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CORPORATE PARTICIPANTS

Sameer Desai *TTM Technologies, Inc. - VP of Corporate Development & IR*

Thomas T. Edman *TTM Technologies, Inc. - President, CEO & Director*

Todd B. Schull *TTM Technologies, Inc. - Executive VP & CFO*

CONFERENCE CALL PARTICIPANTS

James Andrew Ricchiuti *Needham & Company, LLC, Research Division - Senior Analyst*

Matthew John Sheerin *Stifel, Nicolaus & Company, Incorporated, Research Division - MD & Senior Equity Research Analyst*

Michael Roy Crawford *B. Riley Securities, Inc., Research Division - Senior MD, Head of The Discovery Group & Senior Analyst*

William Stein *Truist Securities, Inc., Research Division - MD*

PRESENTATION

Operator

Good day, everyone, and welcome to the TTM Technologies Second Quarter 2022 Financial Results Conference Call. (Operator Instructions)

Sameer Desai, TTM's Vice President of Corporate Development and Investor Relations, will now review TTM's disclosure statement.

Sameer Desai - *TTM Technologies, Inc. - VP of Corporate Development & IR*

Thank you, April. Before we get started, I would like to remind everyone that today's call contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including statements related to TTM's future business outlook. Actual results could differ materially from these forward-looking statements due to one or more risks and uncertainties, including the factors explained in our most recent annual report on Form 10-K and other filings with the Securities and Exchange Commission.

These forward-looking statements are based on management's expectations and assumptions as of the date of this presentation. TTM does not undertake any obligation to publicly update or revise any of these statements, whether as a result of new information, future events or other circumstances, except as required by law. Please refer to the disclosures regarding the risks that may affect TTM, which may be found in the reports on Form 10-K, 10-Q, 8-K, the registration statement on Form S-4 and the company's other SEC filings.

We will also discuss on this call certain non-GAAP financial measures such as adjusted EBITDA. Such measures should not be considered as a substitute for the measures prepared and presented in accordance with GAAP, and we direct you to the reconciliation of non-GAAP to GAAP measures included in the company's press release, which was filed with the SEC and is available on TTM's website at www.ttm.com. We have also posted on our website a slide deck that we will refer to during our call.

I will now like to turn the call over to Tom Edman, TTM's Chief Executive Officer.

Thomas T. Edman - *TTM Technologies, Inc. - President, CEO & Director*

Thank you, Sameer. Good afternoon, and thank you for joining us for our second quarter fiscal year 2022 conference call.

I'll begin with a review of our business highlights from the quarter and a discussion of our second quarter results, followed by a summary of our business strategy. Todd Schull, our CFO, will follow with an overview of our Q2 2022 financial performance and our Q3 2022 guidance. We will then open the call to your questions. The quarter's highlights are also shown on Slide 3 of the investor presentation posted on TTM's website.

In the second quarter of 2022, TTM delivered an outstanding quarter with revenues and non-GAAP EPS above the high end of guidance despite a challenging supply chain and labor environment and the continued impact that COVID-19 is having on our business. Revenues were up 10.3% year-on-year, the second consecutive quarter of double-digit growth as our commercial markets drove the year-on-year increase.

We saw a significant jump in our profit margins in Q2 as many of the cost headwinds that we have faced over the past year turned into tailwinds. Specifically, we saw improved product mix globally, favorable foreign exchange rates as the Chinese RMB weakened against the dollar, lower metal prices and improved productivity in North America. We also enjoyed very strong levels of quick-turn business that contributed to our profitability. I am extremely proud of our employees for delivering outstanding results this quarter.

We had previously discussed pay adjustments that we made in the first quarter of this year in North America to increase our competitiveness. Since then, we have seen a general improvement in our ability to attract and retain talent, though the labor market is still tight in specific regions. The price increases that will offset these higher compensation costs are still anticipated to have a positive impact on our margins through the balance of the year. We expect that the elevated high margin quick-turn business, realized in Q2, will normalize in Q3 and will offset the margin improvements from price increases on a sequential basis. However, our margins are expected to be up on a year-on-year basis.

Finally, I would like to mention that TTM published our first corporate, social responsibility report or CSR. And it is available on our website on the Sustainability page under the About TTM section. The report highlights TTM's commitment to CSR and the environmental, social and governance or ESG initiatives that are an integral part of the way we do business.

I would now like to provide a strategic update. TTM is on a journey to transform our business to be less cyclical and more differentiated. As part of this strategic transition, near the end of the second quarter, we closed the acquisition of Telephonics. Over the past several years, TTM has consistently emphasized that a key part of our strategy is to add value to the product solutions that we deliver to our customers, particularly in the aerospace and defense market.

In 2018, we acquired Anaren, which broadened TTM's product portfolio into highly engineered RF components and subassemblies as well as adding critical RF engineering capability and resources. Telephonics builds on Anaren and TTM's customer-driven culture and disciplined approach to engineering and manufacturing by further broadening TTM's aerospace and defense product offering vertically into higher level engineered system solutions and horizontally into the surveillance and communications markets, while strengthening our position in radar systems.

Going forward, the aerospace and defense end market will be approximately 40% of revenues, which will provide growth and stability in a potentially uncertain demand environment for commercial markets. In addition, over 50% of A&D revenues will be from engineered and integrated electronic products with PCBs being less than 50% of the overall contribution. Finally, the transaction will be immediately accretive to EPS.

Adding another element of our differentiation strategy, on April 28, we broke ground on a new state-of-the-art, highly automated PCB manufacturing facility in Penang, Malaysia. The decision to build this new factory is a direct response to our customer's increasing concerns about supply chain resiliency and regional diversification, and in particular, the need for advanced multi-layer PCB sourcing options in locations outside of China. The new facility in Malaysia will assist customers in our commercial markets, such as networking and telecom, data center computing and medical, industrial and instrumentation.

Lastly, I would like to update you on our COVID situation. Earlier this year, COVID-19 impacted our employee base with increased cases in North America. However, this was meaningfully reduced in the second quarter, which contributed to our increased productivity. In Asia Pacific, we saw COVID-related disruptions in one of our smaller facilities in Shanghai, but this was more than offset by stronger growth from our larger facilities in Southern China. We understand COVID cases are growing again in China and North America and we are closely monitoring the situation and will adjust our protocols accordingly.

Now I'd like to review our end markets, which are referenced on Page 4 of the investor presentation on our website. The aerospace and defense end market represented 30% of total second quarter sales compared to 33% of Q2 2021 sales and 30% of sales in Q1 2022. This market performed better than our expectations and we continue to experience a positive defense climate, with our A&D program backlog at $737 million, excluding Telephonics compared to $671 million a year ago. With Telephonics included, our program backlog is $1.04 billion.

The solid demand in our defense market is a result of a positive tailwind in defense budgets and our strong strategic program alignment and key bookings for ongoing franchise programs. During the quarter, we saw significant bookings for several programs, including the Joint Strike Fighter and other space and airborne programs. We expect sales in Q3 from this end market to represent about 39% of our total sales, including a full quarter of Telephonics as the acquisition closed near the end of our second quarter.

The medical, industrial, instrumentation end market contributed 21% of our total sales in the second quarter compared to 19% in the year ago quarter and 21% in the first quarter of 2022. The MI&I market set a new quarterly record, as it was up 27% year-on-year, exceeding $100 million in revenue for the fifth quarter in a row and performing much better than expected with broad-based strength across all segments.

For the third quarter, we expect MI&I to be 17% of revenues as the elevated quick-turn business in Q2 normalizes in Q3 and select customers face component shortages. Due to the strength in this market year-to-date, we expect this market will be above the long-term third-party projections of 2% to 4%, which is better than the in line growth rate expectations we had at the start of the year.

Automotive sales represented 18% of total sales during the second quarter of 2022 compared to 18% in the year ago quarter and 20% during the first quarter of 2022. Automotive grew 8.6% year-over-year and exceeded $100 million for the third quarter in a row. We continue to see year-on-year growth for automotive PCBs, despite the combined impact of supply chain and demand disruptions caused by COVID, the Ukraine-Russia conflict and semiconductor shortages that are all impacting automotive OEM production. However, growth rates are moderating somewhat and we expect our automotive PCB business to contribute 16% of total sales in Q3.

Sales in the data center computing end market represented 17% of total sales in the second quarter compared to 14% in Q2 of 2021 and 16% in the first quarter of 2022. This end market was up 29% year-on-year, due primarily to growth from our data center customers. We expect revenues in this end market to represent approximately 15% of third quarter sales as strong data center demand continues to drive year-on-year growth.

Networking, communications accounted for 14% of revenue during the second quarter of 2022. This compares to 15% in the second quarter of 2021 and 13% of revenue in the first quarter of 2022. We saw relative strength on a year-on-year basis in networking as compared to telecom as we continue to allocate capacity for high layer count boards to our data center computing and networking customers. In Q3, we expect this end market to be 13% of revenue.

Next I'll cover some details from the second quarter. This information is also available on Page 5 of our earnings presentation. During the quarter, our advanced technology and engineered products business, which includes HDI, rigid flex and RF subsystems and components, accounted for approximately 33% of our revenue. This compares to approximately 31% in the year ago quarter and 33% in Q1. We are continuing to pursue new business opportunities and increase customer design engagement activities that will leverage our advanced technology and engineered products capabilities in new programs and new markets.

Capacity utilization in Asia Pacific was 88% in Q2 compared to 88% in the year ago quarter and 85% in Q1. Our overall capacity utilization in North America was 42% in Q2 compared to 49% in the year ago quarter and 46% in Q1. This lower rate was caused by the additional plating capacity that we have added in North America, bottlenecks in non-plating processes and direct labor shortages in certain regions. Our top 5 customers contributed 30% of total sales in the second quarter of 2022 compared to 33% in the first quarter of 2022. We had one customer above 10% in the quarter.

At the end of Q2, our 90-day backlog, not including Telephonics, which is subject to cancellations, was $635.7 million compared to $553.1 million at the end of the second quarter last year and $605.3 million at the end of the first quarter. With Telephonics included, our 90-day backlog at the end of Q2 was $703.7 million. Our book-to-bill ratio was 0.89 for the 3 months ending July 4.

As we look forward to the fourth quarter and beyond, we will continue to closely monitor global economic influences on our commercial business. To date, we have seen minor impacts as specific customers focus on managing inventories to line up with expected semiconductor chip deliveries. Our backlog continues to be robust however and we expect the aerospace and defense market to provide a strong countercyclical element to our commercial business, if conditions should weaken.

I'd like to conclude by again highlighting the significant strategic moves that we made in the quarter with the groundbreaking in Malaysia and the completion of the Telephonics acquisition, both of which will further differentiate TTM and our technology solutions. I also want to thank our employees for continuing to contribute to TTM and our critical mission of inspiring innovation for our customers. Our business performed much better than we expected as a direct result of our employees and our supply chain partners' concerted efforts to support TTM and our customers.

Now Todd will review our financial performance for the second quarter.

Todd B. Schull - *TTM Technologies, Inc. - Executive VP & CFO*

Thanks, Tom, and good afternoon, everyone. I apologize if I sound a little congested. I'm getting over a cold and I hope you'll bear with me. Today, I'll be reviewing our financial results for the second quarter that are also shown in the press release distributed today as well as on Slide 6 of our earnings presentation that is posted on our website.

For the second quarter, net sales were $625.6 million compared to $567.4 million in the second quarter of 2021. The year-over-year increase in revenue was primarily due to strong growth in our commercial markets, particularly data center computing and medical, industrial and instrumentation. GAAP operating income for the second quarter of 2022 was $37.2 million, which included $10.6 million of acquisition-related costs. This compares to $40.9 million in the second quarter of 2021. On a GAAP basis, net income in the second quarter of 2022 was $27.8 million or $0.27 per diluted share. This compares to GAAP net income of $28.3 million or $0.26 per diluted share in the second quarter of last year.

The remainder of my comments will focus on our non-GAAP financial performance. Our non-GAAP performance excludes M&A-related costs, restructuring costs, certain non-cash expense items and other unusual or frequent items. We present non-GAAP financial information to enable investors to see the company through the eyes of management and to facilitate comparisons with expectations and prior periods.

Gross margin in the second quarter was 20%, the highest level since the divestiture of our Mobility business. This compares to 18% in the second quarter of 2021. The year-on-year increase was due to better pricing and product mix, higher levels of quick-turn business and the fall-through from higher revenues, partially offset by higher year-on-year labor costs, particularly in North America where we had a special wage adjustment earlier in the year to be more competitive as well as higher material costs.

Selling and marketing expense was $16.9 million in the second quarter or 2.7% of net sales versus $14.2 million or 2.5% of net sales a year ago. Second quarter G&A expense was $35.4 million or 5.7% of net sales compared to $28.6 million or 5% of net sales in the same quarter last year. In the second quarter of '22, R&D was $5 million or 0.8% of revenues compared to $4.1 million or 0.7% in the year ago quarter.

Our operating margin in Q2 was 10.8%, an outstanding result given the macro challenges we have been dealing with and our highest levels since the divestiture of the Mobility business. This compares to 9.7% in the same quarter last year. Interest expense was $10.2 million in the second quarter compared to $10.5 million in the same quarter last year. During the quarter, there was a positive $6.8 million foreign exchange impact below the operating line.

Government incentives and interest income increased to $7.6 million or $0.06 of EPS. This compares to a loss of $0.7 million or $0.01 of EPS in Q2 last year. Our effective tax rate was 15% in the second quarter, resulting in a tax expense of $9.8 million. This compares to a rate of 8.7% or tax expense of $3.8 million in the prior year. Second quarter net income was $55.3 million or $0.54 per diluted share. This compares to the second quarter 2021 net income of $40 million or $0.36 per diluted share.

Adjusted EBITDA for the second quarter was $96.9 million or 15.5% of revenue compared with second quarter 2021 adjusted EBITDA of $75.6 million or 13.3% of revenue. Depreciation for the quarter was $21.8 million and net capital spending for the quarter was $26.4 million. Adjusted EBITDA for the -- excuse me, cash flow from operations was $79.3 million or 12.7% of revenue, exceeding our target of 10%. Free cash flow was very strong at $52.9 million or 8.5% of revenue.

During the quarter, we completed our $100 million stock buyback program and acquired Telephonics using cash on hand. After all that, our balance sheet and liquidity positions remained very strong. Cash and cash equivalents at the end of the second quarter of 2022 were $266.5 million. And our net debt divided by the last 12 months' EBITDA was 2.2, slightly above our target of 2.0. Our leverage ratio is better than we had expected due to the stronger EBITDA results for the second quarter and the $300 million cash outlay for the Telephonics acquisition was about $30 million less than we had anticipated as a result of working capital adjustments.

Now I'd like to turn to our guidance for the third quarter. We expect total revenue for the quarter -- third quarter of 2022 to be in the range of $655 million to $695 million. And we expect non-GAAP earnings to be in the range of $0.41 to $0.47 per diluted share. This guidance includes a full quarter of revenue and profit from Telephonics of approximately $69 million and $0.04 of EPS respectively.

We expect that pricing actions taken earlier in the year to mitigate labor cost increases will have a positive impact in the quarter, but we also anticipate lower levels of quick-turn business. The EPS forecast is based on a diluted share count of approximately 103 million shares, which includes dilutive securities such as options and stock and restricted stock units. We expect that SG&A expense will be about 8.5% of revenue in the third quarter and R&D to be about 1.1% of revenue. We expect interest expense to total approximately $10.2 million. Finally, we estimate our effective tax rate to be between 13% and 17%.

To assist you in developing your financial models, we offer the following additional information. During the third quarter, we expect to record amortization of intangibles of about $11.7 million, stock-based compensation expense of about $5.5 million, non-cash interest expense of approximately $0.5 million and we estimate depreciation expense will be approximately $24.5 million.

Finally, I'd like to announce that we'll be participating in the Needham Virtual Industrial Tech, Robotics and Clean Tech 1x1 Conference on August 8, the Jefferies Industrial Conference on August 10 and the Jefferies Semiconductors IT Hardware and Communications Infrastructure Summit on August 30.

That concludes our prepared remarks. And now I'd like to open the line for questions.

QUESTIONS AND ANSWERS

Operator

(Operator Instructions) And we'll first hear from Matt Sheerin of Stifel.

Matthew John Sheerin - *Stifel, Nicolaus & Company, Incorporated, Research Division - MD & Senior Equity Research Analyst*

Tom, I was hoping you can give us a little bit more color on some of the end markets. It looks like you had a pretty strong growth in most of the sectors, but you are calling for auto to be down again quarter-on-quarter. And I'm wondering, what you're seeing some other suppliers. And I know that you're sort of at a different spot in the supply chain than maybe the semiconductor guys, but there's expectations of growth over the next couple of quarters just on production and content. So I wanted to get your read on that? And then also, just on the quick-turn business, could you remind us how big revenue it is as a percentage of sales? And then why are you seeing a slowdown or why did you see a pick-up in the quarter?

Thomas T. Edman - *TTM Technologies, Inc. - President, CEO & Director*

So yes, let me start with the automotive situation. And so overall, obviously, as you pointed out, we had a terrific quarter, a very strong quarter pretty much across the board, and particularly, if you look at those year-on-year growth rates. If we're to talk specifically on automotive, sequentially, yes, down looking at about down 6% or so in our forecast versus -- but we are up in our forecast year-on-year, again about 6%.

So if you parcel out what's going on there, part of it is automotive customers and summer shutdowns that particularly impacts Europe and inventory pull plans in Europe. I do think we're seeing a bit of the semiconductor shortage impact. In other words, customers adjusting inventory levels waiting to see when the chips arrive and then at that point, pulling inventory when -- as those chips come in. So you're right to point out, there is a difference there in terms of how our situation versus others. Overall, automotive continues to be a strong market.

When it comes to quick-turn and what we're seeing in premiums, we look at this just in terms of it's primarily North America, but we did see some premium activity in Asia Pacific. The activity crosses the board, but particularly critical to MII customers. And you can see, that's really tied to the need for customers as they develop new products to pull prototyping support and other activities related to development.

So as we come into the third quarter, again, what we're expecting here is more of a normal pace between premium and quick-turn versus, I would call, normal levels of quick-turn. And that's what we're expecting. We'll see how the quarter develops. As the market start to calm down a bit, that's one factor here. And the other again is just with the summer, you tend to get a little bit less prototyping activity. So again, we'd rather than talk about percentage versus revenue, I think you can look at this as being an unusually heightened quarter and what we're seeing as normalized.

I don't know, Todd, if you got the numbers at your fingers here in terms of percentage?

Todd B. Schull - *TTM Technologies, Inc. - Executive VP & CFO*

Traditionally, we run on a global basis -- and this will vary between North America and Asia Pacific, as Tom alluded to in his comments. But we typically run around 9%. But what we saw is that was more muted in 2021. And then in the last couple of quarters, it's been much, much stronger. As Tom mentioned, a big portion of that is tied to prototyping activity, but another portion is tied to lead times. And as demand was really accelerating, lead times were extending, people were mixing and matching and accelerating orders or looking for expedited production to better match their supply chain as things -- as parts were coming in. So we definitely saw more of that.

And as lead times are coming back down, we would expect to see less of that type. The prototyping activity is more consistent, notwithstanding Tom's comment about seasonality in the summer time, which is right on spot, but it's more consistent longer term. But the lead time component that was driving some of our heightened activity is expected to subside gradually here as we go through the rest of the year.

Matthew John Sheerin - *Stifel, Nicolaus & Company, Incorporated, Research Division - MD & Senior Equity Research Analyst*

And then on the gross margin, I understand why it will be down sequentially, but it still sounds like just backing into that number. Based on the OpEx number you gave us, it still looks like it will still be well above 18%. And as you go forward, given the Telephonics acquisition, are there any cost synergies that you see either on the impacting gross margin or OpEx over the next few quarters or really was that just obviously acquiring that company for the technology and the product set?

Todd B. Schull - *TTM Technologies, Inc. - Executive VP & CFO*

Well, we've been pretty public, Matt, about our synergy expectations. We're looking for -- we've identified preliminarily $12 million of synergies that we hope to be able to get through efficiencies here over the next -- by the end of 2024. A lot of that's going to be cost of goods sold, both materials as well as infrastructure, and certainly, OpEx will be impacted that way also. So we will see improvements in their margins. We've talked about how their margins are a little less than ours on average right now, but we expect them to be above our legacy margins here once we implement the synergies that we've identified.

Operator

Next we'll hear from Mike Crawford of B. Riley Securities.

Michael Roy Crawford - *B. Riley Securities, Inc., Research Division - Senior MD, Head of The Discovery Group & Senior Analyst*

I'm pleasantly surprised you're seeing these tailwinds when others particularly are sitting decommits and material not coming in, particularly on semiconductor side. Is there something in particular you knew what your clients are doing that manage that process better than others?

Thomas T. Edman - *TTM Technologies, Inc. - President, CEO & Director*

Well, so I think, Mike, it's -- and Todd, we both commented on the work that we've been doing in terms of meeting customer accelerated demand. And a lot of this -- I have to say 2 big factors, at least as I look at it. One, how responsive our teams are in Asia Pacific as well as in North America, and that takes the full organization. That's the sales team upfront working with our customers, understanding their needs. And then it's really operations responding, responding to make room for products, responding as customers deal with these semiconductor chips arriving out of the blue and then the need to fulfill a program. So you have to be -- I think our team has been agile in responding, and all credit to them.

I'd also like to highlight, in North America, we continue to have a challenged labor environment, but our human resources group and operations were able to staff a number of our critical facilities and bring in labor. We still have opportunity to do even better there. We still have North America production for us from a percentage of revenue, about 42% in this last quarter. That's relatively consistent to past quarters. So we still have work to do here as we bring in labor. But definitely, productivity improvements in North America also helping to drive those results. So again, those are the things I would highlight for you, just aligning with customers and meeting that demand profile as it changes.

From a direct semiconductor impact on TTM, there's the Telephonics business as we bring it in, certainly more exposed on the semiconductor side. But TTM, even in our integrated product and subassembly work that we do. We do have chipsets involved there, but it's not an overwhelming number of chipsets and our supply chain team has done a good job of lining up deliveries as needed.

Michael Roy Crawford - *B. Riley Securities, Inc., Research Division - Senior MD, Head of The Discovery Group & Senior Analyst*

And then just one other question on the differentiation front. Part of that is, could you comment on the design wins and activity in automotive, but then more broadly talk about your [outlook] to get involved with earlier engineering and design work on the automotive side similar to what you're doing with some of your defense customers?

Thomas T. Edman - *TTM Technologies, Inc. - President, CEO & Director*

So specific to automotive, this was what I would call, it's interesting. I think as the markets have shifted, our customers have been a bit hesitant to put out big bidding packages, probably because they're waiting for the situation to clarify in terms of their own product build plans. That's my hypothesis at any rate. So wins were down a little bit. We had a total program value. We won about 13 design program value total of about $60 million. As I mentioned, that is certainly down year-on-year. A year ago, we were about twice that, about $122 million. But what I put that to again is just in the state of the economy with product changes planned, our customers are -- they've been hesitating to put out those packages. I expect that pace of opportunity set to increase pretty dramatically here as we go through the balance of the year.

From an engagement standpoint, absolutely right. One of the major shifts in automotive that has -- that we identified several years ago is the growing involvement of OEMs in the design and process. And not that the -- the Tier 1s are still the most significant customers for TTM, but we are finding more and more involvement from the OEM side. And so our engagements have deepened with the engineering side of the OEMs and particularly true when it comes to RF and the ADAS systems that really are becoming now sort of required in vehicles, and that involvement from an engineering standpoint starts early.

I'd also highlight that our RF and Specialty Components Group, which we brought in with Anaren, has been critical to those engagements. The RF expertise that they bring to the game, the focus on module solutions with our customers has allowed us to deepen that engineering engagement again with both Tier 1s and OEMs.

And finally, I'd just highlight, with the EV companies coming in, often in their case, they start directly working with TTM and with that engineering engagement and have -- and plan, in most cases, to vertically integrate or even if they do decide to use an assembly service, they first want to get the design right. And so a lot of our engagement now is with those EVs companies as well and we're growing with them. So hopefully, that gives you a feel for how the landscape has shifted here over the last few years.

Operator

Next we'll hear from Jim Ricchiuti of Needham & Company.

James Andrew Ricchiuti - *Needham & Company, LLC, Research Division - Senior Analyst*

I wanted to again go back to that quick-turn business which was significantly higher. I don't recall you guys haven't an instance where you called that out, that kind of strength, at least in recent quarters. And my question is, I'm wondering if you can give us any sense as to how much of a lift that might have given your gross margins in the quarter?

Todd B. Schull - *TTM Technologies, Inc. - Executive VP & CFO*

Well, it's a significant lift. I mean, that's essentially a price increase. And so we have an ongoing relatively consistent level of activity there and the incremental activity that came in, in the last couple of quarters has been pretty substantial. And what came in in Q2 was more than we had expected. We had expected to see some reversion to the mean, if you will, on our history. And again, we're expecting that in Q3, but we were surprised to the upside in Q2, and that gave us a little bit of extra lift. But if you look and think about all the -- we listed it was a more complicated list of explanation for our improved gross margin this quarter than we normally have. But revenue-related items, both volume, mix and pricing and premium all factored in very significantly for the quarter and more than offset the increased material costs and labor costs that we had been witnessing over the last few quarters and that really drove the upside. And it was more so pricing and premium than it was volume.

James Andrew Ricchiuti - *Needham & Company, LLC, Research Division - Senior Analyst*

And I'm wondering if there's any read through on the PCB book-to-bill being below 1? And Tom, you kind of very quickly alluded to some minor impacts where you're seeing some signs of change in demand. Obviously, we're all looking for any indications that business may start to weaken. So I was just wondering if you could elaborate on that?

Thomas T. Edman - *TTM Technologies, Inc. - President, CEO & Director*

So if you look at the overall book-to-bill, biggest factor, Jim, which is related to bookings on the commercial side coming back to more normalized levels is the fact that we were able to reduce lead times in our plans. And as we reduce lead times -- they're still elevated by the way. But as they've now come down, when the lead times come down, that allows the customers to hold off on orders.

And so really what Todd was talking about with quick-turn where if you've got your lead time stretching and the need to get inside those lead times demand more quick-turn premium work, in this case, as things started to normalize in the commercial business, we did start making lead time adjustments. Again, still elevated, but we started making lead time adjustments. That was the single biggest factor.

Secondly, there are particular customers, and I would highlight in the computing area and networking area where for individual programs, they were seeing semiconductor -- with semiconductor issues, they were adjusting inventory. And so inventory adjustments is sort of a secondary factor.

And then thirdly, really on the bookings side, we had a lower quarter for A&D bookings -- we're actually -- those bookings shifted into this upcoming quarter. So we should actually see a very strong bookings quarter in the third quarter. But those shifts also contributed on the bookings side. So those are the 3 big factors.

James Andrew Ricchiuti - *Needham & Company, LLC, Research Division - Senior Analyst*

Congrats on the quarter and on closing Telephonics.

Operator

(Operator Instructions) Next we'll hear from William Stein of Truist Securities.

William Stein - *Truist Securities, Inc., Research Division - MD*

Guys, congratulations on these very strong results, especially the margins. First, I'm hoping you can talk to us a little bit about how ramping of capacity and production in the India facility might influence your gross margins if that's going to have a meaningful impact?

Thomas T. Edman - *TTM Technologies, Inc. - President, CEO & Director*

I think, Todd, you can answer that. Malaysia facility.

Todd B. Schull - *TTM Technologies, Inc. - Executive VP & CFO*

Right, in Malaysia. Yes, it's going to be negligible. I mean, it won't really have any impact this year. Next year, as we begin to add some infrastructure costs and bring on -- start to bring on leadership and mid-year start to bring on employees, it will have a drag. We haven't updated a lot of those numbers from when we gave our initial announcement. And I'd have to get that to you when we'd probably get closer to it because we really haven't offered any insight to 2023 yet. But we would expect some negative impact as we ramp in '23.

We won't hit what we would call kind of normal run rate margins until late '24 probably. We'll be ramping all the way during '24. And we expect to be at full steam by the end of '24, early '25. So the margins will trail a little bit because you've got to bring on people and train them before you can actually build product. And that will certainly be a headwind for that ramp up, but we're expecting to hit normalized margins kind of in that timeframe, late '24 or early '25.

Thomas T. Edman - *TTM Technologies, Inc. - President, CEO & Director*

So no, I just wanted to highlight. One of the basis -- really the basis for this facility was the fact that we had customers lined up and we have customers that have now committed to TTM in the form of long-term agreements. And that provides -- as you start thinking about margin, that provides us the assurance on the sales side and the revenue side and the product mix that we can then drive into the facility. So that's going to help to shorten that ramp time, Will, as we bring on the facility. It's great to have the baseload assurance.

William Stein - *Truist Securities, Inc., Research Division - MD*

The follow-up is -- it relates to the CHIPS Act. I'm well aware you're not a semiconductor device company, but I wonder if that -- there's probably a secondary influence on your business. But I wonder if there's any potential for primary direct effect on your business?

Thomas T. Edman - *TTM Technologies, Inc. - President, CEO & Director*

I mean, we've certainly been a supporter of this. We through the IPC and the PCB Association of America have been supporting these efforts and also reminding Congress that as we put a chips don't float, that chips are part of a broader electronics ecosystem. That's been a very consistent message. We're thrilled to see that -- you're right, Will, it's not a direct impact in terms of the larger portion of the funding. It will help our customers and semiconductor customers are critical to us.

We do test and burn in-board production. So going to be some interesting developments, I'm sure, from a demand standpoint there. But directly, we're also really thrilled to see the $2.5 billion that was earmarked for microelectronics. We have our own microelectronics business out of Syracuse, that's about a $50 million a year business. But then broader than that, microelectronics and advanced packaging tied to that broader ecosystem.

So we'll certainly be working with customers as we look at infrastructure, potential infrastructure needs for both microelectronics and some of the more advanced printed circuit board technologies here as we work with our customers. So excited to see that. We're certainly going to remain involved with consortia as well as with the associations to make sure that the proper support is provided. But I think it's good to see. It's good to see the investment in the infrastructure here in North America.

Operator

And it appears there are no further questions at this time. I'll turn the call back over to Tom for any additional or closing comments.

Thomas T. Edman - *TTM Technologies, Inc. - President, CEO & Director*

Great. Thank you. Thanks, April. I'd like to just close by summarizing some of the points I made earlier. First, we delivered revenues and earnings above the high end of guidance. And the fact that we've seen many of the cost headwinds of the past year really turn into tailwinds in this past quarter. Second, our end market diversification really enabled solid year-on-year revenue growth of 10.3%. Third, we generated strong cash flow. And fourth, we took important steps in advancing our strategy of differentiation with the acquisition of Telephonics and the breaking ground of our new facility in Penang, Malaysia. In closing, I'd really just like to thank our employees, our customers and our investors for your continued support. Thank you very much.

Operator

That does conclude today's conference. Thank you all for your participation. You may now disconnect.