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Teradyne
4Q24 Earnings Call Prepared Remarks
January 30, 2025

Traci Tsuchiguchi, VP Investor Relations
Thank you, operator. Good morning everyone and welcome to our discussion of Teradyne's most recent financial results. I'm joined this morning by our CEO Greg Smith, and our CFO Sanjay Mehta. Following our opening remarks, we'll provide details of our performance for the fourth quarter and full year of 2024 and our outlook for the first quarter of 2025. The press release containing our fourth quarter results was issued last evening. We are providing slides as well as a copy of this earnings script on the investor page of the Teradyne website that may be helpful in following the discussion. Replays of this call will be available via the same page after the call ends.

The matters that we discuss today will include forward-looking statements that involve risks that could cause Teradyne's results to differ materially from management's current expectations. We caution listeners not to place undue reliance on any forward-looking statements included in this presentation. We encourage you to review the Safe Harbor statement contained in the slides accompanying this presentation as well as the risk factors described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2023 on file with the SEC. Additionally, these forward-looking statements are made only as of today.

During today's call, we will refer to non-GAAP financial measures. We have posted additional information concerning these non-GAAP financial measures, including reconciliation to the most directly comparable GAAP financial measures, where available, on the investor page of our website. We hope that you plan to join us for our financial analyst meeting, which will be webcast beginning at 1pm ET on March 11th, 2025.

Following Greg and Sanjay's comments this morning, we'll open up the call for questions. This call is scheduled for one hour.
Greg?

Greg Smith, CEO
Thanks Traci and thank you all for joining us today. I'll start off by summarizing our fourth quarter and full year 2024 results and provide some context for our initial view of 2025. 'll then provide the context around our updated mid-term earnings model. I'll describe the trends that we expect to drive the markets and Teradyne's strategy to drive highly leveraged earnings growth through the mid-term. Sanjay will then go into greater financial detail on all of these topics.

Our fourth quarter came in at the high end of our guidance range as trends we noted previously continued through the end of the year. Cloud AI has been the dominant driver of our Semiconductor Test business, and we have seen some short-term improvement in the Mobile space, driven by supply chain shifts in our customer base. In Industrial and Automotive, our fourth quarter benefited from customer-specific equipment purchases. Strength in our Test business more than offset the continuing weakness in the industrial automation market which impacted our Robotics business.

In 2024, after two years of semiconductor test market declines, our SOC and Memory test revenue grew 17% year-over-year, excluding DIS. AI was the dominant driver of our growth, specifically custom AI Accelerator ASICs, Networking and HBM DRAM.

We have previously described a class of customers called VIPs, or Vertically Integrated Producers. We use this term because these customers develop custom silicon to provide differentiation in their end products, whether they are phones, cars, or Cloud AI computing. In the first half of 2024, we saw VIP strength for Edge AI in Automotive. In the second half, strength was driven by Cloud AI compute VIP customers.

Our goal in 2024 was to achieve a 50% market share in Computing VIPs, and we believe that we achieved that goal. This is particularly notable because much of the VIP test demand in 2024 came in the form of upgrades to systems left underutilized by the weak mobile market. If this demand had come in the form of system sales, our 2024 VIP revenue would have been more than double what we recognized in the year.

At the company level, we grew 5% in 2024. If one excludes the divestiture of the DIS business, our total revenue growth was 8%. We grew earnings per share by 10% year-over-year and generated over $470M in free cash flow.

Our full year financial results reflect an inflection in our business, both in terms of semiconductor test cyclical recovery, but more importantly, a successful pivot to diversify our customer base and reduce customer concentration. In the 2020 and 2021 timeframe, our business was dominated by mobile with high customer concentration in that market. Back then, we were highly exposed to Mobile in SOC, Memory and Wireless test.

Now in 2024, the Compute end market was a larger component of our revenue than Mobile as our SOC business in the Compute market grew more than three and a half times the prior year. We have been investing to capitalize on the secular shift towards VIP ASICs and that yielded roughly 50% share in what we believe was around a $300M TAM in 2024. We have seen growth driven by our historical strength in the networking space. And we see opportunities in System Level Test for AI Compute. The pivot we have executed in SOC over the past couple of years is remarkable. In 2023, 11% of our SOC product revenue was in Computing and 51% was in Auto/Industrial. In 2024, 34% was in Compute and 34% was in Auto/Industrial – a balance that underpins our longer-term model.

Recent advancements in AI Inference, which appear to reduce the cost and time to develop AI applications, may be a catalyst to accelerate Edge AI development. We think this could directly benefit the markets where we have historical strength – Mobile and Automotive. It's early days, but we believe that the lower cost, lower power, and faster time-to-market AI solutions, can drive complexity growth and increased unit demand at the Edge, which are key inputs for improving demand for test equipment.

Looking forward to 2025, we expect the SOC TAM to continue to grow, roughly 7% year over year. While some of this growth is driven by AI Compute, we expect a modest recovery in Mobile, Automotive and Industrial in the back half of the year. We believe that we are positioned to gain share in the low single digits in SOC test.

Now shifting gears to memory. In 2024, our Memory business grew to over $500M, up 30% year-over-year. Strength in the market and our growth was fueled by AI Compute demand for HBM DRAM. In the second half of 2024, we were qualified for HBM performance test at a major memory supplier. Our higher throughput and forward compatibility created competitive differentiation, enabling us to capture significant share of the HBM performance test market in the second half of 2024. We expect the HBM device end market to be strong through 2025, however from a test equipment perspective, we are expecting the market to soften as customers absorb capacity with higher productivity tools. We expect the HBM TAM to recover in 2026. As a result, we expect the entire Memory test market to be flattish in 2025 although we do expect to gain share in the low single digit range.

Beyond AI Compute, we believe that there are other segments of the semiconductor test market that offer the opportunity for accelerating long-term growth. One of those areas is power semiconductors. These devices will continue to grow long term with the crossover to EVs and the demand for more efficient power generation, storage and distribution. We are announcing a strategic partnership with Infineon, the market leader in power semiconductors to acquire their internal tester development team in Regensburg, Germany. This group will enable us to accelerate our roadmap in the power semiconductor space, specifically in areas like silicon carbide and gallium nitride at the scale needed to serve the automotive and renewables markets.

While the SemiTest business was strong through 2024, Teradyne's other product test businesses, which include our System Test and Wireless Test operating segments continued to be impacted by weak end market conditions. Within our product test businesses, we saw some programs push out from 2024 into 2025 but scored key program wins that we expect to drive healthy growth in 2025. We expect our Wireless Test business to return to growth in 2025 after securing 74 out of 80 tracked WiFi 7 design win opportunities in 2024.

Turning to Robotics. The industrial automation market continued to be weak in Q4. We typically see strong fourth quarter seasonality as customers place quick turn orders in the back half of the quarter. Visibility is inherently low in this high turns business. In Q4 of 2024, this seasonality was far more muted than in prior years, and we ended the year down slightly for UR and roughly flat for MiR. This underperformed our expectations but outperformed our industrial automation peer group.

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Despite the headwinds, there were highlights for robotics. The UR channel transformation continues to progress, with the OEM channel delivering 20% growth and MiR Large Accounts also delivering 24% growth year over year in 2024. In the fourth quarter, as part of our multifaceted partnership with Nvidia, UR launched its AI Accelerator. Late in the fourth quarter, MiR's new flagship product, the AI enabled MiR 1200 Pallet Jack began shipping to customers. And most recently, Teradyne Robotics announced a strategic partnership with Analog Devices to develop and deploy robots, AI, and software to support ADI's automation initiative.

In 2024, we combined UR and MiR Operations into a unified robotics operations group. Now, in Q1 of 2025, we are consolidating our go-to-market functions at the robotics level to enable our best partners to sell the full UR and MiR product line and serve our customers better with a single customer service organization. This restructuring increases our efficiency and reduces our robotics break-even revenue from $440M in 2024 to $365M in 2025.

Looking ahead, to the next 4 years we are very optimistic. A year ago, there were questions as to whether the VIPs would matter, and if they did, could we win their business. At the time, we thought the compute VIP market would be a $100-200M opportunity in 2024 growing to $400M to $600M in the 2026 timeframe. Our latest estimate is that the compute VIP market was about $300M in 2024 and the compute VIP market will be centered around $600M in 2026 and could approach $800 million in 2028. We believe that Cloud AI will continue to drive share gains for us in SOC and Memory. By the later years of this mid-term, as AI moves to the Edge for mobile, enabled by process technology like 2nm and Gate All Around we expect robust growth of the mobile TAM.

With the remarkable complexity of AI Compute systems and the need for highly reliable performance in the training and use of AI models, we expect growing demand for additional test steps. The addition of system level test insertions for AI compute, both in the cloud and at the edge, creates an additional growth vector for Teradyne. This was a primary consideration in our decision to align the Integrated System Test unit within SemiTest.

Going forward, we believe that AI will have an outsized impact on the longer- term growth of Edge devices, specifically in Mobile and Automotive applications. Also, trends towards electrification, whether pure EV or Hybrid, provide considerable growth potential with increasing silicon content per vehicle. Our investments in the space, including our strategic partnership with Infineon, will help us drive share gains in this highly complex, test intensive segment of the market. Based on these long-term trends, we expect to see healthy TAM growth in the Automotive and mobile segments of the market over the mid-term. Our strong market position in these segments will help to fuel our revenue growth.

These positive trends underpin our 2028 earnings model. At the mid-point of our model, we expect to grow from $2.8B of revenue in 2024 to $5B in 2028. We expect EPS to grow from $3.22 per share to $8.25 per share over the same period, implying a 12 to 18% revenue CAGR and 21% to 31% EPS CAGR over that period, demonstrating considerable operating leverage in our business model.

To sum up, 2024 was a very good year. We have repositioned the company and are seeing the success from our investments in AI – in Compute and in Memory.

We expect that 2025 will be another good year. We are setting our robotics business up on a sustainable path for long term growth. And our test business will grow driven by continued strength in share gains in VIPs, tightening capacity utilization, and the return of higher demand in mobile, industrial and automotive.

With that, I'll turn the call over to Sanjay. Sanjay?

Sanjay Mehta, CFO
Thank you, Greg. Good morning everyone.

Today I'll cover our Q4 and full year 2024 financial summary, provide our Q1 outlook, some planning guidance for full year 2025, and discuss our updated earnings model and capital allocation plan.

Now to Q4. Fourth quarter sales were $753M with non-GAAP EPS of $0.95 both at the high-end of our guidance range. Semi-Test revenue, which now includes our Integrated System Test business, or IST, comprised of product lines for System Level Test and HDD test was $561M. Within Semi-Test, SOC revenue was $429M with memory shipments of $112M, and IST shipments of $19M. The other Product Test businesses comprised of Defense and Aerospace, Production Board Test, and Wireless Test contributed $94M. Robotics revenue of $98M was up 11% sequentially with muted seasonality due to on-going weak industrial spending. As Greg noted, we had softer than expected performance in the Robotics business tied to typical turns business that did not materialize.

Non-GAAP gross margin was 59.4% just below our guidance range due to Robotics. Non-GAAP Operating expenses were $284M in Q4, higher than our guide. A majority of the increase was tied to accelerated engineering spend in Semi Test. Non-GAAP operating profit rate was 22%.

Some other financial facts. The tax rate excluding discrete items for the quarter was 7.6% on a non-GAAP basis and lower than plan because of product mix shift to SemiTest. GAAP tax rate was 8.7% in Q4 excluding discrete items. We repurchased $144M of shares in the quarter as we opportunistically accelerated our share buybacks. Dividends were $19M and we had one 10% customer in the quarter.

Turning to the full year results: Our revenue was $2.82B. Samsung was the only customer greater than 10% of our revenue for the year. Gross margin for the year was 58.6%, OPEX was

$1.08B, and operating profit was 20.4%. Non-GAAP EPS was $3.22. We generated $474M in free cash flow in 2024. We returned $275M or 58% of free cash flow to our shareholders through share repurchases and dividends. We ended the year with $724M of cash and marketable securities. Our tax rate for the full year, excluding discrete items, was 12.6% on a non-GAAP basis and 12.5% on a GAAP basis.

Business Unit Revenues for 2024 were as follows: SemiTest revenue for the year, including IST was $2.124B with SOC revenue contributing $1.537B, Memory $502M, and IST $85M. Excluding the impact of our DIS divestiture, our SOC and Memory revenue growth was 17% year-over-year. SOC growth in the year was driven by AI Compute, specifically custom ASICs for VIPs and networking. Our memory sales were up 30% year-over-year driven primarily by AI compute demand for HBM DRAM. IST revenue declined 39% year-over-year, primarily due to underutilized test capacity in HDD.

Turning to our other Product Test businesses, The Systems Test Group, which is the combined Defense & Aerospace and Production Board test had revenue of $201M in 2024, flattish from 2023. Wireless Test revenue was $130M, down from 2023 due to slower ramp of WiFi 7. The combined revenue of the two operating segments in 2024 was $331M, down 4% year over year.

Now to Robotics. Robotics revenue in 2024 was $365M with UR contributing $293M and MiR $72M. Considerably lower than expected volumes in the fourth quarter drove profitability well below our expectations. The group had a 13% non-GAAP operating loss in both 4Q and the full year.

As Greg mentioned, we are restructuring the Robotics business to create a single point of contact for customers and partners across UR and MiR sales, marketing and service organizations to improve customer experience. The result of these actions will help drive top line growth in 2025 and improve our efficiency. These actions will enable our Robotics business to continue to outperform peers in the industrial automation market.

Now to our outlook for Q1. Since our October call, our SemiTest outlook has remained strong, however, Robotics forecast remains seasonally soft. Q1 sales are expected to be between $660M and $700M with Non-GAAP EPS in a range of $0.58 to $0.68 on 163 million diluted shares. The first quarter guidance excludes the amortization of acquired intangibles and restructuring charges.

First quarter gross margins are expected to be in the range of 58.5% to 59.5%. OPEX is expected to be roughly flat with Q4 and run at approximately 41.5-42.5% of first quarter sales. The Non-GAAP operating profit rate at the mid-point of our first quarter guidance is 17%.

As Greg noted, we believe the Semiconductor SOC Test TAM will see healthy growth in 2025, driven by a second half broad based recovery. We expect the SOC TAM to be between $4.7 to $5.1B, or $4.9B at the mid-point. For a more detailed view of our end market expectations for SOC, please refer to the table in our earnings deck. We are forecasting the Memory TAM to be between $1.3 and $1.5B. Recall that within this, HBM has grown from around $100M in 2023, to over $500M in 2024. Our Memory TAM forecast for 2025 is roughly flat year-over-year with the HBM tester market going through a period of digestion. In both the SOC and in the Memory Semi Test markets, we expect to gain low-single digit share in 2025.

In Robotics, we are currently operating in a difficult low visibility industrial spending environment. The business is still driven by turns. When we look at our plans for 2025 we see SAM expansion and channel growth initiatives expected to yield ~10% revenue growth in current market conditions. Of course there is a wide range around this growth expectation.

A few points to assist you in modeling 2025 for the enterprise. In Q2, we expect 5 to 10% sequential growth from Q1's mid point. We expect first half revenue to be approximately 43 to 44% of full year revenue.

Now to Gross Margins. We expect full year gross margins to be 59-60%. We expect second half gross margins to slightly improve from current levels tied to higher revenue expected in the second half of the year.

Regarding OPEX for the full year. We expect full year 2025 OPEX to increase 8-10% year-over-year which is a reduction from our low-teens view in October. The key changes were restructuring to capture synergies between UR and MiR in Robotics and the acceleration of Semi Test projects in Q4.

Interest and other line is forecasted at $1M of income per quarter. While we have cash driving a yield, we also have items like FX gains/losses included in this line of our P&L.

Our GAAP Tax rate is forecasted to be 15.25% and 15% Non-GAAP in 2025 excluding discrete items.

Turning to Capital Allocation. Our strategy remains consistent as we take a balanced approach to maintain cash reserves that enable us to run the business and have dry powder for M&A. For reference, from 2015-2024, we've returned over $4.6B to shareholders through share repurchases and dividends, which is 93% of free cash flow. In 2025, we plan on executing up to $400M of share buy backs along with our current level of dividends.

Moving to our mid-term earnings model. As we do each January, we've updated our model. We share this with investors to provide insight into how we look at the markets we serve, our competitive positioning, and ultimately, the growth and earnings power of the company.

A few points for context. We're rolling forward our mid-term model to 2028 which replaces our prior 2026 mid-term model. That said, we believe we are tracking with our prior 2026 model in terms of ranges of revenue and earnings.

Over the mid-term, we expect Test revenue to grow at a 12-17% CAGR off of our 2024 results driven by continued strength in AI Compute related demand and recovery with long-term growth in broader end markets including Auto/Industrial and Mobile. Our Mobile assumption is for recovery, but not assuming a return to the prior peak in 2021.

In Robotics, we're expecting the industrial markets to begin to recover with AI expanding the SAM and persistent labor shortages. We expect these dynamics to drive a topline of 18-24% CAGR off of 2024 with modest growth in 2025 which we expect will accelerate over the mid-term. Going forward, the Robotics operating model will deliver increasing operating leverage through the mid-term, ending towards the high end of our target 5 to 15% operating margin range for this business.

Our updated mid-term model is expected to drive 2028 company revenue to $4.5 to $5.5B and non-GAAP EPS between $7.00 and $9.50. As Greg mentioned, this implies a 15% revenue CAGR from 2024 to 2028 and a 27% EPS CAGR at the mid-point, demonstrating the operating leverage of our Test and Robotics businesses. Gross margin is expected to be between 59-60%, OPEX as a percentage of sales between 28 to 31% yielding non-GAAP operating margin of 28 to 32%.

Summing up, 2024 was a good year overall driven by strength in Semi Test. Excluding the DIS divestiture, our overall company revenues grew 8% year-over-year and our SOC and Memory combined grew 17% year-over-year helping to achieve a 10% increase in our EPS to $3.22. We are making strategic investments to drive competitive advantage in the SemiTest business and we are leveraging logical synergies between UR and MiR to drive long-term sustainable growth in Robotics. We enter 2025 feeling good about the year and our line of sight to our mid-term model. With that, I'll turn the call back to the operator for questions. Operator?