

Consolidated Results for First Half of FY March 2020

Tetsuji Yamanishi
Senior Vice President

Hello, I'm Tetsuji Yamanishi, Senior Vice President of TDK. Thank you for taking the time to attend TDK's performance briefing for the first half (April to September) of the fiscal year ending March 2020. I will be presenting an overview of our consolidated results.

Key points concerning earnings for first half of FY March 2020

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- **Despite the impact of U.S.-China trade friction gaining momentum and the continuing deceleration of the world economy starting with China, operating income achieved a new record on both a half-yearly and a quarterly basis***

- Net sales decreased 2.1% year on year. Operating income increased 10.6% year on year.
- Sales to the ICT market increased year on year, continuing on from the previous quarter to show a strong performance. TDK's overall earnings increased due to sales growth in products for use in smartphones, such as rechargeable batteries.
- Sales in the automotive and the industrial equipment markets declined year on year in line with a lower-than-expected level of demand due to continuing deceleration in economies such as in China. In the Passive Components segment, TDK posted lower earnings on lower sales. In the Sensor Application Products segment, TDK posted lower earnings on lower sales due to lackluster sales to the automotive market.
- There are no expectations for a recovery in the world economy in the second half of the fiscal year and there remain uncertainties in its trajectory. However, TDK aims to accelerate measures based on its growth strategy to improve earnings.

*Operating income is compared on the basis excluding a gain on sale of business recorded in the year ended March 2017.

First, let's take a look at the key points concerning earnings. Going into the second quarter, trade tensions between the U.S. and China began to take full effect. Global economic deceleration continued, notably in China, and the impact on the real economy grew more serious. Our net sales for the first half decreased by 2.1% year on year. On the other hand, operating income marked at 10.6% increase, and operating income, income before income taxes, and net income achieved new records on a half-year and a quarterly basis.

Demand trends continued along the same lines as the first quarter. Sales to the ICT market were brisk, primarily for smartphones, while Rechargeable Battery sales expanded for use in smartphones as well as wearable devices and tablets, and an accompanying surge in earnings drove overall earnings for the Company. Moreover, sales of High Frequency Components increased for 5G base stations, as sales of MEMS and TMR Sensors for smartphones also expanded steadily.

Meanwhile, sales to the automotive and industrial equipment markets decreased year on year as demand continued to follow a decelerating trend globally, notably in China, and continued to trend at a level below our initial projection. Consequently, sales declined year on year in all business in the Passive Components segment except for High-Frequency Components, resulting in an overall decline in segment earnings. In the Sensor Application Products segment, overall sales and earnings were lower as sales for the automotive market slumped, mainly in conventional sensors such as Temperature Sensors and Hall Sensors.

There are no expectations for a recovery in the world economy in the second half of the fiscal year and assuming that its trajectory will remain uncertain, TDK aims to further accelerate measures based on its growth strategy to improve earnings.

As announced, TDK exercised its option to sell a 49% stake in RF360 Holdings Singapore, a joint venture with Qualcomm, as planned on August 30, completing acceptance of consideration of approximately 124.5 billion yen on September 16. These funds were used to strengthen our financial position by repaying borrowings procured in advance to conduct the M&A of InvenSense and others.

Consolidated results for first half of FY March 2020

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(Yen billions)	FY March 2019 Results through 2Q (2018.4.1-2018.9.30)	FY March 2020 Results through 2Q (2019.4.1-2019.9.30)	Change	
			Yen billions	%
Net sales	721.9	707.0	(14.9)	-2.1
Operating income	62.2	68.8	6.6	10.6
Operating income margin	8.6%	9.7%	+1.1pt	-
Income before income taxes	57.8	68.6	10.8	18.7
Net income	41.1	44.9	3.8	9.2
Earning per share (JPY)	325.30	355.81	-	-
Ex-rate	US\$ (JPY)	110.30	108.74	Appreciated by 1.4%
	EURO (JPY)	129.9	121.51	Appreciated by 6.5%
Ex-rate impact to net sales & operating income	Net sales : Decreased by about 20.0 billion Yen Operating income : Decreased by about 2.0 billion Yen			

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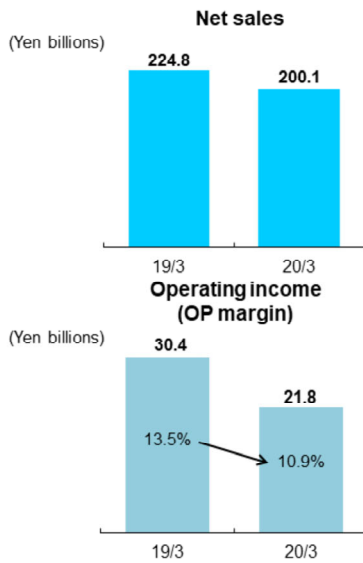
Moving along, I would like to present an overview of our results. Net sales were 707.0 billion yen, a decrease of 14.9 billion yen, or 2.1%, year on year. Operating income was 68.8 billion yen, up 6.6 billion yen, or 10.6% year on year. Income before income taxes was 68.6 billion yen, net income was 44.9 billion yen, and earnings per share were 355.81 yen.

The average exchange rates for the first half of the fiscal year ending March 2020 were 108.74 yen against the U.S. dollar, an appreciation of 1.4%, and 121.51 yen against the euro, an appreciation of 6.5%. As a result, in terms of the impact of these exchange rate movements, net sales and operating income were down by around 20.0 billion yen and 2.0 billion yen, respectively.

With regard to exchange rate sensitivity, we maintain our estimate that a change of 1 yen against the U.S. dollar will affect annual operating income by about 1.2 billion yen, while a change against the euro will have an impact of about 0.2 billion yen.

First half results - Passive Components segment

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19/3: FY March 2019

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Net sales 200.1 billion yen (down 11.0% year on year)
Operating income 21.8 billion yen (down 28.3% year on year)

- **Ceramic Capacitors**
 - Sales decreased and profit increased year on year.
 - Sales to the automotive and the ICT markets increased, while sales to distributors decreased.
- **Aluminum Electrolytic Capacitors and Film Capacitors**
 - Sales and profit decreased year on year.
 - Sales decreased mainly to the industrial equipment market.
- **Inductive Devices**
 - Sales and profit decreased year on year.
 - Sales decreased mainly to the automotive market.
- **High-Frequency Components**
 - Sales increased year on year.
 - Sales have increased in response to the rise in demand for 5G.
- **Piezoelectric Material Products and Circuit Protection Components**
 - Sales and profit decreased year on year.
 - Sales decreased mainly to the automotive and the industrial equipment markets.

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Next, I would like to explain our business segment performance.

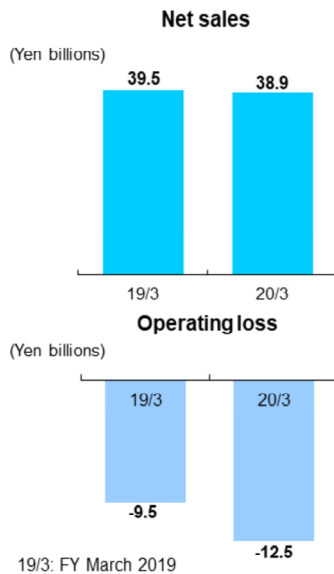
From the fiscal year ending March 2020, we reclassified some Inductive Devices as Other Passive Components, which reduced sales of Inductive Devices for the first half of the fiscal year ended March 2019 by 4.5 billion yen and reduced operating income by 0.1 billion yen.

In the Passive Components segment, net sales were 200.1 billion yen, a decrease of 11.0% year on year, and operating income was 21.8 billion yen, a decrease of 28.3%. The operating income margin was 10.9%. In Ceramic Capacitors, overall sales declined slightly as higher sales to the automotive market and the ICT market, including for base station, were outweighed by the impact of lower sales to distributors, reflecting inventory adjustments. However, profitability improved further, if only slightly, as an increase in sales of high value-added products pushed up average sales prices securing an increase in earnings. Sales of High-Frequency Components rose for base stations and other equipment in step with the awakening of 5G demand.

On the other hand, each of the other Passive Component businesses was strongly impacted by the global economic slowdown. In Aluminum Electrolytic Capacitors and Film Capacitors, sales and operating income decreased as sales declined to the automotive market and the industrial equipment market, including for renewable energy applications, as the first quarter. Inductive Devices, Piezoelectric Material Products and Circuit Protection Components also saw lower sales and operating income due to the impact of declining demand in the automotive and industrial equipment markets.

First half results - Sensor Application Products segment

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Net sales 38.9 billion yen (down 1.5% year on year)
Operating loss -12.5 billion yen (up —% year on year)

● Sensors

- Sales and profits decreased year on year.
- In Magnetic Sensors, sales of Hall Sensors decreased to the automotive market, while sales of TMR Sensors increased to the ICT market.
- Sales of MEMS Sensors increased to the ICT market.

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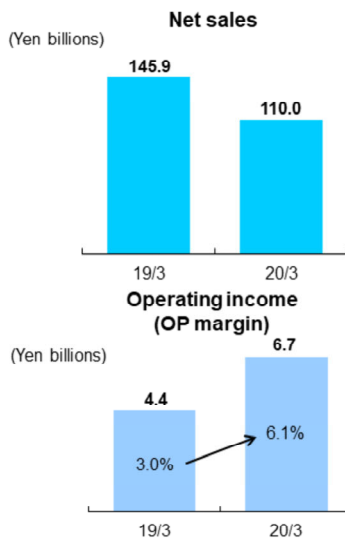
In the Sensor Application Products segment, net sales decreased 1.5% year on year to 38.9 billion yen, and the operating loss widened by 3.0 billion yen to 12.5 billion yen. This includes about 2.7 billion yen in acquisition-related costs for InvenSense, a decrease of 0.1 billion yen year on year.

As the global economy deceleration trend continued, TMR Sensors, MEMS Sensors, and Pressure Sensors, which are expected to see strong growth going forward, have achieved steady increase in sales for new applications and customers. On the other hand, sales of conventional sensors such as Temperature Sensors and Hall Sensors continue to decrease under the significant impact of declining demand in the automotive market and the industrial equipment and HA markets. As a result, overall sales and operating income both decreased for the Sensor Application Products segment.

Breaking down the results by business, first in Temperature and Pressure Sensors, sales of Temperature Sensors decreased, while Pressure Sensors saw sales grow for the automotive market. As a result, for Temperature and Pressure Sensors overall, both sales and operating income were slightly lower year on year. In Magnetic Sensors, TMR Sensors saw sales increase for smartphones in both conventional products and products for new applications. Sales for automotive applications also increased, driving a significant increase in profitability. Meanwhile, sales of Hall Sensors dropped sharply for the automotive market, resulting in decreases in overall sales and operating income for Magnetic Sensors. In MEMS Sensors, sales of Motion Sensors increased for major customers, while sales of MEMS Microphones increased for smartphones and IoT equipment. However, the operating loss widened from the previous fiscal year due to an increase in development costs leading up to mass production of MEMS Motion Sensors and changes in the product mix.

First half results - Magnetic Application Products segment

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Net Sales 110.0 billion yen (down 24.6% year on year)
Operating income 6.7 billion yen (up 52.3% year on year)

- **HDD Heads**
 - Sales and profits decreased year on year.
 - Sales of HDD assembly business decreased.
- **HDD Suspension Assemblies**
 - Sales of HDD Suspensions Assemblies decreased and profit increased.
 - Sales of Suspension Application Products (Additive Metal Deposition Components) increased to the ICT market.
- **Magnets**
 - Sales decreased and profit increased year on year.

19/3: FY March 2019

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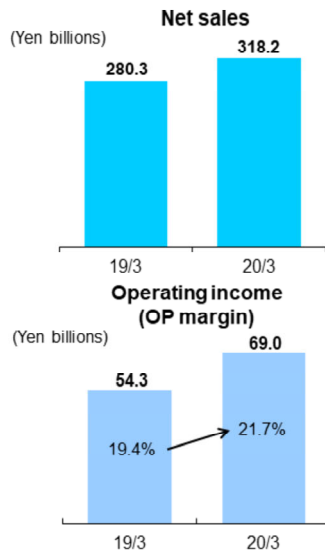
In the Magnetic Application Products segment, net sales declined 24.6% year on year to 110.0 billion yen, operating income increased by 52.3% to 6.7 billion yen, and the operating income margin was 6.1%.

In HDD Heads, sales volumes decreased by around 13% year on year, mainly due to a decline in demand of 2.5-inch heads for PCs, while sales of HDD assemblies decreased by roughly half year on year, resulting a decrease in sales of about 28% overall. In HDD Suspension Assemblies, high value-added μ DSA-type products accounted for a larger share of sales and average sales prices rose, causing sales to increase. Further, sales of Suspension Application Products to the ICT market increased. However, HDD Suspension sales volumes declined, resulting in a 20% decrease in overall sales of HDD Suspension Assemblies. Overall operating income for HDD Heads and HDD Suspension Assemblies decreased due to impact from lower sales volumes. However, profitability was kept at the same level as the previous fiscal year by an increase in the share of sales of high value-added HDD Heads for near line units and μ DSA-type suspensions, along with progress in streamlining the production system by reorganizing production bases.

In Magnets, sales mainly to the industrial equipment market for wind power generation, industrial robot, machine tool, and other applications decreased by around 13%. However, operating income improved year on year when compared in real terms excluding an impairment loss of 4.7 billion yen recorded in the same period of the previous fiscal year. The increase is partly due to the effect of measures to improve production efficiency of products for the automotive market.

First half results - Energy Application Products segment

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Net Sales 318.2 billion yen (up 13.5% year on year)
Operating income 69.0 billion yen (up 27.1% year on year)

- **Energy Devices (Rechargeable Batteries)**
 - Sales and profit increased year on year.
 - In the ICT market, sales expanded for mobile device application such as smartphones, wearable devices.
- **Power Supplies**
 - Sales and profit of Power Supplies for industrial equipment decreased year on year.

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In the Energy Application Products segment, net sales rose 13.5% year on year to 318.2 billion yen, and operating income surged 27.1% to 69.0 billion yen. Profitability also improved, with the operating income margin at 21.7%.

In Rechargeable Batteries, sales to the Chinese smartphone market were level with the same period of the previous fiscal year, while in other areas sales for major customers trended briskly, leading to a significant increase in overall sales for smartphone applications. In addition, sales were strong for tablets and laptop PC applications, along with a strong increase in sales of minicells for wearable products such as wireless earphones. Earnings also increased significantly due to the effect of higher sales, a favorable change in product mix, and operation profit from approaching peak production volume, as well as the synergistic effect of further production efficiency improvements in step with volume expansion.

Power Supplies for industrial equipment saw operating income decreased due to the strong influence of economic deceleration, including a decline in sales to industrial equipment market for semiconductor manufacturing facilities and measurement instruments.

Breakdown of operating income changes

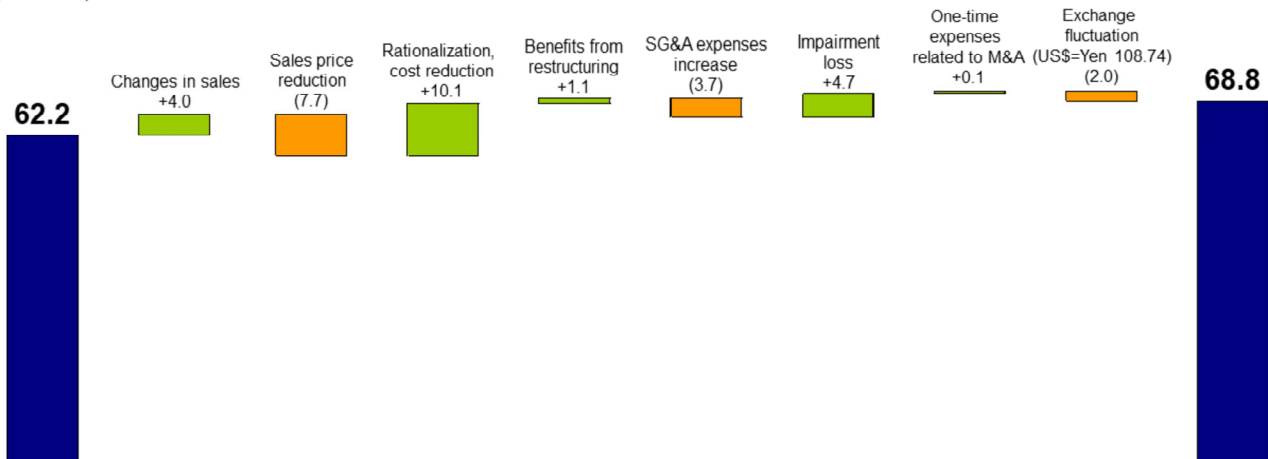
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First half of
FY March 2019
62.2 billion yen

Operating income +6.6 billion yen

First half of
FY March 2020
68.8 billion yen

(Yen billions)



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Next is the breakdown of the change in operating income. Let's take a look at the main factors behind the increase of 6.6 billion yen in operating income. First, despite a reduction in income due to a decrease in sales of Passive Components, there was a positive impact of about 4.0 billion yen from an increase in sales of Rechargeable Batteries. Sales price reductions, primarily for HDD Heads and Rechargeable Batteries, had a negative impact of around 7.7 billion yen; however, this was absorbed by the effect of rationalization and cost improvements including measures to improve manufacturing capability for Passive Components and further productivity improvements in Rechargeable Batteries, which had a positive impact of roughly 10.1 billion yen. Benefits from structural reforms including about 4.7 billion in write-downs posted in the second quarter of the previous fiscal year had a positive impact of about ¥1.1 billion yen, along with a positive impact of around 0.1 billion yen due to a decrease in expenses related to the InvenSense acquisition. Administration and development expenses in connection with business expansion in Rechargeable Batteries increased by around 3.7 billion yen, and the 6.6 billion increase in operating income included a negative impact of about 0.2 billion yen from exchange rate fluctuations.

Consolidated results for 2Q of FY March 2020

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(Yen billions)	FY March 2019 2Q results	FY March 2020 2Q results	Change	
			Yen billions	%
Net sales	378.9	370.2	(8.7)	-2.3
Operating income	36.8	43.9	7.1	19.3
Operating income margin	9.7%	11.9%	+2.2 pt	-
Income before income taxes	34.1	43.9	9.8	28.7
Net income	24.9	29.4	4.5	18.1
Earning per share (JPY)	197.03	232.37	-	-
Ex-rate	US\$ (JPY)	111.50	107.39	Appreciated by 3.7%
	EURO (JPY)	129.63	119.48	Appreciated by 7.8%
Ex-rate impact to net sales & operating income	Net sales : Decreased by about 16.1 billion Yen Operating income : Decreased by about 2.6 billion Yen			

Next, let's look at consolidated results for the second quarter of the fiscal year ending March 2020.

In the second quarter of the fiscal year ending March 2020, net sales fell 2.3% year on year to 370.2 billion yen, while operating income rose 19.3% to 43.9 billion yen, income before income taxes was 43.9 billion yen, net income was 29.4 billion yen, setting new record highs on a quarterly basis. The earnings structure improved markedly with an operating income margin of 11.9%.

Quarterly results by segment

(Yen billions)	2Q of FY March 2019 (A)	1Q of FY March 2020 (B)	2Q of FY March 2020 (C)	YoY change (C)(A)		QoQ change (C)(B)	
				Yen billions	%	Yen billions	%
Capacitors	43.9	39.3	39.6	(4.3)	-9.8	0.3	0.8
Inductive Devices	39.5	34.1	35.7	(3.8)	-9.6	1.6	4.7
Other Passive Components	28.7	24.8	26.6	(2.1)	-7.3	1.8	7.3
Passive Components	112.1	98.3	101.9	(10.2)	-9.1	3.6	3.7
Sensor Application Products	20.6	18.1	20.8	0.2	1.0	2.7	14.9
Magnetic Application Products	75.4	55.5	54.5	(20.9)	-27.7	(1.0)	-1.8
Energy Application Products	154.8	144.5	173.7	18.9	12.2	29.2	20.2
Other	16.0	20.4	19.4	3.4	21.3	(1.0)	-4.9
Total	378.9	336.8	370.2	(8.7)	-2.3	33.4	9.9
Passive Components	16.4	10.3	11.4	(5.0)	-30.5	1.1	10.7
Sensor Application Products	(4.6)	(7.0)	(5.5)	(0.9)	-	1.5	-
Magnetic Application Products	0.9	3.3	3.5	2.6	288.9	0.2	6.1
Energy Application Products	33.3	26.5	42.5	9.2	27.6	16.0	60.4
Other	(1.7)	0.3	(0.6)	1.1	-	(0.9)	-
Sub total	44.4	33.4	51.2	6.8	15.3	17.8	53.3
Corporate and eliminations	(7.6)	(8.4)	(7.3)	0.3	-	1.1	-
Total	36.8	25.0	43.9	7.1	19.3	18.9	75.6
Operating income margin	9.7%	7.4%	11.9%	+2.2pt	-	+4.5pt	-
Extra							
US\$ (JPY)	111.50	110.10	107.39				
EURO (JPY)	129.63	123.57	119.48				

Next, I would like to explain the factors behind the changes in segment net sales and operating income from the first quarter to the second quarter of the fiscal year ending March 2020.

Let's begin with net sales in the Passive Components segment. Net sales in this segment increased by 3.6 billion yen, or 3.7%, from the first quarter, and approximately 6.0% excluding the foreign exchange impact of the stronger yen. Ceramic Capacitor sales increased to the automotive market and for 5G base stations. Aluminum Electrolytic Capacitors and Film Capacitors experienced a decrease in sales to the industrial equipment market, but saw sales to the automotive market increase, remaining almost level from the first to the second quarter, increasing by ¥0.3 billion or 0.8%. Sales of Inductive Devices rose by 1.6 billion yen, or 4.7%, from the first quarter. While sales to the industrial equipment market continued to flag, sales to the automotive market and the ICT market, such as smartphones, increased. In Other Passive Components, net sales increased by 1.8 billion yen, or 7.3% from the first quarter. High Frequency Components sold briskly for 5G base stations, while sales of Ceramic Filters increased for use in smartphones, while sales of Piezoelectric Material Products and Circuit Protection Components remained about level with the first quarter. Operating income in the Passive components segment increased by 1.1 billion yen, or 10.7%, from the first quarter. Operating income from Ceramic Capacitors maintained the same level as in the first quarter, while rising slightly for Aluminum Electrolytic Capacitors and Film Capacitors. Operating income from Inductive Devices and High Frequency Components increased on higher sales. Operating income from Piezoelectric Material Products and Circuit Protection Components remained about level from the first quarter, as with sales.

In the Sensor Application Products segment, net sales rose by 2.7 billion yen, or 14.9%, from the first quarter, or 18% excluding foreign exchange effects. Sales of Temperature and Pressure Sensors increased for Pressure Sensors and decreased for Temperature Sensors, remaining about level overall. Sales of Magnetic Sensors increased overall from the first quarter, as sales of Hall Sensors for the automotive market marked an even sharper decline, while TMR Sensor sales to the ICT market surged. MEMS Sensors saw sales increase overall atop an increase in sales to the ICT market. Operating income in the Sensor Application Products segment increased by 1.5 billion yen from the first quarter, but acquisition-related costs for InvenSense decreased by 0.1 billion yen so that in real terms, the segment loss narrowed by 1.4 billion yen. Temperature and Pressure Sensors saw sales decrease, but remained profitable. Magnetic Sensors saw a significant improvement in profits, although remaining slightly in the red, as decreases in sales and profits from Hall Sensors were covered by increases in sales and profits from TMR Sensors. MEMS Sensors also saw improved profitability resulting from the effect of higher sales, although continued to record a loss.

In the Magnetic Application Products segment, net sales decreased by 1.0 billion yen, or 1.8%, from the first quarter. The shipment index for HDD Heads increased by approximately 1% from the first quarter from 88 to 89 in the second quarter. However, a decrease in HDD assembly sales saw HDD Heads overall decrease by around 5%. HDD Suspension Assembly sales increased by about 11% as Suspension sales remained about level while Suspension Application Product sales increased. Magnet sales decreased by around 8%. Operating income in the Magnetic Application Products segment increased by 0.2 billion yen, or 6.1%, from the first quarter. HDD Head profits decreased on lower sales, while HDD Suspension Assemblies achieved growth in profits due to an increase in volume and production efficiency gains in Suspension Application Products. Magnets recorded a slight increase in operating loss due to a decrease in sales.

In the Energy Application Products segment, net sales surged by 29.2 billion, or 20.2%, from the first quarter. Rechargeable Batteries recorded a significant increase in sales to a major customer in the smartphone field, while sales for the Chinese market also remained buoyant, and sales grew sharply due to sales for tablets and laptop PCs, and sale expansion of minicells. On the other hand, sales of Power Supplies for industrial equipment decreased even further from the first quarter. Operating income in the Energy Application Products segment was 42.5 billion yen, an increase of 16.0 billion yen from the first quarter. In Rechargeable Batteries, marginal profit increased due to an increase in sales volume, and a significant profit increase was secured through synergies from operation profit and production efficiency improvement effects due to hitting peak production.

That concludes my presentation. Thank you very much for your attention.

Cautionary statements with respect to forward-looking statements

This material contains forward-looking statements, including projections, plans, policies, management strategies, targets, schedules, understandings, and evaluations about TDK, or its group companies (TDK Group). These forward-looking statements are based on the current forecasts, estimates, assumptions, plans, beliefs, and evaluations of the TDK Group in light of the information currently available to it, and contain known and unknown risks, uncertainties, and other factors. The TDK Group therefore wishes to caution readers that, being subject to risks, uncertainties, and other factors, the TDK Group's actual results, performance, achievements, or financial position could be materially different from any future results, performance, achievements, or financial position expressed or implied by these forward-looking statements, and the TDK Group undertakes no obligation to publicly update or revise any forward-looking statements after the issue of this material except as provided for in laws and ordinances.

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