Current Priority Management Issues and Business Strategy

June 2, 2017
Performance Trends
Performance Trends

Current Priority Management Issues and Business Strategy

Net sales (left axis)
Operating income (right axis)
Ordinary income (right axis)
Net income (right axis)

Record high profits
All-time high

Billions of yen

Target
Forecast

(2001-2018)

(Billions of yen)
Change in Business Portfolio

Composition of Record Profits (Operating Income + Equity in Earnings of Affiliates)*

(Billions of yen)

Exchange Rate: ¥116.97/$ to ¥120.15/$ to ¥110.00/$

Equity in Earnings of Affiliates
Petrochemicals & Plastics
Operating Income from Bulk Chemicals
Operating Income from Specialty Chemicals

※Excluding the "Others" sector and elimination
We consider shareholder return as one of our priority management issues and have made it a policy to maintain stable dividend payment, giving due consideration to our business performance and a dividend payout ratio for each fiscal period, the level of retained earnings necessary for future growth, and other relevant factors.
What Sumitomo Chemical Strives To Be
What Sumitomo Chemical Strives To Be

Business Philosophy

- Commit ourselves to creating new value by building on innovation
- Work to contribute to society through our business activities
- Develop a vibrant corporate culture and continue to be a company that society can trust

Core Competence

- Capabilities to develop innovative solutions by leveraging its technological expertise in diverse areas
- Capabilities to reach global markets
- Loyal employees

Challenges & Business Opportunities

- Solve issues facing society
  - Environment
  - Food
  - Resources and energy
- Improve quality of life and build an affluent and comfortable society
  - Health promotion
  - Comfortable life

Achieve sustained growth by creating new value through innovative technologies
What Sumitomo Chemical Strives To Be: Achieve Sustained Growth

Medium- to long-term targets

Consistently achieve the following targets:

- **ROE** over 10%
- **ROI** over 7%
- **D/E ratio** approx. 0.7 times
- **Dividend payout ratio** approx. 30%
- **Profit growth** over 7% per year

Become a more resilient Sumitomo Chemical that achieves sustained growth
What Sumitomo Chemical Strives To Be: Current Business Portfolio

Invested Capital and ROI by Sector (Forecast for FY2017)

- **Pharmaceuticals**
- **Energy & Functional Materials**
- **Health & Crop Sciences**
- **IT-related Chemicals**
- **Petrochemicals & Plastics**

Invested Capital (billions of yen)

ROI (%)

- Pharmaceuticals: 5.0%
- Energy & Functional Materials: 10.0%
- Health & Crop Sciences: 10.0%
- IT-related Chemicals: 10.0%
- Petrochemicals & Plastics: 7%
What Sumitomo Chemical Strives To Be: Improvement of Business Portfolio

Invested Capital and ROI by Sector

ROI (%)

Invested Capital (billions of yen)

- Pharmaceuticals
- Health & Crop Sciences
- Energy & Functional Materials
- IT-related Chemicals
- Petrochemicals & Plastics

- 7% target ROI

Current Priority Management Issues and Business Strategy
What Sumitomo Chemical Strives To Be: Ten Years Ahead

Trend of Ordinary Income

(Billions of yen)

-50 0 50 100 150 200 250 300 350 400

Three priority management issues
Invested in major projects
Excessive yen appreciation
Recession
Profitability decreased and financial strength declined
Enhanced financial strength
Improved business portfolio
Continually develop new businesses and maximize free cash flows of the existing businesses
Achieve sustained growth

Target profit growth over 7% per year

Achieve sustained growth

Current Priority Management Issues and Business Strategy

Profitability decreased and financial strength declined
Invested in major projects
Continually develop new businesses and maximize free cash flows of the existing businesses

(Trend of Ordinary Income)

What Sumitomo Chemical Strives To Be: **First Steps Toward Our Goals**

### Basic Policy for FY2016-FY2018 Corporate Business Plan

- **Further improve business portfolio**
  - Identify areas of strength
  - Allocate resources to prioritized areas
  - *Pursue cost competitiveness and asset efficiency in fields where differentiation is difficult*

- **Generate more cash flow**
  - Increase profit above cost of capital
  - Make active and disciplined investments
  - Streamline balance sheet

- **Accelerate the launch of next-generation businesses**
  - Environment and Energy
  - Life Sciences
  - ICT
  - Cross-over areas

### Promote globally integrated management

- Ensure full and strict compliance, and establish and maintain safe and stable operations
Progress in Achieving Goals  Mainly in Core Businesses

- Core Business Trends and Business Strategy
- Results for FY2016
Progress in Achieving Goals  Mainly in Core Businesses

- Core Business Trends and Business Strategy
- Results for FY2016
Health & Crop Sciences: Roadmap Towards Our Goal

Current Challenges

(Agro Solutions and Environment Health)
Build a global business foundation
as a solution provider

Basic Strategy (Strategic Themes)

- Improve competitiveness of products
- Enhance global footprint
- Strengthen and increase earning power of existing businesses

Our Long-Term Goal (For Around FY2025)

Contribute to resolving problems facing society* by building on our R&D capabilities

*global issues related to food, health, hygiene and the environment
Food Demand Forecast

<table>
<thead>
<tr>
<th>Year</th>
<th>Population (Billions of people)</th>
<th>Demand for Grains (Millions of tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>2.4</td>
<td>800</td>
</tr>
<tr>
<td>1960</td>
<td>3.2</td>
<td>1,600</td>
</tr>
<tr>
<td>1970</td>
<td>4.0</td>
<td>2,400</td>
</tr>
<tr>
<td>1980</td>
<td>4.8</td>
<td>3,200</td>
</tr>
<tr>
<td>1990</td>
<td>5.6</td>
<td>4,000</td>
</tr>
<tr>
<td>2000</td>
<td>6.4</td>
<td>4,800</td>
</tr>
<tr>
<td>2010</td>
<td>7.2</td>
<td>5,600</td>
</tr>
<tr>
<td>2020</td>
<td>8.0</td>
<td>6,400</td>
</tr>
<tr>
<td>2030</td>
<td>8.8</td>
<td>7,200</td>
</tr>
<tr>
<td>2040</td>
<td>9.6</td>
<td>8,000</td>
</tr>
<tr>
<td>2050</td>
<td>10.4</td>
<td>8,800</td>
</tr>
</tbody>
</table>

(Source) FAO, "World agriculture: towards 2030/50"; UN Population Fund
Crop Protection Product sales by Region

(Millions of US dollars)

- Biorational
- Fungicides
- Herbicides
- Insecticides
- Others

FY2016 crop protection product sales by product category (Estimate)

- Others
- Asia
- Europe
- North America
- Japan

* Including environmental health products
Calendar year until 2011, April–March fiscal year after 2012
Health & Crop Sciences: Roadmap Towards Our Goal

**Current Challenges**

(Agro Solutions and Environment Health)

Build a global business foundation as a solution provider

**Basic Strategy (Strategic Themes)**

- Improve competitiveness of products
- Enhance global footprint
- Strengthen and increase earning power of existing businesses

**Our Long-Term Goal (For Around FY2025)**

Contribute to resolving problems facing society by building on our R&D capabilities

**FY2016-18 Business Strategy/Action Plan**

- Accelerate development of next-generation blockbuster crop protection chemicals (B2020/A2020)
- Acquisition of Excel Crop Care
- Enhance synergies of alliances/acquisitions
- Expand business areas (expand biorationals/post-harvest, seek synergies for crop protection chemicals and biorationals)
- Expand methionine business

**FY2019- Business Strategy/Action Plan**

- Launch/promote sales of next-generation blockbuster crop protection chemicals (B2020/A2020)
- Maximize synergies of alliances/acquisitions
- Explore M&A opportunities
- Expand biorational and crop stress management businesses
Pipeline of New Crop Protection and Household and Public Hygiene Insecticide Products

<table>
<thead>
<tr>
<th>Time of launch</th>
<th>2013 to 2015</th>
<th>2016 to 2019</th>
<th>2020 and After</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New products (under development)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Agricultural Fungicide</strong></td>
<td>2 compounds (Ethaboxam and Mandestrobin)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Household Insecticide</strong></td>
<td>1 compound (Sumifreeze)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6 new mixtures</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Agrichemicals in Japan</strong></td>
<td>7 new mixtures</td>
<td>5 new products</td>
<td><strong>B2020</strong></td>
</tr>
<tr>
<td><strong>Agrichemicals outside Japan</strong></td>
<td>8 new products</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Household &amp; Public Hygiene Insecticide</strong></td>
<td></td>
<td>2 new devices</td>
<td></td>
</tr>
<tr>
<td><strong>2020 and After</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Agricultural Insecticide</strong></td>
<td>1 compound</td>
<td></td>
<td><strong>A2020</strong></td>
</tr>
<tr>
<td><strong>Agricultural Fungicide</strong></td>
<td>1 compound</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Agricultural Fungicides</strong></td>
<td>3 compounds</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Household &amp; Public Hygiene Insecticides</strong></td>
<td>4 products</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Plant Growth Regulators and Biorationals</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Expect to grow into blockbusters</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Working to shorten the development period by up to one year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Future consolidated sales of B2020 products <strong>Over ¥100 billion</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Health & Crop Sciences Sector: Expand the Scope of Crop Protection Businesses

### Seeds
- Sunflower
- Rapeseed
- Sorghum
- Rice

### Seed treatment
- Crop protection chemicals
  - Insecticides and fungicides
- Products
  - Fungicides
  - Freshness preservers
  - Coating agents
  - Plant growth regulators

### Cultivation/pest control/fertilizer application
- Crop protection chemicals
  - Insecticides, fungicides, and herbicides
- Biорationals
  - Microbial pesticides
  - Plant growth regulators
  - Microbial agricultural materials
- Services
  - Post-harvest treatment
  - Pre-shipment treatment
  - Residue analysis
- Fertilizers
  - Coated fertilizers
- Product formulation technology
  - Microcapsule

### Post-harvest
- Targeted business areas for expansion

---

**Expansion of targeted businesses**

**Year 2015**
- Sales of targeted businesses: ¥37 billion

**Year 2020**
- ¥80 billion
  - Biорationals: ¥45 billion
  - Post-harvest: ¥15 billion
  - Seed treatment: ¥10 billion
  - Rice: ¥10 billion

**Total sales of crop protection chemicals business**
- ¥255 billion

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**Current Priority Management Issues and Business Strategy**

**Creating New Value**

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**SUMITOMO CHEMICAL**
Pharmaceuticals: Roadmap Towards Our Goal

Current Challenges

- Address the Latuda patent cliff
- Develop next-generation pharmaceuticals

Basic Strategy (Strategic Themes)

- Address patent cliff
- Develop next-generation pharmaceuticals
- Strengthen cost competitiveness

Our Long-Term Goal (For Around FY2025)

- Focus on the areas of psychiatric and neurological disorders and cancer/regenerative and cellular medicine
- Become an R&D-driver company that can compete globally

FY2016-18 Business Strategy/Action Plan

FY2019- Business Strategy/Action Plan
Early Recovery from LATUDA Patent Cliff

While revenues are expected to decline for FY2019 because of the expiration of US patent for LATUDA, we aim to achieve speedy recovery in and after FY2020 by launching and expanding sales of products currently in late stages of development.

**Net sales**

- **LATUDA®** patent expires
- **New products (Oncology)**
- **New Products (excluding Oncology)**
- **Operating profit trend**
- **Research and development expenses trend**

Additional sales possible through product in-licensing and M&A
Pharmaceuticals: Roadmap Towards Our Goal

Current Challenges

Address the Latuda patent cliff
Develop next-generation pharmaceuticals

Basic Strategy (Strategic Themes)

- Address patent cliff
- Develop next-generation pharmaceuticals
- Strengthen cost competitiveness

FY2016-18 Business Strategy/Action Plan

- In-license and acquire products under development (3 COPD drugs, Parkinson’s disease drug, hematologic cancer drug)
- Accelerate development/launch products in late-stage development (COPD drug, ADHD/BED drug, cancer stem cell inhibitor)
- Develop next-generation pharmaceuticals (regenerative and cellular medicine)
- Reform cost structure (optimize Japan/US sales forces)

FY2019- Business Strategy/Action Plan

- Launch various cancer drugs (e.g.: cancer stem cell inhibitor, hematologic cancer drug)
- Launch cellular medicine business

Our Long-Term Goal (For Around FY2025)

- Focus on the areas of psychiatric and neurological disorders and cancer/regenerative and cellular medicine
- Become an R&D-driver company that can compete globally
Pharmaceuticals Sector: Launch and Development of Major Products

Introducing 3 COPD Treatments

**Indications**
Chronic obstructive pulmonary disease (COPD)

**Features**
Can provide a wide range of treatment options

**Development and Launch Schedule**
2012: ARCAPTA (US)
April 2017: UTIBRON (US)
During FY2017: SEEBRI (US)
SUN-101 (US)

*1 Introducing 3 COPD Treatments:
Signed a license agreement with Novartis for 3 COPD treatments in the US in December 2016

*2 Promotion by Sumitomo Chemical to begin in FY2017

*3 Applied for approval in U.S.

Expected peak sales about 50 billion yen

ADHD/BED Treatment

**Indication**
Attention deficit hyperactivity disorder (ADHD)/Binge eating disorder (BED)

**Features**
Long half-life
(24 hour dosage interval)

**Development and Launch Schedule**
Current: Phase III clinical trials completed for adult and pediatric ADHD (U.S.)
In phase III clinical trials for BED (U.S.)
FY2018: Planned launch for ADHD (U.S.)
FY2019: Planned launch for BED (U.S.)

* Dasotraline

Expected peak sales about 50 billion yen

Making progress in new product development and in-licensing for post-LATUDA period
### Acquisition of Parkinson’s disease treatment*

<table>
<thead>
<tr>
<th>Indications</th>
<th>“Off” episodes of Parkinson’s disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Features</td>
<td>Sublingual thin film</td>
</tr>
</tbody>
</table>

At present: In phase III clinical trials (U.S.)

- FY2017: Submit new drug application
- FY2018: Planned launch

* Acquired in the acquisition of Cynapsus Therapeutics Inc. in October 2016 for 635 million dollars

Expected peak sales about 50 billion yen

### Acquisition of hematologic cancer treatment*

<table>
<thead>
<tr>
<th>Indications</th>
<th>Hematologic cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Features</td>
<td>Cyclin-dependent kinase 9 (CDK9) inhibitor (injected)</td>
</tr>
</tbody>
</table>

At present: In Phase II clinical trials (U.S.) (Acute myeloid leukemia)

- FY2017: Submit new drug application
- FY2018: Planned launch

* Acquisition of hematologic cancer treatment:
  In the acquisition of Tolero Pharmaceuticals in January 2017, we gained 6 compounds including alvocidib, a hematologic cancer treatment, for an upfront payment of $200 million, a development milestone payment of $430 million (max) and a sales milestone payment of $150 million (max)

Expected peak sales about 50 billion yen

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Making progress in new product development and in-licensing for post-LATUDA period
# Pharmaceuticals Sector: Regenerative Medicine and Cell Therapy

## Regenerative Medicine and Cell Therapy Development Plan

<table>
<thead>
<tr>
<th>Disease</th>
<th>Partnering</th>
<th>Region (planned)</th>
<th>Cell type</th>
<th>Development schedule (calendar year)</th>
<th>Approval target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic stroke (SB623)</td>
<td>SanBio</td>
<td>North America</td>
<td>Allogeneic MSC</td>
<td>2017 Ph-IIb</td>
<td></td>
</tr>
<tr>
<td>Age-related macular degeneration</td>
<td>Healios RIKEN</td>
<td>Japan</td>
<td>Allogeneic iPS cell</td>
<td>Clinical research</td>
<td>Approval target</td>
</tr>
<tr>
<td>Parkinson's disease</td>
<td>Kyoto University CiRA</td>
<td>Global</td>
<td>Allogeneic iPS cell</td>
<td>Investigator initiated clinical trial*</td>
<td></td>
</tr>
<tr>
<td>Retinitis pigmentosa</td>
<td>RIKEN</td>
<td>Global</td>
<td>Allogeneic iPS cell</td>
<td>Clinical research</td>
<td></td>
</tr>
<tr>
<td>Spinal cord injury</td>
<td>Keio University Osaka National Hospital</td>
<td>Global</td>
<td>Allogeneic iPS cell</td>
<td>Clinical research</td>
<td></td>
</tr>
</tbody>
</table>

* Start of clinical studies originally scheduled for 2017 is expected to be delayed due to changes in non-clinical study plans.

Planning to start the operation of cell processing center in FY 2017
Energy & Functional Materials Sector: Roadmap Towards Our Goal

Current Challenges

- Review of business portfolio
- Build foundation for growth

Basic Strategy (Strategic Themes)

- Select and foster growth businesses
- Restructure underperforming businesses

Our Long-Term Goal (For Around FY2025)

Contribute to resolving environmental/energy issues through innovative technology

FY2016-18 Business Strategy/Action Plan

FY2019- Business Strategy/Action Plan
Market for Lithium-Ion Secondary Batteries for Automotive Use

(Billions of yen)


Expected to expand sevenfold in ten years

(Source) “Future Outlook of Energy, Large Scale Secondary Battery, and Materials 2016; Energy Devices” by Fuji Keizai
Market of 4 major components and materials for lithium-ion secondary batteries

- Anode materials: 16%
- Cathode materials: 50%
- Electrolyte: 8%
- Separators: 26%

**CY2015**

¥635.6 billion

Sumitomo Chemical’s target markets: 76%

(Source) “Future Outlook of Energy, Large Scale Secondary Battery, and Materials 2016; Energy Devices” by Fuji Keizai

Our products

- Separators
- Panasonic and others
- Lithium-ion secondary batteries
Energy & Functional Materials Sector: Roadmap Towards Our Goal

**Current Challenges**
- Review of business portfolio
- Build foundation for growth

**Basic Strategy (Strategic Themes)**
- Select and foster growth businesses
- Restructure underperforming businesses

**Our Long-Term Goal (For Around FY2025)**
Contribute to resolving environmental/energy issues through innovative technology

**FY2016-18 Business Strategy/Action Plan**
- Expand separator business (expand production capacity, develop new products, expand customer base)
- Grow cathode materials business (acquire, develop and launch new products)
- Expand super engineering plastics business (develop new uses, expand production capacity)
- Establish S-SBR joint venture

**FY2019- Business Strategy/Action Plan**
- Expand battery materials business
- Expand super engineering plastics business
- Full-fledged sales of CO$_2$ separation membrane
Energy & Functional Materials Sector: Decided to Increase Lithium-Ion Secondary Battery Separator Production Capacity

Advantages of aramid-coated separators
- High heat resistance, greater safety
- Lightweight
- Less powder dust

Best suited for high-capacity batteries for automotive and other applications

Increasing demand for use in eco-friendly cars

Separator production capacity expansion plan

Production capacity: South Korea production capacity to be quadrupled

Start of operations: In stages from August 2017

Separator production capacity

<table>
<thead>
<tr>
<th></th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>Approx. 100 million m²</td>
</tr>
<tr>
<td>South Korea</td>
<td>Approx. 300 million m²</td>
</tr>
<tr>
<td>Total</td>
<td>Approx. 400 million m²</td>
</tr>
</tbody>
</table>

Expand market share of lithium-ion secondary battery separator for automotive use
Features of Sumitomo Chemical’s SEPs

<table>
<thead>
<tr>
<th>LCP</th>
<th>PES</th>
</tr>
</thead>
<tbody>
<tr>
<td>High strength and stiffness</td>
<td>Heat resistant</td>
</tr>
<tr>
<td>Heat resistant</td>
<td>High creep resistance</td>
</tr>
<tr>
<td>High liquidity</td>
<td>Dimensional stability</td>
</tr>
<tr>
<td>High dimensional accuracy</td>
<td>Flame retardant</td>
</tr>
<tr>
<td>Flame retardant</td>
<td>Hydrolysis resistance</td>
</tr>
</tbody>
</table>

LCP: Liquid crystal polymer  PES: Polyethersulfone

SEP for Automotive Use

1. Engine, HEV/EV and transmission components
4. External panel components
2. Headlight components
3. Electrical components (e.g., relays)

Long Fiber Compound Technology Development

- Similar stiffness to metal
- Freedom in component design
- Reduced component numbers due to one-piece casting

SEP is expected to replace metal for light weight and also to be used in new applications that will emerge due to the advance of automatic driving technology and increased use of electrical and electronic components and systems in cars.
## Current Challenges

Address the generational shift in display technology from LCD to OLED

## Basic Strategy (Strategic Themes)

- Expand OLED materials and components business
- Improve cost structure of LCD materials and components business
- Explore and develop next-generation businesses

## Our Long-Term Goal (For Around FY2025)

Provide new materials/solutions that promote the advance of the ICT industry
Supply Capacity for LCD panels for TVs by Country

(Source) IHS Markit Technology

(million units)
IT-Related Chemicals: Market Trends of Displays for Mobile Devices

**Shipment of Smartphone Displays by Type**

(Source) IHS Markit Technology
Current Challenges
Address the generational shift in display technology

Basic Strategy (Strategic Themes)
- Expand OLED materials and components business
- Improve cost structure of LCD materials and components business
- Explore and develop next-generation businesses

Our Long-Term Goal (For Around FY2025)
Provide new materials/solutions that promote the advance of the ICT industry

FY2016-18 Business Strategy/Action Plan
- Expand touchscreen panel business (expand product lineup, strengthen production capacity, expand customer base)
- Launch flexible display materials business
- Launch PLED business
- Restructure LCD materials and components business (restructure production capabilities increase cost reduction effort)

FY2019- Business Strategy/Action Plan
- Expand flexible display materials business (launch multi-functional materials and components, etc.)
- Expand PLED business
- Maximize cash flow of LCD materials and components business
Develop the next-generation business pipeline in anticipation of generational shift in display technology.

**Printed electronics**

- Development phase

**OLED display (flexible)**

- Eve of introduction phase

**OLED display (rigid, bendable)**

- Growth phase

**LCD**

- Maturing phase

**Our products**

- PLED lighting (general lighting)
- Organic semiconductor
- Organic thin film solar cells
- Biosensor

**Our products**

- Window film
- Liquid crystal coated-type polarizing film
- Flexible touchscreen panels
- Barrier film

**Our products**

- Circularly polarizing film
- Touchscreen panels
- PLED light-emitting materials

- Polarizing film
- Color filter
- Color resist
- Aluminum sputtering target, etc.
IT-related Chemicals Sector: State of the OLED-related Materials Business

Sumitomo Chemical’s OLED-related materials

**OLED display structure**

- Cover glass
- Polarizer
- ITO (xy)
- Sealing glass
- OLED
- Glass

**SC’s products (already in market)**

- Window film
- Liquid crystal coated polarizer
- Flexible TSP
- PLED light-emitting materials
- Barrier film

**SC’s products (under development)**

<table>
<thead>
<tr>
<th>Mobile displays</th>
<th>Large-scale displays</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

- Y: Used

**State of the OLED-related Materials Business**

- SC’s products (already in market)
- SC’s products (under development)

**Notes**

- OLED-related chemicals sector

**Current Priority Management Issues and Business Strategy**

- Create New Value

**SUMITOMO CHEMICAL**

Page 39
Composition of display materials and components sales

Significantly expand sales of OLED materials and components
Current Challenges

- Maintain a high operating rate at Petro Rabigh
- Enhance high value-added business in Singapore

Basic Strategy (Strategic Themes)

- Enhance high value-added business
- Stabilize operations at Petro Rabigh
- Restructure businesses

Our Long-Term Goal (For Around FY2025)

- Provide solutions through high value-added products
- Maintain stable supply of cost-competitive general-purpose products
Petrochemicals & Plastics: World's Ethylene Production by Feedstock

(Source) The Chemical Daily
Petrochemicals & Plastics: Roadmap Towards Our Goal

Current Challenges
- Maintain a high operating rate at Petro Rabigh
- Enhance high value-added business in Singapore

Basic Strategy (Strategic Themes)
- Enhance high value-added business
- Stabilize operations at Petro Rabigh
- Restructure businesses

Our Long-Term Goal (For Around FY2025)
- Provide solutions through high value-added products
- Maintain stable supply of cost-competitive general-purpose products

FY2016-18 Business Strategy/Action Plan
- Enhance high value-added business (modify TPC’s production facilities, develop and launch new products)
- Rabigh Phase I project: Stable operations
- Rabigh Phase II project: Construction and start operations
- Restructure businesses

FY2019- Business Strategy/Action Plan
- Enhance high value-added business (Singapore, Japan)
- Stabilize operations (Rabigh Phase I and Phase II projects)
Petrochemicals & Plastics: TPC Shift to High Value-added Products

- Shifted production at GLS plant from PE to PP in 2006
- Launched HEVA for solar cells in 2007
- Launched polypropylene for capacitors in 2009
- Remodeled GPS-2 production line in 2016

High value-added products Sales (left axis):
- EVA
- HEVA
- High value-added LDPE
- Random copolymer
- Terpolymer
- Polypropylene for capacitors

Proportion of high value-added products (right axis)
Current Priority Management Issues and Business Strategy

Petrochemicals & Plastics: Petro Rabigh Complex

- Crude Oil and others (400,000 barrels/day)
- Ethane (1,200→1,600)

Phase I:
- Oil refining facilities
- Naphtha (2,900)
  - Kerosene
  - Gas Oil
  - Fuel Oil
  - Gasoline
- Propylene
- Ethylene
  - HDPE (300)
  - LLDPE (600)
  - MEG (600)

Phase II Project:
- Naphtha reformer
  - Paraxylene/Benzene (1,300/400)
- Phenol/Acetone (250/150)
- MMA/PMMA (90/50)
- EPDM/TPO (70/10)
- EVA/LDPE (70/80)

Investment in acrylic acid, SAP, and polyols is under consideration.
Progress in Achieving Goals

- Core Business Trends and Business Strategy
- Results for 2016
## Results for FY2016: Life Sciences

<table>
<thead>
<tr>
<th>Business Expansion</th>
<th>Health &amp; Crop Sciences Sector</th>
<th>Pharmaceuticals Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>M&amp;A</strong></td>
<td>● Acquired Indian agrochemicals company</td>
<td>● Acquired a Phase III product candidate for Parkinson’s disease</td>
</tr>
<tr>
<td><strong>Organic Growth (Production capacity expansion)</strong></td>
<td>● Decided to expand methionine production capacity</td>
<td>● Acquired a hematologic cancer</td>
</tr>
<tr>
<td><strong>Organic Growth (Others)</strong></td>
<td>● Decided to expand R&amp;D facilities and experimental field for agrochemicals</td>
<td>● Licensed COPD treatments</td>
</tr>
<tr>
<td><strong>Business Restructuring</strong></td>
<td>● Collaboration with Monsanto in herbicide development</td>
<td>● Applied for U.S. FDA approval of COPD treatments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Early retirement program (Sumitomo Dainippon Pharma)</td>
</tr>
</tbody>
</table>
## Results for FY2016: Environment and Energy/ICT

<table>
<thead>
<tr>
<th>Energy &amp; Functional Materials Sector</th>
<th>IT-related Chemicals Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business Expansion</strong></td>
<td></td>
</tr>
<tr>
<td>M&amp;A</td>
<td></td>
</tr>
<tr>
<td><em>Entered cathode materials business</em></td>
<td></td>
</tr>
<tr>
<td><strong>Organic Growth</strong></td>
<td></td>
</tr>
<tr>
<td>(Production capacity expansion)</td>
<td></td>
</tr>
<tr>
<td><em>Decided to expand separator production capacity</em></td>
<td><em>Expanded glass-based touchscreen panel production capacity</em></td>
</tr>
<tr>
<td><em>Decided to expand for super engineering plastics production capacity</em></td>
<td><em>Decided to expand film-based touchscreen panel production capacity</em></td>
</tr>
<tr>
<td><strong>Organic Growth (Others)</strong></td>
<td></td>
</tr>
<tr>
<td><em>Established joint venture in S-SBR business</em></td>
<td><em>Advancing development of materials for flexible displays</em></td>
</tr>
<tr>
<td><em>Expanded glass-based glass-based touchscreen panel production capacity</em></td>
<td><em>Advancing development of polymer OLEDs</em></td>
</tr>
<tr>
<td><strong>Business Restructuring</strong></td>
<td></td>
</tr>
<tr>
<td><em>Established joint venture in S-SBR business</em></td>
<td><em>Polarizing film</em></td>
</tr>
<tr>
<td><em>Sapphire substrates</em></td>
<td></td>
</tr>
</tbody>
</table>
Results for FY2016: Bulk Chemicals

Petrochemicals & Plastics Sector

Business Expansion

M&A
- Made polycarbonate joint venture a wholly owned subsidiary

Organic Growth (Production capacity expansion)
- Proceeding with construction for Rabigh Phase II Project
- Expanded polypropylene compound production capacity

Organic Growth (Others)
- Accelerating the shift to high value-added products at TPC

Business Restructuring
- Consolidation of film business
Capital Expenditure and Investment Plan for FY2016-FY2018 (By Fiscal Year)

**Capital expenditure and investment plan for FY2016-FY2018**

**(Decision-making basis)**

(Billions of yen)

<table>
<thead>
<tr>
<th></th>
<th>FY2016 (Forecast)</th>
<th>FY2017 (Forecast)</th>
<th>FY2018 (Forecast)</th>
<th>FY2016-2018 Total (Forecast)</th>
<th>FY2016-2018 Total (Corporate Business Plan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Exp</td>
<td>300</td>
<td>500</td>
<td>400</td>
<td>700</td>
<td>800</td>
</tr>
<tr>
<td>&amp; Inv</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategic M&amp;A</td>
<td>100</td>
<td>200</td>
<td>300</td>
<td>300</td>
<td>600</td>
</tr>
</tbody>
</table>

More than half of investments for FY2016-FY2018 decided in FY2016

Accelerate our efforts to create new value

Up to ¥300 billion
Capital Expenditure and Investment Plan for FY2016-FY2018 (By Sector)

Major Capital Expenditures and Investments

Pharmaceuticals
- Acquired a Phase III product candidate for Parkinson’s disease (about $635 million)
- Acquired a leukemia treatment candidate (about $780 million, including development and sales milestone payments)

Health & Crop Sciences
- Increase methionine production capacity (about ¥50 billion)
- Acquired Indian agrochemicals company (about ¥13.9 billion)
- Expanded R&D facilities (about ¥10 billion)

IT-related Chemicals
- Expanded film-based touchscreen panel production capacity (about ¥9 billion)
- Flexible display materials

Energy & Functional Materials
- Expand separator production capacity (about ¥25 billion)
- Entered cathode materials business (about ¥7 billion)

General

Petrochemicals & Plastics

Capital expenditure and investment plan for FY2016-FY2018 (decision-making basis)

About ¥600bn

Specialty Chemicals
Initiatives toward Sustained Growth

- Build Foundations for Sustained Growth
- ESG Initiatives
Initiatives toward Sustained Growth

- Build Foundations for Sustained Growth
- ESG Initiatives
What Sumitomo Chemical Strives To Be: Initiatives For Enhancing Enterprise Value

**Initiatives for improving profitability**

**Expansion by M&A**
- Earmark funds for investment in M&A

**Organic expansion**
- Identify areas of strength
- Strengthen research, manufacturing and marketing functions

**Restructuring**
- Close and downsize underperforming business
- Enhance competitiveness by partnerships

**Cost reduction**
- Reduce Head Office overhead cost
- Reduce costs in business sectors

**Initiatives for improving asset turnover**

**Selective investment**
- More rigorous investment decision-making and management

**Cash conversion cycle improvement**
- Shortening accounts receivable terms
- Reducing the number of product lines
- Optimizing inventory levels

**Asset sales**
- Sale of equity securities
- Sale of non-operating real estate

**Effective use of cash and cash equivalents on hand**
- Promoting M&A in Pharmaceuticals Sector

**Leverage**

**Improve ROI**

**Improve ROE**

Promote initiatives for enhancing enterprise value (ROI)
What Sumitomo Chemical Strives To Be: Further improve business portfolio

Operating Income from Specialty Chemicals

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Revenue</th>
<th>Specialty Chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2006</td>
<td>¥139.6 billion</td>
<td>Specialty Chemicals* 72%</td>
</tr>
<tr>
<td>FY2015</td>
<td>¥164.4 billion</td>
<td>Specialty Chemicals 83%</td>
</tr>
<tr>
<td>FY2017</td>
<td>¥165.0 billion</td>
<td>Specialty Chemicals 85%</td>
</tr>
</tbody>
</table>

Target
Profit growth of 7% per year

Business portfolio centered on areas where we have technological advantages
Stably achieve ROI significantly above the cost of capital

※Excluding the "Others" sector and elimination
Initiatives Maintaining Sustained Growth: Cash Flow Management

Interest-Bearing Liabilities and Debt to Equity Ratio

(Billions of yen) vs (Times)

- Interest-bearing liabilities (left axis)
- Debt to equity ratio (right axis)

※1 Including investment in Rabigh Phase II Project; including the effects of investments in strategic M&A
※2 Including investment in Rabigh Phase II Project; not including the effects of investments in strategic M&A
Current Priority Management Issues and Business Strategy

Create New Value

Initiatives Maintaining Sustained Growth: New Business Development By Leveraging Core Technologies

Organic-inorganic hybrid technology

- Inorganic material function design
- Organic-inorganic hybrid technology
- Device design
- Biological mechanism analysis
- Inorganic material function design
- Power semiconductors

S-DPF

- Positive-electrode material
- Optical encapsulant
- Flexible touchscreen sensor
- Barrier film
- Catalyst design
- Six core technologies
- Precision processing
- Organic & polymer material function design
- Device design
- Power semiconductors
- Biosensors

CO₂ separation membrane

- Coating-type polarizing film
- Organic semiconductors
- Molecular orientation technology
- Organic thin film photovoltaics
- Next-generation secondary batteries

Thermoelectric conversion materials

- Next-gen core technologies
- Next-gen business in ICT area
- Next-gen business in life sciences area
- Next-gen business in environment and energy area

New PET diagnostic agent (for image diagnosis of CNS and tumors)

- Cancer stemness inhibitor
- Rice variety development
- Crop stress management
- Regenerative medicine and cell therapy

Blockbuster crop protection chemicals (B2020)

Blockbuster crop protection chemicals (A2020)
Create New Value

What Sumitomo Chemical Strives To Be: Promote Open Innovation

Accelerate the development of next-generation businesses by leveraging both internal and external expertise.
Initiatives Maintaining Sustained Growth: IoT Project

Digital R&D
- Speeding up the R&D process

Digital Back Office
- Transforming workstyles through greater efficiency in office tasks

Digital Plant
- Increasing efficiency of plant maintenance and operation

Digital Global SCM
- Greater depth and real-time visualization of global supply chain information

Digital Marketing
- Efficient and effective sales and marketing

Evolution of ICT
Initiatives toward Sustained Growth

- Build Foundations for Sustained Growth
- ESG Initiatives
Change in the Functions of Board of Directors

**Previous functions of Board of Directors**
- Board of Directors with weight on decision-making

**Current functions of Board of Directors**
- Board of Directors with weight on oversight of management

**Scope of oversight by Board of Directors**
- Expansion of oversight scope
- Narrowing of decision-making

**Scope of decision-making by Board of Directors**

**Specific measures for revising functions**
- Enhanced reporting to Board of Directors
- Revision of the criteria for matters subject to Board of Directors resolution
- Leveraging the functions of outside directors

**Board of Corporate Auditors**

**Newly established**
- Compensation Advisory Committee
- Nomination Advisory Committee
Initiatives Maintaining Sustained Growth: Governance

PDCA cycle for further improving the effectiveness of the Board of Directors

- Surveys for all Directors and Auditors
- Opinions of Board of Corporate Auditors
- Outside Directors meetings
- Management meetings
- Deliberation at Board of Directors
- Review and implement policies for improvement
- Disclosure in corporate governance report

Examples of Policies for Improvement

- Strengthened reporting on task execution status to outside directors
  - Rotation reports and spot reports on important cases
- Shared discussion with outside directors in internal meetings
  - Disclosure of the content discussed in management meetings
- Factory tours for outside directors
  - Twice-yearly inspections of plants both inside and outside Japan

Outside directors visiting Sumitomo Chemical Singapore

Rotation report: A comprehensive and systematic report at a set time for each field; Spot reports on important cases: Advance reports on potential large-scale investments etc.
Major themes for Sumitomo Chemical Group’s CSR Activities for FY2017

Each of us will always be aware of how we contribute to society through our work

1. Each of us will play on active role in economic, social and responsible care activities
2. We will deeper our understanding of SDGs, ask ourselves what to do to further contribute to the future of society and take action while enlightening one another.
3. We will effectively communicate the significance of the ties of business and society, both internally and externally

Each Sectors’ ‘SDGs’

<table>
<thead>
<tr>
<th>Petrochemicals &amp; Plastics</th>
<th>IT-related Chemicals</th>
<th>Health &amp; Crop Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 Attentively and Climate-friendly</td>
<td>7 Attentively and Climate-friendly</td>
<td>2 Zero Hunger</td>
</tr>
<tr>
<td>9 Industry Innovation and Infrastructure</td>
<td>12 Responsible Consumer and Production</td>
<td>3 Good Health and Wellbeing</td>
</tr>
<tr>
<td>12 Responsible Consumer and Production</td>
<td>11 Responsible Cities and Communities</td>
<td>13 Climate Action</td>
</tr>
<tr>
<td>17 Partnerships for the Goals</td>
<td>17 Partnerships for the Goals</td>
<td>13 Climate Action</td>
</tr>
</tbody>
</table>
Initiatives Maintaining Sustained Growth: Sumika Sustainable Solutions

Sales of SSS-Certified Products and Technology

(Billions of yen)

Certification Committee convened in May 2017

Certified 13 additional products and technologies (In total, 34 products and technologies have been certified)

SSS-Certified Products and Technologies

1. Contribution to promoting the use of EVs
   - Lithium-ion secondary battery separator PERVIO®

2. Contribution to fuel efficiency improvement by reducing the weight of aircraft
   - Polyethersulfone SUMIKAEXCEL®

3. Significant energy saving in CO₂ separation in hydrogen production process
   - CO₂ separation membrane

4. Reduced GHG emissions by reducing the nitrogen content in livestock waste
   - Feed additive methionine SUMIMET®

Provide solutions to build a sustainable society
Address global challenges such as climate change
Conclusion
Sumitomo Chemical’s Value Creation

**Improve Growth Rate**
Concentrate management resources on the three growth areas and cross-over areas

- Environment and Energy
- Life Sciences
- ICT

**Improve ROI**

- Improve profit margin
- Improve asset turnover rate

**Continuation of the ESG initiatives**

- **Environment**
  Contribute to sustainable development of society through business

- **Society**
  Build good relationships with stakeholders

- **Governance**
  Improve the effectiveness of governance

Towards achieving continuous value creation
What Sumitomo Chemical Strives To Be: Ten Years Ahead

Trend of Ordinary Income

(Billions of yen)

- Three priority management issues
- Excessive yen appreciation
- Recession
- Profitability decreased and financial strength declined
- Enhanced financial strength
- Improved business portfolio
- Continually develop new businesses and maximize free cash flows of the existing businesses

Target profit growth over 7% per year

Achieve sustained growth

Current Priority Management Issues and Business Strategy

SUMITOMO CHEMICAL

67
Creative Hybrid Chemistry

SUMITOMO CHEMICAL
(Reference) Topics
Sumitomo Chemical’s DNA

**Sumitomo Values**

The Sumitomo Family’s “Business Principles” state that as we conduct business, we must value trust and integrity, and thereby strive to thrive, and that we must closely watch the changing of the times, carefully weighing opportunities and risks, never chasing short-term gains, in good times and bad.

At Sumitomo Chemical we adhere to the principle that our business must not only benefit our own interests but also society at large.

**The origin of Sumitomo Chemical**

Sumitomo Chemical’s history dates back to 1913. The company got its start by producing fertilizer from harmful gas emitted in copper smelting operations. The business helped mitigate the environmental problem caused by the emissions, while also contributing to increasing agricultural crop production.
## Performance Targets under the Corporate Business Plan

<table>
<thead>
<tr>
<th></th>
<th>FY2015</th>
<th>FY2016</th>
<th>FY2017 Forecast</th>
<th>FY2018 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net Sales</strong></td>
<td>2,101.8</td>
<td>1,954.3</td>
<td>2,190.0</td>
<td>2,540.0</td>
</tr>
<tr>
<td><strong>Operating Income</strong></td>
<td>164.4</td>
<td>134.3</td>
<td>165.0</td>
<td>200.0</td>
</tr>
<tr>
<td>(Equity in</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings of Affiliates)</td>
<td>20.2</td>
<td>41.2</td>
<td>35.0</td>
<td>29.0</td>
</tr>
<tr>
<td><strong>Ordinary Income</strong></td>
<td>171.2</td>
<td>166.6</td>
<td>185.0</td>
<td>210.0</td>
</tr>
<tr>
<td><strong>Net Income</strong></td>
<td>81.5</td>
<td>85.5</td>
<td>100.0</td>
<td>110.0</td>
</tr>
<tr>
<td><strong>Interest-bearing Liabilities</strong></td>
<td>831.5</td>
<td>875.3</td>
<td>870.0</td>
<td>1,000.0*¹</td>
</tr>
<tr>
<td><strong>Naphtha Price</strong></td>
<td>¥42,800/kl</td>
<td>¥34,700/kl</td>
<td>¥37,000/kl</td>
<td>¥45,000/kl</td>
</tr>
<tr>
<td><strong>Exchange Rate</strong></td>
<td>¥120.15/$</td>
<td>¥108.34/$</td>
<td>¥110.00/$</td>
<td>¥120.00/$</td>
</tr>
</tbody>
</table>

*¹: Including the effects of investments in strategic M&A
### What Sumitomo Chemical Strives To Be: Ten Years Ahead

<table>
<thead>
<tr>
<th></th>
<th>FY2006</th>
<th>FY2015</th>
<th>FY2017 (Forecast)</th>
<th>FY2018 (Plan)</th>
<th>Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ROI</strong></td>
<td>8%</td>
<td>6%</td>
<td>7%</td>
<td>7%</td>
<td>Over 7%</td>
</tr>
<tr>
<td><strong>ROE</strong></td>
<td>12%</td>
<td>10%</td>
<td>12%</td>
<td>12%</td>
<td>Over 10%</td>
</tr>
<tr>
<td><strong>D/E ratio</strong></td>
<td>0.6times</td>
<td>0.8times</td>
<td>0.7times</td>
<td>0.6～0.7*1 times</td>
<td>0.7 times</td>
</tr>
<tr>
<td><strong>Dividend payout ratio</strong></td>
<td>21%</td>
<td>28%</td>
<td>23%</td>
<td>Undecided</td>
<td>Approx. 30%</td>
</tr>
</tbody>
</table>

*1: Including the effects of investments in strategic M&A
## Health & Crop Sciences Sector: Biorationals

### Microbial pesticides

<table>
<thead>
<tr>
<th>Core products</th>
<th>Major applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>DiPel®</td>
<td>Microbial pesticide that can be used for a wide variety of crops</td>
</tr>
<tr>
<td>XenTari®</td>
<td>Same as above</td>
</tr>
</tbody>
</table>

### Plant growth regulators

<table>
<thead>
<tr>
<th>Core products</th>
<th>Major applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProGibb®</td>
<td>Controls growth and size of crops</td>
</tr>
<tr>
<td>Promalin®</td>
<td>Thins out fruits, controls size</td>
</tr>
<tr>
<td>ReTain®</td>
<td>Regulates harvest time for fruits, prevents fruit drop</td>
</tr>
<tr>
<td>ProTone®</td>
<td>Controls coloring of fruits, delays germination</td>
</tr>
</tbody>
</table>

### Microbial agricultural materials

<table>
<thead>
<tr>
<th>Core products</th>
<th>Major applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mycorrhizal fungi</td>
<td>Promotes efficient absorption of water and nutrients in soil</td>
</tr>
</tbody>
</table>

### Our strengths

- Superior BT (*Bacillus thuringiensis*) strains
- Outstanding production (fermentation) expertise

### Our strengths

- Pioneer of the plant growth regulator business
- Selling a wide range of plant growth regulators in more than 90 countries
- Capabilities to develop new markets by creating new solutions

### Our strengths

- Technology for mass production of mycorrhizal fungi
- Expertise and proven track record for applying mycorrhizal fungi for a wide range of crops

**Stable supply of highly effective microbial pesticides**  
**Support for the cultivation of high quality crops**  
**Stable supply of high quality mycorrhizal fungi**
Health & Crop Sciences Sector: Development of Rice Business

Rice business objectives

- Solve the problems facing the agricultural sector in Japan
- Consolidate our Total Solution Provider business
- Develop high-yield, tasty rice varieties

Help strengthen Japan’s agricultural sector

Development of new varieties

High-speed breeding technology by using DNA markers

- 4 varieties registered and 1 variety applied for registration
- To develop more varieties to expand the rice business nationwide and to meet various customer needs for rice properties

Three varieties currently cultivated

- **Tsukuba SD1**
  - Hikari no Sumika
- **Tsukuba SDHD**
  - Late-ripening rice
- **Tsukuba SD2**
  - Low-amylose rice

Current: Focusing on sales to large-scale rice businesses

Future: Expand sales to a wider range of customers, including consumers and sake manufacturers, and also increase export sales

<table>
<thead>
<tr>
<th>Product name</th>
<th>Prospective customers</th>
</tr>
</thead>
</table>
| SD1 (Hikari no Sumika)| Major restaurant chains (franchises)  
                          | Major noodle-shop chains  
                          | Major delicatessen companies  
                          | Major *bento* (boxed meals) suppliers  
                          | Major supermarkets (prepared food)                                                     |
| SD2 (low-amylose)     | Major convenience store chains                                                         |
Excel Crop Care Limited

1 **Acquisition of Excel Crop Care, Indian Agrochemicals Company**
   - **Business:** Development, manufacture and sale of agrochemicals
   - **Sales:** 9.5 billion rupees (about 15.5 billion yen) in FY2016
   - **Headquarters:** Mumbai, India

2 **Outline of the stock acquisition**
   - **Acquired stake:** 65%
   - **Acquisition value:** 9 billion rupees (about 13.9 billion yen)

**Aim of acquisition**
- Expand sales channels in India
- Leverage Excel Crop Care’s brand

**The world agrochemicals market in FY2015**

```
+millions of U.S. dollars+
12,000
10,000
8,000
6,000
4,000
2,000
0
Brazil  | USA  | China | Japan | France | Germany | India
```

**Share in the Indian agrochemicals market in FY2014**

```
  1st Bayer          12%
  2nd Syngenta       10%
  2nd United Phosphorus 10%
  4th Rallis          8%
  5th Excel Crop Care  5%
  10th Sumitomo Chemical India  4%
```

- Excel Crop Care and Sumitomo Chemical India combine to become the fourth largest

**Increase our presence in the growing Indian market and enhance our global footprint**
Agrichemicals until Now

- Pesticides
- Fungicides
- Herbicides

Target: **Harmful Life**

**Kill** organisms harmful to crops

New Field of Agrichemicals

- Increased yield
- Enhanced tolerance
- Plant stimulation

Target: **Crops**

Controlling crops to **increase** yield

**Build a technology platform that can respond to new waves**
Competitive advantage in methionine business

- Integrated production from raw material
- Advanced production technology
- Waste liquid and gas treatment capacity
- Stable supply of high quality products

Production capacity expansion

**Product:** DL-methionine  
**Production capacity:** 100,000 tons  
**Location:** Ehime Works  
**Start of operation:** Mid 2018

Methionine Demand Forecast by Region

Growing at approx. 6% per year

Methionine Production Process

- **Raw Materials:** Methanol, Sulfur, Propene, Hydrocyanic acid etc.
- **Intermediates:** Methyl mercaptan, Acrolein, MMP
- **Products:** Methionine, Byproducts

Reinforce our position as Asia’s leading methionine player
### Pharmaceuticals Sector: Planned Future Launches

<table>
<thead>
<tr>
<th>Treatments Acquired Since May 2016</th>
<th>Other Planned Launches</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parkinson’s Disease Treatment</strong></td>
<td><strong>Oncology area</strong></td>
</tr>
<tr>
<td>✤ Acquired Cynapsus Therapeutics in October 2016</td>
<td>✤ Cancer stem-cell inhibitor Napabucasin* (Japan and U.S.)</td>
</tr>
<tr>
<td>✤ APL-130277 (Phase III in U.S.)</td>
<td>✤ Cancer stem-cell inhibitor Amcasertib* (Japan and U.S.)</td>
</tr>
<tr>
<td><strong>COPD Treatments</strong></td>
<td>✤ Cancer peptide vaccine DSP-7888 (Japan and U.S.)</td>
</tr>
<tr>
<td>✤ License agreement signed with Novartis in December 2016</td>
<td>* Introduced by Boston Biomedical, Inc</td>
</tr>
<tr>
<td>✤ UTIBRON, SEEBRI, ARCAPTA (Approved in U.S.)</td>
<td><strong>Other areas</strong></td>
</tr>
<tr>
<td><strong>Hematologic Cancer Treatment</strong></td>
<td>✤ COPD treatment SUN-101 (U.S.)</td>
</tr>
<tr>
<td>✤ Acquired Tolero Pharmaceuticals in January 2017</td>
<td>✤ ADHD/BED treatment Dasotraline (U.S.)</td>
</tr>
<tr>
<td>✤ Alvocidib (Phase II in U.S.)</td>
<td>✤ Chronic stroke treatment SB623 (U.S.)</td>
</tr>
<tr>
<td></td>
<td>✤ Atypical antipsychotic Lurasidone (Japan)</td>
</tr>
<tr>
<td></td>
<td>✤ NASH treatment DSP-1747 (Japan)</td>
</tr>
</tbody>
</table>
Pharmaceuticals: Portfolio for COPD

Chronic Obstructive Pulmonary Disease (COPD)

The 3rd leading cause of death in U.S.

>120k deaths per year in the U.S.

~15.7m adults affected in the U.S.

Increasing prevalence with aging population


Disease Severity

For new COPD patients

For patients symptomatic on LAMA or LABA

For patients symptomatic on LABA/ICS

For patients who would benefit from nebulized medication

LABA add-on for uncontrolled patients

Full trade names are: Seebri™ Neohaler®, Utibron™ Neohaler®, and Arcapta® Neohaler®. ARCAPTA and ® are registered trademarks of Novartis AG, used under license. SEEBRI and ™ are trademarks of Novartis AG, used under license. UTIBRON and ™ are trademarks of Novartis AG, used under license.
Pharmaceuticals: Major Products under Development

COPD Treatment (NDA filed)

**Indication**
Chronic obstructive pulmonary disease (COPD)

**Features**
1. Administered by nebulizer*
2. Short delivery times (2-3 min)

**Development and Launch Schedule**
Current: NDA filed (US)
During FY2017: Planned launch (US)

*S Nebulizer: Device for delivering drugs through the lungs

SUN-101/eFlow® electronic nebulizer

* Expected peak sales about 50.0 billion yen

Cancer Stem Cell Inhibitor

**Indication**
Cancer

**Features**
First-in-class molecularly targeted treatment

**Development and Launch Schedule**
Inhibits cellular proliferation and induces apoptosis for cancer cells and cancer stem cells

- **Napabucasin**
  - Current: In phase III clinical trials*¹
  - FY2018: Submission planned*²
  - FY2019: Planned launch*²

- **Amcasertib**
  - Current: In phase II clinical trials (U.S. and elsewhere)
  - FY2020-22: Submission and planned launch for U.S. and elsewhere

*¹ Including gastric and gastro-esophageal junction cancers, colorectal cancer, pancreatic cancer (U.S. and elsewhere)
*² Gastric and gastro-esophageal junction cancers (U.S. and elsewhere)

**Expected peak sales about 100 billion yen**

Making progress in new product development and in-licensing for post-LATUDA period
Short History of the Development of the Regenerative Medicine and Cell Therapy Fields

1990  Joint research with Harvard University on neuron regeneration

2001  Joint research with Keio University Professor Hideyuki Okano on spinal cord injuries

2001-05 Joint research with Nara Institute of Science and Technology Professor Shinya Yamanaka

2006  Joint research with RIKEN on ocular development (Sumitomo Chemical)

2010  Licensed SB623 (treatment for chronic stroke)

2013  Collaboration with Healios to commercialize regenerative medicine

Started research under the Research Center Network for Realization of Regenerative Medicine program (spinal cord injury, Parkinson’s disease)

2015  Acquired a stock of iPS cells for regenerative medicine from Kyoto University’s Center for iPS Cell Research and Application (CiRA)

Collaboration Network for the Development of Regenerative Medicine and Cell Therapy

RIKEN  RIKEN

CiRA, Kyoto University

Keio University

Osaka Medical Center, NHO

Engaged in research leading to the development of regenerative medicine and cell therapy for 25 years

Profile of Tanaka Chemical Corporation

**Business:** Manufacture and sale of cathode materials and catalyst raw materials

**Net sales:** Approx. ¥13.3 billion in FY2016

Became Sumitomo Chemical’s subsidiary through private share placement

- **Shares acquired:** 10.5 million (subscription value: Approx. ¥6.6 billion)
- **Shares owned:** 12.7 million (investment ratio of 50.1%)

Aim of acquisition

Accelerate development and launch of highly functional cathode materials for automotive batteries by leveraging the two companies’ strengths.

Stepped up the investment in cathode materials business, aiming to have our products adopted for automotive batteries as soon as possible
The CO₂ selective membrane system, installed upstream of CO₂ chemical absorption plants, removes approx. 50% of the CO₂ contained in the source gas, reducing the steam cost incurred in the absorption plant.
Energy & Functional Materials Sector: CO₂ Separation Membrane

CO₂ Separation Market (Forecast for 2030)

Hydrogen production (refinery and chemical plants)
Market: 520 million tons

Natural gas
Market: 600 million tons

Coal gasification combined power generation
Market: 500 million tons

Power generation and Steel manufacturing (CCS/EOR)
Market: 500 and 300 million tons

Hydrogen stations
Market: Unknown

Coal to liquid
Market: 200 million tons

Market Size
2.62 billion tons

- Separation of H₂ and CO₂
- Separation of CH₄ and CO₂
- Separation of N₂ and CO₂
IT-related Chemicals Sector: Increase Film-type Touchscreen Panel Production

Summary of Capacity Increase

- **Product:** Film-type touchscreen panel
- **Production capacity:** 3 times the current capacity
- **Location:** Dongwoo Fine-Chem
- **Start up:** January 2018

Sumitomo Chemical’s Touchscreen Panel Production Capacity

<table>
<thead>
<tr>
<th>Film-type</th>
<th>Glass-type</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product:</strong> Film-type touchscreen panel</td>
<td><strong>Product:</strong> Glass-type touchscreen panel</td>
</tr>
<tr>
<td><strong>Production capacity:</strong> 3 times the current capacity</td>
<td><strong>Production capacity:</strong> Current capacity</td>
</tr>
<tr>
<td><strong>Location:</strong> Dongwoo Fine-Chem</td>
<td><strong>Location:</strong> Dongwoo Fine-Chem</td>
</tr>
<tr>
<td><strong>Start up:</strong> January 2018</td>
<td><strong>Start up:</strong> January 2018</td>
</tr>
</tbody>
</table>

Supporting flexible OLEDs in a variety of forms, from rigid types to foldable types and rollable types
IT-related Chemicals Sector: **OLED-related Materials**

### Roadmap for OLED-related materials development

<table>
<thead>
<tr>
<th>Current OLED panel</th>
<th>Flexible OLED panel (First generation)</th>
<th>Flexible OLED panel (Second generation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover glass</td>
<td>Window film</td>
<td>Multi-functional materials and components</td>
</tr>
<tr>
<td>Polarizer</td>
<td>LC coated polarizer</td>
<td></td>
</tr>
<tr>
<td>TSP</td>
<td>Flexible TSP</td>
<td></td>
</tr>
<tr>
<td>Sealing glass</td>
<td>Barrier film</td>
<td></td>
</tr>
<tr>
<td>OLED</td>
<td>OLED</td>
<td></td>
</tr>
<tr>
<td>Glass</td>
<td>Barrier film</td>
<td></td>
</tr>
</tbody>
</table>

Glass replaced with plastics  

<table>
<thead>
<tr>
<th>Flexible OLED panel (First generation)</th>
<th>Flexible OLED panel (Second generation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional integration</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sumitomo Chemical’s competitive advantages**

- **Material development capability**
  - as a diversified chemical company

- **Product development capability**
  - Processing technology
  - acquired through display materials business

**Contribute to the evolution and diffusion of OLED technology**
IT-related Chemicals Sector: **PLED Materials**

### PLEDs’ Advantages over LCDs
- Superior contrast, resolution, response speeds, and viewing angle
- Lower energy consumption
- Self-luminescent (no backlights required) and simpler display structure

### Structure of Organic Light Emitting Diodes

#### Polymer light emitting diodes
- Simple
- Structure of layers

#### Small-molecule organic light emitting diodes
- Complicated

### Manufacturing Process
- **Inkjet and other printing methods**
  - Unnecessary
  - Unnecessary
  - High
  - Easy
- Unnecessary
  - High
  - Easy
  - Manufacture of large-sized display

### PLEDs’ Advantages (Printing Methods) over Small Molecular LEDs (Evaporation Methods)
- Applicable to larger displays
- Greater potential to realize more cost-effective production

### Vacuum deposition method
- Necessary
- Expensive mask
- Material use-efficiency
- Manufacture of large-sized display

### Inkjet and other printing methods
- Light-emitting material
IT-related Chemicals Sector: Strengthen Competitiveness of Polarizing Business

Basic Strategy

- Capture demand from continually growing Chinese LCD manufacturers
- Thorough cost rationalization
- Global production balance optimization
- Expand sales for the growing OLED market

Specific Initiatives

<table>
<thead>
<tr>
<th></th>
<th>LCD</th>
<th>OLED</th>
</tr>
</thead>
<tbody>
<tr>
<td>For TVs</td>
<td>- Strengthen supply capabilities in China</td>
<td>- Launch coating-type retardation film</td>
</tr>
<tr>
<td></td>
<td>- Expand sales of polarizing film using our materials</td>
<td>- Expand sales of circularly polarizing film</td>
</tr>
<tr>
<td></td>
<td>- Each line producing the kind of products it can most efficiently produce</td>
<td>- Launch liquid crystal coated-type polarizing film</td>
</tr>
<tr>
<td>For mobile devices</td>
<td>- Focus on models where a certain level of profit can be expected</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Expand sales of ultra-thin PVA stretched films</td>
<td></td>
</tr>
</tbody>
</table>
Petrochemicals & Plastics Sector: Rabigh Project

Progress on Rabigh Phase II Project

- April 2009: Memorandum of Understanding signed and FS* started
- May 2012: Feasibility confirmed
- March 2015: PF* agreement signed
- December 2015: Utility plants started operation
- April 2016: Expanded EC* in full operation
- March 2016: EC* expansion completed
- April-June 2017: All plants scheduled for completion

* EC: Ethane cracker
  FS: Feasibility study
  PF: Project financing
Corporates Governance Code

- Comply with all general principles, principles, and supplementary principles

**Increase the number of outside directors**
- Increased from one to three
- 40 percent of the directors, including corporate auditors, are now outside directors

**Established non-mandatory committees**
- Set up a nomination committee and a remuneration committee (The majority of the committee members are outside directors.)

**Strengthening the governance system**

**Strengthened the oversight functions of the Board of Directors**
- Strengthened outside directors’ monitoring and advisory functions
- Assess effectiveness of the Board through discussions at outside directors meetings and other means

Further enhance the effectiveness of governance by making full use of this reinforced system
ESG Initiatives: SDGs

SDGs (Sustainable Development Goals)

The Sustainable Development Goals, adopted by the United Nations in 2015, consist of 17 goals and 169 targets, and represent a historical agreement involving all 193 UN member nations.

Sumitomo Chemical’s initiatives towards achievement of the SDGs

<table>
<thead>
<tr>
<th>Time</th>
<th>Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep. 2015</td>
<td>SDGs adopted at United Nations Sustainable Development Summit</td>
</tr>
<tr>
<td>Feb. 2016</td>
<td>SDGs discussed at SCC’s CSR Promotion Committee</td>
</tr>
<tr>
<td>May 2016</td>
<td>SDGs webpage opened on SCC’s website</td>
</tr>
<tr>
<td>June 2016</td>
<td><strong>Launched Sustainable Tree</strong> program</td>
</tr>
<tr>
<td></td>
<td>Workshop held at the Officers Liaison Meeting (4 times)</td>
</tr>
<tr>
<td>July 2016</td>
<td>Internal seminars (twice with 400 participants in total)</td>
</tr>
<tr>
<td>Aug. 2016</td>
<td>Presented SCC’s policy on SDGs in its CSR report</td>
</tr>
<tr>
<td></td>
<td>Reported its SDGs initiatives at the Board of Directors Meeting</td>
</tr>
</tbody>
</table>

Reference: 17 Sustainable Development Goals

An initiative for officers and employees to post on a dedicated website their ideas as to what they can do at work and in their private life to bring about a society with hope for future.

- Period: 100 days from June to October 2016
- Target: Officers and employees of all group companies
- Number of posts: 6,005 in total
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.