

TEXT version of Transcript

## Corporate Participants

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STMicroelectronics N.V. - Group Vice President of Investor Relations

\* Jean-Marc Chery

STMicroelectronics N.V. - President, CEO & Member of Managing Board

\* Lorenzo Grandi

STMicroelectronics N.V. - President of Finance, Purchasing, ERM & Resilience and CFO

## Conference Call Participants

\* Andrew Michael Gardiner

Citigroup Inc., Research Division - Research Analyst

\* Didier Scemama

BofA Securities, Research Division - Director in EMEA Equity Research & Head of European IT Hardware

\* Janardan Nedyam Menon

Jefferies LLC, Research Division - Equity Analyst

\* Jerome Ramel

BNP Paribas Exane, Research Division - Analyst of IT hardware and Semiconductor

\* Johannes Schaller

Deutsche Bank AG, Research Division - Research Analyst

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## Presentation

### Operator [1]

Ladies and gentlemen, welcome to the STMicroelectronics First Quarter 2022 Earnings Release Conference Call and live webcast. I'm Myra, the Chorus Call operator. [Operator Instructions] And the conference is being recorded. [Operator Instructions] The conference must not be recorded for publication or broadcast.

At this time, it's my pleasure to hand over to Celine Berthier, Group Vice President, Head of Investor Relations. Please go ahead, madam.

## **Celine Berthier, STMicroelectronics N.V. - Group Vice President of Investor Relations [2]**

Thank you, Myra. Good morning. Thank you, everyone, for joining our first quarter 2022 financial results conference call. Hosting the call today is Jean-Marc Chery, ST's President and Chief Executive Officer. Joining Jean-Marc on the call today are Lorenzo Grandi, President and Chief Financial Officer; Marco Cassis, President of Analog, MEMS & Sensors Group and Head of ST Strategy, System Research and Applications and Innovation office.

This live webcast and presentation materials can be accessed on ST's Investor Relations website. A replay will be available shortly after the conclusion of this call. This call will include forward-looking statements that involve risk factors that could cause ST's results to differ materially from management's expectations and plans. We encourage you to review the safe harbor statement contained in the press release that was issued this morning with the results and also in ST's most recent regulatory filings for a full description of these risk factors. Also to ensure all participants have an opportunity to ask questions during the Q&A session, please limit yourself to 1 question and a brief follow-up.

I'd now like to turn the call over to Jean-Marc, ST's President and CEO.

## **Jean-Marc Chery, STMicroelectronics N.V. - President, CEO & Member of Managing Board [3]**

So thank you, Celine. Good morning, everybody, and thank you for joining ST for our Q1 2022 earnings conference call. So let me begin with some opening comments. Starting with Q1. So Q1 net revenues of \$3.55 billion and gross margin of 46.7% came in above the midpoint of our business outlook range. This revenue performance, driven by strong demand in microcontrollers was partially offset by temporarily reduced operations at our Shenzhen, China, manufacturing facility due to the pandemic, which impacted specifically our ADG revenues.

Looking at our year-over-year performance, net revenues grew 17.6%. Revenue growth was accompanied by improved profitability, gross margin at 46.7%, up from 39% and operating margin of 24.7%, increasing from 14.6%. Net income more than doubled to \$747 million.

On a sequential basis, revenues were substantially flat. On Q2 2022, our second quarter business outlook at the midpoint is for net revenues of \$3.75 billion, increasing year-over-year by 25.3% and sequentially by 5.8%. Gross margin is expected to be about 46%. For the full year 2022, based on a strong customer demand and increased capacity, we will continue to drive the company based on a plan for full year 2022 revenue in the range of \$14.8 billion to \$15.3 billion.

Now let's move to a detailed review for the first quarter. Net revenues increased 17.6% year-over-year with higher sales in our 3 product groups and whole subgroups except as expected, the imaging subgroup. Year-over-year, sales increased 14.4% to OEMs and 24% to distribution. On a sequential basis, net revenues decreased 0.3%, coming in 130 basis points above the midpoint of our outlook. This performance was mainly driven by MDG with revenues up 12.8% on better-than-expected manufacturing efficiencies for microcontrollers. ADG revenues increased 2.5%, impacted by the temporary reduced operations at our Shenzhen, China manufacturing facility due to the pandemic.

AMS revenues decreased 13.8% sequentially, substantially in line with our expectations. Gross profit was \$1.65 billion, increasing 40.8% on a year-over-year basis. Gross margin increased year-over-year to 46.7% from 39%, largely driven by favorable pricing and improved product mix.

Our first quarter gross margin was 170 basis points above the midpoint of our guidance, driven by similar pricing and product mix sector. First quarter operating margin was 24.7%, increasing from 14.6% in Q1 2021, well supported by improvements in all 3 product groups. Both net income and diluted earnings per share more than doubled year-over-year respectively reaching \$747 million and \$0.79 from \$364 million and \$0.39 per share in Q1 2021.

Looking at the year-over-year sales performance by product groups. ADG revenues increased 20.5% on double-digit growth in both Automotive and in Power Discrete. AMS revenue increased 0.4% with growth in both Analog and MEMS, while imaging product sales decreased as expected. MDG revenues increased 35.2%, strong growth in both microcontrollers and in RF Communications.

In terms of operating margin, all 3 product groups delivered year-over-year expansion. ADG operating margin increased to 18.7% from 8.2%. AMS operating margin increased to 22.6% from 17.2%. And MDG operating margin increased to 24% from 19.4%.

Net cash from operating activities increased 38.6% to \$945 million in Q1 versus \$682 million in the year ago quarter. CapEx in the first quarter was \$840 million compared to \$405 million in the year ago quarter. After the strong investment in CapEx, free cash flow was \$82 million in the first quarter. In Q1 2021, it was \$261 million.

During the first quarter, we paid \$49 million of cash dividends to stockholders and we executed an \$86 million share buyback as part of our current share repurchase program. ST's net financial position, non-U.S. GAAP was \$840 million at April 2, 2022 and reflected total liquidity of \$3.4 billion and total financial debt of \$2.6 billion. This includes a \$107 million increase in total financial debt in connection with the adoption on January 1, 2022 of the new U.S. GAAP reporting guidance applicable to convertible debt. At December 31, 2021, ST's net financial position was \$977 million.

Let's now discuss the market and business dynamics during the quarter. Overall, demand continues to be strong. Starting with the automotive market, we continue to see strong demand in Q1 with a lower number of vehicles produced worldwide compared with initial expectations. The strong demand reflected the combined effect of replenishment of inventories across the automotive supply chain and the ongoing electrification and digitalization transformation of the industry.

Bookings remain strong across all customers and geographies. Backlog visibility is still about 18 months and well above our current and planned 2022 manufacturing capacity. The accelerated transformation of the vehicle industry towards more electrification and digitalization both additional wins and opportunities for us during Q1.

Silicon carbide devices are a key component of car electrification. During the quarter, we again increased the number of ongoing silicon carbide programs for the automotive and industrial markets to 98, spread over 75 customers. These projects are mostly equally split between the 2 end markets, and we are in line with our revenue targets.

We had a number of new design wins in Q1 with ST power modules as well as with a module maker using our generation 3 silicon carbide MOSFET technology for electrical vehicles, traction inverters applications. We also had success with complementary technologies in the range of electrical vehicle applications. This includes with electrical vehicle carmakers and Tier 1 for microcontrollers, silicon MOSFETs, battery management solutions and ultrafast and silicon carbide-based diodes. In car digitalization, during the quarter, we had wins across the key application we address. We designed our next-generation stellar automotive microcontroller into a new zonal architecture for software-defined vehicles. We signed a deal for a V2X chipset with a player in China in cooperation with Autotalks, and we had a design-in for Mobileye EyeQ technology from an electrical vehicle maker for L4 ADAS.

In our automotive sensor business, we earned a first win for our 6-axis sensor with embedded Machine Learning Core in an advanced automotive anti-theft system, while continuing to secure wins for other automotive sensors.

Moving now to industrial. In industrial, we saw strong demand throughout the quarter, especially in factory automation, power and energy applications, as well as building and home control. Demand was strong both with distribution as well as OEMs. Also in industrial, electrification and digitalization are the main trends accelerating the increase we see in semiconductor content.

Throughout Q1, inventories of our products at distributors remain lead across all product families with high inventory turns, although point of sales were strong across all products and geographies. We address the industrial end markets with our general purpose and secure embedded processing solutions, power and energy management products and our sensors and analog portfolio.

In embedded processing, we are building on our market leadership in 32 bit MCUs. I am pleased to announce that in 2021, we were ranked #1 worldwide in general purpose microcontrollers. We continue to

invest to further strengthen our STM32 family, offering an ecosystem with a particular focus on wireless connectivity, security and artificial intelligence.

In these 3 areas, we are accelerating our customer engagement, driving design wins with our latest product and solutions. We are also building momentum with our STM32 microprocessor offer. The natural evolution path for our customers needing higher performances and computing power. Here, we won a number of sockets in applications such as lighting, programmable logic controllers and smart grid.

In power and energy management, we address industrial applications with a range of products, including silicon carbide-based processors and modules as well as silicon-based processors, IGBTs, diodes and rectifiers. Here, we had wins across a number of applications, including renewable energy and power saving technologies. We also had many new designs with our industrial analog products with ours in applications where we are focused. This includes motion control, power-line communication, factory automation and home appliances.

Here, our industry-leading products for smart controls -- sorry, smart motor control, galvanic isolation and power commercial outdriving design wins. We continue our momentum in sensors for industrial applications with wins for products like our industrial-grade pressure and waterproof sensors. We introduced our first Intelligent Sensor Processing Unit, launched together with the generation 3 MEMS sensors.

Moving now to Personal Electronics. Demand during the quarter was in line with seasonality for this end market. The market for accessories continues to be strong, especially for connected devices such as wearables [indiscernible] driving more semiconductor content, tablets, hearables and true wireless stereo headsets.

Our first strategic objective in Personal Electronics is to lead in selected high-volume applications with differentiated products or custom solutions. During the quarter, we won sockets in new flagship smartphones with motion and environmental sensors, time-of-flight ranging sensors, wireless charging products, touch display controllers and secure solutions.

Our second strategic objective is to leverage our broad portfolio to address high-volume applications. Here, we had wins with a broad range of light, motion and environmental sensors as well as with analog, power and microcontrollers in application such as smart watches and other wearables from leading players.

In Communications Equipment, Computers & Peripherals, we continue to see adoption of 5G-related products and further deployment of low earth orbit satellite programs and services around the globe. The PC market continues to show signs of normalizing demand. We had several strategic objectives in our approach to this end market. First, we target selected high-volume applications with differentiated products or custom solutions, while leveraging our broad portfolio. New wins here include secure trusted platform solutions and time-of-flight sensors for laptops.

General purpose MCU designing as well as further wins with our MasterGaN family for high-power-density smart charging adaptors.

I would also like to highlight our goal to address selected applications in cellular and satellite communication infrastructure. In this area, we continue to progress well with our key customer engagement program.

Now let's move to our 2022 second quarter outlook and our plans for the full year 2022. For the second quarter, we expect net revenues to be about \$3.75 billion at the midpoint, representing a year-over-year growth of 25.3% and a sequential increase of 5.8%. Gross margin in Q2 is expected to be about 46% at the midpoint. Our guidance includes the impact of the temporary reduced operations in Crolles, France, caused by the power outage extended to our site that occur at the beginning of April.

For the full year 2022, we confirm our plan to invest about \$3.4 billion to \$3.6 billion in CapEx to further increase our production capacity and to support our strategic initiatives, which includes the first industrialization line of our new 300-millimeter wafer fab in Agrate, Italy. Based on our strong customer demand and our planned investments to increase capacity, we continue to drive the company based on a plan for 2022 revenues in the range of \$14.8 billion to \$15.3 billion, representing a growth of about 16% to 20%.

To conclude, our first quarter results and plans for 2022 underscore our tight focus on accelerating the execution of our strategy and value proposition. We are on track with our 2022 plan, both in terms of revenues and CapEx investments to sustain our short- and long-term growth objectives.

Finally, we look forward to your participation either in person in Paris or via our live webcast at our Capital Markets Day on next May 12. Thank you very much, and we are now ready to answer your questions.

## **Question And Answer**

### **Operator [1]**

[Operator Instructions] The first question is from Didier Scemama from Bank of America.

### **Didier Scemama, BofA Securities, Research Division - Director in EMEA Equity Research & Head of European IT Hardware [2]**

Maybe before I ask my question, I just want to give you my congratulations for finishing the #1 in general purpose microcontrollers. I think it's an amazing achievement for ST. When you look back at the last 20-plus years that ST, the leader in such an important franchise. With that, I just wanted to come back, Jean-Marc to your full year guide because the need speakers would say you've had a beat on Q1 and Q2 but you're not raising the full year. So I just wanted to unpack that a little bit, give us your sense whether you introduce a degree of caution in your second half even guide. And associated with that, I think last year -- last quarter, excuse me, you were kind enough to give us a full year gross margin guidance of 45%, looks like your first half is running at about 46.3%. Do you intend to raise that full year gross margin guidance?

### **Jean-Marc Chery, STMicroelectronics N.V. - President, CEO & Member of Managing Board [3]**

Thank you. So Lorenzo will answer on the gross margin, and I will answer the revenue. No, first of all, okay, at the midpoint of the revenue range, okay, we have indicated we will grow, let's say, close to 19%, which is, let's say, substantially above the market we sell because the latest data point, okay, we receive about our -- the market we address is a growth of 15.8%. So point number one, okay, we will grow well above the market we sell.

Then point number two, this, let's say, revenue range is absolutely not related to any, let's say, conservatism are cautious on the demand. The backlog we have is basically well above 30% to 40% of our manufacturing capacity. And we have already a backlog covering our planned capacity for next year, okay, close to 100%. So it's absolutely not related to the overall demand. It's absolutely not related to any specific customers and engaged customer products. So I would like to insist that, okay, our revenue range indication is simply related to the fact that our supply chain is totally loaded, when you load our manufacturing supply chain at 90% and plus, when you have your supplier pretty loaded as well.

The overall supply chain worldwide increasing complexity for the various lockdowns okay, we face in Q1 or events that maybe, okay, we are still facing in Q2. I guess, okay, it's a business as usual, okay, to give a range of uncertainty related to the execution, but absolutely not to the demand.

So we will, as usual, update, okay, the indication of the year in July as every year. This year, I guess you have well noted, that we have anticipated 1 quarter, okay, visibility. I think it has been well appreciated. But we will update this, okay, in July after the first half completion. So this is about, okay, the year indication. So as a takeaway, absolutely, okay, not an issue of conservatism on the demand, which is, I again repeat, is 30% to 40% above our maximum capacity and already [ pretty loaded ] next year, either any concern with any customer in engaged product program. Okay, only, okay, the normal cautious about, okay, the lockdown event we can face during the execution because of the high level of loading of our manufacturing capacity. About gross margin, Lorenzo.

### **Lorenzo Grandi, STMicroelectronics N.V. - President of Finance, Purchasing, ERM & Resilience and CFO [4]**

And thank you for the question about the gross margin. Yes, your math is definitely correct. Let's say that in H1, our gross margin at midpoint of the second quarter guidance, it will be slightly above 46%. At this stage,

of course, we have a little bit more visibility in respect to enter in Q1 about the dynamic respect, let's say, the price increase in our COGS in respect, let's say, to the mix, you expect to some elements.

What I can say in respect to this level of gross margin, I do -- our view at this stage is that in the second half of the year, we will be impacted by some headwinds related to this increase in pricing in our COGS. But at the end, our visibility is that we should be able to remain on a similar level of gross margin, what we have done in the first half. So at the end, I think that overall in the year will be, let's say, close -- the 46% more than 45%. So we uplift a little bit our visibility at this point in respect to our ability to keep this level of gross margin along the year in the next quarters.

**Didier Scemama, BofA Securities, Research Division - Director in EMEA Equity Research & Head of European IT Hardware [5]**

Fantastic. Maybe as a quick follow-up, I just wondered, Jean-Marc, if you could -- I think you sort of touched on it, but I just want to make sure that we cross the t's and dot the i's. One of your peers in the U.S. last night sort of introduced a high level of caution with regards to the China lockdowns for the second quarter, feels like it's a sort of broad brush cuts. I think you said in your prepared remarks that the lockdowns in Shenzhen had affected your business. I wondered how much in Q2 of your revenue guide is baking in, if you want some impact from the lockdowns?

**Jean-Marc Chery, STMicroelectronics N.V. - President, CEO & Member of Managing Board [6]**

We are facing, let's say, the impact of lockdown from Shanghai already in Q1 on logistics, mainly. It is clear that in Q2, we have also some implication related to the assembly and test subcontractor or some assembly material provider, but it is included in our guidance, okay? So our \$3.75 billion, so 5.8% sequential increase and 25.3% year-over-year is including all, let's say, the current headwinds we face. So Shanghai lockdown and the Crolles event of early April.

**Didier Scemama, BofA Securities, Research Division - Director in EMEA Equity Research & Head of European IT Hardware [7]**

No, I guess my question was how much would it be without the impact of the Crolles and the Shanghai lockdowns?

**Lorenzo Grandi, STMicroelectronics N.V. - President of Finance, Purchasing, ERM & Resilience and CFO [8]**

At the end, let's say that our estimate based on the information that we have at this stage, let's say, is that the events will be a few tens of million dollars in our top line, the trade, so, at the end. This is more or less the sizing of these 2 events.

**Operator [9]**

The next question is from Matt Ramsay from Cowen.

**Matthew D. Ramsay, Cowen and Company, LLC, Research Division - MD & Senior Technology Analyst [10]**

Yes. And congratulations on the progress. Just to follow up on Didier's question. I think your U.S. competitor last night gave -- they characterize it as sort of a broad-based haircut to their revenue expectations by about 10% and that's quite a bit more than Lorenzo, you just articulated. So I just wonder their business is much more direct to customers versus your business in certain cases, using distribution to a much greater extent.

So as we look into the back half of your calendar year, how have you guys accounted for the lockdowns in China? Is that substantially what's leading you to not raise the full year despite beating the first half of the year or are there other considerations that we could have?

**Jean-Marc Chery, STMicroelectronics N.V. - President, CEO & Member of Managing Board [11]**

No. I repeat, okay, the various events we face in Q1 and still in Q2, but basically, are impacting H1. So more complex logistics in Q1 related to Shanghai lockdown. Again, also let's say, lockdown, some material provider lockdown. The impact of Shenzhen, the impact of Crolles, okay, mainly are impacting H1. We never planned for catastrophe, okay. We are just, okay, putting in our full year, let's say, range because, again, I repeat okay, our sales and operating plan, okay, show our capacity fully saturated, okay, above 90% across the full remaining year, and it is valid as well for assembly and test. And we are facing on top of that, our equipment supplier, our material supplier, our gas and chemical supplier facing, okay, complex logistics, okay, shortage by themselves.

So all the supply chain is under tension. So we do believe that, okay, when we provide the indication, we give this range because, okay, it's simply a good sense of planification of our business and manufacturing.

**Matthew D. Ramsay, Cowen and Company, LLC, Research Division - MD & Senior Technology Analyst [12]**

Understood. Jean-Marc. Thanks. Don't shoot the messenger, just the questions we're getting...

**Jean-Marc Chery, STMicroelectronics N.V. - President, CEO & Member of Managing Board [13]**

Right, okay. And I simply answer because I think altogether, there are 2 concerns, either you put a cautious on business, I repeat, no. Okay, either, okay, I share simply with you that our manufacturing capacity and supply chain is really, really loaded and it's normal, that each single event, okay, has an impact. So it's normal when you provide an indication and you share with investors and analysts, okay, you give this tranche, okay? And you see in Q1, okay, we performed slightly above the midpoint of our revenue.

We have been impacted, okay, by Shenzhen. Shenzhen, okay, was basically an equivalent of 2 weeks of production losses. But thanks, okay, to our capability to reallocate to some other plants [indiscernible] microcontrollers. We have overperformed in microcontrollers. So you have always this kind of plus and minus -- and that's the reason why, okay, we provide an operating range, okay, to you because, again, I think it is our duty.

**Matthew D. Ramsay, Cowen and Company, LLC, Research Division - MD & Senior Technology Analyst [14]**

Just as a quick follow-up. Lorenzo, do you mind shedding some light on the guidance for June just by the different divisions. I think ADG obviously had some impact, as you called out in the March quarter. But as you look forward into June, just some color on the growth by division would be helpful. I appreciate it.

**Lorenzo Grandi, STMicroelectronics N.V. - President of Finance, Purchasing, ERM & Resilience and CFO [15]**

Yes. About -- you mean the evolution of the revenue in the second quarter. But in the second quarter, for sure, on a sequential basis, let's say, the main driver of our growth will be ADG. ADG will be the driver of the growth -- in the second quarter of the growth, let's say.

And we hear, we will have both growth in Automotive and Power Discrete. When I look at AMS, AMS will slightly grow in the quarter but will be substantially contributing, but a much lower pace in respect to ADG. And what concerned MDG, MDG this quarter will not contribute to the growth. It will be slightly down or substantially flat. And this is due to the fact that the group that is, let's say, more impacted, but what was described before by Jean-Marc by these events, let's say, the interruption to production that we had in Crolles, some impact due to the lockdown. So at the end, if you want in this quarter, the driver, the real driver of the growth will come from ADG.

**Matthew D. Ramsay, Cowen and Company, LLC, Research Division - MD & Senior Technology Analyst [16]**

See You guys in Paris in a couple of weeks.

**Celine Berthier, STMicroelectronics N.V. - Group Vice President of Investor Relations [17]**



Thank you very much, will be with great pleasure. Thank you for your question, Matt. Next question, please.

## **Operator [18]**

The next question is from Andrew Gardiner from Citi.

## **Andrew Michael Gardiner, Citigroup Inc., Research Division - Research Analyst [19]**

Another sort of follow-up on the 2Q outlook. I just want to confirm that from your point of view, you're not seeing any change to customer activity as a result of the challenges around the lockdowns in China. And I suppose if I could sort of ask it another way, if you are going to face some of these logistical or R&D placing them today, the logistical challenges in China given the backlog, the level of -- the level of which backlog exceeds your current demand, are you able to ship a lot of those parts elsewhere and therefore, from a global standpoint, that's why you're not seeing such an impact?

## **Jean-Marc Chery, STMicroelectronics N.V. - President, CEO & Member of Managing Board [20]**

No, no. We confirm that the dynamic in Q1 despite, and I said despite purposely the various events, the dynamic is stronger. Our booking in Q1 book-to-bill is well about [ 1.2 ]. We booked more than \$4 billion in Q1, okay, with all customers and geographies.

Our point of sales, okay, is continuing, increasing. All the inventory we monitor, as I confirmed during my speech, are lean and with high inventory turns. So we have not seen any, let's say, sign from the KPI of the order booking and customer. Then after, okay, it is clear that all, let's say, the supply chain and the value chain adapted itself, okay, to the complexity increasing related to Shanghai lockdown, both the harbor and the airport. And we have the capability, okay, to adapt our sales and to mitigate, okay, the effect of this lockdown.

## **Andrew Michael Gardiner, Citigroup Inc., Research Division - Research Analyst [21]**

Jean-Marc, just perhaps a quick follow-up. Given you mentioned inventory then, I think in your comments, specifically on Automotive, you talked about some inventory replenishment through the supply chain. Can you shed any more light on what's happening within Automotive in particular? That's clearly been a market where things have been incredibly stretched. So just be interested in what you're seeing there.

## **Jean-Marc Chery, STMicroelectronics N.V. - President, CEO & Member of Managing Board [22]**

You know that basically now since 5 quarters, so Q4 2020, we are operating all together a carmaker, Tier 1 and semiconductor company in a very complex supply chain because you know sometimes you have carmaker, Tier 1, EMS, EMS 1, EMS 2 distributor of semiconductors. And basically, okay, this supply chain has been high during H1 2021. And at a certain moment, okay, it's not sustainable forever. And specifically, when you have an introduction of new products related to the electrification and digitalization, and it is normal that the partners and the player, okay, they try to operate at a normal level of inventory, which are capable to absorb the variability of the logistic time because especially, okay, when the logistics is becoming, let's say, complex.

So for sure, okay, we are convinced that in the order we receive from the Tier 1 massively or EMS, there is a part of this order mainly for the mainstream business, which is related to some inventory replenishment in order to operate in a safe condition, and to stop, okay, to see all this announcement about planned shutdown and because it's not easy for the carmaker and Tier 1 to shut down and for the social effect, to shut down plant regularly.

So first of all, yes, it's clear that part of the mainstream business is related to the weakness to come back to a normal situation. Well, and then after there is another part which is linked to the growth driver and booster of the growth. So increasing content in the car, which are either related, okay, to electrical car battery based, where we know that here, okay, from battery management system, okay, a power -- on a power driver, power switches. The demand is very strong, especially for silicon carbide. And also, we start to see the first effect of the digitalization. So change in architecture, okay, a different level of action. So we see the 2 effects. And then the reason why in Q1 even if the data point we receive is a little bit decreased of the production vehicle



forecast for 2022, moving from 86 million to 83 million. So there is, let's say, a decrease. So demand is still very strong for the 2 reasons, okay, I just shared with you.

**Celine Berthier, STMicroelectronics N.V. - Group Vice President of Investor Relations [23]**

Thank you very much, Andrew. Next question please?

**Operator [24]**

The next question is from Jerome Ramel from BNP Paribas Exane.

**Jerome Ramel, BNP Paribas Exane, Research Division - Analyst of IT hardware and Semiconductor [25]**

Yes. Quick question on the mix impact on the gross margin and the price increase. Could you quantify in last quarter, you said that probably about 80% of demand is you're going to do from volume and 20% from pricing. Is it still the same ratio we should think about for the full year? Or have you seen a further price increase in the mix?

**Lorenzo Grandi, STMicroelectronics N.V. - President of Finance, Purchasing, ERM & Resilience and CFO [26]**

I take the question, Jean-Marc. Yes, it's true that we see a little bit better pricing evolution, and this is reflected also in the level of our gross margin in the first quarter. If you want, at the end, you see in respect to the total year, we have a little bit upgrade our, let's say, indication our expectation for the year. I would say that this is mainly coming as the volume at the hand as was explained before by Jean-Marc is substantially linked to our capacity, is mainly coming from improvement between pricing, I would say, and something also related to the mix. So that is definitely something that will help in this respect.

**Jerome Ramel, BNP Paribas Exane, Research Division - Analyst of IT hardware and Semiconductor [27]**

And maybe a quick follow-up, specifically on silicon carbide. Could you update us where you are on the qualification and maybe the ramp-up of your 200-millimeter wafer.

**Jean-Marc Chery, STMicroelectronics N.V. - President, CEO & Member of Managing Board [28]**

Okay. No, I think, okay, Marco Monti at the Capital Market Day, okay, will deliver to you, let's say, the detailed information. What I can share, okay, without anticipating too much is that we are really on track. And it is clear that our current capability and milestone -- technical milestone, okay, we go through successfully, will be a key factor -- key success factor for ST to accelerate our gross revenue on silicon carbide in the next 2, 3 years. And you know that this year, okay, we will deliver let's say, \$700 million of revenue from silicon carbide.

You know that we have anticipated by 1 year our target of \$1 billion by 2024. And clearly, the dynamic is continuing to be very positive. And clearly, our 200-millimeter capability, we have demonstrated already in our, let's say, Sweden infrastructure that, okay, we will then, okay, massively deploy in Catania will be a key success factor to accelerated revenue path for silicon carbide in the next 3 years.

**Jerome Ramel, BNP Paribas Exane, Research Division - Analyst of IT hardware and Semiconductor [29]**

Okay. And looking forward to hearing more at the Capital Market Day.

**Celine Berthier, STMicroelectronics N.V. - Group Vice President of Investor Relations [30]**

Thank you very much. Next question please.

**Operator [31]**

The next question is from Janardan Menon from Jefferies.

**Janardan Nedyam Menon, Jefferies LLC, Research Division - Equity Analyst [32]**

First of all, congratulations from my side also, just echoing Didier's comments earlier on the fantastic achievement of becoming #1 in general purpose microcontrollers, truly remarkable. My question is also a little bit on the general purpose microcontroller side. You've said that you saw the strength in Q1 there because capacity was better than expected. Is that capacity improvement mainly from internal that you saw in Q1? Or was that also from the foundry side?

And when you talk about product mix having a positive impact on gross margin. At a top level, would I be right in assuming that the general purpose microcontroller side is your highest -- higher gross margin business. And so when that is strong, you get a good gross margin uplift? And would that explain why you are sort of guiding to 46% from 46.7% because you're saying that, that division will be less strong in Q2 than the other divisions?

**Jean-Marc Chery, STMicroelectronics N.V. - President, CEO & Member of Managing Board [33]**

So I will answer the first question about the contributor to the growth of micro and Lorenzo will answer the second question. I would like to say that in the year 2022, the -- both internal [ foundry ] and foundry will contribute to the growth of microcontroller, because you know that this product group, okay, is really equally balanced, okay, between internal production and external because, okay, it's, let's say, wide business, okay, fragmented, okay? We are -- we have more than 100,000 customers. And it is clear that we need to have a multisource, okay, to enable this business.

So the growth in 2022 will be equally related to, let's say, external foundry and internal foundry. We, unfortunately, not at the level we would expect clearly because, thanks to all the design wins we have and the appetite of our STM32 and ecosystem, the demand is much, much higher than the capability we have.

**Lorenzo Grandi, STMicroelectronics N.V. - President of Finance, Purchasing, ERM & Resilience and CFO [34]**

No, about the dynamic of the gross margin and the contribution in terms of product mix, yes, of course, our product line of the microcontrollers is definitely accretive to our gross margin. So it's true that the ability in Q1 to sell more microcontroller than expected, thanks to the fact that at the end, that we were able to run our operations in a more efficient way, also diverting as was said by Jean-Marc, some of our advice in order to be assembled for microcontroller, was 1 of the contributors of the overperforming our guidance in terms of the gross margin.

In the second quarter, this element will be -- yes, will not be any longer there as in our guidance at the end, let's say, for the second quarter, MDG, as I was saying, it was not -- is not contributing to the growth. So will substantially remain flat slightly declining. This is our expectation. So it's true that in terms of product mix, microcontroller is 1 of the product line that is accretive for our profitability.

**Janardan Nedyam Menon, Jefferies LLC, Research Division - Equity Analyst [35]**

And can I have a quick follow-up on the imaging business? You had pulled out earlier that it would be down. But can you just remind me of the reasons for why it is down? And how do you -- will you expect that to revert to growth over the course of the rest of the year and into 2023?

**Jean-Marc Chery, STMicroelectronics N.V. - President, CEO & Member of Managing Board [36]**

In 2022, okay, we are coming back to a more, let's say, profile -- revenue profile across the year than we usually face. It was not the case in 2021 because of the pandemic, the new phone introduction in the second half of 2020 has been delayed basically by 1 quarter. And where usually the revenue of strong Q3, Q4 in 2020 was, okay, push out Q4 '20, Q1 '21. So that's the reason why, okay, we have this unbalanced situation in 2022 when we compare the year-over-year growth.

About the sequential growth, okay, again, it's the usual seasonality now, okay, Q1 versus Q4. We confirm again that Imaging will contribute to H2 material growth of ST versus H1 this year and next year as well.

**Celine Berthier, STMicroelectronics N.V. - Group Vice President of Investor Relations [37]**

Thank you, Janardan. We've now time for maybe 2 more questions, if they're not long hopefully. So next question please, Myra.

**Operator [38]**

The next question is from Sandeep Deshpande from JPMorgan.

**Sandeep Sudhir Deshpande, JPMorgan Chase & Co, Research Division - Research Analyst [39]**

My question is about your gross margin, very strong gross margin, clearly, very strong utilization as well as, I mean, your mix has been good. So maybe you can talk a little bit about the mix in the product. I mean, whether sales into the distributor channel is helping? Or is it pricing that is helping. So I have a quick question on gross margin. And then a follow-up question. I mean clearly, ST has done incredibly well over the last few years, growing organically, Jean-Marc. I mean, any thoughts on whether ST wants to participate in the M&A in the semiconductor industry or whether the own path is the best path to go at this point?

**Jean-Marc Chery, STMicroelectronics N.V. - President, CEO & Member of Managing Board [40]**

Lorenzo, you want to answer the first part of that?

**Lorenzo Grandi, STMicroelectronics N.V. - President of Finance, Purchasing, ERM & Resilience and CFO [41]**

On the gross margin, the level of gross margin, for sure, the drivers, both on a sequential basis and on a year-over-year basis, are actually the component of pricing, let's say, as we said, the price is a favorable environment. The other component is mix. These are the 2 drivers that really we enjoy in product mix. These are the 2 drivers that we enjoy that were, let's say, very accretive and boosting our level of gross margin.

For sure, in terms of manufacturing efficiency, this -- the contribution so far has been, let's say, when we look sequentially or -- especially when we look at sequentially as not being significant. Still, there is some contribution in terms of productivity, but for sure, it's not at the level that was a few, let's say, months ago. Because at this time, of course, we started to be impacted by the increased pricing, both for our OSAT and foundry and material.

Moving forward, we think that, as I was saying before, these components will be substantially, let's say, offsetting each other. So it means that we will remain substantially in the second half of the year at the level of the first half of the year. So overall, I see our gross margin, as I was saying before, in the range of 46% for the full year 2022.

**Jean-Marc Chery, STMicroelectronics N.V. - President, CEO & Member of Managing Board [42]**

About your second question, Sandeep, it is clear that we will detail a bit more during our Capital Market Day as a strategic question, related to the company and various product groups and region. I can confirm to you that we are convinced, okay, we can continue to drive the company on a growth trajectory, increasing continuously the fundamental value of the company.

So I would like to say now, okay, we want to continue a strategy of organic growth. Of course, with a bolt-on acquisition strategy because we are convinced it is good for the innovation in the company to bring new blood. It is good for some time for the portfolio of the company, our IP portfolio of the company to bring this new blood, and we have, let's say, ongoing activities to scrutinize, okay, all the opportunities we've on the market. So this is what we will do, organic growth and bolt-on acquisition strategy. We do not intend to make major transformational deal in the swimming lane we are. So what we classify, diversified semiconductor company. Of course, as a CEO is always my duty to be aware and to be in discussion with peers and...

**Celine Berthier, STMicroelectronics N.V. - Group Vice President of Investor Relations [43]**

Thank you very much, Sandeep. So 1 -- the last question, please, Myra, you've for this call.

#### **Operator [44]**

The last question is from Johannes Schaller from Deutsche Bank.

#### **Johannes Schaller, Deutsche Bank AG, Research Division - Research Analyst [45]**

And also, again, congratulations on the market leadership in general purpose microcontrollers. Maybe touching on that point, going a little bit deeper here, can you maybe share a few numbers in a bit more detail on that, just what your market share is right now versus what was last year based on the metrics you're looking at? And what is driving that growth? I mean STM32 has been very successful on a broad basis, but can you point out any particular regions or applications and industries that have been driving this? And then how should we think about this going forward? Do you expect to continue to take market share here very -- as strongly as you did in the last years. And maybe just a quick 1 for Lorenzo. Could you just maybe update us on the OpEx run rate for this year that's still unchanged from what you said with Q4? Or has that in any way changed?

#### **Lorenzo Grandi, STMicroelectronics N.V. - President of Finance, Purchasing, ERM & Resilience and CFO [46]**

Maybe I take the last questions about the expenses. That's an easy one. And I'll let either Jean-Marc, Marco to answer about the market share, the first question. About expenses, what we see for the second quarter, our net operating expenses is something ranging between \$820 million to \$830 million. These are SG&A plus R&D, plus other income and expenses as usual.

Moving forward in the year, let's say, as you know, we are increasing our effort, especially in R&D, let's say, in order to innovate, to bring on the market products. So there will be some increase in terms of our expenses moving forward. Anyway, definitely, our expense to sales ratio will decline compared to the 1 of last year. So there will be -- the expense to sales ratio, our leverage on expenses will be 1 of the ingredient to the improvement of our profitability.

#### **Jean-Marc Chery, STMicroelectronics N.V. - President, CEO & Member of Managing Board [47]**

About market share on microcontroller, I will give, okay, an indication because, okay, we don't know -- we are not absolutely sure of the latest public number from media in 2021. But I can confirm to you we are well above 20%, okay, market share.

About the application, general purpose microcontroller-s, well, clearly, okay, the 2 main markets that we address with this, let's say, microcontroller, for sure, there is industrial. And in industrial, okay, you can build basically in 3 parts. First part, it is what we call factory and infrastructure and power infrastructure, energy infrastructure. Definitely, everywhere, you have robotics, automation, system control, battery management system, you have microcontrollers, okay? And ranging, okay, from, let's say, with high completing power performances or some time, okay, with, let's say, ultra-low power consumption performances. So it is clearly 1 part. And all this part of the business, we massively address it, okay, either through OEMs -- major OEMs like Siemens, General Electric, okay, Schneider, okay, this kind of, let's say, important customers, but distribution as well. And also, okay, I have a Chinese customer like [indiscernible], so this kind of customers.

But the other part of the industrial market is more what we sometimes classify consumer industrial, which are home appliances and all the power tools. Because now, okay, you know that power tools, okay, it is what we call electrification of everything. After the Internet of everything, you have the electrification of everything. So in all the power tools, whatever they are, professional or consumer, you are moving either for plug-in, let's say, tools or thermal combustion engine tools, you are moving to battery based. And of course, definitely in battery-based tools, you have microcontroller everywhere to control the battery and motors, okay? Clearly, because optimization of the battery is related to the motors, which is basically valid for home appliances.

Well, after, okay, the third block of the industrial market, as, okay, medical, okay, aerospace and so on. Here, definitely, you have microcontroller as well because system control, but in terms of volume is more

marginal. Then you have another big block where you have microcontroller everywhere is personal electronics, and especially personal electronics, what we call the IoT, the connected device, you have microcontroller everywhere. So smart watches, smart device, connected device, [indiscernible]. So micro everywhere, generally speaking, they are ultra-performance driven definitively. So the integration is very important. So this kind of, let's say, products are driven now by mega trends of our industry, which are connected to electrification and digitalization. Digitalization because connectivity, artificial intelligence, security feature. And electrification because battery management system. And they are driven also by IoT and connectivity.

What is very important, and I would like to insist with is the ecosystem we have built around our microcontroller. So the capability of the application designer from our customer to use our portfolio to scale our portfolio, to reuse our portfolio road map in order to improve continuously the performance of their device. So this is, okay, where we are with this STM32. And again, our strategy is that will be widely developed by a repeat during the Capital Market Day is based on the continuous improvement of the performance, both computing power and low power consumption, but more and more wireless features and security features and with some critical enablers for some applications, which are the artificial intelligence. So this is, okay, very simply, but definitively what [ STM ] will develop.

**Johannes Schaller, Deutsche Bank AG, Research Division - Research Analyst [48]**

So Jean-Marc, take from that, that the market share gains are very broad-based, and you definitely expect the share gains to continue from here for the foreseeable future.

**Celine Berthier, STMicroelectronics N.V. - Group Vice President of Investor Relations [49]**

Okay. Thank you very much. I hope it answers all your questions. Thank you for your attention. Again, during this call, as you have listened several times, [indiscernible] the Capital Markets Day on May 12. Thank you so much, and have a very nice as of today.

**Jean-Marc Chery, STMicroelectronics N.V. - President, CEO & Member of Managing Board [50]**

Thank you. Bye-bye. See you soon.

**Operator [51]**

Ladies and gentlemen, the conference is now over. Thank you for choosing Chorus Call, and thank you for participating in the conference. You may now disconnect your lines. Goodbye.