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TTM Technologies, Inc.

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Tom Egan: Welcome again to J.P. Morgan's High Yield and Leverage Finance Conference. I'm Tom Egan. I cover technology and telecommunications for the firm.

With me today is the team from TTM Technologies. To my left, we have Todd Schull, Executive Vice President, and CFO, and hiding down here in the front row, the guy, if you know the name, you know him too, Sameer Desai. With that, Todd, do you want to start us off?

Todd Schull: Thanks, Tom. Thank you, J.P. Morgan, for hosting the conference. This is a great conference. I appreciate being here. My lawyers say I have to flash this screen, but we'll get on to the story here. TTM Technologies is a technology solutions provider of engineered systems, printed circuit boards, and specialty components.

We have about 18,000 employees worldwide. We have 27 different locations where we build product. On the right side of the chart, you can see the five major markets that we play in and a representative list of some customers there in each of those markets.

Our strategy is focused around what we refer to internally as the 3Ds. The first is diversification. We have one of the most diverse revenue streams of anybody in our industry, led currently by our aerospace and defense end market.

Our second D is differentiation. We have a breadth of technology and capabilities that allow us to support our customers and all their different PCB applications. We've more recently added engineering capabilities focused around RF and radar.

Third, discipline. Discipline in how we run the business, how we do M&A, how we integrate M&A. I'll go into these in more detail in a little bit. Highlights from last year. Solid performance in the face of some pretty challenging environments the last couple of years.

You can see around supply chain, inflation, COVID issues, and so forth. We grew the business organically over five percent, including the acquisition of Telephonics right around 11 percent.

Aerospace and defense is really strong right now and is likely to stay that way for the near future, but our backlog is up to almost \$1.4 billion and looking to continue to grow that.

EPS was up sharply year over year. We have a very strong balance sheet. We generated great cash flow last year, over 10 percent of revenue and cash flow from operations. Our balance sheet is very strong with a net debt leverage ratio of around 1.5, which is at the low end of our range, our targeted range.

You can see some of the other items. We completed an acquisition of Telephonics midyear, and we broke ground on the first major PCB fabrication facility in Southeast Asia, the highest technology facility in Southeast Asia at this point, and I'll talk a little bit more about that in a minute.

We published our first CSR report. ESG is an important element for everyone, and we wanted to make sure people understood where we stood on that and what we're doing about it, and we published our first report there.

Then, most recently, in the face of more challenging economic conditions here, going into 2023, we announced that we were consolidating and closing three of our smaller facilities, two in California and one in Hong Kong.

TTM has evolved over the years through strategic transactions. The first several of these on the left side to highlight are expanding our PCB business, accessing new markets or new geographies in the case of the 2010 acquisition in Meadville, which gave us an Asia manufacturing footprint.

More recently, the last several years, we've been focused on acquisitions that differentiate us. We've got the foundation in PCB that we're comfortable with. We really want to be able to find ways to differentiate what we do and to set ourselves apart from competition.

We acquired Anaren in 2018, which got us into the radar business, the RF technology with engineering capabilities to develop products and microelectronics. More recently, then in the middle of last year, we acquired Telephonics, which is a system solution provider, not just subassemblies and modules.

We acquired some other technology. Importantly, you can see that we also don't always add. Sometimes, you have to subtract to get better.

We highlight in 2020 our divestiture of the mobility business, which was our main consumer-oriented product, short cycled, highly cyclical, fairly capital intensive, and the returns were getting rather mediocre, and so we concluded it was smart to get out of that business.

All of this is to say that we're on a journey, and we continue on this journey to differentiate ourselves. Moving away from short-lived products, areas that are perhaps commoditized, where we no longer can differentiate ourselves, and focusing on areas where we can add greater value.

In the process of doing this, make ourselves a more valuable partner to our customers, and through that process, hopefully generating better financial returns.

I mentioned a couple times the acquisition of Telephonics. Telephonics is a systems-level company focused in RF. They were about \$250 million in revenue when we acquired them. The addition of this business to our existing A&D business creates about \$1 billion A&D business. On a standalone basis, that'd be about the 40th-largest A&D provider in the US.

It represents about 40 percent of our business now. Importantly, less than half of that A&D business is legacy circuit board fabrication, meaning more than half is focused on engineering systems and integration work, where we can add higher value.

We expect to generate some nice financial returns through synergies. Initially, it's accretive from an EPS standpoint and a cash standpoint but dilutive from a margin standpoint. We expect, over time, to change that through synergies that we've identified and actions that we're currently implementing.

We're on track with those synergies. We're doing a good job with that. We expect to generate \$12 million of cost-related synergies by the end of 2024, on a run-rate basis.

Then longer-term, we're very excited about the revenue synergy potential of this business. You can't really base your financial models and your return-on-investment analysis on long-term revenue opportunities, but those are real for us. That's really the golden carrot, if you will, that we see, that we're really striving to take advantage of.

The diagram on the left is very telling. Legacy PCB business is really the bottom layer of the pyramid in terms of services. It's a component. When we acquired Anaren, we moved up to the Tier 3 level, where we can provide modules and subsystems and assemblies.

With the acquisition of Telephonics, we actually move into a Tier 1 capability, where we can provide complete system solutions, not just hardware but software and integrating all the elements into a system and not just one focused on the RF module, for example, within the system, but everything associated with it.

We move up the chain in terms of capabilities that we have to offer. They also are in a couple of adjacent markets to us, that allow us to expand on the X-axis also. Primarily, they're RF-related, our radar work, which is what we had when we acquired Anaren. We're building on that.

They also bring to us surveillance systems as well as some communication systems. It creates some additional markets that we can grow into and expand into. You can see some of the details on the business, on the right, in terms of number of engineers.

They are primarily sole-sourced on most of their projects, their programs that they're involved with, which is important. They have some international exposure, which is very attractive to us because we don't have a lot of A&D customer exposure internationally. They bring that to us also.

We also announced, during the year, that we are expanding into Southeast Asia. Our customers are looking for resiliency in their supply chain. Today, about 60 percent of the world's circuit boards are fabricated in China. That heavily skews towards the commercial business, not our A&D business, obviously, for security reasons.

Our customers, given the political environment between China and the US and the rest of the Western world, very concerned about having all of their production in China and looking for alternatives.

We have five anchor customers who have committed to absorbing about 70 percent to 75 percent of the capacity of this plant. They've already put cash deposits down to secure that capacity.

We went forward then with construction of the building. You can see we've got the roof on. The shell is well underway. We expect to get that completed pretty soon. We're already beginning the interior work, the fit-out process.

Our expectations here is to be in qualification production in the second half of 2023, this year, and then ramping to full volume over the next 12 to 18 months. When it's at full volume, phase one is about \$180 million in revenue. Like I said, the majority of that's already been spoken for by our

anchor customers. We're excited about that.

Returning to our strategic initiatives, our three Ds, if you will. First is diversification. As I mentioned earlier, we're in five major end markets, led by aerospace and defense. Just to orient you to the chart, the second column there is really the share of our revenue that comes from that end market.

In A&D, we've got two numbers. 35 percent is the full-year average. We acquired Telephonics midyear. The second half of the year, it's really closer to 40 percent. That's really where we're at. Being driven by the budget in Washington, DC, I'll go through some of the megatrends in just a minute.

The second column from the right shows you what industry forecasters are projecting as the five-year CAGR growth opportunity within this end market. Then the final column on the right is our expectations for revenue growth in 2023 relative to that CAGR. We expect to be above that, as we have been for most years, in the last several years. I'll show you that in a minute.

What's driving this growth rate? What are the megatrends pushing this? Obviously, the world's a pretty contentious place. You can't wake up in the morning without seeing the news and what's going on in Ukraine, tensions between China and the US, and so on and so on. That's really driving Washington, DC's commitment to funding and dealing with our national security.

The other thing that's key for us is our focus on key programs. Yes, there's transactional business in our A&D end market, but this is really focused around key programs, major things where we have...We announced earlier in the year we won a position on a project called SPY-6. That's \$500 million over five years.

These programs tend to be long-running, anywhere from 5 to 20 years. The F-35 jet fighter is another such program, and others. That's key for us because it builds a great foundation for our business that is long-running.

Third big megatrend is really technology advancements in radar. I highlight AESA here, Active Electronically Scanned Array. Instead of the moving radars that you used to see at airports and stuff like the radar, the metal doesn't move. The signals are moving.

It's much more capable and efficient in its use. That's a super-growing technology. It's very modular in its design. You can scale it from the nose cone of a jet fighter to a football field

tracking satellites in space. It's very interesting technology that way.

If you look at our business, if you start with the graph on the right, it shows our trend. It's a stack bar. The bottom part of the stack is our PCB business. That's what we started in. That's been fairly steady. We are the major supplier of PCBs into the A&D space in North America.

You can see over the years how we've added to it with engineered solutions and other products, as well as you can see the organic growth. Yes, 2021 had a bit of a dip. COVID hit North America. The US suffered dramatically from that. That slowed down production. Aside from that, we've been growing organically every year at a pretty good pace.

Demand has been outpacing that revenue growth. You can see our bookings in Q4 on the left side there, over \$460 million. We had a tremendous booking year last year. Our backlog now is up to almost \$1.4 billion. Remember, I said we were a \$1 billion A&D business. We have more than a year's worth of revenue in backlog.

Generally, this program backlog ships out between 12 and 24 months. It can be a longer time process, but it's a great demonstration of the stability of this end market and the strength and growth of it.

This next slide is really just a representation of several of the programs that we're involved with. You'll recognize some of those names, like F-35. The ones highlighted in bold are the ones that we picked up in the Telephonics acquisition.

In the first column, MH-60 is a helicopter family that works from a military application. You see that. You can see, in the surveillance area, that's a new space for us. There's several programs there.

If you look at our other end markets, we have aerospace and defense, and then we have four more markets that we generally group and call commercial. Starting with automotive, 17 percent of our business last year, really being driven by the electronic content story in cars.

You can think about it in all the features that you've seen coming into cars over time, ADAS, various automation capabilities, cockpit, creature comforts, WiFi in your car now. It goes on and on.

Then -- oh yeah -- there's electric vehicles, which not only have everything that a normal car has.

It has a propulsion system that's more skewed towards electronic content, with heavy copper applications and so forth.

These are all great growth drivers that allow us to grow faster than SAAR, if you know what that term is. Basically, even though SAAR is flat or even down a bit, we've been growing. That's really because of this electronic content theme.

In 2020, there was about \$80 worth of circuit boards in a standard vehicle. It's expected to be about \$90 per vehicle in 2022. The official numbers haven't been produced yet. Luxury vehicles are up around \$150. Then EVs are on top of that. As EVs grow as a percentage of the market, that's another growth opportunity. You can see there's some nice runway here.

We've grown smartly in 2021 and 2022. We grew modestly. Supply chain has been an issue in this end market. Visibility into it, going into 2023, is a little bit muddled.

People are expecting chips to catch up and solve the supply chain issues for this end market in the second half of 2023. We'll get a better handle on where real demand is, longer-term. In the near term, growth is still going to be pretty good there.

Data center computing. This end market, two-thirds of it is data center-related. Think the cloud. We do high-end server applications and AI applications for those service centers.

The other third, historically, has been focused around semiconductor test and burn-in boards. Those are products that are actually consumed by the chip companies in their development process and in their manufacturing process.

As you might suspect, the semiconductor side of that is slowing down a little bit. Big surprise there. Data centers though have been growing really quite well. We grew 25 percent in this end market in '21. We grew 17 percent in this end market last year.

It's definitely pausing right now. This end market has gone through several cycles as we've been in this business, where it grows robustly for three to four quarters. Then it'll take a couple of quarters to digest. Then they'll take off again.

The megatrends in cloud computing and all of our personal as well as business uses of the cloud is just continuing to grow. It's just an inventory pause as they try to absorb the product that they've got. Then they'll start to grow again.

You can see the projections there, 9 to 12 percent. It's pretty robust. We'll be a little bit softer there, primarily because of the first half of the year, as our customers go through this digestion phase.

Medical, industrial, and instrumentation, about 20 percent of our end market business. Projected to grow two to four percent. This is highly fragmented. From a customer base standpoint, tends to be low-volume, high-mix business, by and large, with some exceptions.

The key drivers here, for us, in the medical space, has been patient monitoring, particularly diabetics. I have a lot of that in my family, so we're very sensitive to that. We have some successful customers there. They're doing quite well. Surgical robotics is another high-growth area for us, with some strong customers in that space.

Medical's going through some inventory correction in the short term here, but long term, that's been a very consistent growth market with the demographics that we see in North America and Europe with aging populations.

The instrumentation side of that is primarily semiconductor CapEx. Again, like our test and burning boards that I mentioned earlier, semiconductor is cyclical. It's going through a bit of a challenge in the near term, and we'll see some slowness from that. We're expecting to be a little bit softer here.

We've had a couple of really strong growth years, 11 percent in '21 and 17 percent in '22 in this end-market. We're expecting some digestion issues and to settle it out this year, and then returning to that growth. We have a strong position in that end-market.

Finally, networking. Historically, this was networking and communications, but because the communications side of that telecom from a hardware standpoint has become a bit commoditized, we've more or less redirected our capacity and focus towards data center computing and medical industrial instrumentation, as those products require higher technology, which is our focus.

In the markets that we serve, we try to focus on the higher technology applications where we can differentiate ourselves, and telecom was no longer doing that for us. We've redirected that. Networking is our continued focus. We have a who's who customer list in that end market.

Still looking at good growth, but a key catalyst there is the infrastructure associated with the 5G rollout, which is slowing down. If you've listened to some of the other major telecom companies that have been publishing numbers in the last little bit, they're definitely pausing a bit there.

That's going to slow us down a little bit, as well as the year-in-year comparison with telecom as we move away from that end market. The second focus is really differentiation. First and foremost, it starts with technology. On the left side, I highlight...we have some pictures. You probably don't know what all that means.

We have a broad range of capabilities in circuit board fabrication, whether it's high layer conventional, rigid-flex applications, Teflon, which is really radar or RF focused circuit board applications, very unique, HDI capabilities, and even some substrate capabilities used in small quantities in applications in the aerospace and defense.

The rest of the chart focuses on the engineered products and solutions that we've been growing into over the last few years in terms of we have some RF components that we sell that have quite a bit of IP and gather significantly nicer margins.

You can see microelectronics. You can see our radar applications, as well as the communications and surveillance.

It really starts with technology, and a lot of those latter...The right side is really focused on the aerospace and defense end market where, obviously, circuit boards are both aerospace and defense and commercial applications.

Our second differentiator is our engineering engagement model. There's two elements to this. One, in the long cycle products that we focus on...You can think of automotive or networking as well as aerospace and defense.

These are product life cycles that can take a few years to get through prototyping. Then, you could have a pause before they're funded or in the case of a car before it actually comes to market. Then, you have the life cycle of the actual product in the marketplace, which in automobiles is roughly five years, plus or minus.

Networking and data center, a little shorter, about three years. Aerospace and defense, anywhere between 5 and 20 years. You can get a long life cycle. We make investment not only in terms of talent and skills, but we fund that in terms of helping our customers with their development and

design process.

We also have a field service engineering capability that is unique in our industry, where we work with our customers on the PCB side to help them with design and technology roadmaps so that we can make sure that we're in a position to support their needs.

That all requires an investment and a service level that sets us apart from a lot of our competition. Finally, our third differentiator is our manufacturing footprint. We're one of the only companies that have any kind of a sizable presence in North America as well as China and now soon to be Southeast Asia.

We can help a customer with product design here. When they need to go for a lower cost or volume solution, we can take it to Asia and soon to take it in one of two spots in Asia to give them some balance there. This is unique to us and a real advantage in times of political uncertainty.

There's been a lot of talk about reshoring in North America or in the US. What does all that mean? That still has to be played out, but we're the largest provider of circuit board capability in the US by far. We would welcome any opportunity on the reshoring front.

The third D is really focused on discipline. I don't need to spend a lot of time here, but financially, on the revenue graph on the left side, you see a big drop off from 2019. That's when we divested of our mobility business. Absent that, or say, if we're on a pro forma basis, we've been growing every year.

Last year, we grew about 5.5 percent organically and almost 11 percent in total, including the acquisition. You can see on the margin side, depressed the first couple of years with the impact of the mobility business but improving.

'21, obviously, a lot of impacts with COVID and raw material inflation. Then, as we work through those issues, we continue to improve our margins, and you can see the nice step up in EPS.

If you look from a cash flow perspective, that's important to us. We focus on that a lot. Our goal, if you look in the middle graph there, is to be at 10 percent or better of revenue in terms of cash flow from operations.

A little bit of a dip in '21 there, as that was really the peak of supply chain challenges and customers at their level and also their request of us to carry more inventory impacted cash flow a

bit that year. We've since stabilized in moving on from that and generated and returned to our targeted level of performance.

Then, the right side, our leverage ratio and net debt, 1.5 times. Our target range is 1.5 to 2 times, so we're at the low end of our target range. That's just to say, "Look, we have a really good balance sheet. We generate good cash flow, and we have a strong balance sheet," which positions us well to be opportunistic in M&A or to weather uncertain economic times in a good, strong position.

Our capital allocation strategy, again, focused on differentiation. There's that word again, whether that's through R&D or CapEx investments or acquisitions.

Our second priority is to make sure that we keep our balance sheet strong, deleveraging where necessary. We've done a couple of acquisitions where we've levered up, and we've always come back down over the next two to three years to get it back down into our target range, so we have a good history there.

Finally, we do believe in returning capital to shareholders at a modest level, but our program is going to be more lumpy because of M&A and other priorities. We'll do it from time to time, but it's going to be dependent on making sure we focus on differentiation first.

In summary, we will continue to focus on markets with growth opportunities better than what we think the average situation will offer. We will continue to make investments in areas that will help us to differentiate, and we'll do that all with a focus on maintaining a strong balance sheet.

That concludes my formal remarks, and I'd be happy to open it up to any questions. Yes, sir.

Audience Member: You're in [inaudible] . Some of the A&D players you have seen lose money on the [inaudible] fixed-price contracts. How does it work, and what percentage of that is fixed price?

Todd: The question is, in the A&D business, if you have fixed price contracts, how are you dealing with inflation and cost pressures, and what's that doing to margins, right?

Generally speaking, we have...Our pricing is fixed for a period of time. What do I mean by that? So when we have a long-life project, let's say, it's a 20-year product cycle, you'll get purchase orders maybe two years at a time.

Yes, you would be fixed for those two years, generally speaking, but then when the next purchase order comes in, you go and revisit pricing. We've done that in the last year and a half, and had to have some conversations with our A&D customers, which is not dissimilar to what we did on the commercial side. It's just the commercial's a little faster.

The shorter cycles, the contract, or the fixed-pricing periods tend to be shorter, and so you can adapt to cost pressures and have those conversations with customers. We've been doing that, and generally speaking, being successful in getting through the necessary increases to offset our inflation costs and materials, as well as labor in North America.

Good question, though. Other questions? Tom.

Audience Member: If you talk a little bit about the design of wind, because you put a nice chart up there which showed how some of these winds have really nice, long tails.

One of the things I always like to ask folks in your position is, if you had some winds that may have some of these long tails where they're going to come to fruition, but you got some of this early development a couple of years ago, what does that pipeline look like in [inaudible] for the next year or two or three where you did the work up front, you got the winds, they're now building to the stage where they're going to come and start to provide you with sales?

Todd: It's probably most pronounced in the aerospace and defense than in the automotive areas because they tend to have incubation periods before they go live, if you will.

We quote some numbers in the automotive area. Particularly, we quote the number of design wins and the estimated full life value of those design wins. In the last couple of years, we've had about \$530 million of lifetime awards each year, in '22 and '21, for future business that would come down the road.

If you look at what our annual number in automotive was last year, it was just over \$400 million. That would suggest if you can string enough of those years together of design wins, that you're building a backlog or a potential.

Now, there's variability in that. Those aren't confirmed quantities, but based on expectations going into those projects, that's what we're looking at. Aerospace and defense is a little harder to quantify. A lot of that is more confidential.

We can't say a whole lot about it, but we did announce some things. This past year, we announced the SPY-6 award. We did a press release on that just because it was so significant.

A five-year award for \$500 million, roughly \$100 million a year. It can fluctuate a little bit, but that's the indicative range. That's a major project. That's 10 percent of our business, if you will, in aerospace and defense.

We've had major wins in things like the F35 jet fighter, which has gotten a lot of press about, will they build this many or that many? Still, it's a significant quantity. Successor to the Patriot missile system and other applications that are significant contracts.

These are contracts that a project on its own runs anywhere from \$20 to \$50 million in revenue a year, depending on the number of ships, or the number of planes, or which features, whatever the particular project is. I don't have a specific number for you in A&D, but that's just an indication of the ramp that we're building. You can go next, Dave.

Audience Member: Just curious on, I guess you risked the business a little bit over the last couple of years that you bought Anaren, Telephonics, and invested your self-owned business. What's next, and how big...? Maybe the question should be how big do you want A&D to be or what's the product mix look like here in three years to sales trajectory?

Todd: The question is generically what's our profile of our business going to look like. You're right, you pointed out that we divested the mobility business, which was very consumer-oriented and volatile. We also exited some of the traditional EMS type of work, which is relatively low margin and commoditized, so it's not where we can differentiate.

I think I highlighted too that we've recently kind of deemphasized telecom as it became more commoditized. Where we've been growing and where we want to grow is in that engineered solutions business.

We believe we can add more value in engineering and garner a bigger piece of the pie of a given project, let's say, in the A&D world because we can offer more. The more engineering you can add, generally the better pricing and profitability you can garner from that business over time.

We would like to grow our A&D business to be roughly half of our business. That's our next milestone. That's going to require an acquisition, at least one. We'll grow organically, but we won't

be able to get there in the timeframe that we're looking at just by organic growth.

That's what we'd like to do, but it's going to be more on the engineered services side and not so much on just pure PCB acquisitions. We have the PCBs.

Audience Member: Is it potentially in the design of the PCBs, or is that just going to fall off the strategy?

Todd: No, it's a foundational piece. That's where we started. If you remember that pyramid I showed, that's the component level. We're always going to have that. That's our bread and butter. What we're trying to do is build on it and add to it, not walk away from it. There's a question, I believe you, sir, in the blue shirt.

[crosstalk]

Audience Member: question in terms of you have the industries and the CAGRs [inaudible] , that 2023 view is just relative to the CAGR.

Todd: To the five-year CAGR.

[crosstalk]

Audience Member: overall, you guys are probably growing at least that CAGR, if not more [inaudible] ?

Todd: Over the five years, we're pretty optimistic in how we'll do. In any one of those five years, you could be above or below. We're just trying to give some insight as to what we're seeing in the market.

On the commercial side, we're definitely seeing softness going into the start of 2023, but good for aerospace and defense.

Audience Member: Over the five years, you're at the upper end of that CAGR [inaudible] ?

Todd: I'd love to be above it, but I'm not promising anything. My lawyers will throw me out here. That's certainly our intention, but we're just trying to give you some benchmark that you can look at and get a sense for what we could accomplish. I believe you had a question.

Audience Member: I just have two structured questions. You have the term loan coming in 2024, so I hope it will fix the floating and then [inaudible] . How are you thinking about the capital structure?

Todd: You're right. We have a term loan B that matures in September of '24, so that goes short term in September of this year, roughly six months, so we're going to need to deal with that. I can see my banker just licking his chops over here. We need to deal with it. We're evaluating our alternatives. It's an interesting market.

It's very different that a year ago. Interest rates have moved significantly, so that changes the whole thought process and what we should do. Quite frankly, our highest probability scenario is a refinancing of the term loan B, but we're still evaluating exactly what's the best way to handle that.

We like a combination of fixed and variable. We have a great piece of high-yield debt, a bond that's out there that is good long-term capital. We like having a term loan that allows us the flexibility of repayment without payment penalty. We have a history of doing that when we've levered up.

The flexibility associated with that, as well as some of the covenant flexibility, is important to us so that we can run our business optimally. That's our expectation, but I do like a combination of both of those instruments. Time for maybe one more quick question. Tick tock. One more. Go ahead, last question.

[crosstalk]

Audience Member: at the new facility in Southeast Asia, is there still going to be some spare capacity beyond the 180 million or [inaudible] ?

Todd: 180 million is phase one. We have a path to phase two that would get us up to about 225 without having to do any bricks and mortar, just adding more equipment. That's where we're going. Once we get 180 line of sight sorted out, we can add some additional equipment to take it to 225 if the demand justifies it. Thank you, everyone. Appreciate your attention.



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