Call transcript

Operator

Thank you for standing by. My name is Kat, and I will be your conference operator today. At this time, I would like to welcome everyone to the Navitas Semiconductor Second Quarter 2024 Earnings Conference Call. [Operator Instructions] Thank you. I would now like to turn the call over to Stephen Oliver, Vice President of Investor Relations. Please go ahead.

Stephen Oliver

Good afternoon, everyone. I'm Stephen Oliver, Vice President of Investor Relations. Thank you for joining Navitas Semiconductor's Second Quarter 2024 Results Conference Call. I'm joined today by Gene Sheridan, our Chairman, President, CEO and Co-Founder; and Janet Chou, EVP CFO, and Treasurer. A replay of this webcast will be available on our website approximately 1 hour following this conference cal. And the recorded webcast will be available for approximately 30 days following the call.

Additional information related to our business is also posted on the Investor Relations section of our website.

Our earnings release includes non-GAAP financial measures. Reconciliations of these non-GAAP financial measures with the most directly comparable GAAP measures are included in our second quarter earnings release and also posted on our website in the Investor Relations section. In this conference call, we will make forward-looking statements about future events or about the future financial performance of Navitas, including acquisitions.

You can identify these statements by words like we expect or we believe or similar terms. We wish to caution you that such forward-looking statements are subject to risks and uncertainties that could cause actual events or results to differ materially from expectations expressed in our forward-looking statements. Important factors that can affect Navitas business, including factors that could cause actual results to differ from our forward-looking statements are described in our earnings release. Please also refer to the Risk Factors section in our most recent 10-K and 10-Qs.

Our estimates or other forward-looking statements may change and Navitas assumes no obligation to update forward-looking statements to reflect actual results, changed assumptions, or other events, that may occur except as required by law. And now over to Gene Sheridan, CEO.

Eugene Sheridan

Thanks, Steve, and thanks to all of you for joining us today. I am pleased to announce Q2 revenue of $20.5 million at the top end of our guidance which completes the first half of 2024 with nearly 40% revenue increase compared to the prior year, despite a slowdown in most semiconductor end markets. Gallium nitride and silicon carbide continue to take share from legacy silicon chips.

Our GaNSafe ICs offer the highest performance, most reliable, and most protected GaN power device in our industry and continue to drive new business at an extraordinary pace. GaNSafe is

now being qualified or designed into over 100 customer projects, spending 4 different end markets and in all major regions around the world.

Our latest Generation 3 fast silicon carbide technology has improved performance by an additional 20% compared to our prior generation, which already demonstrated the industry's leading efficiency and thermal performance, and now also has over 100 customer projects in our pipeline. The combination of GaNSafe and Gen-3 Fast silicon carbide for AI data centers and EV onboard chargers are creating next-gen power systems that exceed even our own expectations and set new industry standards, in terms of power density, energy efficiency, and system costs.

Let me give further specifics in each of our target markets. The AI data center market continues to evolve at a rapid and exciting pace. Traditional servers required a total power of up to 30 kilowatts per rack. With NVIDIA's Grace Hopper GPUs, those power levels are being pushed to 60 or even 120 kilowatts. With Blackwell, Ultra and Rubin, we are targeting 240 and even 480 kilowatts in the next 2 years.

Our system design center focused on data centers has stepped up to the challenge with AC to DC server power supply platforms expanding rapidly from 2.7 to 3.2 to 4.5 kilowatts, and targeting 8 to 10 kilowatts by the end of the year. The recently announced 4.5 kilowatt platform combines our newest Gen-3 Fast silicon carbide in the front end power factor correction or PFC section with the industry leading GaNSafe technology in the back end LLC portion to set new industry benchmarks with energy efficiencies of 97% and power densities of nearly 140 watts per cubic inch.

As a result, our data center pipeline has grown rapidly faster than any other segment in the last 3 months and has doubled since our Investor Day in December.

Now, with over 60 customer projects in development, we're pleased to announce another 7 data center design wins in Q2.

In addition, I'm excited to announce a major technology innovation from our system design center. Traditional PFC circuits operate at low frequency with moderate efficiencies.

Our team has unlocked an additional 30% energy savings, 4 data center PFC circuits, by innovating a novel high frequency soft switching control method, which translates to over 99% peak efficiency for that PFC section with higher power densities and attractive costs. This technology is patent pending and is available immediately for our customers to implement for their Blackwell and Blackwell Ultra designs, that will be integrated with our 8 kilowatt and higher designs while we retrofit the 4.5 and 3.2 kilowatt platforms in the coming months. In electric vehicles, we see strong growth in our customer pipeline, which now includes over 200 customer projects and is the largest segment of our pipeline.

Our latest 22 kilowatt onboard charger platform, which enables 3x faster charging with 2x higher power density, 30% energy savings, and 40% lighter compared to comparable solutions on the market. We're seeing strong interest, this platform has contributed to a total of 15 new customer

design wins in Q2, which includes 3 major new silicon carbide wins that will start production next year, while we're on track for our first GaN EV revenues to start by the end of 2025. The customer pipeline in both appliance and industrial segments continues to be strong and growing well beyond the $380 million we stated in December, with strong ramp expected in 2025 across diverse customers and regions, including 7 of the top 10 appliance leaders, with a total of 25 new design wins in Q2 expected to ramp production next year or 2026. These customer projects span hair care applications, washers, dryers, refrigerators, heat pumps, industrial HVAC, robotics, and automation applications.

While the solar industry experienced a significant slowdown due to higher interest rates over the last 18 months, as displacement technologies, we are working on over 100 customer projects with GaN for residential microinverters and silicon carbide for higher power, higher voltage string inverters, in addition to their related energy storage systems.

We continue strong engagements with the majority of the top 10 solar players and are pleased to announce another 6 customer design wins in Q2.

We are also progressing well for a major U.S. GaN based microinverter ramp in the first half of next year. GaN revenue growth continues in mobile markets as all major OEMs across smartphones, tablets and notebooks continue to increase the percentage of GaN adoption in their fast charger portfolios over legacy silicon power chips.

As discussed in the last call, GaN adoption in customers such as Xiaomi and Oppo is expected to be 30% this year.

Following our fast charger design wins for Samsung's Galaxy S23 and S24 phones, we are pleased to announce that the new Galaxy Z Flip6, Z Fold6, and all A series phones, as revealed during July's Galaxy Unpacked event, now use Navitas GaNFast technology to deliver fast, light, truly portable, fast charging experiences for the consumer. Growth in the laptop, PC market resumed in Q1, with GaNFast adopted again by Lenovo for 105 and 170 watt fast chargers and again by Dell, this time for 100 and 130 watts, achieving up to 50% size reduction. Overall, Q2 saw another 16 charger launches, bringing the total to over 470 production designs, and Navitas remains #1 in mobile fast charging.

Our new GaNSlim portfolio with integration, ease-of-use and low-cost manufacturing methods continues to grow the customer pipeline, now with over 50 customer projects. GaNSlim increases our GaN served market by enabling lower system costs compared to silicon design, for many applications, targeting applications under 500 watts across mobile, consumer and home appliance. Overall, I'm pleased with our Q2 results at the high end of our guidance, combined with the growth of our pipeline, major new design wins and significant new technology launches. Electrification and energy savings have never been more important and Navitas is well-positioned as the only pure play next-gen power semi company with leading-edge gallium nitride and sodium carbide technology. With that, let me turn it over to our CFO, Janet Chao to discuss the financials.

Janet Tao Chou

Thank you, Gene. In my comments today, I will first take you through our second quarter financial results and then I'll walk you through our outlook for the third quarter. Revenue in the second quarter of 2024 grew 13% year-over-year to $20.5 million.

While we are experiencing similar macroeconomic factors as others in certain of our end markets, our mobile business was strong in the second quarter, demonstrating the benefits of our smaller, faster, more energy-efficient technology, as we continue to gain significant traction in mobile and consumer charging applications.

Before addressing expenses, I'd like to refer you to the GAAP to non-GAAP reconciliations in our press release earlier today. In the rest of my commentary, I will refer to non-GAAP expense measures. Gross margin in the second quarter was 40.3% compared to 41.5%, the second quarter of 2023, due to mobile market product mix, as we continue to see strength in that part of the business. Gross margin was down sequentially from 41.1%. Total operating expenses for the second quarter were relatively flat sequentially at $21.5 million, comprised of SG&A expenses of $9 million and R&D expenses of $12.5 million. This is a good demonstration of our focus on operating efficiency. Adding all this together, the second quarter 2024 loss from operations was $13.3 million.

Our weighted average share count for the second quarter was 183 million shares.

Turning to the balance sheet. It remains very strong with high levels of liquidity. Cash and cash equivalents at quarter end were $112 million and we continue to carry no debt.

While accounts receivable was relatively flat at $22.7 million compared to $22.2 million. In the prior quarter, we made good progress on reducing inventory to $25.2 million from $33.2 million in the prior quarter.

Our goal is to continue to improve our working capital.

Moving on to guidance for the third quarter, we currently expect revenues of $22 million plus or minus 500,000. At the midpoint, this represents a sequential growth of more than 7%. Gross margin for the third quarter is expected to be approximately 40% plus or minus 50 basis points.

As our mix continues to lean more towards the mobile market in the near-term.

We expect margin improvements will align with demand recovery in higher margin markets. In total, our non-GAAP operating expenses in the third quarter are expected to be approximately $21.5 million and this excludes stock-based compensation and amortization of intangible assets. We're keeping our expenses as flat as possible, as we improve our efficiency and optimize our cost structure, while supporting our growth initiatives.

For the third quarter of 2024, we expect our weighted average share count to be approximately 185 million shares. In closing, we're pleased with our second quarter performance, which includes good progress in expense management and improvements in working capital. This positions us well to scale the business towards long-term growth and profitability. Operator, let's begin the Q&A session.

Operator
[Operator Instructions] And your first question comes from the line of Ross Seymore with Deutsche Bank.

Ross Seymore
Gene, I wanted to get an update on what you're seeing as far as the end market trends. And really what I'm going for is everybody knows that some of the rebound has been a little slower in a lot of end markets, but how are you seeing the macro side and more importantly, the company-specific ramps? Any pushouts, pull-ins in those ramps, any color on your visibility would be great?

Eugene Sheridan
You bet. Ross. Thanks for the question.

I think the good news with the choppy market today is that we're not seeing pushouts and delays. That's pretty fundamental to our mid to long-term outlook.

In fact, the pipeline, as I highlighted in the prepared remarks, continues to grow, across all segments. We see growth with EV, especially around onboard chargers. That's a focus area for us, not only with silicon carbide in the near-term, but GaN in the medium-term, late '25 and into '26. We're really pleased with appliance and industrial, even though that market's a little softer on volume, 25 new design wins.

I think it's an all-time high, and that's pretty broad-based as I highlighted. Hair care dryers, washing machines, refrigerators, heat pumps is a big one. These -- that market takes a little longer, as we've been talking about, but now we're getting close to those ramps. Quite a few of them in '25, even more in '26. Even solar, which has probably hit the hardest in the last 18 months, as I mentioned, still on track for that GaN launch.

Next year, we see GaN moving into a beachhead position on microinverters, as we talked about for many quarters. But also silicon carbide continues to win more on the commercial string inverter side. And of course, I got to highlight AI data centers and enterprise in general. Coming from a 0 base, it's still one of the smaller segments for us, but it doubled in terms of the number of customer projects. 30 in Q1, 60 now with 3 design wins we highlighted in Q1, now 7.

So we like those trends. It's not too meaningful this year, but really starts to be appreciable in the overall revenue next year and continues to grow strongly with those sort of power increases that I talked about in my remarks.

So all that stuff's pretty encouraging. I don't highlight mobile consumer because that is our position of strength, that's where we're seeing upsides in the near-term. But that's certainly not going to go away as well, it will just become a smaller percentage of the pipeline over time.

Ross Seymore
That's very helpful. I guess just my one follow-up, either for you or Janet.

On the gross margin side, when those company-specific design wins that you just went through, Gene start to ramp over time. How do we think about the gross margin puts or takes? I think most of them are accretive, but when do you think those are going to start being built-in in a more meaningful way? And what's the kind of aspirational gross margin targets you think over the next year or 2 that the company could attain?

Janet Tao Chou
Ross, thank you for your question.

Let me first take that. And Gene can add more color.

Our gross margin is heavily dependent on mix. We're seeing very strong momentum going on in mobile. Last year, mobile is less than half of the revenue.

Now this year, year-to-date, mobile is more than half.

So that's kind of margin diluted. But at the same time, we're doing everything we can to drive margin improvement. We've been doing a lot of work with our suppliers to negotiate down, price.

As those demands start to ramp up in higher margin markets like solar, EV, or industrial, we will see margin improvement. We're still very committed to the long-term gross margin target of 50% and above.

Eugene Sheridan
Yes. And if I add to that, Ross, just to kind of relate it back to your earlier question, the market mix, and the pipeline, we're winning these customers, we're pricing them. We know what those price points are. We know what's coming to in '25 and '26.

So that adds to our confidence as Janet said that it's a market mix-based approach.

While we're -- I think, practical about realistic about mobile consumer being below that average in the short-term and even in the long-term, for obvious reasons, the other markets, we continue to feel confident and good about being at that long-term margin model, if not higher, driving the overall corporate average where it needs to be.

So I think that puts us in a good place, and that's why we we're comfortable reiterating those margin targets.

Operator
Your next question comes from the line of Blayne Curtis with Jefferies.

Blayne Curtis
I just want to follow-up on Ross's question. Last, I guess, in the June quarter, it seemed like mobile was growing and everything else was kind of correcting. I just wanted to understand, are the other kind of non-mobile businesses flattening out, or are they still declining as you look to September?

Eugene Sheridan
Yes. We don't break it up by quarter by market. But what I can say is, yes, we've seen further upsides on mobile and consumer, which is helpful on the top line, and now we're sequentially growing into Q3 as we guided. At the same time, I would say solar in particular is still a pretty small percentage, quite a bit down from where it was last year.

So I think that's the one. We've probably seen a trade-off between solar as a percentage of revenue versus mobile consumer, skewing that gross margin a bit. But I think things are pretty stable on the others, EV, appliance and industrial, and of course, enterprise is really just getting started.

Here's a 0 point as we're just ramping those programs.

So that's how I'd see sort of the pluses and minuses across the markets and the margin improvements.

Blayne Curtis
Helpful. And I'm just kind of curious as you look long-term, the -- between the kind of 4 segments outside of mobile data center, the EV, mobility appliances, and solar.

Just kind of curious. I mean, you can see the pipeline building. I'm just kind of curious between those 4. Which one do you think will contribute revenue the earliest? And is that mostly next year, or could you see some even into the end of this year?

Eugene Sheridan
Yes. We're already shipping silicon carbide into EV and solar. We're already shipping GaN into appliance and shipping SiC into industrial.

So we've got a base of business in each of those, but we're going to be layering in new growth. GaN going into solar for the first time next year in ramping, GaN going into EV by the end of '25, ramping in '26. Both GaN and silicon carbide ramping for the first time in appreciable production volumes second half of this year.

So they're all sort of layering in at different times. And those are largely driven out by product availability, but just design time from when we launched the higher power GaN and other new products in the last year.

Operator
Your next question comes from the line of Quinn Bolton with Needham.

Quinn Bolton
I guess I wanted to start, I believe last quarter you guys seemed to feel comfortable with a growth rate in '24 of about 20% for the full year. The September guide looks like it's coming in below consensus. And I'm not sure if you're willing to comment on a growth rate for the year, but just trying to sort of level set where you think 2024 might come out.

Eugene Sheridan

Yes. We didn't formally guide, but certainly anticipated a moderated growth rate this year. We still feel good about it. Obviously, it's important that Q3 is now sequentially growing 7% from Q2. We're not formally guiding Q4, but feel good about a growth outlook going from Q3 to Q4, and certainly feel good about growth rates obviously going into next year, albeit not giving a formal guide yet.

So we'll continue to go by quarter-by-quarter. But I'd say that's kind of the color commentary I would offer up.

Quinn Bolton
Got it. And then you guys have given us really good detail on the customer engagements, customer pipelines. But the near-term, it does feel like some of those projects are either delayed or maybe it's just taking longer to clear inventory before some new projects take off.

And so I'm wondering, can you give us any commentary about bookings trends, backlog? I think you've got a couple of questions, but do you feel like you're starting to see the turn in some of these other markets beyond mobile? Just kind of -- besides the customer activity, which maybe at no fault of your own, is subject to getting delayed or pushed out in time, what gives you confidence that the growth accelerates next year?

Eugene Sheridan
Yes.

I think short-term backlog coverage for near-term quarters is solid. That's encouraging. Inventory correction, as we said, pockets of inventory definitely in the channel, but we see those stable to improving.

So that's encouraging. And then not seeing the projects pushout, staying on track. I don't think, we saw any appreciable pushouts or delays or certainly cancellations.

So at the end of the day, it comes down to the actual production volumes. Customers can be on schedule, they can launch on time, but are they launching at 20% less volume or 20% higher volume? And those are things that ultimately you don't know until you get closer and the orders are coming in. But I think some of those other points about inventory backlog coverage are encouraging.

So we're cautiously optimistic, but just don't want to get ahead of ourselves in this choppy market.

Quinn Bolton
Got it.

So it sounds like it's maybe more fluctuations in those production volumes that may be the biggest swing factor rather than projects pushing out.

Eugene Sheridan
Yes, exactly. And obviously that's on running programs as much as it is on new programs.

So that's a good summary point.

Operator
Your next question comes from the line of Jack Egan with Charter Equity Research.

Jack Egan
So I had a bit of a high level one on data center. I'm curious as to what the biggest challenges are for the industry to increase the power level of power supply.

So you've talked about going from 3.2 kilowatts to 4.5 more recently and then aspirations for 8 to 10 kilowatts eventually. When it comes to the product design, for those server power supplies, what becomes, I guess, the long pole in the tent? Is it the power chips themselves and whether they can developing them so they can handle more power without breaking down? I mean, I'm basically wondering if the chips themselves are the limiting factor or if it's something else. And then I have a follow-up.

Eugene Sheridan
Yes.

You bet, Jack. That's a good question for sure. And really it does come down to the switching speed and the efficiency of the power chips.

If you can get the gallium nitride or silicon carbide chips to switch faster and more efficiently, the speed actually allows you to shrink the mechanical size of the other passive components, the transformers, inductors and filters, capacitors. When they shrink, not only are they coming down in size to pack more power in the same size, you're also shrinking the case size, the mechanicals, the PCBs.

And so mechanical shrink is going to come from the speed of gallium nitride and silicon carbide. At the same time, you've got to worry about the heat.

You have more heat to pack into a smaller space if you don't improve the efficiency. And that's why efficiency is the other critical one.

So you'll see us constantly talking about pushing frequencies up and pushing efficiencies up. We talked about doing -- now targeting 98% efficiency. That's 2 points bigger, 25% less power loss, compared to that titanium standard of 96, which is actually really hard to hit for silicon, let alone anybody else in the GaN or silicon carbide space.

So speed and efficiency are the key. And that's why I wanted to highlight in my remarks about that PFC circuit. The PFC circuit power factor correction traditionally is running at slow speeds in mediocre efficiency. And that's been holding us all back. Even when you add gallium nitride or silicon carbide, traditionally, you might get 1 point in efficiency, which is a big deal, but still not as high as we wanted. The fact that our team has invented a new architecture for PFC that pushes another 30% energy savings is a really big deal and does it at higher switching speeds.

So we're nailing those 2 things. And ultimately, that's what it's going to take, speed and efficiency, to deliver a lot more power in the same size rack or tray or individual server power supplies.

Jack Egan
Got it. That's really helpful. And then you are engaged in about 200 electric vehicle projects or wins. Could you go over maybe kind of the wins or pipeline by silicon carbide versus gallium nitride? And then is it fair to assume that most of those -- pretty much all of them are still in the DC -- DC-DC converter for now?

Eugene Sheridan
Yes, good question. Silicon carbide has been the biggest part of the flow. That's what's most commonly used.

If you're an 800 volt battery car, you're pretty much exclusively going to focus on silicon carbide.

If you're 400 volts, you start to have an option between the 2.

Now that Navitas has GaNSafe, it becomes a very viable option. But I'd say the majority of the EV pipeline is silicon carbide oriented. Today, we have a strategic focus on onboard chargers, which includes the charging of the battery OBC, as well as the discharging in the DC to DC converter, as you implied. We're also taking a look at traction inverters, traction motors.

So you're going to hear more and more about that step-by-step from us and what role we can play on that EV electric motor or traction motor. And the third category to not forget about is roadside chargers. That's a very big and exciting opportunity, today, most chargers are 100 kilowatts, 50 kilowatts. Tesla is leading the charge at 350 kilowatts. We're working with customers to push that to 400, 500, even 1 megawatt is not out of the question. And that's entirely 100% silicon carbide focus.

So you kind of look at in those 3 buckets with a majority towards silicon carbide as I described.

Operator
Your next question comes from the line of Kevin Cassidy with Rosenblatt.

Kevin Cassidy
Congratulations on the good results. Last quarter, you had named -- you had 3 data center design wins and 30 in the pipeline.

You said that was going to drive $10 million to $20 million in 2025. Are these new wins? Is this going to be additive to that, or were you kind of including that in the entire pipeline?

Eugene Sheridan
Yes. We certainly expected the pipeline to continue to grow from the 30, jumping up to and 60 is maybe a little better than we expected, but not totally out of line.

So I wouldn't change any expectation or guidance for next year. It'll certainly be very material and a significant ramp for next year.

Kevin Cassidy
Okay. Maybe if you can talk a little bit about the competitive landscape, because the data centers are screening for more power and more efficient power. And it seems to be attracting a lot of competition. Can you say how of your -- if you've got 60 design wins, do you have an idea of what percentage of the new designs that are happening that would be?

Eugene Sheridan
Yes. The 60 is the total customer opportunities in the pipeline. Not all of them are converted to wins, let alone, of course, revenue, which takes time. But competitively, when you go to higher power, it's actually even more challenging to use discrete GaN in these very high current, high power, high temperature environments.

So our GaN IC, specifically GaNSafe, brings a lot of value. Also, if you think about discrete GaN, is unprotected GaN, you go into these high power applications, they are expected to last 10 to 20 years lifetime. And GaNs, the new kid on the block, it's a new technology, it's unproven in these high power applications, which is why we took the time to integrate a lot of protection, reliability circuits, calling it the safest and most protected GaN in the world.

So all of that gives us significant competitive advantage. Not to say we're going to win everything. And there is competition.

You can debate silicon versus discrete GaN versus our GaN ICs or GaNSafe.

We also have silicon carbide being used increasingly in the PFC circuit, where I think we do really well there.

So there's certainly competition. I don't think the landscape has changed. And I think step-by-step, you'll see strong wins and strong market share from Navitas. Especially having the combination of GaNSafe for that second stage that I talked about, our generation 3 Fast silicon carbide.

For the first stage, and, of course, to bring the system design center, which helps our customers speed their time to market, but also get the most out of these technologies to maximize that power density and efficiency.

So I think all of that's going to play well. I don't see any major change to the competitive landscape.

Operator
Your next question comes from the line of Joe Moore with Morgan Stanley.

Joseph Moore

I guess following up on the data center. When you talk about customers, is it -- are you working with hyperscalers, ODMs? Is it the chip providers? Just give us a sense of who the partner is that you work with on that.

Eugene Sheridan
Yes. Definitely, Joe. Thank you.

So we ship into the power supply makers, those are predominantly in Taiwan and China, companies like LITEON, Delta, AcBel, Chicony, Compuware and many others. Those power supply companies then take that power supply and ship it into the guys who are going to do the system integration at the rack level and then ultimately go into the hyperscalers and the overall data center sort of aggregator.

So there's a number of steps in the process, but that's the flow. Increasingly we're talking directly to AWS and Alibaba and Google, Azure and NVIDIA themselves to make sure we understand those future power requirements. And I mentioned in the call that we're marching towards really a doubling of that rack power, 60 to 120 to 240 to [480.] Probably that keeps going. And those comments are coming from what we're learning about the future system requirements to try to work with our design center and those power supply companies that I mentioned over in Asia to kind of get ahead of that curve, which is not going to be easy, but clearly that's the goal.

Joseph Moore
Okay, great. And then I think you just talked about competition in the context of data center, but can you talk more generally competition in GaN? Are you seeing anything from China, the bigger powering companies who have done acquisitions in GaN? Just anything changed in the competitive dynamic from who you're competing against?

Eugene Sheridan
Yes. My comments about GaN and higher power GaN, it apply broadly to each of these higher power segments, whether it's data center, EV, solar, even appliance industrial, where discrete GaN is going to be increasingly challenged due to reliability concerns, complexity, and trying to get the most performance out of it.

So I think all of that plays well for our GaNSafe's technology. Also something we didn't talk about this time but did last quarter was bidirectional GaN. That's opening up all new applications in some of these higher power industrial areas. That's even more differentiated than discrete GaN.

So again, no change in the competitive landscape. I just think as we get more and more in the market with our GaNSafe ICs and then bidirectional GaN, that's going to strengthen our position and wins.

Operator
Your next question comes from the line of Jon Tanwanteng with CJS Securities.

Jonathan Tanwanteng
Gene, I get the design momentum and the no real pushouts commentary and that the swing factor may be customer production volumes. But I was wondering if you get -- give a little more color on which end markets are maybe feeling a little bit more uncertainty or maybe a little bit more urgency to get products out. What's -- where are the deltas and the momentum, or maybe lack of momentum as you look forward?

Eugene Sheridan
Yes. Definitely, Jon. And I mentioned that while we're seeing some nice upsides in the mobile consumer, we also mentioned how notebooks has sort of firmed up and got some nice wins there. I still say solar is the area.

If you look at kind of percentage of revenue, percentage of pipeline, it's solar. That still seems softer than the other, let's say EV and industrial.

As much as the growth rate came down earlier in the year, as many others commented on -- those seem pretty stable as a mix of revenue and pipeline. The one positive in solar, as I mentioned, is of course, GaN for the first time going into microinverters next year, that continues to be committed, stable, on schedule program.

So those are how I see sort of the pluses and minuses across those markets.

Jonathan Tanwanteng
Got it. And maybe you could address the AI market or the data center market a little bit more. There's been a lot of recent investor consternation over capital spending and returns, and there's been rumors in the market of chip delays. I was wondering if any of that filters down to you into your conversation with your customers. And now that you're talking to the end users like AWS that have they told you kinds of the volumes that you should be expecting down the pipeline or what kind of disruptions there might be if there's a delay?

Eugene Sheridan
Yes, Tanwanteng, I'm glad you brought up like cost to capital, because that complicated sort of supply chain, or the number of steps from going to chip to power supply to rack to integrator to hyperscaler, actually it's a bit of a challenge for us. One, we got to anticipate the future power requirements that we would have to connect down the supply chain. Also another benefit I didn't even bring up earlier about trying to pack more power in smaller size, due to switching speed and efficiency.

The other one is when you get higher efficiency, you start reducing the cost of electricity in the data center. Those numbers are actually pretty big. And then you start reducing the cost of cooling the data center. Those are the second biggest expensive things. And right now, we feel like we're not getting paid for those benefits at the power supply guys, because they're trying to ship a power supply at the -- just keep up with the power density requirement.

So I think there's real opportunity better articulate and help the down the line hyperscalers and the rack integrators to truly understand the cost of electricity benefits, the cost of thermal

benefits. And I think that'll all come out over time. But this is a new field, GaN, it's a new technology, and we're still kind of getting that message out and building a deeper understanding of all the value throughout that supply chain.

Jonathan Tanwanteng
Is it fair to say as you go into these higher kilowatts per rack, where maybe the competition won't be as able to keep up that you could conceivably charge a higher margin for [Technical Difficulty]

Eugene Sheridan
Yes, we do.

In fact, if anything, when we talk to these guys, they're like, don't worry about the cost.

You need to deliver the efficiency.

You need to deliver the thermals.

You need to deliver the power.

Now, they're not the guys buying the power supply. They're down -- down the supply chain. But still that seems to be their obsession.

So this adds to our confidence that we've got real value here. That value is going to grow over time. It'll help us with our long-term margin expectations, of course, as we said earlier. But we got to get that message out throughout the entire supply chain.

Operator
[Operator Instructions] Your next question comes from the line of Richard Shannon with [Craig-Hallum.]

Richard Shannon
Most of mine have been answered here. But one thing that was interesting here, Gene, is in the last conference call, you talked about this new product called GaNSlim. And I think you said, you had 20 projects.

Now, in the press release today, you said you got 50, which is a pretty big pickup, although I see it's mostly mobile consumers.

So I can see why you're picking up pretty fast there. But I guess my question is, how fast do you expect that to take over most of the interest from that consumer and mobile market?

Eugene Sheridan
Yes. Thanks for bringing it up. We didn't put a big spotlight on it with everything else going on. And you're exactly right. We see GaNSlim taking up a lot of -- creating all new opportunities, even more price sensitive ones. It's now clearly more cost effective than silicon at the system level. That's opening up not just mobile opportunities, but consumer opportunities. I didn't put

much emphasis on appliances, just because that takes longer. But it's definitely going to be going in there and accelerating the appliance sector, which is already growing pretty strongly with those 25 new wins.

So, yes, I think you hit on it correctly. GaNSlim is really promising. It's opening up new markets, helping us grow share in the existing mobile markets. And all those markets are under 500 watts, right? So there's kind of no limit to where it could go. 500 watts is a lot of power, fast charging or even powering your TV, even powering LED lights.

So there's a lot of applications out there across mobile and consumer that are sub 500 watts and a good target for GaNSlim.

Richard Shannon
Okay. That's helpful perspective, Gene. My last question here is on mobile. I've asked this, I think many people have asked this question over the years or quarters you've been doing calls here. But curious as you have seen an increased attach rate through chargers here and then getting any visibility as you go into next year with major phone introductions moving up the charger power curve, getting above that level that you think is going to be kind of a breakpoint for, again, adoption. Getting in more visibility into that as you get into next year.

Eugene Sheridan
Yes. Thanks for bringing it up, Richard. We've talked a lot in the past about 65 watts and up, being kind of that sweet spot. When you're down around 20 watts, 30 watts, it's mostly plastic in case it's already pretty small.

So there's not a lot of leverage for GaN.

You can do it, but you're kind of a cost play at that point.

So we're obviously very focused on value and improving that consumer experience. 65 watts is very fast charging for a phone and actually quite fast charging for a tablet or a laptop.

If you look across the major players out there, it's the Chinese, Oppo, Xiaomi, Vivo, and others that have been super aggressive to go to 65 watts and higher, 100 watt. We even talked about 200 watts to fast charge a phone, which is easy, fast, 0% to 100% in 9 minutes.

So these are crazy numbers, but we continue to believe those are an indication of where the whole industry is going. There's no reason that China suppliers in particular would be at these higher power levels and others wouldn't.

I think others have their own roadmaps. They have their own sort of conservative approach to product development. But I think those are coming.

If you look across the Koreans and the American players, they're now pushing mainstream in the 45 watt range, 30 watt range, which means you're just a step or 2 away from that 65 watt tipping point, if you will.

So I think we see that the trends are going to continue. Everything is going to keep going up into that 65 watt and higher range. And ultimately, we're not done until the consumer can really superfast charge all your devices from one tiny -- 100 watt, 200 watts multiport charger.

Operator
And your next question comes from the line of Jack Egan with Charter Equity Research.

Jack Egan
I just had one.

So on the expansion of the internal silicon carbide epi capacity, given some of the lower expectations just for the overall SiC TAM growth this year, have you guys adjusted kind of the pace of your expansion at all, or is it still just going full steam ahead with the internal epi?

Eugene Sheridan
Yes. No, you're exactly right, Jack.

With the markets adjusting for slower growth rates, there was not the pressing, immediate need to bring that first reactor online.

So we put it on hold.

We expect to bring it online next year when we can ramp it and get those cost and margin enhancement benefits we talked about. When we originally announced a $20 million strategic manufacturing investments over 3 years, it was sort of one reactor a year.

So probably fair to say you can assume that plan has shifted by about 1 year based upon the market outlook and the market need.

Operator
Ladies and gentlemen, that concludes our Q&A session and today's call. Thank you all for joining.

You may now disconnect.