

Second Quarter of the Year Ended December 31, 2022

Conference Call (Held July 28, 2022)

Presentation and Question & Answer Summary

Presentation

Moderator: Good afternoon, ladies and gentlemen. Thank you very much for taking time out of your busy schedule today to participate in Renesas Electronics Corporation's Financial Results Meeting for Q2 of FY2022.

In attendance at today's briefing are Hidetoshi Shibata, President and CEO; Shuhei Shinkai, Senior Vice President and CFO; Takeshi Kataoka, Senior Vice President and General Manager of the Automotive Solution Business Unit. Other staff members are also present.

Mr. Shibata will now make a few remarks, followed by an explanation of Q2 financial results by Mr. Shinkai, followed by a question and answer session. The entire briefing will last 60 minutes.

The materials used in today's briefing are available on the IR site of the Company's website.

Now, Mr. Shibata, please.

Shibata: Hello, everyone. This is Shibata.

In Q2, as you can already see, we have landed a little above our guide, despite various uncertainties, such as natural disasters, or a prolonged lockdown in Shanghai, China, which was a little longer than initially expected.

On the other hand, since the future outlook is very uncertain, we have judged that the channel inventory has reached a good point, and we will be a little more restrained in Q3 shipments.

However, for the expansion of Die Bank and products that are in the process of ramping up over a long period of time, we will continue sourcing from foundries to be prepared to withstand upswings in demand. We hope you will understand that we are taking operations that can withstand both ups and downs.

2Q 2022 FINANCIAL SNAPSHOT NON-GAAP

(B yen)	2021				2022						
	2Q (Apr-Jun)	1H (Jan-Jun)	1Q (Jan-Mar)	2Q (Apr-Jun) Forecast	2Q (Apr-Jun) Actual	YoY	QoQ	Change from Apr 27 FCT ¹	1H (Jan-Jun) Actual	YoY	Change from Apr 27 FCT ¹
Revenue	217.9	421.6	346.7	375.0 (±4.0)	377.1	+73.1%	+8.8%	+0.6%	723.8	+71.7%	+0.3%
Gross Margin	52.0%	51.1%	58.4%	57.5%	58.6%	+6.6pts	+0.2pt	+1.1pts	58.5%	+7.4pts	+0.6pt
Operating Profit (Margin)	61.4 (28.2%)	114.0 (27.0%)	135.5 (39.1%)	136.9 (36.5%)	145.3 (38.5%)	+83.9 (+10.4pts)	+9.8 (-0.6pt)	+8.4 (+2.0pts)	280.9 (38.8%)	+166.9 (+11.8pts)	+8.4 (+1.1pts)
Profit Attributable to Owners of Parent	45.8	78.4	90.2	-	81.4	+35.6	-8.8	-	171.6	+93.2	-
Profit Attributable to Owners of Parent (Excluding Foreign Exchange Loss) ^{*2}	46.3	91.3	107.8	-	120.4	+74.1	+12.6	-	228.2	136.9	-
EBITDA ^{*3}	80.6	152.4	155.2	-	165.2	+84.6	+9.9	-	320.4	+168.0	-
1 US\$=	109 yen	107 yen	115 yen	124 yen	124 yen	15 yen depreciation	10 yen depreciation	0 yen depreciation	120 yen	13 yen depreciation	0 yen depreciation
1 Euro=	131 yen	129 yen	130 yen	134 yen	134 yen	4 yen depreciation	5 yen depreciation	0 yen depreciation	132 yen	3 yen depreciation	0 yen depreciation

^{*1}: Each figure represents comparisons with the midpoint in the sales revenue forecast range
^{*2}: Profit attributable to owners of parent – foreign exchange loss
^{*3}: Operating profit + Depreciation and amortization

Then, on page four of this presentation material, we have added one line item to show the numbers compared to the previous version. This is net income.

The exchange rate has recently been violently fluctuating. We are now in a situation where the current period profit/loss is greatly affected by the amplitude of the exchange rate, although this is not an operational factor. Therefore, I added the item to show EPS consistency for your reference after eliminating that forex effect.

So, we are on track until Q2, but the future from here is uncertain, so I would like to drive cautiously, which is the summary of the current financial results.

Now, please give us the details from Mr. Shinkai.

DISCLAIMER

- **Adoption of IFRS:** With the outlook that the Group will continue to expand globally and to provide financial figures that can be compared on a global scale, the Group discloses its consolidated financial statements in accordance with IFRS starting from the annual securities report for FY2018/12.
- **Non-GAAP figures:** Non-GAAP figures are calculated by removing or adjusting non-recurring items and other adjustments from GAAP (IFRS) figures following a certain set of rules. This adjustment and exclusion include the amortization of intangible assets recognized from acquisitions, other PPA (purchase price allocation) adjustments relating to acquisitions, stock-based compensation, as well as other non-recurring expenses and income the Group believes to be applicable.
- **Presentation of financial forecasts:** Starting from the consolidated forecasts for the three months ended March 31, 2019, the Group presents its financial forecasts as a range, and gross margin and operating margin figures in the non-GAAP format. The gross margin and operating margin forecasts are given assuming the midpoint in the sales revenue forecast.
- **Start of consolidation of Dialog and Celeno:** The Group completed acquisitions of Dialog Semiconductor Plc ("Dialog") on August 31, 2021, and Celeno Communications Inc. ("Celeno") on December 20, 2021. The Group has since begun the consolidation of their financial figures.
- **Purchase Price Allocation (PPA):** The allocation of the acquisition costs for the business combinations with Dialog has been revised at the end of the three months ended March 31, 2022, and for the business combinations with Celeno at the end of the three months ended June 30, 2022. The revised allocation of the acquisition costs (PPA) has been reflected in the consolidated financial results for the year ended December 31, 2021 and for the three months ended March 31, 2022.

Shinkai: This is Shinkai, and I'm the CFO. I will now explain the details of the financial results for Q2 of FY2022, based on the presentation materials posted on the IR website.

Page three. Disclaimer. From Q1, the impact of Dialog's PPA was reflected, and from Q2, the impact of Celeno's PPA is reflected.

Next please. This is a summary of the financial results. For Q2 results, see the dark blue column in the middle. The Company reported sales revenue of JPY377.1 billion, gross margin of 58.6%, operating income of JPY145.3 billion, operating margin of 38.5%, and current net income of JPY81.4 billion. On the other hand, net income excluding foreign exchange effects was JPY120.4 billion. EBITDA was JPY165.2 billion, exchange rates were JPY124 to USD and JPY134 to EUR.

For forecast ratios, see three columns to the right. More details will be provided later. See the dark blue column on the right for the first-half accumulation.

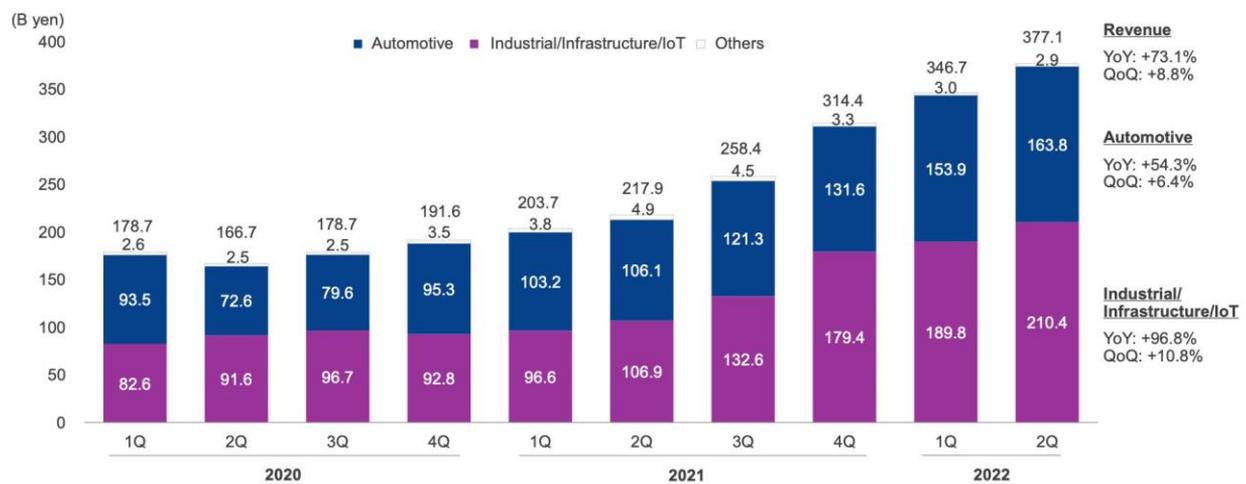
As mentioned by Mr. Shibata at the beginning, the current net income excluding the effect of exchange rate fluctuations is shown from this time. I would like to touch on this point a little.

We are doing cash pooling within the Group and have a dollar-denominated intercompany loan balance in this Renesas standalone. The increase or decrease in the valuation of this intercompany loan will result in this foreign exchange gain or loss being recorded in financial expenses in the consolidated P&L. Therefore, if the yen depreciates compared to the end of the previous quarter, the valuation of the loan will increase, and this will occur as a net loss on the P&L. On the other hand, a stronger yen would conversely be beneficial.

Large fluctuations in exchange rates can cause this gain or loss to be significant. Therefore, in order to show the steady-state level of net income, the new figure for net income excluding the effect of foreign exchange rates is shown.

QUARTERLY REVENUE TRENDS

NON-GAAP



Next page, please. Quarterly sales revenue trends.

See far right for Q2. Overall, sales grew 73.1% YoY and 8.8% QoQ, and excluding the consolidation of Dialog and Celeno, sales grew 50.8% YoY and 9.2% QoQ.

Business for automotive and that for industrial/infrastructure/IoT are described below. Excluding Dialog and Celeno, sales to the automotive industry grew 54.3% YoY and 6% QoQ, while sales to industrial/infrastructure/IoT grew 53% YoY and 13% QoQ, respectively.

2Q 2022 REVENUE AND GROSS/OPERATING MARGIN NON-GAAP

	Automotive	Industrial / Infrastructure / IoT	Company Total	
				Operating Margin vs FCT +2.0pts
Revenue	163.8 B yen vs FCT: - QoQ: +6.4%	210.4 B yen vs FCT: + QoQ: +10.8%	377.1 B yen vs FCT: +0.6% QoQ: +8.8%	<ul style="list-style-type: none"> ↑ Revenue ↑ Gross Margin vs FCT: +1.1pts ↑ Currency Impact ↑ Product Mix → Production Recovery ↑ Production Costs, etc. ↓ Operating Expenses
Gross Margin	52.0% QoQ: +0.2pt	64.0% QoQ: -0.0pt	58.6% vs FCT: +1.1pts QoQ: +0.2pt	Operating Margin QoQ -0.6pt
Operating Margin	36.3% QoQ: -1.1pts	40.1% QoQ: +0.2pt	38.5% vs FCT: +2.0pts QoQ: -0.6pt	<ul style="list-style-type: none"> ↑ Revenue ↑ Gross Margin QoQ: +0.2pt ↑ Currency Impact ↓ Product Mix ↑ Production Recovery ↓ Production Costs, etc. ↑ Operating Expenses

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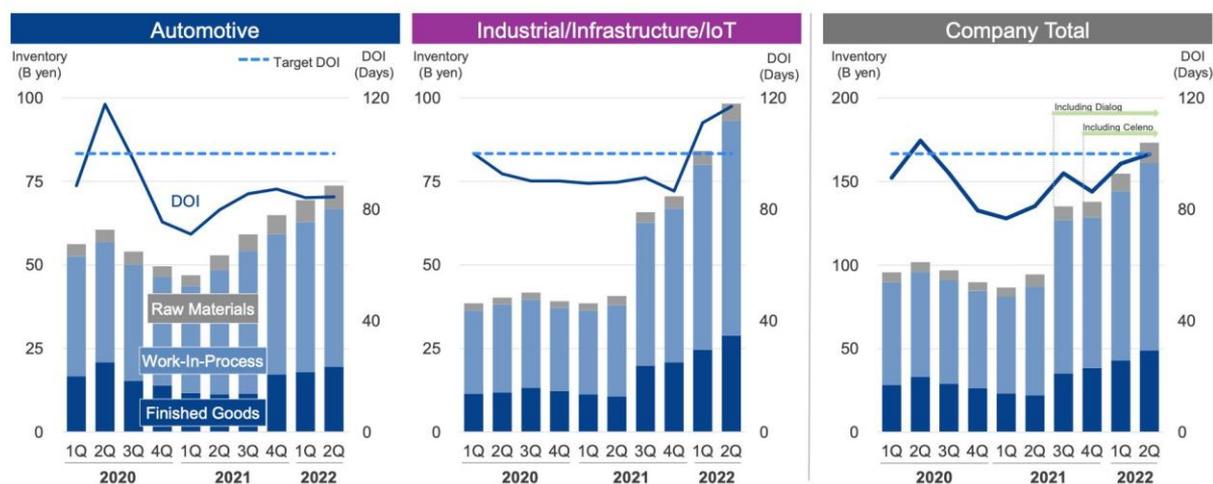
Next page, please. This section discusses gross profit and operating margin for Q2.

First, let's start with the company-wide total, and look at the forecast ratio in the upper right-hand corner. Revenues were 0.6% above the median. Roughly half is due to exchange rate effects and half is due to other factors. In terms of segments, there was a slight uptick, mostly in the industrial/infrastructure/IoT areas.

The gross profit margin was up 1.1 percentage points from the forecast. The main factors were an improvement in product mix and production costs, etc., among others, as noted here. Operating expenses were reduced mainly in R&D, and finally the operating margin was 2 percentage points higher than the forecast.

QoQ, bottom right. Of the JPY30.4 billion increase in sales revenue, approximately 70% was due to the impact of foreign exchange and the remainder was due to the actual situation. Gross margin improved slightly by 0.2 percentage points, with higher production recovery offset by higher manufacturing costs. As for operating expenses, the increase is a reaction from seasonality.

IN-HOUSE INVENTORY (FINANCIAL ACCOUNTING BASIS) AND DOI*1*2



*1: DOI: Days of Inventory = Inventory valuation balance at the end of the quarter / cost of sales of the quarter (Non-GAAP) × 90.

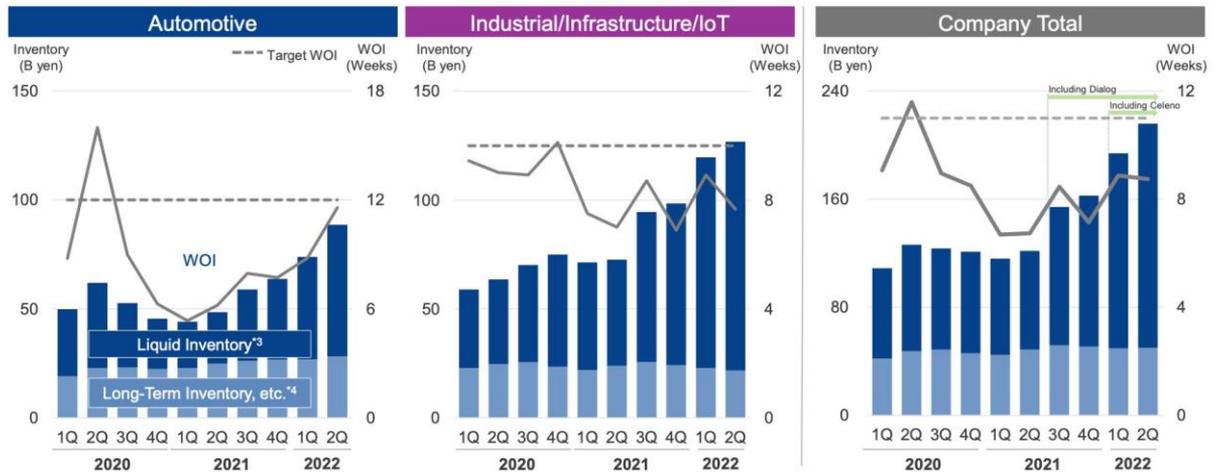
*2: The figures include Dialog's inventories from 3Q21 and Celeno's inventories from 4Q21. However, note that Dialog's quarterly cost of sales for 3Q21 is calculated by multiplying Dialog's September costs by 3.

Next page, please. First, here is the status of our inventory. I will explain the factors behind the QoQ increase/decrease and the future outlook for our in-house inventory and channel inventory on a separate slide again.

First, regarding the Company's inventory, if you look at the company-wide total on the right side, the days of inventory (DOI) has increased QoQ. By segment, we see flat growth in automotive and increases in industrial/infrastructure/IoT. However, industrial/infrastructure/IoT are where the impact of foreign exchange rates is very significant.

If we exclude foreign exchange effects, we see that both automotive and industrial/infrastructure/IoT have generally increased by about three days QoQ in terms of DOI.

SALES CHANNEL INVENTORY*1 (MANAGEMENT ACCOUNTING BASIS) AND WOI*2



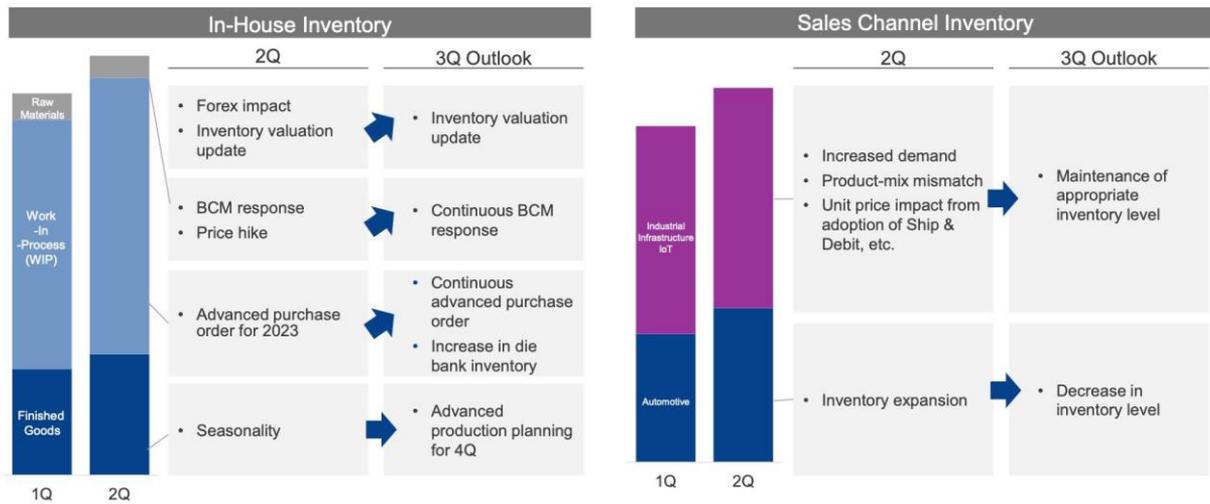
*1: Channel Inventory: Total inventory amount for Tokuyakutens for Japanese customers and overseas distributors (including channel inventories of Dialog from September 2021 and those of Celeno from March 2022)
 *2: WOI: Weeks of Inventory = Channel inventory at the end of the quarter / (cost of channel sales in the quarter / 13 weeks). It should be noted that from the inventory management perspective, to calculate appropriate WOI, certain Long-Term Inventory is excluded from Channel Inventory.
 *3: Liquid Inventory: Channel Inventory – Long-Term Inventory, etc. *4: Long-Term Inventory: Inventory with unique holding periods (End of Life or "EOL" products, e-commerce inventory etc.)

Next page, please. This is about channel inventory and weeks of inventory(WOI).

Overall WOI decreased QoQ. On the other hand, by segment, there was an increase in automotive and a decrease in industrial/infrastructure/IoT.

This figure does not include foreign exchange effects and is consistent with the management accounting rate.

INVENTORY ANALYSIS



Next page, please. Factors that may cause an increase or decrease in inventory.

First, our inventory on the left. The majority of the increase in the actual amount from Q1 to Q2 was due to foreign exchange effects. On the other hand, as I mentioned earlier, DOI has increased by about three days, even excluding exchange rate effects.

The inventory valuation reflects the increase in cost of sales, and the impact was also seen in Q2 and is expected to continue slightly in Q3 and beyond.

Next, raw materials are procured as a BCM response by placing orders for raw materials with supply risk in advance. In addition to this, the value has increased due to the impact of price increases in some raw materials. After this Q3, we plan to continue our BCM response and procure necessary raw materials in advance.

Next is work in process. In Q2, the increase was mainly due to purchases from outsourcing. This is mainly due to advance orders placed with an eye to the future, including 2023. The increase is due to the tight capacity of the foundries and the advance orders placed in anticipation of ramp-up in 2H of this fiscal year and next year. In terms of products, our main focus is SoCs for automotive applications.

We plan to continue to place advance orders from this foundry in Q3 and beyond in the same manner. Our main focus is on automotive SoCs, but we would like to increase the number of microcontrollers and other products as well, if possible.

On the other hand, we would like to expand Die Bank, especially our in-house factories, so that we can provide good support when we swing upward, as Shibata mentioned at the beginning.

Lastly, in terms of finished goods, in Q2 we are producing for Q3 demand, which is the previous seasonality, and products for smartphones from the former Dialog are increasing here.

On the other hand, we are considering reducing the number of operating days, mainly in back-end processes, from Q4 onward, and expect to offset the seasonal decrease in production in Q3 with advanced production in preparation for this.

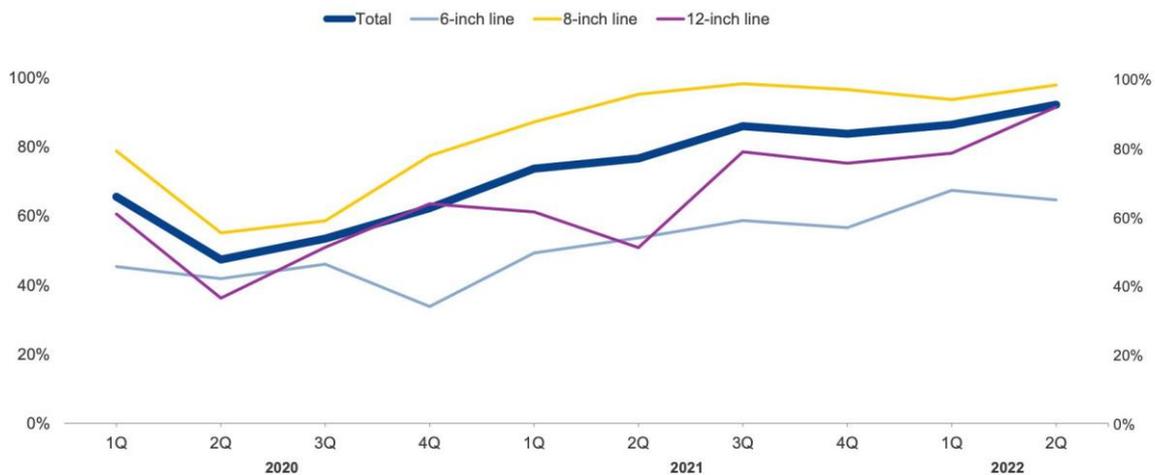
Right side, this shows channel inventory. In terms of industrial/infrastructure/IoT. In Q2, the increase in QoQ of final demand contributed to the decrease as WOI. The factors that are responsible for the increase in the actual amount are described below. Increased demand response and product-mix mismatch account for about one-third of the increase in the actual amount.

On the other hand, the unit cost impact, which is the portion of the actual amount raised by the introduction of Ship & Debit, accounts for about two-thirds of the increase.

In Q3, we expect inventory holding levels, WOI to remain generally flat as we continue to respond to final demand.

In terms of Automotive, as I mentioned above, we had been working to expand inventory and brought it back to the expected channel inventory level as of the end of Q2. As of the end of Q2, the expansion is considered to have been completed. Therefore, in Q3, we plan to respond to final demand in the same way, but with a slightly lower sell-in. As a result, we expect inventory holding levels, WOI to decrease in Q3.

QUARTERLY TRENDS IN FRONT-END UTILIZATION RATE*1 WAFER INPUT BASIS



*1: Utilization rates are calculated by excluding the 6-inch line capacity of the Shiga Factory (closed in August 2021) and the Yamaguchi Factory (closed in June 2022) from 1Q21 and 1Q22 onwards, respectively.

Next page, please. This is the utilization rate based on the amount of wafer input in the front-end process.

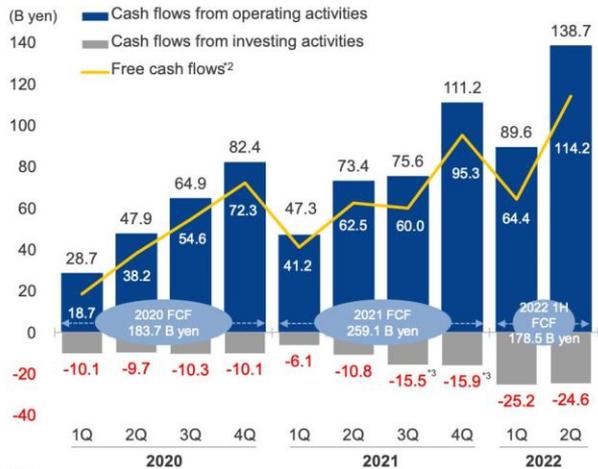
In Q2, the utilization rate on an input basis was just over 90%. However, the increase in the purple line, the 12-inch line is since we are increasing our input to recover from the Fukushima earthquake that occurred in March, so please understand that this is a temporary and transient situation.

NON-GAAP EBITDA*1 AND GAAP CASH FLOWS

Non-GAAP EBITDA



GAAP Cash Flows



*1: Operating profit + Depreciation and amortization *2: Cash flows from operating activities + Cash flows from investing activities
 *3: 587.0 billion yen and 27.8 billion yen are excluded from the cash flows from investing activities as acquisition-related payments of Dialog for the 3Q21 and Celeno for the 4Q21, respectively.

Next please. This section discusses EBITDA and free cash flow.

EBITDA for Q2 was JPY165.2 billion. Cash flow on the right side includes JPY138.7 billion for operating cash flow and JPY114.2 billion for free cash flow.

In the bottom row, in the gray area, we show the cash outflow from investments, which was JPY24.6 billion in Q2 and is expected to increase slightly in the future.

3Q 2022 FORECAST NON-GAAP

(B yen)	2021		2022					
	3Q (Jul-Sep)	9 months (Jan-Sep)	2Q (Apr-Jun)	3Q (Jul-Sep) Midpoint Forecast (Range) ^{*1}	YoY	QoQ	9 months (Jan-Sep) Forecast	YoY
Revenue	258.4	680.0	377.1	384.0 (±4.0)	+48.6% (±1.5pts)	+1.8% (±1.1pts)	1,107.8 (±4.0)	+62.9% (±0.6pt)
Gross Margin	55.2%	52.7%	58.6%	56.5%	+1.3pts	-2.1pts	57.8%	+5.1pts
Operating Margin	32.5%	29.1%	38.5%	34.5%	+2.0pts	-4.0pts	37.3%	+8.2pts
1 US\$ =	110 yen	108 yen	124 yen	135 yen	25 yen depreciation	11 yen depreciation	125 yen	17 yen depreciation
1 Euro =	131 yen	129 yen	134 yen	138 yen	7 yen depreciation	3 yen depreciation	134 yen	4 yen depreciation

*1: Each figure represents comparisons with the midpoint in the sales revenue forecast range

Next page, please. This is about the forecast for Q3. See the dark blue column in the middle of the table.

As for sales revenue, the median is JPY384 billion. Plus 1.8% revenue growth QoQ, gross margin is 56.5%, minus 2.1 percentage points QoQ. Operating margin is 34.5%, minus 4 percentage points QoQ, and the assumed exchange rates are JPY135 to USD1 and JPY138 to EUR1.

GAAP / NON-GAAP RECONCILIATION*1

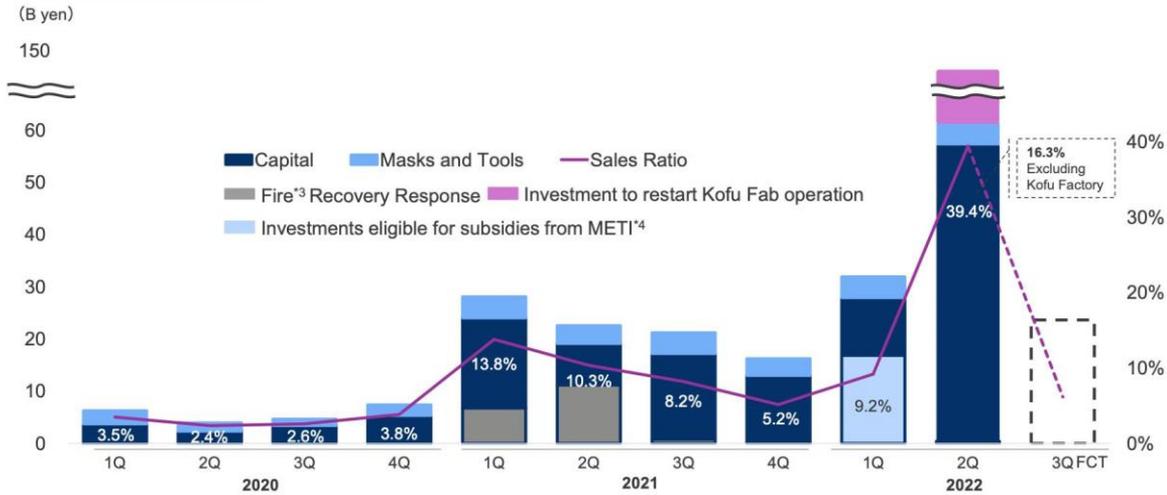
(B yen)					Full-Year 2021 (Jan-Dec)				2022			
	2Q (Apr-Jun)								2Q (Apr-Jun)			
	Gross Profit	Operating Profit	Net Profit	EBITDA	Gross Profit	Operating Profit	Net Profit	EBITDA	Gross Profit	Operating Profit	Net Profit	EBITDA
Non-GAAP (vs Revenue)	113.3 (52.0%)	61.4 (28.2%)	45.8 (21.0%)	80.6 (37.0%)	528.9 (53.2%)	296.6 (29.8%)	222.2 (22.3%)	375.4 (37.7%)	220.9 (58.6%)	145.3 (38.5%)	81.4 (21.6%)	165.2 (43.8%)
Recurring Items	-0.5	-17.9	-15.8	-3.8	-15.9	-95.6	-80.8	-28.5	-2.0	-32.3	-28.7	-6.7
Former-Intersil PPA Effects	-0.1	-3.9	-3.0	-	-0.3	-15.6	-12.0	-	-0.1	-3.3	-2.6	-
Former-IDT PPA Effects	-0.1	-10.2	-9.0	-	-0.5	-40.4	-34.2	-	-0.1	-11.6	-10.2	-
Former-Dialog PPA Effects	-	-	-	-	-13.7	-24.7	-19.8	-13.6	-0.5	-10.3	-8.8	-0.4
Former-Celero PPA Effects	-	-	-	-	-	-	-	-	-0.9	-1.7	-1.7	-0.9
Stock-Based Compensation	-0.4	-3.8	-3.8	-3.8	-1.4	-14.9	-14.9	-14.9	-0.5	-5.4	-5.4	-5.4
Non-Recurring Items	-7.8	-8.0	-6.0	-8.0	-16.9	-27.1	-21.8	-27.0	-0.9	-2.8	-2.1	-2.4
Naka Factory Fire Impact	-7.9	-8.0	-5.9	-8.0	-15.4	-15.5	-11.6	-15.5	-0.2	-0.2	-0.2	-0.2
Others	0.2	-0.1	-0.1	-0.0	-1.5	-11.6	-10.3	-11.5	-0.7	-2.6	-1.9	-2.2
Non-GAAP Adjustments Total	-8.3	-25.9	-21.8	-11.8	-32.7	-122.8	-102.7	-55.5	-3.0	-35.1	-30.9	-9.1
GAAP (vs Revenue)	104.9 (48.2%)	35.5 (16.3%)	24.0 (11.0%)	68.7 (31.5%)	496.1 (49.9%)	173.8 (17.5%)	119.5 (12.0%)	319.9 (32.2%)	217.9 (57.9%)	110.2 (29.3%)	50.6 (13.4%)	156.1 (41.4%)

*1: From 3Q 2021 onwards, Non-GAAP adjustments have been also applied to the revenue following the implementation of PPA

I will discuss some points the appendix slides, page 17 please.

Regarding the bridge between GAAP and NON-GAAP. Q2 non-recurring items include the impact of the Naka factory fire and others, and the major items of others are the closure costs of the Yamaguchi factory and the Fukushima earthquake related costs.

CAPITAL EXPENDITURES*1*2



*1: The figures represent the investment decision basis tangible and intangible assets and do not match the sum listed in the cash flow statement. However, the investment amount for former Dialog and Celeno is based on equipment delivery
 *2: Total amount of the Group's capital investment, including investments made by former IDT from 2Q 2019, by former Dialog from 3Q 2021 and by former Celeno from 1Q 2022
 *3: The fire which occurred at a Renesas consolidated subsidiary on March 19, 2021 *4: METI: Ministry of Economy, Trade and Industry

And then page 20, please. Capital expenditures.

In Q2, we made a decision to make a capital investment for the restart of the Kofu Factory. That amount is approximately JPY90 billion. For other than the Kofu Factory, decisions are being made regarding investments to increase in-house production. Up to this Q2, the investment projects to increase production capacities have been completed for now.

IMPACT OF EARTHQUAKE IN THE COAST OF FUKUSHIMA AND INSTANTANEOUS VOLTAGE DROP AT KAWASHIRI FACTORY

■ Overview of the impact caused to the Renesas Group factories

– Earthquake in the Coast of Fukushima:

4 fabrication lines at the following three factories temporarily halted production due to temporary blackouts, etc.:
Naka factory (front-end), Takasaki factory (front-end), Yonezawa factory (back-end)

Completed start-up of all production lines and reached full pre-earthquake production capacity on March 26

– Instantaneous Voltage Drop at Kawashiri Factory:

Approx. 90% of the production equipment was temporarily suspended due to an instantaneous voltage drop caused by lightning hitting a power line on July 5

Reached full production capacity (wafer input base) equivalent to before the instantaneous voltage drop on July 11

■ Financial Impact: Result and Forecast

(B yen)		2022				Contents
		1Q (Jan-Mar)	2Q (Apr-Jun) Forecast	2Q (Apr-Jun) Actual	3Q (Jul-Sep) Forecast	
Revenue	Fukushima coast earthquake	-0.7	-2.6	-2.2	-	Decrease in shipments
	Instantaneous voltage drop	-	-	-	-0.4	
Operating Profit (Non-GAAP)	Fukushima coast earthquake	-1.2	-1.6	-1.4	-	including operation loss
	Instantaneous voltage drop	-	-	-	-0.4	
Operating Profit (GAAP)	Fukushima coast earthquake	-2.1	-2.5	-2.1	-	incl. inventory disposal and repairment costs
	Instantaneous voltage drop	-	-	-	-0.6	

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Then please turn to page 22. I would like to discuss the impact of the Fukushima earthquake in March and the instantaneous voltage drop at the Kawashiri Factory in July. Results for the Fukushima earthquake were generally in line with expectations.

On the other hand, regarding the instantaneous voltage drop at the Kawashiri Factory, here are the projected numbers. While there will be an impact of lower capacity utilization and wafer disposal, the financial impact is expected to be small due to prior production and Die Bank.

This concludes the explanation.

Moderator: Thank you very much.

Question & Answer

[Questioner 1]

Q: The first point is that I would like to know your thoughts on sales projections. You have indicated guidance for Q3, but, if possible, please tell us more about Automotive and IIBU. In the IIBU, what direction will you be taking in terms of industrial/infrastructure/IoT respectively, excluding foreign exchange rates?

We are aware that the future outlook is quite uncertain, but could you share with us your current image of sales for the October to December period?

A: Excluding the exchange rate, automotive is expected to be a little lower compared to Q2. industrial/infrastructure/IoT will be flat according to our guide.

In terms of our breakdown of industrial/infrastructure/IoT, IoT includes segments that are currently weak, mainly PCs and mobile devices. However, the rest of the segments continues to be relatively strong.

One point to mention is that the demand for DDR4 is getting stronger due to the delayed transition of DDR5, especially for data centers. Supply remains tight here. We are still unable to supply enough product to keep up with demand, so we have a slightly weaker outlook in terms of sales. Because of this, we are now in a situation where the backlog is building up strongly.

Therefore, as for automotive, as I mentioned earlier, we would like to proceed with shipping while observing the situation for a while. We are now in a phase where we are trying to ship by looking at the channel inventory as well as the consumption. Other segments, except for consumer and mobile, which have continued to soften, were generally firm. However, the background of Q3 outlook is that some things are appearing like a pullback or an outflow due to supply factors.

As for Q4, it is still uncertain. At this point, we are making plans for wafer input and shipments based on the assumption that the overall market for automotive and industrial/infrastructure/IoT will remain flat or even slightly decline.

But again, it is really hard to see what is ahead now, so we continue to operate under the concept of being prepared to respond whether we go down or up. That's all for now.

Q: Thank you. The second point I would like to ask is about the concept of chip prices.

For the past two years, supply and demand have been tight in the semiconductor industry, and I think everyone has enjoyed unprecedented price increases. However, the demand for specific applications is now about to be weakened.

Under such circumstances, do you think that the downward pressure on prices will increase in the future? Or is the semiconductor industry no longer in a position to maintain prices, since business practices have changed a bit? What is your view on the price in terms of semiconductors? That is all.

A: I see. As reported in the press, the price of wafer procurement from foundries is continually rising, and as you mentioned, the price of energy is also rising, which is causing our electricity costs to rise considerably in our production.

Also, as Shinkai mentioned and I also had mentioned in the previous earnings call, for some of the raw materials we have to pay 10 times the price of what we used to pay to procure them, so cost pressure continues to be strong.

Therefore, we are not in the phase of lowering prices, and we will continue to communicate closely with our customers to gain their understanding on this point. That is all.

[Questioner 2]

Q: The first point is about per-unit effects, especially for cars. I think that in the past, the automotive division had sales of about JPY100 billion. I think this is expected to stabilize at around the JPY160 billion level, so I personally have the impression that the 1.6-fold increase has been a tremendous growth.

The per-unit effect suddenly appeared after COVID-19, which I think was only a coincidence, but how long should we look at the per-unit effect of cars in the future, including this domain control? Traditionally, it has been between 5% and 8%, but since you have a good product mix, especially this year, we would like to get an indication of how much we can expect this year and in the next fiscal year and beyond. This is the first point.

The second point is about the fact that exchange rate sensitivity often changes quarterly. Since there is a great deal of market volatility, I would like to know how to think about this area once again on an annual basis. What the sensitivity for the whole current year, including after acquisitions? That is all.

A: On the first point: Since Kataoka is here, he will answer first. Mr. Kataoka, please.

A: This is Kataoka. I think the question you just mentioned is about the content growth per unit.

Certainly, new applications are increasing, and I'm sure various research firms have shown numbers, but right now we expect to see roughly 14% to 10% content growth this year.

This is especially true for xEV. For example, the growth of power semiconductors is expected to increase. I believe that content growth will continue to grow at around 10% in the future.

However, the number of vehicles itself is not growing as fast as expected, as you may have sensed. Thus, in terms of the overall semiconductor of cars, I think we will continue to see a slight increase in stability, albeit with some bumps.

However, we are aware that there is a slight inventory buildup due to current insufficient production of vehicles. Some adjustments will be made in the short term. That's all from me.

A: Mr. Shinkai will explain more details on the sensitivity of the exchange rate if needed. I think you are right. I have a strong feeling that the volatility is too high, and it is difficult in many ways.

We are now hedging in a more aggressive manner than in the past, and we are hedging a bit more aggressively until the end of next year. Therefore, the sensitivity of sales to exchange rate fluctuations will not decrease significantly compared to the past, but we are shifting to operations that will slightly reduce the sensitivity of operating income and below. We are hedging by setting the floor and capping the head, keeping it within a certain bandwidth. Once again, I hope this answers your question.

Q: On the first point regarding per unit, I would like to know the background of the growth, especially in the last two to three years.

On the second point regarding the sensitivity of the exchange rate, however, I think it is difficult to take the option of a perpetual hedge forever. Thus, I wonder if you could give me a rough indication of how much volatility we should consider in terms of sensitivity with the current sales of about JPY1.5 trillion.

A: First of all, regarding the first point, there is nothing new here. It is something that has probably continued as a trend for some time. That is, for one thing, car manufacturers are also making a very clear shift to value-added cars, given the limited number of units they can make. Especially since US and European customers have already declared this to the public, the consumption of semiconductors in cars with such high price points is very large. Thus, the consumption of semiconductors per car will increase as the mix of cars itself changes.

Then the other thing is the shift to EVs, as competitors are also saying. This of course means that demand for power discrete will grow rapidly, and if we look at our customers, their shift to EVs needs more electronics. I think the second trend is that the overall content consumption of semiconductors as a whole, not just Discrete, is increasing due to the progress of EVs.

Third, and this is a longer trend that has been going on, but overall, I still feel that the installation rate of various advanced electronics features is increasing considerably, even in entry-level cars. I wonder if the combination of these three factors has resulted in a stronger tailwind for our sales growth due to the increase in content than was the case a year or two ago.

As for the sensitivity to exchange rate fluctuations, a change of JPY1 per USD1 would result in fluctuations of approximately JPY8 billion in sales and JPY3.5 billion in operating income annually. The euro has not changed that much, and a JPY1 change to EUR1 is equivalent to JPY900 million in sales and JPY700 million in operating income. Compared to the past, I think it is becoming a little less sensitive. That is all.

[Questioner 3]

Q: The first is that we would appreciate a renewed update on our order-taking activities. This time last year, I think you were campaigning to finalize orders for 2022, but could you tell us how your order activity is going this year? Is the outlook such that it will not reach allocation next year?

In addition, I think you have said that existing orders cannot be cancelled, but I would like to know if there have been any negotiations in that regard. This is the first point.

Secondly, I would like to know one thing about each of the two in terms of inventory: automotive and IIBU. First of all, I think you are saying that the channel inventory is now full of automotives, and now that we have reached the target level including BCP on both the customer and distribution sides, one of the questions is whether you will continue to ship products to basically satisfy the final demand from now on.

One more thing, IIBU's own inventory has exceeded the DOI level quite a bit, but I would like to know again what the breakdown is for the subcategories, namely industrial/infrastructure/IoT. Please go ahead.

A: Well, I will answer the first point, and Mr. Shinkai will answer the second point.

I think it's pretty difficult to get orders. As I have told you before, we are doing the same this year. We are working on it, but I still think the timing was premature. The numbers are still very strong. We have a lot of backlog. I'm going to take another careful look at it over the next two months or so.

We ourselves would like to politely reach out to our customers and tell them not to worry, that there is no need to panic so much, and that we would like to make a real order book for next year.

In fact, I wish I could have accompanied my talk with some more numbers today, but I think they are still too strong. Compared to the perspective we have seen since Q3 I talked about earlier, the current state is that

the order book diverged somehow. We would like to take a little more time to make sure we are making the right adjustments. That's all from my side. Please, Mr. Shinkai.

A: I think your first point about staffing or sell-ins to the automotive channel is correct as you understand it. We are considering an operation that will adjust this sell-in according to the trend of final demand in the future.

As for our own inventories in industrial/infrastructure/IoT: Speaking by segment, they are almost similar to the outlook that Mr. Shibata just mentioned, with slightly higher inventory levels in the Infrastructure and IoT areas. IoT includes PCs, mobiles, and those segments, so there is therefore a bit of an excess.

On the other hand, some infrastructures are seen to be stagnant and not ready for shipment due to mismatches in materials and components. These are two major factors.

Also, in the IoT area, we have a few items that are not being shipped due to technical factors, and this is also a factor that is pulling down the DOI, although it is transient. That is all.

[Questioner 4]

Q: I think there was a comment that we would curb shipments at automotives. In the past, whether it was a channel or direct sales, I had the impression that it was difficult for you to proactively reduce or increase numbers. Rather, my impression is that you decrease or increase supply when the customer told you to.

However, in of today's statement you mentioned that you have been communicating well with your customers since the start. Can I assume that the communication is going well, especially when it comes to you proactively making suggestions, for example, by saying that you will reduce shipments due to seasonality?

Or are you simply adjusting yourself to the customer by taking on a passive role? For example, when their inventory is reduced, you simply reduce yours accordingly?

A: I'm glad you asked. We are now communicating very closely with our channel partners and end users.

Based on past performance data from January onwards, we look back together at how things were done and determine the next steps accordingly. This is the type of communication we are having. I feel that we have changed the way we do things and have improved the resolution of our understanding of each other's views.

In addition, as I have said many times before, if the end user demand is steady, we will be able to respond to it. I hope you will understand that we are very conscious of our operations and are able to respond flexibly. That is all.

Q: So, you mentioned that you may have gone a little too early with the future ordering activities. However, if you are able to communicate with customers well in the future, you should be able to properly respond flexibly when sudden changes occur. Is my understanding correct?

A: Yes. Well, it depends on the client. For example, some customers are quite open about their view of next year's demand, while others continue to base their thinking on very strong numbers, so there are some differences. So, I hope you understand that we are now further deepening our communication with the hope that we can level the playing field a little more. That is all.

[Questioner 5]

Q: I would like to ask you about procurement and production.

Regarding the first point, procurement, I understand that you are continuing to place advance orders and BCM compliance. When it comes to risk especially in terms of raw materials, what kind of raw materials do you take as risk factors? For example, Russian-Related gas?? And please, is this in the form of advance cash outflow? What do you expect the price to be after this?

The second point concerns production. I understand that there will be various inventory adjustments, and that there will be some operations in the back-end process, but does this mean that there will be some adjustments from this quarter to the following Q4, such as bringing production forward to some extent in Q3 and putting some production in Q4 on hold? Any clarification in this area would be appreciated. That is all.

A: Yes. Although the timing may vary slightly from country to country, there are three main reasons. I will talk about both the back-end process, front-end process and one another reason.

One factor is the simple production adjustment: Leveraging die bank means decreased loading in the back-end process.

The second factor is a very private matter, but operations have been running at a tight schedule for the past two years, especially since last year's earthquake, and we have been working on it twenty-four-seven. Thus, we would like to have employees take a longer holiday in return.

The third factor is about the front end: I have been talking about our efforts to improve the resilience of factories for some time, which can only be done by stopping the factories. Thus, we want to take time during the year-end and New Year holidays to do it well.

As a result, we have three factors. We are planning to reduce factory operations a little toward the end of the year and the beginning of the new year, so if we do not make the product in advance, we will not be able to meet the demand in time for the holidays.

As for the advance orders for raw materials and wafers, you can basically accept that the cash will be disbursed in that amount ahead of time. Raw materials are, of course, typically those affected by the recent Russian invasion of Ukraine. However, there are also other raw materials that continue to be tight, so we are trying to secure such materials well in advance.

As for the advance orders for WIP wafers, as you know, I think the supply and demand for semiconductors as a whole are matching up quite well. However, there is still a very tight supply situation for specific processes at specific foundries.

We are in a phase where some of those process nodes, the products that we are sourcing from certain foundries, are just now really growing quite a bit. As we have talked about before, the R-Car Generation 3, the RH850 40-nanometer microcontroller, and the 28-nanometer RH850 microcontroller will grow. However, in terms of volume, the 40-nanometer is the big one. The situation for these nodes will continue to be very tight, so we would like to secure wafers ahead of time as soon as we can afford to do so.

This is something that will surely be needed as we grow over the next year, so we are trying to procure as many as possible. That is all.

[Questioner 6]

Q: I want to touch on two points. The first point I would like to ask is about the restart of the Kofu Factory. I understand that there was a subsidy from the Ministry of Economy, Trade and Industry, but I would like to ask if there is a possibility for your company to increase the rate of in-house production in the future.

As you mentioned, will the expansion of demand for power semiconductors be mainly driven by the shift to EVs?

A: When it comes to raising the in-house production rate, I don't think it will probably go that far in the direction of raising it in monetary terms. Because for the logic and microcontrollers in the higher value-added advanced nodes, we will procure these from foundries, so there will be a huge increase in that area. So, if we look at the ratios on a value basis, I think the trend is for the ratio of internal products to decline.

However, we have a clear policy of focusing on in-house production of power discrete products. In this area, I think we will see more and more in-house capacity, meaning that we will not hesitate to invest in capacity as needed. Are we answering your question?

Q: Thank you. Are those power semiconductors going to increase with the shift to EVs? Or will other demand grow considerably as well?

A: I think it is both. In terms of numbers, though, I think the EV conversion is a big one. However, in addition to EVs, the electrification of various products is progressing as part of the overall movement to reduce the carbon footprint of the entire industry. That is all.

Q: Thank you. The second point is about the partnership with the Tata Group in India. After acquiring subsidiaries in the US and the UK, what kind of business do you plan to do in the Indian market in the future?

A: Kataoka from automotive will answer first, and then I will supplement as necessary. Mr. Kataoka, please.

A: This is Kataoka. India, as you know, has a very large population, and with the population over 1 billion and still to grow rapidly, it is a market with a lot of potential. Right now, there are still more motorcycles than four-wheeled vehicles, but the number of four-wheeled vehicles is expected to grow in the future.

We are trying to get in now with the local OEMs and Tier 1s in particular to grow our business. Our business will be related to electrification. Especially in India, where there is air pollution due to the large population, the use of EVs for motorcycles has been progressing quite well, and some of them are now loaded with EVs.

The Tata Group has so-called system solution companies such as Tata Motors and Tata Elxsi. In order to expand our business in India, it will be very important to work together with local system solution companies to support local OEMs and Tier 1s, and we will expand from this perspective.

Furthermore, Tata Motors itself is a very large company, so we will extend that as a local OEM. That's all from me.

A: We are late when it comes to India as a whole. I am ashamed to say that we are really behind the competition, but we would like to increase our exposure to India at an accelerated pace, not only in terms of sales, but also in terms of our R&D activities.

In terms of applications, Tata and other companies are currently accelerating various initiatives in India in areas other than automotives, such as communication infrastructure. In addition, as you mentioned, there are many excellent IT engineers in India, and we are working to expand software development with their help.

We may also be able to announce other things that we will be doing in the near future, so we hope that you will look forward to them. That is all.

Sasaki [Q]: Thank you. So, in terms of Tata, you have the ABU in mind, but is it my understanding correct that you may do something in the future in terms of R&D activities or IIBU?

A: We will do both.

[Questioner 7]

Q: I would like to ask two points.

First, I would like to confirm the demand for semiconductors for automotives, as I may have misunderstood. I understood that in the past, there was still a trend to build up BCP inventory, including Tier 1 relationships like OEMs.

In contrast, I understand that your explanation this time was that since the customer has sufficient inventory, sales will be changed to match actual demand. On the other hand, I would like to confirm whether you suddenly had enough in stock after investigating various things.

And by market, please tell us first of all whether there are differences in sales trends between Japan, China, Europe, and the US.

Second, I would like to ask you about the Chinese market. Of course, I understand that smartphone and PC sales are weak, but I also know that you have a solid amount of sales in the so-called broad market, or mass market, within the Chinese market. It would be helpful if you could also explain the demand trends and availability in this area. These are two points. Please go ahead.

A: China, as you pointed out, is currently weak, especially in consumer mobile. Industrial continues to be strong.

Also, as you mentioned, China is probably the most advanced country in the world in terms of EV transitions, and the accompanying inquiries from the automotive industry have been very strong, even in the short term. China has been strong, especially in the area of electrification and closely related industries.

On the other hand, China as a whole is still heavily influenced by consumer mobile, so we do not expect that the previous strength will continue to be sustained.

In terms of regions, Europe and Japan will be quite strong for the next six months, while China will slow down a bit.

Regarding automotives, I will have Kataoka add to this, but I think it will somehow be closely related to electrification. I personally have the impression that Europe and China are relatively strong, and that Japan is relatively soft.

Mr. Kataoka, any additional information?

A: This is Kataoka. As you know, at the beginning of the year, we read that annual production would be roughly 85 million to 90 million units. However, the reality is that due to COVID-19 and the unavailability of parts, the annual production is now falling. It is roughly at the 80 million or 85 million unit level.

In such a situation, China is the only country that is out of the pandemic. Also, as you know, has a policy of tax reduction. Furthermore, as you know, the share of local Chinese OEMs also finally exceeded 50% in May. Demand, especially for xEV-related products, is now growing especially from Chinese OEMs. Thus, China is very strong.

On the other hand, in Japan, inventories have been accumulating somewhat due to the fact that some parts could not be produced while production was originally increasing rapidly. Naturally, we have been in close communication with OEMs and Tier 1s to monitor channel inventories and Tier 1 inventories. In that sense, we will be making some inventory adjustments in the Japanese market. That's all from me.

[Questioner 8]

Q: I would like to ask you about your business environment. Could you please explain again in detail the background behind the uncertain outlook?

Also, regarding the outlook for the semiconductor market, I know this is a vague question, but when do you expect the semiconductor shortage to be resolved?

A: I think that for everyone macroeconomics is uncertain, and this is probably the first time many of you participants are experiencing this kind of world.

Especially with a war of this magnitude continuing for such a long period of time. The implications for energy and food that come out of the war as well as the very high levels of inflation that we are seeing now in multiple regions and in developed countries are factors as well.

And what is very special this time around is that liquidity has increased so much with COVID-19. At the same time, a shift in people's spending habits will occur towards buying more experiences such as traveling and eating out.

Considering these three factors, I think there must be a great deal of uncertainty as a number of members for electronics as a whole.

On the other hand, I believe that the trend away from fossil fuels and the continuous increase in demand for semiconductors, not only for cars but also for intelligence, will to a certain extent offset or even cancel out the uncertainty in the macro-economic picture as a whole.

It is very difficult to predict which force will win, and my own view is that the semiconductor market as a whole will go up or down depending on whether content growth or macroeconomic uncertainty prevails.

However, looking back over the past year or two, I think we all tend to want to secure as much as possible when things are scarce. This has always been the case, and not just with semiconductors. I think we will probably see a reactionary trend from 2H of this year to a certain extent next year, so I feel that the market will need to pay attention to the combination of these three major factors.

However, having said all that, the backlog is still large. Still, for example, I personally would like to buy a car, but orders are no longer being accepted. Even if I wanted to buy a car, I can't, so the overall feeling is not quite right.

That's why it's really unclear which vendor's products will grow if we don't look closely. For us, we are not pessimistic by any means. We are cautious, but we believe that there is plenty of room for upside, and we are doing our best to be prepared to withstand it. I hope the above answers your question.

When it comes to the balance between supply and demand for semiconductors as a whole, if we aggregate everything on a macro level, I think the demand is already satisfied. On the other hand, products that require specific manufacturing capacities, as we have repeatedly mentioned earlier, are in intensive demand. Unfortunately, there is no prospect of increasing capacity there, so I think the situation of tightness is concentrated on a few areas and products.

Unfortunately, however, even if only one semiconductor is missing, a set of customers cannot be created, and we too have received stories of ongoing problems due to this. Therefore, I think it would be good if the industry as a whole could move in the direction of matching supply and demand as much as possible. We ourselves are continuously making efforts to move from such extremely tight areas to other capacities as much as possible.

However, as you may know, this is a story that will take some time. It cannot be done today or tomorrow. We expect to see such effects in the industry as a whole in the next year or so. That is all.

<Comments from CEO Shibata>

A: To repeat, we do not feel that things are going to get very bad. Rather, the situation is uncertain, and we are making preparations to cope with either scenario. This includes increasing inventories and making investments where we can. On the other hand, we will continue to operate in a balanced manner, looking at things carefully.

Then, we will have another update meeting on the progress of the medium- and long-term strategy in September, which we always hold in the semiannual meeting. This time, we will not have such a large strategic agenda as in the past. Instead of a slightly larger setting with the heads of the product lines, Mr. Shinkai and I will give you a brief update in a more compact manner. We would appreciate your understanding.

At the beginning of next year, I will be able to give another cohesive update with a slightly larger team of full-fledged members, but I would like to keep things crisp and clear here as well.

Thank you very much for your time. Thank you for your continued support. Excuse me.

Moderator [M]: That concludes the presentation of the financial results for Q2 of FY2022. Thank you for your participation.

[END]