

**Denka**

Possibility  
of  
chemistry

# Results Presentation of FY2023 3Q

(The 9 Months of the Fiscal Year Ending March 2024)

Securities code: 4061

**Denka Co., Ltd**

February 7, 2024

## ■ Analysis of underlying causes and preventive measures related to safety and quality issues

(Press release) • December 11, 2023: Announcement Concerning the Report of an External Investigation Committee Regarding Improprieties Related to Third-Party Certification of Resin Products of Denka and Toyo Styrene, an Equity-Method Affiliate

[https://www.denka.co.jp/storage/news/pdf/1185/20231211\\_denka\\_report\\_measures.pdf](https://www.denka.co.jp/storage/news/pdf/1185/20231211_denka_report_measures.pdf)

• January 11, 2024: Final Report on the Investigation of the Chloroprene Monomer Production Equipment Accident at the Omi Plant

[https://www.denka.co.jp/storage/news/pdf/1193/20240111\\_denka\\_omi\\_finalreport.pdf](https://www.denka.co.jp/storage/news/pdf/1193/20240111_denka_omi_finalreport.pdf)

## Analysis of Underlying Causes and Preventive Measures

### Proximate Cause

- Insufficient security risk assessment and lack of regard for quality compliance
- Insufficient corporate functions related to safety and quality
- Insufficient mechanisms (systems) related to safety and quality

### Preventive Measures

#### Governance

- Provide ongoing messages and communication from top management regarding safety and quality
- Establish a stronger corporate organization for safety and quality; pursuit of group risk management

#### Management

- Implement stronger group internal controls and support systems for group companies
- Implement group compliance activities

#### Processes

- Review and strengthen management systems for safety and quality
- Review safety and quality policies
- Establish and enhance audit/monitoring functions

#### Human Resources Development

- Review management systems for safety and quality
- Review safety and quality risks overall
- Conduct safety, security, and quality training (non-technical skills, compliance)

(Introduction) Analysis of Underlying Causes and Preventive Measures Related to Safety and Quality Issues 01

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# FY2023 3Q Results

- Operating income decreased year on year while net income was impacted by the posting of a 2 billion yen gain on the sale of strategic cross-shareholdings and a 6.8 billion yen impairment loss due to the termination of norovirus vaccine development

(¥ billions)	FY2022 3Q Cumulative (Apr-Dec) Actual	FY2023 3Q Cumulative (Apr-Dec) Actual	(Year on Year)
Sales	308.7	<b>292.8</b>	- 15.9
Operating Income	26.1	<b>12.6</b>	- 13.5
Operating Margin	8.4%	<b>4.3%</b>	- 4.1%
Ordinary Income	23.7	<b>8.5</b>	- 15.3
Net Income Attributable to Owners of Parent	8.8 <sup>*1</sup>	<b>3.6<sup>*2</sup><sub>*3</sub></b>	- 5.3
Forex (¥/\$)	135.7	<b>142.9</b>	
Japan Naphtha (¥/kl)	79,900	<b>68,100</b>	

\*1 Extraordinary losses due to withdrawal from cement business  
-17 billion yen (3Q cumulative)

\*2 Gain on sale of strategic cross-shareholdings  
+2.0 billion yen (3Q cumulative)

\*3 Impairment loss on goodwill, etc., related to Icon Genetics due to termination of norovirus vaccine development  
-6.8 billion yen

(Reference)

See *Notice Concerning Termination of Norovirus Vaccine Development and Recording of Extraordinary Loss Related to an Overseas Consolidated Subsidiary* published today (February 7, 2024) for more information.

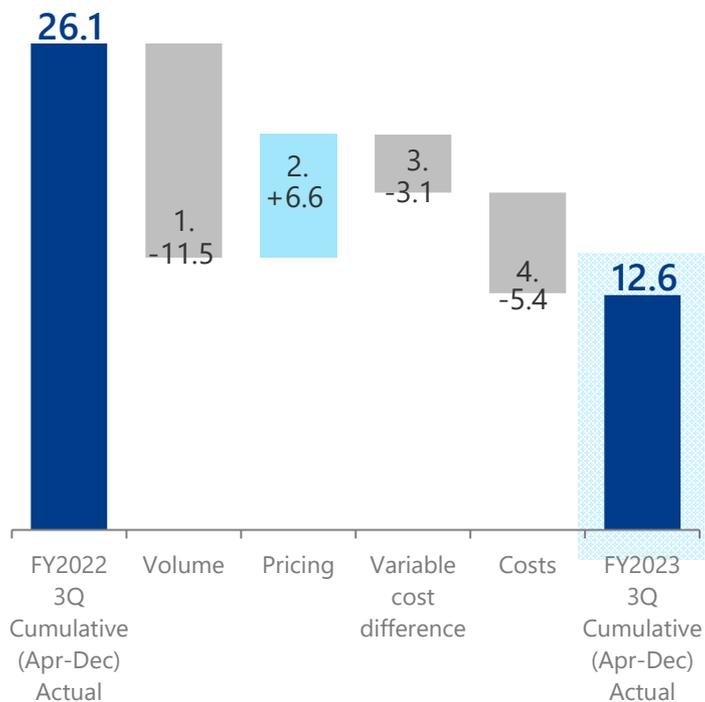
Profit declined significantly due to the significant negative impact of volume difference due to lower demand

Operating Income

12.6 billion yen Year on Year -13.5 billion yen

Operating Income Variance Analysis (Year on Year)

(¥ billions)



1. Volume:

(Minus)

Chloroprene rubber: Lower demand for applications in industry and adhesives; ongoing adjustments to market inventories in automobiles despite recovery in demand  
Spherical alumina, spherical fused silica, and high-performance film: Declining demand for consumer electronics (smartphones, PCs, home appliances)

Acetylene black: Demand continued to decline due to construction delays on high-voltage cables

(Plus)

Increase in demand for simultaneous test kits for COVID-19 and influenza due to the spread of influenza

2. Pricing: (Includes effect of currency fluctuations +7.4)

(Plus)

Chloroprene rubber: Benefits of price increases implemented in stages over the last fiscal year

(Minus)

Styrene-related products: Price revision due to decline in raw materials and fuel prices

3. Variable cost difference: (Includes effect of currency fluctuations -4.6)

Despite decrease in raw materials and fuel prices, negative difference due to currency fluctuations

4. Cost variances

Increased costs for building a system to increase production and for strengthening sales systems in Electronics & Innovative Products

Increase in repair, labor, and other costs at DPE in the U.S.

Write-down of chloroprene rubber inventory

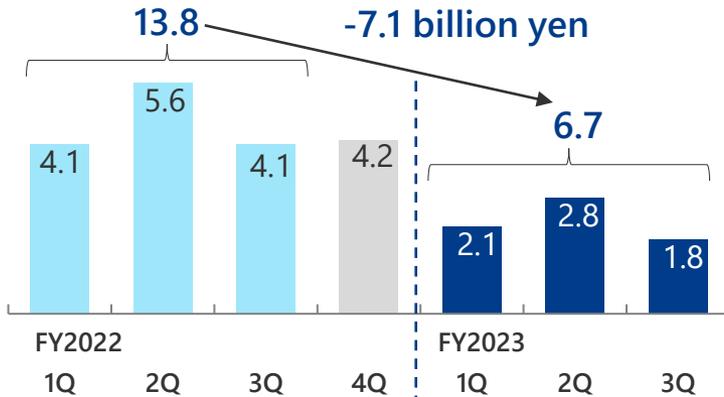
\* DPE: Denka Performance Elastomer LLC, a U.S. chloroprene rubber manufacturing subsidiary

Profit declined significantly year on year for Electronics & Innovative Products, as well as Elastomers & Infrastructure Solutions

Sales (¥billions)	FY2022 3Q Cumulative (Apr-Dec) Actual	FY2023 3Q Cumulative (Apr-Dec) Actual	Incr. Decr	Volume	Pricing	
Electronics & Innovative Products	69.8	63.3	- 6.5	- 9.4	+ 2.9	
Life Innovation	38.8	38.0	- 0.7	- 0.9	+ 0.2	
Elastomers & Infrastructure Solutions	94.5	85.8	- 8.7	- 15.7	+ 7.0	
Polymer Solutions	93.9	92.4	- 1.5	+ 2.0	- 3.6	
Others	11.7	13.3	+ 1.6	+ 1.6	-	
<b>Total</b>	<b>308.7</b>	<b>292.8</b>	<b>-15.9</b>	<b>- 22.4</b>	<b>+ 6.6</b>	
Operating Income (¥ billions)	FY2022 3Q Cumulative (Apr-Dec) Actual	FY2023 3Q Cumulative (Apr-Dec) Actual	Incr. Decr	Volume	Pricing	Cost& Others
Electronics & Innovative Products	13.8	6.7	- 7.1	- 4.5	+ 2.9	- 5.5
Life Innovation	11.5	9.7	- 1.8	- 0.4	+ 0.2	- 1.6
Elastomers & Infrastructure Solutions	- 0.0	-5.6	- 5.5	- 5.9	+ 7.0	- 6.6
Polymer Solutions	-1.1	0.3	+ 1.4	- 0.3	- 3.6	+ 5.3
Others	1.9	1.4	- 0.5	- 0.4	-	- 0.1
<b>Total</b>	<b>26.1</b>	<b>12.6</b>	<b>- 13.5</b>	<b>- 11.5</b>	<b>+ 6.6</b>	<b>- 8.5</b>

- Profit declined significantly due to major decrease in demand for consumer electronics (smartphones, PCs, home appliances) beginning in 3Q of the previous fiscal year, and continued weak demand of high-voltage cables

Operating Income by Quarter



Operating Income Variance Analysis (Year on Year)

(¥ billions)



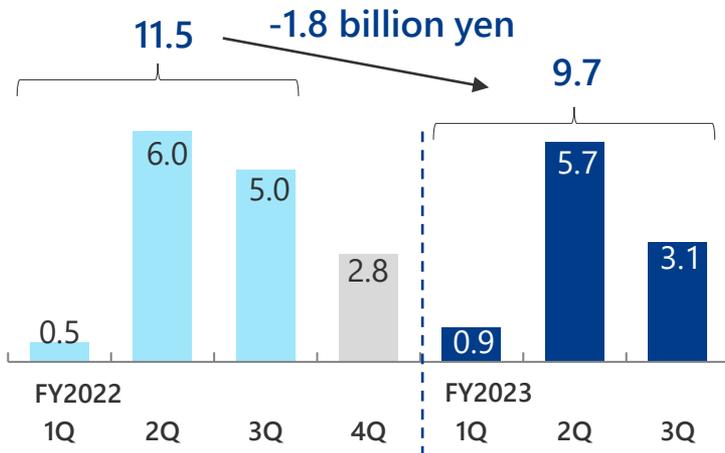
Costs: Increase in costs for systems to raise production and costs to strengthen sales systems

Sales Trends by Product

- Spherical alumina**
  - Demand for xEVs is recovering; however, demand for consumer electronics plunged in 3Q of last fiscal year and continued downward this fiscal year; shipments overall were significantly lower than the previous year
- Spherical fused silica**
  - Demand for consumer electronics, which had plummeted in 3Q of the previous year, continued to decline during the current fiscal year, with shipments falling below the previous year
- High-performance film**
  - Shipments were lower year on year as sales for films used in semiconductors were sluggish, despite the consumption of market inventories for electrical components during the current fiscal year leading to a gradual recovery in demand for consumer electronics, which had plummeted in 3Q of the previous year
- Acetylene black**
  - Despite a recovery in demand for xEVs, demand for high-voltage cables, which had been growing steadily, saw lower overall shipments than the previous year due to a decline in Europe stemming from construction delays, as well as sluggish demand in China
- Ceramic substrates (silicon nitride, aluminum nitride)**
  - Shipments for electric railways were on par with the previous year and shipments of xEVs recovered gradually; shipments overall were higher than the previous year

Profit decreased, despite an increase in demand for simultaneous test kits for COVID-19 and influenza (combo kits) due to the spread of influenza, as we incurred costs for systems to raise production and costs to strengthen sales systems

Operating Income by Quarter



Operating Income Variance Analysis (Year on Year)

(¥ billions)



Costs: Soaring prices of raw materials for influenza vaccines (chicken eggs), etc.

Sales Trends by Product

Influenza vaccine

- Assuming that the number of vaccinations would return to normal, we manufactured 10 million vaccines, an increase from the previous year, but the vaccination rate did not increase as much as expected and remained at the same level as the previous year

Rapid antigen test kit

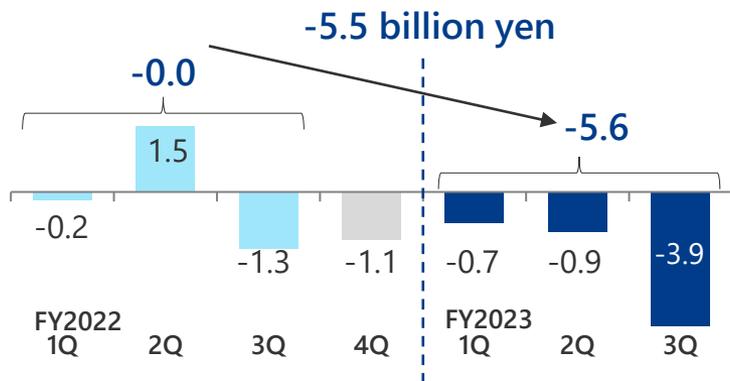
- Profit increased, as shipments of simultaneous test kits for COVID 19 and influenza (combo kits) were higher than the previous year due to the spread of influenza
- Maintaining the price after downgrading COVID-19 to a Class 5 infectious disease

IVD reagents (Inflammation markers, etc.)

- Shipments largely unchanged from the previous year

Profit decreased significantly with weak demand for chloroprene rubber, cost increases, including repairs and labor costs at DPE in the U.S., and inventory valuation write-downs

Operating Income by Quarter



Operating Income Variance Analysis (Year on Year)



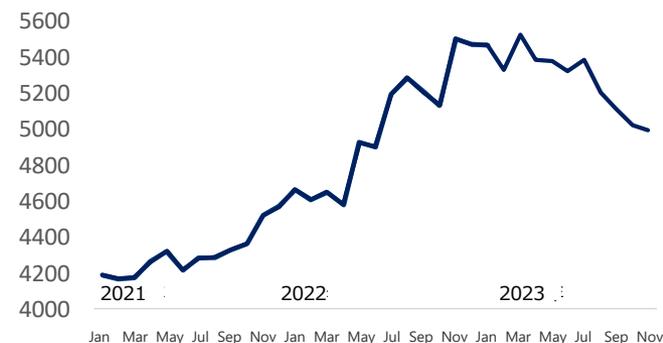
Costs: Increase in repair, labor, and other costs at DPE in the U.S., write-down on valuation of chloroprene rubber inventory\*

\*Posted write-down due to lower utilization capacity caused by a decrease in demand, as well as higher costs at DPE in the U.S.

Sales Trends by Product

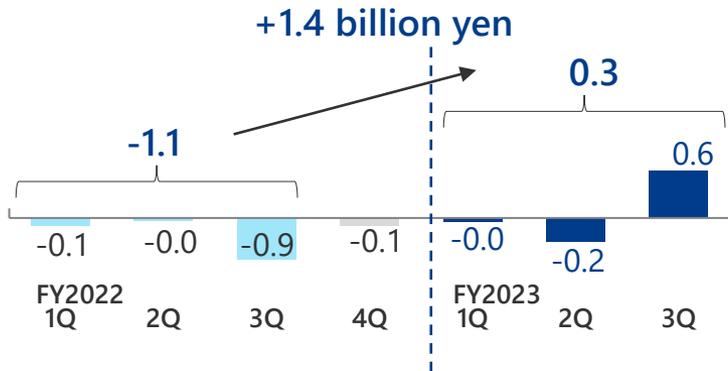
- Chloroprene rubber**
  - Shipments falling below the previous year due to lower demand from 3Q of the previous fiscal year for applications in industry and adhesives, as well as ongoing adjustments to market inventories in automobiles despite recovery in demand
  - Despite intensifying competition with the products of other companies and lower sale price, sale price increases implemented in stages over the last fiscal year made a positive contribution
- Special cement additives**
  - Largely unchanged from last year
- Cement**
  - Completed 2,300 yen/ton price increase (as of September 30 2022) Despite delays, 3,000 yen/ton price increase almost complete (as of July 31, 2023)
  - Coal prices fell (FY2022 3Q Cumulative: \$392/t ⇒ FY2023 3Q Cumulative: \$148/t)

[Customs Statistics] Chloroprene rubber (dry + latex) export unit price (US\$/t)



- Profit increased, despite weak demand, since we maintained spreads and fixed costs decreased due to a non-scheduled maintenance year for the styrene monomer plant

Operating Income by Quarter



Operating Income Variance Analysis (Year on Year)



Spreads maintained and fixed costs decreased due to a non-scheduled maintenance year for the styrene monomer plant

Sales Trends by Product

- MS resin**
  - Shipments for LGP applications for PC monitors, which had been weak since the beginning of the previous fiscal year, bottomed out in 3Q, with the recovery trend continuing into the current fiscal year, resulting in shipments exceeding the previous year
- AS, ABS, transparent resins, etc.**
  - Demand for consumer electronics, cosmetics containers, general merchandise, etc., which began weakening in 3Q of the previous year, continued to decline in the current fiscal year due to overall sluggishness in the global economy, and shipments fell below the previous year overall
- Food wrapping sheets and containers**
  - Shipments underperformed the previous year due to consumer reluctance stemming from food price hikes
- Toyokalon**
  - Shipments were largely unchanged from the previous year stemming from continuing weakness in purchasing power in Africa and the U.S. due to inflation, which began in the previous fiscal year

# FY2023 Earnings Forecast

Revised operating income downward compared with November forecast; left forecast for net income unchanged in consideration of an impairment loss on the termination of norovirus vaccine development and sales of strategic cross-shareholdings

[Temporary negative impact] -11.1 billion yen

Estimated impact of the Noto Peninsula earthquake: -4.3 billion yen (sales: -1.1 billion yen; costs -2.3 billion yen; extraordinary losses: -1.0 billion yen)

Impairment loss on goodwill, etc.: -6.8 billion (impairment loss on goodwill, etc., related to Icon Genetics due to termination of norovirus vaccine development)

(¥ billions)	FY2023 Forecast as of November	FY2023 Revised Forecast	vs Forecast as of November	FY2022 Actual	Year on Year
Sales	400.0	380.0	- 20.0	407.6	- 27.6
Operating Income	19.0	11.0	- 8.0	32.3	- 21.3
Operating Margin	4.8%	2.9%	- 1.9%	7.9%	- 5.0%
Ordinary Income	12.0	3.0	- 9.0	28.0	- 25.0
Net Income Attributable to Owners of Parent	11.0	11.0 <sup>*</sup>	± 0.0	12.8	- 1.8
Forex (¥/\$)	143.0	142.8 1H:139.9 2H:145.7		135.1	
Japan Naphtha (¥/kl)	70,300	68,500 1H65,450 1H71,500		76,500	

\*Impairment loss on goodwill, etc., of -6.8 billion yen related to Icon Genetics due to termination of norovirus vaccine development

\*Restoration costs for facilities, etc., due to the earthquake (estimated): -1.0 billion yen

\*Sale of strategic cross-shareholdings

## Forecast significant profit decline for Electronics & Innovative Products, Elastomers & Infrastructure Solutions

Sales (¥billions)	FY2023	FY2023	Incr. Decr	Volume		Pricing		
	Forecast as of November	Revised Forecast						
Electronics & Innovative Products	90.0	85.0	- 5.0	- 4.5	- 0.5			
Life Innovation	45.0	45.0	± 0.0	- 0.5	+ 0.5			
Elastomers & Infrastructure Solutions	120.0	110.0	-10.0	- 10.3	+ 0.3			
Polymer Solutions	130.0	125.0	- 5.0	- 3.6	- 1.4			
Others	15.0	15.0	± 0.0	± 0.0	-			
Total	400.0	380.0	-20.0	- 18.9	- 1.1			
Operating Income (¥ billions)	FY2023	FY2023	Incr. Decr	Volume		Pricing		Cost& Others
	Forecast as of November	Revised Forecast						
Electronics & Innovative Products	11.5	8.5	- 3.0	- 1.6	- 0.5	- 0.9		
Life Innovation	12.5	12.0	- 0.5	- 1.3	+ 0.5	+ 0.3		
Elastomers & Infrastructure Solutions	-7.5	-10.5	- 3.0	- 1.5	+ 0.3	- 1.7		
Polymer Solutions	1.0	-0.5	- 1.5	- 1.1	- 1.4	+ 1.0		
Others	1.5	1.5	± 0.0	+ 0.0	-	- 0.0		
Total	19.0	11.0	- 8.0	- 5.5	- 1.1	- 1.4		

## FY2023 Operating Income Forecast

11.0 billion yen (-8.0 billion yen vs forecast as of November)

Operating income (¥ billions)	Forecast as of November	Revised Forecast	Vs. Forecast as of November	Main Reasons for Earnings Forecast Revisions
Electronics & Innovative Products	11.5	8.5	-3.0	<p>[Volume -1.6 billion yen]</p> <p>Acetylene black</p> <ul style="list-style-type: none"> <li>•We expect demand to be lower than projected and shipments of high-voltage cables to be lower than forecast initially due to greater-than-expected construction delays for Europe and lower-than-expected demand for xEVs stemming from reduced EV subsidies etc., in Europe</li> </ul> <p>Ceramic substrates (silicon nitride, aluminum nitride)</p> <ul style="list-style-type: none"> <li>•We expect shipments to be significantly lower due to design changes among major users</li> </ul> <p>[Costs -0.9 billion yen]</p> <p>Cost increase due to lower utilization capacity stemming from lower sales volume, etc.</p>
Life Innovation	12.5	12.0	-0.5	<p>[Volume -1.3 billion yen]</p> <p>Influenza vaccine</p> <ul style="list-style-type: none"> <li>•Vaccine production was 10 million vaccines based on our assumption that numbers would return to normal; however, vaccination rates did not increase as much as expected, and we forecast lower performance</li> </ul> <p>[Pricing +0.5 billion yen]</p> <p>COVID-19 rapid antigen test kit</p> <ul style="list-style-type: none"> <li>•Sales price expected to remain unchanged, even factoring in the risk of a partial market price decline</li> </ul>
Elastomers & Infrastructure Solutions	-7.5	-10.5	-3.0	<p>[Total -3.3 billion yen estimated impact of the Noto Peninsula earthquake]</p> <p>Production cutbacks for chloroprene rubber</p> <p>Sales impact of -1.1 billion yen: Shipment decrease due to production cutback as operations were suspended through the end of January</p> <p>Cost impact of -2.3 billion yen: Inventory write-down due to lower production volume, other</p>
Polymer Solutions	1.0	-0.5	-1.5	<p>[Volume -1.1 billion yen]</p> <ul style="list-style-type: none"> <li>•We forecast a downward swing in response to lower-than-expected demand for the segment as a whole</li> </ul>
Others	1.5	1.5	±0.0	
Total	19.0	11.0	-8.0	

# FY2023 Earnings Forecast

## d) Investment, Depreciation, R&D by Segment

- 3Q cumulative results unchanged from previous year and full year forecast revisions compared with November announcement, however the eight-year strategic investment framework of 360 billion yen (Mission2030 target) unchanged

### 3Q Cumulative (Year on Year)

3Q Cumulative (Year on Year)	Investment		Depreciation		R&D	
	FY2022 3Q Cumulative (Apr-Dec) Actual	FY2023 3Q Cumulative (Apr-Dec) Actual	FY2022 3Q Cumulative (Apr-Dec) Actual	FY2023 3Q Cumulative (Apr-Dec) Actual	FY2022 3Q Cumulative (Apr-Dec) Actual	FY2023 3Q Cumulative (Apr-Dec) Actual
(¥ billions)						
Electronics & Innovative Products	12.2	11.4	6.1	6.6	3.7	4.1
Life Innovation	1.6	3.5	3.1	2.9	3.1	3.5
Elastomers & Infrastructure Solutions	8.8	9.4	7.3	6.7	2.6	2.1
Polymer Solutions	5.6	3.4	3.5	3.7	2.0	1.8
Others	-	-	0.3	0.2	-	-
<b>Total</b>	<b>28.1</b>	<b>27.6</b>	<b>20.2</b>	<b>20.1</b>	<b>11.3</b>	<b>11.5</b>

### Full-Year (vs. Forecast as of November)

Full-Year (vs. Forecast as of November)	Investment		Depreciation		R&D	
	FY2023 Forecast as of November	FY2023 Revised Forecast	FY2023 Forecast as of November	FY2023 Revised Forecast	FY2023 Forecast as of November	FY2023 Revised Forecast
Electronics & Innovative Products	20.0	20.0	9.0	9.0	5.0	5.5
Life Innovation	7.0	5.0	4.0	4.0	6.0	5.0
Elastomers & Infrastructure Solutions	13.0	13.0	9.0	9.0	3.0	3.0
Polymer Solutions	7.0	5.0	5.0	5.0	2.0	2.5
Others	-	-	0.5	0.5	-	-
<b>Total</b>	<b>47.0</b>	<b>43.0</b>	<b>27.5</b>	<b>27.5</b>	<b>16.0</b>	<b>16.0</b>

■ No revisions to net income forecast compared with November announcement;  
dividend forecast remains at 100 yen per share

		FY2018 Actual	FY2019 Actual	FY2020 Actual	FY2021 Actual	FY2022 Actual	FY2023 Forecast
Net Income	(¥ billions)	25.0	22.7	22.8	26.0	12.8	11.0
Dividends per Share*	(¥/share)	120.0	125.0	125.0	145.0	100.0	100.0 Mid-term 60.0 End 40.0
Dividend	(¥ billions)	10.5	10.8	10.8	12.5	8.6	8.6
Shareholders Return		42%	48%	47%	48%	68%	78%
Stock Purchase	(¥ billions)	2.1	-	-	-	-	-
Total Return	(¥ billions)	12.6	10.8	10.8	12.5	8.6	8.6
Total Return Ratio		50%	48%	47%	48%	68%	78%
Depreciation	(¥ billions)	22.9	22.5	22.9	23.9	27.0	27.5
Investment & Lending	(¥ billions)	32.8	36.9	42.3	35.6	39.4	43.0
Interest Bearing Debt	(¥ billions)	112.1	134.3	138.2	137.0	169.7	186.0
Net D/E Ratio		0.40	0.42	0.42	0.40	0.50	0.51
<b>ROIC</b>		<b>7.8%</b>	<b>6.6%</b>	<b>6.8%</b>	<b>7.3%</b>	<b>6.7%</b>	<b>2.0%</b>
<b>ROE</b>		<b>10.3%</b>	<b>9.1%</b>	<b>8.8%</b>	<b>9.4%</b>	<b>4.4%</b>	<b>3.7%</b>

# Earnings Improvement Measures

- Strengthen business value creation, including focused short-term measures with clearly defined time frames and amounts, to meet our promise of short-term performance improvements. Aim to put profit levels back on a growth trajectory beginning in the second half of FY2024.

Respond to Recovery in Demand

+

### (1) Drastic measures for the chloroprene rubber business P19

Make decisions from among improvement measures by the end of 2024

### (2) Launch company-wide cost reduction project P20

Operating income improvement: 3 billion yen per year in FY2025; 5 billion yen per year in FY2026

### (3) Expand businesses in connection with strategic investments P21 conducted under the previous management plan, *Denka Value-Up*

- ICT & Energy xEV-related: Spherical alumina, Thermally conductive sheets, silicon nitride powder, acetylene black
- Semiconductor-related: Spherical fused silica, emitters
- Healthcare diagnosis field: Antigen test kits, IVD reagents

### (4) Expand new businesses P22

- New businesses: LDM Bring to market in second half of FY2024 (sales of 10 billion yen by FY2030)
- LCP film Bring to market in FY2025 (sales of 3 billion by FY2030)
- TBM Bring to market in FY2024
- New grades: Spherical fused silica, spherical alumina for generative AI

+

Human Resource Value Creation, Management Value Creation

Business Value Creation

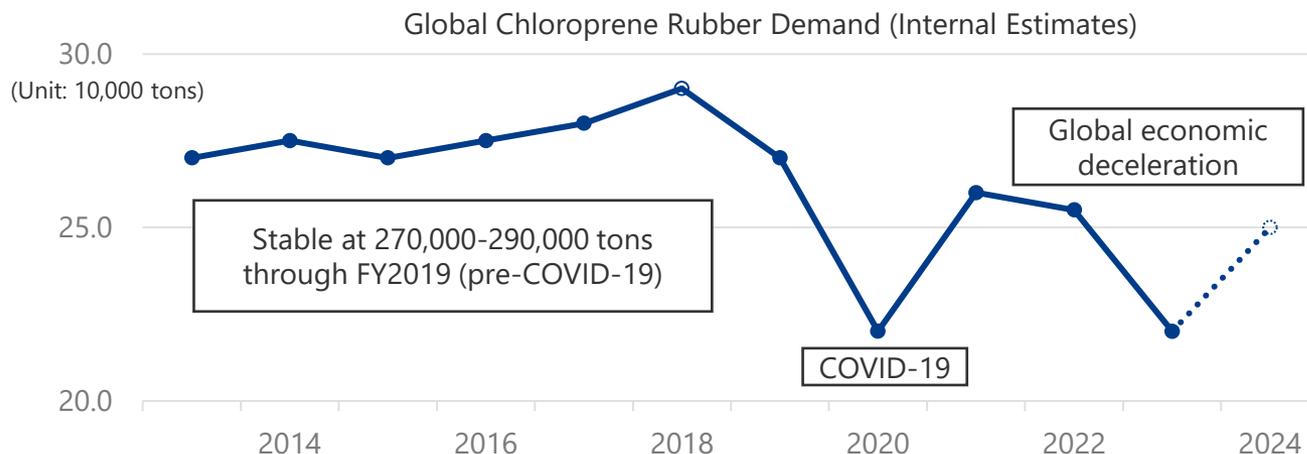
Focused Short-Term Measures

Business Expansion

■ Measures to improve the profit of the chloroprene rubber business as the most important management issue and under consideration after various scrutiny, drastic measures will be decided by the end of 2024.

## Details to Study (1): Chloroprene rubber demand trends

• We expect demand to recover to 250,000 tons in FY2024; however, we intend to examine demand trends for signs of recovery to the pre-COVID-19 level of 270,000 tons to 290,000 tons



## Details to Study (2): Optimal production capacity

• The Denka Group intends to study the optimal production capacity for chloroprene rubber at the Omi Plant and DPE (U.S.) from various perspectives, including exchange rate trends, raw material market conditions, and BCP measures, and based on certain future demand assumptions

- We expect to achieve results of at least 3 billion yen per year by FY2025 and 5 billion yen per year by FY2026, playing an important role in achieving the operating income targets under our Mission2030 management plan

### Cost Reduction Project Initiatives

- Receive the full commitment of the president
- Utilize data analysis and benchmarks from external consulting firms
- Increase employee motivation by visualizing results and using incentives

#### Major Expenses

Direct raw materials costs, sub-materials costs, distribution costs, repair costs, general expenses, etc.

### Pursue Best Practices



As our growth strategy under the previous management plan (Denka Value-Up) progresses, we continue to pursue portfolio transformation under the Mission2030 management plan, focusing management resources on our Three-Star Businesses

## ICT &amp; Energy xEV-Related

## Increase Spherical Alumina

- Application: Thermal interface materials for LiB cooling mechanisms, OBC (on board chargers)
- In April 2022, we began operations in Singapore to meet the growing demand for spherical alumina in connection with increasing needs for thermal support for LiBs (key components for EVs) and other control devices (key components of EVs)
- Increase production capacity by 5 times compared to FY2018

**Launch: April 2022**

[https://www.denka.co.jp/eng/storage/news/pdf/433/20220511\\_denka\\_alumina\\_en.pdf](https://www.denka.co.jp/eng/storage/news/pdf/433/20220511_denka_alumina_en.pdf)

## Relocate to New Facility for Thermally Conductive Sheets

- Application: Thermal interface materials for automotive electrical equipment
- Install new production equipment at the Shibukawa Plant; double production capacity

**Launch: First half FY2024 (scheduled)**

[https://www.denka.co.jp/eng/storage/news/pdf/376/20211125\\_denka\\_shibukawa\\_en.pdf](https://www.denka.co.jp/eng/storage/news/pdf/376/20211125_denka_shibukawa_en.pdf)

## Increase Silicon Nitride Powder

- Applications: Insulating substrates for xEV inverters in power modules, bearing balls for traction motors
- Reliable quality and cost-effective performance that meet requirements in the xEV (automotive) market: heat dissipation, light weight, high rigidity, and long useful life
- Expand further to meet the strong xEV market demand

**Launch: First half FY2025 (scheduled)**

## Acetylene Black: New Manufacturing Base in Thailand

- Applications: LiBs for xEVs, high voltage transmission line cables for offshore wind power generation
- In response to the rapidly growing demand, we established a joint venture with SCG Chemicals Public Company for the manufacturing and sale of acetylene black
- Decided to construct a plant with an annual production capacity of 11,000 tons

**Launch: Second half FY2026 (scheduled)**

[https://www.denka.co.jp/eng/storage/news/pdf/463/20231010\\_denka\\_abjv\\_en.pdf](https://www.denka.co.jp/eng/storage/news/pdf/463/20231010_denka_abjv_en.pdf)

## ICT &amp; Energy Semiconductor-Related

## Increase Spherical Fused Silica

- Application: Semiconductor sealants

**Launch: First half FY2024 (scheduled)**

## Increase Emitters

- Applications: Surface observation application for semiconductor materials and devices, circuit patterning application in semiconductor manufacturing lithography processes, etc.
- Due to miniaturization in semiconductors, demand is increasing for emitters capable of inspecting and patterning circuit widths of only a few nanometers; decision to increase in response to demand

**Launch: Second half FY2024 (scheduled)**

## Healthcare Diagnosis field

## Increase Antigen Test Kits, IVD Reagents

## Antigen Test Kits

- Full operation underway in response to various infectious diseases
- Increased production capacity 2.5 times

## IVD reagents

- Responding to growing global demand through OEM and bulk supply to major platformers in Europe, the U.S., and China
- Increased production capacity of test reagents by two times

**Launch: Second half FY2024 (scheduled)**

[https://www.denka.co.jp/eng/storage/news/pdf/409/20220414\\_denka\\_gosen\\_en.pdf](https://www.denka.co.jp/eng/storage/news/pdf/409/20220414_denka_gosen_en.pdf)

**Making steady progress in upfront investments; new businesses and new grades should contribute to profits beginning in FY2024**

**Profit Contribution**

**Further increases in communications speed and capacity with the spread of 5G, 6G, generative AI, etc. Beginning of profit contributions by products that reduce transmission loss and thermal countermeasure with high frequencies**

**High Frequency Adaptation**

(Issue)  
 Reducing transmission loss associated with high frequencies requires materials combining low dielectric constant and low dielectric loss tangent

**SNECTON (Low Dielectric Macromonomer/LDM)**

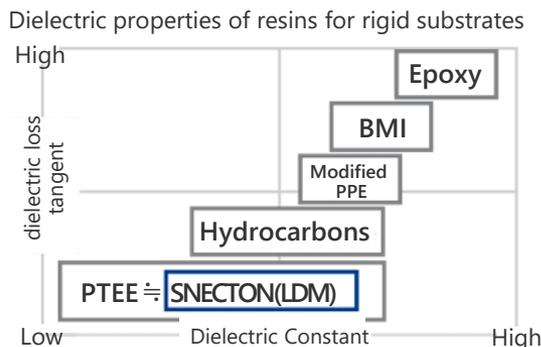
- Applications: Substrates for copper clad laminates (CCL) and interlayer dielectric materials
- Low dielectric constant and low dielectric loss tangent comparable to PTFE
- Laminate processability and heat resistance superior to PTFE
- Adaptable to products featuring optimal recipe combining SNECTON (LDM) and low dielectric tangent silica

**Market schedule: Second half of FY2024**  
 (Sales of 10.0 billion yen in FY2030)

**LCP Film (Liquid Crystal Polymer Film)**

- Applications: Substrates for flexible copper clad laminates (FCCL)
- LCP is a material offering a low dielectric constant and low dielectric loss tangent
- Film deposition using the T-die method, which is superior for mass production and film thickness control

**Market schedule: FY2025**  
 (Sales of 3.0 billion yen in FY2030)



**Thermal Adaptation**

(Issue)  
 Responding to increased heat generation associated with high frequencies requires materials combining low thermal expansion, high thermal conductive, and high heat resistance

**Spherical fused silica**

**Spherical alumina**

Denka features: (Silica) low thermal expansion, (alumina) high thermal conductive (Standard) High filling property stemming from high sphericity and a wide range of particle sizes from large to ultra-fine

Expanding demand for silica: Semiconductor sealant applications, etc.  
 → **Resin substrates for generative AI**  
**Increased adoption of new grades**

Expanding demand for alumina: Thermal interface materials, etc.  
 → **Semiconductor sealants for generative AI**  
**Increased adoption of new grades**

**TBM (Temporary Bonding Material for Use in Semiconductor Manufacturing Processes)**

- Applications: Temporary fixing heat-resistant adhesive used in back-grinding process to thin wafers in the power device and other next-generation semiconductor manufacturing processes
- Adhesive offering peelability with high heat resistance

**Market schedule: FY2024**

Pursuing research utilizing proprietary Denka technologies related to high frequencies and thermal, aiming to grow into a new pillar of business

## Human Resource Value Creation

### Diversity, Equity, and Inclusion

- Stepped up recruitment to achieve 50% in FY2030 of total manager-level positions filled by female/foreign national/experienced hire employees  
(Reference) Total ratio of female/foreign national/experienced hires in career-track employment  
FY2021 47% ⇒ FY2022 64% ⇒ FY2023 65%
- Obtained *Kurumin* certification

### Establishment of an Internal Recruitment System

- New system established to match the needs of the organization and the individual, as well as to increase motivation through opportunities to take on challenging positions voluntarily
- Implemented in FY2023

### Established Career Planning Committee

- Selected human resources candidates for management positions; began career planning for selected employees and began training.

### Job-Based Employment System

- We intend to introduce a job-based human resources system with clearly defined duties in FY2024 for greater fairness, transparency, and objectivity.

## Management Value Creation

### Company-Wide Reform Campaign

- Identified the causes of past issues, such as wasteful and inefficient work practices in each workplace; design improvement response measures

### Appointment of Outside Director as Chairperson of the Nomination and Remuneration Advisory Committee to Improve Effectiveness

- Established in 2017, consisting of all outside directors, chairperson, and president as a means for the board of directors to receive diverse opinions and advice from outside directors on important management issues, leading to transparency and objective management decisions
- Outside director appointed chairperson of the committee beginning this fiscal year

### Review of Executive Remuneration System

- (1) Increased the ratio of short-term incentives to total compensation to ensure that each executive officer is more conscious of achieving management plan profit targets and acts accordingly
- (2) Adopted an individual target management and evaluation system as a component of compensation to encourage directors and executive officers in their commitment to achieving the financial and non-financial targets of the divisions under their purview
- (3) Introduced a new stock-based compensation plan for executive officers and directors

Sales (¥billions)	FY2022 Actual	FY2023 Revised Forecast	Incr. Decr	Volume		Pricing		
Electronics & Innovative Products	93.5	85.0	- 8.5	- 11.8	+ 3.2			
Life Innovation	47.5	45.0	- 2.5	- 2.8	+ 0.2			
Elastomers & Infrastructure Solutions	123.8	110.0	-13.8	- 19.9	+ 6.1			
Polymer Solutions	127.6	125.0	- 2.6	+ 0.4	- 3.0			
Others	15.1	15.0	- 0.1	- 0.1	-			
<b>Total</b>	<b>407.6</b>	<b>380.0</b>	<b>-27.6</b>	<b>- 34.2</b>	<b>+ 6.6</b>			
Operating Income (¥ billions)	FY2022 Actual	FY2023 Revised Forecast	Incr. Decr	Volume		Pricing		Cost& Others
Electronics & Innovative Products	18.0	8.5	- 9.5	- 5.0	+ 3.2	- 7.7		
Life Innovation	14.4	12.0	- 2.4	- 0.1	+ 0.2	- 2.5		
Elastomers & Infrastructure Solutions	- 1.1	-10.5	- 9.4	- 6.9	+ 6.1	- 8.7		
Polymer Solutions	-1.2	-0.5	+ 0.7	- 0.9	- 3.0	+ 4.7		
Others	2.3	1.5	- 0.8	- 0.9	-	+ 0.1		
<b>Total</b>	<b>32.3</b>	<b>11.0</b>	<b>- 21.3</b>	<b>- 13.8</b>	<b>+ 6.6</b>	<b>- 14.1</b>		

Sales (¥billions)	FY2021				FY2022				FY2023			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q Forecast
Electronics & Innovative Products	21.0	22.8	22.3	24.0	21.9	25.6	22.3	23.8	19.2	22.5	21.7	21.7
Life Innovation	6.0	19.3	10.9	9.9	6.4	15.5	16.9	8.8	7.2	15.0	15.8	7.0
Elastomers & Infrastructure Solutions	24.6	26.8	26.1	29.3	30.4	32.5	31.6	29.3	28.0	29.2	28.6	24.2
Polymer Solutions	31.8	31.5	29.5	33.9	31.6	32.0	30.3	33.7	29.8	31.7	30.9	32.6
Others	3.5	4.0	4.0	3.7	4.1	2.9	4.7	3.4	3.7	5.1	4.5	1.7
Total	86.7	104.4	92.8	100.9	94.4	108.6	105.8	98.8	87.8	103.5	101.5	87.2
Operating Income (¥ billions)	FY2021				FY2022				FY2023			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q Forecast
Electronics & Innovative Products	4.4	4.8	4.6	4.9	4.1	5.6	4.1	4.2	2.1	2.8	1.8	1.8
Life Innovation	0.3	10.4	1.2	3.6	0.5	6.0	5.0	2.8	0.9	5.7	3.1	2.3
Elastomers & Infrastructure Solutions	0.1	-0.0	-1.2	-2.3	-0.2	1.5	-1.3	-1.1	-0.7	-0.9	-3.9	-4.9
Polymer Solutions	2.6	1.8	1.9	1.6	-0.1	-0.0	-0.9	-0.1	-0.0	-0.2	0.6	-0.8
Others	0.4	0.5	0.4	0.2	0.6	0.4	0.9	0.4	0.5	0.5	0.4	0.1
Total	7.7	17.5	7.0	7.9	4.9	13.4	7.8	6.3	2.8	7.7	2.0	-1.6

## Cautionary statement regarding forward-looking information

Target figures in this material are not forecasts of business results.

In addition, any description relating to the future in this material is subject to known or unknown risks and uncertainties, although it is based on management's current assumptions and beliefs in light of the information currently available to it. Please be cautioned that a number of important factors could cause actual results to differ significantly from the description in the material.

Such risks and uncertainties include adverse economic conditions, currency exchange rate fluctuations, adverse legislative and regulatory developments, delays in new product launch, pricing, and product initiatives of competitors, the inability of the Company to market existing and new products effectively, interruptions in production, infringements of the company's intellectual property rights and the adverse outcome of material litigation.

Possibility of chemistry

# Denka

Inquiries regarding this material

**Corporate Communications Dept,  
Denka Co., Ltd.**

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**TEL**

03-5290-5511

**URL**

<https://www.denka.co.jp/eng/>