AIXTRON SE

Analyst Earnings Conference Call

First Half Year and Q2/2023 Results

July 27th, 2023

Edited Transcript

Executive Board

Dr. Felix Grawert, CEO & President

Dr. Christian Danninger, CFO

The spoken word applies

Slide 1 – Operator & Forward-Looking Statements

Operator

Ladies and gentlemen, welcome to AIXTRON's Q2/2023 results conference call. Please note that today's call is being recorded. Let me now hand you over to Mr. Guido Pickert, VP of IR & Corporate Communications at AIXTRON, for opening remarks and introductions.

Guido Pickert, *Investor Relations & Corporate Communications*

Thank you, operator. Welcome to AIXTRON's presentation of our first half and second quarter 2023 results. I'd like to welcome our **CEO, Dr. Felix Grawert** and our **CFO, Dr. Christian Danninger**.

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This call is not being immediately presented via webcast or any other medium. However, we will place an audio file of the recording or a transcript on our website at some point after the call.

I would now like to hand you over to our CEO for opening remarks. Felix?

Slide 2 – Q2/2023 Highlights & Operational Performance

Dr. Felix Grawert, *Executive Board*

Thank you, Guido! Let me also welcome you all to our results presentation. I will start with an overview of the highlights of the quarter and then hand over to Christian for more details on our financial figures. Finally, I will give you an update on the development of our business and our full year guidance.

Let me now give you an overview of our operational highlights in Q2/2023 on **slide 2**.

Demand for our equipment remains very strong with an **order intake** of EUR 178 million, up 17% year-on-year.

Orders were again driven by strong demand for wide-band-gap **Power Electronics based on GaN and SiC**. The majority of orders in Q2/2023 was for our **G10-SiC system**. Customers are ordering equipment for large projects to build high volume manufacturing capacities.

Our Q2/2023 **revenues** of EUR 174 million were up 69% year-on-year reflecting the consistent high demand for our systems and were positively affected by the fact that a large portion of the export licenses outstanding in the previous quarter have now been issued. **More than 50 million Euros** of the roughly 70 million Euros worth of systems waiting for shipment at the end of Q1 have now been shipped in Q2 and turned into revenues. This is great news and confirms our expectations that the whole situation around export licenses is now moving back to normal.

As a result of all that we can report a very solid **order backlog** of EUR 412 million, up 31% year-on-year.

Now, I will hand over to our CFO Christian Danninger. He will take you through the Q2/2023 financials. Christian?

Slides 3-5 – Q2/2023 Income Statement, Balance Sheet, Cash Flow Statement

Dr. Christian Danninger, *Executive Board*

Thanks, Felix, and hello to everyone.

Let me start with the financial highlights of our **income statement** on **slide 3**.

As Felix mentioned, **orders** in the quarter continued to be strong and our **backlog** was up, driven by the mentioned strength in demand.

Revenues at EUR 174 million were up 69% compared to EUR 102 million last year and more than doubled compared to the previous quarter. As Felix mentioned, this was due to the strong demand but also due to a significant number of export licenses having been granted which allowed us to ship the respective tools and turn those shipments into revenues within the quarter. Shipments based on further export licenses which have been granted, will take place in the current and the coming quarters.

Gross profit in Q2/2023 was at EUR 74 million, up 94% year-on-year. **EBIT** for the quarter was at EUR 45 million and **net profit** also was at EUR 40 million, both **more than doubled** year-on-year and were **up substantially** on a sequential basis.

Gross Margin was at 42% compared to 37% the year before. **OPEX** in the quarter went up to EUR 29 million, predominantly driven by higher R&D spending and higher personnel expenses resulting from a higher headcount compared to the previous year.

Now to our balance sheet on **slide 4**

Inventories increased from EUR 224 million at the end of 2022 to EUR 333 million at the end of June, which is mainly due to the preparation for the very high expected business volumes in the upcoming quarters. As mentioned before – we are very carefully managing our inventories to enable us to offer acceptable delivery times to our customers. Our balanced approach has allowed us to ship to our customers supporting their capacity expansion plans.

Trade receivables at the end of June were EUR 115 million, compared to EUR 120 million at the end of 2022, mainly being a result of the business volumes in the second quarter of this year compared to the fourth quarter of 2022.

The **advance payments received from customers** at quarter end were EUR 139 million, representing about 34% of order backlog.

Our **cash balance including other current financial assets** as of June 30, 2023 decreased to EUR 210 million from EUR 325 million as of December 31, 2022. This was mainly due to our inventory build-up in combination with our dividend payment

of EUR 35 million. Out of our quarter end cash balance, EUR 133 million were invested into funds following a very conservative diversification strategy.

Just a quick word on our Free cash flow on the **next slide** before I turn back to Felix.

Free cash flow in the first six months was EUR -80 million compared to EUR 28 million last year mainly due to the previously mentioned build-up of inventories to prepare for the strong second half of this year.

With that, let me hand you back over to Felix. Felix?

Slide 6 – Update on the 2023 Full Year Guidance

Dr. Felix Grawert, *Executive Board*

Thank you, Christian.

Before giving you some more details on our increased outlook for the remainder of the year 2023, I would like to share with you some highlights on our market development.

As stated at the very beginning - the **order momentum** in most of our addressed end-markets **remains very healthy**. In the area of Silicon Carbide based power electronics, the **momentum has actually accelerated. In fact,** our G10 system has taken a #1 position in terms of orders in the second quarter '23. The demand for efficient power electronics based on SiC is driven by the desire of automotive manufacturers to increase the range and charging speed of electric vehicles. This

facilitates the overall transition to electric mobility. We expect strong demand for our products in these areas to continue over the coming years.
The order momentum for **GaN epi tools** also remains strong with received orders in this area accounting for the second largest demand driver in the quarter. This is driven by the increasing need for energy efficient solutions in a growing number of applications. Our customers steadily open up new applications and use cases in the field of GaN-based power electronics using our technology. We are confident, that this will also translate into a sustainable demand for our tools going forward.

With that, let me now give you the **update on our increased full year guidance for 2023** on **slide 6**.

We see the demand for our products remaining very strong. In addition, we expect that the granting of export licenses is now moving back to a normal pattern. Based on this, we have increased our 2023 guidance both for order intake and for revenues.

We now expect **total orders** for the year in a range **between EUR 620 million and EUR 700 million** from EUR 600 million and EUR 680 million previously. Our **total revenues** are expected to range **between EUR 600 million and EUR 660 million** from previously EUR 580 million and EUR 640 million. While we lifted the midpoint of the guidance, we have left the absolute range from low to high end of the guidance unchanged. This reflects the unpredictable factor of the exact timing of export licenses and also of some customer projects. We continue to expect a **gross margin** of **around 45%** and an **EBIT margin** in a range of **25% to 27%**. We are excited to be able to increase our expectations based on the strong underlying demand in our addressed end markets.

With that, I'll pass it back to Guido before we take questions.

Guido Pickert, *Investor Relations & Corporate Communications*

Thank you very much, Felix and Christian. Operator, we will now take questions, please.

Adam Angelov, Bank of America

So firstly, just wanted to discuss a little bit the trajectory for SiC and GaN going forward. I think clearly both are very strong now. And at least for us, from the outside, we can see there's constantly a lot of big announcements for SiC capacity expansions to the end of the decade, but GaN is a little bit harder. So it's a smaller revenue stream for a lot of the companies. So I just wondered, when you look out maybe to 5 years from now, how do you see the kind of growth trajectory in both markets? That's my first one.

Dr. Felix Grawert, AIXTRON

In silicon carbide, the trend is very clear. The #1 use case for SiC is the electric drivetrain of e-vehicles. The #2 use case is the charging infrastructure for fast charging poles. And then the #3 use case are the much broader and much more diverse industrial applications such as large wind power plants, large solar power plants, large electric drives, industrials like high-speed trains and many more. So the #1 and #2 use cases are essentially driven by the global build-out of electromobility. And as you rightfully said, these are very strong demand drivers for several years to come as the ramp-up of electric vehicles from now to 2030 will be substantial. I just read analyst reports that around 2030, it's expected that even half or more than half of the global EV production may be based on silicon carbide already. So it's very, very clear.

What does it mean for us? We see that as a global trend. Customers are massively investing into silicon carbide fabs. We see that in Europe, we see that in the U.S., but

we also see that across Asia, meaning we see it in Japan, in Korea, in Taiwan and in China. So it's really a global trend. And I would not say there's one region which is missing out on that one. Very strong momentum, really very strong. I think that's very clear and easy to capture and understand.

The other one, I would say, is also very clear, even though it does not have this widespread perception and that's the trend for gallium nitride power electronics. GaN is being adopted and rolled out in III phases, and we are just about to reach Phase III.

Phase I started off in consumer electronics and fast chargers. Gallium nitride was very new as a material and reliability was a challenge initially and in consumer electronics durability does not really matter so much. You can take more risks. In this case, the fast charger with its small form factor was the first one. That was around 2019/20.

Phase 2, which I would say was '21, '22 with GaN going into high-power, high-efficiency premium applications like datacenters, server power supplies, telecom base stations where essentially 24/7 big amounts of energy are being pumped through. And in this phase where GaN was still relatively expensive, end customers had a clear return of invest on that because they were having such big electricity bills that the higher expense for a more expensive GaN switch was paying off by substantial energy savings.

I would say we have just started Phase III, which is what we get as feedback from many of our customers. In this phase, GaN is displacing and replacing silicon

MOSFETs at scale now. And that is silicon MOSFET in the low voltage range, for example, 40 volts on a PCB around the circuit of your notebook or your server. 100/200 volts in solar applications, in your electric e-bike or in your battery driven electric power drill that you may have at home. You can see that there are many lower power or battery-driven applications.

Here, the same logic applies as with SiC in the e-vehicle: the battery simply lasts longer. In addition to that, demand from the large number of high-voltage applications like air conditioning devices, AC-to-DC power supplies, and of course the server industry continues. And the industry is now at a point where GaN has reached a competitiveness and many of our customers now follow the strategy to displace silicon in the mainstream and at volume. And that is driving a massive boost and a massive growth also in the area of gallium nitride.

So the strong momentum that we have seen now in the first half of'23, we expect that to continue in the second half of '23, but also throughout the year '24, 25 and 26. This is not just a peak, which then goes back, but this is a continuous trend. I hope I could outline a little bit what the drivers are for that.

Adam Angelov, Bank of America

Yes, that's very clear. So secondly, just on micro LEDs. Just wondered if you could provide us with an update there. I think there was some news flow of potential delays in the quarter and then I guess your revenue in that line was a bit weak in Q2.

So just if you could give the latest update there? And then just a very brief one after that. You gave us the revenue of export licenses that was recognized from the deferred portion. Could you also provide the same for the previously deferred order amount, which I think was around 30 million to 40 million, how much of that was recognized in the quarter?

Dr. Felix Grawert, AIXTRON

Okay. So a short update on micro LED first. I think we all read the same news about some projects getting delayed. The main driver for that one is the mass transfer, so getting millions of pixels produced on a wafer efficiently onto the display. Making the micro LED wafers is a mature process step. So the pressure is not on us and also not on the chip makers. The pressure is more on the panel makers having to transfer the micro LEDs. This issue seems to be pushing out the commercialization maybe towards 2025, maybe to 2026, nobody knows exactly. Again, we are not directly involved in those projects. It is another step of the value chain, which is gating this one.

At the same time, we are working very closely with a large number of customers as the development projects are continuing. All the efforts of the road map also continue, be it die size shrinks, be it topics of increasing the brightness of LEDs. And we see in the industry, that there's a very clear consensus. It's not a topic of *whether* the micro LED comes. It's very clear – it will come. It's only a timing question. So much for now as an update. Micro LED is still on the agenda. It's just a timing topic when exactly the wave will start.

As mentioned, we continue to supply tools to customers. We have some customers building out pilot lines. We have other customers starting to build smaller lines for the first high-end applications based on micro LEDs. I don't have the exact numbers on Micro LED based order intake in the quarter. But it is continuing on low levels.

And then help me again. Could you repeat your last question around export licenses, please?

Adam Angelov, Bank of America

Yes, sure. So previously, you suggested that there was about 30 to 40 million of orders that couldn't be recognized because of delayed export licenses. So presumably, some of that could have been recognized. So just if you could provide the value that was recognized in the quarter.

Dr. Felix Grawert, AIXTRON

OK, thank you. The amount of orders that could be recognized in Q2 from the past quarter and the amount of new orders flowing in for which we have not recognized orders were about on a balanced level.

Olivia Honychurch, Jefferies

Two from me if that's all right. So firstly, on silicon carbide, I'd just like to understand a little bit more about your market share. One of your competitors this week announced that it had won a major new European customer. How does that fit in with your growth expectations for this side of your business? Do you still see Europe as a key source of growth in SiC? And I guess in relation to that, where do you see your overall share in SiC reaching by the end of this year, given that your competitor is clearly winning share as well. I think you had previously said 50%, but wondering if that has changed. I have a follow-up that I'll ask afterwards.

Dr. Felix Grawert, AIXTRON

All customers in silicon carbide are pushing towards the transition to the 200mm wafer size and are therefore in the tool selection process from the available technologies in the market. And that means, that the established vendors that made the party in 150 millimeters need to defend their positions. It also means that new opportunities for new vendors are opening up. We are exploiting these opportunities at scale, as you can see from our strong order momentum. The news you mentioned from a competitor therefore do not surprise us, and we are on the same train as you can see in our numbers.

Olivia Honychurch, Jefferies

And any update on the market share target that you previously put at about 50%, I think, for 2023.

Dr. Felix Grawert, AIXTRON

Clearly, 50% plus.

Olivia Honychurch, Jefferies

And then maybe on the licenses again. How should we think about the impact from those delays going forward? Obviously, you say the majority of them have dropped through into Q2. Is there a risk that those build up again and we start to see more of a lumpy revenue profile quite strong going forward as a result, not only over the next couple of quarters, but into 2024 as well.

Dr. Felix Grawert, AIXTRON

No, we don't see that. Out of the inventory of finished tools that couldn't be shipped, 50 out of the 70 million has been shipped. We now see export licenses coming in one-by-one. We see a much steadier pattern. In fact, we still see that times are long. But we do not see any blockage or piling up of inventory or so. We see that it develops again into a steady rolling and moving pattern. That's how I would think about it.

Andrew Gardiner, citibank

Just perhaps a follow-up on the market share question. In previous calls, you've indicated to us when you've sort of signed on a new major customer. You're talking in the release today about supporting several major customers. Can you say whether there's been any movement in terms of significant wins in the quarter that is going to help support that market share ambition?

Dr. Felix Grawert, AIXTRON

I think we see overall that the market for silicon carbide in terms of customer base is broadening significantly. We see, at this point intime, a relatively large group of customers with a strong volume ambition in the market, not only being part of the top 5 in SiC. And we are engaged with a large share of those guys who have a larger scale and volume ambitions. I think when you study the industry and follow the news flow, you may have ideas which guys making €1 billion plus investments into fabs each of which typically about 1/3 goes into the equipment.

Gustav Froberg, Berenberg

I have two, please. First is on new customers in silicon carbide as well. You've talked a lot about there being a lot of movement in the industry, a lot of potential customers and existing customers have strong ambitions in terms of ramping up their silicon carbide capacity. But what would you say is the main hindrance or the main barrier for these companies to make a decision on their recruitment of their key supplier today? And what is your view on the timeline there? That's my first question.

Dr. Felix Grawert, AIXTRON

I think there is no hindrance. They continue to make decisions on a regular basis, and we get selected also on a regular basis, and this is moving very strongly now.

Gustav Froberg, Berenberg

And then a question on the G10-GaN, please. Could you give us an update on the launch of that tool, please? And what you think that might mean in terms of customer demand for your next-generation GaN-tool.

Dr. Felix Grawert, AIXTRON

We will launch this tool in the third quarter of the year. And we have gone through a very successful qualification with our beta customers. One of the beta customers was Texas Instruments. Together with them, we've published a press release. They've given us their 2022 supplier award for this tool and for our strong collaboration. We received their feedback that this tool has really brought the maturity that is needed into gallium nitride power electronics which is a requirement to drive big volume installations.

And gallium nitride is at this point in time going through the wafer size transition from 6 inch to 8 inch. I would say 50% of the customers have already changed. The other 50% is just changing from 6 to 8 inch. And we see that on the 200-millimeter (8 Inch) wafer size, the G10-GaN is going to be the tool of record for the industry. Based on the feedback that we get from pre-discussions with customers, we expect that already in 2024 more than 50% of our gallium nitride revenue to be derived from the G10-GaN as compared to the G5+. For a tool, just launching in Q3, then in the 5 consecutive quarters following the launch already taking more than 50% segment share that speaks for the value and the benefit of the product itself.

Gustav Froberg, Berenberg

Reading into that a little bit. It sounds like you might be winning some new customers for this tool. Do you think that there are any customers that they're waiting for the G10 to be launched before placing orders with you?

Dr. Felix Grawert, AIXTRON

In fact, we had customers with pending orders for the previous generation of tools who have come back to us and asked us to amend their order to the G10-GaN, given that the new generation is now just coming. And in some selective cases, we have made corresponding arrangements with our customers.

Michael Kuhn, Deutsche Bank

Firstly, on your guidance, you obviously increased your sales guidance. At the same time, gross margin guidance and also the corridor for the EBIT guidance is left unchanged. Should we read anything into that regarding, let's say, a little more cost inflation than anticipated? Or would you rather say, let's say, there is probably an element of cautiousness reflected in that guidance?

Dr. Christian Danninger, AIXTRON

Both not really. First of all, the increase of the midpoint was really only a small relative change, which had just a small effect on the overall numbers. And secondly there is always a strong mix effect in our business. However, the bandwidth that was given still gives a very good indication. So it is not that we are sandbagging here.

Michael Kuhn, Deutsche Bank

What trends do you currently see both on the inflation side and on your ability to increase prices? So how do customers currently behave and what's your direction on, let's say, proposed price increases or, let's say, proposed passing on of inflationary pressure.

Dr. Felix Grawert, AIXTRON

The inflationary topic was more a topic of the last two years. We overall see now that going forward, inflationary pressures are expected to reduce a bit. Especially in the Euro space, looking towards 2024 already, there may be more space and room at our suppliers again. Therefore, we don't expect such a pressure going forward. And what we have done in the last two years is that we've been working closely with our customers to make price increases affordable through productivity gains. And that was an acceptable way for them. And that is why we have been able to get through this period without any hit on gross margin. As Indicated, we are expecting the environment to rather ease going forward. I'd rather expect cost reductions from our suppliers as the overall economy is cooling off a little bit. We are now going into a new type of environment.

Michael Kuhn, Deutsche Bank

Your headcount obviously moved up and your investment in expanding production capacity is probably debottlenecking as well. With your current production footprint, I'd say, how much more can you grow before you have to make a further move? Or is there still enough capacity without getting major headache.

Dr. Felix Grawert, AIXTRON

We've been able to expand our capacities by fully utilizing the existing footprint and increasing efficiencies in the operations model. For further expansions, we could go into 2 and 3 shift models.

Michael Kuhn, Deutsche Bank

And then on your sales split recent quarter and looking into H2, it was obviously very much dominated by power electronics. Do you see a certain recovery in optoelectronics? And should we expect, let's say, anything on the micro LED side in H2? It didn't sound like that and then also into '24. Just to get a better feeling on your expected sales mix over the next, let's say, 12 months or so?

Dr. Felix Grawert, AIXTRON

For the whole 2023, we see a strong power electronics dominated year. I would guess maybe power electronics could make up 3/4, maybe a little more than 3/4 of total revenues of the year. For 2024, it's still too early to comment.

Lee Simpson, Morgan Stanley

Maybe just a quick one on R&D. It looks as though OpEx is going up and I think credit goes to the good investment into the new innovation center from what I understand, but obviously some personnel costs come on top. So I guess what I'm trying to ask is where do we think the run rate in OpEx could be as we exit this year?

Dr. Christian Danninger, AIXTRON

I'll take the first question on the expected run rate on OpEx and R&D. As we've indicated before, we have very decisively been investing into R&D, into the development of the next-generation tools and so on. With that we increased our R&D spend into the range of now 75 million to 80 million, that's unchanged. What came on top was the investment in the R&D innovation center, but that will not have a major impact on OpEx of next year. The R&D spend is driven by the projects with a very clear ROI evaluation of the opportunities that we have. And here, we see so much potential that this increased R&D spend is required to enable us to materialize all of these opportunities.

Lee Simpson, Morgan Stanley

If we look at the innovation center development, are we seeing more of the customers' customer coming down to the building, perhaps vehicle OEMs sanctioning the buying of your G10, for instance? In silicon carbide, it seems a lot of the work being done by device makers is being watched over the shoulder by end OEMs. And I just wondered, when it came to making to buy tool sets buying the G10 over whatever LPE has, et cetera, that the customer's customer was making part of that decision on their behalf.

Dr. Felix Grawert, AIXTRON

No, we don't see that OEMs are getting into the point of selecting tools. That's not what we see. We see that OEMs may be bypassing the Tier 1 system makers in the industry, starting to acquire system know-how on the level how to make an efficient inverter or how to bring the inverter together with a battery architecture and so on. But we don't see them going down to the chip level. At least I have not seen.

Lee Simpson, Morgan Stanley

Maybe just a quick clarification. I think you mentioned earlier you've unwound 50 of the 70 million from the export license carrying value. But equally, it sounds so that the carrying value went up with new GaN power orders coming in. Is that the right way to look at this?

Dr. Christian Danninger, AIXTRON

No, the message really is that things are moving back to normal. They have not yet fully normalized, but they are moving back to normal. It’s not that we have new orders resulting in new tools piling up again waiting for shipments. This is not the case.

Jürgen Wagner, Stifel

Follow-up on Micro LED. What sales level do you have in your full year guidance? And second one on gallium nitride. I remember 2, 3 years ago, when the cycle started, you predicted the market would need about 50 tools from you per year. How

has that changed now? And what would be your best guess how we should model that going forward?

Dr. Felix Grawert, AIXTRON

For the sales level at this point, maybe 10%, or 50 – 60 million could be from Micro LED this year. And again, this is driven by the continued R&D projects in this space plus those early pilot lines and those early high-value applications and much more to come, of course.

On the second question, on GaN tool demand, the feedback we are getting from our customers is that they all say that their marketing departments have been wrong. The only thing we see is that the roadmaps are getting pulled in, some say they get pulled in by 2 years, some say they get pulled in by 3 years. Honestly, there is currently no good number existing in the market. Everybody just knows it's much, much more than has been anticipated before. Maybe in 2 or 3 quarters, I can give you better and a harder number.

Jürgen Wagner, Stifel

Okay. And then sorry to follow up on Micro LED, should we read it in a way that your initial project is a bit frozen currently and R&D projects are making it up and 50 - 60 million is still a solid number.

Dr. Felix Grawert, AIXTRON

There was not one project or two. No, we are engaged with, almost all the customers in the industry globally. Some work takes place in the U.S., some in Europe. There is

some work in Taiwan, some work in China and Korea is also strongly working on this topic. We can really say that the development of Micro LED displays is a global topic.

Think of the market as a pyramid. It is starting. If you go to specific conferences such as the SID conference or the Touch Taiwan conference, you'll see that everything is just full of micro LEDs. That's the whole topic that moves the industry today. And, as always, it starts with a high-end application. Today, you can buy a television based on micro LEDs. You just have to put down something like 100.000 Dollars for one television. I think not many people do that. But the market does exist. Customers are now planning the next generation of televisions, which will cost maybe 20.000 to 30.000 Dollars, with that becoming much more affordable. And soon, you will see the first micro LED watches. Again, maybe 2.000 or 3.000 Dollars for a micro LED-based watch. Therefore, the market is really starting now.

But of course, it's clear that the volumes and unit numbers are not that large at such price points. Now the focus is on yields, especially in the transfer step these need to be getting up. Today, the costs and the prices that I mentioned are mostly driven by huge yield losses, 80%, 90% of the micro LEDs cannot be used as yields are very low. But then as the yield goes up, the price point goes down. And as the price point goes down, the unit shipments go up and that is then driving further revenues. This is how I would think about this market.

Olivia Honychurch, Jefferies

Just one more question on your gross margins. You've obviously kept the guidance for the full year the same as it was at 45%. Although in H1, your average for the half year was partly being driven down by higher shipments to China from the export license driven backlog. And that means that you'll need to make quite a big uplift in your margin in H2, maybe around 47%, 48%. How are you going to achieve that, particularly if there are still going to be more tools going into China? And will that higher level of gross margin be sustainable in the medium term? Could we see those going closer to the 50% types of level?

Dr. Christian Danninger, AIXTRON

The last point you've made, I would not yet underwrite. But with your first point you are spot on. We have simulated this through and of course, expect a significantly higher gross margin in H2 based on our order book and the tools we're going to ship. There will be an improved product mix, especially with the G10 family of products taking a higher share and then driving up the gross margin. And beyond this year, we need to see how things develop.

Martin Marandon, ODDO BHF

First of all, how much of the export licenses that we're missing in Q1 are included in Q2 earnings. Is it almost all of it, the majority or less than 50%?

Dr. Christian Danninger, AIXTRON

As we have said before, out of the 70 million that we have reported in Q1 about a little more than 50 million have been granted and shipped.

Martin Marandon, ODDO BHF

And then also a follow-up on the 2023 guidance. You have not upgraded your EBIT margin guidance. Is this more driven by higher R&D as you said before? Or does it reflect just a better midterm outlook than previously expected?

Dr. Christian Danninger, AIXTRON

There is not too much to read into that. It was a relatively small increase combined with a relatively high uncertainty on exact product mix for the remainder of the year. So, there's no overall change in our cost expectations.

Gianmarco Bonacina, Equita

A few questions for me. The first one is just a clarification on the increase in the guidance. We can say that this was just driven by the better clarity on the export licenses or was there also an underlying improvement?

The second one is on the customer diversification in silicon carbide because to my understanding, unlike the other segments, here you are a little bit more concentrated. So if you would say that going in 2024, there is a high probability that you have new customers, and so you can grow faster than the market and maybe the run rate we are seeing currently between 140 million and 160 million of orders per quarter can then increase.

And then the last one, if you can comment on the recent news about the potential ban on export on gallium and germanium from China, which potentially could be a headwind for you in the future? We see some of your customers have issued some comments, but it would be great if you can also give some color on this.

Dr. Felix Grawert, AIXTRON

On your first question on key drivers of the guidance increase. Of course, the export license topic, but also a very strong order momentum, it's really a combination thereof. This upgraded guidance is our current most realistic and best guess on where we will end up in the year.

The second one on the customer diversification. In silicon carbide, we maybe have about 20, maybe 30, maybe 35 customers. We have a very broad and a very diversified customer base, both in terms of geographic split and in terms of concentration or non-concentration. We are well set here in terms of diversification.

As for the order run rate, we only guide for a whole year, and we don't guide further out into the future. Therefore, the total order intake guidance that we have given out for the year implies that in the second half, we will see at least the same or even more order intake per quarter to achieve the guided range.

But we also discussed the growth drivers into the future in this call. And I hope we've given you an indication that both in silicon carbide and in gallium nitride and at some later point in micro LED, there is more to come. You can take those qualitative statements, which we have discussed here in the call from us as a direction.

So lastly, let me come to the ban on gallium and germanium. First of all, this is referring to upcoming requirements from China of an export license needed for these materials. There was no announcement on a ban or that they would not export those materials anymore. We have, of course, checked very diligently with our own suppliers for gallium as well as with suppliers of our customers. For gallium and for germanium, which is being used in some photo detectors and high specialty VCSEL topics, there is not expected to be a shortage. I think you all may have seen those statements that have been issued by Western-based suppliers for these materials, such as Freiberger from Germany or Umicore out of Belgium. We have seen the same from our customers. Many of them have issued statements and also our own suppliers that we've been working with have given clear indications that this is a non-issue.

So I think you don't have to worry about that. And if Chinese suppliers would be falling out, the western suppliers would jump in. Even if there were prices increasing for that adding on the cost of an individual wafer, in the MAX case, we might see a low single-digit percentage point cost increase. So the overall trend for gallium nitride power electronics by far is not affected. It might rather be that the value of a very efficient equipment such as the one we are providing is even further increasing. So for us, this is not a big topic.

Gianmarco Bonacina, Equita

Just a quick follow-up on the SiC customer base. I understand that you have a good diversification, but my understanding is that there are still some large customers that

are not ordering from you simply because, as you say, there was an incumbent working on the previous technology. So in 2024, it would be fair to assume that you can get some more customers on top of the market growth.

Dr. Felix Grawert, AIXTRON

I think you have exactly outlined our strategy.

Guido Pickert, *Investor Relations & Corporate Communications*

Thank you very much. With this, we will conclude today's call in which we were able to talk about the strong underlying demand continuing to drive our future growth. Have a great rest of the summer everyone. We are looking forward seeing some of you on upcoming conferences and roadshows. Please all stay safe and bye-bye.