

【Samsung Electronics Q1 Earnings Call】

Good morning.

This is Ben Suh, from investor relations.

Thank you for joining our earnings call for the first quarter of 2021.

With me,

Representing each of the business units, are

Mr. 한진만, Executive Vice President of the Memory Global Sales & Marketing Office

Mr. 조장호, Vice President of the System LSI Marketing Team,

Mr. 한승훈, Senior Vice President of the Foundry Marketing Team,

Mr. 최권영, Senior Vice President of Samsung Display,

Mr. 김성구, Vice President of the IT and Mobile Business, and

Mr. 송원준, Vice President of the Visual Display Business.

In addition, Mr. 강태규 from Investor Relations is present on this call as well.

I would like to remind you that some of the statements we will be making today are forward-looking, based on the environment as we currently see it, and all such statements are subject to certain risks and uncertainties that may cause our actual results to be materially different from those expressed in today's discussion.

Before we start the review of our quarterly results, I would like to address the first quarter dividend.

Today, the Board of Directors approved a quarterly dividend of 361 won per share for both common and preferred stock. As part of the shareholder return policy covering the three-year term from 2021 to 2023 announced in January, the regular dividend will be 9.8 trillion won for each of the next three years. Accordingly, the total payout for the first quarter, to be paid in May, is 2.45 trillion won, or one-fourth of the 2021 annual total.

With that, I would like to present the results for the first quarter.

Despite many ongoing challenges, including effects of Covid-19, we once again achieved solid results, thanks to the dedication of our employees and support of our customers and partners.

Total revenue in 1Q increased 6.2% quarter-on-quarter to 65.4 trillion won, a new all-time high for the first quarter. Despite weak seasonality for the Display business, strong smartphone sales and PC-and-mobile led memory demand drove such results.

Compared to the same period last year, revenue increased by 18.2% mainly due to solid sales of finished products, including smartphones, TVs, and digital appliances.

Gross profit grew slightly on a sequential basis to 23.9 trillion won as the significant increase in contributions from the IM Division more than offset declines from the other businesses. Gross margin was 36.5%.

SG&A expenses decreased slightly quarter-on-quarter to 14.5 trillion won with reduced advertising and promotional costs. As a percentage of sales, they declined by around 2%pts.

Operating profit increased quarter-on-quarter to 9.4 trillion won, as solid sales of smartphones and improved profitability in the CE Division outweighed weak seasonality for display and a decline in semiconductor profitability. On a year-on-year basis, both operating profit and operating margin increased, backed by strong sales of finished products and an increase in the OLED utilization rate.

I will now briefly review the results of each business unit.

For the Semiconductor businesses, Despite solid memory shipments, mainly for PC and mobile, profits edged down mostly due to a production disruption at our Austin fab caused by a major power and water outage, while NAND price declines and initial costs associated with ramping up new memory fabs also weighed on the results.

In Display, earnings fell sequentially due to weak seasonality for mobile products. On a year-on-year basis, however, earnings improved significantly, led by a higher OLED utilization rate.

In the mobile business, earnings improved significantly both quarter-on-quarter and year-on-year as sales of flagship and mass-market smartphone

models grew considerably, and as contributions of products in the Device Ecosystem lineup, such as Tablets, PCs, and wearables, also grew. The network business maintained its solid performance as 5G continues to expand globally.

For the CE Division, profits grew both quarter-on-quarter and year-on-year due to continued pent-up demand for digital appliances alongside expanding sales of premium TV products.

Regarding currency effects, there was weakness in the US dollar and strength in the euro and major emerging currencies against the Korean won. This was positive for our finished product businesses, but the weak dollar was negative for the component business, resulting in a net neutral position for the Company as a whole.

Next, I would like to share our business outlook.

In the second quarter, we expect earnings to grow in the Semiconductor business mainly due to improving memory market conditions, but decline in the IM Division as new product effects weakened.

For Memory, earnings will improve, led by strong server demand. In system semiconductor, Foundry is already seeing full resumption of manufacturing at the Austin fab, while System LSI is likely to continue to feel some effects of last quarter's disruption in foundry production.

For Display, We expect mobile panel sales to decline due to weak seasonality for smartphones and the effects of some component shortages. In the Mobile business, revenue and profitability are likely to decrease as flagship sales decline and some components experience supply issues, but we will work to minimize impacts of the component issue by actively managing our global SCM capabilities.

In the CE Division, For TVs, we will focus on bolstering sales of new products, such as neo-QLED models, and actively capturing demand from sporting events. The digital appliance business will strive to grow by expanding Bespoke product sales globally.

Now let's move on to our outlook for the second half of the year. For our component businesses, we expect market conditions to improve and we will continue to extend our product and technology leadership. For our finished product businesses, we will focus on strengthening our premium segment leadership and our product lineups. However, global macro risks, including demand uncertainties related to COVID-19, are likely to persist.

For Memory,

We expect the business environment to remain favorable, including positives such as solid demand for server and mobile products. We will enhance our market leadership by accelerating migration to 15-nano DRAM and 6th-generation V-NAND, and by expanding application of EUV processes to our products.

System LSI will work to maximize its supply capabilities by cooperating with foundries at home and abroad. And Foundry will expand its supply with full-fledged mass production at Pyeongtaek Line 2.

For Display,

We will continue our efforts to increase adoption of OLED panels while also establishing a foundation for QD-display in the large panel business.

The Mobile business will strive to secure solid profitability by further popularizing foldable models, expanding our lineup of mass market 5G models, and bolstering growth of tablets, PCs and wearables.

The Network business will continue to address demand from growing domestic and global 5G commercialization, as it also continues to explore new business opportunities globally.

CE, amid demand uncertainties related to COVID-19, will work to secure profitability by further expanding sales of premium products, including Neo QLED and Ultra-large Screen TVs as well as New Life digital appliances.

Now, I will address capital expenditures.

Capex in the first quarter was 9.7 trillion won, with 8.5 trillion won allocated to semiconductor and 0.7 trillion won to display.

Memory investments concentrated on capacity expansions and advanced process migrations in Pyeongtaek and Xi'an to address growing demand. Foundry investments focused on capacity expansions for advanced processes, including for 5-nano EUV.

Finally, I would like to share some of our activities aimed at enhancing governance for sustainability management as well as our key achievements in this area.

We continue to strengthen our sustainability management. Our efforts to protect the environment are enabled by a range of activities, which include reducing our environmental footprint and increasing our role in the circular economy. We also strive to create a better society as we engage in activities related to human rights, diversity, digital responsibility, and the education of future generations.

We achieved our goal of meeting 100% of the energy needs at our operations in the US, Europe and China from renewable sources by 2020, a goal we announced in 2018 as a part of an effort to increase use of renewable energy.

In addition, our commitment to developing energy-efficient products and reducing energy use in our operations was recognized at the US Environmental Protection Agency's 2021 Energy Star Awards. Samsung became the first company in 9 years to receive the Corporate Commitment Award. We also received our 8th Sustained Excellence Award, the highest honor among the annual awards.

In particular, the rare and prestigious Corporate Commitment Award, which was created in 1993, is only given when there is a company with outstanding leadership in product efficiency and energy management, and Samsung became the first non-US company to receive the award.

The Sustained Excellence Award is granted to companies that receive Energy Star certification on a high majority of products released in the US, which enhances Energy Star's brand awareness among consumers.

Meanwhile, we are now including sustainability management as a part of the evaluation criteria for all business units and executives, aiming to better reflect sustainability achievements in performance evaluations and compensation. We

believe this will help further our achievements in sustainability management throughout the Company.

We will keep bolstering our sustainability management through continued efforts to strengthen our response on ESG issues while also enhancing our financial performance.

I will now turn the conference call over to the gentlemen from each business unit to present first quarter performances and outlooks for their corresponding business segment. Thank you.

Good morning, this is Han Jinman from the Memory Global Sales & Marketing Office.

Overall demand was decent in the first quarter, backed by strong demand from Mobile and mainly from laptops from PCs. However, our profit slightly decreased due to initial costs of new line ramp-up that is associated with advanced node migration and a downward trend in NAND prices.

For DRAM, Demand for Mobile stayed solid despite the weak seasonality, due to releases of new models by major customers and increased penetration of 5G smartphones centering on the Chinese market, demand from PC was partially affected by a shortage of some components, but it remained strong as online-based activities became routine for global consumers amid continuing effects of COVID-19, followed by an expansion of the 'one PC per person' trend.

Server demand in the first quarter increased moderately quarter-on-quarter and significantly year-on-year, as content-per-box rose due to increasing adoption of a new server CPU and demand was solid mainly from datacenters. Demand for Consumer products was also strong, despite weak seasonality, due to an increase in 4K high-definition content and growth in TV and Set-top Box memory content to use streaming services.

Our results beat our Bit Growth guidance thanks to our active responses to growing Mobile demand in the burgeoning 5G market and rising Server demand for datacenters, while also benefitting from sales of PC and TV products related to the rise of Home Entertainment culture.

Now let's talk about the NAND market. Demand from mobile was robust,

in accordance with strong smartphone sales and along with rising demand and content-per-box, mainly from Chinese customers.

Server SSD saw growth in demand compared to the previous quarter thanks to the base effect of weak demand in the last quarter as major datacenter companies resumed storage investments.

Demand for Client SSD, especially for laptops, also stayed strong as contactless activities such as telecommuting and online education continued.

Amid full-fledged migration to 128-layer 6th generation V-NAND, we exceeded our Bit Growth guidance by actively addressing the recovery of demand for Server SSD and solid demand for Mobile and Client SSD.

Now, moving to the outlook for the Second quarter.

In the second quarter, we expect our profits to improve significantly backed by strong demand, centering on DRAM, across all applications.

For DRAM, there is some set build risk for Mobile products due to supply issues with some components, but demand is likely to stay robust thanks to the expanding 5G market and related growth in content-per-box.

For Server, we expect the Set build of major OEMs to pick up with the release of a new CPU, and demand from datacenter companies will continue to be strong backed by solid demand for cloud.

For PCs, Centering on laptops, demand from PCs should stay solid as educational laptops enter peak seasonality and build demand for addressing 'Back to School' is strong.

Amid growing demand for overall applications, we will continue to strengthen

our cost competitiveness and market leadership by ramp-ups and timely sales of cutting-edge products, such as 15-nano DRAM.

For NAND in the second quarter, In Mobile, similar to DRAM, we should keep an eye on the possibility of disruptions in Set builds due to components supply issues, but we expect demand to pick up because of growing content-per-box from expanding 5G line-ups at major customers.

Demand for Server SSD is likely to stay strong due to increased storage demand from customers and a high capacity trend with the release of a new CPU.

We also expect demand to stay solid for Client SSD, while demand for low- to mid-priced laptops continues to rise thanks to the influence of 'Back to school effects' along with the rising penetration of high-capacity products.

We will actively address the increase in demand for high-capacity SSDs with 8TB or more, which focuses on us, while accelerating migration to the industry's only single-stack based 128-layer 6th generation 512GB V-NAND; and strengthening technological leadership and cost competitiveness.

Let me present our outlook for the second half of this year.

Amid the rapidly changing landscape of the memory industry, our R&D and investing constantly aims to meet needs for faster and higher-energy-efficient products showing increased outperformance.

At the same time, we are enhancing our core capabilities with the responsibility of leading memory company.

In the second half of this year, amid the accelerating economic recovery due to persisting stimulus programs in numerous countries, we think demand for Servers and Storage will keep growing because of expanding investment in datacenters and the high capacity trend with the release of a new CPU.

With the launch of new models from major customers and the broad penetration of 5G, which are likely to positively affect both set shipments and content-per-box of smartphones, we think mobile demand will keep rising.

Furthermore, we expect demand from PC to remain strong in the second half backed by continuing demand for upgrades and additional units in households around the world with the steady increase in PC product content-per-box. However, we need stay abreast demand uncertainties caused by global macro issues such as geopolitical risks and supply risks for some components.

Based on strong, across-the-board demand, we think DRAM prices will continue their first half trend and keep rising through the second half.

For NAND in the second half, due to a controller supply-demand imbalance for Solution products, we expect demand for certain applications to exceed supply.

So, we will focus on staying in front of changes in market demand via big data analysis and by responding actively to IT infrastructure for datacenters and consumer demand in areas such as mobile products.

In addition, as mainstream technology, 15-nano DRAM and 128 -layer 6th Generation V-NAND will drive our bit growth and cost competitiveness in the

second half, and we will continue to strengthen our technology competitiveness by applying EUV on multiple layers of the 14-nano DRAM based on our industry-leading technology and by ramping-up the Solution products in the second half, adopting double-stack based 176-layer 7th generation V-NAND.

In closing, we recognize the unprecedented importance and responsibilities that are now on the semiconductor industry.

Memory, in particular, has progressively become the most relevant, and vital element of our daily lives as well as in the workplaces.

We are living in a generation that is increasingly emphasizing social and environmental values, rather than simply a product's features. With our most advanced technology and extraordinary talents, we will proactively contribute to the standardization of next-generation memory and continue to solidify our leading position as a trusted partner in the IT industry.

Thank you

Good morning, this is Harry Cho from the System LSI Business.

In the first quarter, we increased supply of mobile SoCs and image sensors backed by launches of flagship and high-end smartphones by major customers, but earnings remained mostly flat quarter-on-quarter due to impacts of mobile DDI supply issues caused by disrupted foundry production. However, we endeavored to reinforce our technological leadership by releasing Exynos 2100, our first product to integrate a 5G modem into a premium mobile SoC, as well as a 50-megapixel ISOCELL image sensor with advanced Dual Pixel Pro, our first product to feature the new technology.

For our outlooks,

In the second quarter, we expect overall demand for mobile components to weaken due to a seasonal decline in smartphone demand and continuing effects of the disruption of foundry production in the previous quarter.

We will focus on achieving targeted results by using flexible Product Mix adjustments and pricing policies to reflect the tight global supply of semiconductors.

In the second half of this year, we believe it will be prudent to prepare for the possibility that the current shortage situation will persist due to geopolitical factors, such as an escalation of US-China tensions as well as environmental factors that may affect semiconductor production.

We will maximize our capability to supply chips by strengthening cooperation with the in-house foundry and expanding use of outsourced foundries, and we will strive to keep growing by implementing flexible pricing policies.

Thank you

Good morning, this is Shawn Han from the Foundry Business.

In the first quarter, earnings declined due to a disruption of production at the Austin fab in the United States due to a major power and water outage. Positively, we continued our efforts to strengthen our technological leadership by starting the development of the 2nd generation 3nm process and completing the development of the 14nm and 8nm RF processes to actively lead the 5G market.

Turning to our outlooks,

In the second quarter, we fully normalized the production line in Austin, and we will try to improve profitability and sales by flexibly managing our Product Mix and using pricing strategies to secure future investment resources.

In addition, we will prepare to expand supply in the second half of the year via the start of mass production at Pyeongtaek line 2. And we will reinforce our differentiated high-performance Heterogeneous Integration Technology package solutions by completing development of the 2.5D interposer package and starting development of 5nm-based 3D IC packaging.

In the second half, we expect growth in the foundry market to exceed previous projections due to rising demand from accelerating 5G penetration, a continuation of the work-from-home trend, a resumption of corporate IT investments, and growing demand from customers securing safety stock. We plan to respond to increasing customer demand through active supply expansions centering on advanced processes via full operation of Pyeongtaek line 2; and we will strive to secure the basis for future growth by expanding our

global customer base and by diversifying within applications such as HPC/network/auto, and others.

The explosive increase in digital transformation demand is accelerating the rapid growth of the foundry industry. To seize greater opportunities, we are striving to provide the best service to our customers with advanced technologies, differentiated solutions, and strong eco-systems. Furthermore, we will lead the semiconductor industry through cooperation with all customers and partners so that the semiconductor industry can grow and develop.

Thank you

Good Morning, I'm Kwonyoung Choi from the business planning department at Samsung Display.

In the first quarter, although the Mobile Display business posted a decline in earnings quarter-on-quarter due to shortages for some smartphone components and weak seasonality, growing adoption of OLED displays by flagship right through to entry-level models is driving growth year-on-year.

For the Large Display business,

A rise in demand triggered by the expansion of contactless services and increasing VOD-viewing hours led to positive changes in market factors such as an increase in ASP. However, earnings declined quarter-on-quarter as we continue to convert our manufacturing lines in preparation for the next generation TV market.

Next, let me share the outlook for the second quarter.

The Mobile Display business is likely to see a slowdown in quarter-on-quarter growth, affected by the prolonged impact of weak seasonality and component shortage in the first quarter and latent demand for new smartphone models scheduled for release in the 3rd quarter. However, we are determined to raise our utilization rate and secure profitability through securing key display components and further collaborating with our customers.

For Large Display, we will continue to pave the way for a smooth transition to new the business model based on QD display technology.

Next, let me turn to our outlook for the display market and our core strategies for the second half of 2021.

We expect the smartphone set market to continue to recover in the second half thanks to rising 5G smartphone demand and economic recoveries.

We, at Samsung Display, will strive to secure panel components and fulfill all orders for customers' new product launches scheduled in the second half of this year. We will also work to ensure a stable supply of products via timely development of new technologies.

In particular, we will strive to increase market share in the mobile panel market by diversifying within new application areas that are expected to grow post-Covid, including IT devices such as tablets, laptops, and foldable phones, as well as automotives. We will also work to ensure OLED becomes the standard in premium displays.

For the Large Display business, we will channel our efforts toward preparing for successful mass production of QD display, our next generation panel technology, so that it can set a new standard in the premium TV and monitor markets.

Thank you for listening.

Good morning, this is Sung-Koo Kim from the Mobile Communications Business.

I would like to discuss IM Division's Q1 results and outlook.

In Q1 2021, market demand is expected to have decreased on quarter-on-quarter basis due to the seasonality, but have recovered on year-on-year basis from Q1 2020 when the market was significantly impacted by COVID-19.

As for our Mobile Business, flagship smartphone sales increased QoQ / as the Galaxy S21 / which we launched in January / has been well-received by the consumers. Meanwhile, the Galaxy A-Series, equipped with innovations and price competitiveness, continued its solid sales performance.

In addition, we have long been striving to enhance connected, convenient and rich experiences across our Device Ecosystems, and such efforts are leading to material growth in contribution from our tablet, PC, and wearables businesses. Thanks to the above-mentioned factors, our revenue and profits saw material growth QoQ.

For our Network Business, sales increased compared to the previous quarter led mainly by those in North America and Japan, and we maintained robust profitability.

Now, let me move on to the Q2 outlook.

Market demand is expected to decrease QoQ due to component supply shortage issue amid continuing seasonally weak demand.

As for our Mobile Business, we expect sales to ramp-up for A72 and A52, which we Unpacked, a first for A-Series models, and also the new notebook PC "Galaxy Book", which we Unpacked just yesterday. In addition, we expect robust sales of tablets and wearables to continue.

On the other hand, we expect partial decrease in flagship launching effect and component supply shortage, which are likely to lead revenue to decrease QoQ. However, we will try to minimize the impact of supply shortage and secure robust profitability by rebalancing supply via our Global SCM capabilities.

For the Network Business, we will continue responding to 5G equipment expansion in Korea and network roll-outs in global markets, including North America and Southwest Asia.

Now, let me move on to the 2nd half and annual outlook. We expect market demand to recover to a pre-COVID level on annual basis amid a gradual economic recovery and full-fledged expansion of 5G market.

As for our Mobile Business, we will strengthen our leadership in the premium segment by continuing sales momentum of Galaxy S series and by popularizing the foldable category, which includes Z Fold and Z Flip. At the same time, we will strive to maximize sales of the new competitive mass-market 5G models and to further-grow our tablet, PC and wearables businesses. Through these efforts, we will try to achieve solid profits.

In addition, we will continue our efforts to further-strengthen the Galaxy Ecosystem to provide more valuable and richer experiences to our customers

by not only enhancing our own services but also by collaborating more closely with the global leading partners.

For the Network Business, we will remain active in 5G commercialization globally and continue to seek new business opportunities.

Thank you.

Good morning, everyone. I'm Wonjun Song from Sales and Marketing team of Visual Display.

First, I'd like to review the market conditions and our performance in Q1 in 2021. The TV market in Q1 contracted quarter-on-quarter after year-end peak season, but expanded year-on-year due to strong demand in advanced markets. Samsung proactively addressed strong demand using our global SCM capabilities and we expanded sales and improved our profits year-on-year by prioritizing high-value-added products such as QLED, Super Big Screen TVs, and Lifestyle TVs.

In particular, newly launched Neo QLED have garnered positive feedback from both consumers and our channel partners in every aspect, such as picture quality, sound and usability, and it has been showing strong sales at the early stage.

For Digital Appliances in Q1, amid a continuing release of pent-up demand, consumer needs for home appliances are becoming more diversified as people spend more time at home and become more interested in home decor.

We achieved revenue growth not only in advanced markets, but also in emerging markets such as Southwest Asia and Latin America by expanding sales of premium products, including customizable Bespoke products that can meet the diverse needs of consumers. Also, profitability improved as we focused on operational efficiency based on modular concept.

Now. Let us look at our outlook for Q2 and second half of 2021.

We expect TV demand in Q2 to increase year-on-year due to major sporting

events such as Euro-cup and Olympics that were postponed last year. However, there are still market uncertainties as several countries have resumed lockdown policies following additional waves of Covid-19. As I mentioned before, we will expand sales of new models, which are receiving positive reviews in the market, and implement promotions for high-picture-quality products and Super Big Screen TVs to proactively target the ongoing rise in demand for home cinema and home entertainment as well as demand induced by sporting events.

Along with Neo QLED, which deliver the best viewing experience, offering ultra-slim design and AI based sound with the industry's highest contrast and black detail, we will further strengthen our leadership with the successful launch of Micro LED for home.

For the Digital Appliances in Q2, although market demand is expected to increase year-on-year, business conditions may face risks such as rising material and logistics costs.

We will provide a new experience in home appliances and expand the ecosystem through "Bespoke Home" which was introduced in the Korean market in Q1. For the global market, we plan to expand the launch of Bespoke to new regions in phases, which will consolidate our unique identity. For air conditioners, as peak season begins, we will lead the market by popularizing our differentiated "Windfree" feature, and we will continue to grow throughout our all products.

In the second half of the year, as demand moves from home entertainment to outdoor activities and travel amid an increase in vaccinations, we expect TV

demand to decrease compared to the second half of last year when impacts of pent-up demand were strong.

So we will keep monitoring market demand and preemptively address shifts in the dynamic market. We will strengthen our premium leadership and continue sustainable growth by expanding high-value-added products such as Neo QLED, Micro LED, and Lifestyle TVs like "The Frame", which is designed to satisfy the diverse needs of our consumers.

For Digital appliances, market uncertainties have potential to keep rising, but we will spread the successful Bespoke DNA globally and keep gaining growth momentum with innovative products as well as new life products to meet consumer needs, while fostering growing channels such as B2B and online.

Thank you.

Thank you for the presentation. That sums up the first quarter results presentations. Before we move on to the Q&A session, I would like to share several data points in key business areas.

For DRAM, in the first quarter our bit growth was in the mid-single digit percentage and ASP increased in the mid-single digit range as well. For the second quarter of the year we expect market bit growth to be in the low-single digit range and our bit growth should be around the market level. For the full year, we expect market bit growth to be around 20% and our bit growth to be similar.

For NAND, in the first quarter our bit growth was in the low double-digit while ASP declined in the mid single-digit range. For the second quarter, we expect market bit growth to be in the low single-digit range and our bit growth should be similar. For the year, market bit growth is likely to be in the mid 30% range and we expect to perform better than the market.

In the display panel business, in the first quarter the OLED portion of sales was in the high 80% range and OLED sales volume declined by a percentage in the late teens.

In the mobile business in the first quarter, sales volume was around 81 million units for handsets and 8 million units for tablets. The blended ASP including tablets was \$243 and the smartphone portion of handset sales volume was in the mid 90% range. For the second quarter, we expect quarter-on-quarter shipments to decline for handsets but rise for tablets and the blended ASP is likely to decline quarter-on-quarter. We expect the smartphone portion of

handsets to be in the low-to-mid 90% range.

In the TV business in the first quarter, sales volume decline by mid 20% range and we expect shipments in the second quarter to decline by a mid teen percentage.

With that, let's now move on to the Q&A session.

Q&A

<Q – Nicolas Gaudois>:

Good morning and thanks for taking my questions.

- First question is regarding overall Samsung, could you explain of semiconductor comprehend shortage is influencing your overall business for SETs and how you manage (inaudible) issue going forward.

- And secondly, regarding memory, despite the fact that bit shipments were somewhat better than expected in Q1 and pricing trends have started to improve, we have seen some lag in profit improvement versus market expectations. Some of that could probably relate to some delay in technology migration, as well as the initial ramp-up cost of new fabs. Could you share view on the transition process to 1z nanometer DRAM and then 1-alpha and 128-layer NAND followed by next technology migration starting in Q2 and what is the timeline by COVID for significant cost reduction. Thank you.

<A>:

- To take your first question, due to the global semiconductor shortage we are also experiencing some effects, especially around certain SET products and the display production but we are approaching this from multiple angles to minimize the impact.

So for example, at the SET level such as smartphones, TVs and consumer electronics products, we are first of all talking closely with the major component suppliers in order to gain the necessary component inventory. At the same time we are also discussing with retailers and major channels about supply plan so that we are able to allocate the components to the products that have more urgent need or higher priority in terms of supply. So reflecting that feedback we

are only rebalancing our overall production. At the same time we are also trying to optimize our supply, the time that's required from receiving the parts, producing the product and then delivering the finished products to the channels. This is in order to minimize any lost sales opportunities that may be caused due to the component shortage.

In that context, we are actually preparing to implement our next generation ERP system, N-ERP. This has capabilities in terms of large scale data processing and also can support AI-based decision-making. The plan is to start this implementation and roll this out to all of our local subsidiaries globally until January of next year. We think that with this next-generation ERP system, we will be able to better respond more efficiently and more quickly to such macro issues going forward.

On the display side, actually the DDI shortage has started from the second half of last year. So we were able to actually preemptively secure the necessary inventory. And so our impact during the first quarter was minimized. Currently for the display we are focusing on securing the necessary inventory by closely cooperating with the suppliers and also we are giving updates frequently to the customers regarding the situation in order to discuss supply plan.

Also to switch hats, we're also a semiconductor supplier. And so to respond to this current situation, we are focusing on maximizing the efficiency of our current capacity in foundries and also we'll be actively responding to customer demand by especially by expanding our capacity around the cutting-edge processes once the Pyeongtaek Line number 2 comes into full scale operation in the second half.

So I think your second question about the memory business, the reason why the operating profit decreased slightly in first quarter despite the strong shipments and also positive DRAM ASP, it is mainly because of the initial cost necessary for

the new fab, for the migration and also the decrease in NAND ASP. However, looking towards the second quarter we expect to see strong demand across all applications and so we're expecting in the second quarter our results to significantly improve.

- About the 1z DRAM migration, that would be our 15-nano DRAM and so we will be scaling up this migration towards the 50-nano DRAM and also these 6th Generation 128-layer NAND as we go forward. And so as we pass through the second half of this year, we expect the magnitude of cost improvement to continue to increase.

<Q – Soonhak Lee>:

- About the Austin fab power shortage, can you share with us specifically the magnitude, the size of the damage that the company incurred and how much of that has been reflected in your first quarter results. Can you also give us an update on the restoration of the Austin operation?

- Second question is about the large size displays, we do know that the LCD production has been continuing given the positive market situation. I'm wondering if there is a possibility that you would decide to further extend your LCD production. Also, can you share with us your business strategy for the QD display?

<A>:

- Well, to answer your first question, as you know there was a major snowstorm and a cold wave in Texas on February 6th which caused power and water outage and this caused us to stop the operation of our Austin fab. After the power and water supply was returned to normal, we started on restoring the operation and

as of March 31st we were able to achieve 90% level of production moving and currently the Austin fab is fully normalized. There was wafer production disruptions due to the stopping and the recovery of the fab. About 71,000 wafers were affected and this corresponds to around KRW300 billion to KRW400 billion of damage. The power outage and the water outage was actually pre-announced, so we did have time to prepare for shutting down the plant. And we also had time to prepare for how we will be recovering the operation. Also from the very start of the event, we carefully shared our information closely with our customers.

Also we were able to I think bring back the operation back to normal earlier than was expected because all of our employees were able to focus on this effort according to the plan. Also, going forward in order to prevent this from being repeated, we are currently talking with the state as well as the municipal government and also talking with the local utility companies to find solutions.

- To answer your second question about the displays, as you know, QD display is a major project that we have developed in order to enhance the long term competitiveness of our large-sized display business. Currently, we're focusing on raising the level of completeness of the QD display and we'll try to launch the product as originally planned during the second half of this year.

We are currently continuing to work with our customers to do this. Regarding your first part of the question which was about the LCD products, as you know, we are continuing to produce LCD products, return volumes based on market situation and customer request. Currently, we have not reached any firm decisions regarding going forward how long weather the production will be extended in terms of timing or scale. The LCD market we think is currently under very unprecedented volatility due to unexpected and unexperienced economic

situation, as well as the component shortage situations. So we think that given that nature it's best for us to continue to respond flexibly based on market demand or market movements and customer demand rather than taking any mid to longterm approach to LCD production.

<Q – Peter lee >:

- My first question is about the second half memory demand and supply outlook that the company has. I think the market is very interested in how the memory market will unfold. Can you share your views regarding this especially some more details about the memory side on the second half?

- The second question is about the IM side. First quarter performance has been strong. You've mentioned that second quarter may be a bit softer. But I'm wondering what you see in the rest of the year in the second half. Do you think that this trend will continue and can you share with us some of your strategies in terms of profitability?

<A>:

- For answering your first question about our memory outlook, in terms of that Set-build we think that the impact of the chip shortage would be focused mainly on PC and mobiles. And if the component supply situation improves, there are factors that will drive further demand growth. For example, for PC there is this trend of one PC per person. Also for mobile there seems to be additional penetration of 5G and also many countries are continuing to implement economic stimulus policies. So, these would actually be able to drive further demand growth in PC and mobile. And so given that I think this is a market situation, that calls for constant monitoring.

About prices, as you know, DRAM prices turned around in the first quarter. We

think that this trend will continue in the second quarter. Assuming that there will be a strong demand growth going forward, we think that the magnitude of price increase could actually become larger as time passes throughout this year. Also given the fact that additional upside on supply is limited, we think that this trend can continue until the second half.

On the NAND side, mobile content per box is continuing to accelerate. Also there is definite increase in storage demand from the server side and so we think that from the second quarter actually demand may exceed supply in certain solution products such as SSD which is an area where we have strength.

- On your second question about the mobile business, second quarter is a slow season. And so we do think that demand for mobile will decrease versus the first quarter. Looking towards the second half, there are some growth factors such as gradual economic recovery being expected and also the further roll out of 5G, which may drive demand growth. But on the other hand there are still uncertainties, including the component shortage and the impact of COVID-19 still lingering. Also there are some cost increases that we're anticipating in the second half such as preemptive marketing that we're planning to drive up sales of our flagship in the second half, as well as to raise the awareness of our foldable and the component shortage may have impact on our sales as well.

But despite these challenges we will be focusing on maintaining a robust profit margin by maintaining a strong flagship sales, also increasing and expanding the user base of our foldable products, as well as continuing to introduce a very innovative and powerful A series as was embodied by the A52 and A72 which were unpacked last March, also by expanding the device ecosystem, that includes tablets, PCs and wearables.

<Q – Kyung Min Kim >:

I have two questions.

- The first question is about the technology migration. I think there was a recent media report that your competitor is actually going or leading or taken ahead in terms of DRAM and NAND migration. So in that context, in the case of DRAM, the early adoption of EUV and for the NAND the maintenance of the single stack technology can end up being a bottleneck in terms of your technology migration. So in that context, can you share with us your assessment of the technology competitiveness levels from a mid to long-term perspective?

- Second question is about the V-NAND V8. Can you share with us an update on your plans of adopting V8 or development plans that would follow the 7th generation V-NAND?

<A>:

- To answer your question for DRAM first and then to answer the part about NAND, in the case of DRAM our most cutting-edge node that is in full scale mass production is 15-nano and currently in the industry we have the largest share of 15-nano process in our overall node.

Looking forward what we are planning in terms of mass production in the second half is the 14-nano DRAM, which has already successfully completed evaluation by the major chipset companies. Whereas the 15-nano process used EUV on a single layer, the 14-nano will be using EUV on multiple layers and this demonstrates the fact that we have technology leadership in terms of utilizing EUV ecosystem in a differentiated manner.

The reason why this EUV technology leadership is important is because when EUV is applied and the know-how necessary in using EUV will be critical in further DRAM process migration as well as the changing technology paradigm.

And so we think that the early introduction of EUV will actually serve us very well going forward in terms of providing us the technology and cost competitiveness on a mid to long-term perspective.

On the NAND side, as you know, we have been significantly increasing the scale and the share of the 6th generation V-NAND with 128 layers on a single stack. The share of that within our overall production has increased quite significantly during the first quarter. Going forward, we are planning to continue to increase the share of the high capacity. For example, 512GB which has the industry's best cost competitiveness and also actively respond to the demand of the high capacity SSDs of 8TB and above, which is an area where we are getting quite intensive demand from by flexibly operating our product mix.

I think going forward in terms of the NAND technology paradigm, not only the number of layers, but also the efficiency of the stacking technology will become a very critical factor. As you know, we have the strength of having the lowest stack height in the industry based on a single stack technology. This will give us the positive feedback structure in terms of development of difficulty going forward and we are planning to maintain outstanding cost competitiveness by using double-stack technology to achieve stacks of up to -- layers of up to the high 200-layer ranges on a cell layer basis.

- Your second question was about our V-NAND. Our 7th Generation V-NAND to give you an update, we are planning to go into full scale mass production of solution products starting from the second half and we will be announcing them as each application or product is prepared.

For the V8, our 8th Generation V-NAND, actually our R&D Center has already secured the working die. Our milestones going forward is to pass crossover point by second half of next year and then to carry on to mass production. This will

also be part of our efforts to maintain product competitiveness.

<Q – Jeff Kim >:

I have two questions,

- First question is there was a media report recently of an M&A of Kioxia and Kioxia being evaluated at around \$30 billion. This has triggered some expectations of NAND industry going through a consolidation phase. In that context, can you share with us what implications do you think there will be on the company by NAND industry consolidation process. Also, what is your strategy in trying to maintain your market share in the NAND business going forward?

- Second question is about the small and mid-sized displays. As you know in the small, midsized OLED market, Samsung display has had a dominant position but recently there has been new entry by Korean and Chinese competitors. So first question is, how does the company plan to respond to this additional competition going forward?

<A>:

- To answer your first question, as we have emphasized several times before, we have no plans of driving an artificial consolidation in the NAND industry. The focus of our NAND strategy still remains on gaining cost competitiveness through technology leadership and actively responding to customer demand based on our mass production capabilities.

Now that said, to just share some perspective regarding that topic, we do think that NAND market does have a larger number of players versus the DRAM market. So it seems that supply will be leading the market for some time. Given this market situation, it appears that the economies of scale is critical because

that will enable a supplier to supply products that are cost competitive and at the right time. And so whether a company has the economies of scale or not will determine whether that supplier can succeed going forward. Inevitably companies that do not have that capability will not be able to meet the market demand and will be losing its position in the market.

But once again, an industry transformation, consolidation is an area that we are not interested in directly getting involved in and so we will continue to maintain the focus of our NAND strategy in increasing our cost competitiveness and technology leadership.

Because in fact from our perspective, currently in the NAND market, there is very strong demand for, for example, high capacity solution products, SaaS or NVMe which is an area where we offer quite a lot of strength. Also the market response to our products is very positive. And so from our perspective, the strategy for us in NAND is to continue to provide high value-added, high capacity products that satisfies the customers' needs in order to maintain our position as a trusted supplier within the NAND market.

- Taking your second question about the small sized displays, we are aware that the market is a bit concerned about the increased level of competition in the small size OLED market as new competitors enter the small and medium size OLED market where we have traditionally been a dominant player. However, we had absolutely foreseen this possibility from several years before and we have been implementing various strategies in order to further strengthen our market leadership and continuously maintain our market share.

One of the key strategies in responding to the additional competition has been technology innovation. As you know, we have been the player that introduces many new technologies, display technologies first in the industry, including the

camera low frequency operation and foldable displays. Also we have continuously worked with various suppliers in order to raise the level of technology completeness. As you know it takes quite a while it has been this ability to introduce new technologies on a preemptive basis and also the high level of SCM capabilities we have thus give us a definite advantage versus any new competition.

On top of this technology advantage, we also have a cost advantage, given the fact that we have made major investments at least two to three years ahead of the new competitors. So that will give us quite a lot of cost advantages. So based on this technology and cost advantage, our focus will be to continue to maintain a strong relationship with our customers by supplying the products necessary for the flagship smartphones on a stable basis and also to actively utilize our proprietary intellectual property in order to effectively maintain the first mover advantage in the OLED market.

<Q – Wonsik Lee >:

I have two questions,

- The first question is about the DRAM. In DRAM DDR5 is a major topic. So in that context, can you share with us your plans for example of how Samsung is planning to enter the DDR5 related market?
- Second question is about the foldable smartphones. I think there is building interest in the company's foldable strategy. In that context, can you share with us your second half foldable lineup and how you plan to differentiate the foldable?

<A>:

- To answer your first question, DDR5 can actually be used in a wide range of

applications, including supercomputers, high performance servers, cloud, datacenter, network as well as edge computing and so we are currently working very closely with major CPU companies as well as data center companies in terms of technology and marketing.

Our offering to DDR5 is 512GB DDR5 memory module, which is the largest capacity in the industry. It also was the first general purpose DRAM product to adopt an 8-layer TSV technology and High-K Metal Gate technology. Also therefore we expect that our DDR5 memory module will be able to deliver high capacity, high performance, low power consumption at the top industry levels and will play a key solution role in the cutting-edge industries such as next-generation computing, high capacity data centers and artificial intelligence. On the research side, main focus of our memory research currently is to -- on developing a memory that supports CXL which is one of the next-generation high capacity memory solutions. Also, we will continue to achieve technology innovation to maintain the technology leadership in DDR as well.

- To answer your second question about the foldable, the focus of our foldable strategy this year would be to popularize and the user base of our foldable phones. So the focus of Z Fold this year would be to emphasize its large screen and the differentiated experience and entertainment and productivity to position the Z Fold at a premium positioning.

For the Z Flip, we are going to emphasize the stylish design as well as improved usability to appeal to millennials as well as the female user base. Even though I'm not at liberty to talk about the details of our second half foldable lineup today, what I can say is that we are focusing on improving the functionality and form factors compared to the previous models based on customer feedback.

Also we are emphasizing a stronger foldable ecosystem by closely working

strategically with the partner, so that customers will be able to experience an improvement in not only the level of product completeness, but also in terms of customer experience.

<Q – S. K. Kim >:

- My first question is to the memory division about their outlook or their view about the mobile market going forward. On one hand there's been very positive expectations such as the pent-up demand coming online from second half of last year for mobile demand. Also the expectations that with the 5G models being introduced this year, there will be an increase in not only handset volume, but also content per set.

But on the other hand there has been some negative issues such as the shortage of certain components including AP and also some views that in certain areas due to the weak or under developed 5G network infrastructure, mobile demand may actually be softer than expected. So given this different mix of factors, I'm wondering how the memory division looks upon the mobile market. Also, I am aware that mobile takes on a larger share within the memory business. Can you share with us what competitive advantages or competitiveness you think the mobile business has in terms of mobile supply?

- Second question is about the VD business. With the supply of LCD panels continuing to remain short, LCD panel prices have increased quite significantly. This may have a negative impact on your TV business. So in that context, I would like to hear how you plan to respond and what you expect going forward?

<A>:

- To answer your question about the mobile market outlook, in the second quarter we are expecting that there will be some issues in the short term due to

the supply issues of other semiconductor components. But looking towards the second half of this year, we're expecting that there will be an increase in both handset sales as well as content per box as major OEMs are expected to launch new products and also we are expecting that there will be a wider adoption of 5G. To answer the -- to continue to answer your question, we think that in the mobile segment the demand for LPDDR5 products will grow especially for the 5G flagships and high-end models. And therefore, we are continuing to collaborate with the AP chipset companies using our product competitiveness and the chipset companies are also expanding their AP production in line with the production of our LPDDR5 uMCP. So major companies are planning to apply in their mass production the LPDDR5, our LPDDR5 and the UFS 3.1-based uMCP. We think that with our active efforts and technology, we will be able to accelerate the creation of a 5G ecosystem.

You've also asked about our competitiveness in mobile and actually our supply is increasing, not only to flagship but also to the high-end model using the 256GB and also in mid-range models with the 128GB. Also leveraging our excellent cost competitiveness, we are planning to increase the competitiveness in the high and mid end markets based on the of 512GB 6th Generation V-NAND product.

- To answer your second question about the TV business, as you mentioned, due to the very strong TV demand that's been continuing from the second half of last year, there are some impact to the supply of key components including LCD panels and semiconductors. We think that this trend will remain for some time going forward. In response, one approach that we have is to leverage our global SCM capabilities to avoid any production disruptions during the second half.

At the same time we are focusing on securing profitability, especially around the high-end products by, for example, planning preemptively promotions with key

retailers and distributors in time for the peak season for each country this year so that we will be able to expand especially our premium new model offering Neo QLED, ultra large size TVs, as well as the lifestyle TV, which is a product group that we have differentiation.

Okay, so that concludes our conference call. Once again, thank you for joining us and we wish all of you and those close to you to stay strong and in good health. Thank you.