SUMITOMO CHEMICAL

Change and Innovation ～with the Power of Chemistry～

Sumitomo Chemical IR Day 2022 Winter

December 8, 2022

Rita GX Jiri

Agenda

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Section.1 ..... Status of Initiatives Under the FY22-24 Corporate Business Plan

Keiichi Iwata, President

Section.2 ..... Essential Chemicals & Plastics Sector

Noriaki Takeshita, Senior Managing Executive Officer

Section.3 ..... Health & Crop Sciences Sector

Nobuaki Mito, Senior Managing Executive Officer

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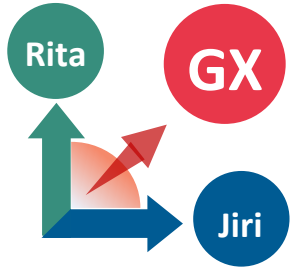
Section.1 Status of Initiatives Under the FY22-24 Corporate Business Plan



Today's Agenda

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01 Further Improve Business Portfolio

02 Business Performance Forecast and Financial Strategy

01 Further Improve Business Portfolio

Actively invest in growth businesses and accelerate decisions on unprofitable businesses

Strengthen businesses Expand

Semiconductor materials	■ New US plant for semiconductor chemicals ■ New organization for compound semiconductor materials business
Battery components	■ Developed soft solid-type batteries
Biorationals	■ Expanded facilities at Biorationals Research Center
Next-generation businesses	■ Start-up alliances
Carbon Neutral	■ Accelerated development in Green Investment Fund businesses

Exit businesses Shrink

Exited caprolactam business

Exited dyestuffs business

Divested US market rights to Brovana* and Xopenex **

*Chronic obstructive pulmonary disease (COPD) treatment **Asthma treatment

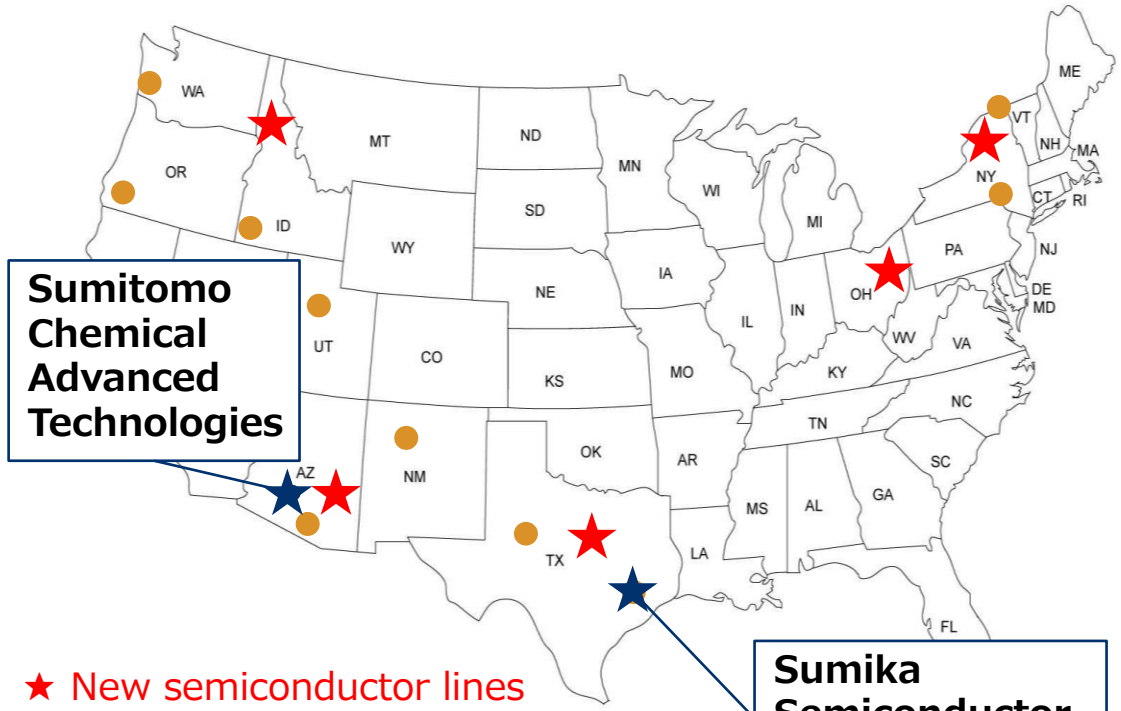
Divested shares in Sumitomo Pharma Food & Chemical

01 New US plant for semiconductor chemicals

Building a new plant for semiconductor process chemicals near Houston, TX

Background **High growth in the semiconductor market and strong demand in the US semiconductor industry coupled with a series of announcements of capacity adds in the US**

Locations of major semiconductor players in US



Our strengths

- Global top supplier of major semiconductor chemicals
- Technological strengths in ultra-high purification and trace impurity analysis and their application to quality assurance structure
- Agile supply regime responsive to customer demand

Plant set to launch FY24

Aim to grow over the medium to long term in the US semiconductor market, which is expected to expand further

01 Bolstering compound semiconductor materials business

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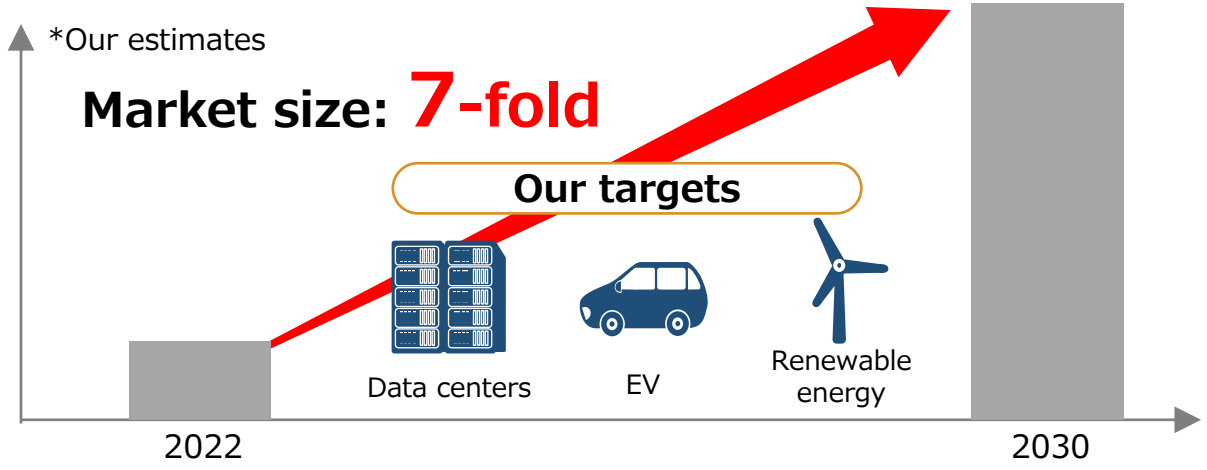
Accelerate strengthening of GaN business by concentrating management resources as market ramps up

Compound semiconductor for power devices



Type	Features
SiC	Commercialized. Excels in withstanding voltage.
GaN on Si	Being introduced to consumer electronics applications
GaN on GaN	R&D phase. Expected to outperform other devices in terms of withstanding voltage, operating frequency, size and energy conservation

*GaN = Gallium Nitride

Status of initiatives

Strategy **Establish technology for mass-producing large-wafer GaN substrates for power devices**

Progress
- 2 inch: Substantially improve yield and productivity
- 4 inch: Improve productivity for full mass production

Strategy **Create a market for GaN on GaN power devices**

Progress
- Collaboration with power device makers under study
- Absorbed a wholly-owned subsidiary SCIOCS

Aim to secure front runner position in rapidly expanding compound semiconductor market

01 Developed soft solid-type batteries

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Development of a new material paved the way to success in a soft solid electrolyte Aiming to commercialize in solid-state batteries in 2025

Our history in solid-type batteries

2020	Opened an **industry-academia joint research program** at Kyoto University and installed lab-scale manufacturing equipment and battery performance test equipment
2022	Succeeded in developing a soft solid-type battery

Project participants
40 people
Industry and academia teamed up to achieve breakthrough

住友化学
京都大学 KYOTO UNIVERSITY
鳥取大学 Tottori University

Liquid **Lithium ion Secondary batteries**

Soft **Soft Solid-type batteries**

Solid **Solid-type batteries**

Electrolyte	Challenges
Combustible liquid electrolyte	Capacity Charge-Discharge time Safety

Electrolyte	Progress
Flexible solid electrolyte	● Greatly reduced battery weight and cost by achieving contact without applying pressure ● Achieved high-capacity 230Wh/kg Eventual target for EV applications: 500Wh/kg

Electrolyte	Challenges
Solid electrolyte	Requires pressurized contact between electrolyte and electrode, which increases components weight and cost

01 Expand biorationals business

Organic growth

Deploying strategic measures to strengthen all areas from manufacturing to sales and R&D

Manufacturing

- Add capacity to existing plant (US)
- Launch formulation plant (Brazil)

R&D

- Launch SynBio research organization
- Collaborate with start ups
- Expand facilities at Biorationals Research Center (BRC)

Sales

- Set up dedicated organization for biorational products at major overseas locations

Biorationals Research Center (Illinois)

Recent achievements

Began sales of plant growth regulator Accede

- Fruit thinner※ for apples and stone fruits such as peaches
- Registered in US July 2021. Began sales in 2022.
- Brought together knowledge from across the corporate group through a US-Japan joint global project

※ Plant growth regulator that promotes fruit drop and maturation

Equipment expansion

Operations to begin April 2024 (TBD)
Investment: $25 mn.

- **Equipment expansion added 25%+ to development capacity**
- **Now accelerating development of 40+ promising pipeline projects**
- **Accelerating development in fields such as biostimulants and new rhizospheric materials**

M&A

Fill out biorational product portfolio and expand business footprint

01 Next-Generation Businesses : Progress in Alliances with Start Ups

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Work with start ups on next-generation foundational technologies and 4 priority areas to promote innovation

Next-Generation Businesses	Technologies we don't have	Partner	Project overview	Progress
Synthetic biology □ Develop new cost-competitive processes that contribute to reducing environmental impact □ Develop high-performance materials difficult to chemically synthesize	Synthetic biology ✓ Commercialization and mass production technology ✓ Cutting-edge technology in strain design	CONAGEN Sweegen	Develop high-performance products and high-efficiency processes by integrating synthetic biology with chemical technology	✓ New biorational products under development (achieved interim milestone) ✓ Additional investment in Sweegen under study. Strengthen strategic alliance with line of sight into manufacturing
		GINKGO BIOWORKS™ THE ORGANISM COMPANY zymergen	Develop new products leveraging automation labs and genomics technology	✓ Began joint research of cosmetics material production process using microbial fermentation ✓ Ginkgo Bioworks bought Zymergen. Continue our alliance with the merged entity.
Regenerative medicine & cell therapy	✓ High-performance culturing design technology	Myoridge	Develop base for cell culturing technology	✓ In April, signed capital and business alliance ✓ Pursuing joint development of culture media for multiple regenerative and cellular medicines
Body condition monitoring	Foundational technologies related to the visualization of body condition	nanoscent	Develop hardware and software for detecting scents	✓ Testing feasibility of intestinal flora sensor in people in Japan ✓ Conducted study on manufacturing technology of a core material in scent sensor

01 Carbon Neutrality: Progress on Green Investment Fund Projects

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Green Innovation Fund※ Project

※A fund established to invest a total of 2 trillion yen for up to 10 years in support of ambitious corporate R&D and demonstration projects aimed at achieving carbon neutrality

	Technology	Progress	Development phase		Business scale
Chemical recycling	**Production of olefins by direct decomposition of waste plastics**	✓ Confirmed that **a certain proportion of olefins could be generated** by decomposing waste plastics	All **TRL 4** / **of 8 stages in all** *1	Phase1 *2	25.3 bn. yen *3
Chemical recycling	**Production of ethanol using synthetic gas derived from waste plastics**	✓ **Began search for catalysts** for producing ethanol through a combination of high-throughput equipment and MI		Phase0	
Chemical recycling	**Efficient alcohol production from CO_2**	✓ Locked in basic design for Internal Condensation Reactor and began fabrication of pilot equipment		Phase0,1	24.1 bn. yen
Chemical recycling	**Olefin production from alcohols**	✓ **Advancing catalyst development and process design** for olefin production		Phase0	
Batteries	**Cathode recycling technology**	✓ Confirmed at the lab level that **cathode materials could be directly reproduced into cathode materials without returning to metal** while maintaining a certain degree of performance		Phase1	Undisclosed
Membrane	**Development and demonstration of system for separating and capturing CO_2**	✓ **Began development of membrane-based CO_2 separation (material and membrane)** ✓ **Built test system for CO_2 separation process** using small module		Phase1	5.0 bn. yen

*1. TRL: Technology readiness levels

TRL development phase	1. Basic research	2.3. Applied research	**4.** Demonstration research	5. Mock demonstration	6.7. Field demonstration	8. Mass production / horizontal deployment

*2. Described in our phase of stage gate management (0-1: incubation phase, 2-3: development and industrialization phase)

*3. Total sum for project (including allocations to other project members as well)

02 Business Performance Forecast

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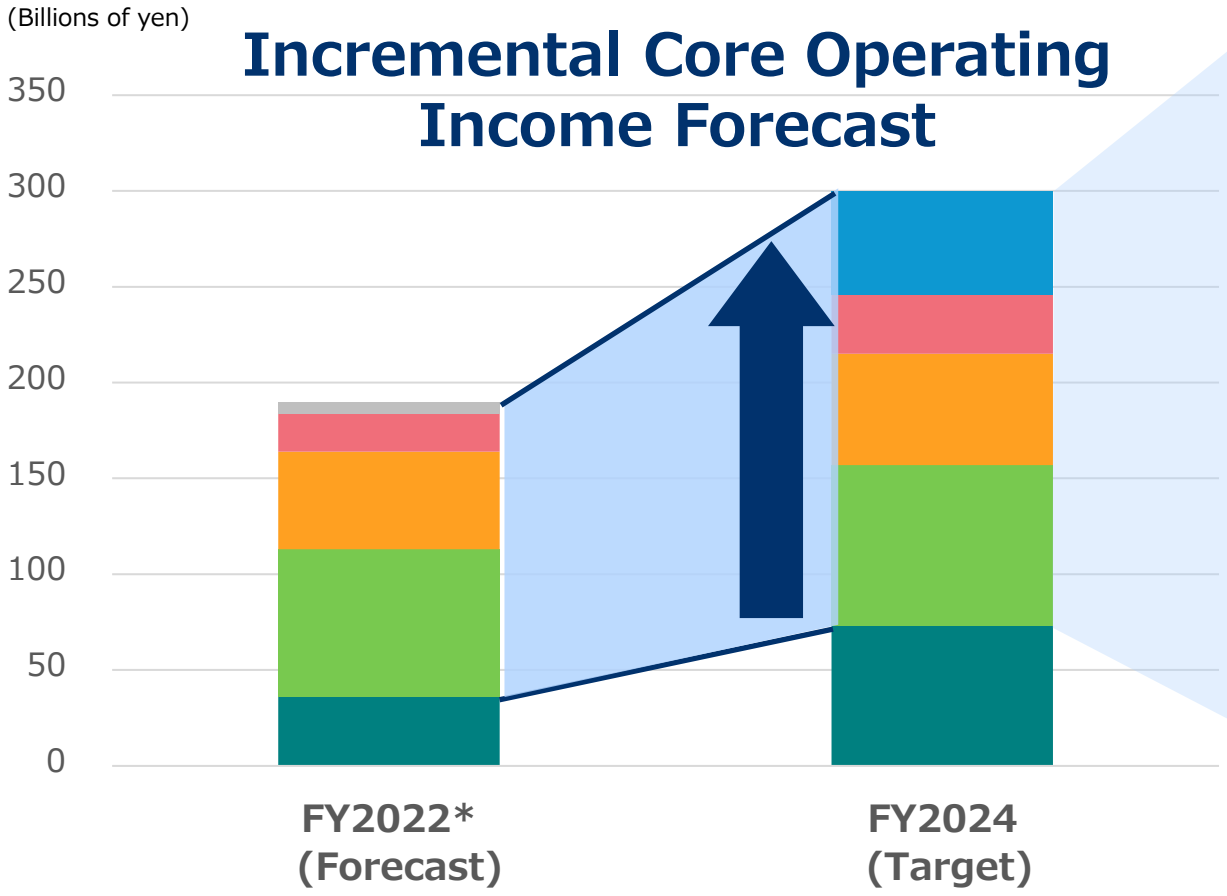
Pharmaceuticals forecast still under review. Nevertheless, we plan to achieve our Corporate Business Plan targets by solidly executing our growth strategy.

Incremental Core Operating Income Forecast



- **EC** Expand catalyst and licensing business
  Improvement of polymer product mix
  Integrate operation between Japan/Singapore
- **EF** Increased capacity and expanded sales in separator
  Increased capacity in super engineering plastics
- **IT** Expand semiconductor materials business
  Establish business in materials related to telecommunications and sensors Capture demand for next-generation display materials
- **HC** Expand SA crop protection business
  Expand biorationals business
- **PH** Maximize value of ORGOVYX, GEMTESA and MYFEMBREE

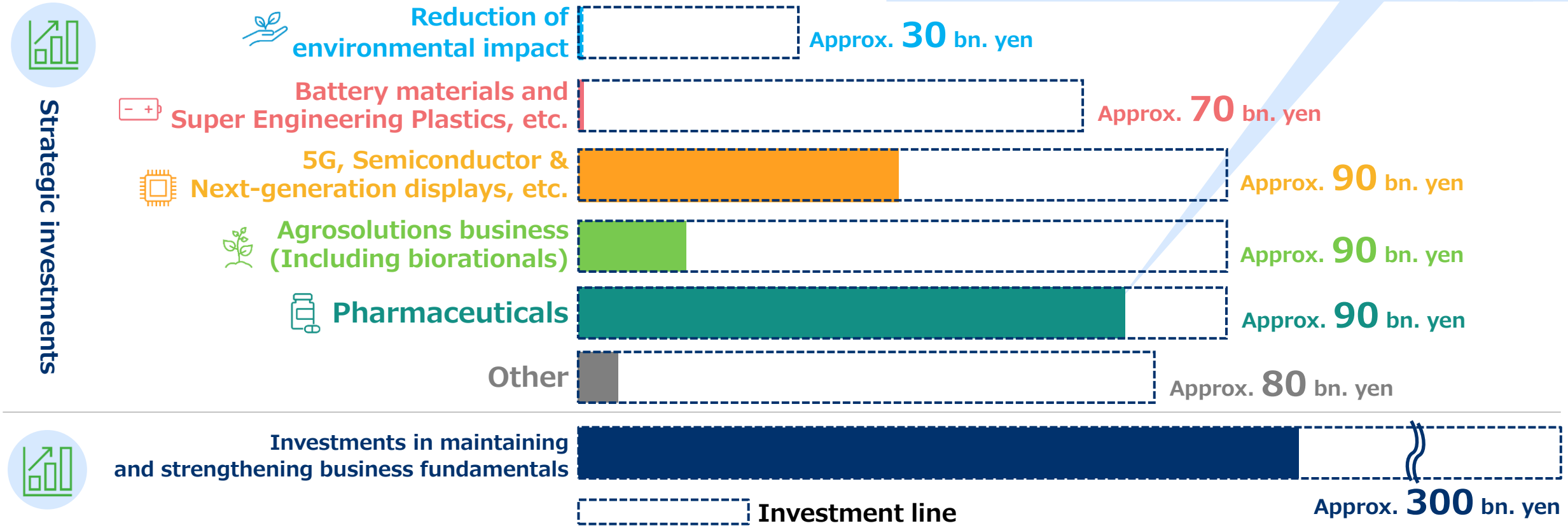
*Released on November 1, 2022

02 Financial Strategy: Progress on Capex, Investments and Loans

- **Adhering to a total of 750 bn. yen through selective investment in the face of acquisition expenses, FX and inflation, etc.**
- **More than 30% of total(Pharmaceuticals reflects net amount less asset divestitures)**

Investment decisions by area (color fill indicates progress as of December)

Expenses related to making Myovant a wholly owned subsidiary expressed as a **NET amount** (anticipated acquisition amount less asset divestitures)



02 Financial Strategy: Reviewing D/E Ratio

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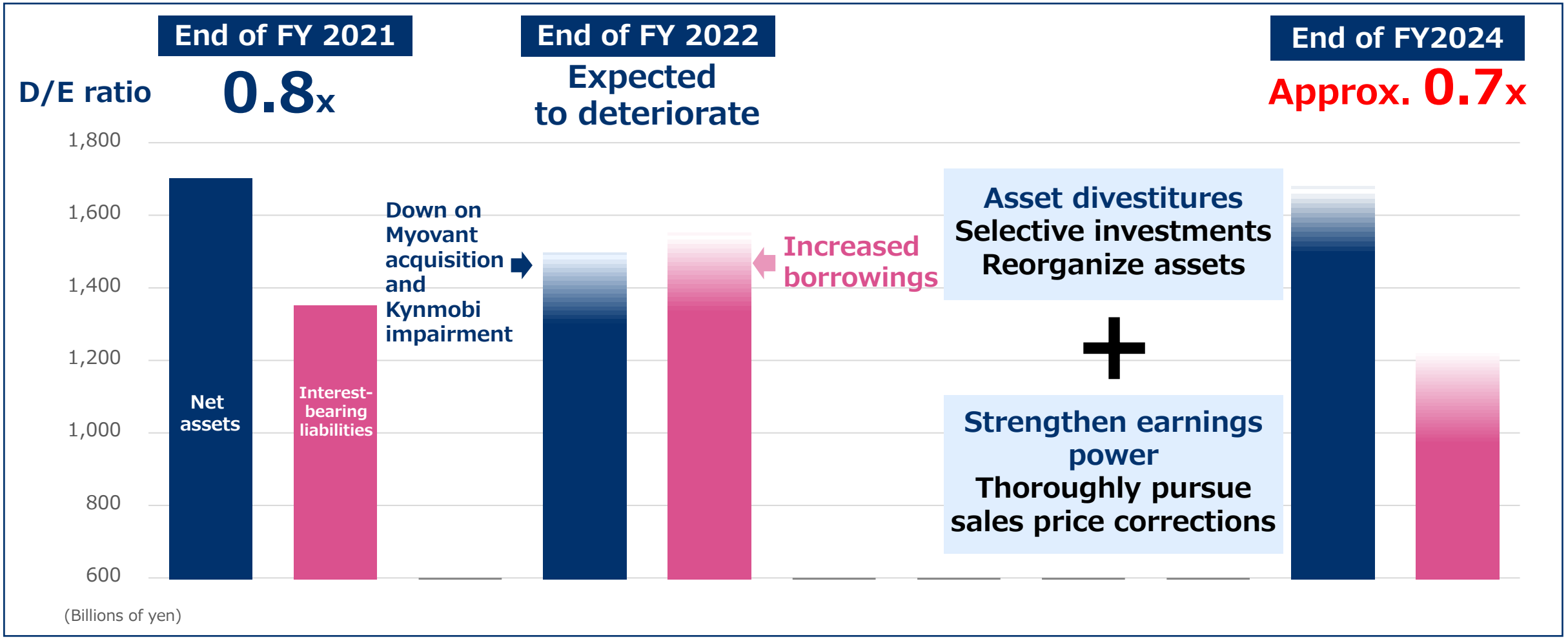
Despite near-term D/E ratio deterioration, we aim to achieve targets through various financial improvement measures



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Section.2 Essential Chemicals & Plastics Sector

Rita GX Jiri

Today's Agenda

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01 Sector Business Overview

02 Summary of the Previous Corporate Business Plan

03 New Corporate Business Plan: Basic Sectorwide Direction

04 New Corporate Business Plan: Individual Business Strategies




01

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Sector Business Overview

01 Main Products

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Polyethylene (PE)

Product: Resin broadly used in container and packaging materials

Our strength: High-quality protective films

Polypropylene (PP)

Product: Resin broadly used in automotive parts and packaging materials

Our strength: Deploy automotive PP compounds globally, Shock-resistant and other high-performance packaging applications

MMA (MMA-m/PMMA)

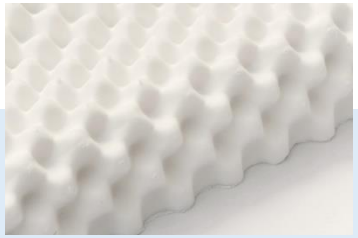
Product: Highly transparent and weather-resistant resin and material

Our strength: MMA-m market share No. 2 in Asia and No. 4 globally

Propylene oxide (PO)

Product: Raw material for urethane used in automotive seats and furniture

Our strength: Proprietary technology that does not create by-products, Licensing out our technology



01 Main Business Locations

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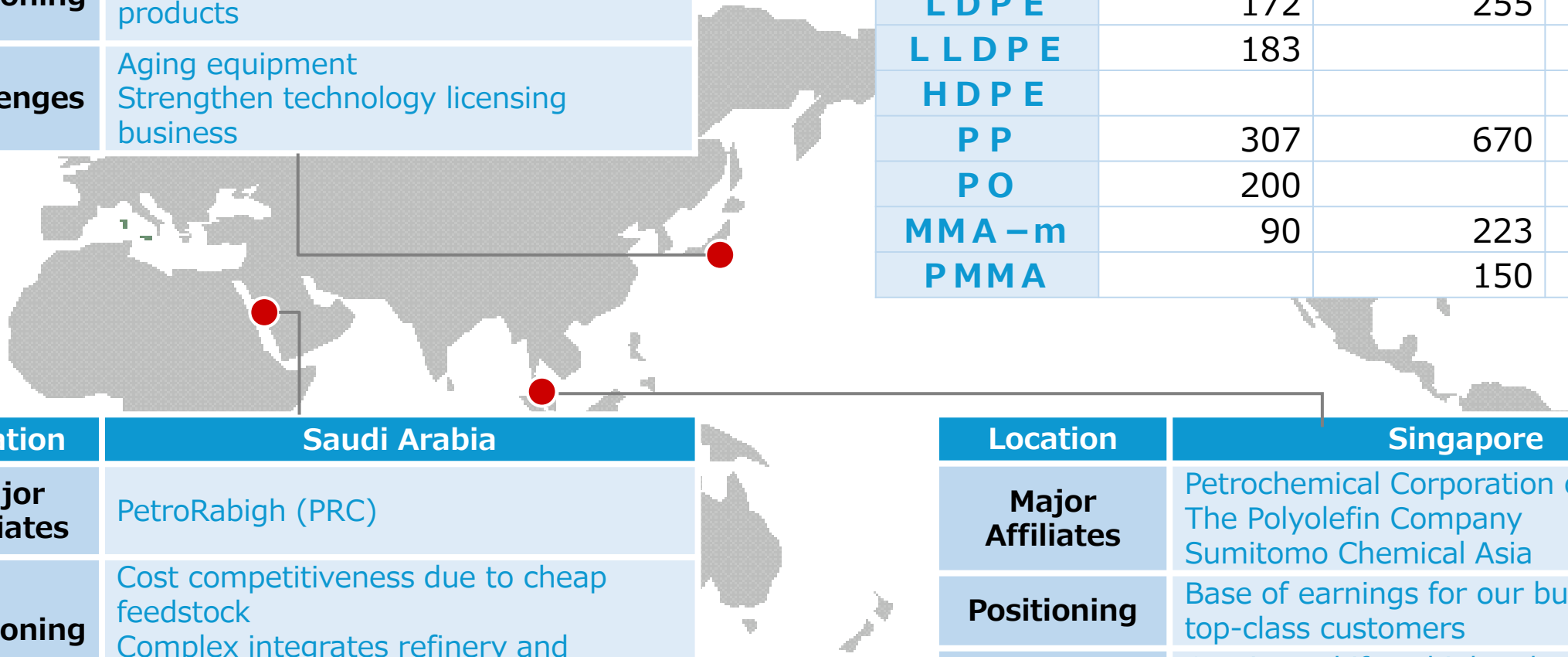
Location	Japan
Positioning	Development of new technologies and products
Challenges	Aging equipment Strengthen technology licensing business



Production capacity	Japan	Singapore	Saudi Arabia
LDPE	172	255	150
LLDPE	183		600
HDPE			300
PP	307	670	700
PO	200		200
MMA-m	90	223	90
PMMA		150	50

(1,000 tons)

Location	Saudi Arabia
Major Affiliates	PetroRabigh (PRC)
Positioning	Cost competitiveness due to cheap feedstock Complex integrates refinery and petrochemicals
Challenges	Earnings instability due to fluctuations in petroleum refinery margin

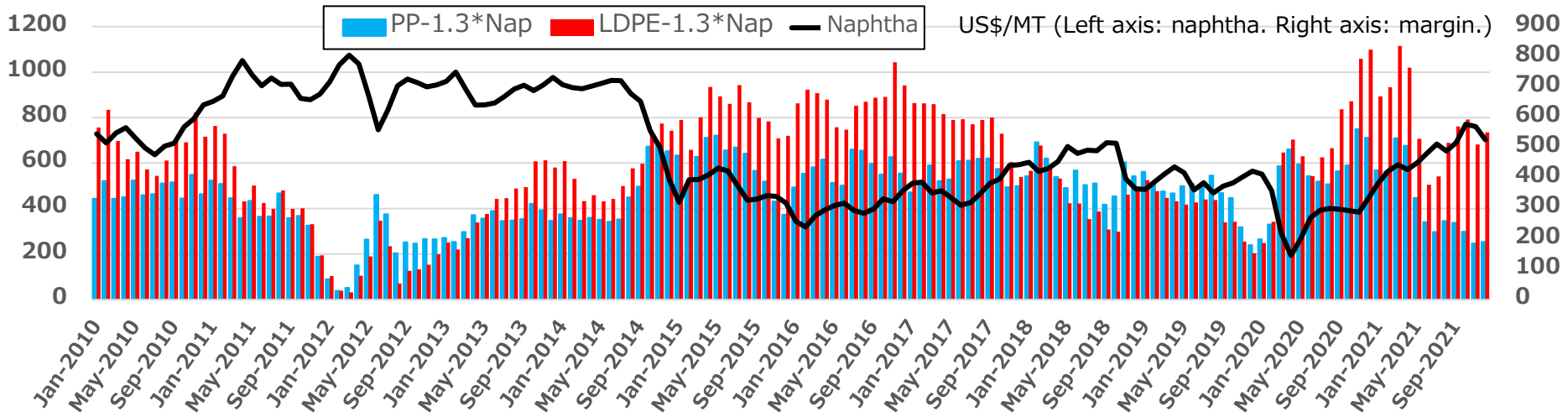
Location	Singapore
Major Affiliates	Petrochemical Corporation of Singapore The Polyolefin Company Sumitomo Chemical Asia
Positioning	Base of earnings for our business with top-class customers
Challenges	Continue shift to high value-added products Maintain share at top-class customers

Market Prices and Business Performance

Major product margins

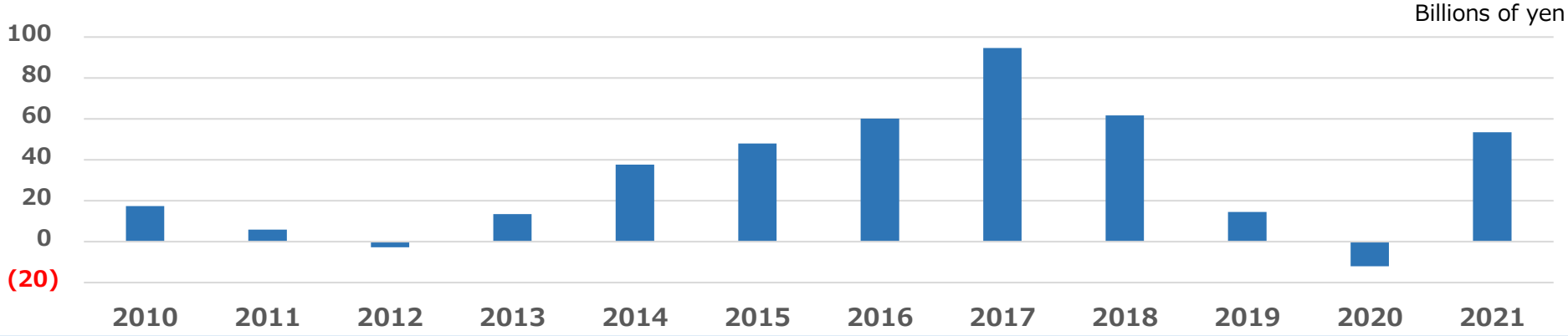
Jan 2010 to Dec 2021

(Prepared by Sumitomo Chemical based on information from IHS)



Sector core operating income

FY2010 - 2021



Cyclical earnings exposed to swings in product prices driven by supply and demand trends

02

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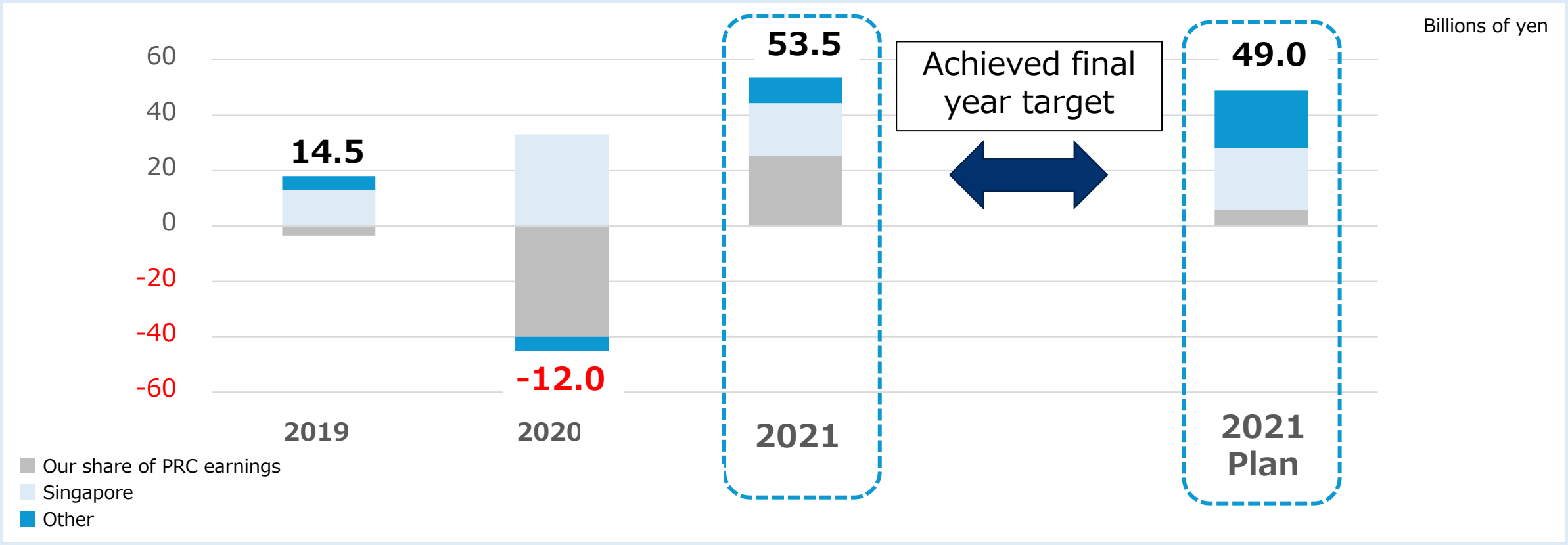
Summary of the Previous Corporate Business Plan

02 Progress on Business Performance Targets

Sector total core operating income



- FY20: PRC earnings deteriorated substantially on fall in crude oil prices and scheduled maintenance
- FY21: Achieved mid-term target on business performance recovery driven by strength in petrochemical product prices and stable operations at PRC

02 Progress on Major Action Plans

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- Cleared important milestone in PRC Phase II plan and advanced initiatives to improve business performance
- In response to changes in society, accelerated studies toward becoming carbon neutral and kicked off various measures

Category	Progress
Activities aimed at becoming Carbon Neutral	● Fuel conversion aimed at reducing greenhouse gas emissions at major domestic plants • Ehime Works: Made progress in construction of LNG terminal and thermal power plant • Chiba Works: Green-lighted high-efficiency gas turbine ● Initiatives aimed at achieving carbon cycle • Commercialized PP compounds made from recycled materials in Europe • Began studies on alliance with Rever Holdings • Developed chemical recycling technologies through collaboration with other companies and academia
PetroRabigh Maintain stable operations in Phase I and reap benefits from Phase II	● Stable operations at Phase II plant. Completion guarantee released September 2020.
Strengthen technology licensing and catalyst businesses	● Added catalyst capacity for polyolefins (2019 3Q) and propylene oxide (2019 4Q)
Restructuring of underperforming businesses	● Green-lighted exit from caprolactam business (Halted October 2022)




03

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New Corporate Business Plan: Basic Sectorwide Direction

Changes in the Business Environment and Considerations for Planning

Short-term changes

Decline in product market prices due to softening demand	● Lax supply-demand balance due to addition of new plants in China and Southeast Asia ● Feedstock margins forecast to contract

Mid- to long-term and structural changes

Governments and corporations pushing further to reduce carbon	● Since 2020, Japan and a series of other governments have issued carbon neutral targets ● Chemical makers inside and outside Japan and their customers have set and announced targets, also ● Brand owners are moving to shift to non-fossil based plastics
Advances in technology development aimed at becoming carbon neutral	● Mainly western companies are accelerating technology development in electrification of naphtha crackers, CCUS, chemical recycling and conversion to clean fuels (hydrogen and ammonia)

- **In anticipation of a downturn in market prices, we need to double down on efforts to improve earnings**
- **We need to rethink the positioning of businesses based on feedstock or raw materials derived from fossil fuels**
- **Many uncertainties lie along path toward carbon neutrality**
  - **Technological feasibility related to the introduction of non-fossil based products and projections for commercial production costs**
  - **Future market needs, developments in the volume zone and the formation of sales price frameworks**

03 Business Positioning: Sector Name Change

- Fossil-based chemical products (such as food packaging) currently in distribution are essential materials to society
- In consideration of the environment and a circular economy, continue to supply products while actively reforming raw materials and production methods
- Through the accumulation of recycling technologies, the sector becomes essential to the corporate group and our aim to become carbon neutral

Petrochemicals & Plastics Sector

→ “Essential Chemicals & Plastics Sector”

Conventional Petrochemicals & Plastics

One-way business model leveraging fossil-based raw materials and feedstock

GX and DX

Next-generation Core Chemical Products

A business model that is mindful of the environment and a circular economy

Convert portfolio to businesses with a low environmental burden
Stabilize earnings through technology licensing

03 Business Direction by Geography

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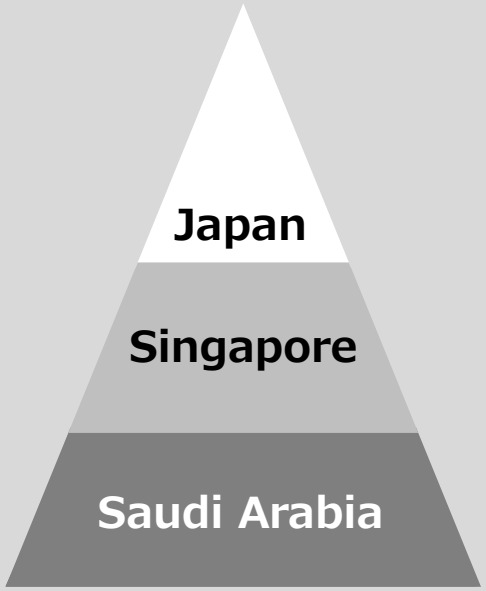
Integrate operations in Japan and Singapore to accelerate R&D and deployment into society of carbon neutral technologies and strengthen earnings of existing businesses

Petrochemicals & Plastics

A unique strength at each of the 3 bases

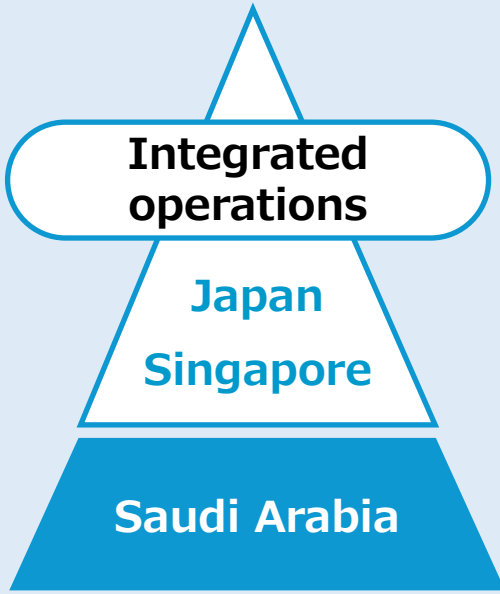


Japan	Completed rebuilding of the businesses Shut down ethylene plant in 2015
Singapore	Strong CF generation through higher value-add
Saudi Arabia	Phase I: Achieved stable operations Phase II: Completed launch

GX and DX

Essential Chemicals & Plastics

Promote Green Transformation of business portfolio



- Apply GX technologies developed in Japan into Singapore to supply products to ASEAN market
- Strengthen earnings ability by optimizing production across the locations and developing products meeting ASEAN market needs.

Reap returns on investments

Priority Initiatives

Basic direction

- **Reduce cyclical earnings exposed to market volatility, strengthen earnings ability and stabilize profitability**
- **Focus on GX initiatives, but given the current uncertainties in technological feasibility, required costs and market needs, begin a wide range of initiatives and spend the next three years discerning future business potential**

Strengthen earnings ability	trengthen technology licensing and catalyst businesses	• Secure earnings through licensing and catalyst sales, which are not affected by short-term market volatility • Focus on providing technologies that reduce environmental impact and contribute to achieving a carbon neutral society
	Shift resin business to high value-add	• Acquire premium to boost earnings during downturns in market prices
Promote GX	Reduce GHG emissions at the Sumitomo Chemical Group Obligations toward carbon neutrality	• Fuel conversion projects at Ehime and Chiba Works • Initiatives aimed at procuring clean ammonia
	Develop and commercialize plastics recycling technologies	• Commercialize materials recycling to capture emerging needs • Develop multiple routes of chemical recycling technologies
	Initiatives aimed at further diversification of raw materials and feedstocks	• Continue to explore non-fossil based raw feedstocks • Study shift from conventional crackers to on-purpose plants

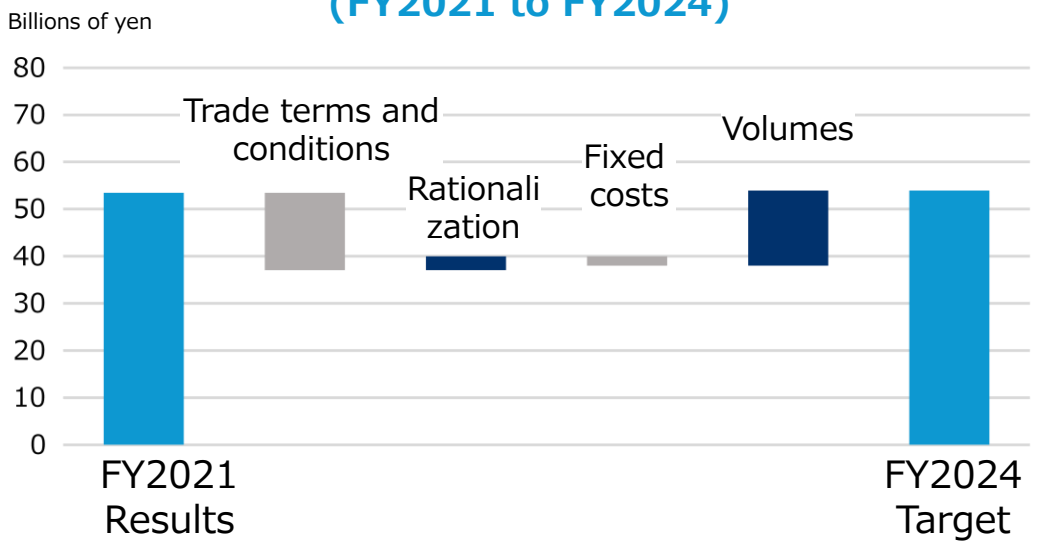
03 Business Performance Targets

	FY21 Results	FY24 Target
Sales Revenue	842.5 bn. yen	**840.0 bn. yen**
Core Operating Income	53.5 bn. yen	**54.0 bn. yen**
Naphtha price	¥56,600/kl	**¥50,000/kl**

Earnings plan and improvement initiatives

- Plan to generate earnings on par with FY21 as cost rationalization and the disappearance of impact from scheduled maintenance at Chiba Works offset
- squeezed margins under downward market
- Stabilize earnings by strengthening technology licensing and catalyst businesses
- Advance shift in resin business to high value-add
- Bolster competitiveness through integrated operations with Singapore

Changes in Core Operating Income (FY2021 to FY2024)



03 Current Trends in Business Performance

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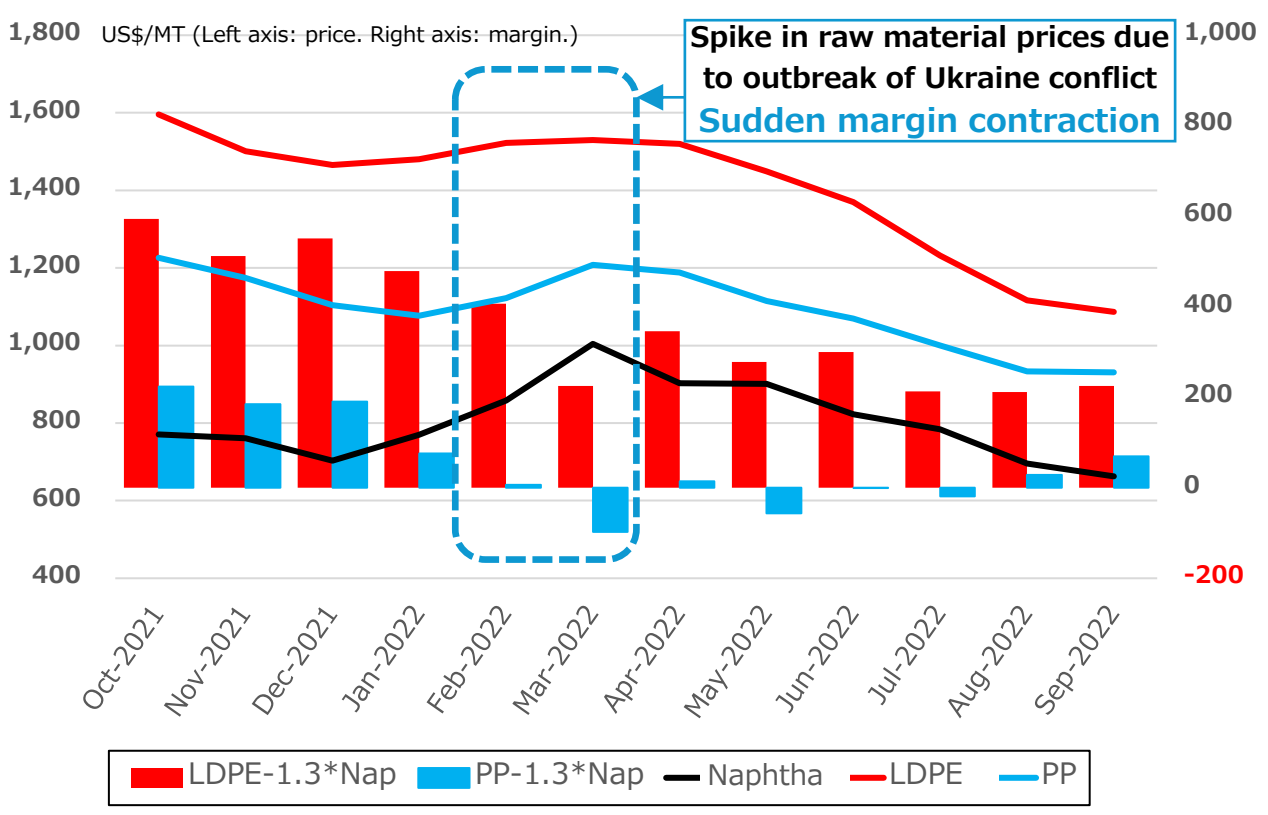
	May guidance	November guidance
FY2022 Core Operating Income	41.0 bn. yen	**0 bn. yen**

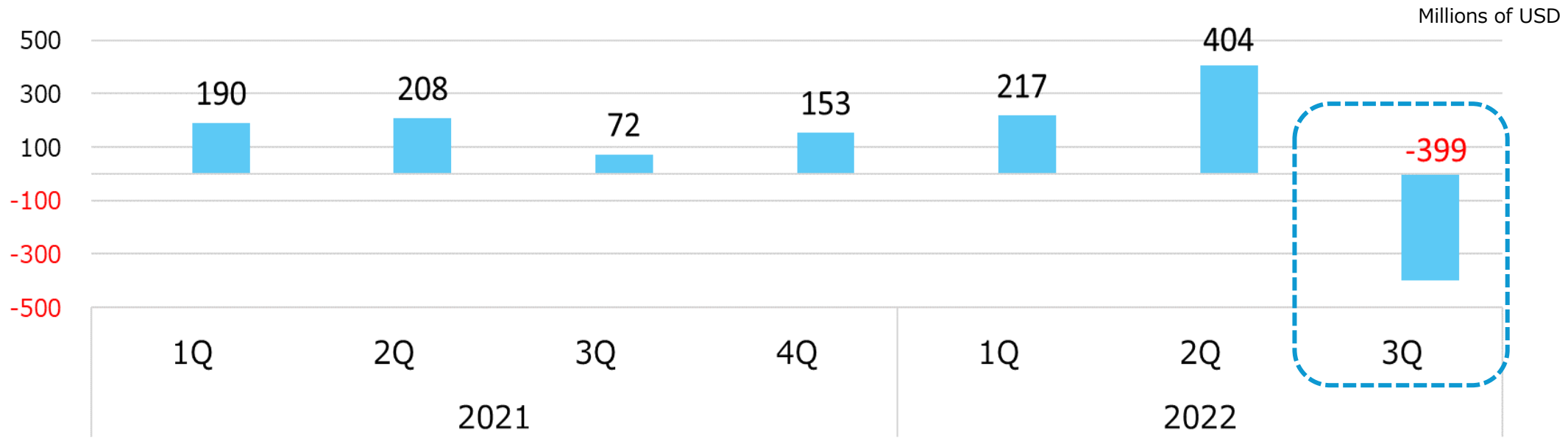


(IHSをもとに住友化学作成)

- Spike in crude oil and naphtha prices coincident with lax demand for petrochemical products
- Margins deteriorating substantially versus Corporate Business Plan assumptions due to weak demand driven by China's zero Covid policy and other factors and stagnant market prices for products
- PRC earnings, which had been buoyed by rising crude oil prices, turned negative in 3Q as refinery margins contracted rapidly on fears of an economic downturn

03 Earnings at PetroRabigh

Profit before tax



	1Q	2Q	3Q	4Q	1Q	2Q	3Q
Brent crude oil (US$/bbl)	61	68	74	80	97	112	98

- Since July 2022, margins contracted rapidly due to downturn in prices for petroleum refinery products
- 3Q earnings turned negative as the ethane advantage contracted on falling crude oil prices and inventory writedowns weighed on profitability

03 Forecasted business environment: Singapore

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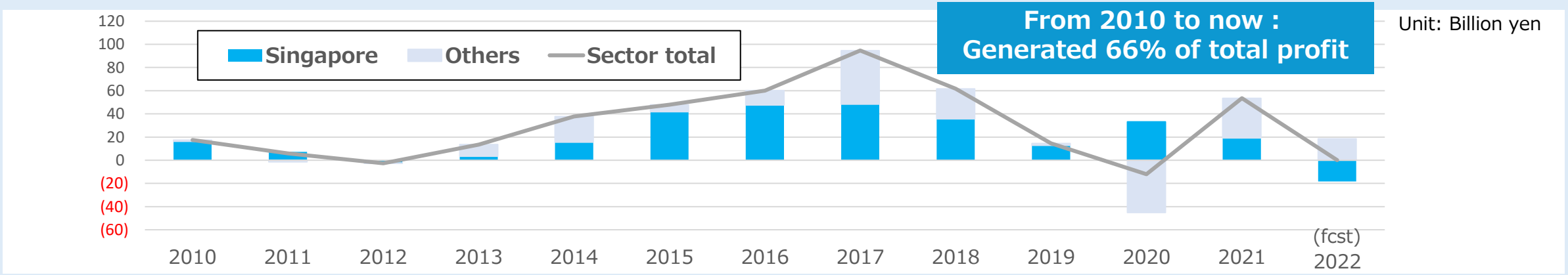
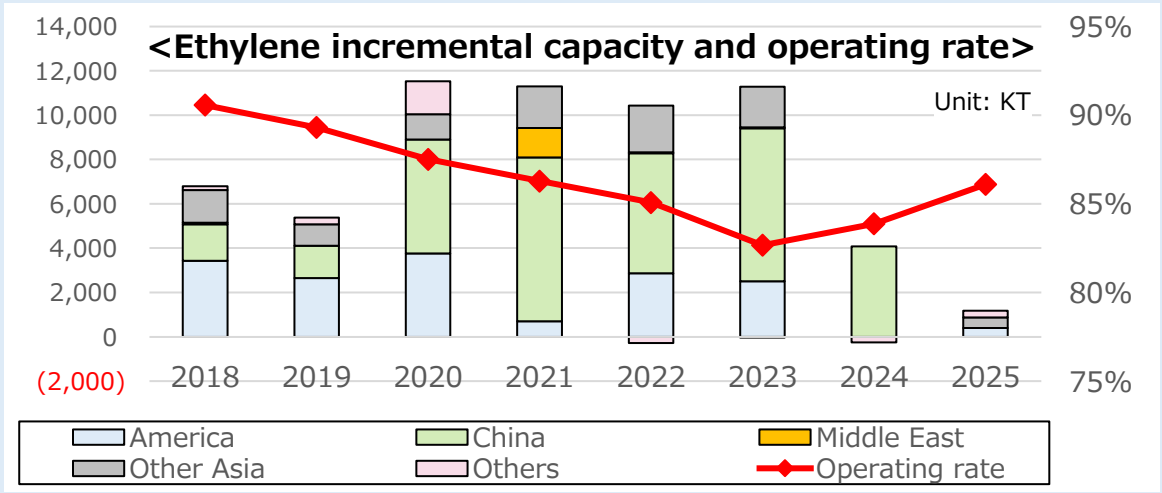
Singapore（PCS・TPC・SCA）is our core and strategic business with solid customer base, stable product supply, and cost-competitiveness as naphtha-based production, having been generating more than half of the profit of the sector





Decline in margin due to substantial capacity additions and weaker demand under COVID-19 in recent period

- **Operating rate is expected to hit the bottom in 2023 and margin is forecasted to get better**
- **Further strengthen profitability by cost reduction and improvement of polymer product mix**

03 Measures for profit improvement

- **Focus on taking measures to improve short-term profit to overcome current difficulties, achieving profit target set in FY2024**
- **Promote integrated operation between Japan and Singapore, further enhancing strength developed through long-term business experience in Singapore**

Short-term	**Price improvement**	Revise price at lower level than other customers, transfer increase in sub-raw materials, etc, mainly for Japan domestic business
	Improvement of polymer product mix	Shift from commodity to high-value added grades Food packaging, Protect film for optical application, etc (Polyolefin) 、 Automotive application, (PMMA)
	Expand licensing business	Strengthen marketing and find new licensees mainly for PO-only process and Hydrochloric acid oxidation process
	Cost rationalization	Secure competitive feedstock, realize further efficient unit consumption, reduce manufacturing fixed costs and logistics costs, etc

⇒ Strive to achieve improvement of approx. 10 bn yen in FY2024 (compared to FY2022) by implementing the measures above

Mid-term	**Integrate operation between Japan/Singapore**	Study on optimizing production of polyolefin by reviewing market growth potential in Japan and ASEAN, customer locations, and production costs at respective sites, etc




04

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New Corporate Business Plan: Individual Business Strategies

04 Earnings Ability: Strengthen Technology Licensing and Catalyst Businesses

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Challenges

- Secure stable earnings through licensing and catalyst sales, which are not impacted by short-term swings in market prices
- Contribute to becoming carbon neutral by providing technologies that reduce environmental impact

Action plan

Bolster marketing	● Expand opportunities to contact potential customers
Fill out portfolio	● Develop and license out technologies that reduce environmental impact ● Expand support after start-up to include operational support, process improvements and the like
Refine technologies	● Strengthen competitiveness of licensed processes through longer-lasting catalysts and cost reductions

Greenhouse gas reductions driven by the adoption of our licensed technologies

PO-only process **-30%**

Hydrochloric acid oxidation process **-90% or more**

Comparison of PO-only process to peers' processes and of hydrochloric acid oxidation process to NaCl electrolysis process

04 Earnings Ability: Shift Resin Business to High Value-add

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Challenges

- Acquire premium to boost earnings during downturns in market prices for commodity resins

Action plan

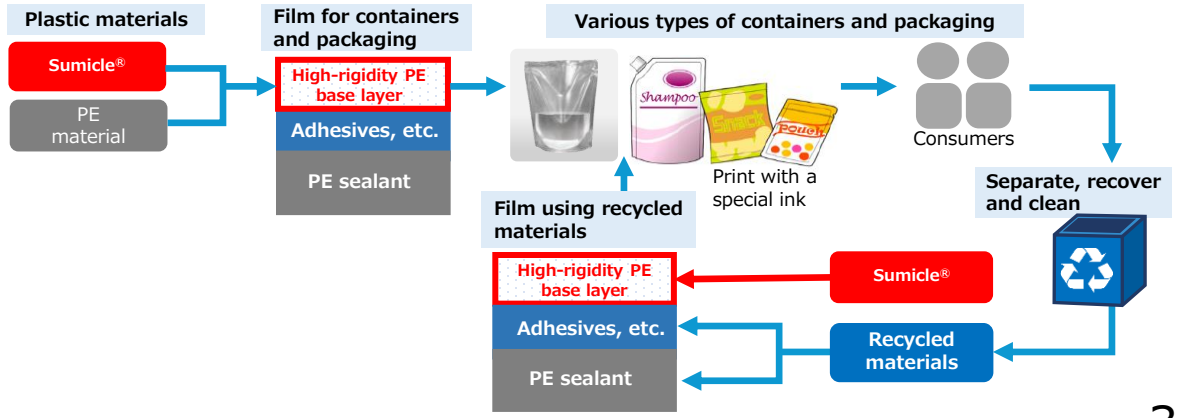
Exploration of customer needs and product development	● Speedy product development latching onto needs such as shift to mono-materials and lighter-weight automobiles ● Line up alongside materials recycling products and contribute to reduced environmental impact in society
Shift sales mix to high value-added products	● Boost earnings power by shifting existing grades to higher value-add, too
Optimize supply regime	● trengthen integrated operations with Singapore and optimize production regime considering customer location, etc.

Recent new product developments

High-rigidity polyethylene “Sumicle®”

- Apply to base layers of containers and packaging to achieve polyethylene mono-material and contribute to the horizontal recycling of containers
- Expand adoption further by printing containers with a special ink that loses its color when exposed to heat

Collaboration with PILOT



04 GX: Greenhouse Gas Reduction at the Sumitomo Chemical Group

SUMITOMO CHEMICAL

Fuel conversion projects underway at Ehime and Chiba Works are progressing well

Reach greenhouse gas reductions as planned by achieving smooth operations

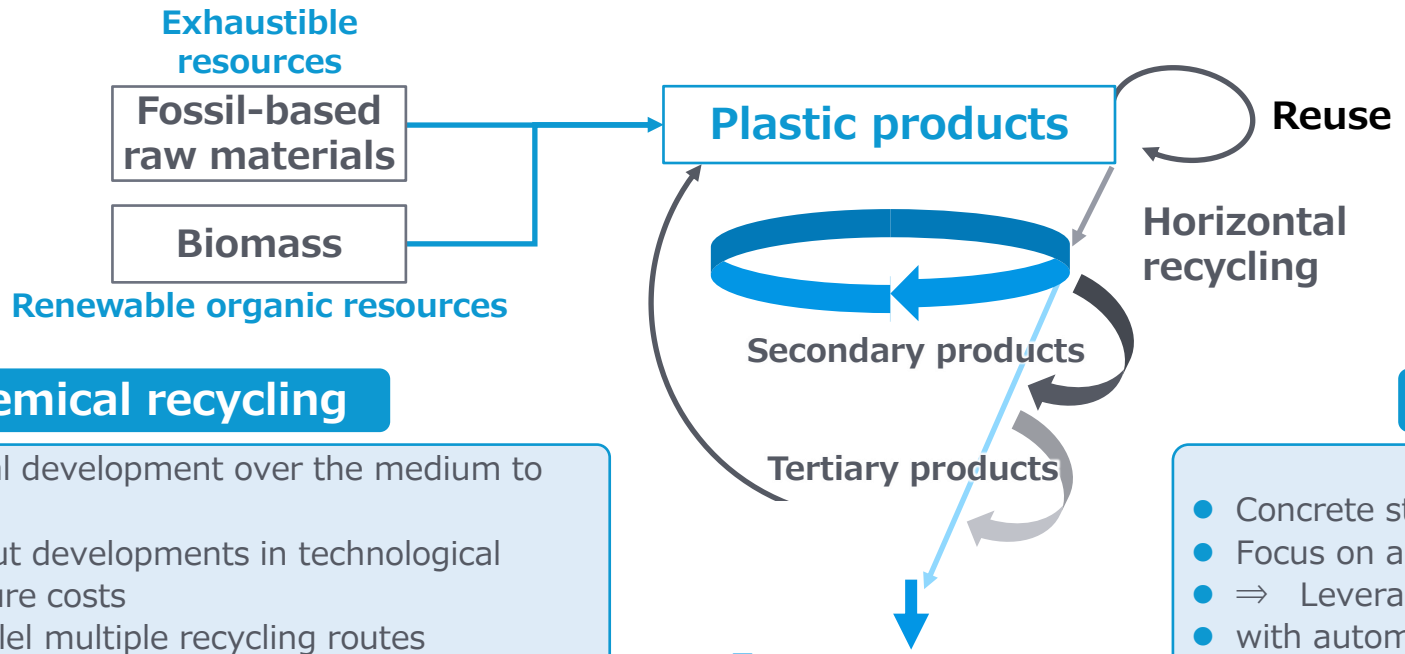
Ehime	● **Plan overview:** **Build new LNG terminal (joint investment by 5 companies) and introduce high-efficiency gas turbine** ⇒ Convert fuel for power generation from coal to LNG ● **GHG reduction:** **650k tons/year** ● **Operation timeline:** **LNG terminal** March 2022 **High-efficiency gas turbine** November 2022
Chiba	● **Plan overview:** **Introduce high-efficiency gas turbine** ⇒ Convert fuel for power generation from petroleum coke to LNG ● **GHG reduction:** **240k tons/year** ● **Operation timeline:** **November 2023**

Begin studies to procure clean ammonia to achieve further GHG reductions

Study collaboration with Yara	● Procure clean ammonia (green and blue) supplied by Yara ● Study fuel conversion at plants to reduce GHG emissions alongside its use as a feedstock for petrochemicals & plastics ● Maximize benefits of collaboration by leveraging large-scale ammonia storage facilities within Ehime Works

GX: Advancing Plastics Recycling

Develop and commercialize technologies in both materials and chemical recycling to achieve a circular economy for resources



Chemical recycling

- Need technological development over the medium to long term
- Uncertainties about developments in technological feasibility and future costs
- ⇒ Study in parallel multiple recycling routes
- Reap synergies and accelerate development through ties with other companies and academia

Materials recycling

- Concrete studies aimed at early commercialization
- Focus on areas where customer needs are emerging
- ⇒ Leverage strengths in existing businesses and start with automotive applications Priority is to secure stable supply of high-quality waste materials

Common

- Share value from MeguriTM brand with stakeholders

Aim to achieve target of using 200k tons of recycled plastic resources by FY2030 while adopting optimal approaches

GX: Materials Recycling Initiatives

SUMITOMO CHEMICAL

Advance studies to commercialize materials recycling through collaboration with Rever Holdings

Automotive applications developed by the Sumitomo Chemical Group Technological prowess and salesforce in polypropylene compounds

×

Rever Holdings' track record and know-how related to the collection, demolition and crushing of automobiles

×

Uncover customer needs for expanded use of recycled products

Set automotive materials as top priority
Aim to commercialize and become front runner




Automotive applications

SUMITOMO CHEMICAL
- PP compounds
- Optimal recycling

REVER
- Automotive demolition
- Recovery of plastic components

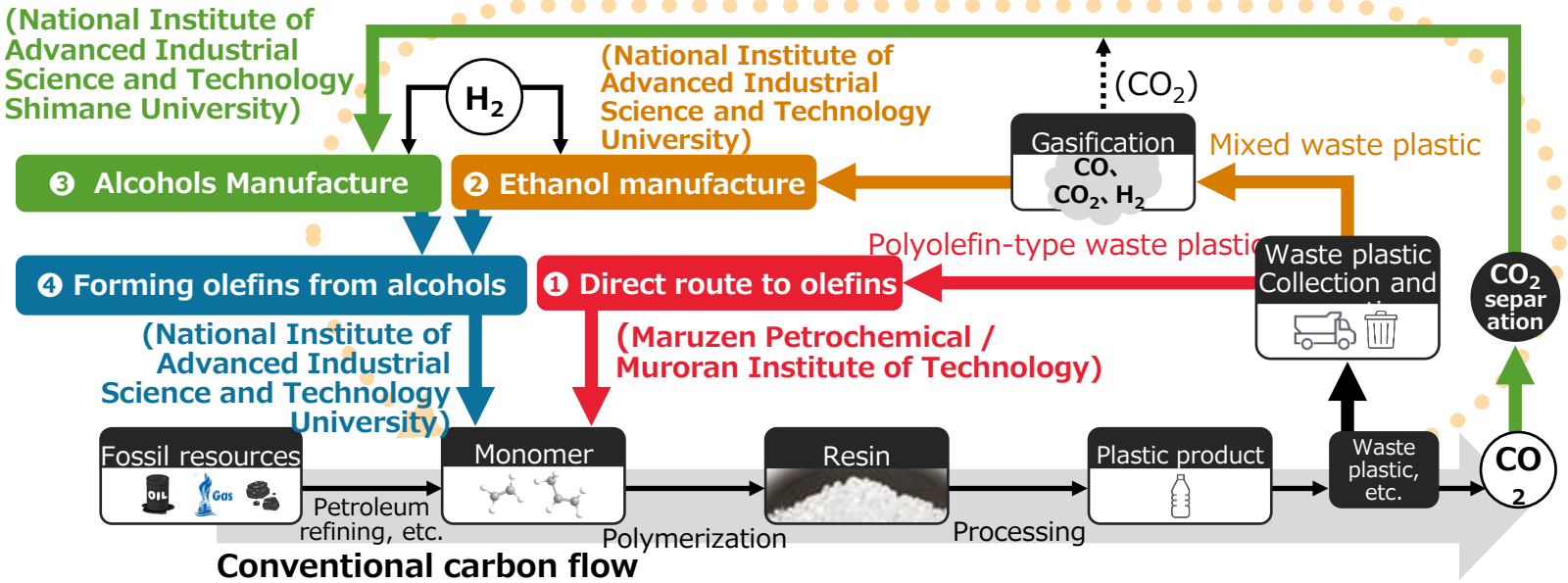
Business alliance

- **Optimal crushing and selecting**
- **Quality recovery of PP resources**
  - Develop technology for smart selection of plastics recovered from end-of-life vehicles
  - Manufacture renewed plastics that can be used in a broad range of products and evaluate environmental burden

In September 2022, we green-lighted the introduction of PILOT equipment, which separates waste plastic and removes foreign objects with high precision
⇒ **Further accelerate commercialization studies, beginning to supply customer samples in FY2023**

GX: Chemical Recycling Initiatives

Develop in parallel multiple chemical recycling routes, discern technological feasibility and cost trends and aim to commercialize



- Maximize the benefits from our strengths in catalyst and chemical process design technologies
- Work with third-parties to pursue development through joint research and accelerate commercialization

Numbers 1 through 4 to the left were selected for the Green Innovation Fund

(Joint development partner)

Leading initiative: PMMA chemical recycling

- Leverage our group's knowledge in MMA and PMMA products
- Establish monomer recycling technology through thermal decomposition of resin in alliance with Japan Steel Works

Green-lighted introduction of demonstration production equipment at Ehime Works
Aim to begin supplying samples in FY2023

* PMMA made from recycled monomers reduces GHG emissions 60% across the entire product lifecycle compared to fossil-based

Advance technological development and commercialization of short-term and mid- to long-term themes to contribute to a circular economy for carbon resources

04 GX: Toward Further Diversification of Raw Materials and Feedstocks

Direction for initiatives

- Convert raw materials and feedstocks away from fossil fuels to achieve carbon neutrality
- Explore raw materials and feedstocks broadly, including waste plastic, general waste, CO2 exhaust and biomass, and advance technological development, and discern demand for, technological feasibility of and cost trends for each and aim to commercialize the optimal combination
- Consider efficiency and environmental burden in commercialization and study shift from conventional crackers to on-purpose plants to make individual products

In April 2022, we completed demonstration production equipment for ethanol-based ethylene at Chiba Works and began producing samples

- Purposed production of ethylene using waste produced by Sekisui Chemical and ethanol derived from biomass as a raw material
- Accelerate studies to commercialize non-fossil based polyethylene

SUMITOMO CHEMICAL

Change and Innovation ～with the Power of Chemistry～

Sumitomo Chemical IR Day 2022 Winter

Section.3 Health & Crop Sciences Sector

Rita GX Jiri



Today's Agenda

SUMITOMO CHEMICAL

01 Summary of the Previous Corporate Business Plan

02 New Corporate Business Plan: Basic Sectorwide Direction

03 Individual Business Strategies

01

Summary of the Previous Corporate Business Plan

Summary of the Previous Corporate Business Plan

Financial Performance

FY2021 Target		FY2021 Actual	
Sales Revenue	480.0 bn. yen	Sales Revenue	473.8 bn. yen
Core Op. Income	75.0 bn. yen	Core Op. Income	42.3 bn. yen

Highlights/Achievement

- *Decline Financials in FY2019* *-Downturn of Methionine Price and Ag Market in USA*
- *Change of Market Environment* *-Intensifying Competition in Ag Market against Generic*
- *Accelerate Actions for Expansion* *-Acquire ex-Nufarm LATAM business and Biorational*

02

New Corporate Business Plan: Basic Sectorwide Direction

Sector's Long-Term Vision

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Food
食糧

Increase Food Production
Sustainable Agriculture
Safer Products

Ensuring Public Health and Hygiene

Health
健康・衛生

Improvement of QoL & Environment

Environment
環境

Expand and Strengthen sustainable product business

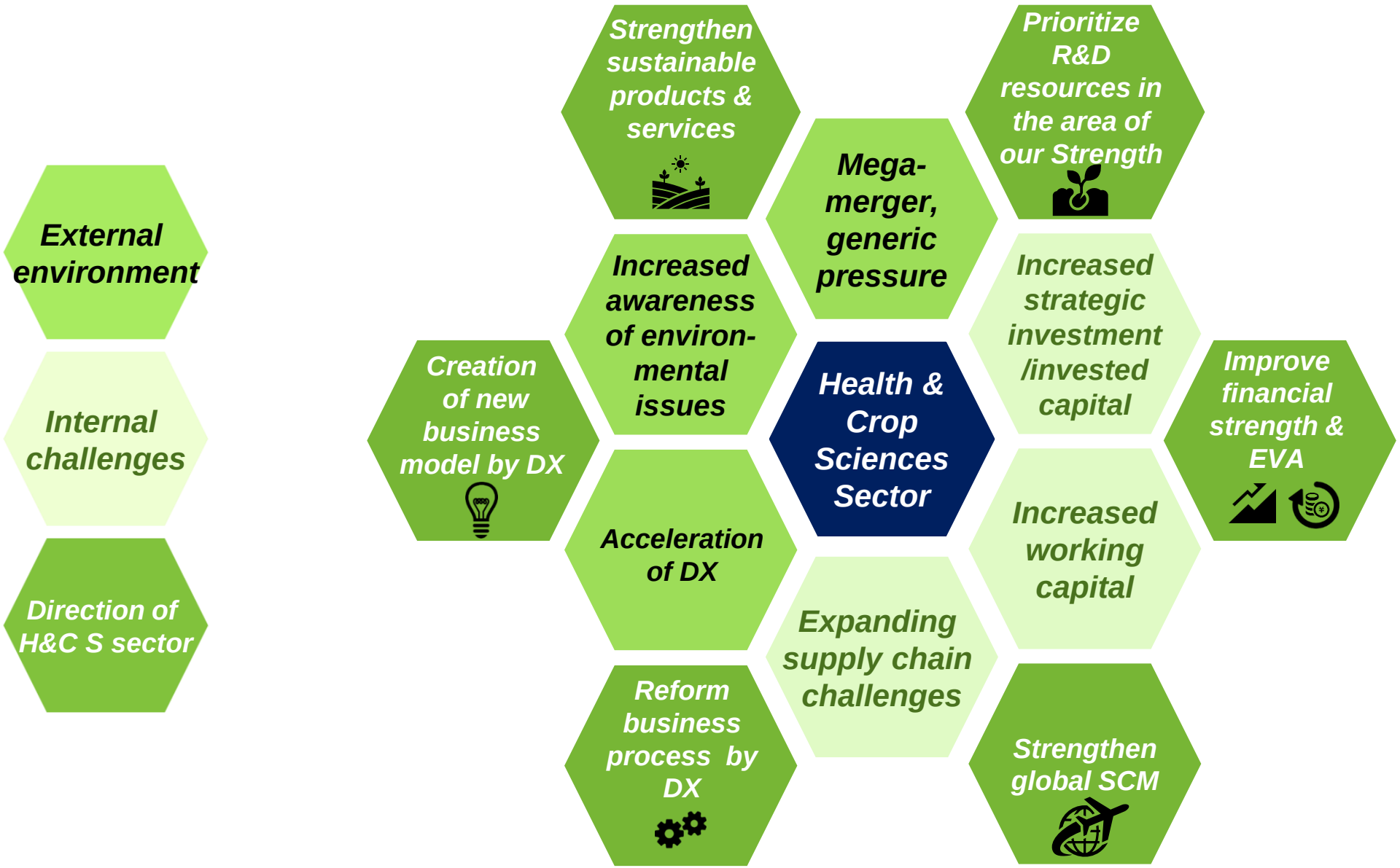
Strengthen high-profitability businesses
Expand business globally
Ensure compliance & maintain safe operations

Differentiation

Business Creation

Innovation

Environment & Direction



02 Basic Policy

SUMITOMO CHEMICAL

1 Compliance-based management, Safe & stable operation, Quality-focus	• Strengthen and promote compliance particularly reflecting globalization of manufacturing sites (e.g. India, Brazil) and diversification of product portfolio (e.g. Nucleic acid-based drugs)
2 Transform business portfolio driven by the promotion of "Sustainable Products"	• Differentiate ourselves from competitors with **leading technologies and products such as Biorational & Botanical** • Develop Crop Protection/Environmental health chemicals with **strong focus on reducing environmental burden**
3 Maximize economic return from past strategic investment	• Accelerate the realization of synergies committed in the **past strategic investments**
4 Strengthen our global supply chain management	• **Strengthen supply chain management** to secure stable supply & assure product quality so as to take a full advantage of our extended global footprint
5 Establish solid profit foundation by improving financial strength	• Control working capital and CAPEX prudently • Accelerate structural reform of business / product portfolio from the view point of future profitability
6 Accelerate R&D activities in an efficient manner	• **Identify the business domain with our competitive edge** and prioritize our R&D resources • Accelerate **open innovation**
7 Build new business model through active adoption of DX and other emerging technologies	• Develop service-oriented businesses by leveraging DX (Digital Transformation) • Promote differentiated business (e.g. Biorational) by leveraging DX
8 Reform business process by utilizing DX	• Pursue business process reform with the active introduction of DX (e.g. Adoption of IBP (Integrated Business Planning)

Contribution to Sustainability

SUMITOMO CHEMICAL

3 key concepts	Examples of product/service
Accelerate development of products/services with lower environmental impact.	▪ ***Biorational and Botanical*** *(Product from natural product)* ▪ ***Seed treatment*** *・Precision Agriculture (Reduction of agricultural chemicals input)*
Awareness of LCA concept (Life Cycle Assessment)	▪ ***Methionine*** *(Reducing GHG emissions through reduction of nitrogen in livestock waste)* ▪ *Product supporting sustainable agriculture※ (no-till herbicide such as* ***Flumioxazin・Rapidicil***™*)* ※*Suppression of CO2 emission from soil*
Challenge to Carbon Negative	▪ ***Mycorrhizal Fungus*** *(CO_2 sequestration to the soil)*

02 Accelerate Pipeline Development and Launch and Expand new products

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	Compound	Use	Evaluation	Full-scale development	Registration	Market Launch
B2020	INDIFLIN™ (Inpyrfluxam)	Agricultural fungicide e.g. Soybean rust		✓ Completed	✓ Registered	Launched in Japan and North America in 2020 Launched in Brazil in 2022
	PAVECTO™ (Metyltetraprole)	Agricultural fungicide e.g. Septoria		✓ Completed	✓ Registered in Japan	Scheduled to be launched in Japan in 2023
	ALLES™ (Oxazosulfyl)	Agricultural insecticide e.g. Major rice pests etc.		✓ Completed	✓ Registered in Japan	Launched in Japan in 2022
	FUSEKI™ (Pyridaclomethyl)	Agricultural fungicide e.g. Field crop & vegetable diseases		✓ Completed	✓ Submitted	Scheduled to be launched in 2023 or later
	Accede™ (ACC)	Agricultural plant growth regulator		✓ Completed	✓ Registered in U.S.	Launched in the U.S. in 2022
A2020	Rapidicil™ (Epyrifenacil)	Next generation herbicide effective against herbicide-resistant weeds		✓ Completed	✓ Submitted	
	Pipeline C	Botanical insecticide for agriculture and household hygiene		✓ Completed	✓ Submitted	

To several tens of billions of yen in sales by FY2024, the final year of the mid-term

02 Research/Development Direction

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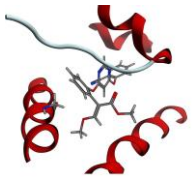
Strengthen Business Foundation

Conventional Chemicals

Create Innovative Products with least impact on environment

- Use AI for rational chemical design
- Strengthen in vitro/in vivo screening



Biorational/Botanical

Develop products that provides sense of safety to consumers

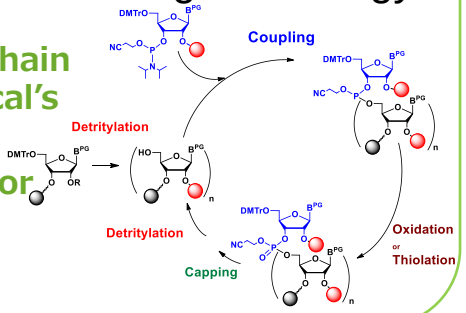
- Evaluate/Introduce natural plant-based products
- Utilize synthetic biology
- Create Innovative fermentation process technologies

Realize Sustainable Society

Nucleic Acid Medicine

Develop next-generation manufacturing technology

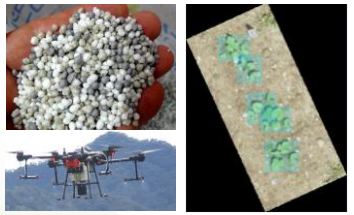
- Chemically synthesize long-chain RNA using Sumitomo Chemical's unique monomer
- Develop analytical methods for high purity long-chain RNA



Next Generation AgroSolution Technology

Establish sustainable crop production technology

- Utilize drones for spraying
- Utilize sensing technologies for cultivation
- Utilize eco-friendly materials for product design



SUSTAINABLE DEVELOPMENT

Introduction of Digital Technology/Utilize Open Innovation

02 Enhancement of Supply Chain Management

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Changes and Impact of External Environment

- Global inflation
- JPY depreciation against USD
- Rising energy costs
- Geopolitical Risks
- Global Logistics Disruption

Introduction of IBP*

*Integrated Business Planning

- Introduce integrated business planning, or IBP, as a mashup of supply chain optimization, financial planning and analysis (FP&A) and operational best practices
- Introduce best practices from LA into affiliates globally
- Started Trial introduction in ASDI in 2021 and elaborate into sector basis within 2023

Utilize DX for SCM

Study and Introduce Technologies/Platforms to realize following purposes

- Visualization of all information related to global supply chain
- Optimization of supply planning
- Dramatic reduction of delivery lead time

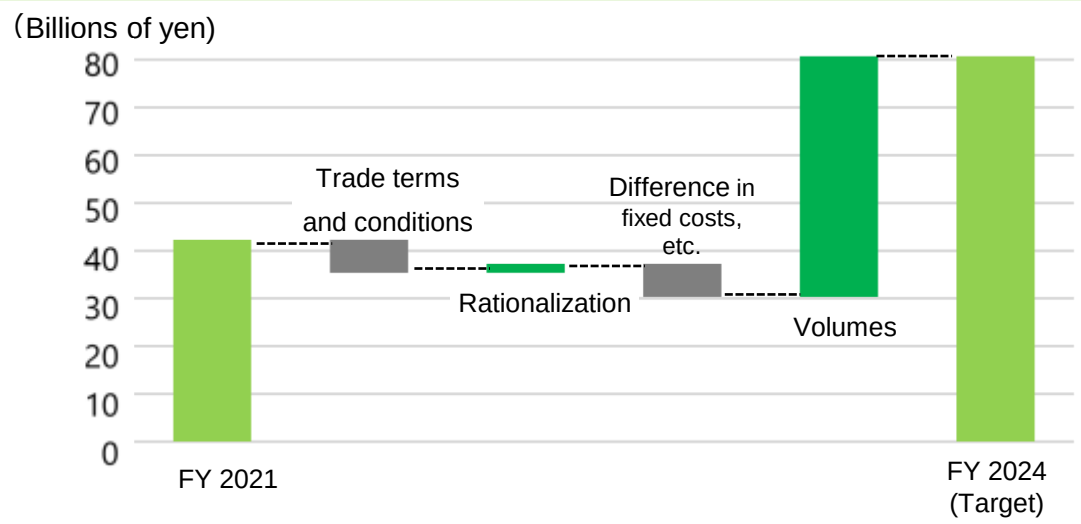
Establish resilient supply chain management /operation globally

Summary of New Corporate Business Plan

FY 2024 Target

Sales Revenue	**590.0 bn. yen**
Core Operating Income	**84.0 bn. yen**

Core Operating Income Change Analysis (FY 2021 vs. FY 2024)

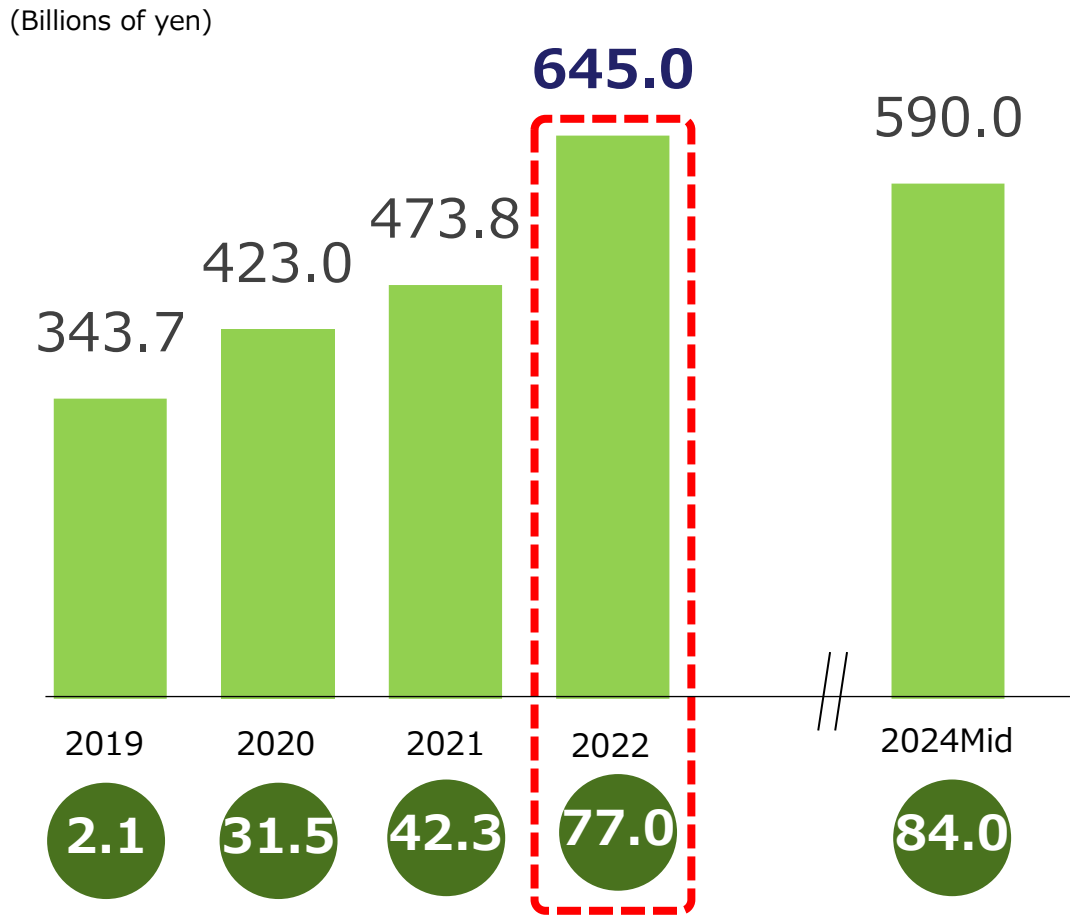


Direction for the business division

- Reform Business portfolio to strengthen sustainable products
- Secure returns on investments already made
- Strengthen global supply chain
- Advances and efficiencies in R&D

Current Trends in Business Performance

Consolidated net sales /Operating Income



FY2022 Forecast

Sales Revenue	**645** (+105.0)
Core operating Income	**77** (+29.5)

(Billions of yen／ Comparison of previous forecast)

- JPY Depreciation
- Progressed well AgroSolutions Business in Brazil and India
- Vertical Launch of new fungicide in Brazil
- Expansion of Biorational and seed treatment business

03

Individual Business Strategies

03 Global Business Expansion : AgroSolutions

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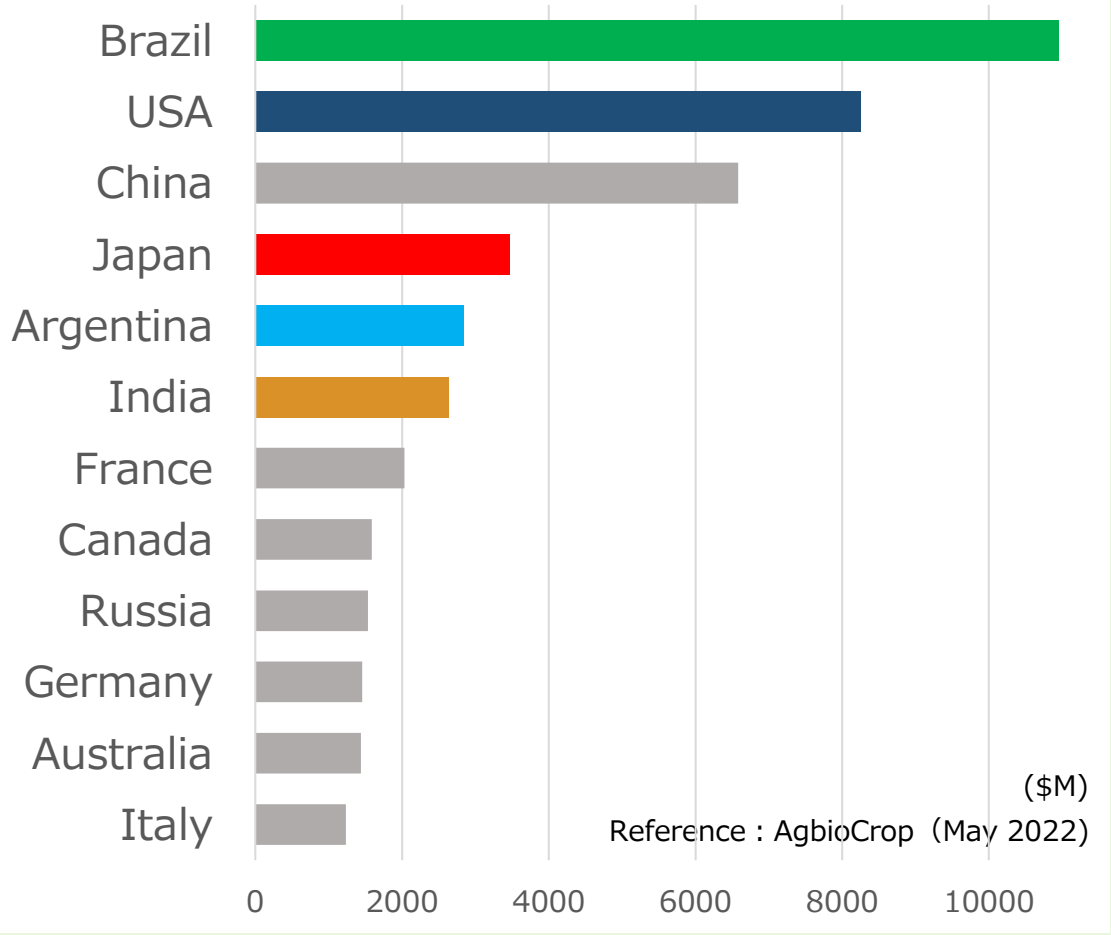
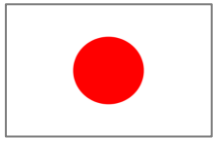
Crop Protection Market Size (2021)



Our Actions in each market

- Completed PMI (incl. Entity integration by 22/3)
- Start INDIFLIN™ Sales (next page)
- Promote: Seed Treatment/Biorational/New Product

- Restructure USA affiliates(VUSA)
- Consolidate Shared Service (VNA)
- Promote: Seed Treatment/Biorational/New Product



- Restructure/Re-enforce Domestic Business
- Promote DX in Agriculture (Provide Apps etc.)
- Promote New product sales of B2020

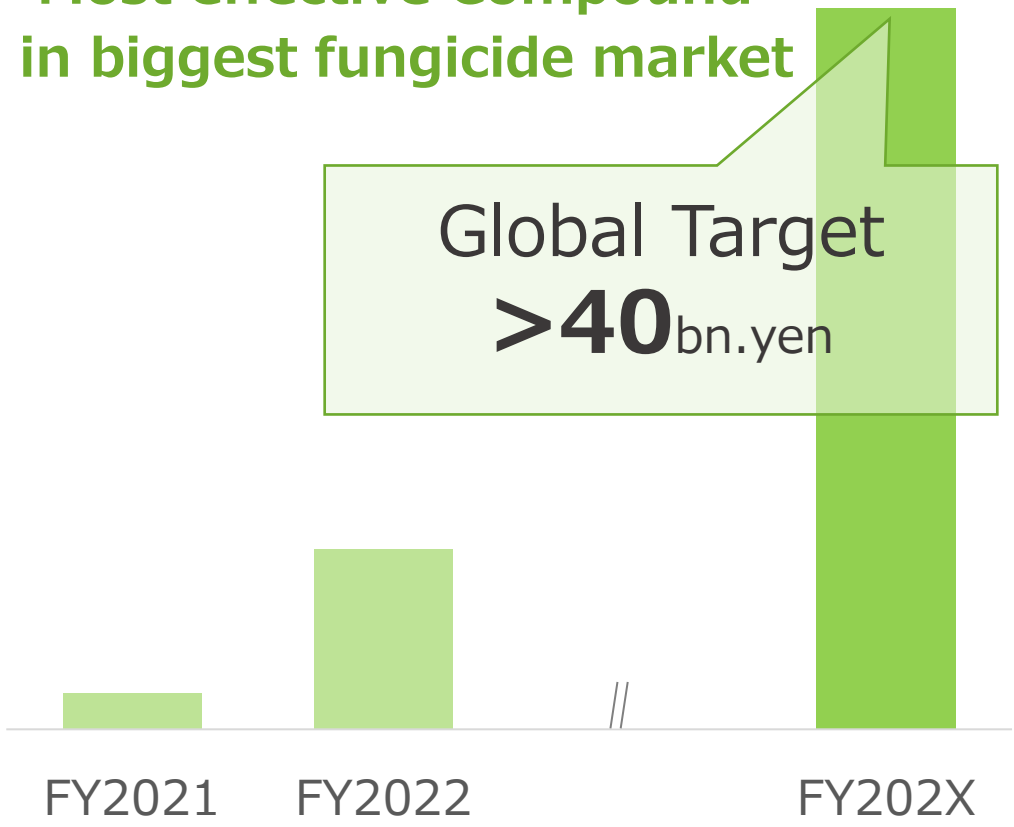
- Sales Expansion, leveraging ex-Nufarm footprint
- Promote: INDIFLIN™ /Seed Treatment/Biorational

- Expand Biorational & Develop/Launch new mixtures
- Realize sales expansion through digital marketing
- Utilize manufacturing capability for global sales

Business× Sustainability ：INDIFLIN™

INDIFLIN™ Vertical Launch

Most effective Compound in biggest fungicide market



INDIFLIN™ in Brazil

Brand：EXCALIA MAX

Mixture (INDIFLIN™ & Tebuconazole)：

Main Target： Asian Soybean Rust

Characteristics： Provide broad spectrum against plant diseases and contribute to resistance management

Full advantage of B2C Sales Organization

Provide Technical Support and information
Expand Sales Representative for Soybean Area/Actively utilize SNS

Enhance Product Manufacturing

Establish Manufacturing for Excalia at Maracanau at SCB
Strengthen relevant SCM, especially raw material procurement

Business× Sustainability ：Conventional Chemicals

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No-till Farming (Herbicide)

No-Till Farming・・・・

- Skip (Machine) cultivation before planting
- Enables farmers to simplify farming activities
- Prevents soil loss but also reduce GHG emission stemming from soil and through reduction of fuel for machine

Sumitomo Chemical Contribution

to sustainable agriculture, providing fast-acting and long-lasting herbicides

Flumioxazin

Sales increasing
Mainly in North/South America

Rapidicil™

To be launched
in North/South America

Seed Treatment Business

Seed Treatment・・・・

- Treat pesticides to seeds
- Provide efficient and effective method that contributes to saving farmer time and lower environmental impact by applying the products directly to seed in comparison with foliar/soil application

Sumitomo Chemical Contribution

to sustainable agriculture, providing insecticides and fungicides for various seeds

Insecticides

Fungicides

Expand business
more than triple in several years

03 Business × Sustainability : Flumioxazin

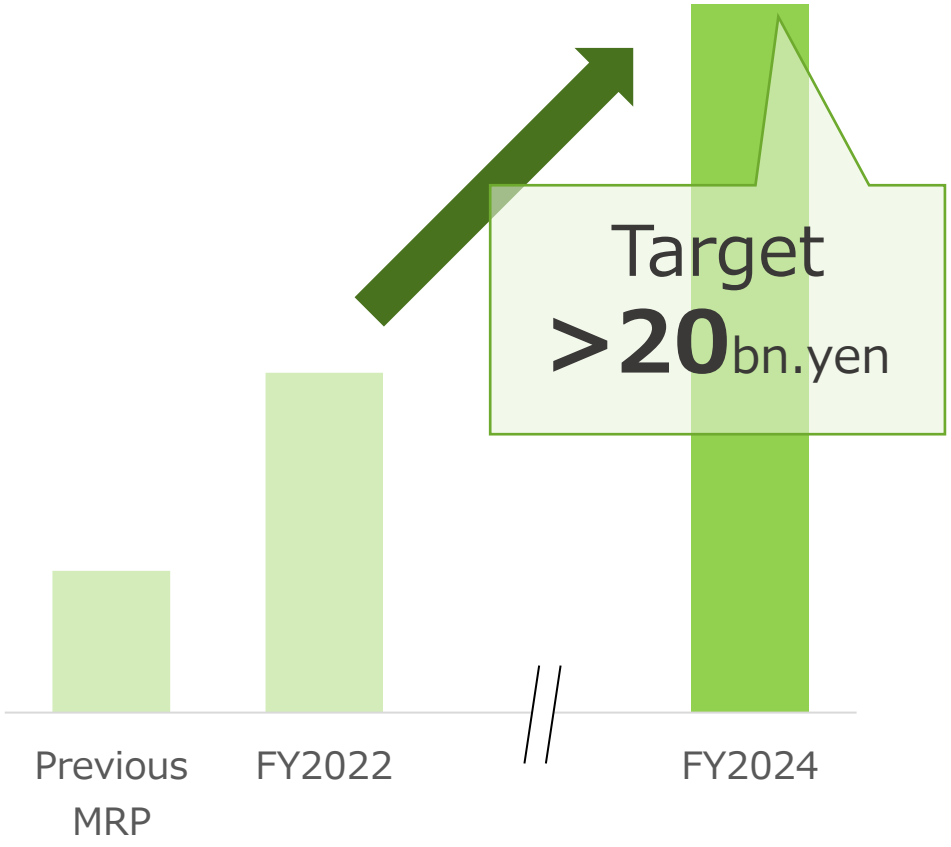
Flumioxazin Sales

Flumioxazin Business Strategy

- **Expand Sales along with increase of no till cultivation in North/Latin America.**
- **Accelerate PLCM activities in Asia and other areas and create opportunities for a variety of crops.**
- **Vision: contribute to business Expansion as well as Carbon Neutrality through further Sales in a global basis**

Business× Sustainability : Seed Treatment

Image of Seed Treatment Business



Sales Drivers for Business

- **Branded Products + Alliance with Seed Companies**
- **Create added value through variety product portfolio in insecticides and fungicides area and biorationals**
- **Reduce impact on environment through reduction of volumes and count of treatment**

03 Biorational Expansion Overview

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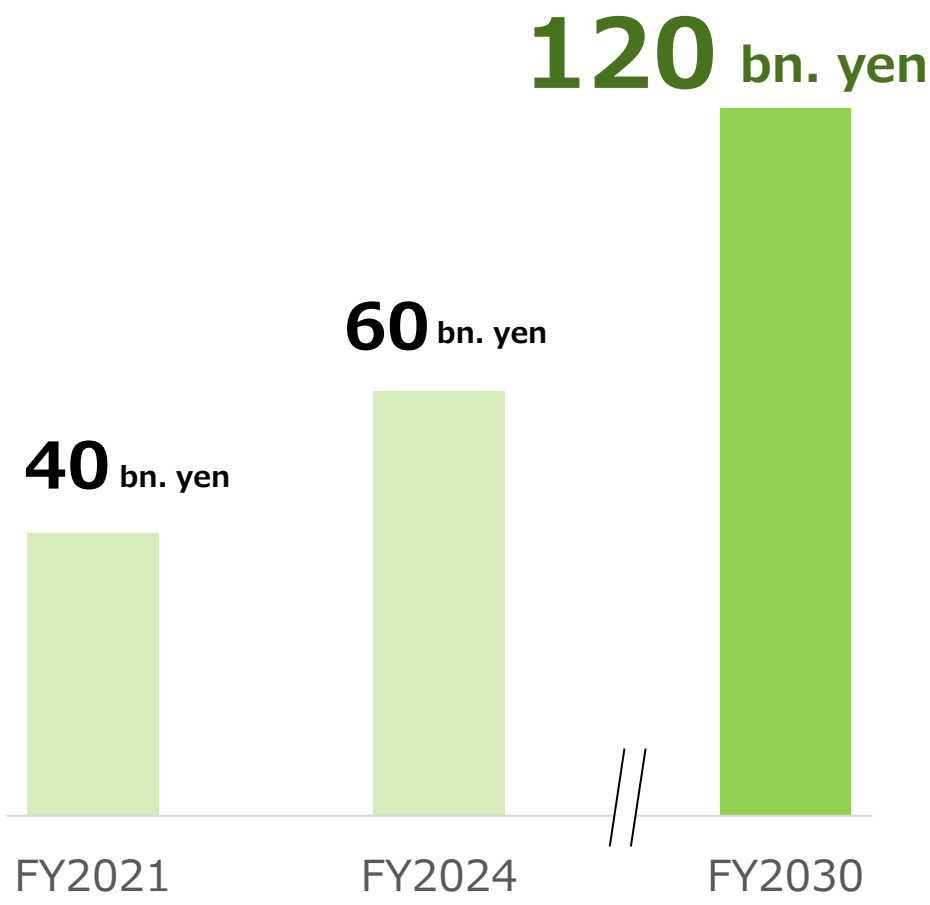
Biorational/Botanical Business Target



Actions to accelerate Business Expansion

R&D Accelerate Development and launch in pipeline

- Accelerate >40 R&D Projects during MRP period
- Expand Biorational Research Center (BRC)

Sale Strengthen functions

- Utilize SSBU in each region
- **USA) Start Direct Sales**
- Botanical) Expand Organic Ag

MFG Enhance suppliability

- **Expand Osage Site in USA**
- **Utilize Facility in Brazil**

- Next Page

Biz. Strengthen Business Management and Expand Business Area

- Realize flexible resource allocation by reorganizing and simplifying reporting line
- Seeking for Business Area Expansion through M&A

03 Biorational : Strengthen Manufacturing

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Pace : Wapato
(USA, WA)

MA : Grants Pass
(USA, OR)

Osage Site
(USA, IA)

- Increase capacity of major process, such as fermentation and recovery(completed by 2024)
- Equip and expand Pilot Plant
- Intensively implement actions to reduce CO2 reduction, such as Prairie Restoration Projects and construction of Solar Field

Maracanau
(Brazil)

- Completed Formulation Facility for Biorational (Plans to transfer to Brazil by 2023 summer)
- Transfer functions to where close to high-growth market
- Possible Export to other countries

Optimize/Strengthen Production & Supply framework serving for future business expansion in a global scale

03 Biorational : Start Direct Sales Organization

SUMITOMO CHEMICAL

New Organization

Biostimulant Business Unit

Organization

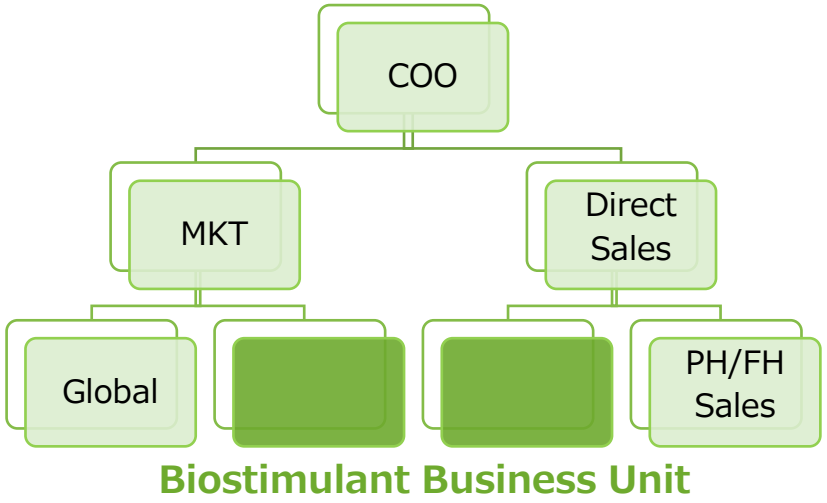
VBC Establish new sales organization with focus on Biostimulant & Mycorrhizae.
The new team consists of not only sales but marketing/registration and other experts

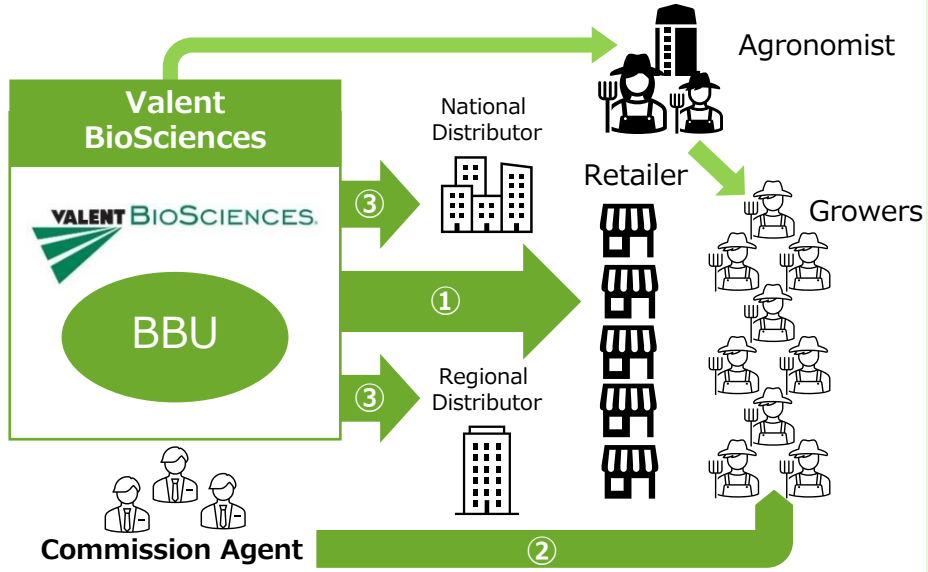
Strategy

Implement demand creation and sales activity close to growers in 3 ways.

①Direct Approach to **Retailers Distribution partners**.
②Focus on demand creation activities in grower level
- **Utilize "Commission Agents"**

③**Select Distributors** who are aligned with VBC's sales/promotion strategy for MA products.



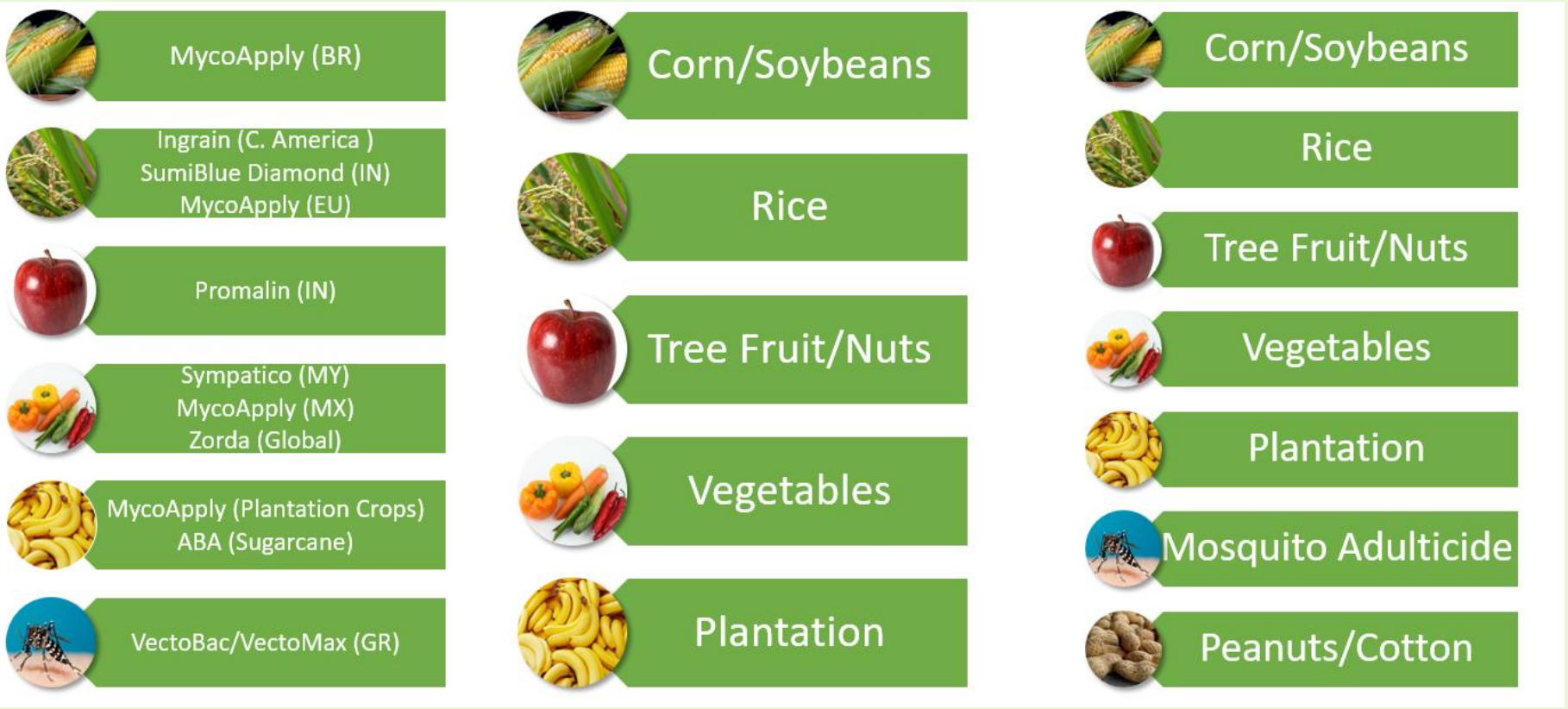


Biorational : Strengthen/Accelerate R&D

- Accelerate >40 R&D Projects planned during FY2022-2024MRP
- Expand Biorational Research Center to provide enough resources for all of R&D activities

VBC PJ List

(FY2022-2024)



03 Expansion of Nucleic Acid Drug Business

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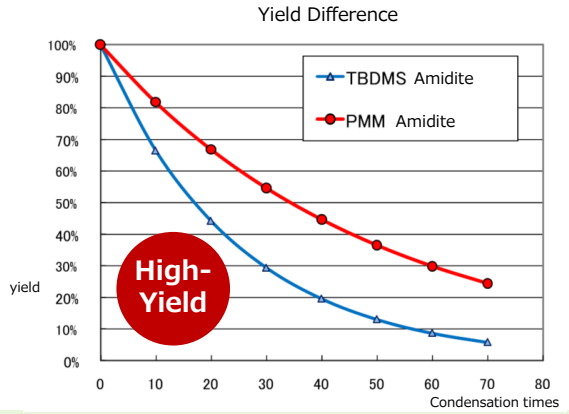
Year 2023: Establish Production for Nucleic Acid Drug Substances

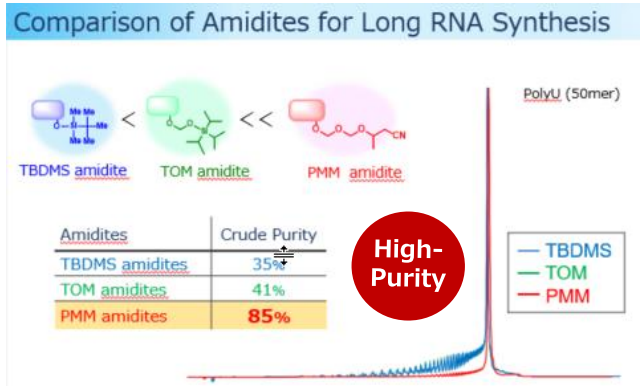
Expand Partnership with customers abroad

Expand Nucleic Acid Business

Complete large-scale Production Site for high-purity/long-chain Nucleic Acid Drug Substances

Our Technology Uniqueness /Competitiveness





Start Operation at new site in 2023

- Under construction of **gRNA manufacturing site** for genome editing therapy
- **Construction progressed well** and **start operation** as planned in 2023.

Expansion of Small Molecule Drugs Business

Re-attention towards SCC's Manufacturing Capability with domestic sites since COVID19

Steady Supply

Ensure the stable supply from domestic site

×

Quality Control

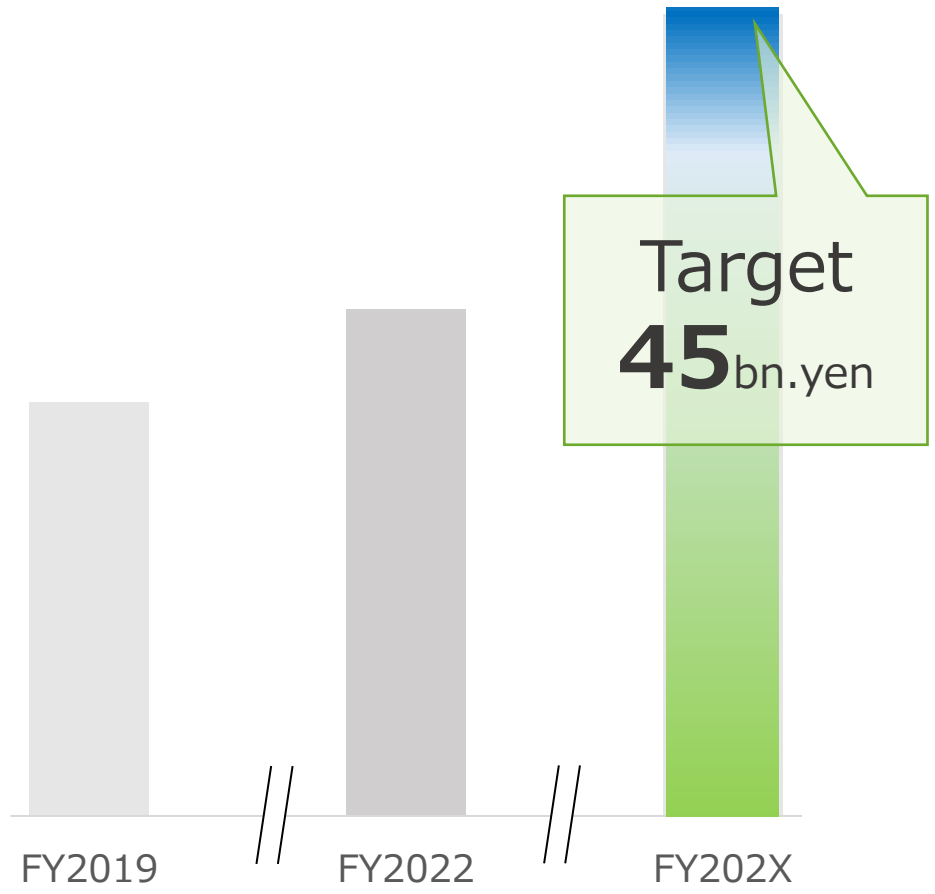
Reliable & Long-Held Quality Management

+ Start New Manufacturing Site in 2024

- Construct a new manufacturing site at Oita Works to enhance capacity to supply various high-quality APIs/Intermediates
- Establish position as a leading company in Japan for CDMO business

03 Vision of Pharmaceutical Chemical Business

Business Performance Target



Nucleic Acid Business – Growth Driver

- Establish position as a leading company for CDMO business in the area of high-purity & long-chain nucleic acid
- Continuously pioneer new technology areas and drive the growth for entire business

Small Molecule Drugs – Solid Foundation

- Leverage our long-held experience and know-how such as enhancement of GMP level, and ensure position as a leading company for CDMO business in Japan

Cautionary Statement

Statements made in this document with respect to Sumitomo Chemical's current plans, estimates, strategies and beliefs that are not historical facts are forward-looking statements about the future performance of Sumitomo Chemical. These statements are based on management's assumptions and beliefs in light of the information currently available to it, and involve risks and uncertainties.

The important factors that could cause actual results to differ materially from those discussed in the forward-looking statements include, but are not limited to, general economic conditions in Sumitomo Chemical's markets; demand for, and competitive pricing pressure on, Sumitomo Chemical's products in the marketplace; Sumitomo Chemical's ability to continue to win acceptance for its products in these highly competitive markets; and movements of currency exchange rates.