

MICHAEL SULLIVAN | Corporate Vice President, Investor Relations

Hi, I'm Mike Sullivan, head of investor relations at Applied Materials. Thank you for joining our Services Master Class.

Let's begin with four key messages we hope you'll take away from today's event. One, Applied Global Services is a recurring revenue growth business that has unique drivers as compared to our semiconductor systems business. AGS makes the whole company more resilient across business cycles. Two, our services opportunity has grown to over 14 and a half billion dollars per year and continues to increase each year. Three, AGS has the industry's largest installed base of advanced systems, and we're using insights from our installed base data to give our subscription customers better outcomes. And four, we see future opportunities to expand our recurring revenue by helping customers accelerate time-to-market, reduce energy and resource use, and expand to new geographies.



Key Messages

1. Applied Global Services is a mostly recurring (~87%) revenue business with a growing proportion (~60%) of subscription sales.
2. Large total available market opportunity (>\$14.5B) continues to grow each year.
3. Insights from the industry's largest installed base of advanced systems (~42.5K) and chambers (>175K) give subscription customer better outcomes.
4. Future growth opportunities emerging in time to market acceleration, environmental impact reduction and geographic expansion support.

Now, I'll share today's agenda. In a moment, we'll have a fireside chat with Dr. Sanjiv Mittal, who will provide customer perspectives and describe how semi equipment services have changed over the years. Next, Jeremy Read will share our services market opportunity and our growth strategy. And then, four of Jeremy's colleagues will introduce you to the key capabilities that make up our services strategy. Next, Michael Daly will outline our services business model. And finally, Jeremy, Michael and I will be available for your questions.



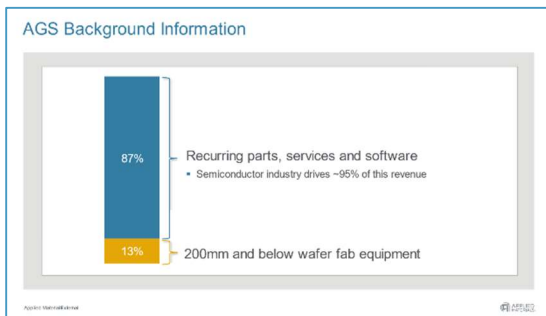
AGENDA	9:00	PART 1	Mike Sullivan Introduction and Fireside Chat with Sanjiv Mittal, Ph.D.
	9:05	PART 2	Jeremy Read Services Growth Opportunity and Strategy
			Joseph Werner Digital Tools
	9:45	PART 3	Tzu-Fang Huang, Ph.D. Surface Technology
Roberta Tonini Network of Experts			
10:00	PART 4	Michael Wang Tailored Supply Chain	
			Michael Daly Services Growth Model
			Q&A Michael, Jeremy, and Mike

Services Master Class

PREPARED REMARKS | September 22, 2022



Before we begin, I'll share some background information. Applied's services business became a reporting segment in 2006. Today, about 87% of AGS sales is recurring and comes mainly from delivering parts, services and fab automation software to the company's semiconductor and display customers, with the semiconductor industry driving around 95% of this revenue. The other 13% of AGS is wafer fab equipment, namely 200mm and below systems. In today's class, we'll mainly focus on the 87% of the business that generates recurring revenue.



And with that introduction, let's join Sanjiv Mittal for our fireside chat.

DR. SANJIV MITTAL | Corporate Vice President, Applied Global Services

Michael Sullivan: Welcome to our Fireside Chat with Dr. Sanjiv Mittal. So, first of all, how long have you been with Applied and what's your current role?

I've been with Applied 20 years now, Mike. My current role is to manage the FabVantage™ Consulting and Services Engineering Group, which includes the Digital Tools Development Group.

Michael Sullivan: Okay. So before coming to Applied, what were some of the major roles that you had?

I managed Intel's D2 development factory in Santa Clara. I started there as a process development engineer for etch and CVD, managed yield improvement for full logic and three flash technologies. And then finally ran the D2 manufacturing operations in the fab.

Michael Sullivan: Okay. And I understand you spent 17 years on the customer side before joining Applied. What would you say are the most important considerations for customers when they're ramping a new fab?

Mike, I was in a development factory. The biggest thing for us was to do rapid yield improvement and get the yields up on a new technology as quickly as possible. So, time to high-volume, time to high-yield was essential. And then from a quality perspective, we wanted to deliver quality product and quality wafers.

Michael Sullivan: Okay. So you've been working with equipment for 35 years, maybe a little bit more than that. How would you say the equipment has changed over the years and how that affects the services part of the business?

A lot more precision and sensors and data coming out of our equipment, of the semiconductor equipment, which leads to more automation. The use of remote technologies for troubleshooting. And then, we built big global knowledge bases and we are using machine learning to, again, help with troubleshooting and make our equipment perform better.

Michael Sullivan: Okay, and then thinking back to customers now when they're doing high-volume manufacturing, how has manufacturing changed for them?

Significantly, Mike. The number of process steps has increased by 5 to 6x from a hundred steps to 600 steps. The cost of a new factory has increased significantly from 1 to 2 billion to 10 to 20 billion. That's about a 10x increase. And there's an explosion of data inside the fab, both from within the fab and also from the fab equipment. Customers want to maximize the entitlement that they get from their fab equipment.

Michael Sullivan: Okay. Sanjiv, how do you see the services business changing in the future?

A lot more data driven troubleshooting and decision making. And this is a change both for the equipment supplier and for our customers. Remote troubleshooting or remote support for more effective troubleshooting, and delivering not just maintenance outcomes, but fab outcomes to address their manufacturing challenges like matching and zero defects.

Michael Sullivan: Great. So Sanjiv, finally, what didn't I ask you that I probably should have?

Mike, given the complexity of the technology roadmap that's ahead of us, it's going to take a much deeper relationship and partnership between the fab and the equipment supplier to maximize the return on investment.

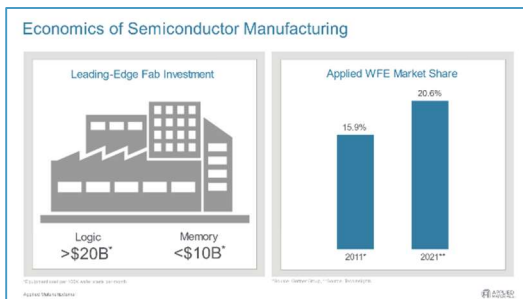
Michael Sullivan: Great. Well Sanjiv, thank you for joining us. And now we'd like to hand the meeting over to Jeremy Read. Jeremy?

JEREMY READ | Corporate Vice President, Applied Global Services

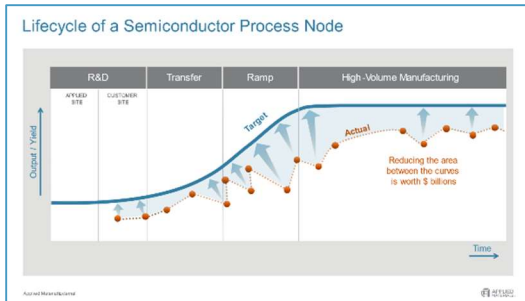
Thank you, Mike.

My name is Jeremy Read. I am the head of marketing and business development for AGS. I've been with Applied Materials for 30 years and my focus is on developing value-added services that help our customers yield more good wafers and chips. My job today is to outline the market for AGS services and parts. I'll discuss the manufacturing life cycle, the tool success requirements, and the offerings we provide to support our customers and enable our growth.

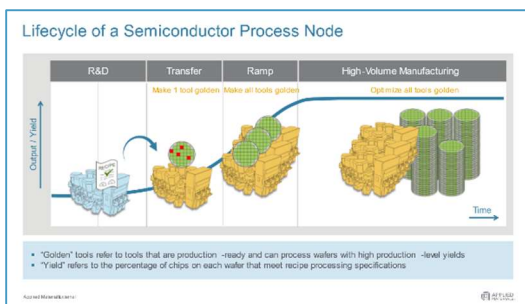
Let's start by considering the economics of semiconductor manufacturing, which create the business opportunities for AGS. Beginning with the investment, a leading-edge logic fab needs over \$20 billion of wafer fab equipment per hundred thousand wafer starts of capacity. A leading-edge memory fab needs somewhat less than \$10 billion of equipment for similar volumes. And Applied supplies a little over 20% of these tools by revenue. Getting to high-volume production faster is extremely valuable to our customers. Given our five-year depreciation cycle, every day is worth \$5 to \$10 million in depreciation costs alone.



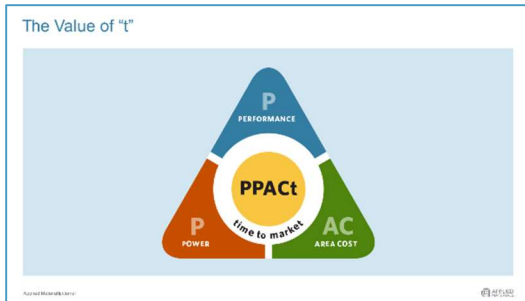
Let's review the life cycle of a semiconductor process node. The curve represents the target level of wafer output and yield over time. The area below the curve represents suboptimal performance and return on investment. The overriding goal is to accelerate progress along this curve.



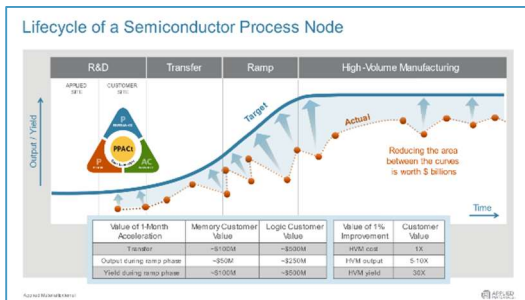
The first phase is R&D, where a customer uses low-volume production lines to define process recipes and make equipment selections. The goal here is to fingerprint the process recipe and make one tool golden. After R&D success comes the transfer phase, where customers transfer the process node from R&D to commercial production tools. The transfer is from one fab to another, and may well be from one geography to another, which is even more complex. The yield needs to be significantly improved during the transfer stage to increase the chance of commercial success later. By yield, we mean that each wafer functions, a high percentage of the potential chips on each wafer function, and, ideally, the performance and power characteristics of the chips are uniformly good across all of the wafer. In the transfer phase, the focus is on matching the R&D tool with the transfer tool, making both tools golden. Next comes the ramp phase, where the focus turns to preparing for high volume. Customers need to replicate their recipes across all the tools and chambers needed in the commercial facility. We call this making all tools golden. Then comes the high-volume manufacturing phase, where the focus shifts to maximizing wafer output while obtaining and maintaining the highest possible yields, as well as optimizing costs.



Now, let's consider the value chip makers are focused on creating as they move through these phases. Being early to market with industry-leading logic and memory technology is extremely valuable to chip makers and their customers downstream. Our customers are in a race to optimize "P-PAC-t", which stands for chip performance, power, area-cost and time to market. The "t" in PPACt is critically important to winning in the marketplace and is a major focus during the R&D, transfer and ramp stages.

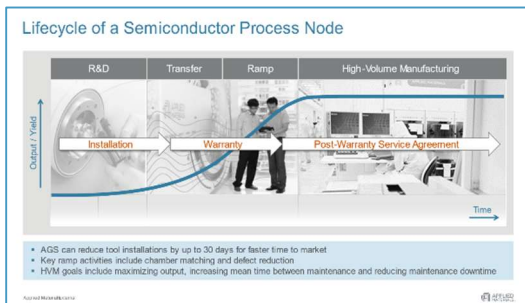


Being early to market with high-performing, power-efficient chips can have a direct impact on market share, revenue and gross margin. Once in high-volume manufacturing, the focus is on yield, output, and cost. These three variables are key to profitability and return on invested capital. The most critical is yield. In fact, a 1% increase in yield is as valuable as three to six points of output improvement and up to 30 points of cost improvement.



Now, let's consider how AGS helps in each phase. During the R&D, our focus is on making one tool golden, and it is a team effort between the customers' engineers, Applied systems business, and our AGS team. AGS is responsible for timely installation and rapid cycles of learning. Our goals include bringing tool performance to specifications and improving yield. Once R&D is complete, AGS supports the transfer of multiple types of tools to the commercial fab with guarantees related to timeliness and equipment specifications. As I mentioned earlier, this may involve a geographic move, as well. As the node moves into the ramp phase, our team installs more tools and ensures that each tool is golden, matching the results of the R&D fab. Most of these activities are pre-revenue for AGS. Our systems businesses include installation and warranty in the price of their tools. A dedicated AGS installation team works closely with the customer and our local Service Managers to install the tools as they arrive at the fab, according to an assigned ramp schedule. Once the installation is complete, the tool enters the warranty phase, where AGS covers all of the corrective maintenance. A customer may choose to purchase preventative maintenance services at this stage, but for the most part, we do not generate services revenue during the warranty period. Still, this is a critical period for us when we can showcase AGS's engineering and analytical capabilities. Our success during this phase can significantly increase our chances of signing long-term service agreements when the warranty period expires. Our goal is to

sign multi-year service agreements that cover the preventative and corrective maintenance needed to optimize yield output and cost over the life of the node.



Now, I'll discuss our business model. I'll start by defining the total available market for AGS parts and service. The TAM is the total dollars our customers spend each year to maintain all of the Applied Materials tools in the installed base. We do not service other companies' tools. The TAM is a function of the number of tools times their service intensity. To increase our TAM, our first goal is to help make the Applied Material systems businesses successful in selling new tools, which maximizes the size of the installed base. Each new tool can remain in the installed base for decades. In fact, our oldest tool is a dielectric etch system that is still being used in North America that is 38 years old. The oldest tool under service agreement is 33 years old. Our tools generate lifetime services revenue that can significantly exceed the original sale price. For reference, we grew our installed base by over 40% between 2015 and 2021, from around 30,000 tools to around 42,500 tools. Moving now to service intensity, all tools require preventative and corrective maintenance. The service intensity of particular types of tools can vary a great deal, due to factors like the complexity of the tool, the precision needed by process recipes, and the cleaning needs and parts wear associated with particular chemistries. Servicing a tool at today's most advanced nodes is significantly more complex than for the older tools I just mentioned. And even in the non-leading-edge nodes, which we call the ICAPS nodes, spending is higher today than it was in the past as customers continue to enhance their nodes to improve PPAC-t. This 65% TAM increase demonstrates the combined impact of installed based growth, which was 40%, and service intensity growth.



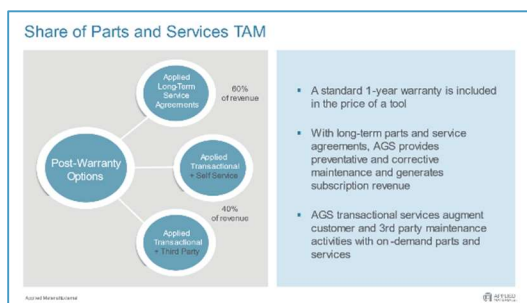
Now, let's talk about our services share or how much of the TAM we are able to capture. Simply put, our customers have three choices after the warranty period. One, they can sign a long-term service

Services Master Class

PREPARED REMARKS | September 22, 2022



agreement. If they do, our teams can continue to furnish parts along with preventative and corrective maintenance. We offer a range of agreements, which I'll describe in a moment. Service agreements provide us with a larger share of the TAM. Today, we generate about 60% of our total parts and service revenue from long-term agreements, which we call our subscription revenue. Second, customers might choose to perform some of the maintenance activities using their own workforce or, third, they might outsource some of the maintenance activities or source parts from a third party. In these latter cases, Applied's share is lower, but we are typically still called upon to provide parts and services on an on-demand basis. We call this our transactional revenue, and it currently drives about 40% of our parts and services revenue.



Now, let's look at the continuum of our service offerings. Since 2013, our strategy has been to transition more of our business from transactions to subscriptions. Today, we have a growing array of service offerings to address virtually all our customers' needs. On the left side in white, our transactional parts and services. In the blue areas are our subscription offerings. The first level is what we call our parts assurance services. Our AGS planners use proprietary analytics to anticipate our customers' parts consumption and maintain an inventory of the parts they need to keep their tools serviced and running optimally. Now, we have our production assurance services at each customer location, as service managers draw upon all of our resources to provide customers with the preventative and corrective maintenance they need to achieve high output. Then we have our comprehensive agreements, whereby Applied provides for all of the customers' parts and services needs.

Comprehensive service agreements enable us to capture the highest proportion of the TAM. And we strongly believe they give our customers the highest returns on their equipment investments. On the right, we offer performance services, whereby AGS is paid only when we deliver a specified outcome for the customer, typically in areas such as output and yield. Compared to our transactional business, any tier of our subscription offerings represents opportunity for AGS. Each provides us with a longer-term customer engagement that enables us to demonstrate the value of incrementally higher levels of our services. In the future, we will continue to introduce higher value-added services for our customers, as indicated on the far right of the chart. Earlier, I mentioned the value of "t", time-to-market.

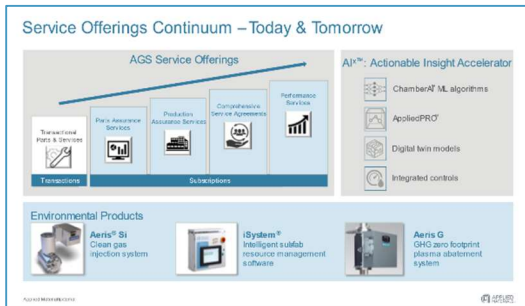
Applied is developing the AIx technology platform, which has sensors, digital twins, and analytics that help optimize process recipes for performance and yield. AGS is in a great position to use these technologies to help customers accelerate the journey from R&D to transfer, ramp and high-volume manufacturing, and to increase ROI over the life of the node. There is also another emerging inflection, ESG. Applied and our customers want to reduce the environmental impact of chipmaking. We have

Services Master Class

PREPARED REMARKS | September 22, 2022



several products, product enhancements, and potential future services that can help customers reduce energy, water, and emissions. We are excited about fulfilling our company's vision to “Make Possible a Better Future”, and this can become an important service business opportunity as well.



Now, I'll summarize what drives growth for AGS services. First is growing the installed base. It's worth considering that, while WFE spending does not increase every year, the installed base does. Even in a weak year of WFE spending, our installed base grows. Second is growth in service intensity and third is growth in share. A key observation is that our customers are going to spend money to keep their tools running optimally. The question is, are they going to sign subscription agreements and make Applied responsible for more of their needs? The biggest share driver for us is comprehensive service agreements, which deliver over three times the average revenue per tool as compared to our transactional business. In short, our growth is highest when we can demonstrate to customers that they can achieve better returns on their equipment investments when AGS takes care of their needs.



I'll underscore some of the key benefits that are available only to our subscription customers. One is proprietary tool data analysis. For example, we can compare a customer's tool performance to best in class and help them see where there is potential room for improvement in yield, output and cost. Also, we can predict when maintenance will be needed, which reduces unscheduled downtime. A second benefit, available only to subscription customers, is supply chain assurance. This service has been particularly valuable to customers during the industry supply chain challenges caused by the pandemic. Third is access to the world's best experts. We reserve access to our most knowledgeable equipment

Services Master Class

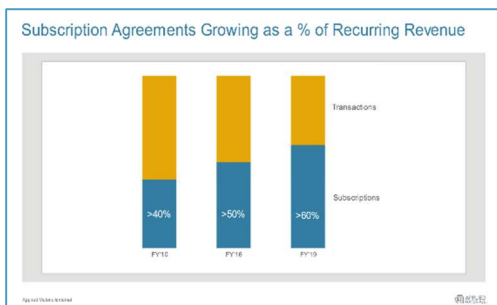
PREPARED REMARKS | September 22, 2022



and fab engineers, both on-site and especially remotely. Sometimes the world's best expert on a particular tool and application is at our R&D sites, such as in Santa Clara. We can give these experts secure, remote connectivity to the customer's systems and data, which speeds diagnosis and remediation for our customers.



As I mentioned, our job is to demonstrate that Applied subscription offerings result in better outcomes and a higher return on investment so that spending is with Applied. This is a key pillar of our growth strategy, and over time, it has been working. Specifically, in 2010, around 40% of our recurring revenue came from subscriptions. In 2016, we grew that statistic to 50% and, in 2019, subscriptions crossed 60% of the recurring revenue.



Now, it's time to discuss how we deliver value to our customers. We have a technology-enabled services strategy that revolves around what we call the "Four Pillars", which are Digital Tools, our Surface Technology, and Network of Experts, and our Tailored Supply Chain. Next, I'll invite four of my colleagues to explain each of these to you. Our Digital Tools will be covered by Joe Werner, our Surface Technology will be summarized by Dr. TzuFang Huang, our Network of Experts will be described by Roberta Tonini, and our Tailored Supply Chain will be covered by Michael Wang. Afterwards, our AGS segment CFO, Michael Daly, will give you more insights into our business model. Now, Joe, it's over to you.

Services Master Class

PREPARED REMARKS | September 22, 2022

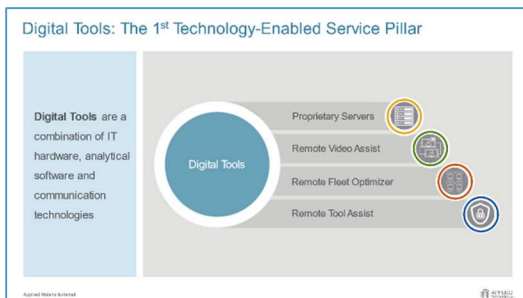


JOE WERNER | Vice President, Applied Global Services

Thank you, Jeremy.

I'm Joe Werner. I've been with Applied for 22 years and have been in fab operations for most of my career, including 11 years on-site at various customer sites. Today, I lead service business units for a number of Applied systems businesses, including CVD, CMP, and implant.

We use the term "Four Pillars" to describe the technologies we offer exclusively to our subscription customers. The first is what we call our Digital Tools. Digital Tools are a combination of IT hardware, analytical software, and communications technologies used by our field service engineers to optimize and maintain tool performance for our subscription customers around the world.



Our key digital tools are our proprietary servers, remote video assist, remote fleet optimizer, and remote tool assist. I'll begin with our servers, which collect high-resolution data from millions of proprietary sensors across the Applied Materials tool fleet. The data feeds our analytics engine, which produces equipment health monitoring dashboards and tailored service reports. Our engineers can access the servers over secure, remote connections to view equipment health monitors, measured tool output efficiency, observe variabilities in fleet performance, view and optimize preventive maintenance schedules, and diagnose issues. The server also performs communications functions. It instantly notifies

Services Master Class

PREPARED REMARKS | September 22, 2022



our service engineers of any alarms and warnings and allows important dashboards to be accessed using mobile devices. The analytics that drive our dashboards and service reports are shaped by our deep equipment knowledge and years of learning from the world's largest installed base of advanced tools. Our reports drive service recommendations that reduce on scheduled equipment downtime and optimize output for our subscription customers. In fact, we now have more than 5,500 connected tools in over 130 customer sites worldwide.

Applied Servers Connect Engineers to Analytics

Applied Fleet	Applied Servers	Applied Customer Engineers
<ul style="list-style-type: none">~42,500+ tools in the field1,000s of processes300+ sensors per chamber	<ul style="list-style-type: none">>5,500 tools connected to field servers>1PB of feature data per tool per year	<ul style="list-style-type: none">7,200+ certified experts1,200+ global locations~400 a/c services

The advanced analytics engine that drives Applied's dashboards and service reports are shaped by our deep equipment knowledge and years of learning

Next, remote video assist is an augmented reality platform that includes AR/VR headsets and an interactive remote meeting platform that connects local service engineers to our global Network of Experts. The platform allows experts at multiple locations to see what the local service engineer is evaluating in real time and interact with the engineer to quickly diagnose and solve issues. The remote experts can direct the engineer's attention to key system components and bring technical drawings and procedures into the engineer's field of view. The technology enables engineers to perform complex procedures on new products that they may have been less familiar with, and it speeds their training. For our subscription customers, remote visual assist reduces unscheduled downtime. In fact, the technology's been extremely invaluable during the pandemic by eliminating quarantine-related delays that would've been needed to bring our experts on site to assist with complex set-ups and repairs.

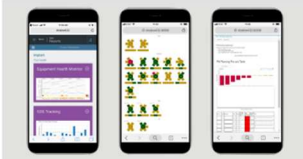
Remote Video Assist Connects Experts

Remote video assist enables Applied's global network of experts to deliver augmented reality (AR) visual support to local service engineers, reducing barriers like location, travel restrictions and time in order to reduce unscheduled down time

Next, our remote fleet optimizer monitors the performance of a customers' tools and enables us to track key metrics like wafer output, time between maintenance, maintenance downtime, and preventative maintenance success. We use the tool to identify performance improvement goals at the beginning of a service engagement, and to track our progress throughout the agreement period. We can analyze

particular tools, or even any customer's entire fleet to produce detailed scorecards that help customers benchmark their performance. The proactive approach we take increases our customer's return on investment and is key to growing our subscription business and achieving high renewal rates. The remote fleet optimizer has helped customers improve preventative maintenance outcomes by up to 2X. Reduce preventative maintenance variability by 75%, increase equipment availability by 13%, and increase fab output by hundreds of thousands of wafers per year.

Remote Fleet Optimizer Connects Engineers to KPMS



- 2x increase in preventative maintenance outcomes
- 75% reduction in preventative maintenance variability
- 13% increase in equipment availability
- Hundreds of thousands of wafers per year in increased output

Remote fleet optimizer monitors the key performance metrics of individual tools and entire fleets

APPLIED MATERIALS EXTERNAL

Finally, our remote tool assistant enables our service engineers to securely access customer tools from remote locations. Users can monitor operating status in real time, review event logs, adjust tool parameters, and recover from minor errors. Earlier, Jeremy described the value of time during transfer, matching, and ramp. We use remote tool assist to verify recipe matching and hardware fingerprinting to match tools across fabs. In one recent project, we use remote tool assist to overcome pandemic quarantine and travel delays and accelerate a customer's ramp by 17 days.

Remote Tool Assist Connects Tools to Experts



Access to on-site server and tool data is fully controlled by customers to maintain data security and protect IP

Secure Protocols

Remote tool assist allows users to monitor operating status in real time, review event logs, adjust tool parameters and recover from minor errors

APPLIED MATERIALS EXTERNAL

Thank you for listening. And now, TzuFang will discuss our surface technology capabilities.

Services Master Class

PREPARED REMARKS | September 22, 2022



Technology-Enabled Services: The "Four Pillars"

Digital Tools Joe Werner Vice President Applied Global Services	Network of Experts Roberta Tonini Senior Director Applied Global Services
Surface Technology TzuFang Huang, Ph. D. Senior Director Applied Global Services	Tailored Supply Chain Michael Wang Senior Director Applied Global Services

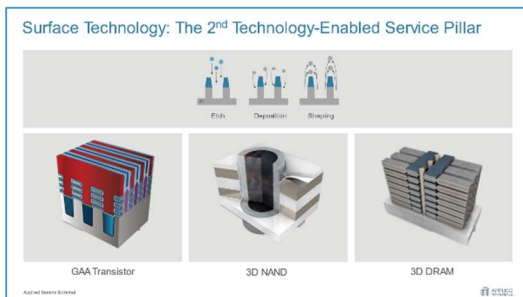
Applied Materials External

DR. TZUFANG HUANG | Senior Director, Applied Global Services

Thank you, Joe.

My name is TzuFang Huang, and I've been with Applied for 24 years, including more than 10 years in chemical vapor deposition technology.

The second pillar of our technology-enabled services strategy is called Surface Technology. Wafer processing steps like deposition and etch involve exacting process recipes that are designed to produce films and structures with near atomic-level precision. The physical and chemical processes involve exotic materials and materials combinations and with each generation, we push the boundaries of material science.



Within the process chambers, conditions can be very harsh, with enormous fluctuations in energy, temperature and pressure. Despite these challenges, customers need to achieve nearly perfect results, with minimal variations across each wafer, and from wafer to wafer, over weeks or even months of continuous operation. They especially need to minimize impurities and particles which reduce yield. They also need to keep their tools running for as long as possible between maintenance cycles, and they need expensive parts to last as long as possible before they are recycled or replaced. After each maintenance cycle, customers need to return their systems and chambers to precise and pristine operating conditions and resume high wafer output as quickly as possible. Because of these challenges, surface technology is one of the foundational pillars of our technology-enabled services strategies and one of the reasons we have been successful in transitioning more of our services and parts business from transactions to subscriptions.

Services Master Class

PREPARED REMARKS | September 22, 2022



Maintaining Chambers for Maximum Output & Yield

Chamber maintenance includes minimizing impurities and particles that reduce yield, as well as cleaning and restoring parts to pristine condition

Applied Materials Center

Our team uses specialized science to study a wide variety of materials interactions, both physical and chemical, involving solids, liquids, gases and plasmas. We use this knowledge to choose and tailor the chemical composition of all the surfaces that can affect process outcomes. We take a holistic approach to selecting the materials used in our systems, parts and coatings. Our work includes materials evaluation, characterization, and selections using the state-of-the-art metrology and testing. We optimize process parameters, maintenance intervals, and service procedures to give customers the best materials engineering outcomes and fab economics.

Engineering Surface Chemistries

Surface engineering involves characterizing the chemical, electrical and mechanical properties of materials

Applied Materials Center

Our cleaning and coating processes and chemistries are proprietary, and, in some cases, patented. Traditional cleaning techniques can erode surfaces and reduce lifetimes. We often use selective materials removal chemistries that allow parts to be recycled many times over.

Specialized Cleaning Restores Parts to Applied Specifications

Cleaning and coating processes and chemistries are proprietary -- and in some cases patented

Applied Materials Center

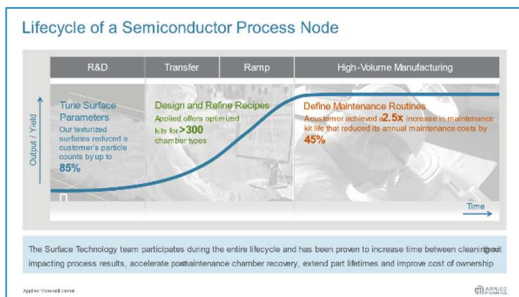
Services Master Class

PREPARED REMARKS | September 22, 2022



Our work even extends to packaging. Our Surface Technology team participates during the full lifecycle of the customer's process node. We engage early on with customers using R&D systems. We tune surface parameters for different device types, like logic and memory. We help design and refine each recipe, looking to speed time to market and give customers a reliable and economical maintenance routine for the life of the node.

Our Surface Technology expertise has resulted in many benefits for our subscription customers. In one engagement, a customer achieved a two and a half times increase in maintenance kit life that reduced their annual maintenance costs by 45%. In another engagement, our texturized surfaces reduced a customer's particle counts by up to 85%, resulting in a \$2 million saving in their PVD module. More broadly, our Surface Technology has been proven to increase time between cleaning without impacting process results, accelerate post-maintenance chamber recovery, extend part lifetimes and improve cost-of-ownership. The end result is that our Surface Technology has helped AGS sign more post-warranty subscription agreements and more service agreement renewals.



Thank you for joining us today. And now, Roberta Tonini will discuss our Global Network of Experts. Roberta?

The slide features a central image of a person in a cleanroom suit. Surrounding this are four pillars of service, each with a representative's photo and title: Digital Tools (Joe Werner, Vag President), Network of Experts (Roberta Tonini, Senior Director), Surface Technology (TzuFang Huang, Ph.D., Senior Director), and Tailored Supply Chain (Michael Wang, Senior Director).

ROBERTA TONINI | Senior Director, Applied Global Services

Thank you, TzuFang.

I'm Roberta Tonini, a site operation director for AGS, based in Milan, Italy. I've been with Applied for 12 years.

Our first mission is to make our system businesses successful in helping our customers solve their highest value problems. To do this, we have built a large and highly skilled population of engineers across many disciplines. Our network includes material scientists, industrial engineers, process engineers, yield management experts, and IT engineers spanning computing, networking, communication and software, including AI.



Our global network of experts has become a foundational capability for our growth. Over many years, we have collectively solved many difficult problems, and this is giving us the confidence to take on higher levels of responsibility for our subscription customers. We are on site with our customers in more than 1,000 locations around the world, and we participate from the first R&D tools installation all the way through optimizing the highest volume manufacturing operations. Our team draws on decades of accumulated knowledge of process technology, equipment, parts, yield management and operations. This experience informs the propriety knowledge basis and practices we draw on to help our subscription customers. It is why we believe we can deliver better outcomes to customers who choose our multi-year service agreements.



Services Master Class

PREPARED REMARKS | September 22, 2022



Next, I'll describe how we form multidisciplinary teams to help customers with specific objectives. Our teams accept and track goals that emulate the milestones and metrics our customers use in their fabs to accelerate progress and maximize return on investment.



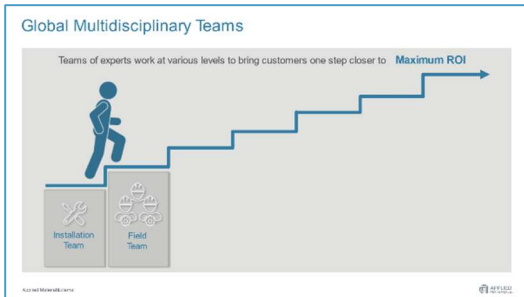
Our install teams are focused on accelerating time to market, which is critical for our customers who are going after high volume wafer manufacturing commitments that come with exacting schedules. The stakes are incredibly high. Our install engineers ensure that every system and chamber we ship meets or exceeds industry leading cycle time for installs.



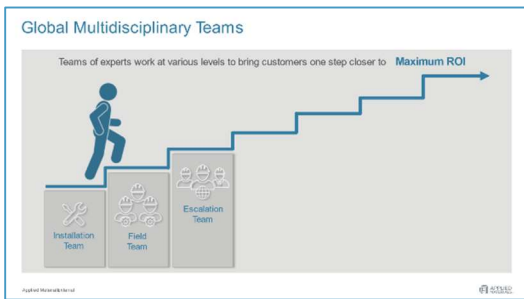
Next, our field engineers are responsible for maximizing tool performance and uptime. They work closely with our customers' engineers to service equipment as quickly as possible without compromising quality and safety. A good analogy is Formula One racing. Formula One cars are very high performance, sophisticated and expensive, and winning the race is extremely valuable. You need to have pit stops to stay in the race, and you need the fastest possible pit stops to win the race. A decade ago, a Formula One pit stop took 13 seconds. Compare that to a pit stop today. This is a world class feat of data science and engineering. This is the mindset our field engineers bring to the job, because the stakes of our customers are even higher.

Services Master Class

PREPARED REMARKS | September 22, 2022



Next, our escalation support team is a global network of the world's best experts in particular tools and process technologies. The team is on call to help our onsite field engineers quickly diagnose and solve new and difficult problems. In these engagements, we make extensive use of the digital tools Joe described.



Next, we have our software engineers. Our tools are highly automated with hundreds of digital sensors, high bandwidth communications, and sophisticated real time operating systems. A typical tool produces more than one petabyte of data per year. Understanding Applied equipment control software is a highly specialized domain.

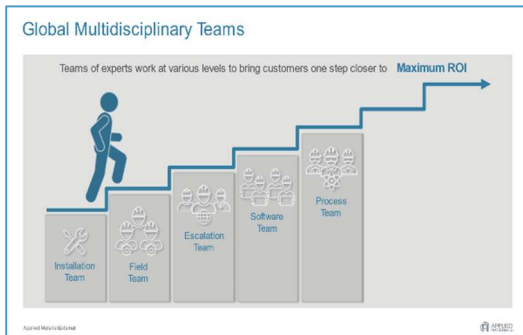


Services Master Class

PREPARED REMARKS | September 22, 2022



Next, our process engineers work with our customers to monitor and control their wafer fab processes. Our staff is made of experts in particular technologies, including metal and dielectric deposition and etch, as well as epitaxy, implant, anneals, CMP and process control.



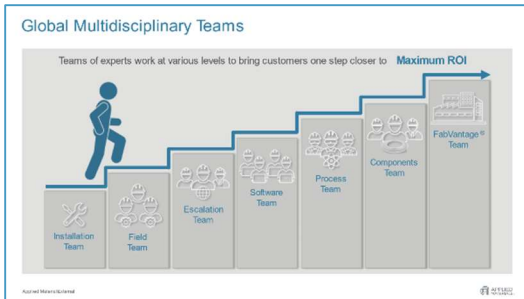
Next, our component engineers work to continuously develop and improve the parts used in our systems. Since parts are a consumable item, there is a pressure to keep the cost as low as possible. However, our component engineers have found many opportunities to design proprietary high-performance parts and coatings that last longer and thereby extended time between maintenance cycles, which gives our customers more output and revenue. Our engineers have also re-engineered parts in ways that reduce contamination and particles, and help our customers improve chip performance and power. These parts cost more and give us faster growth, yet they more than pay for themselves as measured by our customers ROI.



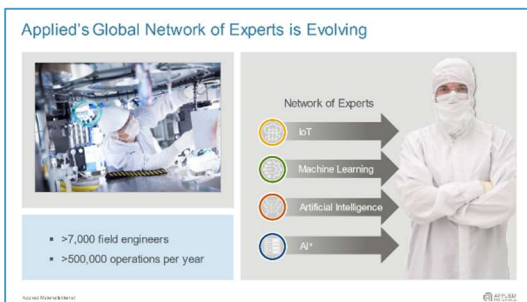
Finally, we have our FabVantage team. FabVantage engineers work at the fab level to identify opportunities to deliver high order outcomes for customers. They create service level agreements in high-leverage areas like wafer outputs, total cost-of-ownership and yield. And they create task forces with members from a variety of our teams to deliver these outcomes.

Services Master Class

PREPARED REMARKS | September 22, 2022



In summary, Applied's Network of Experts is one of the largest and most experienced fab management teams in the industry. Our engineers have more than 20 years of experience on average. Collectively, our network plans and executes more than half a million maintenance operations each year. Looking into the future, we have increased recruiting in the areas IoT, machine learning and AI. Applied's AIx platform is being incorporated into all of the new products we have. Over time, AI techniques will help our customers yield more advanced process technologies and enable our Network of Experts to service the fleet more efficiently and effectively. We believe this work will enable us to shift even more of Applied services and parts revenue from transactional to subscriptions.



Now, it's time for Michael Wang to describe the fourth and final pillar of our technology enabled strategy, which is our Tailored Supply Chain. Michael?

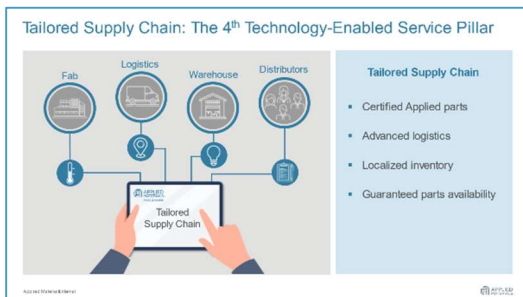


MICHAEL WANG | Senior Director, Applied Global Services

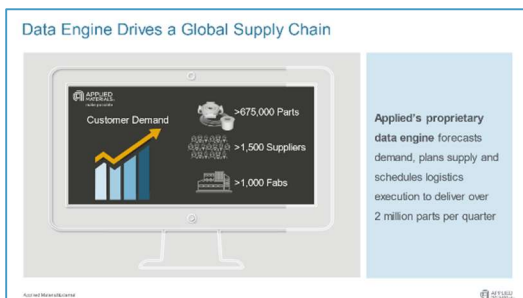
Thank you, Roberta.

Hello, my name is Michael Wang and I have been with the Applied Materials Taiwan for over 27 years.

The semiconductor industry has evolved and diversified a great deal during my career, and every customer has a unique demand profile for parts. In the next several minutes, I will describe the Tailored Supply Chain AGS has created to help give our subscription customers the parts they need, when they need them, to help keep their tools and fabs running around the clock. We have a large transactional parts business, but over time, more of our customers have shifted to parts subscription agreements, which benefit Applied and our customers both. This has been especially true during the pandemic.



I will start by giving you some statistics. Today, we manage a global supply chain of more than 675-thousand discrete parts. We source from more than 1,500 suppliers and ship over two million parts per quarter. Some parts are needed in very high volume, and some are needed only a handful of times each year. To manage this scale, scope and complexity, we have developed a proprietary data engine that forecasts demand, plans supply, and schedules logistic execution.



Next, I will discuss the importance of parts subscription agreements. Compared with transactional parts arrangements, subscriptions give us a window into the parts inventory and utilization at each Applied

Services Master Class

PREPARED REMARKS | September 22, 2022



Materials module of a customer's fab. This visibility gives us the ability to make high-quality forecasts that are not possible from one-off transactions. We combine this parts inventory and usage data with our equipment knowledge to forecast demand more accurately.



Next, I will summarize our parts distribution and sourcing network. We maintain three continental hubs and 35 regional hubs that serve 135 individual inventory locations, many in our customers' sites. Earlier TzuFang described the R&D we perform to develop and certify high-performance parts and coatings. We qualify our supplier using a 20-step certification process. And we use 35 individual measures to specify our parts refurbishment and cleaning service providers. During the pandemic, we deployed an advanced alerting system that tracked disruptive events that could impact our suppliers and even their input commodities. Thanks to these measures, even during the pandemic, we have been able to serve our parts subscription customers with on-time delivery of over 99%.

In summary, in growing our parts subscription business, customer acquisition is only half the battle. Retaining customers depends on supply chain performance. Our Tailored Supply Chain enables us to position to right parts, at the right place, at the right time to give our subscription customers higher availability and a higher return on investment.



Thank you for learning about all four pillars of our technology-enable service strategy. Now I will hand the meeting over to Michael Daly, who will describe our business model. Michael?

Services Master Class

PREPARED REMARKS | September 22, 2022



MICHAEL DALY | Corporate Vice President, Applied Global Services

Thank you, Michael.

My name is Michael Daly. I work in the corporate finance team as segment CFO for Applied Global Services. I've been with Applied Materials for 28 years. My focus is on partnering with the AGS Executive Team to help shape and achieve our long-term growth strategy. Today, I am delighted to share insights into our business model. I'll connect the messages you've heard earlier to the growth we've achieved in recent years, and the growth we expect to deliver throughout the 2024 financial model.

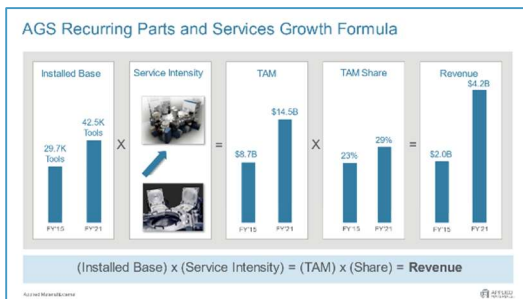
I'll begin by sharing the revenue we've generated in services, using data spanning fiscal 2004 through our guidance for fiscal 2022. You might notice that over the first half of this period, through 2013, revenue was relatively flat and fairly variable. The revenue growth CAGR was less than 2%. Since 2013, AGS has been a stable growth business. The revenue growth CAGR has accelerated to 12%, and the operating margin increase from less than 22% in 2013 to more than 30% today. This deserves an explanation. Through 2013, AGS was primarily focused on selling 200mm equipment, as well as delivering parts and services on an on-demand basis. Earlier, Jeremy described this as transactional parts and services. In 2013, under the guidance of Gary Dickerson, AGS brought in new leadership, and we changed our strategy. AGS increased its focus on generating recurring revenue with a special emphasis on long-term service agreements that better support our customer's needs and increase the lifetime residual value of each tool in the Applied Materials fleet. Jeremy described this as our subscription business.

Services Master Class

PREPARED REMARKS | September 22, 2022



Next, I'll detail the AGS growth formula. As Jeremy explained earlier, the total available market is the installed base times the service intensity. Our revenue is TAM times share. Our share can be expressed as our revenue divided by the TAM, or our revenue per tool divided by the TAM per tool. Our share is highest where we have subscription agreements. In fact, we are in over three times the revenue per tool, where we have comprehensive service agreements. So, our growth formula is installed base growth times service intensity growth times share growth, which is largely a function of service agreement growth.



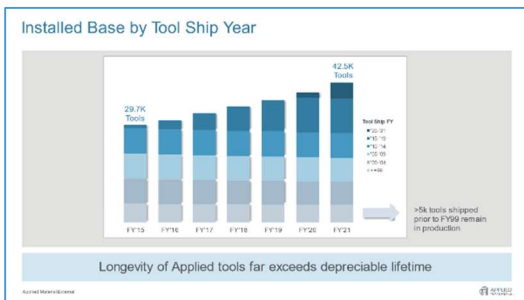
Now, I'll give you further insights into each of these growth drivers, beginning with the install base, and using the last seven full years of data to demonstrate the trend. You can see that we grew the install base at a 6% CAGR over this period, from around 29,700 systems to about 42,500. I think of each tool we ship as a lifetime revenue opportunity for AGS.

Services Master Class

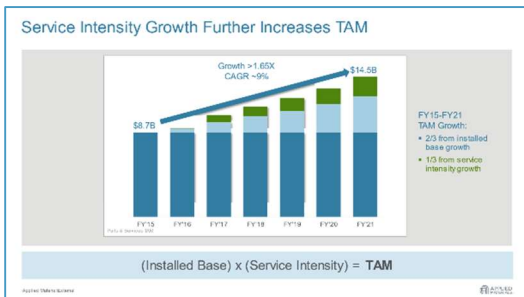
PREPARED REMARKS | September 22, 2022



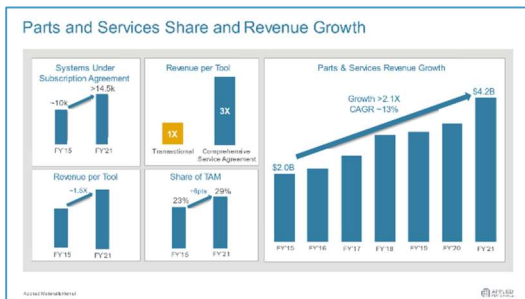
Here, I have partitioned the semiconductor installed base into age groups. You can see that the installed base still has over 5,200 tools that were shipped at least 23 years ago. This helps demonstrate that the longevity of our tool is far beyond the usual depreciable lifetime of the tool. Also, you can see that around 99% of the systems in each of the four oldest cohorts remained in production from one year to the next. Each of these tools is tracked, and each tool has a market for parts, along with preventative and corrective maintenance.



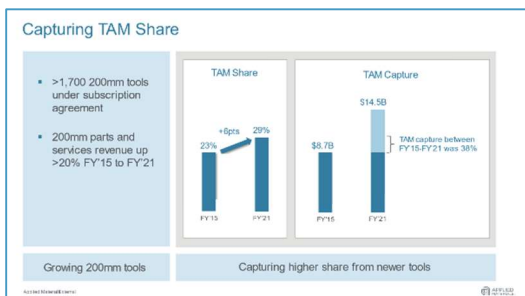
Next, let's look at service intensity. The installed base grew by 43% over this period, and the TAM grew by 67%. So around two thirds of the TAM growth comes from installed base growth, and about one third comes from service intensity growth.



Finally, I'll explain the share gains and resulting revenue increase. We've increased the number of systems under subscription agreement from around 10,000 in 2015, to over 14,500 in 2021. While we increased revenue per tool for both transactional systems and subscriptions, our comprehensive subscription agreements generate over three times the revenue per tool. Putting all of this together, we've increased our revenue per tool by nearly 50%. We've grown our recurring revenue at a 13% CAGR, increasing revenue by 110%, and we've grown our share of the TAM from around 23% to around 29%. One question I sometimes hear from investors is, "How much of the growing TAM can we hope to capture over time?" The answer is, it'll never be a hundred percent.



A major reason is that, as I showed you a moment ago, the installed base contains a large number of tools that are older and simpler. Still, we do have more than 1,700 200mm tools under subscription agreement, and we've grown our 200mm parts and services revenue by over 20% between 2015 and 2021. But since our customers already have solutions in place for many of these older tools, we don't think we can convert the entire installed base from transactional business to subscription agreements. Another question is, "Are we winning higher share from newer tools?" And the answer is yes. In fact, while our tool share of the TAM was 29% in 2021, our TAM capture between 2015 and 2021 was 38%. I believe there are at least four strong reasons why we continue to capture more of the opportunity.



One, it stands to reason that as tools and processes become more complex, Applied, as the original equipment manufacturer, and as a close technology partner to our customers, is in a great position to deliver the best parts and maintenance solutions to our customers. This goes to what TzuFang described

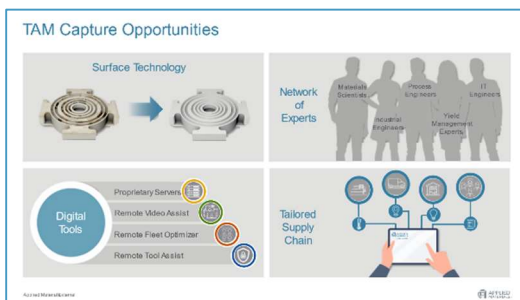
Services Master Class

PREPARED REMARKS | September 22, 2022



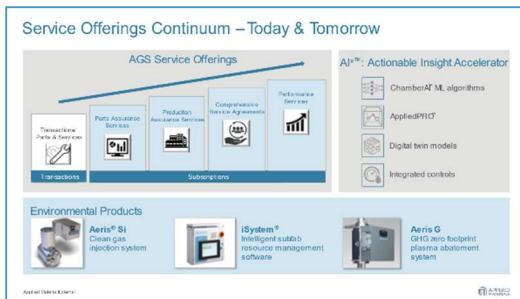
earlier with our Surface Technology, and it goes to what Roberta described earlier with our Network of Experts. Two, Applied has the industry's largest installed base, and we increasingly use data and analytics to understand what makes our systems perform better. You learned about this from Joe Werner, who described our digital tools, including our proprietary servers and analytics. We can help our subscription customers compare particular systems to best in class, and we can help these customers monitor their systems to predict when they will need preventative maintenance to avoid yield issues and unscheduled downtime. This is increasingly valuable. Three, the parts supply chain has become incredibly complex.

Following the COVID disruptions, and given the new trend towards fab regionalization, customers are more likely to invite AGS to manage their parts needs

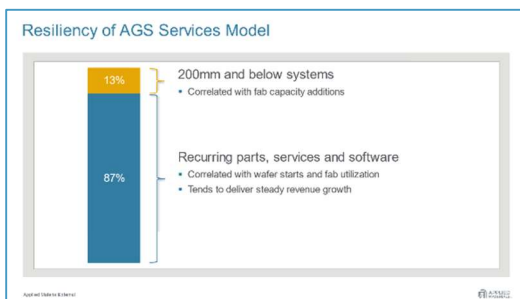


Four, is the economics and services continuum that Jeremy described. Fabs are becoming more expensive and maintaining high yields, high output, and equipment efficiencies are increasingly valuable to our customers. We believe the subscription offerings we're creating give customers a higher return on their equipment investments. Our most advanced services called comprehensive services come with assurances related to uptime and output improvements. As we demonstrate these benefits to customers, they invite us to deliver higher returns and share in the value we create.

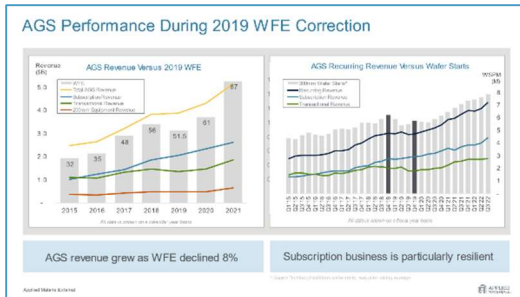
I'm also excited about the potential for new services that we can create in the future. Using our AIx technology, we are creating new kinds of services designed to accelerate R&D, transfer, and ramp. This can increase our service opportunity. Likewise, ESG. We are already beginning to help customers save energy and reduce the use of chemicals, including water, at the fab level, which can further increase our TAM. We'll update you on our progress in these areas over time.



Next, I'd like to talk about the resiliency of the AGS services model. As a reminder, about 13% of AGS revenue is from 200mm and below systems. This business is correlated with fab capacity editions. The other 87% of AGS revenue comes from recurring parts, services and software. This business is correlated with wafer starts and fab utilization, and it tends to deliver steady growth.

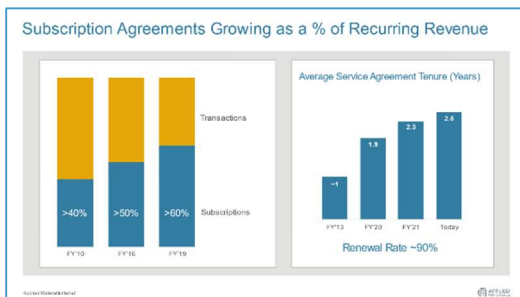


Next, I'd like to show you how AGS performed in the most recent WFE downturn, which was in 2019. This was a memory correction. In 2017 and 2018, memory was over 50% of WFE spending, which is rare. On the left side of the slide, you can see that, in 2019, WFE dropped by about 8% from around \$56 billion to around \$51.5 billion. You can also see that the AGS 200mm equipment business was relatively flat. This business primarily serves the ICAPS markets, which were more resilient than memory in 2019. On the right side, you can see that the wafer starts declined in 2019, driven largely by reductions in memory. But our overall parts and services business did not decline in 2019. The transactional portion of this business did decline by around 10% from Q4 of fiscal 2018, through Q4 of fiscal 2019. But this was partially offset by the subscription portion of our business, which grew by around 6% over this period. This history demonstrates that the transactional portion of our service business is more correlated with wafer starts than WFE, and that the subscription portion of our services business is especially resilient.



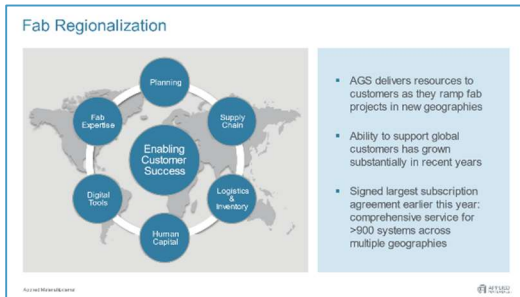
This brings us to the second dimension of the importance of growing our subscription agreements. Not only do we generate more revenue per tool, we also increase the resiliency of our business. Here, you can see our progress in shifting more of our parts and service revenue to subscriptions. Jeremy explained that we reached the 40% mark in 2010, crossed over 50% in 2016, and reached 60% in 2019.

Our goal is to continue to increase the subscription portion, which will help us increase our TAM share, and make Applied more resilient in future wafer fab equipment cycles. Another aspect of resiliency is the tenure of AGS subscription agreements. Back in 2013, when we changed our strategy, most of our agreements had one-year terms. The average tenure increased, and today it's around 2.5 years. One additional indicator we like to monitor is agreement renewal rates. In recent years, they have been in the 90% range, and most recently, they hit 93%.

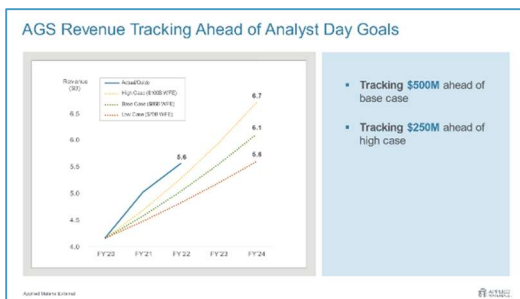


Next, I'll comment on the fab regionalization trend we expect to play out over the next several years, at least. The four pillars we described earlier can be a great asset to customers when they create new fab projects and new geographies, when they have fewer human resources and logistics capabilities. Instead of recruiting and training services personnel, and creating new supply chain relationships and inventory locations, they can rely on an AGS Network of Experts, Digital Tools, and Tailored Supply Chain. Today, we are already working closely with our customers on their fab network expansions, helping plan factories, organize human capital, deploy digital monitoring, and provide inventory support. These new engagements can help our customers accelerate projects, reduce execution risk, lower working capital requirements, and achieve better outcomes. Our ability to support global customers has grown substantially in recent years. In fact, earlier this year, we signed our largest ever subscription agreement,

which provides one of our customers with comprehensive support for over 900 systems across multiple geographies.



Next, I'd like to update you on how we are performing towards our AGS revenue targets. At the investor meeting last year, we laid out growth targets for fiscal 2024 in three WFE scenarios, a low case of \$70 billion, a base case of \$85 billion, and a high case of a \$100 billion. As you can see, we are achieving our low case revenue this year, which is two years early. We are tracking \$500 million ahead of our base case. And, we are trending \$250 million ahead of our high case, with two years left to go.



Next, I'd like to summarize the key performance indicators we measure with you periodically, to demonstrate our progress in growing a high-quality recurring revenue business. AGS recurring revenue is AGS revenue minus 200mm WFE. This indicator tells you how much of our revenue comes from parts, services and software, which are correlated with wafer starts and utilization rather than capacity additions. Recurring revenue under service agreements is a valuable indicator because subscription revenue is more resilient than transactional revenue. Next, knowing the installed base and the total available market help you model the total opportunity and the opportunity per tool.

Then, dividing the recurring revenue by the installed base demonstrates our revenue per tool growth. Next, knowing the number of systems under subscription agreement is valuable, because these systems generate higher revenue per tool. Then, the average length of subscription agreements and their renewal rates are good indicators of the strength of the agreements and the resiliency they lend to Applied. Next, the number of connected tools and remote connected tools are good indicators of customers' interest in

Services Master Class

PREPARED REMARKS | September 22, 2022



our digital tools, which are in the higher end of the service continuum and enable us to generate strong value for customers.

Finally, knowing the AGS backlog gives you a good indication of revenue stability into the future. This slide provides you with all of these KPI metrics for 2015, 2020 and 2021. We are likely to update you on our KPIs periodically, sometimes on earnings calls, and particularly at fiscal year end and investor meetings.

AGS KPIs

	FY15	FY20	FY21
AGS Recurring Revenue (Parts, Services, Software)	\$2.1B	\$3.7B	\$4.4B
Recurring Revenue under Subscription Agreement	47%	62%	59%
Installed Base	29.7k	39.7k	42.6k
Parts and Services Total Available Market (TAM)	\$6.7B	\$13.3B	\$14.5B
Recurring Revenue per Tool	\$70k	\$92k	\$103k
Systems under Subscription Agreement	10.0k	13.1k	14.6k
Average Subscription Agreement Length	~1yr	1.9yrs	2.3yrs
Subscription Agreement Renewal Rate	93%	93%	90%
Connected Tools		3.7k	4.7k
Remote Connected Tools		2.4k	3.4k
AGS Backlog	\$0.8B	\$2.6B	\$4.3B

Finally, I've often received questions about Applied services business compared to others. In reality, it's hard to make apples-to-apples comparisons, because companies include different kinds of revenue in their services business. We try to be very clear so that you can distinguish between recurring parts, services and software on the one hand, and non-recurring WFE on the other.

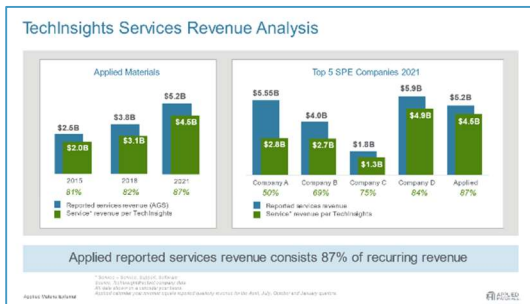
Fortunately, one of the third-party research firms, TechInsights, is providing apples-to-apples comparisons. To eliminate double counting, TechInsights subtracts reported WFE from company revenue to size what remains available for recurring parts, services and software.

TechInsights Revenue Reporting: WFE and Services

Total Rank	Company	WFE + Services (\$M)				Adjusted WFE **				Services *			
		2018	2019	2020	2021	2018	2019	2020	2021	2018	2019	2020	2021
1	Applied Materials	11,018	13,495	18,365	22,267	10,899	10,224	12,502	17,878	3,147	3,244	3,825	4,509
2	ASML	12,816	12,775	15,260	21,078	16,176	15,075	17,594	18,148	2,845	2,699	3,052	4,805
3	Lam Research	10,371	8,549	11,929	18,521	8,200	7,731	9,723	13,743	1,897	1,849	2,205	2,781
4	Tokai Electric	10,056	9,248	10,860	18,207	8,861	7,271	8,373	13,851	1,871	1,870	2,517	2,726
5	MLA	4,174	4,828	5,555	7,374	3,225	3,826	4,197	6,011	919	1,052	1,158	1,333
6	ROHM	2,716	2,290	2,189	2,727	1,949	1,823	1,771	2,254	368	377	418	503
7	Kioxia Electric	1,498	1,138	1,455	2,226	1,168	831	1,048	1,793	297	307	407	448
8	ASML International	997	1,361	1,514	2,661	774	1,020	1,168	1,663	250	241	317	381
9	Hitachi HighTech	1,363	1,490	1,682	1,587	1,128	1,192	1,258	1,181	237	329	454	383
10	Canon	765	692	804	1,043	669	563	712	881	97	129	142	162

As you can see from this analysis of the TechInsights report, Applied's reported services revenue in 2021, consisted 87% of recurring revenue. This is precisely consistent with what we have told you about AGS. AGS semiconductor revenue is recurring with the exception of all 200mm equipment revenue, including new and used equipment sales, upgrades and refurbishment. All of this is reported in TechInsights as 200mm WFE. All of Applied's 300mm system sales, upgrades and refurbishments, are reported to TechInsights as 300mm WFE, and the revenue is reported to investors in our semiconductor systems

segment. In short, the TechInsights research, which is available at no cost to investors, gives you a clean look at the recurring portion of equipment company revenue.



I want to thank you for listening to our presentation today. I hope you've learned a lot about our goals and strategies to create a large and growing recurring revenue business that makes Applied Materials more resilient across WFE market cycles. I hope you know how to think about the size and growth of the market opportunity, how much we're capturing today, how much more we can capture over time, and also some new opportunities we have to expand the TAM beyond traditional parts and services. I hope you like the KPIs we've outlined and know how to use them as we provide updates over time. And I hope you'll take advantage of third-party research to see how companies throughout the industry are growing recurring revenue streams, which will help make our customers more successful and make our industry more resilient in the future than the past. Now, I'm going to hurry over to my position at the Q&A Studio, where we look forward to taking your questions.

Key Messages

1. Applied Global Services is a mostly recurring (~87%) revenue business with a growing proportion (~60%) of subscription sales.
2. Large total available market opportunity (>\$14.5B) continues to grow each year.
3. Insights from the industry's largest installed base of advanced systems (~42.5K) and chambers (>175K) give subscription customer better outcomes.
4. Future growth opportunities emerging in time to market acceleration, environmental impact reduction and geographic expansion support.