Goldman Sachs Research

Equity Research

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Americas Technology: Semiconductors: EDA: Poised to begin capturing Agentic AI value with potential revenue acceleration—Buy CDNS, SNPS

James Schneider, Ph.D.
+1(212)357-2929 | jim.schneider@gs.com
Goldman Sachs & Co. LLC

Luya You
+1(212)902-5297 | luya.you@gs.com
Goldman Sachs & Co. LLC

Anmol Makkar
+1(212)357-1366 | anmol.makkar@gs.com
Goldman Sachs & Co. LLC

Khalil Fenina
+1(212)357-6392 | khalil.fenina@gs.com
Goldman Sachs & Co. LLC

Consensus has viewed Cadence and Synopsys as "defensive" 12%-15% growers at best, and potential victims of AI disruption at worst—with the stocks having lagged the SOXX by ~120 points in the past year. **However, our new analysis suggests the shift toward custom AI silicon has exacerbated a structural shortage of chip design engineers that EDA companies are uniquely positioned to monetize with Agentic AI—an incremental opportunity we estimate at ~$3.7bn/year by 2030, which is not reflected in Street estimates and may start to be evident as early as 2H26.** We believe consensus reflects the "pre-AI" version of the industry as growth is about to inflect, creating an opportunity in the stocks today.

- **AI customer chip demand could drive a global shortage of ~72,000 chip designers by 2030.** A key industry benchmark study (SIA/BCG, 2022) projected a ~23k shortfall in US chip designers before generative AI. Since then, hyperscalers and AI labs have launched custom silicon programs requiring at least ~2,500 designers. Meanwhile, the supply of human designers grows at just 2%-3% annually. We estimate AI design tools can add ~48k agentic engineer-equivalents by 2030, which can partially close this gap.
- **We size the Agentic AI revenue opportunity for EDA at ~$3.7bn annually by 2030 based on modest adoption assumptions.** We estimate "Copilot-style" AI EDA tools could price at ~$25k per engineer annually, relative to the ~$90–$100k customers spend in EDA per seat. We also think autonomous agents, which both EDA vendors will launch in 2026-27, could handle up to 30% of work by 2030 at ~$50k per agent—or ~25% of the fully-loaded cost of a human design engineer.
- **Street numbers reflect essentially none — and we believe initial proof points could be evident within months.** Consensus models both companies decelerating revenue growth from here, implying zero credit for this new Agentic layer. We estimate that this opportunity could lift Cadence's revenue growth from ~13% to the mid-20% range (+$2.30 of EPS by 2030) and Synopsys to ~20% (+$2.20). 2H results could provide the first evidence of this growth opportunity. If agentic AI tool adoption gains traction, we believe CDNS/SNPS could re-rate in terms of faster growth rates and higher multiples.
- **We reiterate our Buy ratings on CDNS and SNPS**. Our CDNS 12-month target moves to $470 from $410 (~22% upside), still based on 45X on normalized EPS earnings of $10.50 (from $9.10 on more visibility). We see ~35% upside for SNPS.

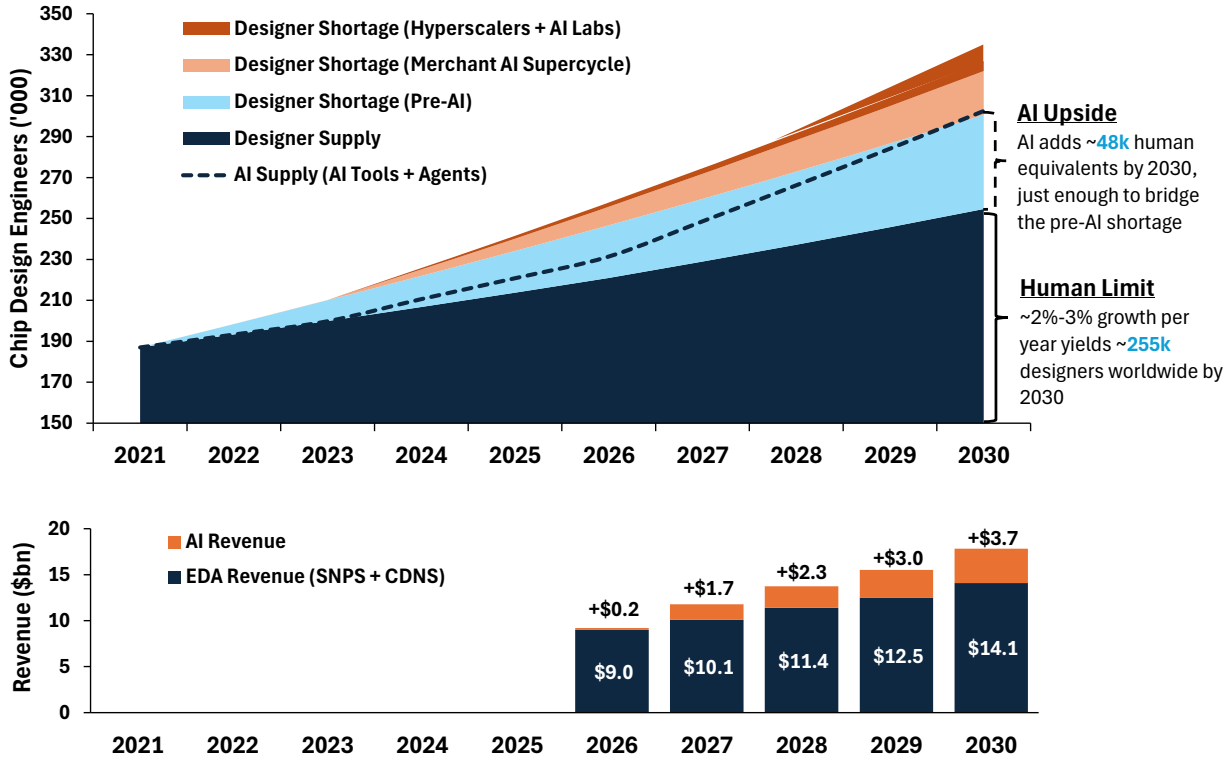
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Chip design labor shortage could drive a material EDA revenue opportunity through 2030

Bottom Line: The semiconductor industry has a long-standing labor problem, with the world producing new chip designers at just 2%-3% a year—yielding ~255k engineers by 2030—relative to the 325k design engineers we estimate the industry will require to service surging AI-driven demand.

According to a 2022 industry workforce study by the Semiconductor Industry Association (SIA) and Boston Consulting Group (BCG), as of 2021 the industry already expected a shortfall of roughly 23,000 chip designers by 2030. Since that study (which predates the 2023 generative AI boom), hyperscalers and AI labs have quickly built their own chip programs, while merchant chipmakers have cut design cycles from two years to one. Layering in that incremental demand implies a global shortage of ~70k designers by 2030 based on our estimates. As AI design tools are the only supply response available in the short term, our estimates suggest they could augment the industry by ~48k engineer-equivalents by 2030—enough to cover the shortage the industry had five years ago, but not the demand the AI boom has since created. We believe Cadence and Synopsys—the two market leaders in EDA tools—are best positioned to convert a structural labor deficit into a new revenue stream—roughly ~$3.7bn of incremental, consumption-priced AI software by 2030 (~$11bn in cumulative revenue in 2026-30), on top of a ~$14bn base of core EDA revenues, none of which is reflected in Street numbers today.

Exhibit 1: Global chip designer supply vs. demand, 2021-2030—and AI can help fill the gap



Source: Goldman Sachs Global Investment Research

We expect a material AI revenue opportunity for EDA software, even on conservative assumptions

Bottom Line: Our model assumptions are deliberately conservative despite the significant upside potential offered by AI tools in an industry constrained by labor supply. Even so, our estimates equate to $3.7bn of incremental annualized AI revenue by 2030.

Our analysis begins with the global population of chip designers, where we isolate the roles AI tools can already help augment (such as verification, physical design, RTL) and exclude what they still cannot. We quantify two distinct revenue layers: **(1) AI augmentation** or copilot-style tools for existing human engineers (adoption starts at 20%–40% of leading-edge designs where AI is already used today, priced at ~$25k per engineer, or a ~20% pricing uplift on AI-enhanced renewals already observed); **(2) Autonomous AI agents** that compensate for the engineers who cannot be hired (we assume agents perform just 30% of that unfilled work by 2030, priced at ~$50k per "virtual engineer," or less than half of the implied value capture). Our forecast relies on what we believe are relatively modest, real-world assumptions (e.g., partial adoption, value-price pricing) yet comfortably compounds to a ~$3.7B annual market by 2030.

Exhibit 2: AI revenue build summary for CDNS/SNPS – 2026–2030E

Summary	2026	2027	2028	2029	2030
Phase 1 - AI augmentation	$1,055	$1,411	$1,791	$2,198	$2,633
Phase 2 - Autonomous agents	$0	$258	$517	$775	$1,034
Total agentic EDA market	**$1,055**	**$1,669**	**$2,308**	**$2,973**	**$3,667**
Est. AI revenue - Cadence	$119	$751	$1,038	$1,338	$1,650
Est. AI revenue - Synopsys	$0	$329	$809	$1,019	$1,239
CDNS revenue (Visible Alpha)	$6,046	$6,869	$7,780	$8,484	$9,388
% Base Growth	14.1%	13.6%	13.3%	9.0%	10.7%
% Upside from AI	2.0%	10.9%	13.3%	15.8%	17.6%
% Base + AI	**16.1%**	**24.6%**	**26.6%**	**24.8%**	**28.2%**
SNPS revenue (Visible Alpha)	$9,691	$10,770	$12,068	$13,324	$15,055
% Base Growth	37.4%	11.1%	12.1%	10.4%	13.0%
% Upside from AI	0.0%	3.1%	6.7%	7.6%	8.2%
% Base + AI	**37.4%**	**14.2%**	**18.8%**	**18.1%**	**21.2%**

Source: Visible Alpha Consensus Data, Goldman Sachs Global Investment Research

Exhibit 3: Examples of custom chip design programs at hyperscalers and AI labs as of July 2026

Design Program	Status	Est. Designer Demand
Google TPU (v7 Ironwood) + Axion	Active	300
AWS Trainium 3 / Inferentia (Annapurna)	Active	300
Microsoft Maia 200	Active	450
Meta MTIA	Active	400
OpenAI Jalapeno	Taped out; ramp 27-28	350
Anthropic (Broadcom "Titan")	Reported	100
Tesla Dojo / AI5 - AI6	Active	200
Apple AI server silicon	Active	350
xAI	Reported	100
Total net-new US design demand		**2,550**

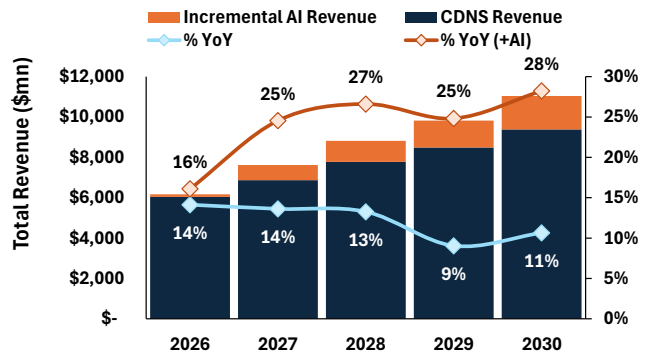
Source: Data compiled by Goldman Sachs Global Investment Research

Still priced for pre-AI growth — despite the AI inflection now in sight

Bottom Line: We believe the market has largely treated EDA companies as bystanders in the AI trade—as defensive, stable growers at best and as victims of AI disruption at worst—with the SOXX delivering a ~140% TTM return while CDNS gained ~20% and SNPS traded sideways. We now see a major catalyst on the horizon as agentic AI products enter the market in the coming quarters.

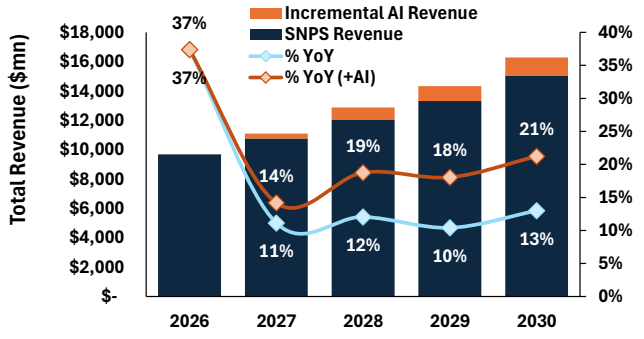
According to Street estimates (Visible Alpha), Cadence is seemingly modeled on the same growth algorithm it has been—~8% volume growth plus ~6% pricing, decelerating to ~13% by 2028—with AI apparently driving zero contribution (Exhibit 9). Layering in our AI upside estimates could accelerate revenue growth to the mid-to-high 20% range for CDNS and ~20% for SNPS, driving incremental EPS of ~$2.30 and ~$2.20 by 2030, respectively. Critically, this revenue would reflect sustainable, high-quality growth from consumption-priced software amid a structural labor shortage, delivered through the same incumbent tools the industry already uses on a daily basis. In addition, we believe agents would only work in conjunction with the vendors' own simulation and signoff engines. With CDNS trading at ~45X NTM EPS (and SNPS at ~35X) on the assumption that neither grows significantly faster than mid-double digits in the medium term, we expect significant upside to both names if the first evidence of AI adoption and monetization is demonstrated in the coming quarters.

Exhibit 4: CDNS Revenue—Base & AI upside



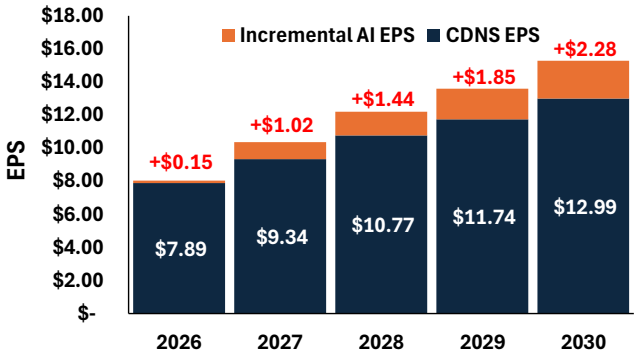
Source: Visible Alpha Consensus Data, Goldman Sachs Global Investment Research

Exhibit 5: SNPS Revenue—Base & AI upside



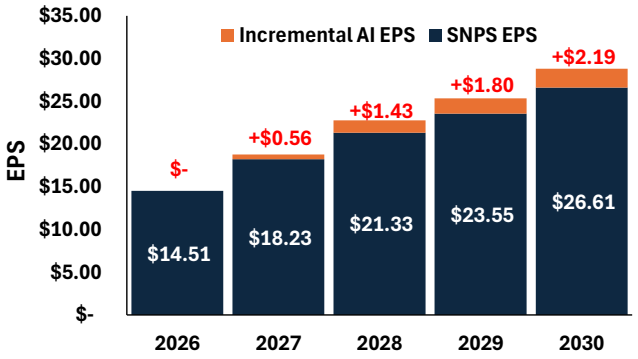
Source: Visible Alpha Consensus Data, Goldman Sachs Global Investment Research

Exhibit 6: CDNS EPS—Base & AI upside



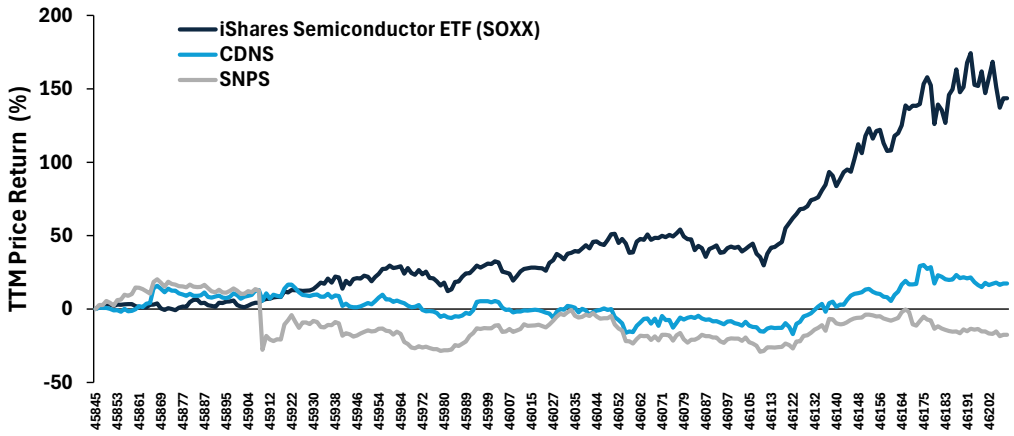
Source: Visible Alpha Consensus Data, Goldman Sachs Global Investment Research

Exhibit 7: SNPS EPS—Base & AI upside



Source: Visible Alpha Consensus Data, Goldman Sachs Global Investment Research

Exhibit 8: EDA names have lagged the broader AI rally among semis cohort



Source: FactSet

Exhibit 9: CDNS consensus estimates assumes stable growth from both volume and price with no discernable AI uplift

CDNS	2024	2025	2026E	2027E	2028E
Revenue	$ 4,641	$ 5,297	$ 6,046	$ 6,869	$ 7,780
Implied volume growth		8.6%	8.1%	7.6%	7.3%
Est. price growth		5.5%	6.0%	6.0%	6.0%
Total revenue growth		14.1%	14.1%	13.6%	13.3%

Source: Visible Alpha Consensus Data

Valuation/Risks

CDNS (Buy): Our CDNS 12-month target moves to $470 from $410 (~26% upside), still based on 45X on normalized EPS earnings of $10.50 (from $9.10 on more visibility). Downside risks: (1) export restrictions; (2) market share losses; (3) fewer custom chip designs.

SNPS (Buy): Our 12-month target price is $600 is based on a 40X multiple applied to our normalized EPS estimate of $15.00. Downside risks: (1) export restrictions; (2) market share losses; (3) fewer custom chip designs.

