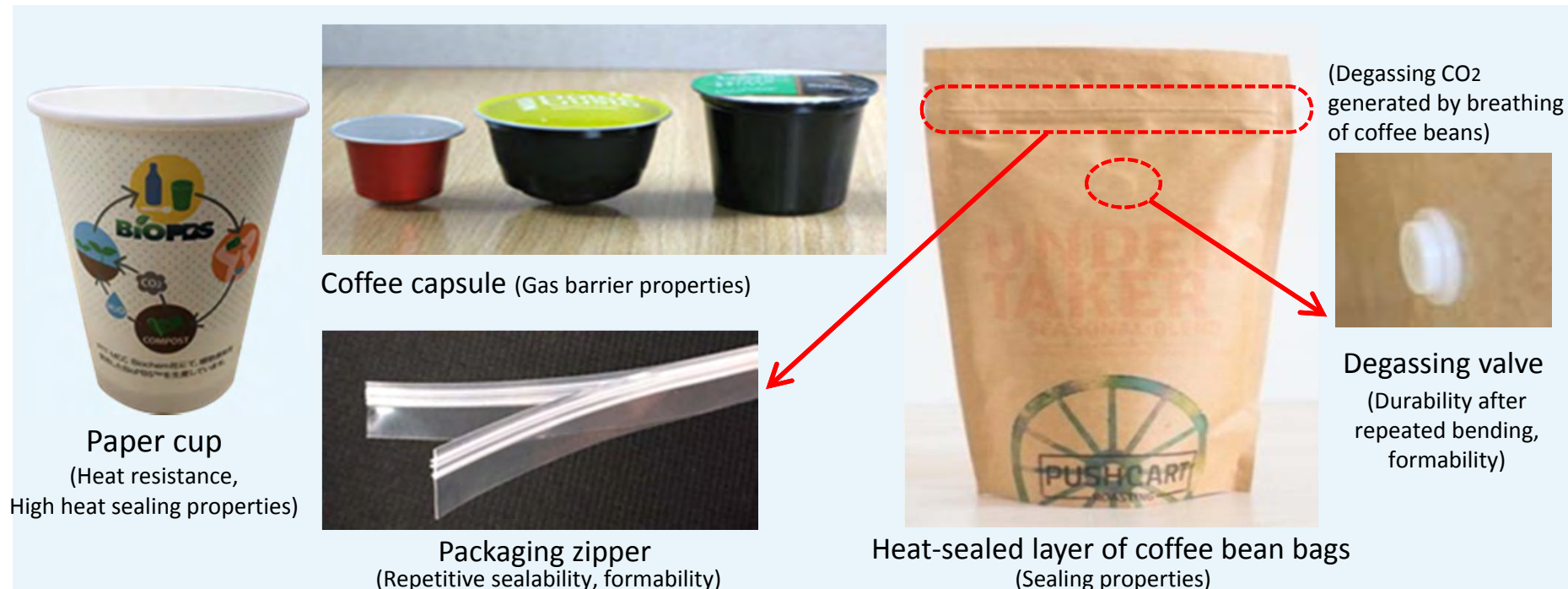
Combination, integration, providing solutions

BioPBS

Plant-derived and biodegradable plastics place a lower burden on the natural environment because microbial action in soil breaks them down into water and carbon dioxide

Accelerating Application Development

Developing not only compost bags, mulch films for agriculture, etc., but also using composite technology, paper cups, coffee capsules, and products that delivers the characteristics necessary for gas barrier soft packaging materials



Growth Measures: Packaging, Labels, Films

■ Accelerating overseas high-performance film business and expanding applications for high gas barrier films

Combination, integration, providing solutions

Reinforcing Polyester Film Production and Sales Structure

- New polyester film line in the U.S. started full-scale operation in July 2018, **reinforcing the supply in North America**
- Future development of multi-function products for further business expansion



Polyester label liner

Expanding Multi-layer Film Business

- **Constructing a new production site in Thailand** to produce “DIAMIRON,” thus expanding the food packaging business in the growing ASEAN market; **the operation is slated to start in 2020**. Production volume will increase by about 20% from the current capacity
- **Developing high gas barrier performance, deep-draw , nitrogen gas-sealed containers**, which can be warmed in microwave ovens, in response to increasing needs for home meal replacement and meal with family members eating separately
- Thanks to high gas barrier performance and flexibility, the shift from other raw materials is accelerating for application of infusion bag, etc.



Microwavable *DIAMIRON* container (tray, lid)



DIAMIRON Infusion bag

Reinforcing Business Foundation for Fundamental Industrial Materials (FY2016-FY2018)

Fundamental Industrial Materials

Measures for reinforcing business foundation	<ul style="list-style-type: none"> ■ Expanding presence in market ■ Reinforcing profitability of overseas businesses ■ Realizing higher productivity and corporate strength
Progress	<p>Chemicals</p> <ul style="list-style-type: none"> ■ <u>Started commercial operations at SAMAC</u> ■ Thailand: Capacity increase in MAA and BMA ■ U.S.: Continuing study of MMA project ■ Europe: PMMA sheet business transfer ■ <u>Reinforcing coke furnace to maintain conditions</u> Unification of ethylene production facilities in Mizushima ■ Utility alliances at the petrochemical complex ■ <u>Developing high-performance and high-functional polyolefin</u> <p>Industrial gases</p> <ul style="list-style-type: none"> ■ <u>Capital investment, large-scale investment and loans</u> ■ Constructing an electronic material gas plant in East Asia ■ Started operation of a large-scale ASU in Kurashiki City



Measures for Reinforcing Business Foundation: Industrial Gases

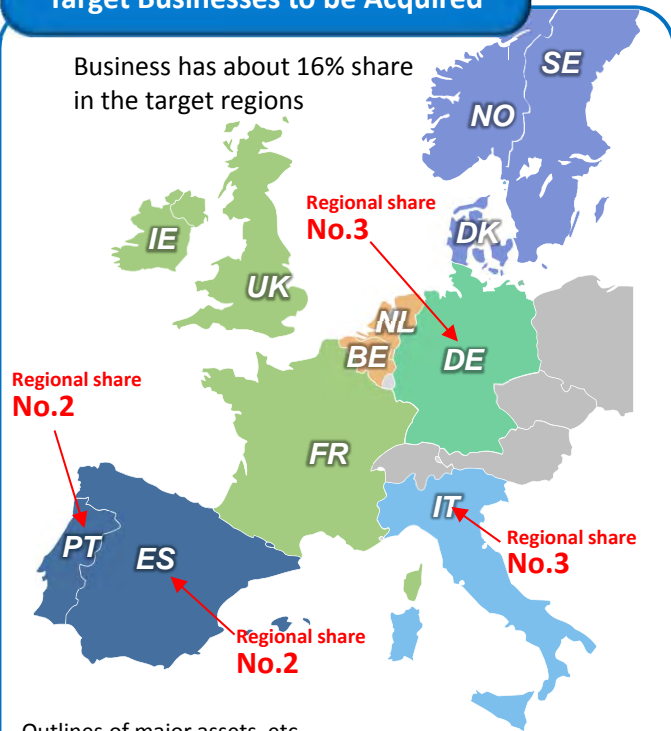
Expanding global market share by moving into new business areas

M&A, alliance

- Acquired businesses targeting sales in Europe, through the merger of Linde AG and Praxair, Inc.
- Expecting to achieve “¥1 trillion in sales revenue,” the long-term management vision of TNSC in FY2020

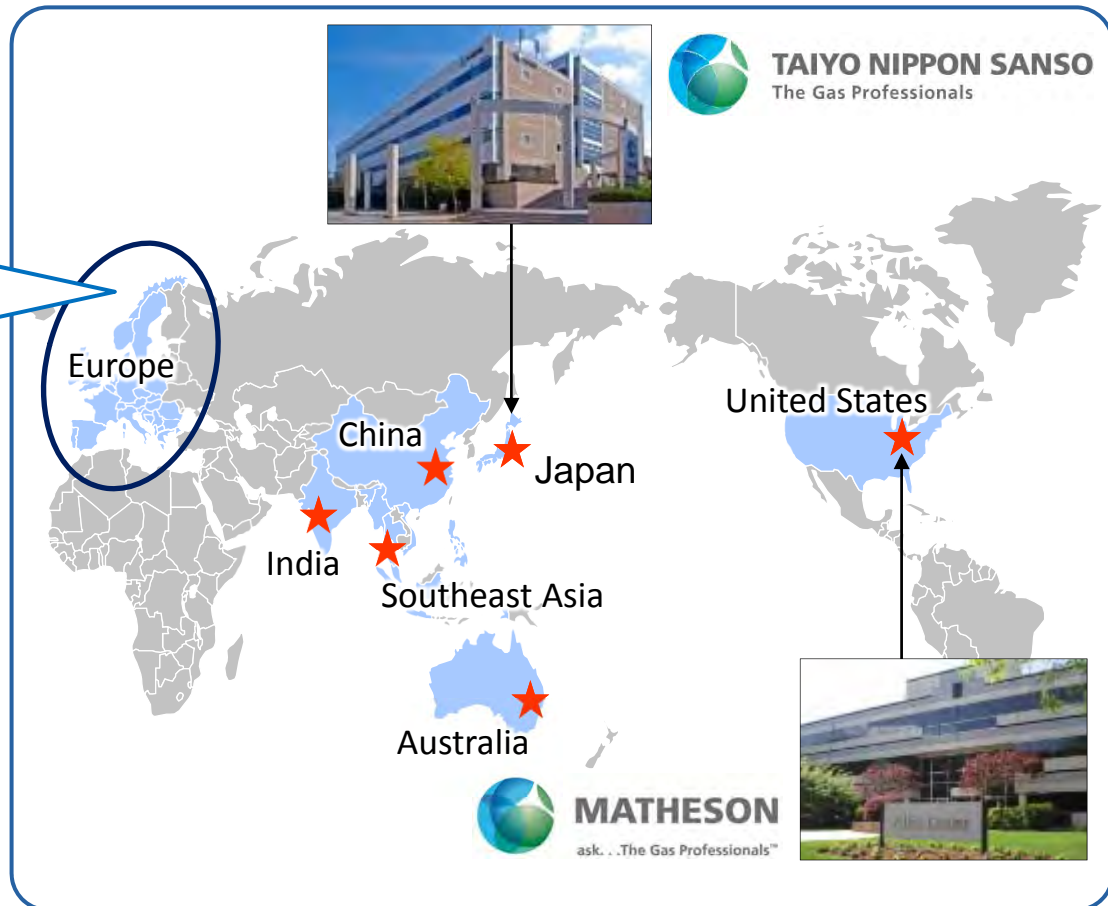
Target Businesses to be Acquired

Business has about 16% share in the target regions



Outlines of major assets, etc.

ASUs	Cylinder filling plants	Liquide CO2 plants	Dry ice plants
27	35	12	19



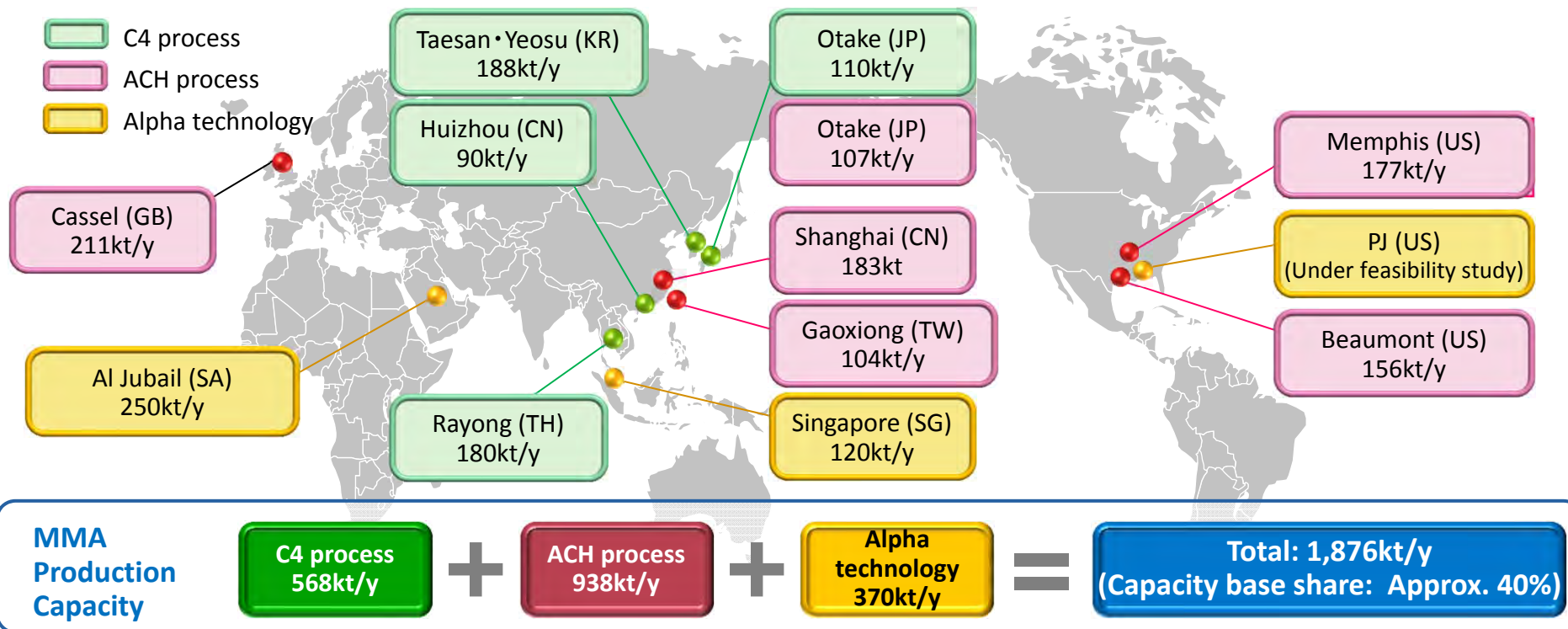
Measures for Reinforcing Business Foundation: MMA

■ Establishing solid global supply networks

Enhancing overseas development

Intensifying competitiveness by improving productivity and efficiency

- SAMAC started full-scale operation (April 2018)
- Optimizing supply chain management by using digital technology
 - Improving productivity in production sites
 - Studying optimization by sharing real-time market information, each process cost information, and supply and demand in each market



Measures for Reinforcing Business Foundation: Carbon

- Maintaining high operating rates through **reinforcing coke furnaces to maintain conditions**

Intensifying competitiveness by improving productivity and efficiency

Reinforcing Coke Furnace to Maintain Conditions

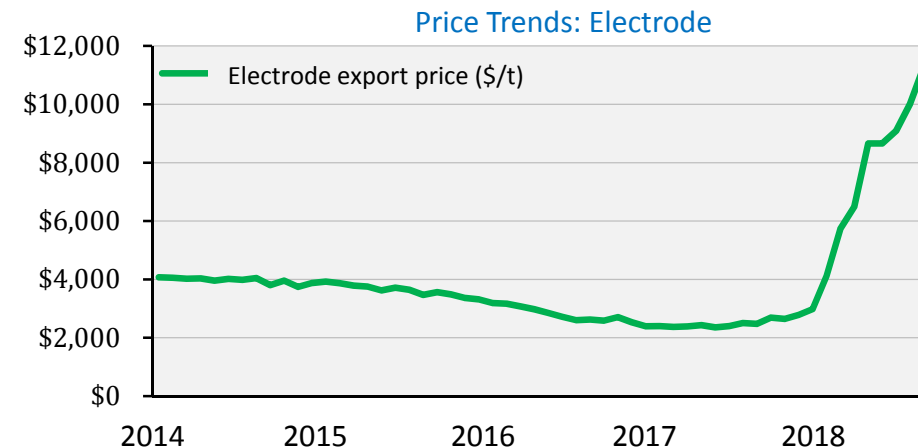
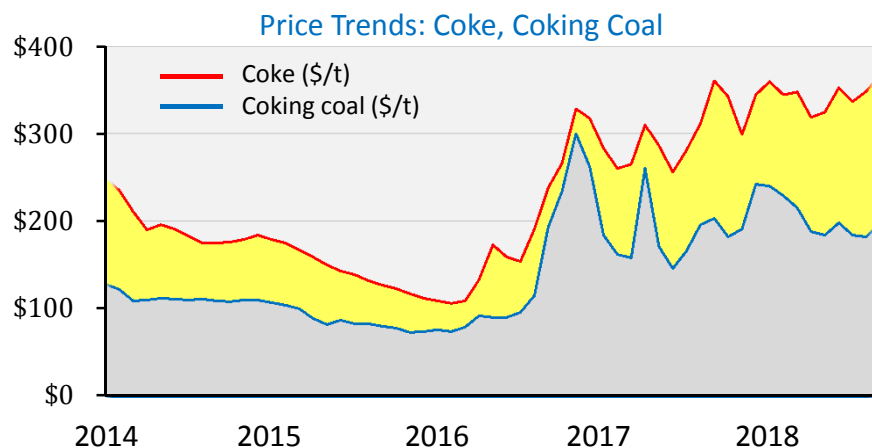
- Large-scale partial relining under operation (hot renewal method) has been underway in a systematic manner since 2009
 → Maintaining coke furnaces in Japan's best possible conditions, making a significant contribution to improving and stabilizing the nation's coke supply

Enhancing Cost Competitiveness

- Increasing the ratio of low-grade coal use by introducing a briquette coal forming facility* (Operation is slated to start in 2019)
 *Coking coal pre-treatment facilities to increase coke strength by hot-mixing and pressure-forming coking coal and binders

Business Environment

- China's environmental policy and steel overproduction/reduction of coke furnace production capacity for domestic consumption
 ⇒ tightening of demand and supply and stabilization of the market
- Tightening of demand and supply for needle coke, a key raw material, in line with tightening (price increase) of demand and supply of electrodes for use in electric furnaces in China ⇒ expecting firm market for the meantime



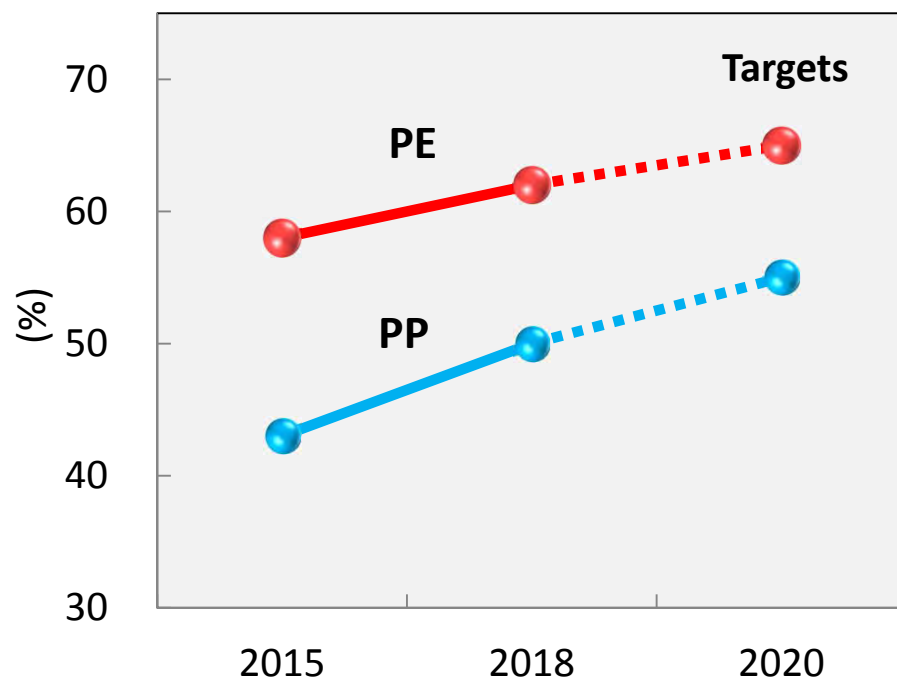
Measures for Reinforcing Business Foundation: Petrochemicals

■ Development of high-performance and high-functional polyolefin

R&D, innovation

- Improving polyolefin performance (strength, heat resistance, formability, etc.) by developing metallocene catalyst ⇒ improvement of the final product performance, expansion of the application
- General-purpose polyolefin → accelerating higher value-added products
- Furthermore, promoting development of new catalyst, which results in higher performance polyolefin

Polyolefin High-value Added Product Ratio



PP Compound: Example of Adoption



Door module
(Automotive interior component)

LLDPE: Example of Adoption

Sealants for solar panels



Progress in Corporate Rationalization

■ **¥10.4 billion reduction through rationalization due to integration by the end of FY2018**

**Rationalization
by Integration of 3 Companies**

¥15.0 billion **FY2017-FY2018: ¥10.4 billion**

**Integration of
subsidiaries and
affiliates**

- Reducing MCHC Group subsidiaries and affiliates of approximately 760 companies by 25% (Target)
- Realizing reduction of 111 subsidiaries and affiliates (incl. 65 MCC Group companies) by the end of FY2018

**Productivity
improvement,
Workstyle reform**

- Starting full-scale initiatives on improvement of productivity in FY2019
- Contributing to improved productivity by introducing the global communication tool
- Improving productivity by reducing actual working hours

**Realization of
corporate functions**

- Reducing labor costs by reviewing personnel plan for corporate functions
- Reducing controllable expenses by 20%

ICT・AI

- Contributing to productivity improvement through the use of ICT/AI in production, quality, development, business, and service
- Introducing global core system (SAP)
- Starting study on adoption of DX for MMA supply chain management

Synergy and Growth

- Increasing ¥11.0 billion in profits by the end of FY2018 through synergy and growth
- Expecting increase of ¥35.0 billion in sales revenue by the end of FY2020 through steadily implementing growth strategies for focus markets

Synergy and Growth

¥35.0 billion

FY2017-FY2018: ¥11.0 billion (Performance Products: ¥5.0 billion; Industrial Materials: ¥6.0 billion,)

Automobiles, Aircraft (Mobility)

- Expanding sales of automotive materials for Europe
- Reinforcing response to multi-materials
- Expanding sales of electronic cable coating materials, etc. for xEVs
- Coating and UV curing resin for automobiles
- Expanding overseas compound business

Environment, Energy

- Studying high-performance battery materials
- Promoting disaster prevention products that are packaged according to disaster type in cooperation with government and private sectors
- Expanding share of Chinese wastewater treatment membrane market
- Expanding biodegradable polymer business

IT, Electronics, Displays

- Expanding sales for use in OELD displays
- Expanding semiconductor-related business
- Expanding LED-related products

Packaging, Labels, Films

- Overseas expansion of product groups focusing on food packaging films
- Expanding sales of existing products with improved performance achieved through development of high-performance gas barriers, etc.

Medical, Food, Bio products

- Reinforcing precision molding business for super engineering plastics
- Reinforcing overseas development of LACRIS lactic acid bacteria in the field of animal feed
- Expanding sales of sugar ester and other products for home meal replacement and Asia

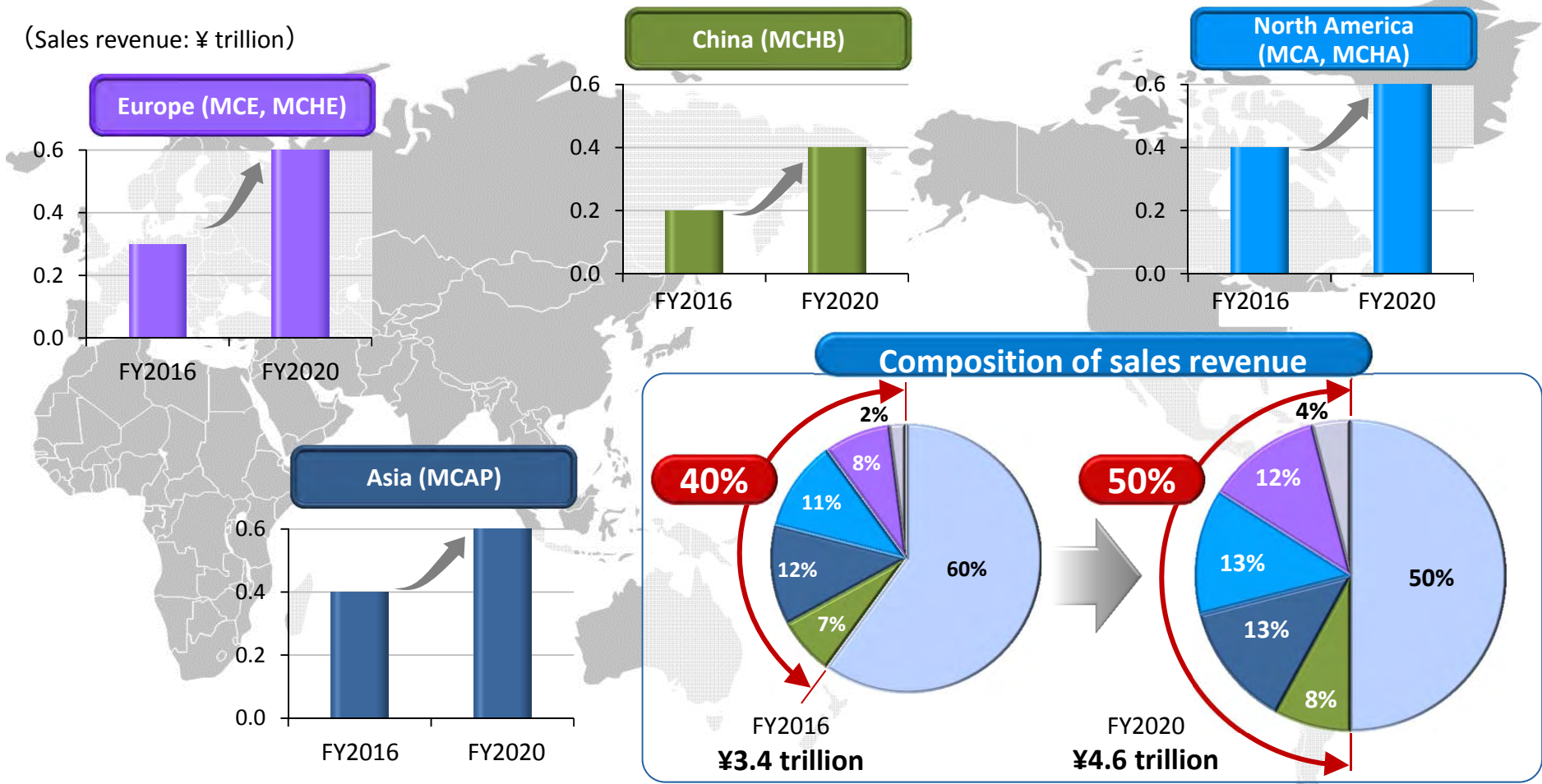
Fundamental Industrial Materials

- Expanding sales of high-performance carbon black
- Expanding sales of light-weight components in the petrochemicals business

Intensifying Marketing and Access to the Global Market

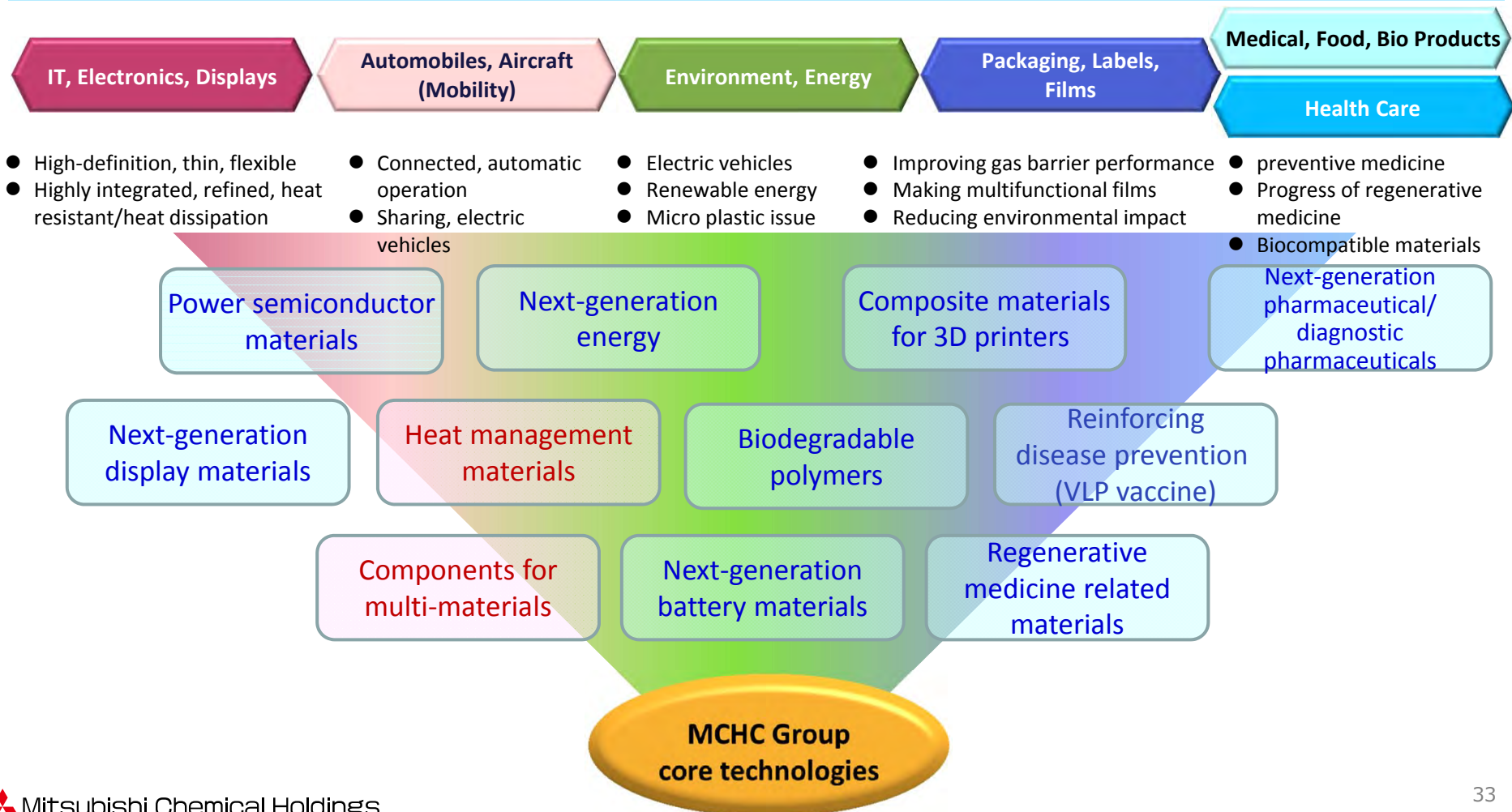
- Established RHQs to support businesses growth and profit improvement in four regions of the world
- Establishing a technical center led by the RHQ in each region
- Targeting a 50% ratio of overseas consolidated sales revenue (Projection for FY2018: 43%)

(Sales revenue: ¥ trillion)



Development Based on MCHC Group Core Technologies

- Promoting commercialization of next-generation businesses, which reflect trends in focus markets
- Founded corporate venture capital
- Accelerating open innovation and digitalization
- Studying integration of R&D centers
- Improving motivation of R&D personnel by personnel system reform



Open Innovation

- Create new business opportunities beyond our current operating perspective, though global access to emerging technologies and new business models
- Established CVC subsidiary, Diamond Edge Ventures, Inc. (DEV) in July 2018



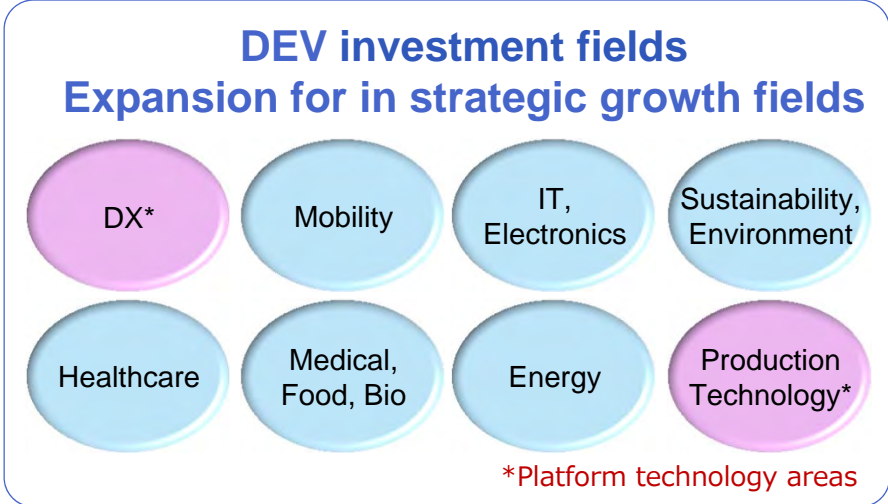
Diamond Edge Ventures
2742 Sand Hill Road, Menlo Park, California (U.S.)

Corporate Venture Activity: Basic Policy

- Work closely with startups to create deep strategic partnerships, making equity investments in appropriate cases
- Earn and maintain long-term position as trusted member of the global venture community through rapid, reliable, and steady actions
- Provide platform to build capability for venture activity within operating companies, and nurture global mindset within MCHC Group

Diamond Edge Ventures: Key Characteristics

- DEV President has 30-year experience and network in Silicon Valley, and all U.S. members were hired locally
- Close connection with international Venture Group and top management at MCHC headquarters in Tokyo
- Fast and independent decisions assured by streamlined approval process



Example of Investment in Ventures

- First investment by Diamond Edge Ventures
- Strategic investment in DigiLens Inc., world leader in AR/VR technology

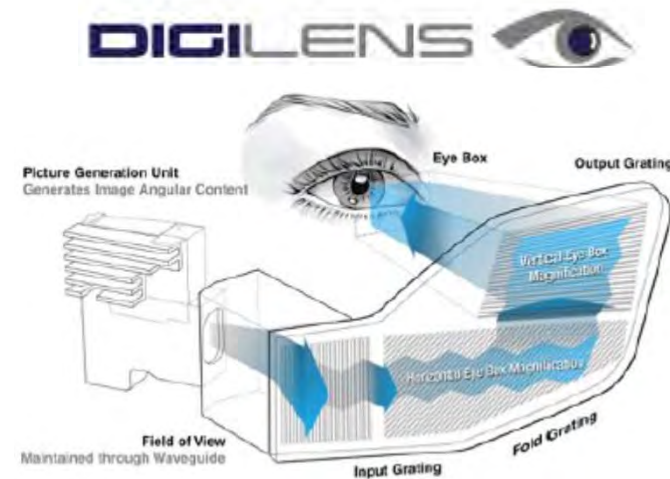
DigiLens Investment: Strategic Objectives

- Secure position as strategic supplier of advanced materials into an emerging, high-growth market
- Participate as insider in developing AR/VR ecosystem with broad impact across multiple B2B and B2C industries
- Accelerate early adoption and deployment of new computing platform to benefit MCHC current business

Ecosystem of Strategic and Institutional Investors



MCHC Equity Investment



Breakthrough **nanomaterial**-based technology to build **holographic waveguides** enabling **AR/VR hardware** across multiple fields



Aero

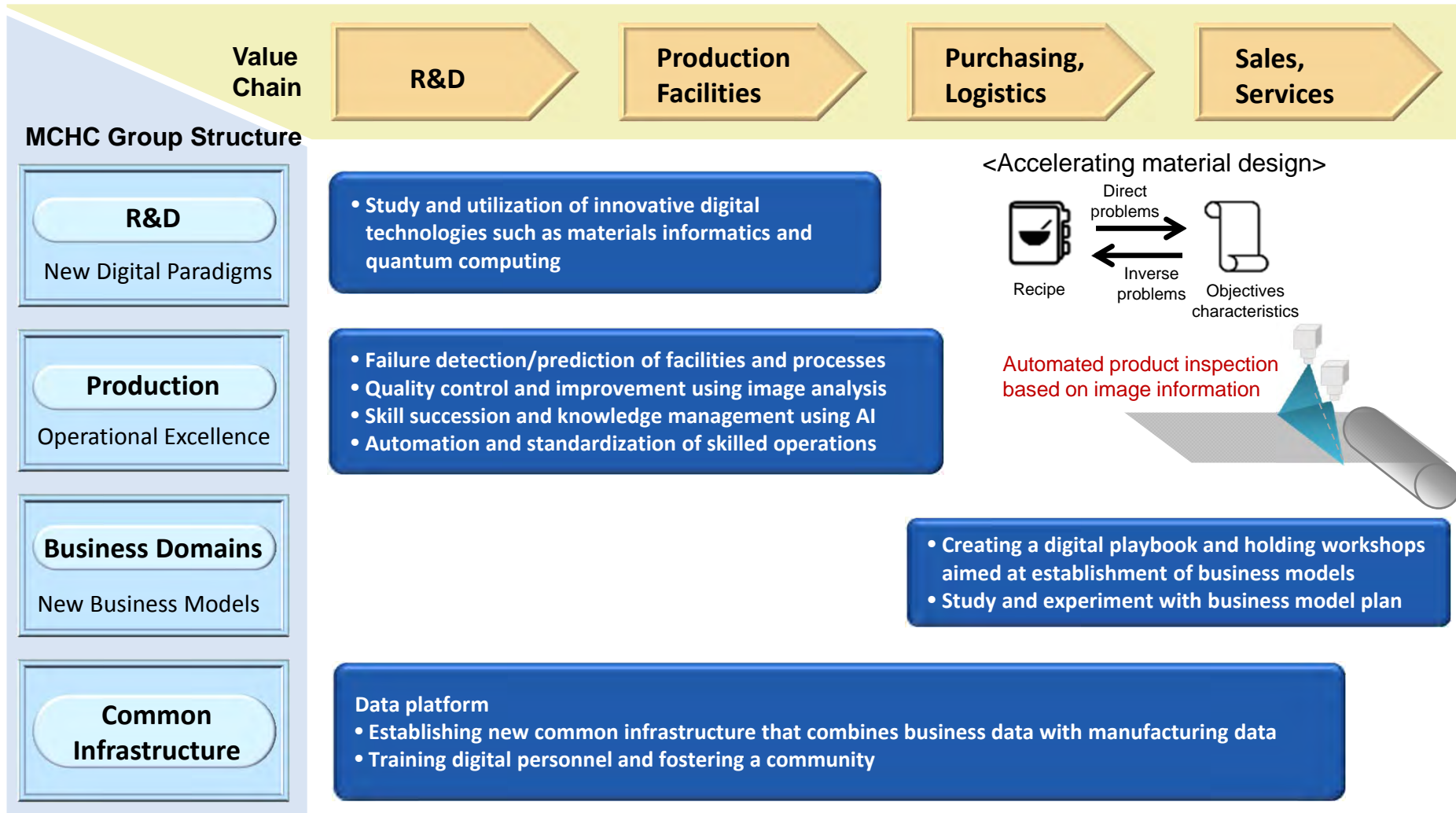
Auto

Moto

Glasses

Digital Transformation

- Execute Digital Transformation (DX) in across broad range of fields
- Establish organizational structure with 50 digital specialists
- Focus particularly on applying to business domains, materials informatics, etc.



Recruitment and Appointment of Personnel toward Establishment of Next-generation Businesses

■ Utilizing highly professional personnel to successfully compete in global business

Objectives

- Strategic investment/partnership for global development
- Transforming to a digital native enterprise

Approaches

Started recruiting and appointing expert personnel who have high-level skills and experience in fields such as IT/digital human resources and those who can lead innovation and meet drastic environmental changes in April 2017

- Founded the Emerging Technology and Business Development Office to recruit and appoint talented personnel in Japan and from overseas (executives such as CIO/CTO, CMO, and CDO are recruited from outside)
- Founded the M&A Office and recruited the general manager from outside



**Development of an environment to secure competitiveness
Reforms in recruiting, treatment, and management of personnel to break free
from an conventional ideas such as year joined company, age, etc.
(Establishment of a system to ensure market value compensation for personnel)**

Today's Agenda

1. Operating Results and Forecasts, Priority Management Measures in *APTSIS 20*

1-1. Operating Results and Forecasts

1-2. Priority Management Measures (FY2016 – FY2018)

1-3. Growth Strategies for Focus Markets (FY2016 – FY2018)

1-4. Reinforcing Business Foundation for Fundamental Industrial Materials

1-5. Generating Integration Effects and Synergy due to Establishment of the New MCC

1-6. Intensifying Marketing and Access to the Global Market

1-7. Early Commercialization of the Seeds of Next-generation Businesses

2. Review of *APTSIS 20*

3. Further Deepening of KAITEKI Management

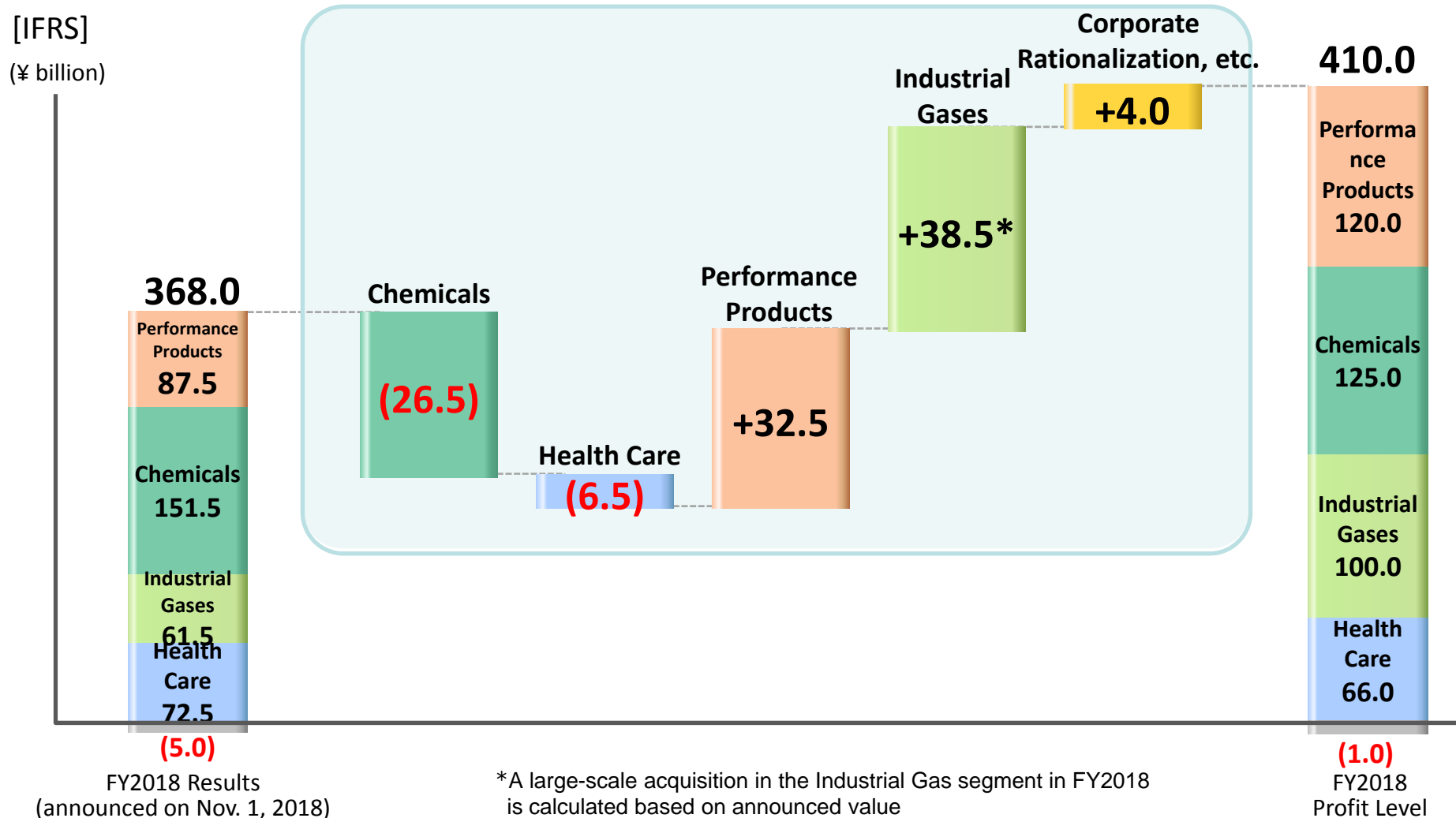
Financial Index

- Reviewed FY2020 targets, reflecting market risks in the chemicals business, deterioration of performance in the healthcare business, growth strategies for the performance products business, and M&A in the industrial gas business
- Revised core operating income to ¥410 billion

		FY2020 Targets Review of APTSIS 20	FY2020 Targets APTSIS 20
Financial Index (MOE)	Core operating income	¥410 billion	¥380 billion
	ROS (Core operating income)	9%	8%
	Net income attributable to the owners of the parent	¥220 billion	¥180 billion
	ROE	13%	12%
	Net D/E ratio	1.0	0.8

Profit Outlook in Business Segments

■ Projecting ¥410 billion in core operating income due to growth in the performance products business, M&A in the industrial gas business, progress of rationalization, etc. after factoring in market risks in the chemicals business



Action Plans for Growth: Healthcare

- Maximizing sales revenue of ethical pharmaceuticals, mainly in the U.S. market, and reinforcing profits in Japan by FY2020; further developing global markets after FY2021
- Aiming at earlier launch of regenerative medical products in the life science business

Action plans up to FY2020

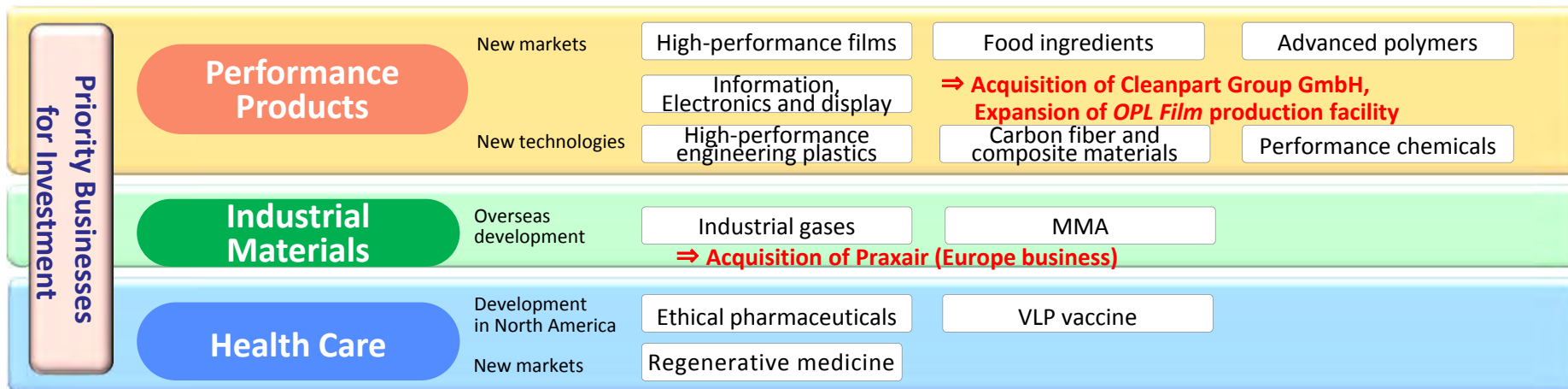
- **Ethical pharmaceuticals**
 - Expanding *Radicava* launch regions
 - Influenza VLP vaccine launch
 - *Vadadustat* launch
 - Reforming operational productivity (vs. FY2015: ¥30 billion reduction)
- **Life science**
 - Commercialization of regenerative medical products
 - Reinforcing sales of capsules

Action plans from FY2021

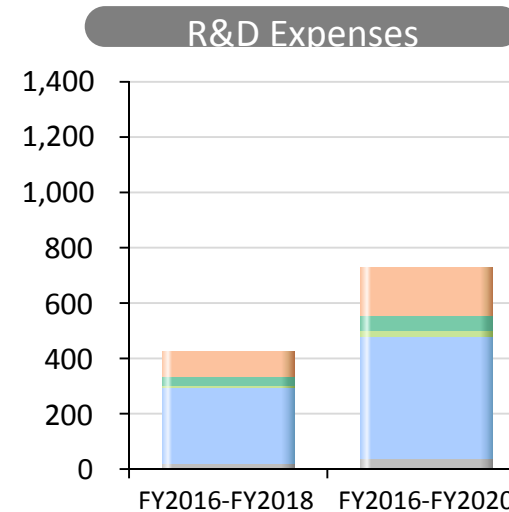
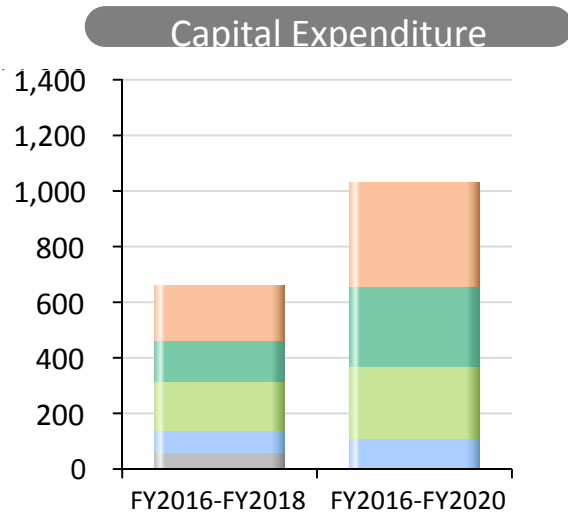
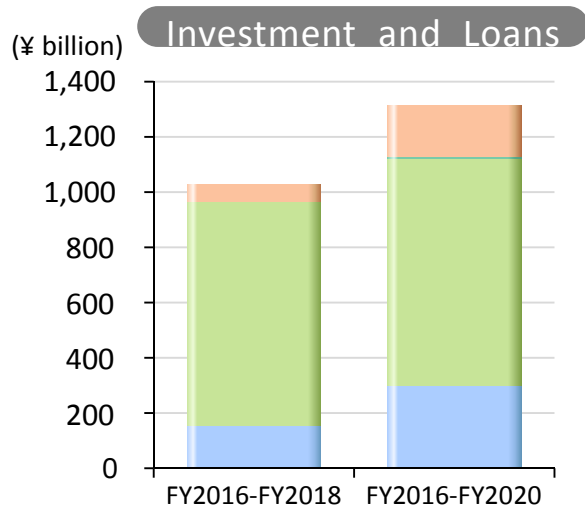
- **Ethical pharmaceuticals**
 - Significantly expanding the following products in the U.S. and Europe
 - Radicava* (incl. oral suspension)
 - Influenza VLP vaccine
 - ND0612 (Parkinson's treatment agent)
 - Maintaining ¥300.0 billion in sales revenue in Japan
 - Vadadustat* (renal anemia)
 - Fasinumab* (osteoarthritis)
 - Pentavalent vaccine
 - Valbenazine* (tardive dyskinesia)
 - Canaglu* (diabetic nephropathy)
- **Life science**
 - Expanding indications of regenerative medicine
 - Expanding pharmaceutical manufacturing equipment
 - Launching new capsule products

Increase in Investment and Progress in Investment Plans

■ Investment and loans in FY2018 increased from ¥0.7 trillion to ¥1.3 trillion due to large-scale acquisition in the industrial gas business

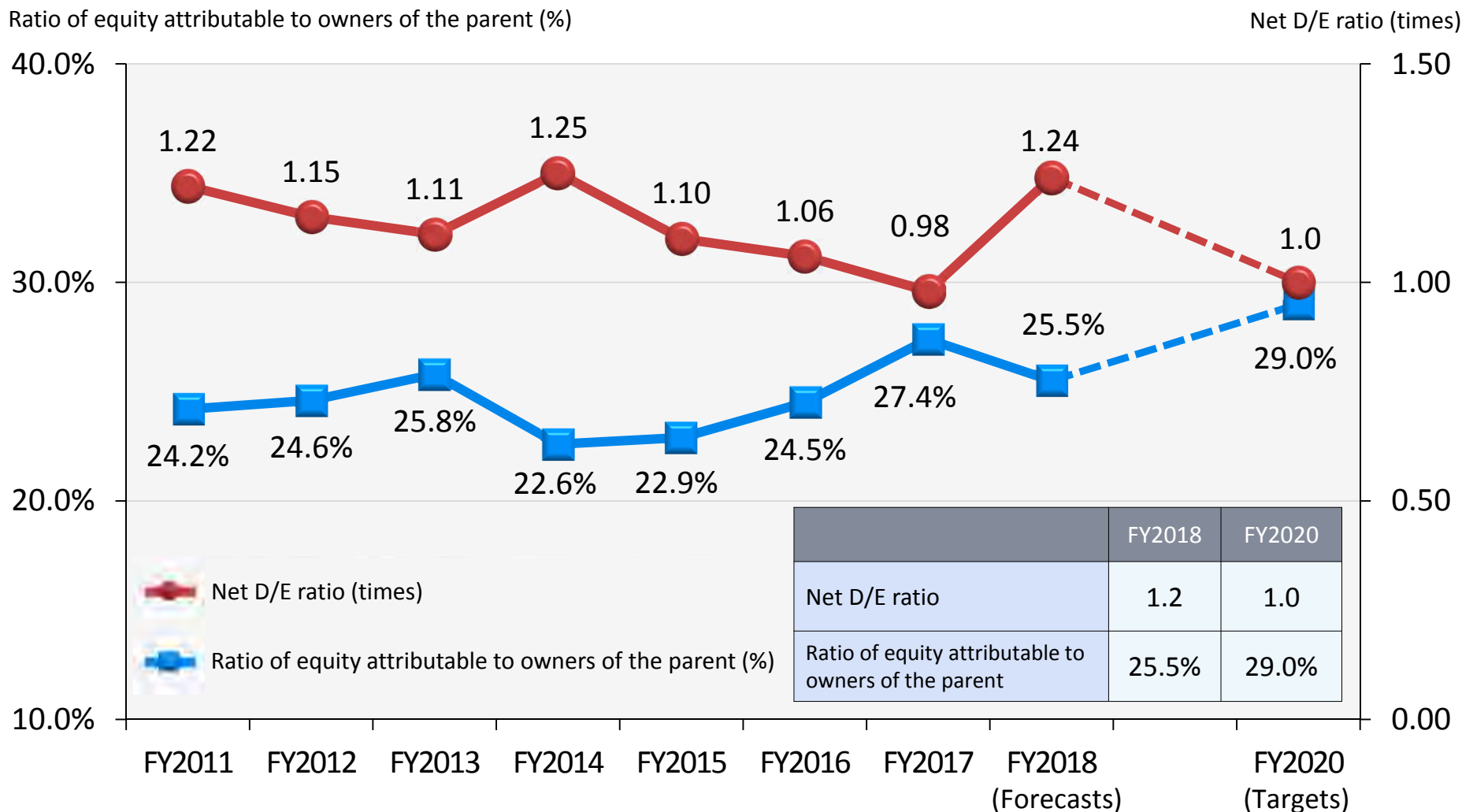


Resource Allocation Plan | Performance Products | Chemicals | Industrial gases | Health Care | Others



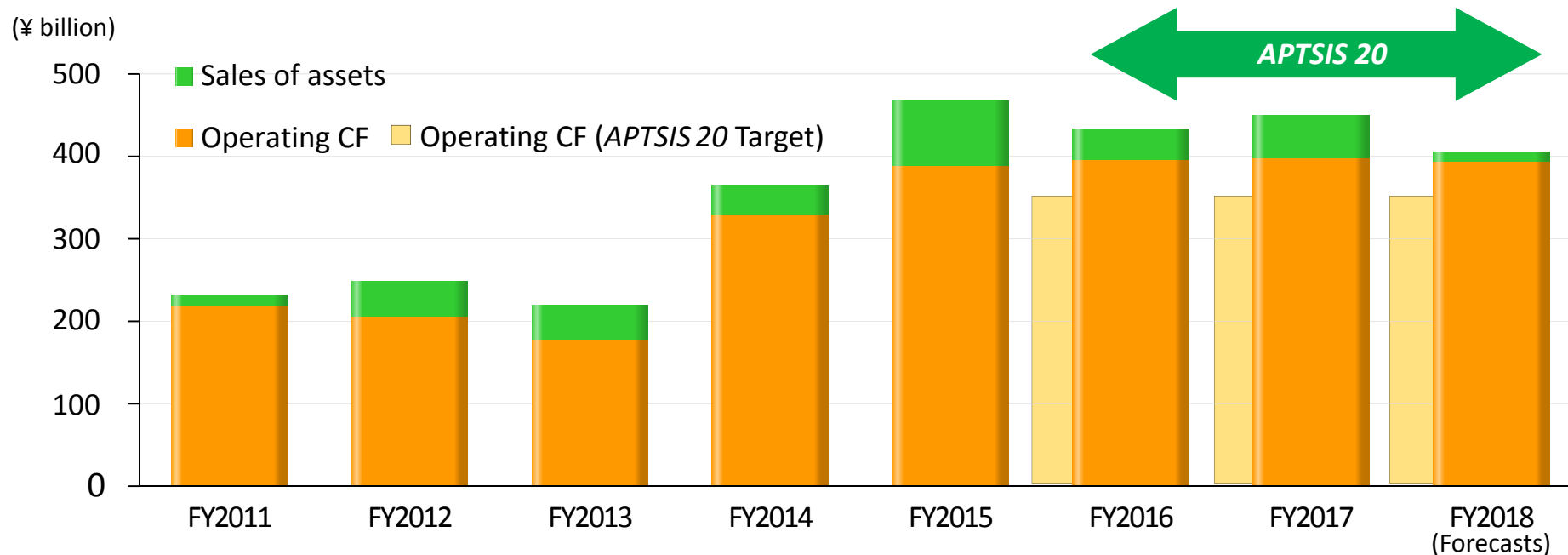
Strengthening Financial Base

■ Improving financial base toward FY2020, though financial index will deteriorate temporarily as a result of increased borrowings for acquisition of Paraxair’s European business



Increasing Capital Efficiency

Higher cash-generating capability due mainly to improved performance and asset reduction



		Targets (FY2016-FY2020)	Estimates (FY2016-FY2018)	Forecasts (FY2016-FY2020)
Financial Structure Reforms	Reduction of cross-held shares	100	100	100+α
	Working capital reduction	100	60	100
	Reduction of cashes and deposits	100	160	220
	Sales of assets	—	50	
	Improvement of profits and others	—	80	80+α
Total of capital efficiency and others		300	450	500+α

(¥ billion)

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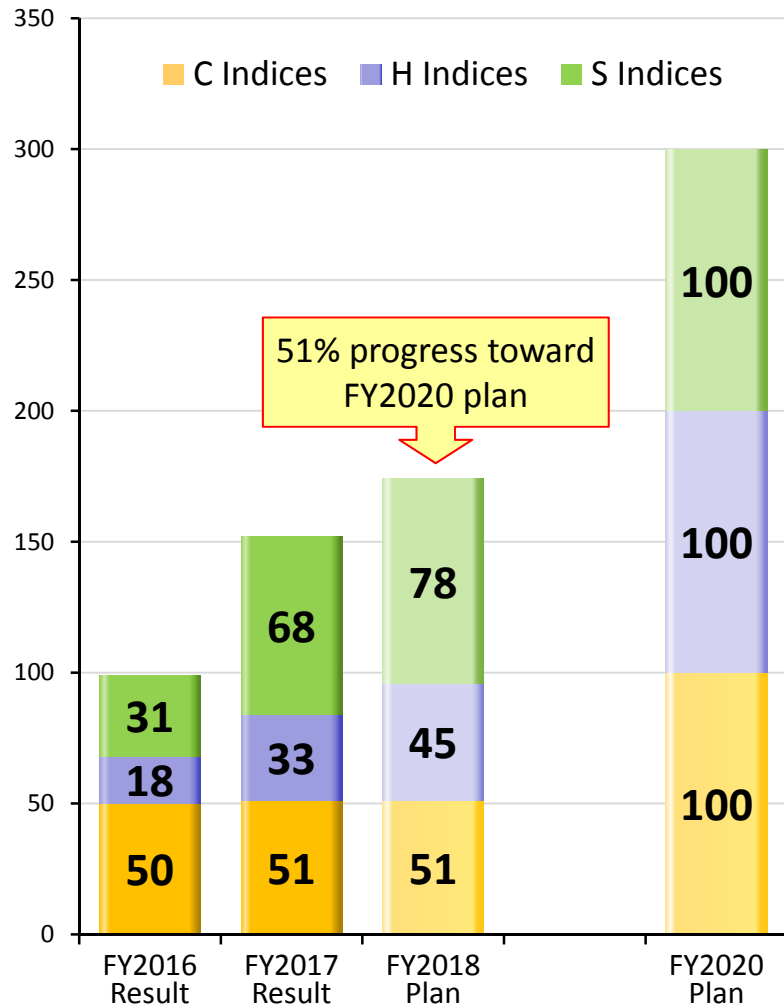
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Status of MOS Target Achievement

■ Progress of MOS Indices in FY2017: 108% achievement

MOS Indices



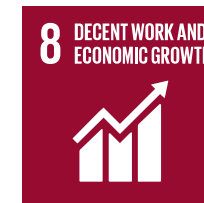
MOS Indices	FY2017 Results	FY2020 Targets
Reduction of GHG emission (domestic reduction of scope 1, 2) [S-1-1]	- Compared to FY2015 CO ₂ reduction: 10.2% - Compared to FY2013 CO ₂ reduction: 18.7%	Considering a new long-term target, including review of boundaries
Contribution to GHG reduction by products and services [S-3-1]	78 million tons of CO ₂ reduction	150 million tons of CO ₂
Resource saving and conversion to renewable materials [S-2-2]	Reduction of 2,194 tons when converted to heavy oil	12,000 tons
Promotion of the use of renewable energy [S-2-3]	Promoting utilization of 52.6 Mw	50 Mw
Contribution to solving water resource problems [S-3-2]	3.34 hundreds of millions of tons reuse of water supply	Total 1.7 billion tons supply

Workstyle Reform

■ Promoting strategic investment in “people,” the source of value creation (KAITEKI Health and Productivity Management)

Health Support, Workstyle Reform, Diversity Promotion

- Improving job satisfaction with key words—enthusiasm, trust, growth
- Improving work environments
- Setting KPI **Activeness Index, Health life Index, Workstyle Index**
- Utilizing health support system **i² Healthcare**
- Developing global human resources, etc.



Measures for Health Support






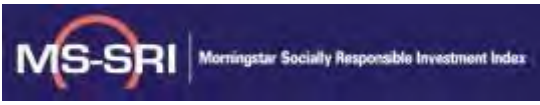









- Distribution and use of wearable devices
 - Sleep/exercise/eating habit awareness raising
 - Encouragement of self-management by combining results of health checkup
- Effective EAP service and mental health care
- Subsidy to use walking point system and external fitness club, etc.

Measures for Workstyle Reform And Diversity Promotion

- Expansion/enhancement of telework system
- Introduction of satellite offices
- Establishment of concentration work zones
- Advancement of communication base
- Establishment of global human resources database
- Enhancement of training systems, etc.

Increased External Assessment

- Continually earned third-party corporate credibility with progressive ESG activities
- Selected for Dow Jones Sustainability World Index for 2 consecutive years

<p>Dow Jones Sustainability Indices</p>  <p>MEMBER OF Dow Jones Sustainability Indices In Collaboration with RobecoSAM</p>	<p>FTSE4Good Index</p>  <p>FTSE4Good</p>	<p>CDP-Climate Change</p>  <p>Score A-</p> <p>CDP-Water</p>  <p>WATER A LIST</p>	
<p>RobecoSAM Sustainability Award Bronze Class</p>  <p>ROBECOSAM Sustainability Award Bronze Class 2018</p>	<p>Morningstar Socially Responsible Investment Index*1</p>  <p>MS-SRI Morningstar Socially Responsible Investment Index</p>	<p>NIKKEI Smart Work Management Survey</p>  <p>NIKKEI Smart Work 2019 Best 44</p>	
<p>FTSE Blossom Japan Index</p>  <p>FTSE Blossom Japan</p> 	<p>MSCI Japan ESG Select Leaders Index*2</p>  <p>MSCI 2018 Constituent MSCI Japan ESG Select Leaders Index</p> 	<p>MSCI Japan Empowering Women Index*2</p>  <p>MSCI 2018 Constituent MSCI Japan Empowering Women Index (WINI)</p> 	<p>S&P/JPX Carbon Efficient Index</p>  

*1 As of November 2018

*2 The inclusion of Mitsubishi Chemical Holdings Corporation in any MSCI Index, and the use of MSCI logos, trademarks, service marks or index names herein, do not constitute a sponsorship, endorsement or promotion of Mitsubishi Chemical Holdings Corporation by MSCI or any its affiliates. The MSCI Indexes are the exclusive property of MSCI. MSCI and the MSCI index names and logos are trademarks or service marks of MSCI or its affiliates.

Revising Approach to Corporate Philosophical System

- Revising Approach to corporate philosophical system by reflecting further promotion of KAITEKI Management

Definition of KAITEKI

The sustainable well-being for people, society and our planet Earth

Group Philosophy

Mission

We create innovative solutions globally based on our core values of Sustainability, Health and Comfort, striving for the well-being of people, society and our planet Earth

Vision

Realizing KAITEKI

Value

Sustainability, Health, Comfort

Corporate Slogan

KAITEKI Value for Tomorrow

Proactive Participation in Initiatives

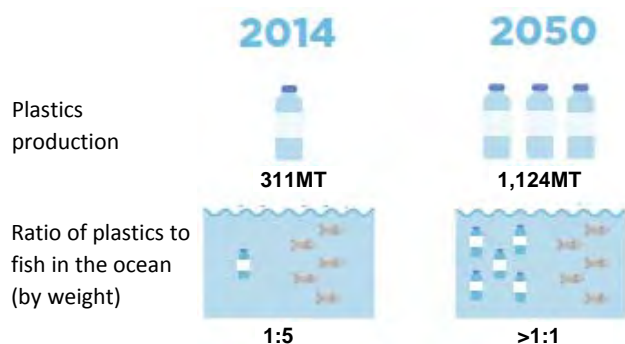
■ Announcing globalization of KAITEKI value toward further improvement of corporate value

Toward establishment of a sustainable society, playing a leadership role and participating in major initiatives that lead to improvement of corporate value

- Participation in the WEF*¹ Fourth Industrial Revolution Center (July)
- Participation in Japan Initiative For Marine Environment (JaIME) as an organizer (September)
- Support of TCFD*² recommendations (October)
- Participation in Ministry of Economics' Clean Ocean Material Alliance as an Executive Committee member (November)
- Participation in an international alliance (November)

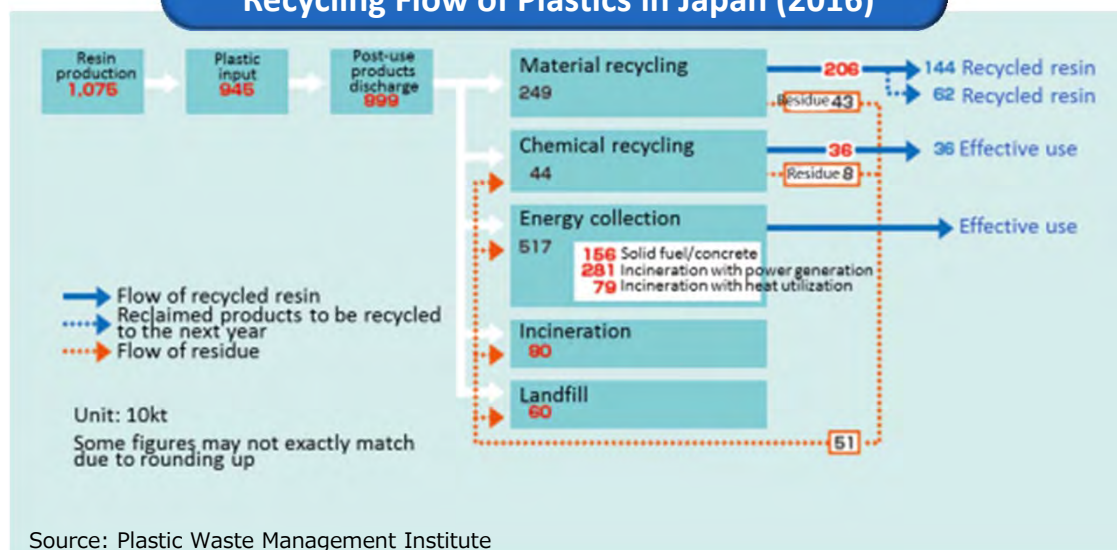
*1 World Economic Forum *2 Task Force on Climate-related Financial Disclosures

Forecast of Plastics Volume Growth



Source: The New Plastics Economy
—Rethinking the future of plastics, WEF (2016)

Recycling Flow of Plastics in Japan (2016)



Source: Plastic Waste Management Institute

Studying KAITEKI Vision 30

■ Sustainability vision, which will be the framework of the next medium-term management plan targeting FY2030, is being formulated

