FY19-2 Creating New Customer Value through Innovations
CEO Explanation

Mitsui Chemicals

淡輪 敏
Tsutomu Tannowa
Mitsui Chemicals Inc.
President & CEO
Contents

- Business Performance
  - Topics on Targeted Business Domains
  - Topics on Sustainability
  - Financial Overview
  - Management Target for Sustainable Growth
Fiscal 2019 marks the third year since Mitsui Chemicals put its 2025 Long-Term Business Plan, VISION 2025, into action. In this time, the global business environment has gone through major changes, ranging from U.S.–China trade tensions to what is said to be a once-in-a-century transformation of industry.

These harsh changes in the external environment have left Mitsui Chemicals unable to avoid some degree of slowdown in its business results. And we have been humble in taking this on board, pursuing a number of measures for the short term.

What is important, however, is that we accomplish our medium- and long-term goals – or in other words, portfolio transformation. This means following through with investments and new product and business development that we have put in place. And it means doing these things steadily, without waverling and based on the strategies we have established.

Meanwhile, issues with the global environment have grown more serious in recent years, giving the chemical industry an increasingly important role in bringing about a sustainable society. To fulfil this responsibility going forward, Mitsui Chemicals will endeavor to work as part of a global team aimed at solving a broad range of social challenges.

November 15, 2019
Tsutomu Tannowa
Profits down for FY19 due to worsening market conditions and accidents of facilities and typhoon

<table>
<thead>
<tr>
<th>Items</th>
<th>FY2017 Results</th>
<th>FY2018 Results</th>
<th>FY2019 1H Results</th>
<th>FY2019 Outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>1,329</td>
<td>1,483</td>
<td>675</td>
<td>1,365</td>
</tr>
<tr>
<td>Operating income</td>
<td>103.5</td>
<td>93.4</td>
<td>34.5</td>
<td>84</td>
</tr>
<tr>
<td>Non-operating income</td>
<td>6.7</td>
<td>9.6</td>
<td>△ 1.9</td>
<td>△ 5</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>110.2</td>
<td>103.0</td>
<td>32.6</td>
<td>79</td>
</tr>
<tr>
<td>Extraordinary gains/losses</td>
<td>△ 16.0</td>
<td>2.3</td>
<td>△ 9.3</td>
<td>△ 13</td>
</tr>
<tr>
<td>Net income*</td>
<td>71.6</td>
<td>76.1</td>
<td>11.8</td>
<td>42</td>
</tr>
</tbody>
</table>

**Increase (Decrease)**

<table>
<thead>
<tr>
<th>FY17→FY18</th>
<th>FY18→FY19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>154</td>
</tr>
<tr>
<td>Operating income</td>
<td>△ 10</td>
</tr>
<tr>
<td>Non-operating income</td>
<td>3</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>△ 7</td>
</tr>
<tr>
<td>Extraordinary gains/losses</td>
<td>18</td>
</tr>
<tr>
<td>Net income*</td>
<td>5</td>
</tr>
</tbody>
</table>

Exchange rate (JPY/USD)  
111 111 109 109 0 △ 2
Domestic standard naphtha price (JPY/KL)  
41,900 49,400 42,800 41,900 7,500 △ 7,500

*Net income refers to Profit attributable to owners of parent
<table>
<thead>
<tr>
<th>Segment</th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>Increase (Decrease)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Results</td>
<td>Results</td>
<td>1H Results</td>
<td>FY18→FY19</td>
</tr>
<tr>
<td>Mobility</td>
<td>42.3</td>
<td>42.7</td>
<td>19.8</td>
<td>41.0</td>
</tr>
<tr>
<td>Health Care</td>
<td>10.8</td>
<td>13.6</td>
<td>6.0</td>
<td>14.5</td>
</tr>
<tr>
<td>Food&amp;Packaging</td>
<td>19.9</td>
<td>17.8</td>
<td>7.9</td>
<td>19.5</td>
</tr>
<tr>
<td>3 Targeted Domains</td>
<td>73.0</td>
<td>74.1</td>
<td>33.7</td>
<td>75.0</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic Materials</td>
<td>38.9</td>
<td>27.8</td>
<td>4.9</td>
<td>17.5</td>
</tr>
<tr>
<td>Others</td>
<td>△8.4</td>
<td>△8.5</td>
<td>△4.1</td>
<td>△8.5</td>
</tr>
<tr>
<td>合計</td>
<td>103.5</td>
<td>93.4</td>
<td>34.5</td>
<td>84.0</td>
</tr>
</tbody>
</table>

- Continued growth in targeted business domains despite economic slowdown
- Secured stable profit from crackers
- Profits down in Basic Materials due to significant fall in market conditions for phenol chain and plant troubles and natural disaster
### Management Targets

<table>
<thead>
<tr>
<th></th>
<th>FY15 Results</th>
<th>FY18 Results</th>
<th>FY19 Outlook</th>
<th>FY21 Target</th>
<th>VISION 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales</strong></td>
<td>1,344</td>
<td>1,483</td>
<td>1,365</td>
<td>1,670</td>
<td>2,000</td>
</tr>
<tr>
<td><strong>Operating income (ROS)</strong></td>
<td>70.9 (5.3%)</td>
<td>93.4 (6.3%)</td>
<td>84 (6.2%)</td>
<td>140 (8.4%)</td>
<td>200 (10%)</td>
</tr>
<tr>
<td><strong>Net income</strong></td>
<td>23.0</td>
<td>76.1</td>
<td>42.0</td>
<td>100.0</td>
<td>-</td>
</tr>
<tr>
<td><strong>ROE</strong></td>
<td>5.8%</td>
<td>14.3%</td>
<td>7.5%</td>
<td>→</td>
<td>10% or more</td>
</tr>
<tr>
<td><strong>ROIC</strong></td>
<td>4.9%</td>
<td>6.0%</td>
<td>-</td>
<td>7.5%</td>
<td>8% or more</td>
</tr>
<tr>
<td><strong>Net D/E</strong></td>
<td>1.03</td>
<td>0.68</td>
<td>0.7</td>
<td>→</td>
<td>0.8 or less</td>
</tr>
<tr>
<td><strong>Total return ratio</strong></td>
<td>34.9%</td>
<td>39.0%</td>
<td>30% or more</td>
<td>→</td>
<td>30% or more</td>
</tr>
</tbody>
</table>

*ROIC: Return on Invested Capital = NOPAT/Invested capital*
Secure stable profits from three Targeted Business Domains in spite of economic slowdown

Reduce downside risk

Stabilize profit

Growth trajectory

Operating Income

Net Income

Mobility

Health Care

Food & Packaging

Basic Materials, Others

Secure stable profits from three Targeted Business Domains

Mid-Term Management Targets

(FY15 - FY21)

Operating Income

Net Income

FY15 Results

FY16 Results

FY17 Results

FY18 Results

FY19 Outlook

FY20 Target

FY21 Target

70.9

102.1

103.5

93.4

84.0

64.8

71.6

76.1

42

In spite of economic slowdown, updating rolling plan to stabilize profit and reduce downside risk.

3 Targeted Business Domains

JPY bn

Operating Income

Net Income

Growth trajectory

Updating rolling plan
### Issues toward Growth Path

#### Business Strategy

1. **Expand 3 targeted business domains**
   - Increase in investment themes
   - Including peripheral business area
   - Ensure production capacity to meet demand

2. **Accelerate development of new next generation businesses and new products**

3. **Further strengthen competitiveness of Basic Materials**

4. **Enhance manufacturing technologies by utilizing IoT/AI**

5. **Ensure safety and enhance safety culture globally**

6. **Secure investment returns and improve inventory control**

7. **Enhance group-global management**

8. **Promote ESG management**

#### Manufacturing

#### Management
Contents

- Business Performance
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Five Business domains

**Mobility**
Elastomers, Performance polymers, Performance compounds, Engineering plastics

**Health Care**
Ophthalmic lens materials, Nonwovens, Dental materials, Personal care materials

**Food & Packaging**
Packaging materials, Coatings Agrochemicals, Seeds

**Next Generation**
Energy, Medical, Agri-system, and IoT Solutions

**Basic Materials**
Phenol, PTA/PET Polyolefin, Polyurethane, and others

- 3 Targeted Business Domains

Sales (FY18 Results)
- 1,483 billion yen
- 27%
- 10%
- 13%
- 48%
Provide solutions making full use of comprehensive strengths

Mobility

Nov 15, 2019
Despite automotive production growth slowing down, shift to resin parts has helped maintain sales volume YoY.

**Automotive production for FY19**

- **North America** (Market: ▲0.5%)
  - Growth Rate: ±0%
  - Maintaining sales despite strikes

- **Europe** (Market: ▲3.4%)
  - Growth Rate: +3%
  - Start of full-scale efforts with European OEMs

- **Japan** (Market: ▲1.0%)
  - Growth Rate: ±0%

- **South America** (Market: +0.6%)
  - Growth Rate: +4%
  - Strong production in Brazil

- **ASEAN+India** (Market: ▲9.8%)
  - Growth Rate: ▲5%
  - Sluggish production and exports in Thailand
  - Sluggish sales in India

- **China** (Market: ▲9.0%)
  - Growth Rate: +4%
  - Strong business with Japanese OEMs

**MCI-G’s sales volume forecast for FY19**

- **North America** (Market: ▲4.8%)
- **Europe** (Market: ▲0.6%)
- **Japan** (Market: ±0%)
- **South America** (Market: +4%)
- **ASEAN+India** (Market: ▲5%)
- **China** (Market: +4%)

*Market estimates from IHS*
**Capacity Increase - Global Expansion -**

New base in EU (ACE)
**Construction on track**

- Rising need for light-weighting amid tightening environmental regulations
- Moving R&D capabilities to same area to help construct integrated system for production, sales and research

**Capacity**
**+30 KTA**
(Jun. 2020)
Netherlands

**Operations start in Japan, U.S.**
for long glass fiber reinforced PP

- Metal replacement such as rear doors
- GFPA replacement
- PC/ABS replacement

**Background**

- Growing needs for light-weight solution

**Applications**

- Metal replacement such as rear doors
- GFPA replacement
- PC/ABS replacement

**Fast expansion** driven by good- appearance and light-weight solution

**Steady progress toward eight global bases with 1,120 KTA capacity (FY2020)**
## Increase capacity for performance compound products

(Mitsui Chemicals Sun Alloys, Chiba, 5bn yen*)

<table>
<thead>
<tr>
<th>Increase capacity for</th>
<th>Increase capacity for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialty TAFMER™ &amp; ADMER™</td>
<td>MILASTOMER™</td>
</tr>
<tr>
<td>(Nov. 2021)</td>
<td>(Jan. 2022)</td>
</tr>
</tbody>
</table>

### Specialty TAFMER™
- Growing demand as modifier for engineering plastics for replacing metal

### ADMER™
- Growing demand for adhesive materials along with CASE trends

### TPV
- Interior (Sheet skin)  
- Weather strip  
- Steering boots

### TPS
- Interior (Injection molding skin)  
- Door grip

### TPO
- Airbag cover

### N-V TPS
- Non-automobile application
  - (Golf grips, etc.)

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*Including buildings*
### Mobility Project Schedule

**Expand scope of investments in high-ROIC Mobility domain ➔ accelerate growth**

<table>
<thead>
<tr>
<th>Mobility investment projects (partial list)</th>
<th>Capacity (KTA)</th>
<th>Schedule for profit contribution</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PP Compounds</strong></td>
<td></td>
<td><strong>Stable growth</strong></td>
<td><strong>Accelerate growth</strong></td>
</tr>
<tr>
<td>Increased capacity@India</td>
<td>10</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td>✓Global top strategy in 8 global bases</td>
</tr>
<tr>
<td>Increased <a href="mailto:capacity@N.A">capacity@N.A</a></td>
<td>20</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td>✓Increase in automobile production</td>
</tr>
<tr>
<td>Increased capacity@Mexico</td>
<td>10</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td>✓PP usage continues to increase along with lightweight needs</td>
</tr>
<tr>
<td>Increase capacity@India</td>
<td>12</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td></td>
</tr>
<tr>
<td>Increase capacity@Thailand</td>
<td>13</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td></td>
</tr>
<tr>
<td>New base@Netherlands</td>
<td>30</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td></td>
</tr>
<tr>
<td><strong>Long glass fiber reinforced PP</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase capacity@Japan</td>
<td>3.5</td>
<td></td>
<td>✓Establish 3-base global network</td>
</tr>
<tr>
<td>New <a href="mailto:base@N.A">base@N.A</a></td>
<td>3.5</td>
<td></td>
<td>✓Expand resin parts</td>
</tr>
<tr>
<td>New base@China</td>
<td>3.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Performance Compounds</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MILASTOMER™: Increased capacity@Japan</td>
<td>5</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td>✓Global expansion</td>
</tr>
<tr>
<td>MILASTOMER™: Acquired TPS business</td>
<td>-</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td>✓Enhance solution capability</td>
</tr>
<tr>
<td>MILASTOMER™: Increase <a href="mailto:capacity@N.A">capacity@N.A</a></td>
<td>6</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td></td>
</tr>
<tr>
<td>MILASTOMER™: Increased capacity@Japan</td>
<td>-</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td></td>
</tr>
<tr>
<td>ADMER™: Increased capacity@Japan</td>
<td>-</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td></td>
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<tr>
<td><strong>LiB related materials</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Electrolyte: Increased capacity@Japan</td>
<td>5</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td>✓Adopted by major LiB manufacturer in Japan and China utilizing original additive technology</td>
</tr>
<tr>
<td>Electrolyte: Increased capacity@China</td>
<td>5</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td>✓Secure global standard position in LiB separator material</td>
</tr>
<tr>
<td>HI-ZEX MILLION™: Increased capacity@Japan</td>
<td>1</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
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<td><strong>Elastomers</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>TAFMER™: Increase capacity@Singapore</td>
<td>25</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td>✓Secure global top share</td>
</tr>
<tr>
<td>Specialty TAFMER™: Increased Capacity@Japan</td>
<td>-</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td></td>
</tr>
<tr>
<td><strong>Semiconductor materials</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EUV pellicle: New facility@Japan</td>
<td>-</td>
<td></td>
<td>✓Be a No.1 in cutting-edge area</td>
</tr>
<tr>
<td><strong>Lubricant oil materials</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>LUCANT™: New base@Japan</td>
<td>20</td>
<td>FY17 FY18 FY19 FY20 FY21 FY22</td>
<td>✓Expansion with Lubrizol</td>
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<tr>
<td><strong>Solution</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquired ARRK</td>
<td>-</td>
<td></td>
<td>✓Offer total solution globally</td>
</tr>
<tr>
<td>Mobility Development Center</td>
<td>-</td>
<td></td>
<td>✓Promote trend toward resin</td>
</tr>
<tr>
<td>Design &amp; Solution Center</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
- ✔ indicates a successful contribution.
- ✓ signifies a strategic alignment or goal fulfillment.
Health Care

Provide products & services contributing to Quality of Life through chemical innovations.
Expanding Vision Care Business

Bolster global No. 1 position with full range of refractive index and functional lens materials

Expecting to achieve record high sales for FY19

Further expansion in three target areas for FY20 and beyond

U.S.

Needs
Need for good balance of optical properties along with strength

Topics
Searching for local collaboration partner to expand high-refractive lenses

China

Needs
Need for thinner and lighter lenses

Topics
Market share expanding with growing recognition of benefits of high-refractive lenses

India

Needs
Ongoing shift from glass to plastic lenses

Topics
Full-lineup strategy contributes to growing adoption

Ophthalmic lens materials

Global market share 45%

Market growth rate +4%
Bolstering Nonwovens for Industry Use

Increase capacity for nano-size nonwovens
(+75%, Yokkaichi, Jan.2020)

Target markets for industrial nonwovens

- Automobile
- Medical
  - Active Senior
- Filters
- Diapers
- Sanitary
- IC products
- IoT

SYNTEX™ nano

Refinement of semiconductor circuits

Needs

Refinement of filters

- Spunbond nonwovens (3~35μm)
- SYNTEX™ nano (100nm~900nm)

- Wide lineup of fine fibers
- Well-received flow rate quality

Expand electronics applications toward stronger nonwovens business portfolio
New capabilities to iodine-based anti-mold agents YOHTOL™ DP-CD

Improved functions by cyclo-encapsulating

- Water solubility
- Light resistance
- Heat resistance
- Antibacterial

Yamamoto Chemicals
Expand applications for functional dyes

Dye lineup that selectively absorbs various wavelengths

Applications

Band-pass filters* for ICT use

1. Luminous sensitivity filters
Start sales in FY19

2. 4K/8K display color purity improvement filter
Start sales in FY20

Target markets expanded more than 4 times

Expand Personal Care business

Accelerate development of new products
Food & Packaging

Provide solutions for world food problems, seizing new business opportunities.
ICROS™ Tape

New base in Taiwan (Completed in Sep. 2019)
Record high sales expected in FY19 despite semiconductor recession

World’s No1 share protective tape used in semiconductor wafer back grinding

- Established in Taiwan, the greatest area of demand
- Increases capacity by 50%
  *Capacity varies depending on the grade composition

- ✔ Increase sales due to expansion of high-performance grade and cultivation of new applications
- ✔ Expand demand with start of 5G services after 2020
- ✔ Capture the growing market
- ✔ Establish a stable supply system with multiple bases
- ✔ Strengthen business in peripheral areas

Nagoya 2 Lines
Kaohsiung 1 Line (3.8Mm*) Completion: Sep. 2019

Further capacity increase under feasibility study responding to strong demand and new application needs
Dinotefuran
First shipment to Brazil

- Original structure ingredient that does not contain halogen in the molecule
- Can be used for various applications such as agrochemicals, household, and prevention of epidemics
- Registered in Brazil
- Started shipment to Brazil (Sep. 2019)
- For sugar cane, soy beans, and coffee

Steady progress with global rollout and product development

New active ingredient
TENEBENAL™
Start operation

- Long-term commercialization contract with BASF
- Registered new category with IRAC*
- Registered in eight countries (inc. Japan, U.S., India, South Korea, ASEAN)
- Completed new plant at Omuta Works

*Insecticide Resistance Action Committee
**New business in F&P domain**

Bolster cross-organizational cooperation and create new businesses to maximize value chain

<table>
<thead>
<tr>
<th>F&amp;P Solutions</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recyclability</strong></td>
<td>Mono-material packaging, paper packaging</td>
</tr>
</tbody>
</table>
| Ecological Packaging | ✓ Water-based polyurethane coating material with gas barrier properties: Takelac™ WPB  
| | ✓ Polyethylene base and sealant films: L-Smart™, T.U.X™  
| | ✓ Water-based heat sealing material: Chemipearl™  
| **Food Loss & Waste** | Freshness-preserving packaging based on scientific evidence |
| Freshness Preservation Project | ✓ Freshness-preserving film products: Spash™, PalFresh™, AdFresh™  
| **Film & Sheet** | Smart Food Consumption (SFC) |
| | ✓ Constructing a model to estimate best-before dates via sensor development and AI utilization  
| | ✓ Cutting down on distribution food loss via intelligent packaging  
| New Films and Sheets | Creating new themes for films and sheets |
| | ✓ Commercialization of Shape Memory Sheet  
| | ✓ Advancing new themes  
| **Recycle Business** | Material recycling for flexible packaging |
| Plastic Waste Reduction Project | ✓ Cutting down on industrial waste in packaging chain  
| | ✓ Completely removing printed inks from flexible packaging film to allow for recycling into new film |
Start demonstration test for material recycling to cut down on waste plastic in packaging chain

Recycling plastic waste generated from film production and printing processes for use in new packaging film

Scope of demonstration test
(Joint efforts with Gravure Cooperative Association of Japan)

Future scope
- Lamination
- Pouch production
- Filling
- Retailer

Contribute to actualizing circular economy with proposal of mono-material packaging

Introduce roll-to-roll technology for cleaning and removal of inks (Jan. 2020)
Next Generation Business
Create solution & system businesses at the boundary or peripheral areas
Next Generation Business

Energy Solutions

- Solar power generation and diagnostics business
  - Diagnosis accounts over 4GW
  - Orders doubled due to end of FIT
  - Enter certification business in India (Dec. 2019)

Medical Solutions

- Rapid bacteriological identification system
  - Provide re-agent for research
  - Overseas deployment (Singapore, EU)
  - Selected for AMED’s ACT-M scheme

Agri Solutions

- Advanced cultivation system (ICAST™)
  - Good field test results and good evaluation at large-scale farmers in US and Australia

IoT Solutions

- Piezoelectric material for next generation display sensor
  - Application development for piezoelectric materials
  - Customer evaluation on transparent-PI for OLED

Corporate Venturing

- Open innovation & CVC
  - Joint development of new models for surgical practice (Good Design Award 2019)
  - Start collaboration with Plug and Play
Accelerate collaboration with customers on piezoelectric sensor materials
(Organic sensor materials for detecting pressure, vibration, impact, and distortion)

**Piezoelectric film**
μFLEX™

- Sensors for detecting pressure, bending angle
- Thin multifunctional touch panel for smartphones

**Piezoelectric line**
PIEZOLA™

- Sensing for nursing bed
- Non-invasive heartbeat and respiration sensors
- New models for surgical practice

Expand adoption in ICT and healthcare sectors
Provide materials for the basis of society and industry
Reduce volatility through restructuring
(Profits falling for FY19 due to worst market conditions and special factors)

- Active investments into bolstering profit base, expanding differentiated products, and new ESG themes
- Implementing further restructuring
  (Stepping up countermeasures for surplus acetone)

Special factors ▲4
- Accidents, typhoon
Inventory valuation losses ▲2

(bn yen)

Operating income (Basic Materials)
Operating income (PH, PTA·PET, PU)
Operating income (Petrochemicals/Industrial Chemicals/ Licensing/others)
C2–MOPJ price margin (FY2013 base)
PH+AC price margin (FY2013 base)

Petrochemicals
Industrial Chemicals
Licensing others

PH
PTA/PET
PU

▲16.5 (▲1.9%)

▲6.5 (▲0.8%)

▲1.0 (0.2%)

38.5 (6.8%)

38.9 (6.1%)

27.8 (3.9%)

17.5 (2.8%)

FY13
FY14
FY15
FY16
FY17
FY18
FY19 Outlook

Reduce volatility
**ICT material business development project**

**Strengthen cross-organizational ICT marketing**

Expand existing businesses and create new businesses

<table>
<thead>
<tr>
<th>Mobility</th>
<th>Health Care</th>
<th>F&amp;P</th>
<th>Next-gen</th>
<th>Basic Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>MITSUI PELLICLE™ Dust-proof cover</td>
<td>SYNTEX™ nano Filter</td>
<td>ICROS™ Tape Process tape for semiconductor</td>
<td>STRUCFTBOND™ Sealing material for LC and OLED</td>
<td>Special gas Silane, Disilane</td>
</tr>
<tr>
<td>TPX™ Reflective film PROVEST™ Reflective parts for LED</td>
<td>TouchFocus™ Next-gen. glasses Functional Dye Color filter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APEL™ Lens material</td>
<td>Functional Dye Color filter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARLEN™ Modified polyamide 6T</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Secure sales on similar level with FY18 even in semiconductor recession**
**New Business in ICT Field**

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**Strategic partnership with Elephantec (Oct. 2019)**

Startup in functional printing

*Bringing into Nagoya Works (Sep. 2020)*

- Forms electronic circuits by inkjet only where needed (saves resources and energy)
- Functional printing like biosensors

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**Strategic partnership with ConnecTec Japan (Nov. 2019)**

Semiconductor packaging OEM startup with technology for low-temp., low-pressure packaging

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Features

-_possible to use heat-sensitive base films and chips by enabling low-temp. bonding at less than 80°C
- Damage-free bonding

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Accelerate new ICT material development in collaboration with innovative process technology startups

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**Elephantech**

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**ConnecTec JAPAN**
Digitalization of R&D – Materials Informatics (MI)

Promote digitalization of R&D process using AI
- Launched MI Development & Promotion Dept. in Nov. 2018
- Training 40 data analysts for FY19

**Data platform**
- Experiment data
- Electronic experiment notes
- Various data

**Compounds database**
- Experiment data
- Electronic experiment notes
- Various data

**MI utilization platform**
- Machine learning
  - Construction of GUI* tools
  - Proposing structures by AI

**Experiments**
- Predicting results

**Example 1**
Optimize monomer composition
Designing adhesives with high adhesion and low moisture absorption for electronics use

**Example 2**
Optimize design of production processes
Generative design of extruder screws

Use cases and scope of application are rapidly expanding, driving R&D efficiency
Advance foundational technology evaluation to help digitalize factories
Build next-gen factories where people and machines work in harmony

**Evaluation/demonstration of foundational technologies**

- **Efficiency**
  - Online simulator
  - AI operating guidance

- **Safety**
  - High-sensitivity camera for gas detection
  - VR safety training
  - Eye tracking

- **Stability**
  - Wearable camera
  - Tablet for operation
  - Operator global communication

- **Quality**
  - Appearance inspection system
  - AI & soft-sensors quality prediction

- **Mainenance**
  - Anomaly detection using big data
  - Tablet for maintenance
  - Wireless sensor
  - Wireless sensor
  - Tablet for maintenance

- **Data analysis / Inter-plant network**
  - Online simulator
  - Mirror plant
  - Process data

- **Prediction and optimization**
  - Real-time simulation of entire plant in virtual space

- **Operating support using wearable devices**

- **Successful future quality prediction (20 min. forward)**
  - with an error of ± 3%

**Move into trial stage at model plant after FY20**
**Training 40 data analysts for FY19**
Development of Robotics Materials

Making powered exoskeleton lighter

Power Assist International (Wakayama University venture)

Using plastic for structural materials and reducing number of parts to make for drastic reduction in weight

Sales launched in Oct. 2018


✔ Light-weighting and fewer number of parts
✔ Proposed optimal form to allow for complex movements
✔ Proposed optimal designs to allow for easy equipping and removal

Started trials at Ichihara, Mobara, Osaka

Eyeing full-scale adoption
Contents

- Business Performance
- Topics on Targeted Business Domains
- Topics on Sustainability
- Financial Overview
- Management Target for Sustainable Growth
**World's first bio-PP project**

**Collaboration with UNEP**

- IPA method
  - Biomass raw materials
    - New tech
    - Fermentation
  - Bio-IPA
    - New tech
    - Dehydration
  - Bio-propylene
    - Polymerization
  - Bio-Polypropylene

**CO₂ emissions**

- Per ton of propylene: **4.2 tons**

**Process**

- World's first IPA method

**Commercialization**

- Target: **2024**

**Target output**

- In 2030: **100 KTA**

**Adopted for MOE* commissioned project (Sep. 2019)**

*United Nations Environment Programme

- Plan to participate in “Low carbon, low waste” program to support Asian innovative startups

- For startups enabling sustainable lifestyles
  - Plastic waste prevention
  - Low carbon mobility
  - Sustainable energy
Blue Value™ / Rose Value™

**Blue Value™**
- Reducing CO₂
- Conserving Resources
- Coexisting with Nature

**Rose Value™**
- Declining Birth Rate & Aging Population
- Extending Healthy Life Expectancy
- Food Problem

**Contributing to “Coexisting with Nature”**

**ICROS™ Tape**
- (Water-based type)
- Reduces environmental impact by not using toluene
- GHG emissions (compared to existing products)

**SWP™**
- (Polyolefin fiber with fibril structure)
- Adds filter functionality by controlling hole diameter and adhesiveness

**For clean water filters**
Helps provide safe, reliable water via adsorption and removal of heavy metals and other harmful substances

**For plasma filters**
Compatible with plasma separation, contributing to advance of medical diagnosis technology
Contents

- Business Performance
- Topics on Targeted Business Domains
- Topics on Sustainability
- Financial Overview
- Management Target for Sustainable Growth
- Cash flow from operating income remains high
- Maintain active investment phase
- Improve Net D/E and **continue active investments**
- Further enhance corporate value

![Graph showing Net D/E Ratio from FY11 to FY19 with projected outlook to FY19. The graph indicates a trend towards improving Net D/E and enhancing corporate value.](image)
Sustain returns to shareholders for FY19

- Target total return ratio: **30% or more**
- Stable and continuous dividend increase
- Flexibly acquire treasury stock

**Shareholder Returns**

**Total return ratio (yen/share)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Dividends (year-end)</th>
<th>Dividends (interim)</th>
<th>Net income (JPY bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY14</td>
<td>15*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY15</td>
<td>25*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY16</td>
<td>40*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY17</td>
<td></td>
<td></td>
<td>71.6*</td>
</tr>
<tr>
<td>FY18</td>
<td></td>
<td></td>
<td>76.1</td>
</tr>
<tr>
<td>FY19</td>
<td></td>
<td></td>
<td>42.0</td>
</tr>
</tbody>
</table>

**Outlook**

- Target total return ratio: **30% or more**
- Stable and continuous dividend increase
- Flexibly acquire treasury stock

*In October 2017, Mitsui Chemicals conducted a 5-to-1 share consolidation. All dividends are re-calculated based on the share consolidation.*
**Vision2025 Basic Strategies**

1. Pursue innovations
2. Accelerate global expansion
3. Strengthen competitiveness of existing businesses

(FY16→25)
- Growth Investment: 1,000 bn yen
- R&D expenses: 70 bn yen
  - 2x FY25

**Reform business portfolio**

**Changes in value through paradigm shift**

**Customer-driven Innovations**

**Operating income ▲ Denotes a minus**

**Targeted business domains ratio**

- FY06: 91.7%
- FY13: 24.9%
- FY15: 70.9%
- FY17: 103.5%
- FY18: 93.4%
- FY25: 86%

**Changes in value**

- (Corporate wide cost, others ▲10)

**Targeted business domains ratio**

- Health Care: 32%
- F&P: 30%
- New & Next Generation: 70%
- Basic Materials: 45%
Creating new customer value and solving social challenges through business activities
Build a Stable Profit Base

-Reduce volatility through restructuring
-Establish stable profit base for around 30 billion yen

**Petrochemical**
- Countermeasures for low cracker operation @ Ichihara
- Withdrawal from Keiyo Ethylene (approx. ▲170 KTA)
- Nghい Son Refinery starts up, ensuring competitive raw materials
- Further enhance cracker competitiveness

**Phenol**
- Closed 3 plants in JPN/SGP for PH/BPA (▲410 KTA)
- Started AC method for IPA (+60 KTA)
- Started phenol operations in CHN (+250 KTA)
- New Evolue plant in SGP (+300 KTA)

**Polyurethane**
- Transferred organic acid business (▲47 KTA)
- Established JV with SKC
- Closed all plants at Kashima Works (▲117 KTA)
- Closed MDI at Omuta Works (▲60 KTA)

**PTA • PET**
- ▲6.5 (▲0.8%)
- Transferred PTA business in IDN (▲500 KTA)
- ▲16.5 (▲1.9%)
- Moved to JV with PTTGC in THA
- Reduced ownership ratio

**Operating income (JPY bn)**
- FY13 ▲16.5 (▲1.9%)
- FY14 ▲6.5 (▲0.8%)
- FY15 1.0 (0.2%)
- FY16 38.5 (6.8%)
- FY17 38.9 (6.1%)
- FY18 27.8 (3.9%)
- FY19 Outlook 175 (2.8%)

**ROS (%)**
- 16.5
- 6.5
- 1.0
- 38.5
- 38.9
- 27.8
- 175

**Special factors**
- ▲4 Accidents, typhoon
- ▲2 Inventory valuation losses

**Expanded raw materials**
- Start αMS in SGP (▲20 KTA)
- MDI expansion in KOR (▲100 KTA)
- PPG expansion in KOR (▲40 KTA)
- MDI expansion in KOR (▲60 KTA)
Reduce volatility and establish stronger profit base

Bolster presence in Asia market and build stable profit base

Our operating rate

FY18 FULL ➔ FY19 Outlook FULL

 Resistance to market fluctuation

- Phenol, Polyurethane, PTA
  - Local production for local consumption
    - Restructure and establish sales strategies tailored to each region
    - Export ratio is 10% or less
    - Closed general-use PE plants
    - Expand high value-added polymers such as Evolue™ and Elastomers

- Polyolefin, Phenol, Polyurethane, PTA
  - Formula-based pricing
    - Establish sales strategies that are more resilient to market fluctuations

Preparation for impact of shale products

- In-house ethylene consumption
  - Export ratio is 10% or less
  - Supply, Demand, Operating Rate

FY17-21 Ethylene Global demand
(IHS Markit, Mitsui Chemicals)

- Resistance to market fluctuation
- Preparing for impact of shale products
- In-house ethylene consumption

Reduce volatility and establish stronger profit base
Further Strengthen Cracker Competitiveness

**Energy efficiency**

- **New gas turbine facilities** (30 MW, Osaka)
  - ✔ Cut costs by improving proportion of private power generation and recycling waste heat
  - ✔ Reduce CO₂ emissions by 70,000 tons/year

**Removing bottlenecks**

- **Expand cracking furnace** (Ichihara)
  - ✔ Cut costs by improving olefin yield
  - ✔ Improve stability and facilitate maintenance of cracker facilities

**Expand sales of olefin-based polymers; New plants; Improve on C3 shortage position**

**For derivatives**

- **Increase capacity for high-purity propylene** (Ichihara)
  - ✔ Boost propylene purification capacity for polymers
  - ✔ Prepare for bolstering propylene-based polymers
  - ✔ Address propylene shortage position

**Diversifying raw materials**

- **Increase propane cracking capacity** (Osaka)
  - ✔ Shale-derived propane cracking
  - ✔ Diversify raw materials at Osaka (23% ➔ 40% of total raw materials)

Maintain world-leading naphtha cracker by further boosting cost competitiveness
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