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Global Technology

The Analog Playbook 3Q26: Cycle Recovery Underway

Into Q3 we are constructive on global analog as we expect cycle recovery to continue amidst structural tailwinds. That said, we expect the debate to center on margins and whether larger volumes and firmer pricing can deliver progression investors expect.

Key Takeaways

- Further price increases and lean channel inventories keep us constructive on the cycle this quarter.
- In Europe, we see STMicroelectronics as best positioned for cyclical upside, while in North America we prefer ADI and NXP.
- We see pricing becoming a more tangible support to the recovery, but look to the Q3 prints for whether this translates into sustainable margin expansion.
- M&A across VPD and edge AI were a key theme. This quarter we look for progress on integration and production ramps.
- Our stock in focus is NXP Semiconductor. We like positioning beyond the next print, with potential upside from improving orders and factory utilisation.

Cyclical recovery to continue. Into the 3Q26 prints, further price increases and lean channel inventories keep us constructive on the cycle, with industrial leading the recovery and automotive increasingly participating. In Europe, we see STMicroelectronics as best positioned for cyclical upside. Its factory automation exposure underpins our expectation for up to 40% yy industrial revenue growth in 4Q26. In North America, ADI's broadening industrial recovery and NXP's content-led automotive growth offer differentiated support beyond inventory replenishment. In Asia, Renesas is benefiting from AI demand spilling over into factory automation and semiconductor equipment, while Greater China remains more mixed as rising foundry costs constrain the earnings benefit from higher prices. As in previous quarters, we expect commentary to focus on order momentum, channel inventories and the sustainability of above-seasonal growth. **But we think the bigger debate is around margins.** In particular whether higher volumes and firmer pricing deliver the progression investors expect, or have expectations again moved ahead of achievable earnings leverage.

M&A activity: Vertical power delivery and edge AI, the common threads. Q3 acquisitions across global analog targeted data-center power and physical AI. ADI's Empower, Navitas' Claros and Infineon's C2i acquisitions reflect the push to capture more power content close to the processor. Our Europe Semis team lead a server rack model where we model the dollar content per element in the rack. Herein we see vertical power delivery as a high-dollar-content opportunity scaling with each

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TECHNOLOGY - EUROPEAN SEMICONDUCTORS	
Europe	
Industry View	In-Line
GREATER CHINA TECHNOLOGY SEMICONDUCTORS	
Asia Pacific	
Industry View	Attractive
SEMICONDUCTORS	
North America	
Industry View	Attractive

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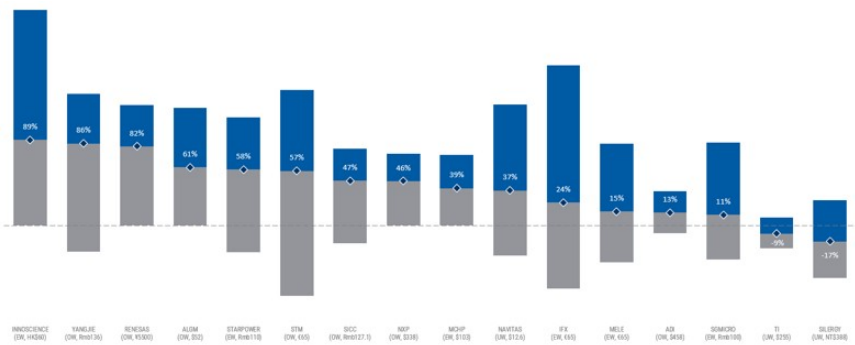
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rack generation. We continue to see Infineon as best positioned to capture share in the data center given its full power semiconductor portfolio, though we note increasing competition. Beyond the data centre, ADI's agreement to acquire Alif and Microchip's Hailo acquisition highlight a parallel push into edge AI: pairing established sensing and power capabilities with processing, connectivity and software. These transactions broaden exposure to industrial automation, robotics and other physical-AI applications. **Into the Q3 prints, we look for progress on integration and production ramps to gauge how quickly acquired capabilities can translate into incremental growth.**

Stock in focus: NXP Semiconductors. We remain Overweight NXP (PT $338), as we think cautious sentiment toward Auto overlooks the company's differentiated growth drivers and improving earnings potential. NXP's Automotive revenue grew 17% y/y in 2Q26 excluding MEMS, driven by content gains rather than restocking. With Auto OEM and supplier inventories now below historical medians, we see potential for emerging supply constraints to prompt earlier replenishment, adding to NXP's product-driven growth. We also see a more favorable setup into FY27, with vehicle production expectations beginning to improve and the shift toward SDVs creating further semiconductor content opportunities. We like NXP's positioning beyond the next print, with potential upside from improving orders and factory utilization.

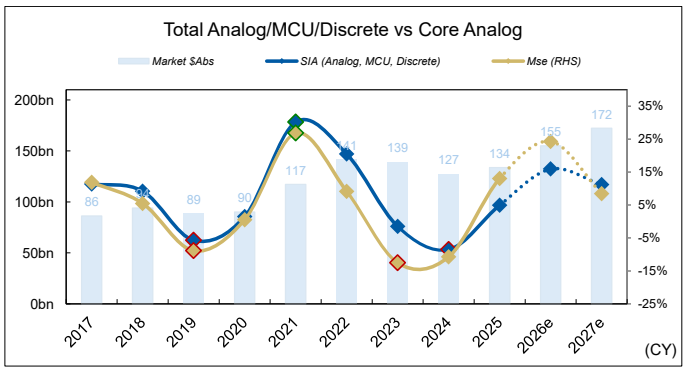
Exhibit 1: Global Analog Risk-Reward Skew



Source: Morgan Stanley Research estimates

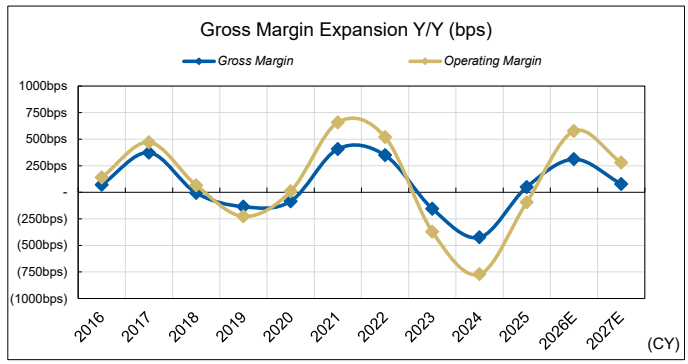
Our Story in 6 Charts

Exhibit 2: We expect continued growth into 2027 after a strong recovery...



Note: MSe includes ADI, TXN, Infineon, Renesas, STMicro, MCHP, NXP; all in $USD. Source: SIA, Morgan Stanley Research Estimates.

Exhibit 3: ...along with gross margins



Note: MSe includes ADI, TXN, Infineon, Renesas, STMicro, MCHP, NXP; all in $USD. Source: SIA, Morgan Stanley Research Estimates.

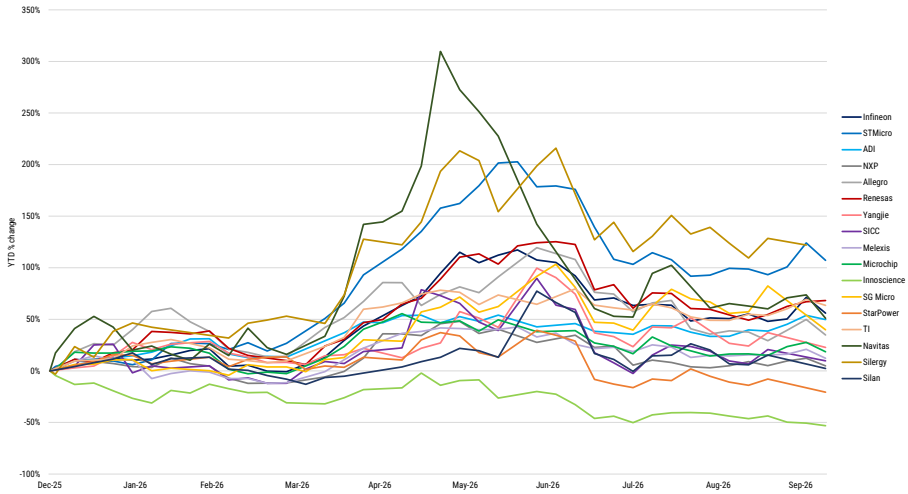
Exhibit 4:

Global Stock Preferences



Source: Morgan Stanley Research

Exhibit 5: YTD our Analog Coverage are still up more than 30% on average despite pulling back from June peaks.



Source: FactSet, Morgan Stanley Research

Exhibit 6: Our Global Analog Coverage OW rated stocks

Stock	Rating	Thesis
life.augmented	OW, PT €65 Covered by Lee Simpson	STM has a portfolio positioned for growth areas (BiCMOS imaging sensors, GP MCUs). We see opportunity for recovery into FY26/27. We expect drivers of FY27 growth to come from data centres, with a material ramp in optical revenues driven by pluggables and NPOs (2027+), as well as LEOs in the CECP end market. We allow for a modest industrial recovery cycle starting 2H26. We see some signs of automotive recovery as ASIL-grade microcontroller (MCUs) design wins start to convert to sales (2027+).
ANALOG DEVICES AHEAD OF WHAT'S POSSIBLE™	OW, PT $458 Covered by Joe Moore	We are OW ADI on the back of 3 reasons: 1) ADI has managed the downcycle well, only seeing 1 quarter of OPM% below 40%, 2) the company's revenue outlook looks strong with high industrial exposure, and 3) the company has relatively higher ASP products which should limit direct competition with emerging Chinese capacity. ADI is a core holding in the analog space long term as the company has exposure to the right end markets as well as superior margins and FCF generation, a result of developing a comprehensive analog portfolio via successful integration of Linear Tech and Maxim.
NXP	OW, PT $338 Covered by Joe Moore	We remain OW NXP on the back of: 1) NXP should outperform Auto semis in 2026 as auto joins other end markets in a recovery. 2) Structural improvements to the business: NXP has multiple levers to improve gross margin from here (channel shipments, internal utilization, and overall revenue growth); and 3) Favorable MCU set up into 2026 as momentum acceleration appears likely to inflect.
ALLEGRO microsystems	OW, PT $52 Covered by Joe Moore	We see scope for Allegro to outperform over the next several years as the recovery remains in an upcycle, with earnings power increasingly supported by incremental secular growth vectors in auto electrification and industrial. 35x is in-line with the company's average PE multiple since 2022, but is a premium to auto semi peers and in-line with higher gross margin analog/MCU companies.
RENESAS	OW, PT 5,500 JPY Covered by Kazuo Yoshikawa	After years of stagnation, we expect growth of memory interface and digital power for datacenters, MCU for E/E architecture, R-Car for ADAS to drive revenue growth from CY26. Product mix improvement should drive continued gross margin improvement. Data center revenue growth and sustained gross margin improvement outlook, as well as improved prospect of shareholder returns, could trigger re-rating.
扬杰科技 YANGJIE TECHNOLOGY	OW, PT 136 CNY Covered by Daisy Dai	Yangjie is a quality company that we expect to outperform relative to its power semi peers. Overseas packaging and foundry capacity expansion is ongoing. We expect its fab in Vietnam to add growth and gain orders from overseas customers. We expect Yangjie's GM to continue to improve as its product selling prices are stabilizing, auto business is increasing in the mix, and operational efficiency continues to improve. We view valuation as attractive.
SICC	OW, PT 127 CNY Covered by Daisy Dai	We expect SICC to gain share over its global and local competitors due to its technology leadership, especially in 8-inch. Substrate pricing is stabilizing this year, and we think SICC's technology breakthrough could lead to lower costs, thus offering some protection in case pricing starts to decline again in 2027. We expect SiC penetration in EV and data centers to continue to rise. We expect SICC to trade up to 8.5x 2026e BVPS, above the historical average level of 5.5x, owing to of global market share gain and long-term secular drivers (EV, AI data centers, AR glass).

Source: Morgan Stanley Research

Exhibit 7: Our Global Analog Coverage EW rated stocks

Stock	Rating	Thesis
Infineon	EW, PT €65 Covered by Lee Simpson	We view Infineon as best placed amongst European analog names for a cyclical recovery in automotive/industrial, demonstrating a superior ability to weather the headwinds facing these markets in the meantime. We expect new wins in autos to validate IFX's strategy (design focus, capacity build, proprietary IP). A strong IP library augurs well for GaN longer term too including use in EVs, data centres and energy storage. However, near-term share price movements will likely depend on clarification of the 800v deployment timeline.
Melexis INSPIRED ENGINEERING	EW, PT €65 Covered by Lee Simpson	Melexis enters 2H26 with higher revenue expectations, but growth still trails peers despite a weaker first-half base. Margin conversion remains muted as management prioritises volume over pricing and wage inflation absorbs gross margin gains, while robotics remains too small to affect the near-term earnings path. We remain EW pending clearer evidence of sustained catch-up growth and stronger operating leverage.
MICROCHIP	EW, PT $103 Covered by Joe Moore	There's opportunity here as we think certain concerns surrounding the company are overblown (GM%, BS), but the biggest variable is revenue growth as a cyclical recovery would be an undeniable lever to EPS as well as dispel BS worries. There are considerable headwinds the company will have to get past including increased MCU competition, macro uncertainty, and regaining customer trust from overly extending PSP. If macro uncertainty subsides and we get indication that the MCU upcycle is strengthening, we would be quick to revisit our EW rating, but for now we remain EW.
Innoscience	EW, PT 60 HKD Covered by Daisy Dai	We believe Innoscience is well positioned to benefit from secular growth drivers for the GaN market, such as NVIDIA's 800V AI data centers, EVs and humanoid robotics. Despite these secular growth drivers, we expect competition to remain fierce and excessive capacity may persist industry-wide in the next five years on the back of aggressive capacity additions. We expect Innoscience's gross margin to improve at a moderate pace in 2026/27e, partly because of rising depreciation costs, and the company to incur losses until 2026e. Our EW relative to our coverage reflects balanced risk-reward on high revenue growth potential, amid lofty market expectations.
SGMICRO	EW, PT 100 CNY Covered by Charlie Chan	The analog cycle has bottomed, but the rebound seems soft in sectors other than auto and AI. SG Micro should still enjoy top-line growth, backed by its comprehensive product portfolio (>6,800 SKUs). The long-term gross margin outlook should be stable, ranging from 48% to 52%, due to improvement in product mix and aggressive market share gains. SG Micro is actively engaging into optical networking business with ability to supply 800G/1.6T optical module. The stock is trading at 65x 2026e P/E, which is less compelling to us as it stands around its historical average.
starpower	EW, PT 110 CNY Covered by Daisy Dai	IGBT is in cyclical recovery, but weaker EV sales this year create headwinds. StarPower can drive revenue growth through IPM and SiC MOS, although the auto MCU development cycle is long, so we expect limited near-term contribution. Margins may remain structurally lower due to the depreciation burden. Our price target implies 45x 2027e P/E (vs. a historical range of 27–100x), which we consider fair.

Source: Morgan Stanley Research

Exhibit 8: Our Global Analog UW Rated Stocks

Stock	Rating	Thesis
Texas Instruments	UW, PT $255 Covered by Joe Moore	TI is looking to ramp capex over the next few years to help bring more manufacturing in-house, but this will act as a near-term headwind to earnings and FCF growth. The company has also seen pricing and market share pressure in personal electronics and enterprise, as customers move to multisource components, and face competition with local Chinese supply. The company trades at a premium valuation for its solid governance track record, and we admire the company's long-term direction, but we see this dynamic as limiting upside in the near-term as margin should come under pressure from the capex ramp.
Navitas	UW, PT $12.6 Covered by Joe Moore	The GaN market is increasingly looking more competitive, with STMicro, Infineon, and Renesas all making inroads into GaN via acquisitions and partnerships. While these larger players may expedite the adoption of GaN in markets outside smartphone chargers and expand the TAM, we expect these opportunities to be captured by more established power semi providers rather than Navitas given their supply assurance and automotive qualification experience. NVDA's 800V AI server racks are an enticing opportunity, but given competition and timeline, we think it is too early to fully price in this opportunity.
Silergy	UW, PT 388 TWD Covered by Charlie Chan	We have downgraded Silergy in view of its margin miss from foundry cost hikes and weak consumer demand. Its server and optical PMIC exposure remains relatively small. Our price target implies 23x 2027e P/E. We view valuation as more than full, especially after a strong stock rally.
Silan 士兰微电子	UW, PT 26.9 CNY Covered by Daisy Dai	We view Silan as a key beneficiary of China's power semi localization trend, but interest expense and depreciation costs weigh on earnings. We expect operating margin of around 10% for 2026, with limited operating leverage benefit despite full utilization. On our estimates, valuation looks demanding at 4.8x 2026 BVPS, vs. the past three year historical average of 3.3x.

Source: Morgan Stanley Research

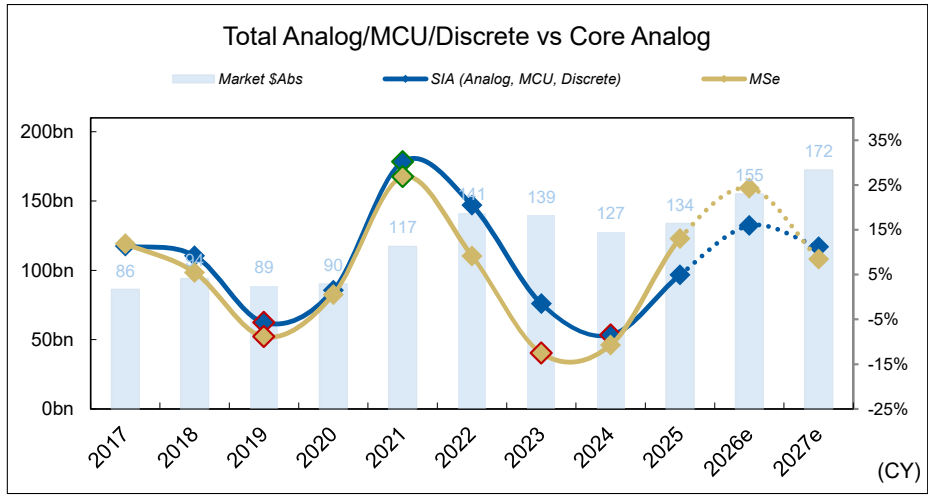
Exhibit 9: Catalyst Calendar

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
19/10/2026	20/10/2026	21/10/2026	22/10/2026	23/10/2026
		Texas Instruments 3Q26		
26/10/2026	27/10/2026	28/10/2026	29/10/2026	30/10/2026
	NXP Semiconductor 3Q26	Melexis 3Q26 SICC 3Q26	STMicroelectronics 3Q26 Allegro Microsystems 3Q26 Renesas 3Q26	
02/11/2026	03/11/2026	04/11/2026	05/11/2026	06/11/2026
		PIC Summit Europe		
Navitas 3Q26			Microchip 2Q27	
09/11/2026	10/11/2026	11/11/2026	12/11/2026	13/11/2026
	Infineon Technologies 4Q26			
16/11/2026	17/11/2026	18/11/2026	19/11/2026	20/11/2026
		Europe TMT Conference		
23/11/2026	24/11/2026	25/11/2026	26/11/2026	27/11/2026
		Analog Devices 4Q26		

Source: Company data, Morgan Stanley Research

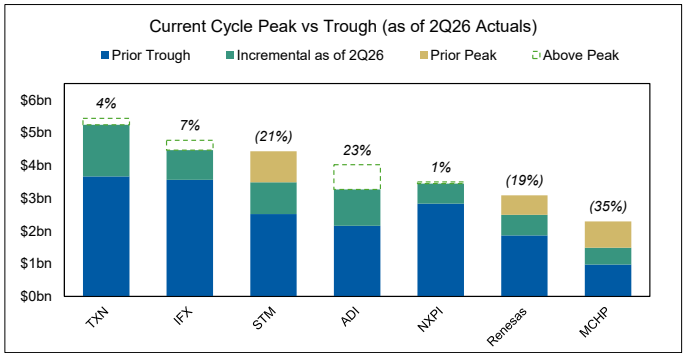
Global Analog Forecasts

Exhibit 10: We expect continued growth into 2027, with both our industry and analog estimates (MSe) up again after a strong 2026 recovery...



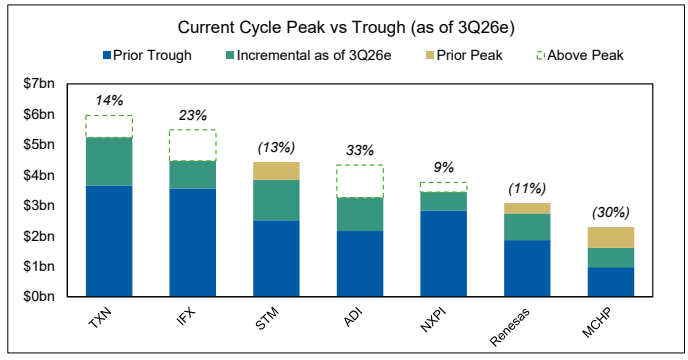
Note: MSe includes ADI, TXN, Infineon, Renesas, STMicro, MCHP, NXP; all in $USD. Source: SIA, Morgan Stanley Research Estimates.

Exhibit 11: As of 2Q26, most analog/mcu names are recovering toward or above their prior peak...



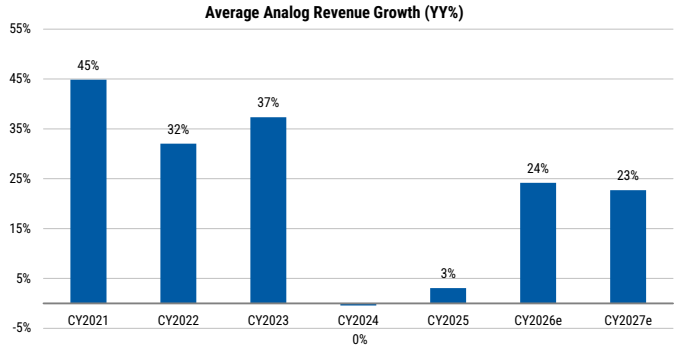
Note: MSe includes ADI, TXN, Infineon, Renesas, STMicro, MCHP, NXP; all in $USD. Source: SIA, Morgan STanley Research Estimates.

Exhibit 12: ...with our 3Q26e estimates pointing to further growth vs prior peak, notably as 3Q tends to be a seasonally strong quarter



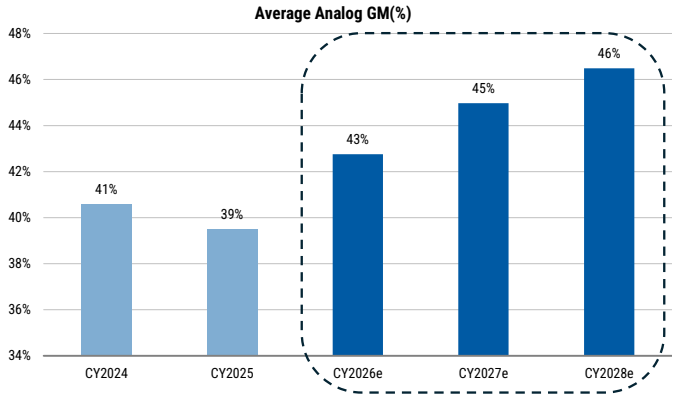
Note: MSe includes ADI, TXN, Infineon, Renesas, STMicro, MCHP, NXP; all in $USD. Source: SIA, Morgan STanley Research Estimates.

Exhibit 13: Our Global Analog Revenue forecasts continue to see growth tick up to DD%...



Source: Company Data, Morgan Stanley Research estimates, Note: Companies include Infineon, STMicroelectronics, Melexis, NXP Semiconductor, Analog Devices, Texas Instruments, Microchip, Navitas Semiconductor, SG Micro, Silergy, Renesas, Innoscience, Yangjie Technology, SICC, StarPower, Allegro Microsystems, Silan Microelectronics

Exhibit 14: ...accompanied by continued margin expansion into CY2028.



Source: Company Data, Morgan Stanley Research estimates, Note: Companies include Infineon, STMicroelectronics, Melexis, NXP Semiconductor, Analog Devices, Texas Instruments, Microchip, Navitas Semiconductor, SG Micro, Silergy, Renesas, Innoscience, Yangjie Technology, SICC, StarPower, Allegro Microsystems, Silan Microelectronics

3Q26 Cycle: Recovery Ticks Up

Recovery is broadening, but durability and margin conversion are the key debates. Last quarter reinforced the improving demand trends highlighted in our 2Q26 playbook. Our checks suggest this should be reflected again at the 3Q26 reporting season as channel inventories remain lean and this quarter has seen our coverage exercise additional rounds of price hikes. That said we think the debate continues to center on margins and whether expectations have run too high again.

A reminder of last print: improving fundamentals, but a higher bar for earnings delivery. The 2Q26 reporting season reinforced the improving demand trends flagged in our last playbook, with broadening industrial strength and a recovery in automotive. Cleaner channels, constructive bookings and selectively firmer pricing supported our view that the upturn was more than a short-lived inventory correction. Margin guidance, however, did not always meet expectations, particularly in Europe. **Into the 3Q26 prints, we expect the debate to shift from whether the cycle is recovering to how long above-seasonal growth can persist and how effectively higher volumes translate into earnings.**

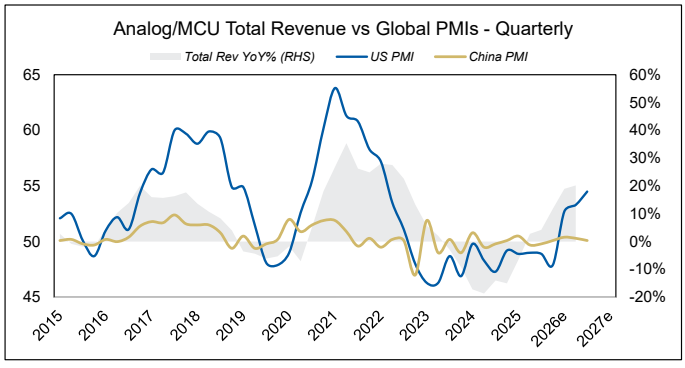
Industrial growth to outperform automotive. We expect automotive momentum to remain positive into 3Q26, supported by China EV/hybrid demand, increasing semiconductor content, pricing power (espe. MOSFETs, MCUs) and selective replenishment. In Europe, we see sequential automotive sales growth of 8% at Infineon and 7% at STMicroelectronics. On the nature of this growth, we are reassured that companies in our coverage have not spoken to restocking, but continue to expect automotive growth to lag industrial. We see industrial as the most advanced part of the recovery. In Europe, for instance, STMicroelectronics' factory automation exposure underpins our expectation for industrial revenue growth of 40% yy in 4Q26. We would, however, distinguish an independent industrial recovery from the spillover of structural spending. Renesas linked strength in factory automation and semiconductor equipment to AI/data-centre demand. **Into Q3, broader participation beyond these applications would strengthen the case for a more durable up-cycle.**

Exhibit 15: Automotive and Industrial Commentary

Company	Guide	Automotive Commentary	Industrial Commentary
ADI	Quarterly guide	Auto $998mn, +16% yy / +14% qq; next Q auto expected up LSD% qq	Industrial $1.97bn, +53% yy / +10% qq; next Q industrial expected up HSD% qq
	FY guide	no explicit FY auto guide; content gains in ADAS and electric powertrains	no explicit FY industrial guide; ATE, test & measurement, A&D and automation led Q3 growth
Infineon	Quarterly guide	ATV revenue c.€1.93bn, +6% qq; next Q ATV guided to moderate growth	next Q GIP guided to significant qq growth; AI data-center power and grid infrastructure are key drivers
	FY guide	ATV to see slight FY growth despite high-voltage drivetrain headwinds; automotive orders picking up	GIP expected to grow just below group average for FY as AI-linked industrial markets improve
Melexis	Quarterly guide	Auto 89% of Q2 sales; Q3 total sales guided €220–225mn (+1–4% qq)	Robotics sales/orders growing strongly; opportunities nearly doubled with growth in both China and the US
	FY guide	no explicit FY auto guide; share gains in position sensors, lighting and motor drivers	no explicit FY industrial guide; robotics opportunities nearly doubled in Q2
Microchip	Quarterly guide	Auto demand is improving as the recovery broadens; no segment-specific quarterly guide disclosed	Industrial demand is improving as customer inventories normalize; no segment-specific quarterly guide disclosed
	FY guide	no explicit FY auto guide; recovery is broadening across end markets	no explicit FY industrial guide; customer inventory normalization supports the broader recovery
Navitas Semi	Quarterly guide	No auto guide; next Q growth led by high-power markets, specifically AI infrastructure	High-power markets +50% yy in Q2; next Q revenue guided +28% qq on AI data centre and grid/energy
	FY guide	no explicit FY auto guide; strategic focus shifting to high-power industrial/data center markets	no explicit FY industrial guide; AI infrastructure to exceed one-third of sales by year end
NXP Semi	Quarterly guide	Q2 auto $1.938bn, +12% yy / +9% qq; Q3 guided up LDD% yy / MSD% qq	Q2 Industrial & IoT $755mn, +38% yy / +20% qq; Q3 guided up high-30s% yy / MSD% qq
	FY guide	no explicit FY auto guide; growth driven by SDV content, no restocking seen	no explicit FY industrial guide; Physical AI and edge processing remain growth drivers
Renesas	Quarterly guide	Auto ¥187bn, +9% qq / +16% yy; next Q auto expected to grow on China 28nm MCUs and Japan channel build	Next Q Industrial/Infrastructure/IoT expected to grow on data center and industrial demand
	FY guide	no FY guide (Renesas guides one quarter ahead)	no FY guide (Renesas guides one quarter ahead)
STMicroelectronics	Quarterly guide	Auto +16% yy / +14% qq; Q3 auto expected up LDD% yy, in line with market	Industrial +34% yy / +20% qq in Q2; no segment-specific Q3 guide disclosed
	FY guide	no explicit FY auto guide; auto expected up LDD% yy in H2, in line with market	no explicit FY industrial guide; industrial to reach close to +40% yy by Q4
Texas Instruments	Quarterly guide	Auto mid-teens yy / upper-SD qq, accelerating on China EV/hybrid; Q3 auto expected to contribute to above-seasonal guide	Industrial c.+30% yy / c.+10% qq, broad-based; Q3 expected above seasonal with industrial contributing
	FY guide	no FY guide (TI guides one quarter ahead)	no FY guide (TI guides one quarter ahead)

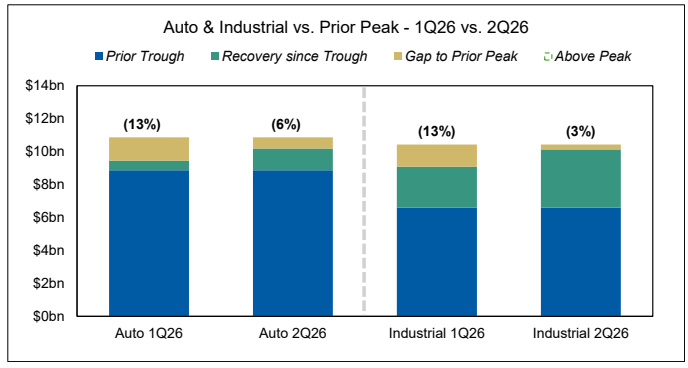
Source: Company data, Morgan Stanley Research

Exhibit 16: PMIs have been in expansionary territory since January of this year...



Source: Company data, VisibleAlpha, Morgan Stanley Research

Exhibit 17: ...supporting Industrial recovering faster than auto, though both remain below prior peaks



Note: Group includes: ADI, TXN, Infineon, STMicro, NXP Renesas, MCHP, ON; As of 2Q26 earnings.
Source: Company data, VisibleAlpha, Morgan Stanley Research.

Further price hikes through Q3. STM followed earlier increases with a reported third round (effective 23 August). In September, management indicated that increases were now more than offsetting input-cost inflation, leaving overall 2026 pricing broadly flat to

slightly positive. ADI's reported second adjustment (effective 13 September) also points to broader repricing, although management subsequently emphasised that the aim was cost recovery rather than margin expansion. Microchip confirmed increases taking effect predominantly from mid-August to early September, with only a small initial contribution expected in the September quarter, while onsemi reiterated at their September analyst day that a second round was addressing input costs already weighing on profitability. These developments strengthen our case for pricing support into year-end, but we would distinguish announced increases from realised portfolio-wide pricing. TI's increases were expected to phase through September, December and potentially 2027, yet management described the pricing contribution to their c.8% sequential September revenue guide as almost insignificant relative to units. Greater China remains differentiated: mature-node supply constraints and rising foundry costs support MCU increases, but incomplete pass-through continues to limit earnings benefits. Our Greater China team highlighted this distinction at the last print, with Silergy's Q2 gross margin falling to 47% as they remained unable to pass through foundry-cost increases in full. **Overall, we see pricing becoming a more tangible support to the recovery, but look to the Q3 prints for whether this translates into sustainable margin expansion rather than recovery of previously absorbed costs.**

Debate into the quarter: have margin expectations run too high again? Last quarter's margin disappointments at STM and Infineon reinforce that better demand does not guarantee share price outperformance. The focus now shifts to sustaining growth beyond replenishment and converting higher volumes into margins despite persistent input-cost, mix and capacity-ramp headwinds. We expect a constructive demand backdrop, but not uniform earnings leverage. **The key tests are December guidance relative to seasonality and a clearer bridge from volume and pricing to sustainable margins**.

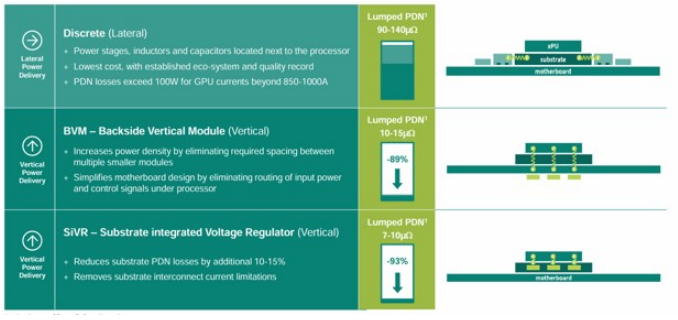
3Q26 Theme: M&A activity

Q3 saw M&A pick-up across analog semiconductors, namely spanning both data centers and physical AI. On data centers we see this concentrated in acquisitions for Vertical Power Delivery (VPD) while on Physical AI we see this spanning robotics and autonomous mobility.

Vertical power delivery

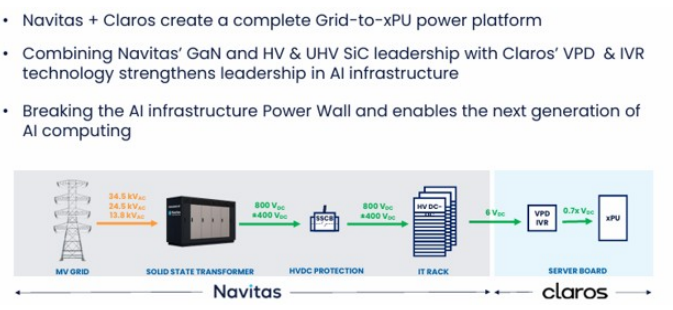
Our Europe Semis team lead a server rack model estimating the power semi dollar content per element. Herein we see the highest dollar content stemming from VRMs in Vertical Power Delivery in the 2nd Stage of Power Delivery. We have seen a flurry of M+A activity this quarter globally with companies looking to acquire technology for this element. In July, ADI closed the $1.5bn acquisition of Empower Semiconductor, adding integrated voltage regulator (IVR) and silicon-capacitor technology to their portfolio. Also in the US, Navitas acquired Claros for $233mn, adding vertical power delivery and IVR technology to extend their portfolio from high-voltage GaN/SiC to the xPU. In Europe Infineon acquired C2i Semiconductor, adding software-defined multiphase controllers and smart power stages to their existing IVR portfolio. We continue to view Infineon as the best positioned to capture the highest share in the data center with the full suite of power semi solutions, including IVR technology. However, we would note an increasingly competitive landscape here.

Exhibit 18: IFX VRMs



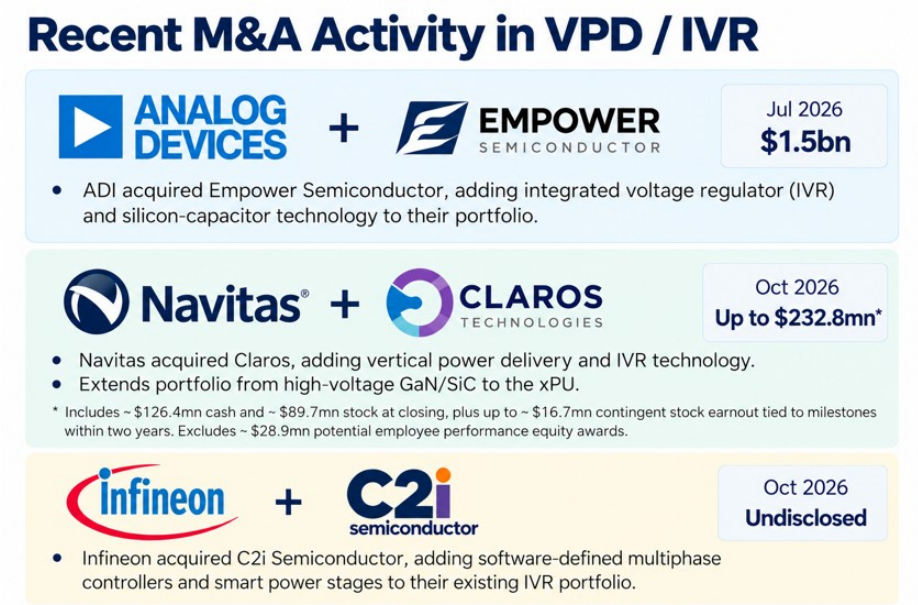
Source: Infineon We Power AI Presentation Deck

Exhibit 19: Claros IVRs extend Navitas's portfolio from grid-to-core



Source: Navitas.

Exhibit 20:
VPD M+A activity

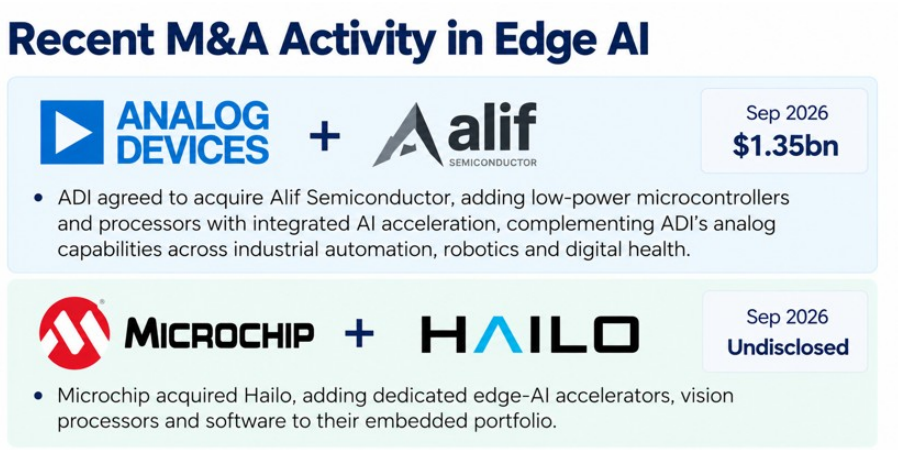


Source: Company data, Morgan Stanley Research

Physical AI

Beyond the data center: Edge AI. We see edge AI as an emerging growth opportunity across our analog coverage, in particular in the US. Companies are pairing their existing sensing and power portfolios with processing, connectivity and software. ADI's September agreement to acquire Alif Semiconductor for $1.35bn is a clear example. Our US Semis team view this as a good strategic fit complementing ADI's analog capabilities across industrial automation, robotics and digital health by bringing together low-power microcontrollers and processors with integrated AI acceleration. Also in September, Microchip acquired Hailo adding dedicated edge-AI accelerators, vision processors and software to their embedded portfolio. For Onsemi, the proposed Synaptics acquisition likewise targets the connected-compute gap in their power and sensing portfolio. We see a broadening development of edge-AI offerings across our analog coverage and into the Q3 prints we would look for evidence on integration and production ramps.

Exhibit 21: Edge AI M&A activity



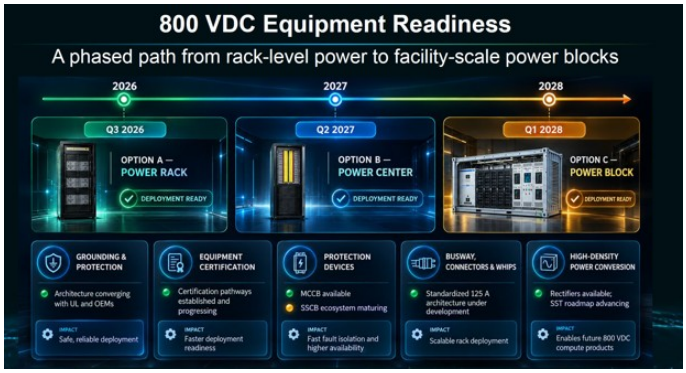
Source: Company data, Morgan Stanley Research

OCP: What Was New?

800V timeline in focus. Into OCP, we looked for clarity on the transition and confirmation that the broader deployment path remained intact. Our view was that early expectations had run ahead of deployment, while the subsequent "800V delay" narrative overstated what had changed. Our reading of NVIDIA's roadmap pointed to Rubin Ultra retaining 54VDC, with the first clearly 800V-native racks moving towards Feynman in 2028. **Therefore into the event we looked for clarity of the rack timeline, looking for greater visibility on the later native-rack transition as well as further detail on the power semi content.**

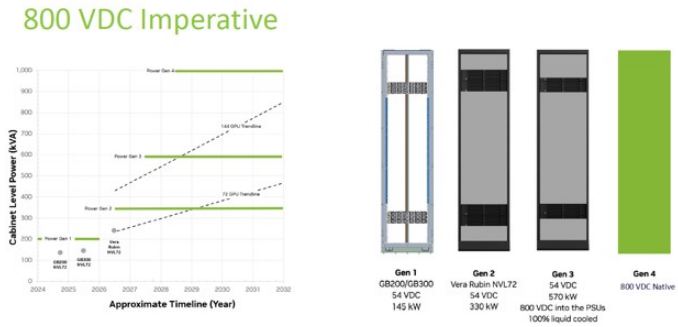
What was new? Importantly, Nvidia confirmed that 800v-native racks are moving towards Feynman which we think helps clarify the timeline for adoption and mediate the delay narrative, confirming our expectations outlined in our preview ahead of the event. Other key points included continued focus on GaN and SiC opportunities across the data center power architecture, as well as progress in upstream power-conversion and distribution solutions from companies such as Siemens, Schneider Electric, and Delta. On networking, our US Telecom and Networking Equipment team viewed the NPO/CPO updates as less incremental than they expected given the debates were well explored recently at ECOC. That said, they note updates including CPO reliability improving but remaining implementation specific, external lasers not as a settled choice and the pluggables roadmap. Read the team's note: OCP 2026: Still Plenty of Hard Problems to Solve, But Problems Largely Known.

Exhibit 22: Broader 8000VDC deployment timeline remains intact



Source: Delta, Nvidia.

Exhibit 23: 800V-native rack delivery now shifted to Feynman



Source: Nvidia.

Find here recordings of the event and presentations that we find interesting below:

- 800 VDC AI Factories: From Architecture Alignment to Industry Deployment
- 800V Data Center DC DC Design Considerations, Topology Comparisons, and Trade offs
- Powering the AI Rack of the Future A Scalable 800 V DC Sidecar Architecture
- +--400V 800V On Board Power Delivery Requirements

Global Analog

Europe Semiconductors

STMicroelectronics: OW, PT €65 STM's communication has often been a stumbling block for the shares. This time, however, we think Q2's margin miss has lowered the bar for a positive reaction to an in-line result. Our investor conversations suggest that the longer-term structural tailwinds are relatively well understood, while a stronger-than-expected cyclical recovery could still drive upside to near-term earnings. We expect industrial and automotive sales to grow 28% and 11% yy respectively this quarter, supported by lean channel inventories and an improving pricing environment.

Infineon Technologies: EW, PT €65 Into the FY4Q26 print, our investor conversations continue to flag the FY27 data centre guide as the key focus. Management spoke last quarter to raising the current €2.5bn guide "materially" at Q4. We now model €3.6bn of FY27 data centre sales, including €600mn from the CPU server opportunity spanning general-purpose and cloud servers alongside agentic orchestration racks. We continue to like Infineon's data centre exposure and see the stock as the cleanest data centre beneficiary in power semis. That said, we still do not expect the FY27 data centre guide in November to meet bulls' expectations: our conversations suggest many investors are looking for >€4bn of data centre sales, including >€1bn from CPU. We would therefore not lean heavily into the print, despite continuing to view the stock as a data centre beneficiary.

Melexis: EW, PT €65 We remain EW Melexis into the quarter as while we expect the company to benefit from cyclical recovery, growth continues to lag peers. To turn more positive we would need to see (i) a de-risk of China competition that means the growth profile meaningfully improves and (ii) tangible evidence from humanoids. That said, we expect the company to print an in-line quarter with sales coming in at €224mn, in-line with consensus and the mid-point of the guide. We see the company guiding to 4Q26 sales at €229mn which all in sets FY26 sales at €873mn, implying 4% yy growth, up from the 35 and 10% declines in FY24/25 respectively but lagging analog peers.

North America Semiconductors

We remain constructive on our US analog coverage, as we see signs of emerging supply shortages and improving pricing power that could more than offset input cost inflation heading into 2027, alongside structural tailwinds from growth drivers such as 800V AI power architectures. Industrial demand continues to strengthen as customers replenish inventory, while automotive remains steady, but has yet to see meaningful restocking.

While the recovery continues to broaden across end markets, we s
heading into earnings, as expectations already reflect generally good
demand remains healthy, we haven't seen another step-up in momen
As such, we expect solid results across our coverage, though these m
their own to drive a meaningful change in investor sentiment. Instead
on customer pricing negotiations and emerging supply constraints he
more important potential catalysts for renewed investor interest. Wi



having pulled back despite improving fundamentals, we remain constructive on the broader recovery, but think further evidence of acceleration could help bring allocation back to the group.

Texas Instruments: UW, PT $255 We expect another strong, above-seasonal quarter for TI, supported by improving Industrial demand and sustained strength in data center power. While we see further earnings upside as factory utilization improves and pricing begins to recover, we concede that our UW case is becoming less compelling. That said, our 2027 EPS remains below consensus, and stronger demand could prompt higher capex, potentially delaying the FCF recovery.

Greater China Semiconductors

Yangjie Technology: OW, PT Rmb136 We remain constructive on Yangjie, supported by robust demand across EV, AI, energy storage and industrial applications. Automotive remains a key growth driver, benefiting from rising EV penetration, domestic substitution and continued SiC adoption. Meanwhile, product mix upgrades, lean manufacturing and disciplined cost controls should support margin resilience despite raw material cost pressures. We believe the company remains on track to deliver its full-year targets, while the recent share price correction offers an attractive entry point, with valuation below its historical trading range.

SICC: OW, PT Rmn127.1 We see SICC as a key beneficiary of downstream SiC device manufacturers' migration from 6-inch to 8-inch wafers, given its technological advantages and competitive positioning in 8-inch substrates. However, we remain cautious on the industry supply-demand balance, as persistent substrate oversupply could limit pricing power and earnings upside. We view flat 8-inch substrate pricing in 2027 as a bull-case scenario, while our base case assumes a further 5-10% price decline. Therefore we prefer market share gainer and technology leader.

Innoscience: EW, PT HK$60 We see GaN adoption in low-voltage (0.8-12V) applications as the key catalyst for Innoscience's next leg of growth, potentially unlocking a sizable addressable market. However, we believe meaningful commercialization and earnings contribution are unlikely before 2028 at the earliest, leaving a relatively long gap between the technology opportunity and financial delivery. While we acknowledge Innoscience's long-term growth potential, we see limited urgency to position for a 2028 investment thesis today, given the lack of near-term earnings catalysts and commercialization uncertainties. We therefore maintain our Equal-weight rating.

Stock In Focus: NXP Semiconductor

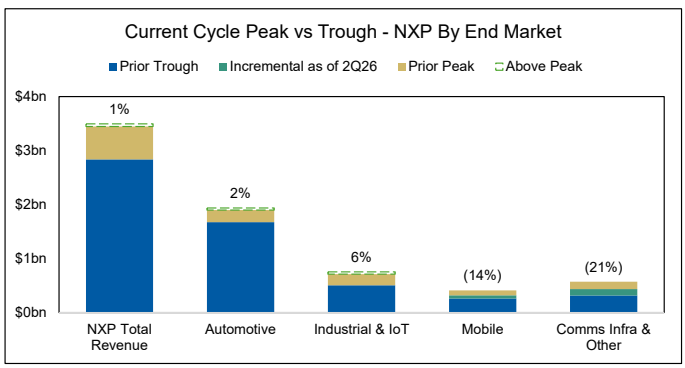
We are Overweight NXP, PT $338. We continue to favor NXP for its Automotive product cycles, margin expansion potential and attractive relative valuation. Automotive revenue grew 17% y/y in 2Q26 excluding MEMS, with accelerated growth drivers up 22% y/y. With growth driven by design-win ramps rather than restocking, we think NXP is well positioned to continue outgrowing vehicle production.

Cautious Auto sentiment could present an opportunity. Investor expectations remain subdued, but Auto OEM and supplier inventories have both fallen below historical medians, with Western Tier 1s still ordering hand-to-mouth. We haven't seen broad restocking, but emerging semiconductor supply constraints could encourage customers to secure inventory earlier. GM's recently announced $4.5bn supplier inventory financing program also points to greater attention on supply security. We think a shift in ordering behavior could provide upside that investors aren't currently counting on.

FY27 Auto outlook improving. S&P Global's October forecast implies 0.8% global light-vehicle production growth in FY27, up from 0.4% in September, while our Autos team is more constructive on EV demand next year. The team also expects SDVs to shift more value from traditional parts suppliers toward semiconductors and software. With adoption expected to extend beyond BEVs, we see continued opportunities for NXP to grow semiconductor content even against modest vehicle production.

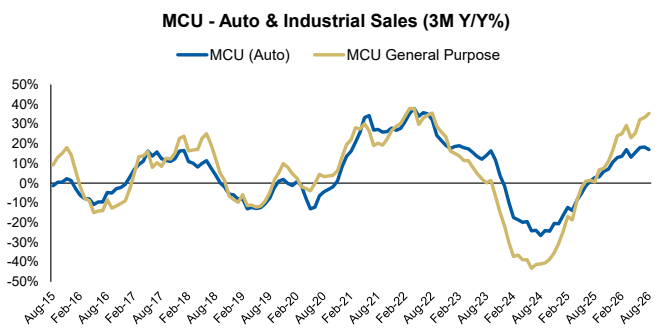
Into the 3Q26 print. We model revenue of $3.76bn, GM% of 58.7% and EPS of $4.15, broadly in-line with NXP's guidance of $3.75bn/58.5%/$4.11 at the midpoint. We aren't relying on a quarterly beat to make our OW case. Instead, we'll focus on whether mgmt sees any change in Western Tier 1 ordering patterns or lead times heading into FY27. While early signs of restocking would provide upside, we think continued Automotive growth and improving factory utilization should support further earnings recovery.

Exhibit 24: NXP has met its prior peak as of 2Q, driven by Industrial & IoT, followed by auto...



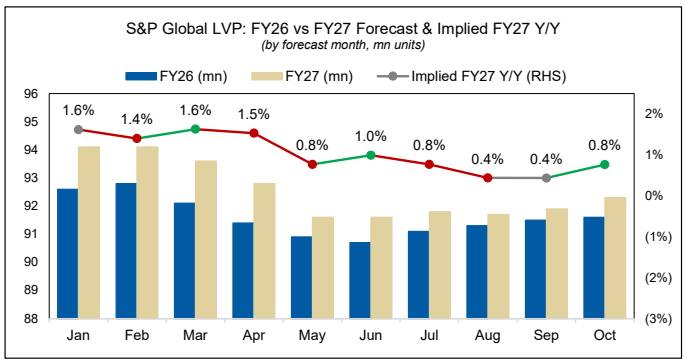
Source: Company Data, Morgan Stanley Research.

Exhibit 25: ...where auto MCU remains broadly on an upward but wide-shaped trend



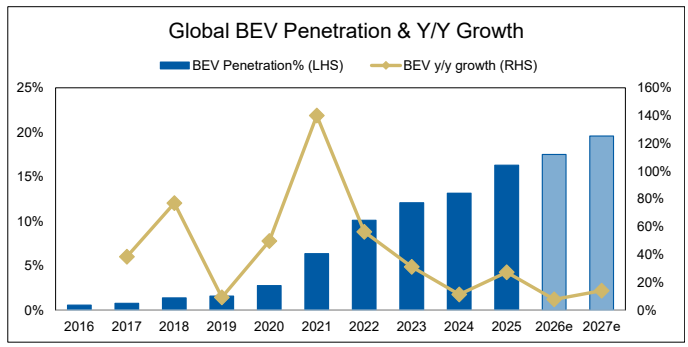
Source: SIA, Morgan Stanley Research.

Exhibit 26: While FY27 LVP growth estimates are lower than when we came into the year, October saw an upward revision



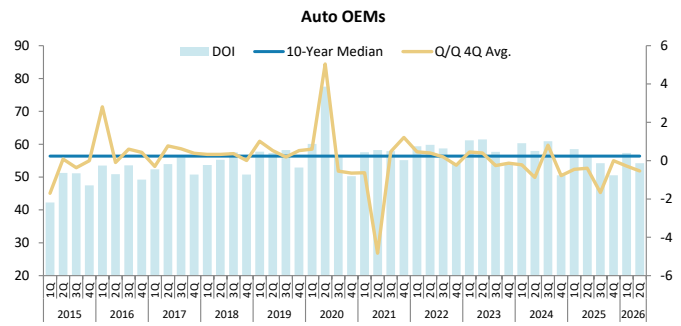
Source: S&P Global, Morgan Stanley Research.

Exhibit 27: MSe global auto expects stronger BEV growth in 2027 vs 2026



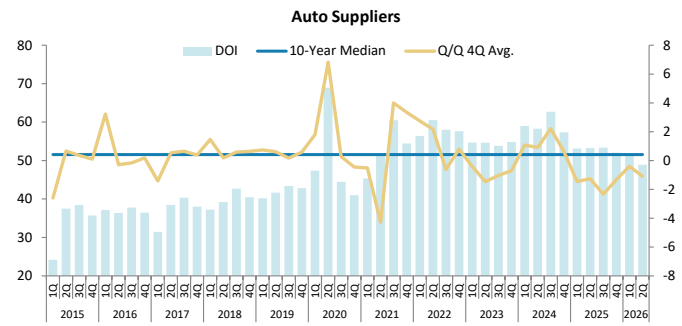
Source: S&P Global, Morgan Stanley Research.

Exhibit 28: Auto OEM DOI fell 3 days q/q, now below the historical median of 56 days. Trailing 4Q average declined from last quarter...



Source: FactSet, Morgan Stanley Research

Exhibit 29: ...with Auto Supplier DOI also falling 3 days q/q and now below the historical median. Trailing 4Q average declined.



Source: FactSet, Morgan Stanley Research

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(as of September 30, 2026)
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For disclosure purposes only (in accordance with FINRA requirements), we include the category headings of Buy, Hold, and Sell alongside our ratings of Overweight, Equal-weight, Not-Rated and Underweight. Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold, and sell but represent recommended relative weightings (see definitions below). To satisfy regulatory requirements, we correspond Overweight, our most positive stock rating, with a buy recommendation; we correspond Equal-weight and Not-Rated to hold and Underweight to sell recommendations, respectively.

	Coverage Universe		Investment Banking Clients (IBC)			Other Material Investment Services Clients (MISC)	
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category	Count	% of Total Other MISC
Overweight/Buy	1599	43%	455	48%	28%	783	44%
Equal-weight/Hold	1563	42%	394	42%	25%	763	43%
Not-Rated/Hold	2	0%	1	0%	50%	1	0%
Underweight/Sell	570	15%	96	10%	17%	227	13%
Total	3,734		946			1774	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

Analyst Stock Ratings

Overweight (O or Over) - The stock's total return is expected to exceed the total return of the relevant country MSCI Index or the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis over the next 12-18 months.
Equal-weight (E or Equal) - The stock's total return is expected to be in line with the total return of the relevant country MSCI Index or the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis over the next 12-18 months.
Not-Rated (NR) - Currently the analyst does not have adequate conviction about the stock's total return relative to the relevant country MSCI Index or the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.
Underweight (U or Under) - The stock's total return is expected to be below the total return of the relevant country MSCI Index or the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.
Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

Analyst Industry Views

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.
In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below.
Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below.
Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

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INDUSTRY COVERAGE: Technology - European Semiconductors

COMPANY (TICKER)	RATING (AS OF)	PRICE* (10/20/2026)
Lee Simpson		
Aixtron SE (AIXGn.DE)	E (05/25/2023)	€31.42
ASM International NV (ASMI.AS)	O (06/19/2024)	€739.80
ASML Holding NV (ASML.AS)	O (09/22/2025)	€1,455.40
BE Semiconductor Industries NV (BESI.AS)	O (11/07/2022)	€155.60
Infineon Technologies AG (IFXGn.DE)	E (09/08/2026)	€52.04
Melexis N.V. (MLXS.BR)	E (02/05/2026)	€57.65
Nordic Semiconductor ASA (NOD.OL)	E (02/10/2025)	NKr 174.10
Soitec SA (SOIT.PA)	O (03/26/2026)	€123.65
STMicroelectronics NV (STMPA.PA)	O (03/26/2026)	€41.01
VAT Group AG (VACN.S)	E (03/21/2025)	SFr 600.60

Stock Ratings are subject to change. Please see latest research for each company.
* Historical prices are not split adjusted.

INDUSTRY COVERAGE: Greater China Technology Semiconductors

COMPANY (TICKER)	RATING (AS OF)	PRICE* (10/20/2026)
Charlie Chan		
Advanced Wireless Semiconductor Co (8086.TWO)	U (07/14/2025)	NT$126.00
Alchip Technologies Ltd (3661.TW)	O (05/14/2021)	NT$3,710.00
ASE Technology Holding Co. Ltd. (3711.TW)	O (09/15/2024)	NT$684.00
Cambricon Technology Corporation (688256.SS)	O (04/27/2026)	Rmb921.00
CXMT Corp (688825.SS)	O (08/26/2026)	Rmb40.32
Global Unichip Corp (3443.TW)	O (06/24/2026)	NT$8,000.00
GlobalWafers Co Ltd (6488.TWO)	E (05/19/2026)	NT$844.00
Gudeng Precision (3680.TWO)	O (11/25/2025)	NT$507.00
Hua Hong Semiconductor Ltd (1347.HK)	E (03/12/2026)	HK$73.35
Iluvatar CoreX Semiconductor Co., Ltd. (9903.HK)	O (04/27/2026)	HK$80.20
MediaTek (2454.TW)	O (11/28/2025)	NT$4,140.00
MetaX Integrated Circuits (688802.SS)	E (04/27/2026)	Rmb452.60
Nanya Technology Corp. (2408.TW)	O (05/28/2026)	NT$436.50
OmniVision Integrated Circuits Group Inc (603501.SS)	E (11/17/2025)	Rmb76.91
Phison Electronics Corp (8299.TWO)	E (02/25/2026)	NT$1,845.00

SG Micro Corp. (300661.SZ)	E (11/03/2025)	Rmb89.47
Silergy Corp. (6415.TW)	U (05/19/2026)	NT$490.00
SMIC (0981.HK)	O (10/21/2025)	HK$51.20
TSMC (2330.TW)	O (02/07/2022)	NT$2,420.00
UMC (2303.TW)	O (05/19/2026)	NT$128.00
Vanguard International Semiconductor (5347.TWO)	E (01/14/2026)	NT$160.00
WIN Semiconductors Corp (3105.TWO)	E (10/09/2026)	NT$475.00
Daisy Dai, CFA		
ASMPT Ltd (0522.HK)	O (07/24/2025)	HK$133.00
China Resources Microelectronics Limited (688396.SS)	U (03/02/2026)	Rmb50.60
Empyrean Technology Co Ltd (301269.SZ)	E (01/17/2025)	Rmb100.79
Hangzhou Silan Microelectronics Co. Ltd. (600460.SS)	U (08/25/2025)	Rmb25.91
Hygon Information Technology Co., Ltd. (688041.SS)	O (07/03/2026)	Rmb192.00
Innoscience (2577.HK)	E (10/13/2025)	HK$33.08
JCET Group Co Ltd (600584.SS)	O (09/16/2026)	Rmb57.25
Shanghai Fudan Microelectronics (1385.HK)	O (03/07/2025)	HK$23.64
SICC Co Ltd (688234.SS)	O (03/20/2026)	Rmb98.12
SJ Semiconductor Corp (688820.SS)	E (09/16/2026)	Rmb93.90
StarPower Semiconductor Ltd (603290.SS)	E (05/14/2026)	Rmb71.83
Unigroup Guoxin Microelectronics Co Ltd (002049.SZ)	U (01/10/2023)	Rmb53.97
Universal Scientific Ind. (Shanghai) (601231.SS)	O (11/05/2025)	Rmb21.08
Yangjie Technology (300373.SZ)	O (06/10/2022)	Rmb77.35
Daniel Yen, CFA		
AP Memory Technology Corp (6531.TW)	O (07/11/2025)	NT$831.00
ASMedia Technology Inc (5269.TW)	U (10/03/2025)	NT$1,485.00
Aspeed Technology (5274.TWO)	O (06/09/2025)	NT$15,900.00
Egis Technology Inc (6462.TWO)	E (01/28/2026)	NT$94.80
Elan Microelectronics Corp (2458.TW)	O (10/03/2025)	NT$130.50
eMemory Technology Inc (3529.TWO)	O (08/18/2026)	NT$2,655.00
Espressif Systems (688018.SS)	O (05/15/2023)	Rmb140.72
GigaDevice Semiconductor Beijing Inc (603986.SS)	O (05/15/2025)	Rmb282.43
Himax Technologies Inc (HIMX.O)	E (02/04/2026)	US$11.85
Macronix International Co Ltd (2337.TW)	O (09/18/2025)	NT$103.00
Montage Technology Co Ltd (6809.HK)	O (03/18/2026)	HK$203.00
Montage Technology Co Ltd (688008.SS)	O (03/18/2026)	Rmb169.27
Novatek (3034.TW)	U (02/04/2026)	NT$590.00
Nuvoton Technology Corporation (4919.TW)	U (11/10/2025)	NT$143.50
Parade Technologies Ltd (4966.TWO)	O (05/27/2026)	NT$524.00
Powerchip Semiconductor Manufacturing Co (6770.TW)	O (10/27/2025)	NT$66.20
Realtek Semiconductor (2379.TW)	E (01/30/2026)	NT$792.00
Shenzhen Goodix Technology Co Ltd (603160.SS)	U (07/14/2025)	Rmb52.11
Silicon Motion (SIMO.O)	O (05/06/2024)	US$213.70
Winbond Electronics Corp (2344.TW)	O (05/28/2026)	NT$159.50
WPG Holdings (3702.TW)	O (03/16/2026)	NT$115.00
WT Microelectronics Co. Ltd. (3036.TW)	O (01/27/2026)	NT$212.50
Henry Zhao		
ACM Research Inc (ACMR.O)	O (03/07/2023)	US$54.96
Advanced Micro-Fabrication Equipment Inc (688012.SS)	O (11/06/2023)	Rmb278.50
Maxscend Microelectronics Co Ltd (300782.SZ)	U (01/11/2021)	Rmb56.34
NAURA Technology Group Co Ltd (002371.SZ)	O (11/06/2023)	Rmb566.49
Lucas Wang		
AllRing Tech Co. (6187.TWO)	O (09/23/2025)	NT$1,320.00
FOCI Fiber Optic Communications Inc (3363.TWO)	E (10/09/2026)	NT$517.00
Hon Precision (7769.TW)	O (04/17/2026)	NT$5,130.00

King Yuan Electronics Co Ltd (2449.TW)	O (03/03/2023)	NT$278.00
MPI Corporation (6223.TWO)	O (04/17/2026)	NT$4,900.00
Tiffany Yeh		
WinWay Technology Co Ltd (6515.TW)	O (04/17/2026)	NT$4,970.00

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* Historical prices are not split adjusted.

INDUSTRY COVERAGE: Semiconductors

COMPANY (TICKER)	RATING (AS OF)	PRICE* (10/20/2026)
Ella Tulchinsky		
Infleqtion, Inc. (INFQ.N)	E (10/15/2026)	US$8.66
Xanadu Quantum Technologies Limited (XNDU.O)	E (10/15/2026)	US$2.85
Joseph Moore		
Advanced Micro Devices (AMD.O)	E (06/09/2024)	US$534.74
Aeva Technologies Inc (AEVA.O)	E (07/19/2021)	US$10.27
Allegro Microsystems Inc (ALGM.O)	O (02/13/2026)	US$33.91
Ambarella Inc (AMBA.O)	O (03/29/2016)	US$63.22
Amkor Technology Inc (AMKR.O)	E (11/08/2023)	US$41.70
Analog Devices Inc. (ADI.O)	O (11/16/2023)	US$397.05
Astera Labs Inc (ALAB.O)	O (05/11/2025)	US$284.80
Broadcom Inc. (AVGO.O)	O (06/09/2024)	US$334.37
Cerebras Systems (CBRS.O)	O (06/08/2026)	US$118.24
GlobalFoundries Inc (GFS.O)	E (10/28/2024)	US$47.01
Intel Corporation (INTC.O)	E (02/22/2023)	US$91.69
IonQ Inc (IONQ.N)	E (04/25/2023)	US$31.26
Marvell Technology Group Ltd (MRVL.O)	E (09/14/2015)	US$240.42
Microchip Technology Inc. (MCHP.O)	E (07/10/2024)	US$75.85
Micron Technology Inc. (MU.O)	O (10/06/2025)	US$896.07
Navitas Semiconductor Corp (NVTS.O)	U (04/06/2025)	US$8.74
NVIDIA Corp. (NVDA.O)	O (03/16/2023)	US$216.47
NXP Semiconductor NV (NXPI.O)	O (02/11/2025)	US$237.60
ON Semiconductor Corp. (ON.O)	++	US$75.62
Qualcomm Inc. (QCOM.O)	E (06/24/2026)	US$175.71
Quantinuum (QNT.O)	O (10/15/2026)	US$35.68
SanDisk Corporation. (SNDK.O)	O (03/03/2025)	US$1,365.38
Semtech Corp. (SMTC.O)	E (04/06/2025)	US$136.20
Silicon Laboratories Inc. (SLAB.O)	E (01/19/2021)	US$221.10
SiTime Corporation (SITM.O)	O (09/16/2026)	US$497.11
Skyworks Solutions Inc (SWKS.O)	E (11/28/2018)	US$81.30
Texas Instruments (TXN.O)	U (04/13/2020)	US$277.78
Wolfspeed, INC (WOLF.N)	NR (04/06/2025)	US$23.50
Lee Simpson		
Arm Holdings plc (ARM.O)	E (04/07/2026)	US$221.06
Cadence Design Systems Inc (CDNS.O)	O (02/14/2024)	US$319.87
PDF Solutions Inc (PDFS.O)	O (09/08/2026)	US$41.18
Synopsys Inc. (SNPS.O)	O (09/08/2026)	US$447.62

Stock Ratings are subject to change. Please see latest research for each company.
* Historical prices are not split adjusted.

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