BERNSTEIN
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Global Semiconductors and Semiconductor Capital Equipment

Global Semis and Semicap: Notes from the road - Takeaways from meetings at SEMICON West



Stacy A. Rasgon, Ph.D.
+1 213 559 5917
stacy.rasgon@bernsteinsg.com



Aleksander Peterc
+33 1 57 29 45 25
aleksander.peterc@bernsteinsg.com



Alrick Shaw
+1 917 344 8454
alrick.shaw@bernsteinsg.com



Arpad von Nemes
+1 917 344 8461
arpad.vonnemes@bernsteinsg.com



Eva Zhang
+1 212 845 7839
eva.zhang@bernsteinsg.com

Last week at SEMICON West in San Francisco we met with a number of industry company management teams both in and out of our formal coverage.

We met with the following companies:

Applied Materials (AMAT - Outperform, PT $700), President of Semiconductor Products Group Dr. Prabu Raja, VP IR Mike Sullivan, and IR Marty Parker

Lam Research (LRCX - Outperform, PT $385), EVP and CFO Doug Bettinger

PDF Solutions (PDFS - Outperform, PT $65), CEO John Kibarian, CFO Adnan Raza, and VP Products & Solutions Kimon Michaels

Soitec SA (Outperform - PT 215 EUR), CFO Albin Jacquemont and Head of IR, Financing & Treasury Alex Petovari

Nova Limited (NVMI - Not covered), CEO Gaby Waisman and CFO Guy Kizner

FormFactor (FORM - Not covered) - CEO Mike Slessor, CFO Aric McKinnis and VP IR Stan Finkelstein

Advanced Energy Industries Inc (AEIS - Not covered), President and CEO Steve Kelley; CFO Paul Oldham; VP, Strategic Marketing Edwin Mok; Andrew Huang, Director, IR

See the Disclosure Appendix of this report for required disclosures, analyst certifications and other important information. Alternatively, visit our Global Research Disclosure Website.

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BERNSTEIN TICKER TABLE

			16 Oct 2026		TTM	Adjusted EPS				Adjusted P/E (x)	
Ticker	Rating	Cur	Closing Price	Price Target	Rel. Perf.	Cur	2025A	2026E	2027E	2025A	2026E	2027E
AMAT (Applied Materials)	O	USD	409.29	700.00	64.2%	USD	9.42	12.76	18.30	43.5	32.1	22.4
LRCX (Lam Research)	O	USD	263.94	385.00	69.8%	USD	5.82	9.22	10.97	45.4	28.6	24.1
PDFS (PDF Solutions)	O	USD	39.22	65.00	25.4%	USD	0.94	1.35	1.75	41.6	29.1	22.4
SOI.FP (Soitec)	O	EUR	128.55	215.00	214.6%	EUR	(6.17)	0.01	3.92	(20.8)	N/M	32.8
SPX			7,659.44									
EDME			1,598.09									

O - Outperform, M - Market-Perform, U - Underperform, NR - Not Rated, CS - Coverage Suspended

LRCX, SOI.FP base year is 2026;

Source: Bloomberg, Bernstein estimates and analysis.

INVESTMENT IMPLICATIONS

AMAT (Outperform, $700.00): Exposure to key inflections is strong & valuation vs peers is attractive.

LRCX (Outperform, $385.00): The company is benefiting from key inflections (GAA, packaging, HBM, NAND upgrades) and CY26/27 commentary seems supportive.

PDFS (**Outperform**, **$65.00**): A transition to analytics provides for growth and margin expansion amid numerous structural drivers, with eProbe tools representing a new meaningful business opportunity.

SOI FP (Outperform, €215.00 PT): Soitec's core narrative is shifting to Photonics-SOI as the next primary source of growth, now clearly offsetting continuing destocking-led declines in smartphone-related RF-SOI.

DETAILS

Applied Materials (AMAT - Outperform, PT $700), President of Semiconductor Products Group Dr. Prabu Raja, VP IR Mike Sullivan, and IR Marty Parker

AMAT's SEMICON technology breakfast this year included new long-term financial targets as well as their broader outlook for WFE growth. Management continues to see unprecedented demand from the AI infrastructure buildout, with leading-edge foundry-logic, DRAM and advanced packaging seeing the most growth, the areas where they are most well-positioned. The company expects WFE spending through 2030 to grow faster than it did in the past decade, and they expect to gain >2ppts of WFE share from 2025 to 2030. The company also introduced some new financial targets, with 2030 gross margin and operating margin expectations of ~54% and ~40% respectively.

Management seems to view the ~54% gross margin target as somewhat conservative, noting that although they are confident in the levers they can pull (product portfolio, mix shift, pricing, etc.), the targets are ultimately a promise to investors and hence they must be achievable.

AMAT made the shift to value-based pricing in 2023, and they continue to add more valuable products into the mix and continue to price appropriately. There is still more room for further adoption, but they refuse to pursue predatory pricing as they value long-term customer relationships. Management noted that customers are increasingly focused on tool availability, yield and output rather than equipment cost, which has created a favorable pricing environment for them. The company has also been doing like-for-like price increases, something they've grown more comfortable with in this environment versus years prior.

Constraints on WFE growth include datacenter power, cleanroom capacity, and supply chain. Cleanroom availability remains a big gap, and when asked if a $300B WFE in 2028 would be possible if cleanrooms were unconstrained they suggested the answer was probably yes though as typical they declined to provide an actual WFE forecast; nevertheless it does seem clear that demand remains well in excess of available space. AMAT feels confident in their ability to procure supply, but noted that they must work very closely with both customers and suppliers to align expectations.

AMAT sees etch and deposition taking share from lithography going forward, as leading edge products these days aren't adding tons of EUV layers as seen over the past several years. The company instead sees a meaningful inflection in materials processing leading to high etch and deposition intensity as more wiring layers are being implemented for technologies like backside power, advanced packaging, etc., a trend that AMAT is uniquely positioned to capitalize on. Though they believe lithography intensity will decline, they expect overall need for lithography tools will continue to increase given the increase in reticle limited chips and the need for more vertical packaging.

AMAT unveiled the EPIC Center earlier in the week, and they believe the facility represents a critical evolution from them selling individual tools to delivering deeply integrated process solutions. When developing future roadmaps, customers are increasingly approaching AMAT with challenges at the device level rather than equipment requirements, and the facility allows them to optimize simultaneously across their broad portfolio to deliver the solutions that customers need, which becomes increasingly important as process steps become more interconnected. The EPIC Center marks a key area of differentiation from their peers, as AMAT is able to combine tool expertise, process expertise, and customer collaboration all under one roof, and thus deepening customer engagement and their integration in future roadmaps.

AMAT will continue to compete in China where they can, but they see the majority of AI-driven industry growth coming from areas they can legally serve. Though export restrictions limit their ability to compete in China, they can serve ~30% of the market, and intend to compete there. The company also noted that if you normalize for export restrictions, they've actually gained WFE share over the years. AI-driven industry growth going forward will be driven by customers they can serve, and thus the company intends to continue to gain share going forward and benefit from the inflection in the industry.

Other tidbits:

- **Panel-level packaging represents a future opportunity and the company has gained expertise through their display business as well as some strategic acquisitions.** Development is underway, but AMAT doesn't see panel-level packaging necessarily replacing wafer-level packaging, but rather both progressing in parallel going forward. Nonetheless, they are positioned to benefit from both.

- **The widespread adoption of 3D DRAM appears to be inevitable but not necessarily imminent** yet as management was hesitant to mark it as a 2030 event, as customers are progressing at different speeds.

- **AMAT will be delivering photonic products (not tools)** as they sell wave guides and lenses to address eyepieces and glasses, and sees a multi-billion dollar TAM by 2030 (they have built a fab in Singapore for this). The company noted an agreement with Google in this area.

Lam Research (LRCX - Outperform, PT $385), EVP and CFO Doug Bettinger

Lam reiterated their confidence in their mid-50s long-term gross margin target. Increased profitability continues to be driven by continued innovation with new product releases, supply chain optimization, and continued close customer engagement.

We will probably get some color from the company as to CY2027 WFE on their earnings call this week. The company suggested that 2027 WFE will be strong, and is debating whether to provide an actual number or else give qualitative commentary on the call (but they will likely say something).

Beyond this, the demand environment remains robust with very strong visibility several quarters out as Lam works with customers to align product roadmaps with their supply chain amid this tight environment. Although management acknowledges that they aren't supply constrained, they do recognize that things are getting tighter given extending leadtimes and the increasing use of expedite fees. They already have a loose sense for demand out through 2029 but can't say with high confidence. The company remains disciplined with their capacity expansion plans noting that they will continue to extract more value out of their facilities by squeezing more out of the square footage available today, though also noted that they could expand capacity further if need be for longer-term demand growth.

Management believes that the current operating environment is similar though different from the COVID supply-chain disruption, as there is currently better supply chain resilience with the main challenge being customer cleanroom space rather than the "golden screw" component shortages seen during COVID.

Other tidbits:

- **The WFE ecosystem remains highly interconnected**, as bottlenecks at any supplier could potentially impact wafer starts and disrupt demand for others. Hence, Lam acknowledges that their success is highly dependent on the success of their peers.
- **Foundry capacity tightening at TSMC creates the opportunity for fabless customers to increasingly evaluate Samsung and Intel**, potentially creating opportunities for them.

PDF Solutions (PDFS - Outperform, PT $65), CEO John Kibarian, CFO Adnan Raza, and VP Products & Solutions Kimon Michaels

The PDF Solutions business model has shifted from almost exclusively serving foundries to vertically serving analytics across the semiconductor industry. The company has expanded their exposure to now include foundries, IDMs, fabless players, equipment vendors, and OSATs. The shift away from foundry has been meaningful, with fabless players now accounting for ~35% of the business and equipment vendors accounting for ~20%, versus the ~85% foundry exposure seen before. Management has stressed that they want a business with the recurring software characteristics of the EDA players but also some select hardware exposure akin to that of the WFE players. They continue to diversify and innovate to avoid the customer concentration and cyclicality issues that have impacted parts of the semiconductor industry historically.

The eProbe opportunity continues to represent a large growth opportunity for the company and the remain committed to shipping ~6 tools this year, and continued deployments next year. Management noted that ~6 tools per year is right at the edge of their current capability, but suppliers would be able to double capacity if need be, hence supply isn't much of a bottleneck at this point. However, PDF remains committed to responsibly ramping this business so that customer support and field resources also scale with deployments, while being mindful of capex spend growth as well. Management sized the e-beam inspection tool market at ~70 tools per year based on their own analysis, and also indicated that given their tools are coupled with a unique software analytics platform their offering is quite differentiated from that of peers. Interestingly, though most customer deployments are under subscription, management indicated that all customers are presented with the direct sale option as well (still with favorable economics for PDF), but almost all have chosen the subscription model, particularly given the rapid rate of innovation within e-beam and PDF's ability service and upgrade these tools while under contract at no additional cost to the customer.

Management continues to view their relationship with Intel as strategic and expanding, and while it hasn't always been frictionless, PDF is now providing solutions for both Intel's foundry group and product group. Intel's engagement continues to grow as they have standardized Exensio around some of their internal workflows, signed significant contracts with PDF, use their CV test chips and continues to deploy eProbe tools across their fabs. Although there remains some resistance from some engineers where legacy workflows exist, Intel's leadership team remains supportive of PDF's platform. Management noted that the original large contract signed with Intel ~4 years ago is coming up for renewal late this year/early next year, and they appear positive on the prospect for renewal.

Exensio Aurora is a significant evolution of the platform, enabling real-time agentic AI analytics tailored for uniquely large and wide semiconductor datasets, and addressing the need for low-latency analysis. Aurora is designed to parallelize analysis workloads, enable natural-language interaction, and significantly reduce the time required to extract insights from production data. The company expects Aurora not only to improve customer productivity but also to increase Exensio usage and deployments, and deliver higher-value contract renewals.

PDF's memory exposure is minimal today, but the company appears poised to expand their presence here over time. The company strategically decided to limit their exposure to memory years ago, as the market was highly cyclical and concentrated. However, the market is now seeing more product differentiation and application-specific solutions, and likely requires more analytics overall, presenting new opportunities for PDF. Management noted the shipment of a demo eProbe tool to a memory customer.

Management noted that their engagement with TSMC remains limited by the company's desire to protect their IP, but believes there could be an opportunity to expand. TSMC is currently a PDF customer, as every 300mm tool or advanced packaging tool at their facilities are connected to PDF's platform, resulting in ~$1M-$10M in annual revenue. However, TSMC remains very protective of their IP and thus limits their usage of PDF's platform. Nonetheless, PDF prioritizes data security broadly and customers are able to completely limit PDF's visibility into their data where necessary, hence they see a potential pathway to increasing their engagement with TSMC.

Soitec SA (Outperform - PT 215 EUR), CFO Albin Jacquemont and Head of IR, Financing & Treasury Alex Petovari

Soitec continues to bolster its AI infrastructure and photonics business, with photonics now being the primary growth driver as management remains confident in achieving ~2.5x-3x growth from this segment. Management expressed that photonics SOI demand remains strong, with visibility improved versus prior cycles as the company has long-term agreements in place giving them confidence in the sustainability of demand over the next two years. The current long-term agreements differ from those from the prior cycle as the company now requires cash deposits and visibility into their customers' inventory. Despite the strong demand environment and tight supply predicament, the company's pricing strategy remains disciplined with no interest in predatory pricing and continued confidence the margin trajectory as it stands.

Capacity appears to be the main constraint to growing their photonics SOI business, though management highlighted their multi-year capacity expansion plan to support demand. Growth remains dependent on the qualification of products in their Singapore fab and their ability to improve manufacturing efficiency. The company is also repurposing silicon carbide capacity and assessing their ability to add an extension to their Singapore fab. They believe the plan would require a substantial capex investment of €750M of capex over two years but should result in the ability to support substantial incremental revenues.

Soitec sees five distinct drivers of photonics SOI demand going forward, larger GPU clusters requiring more layers of optical, increasing networking complexity with the shift from pluggable optics to NPO, CPO and optical interposers, the increased volume of data requiring more bandwidth, growth in scale-up networking, and the disaggregation of memory with agentic AI and peripheral memory.

Management believes that scale-up networking is a larger opportunity for them as high-bandwidth data transfer becomes increasingly important within AI clusters. They believe photonics plus individual laser will take share from copper, and though they recognize competition within the space, they remain poised to take share from those players with their very low power architecture.

Beyond silicon photonics, Soitec highlighted opportunities in thin-film lithium niobate (TFLN) and indium phosphide-on-insulator, as the overall photonics opportunity extends well beyond silicon-on-insulator. While TFLN is mostly produced in China currently, management believes this as mostly at the prototype level and highlighted that they have the facility to ramp the product into high-volume production. They also believe that TFLN will be complimentary to SOI, with the ability to integrate TFLN on top of SOI.

The company believes the RF SOI market nearing a cyclical bottom, with revenues declining this year but returning to growth next year. Channel inventories are sitting at over a year currently, still above the typical ~6-9 month pre-COVID levels. Although memory supply constraints are impacting the mobile market, the company believes that the market has to balance at some point and believes it unlikely that RF SOI will decline next year for them. Overall RF SOI utilization was ~50% last year, management guided this year to ~60% in May but now stated that it should land closer to ~70%.

The adoption of SOI for memory remains an optionality for Soitec, two Korean memory players are evaluating SOI for $6F^2$ DRAM and following the $4F^2$ DRAM announcement from a Chinese memory maker, this could present an opportunity for them, should they adopt SOI.

Nova Limited (NVMI - Not covered), CEO Gaby Waisman and CFO Guy Kizner

Company overview: Nova Ltd is one of the leading providers of process control systems for semiconductor manufacturing, specifically metrology equipment. The company's main segments include, dimensional metrology (~40-50% of equipment revenues), materials metrology (~20-30% of equipment revenues), chemicals metrology (~10-20% of equipment revenues) and services. Currently, their revenue mix is ~75% Foundry/Logic and ~25% Memory, though the long-term model is ~60/40 and management expects memory as a mix to increase going forward. The company's manufacturing footprint is strategically distributed across several specialized technology centers: Materials metrology equipment in the U.S., Dimensional metrology equipment in Israel, and Chemicals metrology equipment in Germany. Each facility is operated with autonomy around product development, while all customer-facing functions are centralized.

Metrology competition is largely product line specific, with Nova seeing competition within dimensional metrology from KLA and ONTO, competition within chemicals metrology from KLA and no competition in materials metrology where there strategy has been to bring lab tech into production-line systems.

Management sees China competition mostly proliferating at the lagging edge, hence having limited impact to Nova's operations. The company remains confident in their market position in leading edge metrology, and while China competition is active, it is mostly at the lagging edge. Their China revenue mix sits at ~30%, and the company expects this to trend to ~25% over the longer-term as revenue opportunities outside of China grow faster.

Nova continues to use a value-based pricing strategy with increases in tool ASPs driven by the addition of new capabilities, software functionality, etc. Beyond that, it is difficult to extend pricing further as customers continuously focus on cost of ownership. Nonetheless, Nova's margins are among the best in the space (~high 50s).

Nova continues to invest meaningfully in R&D to drive growth and further differentiation from peers, with R&D spending at ~15% of revenue. The company noted that lengthy co-development cycles are required to support advanced semiconductor technologies, with customer engagement beginning up to 10 years before product shipment. They continue to work on new technologies for future process nodes, particularly for Logic and DRAM. Nova continues to leverage AI to improve the performance of their own tools, but they remain cautious on the model side as the cost of implementation can be significant.

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FormFactor (FORM - Not covered) - CEO Mike Slessor, CFO Aric McKinnis and VP IR Stan Finkelstein

Company overview: Form Factor is a leading provider of probe cards, probing stations and other measurement and test equipment for the semiconductor industry. Probe cards comprise ~80% of their business, and are highly customized cards that serve as the connector between a tester system and the die on the wafer. Since each mask set has its own unique probe card, these cards allow for the reuse of tester systems on various different chips. Their probing stations/tools segment makes up ~20% of their revenues, with the company providing system solutions earlier in their customers' development processes. Management noted that this is their highest gross margin business.

FormFactor is increasingly focused on taking SAM share going forward to achieve their long-term target of $1.6B in revenue by 2030. The company is currently the overall market leader in probe cards as they are the only supplier with exposure to both leading logic and memory, but are the #2 player in both markets (Technoprobe is the #1 player in Logic and MJC is the #1 player in Memory). FormFactor is starting to regain share in leading logic after missing prior technology transitions, with overall market growth seen from increased GPU and ASIC output. GPU customers in particular are starting to prioritize dual sourcing to diversify their supply chain, creating opportunities for FormFactor.

CPO and silicon photonics is seen adding systems demand for probe cards with the need for wafer-level optical probing. The company has established themselves as the optical probing expert, and sees opportunities to expand within their current customer base, and sees an optical SAM of ~$400M by 2030. The largest opportunity remains at the earliest insertion point, because if they can get the technology right for the first insertion it can be used for any other insertion. Downstream integration become increasingly expensive and complicated as complexity increases. While there are concerns about testing becoming a bottleneck, the company doesn't believe it's a bottleneck at this point but rather a pain point, as the technology works. They see a compelling roadmap ahead, but we are early in the adoption of the technology.

Management doesn't view capacity as a constraint to achieving their financial targets. The company highlighted its expanded Farmers Branch facility, which effectively provides capacity comparable to its California operations while allowing production to scale in phases as demand develops. Management stressed that existing facilities can support its current target model and that future growth is more dependent on end-market demand than manufacturing capacity.

Other tidbits:

- **Management continues to emphasize cycle times and yields to drive gross margin expansion.**
- **FormFactor makes probe heads and space transformers internally, but buy PCBs externally. The company noted that PCBs are constrained.**
- **The probe card industry has become increasingly consolidated, with the top three suppliers controlling roughly 80% of the market.**
- **The company expects HBM demand to remain first-half weighted.**

Advanced Energy Industries Inc (AEIS - Not covered), President and CEO Steve Kelley; CFO Paul Oldham; VP, Strategic Marketing Edwin Mok; Andrew Huang, Director, IR

Company overview: Advanced Energy Industries (AEIS) was founded by two AMAT engineers focused on developing plasma power systems for processes like plasma etch and deposition. Once they recognized the emerging demand for highly controlled plasma power in the semiconductor industry, they founded AEIS to design and manufacture specialized power boxes for these applications, and it has since become a key supplier of precision power equipment. Over time, AEIS expanded its expertise in power conversion to serve broader markets, including data centers, industrial and medical applications, telecommunications and networking, leveraging its core strength in precision power to support high-performance, mission-critical systems.

Advanced Energy's pillars of growth include new semiconductor product portfolio, improved platforms in industrial and medical, and further expansion of their datacenter business. The semiconductor business remains a large area of focus and management sees opportunities to be designed into sub-2nm nodes, which should drive more customers and revenue growth. They continue to innovate within their industrial and medical business, where they have a large footprint, and that should drive further growth. Within Datacenter, the company remains focused on delivering differentiated power density and efficiency solutions to grow the business and lift segment margins.

Advanced Energy's positioning in the semiconductor industry remains strong, with continued leadership in plasma power and growing exposure to leading-edge nodes. Management noted its market leading position with ~1/3 share in plasma power for over a decade, relationships with all major WFE vendors and larger relationships with AMAT and Lam in particular. AEIS is increasingly getting designed into sub-2nm nodes, and they recognize etch as their largest opportunity given the rising power intensity requirements. They don't currently see supply constraints in plasma power, and they continue to work diligently to stay ahead of shortages.

Datacenter has increasingly become an important growth driver for the company, as Advanced Energy has strategically shifted away from the low-end/commodity part of the market and focused on power solutions for hyperscalers. The company supplies power shelves and power converters for four large hyperscaler customers, with more than half of their datacenter revenues coming from one customer. This business saw ~100% growth in 2025, and the company expects it to grow >50% this year, followed by strong growth next year. Current growth is being driven by 48V power deployments, while 800V architectures remain further out in development. Management believes 800V will be additive to existing growth opportunities and could open additional applications beyond today's hyperscaler deployments. The company expects datacenter margins to grow closer to corporate average as Advanced Energy continues to provide higher value solutions for their customers.

Advanced Energy sees a second wave of AI infrastructure customers driving further growth starting in 2027 as they anticipate additional adoption from hyperscalers, OEMs, AI labs, neoclouds, etc. These customers can leverage Advanced Energy's existing portfolio in their infrastructure buildout. The company believes the second wave opportunity can be as large as the current hyperscaler business, and result in ~$300-$400M in revenues exiting 2028 or 2029.

Management sees opportunities for margin expansion going forward, noting that semiconductor products remain the highest margin portion of their portfolio, and while datacenter margins have grown from the historical ~teens levels, there is room for further expansion. They expect new platform ramps, product mix improvement, and manufacturing efficiencies to drive margin expansion. The company expects new platforms to drive ~200bps of margin improvement, with probably over100 bps left on gains from further efficiency improvements. Further scale should help as well, with every ~$50M in quarterly revenue growth resulting in ~40-50 bps of margin improvement.