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Applied Materials Inc (AMAT) CEO Gary Dickerson on Q4 2019 Results - Earnings Call Transcript

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FQ4: 11-14-19 Earnings Summary

Press Release SEC *10-K*

EPS of $0.8 beats by $0.04 | Revenue of $3.75B (-6.48% Y/Y) beats by $71.46M

Earning Call Audio

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00:00 -57:40

Applied Materials Inc (NASDAQ:AMAT) Q4 2019 Results Earnings Conference Call
November 14, 2019 4:30 PM ET

Company Participants

Michael Sullivan - Corporate Vice President

Gary Dickerson - President and CEO

Dan Durn - Chief Financial Officer

Conference Call Participants

C.J. Muse - Evercore

Atif Malik - Citigroup

Toshiya Hari - Goldmans Sachs

Krish Sankar - Cowen & Company

John Pitzer - Credit Suisse

Harlan Sur - JP Morgan

Pierre Ferragu - New Street Research

Patrick Ho - Stifel

Timothy Arcuri - UBS

Vivek Arya - Bank of America

Quinn Bolton - Needham & Company

Operator

Welcome to the Applied Materials Earnings Conference Call. During the presentation, all participants will be in a listen-only mode. Afterwards, you will be invited to participate in a question-and-answer session.

I would now like to turn the conference over to Michael Sullivan, Corporate Vice President. Please go ahead, sir.

Michael Sullivan

Good afternoon, and thank you for joining Applied’s fourth quarter of fiscal 2019 earnings call, which is being recorded. Joining me are Gary Dickerson, our President and CEO; and Dan Durn, our Chief Financial Officer.

Before we begin, I'd like to remind you that today's call contains forward-looking statements, which are subject to risks and uncertainties that could cause our actual results to differ. Information concerning the risks and uncertainties is contained in Applied's Form 10-Q and 8-K filings with the SEC. Today's call also includes non-GAAP financial measures. Reconciliations to GAAP measures are found in today's earnings press release and in our reconciliation slides, which are available on the IR page of our website at appliedmaterials.com.

And now I'd like to turn the call over to Gary Dickerson.

Gary Dickerson

Thanks, Mike. I'm pleased to report our results for the quarter were at the top end of guidance driven by a healthy uptick in demand for semiconductor equipment combined with strong execution across the company. This rounds out a solid year of performance in a challenging environment, as we navigated down cycles in both memory and display. These results would not be possible without the hard work and dedication of Applied Materials employees around the world. I would like to thank them for the passion they bring to work every day and congratulate them on their accomplishments this year.

As this is our year end call, I'll begin with a brief recap of the past 12 months before providing our perspective on the current market environment. I'll then talk about the broader context for the industry, including the major growth drivers and inflections that will shape our markets over the next several years. I'll conclude by summarizing the key elements of our strategy and outlining the investments we're making to put Applied in the best position for the tremendous opportunities ahead.

Applied’s fiscal 2019 was shaped by the first significant pullback in customer investments since 2013. However, this provides a good illustration of how the semiconductor industry is evolving. As I have highlighted before, the market for semi equipment and services is now significantly larger and less volatile than it was in the past. If the second calendar quarter of 2019 proves to be the low point of the spending cycle, then the downturn lasted four quarters and our quarterly revenue at the trough was approximately 20% lower than at the peak.

In contrast, during the industry cycles that took place between 2000 and 2013, our average peak to trough revenue drop was more than twice that magnitude. This cycle was different in large part due to the growth in diversification of demand drivers spanning consumer and enterprise end markets. It’s also important to note that the fundamental dynamics of the memory market are healthier through this cycle. The memory makers are highly focused making disciplined investments in capacity and continuing to drive their technology roadmaps forward. As well as a more robust core market Applied is a more resilient company that's balanced across different areas of the market and can perform well in a variety of conditions. Thanks to the breadth of our portfolio, our semi equipment business is outperforming both the wafer fab equipment market and our direct peers this year.

Fiscal 2019 was also a record year for Applied Global Services. In fact, we're growing our services revenue significantly faster than underlying equipment businesses. Over the past 12 months, we've grown our installed base of semi and display equipment by about 2,000 systems to almost 43,000. We have also increased the number of installed base tools covered by long-term service agreement which generates subscription style revenues by around 30% since 2017.

Overall, 45% of our FY ‘19 revenues came from sources other than new 300 millimeter equipment sales. This is up from 41% just two years ago.

In terms of our near-term outlook, while I don't want to speculate about the exact shape or timing of the market recovery, I can characterize what we currently see with three observations. First, strong investment by foundry logic customers, driven by demand in key geographies and acceleration of the 5G roadmap and commitment to advance the leading-edge. Second, early signs of a recovery in NAND investments. And third, positive progression of the ongoing inventory correction in DRAM.

Because of the strength seen in recent months, we're revising our estimates for 2019 wafer fab equipment upwards. We now believe 2019 spending levels could be similar to 2017. Based on the visibility we have today, we're optimistic about 2020 with an expectation of sustained strength in foundry logic and a step-up in memory investments during the year with NAND recovering ahead of DRAM.

In display, as anticipated, FY ‘19 revenues were down a third relative to FY ‘18. At this point, we expect FY '20 revenues to be at similar levels as we bounce along the bottom of this market cycle. In this environment, our display business remains profitable even as we fund R&D for next generation products.

We still believe the display market provides good long-term growth opportunities for Applied as the industry becomes increasingly technology-intensive. We remain focused on working closely with customers to drive their technology roadmaps forward and ensuring we have the right portfolio of products in place to outperform the market when investment levels pick up.

Looking beyond the cycle at the broader context for the electronics industry, it's important to recognize that we are in a period of transition as major new growth drivers emerge in the form of IoT, Big Data, and artificial intelligence. Over the next decade, we expect hundreds of billions of edge devices to be deployed, and explosion of data generation and new approaches to computing to sustainably process and create value from all the data that's available.

AI and Big Data have the potential to transform every area of the economy and our lives. These inflections will also have a profound impact on the semiconductor industry. As we move from the age of general purpose computing to domain-specific approaches, new system architectures and new types of semiconductor devices are needed in the data center and at the edge. A major factor in the adoption rate of AI will be how quickly we can realize improvements in the power, performance, area and cost or PPAC of the foundational semiconductor technologies.

However, at a time when PPAC improvements are on the critical path, classic Moore's Law scaling is slowing. To drive the PPAC roadmap in the future, a new playbook for semiconductor design and manufacturing is needed. This playbook has five main elements, new architectures, new devices and 3D structures, new materials, new ways to shrink the feature geometries and new ways to connect chips together. Then to accelerate implementation of this new playbook, I strongly believe the ecosystem needs to work together differently by breaking down traditional industry silos.

At Applied, we've aligned our strategy and investments around this vision of the future. While we are carefully managing all non-R&D spending, we're investing more than ever in new capabilities and products to accelerate the new playbook.

We recently announced the official opening of our META Center in New York. This state-of-the art facility enables us to work with customers and partners in new ways, accelerating the transfer of novel technologies from lab to fab. I'm equally excited about how our future product pipeline is shaping up. In addition to our traditional unit process equipment, which spans deposition, removal, modification, and analysis of materials, we're developing entirely new categories of products that we call Integrated Materials Solutions. The applications for these IMS products include co-optimization of deposition, removal and analysis, all the way to creating, shaping, modifying and analyzing new structures and devices. We'll share more details as we bring new products to market in 2020 and 2021.

For the time being, let me highlight a few examples of how we are defending our leadership positions, winning new applications and expanding our available market in the near term. In DRAM, customers are introducing advanced transistors and interconnects to improve performance and low power. These technologies where Applied has long held leadership were originally developed for logic applications, and are now migrating to memory. Growing demand for specialty nodes that serve the IoT, communications, automotive, power and image sensor markets is also driving robust investments in capacity and new technologies. PPAC improvements are equally important for these applications. And we're finding new ways to migrate our leading-edge technologies into these specialty markets.

Advanced patterning is a critical enabler for shrinking feature geometries, which translates to a large growing opportunity in foundry logic and DRAM. The patterning roadmap is increasingly enabled by new materials as well as co-optimization of materials deposition and removal. As a result, we are expanding our positions in memory and winning new applications at foundry logic customers. And in markets where we have plenty of room to grow, we're also building momentum. In optical wafer inspection, we're winning new positions at foundry logic customers. And in etch, we've recently won multiple critical applications in NAND, as well as in foundry logic, where we delivered record etch revenues for the year.

Before I hand the call over to Dan, let me summarize. First, we're seeing a strong finish to 2019, driven by a healthy uptick in foundry logic spending. Although it's still too early to call the shape and timing of the recovery in memory, we're encouraged by the signs we're seeing. Second, we have a strong positive point of view about the opportunities, the AI-Big Data era will create for the industry and Applied. While we're tightly controlling non-R&D related spending, we are investing more than ever in new products and capabilities that put us in winning positions for the future. Third, the technical collaboration between

Applied and our customers has never been stronger, and we're working with a broader set of customers and partners to accelerate the time-to-market for new game-changing technologies.

Now, I'll turn the call over to Dan.

Dan Durn

Thanks Gary. Applied delivered another solid quarter in Q4, with revenue, margins and earnings in the upper-end of our guidance range. I like the way we ended our fiscal year and I particularly like the way we're set up for the year ahead. On today's call, I'll summarize our fiscal 2019, give you my sense of the business entering fiscal 2020 and share our outlook for Q1.

In 2019, our end markets were softer across semi, display and the transactional portion of our services business. Despite that, we delivered revenue of $14.6 billion and our quarterly revenue and earnings were stable, which demonstrates the resilience of our broad portfolio, even in a memory correction year. In fact, we earned significantly more in every quarter in fiscal 2019 than we did in all of fiscal 2013, which is the most recent year that included a significant equipment correction. I also like our relative performance.

In calendar 2019, we expect to significantly outperform our core market and our most direct peers. Specifically, while the equipment market will be down by mid-teen percentage, we expect semi equipment plus AGS to be down in the mid-single-digits year-over-year.

Looking ahead to 2020 and beyond, we have high confidence in the future growth of our markets and the unique opportunities Applied has to enable our customers' roadmaps. As a result, we invested a record amount in R&D this year, while reducing our spending in SG&A. We delivered over $3 in non-GAAP earnings per share and generated nearly $3.25 billion of cash from operations.

Our capital return strategy is to fully fund our profitable growth opportunities, maintain a strong balance sheet and deliver attractive cash returns to our shareholders through dividends and dividend growth along with opportunistic share buyback.

In 2019, we've returned nearly $3.2 billion to shareholders, equivalent to 113% of free cash flow. We returned nearly $800 million in dividends, raised the dividend by 5% and took advantage of market volatility to repurchase 60 million shares of our stock at an average price of $39.86. As a reminder, we're working to complete the acquisition of Kokusai Electric. Upon close, we plan to direct most of our free cash flow towards repaying the term loan we're using to help fund the transaction.

Now, I'll share my thoughts on the business environment. On our previous earnings call, I talked about positive leading indicators of future growth. These included inventory reductions across memory, demand elasticity in NAND and strong foundry, logic demand both in leading edge and specialty nodes. Today, I feel more positive. In semi, we have strong pull for our leadership products, including record demand for epitaxy, a metal deposition. We're also winning many new applications for our high growth semi products in dielectric deposition, etch and inspection. We are significantly outgrowing our markets in foundry, logic, with growing strength of the leading-edge nodes and key wins in automotive and advanced packaging. While it’s always hard to call the timing and magnitude of a recovery in memory, we think it's a matter of when, not if, and we expect NAND to lead the way.

In AGS, revenue was stronger than we expected in Q4, and we still expect better than seasonal revenue in Q1. The subscription-like portion of AGS has momentum and will benefit from the thousands of new systems we added to our installed base in 2019. The transactional portion of the business should strengthen as memory utilization recovers in 2020.

Rolling it all up, we are entering the new fiscal year with a backlog of $6.5 billion, which is our highest year-end backlog ever.

Now, I'll provide our Q1 guidance. We expect company revenue of $4.10 billion, plus or minus $150 million, which would be up by about 9% year-over-year. We expect non-GAAP earnings to be in the range of $0.87 to $0.95 per share. Within this outlook, we expect semiconductor systems revenue to be approximately $2.775 billion. Services revenue should be about $975 million and display revenue should be around $330 million. We expect non-GAAP gross margin to be about 44.6% and non-GAAP OpEx should be around $800 million.

In summary, I like the setup for Applied as we enter fiscal 2020. Our thesis surrounding IoT, Big Data and AI is being validated throughout the ecosystem and our business outlook is transitioning from positive leading indicators to growing demand. The investments we're making in the new playbook are strengthening our product portfolio and driving new design wins that will service exceptionally well as the new nodes ramp across foundry, logic, NAND, and DRAM. Our opportunities in the specialty nodes are also expanding. Our services business delivered a record year in 2019 and is on track for solid year-over-year growth in 2020.

Finally, we look forward to closing the acquisition of Kokusai Electric and welcoming its talented team to Applied Materials.

Now, Mike, let's begin the Q&A.

Michael Sullivan

Thanks Dan. Now to help us reach as many of you as we can, please ask just one question and not more than one brief follow-up. Operator, let's please begin.

Question-and-Answer Session

Operator

[Operator Instructions]. Our first question comes from C.J. Muse with Evercore. Your line is now open.

C.J. Muse

I know you don't want to be too specific around the timing and magnitude of recovery in memory. But I was hoping perhaps you could give just a little bit more color around your product positioning for when that does come, as you look at leadership product as well as some of the new products that you have in the pipeline that you expect to come to market in 2020?

Gary Dickerson

Thanks, C.J. So, what we're seeing in memory is customers continuing to drive technology roadmaps this year, even if they're cutting the capacity additions to help with supply and demand. We really like the setup for Applied when memory spending recovers, which we think is in 2020 led by NAND. So, if we look at different types of devices, in DRAM customers are moving to more advanced metal gate transistors in the periphery, and this is going to drive more demand like we saw in 28 nanometer foundry. So, that's really positive for us in leadership areas like Epi, PVD, implant, thermals, also we are gaining share in etch. We're also enabling new DRAM capacitor module capabilities and new patterning technologies that create large new opportunities for Applied where we're reducing the number of steps for multi-patterning and also improving pattern placement.

So DRAM, especially with the more logic-like types of steps really plays to our leadership positions. And so, as those nodes go forward, we're in a good position in DRAM.

In 3D NAND, as customers are scaling beyond 96 layers, we're winning new applications with etch and NAND. And as you go to more layers, you need new materials, especially high selectivity hard masks designed in to many of the next nodes as they ramp into a high-volume manufacturing. We also have momentum with integrated materials solutions. One example is in NAND where we do co-optimization of new hard mask films with the sensory etch, the co-optimization increases etch selectivity by about 50% and we're seeing new [DAP] [ph] and etch wins across multiple customers as we enable much better high aspect ratio patterning. So, strong pull across all the NAND customers for new materials, new products, Integrated Material Solutions we're seeing both in NAND and in DRAM. So, we're optimistic we're going to continue to drive strong growth as customers scale to future nodes.

C.J. Muse

If I could sneak in a quick follow-up, like you said we could do a quick one, second one. On the service side, you talked about the excellent growth in your installed base and we're coming off of fiscal '19 [growth of 3%] [ph], how are you thinking about the trajectory from here particularly as utilization rates on the memory front start to move higher?

Dan Durn

Yes. Thanks, C.J. This is Dan. I'll jump in and take that. So, the services business is a great growth driver for us. It's been a steady source of revenue growth, cash flow generation. I'd say over the last handful of years, this is a business that's grown at a compound rate of about 15% per year. In the current downturn, current year, memory driven downturn, utilizations following, the business is a low single-digit grower. When you include things like refurbs and upgrades, you're a mid-single-digit grower, so good performance in a very difficult market that's down about mid-teens. As we think about the performance of the business that drives those results, the long-term service agreement portion of the business this year was up mid-teens. It's really the transactional portion of our services business that's fallen with industry utilization and has been a headwind to growth this year. And that's in sort of down 10%, 11%. As we profile into 2020, we really like the setup around our services business going forward. We think we can continue to execute on the long-term service agreements and continue to drive that performance at the levels we've seen historically. And when industry utilization recovers in memory, we would expect our transactional business to transition from a headwind of growth to a growth at or for us in 2020. So we really like the setup and the execution of the team in this environment. We think it sets us up well for 2020.

Operator

Our next question comes from Atif Malik with Citi. Your line is now open.

Atif Malik

Good job on the results and guidance. So first, Gary, can you talk about the puts and takes between OLED and LCD in your kind of flattish display outlook at this point? We hear Samsung display is resuming construction of A5 and some [TV fabs] [ph] in China are pushing out. And as my follow up, Dan, if you can talk about the OpEx profile for the remainder of the fiscal ‘20?

Gary Dickerson

Thanks, Atif. I'll actually take both parts of your question. So as we go to the display market and we think about how 2019 played out, it played out exactly as we expected. We sit down about a third year-over-year and that's where we ended up. Where forecast expectations were set probably three, six months ago, embedded in that was incremental growth off of these levels. And what really drove that incremental growth is as we said solid performance of the TV market into next year and the handset market would recover creating incremental growth for the company. We think the handset market is going to play out exactly as expected. We're going to see recovery in the handset market.

What's happened in the interim in the TV side is, is we've seen several news headlines from some of our customers about delayed investments there's a bit of inventory build on the TV side. Third-party research firm has come out and confirmed what we've been reading about in the headlines. And our customer conversations also confirm this dynamic. And so as we look forward into 2020, we think there's going to be some incremental softness on the TV side that reflects all of the news that's out in the market to date. We expect the handset to recover as we originally expected, and that gets us to flattish profile, similar revenue levels to what we're seeing this year. That's the best way I would describe it.

And then from an OpEx perspective, I think we're going to take this one quarter at a time, we came up to 800. We all know that profiling into Q2 there's the full impact of merit, and we don't get the benefit of the shutdown over the holiday season. And so, maybe that goes up incrementally to 820 to reflect that dynamic. That gives you a sense of where we level out on those, typical seasonal aspects of transitioning from Q1 to Q2 and then we probably hover in that neighborhood for the rest of the year.

Operator

Our next question comes Toshiya Hari with Goldman Sachs. Your line is now open.

Toshiya Hari

Gary, you talked quite a bit about your expectations around new products into next year. I was hoping you could remind us roughly what percentage of WFE you guys serve today at Applied and how that would expand with some of these new products going into 2020 and

2021? And kind of related to that, obviously, you seem to be picking up share nicely in 2019. What are your kind of preliminary expectations into 2020 when you think about your potential outperformance relative to the market? And then I have a follow up. Thank you.

Dan Durn

Hi, Toshiya. This is Dan. On the first one, the percentage of the addressable market that we focus on, it’s going to vary from a year-to-year depending on the spend mix and profile of our customers. But the best way to think about it is, low to mid 60s part of WFE or the markets that we can address in any given year. That's going to vary and change again from a year-to-year depending on that profile mix and I think some of the new products that we end up bringing to market, I think it’s going to help drive our growth in share in the current markets that we serve, maybe there is some adjacencies we begin to look at, maybe it pushes it towards the higher end of the range over time. But it's still going to be in that low to mid 60s zip code depending on any given year and what customers happen to be spending on.

Gary Dickerson

Yes. Toshiya, I guess -- and I can also add a little bit of color. I think relative to the different areas where we compete today, definitely we're driving innovations and unit processes around deposition, removal, modification and analysis. We have momentum with some new products and we have some major new products in the pipeline that we're driving. But beyond that, as we've talked about before, you've got AI-Big Data need for 1000 times improvement in performance per watt and classic Moore’s Law 2D scaling not big enough really to meet those needs for a performance per watt. So, we're not only driving unit processes, one thing that we've also been driving are the Integrated Material Solution. We are co-optimizing steps, and even integrating multiple steps in a single system under high vacuum, and we have really strong pull from customers. Again, not just for unit processes where -- again I want to emphasize we're driving very hard with some big new products in the pipeline, some we already see some adoption, early momentum. But beyond that, it's really how do we enable not just materials or removal, how do we create structures, shape structures, modify and analyze structures. And I’ve spent a lot of my time with R&D leaders across our customer base, tremendously strong pull for improvements in power performance and Applied is in the best position, both with unit processes and with these integrated processes to enable the future. So, tremendous, tremendous pull for both of those different areas.

Toshiya Hari

Thank you. And then if I can squeeze one in as a follow-up. Dan, can you give us an update on the Kokusai acquisition? What were some of the regulatory hurdles that you still need to overcome? And then I guess, with the acquisition you are obviously gaining some exposure to batch processing. When you look across your product and technology portfolio at this point, do you feel like it's complete or is this future M&A still on the table? Thank you.

Dan Durn

Yes. Thanks Toshiya. I'll jump in on the first part, transition to Gary on the second part. For Kokusai, there's no change in the timing of the transaction. We announced the 12 month timeline when we announced the transaction. We received regulatory approval in Ireland and Israel. We had four other geographies. We're continuing to stay close to the regulators in those geographies. And we like the progress we're making but no change to the timeline from what we announced when we announced the transaction.

Gary Dickerson

Yes, Toshiya relative to Kokusai, we still see it as a great opportunity to expand our markets with batch technology and services to accelerate innovation for customers. So nothing has changed in all of the feedback we're getting from customers versus what we saw at the beginning, relative to the opportunity to create value. Relative to M&A, our strategy really hasn't changed. We continue to focus on three things: a great financial return; synergy to accelerate our customer value and also our growth; and market leadership potential. And we still believe we have a very good organic growth opportunity, so the bar remains very high. And we're not needing for M&A but anything that we look at that fits that criteria, we definitely will continue to investigate and move forward if we find something that fits that criteria.

Operator

Our next question comes from Krish Sankar with Cowen and Company, Your line is now open.

Krish Sankar

I have two of them, one maybe for either Dan or Gary. I think in the past you guys have spoken about the data analytics talking about two year out WFE, maybe you want to think about it, maybe not. If not, I'm just trying to put numbers around it. If next year, all those being the same as this year if NAND WFE is up 10%, what kind of a growth expectation should you expect for AMAT NAND business, or your semi business?

And then as a quick follow up for Dan. I think you mentioned this in your Jan quarter guidance. Can you give any breakdown between foundry, logic DRAM and NAND? Thank you.

Dan Durn

Krish, I didn't understand the first part of your question. You said something about analytics. But then I heard you talk about NAND. So I know you're in Europe. Maybe we missed a syllable.

Krish Sankar

Let me just make it simple. If in 2020, if everything else being equal, if NAND WFE is up 10%, I am just putting some numbers out there, how should be expect AMAT semiconductor business driven by NAND to perform or outperform. And also on the Jan quarter, if you can give a break down between foundry, logic, DRAM and NAND?

Dan Durn

Thanks, Krish. From a WFE standpoint, we don't want to get into guides around next year. But what I would say is, since Gary has come into company, we've become very balanced as a company in terms of our penetration of device types. This is a very balanced company. I think we're seeing the benefits of that in this environment as we inflect from one device type to another. And I think it surged the company well in a time of uncertainty.

The company has worked hard, made a lot of investments to create that very balanced portfolio by device type. And so without being specific, I would just leave you with that contextual thought that we're fairly agnostic to how these device types flash in one quarter or another. And I think that gives you some parameters on how to think about things.

From a guidance standpoint, we don't guide by device type, but the thing I would highlight is, next quarter will be a record quarter for us in foundry, logic based on the guidance that we've given. But we typically don't guide by device type.

Operator

Our next question comes from John Pitzer with Credit Suisse. Your line is now open.

John Pitzer

Gary, just my first question, you guys have done a great job to kind of talking about trends relative to device type. But I hope if you can give update probably just on China for this calendar year? And when you talk out to 2020, how important is growth as far as China relative to your optimism next year?

Gary Dickerson

Our view on China is pretty similar to what we communicated before. The domestic China market is incrementally stronger than our view at the beginning of the year, within the range of what we had expected, but incrementally stronger. And we now anticipate domestic China will be up from last year to around $6.5 billion. Longer-term -- I've been in many meetings and conferences over the last several years, and my message is the same today's as it's been over the last several years. We still expect steady growth in China, so we think next year will be another year of investments. But we don't see hockey sticks. Again what we do is we look at leading indicators for all of the different projects, either domestic or international. And again, our view is again very, very similar to what I’ve talked about the past. We think there's going to be steady growth. We're positive about the market. We're positive about our position in the market. Our share continues to be healthy and accretive to our overall global market share. So, that's kind of a top-level view for China.

Dan Durn

And just to add a couple of things to what Gary said, John. As you think about our planning, we always have base cases, we always have upsides. We will be ready to respond if there is upside to our base case but that's not currently baked into our planning assumptions. And Gary highlighted exactly right. We've been talking for several years now about slow steady development of an ecosystem there, investing in technology roadmaps. We saw it last year. We see a follow through on it this year. We will see a follow through on it again next year and we're not planning for any hockey sticks associated with investments in that geography.

John Pitzer

Then as my follow up Gary, just going back to your comments about foundry, logic looking sustainable going into calendar year '20, I guess just given the recent CapEx raise from TSMC and sort of the implied run rate for calendar fourth quarter, I guess there is a lot of concern in the investment community that perhaps from Q4 run rate levels things will have to come down as you go into 2020. I'd like to hear your view on that. And the foundry weakens in the back half of the next year just because it's so strong now, do you think logic sort of picks up the slack? Was your comment about sustainability a full year comment or kind of a current run rate level comment? Thank you.

Gary Dickerson

Yes. Thanks, John. Let me jump in on that and give you my perspective. So what we see in the foundry, logic right now, I would consider and characterize as demand led. We had a solid Q4 in the foundry, logic market. Implicit in the guide for Q1 is a record foundry, logic quarter for this company. We ended the year with backlog at record levels. So, the foundry, logic view we see as follow-through into next year and it's not a one quarter phenomenon. There is a strong pull from customers for the tools. It's multiple customers and multiple nodes, which gives us a sense of comfort. We take a look at the foundry market and one foundry customer are well under the ramp of N7, volume production at N7+, N5 and risk production, volume production in the first half of 2020 and N6 risk production in the first half of '20, volume production in the second half of 2020. You could make other similar comments about leading edge technology nodes ramping at other foundry, logic customers exposed to the leading edge. So multiple customers, multiple nodes.

In addition to seeing strength on the leading edge, we continue to see strength on trailing node geometries and specialty nodes, that continues. And while we don't have perfect visibility for the full year, we're very positive on the foundry, logic market over the long run. We are layering in the next wave of compute in the semiconductor industry to complement what is already there in the form of PC demand and mobile compute demand. We've got new architecture sharing data centers, lots of new tape outs, cloud demand is recovering, 5G beginning to kick in. We see a proliferation of intelligent edge devices and auto is growing.

And so as we take a step back, we see the strength continuing into next year. We're really positive about the long run. But as I provide a little more context on 2020, the company is performing well. We talked about the backlog entering the year. We talked about strength in foundry, logic. We talked about AGS set up and looks good as we profile into next year. Swing factor next year for us is timing of the memory recovery. For us, it's a matter of when, not if. And so it's really tough to determine the timing and magnitude of that. And we'll stay close to the market, stay close to our customers. And as new information becomes available, we'll try to be as open and transparent as we can be to help investors.

Operator

Our next question comes from Harlan Sur with JPMorgan. Your line is now open.

Harlan Sur

On the better performance in AGS in the October quarter and strong outlook into January, I would assume that the long-term subscription part of the model is very predictable. So was the incremental strength, the transactional business, maybe starting to come back as some of your customer utilization starts to rise, are they bringing back some idle capacity? And if it is that, is it more foundry, logic or memory driven?

Dan Durn

Yes, thanks, Harlan. You're right. The long-term service agreement part of the business is continuing to chug along. We really liked the performance and that's against the backdrop of a tough market. We talked about the transactional nature of the business, transactional spares last quarter, being bit of a temporary dynamic with a limited number of customers and this is us just getting back to more normalized environment. Clearly, customers are seeing the strength we're beginning to flash in foundry, logic. I think we're seeing some early signs around the setup for memory as we go forward led by NAND and DRAM. And it's hard to really parse against that contextual backdrop, exactly what's in customers' minds when they drive transactional part of the business. I would just say, in general, it feels like a good setup with some positive momentum. And we feel good about that setup, as we look into 2020.

Gary Dickerson

Yes, and I think the big needle mover is really memory. Memory utilization, certainly the agreement -- the agreements, as Dan said, we're up to maybe close to 60% of spares and service with agreements where we have higher revenue per tool. But a big incremental driver will be when memory comes back and utilization goes up in those memory factories. And certainly as Dan said earlier, we expect that to happen in NAND first. And as he said earlier, it's a question of if not when -- when not if. So, it's definitely going to happen in some time here and we hope the NAND starts in 2020.

Harlan Sur

And when we think between cost per bit declines in memory, both DRAM and NAND, the rate of those declines is decelerating pretty dramatically. So, productivity by your customers is a big focus, more batch-based systems is a focus and one of the drivers for the Kokusai acquisition. But what else is the Applied team doing to help customers improve productivity?

Gary Dickerson

Yes. Thanks for the question. So, I talked earlier about co-optimizing hard mask materials with etch to improve etch selectivity. Now that's certainly for the high aspect ratio of patterning, incredibly important. We have other cases where we are working with customers on patterning, while we’re reducing -- I mentioned that earlier, we're reducing the cost of multiple patterning. In some cases, we're able to reduce the cost to 30%, and also enable a better pattern placement. So, for memory, especially in NAND, those are some the areas we're driving. Another area is in the performance with the periphery going to more logic like structures, especially higher speed memory devices, that's an area that plays to our leadership products and certainly we see tremendous traction from customers in those areas.

I think longer-term, it's about how do you optimize new structures, creating, shaping, modifying, analyzing new structures. We have a lot that we're doing today in co-optimization of those capabilities. A tremendous amount in the pipeline where we have very strong customer pull.

Michael Sullivan

And operator and the people on the call, I think that we're running a little short on time. We know, there is a lot of people in the queue. I'm going to ask that we go to one question right now and no follow-ups please, just so that we can hear from more of you. Thank you.

Operator

Our next question comes from Pierre Ferragu with New Street Research. Your line is now open.

Pierre Ferragu

Could you give us -- I have heard with a lot of interest the answers you’ve given on your outlook in logic and how you see things evolving? Is there a way you could give us some sense of how you expect or you’re change on two specific nodes, so the one that I have in mind the TSMC nodes, when TSMC moves from 7 nanometer to 7 plus, so some kind of critical dimensions but more EUV in session. And at Intel, between the 10 nanometer node and the 7 nanometer node, same thing, a lot of additional EUV layers. I understand you guys remain very well exposed to this new EUV heavy nodes but I image that when you move from multiple patterning to EUV the type of business you get is different. So could you describe that for us please?

Gary Dickerson

Yes. Thanks, Pierre. So, it's important to remember that when customers are scaling -- I would say the first thing is that they are driving five different areas where shrinking is one of those five different areas. We talked about new architectures, new structures, new materials, new ways to connect chips together and the shrink. So again, we have tremendously unique technologies enabling that new playbook. And I'm with one of the R&D leaders for one of our customers next week, with another one the following week. Again, constantly, we're getting tremendous pull in driving power and performance because it's very, very, very difficult. So the first thing I would say is that we have unique capabilities in enabling the new playbook. That's where we're investing, that's where we have tremendous engagements with customers.

So then if you think about shrinking, I talked earlier on the call about where we're working with customers on multiple patterning. And there are cases where we're able to reduce the number of steps by 30% and increase pattern placements. So that's another area we're doing co-optimization. And it's also important to remember that as you're scaling and EUV layers come in, some other steps also need to shrink and multi-patterning is still growing. So with Applied, the EUV steps that are coming in to replace other steps are not our steps. So Applied has opportunities and we are winning. When EUV is being adopted in some of those replacement steps, there's this focus on multi-patterning where we're focused on reducing steps, reducing costs.

I think another -- Pierre another really good example is in 2019 in foundry, logic, we have very strong momentum with our sensory etcher. And this is where you're seeing the highest EUV adoption. We're seeing very high growth in 2019 with wins across many customers, and we definitely see significant growth, much faster than the market with our sensory etch business in leading foundry customers. And we anticipate based on the wins that we have, we're going to continue to grow at 5 and 3, as these new technologies are being adopted. Just another data point with Sym3, that's the fastest ramping product in the history of Applied, we just shipped our 4,000th chamber, and many of them going into foundry and logic. So that's kind of a top-level view. I would say, again, the key thing for all of these customers is how do they drive the technology roadmap for power and performance. 2D scaling is slowing down, they need new ways to drive the roadmap, and that's really the sweet spot for Applied Materials.

Operator

Our next question comes from Patrick Ho with Stifel. Your line is now open.

Patrick Ho

Thank you very much. Gary, if think you just provided a little bit of color already to the question I have. But with capital intensity trends for foundry and logic continuing to increase, as we go from 7 to 5 and eventually 3, aside from say like the etch Sym3 and products like that, where else are you seeing I guess increasing capital intensity trends on the foundry, logic that helps both your leadership tools, or your leadership businesses, as well as some of the growth opportunities? Aside from the etch, are you seeing it in deposition, are you seeing it in the process control area? What other areas are you seeing that growth in capital intensity trends from your products?

Gary Dickerson

Yes, thanks for the question, Patrick. So if we look at 2019, we talked about a record foundry, logic performance. And we have a very strong incumbent leadership position, as you talked about in foundry, logic; a much larger business and more diverse business than our process tool peers. And that's driving our outperformance in 2019. So if we look at foundry, logic, in this calendar year we will have the highest foundry, logic revenue ever, highest Epi revenue ever, and highest metals revenue ever. So, those are areas that are part of our leadership products. We are working with customers on new materials like tungsten deposition, shaping structures with selective removal where we are gaining key wins. That's enabling performance gains for our customers and growth for Applied. So those are some of the areas where we are seeing growth. In terms of 2019 we're also see strong growth besides etch, in CVD, thermal. And you talked about inspection, that's an area where we just introduced a new product. We are seeing very strong adoption and that will give us momentum to grow quickly in that business in 2020. So, anyway, that's a little bit of color around some of the areas that we're driving. But it really does get back to driving power and performance area and cost for customers and really more and more, not just with unit processes, but also with these integrated solutions is a sweet spot for Applied and gives us tremendous momentum going forward.

Operator

Our next question comes from Timothy Arcuri with UBS. Your line is now open.

Timothy Arcuri

Thanks a lot. Dan, I just had a question on gross margin guidance. There's hardly any incremental drop through year-over-year, yet you are doing like $350 million more in revenue but gross margin is the same. I guess it's a little surprising because SSG which is the highest margin segment is up a lot year-over-year. So, are SSG margins lower in January, because it seems like the margins at a corporate level should be 150 basis points higher something like that. So can you just walk me through that? Thanks.

Gary Dickerson

Sure, Tim. We won't guide gross margins, but let me -- by segments. But let me share with you a little bit of what we do see in gross margin. As you know, gross margin in any given quarter, so it’s going to be a function of a few things, revenue level, segment mix, product mix, customer mix, factory activity. All are going to vary from quarter-to-quarter and go into the gross margin. We think our performance compares favorably with our peers ever this cycle. Our peak to trough gross margin over this cycle was down about 210 basis points to our next closest competitors in the process tool space. One was down 300, another was down 310. And as we were profiling into the back part of the calendar year on a relative basis, I think that gross margin performance on the quarter-over-quarter basis also looks pretty good.

So, we like how are executing. Are we ever satisfied with our gross margins? No. Are we maniacally focused on driving improvements and improving the cost structure? Absolutely. We are going to keep at it. We are going to continue to work hard and I think you are seeing breadth and depth of our portfolio in a broad sense play out in the gross margin resiliency over the course of the cycle.

Michael Sullivan

Hey, thank you for asking the question, Tim.

Operator

Our next question comes from Vivek Arya with Bank of America. Your line is now open.

Vivek Arya

Thank you for taking my question. Just thinking conceptually about next year, if foundry, logic sustains and memory is really incremental to the model, and I think you're starting at a low level, but just a run rate implies that your growth through the year. Does that say your January quarter is the low point of the year in terms of sales and gross margins?

Dan Durn

I'm sorry, Vivek, could you please repeat it. It cut out on this end. I just want to make sure I got the full question, sorry.

Vivek Arya

Sure. Yes, of course, Dan. So if memory spending is incremental to the model from here on, and you said foundry and logic should sustain, and even on the display side, I think you're starting at a low point in January, does it say that your January quarter outlook is the low point of the year in terms of sales and gross margins that things could actually conceptually get better in the year as memory recovers.

Dan Durn

So I guess, the best way for me to describe it, because I think what we're going to do is we're going to guide one quarter at a time, and the environment is clearly better today than it was a quarter ago or six months ago. And what I would say just at the very highest level, companies performing well. We've got a good backlog entering the year. You pointed out strengths in foundry logic services, swing factor in the year. I said it before, it's really the essence of the issue, the swing factor for the year is going to be what happens in the memory market. So we're going to stay close to customers, we're going to be ready to respond when the NAND market starts to hit, followed by DRAM. And we'll take it one quarter at a time. So I don't think we want to start giving multiple quarter guidance and shaping the full year given some of the uncertainty we see from a timing standpoint on when things like memory are going to start to flash.

A - Michael Sullivan

Thanks Vivek. And operator, we'll take one more question, please.

Operator

Our last question comes from the line of Quinn Bolton with Needham & Company. Your line is now open.

Quinn Bolton

And I guess I just want to follow-up on John, and the next question's there just, it seems almost illogical for us to assume that the foundry strength that you're seeing in the January quarter sustained at that quarterly level through each quarter of fiscal '20, so that would get the business up probably well into the teens, if not 20%, year-on-year, and so again I guess not asking you necessarily guidance quarter-to-quarter, but isn't it logical to assume that you're probably not going to sustain that peak quarterly revenue at foundry in every quarter of 2020? Thanks.

Dan Durn

Yes, no question, Quinn, and my sustainability into next year is really meant to be that it's not going to be a one quarter phenomenon. We've got a nice backlog, Q4 was a really nice quarter for us in foundry, logic. Q1 will be a record quarter, and I think it would be probably not the right place to set expectation to think every quarter is going to be at a record foundry, logic level. And so while the activity level can be nice, it doesn't always have to be a record.

Michael Sullivan

Okay, great, well thank you, Quinn. And I think we're almost at the end of our hour. Dan anything you would like to say in closing.

Dan Durn

Sure, Mike. Just a couple of quick thoughts, first like I said at the beginning, I'm pleased with the way we ended the fiscal year, and I especially like the setup for Applied in 2020 given a record year-end backlog and the momentum that we see in key parts of the business. Second, we look forward to staying close to investors. December 3rd, Gary and I are going to be at the Credit Suisse Conference in Scottsdale. Next week after that I'll be at the UBS Conference in New York. In the meantime, we hope you all have a happy and safe Thanksgiving with your families. Mike, let's go ahead and close the call.

Michael Sullivan

Okay, great. Thanks, Dan. And we'd like to thank everybody for joining us today. A replay of our call is going to be available on our website by 5:00 PM Pacific Time. And we would like to thank you for your continued interest in Applied Materials.

Operator

Ladies and gentlemen, this concludes today's conference calls. Thank you for participating. You may now disconnect.