SYNOPSYS®

These Prepared Remarks contain forward-looking statements, including, but not limited to, statements regarding Synopsys' short-term and long-term financial targets, expectations and objectives; business outlook, opportunities and strategies; customer demand and market expansion; strategies related to our products and technology; our planned product releases and capabilities; industry growth rates; software trends; planned acquisitions and buybacks; our expected tax rate; the expected impact of U.S. and foreign government action on our financial results; and the continued impact and duration of the COVID-19 pandemic. These statements involve risks, uncertainties and other factors that could cause our actual results, time frames or achievements to differ materially from those expressed or implied in our forward-looking statements. Such risks, uncertainties and factors include, but are not limited to: risks from the continued impact of the COVID-19 pandemic on the global economy and on our business, operations and financial condition; uncertainty in the growth of the semiconductor and electronics industries; macroeconomic conditions and uncertainty in the global economy; consolidation among our customers and our dependence on a relatively small number of large customers; risks and compliance obligations relating to the global nature of our operations as well as actions by the U.S. or foreign governments, such as measures in response to the COVID-19 pandemic or the imposition of additional tariffs or export restrictions; and more. Additional information on potential risks, uncertainties and other factors that could affect Synopsys' results is included in filings it makes with the Securities and Exchange Commission from time to time, including in the sections entitled "Risk Factors" in its Annual Report on Form 10-K for the fiscal year ended October 31, 2020 and in its latest Quarterly Report on Form 10-Q. The information provided herein is as of December 1, 2021. Although these Prepared Remarks are expected to remain available on Synopsys' website through the date of the earnings results call for the first quarter of fiscal year 2022, their continued availability through such date does not mean that Synopsys is reaffirming or confirming their continued validity. Synopsys undertakes no duty, and does not intend to update any forward-looking statement, whether as a result of new information, future events or otherwise, unless required by law.

These Prepared Remarks also contain non-GAAP financial measures as defined by the Securities and Exchange Commission in Regulation G. Reconciliations of the non-GAAP financial measures to their comparable GAAP measures are included in the fourth quarter and fiscal year 2021 earnings release and financial supplement, each dated December 1, 2021 and available on Synopsys' website at www.synopsys.com. Additional information about such reconciliations can be found in Synopsys' Current Report on Form 8-K, filed with the Securities and Exchange Commission on December 1, 2021.

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Good afternoon. I'm happy to report that Synopsys delivered another record year, substantially exceeding our original goals. We grew revenue 14% to $4.2 billion, with double-digit growth in all product groups and geographies. We substantially expanded non-GAAP operating margin, with more than 20% earnings growth, and generated record cash flow of $1.49 billion. In addition, disruptive innovation and collaborations accelerated our momentum, as a number of large customers significantly expanded their commitments with Synopsys, as visible in an outstanding orders year.

As a result, we enter fiscal 2022 with momentum. Looking forward, we are raising our long-term financial objectives to strong double-digit revenue growth, anchored in a step-up in EDA and IP targets, ongoing non-GAAP operating margin expansion, and non-GAAP earnings per share growth in the mid-teens range – all of which driving very strong cash flow. Trac will discuss the financials in more detail.

Underlying our elevated outlook is not only a vigorous market but, just as importantly, a long-term growing demand for "smart everything" in every vertical segment. The inherent technical challenges powering this new era are well aligned with Synopsys' strengths.

Specifically, the "smart everything" era brings together massive amounts of data with the new wonders of machine learning software. Combined with a "metaverse" outlook of human-machine interaction, the role of chip-centric electronic systems has enormous potential. This requires highly complex semiconductor chips with massive compute capability; evolving semiconductors from "system on a chip" to tightly integrated "systems of chips;" and increased need for security and safety across software and hardware; that is, across the entire system.

From an economic perspective, new entrants are already designing their own specialized chips. Traditional vertical market leaders are taking a more active role in influencing chip and system architecture and design. At all levels, investments and urgency are increasing.

To deliver on this promise, our customers are transforming the way they approach design. Whether it's processor or mobile teams combining multiple compute, storage, or connectivity chips together in 3DIC structures, or hyperscalers investing in their own chip architectures to increase their cloud differentiation, or automotive OEMs dictating specific safety protocols, or financial services companies inserting security testing into their development processes – all are driven by the urgency of the economic opportunity and the need for strong partners to master the complexity of the tasks. Synopsys connects with all of these and is uniquely equipped to help catalyze this new era.

The center of gravity of the technical challenges is the intersection of hardware and software. A chip is only as good as its interaction with the software; and vice versa. In other words – the system. This system focus has been at the core of Synopsys innovation for many years and is now fueling mounting customer and business momentum.

Nowhere is systemic complexity more visible than in our IP business. The sophistication of our IP blocks requires reaching deep down into the understanding of the advanced Silicon nodes and also high up to the system architecture and software. IP is thus a bellwether of systems leadership as new architectures are increasingly jumpstarted by selecting the most important IP building blocks and their configuration.

Benefiting from this, we achieved another record year in IP, with revenue surpassing $1 billion and growing approximately 20%. This momentum is maintained for two reasons: first, continued strong demand to outsource IP, as customers need their most skilled resources to focus on the differentiating aspects of their chips. Second, an increasing number of new entrants in segments such as automotive, high-performance compute and AI, accelerate their schedule by, whenever possible, selecting complex IP building blocks that are commercially available from a company they trust.

As the #1 provider of interface, foundation and physical IP, Synopsys is in a unique position to provide complete solutions across multiple key segments. For example, we have the broadest IP portfolio for the fast-growing high-performance compute and data center market, including PCI Express, HBM3, 400/800G Ethernet, and many memory interfaces. We also see continued strength in automotive, fueled by the electrification of cars, the push to autonomous driving, and the explicit demand for higher safety, security and reliability. Our IP has been selected by approximately 50 automotive companies, with nearly 500 IP wins to date. In addition, Synopsys has always driven the leading edge – providing IP and, of course EDA, on the most advanced process nodes. With the mobile and compute companies, we are deeply engaged at 3nm and had over 250 design wins at 5nm this year.

Let me talk a bit about System verification. Under our Synopsys logo, our tagline states “Silicon to Software.” Our unique strength is to sit at the intersection of validating hardware and software – or simply put: “verifying that the chips and system do what was intended.” Building on our market-leading VCS chip simulation solution, we were at the forefront of delivering software- and hardware-based prototyping more than a decade ago. Since then, our offering has rapidly gained technical and market leadership. 2021 was a record hardware year, with strength in both emulation and prototyping. Our solutions sit at the sweet spot of hardware-software co-verification and our emulators are the fastest machines with highest capacity and lowest cost of ownership. This year, we increased our differentiation. We introduced

application-specific emulation products, ZeBu Empower and ZeBu EP1, that are significantly faster and higher-capacity than any competitive solution in the market. Meanwhile, our new HAPS-100 prototyping system now delivers 2X faster performance and 4X better debug, driving accelerated growth. During the year, we achieved multiple competitive wins and significantly broadened our customer base, as we added more than 50 new logos and 200 repeat orders.

Obviously, at the center of enabling the "Smart Everything" era sits the promise of AI. Which begs the question: "What about applying AI to chip design?" Today, machine learning enables significant capabilities and runtime advances in all of our key products. About two years ago, we delivered a fundamental disruptive technology at a very different magnitude: Using AI to automate not just tools but entire design flows. The outcome is remarkable.

Our award-winning DSO.ai solution is getting great results on production designs with a rapidly growing number of customer-partners. DSO.ai, which stands for "design space optimization" using AI, does exactly what the name says: It explores many, many design options, learns from them using design and tool data, and finds design configurations that a human is unlikely to ever find. Moreover, since design variables such as performance, power, size, yield, reliability, etc. all trade-off against each other, DSO.ai can optimize well beyond what a design team can easily fathom.

Through this year, results got better and better. Run by our customers on real production designs, DSO.ai has reduced design times from months to weeks, with superior performance and power results. One notable example is Samsung, which relied on DSO.ai for multiple complex projects – the most recent being an advanced production design for a new mobile product. Applied at every stage of design implementation, DSO.ai delivered performance well beyond their speed target at substantially reduced power consumption; all while saving weeks of manual effort.

Central to DSO.ai's results are the powerful engines underneath it: our Fusion Design Platform.
The platform is centered around our Fusion Compiler product, the only solution today to seamlessly integrate market-leading synthesis and place & route, cross-checked and optimized by timing, power and physical signoff, all in a single tool. Fusion Compiler's full flow proliferation and competitive wins increased through the year, including major expansions and competitive displacements. Revenue more than doubled this year. Seminal to our sustainable differentiation is native integration of our golden signoff products. As recognized by multiple awards from our foundry partners, our deep collaborations ensure that our mutual customers have well-honed and trusted design flows at the most advanced technologies.

In addition to a continued push for smaller geometries, the "smart everything" hunger for much more compute, storage and data management is so high, that the economics of physically abutting and stacking multiple chips or chiplets is driving a push towards so-called 3DIC design. This brings about many challenges, including architecting how to partition into multiple chiplets, making the connections between the chiplets blindingly fast, and predicting and dissipating the heat of so much computation. Synopsys is at the forefront of this emerging wave. In 2020, we introduced 3DIC Compiler, which offers a modern, differentiated approach to this complex design challenge. Our solution is being deployed in production on cutting-edge 3DIC designs in the industry.

Another new area showing great promise is our Silicon Lifecycle Management platform, which monitors, analyzes, and optimizes chips throughout their lifespan. The adoption of key sensor IP accelerated during the year, with 25 new logos, and we recently added AI-powered real-time system optimization for in-field applications with the acquisition of ConcertIO.

With the increase in systemic complexity to deliver "smart everything," security and safety is a rapidly growing theme from chips to application software. About seven years ago, we invested in Software Integrity, to provide security and quality testing for the massive amounts of software in today's world. Synopsys has since built the broadest portfolio of products and consulting services in the market. This year we were recognized for the fifth year in a row as a leader in the Gartner Magic Quadrant for application security testing.

Benefiting from the operational enhancements we've made, our Software Integrity business achieved 10% growth for the full year, with particularly strong orders flow, exceeding our original expectations. We expect to return to our 15-20% revenue growth objective in 2022.

During the year, our focus has been to scale our go-to-market strategy and execution. We launched our new partner program this year, adding dozens of channel partners and systems integrators. They are already expanding our reach into customer groups and geographies that we hadn't reached in the past. We successfully refined our sales structure and tuned our market priorities. One proof point is the substantial growth of multi-year, multi-million-dollar agreements. This notably includes our largest-ever Software Integrity order with a U.S. hyperscaler, as well as significant renewals in the networking, airline and enterprise software segments.

We also made considerable progress with our Polaris Software Integrity Platform. We delivered Intelligent Orchestration, which automates security testing within a company's specific protocols. This

makes it easier and more efficient to integrate directly into their development pipeline. We enhanced our Black Duck software composition analysis solution, which positions us very well for software supply-chain risk cases. Finally, the addition of risk management products that automate and accelerate discovery and remediation of software vulnerabilities through Code Dx rounds out our solution well beyond what competitors provide.

In summary, we delivered excellent results in 2021 – substantially greater than our original plan, with strength in all product groups and all geographies. We are entering 2022 with significant technical and market momentum. We are seeing significantly expanded customer commitments and collaborations, as our wave of innovations will be crucial to help catalyze the era of "smart everything." And as a result, we are raising our long-term financial objectives. Let me say thank you to our entire Synopsys staff for another great year. I'm looking forward to an exciting journey into our next phase of growth.

Finally, I'm sure you all saw our other news earlier today that our CFO, Trac Pham, has decided to retire in fiscal 2022. Trac has been a wonderful partner and excellent leader, and while we understand and support his desire to prioritize time with his family, we will miss him. He will of course remain a good friend to the company and to all of us personally. Trac will stay with Synopsys until a successor is in place to ensure a seamless transition. Trac, to you and your family, we wish the very best. And with that, I'll turn it over to Trac.

Thanks, Aart. Good afternoon everyone. While I'm looking forward to retirement, I will certainly miss the Synopsys team and also the relationships I have developed over the years with investors and analysts. Synopsys is in a great position, so this is a good time for me to step away from a long, fulfilling career to prioritize time with my family. I'm confident in our leadership team, and that we'll manage the transition well. I'll be here for a while still, and I look forward to talking to many of you.

Turning to our results, FY21 was an excellent year and featured record results in all key metrics – including revenue, non-GAAP earnings, and operating cash flow. Looking to FY22 and beyond, we are seeing a step-up in revenue growth, due to the following: first, strong execution and compelling new innovations. Second, expanding customer commitments. And third, the new market era and opportunity that Aart referred to earlier. Additionally, because of the essential nature of our customers' R&D priorities and our business model – which results in nearly 90% recurring revenue and significant non-cancellable backlog – we are in the position to have a high level of stability as well. Ending backlog for Q4 was $6.9 billion. These dynamics give us the confidence to raise our long-term financial objectives, which I'll describe in greater detail momentarily.

First, some highlights of our full-year 2021 results. We generated total revenue of $4.2 billion, up 14% over the prior year, with double-digit growth across all products and geographies. Total GAAP costs and expenses were $3.5 billion, and total non-GAAP costs and expenses were $2.9 billion, resulting in a non-GAAP operating margin of 30.5%. GAAP earnings per share were $4.81, and non-GAAP earnings per share were $6.84, up 23% over the prior year.

Semiconductor & System Design segment revenue was $3.8 billion, driven by broad-based strength across all product groups and geographies. Software Integrity segment revenue was $394 million, up 10% over the prior year, and exceeded our original plan. We expect to return to our 15-20% growth objective in 2022. In addition, following the investments and operational adjustments we made this past year, we expect to expand adjusted operating margin in 2022.

Turning to cash, operating cash flow for the year was a record $1.49 billion, reflecting our strong results and robust collections. We ended the year with cash and short-term investments of $1.58 billion, and total debt of $100 million. During the year, we completed buybacks of $788 million, or 56% of free cash flow.

Now to our targets. Based on our current assessment of the timing of hardware and IP deliveries, we expect Q1 to be our highest revenue quarter, then roughly evenly split for the balance of the year. We expect an expense profile similar to that of revenue for Q2-Q4. For fiscal year 2022, the full year targets are:

- Revenue of $4.725 to $4.775 billion;
- Total GAAP costs and expenses between $3.778 and $3.835 billion;
- Total non-GAAP costs and expenses between $3.225 and $3.255 billion;
- Resulting in non-GAAP operating margin improvement of more than 100 basis points;
- Non-GAAP tax rate of 18%;
- GAAP earnings of $5.39 to $5.65 per share;
- Non-GAAP earnings of $7.73 to $7.80 per share, representing mid-teens growth despite a higher tax rate;
- Cash flow from operations of $1.4 to $1.5 billion.

I’d like to offer some additional thoughts regarding the long-term tax rate assumption. Based on preliminary modeling, we believe the non-GAAP tax rate of 18% is potentially sustainable beyond 2022. However, given the uncertain outcome of tax reform, it is premature for us to confirm a longer-term tax rate at this time.

Now to the targets for the first quarter:

- Revenue between $1.25 and $1.28 billion;
- Total GAAP costs and expenses between $934 and $964 million;
- Total non-GAAP costs and expenses between $802 and $812 million;
- GAAP earnings of $1.75 to $1.92 per share; and
- Non-GAAP earnings of $2.35 to $2.40 per share.

Our press release and financial supplement include additional targets and GAAP to non-GAAP reconciliations.

Finally, we are raising our long-term financial objectives – all of which are on a multi-year basis, with the expectation that particular years will vary depending on timing of deliverables and other commitments. Our goal is to deliver annual double-digit revenue growth and non-GAAP EPS growth in the mid-teens range, reflecting our continued focus on non-GAAP operating margin expansion of more than 100 basis points per year. In terms of product groups, our objective is to grow EDA revenue in the double digits, IP in the mid-teens, and Software Integrity between 15 to 20%.

In summary, our record results this year are a testament to our strong execution, to our focus on investing for long-term scalability and shareholder value, and to our commitment and ability to innovate to meet growing customer needs. This combination is driving a step-up to a new level of growth for us, and our raised long-term financial objectives reflect confidence in our ability to succeed. With that, I'll turn it over to the operator for questions.