Good afternoon everyone and thank you for joining Applied’s second quarter of fiscal 2022 earnings call. Joining me are Gary Dickerson, our President and CEO, and Brice Hill, 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 most recent 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 quarterly earnings materials, which are available on the IR page of our website at appliedmaterials.com.

Before we begin, I have a calendar announcement. Applied will host its next Master Class one week from today, on Thursday, May 26th at 9 o’clock Pacific Time. We’ll introduce you to new IMS solutions for chip wiring that solve the resistance challenges of EUV scaling. We’ll detail how the industry can build backside power distribution networks that increase logic density by up to 30% at the same lithography. We’ll introduce you to new developments in hybrid bonding and heterogeneous integration, and we’ll translate these inflections to our product roadmaps and growth targets. We hope you’ll join our technology experts for presentations and Q&A.

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

Thank you, Mike.

The global semiconductor industry and Applied Materials continue to navigate an unprecedented set of challenges. Demand for semiconductors has never been stronger or broader, while the industry’s ability to fulfill this growing demand remains constrained by on-going supply chain issues. I would summarize Applied’s second fiscal quarter of 2022 as a two-part story. During February and March, we successfully resolved some key component bottlenecks, only for this progress to be offset in April, as COVID-related shutdowns further disrupted already stretched supply. These shutdowns are impacting a small number of our suppliers and ultimately delayed around $150 million of revenue in the quarter.

Today, our number one priority is to work quickly and creatively across the supply chain to bring more industry capacity on-line. I would like to recognize the hard work and commitment of our global team, and our suppliers, who are doing everything possible to meet our customers’ needs.
In my prepared remarks, I’ll cover three key topics:

- First, the supply situation and how we see this evolving over the coming months.
- Second, the near-term demand environment and why we believe this remains strong and sustainable.
- And third, our long-term view of the markets, the industry’s roadmap, and Applied Materials’ unique and differentiated capabilities that together create a rich landscape of opportunities for our company.

After that, Brice will provide more color on our financial performance and share some of his initial impressions. Brice has been with us for eight weeks and we’re delighted to have him onboard. He brings deep and broad experience to our leadership team at this critical time for Applied and the industry.

SUPPLY

Let me begin with the supply-side of the equation, which is our biggest area of focus in the near-term. The supply situation continues to present multiple challenges that we are working hard to address. Our key issues are shortages of silicon components, as well as certain other parts, that go into the sub-systems of our tools. We are doing whatever it takes to deliver for our customers, from sending Applied resources to supplier sites, qualifying alternative parts, investing in our supply chain, to working with customers in creative ways to accelerate shipments, including merging system modules at their sites. In addition, we are collaborating with customers using our technology-enabled services to fast-track the start-up and qualification of equipment once it arrives at their fabs. For reference, if you map out a typical timeline, starting with the shipment of a tool from our factory and ending with the first production wafer-out in the customer’s factory, the time to install and qualify tools for high volume production can take months. We are seeing strong customer pull for new ramp acceleration services to cut down that valuable time significantly.

A positive consequence of our current challenges is that our supplier engagements are becoming much stronger. Not only are we partnering with our suppliers to overcome near-term constraints, we are also building more robust solutions to support industry growth over the coming years. As we focus on the needs of our customers by addressing parts scarcity, expediting deliveries, and adding labor in our factories and the field, we are incurring additional costs that are impacting Applied’s near-term financial performance. As issues are resolved and we implement effective long-term solutions, transitory cost headwinds will abate. We are also taking actions to improve value capture, including price adjustments.

2022 AND 2023 DEMAND OUTLOOK

Turning to the demand-side of the equation, our outlook remains positive. The picture for 2022 is clear. We have the orders booked, a full build plan and a large and growing backlog. We believe unconstrained demand for wafer fab equipment would be $100 billion or more. The key question is how quickly supply issues can be mitigated and how much the industry will actually be able to ship this year.
The primary focus for our customers is now securing supply for 2023. The visibility our customers are providing is both longer-term and more detailed than in the past. On this basis, we currently see 2023 remaining strong and being higher than 2022. There are several additional factors that give us confidence in this assessment. First, end demand for silicon continues to grow, driven by content growth in existing and new applications. Second, fab utilization is very high even as newly installed capacity comes online. Based on almost 10 years of analytics, this is the highest quarter for industry utilization on record. And third, customers are starting up new capacity faster than ever. Essentially all tools are being installed by our Applied Materials’ service team as soon as they arrive at customer fabs, which we have not seen before.

As we think about demand sustainability, we also take into consideration the broad-based composition of wafer fab equipment spending. In 2022, we expect foundry-logic to make up more than 60% of total WFE investments. This spending will split relatively evenly between the most advanced nodes and ICAPS – production for the IoT, Communications, Automotive, Power electronics and Sensors markets.

ICAPS demand has grown significantly over the past several years and we see sustainable investment by these customers. The edge applications are consuming more and more silicon. One example is automotive, where the global average silicon content is now $600 per unit – almost twice as much as in 2015 – and this will continue to grow with the adoption of electric vehicles. Another example is a 5G phone that has 40% more RF content than a 4G handset. The need for extreme power efficiency in battery-powered edge applications is enabled by innovation in materials and structures and is driving an increase in layers and process steps. Over the longer-term, advanced packaging and heterogeneous integration also support sustainable demand for ICAPS nodes, as chip designers can use the optimal node for power, performance and cost for each ‘chiplet’ in a system.

ICAPS customers are more focused on innovation than ever and we are meeting these needs with new application-specific products. One example is in Implant where, over the past five years, we have introduced 10 new systems developed for specific ICAPS applications.

**GROWING LONG-TERM OPPORTUNITIES**

While navigating near-term challenges remains our top priority today, we are not losing sight of the bigger picture and long-term opportunities. It’s now consensus within the industry that there is a clear path to a trillion-dollar semiconductor market before the end of the decade. That would represent a high single-digit compound annual growth rate from where we are today. In other words, it took the industry more than five decades to reach half a trillion dollars of annual revenues, and we will add another half trillion within the next six to eight years.

We feel even better about where Applied Materials sits within the eco-system. Because technology complexity is increasing, we expect equipment intensity will remain at today’s level or increase further over that period. As a result, WFE will grow inline or faster than the overall semiconductor market. Then within equipment spending, major technology inflections are enabled by materials engineering, shifting more dollars to our available market over time.
We describe the industry roadmap that will deliver future improvements in performance, power and cost of semiconductor devices as the PPACt playbook. While different companies have their own version of the PPACt playbook, the fundamental components of the roadmap are the same: New architectures, new 3D structures, new materials, new ways to shrink and advanced packaging. Within each of these five pillars, clear technology inflections are emerging that can be quantified in terms of impact, value and timing.

At our recent Masterclass, we described the industry’s transition from FinFET to Gate All Around – which is a new 3D structure. Applied has the broadest portfolio of solutions to enable next-generation transistor technology. With the Gate All Around inflection, the total available market for our transistor product portfolio grows by more than 15%. Based on our Tool of Record positions, we expect to increase our share of that available market by more than five points and, in terms of timing, we expect to start ramping shipments next year.

In our next Masterclass at the end of the month, we’ll talk about wiring and chip integration innovations. Contact and interconnect are both major focus areas for our customers as they develop new materials and new 3D structures including backside power distribution networks. Between the 7nm and 3nm node, contact metallization steps are growing more than 50% and our total available market is expanding almost 80%. For interconnect layers, process steps are being added even faster and we expect our revenue opportunity to approximately triple. We’ll also provide an update on our momentum in advanced packaging. At the Investor Meeting a year ago, we said we expected to double our packaging revenue between 2020 and 2024. Today, we believe we are on track to hit our 2024 packaging revenue goal one year early by winning more than 60% share of our served market.

Beyond equipment, we are delivering and capturing more value with advanced services. Facing both supply constraints and record fab utilization, customers are seeing significant benefits from using our proprietary parts management and service agreements. We see this reflected in our results, as AGS delivered record revenue in the quarter, up 15% year-on-year.

SUMMARY

Before I hand the call over to Brice, I’ll quickly summarize:

Semiconductors are the building blocks of the modern world, making them more strategically and economically important than ever. Today, the entire industry is working hard to keep up with the world’s rapidly growing consumption of silicon. Demand for Applied’s products and services is strong, sustainable and broad-based. We anticipate our ability to fulfill this demand will remain constrained by on-going supply chain challenges in the near-term, with incremental improvements beginning in our fourth quarter. Our number one priority is to continue working collaboratively with customers and suppliers to bring more industry capacity on-line. We are making progress in key areas, although it is not yet visible in our results. Longer-term, we see incredibly exciting opportunities as secular trends create opportunities for Applied to outgrow the semiconductor market by enabling the PPACt roadmap with our differentiated portfolio of materials engineering solutions.

Now, I’ll hand the call over to Brice.
Thank you Gary.

First, I want to thank the Applied Materials team for such a warm welcome. Across the company, in manufacturing, R&D, the business units, operations and functions, people have shared their enthusiasm for the business and invested in helping me get quickly up to speed. The company’s dedication to its mission and its customers is tangible in every setting, and I’m thrilled to be included.

I’ve been working in the industry for almost 30 years now, and being new to Applied, I’ll share a few of my observations so far. For most of my career, semiconductor technology advanced almost like clockwork, and became the engine of global economic growth and productivity. We all knew the playbook. Looking to the future, the semiconductor roadmap is fundamental to rapid advances and competitive differentiation in all fields, including healthcare, transportation, and education, where we will leverage massive data collection and analysis, and do so using less energy and resources. But today, many people are concerned that the growth and benefits we envision are at risk because the traditional playbook has stalled, making progress more difficult and uncertain. Applied focuses on exactly this problem, working closely with its customers to identify and invest in the materials innovations we need to create a new playbook and a new roadmap and enable higher semiconductor performance, lower power consumption and lower cost. So it feels great to be a part of this team and this important mission!

Now, I’ll share three of my first impressions. First, the company is highly execution-focused. The team has used its in-depth understanding of the global semiconductor ecosystem to battle almost daily challenges with chip and component availability. The manufacturing teams have been flexible and relentlessly hard working to deliver for customers in a way that inspires my confidence that we will resolve these issues. Over time, I’d like us to smooth out the heavy quarter-end production schedules to make us less vulnerable to supply disruptions. Second, Applied’s roadmap extends well beyond the emerging technologies we are talking about today and this gives me confidence in the industry’s ability to continue to drive performance, power and cost for many generations into the future. When I was on the customer side, I didn’t realize just how much capability there is. Third, the business is highly efficient in terms of capital intensity and operating spending. It’s a great model with an excellent return on invested capital. I am excited to work with Applied’s investors and analyst community, and I hope to meet many of you in the near future.

On today’s earnings call, I’ll provide more context on Applied’s financial performance, position and outlook, and emphasize three key messages:

- One, demand is very strong, both in the short term and long term.
- Two, we are supply chain constrained, but we are poised for growth as the situation improves.
- And three, we are confident in the future of the industry and increasing our capacity to support the growth we and our customers see ahead.
Q2 RESULTS

Now, I’ll summarize Q2 results. First, we generated revenue of $6.25 billion, which was up 12% year-over-year. However, revenue was 2% below the midpoint of our guidance because a COVID lockdown in a key region resulted in factory and shipping closures for a number of our suppliers. To size the impact for you, if the COVID shutdowns had not occurred, we would have exceeded the midpoint of our revenue guidance.

We met our non-GAAP gross margin target of 47% which was down 70 basis points year-over-year as the higher input costs we have been experiencing flowed through inventory and into our revenue shipments. We increased non-GAAP operating profit dollars by 8% year-over-year to $1.91 billion, benefiting from revenue growth. Operating margin of 30.6% decreased 110 basis points year-over-year, due to higher R&D and infrastructure spending. We grew non-GAAP earnings per share by 13.5% year-over-year to $1.85 which was 5 cents below the midpoint of guidance due to the supply chain constraints.

Operating cash flow declined to $415 million in Q2 because shipments were back-end weighted during the period and because we increased raw material and work-in-process inventory. Year to date, operating cash flow as a percent of revenue was in-line with our historical performance. During the quarter, we returned over $2 billion to shareholders, deploying $1.8 billion to repurchase 15 million shares of company stock and paying $211 million in dividends. During the quarter, we announced a new, $6 billion stock buyback authorization and increased the dividend by 8.3%, marking our fifth consecutive annual dividend increase.

SEGMENTS

Next I’ll summarize our segment results. We continued to generate strong orders in Q2 in both Semi Systems and AGS. Our backlog continues to grow, and we have visibility from our customers extending into 2023 and beyond.

Our Semi Systems revenue grew 12% year-over-year but was about 3% below our expectation due to the COVID-related supplier shutdowns. Semi Systems non-GAAP operating margin declined 200 basis points year-over-year due to increases in manufacturing costs and R&D program spending.

In AGS, our teams went to extraordinary lengths to keep customer factories running at high utilization, which was particularly difficult in the regions impacted by COVID lockdowns. We delivered record revenue and exceeded our segment revenue guidance, growing 15% year-over-year. We also increased our non-GAAP operating margin by 70 basis points year-over-year. The ability of AGS to deliver sequential growth in Q2 demonstrates the recurring nature of Applied’s services business. As a reminder, around 87% of AGS revenue comes from services, parts and software, and this strong services mix enabled AGS to grow despite the supply chain disruptions affecting wafer fab equipment.

Our strategy is to grow the subscription portion of our services business which gives us predictable revenue, brings us closer to our customers, and generates over three times the revenue per tool. I’ll share some of the metrics we use to gauge our progress.
In Q2, the Applied Materials installed base grew by 8% year-over-year and is over 40,000 systems. The systems under subscription agreement grew by 11% year-over-year to over 15,000. The average tenure of our agreements grew from 2.3 years last quarter to 2.5 years in Q2 and the subscription renewal rate was 92%.

Next, our Display revenue was at the midpoint of our revenue guidance, up 2% year-over-year and we increased non-GAAP operating margin by 390 basis points year-over-year. Recently however, there has been weakness in consumer demand for products like smartphones, PCs and TVs. As a result, Display equipment demand has softened, and we are making adjustments to our revenue outlook and curtailing our spending in line with the demand environment. We will manage the business with the goal of maintaining healthy cash flow even at lower levels of revenue and operating margin.

LONGER-TERM OPPORTUNITY

Next, I’ll address how we are preparing for our longer-term growth opportunity. Today, we are working with our customers using much longer planning horizons and receiving better long-term visibility. We are working closely with our supply chain partners to remove bottlenecks and increase capacity and we are adding incremental capacity at our R&D and manufacturing sites to increase longer-term efficiency and output. As a result of these efforts, we expect to achieve a more robust supply chain and manufacturing capability along with deeper strategic relationships with our customers and suppliers.

Q3 GUIDANCE

Now, I’ll turn to our guidance for Q3. We expect revenue to be $6.25 billion, with a wider range of plus or minus 400 million. We expect non-GAAP EPS to be around $1.77 plus or minus 18 cents. Within this outlook, we expect Semi Systems revenue of $4.48 billion, a number that is well below demand and assumes the supply chain constraints will persist during the quarter. We expect AGS revenue of $1.43 billion, up 11% year-over-year, and Display revenue of $310 million. We project non-GAAP gross margin of 46%, non-GAAP opex of $1.06 billion and a non-GAAP tax rate of 12%.

GROSS MARGIN

Finally, I’ll comment on our gross margin outlook beyond Q3. We expect to gradually increase our gross margins beginning in Q4 through a number of actions that include pricing adjustments, manufacturing cost reductions, logistics improvements, and product reengineering. Over time, as the supply chain recovers, we expect a number of transitory costs to abate and to ship higher volumes and a richer product mix. We are fully committed to achieving our longer-term gross margin targets.

SUMMARY

In summary, our demand outlook is very strong in the short term and in the long term, and we are investing to further strengthen our strategic customer relationships and drive profitable growth and shareholder returns.

Mike, please begin the Q&A.