

Denka

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Results Presentation of FY2023 2Q

(The 1st Half of the Fiscal Year Ending March 2024)

Securities code: 4061

Denka Co., Ltd

November 8, 2023

1 FY2023 1st Half Results

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FY2023 1st Half Results

■ Profit declined significantly year on year (higher than August forecast)

(¥ billions)	FY2022 1H Actual	FY2023 1H Actual	(Year on Year)	FY2023 1H Forecast as of August
Sales	202.9	191.4	- 11.6	190.0
Operating Income	18.3	10.5	- 7.8	9.0
Operating Margin	9.0%	5.5%	- 3.6%	4.7%
Ordinary Income	17.0	8.1	- 8.9	7.0
Net Income Attributable to Owners of Parent	14.3	6.6 *	- 7.8	5.0
Forex (¥/\$)	131.6	139.9		138.7
Japan Naphtha (¥/kl)	82,850	65,450		62,600

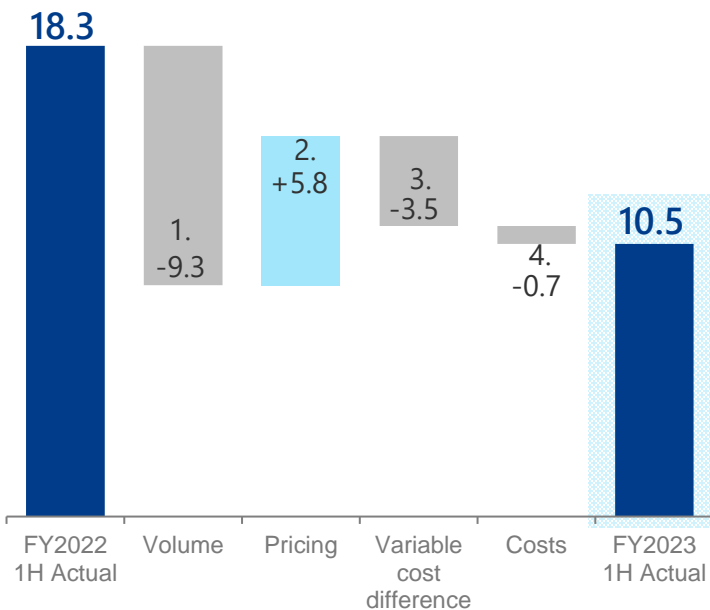
*Gain on sale of strategic cross-shareholdings +1.2 billion yen

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

Operating Income 10.5 billion yen Year on Year -7.8 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 temporarily declined due to construction delays for 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 +5.8)

(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 -3.6)

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

4. Cost variances

Increased costs for buildings 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.

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

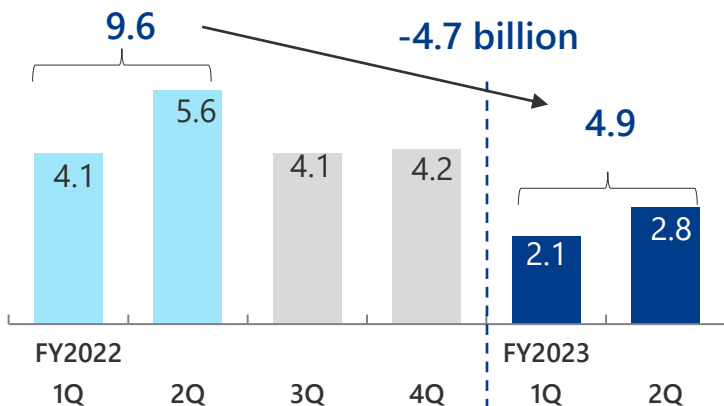
■ Profit declined significantly year on year for Electronics & Innovative Products, as well as Elastomers & Infrastructure Solutions

Sales (¥billions)	FY2022 1H Actual	FY2023 1H Actual	Incr. Decr.	Volume	Pricing	
Electronics & Innovative Products	47.5	41.7	- 5.8	- 8.5	+ 2.7	
Life Innovation	21.9	22.2	+ 0.3	+ 0.3	+ 0.0	
Elastomers & Infrastructure Solutions	62.9	57.2	- 5.7	- 12.1	+ 6.4	
Polymer Solutions	63.6	61.5	- 2.2	+ 1.2	- 3.4	
Others	7.0	8.8	+ 1.8	+ 1.8	-	
Total	202.9	191.4	-11.6	- 17.3	+ 5.8	
Operating Income (¥ billions)	FY2022 1H Actual	FY2023 1H Actual	Incr. Decr.	Volume	Pricing	Cost& Others
Electronics & Innovative Products	9.6	4.9	- 4.7	- 4.0	+ 2.7	- 3.4
Life Innovation	6.5	6.6	+ 0.1	+ 0.5	+ 0.0	- 0.5
Elastomers & Infrastructure Solutions	1.3	-1.6	- 2.9	- 5.3	+ 6.4	- 4.1
Polymer Solutions	-0.2	-0.3	- 0.1	- 0.6	- 3.4	+ 3.8
Others	1.0	1.0	- 0.1	+ 0.0	-	- 0.1
Total	18.3	10.5	- 7.8	- 9.3	+ 5.8	- 4.2

d) Electronics & Innovative Products (Year on Year)

- Profit declined significantly due to major declines in demand for consumer electronics (smartphones, PCs, home appliances) from 3Q of the previous fiscal year

Operating Income by Quarter



Operating Income Variance Analysis (Year on Year)

(¥ billions)



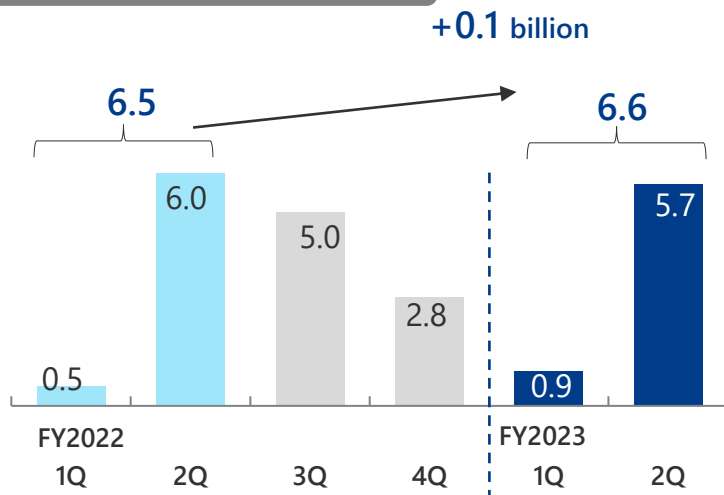
*Costs: Increase in costs for systems to raise production, cost to strengthen sales systems

Sales Trends and Costs by Product

- Spherical alumina**
 - Demand for xEVs is recovering, however demand for consumer electronics, plunged in the 3Q of last fiscal year, is continuing in the first half of this fiscal year, and overall shipments are 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 first half of 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 remained sluggish, despite a recovery in market inventories of electrical components during the current fiscal year leading to a gradual recovery in demand of consumer electronics, which had plummeted in 3Q of the previous year
- Acetylene black**
 - Despite 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 temporarily 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 exceeded the previous year's level, recovering from the first half of the previous fiscal year, which was affected by automobile production cutbacks due to the shortage of semiconductors

Continued strong performance from the previous year due to the increase in demand for simultaneous test kits (combo kits) for COVID-19 and influenza due to the spread of influenza

Operating Income by Quarter



Operating Income Variance Analysis (Year on Year)



Sales Trends and Costs by Product

Influenza vaccine

- Shipments began in September as planned and were largely unchanged from the previous year

COVID-19 rapid antigen test kit

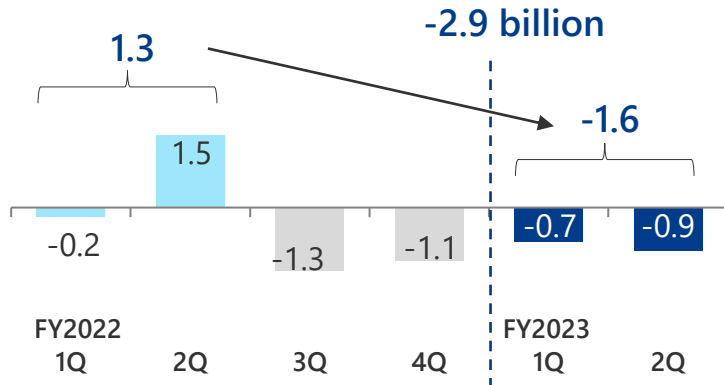
- Despite shipments of COVID-19 antigen test kits falling below the previous year's, achieved higher sales and profits thanks to shipments of simultaneous test kits for COVID-19 and influenza (combo kits) due to the spread of influenza
- Maintaining the price after downgrading COVID-19 to a Class 5 infectious disease

IVD reagents (Inflammation markers, etc.)

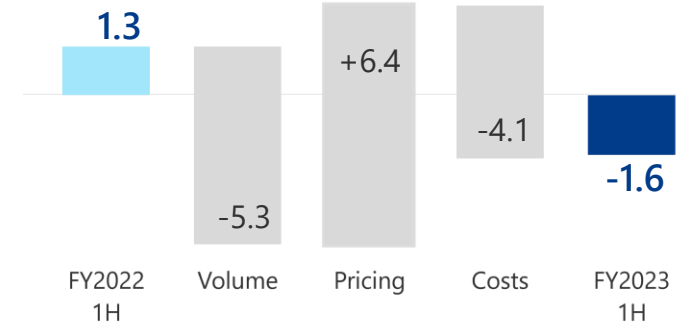
- Shipments largely unchanged from the previous year

Lower profit due to increased repair and labor costs and declining demand despite successful price hikes for chloroprene rubber

Operating Income by Quarter



Operating Income Variance Analysis (Year on Year)



(¥ billions)

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

Sales Trends and Costs 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
 - Contributions from price increases implemented in stages over the last fiscal year
- Special cement additives**
 - Largely unchanged from last year
- Cement**
 - The 2,300 yen/ton price increase is complete (as of September 30 2022). The 3,000 yen/ton price increase, despite delays, is almost complete as of July 31 2023
 - Coal prices fell (FY2022 1H: \$399/t ⇒ FY2023 1H: \$154/t)

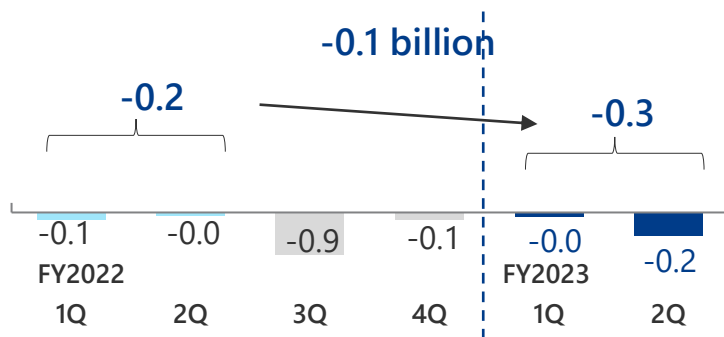
[Customs Statistics] Chloroprene rubber (dry + latex) export unit price (US\$/t)



d) Polymer Solutions (Year on Year)

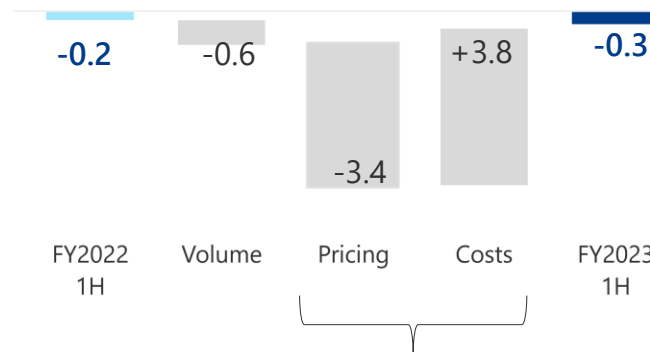
Demand remained weak and was largely unchanged from the previous year, despite maintaining spreads and fixed cost reductions from a non-scheduled maintenance year for the styrene monomer plant

Operating Income by Quarter



Operating Income Variance Analysis (Year on Year)

(¥ billions)



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

Sales Trends and Costs 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 had deteriorated in 3Q of the previous year, continues to decline in the current fiscal year due to overall sluggishness in the global economy, with overall shipments falling below the previous year
- Food wrapping sheets and containers**
 - Shipments largely unchanged from the previous year
- 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 from the first half of the previous fiscal year

Profit exceeded our August forecast in Life Innovation from increased demand for simultaneous test kits (combo kits) for COVID-19 and influenza

Sales (¥billions)	FY2023 1H Forecast as of August	FY2023 1H Actual	Incr. Decr.	Volume	Pricing	
Electronics & Innovative Products	40.0	41.7	+ 1.7	+ 1.2	+ 0.5	
Life Innovation	20.0	22.2	+ 2.2	+ 2.0	+ 0.2	
Elastomers & Infrastructure Solutions	57.5	57.2	- 0.3	- 0.9	+ 0.7	
Polymer Solutions	65.0	61.5	- 3.5	- 4.1	+ 0.5	
Others	7.5	8.8	+ 1.3	+ 1.3	-	
Total	190.0	191.4	+ 1.4	- 0.5	+ 1.8	

Operating Income (¥ billions)	FY2023 1H Forecast as of August	FY2023 1H Actual	Incr. Decr.	Volume	Pricing	Cost& Others
Electronics & Innovative Products	4.0	4.9	+ 0.9	+ 0.2	+ 0.5	+ 0.2
Life Innovation	5.0	6.6	+ 1.6	+ 1.3	+ 0.2	+ 0.2
Elastomers & Infrastructure Solutions	-1.5	-1.6	- 0.1	- 0.4	+ 0.7	- 0.4
Polymer Solutions	0.5	-0.3	- 0.8	- 0.8	+ 0.5	- 0.5
Others	1.0	1.0	- 0.0	+ 0.1	-	- 0.2
Total	9.0	10.5	+ 1.5	+ 0.4	+ 1.8	- 0.7

FY2023 Earnings Forecast

■ Downward revision from our initial forecast

(¥ billions)	FY2023 Initial Forecast	FY2023 Revised Forecast	vs Forecast at the beginning	FY2022 Actual	(Year on Year)
Sales	430.0	400.0	- 30.0	407.6	- 7.6
Operating Income	33.0	19.0	- 14.0	32.3	- 13.3
Operating Margin	7.7%	4.8%	- 2.9%	7.9%	- 3.1%
Ordinary Income	29.0	12.0	- 17.0	28.0	- 16.0
Net Income Attributable to Owners of Parent	22.0	11.0	- 11.0	12.8	- 1.8
Forex (¥/\$)	130.0	143.0 1H:139.9 2H:145.0		135.1	
Japan Naphtha (¥/Kl)	64,200	70,300 1H:65,450 2H:75,200		76,500	

■ Lower-than-expected demand for consumer electronics, xEVs, and chloroprene rubber

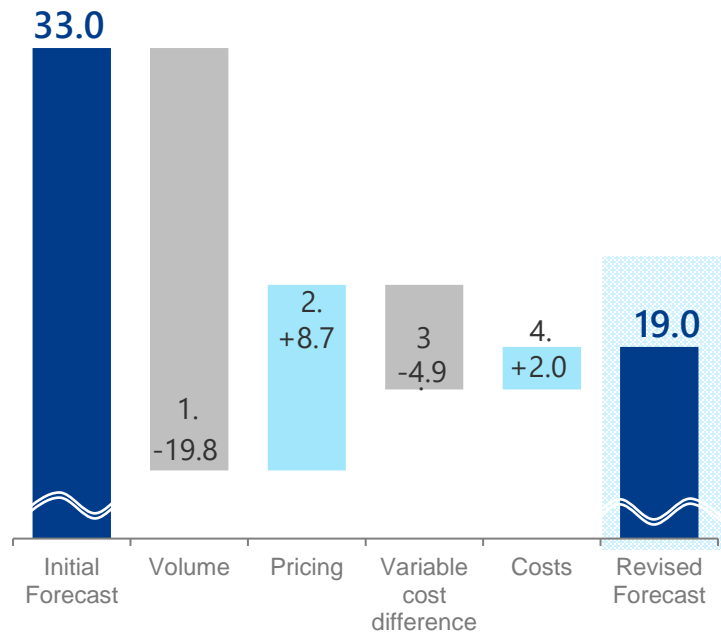
(Market Trends)	Initial Forecast	Revised Forecast
Semiconductors	<p>Automotive-related applications: Gradual recovery toward the end of 2023</p> <p>Consumer electronics-related applications: Gradual demand recovery in 2Q and beyond</p>	<p>Automotive-related applications: (No change)</p> <p>Consumer electronics-related applications: Gradual recovery from the second half, except for memory, which will be from FY2024 onward</p>
xEV	Accelerated market expansion despite negative effects of inflation and other factors	Market expansion growth slower than expected
COVID-19	<ul style="list-style-type: none"> • Projection of approximately two epidemics per year • Demand for in-hospital testing will continue, but municipal testing will decrease • No revision for insurance points in the current fiscal year 	(No change)
Chloroprene rubber	<p>Gradual recovery in demand beginning in the first half</p> <p>Second half to recover to 90% of FY2022 first half levels</p>	<p>Despite a recovery in demand for automobile applications, the market inventory levels are higher than expected, while demand remains sluggish for industry and adhesive applications</p> <p>Moderate recovery from FY2024 onward, mainly in industrial and automobile applications</p>
Food containers	Increase in demand in the ready-made meal market, which is less expensive than eating out	Reduced demand in the ready-made meal market with further rising food prices

We expect profit to significantly decrease due to delays in expected recoveries of demand for chloroprene rubber and consumer electronics products

Operating Income **19.0 billion yen** vs Forecast at the beginning -14.0 billion yen

Operating Income Variance Analysis
(vs Forecast at the beginning)

(¥ billions)



- Volume:**
 Chloroprene rubber: Delays in recovery in demand for applications in industry and adhesives; ongoing adjustments to market inventories in automobiles despite recovery in demand
 Semiconductor-related products, functional resins: Delays in recovery in demand for consumer electronics (smartphones, TVs, PCs, home appliances)
- Pricing:** (Includes effect of currency fluctuations +14.3)
 Chloroprene rubber: Lower sales prices due to intensifying competition with the products of other companies
 Styrene-related products: Price revision due to decline in raw materials and fuel prices
- Variable cost difference:** (Includes effect of currency fluctuations -9.3)
 Raw materials and fuel price decreases, etc.
- Cost variances**
 Implement company-wide cost reductions to ensure profitability
 Further deterioration in repair, labor, and other costs at DPE in the U.S.

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

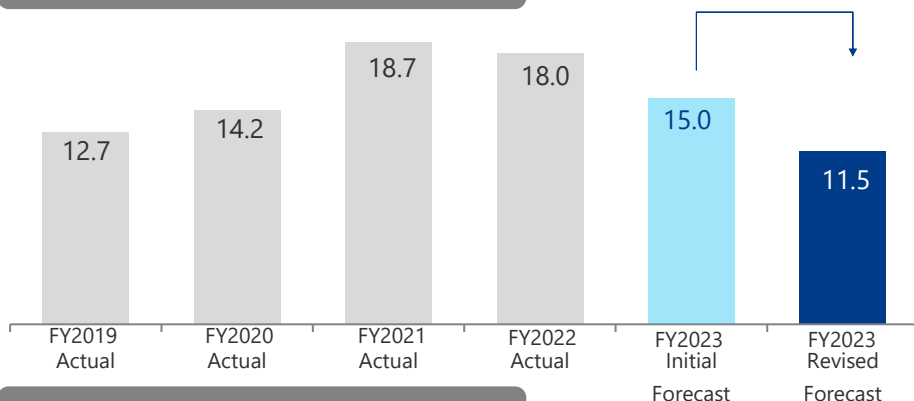
- Despite increased profits expected in Life Innovation, profits are expected to significantly decline in Electronics & Innovative Products, Elastomers & Infrastructure Solutions, and Polymer Solutions

Sales (¥billions)	FY2023 Initial Forecast	FY2023 Revised Forecast	Incr. Decr.	Volume	Pricing
Electronics & Innovative Products	100.0	90.0	- 10.0	- 12.8	+ 2.8
Life Innovation	45.0	45.0	± 0.0	- 1.1	+ 1.1
Elastomers & Infrastructure Solutions	130.0	120.0	- 10.0	- 11.0	+ 1.0
Polymer Solutions	140.0	130.0	- 10.0	- 13.7	+ 3.7
Others	15.0	15.0	± 0.0	-	-
Total	430.0	400.0	- 30.0	- 38.7	+ 8.7

Operating Income (¥ billions)	FY2023 Initial Forecast	FY2023 Revised Forecast	Incr. Decr.	Volume	Pricing	Cost& Others
Electronics & Innovative Products	15.0	11.5	- 3.5	- 7.2	+ 2.8	+ 0.9
Life Innovation	9.5	12.5	+ 3.0	+ 0.5	+ 1.1	+ 1.4
Elastomers & Infrastructure Solutions	2.5	-7.5	- 10.0	- 9.3	+ 1.0	- 1.8
Polymer Solutions	4.5	1.0	- 3.5	- 3.8	+ 3.7	- 3.4
Others	1.5	1.5	± 0.0	-	-	-
Total	33.0	19.0	- 14.0	- 19.8	+ 8.7	- 2.9

We expect a sharp decline in demand from initial projections, resulting in significantly lower profits

Operating Income



Operating Income Variance Analysis (vs Forecast at the beginning)



Market Outlook and Sales Trends

(Market)	Initial Forecast	Revised Forecast
Semiconductors	Automotive-related applications: Gradual recovery toward the end of 2023 Consumer electronics-related applications: Gradual demand recovery in 2Q and beyond	Automotive-related applications: No change Consumer electronics-related applications: Gradual recovery from the second half, except for memory, which will be from FY2024 onward
xEV	Accelerated market expansion despite negative effects of inflation and other factors	Market expansion growth slower than expected
Renewable energy (High voltage-cables)	Partial delay in large-scale projects in Europe	Partial delay in large-scale projects in Europe and declining demand in China

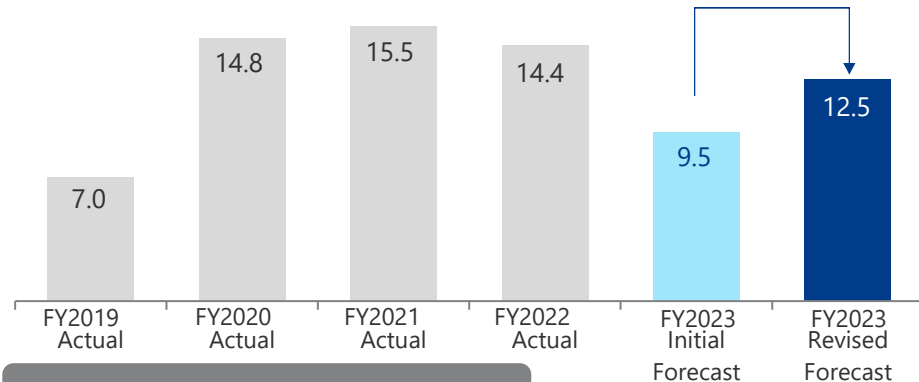
Sales Trends

Spherical fused silica	: We forecast a sharp decline in demand from initial projections for consumer electronics
High-performance film	
Spherical alumina	: We forecast a sharp decline in demand from initial projections for consumer electronics, and decrease in demand for xEVs.
Ceramic substrates (silicon nitride, aluminum nitride)	: Same as initial forecast due to steady demand from major users
Acetylene black	: We forecast a decline in demand from initial projections for both xEV and high-voltage cables

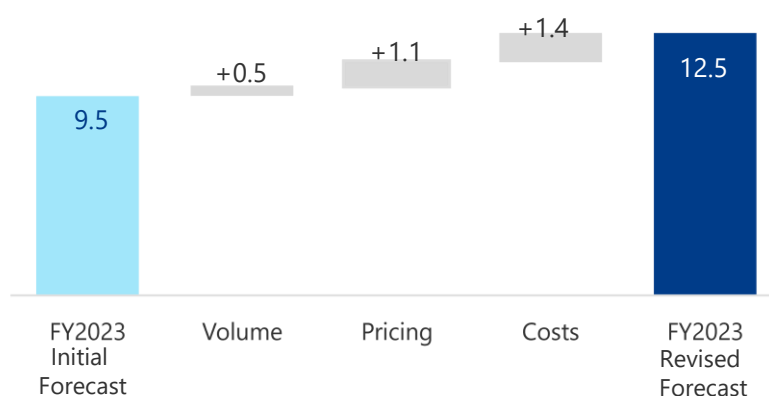
- Expecting an increase in profits due to increase in demand for simultaneous test kits for COVID-19 and influenza (combo kits) due to the spread of influenza, and to maintaining prices of test kits after downgrading of COVID-19 to a Class 5 infectious disease

(¥ billions)

Operating Income



Operating Income Variance Analysis
(vs Forecast at the beginning)



*Costs: Reduced costs in R&D

Market Outlook and Sales Trends

(Market)	Initial Forecast	Revised Forecast
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Influenza	<ul style="list-style-type: none"> The number of vaccinations was in line with the as usual due to epidemic trends and a revision of the number of COVID-19 vaccinations 	<ul style="list-style-type: none"> The epidemic from last season is ongoing, resulting in earlier vaccination dates
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COVID-19	<ul style="list-style-type: none"> Projection of approximately two epidemics per year Demand for in-hospital testing will continue, but municipal testing will decrease No revision for insurance points 	(No change)
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IVD reagents (Inflammation markers, etc.)	Recovery in demand in the Chinese market to the pre-COVID-19 levels of 2019	(No change)
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Sales Trends

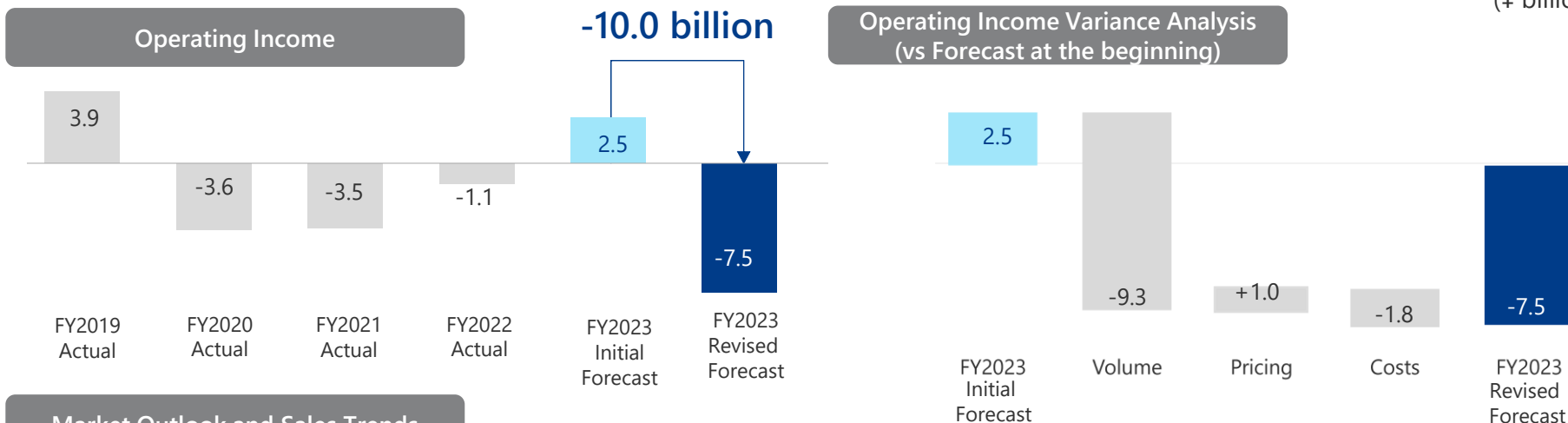
Influenza vaccine : Shipments began in September as planned
We revised the number of shipments from 11 million vaccines to 10 million vaccines in response to earlier vaccination dates and consumption rates

Rapid antigen test kits : Increase in shipments expected for simultaneous test kits for COVID-19 and influenza (combo kits) due to the spread of influenza
Maintaining the price of test kits after downgrading of COVID-19 to a Class 5 infectious disease

IVD reagents (Inflammation markers, etc.) : Same as initial forecast

We expect to see a significant loss due to ongoing weak demand for chloroprene rubber, falling sales prices, and further deterioration of costs at DPE in the U.S.

(¥ billions)

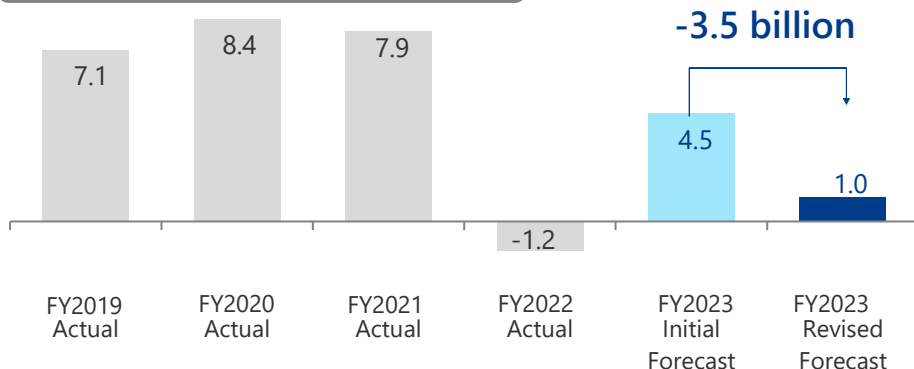


*Costs: Further deterioration in repair, labor, and other costs at DPE in the U.S.

(Market)	Initial Forecast	Revised Forecast	Sales Trends
Chloroprene rubber	Gradual recovery in demand beginning in the first half Second half to recover to 90% of FY2022 first half levels	Despite a recovery in demand for automobile applications, the levels of market inventory adjustments are higher than expected, while demand remains sluggish for industry and adhesive applications Moderate recovery from FY2024 onward, mainly in industrial and automobile applications	We expect prolonged sluggish demand and volumes to reduce significantly Lower sales prices due to intensifying competition with the products of other companies
Special cement additives	Increase in domestic investments (private and government) and demand recovery in China	Domestic investments, mainly in the government, remained strong Demand is sluggish in China, but gradually recovering in Europe and Southeast Asia	Same as initial forecast
Cement	Coal price: \$209/ton projected Additional price increase of 3,000 yen/ton will make a gradual contribution over the first half	Coal price: \$145/ton projected The 3,000 yen/ton additional price hike, despite delays, is almost complete as of July 31, 2023	Delayed contribution of price hikes despite falling coal prices

We expect a sharp decline in demand from initial projections, resulting in significantly lower-than-expected profits

Operating Income



Operating Income Variance Analysis (vs Forecast at the beginning)

(¥ billions)



Market Outlook and Sales Trends

(Market) Initial Forecast Revised Forecast

Consumer Electronics (TVs, PCs, home appliances, etc.)
Initial Forecast: Gradual demand recovery in 2Q and beyond
Revised Forecast: Recovery of demand is expected to be delayed

Cosmetics containers, General merchandise, etc.
Initial Forecast: Gradual demand recovery in 2Q and beyond
Revised Forecast: Recovery of demand is expected to be delayed

Food containers
Initial Forecast: Increase in demand in the ready-made meal market, which is less expensive than eating out
Revised Forecast: Reduced demand in the ready-made meal market with further rising food prices

Toyokalon
Initial Forecast: We expect a recovery in demand in the African and U.S. markets
Revised Forecast: Delayed recovery in demand in the African and U.S. markets

Sales Trends

MS resin : We expect a delayed recovery in demand for PC monitor, LGP for lighting, and other applications (cosmetics containers), causing shipments to be lower than initial forecast

AS, ABS, transparent resins, etc. : We expect a delayed recovery in demand for consumer electronics, cosmetics containers, general merchandise, etc., causing shipments to be lower than initial forecast

Food wrapping sheets and containers : Lower than Initial forecast

Toyokalon : Lower than Initial forecast

■ The first half is flat year on year, with no change to initial forecast for the full year

1H (Year on Year)	Investment		Depreciation		R&D	
	FY2022	FY2023	FY2022	FY2023	FY2022	FY2023
	1H Actual	1H Actual	1H Actual	1H Actual	1H Actual	1H Actual
(¥ billions)						
Electronics & Innovative Products	7.0	8.2	3.8	4.4	2.5	2.8
Life Innovation	0.5	1.4	2.0	1.9	2.0	2.3
Elastomers & Infrastructure Solutions	4.8	4.6	5.0	4.3	1.7	1.5
Polymer Solutions	4.7	2.3	2.3	2.5	1.3	1.2
Others	-	-	0.2	0.2	-	-
Total	17.0	16.5	13.4	13.4	7.5	7.8

FY (vs Forecast at the beginning)	Investment		Depreciation		R&D	
	FY2023 Initial Forecast	FY2023 Revised Forecast	FY2023 Initial Forecast	FY2023 Revised Forecast	FY2023 Initial Forecast	FY2023 Revised Forecast
Electronics & Innovative Products	20.0		9.0		5.0	
Life Innovation	7.0		4.0		6.0	
Elastomers & Infrastructure Solutions	13.0	No change	9.0	No change	3.0	No change
Polymer Solutions	7.0		5.0		2.0	
Others	-		0.5		-	
Total	47.0		27.5		16.0	

■ We reduced dividends due to unavoidable circumstances calling for a significant downward revision

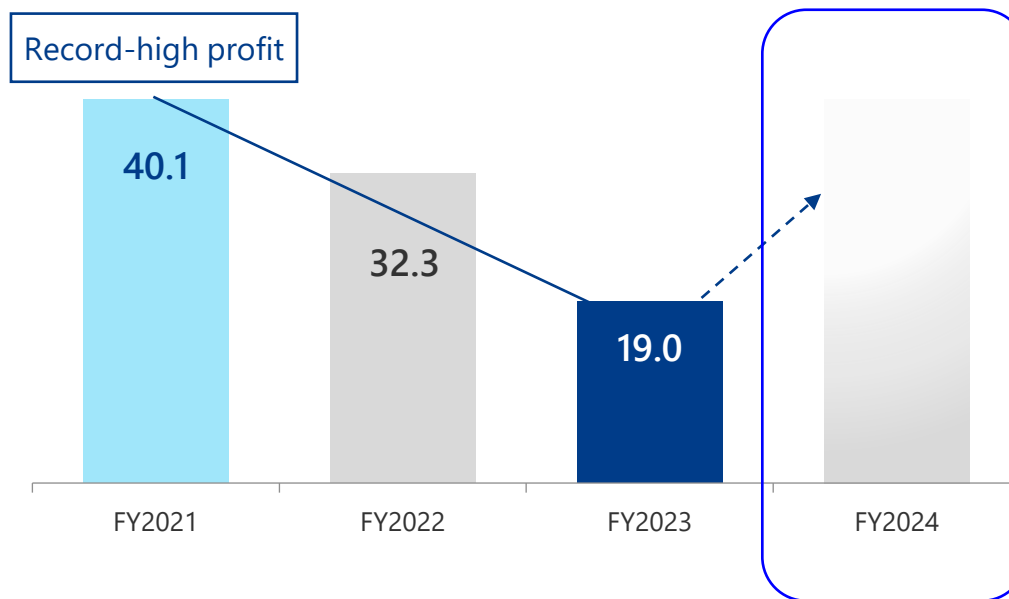
		FY2018 Actual	FY2019 Actual	FY2020 Actual	FY2021 Actual	FY2022 Actual	FY2023 Forecast
Net Income	(¥ billions)	25.0	22.7	22.8	26.0	12.8	11.0
Dividends per Share*	(¥/share)	120.0	125.0	125.0	145.0	100.0	100.0 Mid-term 60.0 End 40.0
Dividend	(¥ billions)	10.5	10.8	10.8	12.5	8.6	8.6
Shareholders Return		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	47.0
Interest Bearing Debt	(¥ billions)	112.1	134.3	138.2	137.0	169.7	188.0
Net D/E Ratio		0.40	0.42	0.42	0.40	0.50	0.56
ROIC		7.8%	6.6%	6.8%	7.3%	6.7%	3.3%
ROE		10.3%	9.1%	8.8%	9.4%	4.4%	3.8%

Measures to Improve FY2024 Earnings

- We expect profit to decline in FY2023 after record-high profit in FY2021 due to changes in the economic environment
We will implement measures to improve earnings, forecasting that they will recover in FY2024

Operating Income

(¥ billions)



(By Segment)

Segment	FY2021	FY2022	FY2023
Electronics & Innovative Products	18.7	18.0	11.5
Life Innovation	15.5	14.4	12.5
Elastomers & Infrastructure Solutions	-3.5	-1.1	-7.5
Polymer Solutions	7.9	-1.2	1.0
Others	1.5	2.3	1.5

Volume and cost difference will deteriorate significantly in FY2023 compared to the year of record-high profits in FY2021

Operating Income (¥ billions)	FY2021 Actual	FY2023 Revised Forecast	Incr. Decr.	*Fluctuations due to COVID-19 antigen test kits		Variable cost difference	Cost& Others	Foreign Exchange Difference
				Volume	Pricing			
Electronics & Innovative Products	18.7	11.5	- 7.2	- 10.0	+ 10.8	- 6.6	- 5.8	+ 4.4
Life Innovation	15.5	12.5	- 3.0	+ 17.0	- 16.6*	- 0.8	- 2.6	- 0.1
Elastomers & Infrastructure Solutions	-3.5	-7.5	- 4.0	- 10.0	+ 20.9	- 13.3	- 3.3	+ 1.8
Polymer Solutions	7.9	1.0	- 6.9	- 3.4	+ 2.9	- 2.6	- 3.5	- 0.4
Others	1.5	1.5	- 0.0	+ 0.0	-	- 0.4	- 0.0	-
Total	40.1	19.0	-21.1	- 0.6	+ 18.0	- 23.6	-15.2	+ 5.8
Total excluding Life Innovation				-23.1	+ 34.6	- 22.9	-12.6	+ 5.9

Spread improvement

Volume and cost difference to deteriorate significantly in FY2023 compared to the year of record-high profits in FY2021

We will implement measures to improve earnings, forecasting that they will recover in FY2024.

In addition to optimization of sales and production systems, launch a company-wide cost reduction project as a drastic cost measure and implement thorough cost reduction

Earnings Improvement Measures

Volume

Costs

Electronics &
Innovative Products

xEVs and Semiconductor-Related Products

Grasp the recovery in demand by enhancing our capacity through upfront investment under the previous management plan of Denka Value-Up

Launch of Organic Low Dielectric Materials for Next-Generation Communications Use
(Sales of 10.0-15.0 billion yen in FY2030)

SNECTON (Low Dielectric Macromonomer/LDM), LCP Film (Liquid Crystal Polymer Film), Other

Life Innovation

Increase sales by establishing of production system for G47Δ formulation
(Sales of 70.0 billion yen in FY2030)

Elastomers &
Infrastructure
Solutions

Optimize chloroprene rubber business

Optimize sales and production systems based on demand trends

Polymer Solutions

Recover demand for consumer electronics

Optimize sales and production systems in line with the market size of styrene-related products

Launch of Company-Wide Cost Reduction Project

We will launch a comprehensive company-wide project that actively incorporates the knowledge of outside consultants

Planned operation of active upfront investment projects in focus areas to achieve Mission 2030 targets
 Aiming to Make the World a Better Place as Specialists in Chemistry

8-Year strategic investment of 360 billion yen

	-FY2023	FY2024	FY2025	FY2026-
ICT & Energy	Increase Spherical Alumina (launched in April 2022) Investment: 4.0 billion yen	Increase Spherical Fused Silica (launch in 1H)	Increase Silicon Nitride Powder (launch in 1H)	Acetylene black New manufacturing base in Thailand (launch in 2026 2H) Investment: 0.4 billion USD
	Increase Ceramic Substrates (launch in 2023 2H) Investment: 4.0 billion yen	Relocate to New Facility for Thermally Conductive Sheets (launch in 1H) Investment: 1.7 billion yen	Operate LCP Film Facility (Liquid crystal polymer film)	M to A investments Introduce in Omuta Plant (launch in 2026 1H) Investment: 6.7 billion yen
		Launch Manufacturing and Marketing of SNECTON (Low Dielectric Macromonomer/LDM) (develop in 1H)	Operate TBM Facility (Temporary Bonding Material for use in Semiconductor Manufacturing Processes)	Planned invest in SNECTON (Low Dielectric Macromonomer/LDM)
		Increase Emitters (launch in 2H) Investment: 1.0 billion yen		
Healthcare	Increase Influenza Vaccine (launched in March 2022) Investment: 16.0 billion yen	Increase IVD Reagents and Antigen Test Kits (launch in 2H) Investment: 11.0 billion yen	Increase G47Δ pharmaceutical (Phase 1: End of FY2025; Phase 2: 2 H FY2027) Investment: 12.0 billion yen	
Sustainable Living	Increase MS Resin (launched in July 2021) Investment: 2.7 billion yen		Relocate to New Facility for TOYODRAIN Polyethylene Drainpipes (launch in 1H) Investment: 2.3 billion yen	M to A investments Deploy in Omi Plant
	Chemical Recycling (launch in 2023 2H) Investment: 3.8 billion yen			Carbonation Admixture Planned investment in LEAF

Details of each category are provided on the following pages

ICT & Energy (1)

Acetylene black
New manufacturing base
in Thailand
(launch in 2026 2H)
Investment: 0.4 billion USD

- Applications: LiBs for xEVs, high-voltage transmission line cables for offshore wind power generation
- In response to the rapidly growing demand for acetylene black, we established a joint venture with SCG Chemicals Public Company for the manufacturing and sale of acetylene black, and will construct a plant with an annual production capacity of 11,000 tons
- Operation launch: 2026 2H Investment amount: US\$400 million Investment ratio: DENKA Group 60%, SCG 40%
https://www.denka.co.jp/eng/storage/news/pdf/463/20231010_denka_abjv_en.pdf

Increase Silicon
Nitride Powder
(launch in 2025 1H)

- 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 (Operation launch: FY2025)

Increase Spherical Fused
Silica
(launch in 2024 1H)

Decision to Expand Spherical Fused Silica Manufacturing Facilities in Singapore -Increasing manufacturing capacity by approximately 30% for further growth in the environment and energy fields-
https://www.denka.co.jp/eng/storage/news/pdf/470/20220511_denka_silica_en.pdf

Increase Spherical
Alumina
(launched in April 2022)
Investment: 4.0 billion yen

Full-scale Operation of New Production Line of Spherical Alumina in Singapore
https://www.denka.co.jp/eng/storage/news/pdf/433/20220511_denka_alumina_en.pdf

Relocate to New Facility
for Thermally Conductive
Sheets
(launch in 2024 1H)
Investment: 1.7 billion yen

Denka Introduces New Production Facility for Thermally Conductive Sheet for 5G/xEV to Shibukawa Plant and Doubles Production Capacity
-Positioning as One of the Core Production Plants of Electronic Materials to Enhance Specialty Business-
https://www.denka.co.jp/eng/storage/news/pdf/376/20211125_denka_shibukawa_en.pdf

ICT & Energy (2)

Increase Ceramic Substrates

(launch in 2023 2H)
Investment: 4.0 billion yen

- Applications: xEV insulating substrates for inverter power modules
- The only manufacturer that manufactures silicon nitride powder, bare substrate, and copper bonded circuit substrate in an integrated manufacturing process and the only manufacturer with a lineup of two types of products--aluminum nitride and silicon nitride. This advantage allows us to respond flexibly to the characteristics required to achieve higher performance.
- Expand to meet increasing demand for automotive products (further expansion planned, including doubling in the second half of FY2023)

Increase Emitters

(launch in 2024 2H)
Investment: 1.0 billion yen

- Applications: Surface observation application for semiconductor materials and devices (wafer inspection, mask inspection, etc.) and circuit patterning application in semiconductor manufacturing lithography processes, etc.
- Demand for emitters capable of emitting electronic wires only a few micrometers thick due to miniaturization and microminiaturization of semiconductors.
Enhance to meet growing demand

SNECTON
(Low Dielectric Macromonomer/LDM)

- Applications: Substrates for copper clad laminates (CCL) and interlayer dielectric materials
- With thermosetting materials composed of ethylene styrene-divinylbenzene, we resolve issues faced by soft materials in heat resistance and dielectric properties.
Evaluation is progressing steadily as a base material for rigid substrates for high speed communications and an interlayer dielectric material. As the only manufacturer of both resin materials and inorganic fillers, we are able to offer our own unique proposals by Varnish, a resin filler mixture.

LCP Film
(Liquid Crystal Polymer Film)

- Applications: Substrates for flexible copper clad laminates (FCCL)
- LCP is a extremely difficult resin to make into film, and few manufacturers can provide a stable supply of LCP. By applying the film deposition technology for organic materials cultivated in the electronic packaging and food packaging sheet businesses, we have established a technology for manufacturing LCP using the T-die method (T die extrusion method) , which offers superiority in mass production and film thickness control. LCP is expected to be a base material for flexible circuits of high speed communications.

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 semiconductor manufacturing process
- The most common method of protecting wafer circuit surfaces and fixing wafers to equipment is through temporary fixing with tape, such as our Elegrid, due to its cost and simplicity. However, using adhesives to temporarily fix wafers is common when processing difficult-to-grind wafers, such as ultra-thin films or hard and brittle wafers, to improve handling. In addition, the polished surfaces after back grinding are subjected to high temperature treatment in the manufacturing of next-generation semiconductors, such as power devices. As tapes cannot be used on these surfaces due to insufficient heat resistance, the market for heat-resistant adhesives is expected to expand.

Healthcare

Increase G47Δ
pharmaceutical(Phase 1: End of FY2025;
Phase 2: 2 H FY2027)

Investment: 12.0 billion yen

- G47Δ is the world's first approved oncolytic therapeutic virus for malignant glioma (brain tumors)
- We decided to increase G47Δ in preparation for a rapid increase in future demand, such as in overseas expansion and clinical research in other types of cancers
- Operation launch: Phase 1: End of FY2025; Phase 2: 2 H FY2027
- Investment: Approximately 12 billion yen,
- Target sales of 70.0 billion yen in 2030

https://www.denka.co.jp/eng/storage/news/pdf/456/20230412_denka_g47_en.pdf

Increase IVD Reagents
and Antigen Test Kits

(launch in 2024 2H)

Investment: 11.0 billion yen

Denka Announces Expansion of Reagent Production Capacity Including Antigen Test Kits through Strategic Investment of Approximately 11 Billion Yen

-Strengthening Health Care Business and Commitment to Control Infectious Diseases Worldwide-

https://www.denka.co.jp/eng/storage/news/pdf/409/20220414_denka_gosen_en.pdf

Increase Influenza
Vaccine

(launched in March 2022)

Investment: 16.0 billion yen

- Launched new undiluted liquid plant building for influenza vaccine to double production capacity from previous level
- Production volumes were previously affected by differences in manufacturing strains, but increased production capacity will enable us to provide vaccines to the market as quickly as possible

https://www.denka.co.jp/eng/storage/news/pdf/316/20201116_denka_gosen_en.pdf

Sustainable Living

M to A
(Methane to Acetylene)
Investment
Introduce in Omuta Plant
(launch in 2026 1H)
Investment: 6.7 billion yen
⇒ Deploy in Omi Plant

- To reduce CO₂ emissions, we introduced equipment to the Omuta plant for a new process to produce acetylene from methane developed by Transform Materials, a venture company in the U.S. We demonstrate this technology and conduct joint research on technological improvements toward large scale mass production of acetylene.
 - We deploy M to A, which established mass production technology at Omuta plant, to the carbide chain at the Omi Plant, which has our unique hydroelectric power generation system. This enabled us to achieve low carbon chloroprene rubber and utilize hydrogen energy obtained as a byproduct of the manufacturing process.
 - We expect to reduce 300,000 ton of CO₂ through the conversion of our current manufacturing method (the carbide method) and the utilization of hydrogen
 - Operation launch: FY2026 1H
- https://www.denka.co.jp/eng/storage/news/pdf/468/20230809_mtoa_en.pdf

Chemical Recycling
(launch in 2023 2H)
Investment: 3.8 billion yen

Denka Decides on the Construction of Chemical Recycling Plant for Used Polystyrene Resins
-Aiming to Build a Carbon-free, Resource Circulating Society by Reusing Waste Plastic to Achieve the SDGs-
https://www.denka.co.jp/eng/storage/news/pdf/389/20220111_denka_ps_chemical_recycle_en.pdf

Carbonation
Admixture
LEAF

- This is the key material for CO₂-SUICOM, the world's only carbon-negative concrete used in practical application
 - A consortium of 55 companies, led by Kajima Corporation, Takenaka Corporation, and our Company, made a joint proposal to the NEDO Green Innovation Fund Projects, aiming for the full-scale diffusion of LEAF. The proposal was adopted.
 - The consortium developed CUCO, a precast component for construction, which was used as a foundational component in temporary buildings for the Expo 2025 Osaka, Kansai, Japan. This is the first time the component has been applied to an actual building since its use in civil engineering structures in FY2022.
- *Released by Takenaka Corporation <https://www.takenaka.co.jp/news/2023/10/04/>

Increase MS Resin
(launched in July 2021)
Investment: 2.7 billion yen

Denka Completes Construction of Production Facility to Boost Production of High-Functional Transparent Polymers (MS Resin) at Base in Singapore
-Doubling Annual Production Capacity to Approx 140,000 tons and Enhancing Specialty Business-
https://www.denka.co.jp/eng/storage/news/pdf/354/20210708_denka_singapore_msresin_en.pdf

Relocate to New Facility
for TOYODRAIN
Polyethylene Drainpipes
(launch in 2025 1H)
Investment: 2.3 billion yen

Denka Increases Capacity to Produce TOYODRAIN Polyethylene Drainpipes through Strategic Investment of Approximately 2.3 Billion Yen
https://www.denka.co.jp/eng/storage/news/pdf/432/20221011_toyodrain_en.pdf

Future schedule for quality and safety matters

<p>Improprieties Related to Third-Party Certification of Resin Products of Denka and Toyo Styrene, an Equity-Method Affiliate</p>	<p>Scheduled Publication December, 2023</p>	<ul style="list-style-type: none"> • Under investigation by an external investigation committee <p>We plan to announce the external investigation committee report in addition to any countermeasures to be implemented based on said report.</p>
<p>Notice Concerning an Accident at Omi Plant</p>	<p>Scheduled Publication January, 2024</p>	<ul style="list-style-type: none"> • Under investigation by the accident investigation committee <p>The accident investigation committee report is scheduled to announce preventive measures to be implemented by the Company based on the recommendations of committee members.</p>

We will clarify management responsibility at the time of the publication of the investigation results.

The Denka Group will work together to further strengthen compliance and safety to regain the trust of all stakeholders.

Sales (¥billions)	FY2022 Actual	FY2023 Revised Forecast	Incr. Decr.		Volume		Pricing			
Electronics & Innovative Products	93.5	90.0	-	3.5	-	7.3	+	3.7		
Life Innovation	47.5	45.0	-	2.5	-	2.3	-	0.3		
Elastomers & Infrastructure Solutions	123.8	120.0	-	3.8	-	9.4	+	5.5		
Polymer Solutions	127.6	130.0	+	2.4	+	4.2	-	1.7		
Others	15.1	15.0	-	0.1	-	0.1		-		
Total	407.6	400.0	-	7.6	-	14.8	+	7.3		
Operating Income (¥ billions)	FY2022 Actual	FY2023 Revised Forecast	Incr. Decr.		Volume		Pricing		Cost& Others	
Electronics & Innovative Products	18.0	11.5	-	6.5	-	3.4	+	3.7	-	6.8
Life Innovation	14.4	12.5	-	1.9	+	1.1	-	0.3	-	2.7
Elastomers & Infrastructure Solutions	-1.1	-7.5	-	6.4	-	5.5	+	5.5	-	6.5
Polymer Solutions	-1.2	1.0	+	2.2	+	0.3	-	1.7	+	3.6
Others	2.3	1.5	-	0.8	-	0.9		-	+	0.1
Total	32.3	19.0	-	13.3	-	8.3	+	7.3	-	12.3

Sales (¥billions)	FY2021				FY2022				FY2023		
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	2H Forecast (3Q, 4Q)
Electronics & Innovative Products	21.0	22.8	22.3	24.0	21.9	25.6	22.3	23.8	19.2	22.5	48.3
Life Innovation	6.0	19.3	10.9	9.9	6.4	15.5	16.9	8.8	7.2	15.0	22.8
Elastomers & Infrastructure Solutions	24.6	26.8	26.1	29.3	30.4	32.5	31.6	29.3	28.0	29.2	62.8
Polymer Solutions	31.8	31.5	29.5	33.9	31.6	32.0	30.3	33.7	29.8	31.7	68.5
Others	3.5	4.0	4.0	3.7	4.1	2.9	4.7	3.4	3.7	5.1	6.2
Total	86.7	104.4	92.8	100.9	94.4	108.6	105.8	98.8	87.8	103.5	208.6

Operating Income (¥ billions)	FY2021				FY2022				FY2023		
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	2H Forecast (3Q, 4Q)
Electronics & Innovative Products	4.4	4.8	4.6	4.9	4.1	5.6	4.1	4.2	2.1	2.8	6.6
Life Innovation	0.3	10.4	1.2	3.6	0.5	6.0	5.0	2.8	0.9	5.7	5.9
Elastomers & Infrastructure Solutions	0.1	-0.0	-1.2	-2.3	-0.2	1.5	-1.3	-1.1	-0.7	-0.9	-5.9
Polymer Solutions	2.6	1.8	1.9	1.6	-0.1	-0.0	-0.9	-0.1	-0.0	-0.2	1.3
Others	0.4	0.5	0.4	0.2	0.6	0.4	0.9	0.4	0.5	0.5	0.5
Total	7.7	17.5	7.0	7.9	4.9	13.4	7.8	6.3	2.8	7.7	8.5

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.**

TEL

03-5290-5511

URL

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