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PRESENTATION

Operator

Good day, and thank you for standing by. Welcome to the Transphorm's Second Quarter 2023 Earnings Call. (Operator Instructions) Please be advised that today's conference is being recorded.

I would now like to hand the conference over to your speaker today, Jack Perkins, our call moderator. Please go ahead.

Jack Perkins

Thank you, operator. Good afternoon, and welcome to Transphorm's Second Quarter Fiscal 2023 Earnings Conference Call. Joining us today from Transphorm are Mario Rivas, Chief Executive Officer; Primit Parikh, Co-Founder, President and Chief Operating Officer; and Cameron McAulay, Chief Financial Officer.

Before we begin, I'd like to point out that there's a slide presentation associated with today's prepared remarks, which management will be referencing during the conference call. These slides can be assessed through the live webcast linked in the Investors section of the Transphorm website, where they will also be posted and available as a link to a PDF subsequent to today's conference call.

Additionally, during the course of this call, the company may make forward-looking statements regarding the company's financial position, strategy and plans, future operations, specific end markets and other areas of discussion. It is not possible for the company or management to predict all risks nor can the company assess the potential impact of all factors on its business or the extent to which any factor or combination of factors may cause actual results to differ materially from those contained in any forward-looking statements.

In light of these risks, uncertainties and assumptions, the forward-looking statements discussed during the call may or may not occur, and actual results could differ materially and adversely from those anticipated or implied. Any projections as to the company's future performance represent management's estimates as of today, November 9, 2022. Neither the company nor any person assumes responsibility for the accuracy or completeness of the forward-looking statements. The company also undertakes no obligation to publicly update forward-looking statements for any reason after the date of this call to conform such statements to actual results or to the changes in the company's expectations. For more detailed information on risks associated with the company's business, we refer you to the risk factors described in Transphorm's most recent quarterly report on Form 10-Q and other subsequent filings with the SEC.

With that said, it is now my pleasure to turn the call over to Transphorm's CEO, Mario Rivas. Please go ahead, Mario.

Mario Alberto Rivas Transphorm, Inc. - Chairman of the Board & CEO

Thanks, Jack. And welcome to everyone on today's call. Thank you for joining us. This quarter, revenue was \$3.7 million, up 11% on a year-over-year basis when excluding onetime licensing revenue in the prior year. Product revenue was up 38% compared to the same period a year ago.

We improved supply from Japan Epi reactors and completed the acquisition of additional MOCVD reactors, increased shipments from previously announced Fortune 100 laptop adapter win to a top 3 worldwide laptop manufacturer and secured a new Fortune 100 laptop

adapter design-win.

We strengthened senior operations, sales and marketing teams with seasoned industry leaders; secured ARPA-E program to innovate on Transphorm's unique bidirectional GaN technology that replaces 2 to 4 silicon devices with a single FQS GaN in applications like microinverters and motor drives; secured the approval for the wholly foreign-owned enterprise in Shenzhen, China to enhance the local customer support, sales, field applications and marketing; we expanded package offerings by adding in industry standard PQFN products, which enable pin-to-pin with multiple sources. This complements our existing high-performance PQFN products, both validated to deliver superior results versus competing GaN products.

With that, it is now my pleasure to turn the call over to Primit Parikh for a more detailed overview of the quarter.

Primit A. Parikh Transphorm, Inc. - Co-Founder, President & COO

Thank you, Mario, and good afternoon, everyone. We are pleased to report TGAN's second quarter revenue of \$3.7 million that is slightly higher than the current consensus estimates. While this revenue was lower sequentially over fiscal Q1 due to the supply constraints we had previously alluded to in August, the product revenue in fiscal Q2 represented a 38% increase over the prior year FY '22 Q2.

Product revenue continues to be well over 80% of the total revenue in line with our long-term goals, and high-power portion of the product revenue was over 65% of the product revenue. All of this amidst what is still quite a challenging environment with multiple macroeconomic headwinds.

We have continued our leadership in high-power GaN, continuing shipments of products for multi-kilowatt systems serving the gaming, energy, server computing and blockchain as well as industrial power market segments. In parallel, more and more customers are recognizing the simple strength of our easy-to-use higher efficiency, TGAN FET versus competing e-mode gallium nitrate solutions, which is exemplified by us now shipping to a worldwide top 3 laptop manufacturer and securing another laptop adopter design-win at a Fortune 100 customer.

These successes have been a direct result of our targeted investments in these areas, and we plan to continue investing in these areas in the future, both internally and with our external design partners. We are in the midst of addressing some of our supply chain challenges, notably bringing more of our existing reactor capability in Japan online. And we are now seeing a nice progress there, especially with the COVID-related travel restrictions now no longer a hindrance.

The increased wafer output will allow us to address growth in product revenue for fiscal Q3. Moreover, we are also acquiring additional reactors expected to be delivered in calendar Q1 '23 that will facilitate further expansions later in calendar 2023, as previously discussed.

Transphorm has continued to lead on the innovation front and are now executing on an ARPA-E program to develop bi-directional gallium nitride switches. This is a very unique attribute of our [natural] GaN technology and IP that allows 2 to 4 traditional silicon-based devices to be replaced by a single bidirectional GaN in applications like solar microinverters and motor drives.

We have expanded our package offering, which is one of the most comprehensive in the GaN industry to include industry-standard surface-mount PQFN packages that allow pin-to-pin compatibility with multiple GaN sources. This complements our existing high-performance PQFN packages and both are validated for superior results versus competing GaN.

The key challenge for us -- in front of us over the next 2 quarters and FY '23 is both continuing the vector to increase our wafer capacity and increased demand across multiple applications. As reported by many companies, laptop and mobile market softness is continuing. And our goal in this area is to win new accounts for gallium nitride, increasing our market share.

Blockchain, traditionally one of our stronger areas, is experiencing weakness presently. However, our customers expect recovery over the next 6 months or so. Meanwhile, with our proven leadership in high-power GaN, we are addressing growth in the server, renewable and gaming segments while building design-in momentum in the electric vehicle 2-wheeler, 3-wheeler area.

While it is too early to comment on FY Q4 '23 in the current environment, we believe these efforts will help keep us on track and address our targeted revenue growth in the third quarter. To continue our momentum, we have now expanded our Asia presence, added new partners and bolstered our senior team.

We are pleased to report the establishment of our Shenzhen entity focusing on sales, field applications and local marketing activities. We also continue to add partners and deepen relationships with controller and IC companies as well as independent design houses or IDHs. This key part of our ecosystem is enabled by easy-to-use gallium nitride FET that can be driven by standard, discrete or integrated drivers seamlessly.

We are very pleased to have recently announced 6 new leadership appointments, comprising both internal champions and new industry veterans, hired from well-known power semiconductor leaders like Onsemi, STMicro and [Alpha & Omega]. To the best of our knowledge, TGAN is still the only GaN company to be shipping anything in high volume in multiple programs in the kilowatt range today, making us a true one-stop shop for GaN from low power to high power kilowatt class.

With our high-power strength and strong IP, including application-based IP for high power, we remain poised to expand into new segments. For example, we aim to convert the EV 2-wheeler, 3-wheeler opportunities into a multimillion dollar revenue base for us in FY '24, while systematically penetrating the 4-wheeler segment after that with onboard chargers, DC-DC auxiliary converters and ultimately, drivetrain inverters. I will talk about our progress in these areas later.

Overall, with approval, performance and design benefits of TGAN over competing solutions and leadership in high power, backed by the strong application-based patent portfolio, we remain well positioned to address the \$3 billion GaN TAM in diverse areas like servers and communications, blockchain computing, gaming, energy and electric vehicles, 2-wheelers, 3-wheelers, 4-wheelers, while also allowing for growing our share in the lower-power fast-charger adapter segment.

With that outlined, I will next review some of the salient point of TGAN's value proposition as a recap, then review the results of our planned execution in September 2022 ending quarter and our key challenges over the next 2 quarters as well as our expansion strategy for beyond FY 2023.

Moving on to Slide 3 now. Gallium nitride is a wide-bandgap semiconductor material for power conversion that reduces electrical energy waste, enables compact and cost-effective power systems across a variety of electrical power conversion applications. Low-power laptop or mobile chargers, fast chargers, high-power computing power or automotive inverters. And by virtue of its inherent properties [TILS] is much better than traditional silicon and also better than newer semiconductors like silicon carbide.

TGAN, a pioneer and leading manufacturer, is a supplier of these high-voltage GaN power semiconductor products over the widest range of applications, from 30 volts low power to over 4 kilowatts high power. The success in these applications for Transphorm has been a result of our continued core strength, investments and strategy.

Our fundamental IP platform with over 1,000 patents worldwide as well as our high-performance, high-quality products that have more than 80 billion hours in the field have been validated by blue chip partners, customers, investors, including financial partners, IC design partners, manufacturing partners, automotive-industrial market leaders and the U.S. Department of Defense.

Our core and differentiated product offering is enabled by a high-quality wafer manufacturing base that we essentially own. Above all, GaN is addressing a large growing multibillion-dollar market including electric vehicles and 5G smart charging, among other things, that our passionate team members are helping us to penetrate.

Moving to Slide 4 now. Transphorm is in a unique and differentiated position among the GaN suppliers with our one core platform strategy that spans a wide range of power spectrum with products in the market today that address a tremendous multibillion dollar market opportunity for GaN power conversion, again, from low power adapters and chargers to high-power server, blockchain, datacom power to industrial, energy and PV inverters, renewables that we are already ramped in all of these areas.

And then in the mid- to long-term large growth opportunities with automotive electric vehicles, both EV 2- and 3-wheelers, first, in calendar year 2023, followed by EV 4-wheelers, further continuing GaN and Transphorm's growth beyond 2024, 2025. Transphorm GaN solutions in production today deliver high efficiency compact systems with easy-to-use and easy to interface products for the customer with proven performance benefits, which are the combination of efficiency, smaller size, lower weight, faster charging, against silicon, silicon carbide and other GaN solutions like e-mode.

In Slide 5, we talk about one of our key attributes and that is the ownership of our GaN wafer production supply chain, an advantage that is becoming even more important in today's changing geopolitical climate. This vertically integrated strength starts from the design of our safe, robust, easy to interface, normally of gallium nitride FET. We directly own and control our gallium nitride Epi wafer manufacturing with multiple MOCVD reactors. These are tools used for making or growing GaN material on thick silicon wafers in 2 geographical locations, California and Japan, today.

Our wafer fab factory is a joint venture with our financial strategic partner. And as a recap, is a high-quality manufacturing site with the only publicly reported data that show yields for GaN can match those of silicon CMOS running in the same factory, a feature that has contributed to our high-power GaN products yield and quality.

While packaging is done with our high-quality OSAT partners, we bring TPH Transphorm IP in this design. For example, allowing the GaN to be efficiently used in robust TO packages desired by high-power customers. Last but not the least is our application and design effort, both with customers and our solution partners who prefer now to work with our GaN because of seamless integration with their controller and driver products.

Now on Slide 6, as one looks at the competitive landscape, the Transphorm, TGAN FET performs as a leader in various verticals from low power to high power, delivering the broadest range of power. As silicon is falling short of meeting rising demands in form factor or size, speed and efficiency, gallium nitride is penetrating the power market. Many good companies are in the market with gallium nitride, notably at lower power adapters and chargers, while Transphorm addresses both, high power and low power together.

A few key inherent factors that outline Transphorm's differentiated benefits versus competing GaN. First of all, superior efficiency, superior performance due to lower losses from the gallium nitride FET and especially at operating temperature due to the design of our GaN FETs.

Secondly, due to our integrated silicon FET gallium nitride high-voltage device combo, a robust architecture and easy-to-use platform is enabled, capable of both thermally robust high-power packages and use of substandard drivers and controllers and often integrated drivers that are already existing, literally for free, in existing controllers.

What we are also seeing now is some of the so-called ICs that are attempting to go to high power, the IC component is actually remote and a discrete FET is used, basically a regular GaN.

Another important retribute is that our integrated architecture's robust silicon-like interface and strong high-voltage gallium nitride device combo has resulted in proven operational reliability in both low power and high power applications versus -- most of the field data in competing GaN so far at least coming from only lower power. For our gallium nitride, we also aim to deliver on higher voltages. For example, certain 900 volt products are already in the market today and 1,200 volts is in R&D. That will certainly challenge silicon carbide at the higher voltage, higher power node where silicon carbide is gaining traction today.

This is especially because GaN is proven to be a much lower loss as much as 25% to 35% as we have previously discussed versus silicon carbide and does not have the high cost of FET in the complex supply chain associated with it.

Next in Slide 7, we talk about these advantages that are increasingly being validated with proven wins with customer systems in production, as TGAN FET is adopted in many more market verticals today with higher range, higher reliability and higher performance. As you can see, applications like server power, gaming, blockchain and a variety of industrial and renewables and also high-rel applications are delivering more than 10x the power level that some of the other GaN offerings enable today in customer systems.

Again, why do we build? This is due to the inherent GaN platform, which features like use of a single device instead of two in higher power applications. More than 30% effectively lower resistance or loss benefit for similarly specified competing GaN devices like certain e-mode GaN and scalability to high power.

And finally, higher the power, higher the energy and higher the impact on carbon footprint. Where gallium nitride can deliver a very meaningful gain, a 1% efficiency advantage in systems is very significant because it can save several hundred kilowatt hour for, say, a 3-kilowatt system and well over 100 pounds of carbon footprint just from a single device, depending on your source of energy.

Let me show on Slide 8. With these benefits, a variety of customers have selected TGAN in adopters and chargers. Out of the 70-odd design wins that we have ongoing that spans 30 watts to 250 watts in this lower power range, we are now shipping to one of the top 3 worldwide laptop manufacturers. Some examples of new wins this quarter are at the 65-watt and 100-watt nodes, and we show them here.

Moving on to high power on Slide 9. As we emphasized, the high-power space is a very large market for GaN and very importantly, again, higher energy impact, higher savings for our customers, and for Transphorm, higher semiconductor content. Our Gen 4 and Gen 5 offerings are now gaining momentum, and we are working with about 45 design-ins, many in production, some examples of which are shown below.

In diverse applications like gaming, data center server power, where Transphorm by the way, was first to show titanium-related GaN efficiency with its patented totem-pole architecture now being used by many. UPS, where our gallium nitride enabled a 50% form factor reduction from 2U to 1U and other industrial, medical and blockchain power applications. As customers endorse and also featured in certain third-party teardowns, all of this is enabled on the foundation of efficiency, performance, ease of use and reliability.

While there is a very significant high power and low power growth that I talked about, now on Slide 10 here, we show that EV applications continue to present a massive long-term opportunity as the performance of GaN enables continued performance of EVs, addressing fundamental issues of power loss, heat generation and anxiety of range with the high-power density delivered by GaN -- Transphorm GaN enabling things like faster charging, we reduced size and lower losses that ultimately results in higher range.

Transphorm has AEC or automotive qualified products today with our Gen 4 high-power solution already ramped in the market in various commercial and industrial applications with proven field reliability. Our 1,200-volt gallium nitride platform today in R&D has delivered early results already showing efficiency similar or even higher to silicon carbide in the multi-kilowatt range and built on a simple architecture, not requiring any fancy designs like vertical GaN structures, for example.

Like we first talked in August, we are working to accelerate the EV adoption with 2-wheeler and 3-wheeler electric vehicle charging segment that falls into the sweet spot of our today's high-power solution. The specific GaN opportunities in the EV today remain in the areas that we are focused on, onboard chargers, DC-DC auxiliary power converters and off-grid DC-AC inverters, with the main drivetrain inverter opportunities opening up after 2025, '26, that can actually triple the accessible GaN content to \$200 per vehicle, conservatively.

We aim to be in the full market, with 650-volt devices today and higher voltage, 1,200 volts in future, including addressing future 800-volt battery vehicles to enable transform to address all key EV slots. Our 1,200-volt gallium nitride demo results like I showed before has better performance than silicon carbide. And this has started to generate attention now from EV customers.

For the 2- and 3-wheeler, we are directly addressing a variety of charging opportunities, including the onboard charger. This is also a very attractive market, more near term worth of TAM that approaches \$1 billion to unlock opportunities for Transphorm to address by end of calendar year 2023.

Looking at the holistic picture in Slide 12, we wanted to point out one of the key ESG impact of gallium nitride and Transphorm's offering, a tremendous amount of energy that can be saved over the next several decades. This is not just one Transphorm, but the ecosystem together in gallium nitride-based power. Our bottoms-up internal analysis shows that multi-100 terawatt hours of savings potential is

achievable with gallium nitride power in computing and communications, industrial and renewables, e-mobility segments.

Next, in Slide 13 now, we move to where we are today, our September quarter performance and execution on key vectors that drive our growth. With our continued leadership in high power at 65% of product revenue this quarter and continued penetration in low power, we have modestly exceeded consensus estimates, delivering \$3.7 million of revenues, including \$3.2 million of product revenues, while also dealing with some of the supply chain and capacity challenges that we faced.

We added both new design wins, 10 plus in the low power adopter segment, bringing our total design wins to over 70, driven by our GaN FET's ease of use, high performance and facilitating a lower total BOM, bill of materials, for the customer. Out of these, around 25 are now in production, with 3 new transitioning to production this quarter.

We also won a design at a Tier 1 laptop manufacturer, and we are also now shipping to a worldwide top 3 laptop manufacturer. In the high-power segment, we added 10-plus design wins this quarter, bringing the total to over 45 plus with 20-plus in production, including 5 moving to production this quarter. Here, our evaluation and reference kits for high power, the availability of thermally robust packages, which are not easily available or available at all with other gallium nitride, has helped us to continue our traction.

We plan to continue to leverage this and expand into more segments, notably accelerating EV adoption by addressing the EV 2-wheeler market with revenue potential in CY 2023. We are making progress with reference evaluation solutions in this segment and are in discussions early design-in with several target customers now. We started sampling our pin-to-pin compatible PQFN packages that enable customers to use higher performing TGAN products while allowing them the comfort of multiple GaN sources as is required in some of these designs.

These complement our performance PQFN packages that have already been in production with our Super Gan platform and both packages delivering higher performance than other gallium nitride. We have made some progress in getting more of our internal wafer existing capacity online and acquiring new Epi-wafer capacity. To this end, our Japan Epi reactor capacity is significantly improved now, enabled in part by seamless travel between California and Japan and procurement of some of the pending reactor hardware items.

We are also evaluating incremental investments in our JV factory for FY '24 growth and beyond. For packaging, as we previously mentioned, we have sufficient capacity in place for adopter charger PQFN products as well as our high-power products, at this time and emphasis there will be adding SKUs -- package SKUs to broaden our application space and offering more flexibility to our customers.

Our near-term business focus remains squarely on supply chain management and capacity expansion with equal emphasis on demand generation and diversification to remain ahead of the challenging macroeconomic issues in semiconductor and some of our end target application areas as well.

As we move to Slide 14, strategic partnership and government initiatives are key for our business. We are now adding 2 more Epi reactors that we aim to be fully online with in the second half of CY 2023, bringing the recently acquired new reactor capacity to 4 and per our targeted plan, on track for doubling Epi-wafer capacity, but by end of CY 2023. We are making these investments ahead of time, especially due to the long lead times for securing equipment as well as qualifying its release to production.

The Global Wafers Corporation partnership and Epi expansion is well on track and allows us in the future to be even more aggressive on the capacity side for our long-term demand scenarios and growth model. On the wafer fab, we continue to align plans with our JV partner and are investing in incremental capacity for next year, FY 2024.

With respect to our customer partners, firstly, with Yaskawa where we focus on robotics applications, the focus is now on the next development and funding milestone for end of the year. The Nexperia partnerships remain strong, with continued focus on Epi and wafer supply. In the electric vehicles area, we are executing on our strategy to accelerate revenues here by addressing the 2-wheeler segment in Asia for nearer-term penetration in CY 2023 and are developing our own reference design solutions for the same. This segment represents a roughly \$1 billion TAM for our automotive qualified high-power GaN products in the multi-kilowatt range.

The 4-wheeler opportunities for the mid to long term, focused on onboard charger, auxiliary converters, DC-DC converters and investigative efforts at small drivetrain inverters started in the 50-kilowatt range.

On the government side, our fiscal Q2 billing on the Navy program was around \$0.5 million. We are now targeting a follow-on program in fiscal Q4 as the current program wraps up in fiscal Q3. We are also continuing R&D on new nodes like the 1200 volts and the innovative bidirectional switch, a unique topology enabled by a lateral GaN, like I talked about, under a small ARPA-E program.

With a significant portion of our core Epi wafer manufacturing in the United States, we are also aiming to position for the CHIPS act funding and submissions for that are expected to be in calendar year Q1'23. All in all, (inaudible) and the broader semiconductor industry have been in a challenging spot these past few quarters, we remain positioned to tackle near-term headwinds and progress towards our long-term model, aided by both capacity expansion and aggressively increasing our worldwide sales outreach.

TGAN's focus remains in 3 key areas. First, capacity expansion and supply chain management, keeping up with and then next year staying ahead of demand, generating as well as diversifying demand, both expanding our leadership in high power GaN and winning marquee lower power adapter and charger opportunities. And by the end of CY '23, starting to bring in EV wins in the 2-wheeler, 3-wheeler segment. And third, continued execution on our product road map and key partnerships.

The strategy and initiatives that we have outlined here are expected to allow us to resume sequential revenue growth in the third quarter and then emerge stronger going forward into FY 2024.

With that, over to Cameron to walk you over through our financials in detail. Thank you.

Cameron McAulay Transphorm, Inc. - CFO

Thank you, Primit, and hello to everyone joining us today. Let me start with a brief recap of our financial results for our most recently completed quarter. For my remarks, I will refer both to GAAP and non-GAAP results which are reconciled to GAAP in our press release today. Non-GAAP results exclude stock-based compensation, depreciation and amortization and adjustments to fair value of our previously held convertible note.

Starting with the income statement. Total GAAP and non-GAAP revenue comprising product and government was \$3.7 million in the quarter. This represents an 11% quarterly growth when compared to \$3.3 million product and government revenue for the same quarter in the prior year, excluding licensing. Product revenue, as of the prior quarter, now forms the majority of our total revenue number, over 85% in the quarter just completed, much of this revenue being generated in the higher power applications.

Continuing to focus on product sales, solid execution allowed us to meet our target and generate product sales of \$3.2 million. Despite the reduction relative to the prior quarter, this still represents a 38% increase from the same quarter in the prior year. We expect to see further growth in the coming quarter. This revenue is being driven across a broad range of power conversion applications, including fast chargers and adapters, gaming, data center, UPS and blockchain.

The gross margin in the quarter was 12%, a decrease of 10% from the prior quarter. This decrease is driven by the quarterly revenue reduction with indirect manufacturing costs constituting a larger drag on margins. This drag will reduce as we resume revenue growth. Our direct margins remain consistent, and we continue to progress towards our long-term model of gross margins in excess of 40%. A number of actions, including new product introduction, discrete ongoing cost efficiency activities and benefits that we will receive as we continue to grow in scale will contribute to this.

Operating expenses on a non-GAAP basis were \$5.1 million in the current quarter, compared to \$5.4 million in the prior quarter. This 5% reduction being driven largely by a reduction in G&A costs associated with our year-end procedures incurred in the prior quarter, together with ongoing tight spend discipline across the company.

Enabled by our strong balance sheet, the company continues to increase our team to support our operations across all aspects of the company, including leadership, G&A, sales, applications and R&D. When comparing non-GAAP OpEx to the same quarter in the prior

year, we saw a 15% increase, primarily due to personnel increases across the company as just referenced.

Turning to EPS. I will focus my remarks here on the non-GAAP results. Despite the reduced revenue in the quarter, our tight OpEx controls enabled us to execute to non-GAAP EPS loss of \$0.09, \$0.01 lower than the prior quarter and flat for the same quarter in the prior fiscal year.

From an operational perspective, we continue to see solid traction in our targeted markets. The company is fully booked for the current quarter. Our short-term focus being on product execution and enabling capacity expansion to support medium to long-term growth. We also continue to invest in the long-term growth engine of the company, including new reactors. We anticipate bringing these reactors online in the second half of calendar 2023.

Coming now to the balance sheet. Q2 saw the company maintain a strong, healthy balance sheet. Our operational bond, excluding capital investments in the quarter, was reduced to \$5.8 million, driven by continued focus on cash and working capital management, together with solid receipts. This performance affords the company a stable runway to resume its growth trajectory and invest in growth.

Inventory grew as we look to support our backlog position, other assets and liabilities remained largely stable. Our activities have improved the shareholders' equity position \$55 million when compared to the same quarter in the prior fiscal year. Looking ahead, we will remain open to opportunities to further strengthen our balance sheet to ensure that we're able to continue to invest in the company growth.

Coming now to our target operating model on the next slide. Transphorm is in a process of building a high-growth, cash-generative business. From a revenue perspective, there are 3 streams of revenue: licensing, government and products. In the current fiscal year, product revenue has accounted for over 80% of our total revenues as we look forward to expecting that trend to continue.

The company anticipates rapid top line growth and GaN adoption across multiple end markets with a 5-year CAGR in excess of 50%. We are confident that the company can achieve overall gross margins of over 40%, all segments will be able to benefit from the improved cost structure in our current Gen 4 and Gen 5 products. Additionally, gross margins will improve via a number of specific actions, including new product introductions and discrete ongoing cost efficiency activities as well as economies of scale.

With respect to operating margin, the company will continue to invest to support all aspects of our core operations. We have a very stable OpEx structure which will ultimately allow us to translate our gross margins into an operating margin model that will deliver over 20% to the bottom line. From a cash generation perspective, CapEx will be required for increased scale in the medium to long term, but with a strong manufacturing footprint already in place, we will be able to generate free cash flow in excess of 10%.

Finally, I wanted to touch on our position. The company is well positioned to grow across multiple segments, including consumer, data centers, blockchain, industrial and in the medium to long term, the EV market. We are now at a stage where we have seen and continue to see strong adoption as evidenced in the prior quarter in the higher power space by an over 500,000 production order for 3-kilowatt (inaudible) power supply.

In the consumer segment, we increased shipments on previously announced Fortune 100 laptop adapter win, a top 3 worldwide laptop manufacturer and secured a new Fortune 100 laptop adapter design-win. Revenue traction exists today in several segments, including consumer, data centers, blockchain and industrial applications. We have seen strong traction and expect to grow revenues from our solid base.

Looking ahead, our solid balance sheet will allow us to continue to invest in our growth engine across all aspects of the company, both from a staffing and a capacity perspective. With this strong foundation in place, our focus turns to execution, ensuring that we can support the growing demand and what we believe will be a broad market inflection point in the medium term. In addition to our existing revenue streams, we expect to see initial wins in the automotive segment in this time frame. From there, the company will rise towards our long-term target model, enabled by continued momentum across multiple segments.

Concluding on the final slide with a few key highlights. Transphorm publicly listed on the NASDAQ exchange, is a pioneer and leading provider of GaN power conversion devices. We have disruptive technology that provides solutions today across a number of significant growing markets. We have established a strong network of blue chip partners, including KKR, Marelli, SAS, Yaskawa and others. We have a comprehensive product offering today that meets our customers' needs across a wide range of power levels in the segments, all of which is underpinned by a strong balance sheet, the industry's strongest IP position and a deep and talented team.

That concludes our prepared materials and remarks. We would now like to open the call to any questions. Operator, please proceed with the Q&A portion of the call.

QUESTIONS AND ANSWERS

Operator

(Operator Instructions) Our first question will come from the line of David Williams from Benchmark Company.

David Neil Williams The Benchmark Company, LLC, Research Division - Senior Equity Analyst

Congrats on the continued progress here.

Primit A. Parikh Transphorm, Inc. - Co-Founder, President & COO

Thank you.

David Neil Williams The Benchmark Company, LLC, Research Division - Senior Equity Analyst

I guess maybe first, Primit, you talked about the guidance, you noted a 20% growth Q-o-Q with an opportunity for 25%. I'm just wondering if maybe you could walk us through the puts and takes there to achieving the 25%. And if there's an opportunity maybe to outgrow that as well? Is this more of a demand or a supply side challenge for you?

Primit A. Parikh Transphorm, Inc. - Co-Founder, President & COO

Sure. So like we also noted, right, we have made definitive improvements on the supply side since last time, but it continues to be a very dynamic mix today of both demand and supply. So we are executing on both fronts. So we definitely feel good about the 20% sequential growth, which is in today's environment beyond the current quarter that we just announced. But yes, we -- it's hard -- it's not easy to say today how much more we can do, but we do need to execute on both supply side and demand side simultaneously. But that's the range we are feeling reasonably good about at this point.

David Neil Williams The Benchmark Company, LLC, Research Division - Senior Equity Analyst

Okay. Fantastic. And then I wanted to ask a little bit about on the technology front. You've got a new 4 quadrant GaN switch with bidirectional current flow and operational control there. Just kind of wondering what you're seeing in terms of that market? It seems like that could be a very large market for the circuit breakers and kind of the matrix switching applications. Just kind of curious if you could give us some color on your thoughts there, where we are and what your expectations would be?

Primit A. Parikh Transphorm, Inc. - Co-Founder, President & COO

Sure. So first, it's definitely a very unique application of lateral GaN in which Transphorm has been working on for a long time now since one device is replacing many. And those are the 2 markets. It's early, I want to just be also clear, it's early R&D stage right now. We know a lot about that device from previous experience. But those are the -- there is a large market in microinverters architectures. PV microinverters for bidirectional GaN and that, as you rightly pointed out, matrix converter, which is a unique topology for motor drives and then circuit breakers. Yes, it opens up all of those areas, notably microinverters in the midterm.

David Neil Williams The Benchmark Company, LLC, Research Division - Senior Equity Analyst

Okay. Very good. And then maybe, Cameron, I know that last quarter, you had thought that maybe -- you had mentioned anyway is that first quarter and second quarter fiscal -- or fiscal quarters would be relatively flat excluding the COVID and kind of reactor issues. It looks like you've cleared some of those reactor issues and some of the COVID. But your guidance, it looks like it's not quite where we would have expected that IQ to 2Q transition to be.

So I'm just kind of curious, is it just the demand side issue that you're facing going into the third quarter in terms of not recovering that, but it was about \$1.1 million of the decline there. Is there -- is it more of a, I guess, the manufacturing side you're dealing with or more of the demand side, I guess, as you see some of these slowing market conditions?

Cameron McAulay Transphorm, Inc. - CFO

Sure. I think it's a combination of both, quite honestly. I think the market conditions are well understood and known and there are some challenges there. And we're also trying to ramp our manufacturing footprint up and you've got to execute on both to Primit's comment earlier, and that's where we feel comfortable with a 20% sequential increase quarter-on-quarter. And depending on those dynamics, we hope to do slightly better on that.

Operator

Our next question comes from the line of Craig Ellis from B. Riley.

Craig Andrew Ellis B. Riley Securities, Inc., Research Division - Senior MD & Director of Research

Yes. It's Craig Ellis. Nice to speak again. So I just wanted to follow up on the demand environment and drill down on what you're seeing in the laptop market because you did start to ship to a new program, and it looks like you're having follow-on success with another opportunity. The question is this, Primit, when you look at that market, how much of the laptop market are you targeting? Are you targeting just the high end, the high end and mid range? Can you give us a sense for where you're trying to position the business?

Primit A. Parikh Transphorm, Inc. - Co-Founder, President & COO

Sure. So in the current -- kind of current planning scenario, it's a very, very low percent of the overall laptop market. And we are now in a position to target sort of the high-volume aftermarket, right? So aftermarket also, there is lower volume marquee designs. But now with some of the wins we talked about the Fortune 100 and then the top 3 worldwide customer, we are now targeting the higher volume of the aftermarket and then working on in-box with the laptop adopters. Those are several ongoing design-ins now. But even overall, even counting all of that still the percentage of the laptop market is still quite small.

Craig Andrew Ellis B. Riley Securities, Inc., Research Division - Senior MD & Director of Research

Yes. Got it. And then on the margin structure of the business, Cameron, we expected gross margins to go down in the quarter, but I think they were about 600 basis points below what I expected in the low teens versus high teens. Beyond volume, were there any items that are notable? And can you frame for us what your expectation is in the fiscal third quarter? And just outline the combination of factors to get the business back to 20% and then towards 30%, if you would, please?

Cameron McAulay Transphorm, Inc. - CFO

Sure. I think, Craig, the first thing I would say, there weren't any other particular factors in the quarter. The direct product margins are stable and we expect that stability to continue. I think the gross margin decline in the quarter was really squarely looking at sales volume and looking at absorption of indirect cost of manufacturing that the business has. And as we grow our revenue, the drag that has on the margins will reduce, and it really is just a function of volume, maintaining our execution on our new products and our cost effect -- bringing our costs down and those combination of factors that will bring us to 20% and beyond.

Craig Andrew Ellis B. Riley Securities, Inc., Research Division - Senior MD & Director of Research

Got it. And so as we look out to a period in the second half of next year, fiscal '24 when we expect to get some significant capacity benefit as you get more reactors online, would it be fair to think that gross margins can get back up towards 20% at that time, Cameron? Or do you really need more capacity than you would be bringing on then to get that 20% level?

Cameron McAulay Transphorm, Inc. - CFO

No, I think we can get there with the capacity that we have, Craig, and we will look to get -- we will be in excess of that as we continue to bring the additional capacity online toward the tail end of calendar '23.

Craig Andrew Ellis B. Riley Securities, Inc., Research Division - Senior MD & Director of Research

Yes. Got it. That's helpful. And then just 2 more. OpEx, you mentioned it was tight. It certainly was about \$1 million lower than I expected. Was there anything from a timing standpoint that benefited OpEx? And are those -- is that lower OpEx structural? Or should we expect it to bounce back up? And then on cash, can you just spin out the 3 or 4 factors that contributed to that quarter-on-quarter cash decline?

Cameron McAulay Transphorm, Inc. - CFO

Thanks, Craig. So for OpEx, there are 1 or 2 factors, but they were mainly in the prior quarter. When you go through your year-end procedures and there's lots of G&A activity associated with that. So there wasn't anything there. For this quarter -- if I look ahead to next quarter, sorry, I think we will see OpEx increase kind of low single digits, and that's mainly a factor of headcount additions. We added senior members of our team. We've continued to add across the board, and you start to see the full quarter's impact of that as we look at OpEx in subsequent quarters.

From cash, yes, we did bring OpEx cash burn down in the quarter to 5.8. I think that the overall burn was higher because of the investment that we made in the capital equipment. I think that burn comes down next quarter, mainly due to the function of the capital investment being slightly smaller in the quarter that we're in. And I think that the cash burn of 5.8, we hope to land pretty close to that. There are obviously puts and takes involved in each individual quarter. But as a trend, we don't see anything changing significantly.

Craig Andrew Ellis B. Riley Securities, Inc., Research Division - Senior MD & Director of Research

Okay. So we can expect inventory levels which have been moving up through the year to start to come down. Cameron, do you feel like you can start turning that faster and convert that to revenue.

Cameron McAulay Transphorm, Inc. - CFO

We've certainly looked to do that, yes. I mean managing inventory is managing working capital and managing cash. So it's something we're keeping a very close eye on.

Primit A. Parikh Transphorm, Inc. - Co-Founder, President & COO

And just to add, Craig, if we have to build more, right, with some of the lead times and the supply side, we want to be able to do that.

Craig Andrew Ellis B. Riley Securities, Inc., Research Division - Senior MD & Director of Research

Okay. Yes, I know you want to make sure you meet customer demand.

Operator

Our next question will come from the line of Ananda Baruah from Loop Capital.

Ananda Prosad Baruah Loop Capital Markets LLC, Research Division - MD

Just a couple, if I could. On the demand side, if I recall accurately, you guys last quarter also thought that you could sort of begin to see -- I think 20% was what you talked about. Kind of like 20% growth increase in 3Q. And so I guess the point is even with macro -- is that accurate? Because it sounds like you're -- even with macro, you're actually holding the demand cadence that you thought you could? And let me just ask for clarification on that first.

Primit A. Parikh Transphorm, Inc. - Co-Founder, President & COO

Yes. So that's -- yes, we had -- your second point, very important for us. Even with the macros, we are showing a growth trend here now. We had said last time just to be accurate, I believe we have said around 30% from that point. And right now, what we said, it's still growing, and it's again, mix of demand/supply constantly now head to head, but still we are saying 22 within -- 20% with an opportunity for around 25%. So just so your first statement is slightly different. And then -- but your second statement is spot on that even in this challenging environment, we are still growing, which we are very happy to be in this position.

Ananda Prosad Baruah Loop Capital Markets LLC, Research Division - MD

Thanks for the clarification. Okay. Great. And are you -- on the qualification side, are you seeing sort of what's going on with the macro, impact the qualification process in any context or are things still sort of full bore?

Primit A. Parikh Transphorm, Inc. - Co-Founder, President & COO

So our internal product qualification, that's unequivocally no. I mean that's in our control more or less. Customized side qualification, sometimes, I would say 80% to 90% no on the qualification that's going on fine. Once in a while, we do encounter some shipments, other components like some specialized ICs or DSP lead times effect pilot runs getting delayed and things like that. So those are precisely the uncertainty that we face right now on the demand side.

Ananda Prosad Baruah Loop Capital Markets LLC, Research Division - MD

That's super helpful. I think -- Cameron, I think last quarter, I asked you the same inflection point question, but I'm going to ask it again here. The inflection point sort of the upcoming, can you just give us context -- remind us of the context around -- to any degree you're able sort of timing and breadth? And maybe specifically the applications you see coming sort of sooner rather than later.

Cameron McAulay Transphorm, Inc. - CFO

Thanks, Ananda. Yes, it remains a very dynamic environment. But I think if I look at the design and progress that we've made, those broader inflection points are likely in the lower power and for us, certainly in the higher-power applications. My timing hasn't changed from last time around. Ananda, I think we're late '23 in that regard. And you see a continue of that momentum, and that's what in '24 will enable us to achieve our target model.

Ananda Prosad Baruah Loop Capital Markets LLC, Research Division - MD

Okay. Awesome. Let me sneak one more in here, actually. Are you seeing sort of -- the demand areas that have been impacted by macro, have you seen those broaden over the last 90 days? Or are they fairly consistent with what you were seeing 90 days ago, just the areas and the applications?

Primit A. Parikh Transphorm, Inc. - Co-Founder, President & COO

I think it's fairly consistent. I will not say that for us they have broadened, it's the laptop and the mobile there. We are candidly starting from a lower base relatively speaking. So it's offset. Blockchain continues to be -- we have large wins there, which are all intact, but that continues to be a little soft. Like I said, our customers appeared -- they tell us the recovery in about 6 months is what they are predicting at this time.

So those are the 2, they haven't broadened. In some other areas, like renewables, actually, we are seeing increased demand and interest as exemplified by the -- we added about 10 new design-ins and 5 new production -- into production this quarter on the high-power side. So those will start to bear fruit in couple of quarters. So overall, those 2 areas, not any big shift.

Operator

(Operator Instructions) Our next question comes from the line of Sam Peterman from Craig-Hallum.

Samuel Peterman Craig-Hallum Capital Group LLC, Research Division - Associate Analyst

This is Sam on for Richard here. I wanted to ask just 2 quick ones. First one, on the reactors that you guys are adding, I know you're trying to double capacity by the end of next calendar year. Can you remind us how many more reactors you need after you got 2 more this quarter to reach that goal and kind of what the CapEx might look like to do that?

Primit A. Parikh Transphorm, Inc. - Co-Founder, President & COO

So the CapEx is to do doubling, total, we are to get to that double I referred to, that CapEx is already done. So that's the good news. Now beyond that, if we continue to evaluate with the triggers of again, demand and supply dynamic considerations, that would be additional. But the CapEx to acquire the reactors, to double the capacity, that has been done. We will have incremental CapEx to install some of those reactors, right? So we are working on those both ourselves here in California and some with our partners. So we will have incremental installation and facilities CapEx, but not the main reactor CapEx. That's done.

Samuel Peterman Craig-Hallum Capital Group LLC, Research Division - Associate Analyst

Got you. Okay. And then secondly, you talked about, I think, last quarter having pretty strong backlog coverage of kind of what you're expecting for revenue growth. Are you seeing that backlog kind of persisting? Or are you seeing any cancellations or pushouts just as the environment kind of softens broadly?

Cameron McAulay Transphorm, Inc. - CFO

I think generally speaking, I mean, the backlog remains solid. I mean, there's always puts and takes, and we are seeing some softness there, and we are experiencing some pushouts. But overall, it remains solid, and we remain confident in the traction that we're seeing.

Operator

Our next question comes from the line of Orin Hirschman from AIGH Partners.

Orin Hirschman

Just a quick question again. I know you alluded to it and discussed it a little bit, but can you get any more granular just in terms of the bidirectional use in the 2-wheelers and 3-wheelers? That's obviously getting popular very quickly in other parts of the world. Can you talk about actual design win/when do you think you'll actually have something in production?

Primit A. Parikh Transphorm, Inc. - Co-Founder, President & COO

Indeed, indeed. So the 2-wheelers and 3-wheelers, addressing those 2 separate points. The 2-wheeler and 3-wheeler EVs, we are targeting, and this is a target at this time, design win and some early revenue by end of calendar year 2023. So that we are still marching towards that goal. The bidirectional -- there are actually 2 aspects of the bidirectional. One is simply, bidirectional means charging in both directions, right? So for example, if you have a 2-wheeler, you are charging the battery, and that's 1 direction. And then that battery, you can take with you and then do a DC to AC and use their battery for off-grid power. That's the second direction. So that's a bidirectional in an application.

Now what we talked also in the press release about the bidirectional device, that is a true gallium nitride bidirectional switch where a single device does allow us to do that job in both directions, which is a very unique attribute of gallium nitride, in particular, in lateral GaN with the architecture we have specifically.

Operator

And I'm not showing any further questions in the queue. I'd like to turn the call back over to Primit Parikh for any closing remarks.

Primit A. Parikh Transphorm, Inc. - Co-Founder, President & COO

Thank you, everyone, for listening to our call and the interest, and we look forward to continuing with the solid progress with the demand. We have the supply considerations and capacity initiatives that we have undertaken and look forward to meeting the needs of our customers in gallium nitride power. Thank you all.

Operator

This concludes today's conference call. Thank you for participating. You may now disconnect. Everyone, have a great day.

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