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<<Edwin Mok, Vice President-Strategic Marketing & Investor Relations>>

Great. Good afternoon, everyone. Welcome to the Advanced Energy 2024 Analyst Day. I hope you enjoyed that video, which shows you a little bit of what we do here at Advanced Energy. My name is Edwin Mok. I lead Strategic Marketing and Investor Relations here in the company. And I want to first thank everyone for taking time out of your busy schedule to come to our event and learn more about the company.

So let's start – let me start with the customary safe harbor statement. Today's presentation contains forward-looking statements that are subject to risks and uncertainties that could cause actual results to differ materially and are not guarantees of future performance. Information relating to these risks can be found in our SEC filings. I want to point out that today our presentation is going to focus on the long-term. And as such, we will not update or reiterate our guidance that we provided in our Q3 2024 earnings call on October 30. We will present long-term targets, including our 2030 target model as well as long-term goals and targets, and you should not interpret those as guidance.

Today's financials are all going to be presented on a non-GAAP financial basis unless otherwise specified. Detailed reconciliations between GAAP and non-GAAP can be found in our SEC filings or at the end of this presentation, which you will download at the end of today's event. Here's our line of speakers today. Many of you know Steve Kelley, our President and CEO; and Paul Oldham, our Executive Vice President and CFO. In addition, we have three business leaders to present about our business. Juergen Braun, leads our Plasma Power Products; Emdrem Tan, leads our System Power Products; and John Donaghey is the leader for our Global Sales Organization.

Here's a quick rundown of our agenda. Steve will kick us off and tell you about our strategy and also why we're in our markets. Juergen will do a deep dive into semiconductor. Emdrem will follow with an overview of our business in the data center computing market. And John will show you how we grow in the industrial and medical market. Paul will finish by explaining the strategy and how it will enable us to deliver superior shareholder returns. Steve will finish with some quick remarks, and then we'll go into Q&A. Please try to hold off your questions until the Q&A session. And we expect to finish today's event at 3:30 Eastern Time.

With that, let me invite Steve Kelley, our President and CEO, to come up.

<<Steve Kelley, President and Chief Executive Officer>>

First, welcome everyone. Thanks for coming to join us today to learn about Advanced Energy and our growth plan. So I'm going to kick off today with our four key messages. First, we're the leader in precision power. So we design and build highly engineered power delivery systems for

challenging applications. Second, our target markets, which are semi equipment, industrial, medical and data center are growing and they're full of precision power opportunities. Third, we're executing our strategies to drive organic revenue growth. You'll hear a lot about those strategies to date from the business leaders and our strong balance sheet gives us the ability to make strategic acquisitions. And finally, we believe that our streamlined manufacturing base, the improved product mix and economies of scale will allow us to get to 43% gross margin.

So these are the headline numbers. This is our 2030 target financial model and these are targets we think are reasonable and achievable. First, we expect to double revenue from current levels. Roughly two thirds of that growth will come from organic growth and a third from acquisitions. Second, as we execute our product and manufacturing strategies, we'll be able to deliver significantly higher gross margins, 43% good time and no lower than 40% during market drops. And finally, we think that leads to EPS of $15 per share, we think that's achievable, driven by the revenue growth and operating model leverage.

Now I'll talk about what we do. I think most of you have seen the product demo. So you have a pretty good understanding already of what we do. But we basically design and manufacture differentiated power solutions for high-value markets. These are mostly long life cycle applications with the exception of data center. Everything else we do is pretty much long life cycle. 70% of the revenue that we generate today comes from sole sourced products and we're winning. You'll hear about how we're winning today, but we're winning the big applications like semi equipment and data center, but we also have a long list of design wins in the industrial and medical space.

Okay. Let's talk about our competitive advantages. We have a number of them. First, we've been in the business for more than 40 years. So during that time, we've put together an impressive portfolio of power technologies, sensing technologies and control technologies. Shane alluded to that in his presentation, but we do a pretty good job mixing and matching those technologies within the company. As a result, this has allowed us to develop the broadest portfolio of precision power products. Our customers have a lot to choose from. So with around 1,500 power engineers and designers in the company, we have more expertise than any of our competitors today. We have deep application know-how, which is critical to our success moving forward and we have a strong factory network in Southeast Asia and Mexico. We build most of our products in-house and that's important because we could support those products for many years, and our customers appreciate our ability to build within the company. So we lead with technology, we lead with scale and staying power, and that allows us to capture these high-value opportunities.

Okay. So let's talk about technology leadership. This is a common thread you'll hear throughout the presentations today. This gives us our competitive edge essentially. In semiconductor, we've leveraged our leadership to become number one in plasma power. What we do is we power the – we provide the critical power subsystems, which enable leading-edge etch and deposition processes. And that's what we talked about earlier. In Industrial/Medical, our products are designed into many high-end mission-critical applications. In the medical area, we're currently number two with a clear path to number one. There's not much separation between us and number one. In Industrial, we think we could also become the number one player, but that will take us a longer amount of time. We're going to do that through a combination of organic growth

but also acquisitions. In data center, our technology edge is really an industry-leading power efficiency, power density and reliability. These are features which are increasingly important for the power hungry AI applications. We don't aim to be number one here, but we will play selectively where we can be a sole-source supplier or the lead supplier in a two-supplier situation.

Let's talk about our One AE strategy. We think this is a force multiplier for the company. They have all these technologies and expertise in-house. So from a product development standpoint, One AE means that we reuse existing best-in-class technologies within the company as much as possible and this shortens development time. Our consolidated factory network will operate off a common backbone, the same manufacturing execution system, the same quality system, the same warehouse management system. This ensures a consistent product quality across the company and will allow us to quickly move production from one factory to another.

One AE also means that we move quickly to integrate new acquisitions because we want to ensure a single culture across the company. And finally, we have cross-company initiatives. Most recent one was the unified website we introduced last August and that's expanded our customer list, increased the number of design wins and generally improved support levels for small customers and large.

So let me talk about what I think is a world-class leadership team. It's a mix of veteran Advanced Energy leaders, combined with some new talent. So today, you'll hear from Dr. Juergen Braun, who's got a PhD in surface physics, and he leads our Plasma Power Team. He's been with AE for more than 15 years, started in Europe, came to the U.S. And he's got a deep technical understanding of plasma power processes. He talks to the customer's language. Most of our customers have PhD so does he and he significantly reduced development cycle times within our Plasma Power Group.

Emdrem Tan will talk about System Power. He leads the System Power team and he is a semi industry veteran with extensive international experience. He gets things done. We worked together for many years, and he understands what drives value for customers. Prior to AE, Emdrem held senior leadership positions at Amkor Technology and TI. John Donaghey, we pronounce it Donaghey, not Donaghe. So he's our sales leader. He's an EE, and he's got extensive experience managing large technical teams and prior to joining AE he was with Amkor and TI. Paul Oldham, our CFO, has been CFO here for seven years. And before that, he was CFO at ESI. So he's got deep financial experience and knowledge in the semi equipment industry.

There's two more people I'd like to mention. One is Eduardo Bernal on the bottom there over on the left. He's our Chief Operating Officer. He's leading the factory consolidation effort, basically moving 15 factories into five large factories. Prior to joining Advanced Energy, Eduardo was Senior Executive at NXP Semiconductors, where he was responsible for five back-end factories. And before that, he spent 25 years in manufacturing at TI. And the last one would be Cathy Mackinnon on the other side of the chart in the bottom. Cathy is our Senior Vice President of Corporate Development. She joined AE earlier this year. She has got chemical engineering degree and MBA from Carnegie Mellon and before she joined AE she spent seven years in M&A

at AMETEK. I think many of you are familiar that AMETEK is quite good at making acquisitions. So we think she's a good hire.

Go to the next one. So let me talk a little bit about our markets. We play in interesting markets with impressive growth rates, so semiconductor, our first market and still our biggest business. It's very large, and it's got a long-term CAGR in the high single digits. In the semi market, the best technology wins as long as you deliver it at the right time. And in semiconductor, winning technologies enable our customers and their customers to maximize throughput, in yield in the wafer fab. That's what it's all about.

For the advanced process nodes, we believe and our customers concur that etch and deposition intensity is increasing, which means that our SAM should grow faster than WFE. The data center market is also very large with a long-term CAGR in the high single digits. The increasing power requirements of AI data centers play to our strengths.

And finally, the big one in the middle, the industrial and medical precision power market encompasses a wide variety of applications, many of which are mission-critical. These are typically long life cycle products with some degree of customization required.

And finally, in the lower right-hand corner, we continue to participate in telecom and networking, but only for selected high-end opportunity.

We'll go to the next one. Okay, so let's talk about macro drivers now. So, these macro drivers are stimulating growth in our target markets. Of course, we talk about AI again, but it's driven growth across many of our markets. In semiconductor, it's boosting demand for leading-edge silicon. I was discussing with someone before the presentation today, but these chips, they use in AI are very big chips, the GPUs and the memory chips. And they gobble up wafers. And that's good for our customers, good for us. In data center, it drives demand for larger and more capable power spec. That's also a good trend for us.

In Industrial and Medical, AI enables some innovative new products that stimulates demand. So they have great for Advanced Energy.

Moving to the next one, energy efficiency. That's making more important across all of our markets, but particularly in data center, semiconductor and industrial. Industrial Automation, that's being driven by manufacturers, we want to improve productivity and product quality while reducing labor intensity.

Going up to semiconductor, many think we'll be at a $1 trillion semiconductor market by the end of this decade. We participate – we have trouble here with the slides, there we go – we participate in all parts of that semi equipment market, leading edge as well as trailing edge.

Electrification, the net spurring of demand for more sophisticated power for their systems, because our customers are trying to make the most efficient use of an expensive resource, which is electricity.

And in Medical, we see many technology-enabled therapies and state-of-the-art analytical tools. which require reliable delivery of precision power.

Let's go to the next slide. Okay, so let's dive into semiconductor a little bit more. I mentioned we are number one in plasma power. We believe we can drive significant share gains moving forward with these new platforms called eVoS, eVerest and NavX. And Juergen will talk about them at length. But in summary, these platforms have been very well received by our customers who need them basically to tackle the technical challenges they have seen at the leading edge, leading edge logic as well as memory processes.

We have sold and delivered over 250 of these units to customers. So for us, that's quite significant. It's a huge increase over previous platform launches. It's really a great indicator of the strong customer pull we see for these products.

So, in addition to the progress we made in Plasma Power, we're also making gains in other parts of the semi market, including high voltage and system power. Next slide.

Okay, let's move on to Industrial and Medical. We increased our focus in this area back in 2021, and we've continued to invest heavily in Industrial Medical for the past three years. We expanded the development team, we added a number of new engineers to expand our product set and to get products to market quicker. We also created a dedicated industrial medical sales force. And John will talk about that. The result, the much stronger new product and technology lineup and a record number of design wins, which are going to fuel organic growth in the coming years.

We also expanded our quick turns engineering team, these are the engineers who basically take our standard products and make modifications to be particular needs of customers. And we've more than doubled our output of that group over the past two years. We talked about the website, but the website is making it much easier for customers to specify and order Advanced Energy product. And our digital market efforts are effectively drawing customers to our website.

And finally, our strong factory network is a big advantage in Industrial Medical since we build and test nearly all products in-house that helps to smooth production ramps and also facilitates easy communication between our development team and the factory floor.

Let's go to the next slide. Thanks. So moving to data center. The data center strategy is to focus on high-end proprietary applications. And we talked AI and some of the power requirements that come with the new AI data centers. Again, it brings three factors into play: power efficiency, power density, reliability. Those are more important than ever, and they play to our strengths. Our road map will enable the megawatt level of power that some of our customers are already talking about. Pretty amazing.

Another key success factor for us in this market is our ability to move quickly. This gives back to the earlier point, we could reuse existing technology, we have a strong engineering team, and we have close customer relationships. You combine those three things and we can keep pace with this rapidly changing AI market. Remember, every time that NVIDIA comes out with a new GPU the power requirements change. So, we need to be a lot faster than we used to be.

And based on our pipeline of opportunities, we expect to add over $100 million in revenue annually in this market. Next slide.

Okay. So let's talk a little bit about M&A. Bottom line is we continue to hunt for acquisitions, which will go – excuse me, will grow our scope and leverage our scale. We have a solid track record. We've been very acquisitive for many years, and our track record is to buy and to grow our acquired businesses. We prefer to stay within the precision power market or stay in our lane, where we can add value. And we look for larger targets, which expand our reach, expand our portfolio or expand our market. And most of the targets will be in the industrial medical area. We'll also continue to do technology tuck-ins like we did with Airity this year, they provided some very useful technology across the company. But in all cases, we're going to exercise financial discipline with a focus on value creation.

Okay. So let's look at the shorter term next year. We gather some information from third-party market research firms, and they're all predicting that our target markets will grow to varying degrees next year. So that's good news. And they're also predicting growth in the out years.

Data center is currently the most robust market, and that's being driven by strong investment from data center operators as well as the success of some of our new products.

Now semiconductor is slowly improving as well. If you look at that market over the course of 2024. And we've seen that in our business. In fact, in Q3, our revenue was as strong as it's been since Q4 of 2022. So, it's getting better slowly.

I&M has been in the correction phase for more than a year now. Based on our analysis of the market, we expect revenue growth to resume in this market had advanced energy sometime in the next six months.

The bottom line is, longer term, the trends in all these markets are very favorable. We believe these are the right markets to be in with ample opportunity to differentiate at the high end.

Let’s go to next slide. Okay. So, let's talk about some of the new products. Really, this is the heart of the company, bringing these new products to the market and winning new design slots will drive profitable growth at the company. New product output is way up as this graph represents and through our design wins.

In the semiconductor and data center markets, we swing for the fences basically. We bring leading-edge technology to large demanding customers. And when we succeed, the payoffs can be quite impressive. In the industrial medical world, it's a bit different. We're mainly hitting singles and doubles, but there are literally thousands of customers in the industrial and medical world who are designing in our products. And they'll keep buying those products for many, many years. In many cases, until we stop making that.

So due to – our sales forecast, the increased new product output, the number of opportunities in our I&M pipeline is up roughly 50% over the past two years. And the good news is we convert

more than one out of every three of those opportunities into a confirmed design way. That's working. Next slide, please.

Talk a little bit about our website, our digital capability. So, we obviously upgraded our capabilities significantly last year with the launch of the website, and e-commerce and our digital marketing campaign. And I think we've been successful in broadening our customer base and improving our service level.

Just some facts and figures, since we launched the website in August of last year, traffic to our site has tripled, and our sales leads have doubled. I was informed that we now have 55,000 LinkedIn followers, which has more than doubled what we had two years ago. I think that's a good thing. But most importantly, we've added 600 new customers already based on the website. And we've confirmed 150 design wins, which started as website lead. Many of those wins didn't require a lot of effort on our part. So this is kind of a new era for Advanced Energy. Go to the next slide.

Let's move to our factory network. Fresh for Advanced Energy, operational excellence will enable superior financial performance. It also is a big customer satisfier. So, it's a competitive advantage for the company. And our goal basically is to deliver best-in-class quality, service and execution for our customers. Consolidating our factory network, the process which should complete next year, will improve our consistency as well as reduced overhead costs. And that's the key part of the gross margin improvement plan that Paul will talk about later.

I mentioned earlier that we're consolidating 15 factories into five factories. Those will be located in Malaysia, and on the Philippines, Mexico and Thailand. The factory in Thailand is under construction, and we can open that factory as soon as demand warrants, and that could be as soon as the second half of next year. So, Thailand, together with the other factories, basically gives us enough manufacturing capacity to ship $3 billion in revenue per year. So, that gets us to our 2030 operating model. So, within the factory network, we foster a culture of continuous improvement. And our primary focus areas are improved product quality, improved efficiency and reduced bill of materials cost.

Next slide, please. So how does all this impact gross margin? Again, this is really important for us to achieve our bottom line goals. So we expect to see the full impact of the factory consolidation effort in the second half of 2025. In addition, we're factoring in gradual improvements in our product mix. We measure this sole-source product revenue, it's an important metric for us since these products typically generate better margins and they exhibit less price erosion over time. In that last graph, we're basically reminding people that the next-generation products typically have better gross margins than the current generation product.

Let's go to the next slide. So at this point, I'm going to wrap up my presentation. But before I go, just remind you of the key messages today. First, we're the leader in precision power with over four decades of experience. Secondly, our diverse end markets are attractive with plenty of growth in many high-end applications. Third, we expect to deliver solid revenue growth through our new product and design win momentum and that we have the financial capacity to make

strategic acquisitions. And probably most importantly, we believe we're set up to deliver $15 a share in EPS as we execute our plan to grow gross margins to 43%.

Next slide, please. So at this point, it's a pleasure. I turn it over to Juergen Braun. Thank you.

<<Juergen Braun, Senior Vice President, Plasma Power Products>>

Thank you, Steve. Can everybody hear me okay? All right. It's a little chilly here. That's why I'm going to hope to excite you with some plasma lightings. And we're going to talk about how and why we win in plasma today.

So thank you for joining us today and this afternoon here at our Analyst Day. I'm really happy to be in front of you and talk to you about why we are really positioned to win in the semiconductor industry. So there's some key messages that I want to share with you, right. It's – we are the number one in Plasma, and it is not only technology that we are the number one, it is technology and in market share.

And we are actually really most critical provider of technology to most customers in the semiconductor industry, and we are working with them on a daily basis to enable them to make these new advanced technologies in 3D device structures and architectures work.

Since we have been launching the eVerest and eVoS platforms a year ago, and also the NavX platform about four months ago, we are seeing tremendous pull from our customers because the customers are recognizing what capabilities these new products and platforms have and enabling them to run these new device architectures and the processes behind it.

And then beyond Plasma, we are also seeing an expanding number of applications that we can serve with our critical sensing and system power opportunities that we are seeing with these customers. So what is our position in the market? You can see that for many, many years, Advanced Energy has been the leader in Plasma Power. And it's still the situation today. So when we're looking at our markets that we are serving, we are outperforming actually our end markets year-over-year. And it's not only through peaks, but it's also through troughs in these cycles. And when we're looking ahead, we think we can continue to do so. And this is mainly driven by the technologies that we are having in our hands right now and that we are driving to qualify with our customers.

So as the incumbent supplier for most of these players in that market, we have technologies that are enabling them to run really all applications that are serving this market. And we have a deep application knowledge and experience, how we can use – or that we can use to support our customers, driving these applications and qualifications forward and we're winning in that market.

Let's look about the challenges that we really have in this market and what our customers are faced today. We have seen significant changes in inflection points in the industry, while our customers are moving – what we're seeing here in device architectures, typically to 3D architectures. So going to gate-all-around high bandwidth memory, multilayer NAND

applications, pseudo 3D DRAM, if you want to call it this way, and then finally and ultimately to real 3D DRAM. The customers are faced with significant challenges in how to run these processes. So these inflections typically ask for high aspect ratio etches which have the need for very complex control of process kinetics, for example.

Also, additional deposition of etch processes with new materials and engineered materials that can then manipulate, for example, interface layers or material properties are critical to understand and to control to run these device architectures. Also, combination of etch and dep process steps within an in-situ process to create, for example, void-free metalization in transistor layers is becoming a real big challenge as these features becoming smaller and smaller. And then also a wide range of temperatures that utilize Arrhenius behaviors for chemical reactions are becoming a need to control.

So you have to understand what the temperatures are, how you can use temperature to manipulate process kinetics and control these processes to do the elements, what the elements need to do, that the film becomes the film that is functional.

All right. So over the past 40 years, Advanced Energy has really a demonstrated track record that we are the guys that are providing this technology that is enabling our customers, our users, the semiconductor equipment market to do these solutions, implement these technologies and run actually the processes that are needed to make the results on the wafer that make these devices work in the end.

So in the next few slides, I'm going to show you why we are enabling those technologies and how we are enabling these technologies and why we think we are very well positioned for the next wave of market investments to be the partner of choice for our customers. So what are these challenges? I think one of the biggest challenge that we have at this point in time is really scaling, scaling specifically in the non-technology, for example, where trenches that you can see here on the left-hand side of this graph are becoming the main, main, main challenge because the trenches need to come taller and taller and taller, right. But the precision is becoming more critical as we have to stay within these narrow holes and they go deeper and deeper and deeper. So for example, if you want to look at the new architectures that are required, you will need to stack 15 Eiffel Towers on top of each other and get the precision to get one of these trenches. So guess what? This needs really, really, really precise control of how you are etching these channels.

So what are exactly these challenges that we are facing, when you look at traditional RF technologies that are used, where you use high power as a bias to drill these holes, at this point, since you have a dual RF distribution of ion energies that you're creating. So in essence, what is happening, your ions are created have dual energies. So they are basically going in this direction. They are going in this direction. They're going here, they're going there, but they're not going only there where they should go. That's a problem, right. So what do you do? You have to overcome that problem. And I'm going to tell you how we are doing this and why we are the only ones that can do that.

Second, because you are not able to only go straight down, you have to stack these so-called tiers, one after each other, if you want to get to 200 layers, 300 layers, 400 layers in the end to 1,000 layers, right. That's the goal. So stacking these tiers is becoming, first of all, time-intense, also equipment-intense, you will have to put so-called process modules together that are having catch lithography and deposition and you have to spend all that money to get to these deep holes, right. So that's a problem, too. Guess what? These processes are slow. So some of these processes typically take half an hour or even longer, we just have one of these etch/deps. So now you need to multiply them, and it's really time and cost-intense. This is a problem, too, right.

So how do we solve all these problems? We're going to solve them by going from a dual frequency ion distribution to a monolithic isotropic energy distribution of these ions. We channel them. We're going to make them just slow down. We don't go them everywhere. We make them channels go down. So that solves significant problems, which is related to stacking.

So all of a sudden, you can drill down not only one stack, you can drill down two stacks. You don't have to have that many tiers to come to the same count of layers or even to multiple layers, right. So we are overcoming a very significant process hurdle that exists today in the market for these applications with these technologies, which is called eVoS.

In addition to that, when you're processing here and you're covering the sidewalls, you are having a lot of carbon in the process chamber. This carbon with scaling power in traditional RF technologies is creating process arching, which destroys the wafer. Your device doesn't work, right.

So, in our case, we have a high capability with high voltages to scale and channel these ions much better compared to traditional RF and we are not creating that arching. So we are removing another problem out of the equation to make these processes run.

And finally, with this, we can enable aspect ratio etches that are going beyond 100:1 or even 200:1 to finally make these tier stackings economically viable and from a process capability or challenge viable. So this is the main reason why we are thinking, with this technology we are set up to win significantly in this market going forward. But not only for 3D NAND and dielectric etch. This technology is same important for conductor etch and logic applications where we are doing etch and deposition processes, the same in these 3D architectures as we are doing them in NAND. So this technology moving forward is a very important technology to overcome challenges that we have with these inflection points of these 3D architectures.

Let's talk a little bit about our eVerest platform. eVerest platform, as Deval explained before, is really the most advanced RF platform with the capabilities of multilevel pulsing, ultrafast response, rise times of below one microsecond, unprecedented in the market, which is needed to control these very sophisticated and challenging processes.

So Deval talked a little bit about that we are going into the so-called angstrom area. What does this mean? We have to control processes on an atomic scale. We are moving atoms around. And this can only be done when you have super fast control, super precise control, repeatable control and you do it over and over again with reliability and energy efficiency.

So in order to run these multilevel processes, you need to have control of kinetics to achieve the highest process securities in any etch and deposition process, because you have to have control over every atom in these devices to make them work. What does that mean? Rapidly changing chemistries are typically causing rapidly changing impedances. Rapidly changing impedances is a real big challenge for an RF generator.

It just bounces it out of control. So eVerest has a very new control architecture that is ultrafast and is able to respond and keep these processes stable. That means you can reliably and repeatedly provide the control and the power to these processes to manipulate and have these atomic processes steadily under control.

So an additional mark that I want to give is the NavX product that we just recently launched, right? Dhaval explained that the direct communication between those two generators and matchbox devices is very critical for fast speed control and hence, enables multilevel pulsing capabilities, and not only for one frequency, but also for two frequencies, for example. You have to have nanosecond speed controls and abilities to link and sync pulsing patterns with the different frequencies to turn them on and off to get the chemistry that is provided into the process chamber to run exactly these processes that you have finally these atomic structures that you want to have on your surface.

And by the fact that we are combining eVerest and NavX, we are providing the optimal combined solution to run these multilevel processes and control these process kinetics that we are talking about are very critical for these processes. So what are our customers' challenges to? It's not only technology, it's also time to market, right? These cycles are becoming shorter and shorter.

And with our modular design architecture that we also talked about, we are able and enabling our customers to respond quickly to these changing requirements. So what can we do? When you look at the typical architecture of our new generation RF power supplies, it's an AC to DC front end, where we are leveraging all our technology that we have in our company, which is high efficiency, water cooling and other aspects that are critical to keep a AC to DC front end stable and efficient.

And then we have a power amplification stage a very unique, new control architecture with model-based controls and in an RF output section. So combining all these, we can change these elements very easily and quickly and adapt to changing process requirements and – requirements from our customer. We can go with different input voltages, we can go different process frequencies, we can go optimize power levels, and we can adjust and customize the control capabilities and features and functionalities that our customers want from us. So they can set up their unique process control for their processes.

With that, we have been actually very successful in shortening our process design cycles. Typical industry design cycles for a change in these capabilities has been a year or more in previous times. Right now, we are sometimes as quick as three months to respond to some customer

change requests. This is unprecedented. So we are helping our customers to be faster to provide capabilities into semi equipment factories to run these processes and respond to challenges.

And you can see it. We have already, since the launch, delivered 15 specifically designed customer solutions with this platform and we are in the process of providing 10 additional process solutions to our customers for qualification within the next three months to six months.

So where do we play? With these capabilities, I think we are optimally positioned for all these inflections that are happening right now in the market on all these processes, conductor etch, dielectric etch, metal deposition, PECVD, PEALD, we have solutions for the eVoS and eVerest are the qualifiers to run these processes with the highest precision needs that you can have in the market.

So specifically, what are we doing? Conduct the etch for 2 nanometer smaller than 2 nanometer gate all around. These are the inflection points that are happening right now, right? We are enabling those processes. The position for smaller than 2 nanometer transistor metallization. We are on these processes. Dielectric etch for 2 nanometer back end of line critical and non-critical etches. We are on these systems. Dielectric etch for bigger than 200 layers or even bigger than 400 layers. We are on these systems in qualifying right now.

So you can see that we are qualified across all these device types. We have already had eight major design wins with these product platforms with our customers. We are working on 20 programs with our customers and our OEMs have already shipped 10 qualification systems into fabs to run these process and qualify them for volume manufacturing.

So with this, we are very confident that we are positioned for market share gains moving forward and out of this industry trough when the next investment cycle is starting. So not only our new technologies, but also our installed base is actually a big lever for our revenue stream at Advanced Energy.

We have a great offering of repair services, but not only repair services, but we have also something that we are calling value-added services, which is typically refurbishments or upgrades. And with this, we have been able to get a very solid and strong CAGR of 10% over the last years based on our strong installed base.

So having this strong installed base and having our customer positions with our new products, we are very confident that this is going to continue to grow in the same manner of what we are doing today. But not only the service aspects to this, our strong installed base and our technology that we are providing to our customers with the inflections that are happening, we think there is a huge upgrade opportunity for existing installed base as our customers are qualifying these technologies with their end users and then need cheaper availability of these technologies in the field instead of buying a complete new system, you are upgrading chamber capabilities that are then allowing the customers and the end users to run these new processes.

So looking at our SAM, we estimate it to be around about $3.1 billion. You saw it on steep slides, right? Mainly driven by our plasma products and services, but also our adjacent power

technologies and sensing and control technologies are adding for us to be winning in that market. So we have a wider portfolio with all the products that we are having in our portfolio that we can leverage to win additional slots with these customers.

Looking at the total market, now knowing all these elements of what we have at our disposal, I think we are very well-positioned that compared to our previous model statement that we said we're going to grow 1.2 times faster than WFE. We are actually upgrading and raising our target with this to say we're going to be growing 1.3 times as fast as WFE.

So we have increased confidence based on all the customer qualifications that we are running today based on the technologies that we are providing to our customers. And based on the positive feedback that we are getting from our customers, running these processes and controlling these challenges that we are going to significantly outgrow our current position and the market.

If you look at the TechInsight numbers, it has stated that increased depth and etch intensity will uplift the WFE market and also power – plasma power subsystems will additionally increase the WFE market outlook. So from a perspective of a market, we are ideally positioned for growth. But then also when we are looking at our technologies that we are providing for inflections that are in front of us, we think we have a very strong position to gain significant share in dielectric etch and other deposition and etch processes. And we think that an additional $100 million of revenue is easily obtainable based on our current qualifications with all the customers and end users.

So with that, I want to finish by reminding you that we're going to win in the semiconductor market. Based on all the technologies that we have at our disposal and based on the qualifications that we are running with our customers and our next-generation plasma power platforms are seeing that strong pull from the customers because we are solving these challenges that are currently existing in that market. So with this technology combined with our growing market, I think we will be easily enabled to run 1.3 times faster growth than wafer equipment is doing at this point in time and this projected.

And with that, I want to thank you and call my colleague, Emdrem Tan.

<<Emdrem Tan, Executive Vice President, System Power Products>>

Okay. Good afternoon. My name is Emdrem Tan. And I'll be talking to you today on capturing the AI opportunities in data center computing. AE is strategically focused on high-end proprietary applications with a goal to drive profitable growth. AI is driving the market growth and new NVIDIA products are powering the needs for higher power solutions for AI applications.

We are well-positioned to enable these high-power AI solutions with good design win pipelines and road map with AI solution providers. This strategic focus could add over $100 million in annual revenue for AE.

In addition, we'll continuously gain technical and technology competency, we can also leverage our data center computing technology to develop products to serve other markets. As for our strategy, for Data Center Computing, we are targeting more complex, differentiated power solution, which are normally sole-sourced and differentiated opportunities, not commodity, low-end solutions.

As the technology leader in high-end proprietary applications and solutions, we are collaborating with market leaders to keep up with the accelerated pace of innovation and reduce time to market to meet the shortened design cycles for AI applications. Our selective strategy will enable high sustainable product margins and drive profitable growth.

Nvidia's new products are fueling strong AI server growth, which accelerates rack power content. The rack power requirement for standard servers used to be 10 to 20 kilowatts. But with AI, it has increased to over 100 kilowatts. We basically increased the power density by more than 5x and the higher the power the more important the efficiency to save energy. At the very high end, very few suppliers can meet the requirements of higher power efficiency, density and reliability which are becoming very important factor for server applications. The barriers to entry to provide higher power proprietary solutions are actually quite high. This is why we can either be sole source or one or two of our designs.

So what are the AE key differentiators? We are industrial leaders with big power efficiency of approximately 98% and this is a very difficult level to achieve. We have delivered best-in-class on power density, greater than 100 watt per cubic inch. These metrics continue to increase. It was 75 watts per cubic inch few years ago. Other than product specs, I would say the most important capability is to be the first to deliver production-ready products. Many players have announced products with high-end spec or promised shorter, shortest time to market, but this product may not be working, qualified or production ready.

Our proven records for delivering production-ready products has earned us recognition as the leading reliable supplier of choice. With deep knowledge of data center rack power and strong engineering power solving team will enable our customers to bring leading-edge products to market faster than their competition. Our data center computing team has the technical edge right now.

Let me give you some context of our technology road map. Historically, we see new products about every three years, but we're seeing a compression of this time line. During this three year window, product has become more commoditized as more players entered the market. However, customers are now increasing new product requirements every year, thanks to the acceleration of the new GPU road maps.

From 2019 to 2022, we have captured the transition from 12-volt to 48-volt for better energy efficiency and cost savings. Now in 2024, we are in the second generation of the 48 volt products that enable 100-kilowatt rack power, and we believe, we are the leaders in delivering these advanced solutions. We expect the cadence of increased power to accelerate with the power requirement increasing 10x to 1 megawatt in the shorter time frame. Because customers have limited engine resources, they do not have time to qualify a lot of second-tier suppliers. They

will choose to collaborate with the technology leaders. This focus on working with the technology leaders and the accelerated road maps plays well to our strategy to deliver more proprietary products.

We have completed our major portfolio optimization, shifted engineering resources, to design of, differentiate products and divest – sorry, and invest advanced engineering for roadmap products. With the market shifting to less commodity and higher-end applications, which is in line with our focused strategy, we're targeting to exceed the server market CAGR of 6%. With a pipeline of proprietary opportunities of over $100 million of annual revenue, in data center computing and our markets – in other markets, we are seeing accelerated needs for more power, higher efficiency and higher power density.

Customers also want to compress design cycle time to achieve faster time to market. The modular approach of our designs allows us to take advantage of our technical leadership in efficiency and density as well as saving engineering time and costs. Leveraging our data center modules and platforms, while enabling faster development and better solutions in our industrial and medical and semiconductor markets. In summary, AI is really driving the market towards higher performance requirements. We are a technology leader in this space. Equally important. We have a track record of delivering production-ready products. As a result, we believe we can grow faster than the market.

With that, I'll end my presentation. And I'll pass to the next speaker, John Donaghey.

<<John Donaghey, Executive Vice President, Global Head of Sales>>

All right. Thanks, Emdrem, and good afternoon to everyone. My name is John Donaghey. I'm the Executive Vice President of Global Sales with Advanced Energy. And today, I'm going to talk to you about how AE is positioned to grow and gain share in the industrial and medical markets, a little bit about these markets and also how our strategy will yield positive results.

So with that, let's go over some of the key messages that you'll see throughout this presentation. These industrial and medical markets are a very large opportunity, as you saw in some of the prior slides. There's tens of thousands of customers in these markets. We have fairly low share today. So there's a lot of upside potential for us. And most of our competitors in the space are smaller companies, where they won their share through niche applications. And you'll see that we have a growing portfolio of I&M solutions.

We already have a pretty broad portfolio today, but we also have a growing number of new products coming out and have been coming out to address the market needs in industrial and medical. Steve mentioned that we have a large number of engineers in our company. And these resources – many of these resources are dedicated to supporting and creating new products in industrial and medical. And we think our technical resources are a competitive advantage in the space. And the last key message that you'll see here is our investment in our digital platform as well as our increased focus with our distribution partners. This helps us to reach our large customer base to grow the number of customers at Advanced Energy.

So let's start with the market overview. If we focus at the center portion of the slide there, you'll see that we've identified 4.5 billion of opportunity in these industrial and medical spaces. These have a pretty broad base of applications where we can potentially serve all of those applications. But we've chosen to target some specific opportunities in each one of these. And because we have a portfolio that can serve those markets, and they're very large submarkets within each one of these spaces.

So on the left side, you'll see the industrial space is identified as $3 billion. That's all of the green there. And on the medical side, there's about $1.5 billion of opportunity, that's all in the blue. And in addition, we serve the broader industrial market through our website and through our distributor partners. And sometimes we bubble those up and do rents and repeat, what we call rents and repeat activity, that's one of our strategies. So we do that in these target markets as well as other markets where we win at a customer – or lead customer. And then we take those learnings and we apply those to other similar applications with other customers in that same space. So we're able to take those and then reuse those to win in other places.

So now get into some of the technologies that we have to meet the needs of our customers. There are many acquisitions over the last 10 to 12 years, combined with the development of our new products organically, we have – now have a pretty broad portfolio of not only solutions but technologies where you can create new solutions. So if you take a look at the graphic on the right, you'll see a sampling of a lot of these key technologies that we have. We can take those and create standalone products with each one of these. Or we can combine multiple of these technologies into one product to serve a customer need.

I'll tell you that when I first started here, and we were going into some of these industrial medical companies, they were quite surprised at our portfolio and breadth of technologies that we could bring to them. And so this really opened up a lot of new opportunities because historically, they may have only engaged with us with one of these technologies through an acquisition.

So now we sell multiple products to the same customer that we have in our portfolio. But in addition, one of the things that they like is they can consolidate their supplier base because they can take maybe some of the offerings that they would historically purchase through these smaller niche competitors. And now they can buy multiple offerings instead of having to buy it from us instead of having to buy from multiple suppliers for the same technologies.

So when you talk about power today, if you have the best efficiency and density, you have an advantage. And AE is pretty good at both of those. So we lead with this as we engage with our customers. And we start with our existing products, but frequently, a customer wants something that's a little bit tweaked from those existing products where they want a different form factor or maybe a different feature or an output. And we like to sell them a catalog solution, but that's not the right fit.

We have a dedicated team of customization engineers that will take that catalog product and tweak that to the customer need and then we're able to sell that and it has a lot of stickiness with those customers as well. And last but not least, I want to highlight that we have configurable power supplies. And you saw that in the demo area where with a standard form factor and

different modules, a customer can easily and quickly buy the right modules, hook those together, and now they have a customized power supply and a configurable chassis to go off and address their needs.

So here are a few products. You saw some of these over next door as we did the demo. But these are some of the ones that we've recently launched. They use a lot of the technology blocks that I just described on the prior slide. And all of these either bring high power efficiency or density, the ability to configure to the customer requirements or they meet specific market requirements to help customers qualify their end product. And sometimes it's a combination of multiple of these things.

So going from left to right, the evergreen that you saw, that's a 10 kilowatt per module supply. You can scale that all the way up to 30 kilowatts in a shelf – in a single shelf. We're actually working on a liquid cooled version of that, that will effectively double the power density in that same form factor. Neo power, that's a configurable power supply. That's the other one that had the slots in it. There's a configurable slots over there. NCF Series, we didn't have that. We didn't show that, but that one is a CF rated, CF stands for cardiac float. It's intended for medical. Cardiac float is the most stringent medical electrical safety classification, intended for equipment that will come in direct contact with a patient's heart or bloodstream. So we meet that specification which helps the customer in their end application. And then the last one is LumaDrive. And then basically, that's a cabinet where it has a bunch of shelves in it where we can populate that with our power supplies to get over 140 kilowatts of power in a single cabinet.

So overall, many of these platforms are releasing are designed to scale to multiple new products that can address customer requirements can be quickly developed to meet customer needs, both today and tomorrow.

Okay. So I talked about the market and the broad portfolio that we have as well as the increasing number of new products that we have coming out. So I want to talk about some of the people that are behind all of that. So as I go into each one of these areas, almost all of these teams that I'll talk about are largely comprised of design engineers or people with degreed engineers that have a lot of industry experience in this industrial medical space.

So if you look at the center of the slide, this is really where it all starts. These are I&M engineers that are develop and support these products. They focus on I&M, they have many years of experience here so they can speak to customer language, understand the customer requirements and ultimately bring the right product to them.

And collectively, really, our goal is that across all these teams, they view advanced energy as an extension of their own design team. So frequently, a customer is designing a product for an application and power is one subsystem of that. The differentiation at the end equipment is really typically not the power. It's the application of their entire product. And so a lot of times, the customers don't have deep power expertise. So they can rely on us to come to us to help them with those requirements and help them in their application to get that implemented in there. So that's our goal as we want them to think of us as an extension of their team from a design standpoint.

We offer technical support through two avenues. One is our local support, which is comprised of technical application – I mean, sorry, technical account managers as well as field application engineers. We placed these close to the customer so they can interact directly and in person. And the other team that we have is our centralized tech support. These teams can help the customer use our catalog products or they can interface with them to understand the requirements so that if they need a custom product or some kind of customization, we can take that back and deliver that to the customer.

On the far right, I'd like to highlight underneath that heading there is our Customer Experience Center, and this helps customers with testing and precertification. They're staffed with experienced engineers that work directly with the customer. The customer brings their product into these centers. And they troubleshoot and test their close to final product there. So you can see the picture above it there is a picture of an anechoic chamber. And a lot of times, this is critical because they'll need to test for certain requirements to achieve industry certifications of their product, say, UL, like a UL certification.

And a lot of times, it takes a while to get that scheduled at the UL facility. It costs a lot of money. They can come to our facility for free and bring that. They can do the tweaks right there. They can test it until they dial in the requirements needed for something like a UL. And now they're ready. So when they go, they have confidence that they can pass the first time and get that to market. So overall, we think that AE brings the industry's best end-to-end engineering and technical sales to help support customers so they can more easily use Advanced Energy products.

So let's dive into a case study that starts to bring some of these messages to light. One of the strategies I mentioned earlier was rent and repeat. I'll show some examples of that here in just a little bit. For this case study, I'd like to highlight our second strategy, which is land and expand. And basically, this is where we're going into a customer where maybe we don't have a presence there, we work with them to win an opportunity and we have – as a result of that success, we're able to go to different divisions or other adjacencies in the customer and then win other opportunities as well. So this is an example of that.

In the medical field, when we started getting serious about that a few years ago, one of the areas that we outlined was imaging and the top customers in that area. So this is what we went after. So this real example is for an imaging application where the customer had a unique set of requirements and needed a partner who understood power, the medical sector, and the specific application to develop a proprietary solution.

So the customer had two separate design sites, one in Asia and one in the U.S. And so we have local teams in both of those sites. We interface with both of those where they were coordinating on their design, we did the same thing back on our end, and we supported that opportunity. So we were able to pull from our portfolio of technologies. And in this case, it required a high-power AC to DC conversion as well as low-power AC to DC conversion, all integrated into a single product.

Our dedicated customization engineer team did this, and we aligned on the right specs with the customer and the right product and ultimately delivered it to them. We won at the end of the day, it will deliver millions of dollars of revenue to us. And then it also opened doors to now go and win other sockets and other opportunities at this customer.

So this slide I'll give you some highlights of what we've done to enhance our digital print. I guess before I get into the slide, I'll just tell you a quick story that will bring this one to life. When I joined – before I joined AE a little over three years ago, I want to know more about AE. So I hit the website, advancedenergy.com, and I started surfing around and I clicked on something. It took him to a completely different website and it will be an Artesyn, which is one of the acquisitions, totally different look and feel.

At the end of the day, the experience was kind of confusing and disjointed and kind of tough to use. So when I joined, if we're going after industrial medical, so we need a website. We need a customer-friendly, unified, cohesive website that makes it easier for these tens of thousands, if not hundreds of thousands of customers to go hit and find and use our products.

So shortly afterwards, we hired some industry experts to come in, they created a wonderful website for us that does all those things. We launched it back in August of last year and off and running. And it's pretty great. So it's now within just a few clicks. You can get to a product that you want to use as a customer, get all the information you need. And if you want to get going on our design quickly, we've enabled e-commerce on that website where you can go and just click a few buttons, boom, have the product shift to you. And now you're off and running on your design.

So this has been a big lift for us. So it shouldn't be surprising that we've seen a lot of nice results from all of this big increase in web traffic as well as the results. On the backside of this website, we have this dedicated tech support team. And they're there to serve inquiries that come in through a variety of channels, big one is a web, also can do chat through the web, e-mail, phone call, they'll do all of those.

But one of the bigger growing areas for us to interface with the customers with this team, and it typically starts with a website is video chat. So on the video chat, we have dedicated sessions with the customer, their private sessions where there's an engineer on the other end, they can see each other. And that engineer on the AE side has the product that the customer is interested in and they can show how to connect it, how to configure it. They can run test results, show those test results. And so it more easily allows the customer to see how they can use the product from AE and get going faster. Those – the number of those experiences has now increased. We're doing about 150 of those a month now with customers. So it's a pretty popular method of understanding our product and it's growing.

So it's been a little over a year since that launch. The results are showing that it's a good investment. We get thousands of leads monthly, our new customer count is growing. And this is all while maintaining a high design win conversion rate. So it's showing us that those leads that are coming there high quality.

Okay. Another critical part of our strategy is to reach and support the large number of customers in industrial medical. And so that's one of those other strategies that we've employed is to work closely with our distribution partners. So when I started here, we had a global sales team focused on everything. We had a lot of distributors. We had over 300 that came largely through a bunch of acquisitions where we kept all of those distributors. And so now we've changed that, and we have about 50% of our external sales teams focused solely on industrial and medical markets and customers. We have also reduced the number of distributors that we focus with so that we can focus more with that set of distributors, and they can in turn – they reciprocate and in turn bring more focus with us. And so that is really a win-win scenario.

So the other thing we're doing is we're releasing more products. So we're actually – for a variety of reasons, we weren't selling all of our products through distribution. So we're in the process of doubling the number of products that we're selling into distribution. So this is not only good because it's another sales channel to sell existing products. These are products that we already had. So we're just going to advertise them more through our distributor partners. But the distributors love it too because it's more products for salespeople to sell. So it's very motivating for them.

So if you look at the results from all of this over the last 12 to 18 months, we're now number one in off-board power with our top three distributors, so we get great mind share. And we're on pace to double the number of new opportunities with our distributors in 2024. This, coupled with our high design win conversion rate, it will yield good results moving forward, both for us and our distribution partners.

A lot of these – I'll point out a lot of these companies, the distributors, they're very large. They're larger than Advanced Energy. They have a lot of salespeople. They have a lot of products that they can sell, a lot of customers. And this is important because if we get good mind share from them like we're getting, we now get access into a lot of customers that we weren't prior – we weren't seeing prior. So this is a very important part of our strategy.

Because I promised earlier, here are some examples here. So I'm not going to go into each one of these. I know there's a lot on here. I won't go into each one of these, but I will point out that in each one of these, these are rents and repeat example where we won some initial customers and we took that to a broader set of customers.

So as you look across these four examples, some things to note is they're pretty diverse set of applications. They all need precise power solutions. They required technical interface from our teams and we were able to take the learnings and then go win in other customers in the similar spaces.

So I'll just dive into one of these to tell the story to bring it to life, which is factory automation. It's the one there on the left. So factory automation, I'm sure you guys know that there's a trend there to automate more, basically reduce the manual labor component, increase the quality, increase the efficiency. And so this is creating more opportunities for Advanced Energy.

For this particular customer, they needed to power motors and sensors in a conveyor system. You can see the picture of the conveyor system above that, so you can get an idea from that. It was a noisy unclean environment that's similar to a lot of factory settings. So that was a requirement. They also needed 3-phase input for the AC/DC conversion. So that was a technical requirement that we had to do. And the last thing is they wanted something small because the existing solution was taking up valuable floor space and a cabinet on the floor. And so they wanted something that was much smaller, and they actually hide this in the conveyor system and so it looks like it's integrated, you can't even see it now. So that was an important requirement.

So in the end, we were able to bring the exact solution that the customer needed, from those learnings, we now understand this market better and we've landed six more new customers as a result of all of that. So each one of these examples on this page has a similar story where we won a significant customer that we targeted, we learned and then we took that to other customers and now win in the same kind of space.

So with all that focus that we put into I&M are starting to see some solid results. We look at the progress in four areas of the design cycle. So you get leads then you get opportunities so when you convert those leads, they become a real opportunity. Wins. We measure wins, that's when we get initial POs or we get something in writing from a customer confirming that we've won and then ultimately, revenue, whether ramp in it production or they're in production.

So the number of opportunities, as you can see there, has increased about 50% since 2022. And this is a great indicator – a leading indicator of future results because we have a very high conversion rate. I've been in other markets, and this is typically high, I will say. And from all of these new opportunities and wins that will drive an incremental $125 million of revenue for us. And one thing I'll point out is even in declining markets like industrial and medical, softer, obviously, this year, we – this is a focus of the team. This is a big focus of the team is to go off and get new opportunities and qualified opportunities in the pipeline and ultimately drive those to revenue. Because if you get the next design slot that the customers are working on, when the market turns up, you're going to gain share and like the results. So we like these markets. We're targeting 2x market growth through share gains from these new opportunities and wins.

To close, I wanted to leave you with these key messages again that you saw at the very beginning I&M is a large and underpenetrated market with small niche competitors. AE has a growing portfolio of I&M solutions with a high velocity of new product launches. We have large dedicated technical teams that provide scalable service and create a sustainable, competitive advantage. And our enhanced digital platform and increased focus on distribution is contributing to record design win activities.

So with that, thank you. And I'd like to invite Paul to come on.

<<Paul Oldham, Executive Vice President and Chief Financial Officer>>

Thanks a lot, John, and thanks again, everybody, for being here today. You've heard a lot of information from us today about our markets, our products, why we think we can win in this space of electric power conversion. And I hope today during my presentation, I can tie all that

together, our market strategies, our go-to-market activities, our new products and our operations into how we think we can deliver an even higher level of shareholder value.

So at our last Analyst Day, I say a last in-person Analyst Day, which was almost five years ago now, we talked about how we thought we could develop or build a diversified technology company that was focused on precision power conversion. And that company, because it was diversified, could deliver better financial results through the cycles, higher highs, higher lows and better stability in the overall results.

I'm pleased to say that we think we've been successful in building that company of achieving these higher highs and higher lows, and I'll talk a little bit more about that. We believe that, that foundation of financial performance has allowed us to continue to invest even through down markets, which allows us to, we think, outperform as the markets recover.

Now as we've made these investments in new products and channel and go-to-market activities, we believe we can grow faster than the market as our markets recover. And as we grow our strong financial foundation can enable us to accelerate earnings and cash flow, particularly as we improve our gross margin. This has been a goal that's been on our radar for a while. Obviously, it's been a journey, but we think we have clear line of sight to how to achieve it and deliver an accelerated level of earnings growth.

Finally, we have a strong balance sheet, and we continue to optimize our capital structure for both organic and inorganic growth. And I'll talk a little bit more about things that we've done to ensure we have the flexibility and the capacity to do smart M&A and to continue to grow the company. When you put this all together, we believe that we have the strategies and the ability to execute that will enable us to deliver on the goal that Steve introduced earlier, which is to achieve $3 billion in revenue by the end of the decade and deliver $15 per share in earnings.

Now to set the stage, I'd like to talk a little bit about where we've come from and how it positions us now to deliver above market growth and accelerated earnings going forward. If you look back over time, with good performance across our markets, we we're able to achieve record financial performance in 2022 with record revenue of $1.85 billion and earnings per share of $6.50. And the last time I stood in front of a group like this at an Analyst Day, our three-year aspirational model was to achieve $6.50 in earnings per share. So we're pleased that we were able to do that.

About a year later at a virtual investor conference, we raised that goal to $7.50 per share I'm pleased to say in the back half of 2022, we achieved that goal on an annualized basis. Now this was in an environment of a very high material cost. I think in 2022, we paid over $100 million in premiums just to get parts in the market. So we feel like we were starting to develop the credibility that we can deliver on these financial models.

Now as the markets began to turn over going into 2023, our goal is then to perform better than our peers and better than our historical performance in down markets. And we feel like we've been able to achieve that too. In the last two years, as we've experienced a pretty deep down cycle in our semiconductor and more recently, an extended down cycle in industrial medical, largely a result of the overhang from the supply chain crisis, we've been able to deliver revenue

and earnings substantially above our prior trough levels. So we think the model is working, and we can continue to build on it going forward.

Now better stability in our financial results, we believe, has enabled us to continue to invest even through down markets. And we've used this time during the last two years to double down on where we wanted to go as a company and our strategy. We've invested in our priorities in both operating expense and capital. You've heard about the number of new products and platforms that we've been able to introduce. It's because we've maintained our investment in R&D through the cycles. This is really important because it's during these times that our customers are also doubling down on their investments, bringing new products to market, qualifying new technologies and capabilities. And we've seen significant pull from them to qualify these new products as we approach a turn in technology in the market, and we approach once again an upturn in these markets.

If you look to the right side of the chart, we've also invested significantly more in CapEx. They might say, well, why are you investing more in CapEx in a down market? Because, again, we saw a significant opportunity to improve the company this higher CapEx has supported investment in our new products. It's allowed us to kind of completely modernize our website and go-to-market strategies from a digital footprint perspective. We're spending a significant sum to streamline our factories, which will give us more operating leverage going forward. And we've invested in a better, more efficient, modernized IT infrastructure based on common global platforms.

Now as we complete these investments and our markets recover, we expect to get leverage on these investments, we should be able to see good leverage and efficiency on R&D., because we're able to bring markets faster – products to market faster. You heard from Juergen that we're now able to turn derivative products in a much shorter period of time. That will give us a lot of engineering efficiency going forward. And the investments that we made in our infrastructure should allow us effectively to return CapEx back to the 2% to 3% level once we get through these high levels of investments.

Now as we look forward, we believe these investments will now enable us to outperform our markets over the next few years. And let me go into some more details about how we think we can do that.

As Steve described, we're in good markets that have solid long-term growth drivers. And each of our markets are in various stages of recovery today. So we think that creates some tailwinds to our revenues over the next six to 18 months. Now looking through cycles, we believe the semiconductor industry can go to $1 trillion by 2030. That implies a WFE of approximately $150 billion. If you look at the plasma or the critical process support segment of that. We believe that implies about 8% annualized growth. So there's good growth coming from semi. Now it may still go through some sickles and cycles, it may not be linear, but we think there's good long-term growth as semiconductors become ubiquitous and everything.

Within Industrial and Medical, following rationalization or destocking of inventory, which we think will occur over the next couple of quarters, we believe that I&M will continue to grow at a

GDP plus rate or approximately 4% annually. Now there's evidence that could be faster, but we're assuming that we work back to that generally GDP plus range. And in data center, as you heard from Emdrem, we expect it to grow 6% annually driven by investments in AI and these higher power requirements, which are coming. More importantly than the fact that the markets we think will have underlying growth embedded in them is that we believe we can grow faster than the market based on the strategies that you've heard today.

So, I'd like to summarize those again. Within semiconductor, we believe that there are three factors that can fuel our growth to be above WFE levels. And as we said, we are raising our target from 1.2 times WFE growth to 1.3 times WFE growth. The first is that third-party analysis suggests that etch and depth intensity will increase because of the number of process steps required for the next-generation architecture that will work in our favor. In addition, plasma power subsystems will grow even faster than etch and depth given the greater power requirements and complexity to make these features.

Second, as you've heard, we believe that our new platforms give us the capability to expand our strong position in conductor etch and position us well to gain share in dielectric etch as we meet the requirements of these next-generation technologies, the very demanding sub-2 nanometer structures and high layer count 3D memory devices.

Finally, our growing position in adjacent in the applications like System Power, Thermal Sensing, Remote Plasma Sources and high voltage give us additional opportunities to expand our market and grow our share position. And so as a result, as I mentioned, we think we can grow even faster than we said before, at roughly 1.3 times WFE.

Within Industrial and Medical, we realize this is a large, fragmented and, we think, underserved market with multiple opportunities for high-end, longer life cycle applications. This plays to our strength. Our breadth of technologies, global teams and scale should allow us to compete well with competitors, particularly in many, many smaller competitors that are in these markets. Our investments in common platforms as yields a large portfolio of standardized products. And if you heard about that we've been able to parlay that into more than two times the number of custom products that we've had historically.

We're able to leverage this portfolio with a dedicated sales force our optimized distribution channel and the investments we've made in our digital platforms, which should allow us to capture a greater number of customers to get more eyeballs on our products and grow our overall share and additional revenue. And as you heard, our early successes here has resulted in a strong design opportunity funnel, the strongest we've had up more than 2x from where it was a year ago and continuing to keep a very high design win rate at over 30%. These factors should allow us to grow 2x the market rate over this time horizon.

And finally, in data center and computing, AI has – is driving the need for higher rack power increasing the importance of AE's core competencies of efficiency, density and reliability. We sat on this strategy to – plus years ago to focus where we believe we could provide differentiated capability and advantage. And the advent of AI has really played into those strengths. And you heard from Emdrem that our ability to bring this technology to market and be there first as these

customers need it on these much faster road maps is giving us an ability to win in the market. We believe that we have the pipeline and the capability of products and solutions that will enable us to grow faster than the market and add $100 million of proprietary revenue as customers adopt these new power capabilities and technologies. Now we'll continue to have a focused strategy here, but we believe there's a lot of opportunities to win in the high-end part of this market.

Now putting it all together, we expect our markets will grow at an aggregate rate of 6.5% to 7% through cycles, driven by the semiconductor investments we've talked about normalized industrial medical growth and AI requirements continuing to drive investments in data center. Now we don't expect much growth from telecom and networking, but as Steve said, we'll maintain our presence on high-value applications with premier customers here to round out our portfolio. We believe these strategies will enable us to grow faster than the market, resulting in an aggregate growth rate that's 40% faster than the market growth rate over this time horizon.

Now above market growth, we think, sets the stage for accelerated earnings and cash flow as we improve gross margin and operating leverage. So let me talk a little bit about that. It starts with structurally improving gross margin. And you've heard a lot about it already today. But let me give you a couple of more data points. The most important element of improving gross margin are things that we can do ourselves, and it starts with our factory consolidations, moving from 15 factories to five factories, improving efficiency and quality and using our leverage to scale to reduce manufacturing costs. In fact, we believe we can reduce manufacturing overhead costs by more than 20% from our pre-consolidated levels, which will give us good margin improvement and leverage going forward.

From a starting point of the first half of this year, we believe our factory consolidation efforts adds 200 basis points to 250 basis points of gross margin improvement. That's entirely in our control to execute and to deliver on. Now we're well along this effort as we've talked about. We've already closed several factories. And I mentioned in our last call that we've kind of reached the tipping point where we're seeing more savings than the transition costs to move products into these large scalable factories. So we'll continue to see this benefit with the most significant part of it coming in the second half of 2025, as we closed our last production facility in China and complete the rationalization of the remaining small sites.

Second, we expect to improve product mix over time. This comes in part by the continuing rate of design wins in our semiconductor and industrial and medical markets, increasing the proportion of sole-source proprietary products that we sell. Second, it will come from basically higher value of the new products that we are selling. Now we expect to see some of this benefit by late 2025, but it will become more visible as our new products scale over the course of later in 2026 and beyond.

Finally – by the way, we think new product mix adds another 200 basis points to 300 basis points. So as we execute on this portfolio change, these two aspects alone should get us over 40% gross margin even if revenue stayed in roughly the same range. But finally, we will get the benefit of leverage on volume as our markets recover and revenues grow. In the near term, we believe this is 100 basis points of benefit for every $50 million in quarterly revenue – incremental quarterly revenue.

But as this goes forward, we believe this will allow us to could add as much as 350 basis points to gross margin as we approach $2.5 billion in organic revenue over time. So when you put that all together, we believe we can increase gross margins again from the beginning of 2024 by 500 basis points to 900 basis points and have a target of getting over 43% gross margins and maintaining gross margin at 40% in both good markets and bad markets.

Now in addition to improving gross margins, we believe that we can see good leverage on an operating basis as well. As I mentioned, we believe that going forward, we can get good leverage on our investments in common platforms, module architectures and the investments we've made to scale the company that should allow us to grow operating expenses at roughly 50% or less than revenue growth, resulting in operating leverage of between 35% and 45%. Now the operating leverage should be higher early on as gross margins improve, but we believe that we can average 40% operating leverage over time. And ultimately, we believe this will add 1,400 basis points in profitability from 2024 until we achieve our 2030 financial model.

Now these actions, we believe, create a clear road map to go from where we expect to be at the end of this year up to our long-term model of $15 per share. And while this sounds like a pretty big growth in earnings over this period of time, it actually breaks down pretty well. More than half of the improvement in earnings come from actions that we take ourselves through improving gross margins. As I mentioned, a lot of that is around our factory architecture and our new product mix. The benefit that we get from our growth strategy is to grow faster than the market on operating leverage and ultimately, some M&A, which I'll talk about here shortly. If we're able to accomplish this, we'll be able to grow earnings at 2x the rate of revenue growth and have total earnings 4x of what they are at our starting point.

Now we believe we can take these earnings and translate it into strong cash flow over time. Overall, we are a low capital intensity business. We don't have high capital needs. And we've had good operating cash flow. If you look over the last 10 years, we've averaged approximately $150 million of average annual cash flow. And in fact, if you look over the last 10 years, we've had positive operating cash flow every quarter consecutively over that period 10-year period of time. So we've demonstrated that we can generate cash as we run the business. Now more recently, we've seen cash flow levels a little bit lower in part because of the down cycle that's been extended and the investments that we're making through that cycle to both grow faster as we exit and to strengthen the company from a CapEx perspective.

As we look at this going forward, however, we believe that we can return inventory to a more normalized level. Now it's been higher because of coming out of the supply chain crisis. But we believe the combination of the inventory and markets are normalizing as well as ourselves consolidating locations and suppliers will allow us to return turns back to 3x to 3.5x. If we're able to accomplish that, that will add $125 million of operating cash flow as our revenues recover.

Secondly, we've been running CapEx at an elevated level for the last year and expect to for the next four to eight quarters to support the trends we've talked about, new products, our digital footprint, streamlining our factories and modernizing our infrastructure. As we complete those

investments, we should be able to return CapEx back to the 2% to 3% range we've grown historically, which will increase free cash flow. Our target, as we work through this process is that we should be able to return our free cash flow conversion rate to 60% to 85% on higher margins, obviously, improved inventory turns and lower CapEx.

Now looking beyond cash flow, we've taken further steps to optimize our capital structure and lower our cost of debt to give ourselves both flexibility and capacity to execute our growth plans. In addition, over time, as you just heard, we should generate substantial cash flow, which will give us additional flexibility to meet our capital allocation priorities. Now those priorities remain unchanged. The first priority, we believe, is to continue to grow the company. We think that will deliver the highest shareholder return as we look forward. We have a good track record in M&A, and we have a disciplined process and a solid funnel of targets.

Now in addition to growing through M&A, we expect to maintain our opportunistic share repurchase program, which takes advantage of dislocations in the market to acquire shares with the goal of offsetting dilution over time. And we'll continue to pay our dividend, signaling that we generate positive cash flow in all markets.

Now we have a solid balance sheet and capital structure to support our growth aspirations. Today, we operate with over $100 million of net cash, fully offsetting our 2.5% coupon convertible debt. In addition, last quarter, we paid down our term loan A, and converted that capacity to a $600 million line of credit. This line of credit is available immediately. And retains the same attractive terms that we had previously on our term loan of SOFR plus 75 basis points. This is positive for us because it gives us all the capacity, but we don't have to carry the interest cost until we need it.

Overall, the combination of our cash and our financing capability gives us over $1 billion of dry powder for M&A. Now while we have dry powder available, we'll continue to be a disciplined acquirer. We expect that any transactions to be consistent with our strategy, meet our internal cost of capital returns on a fundamental basis, be consistent with our gross margin goals and be accretive to earnings within a year.

In addition, when we think about our debt exposure, we would like to see our net debt at less than 3x. Now for the right acquisition, we could go a little bit higher than that, knowing that we generate cash and we can deliver quickly. But we'd like to run that at 3x or less with corresponding gross and debt-to-equity ratios.

Now I'd like to take a minute and break down our long-term financial framework in a little more detail. I think when we take a look at our overall model, organically, we believe we can grow to $2.5 billion by 2030 and deliver earnings per share of $13.75. Now I'd like to walk through some of the assumptions behind that. And I think what you'll see is the – well, this seems like a big number, the assumptions are fairly reasonable.

First, we believe that this framework delivers revenue growth between 9% to 10%, which includes both long-term market growth and our ability to grow share, as we talked about, growing 40% faster than the market. Secondly, our programs, mostly self-help should deliver

gross margins of greater than 43%, primarily on the structural improvements we've talked about and of course, the help of volume. We believe our efficient operating structure will allow us to grow operating expense at roughly half the rate of sales, delivering approximately 40% operating leverage to the model. That results in operating margins significantly above 20% and EBITDA margins above 25% over time.

Now again, when you look at these assumptions, we believe that they're fairly reasonable and will allow us to achieve these earnings. Now it won't be a straight path. But again, we believe we have the operating model and the financial discipline to manage through the ups and downs of the market. Now to that organic model, we believe that we can add additional revenue and earnings from accretive M&A. In our model, we have assumed that we would add $500 million of revenue over this period of time and be able to operate that additional revenue on a similar model post synergies at AE. This gets us to $3 billion in long-term revenue and $15 in earnings per share.

So in summary, we believe the operating goals we put forth are very reasonable and provide a framework for us to deliver significant shareholder value. The diversity and the growth drivers in our markets provide us the platform to achieve mid to high single-digit growth while providing balance and downturns. And again, we don't expect this journey to be a linear path, but this diversity will enable us to have better through-cycle financial performance.

In addition, we believe we can grow faster than the market on the new products, share gains and expanded customer reach. Improvements in gross margins and operating leverage provide us a platform for accelerated earnings growth and a clear path to unlock shareholder value.

And finally, our capital structure and allocation priorities enables us to add scope through M&A to get the benefit of leveraging scale to drive energies. And at the same time be able to return capital reasonably to our shareholders to offset dilution.

So with that, I'll invite Steve to come up to make a few concluding comments.

<<Stephen D. Kelley, President and Chief Executive Officer>>

Thanks, Paul. Thanks Juergen, Emdrem, John for the presentation. Thank you.

So before we open up for questions, I would just kind of review the key points, Mark, for the message. I think the common theme you heard through most of these presentations is technology leadership. And this leadership is vital for us to win in the high end to keep out the competition into void commodity markets. Paul just articulated why we think we can grow 40% faster than our markets. Again, it ties back to the leadership, and it ties back to execution of our strategies, which you've heard about today. We do believe we can get the earnings up grown twice as fast as revenue. And I think Paul did a good job walking through the operating model to allow that. And we throw off cash, that allows us to be the hunter and to find more acquisitions that make strategic sense for the company.

And finally, the target model – 2030 target model, we do believe that's achievable. It's based on reasonable assumptions, and we're well on our way there with all the design wins and restructuring going on within the company. And I think AE will be a different company when we operate in the 40% to 43% gross margin range. I think we'll be a more valuable company, and that's where I think we're going to end up in the not-too-distant future.

Okay. So at this point, can I call up the presenters, we could answer some questions.

Q&A

<A – Paul Oldham>: All right. We're going to start the Q&A. Just raise your hand we have Eduardo at the mic there. Steve doesn't have the mic. Thanks.

<Q>: Sure. Your 2030 organic target first, the blended market rate of 6.5%, where are you most confident in those share gains? And for your internal model, did you kind of layer in M&A in a linear fashion, meaning you expect to be in the market every year? Or how are you thinking about the M&A practice?

<A – Steve Kelley >: Yeah. I think we've got confidence in all the plans. I think you heard some very interesting feedback from Juergen about our progress on the semiconductor side. And so I think that, that market share is coming. It's difficult to predict how fast it comes, right, because there's various rates of adoption of this technology. But I think it gives us the ability to take a greater lead in the plasma power market over the next four to five years for sure.

I think in Industrial and Medical, it's going to be partly acquisition and partly organic. The Industrial Medical is a very sticky market. And it's hard to dislodge existing competitors. We could do very well with new designs, but it's very hard to go back and displace old ones. So that's why you need a combination of acquisitions and new products. I think we're down that road. In data center, I think it's a cyclical market. It has been in the past. But I think with the strength of our portfolio and the fact that our key differentiators are much more important for AI data centers I think that gives us a solid foundation.

The question is where does M&A fit in? And I think most of that is going to happen in industrial medical because it's a fragmented market. There are a lot of smaller players. And many of those players have decent gross margins. And so they make sense as an acquisition at the right price to it.

<Q>: And do you expect that to be linear or how active will you be?

<A – Paul Oldham>: I can come in chunks. So in terms of our efforts, I think those are linear. I mean, as Steve said, we're a hunter but we're also a disciplined hunter. So those could come early. They could be more than one. We clearly have capacity if you look at our cash flow over this time compared with the financing to do more than $500 million in revenue. So I think it will be opportunity and timing base as we look for the right bits to fit into our portfolio.

<Q – James Ricchiuti>: Hi. Jim Ricchiuti with Needham. Paul, you referenced the 2019 Analyst Day, and you did hit – company hit a number of those metrics. I'm wondering if we go back and look at the way a looked at the industrial and medical market. Just correct me if I'm wrong, but it seemed like you were anticipating stronger growth. In that market versus what you're laying out today. And Steve, maybe you answered some of this, our sticky relationships sometimes harder to dislodge. But I wonder if you could just speak to whether your view of the market has changed at all.

<A – Paul Oldham>: Yeah. I wasn't around for the 2019 Investor Day. But I can tell you it's hard work. And I think we had to put in place a firmer foundation in industrial medical. Like John mentioned, it's very difficult to figure out what we make as a customer. And actually as a new employee, it was almost impossible to figure now. Today, it's extremely easy to figure out what we make and where it goes, how it fits into a potential at a customer. So we've become easier to do business with. We have people that care about this to medical. Half of John's people, all they do is industrial medical accounts, and they call it small and medium-sized accounts and they use distribution and third-party resellers to augment our efforts.

And then finally, we actually put a lot of dedicated resource in place to design more industrial medical products and to bolster our efforts on the quick turn side. So these are necessary ingredients to really get the momentum going in industrial medical. And customers are starting to recognize, okay, these guys are serious about the market, what's engagement.

<Q – James Ricchiuti>: Follow-up question just on the data center market. You talked about, I think, $100 million revenue opportunities. What I'm trying to understand is, has the customer concentrate market change relative to what you're talking about now versus maybe account?

<A – Paul Oldham>: It's a highly concentrated market. It's a big boy market, and that's who we deal with. So it's similar to semiconductor. There are define set of customers in data center and you either succeed or fail based on who you partner with. So I would say that it's a stratified market. We're engaged with some of the leaders, and that's a good thing.

<A – Stephen D. Kelley>: Up next Brian Chin.

<Q – Brian Chin>: Thanks for all the information, very comprehensive and in the formative. Maybe a couple of questions here; so the, a question about the $125 million incremental annual revenue in the I&M that you're targeting when you laid out. Is the right way to think about that as the market is going to grow 4%, you're going to grow above 4%. And on top of that, there's going to be a layer of $125 million annualized. Is that the right way to...

<A – Paul Oldham>: Yeah. I think that $125 million would be part of that growing at double the market rate. So the market remember, we said its 4% or GDP plus after the inventory destocking. So in the near-term we'll actually grow faster than that because there'll be some recovery to get back to normalized level. From there, we think the market grows at 4% to 4-plus percent. The $125 million is part of how we grow at 2x the market rate. So we don't tell the market growth there.

<Q – Brian Chin>: And even from a timing standpoint, I think when you decompose I&M that we get actually medical, maybe it's 25% – 25%, 30%. Is there – I think to your point that medical is a harder nut to crack and would those ramp later so that 125, if it's like 75, 25 – I don't know if it's like 75, 25 maybe it's schemed differently. But is that like that last 25 or 30 kind of percent hitting later because of just the natural see there and there's the implication there in terms of the business?

<A – Steve Kelley>: I think you're correct. It takes longer. The design cycle is stepping longer and medical. So it all depends on when you start the design. So yeah, it's going to take us, let's say 18 months to three years for medical design to ramp the volume and the industrial applications ramp quicker. So it's kind of hard to handicap exactly when the medical design wins kick into volume. But we have won designs in the past two years that will kick into volume starting next year, for instance; so just kind of layered on top of each other.

<Q – Brian Chin>: I know part of the gross margin improvement is mix-driven interest segment for example, which of your markets, I know you break out each of your markets, specifically by the gross margin structure which of those markets you think you can show the most increase in terms of gross margin over this horizon?

<A – Paul Oldham>: I'll see if I can answer your question. Obviously, we have new products coming into all of those markets. In all cases, as we introduce new products, we expect to see better margins because we're bringing more value to the market. So I think that happens across the market. Obviously, we would like to continue to grow the concentration of our business in the semiconductor and industrial medical markets because those markets have more sole-source content, and they will tend to average out the company. I think that's what we referred to. Having said that, as you heard from Emdrem, there's more of a premium on the technology and time to market, and we are seeing proprietary wins in the data center market, which should continue to help us keep that market at very reasonable profitability levels.

<Q – Brian Chin>: Maybe just one last question, I'll pass it on. But on data center, you talked about proprietary, it seems to apply to a 48-volt power shelves. It doesn't seem like that's been a large revenue market or opportunity that the news – the news suggests that that's a lot at in terms of new data centers around AI. It's a very miniscule part of your revenue today, but it could be like just pick a number, 20% of your revenue, maybe in a 3 year horizon, and as I mentioned it is proprietary, could be substantially higher margins from that particular product. This is like some sense like the health?

<A – Steve Kelley>: I mean we are seeing a transition to 48 volts that's certainly happening. So that's part of the portfolio, but there are other parts, other niches we've entered into that have helped us move our margin into the respectability range right? And so Emdrem has managed that high-volume data center operation for the past 3.5 years, and they've shown a remarkable improvement in gross margin.

<Q>: Great. Any more questions in the room? Andrew has a question from one of the analysts. So when I go in person. So Andrew is going to ask a question for us.

<A – Paul Oldham>: So this question is from Scott Graham from Seaport Research Partners. And his question is on your 30% outperformance target relative to WFE. So AE participates in some of the faster-growing areas within WFE. So how much of the outperformance is due to participation in those markets versus share gains in specific targeted markets?

<A – Paul Oldham>: I don't think we broke it down specifically. But if you go back to the slide we showed that suggests that the etch and depth intensity and the plasma complexity added 140 to 150 basis points to WFE growth. You can to kind of do some simple math there and say, if that's all that happened. Then probably 40%, 30% or 40% comes from being in the right place in the market. And the balance of that comes from the new products and share gains that we see. Steve, do you have a follow up?

<Q>: Paul, of the 200 to 300 basis points of gross margin expansion from improved mix I know that won't be apparent until next year, but are you already driving better price realization on new products? Or is that expected to come from lower product costs from the modular platform? Can you just talk through how you're going to market with those?

<A – Paul Oldham>: Yes. First, I think as our new products ramp, we talked about that being largely later 2025 and in 2026 we really see the benefit of that. So it's probably a little further out. We've always talked about that being part of a product cycle in the 18 months to three years window that we really see the benefit of that. I think the majority of that is coming from price realization because of better value of those new products. But there is also – there is some cost benefit to the modular architecture. So that does contribute.

<A>: Our next question comes from Shane Brett from Morgan.

<Q>: Hi, thanks for letting me ask a question. Shane Brett from Morgan Stanley. There's been a non-spending the industry since 2022. It just seems like the recovery is keep getting pushed back. As we sort of prepare for an eventual recovery, how are your discussions with customers? And is there any sort of ERs or like a competitive socket where you think a clear competitive advantage going into sort of the next transition towards 200 milk plant layers. Thank you.

<A – Steve Kelley>: Maybe I'll start and Juergen can add anything I missed, but – what we're talking about is, we're in the middle of the transition right now. And so the challenges that Juergen described are the challenges being faced by leading these logic customers, like TSMC, mediation memory makers, like Samsung and SK Hynix right – so they're getting to geometries that are demanding technologies beyond what's used today in wafer fab. That created an opening for us with eVerest and eVoS and NavX, basically displace some of our competition as the industry moves to sub 2-nanometer type geometry. Do you want to add anything, Juergen?

<A – Juergen Braun>: I think this is pretty much saying it, right? Like with the deep branches that we need to etch moving forward and with the limitations that existing technologies provide to these challenges, we are very well positioned with new technology that we have in our portfolio actually since 10 years, but now it comes to fruition as the technologies are required to run these processes with these capabilities.

<A – Edwin Mok>: I'll add just one quick comment. If it takes longer for a customer to transition to the next technology, it is actually better for us. We believe we will win with our technology, and therefore, they will actually move to our technology rather than if there's a massive ramp right now, customers usually want to run. They don't have time to work with our engineering team to work with them. So we do believe that the delay, if anything is helpful. Any questions? So Andrew has a follow-up question from chat?

<A>: So first, we have an incoming question from Mark Miller from Benchmark Research. And he was asking about the size of the opportunity for upgrades and the margins for upgrades and this is in the semiconductor space.

<A – Steve Kelley>: Yes, we haven't quantified the size of the upgrade, at least the size of that market. But we think, for us, it's pretty much the same margin profile we're supplying probably the same box into an existing machine. So for us, it's all upside. We're obviously very enthusiastic about upgrade potential because it basically offers us a bigger market. So I think the first task for us is to prove our technology in leading edge applications, which is what Juergen was talking about. But our customers may find areas where they can take our boxes and upgrade the existing tool base.

<A>: Great, any other questions from the room? Brian, you have one more follow-up?

<Q>: In the presentation, you talked about relative to your eVoS relative to the eVerest and NavX, I guess, particularly eVoS, the – there are these endpoints on technology road maps and some of the inflections where folks at the industry may happen to ship with the new technologies such as one you developed. If you look at the NAND flash road map, for example, is there a tipping point when you get to like 400 layer if you go at the layer at the end of the decade of they said 1,000 layer or something like that potentially. But is there a tipping point there where in a market where you have low market share, they obviously a lot of activity you see a point there where there has to be a shift. It could be you winning versus another merchant supplier, a captive OEM third design and then no longer supporting it as much internally you kind of understand that prior reference. But curious like what can you point to us, what on road maps, it could be even DRAM 4F2, it could be NAND flash like I cited. But where could you see sort of the stair step opportunities for you to gain share?

<A – Steve Kelley>: Juergen, do you want to?

<A – Juergen Braun>: Yes. I think there's certainly a little bit of speculation with it and how fast the adoption of technology is really proven out for volume manufacturing. But I think it could be as early as passing $200 million.

<Q>:This year – next year 2025.

<A – Steve Kelley>: Yes. I think Brian, I think the point here is that if we can be more efficient, there is incentive for customers to move to our newer technology. Even, if the layer comes is margin increasing, they can reduce the number of modules you're going to point out that result in a lower in the cost.

<Q>: So even this could coincide now with like a greenfield new fab like this upgrade. 128-layer flash that's going to get upgraded? Okay. And you have like a target, I don't know, a time frame associated with it, but not to say what the outside etch market will be at some point, but it could be 20% of that market or we're targeting 50-50 by 2030. Is there any kind of frame of reference that you are comfortable?

<A – Steve Kelley>: Yes, I don't think we'll provide more outlook than what we provide, which is $100 million on the plasma power by 2030 from share gains.

<A – Juergen Braun>: But the first thing we're going to build in Thailand is plasma power products. So we're ready if there's a significant uptick.

<Q>: Great. Hi, thanks. Just one other, on the I&M market. If we look at the target market, I think you talked about the $4.5 billion or so. I wonder if you could help us understand where you're targeting the biggest areas of growth, I guess, you're seeing a fair amount of design win activity, but maybe you could talk a little bit about that?

<A – Steve Kelley>: Yes. Thanks for the question. So on the one slide where I have the targeted applications. We had some – we have eight or 10 identified in industrial. We also have four identified in medical there – so those are the ones that we've outlined where we know those are pretty big sub-segments of each of those markets. And we've demonstrated the ability to win. So we've been winning in some of those spaces. And now it's a matter of taking those and displacing either displacing competition on the next sockets or maybe it's greenfield with new customers where we can go in and win in those same spaces.

In addition, we're constantly looking at other new markets that come out of these – some of those could be big. Some of those could remain small, but that's why we partner with our distributor partners, and we have our webpage to serve those as well. So we can serve a variety of end markets, but the biggest ones were the ones that I outlined earlier in the slide that we're going after.

<Q>: Somewhat to the design win activity that you've been seeing?

<A – Steve Kelley>: Absolutely. And when we go into each one of those segments, we identify the largest companies that do those types of end equipments. That's our primary target that we go in, but there's typically a lot of competitors in there and we also try to go after as well.

<A>: Great. Any more questions? Okay. Go for it first too, because you have the mic

<Q>: The just on supply chain, because that was highlighted as one of the headwinds during the last up cycle. Can you maybe just quickly outline some of the critical shortages and the cost inflation was driven by semiconductors and AC to DC converters or FPGAs or whatever the chips were – can you talk about maybe some of the steps you've taken to at least mitigate those being sort of big flare ups in the future?

<A – Steve Kelley>: Yes. One of my favorite topic a couple of years ago. What we did during the COVID supply chain crisis is to second source wherever we could. And for suppliers who could meet our needs, we try to design them out. So that's still left a fair amount of sole-source products that we buy from IC suppliers, in particular, where we couldn't replace them. We couldn't design amount. And so we decided to keep the strategic inventory on those particular products.

A very similar strategy for a lot of players in this field, including us. So that's actually paying off for us because a lot of our markets are dynamic right now. It's very difficult to predict exactly what we need to build each quarter even in semiconductor. So we need to be able to turn quickly. And this strategic inventory is allowing us to do that. That's another reason why we kept our factories at full staffing levels because these pockets of demand come in need to build it quickly, usually towards the end of the quarter. And so some of our costs, we could have cut them back, but it probably would have reduced our flexibility and ultimately reduced our revenue. With one more remote question.

<A>: Question from Duksan Jang from BofA Securities. And his question is on 2025 WFE. How should we think about the WFE market growth into 2025? And when will the AE 1.3 times growth start to kick in?

<A – Juergen Braun>: Yes, I can maybe take that. I think it's very difficult for us to be the prognosticators of WFE. I think there's a range of opinions about WFE growth over the next over the near term. I think as you look out further, I think there's more confidence that there's a lot of opportunity in WFE growth. We said on our last call that we expect, in general, the semiconductor market to trade sideways for a couple quarters and that technology would drive more investment in the back half of the year.

In terms of the 1.3 million, again, I think it's hard the shorter time frame you get, you're going to get volatility the number could be much higher, could be it could be lower. But we feel good about a 1.3 times as we look over the horizon of these new products and the market growth.

<<Steve Kelley, President and Chief Executive Officer>>

I would just add that what we have said in the second half of 2025. We expect to start to see revenue, production revenue from the new products that organize is launching. And obviously, that will be incremented bigger amount when we get to 2026. That would be an add on top of whatever we expect in the marketplace. Any other questions?

Okay. If there's no more question, we're going to end the Analyst Event, I want to thank again everyone to come here online in person, to join us in person. There will be another demo, if you guys want to go to a demo desk and take a look at that for those of you who missed it. And also thank everyone who joined us online. Thank you.

<<Juergen Braun, Senior Vice President>>

Thanks, everyone.