

THE WALL STREET TRANSCRIPT

Connecting Market Leaders with Investors

Silvaco Group Inc. (NASDAQ:SVCO)



BABAK A. TAHERI, PH.D., has served as CEO and a board member of Silvaco Group Inc. since August 2019, with a brief pause between September and November 2021. Prior to becoming CEO, he served as Chief Technology Officer and Executive Vice President of Products from October 2018 to August 2019. Before joining Silvaco, Dr. Taheri was the CEO and President of Integrated Biosensing Technologies (IBT), an advisory and consulting firm, from May 2015 to October 2018. Dr. Taheri serves on the board of directors of Sunright Limited, a provider of advanced semiconductor test and burn-in services. He has also served on advisory boards, including MEMS World Summit, Novasentis, AGCM, ALEA Labs, Silverlake Sumeru, Lion Point Capital, and was a member of the governing council of ESDA Alliance (2019-2021). He currently chairs the advisory board for the Electrical Engineering Department at the University of California, Davis. Dr. Taheri has held leadership roles at

several companies, including VP & GM at Freescale Semiconductor (now NXP) and at Cypress Semiconductors. His experience includes roles at Invensense (now TDK), SRI International, and Apple. Dr. Taheri holds a B.S. in Engineering from San Francisco State University, an M.S. in Electrical Engineering from San Jose State University, and a Ph.D. in Biomedical Engineering (with concentrations in Electrical Engineering and Neuroscience) from the University of California. His most recent book, "Artificial Sensors Shape the Six Pillars of Our Lives," was published in 2021.

SECTOR — TECHNOLOGY

TWST: Please tell us about Silvaco and its products.

Dr. Taheri: The company's name originated from what we call Silicon Valley Company. If you look at the beginning of each of those words, you have Silvaco.

Silvaco was founded 40 years ago by Dr. Pesic and Kathy Pesic, his wife, based on the acquisition and licensing of technology from Stanford University. This is the fundamental technology that we have developed over the last 40 years to become what we now call our Technology Computer-Aided Design — or TCAD — product line. TCAD has gone from zero to more than 64% of our revenue now. It's one of our fastest growing product lines.

The second product line that Silvaco provides is what we call Electronic Design Automation — or EDA — basically software tools that customers use to design chips and semiconductor IP.

We focus on analog chips and analog IP. In other words, we have the full gamut of tools required for a person who wants to design a chip to capture the design, simulate it, extract it, validate it, and verify it to the point that it's ready to send to a manufacturer.

The EDA product line has been around for over 30 years. As a matter of fact, we have a simulator software named SmartSpice. It has been one of its kind in terms of performance and accuracy.

We added our third product line about seven years ago when I joined the company. It's called Semiconductor Intellectual Property or Semiconductor IP, or SIP. It basically comes up with building blocks, like Lego blocks if you will, that can be stitched together to form the full Lego or puzzle that's the chip itself.

Instead of designing everything from scratch, the silicon proven IP blocks enable the manufacturers as well as the design houses to stitch together IPs to get chips to the market faster.

Those are the three product lines we have. There are only two companies in the world that provide TCAD platforms: us and Synopsys. We are right now number two in the world in that space. Our primary goal is, of course, to become number one.

And we've introduced new products such as Fab Technology Co-Optimization — FTCO — which uses AI to not only help with designing technology for process design teams, but also helps the manufacturers to manufacture with higher yield, lower time to market.

These are products that no one else has in the market. It's a white space and has expanded Silvaco's SAM by about \$500 million. We introduced the products to the market last year and have filed patents on them.

And we announced our partnership with Micron in that domain. They're utilizing our software for their manufacturing process. That was a big win for us. We will continue selling this product line into different

markets other than memory, such as power markets, for silicon carbide and GaN design/production, photonics market such as displays, image sensors, and communications, as well as what we call advanced CMOS technology nodes, which is what everyone else is working on.

TWST: Help me further understand your customer base. It sounds like your customer base is mainly chip manufacturers. Is that correct? Is it chips for AI, automotive, devices, etc.?

Dr. Taheri: That's a good question. I think the most comprehensive way I can answer it is to say, we provide eight different markets tools to design or manufacture chips. Our strongest focus is on three top markets. The first is power. Anyone that's doing silicon carbide designs or silicon carbide manufacturing, gallium nitride or GaN. Those are power markets.

The second market that we focus on is the memory market. I mentioned Micron, but we have 30 to 40 different customers in the memory market, similarly to power.

The third market that we actually hold the lead position in, in terms of tools and software, is what we call photonics, and specifically display: a watch display, laptop display, any kind of display that goes into visualizing stuff including AR and VR. Those are the top three.

Another type of photonics is lasers. We know how to simulate lasers, waveguides like fiber optics or waveguides that are put on wafers and lenses. That's another market that we're focused on. We are growing into that.

And there are subsegments of that market, which includes high-performance compute. They have semiconductors, but they also use optical interconnect. Automotives use displays, sensors, cameras, all of that.

So, photonics and semiconductors now find their ways into all the markets I mentioned. All of that is in addition to semis, which we also focus on.

TWST: Let's turn to what your vision and key priorities are as CEO. Can you tell us about those?

Dr. Taheri: I think every CEO's priority is to grow the company and make it more profitable by growing the top line, lowering opex, and growing the bottom line for the shareholders. Of course, that's the primary goal. But we want to make sure that the way we do it aligns with our culture, how the company has historically grown to have this very nice organic culture.

We also want to address the market by not necessarily competing, but definitely by expanding the market and the capability. I'll give you a couple of examples of that.

“We recently entered the photonics market. Last year, we added over seven photonics customers and additional three in Q1 2025. Photonics also includes, for example, phone cameras, image sensors like CMOS image sensors — CISs — and any communication for long haul or intrachip optical connectivity to increase speed and lower power in the communications system.”

Those are followed by what we call high performance compute servers, high performance compute IoT, automotive, as well as what we call 5G and 6G connectivity, and foundry. Those are the other markets we play in.

Our focus has been on the top three, and we keep adding new markets that we can help design chips. The other aspects of these markets that we handle, we just talked about the semiconductor portion of it. What does it take to design and manufacture a chip? Semiconductors.

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We recently acquired Tech-X Corp., a provider of multi-physics simulation software for photonics, electromagnetics, and plasma dynamics, which enables us to expand our photonics market presence.

To understand the next generation of products, you need to understand how closely you can pack these cells, like photocells, lasers, and wave guides at wafer level, interconnection or fiber optics, and that's what we provide.

We provide tools that can simulate the electrical signals as well as photonics and optics: how light gets converted to electricity and the combination of what we call photonics or opto-electronics. As I mentioned before, another example of photonics are displays. For displays, we are not only able to simulate how much light a micro LED generates, but also how much of that light is perceived by humans and the efficiency of that light.

As I mentioned, we added what we call FICO, which is a SAM growth for us. It's over \$0.5 billion SAM expansion for us. No one else is in that market. So, we play really well with our bigger competitors because we are not in their space, they're not in our space. We try to innovate. In other words, through innovation, we try to grow those markets.

Also, we recently acquired a product from one of our bigger brothers that's also a competitor: Cadence Design System's Process Proximity Compensation product line, which we refer to as OPC, or optical proximity correction. We are able to expand that OPC capability for their past customers — our customers now. That enables them to do something that we are able to do with the flow we have.

Additionally, we have added multi-physics capabilities for plasma etch and photonics by acquiring Tech-X Corporation.

Both the OPC and Tech-X product lines add an estimated \$600 million of SAM, growing our SAM from last year of \$3.8 billion to a current SAM of approximately \$4.4 billion.

So that's how we are expanding. In short, it is basically our goal to grow top line and grow bottom line through innovation and acquisitions to address our customers' needs.

Matter of fact, the other thing I would add is that over 95% of our revenue comes from advanced R&D projects with our customers. If you see something in the market, it means we worked on it four or five years ago. We've been working on foldable screens, rollable screens, these new micro-LED screens, for the past four or five years, enabling those customers.

We tend to innovate, to stay ahead of our customers in terms of understanding where they are. And we do have the crystal ball. We have digital twin simulation capability. We can tell our customers

whether their concepts or ideas would even work before they go and manufacture it. We can tell them from the beginning to end how it would look, whether they're going to be able to make the product.

A lot of them do not have that understanding because they don't have the simulation tools for fundamental physics all the way to system level to capture that.

TWST: I'm glad you brought up Cadence. I wanted to ask about that. Was the Cadence acquisition Silvaco's first?

Dr. Taheri: Post IPO. We also just announced the acquisition of Tech-X Corp. on April 29. These acquisitions further enhance our simulation capabilities across semiconductor and photonics markets.

TWST: Post IPO. That brings me to my next question. Can you talk a little bit about going public and the timing?

Dr. Taheri: Yes. So, as you know, we went public May of last year. It was the 13th, so I never forget that time. And as a matter of fact, two and a half years before that, we wanted to go IPO. But as you know, market conditions dictate whether you can or not. And with COVID ending and the whole slew of SPACs, the market was not receptive to IPOs after two and a half years of SPACs that did not pan out.

I don't need to tell you how those SPACs performed: Over 90% did not get anywhere and lots of money was spent. The market was digesting that. It took two and a half years to find a very small window that opened up, and in May 2024, we put ourselves in there and it's been like going through a 70-yard goal line to try to kick the ball within these two poles.

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We did that, and it was really good for us. We had been waiting and ready for it. We had our books audited for three years before we went IPO. So, we were quite ready for it.

We went IPO for four reasons. One is, we are growing; we have had double-digit growth over the past three, four years. As a matter of fact, I think we hit a company record of 16 consecutive quarter growth until Q3 2024 when some orders were delayed.

The company is also growing by attracting new, much larger customers. I mentioned Micron, and we have customers that are bigger than Micron, and they want transparency into our finances. Going IPO provided that. As a matter of fact, some of our customers required us to be a public company before they could spend any more money with us because of that transparency.

The second reason is the company has been around for a long time. Of course, it was a scientific lifestyle company until my predecessor and I joined to help the company go public. So, the history, basically. And getting the acceptance in the market that the employees and the founders deserve.

The third reason is accessing capital markets. We raised over \$104 million, in part to fund more advanced R&D, and in part to fund acquisitions.

And last but not least: getting the word out, getting people to know us better. We are an emerging growth company. We are one of the companies in the coveted EDA space that has gone public. And in the last 20 years, I would say no other EDA company has gone public.

If you did the math, you'd find out that since 1961, only about 10,000 companies have gone IPO in the U.S., and out of those companies, one of them is EDA over the past twenty years. That's how rare this event is. It was very special for us to do this.

And as a matter of fact, a lot of our customers wanted more competition in the market for tools. This provides that and it feels good to do that.

TWST: Let's turn back to quarterly results for a moment. Tell us about Q4 2024 and if there were any surprises or any noteworthy changes.

Dr. Taheri: So, Q4 2024 is public now. Actually, we had a surprising Q3 2024 as well. Back then, we said we were seeing uncertainty in some markets, like China, because of geopolitics. And, as you know, there have been tariffs recently, which put that into hyper mode. But prior to that there were restrictions on how you could transfer or sell goods to certain entities or different countries, or not. Everyone was feeling that for a while.

And the surprise element came with the fact that we have a very robust sales pipeline. We keep track of everything and everyone in that pipeline. We know when we get our POs. When we do our bookings, we get a PO and then we do our revenue recognition based on that.

In Q3 of 2024, we had a \$5 million PO that made it a few hours after midnight. So, we could not recognize that as bookings and revenue for Q3. So that created that delta.

However, for fiscal year 2024, we delivered a 13% increase in bookings and achieved 10% organic revenue growth over fiscal year 2023. We also added over 46 new customer logos, underscoring the growing demand for our software platforms.

The tariff uncertainties have created uncertainty for our customers' commitments to us. So, some of the POs are still being delayed. I don't blame our customers. There's a lot of doubt in the market. They want to make sure that they spend money in a way that benefits them. So that's the main uncertainty we are seeing. And unfortunately, other companies are also seeing it.

Everyone's feeling it more now. The way we get around that is we just expand strategically into newer, vertical markets. Photonics is an example of that, and having the mix of customers so that we don't have a 10% customer, let's say per year. Last year, we had one, but we are targeting over 800 customers, so that the balance will be much more stable. That's what we're trying to do. Surprises are basically order delays, nothing more than that.

TWST: Tariffs are absolutely top of mind for everybody. Can you talk about what the picture is right now in terms of semiconductors and your products?

Dr. Taheri: I think the forecast right now is the semiconductor industry as a whole will see double-digit growth. We have the numbers from several sources on EDA market conditions. One of the sources we use such as the ESDA part of SEMI forecasts double-digit growth.

Actually, we, along with our competitors have given guidance for double-digit revenue growth. Everybody has said that some of the softness comes from some Asian countries. That's pretty much uniform as well.

But where that growth comes from could have a geographical shift, because companies tend to balance. They learn quickly, and if one region is not performing, they focus on other regions to make the delta and the balance. That's going to come about. Geopolitics is influencing that.

But as a whole, our market is pretty resilient, in a sense. As I said, most of our revenue comes from advanced R&D projects, and we do simulation software, so we are not part of the supply chain, if you will. If there's a chip made, the supply chain includes silicon chips, wafers, chemicals, etc. We are not part of that. We are part of the value chain.

We help them design this stuff from the first step. We help them manufacture better so we get less impacted by these variations. Not just us, but anyone in the industry feels less impact than the semi.

If the semi market goes down by 10% or 20%, there's a big tail even before EDA vendors get impacted. And that's about a two-to-three-year cycle.

TWST: What is your perspective on where we're at in the AI evolution, and how does that drive your business?

Dr. Taheri: If you look at our last two earnings calls, we have described in detail how AI is applied in the EDA, TCAD, and IP markets.

Right now, the way we see it, the AI contribution pie is in four segments. The first segment is how EDA companies utilize AI to help designers to have productivity like user interface improvements and adapting the user interface based on user data for faster decision making and setup. That's basically design tool optimization.

The second step is can we actually provide more input to the designer so that when they're designing something, they don't have to go explore hundreds of thousands of combinations of things to simulate. Can we narrow that down for them so they can design faster? I call that Design Assistant.

And then, of course, for the third part of design, the third quadrant of the pie is what we call design regeneration or generative AI design. In other words, this is what all of us are thinking: Can someone write down a chip spec, feed it into the AI machine, and voila, there comes out the chip design? Ideally, that's everybody's goal. Just like how everyone had the goal of autonomous cars.

It's taken 30 years to get to where we are. So, getting that portion where you can eliminate a designer and have the machine design it, so you don't spend years getting a new design out, but you spend weeks using AI to get there. That's where the premise is.

Of course, I think that's another 10 to 20 years out. But the steps to get there are incremental. Customers benefit from those incremental improvements. And those three EDA AI quadrants cover the design portion, the first step.

Then, manufacturing is the next step or fourth quadrant of EDA AI assisting manufacturing. We are the first one doing that in the EDA space, with our AI-assisted Fab Technology Co-Optimization, or FTCo.

You're running a lot of wafers. Each wafer has at least a million to tens of millions of parameters you need to keep track of. One lot of wafer is equal to 24 wafers. You need to keep track of that 24. Imagine you're running 10,000 wafers a month or a week, depending on the fab. You find out that this data that they collect is multiple petabytes a week.

Trying to use this data, a fab operator tweaks their knobs to improve yield. You can see what a daunting task that is.

Now, if there is an intelligent agent or intelligent software that can decipher all this and guide you through what knobs to turn based on

the physics that you have, the digital twin model that you have, you go from weeks of experiments, which means you tweak a knob, you run wafers, you make a mask and then come back and then you break it down, you look at SEMs and TEMs, all these electron microscopies to see whether it worked or not.

And then if it didn't, you do this iteration and you find out this added waste of trial and error in fabs that could cost on the order of tens to hundreds of million dollars depending on the technology node and wafer sizes. If it's advanced technology, it's much more expensive than other technologies.

Now what if you could, rather than running these wafers, do this through simulation of your digital twin models and reduce that waste from six months to a month and hundreds of million dollars to a fraction of that? How powerful could that be? All the fabs would use it. They would save a lot of money.

And guess what? Micron is using our FTCo for that same reason. That's what we are doing for them, and we are going to do this for more advanced technology nodes, photonics and for power. That's the promise of AI in fab.

Ideally, the holy grail of fab is there will be no operators in the fab. If you've gone to a new advanced technology fab, you find that it's mostly run by robots. Either the robots are on the ceiling or on the ground. They handle everything. Now to get close to 100% robotics utilization, you find out that you can utilize digital twin models spanning wafers and tools. So that's the next step.

Fabs are striving for zero labor, highest yield and fastest production. Everything is done automatically, not just fab. In the future, in any kind of manufacturing, ideally you want zero human errors. So, you eliminate that. The ultimate goal is to have processes that are self-controlled, self-learning. There is a long way to get there, but incrementally, that's what we are doing.

TWST: As we wrap up, is there anything else about Silvaco that you would like to share?

Dr. Taheri: Our roadmap basically says we have to solve design space issues utilizing AI and the new stuff. We have to solve the manufacturing issues. Manufacturing issues have to do with the wafers and tools. Of course, our roadmap extends beyond that. Now, after you manufacture, you have to cut these into little pieces of wafer called die and package them. That's our next target.

And then after packaging, you test it, verify it, and send it out. There's a lot of white space growth potential in these steps that's not addressed, and that's what we're going to focus on. And that's how we grow our company without having too many competitors to contend with. It makes it easier for everyone to have TAM and SAM expansions rather than competing on specific verticals.

TWST: Thank you. (NS)

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