



Electronics Supply Chain Weekly Digest

Important Disclosures in the Appendix

A weekly collection of news summaries, survey results and channel insights, and report summaries from Edgewater Research

Nik Todorov

Sr. Research Analyst

Nik@EdgewaterRC.com

216.206.6103

Dennis Reed

Sr. Research Analyst

Dennis@EdgewaterRC.com

216.426.6279

Sean Muir

Sr. Research Analyst – Partner

Sean@EdgewaterRC.com

216.426.6277

DATAPOINT OF THE WEEK: S&P reported Eurozone October mfg. PMI of 43.1 vs 43.4 in September and Germany mfg. PMI of 40.8 vs 39.6 in September reflecting continued steep declines in new orders, purchasing activity, and output. The report also indicated the fastest reduction in factory employment since Aug 2020 as business confidence dropped to an 11-month low. In the US, S&P reported October mfg. PMI of 50.0 vs 49.8 in Sep, reflecting relative stability with slight increase in output and new orders but downward revisions to the year-ahead output expectations which resulted in reduced employment for the first time since July 202. ISM reading on US manufacturing in October was more subdued with PMI of 46.7 vs. 49 in Sep reflecting a faster pace of decline in orders, pricing, backlog, and employment, partially offset by stable output. In China, government official PMI unexpectedly slipped back into contraction territory at 49.5 in Oct vs 50.2 in Sept. That was echoed by the private Caixin PMI of 49.5 in October vs. 50.6 in September reflecting declines in employment and output due to muted end demand, particularly for exports.

Reports published this week:

[IP&E Insights – October 2023](#)

Key Takeaways:

1. 4Q outlook weaker M/M on cuts in Industrial, Telco, Energy and Auto Europe; projected down LSD-MSD Q/Q.
2. Auto feedback down ticking on 4Q23/2024 cuts to Europe production outlooks tied to weakening demand including EVs.
3. N.A. Auto outlook surprisingly stable on limited UAW impact to date; concerns growing for 1H on inventory build.
4. AI demand projected up 3x in 2024; non-AI flat. TE/Amphenol viewed as having oppty to win new Nvidia on board designs in '24.
5. Industrial outlook weaker M/M on softer bookings, 3Q backlog flush and cuts in Energy.
6. 3Q IP&E shipments seen finishing in-line with weaker disti POS offset by stable direct demand.
7. 3Q bookings feedback softer M/M on downside in distribution, Industrial, Comm Transportation and pockets of Auto Europe.
8. Connector inventory globally seen off-peak levels and in better shape vs. semis/passives but at levels still above targets on slow progress. Digestion projected into 1Q24 as inventory headwinds are seen as compounded by signs of softening end-demand.
9. China/APAC still weak; projected to remain soft through 1H24. Green shoots in China Auto direct demand seen continuing in Oct.
10. EMEA feedback weaker on cuts across Industrial/Energy and Transportation in part tied to pullback in government incentives.
11. Americas feedback more stable. Risk seen to 4Q if UAW strike stretches into mid-Nov.
12. Mil/Aero still strong but 4Q outlook choppy on some pushouts tied to supply constraints causing inventory mix issues.
13. TE AD&M BU seen struggling to keep up with demand. Supply chain speculating about efficiency/production headwinds.
14. 2024 pricing feedback more constructive with suppliers seen holding firm in N.A. and in direct negotiations, though connector pricing pressure is seen rising in European distribution and EMS.

Auto/Transportation

BorgWarner – BorgWarner missed 3Q revenue expectations and cut its full-year outlook. The company reduced its 2023 EV sales outlook by \$300M due to announced delays and forecasted slower volume ramp-ups from customers. EV volumes are now expected to rise 40% in 2023 vs. the prior outlook of 53-60% increase. The firm also cut its 2025 EV target to a range of \$4.5-\$5B from previously \$5.6B citing current pressure on EV production potentially continuing for the next couple of years.

BYD – BYD reported sales of NEVs increased 38% Y/Y and 4.9% M/M in October to 301,095 units.

BMW – BMW forecasted strong fourth quarter sales on Friday and said its order book was filled into the first few months of next year, with executives adding they saw no need to cut prices as some rival automakers have. BMW delivered a more optimistic tone than some competitors, which warned of a subdued market environment curbing demand.

EVs – Beijing's move to restrict graphite exports will have a disproportionate impact on foreign makers of electric-vehicle battery components who have not yet shifted to using as much synthetic material as Chinese counterparts, industry insiders and experts said. China's latest limit on critical mineral exports, which Beijing said is not targeted at a specific sector, has fueled uncertainty in the global EV supply chain since it was announced last Friday. Japan, South Korea, and the United States are top buyers of both natural and synthetic Chinese graphite, and analysts warned the new measures could slow or reduce graphite supplies needed by companies there to produce anodes - the EV batteries' negative electrodes.

EV Batteries – Prices of lithium materials for EV batteries continued to decline in October, albeit at a slower pace, reports TrendForce. Battery suppliers in China are reported to be reluctant to replenish their inventory and are instead focusing on depleting existing stock driving weaker demand

for EV materials. As a result, TrendForce reports Specifically, EV batteries saw a 2% price reduction, consumer LCO batteries decreased by 1.3%, and energy storage cells experienced the most significant drop at 3.3%.

Panasonic – Panasonic cuts its full-year profit outlook at its battery unit by 15% blaming slower-than-expected sales of high-end EVs by Tesla. As a result, Panasonic has cut auto battery production in Japan by 60% compared to 1Q23.

Magna– The tier 1 auto supplier raised its 2023 profit outlook but flagged an impact from the UAW strike in N.A. Magna lowered its full-year revenue forecast to \$42.1-\$43.1B from the prior range of \$41.9-\$43.5B. Peer Aptiv also warned of \$180M hit to its full-year sales from the UAW strike.

Neo – China's Nio plans to trim its workforce by 10% this month as it moves to improve efficiency and reduce costs in the face of growing competition, the electric vehicle maker said on Friday.

Stellantis – Canadian union Unifor and Stellantis have reached a tentative agreement early Monday morning, ending a brief strike that began after a deal wasn't reached by 11:59 p.m. Sunday. The Canadian work stoppage involved more than 8,200 autoworkers at several facilities in the Canadian province of Ontario, including two large assembly plants that produce the Chrysler 300 sedan and Pacifica minivan and the Dodge Challenger and Charger muscle cars.

Toyota – Toyota announced global production in September increased 1.5% Y/Y to 900.9K vehicles boosted by 13% increase in Japan which more than offset a 3.6% decline in overseas output. Toyota also reported global sales increased 11.6% in Sep, hitting a record for the month.

Toyota – Toyota trimmed its BEV sales forecast saying it will lean more into hybrid vehicles. The company said it now expects to sell only 123,000 full EVs in the current fiscal year ending March 31, 2023. That's a 39 percent cut from its original plan of 202,000 EVs. The firm did not mention US

Nik Todorov

Sr. Research Analyst

Nik@EdgewaterRC.com

216.206.6103

Dennis Reed

Sr. Research Analyst

Dennis@EdgewaterRC.com

216.426.6279

Sean Muir

Sr. Research Analyst – Partner

Sean@EdgewaterRC.com

216.426.6277



demand behind the cut but noted intensifying EV price war in China as the trigger.

Toyota – Toyota said on Tuesday it would boost investment by \$8 billion and add about 3,000 jobs at its electric-vehicle battery manufacturing plant in North Carolina, accelerating the Japanese automaker's push to electrify its lineup. The company, which plans to have electrified options for all its models available by 2025, said the latest move will bring its total investment in the plant to about \$13.9 billion and jobs to more than 5,000.

Tesla – Tesla is aiming to make 200,000 Cybertruck units per year according to a statement by CEO Elon Musk. The company had earlier said that Tesla had the capacity to make more than 125,000 Cybertrucks annually, with Musk adding there was potential to lift it to 250,000 in 2025. The deliveries of the much-awaited pickup truck will begin on Nov. 30, nearly four years after it was unveiled by Musk at an event in Los Angeles.

Tesla – Tesla sold 72,115 China-made vehicles in October, up 0.57 percent from 71,704 in the same month last year, but down 2.64 percent from 74,073 in September, according to data released today by the China Passenger Car Association (CPCA). This is another decline in Tesla China-made vehicle sales after an 11.98 percent sequential decrease in September. In June, sales of China-made Tesla vehicles reached 93,680, the highest point so far this year.

UAW – The United Auto Workers union has agreed with Stellantis and GM on tentative deals following roughly six weeks of targeted U.S. labor strikes. The deals are patterned off the 4.5 year agreement reached between Ford and UAW last week.

UAW – Leaders of the United Auto Workers signaled the next step in their campaign to capitalize on the union's success in bargaining with the Detroit Three: launching organizing drives at Toyota, Tesla and other nonunion U.S. auto factories. This comes after automakers such as Toyota, Honda and Nissan announced that are evaluating the recent UAW deal as they plan to remain competitive.

VW – Volkswagen will not make a decision on a fourth battery factory site for now, with demand for electric vehicles in Europe lagging expectations, Chairman Oliver Blume said on Wednesday. Volkswagen has been looking at a possible site for a gigafactory for electric car batteries in Eastern Europe and had already put off a decision a year ago when it was considering locations in the Czech Republic, Hungary, Poland or Slovakia.

Datacenter

Broadcom – Broadcom expects its \$69 billion buyout of cloud-computing firm VMware to close before the November deadline, the companies said on Monday, amid investor concerns about securing China's approval for the deal. China's State Administration of Market Regulation (SAMR) has not signed off on the deal and is likely to delay its decision, the Financial Times reported earlier this month, after U.S. President Joe Biden's administration introduced tougher chip controls.

Semiconductors

Allegro MicroSystems – Allegro MicroSystems, Inc. recently announced that it has completed the acquisition of Crocus Technology, a leader in advanced TMR sensor technology, for \$420 million in cash.

AMD – AMD reported stronger-than-expected 3Q results on uptick in demand for PCs which more than offset lower-than-expected sales in Datacenter. The company provided 4Q outlook below expectations on weaker gaming and FPGA demand but provided outlook for \$2B in AI GPU revenue in 2024 due to firms orders from multiple hyperscale customers.

Amkor – OSAT supplier Amkor provided an outlook for 8% Q/Q decline in 4Q revenue noting declined in demand from auto and compute customers. Amkor added seeing demand for mature technology weakening with auto customers going through end-of-year inventory destocking.

Nik Todorov

Sr. Research Analyst

Nik@EdgewaterRC.com

216.206.6103

Dennis Reed

Sr. Research Analyst

Dennis@EdgewaterRC.com

216.426.6279

Sean Muir

Sr. Research Analyst – Partner

Sean@EdgewaterRC.com

216.426.6277



Infineon – Infineon is working with battery specialist Eatron Technologies to bring advanced machine-learning solutions and algorithms to its AURIX TC4x microcontroller. The two companies believe their collaboration can help electric vehicle (EV) manufacturers solve three key technological challenges: range anxiety, charging speed and battery health. More specifically, their partnership will try to improve automotive battery management systems (BMS). They say that Eatron will be able to maximize the performance and accuracy of its AI-powered battery management software by harnessing the ML capabilities of the MCU family with an integrated parallel processing unit (PPU).

Micron – China’s commerce minister told Micron’s president Beijing would welcome the U.S. semiconductor company deepening its footprint in the Chinese market, signaling a further thaw in relations between the world’s top two economies. In a meeting on Nov. 1, Commerce Minister Wang Wentao told Sanjay Mehrotra, President and CEO of Micron Technology, that China will optimize the environment for foreign investment and provide service guarantees for foreign enterprises, according to a brief statement published on Friday on the commerce ministry’s website.

Microchip Technologies – Microchip reported in-line Sep-Q results but provided a cautious Dec-Q outlook amid weakening demand across geographies and end markets. Microchip sees Dec-Q revenue down 15-20% Q/Q, which would be the biggest Q/Q decline in Microchip’s history since 1Q09 reflecting continued requests for pushouts from customers. The firm added that it expects March revenue to decline Q/Q as well. Microchip reported lead times for its products have declined on avg. to 13 weeks exiting the Sep-Q and are expected to decline further to 8 weeks exiting the CY, marking a substantial improvement from the 52 weeks entering the year.

Nvidia – Nvidia has received a notice from the US government that updated restrictions on AI chip exports are effective immediately as opposed to Nov 15 as previously reported. According to the WSJ, Nvidia may be forced to cancel more than \$5B in AI chip orders from China as a

result. The company commented that it does not expect the ruling to have an immediate impact on its sales due to strong demand for AI chips from other customers. The ruling means Chinese customers like Alibaba, ByteDance, and Baidu will have to turn to local suppliers of AI chips to finish existing projects.

NXP – NXP announced the release of a new wireless connectivity solution enabling Wi-Fi 6E and Bluetooth 5.3 connections targeting telematics and in-vehicle infotainment.

onsemi – onsemi reported 3Q23 results ahead of expectation but 4Q outlook disappointed missing top and bottom line estimates. onsemi noted it is seeing pockets of softness with tier 1 customers in Europe who are working through inventory amid slowing EV end demand. As a result, a large EV OEM has requested to pushout roughly \$200M of SiC shipments from the 4Q, causing the downside to expectations. Onsemi expects EV demand to continue to grow but just at a slower pace. Onsemi also added that it sees the Industrial end market weakening in-line with comments from other peers.

Powerchip Semiconductor – Powerchip Semiconductor Manufacturing Corporation (PSMC) and Japan’s financial firm, SBI Holdings, are reportedly planning to construct a 12-inch wafer fabrication plant in Japan, according to reports from Japanese media.

Qualcomm/Quorvo/Skyworks – Qualcomm posted results ahead of expectations and provided more upbeat outlook. The firm forecasted 4Q results ahead of expectations projecting slight growth Y/Y nothing signs of demand stabilization for smartphones. Qualcomm added global smartphone shipments are expected to decline mid to high single digit in 2023, or slightly better than previous expectations. Qualcomm’s results and outlook were echoed by Qorvo and Skyworks who benefited from earlier-than-anticipated shipments to Apple.

Renesas – Renesas released an MCU based on ARM Cortex M85 processor. The new RA8 Series MCUs are the industry’s first to implement the Arm® Cortex®-M85 processor, enabling the new devices to deliver industry-leading 6.39

Nik Todorov

Sr. Research Analyst

Nik@EdgewaterRC.com

216.206.6103

Dennis Reed

Sr. Research Analyst

Dennis@EdgewaterRC.com

216.426.6279

Sean Muir

Sr. Research Analyst – Partner

Sean@EdgewaterRC.com

216.426.6277



CoreMark/MHz1 performance. This level of performance will allow system designers to use the RA MCUs in applications that previously required microprocessors (MPUs). The new series is part of Renesas' popular RA Family of MCUs based on Arm Cortex processors.

Semi sales – September Global semi sales increased 1.9% M/M, but declined 4.5% Y/Y according to SIA data. For 3Q semi sales totaled \$134.7B, a 6.3% increase compared to 2Q23 but a 4.5% decline compared to a year ago quarter. Regionally, month-to-month sales increased in Asia Pacific/All Other (3.4%), Europe (3.0%), the Americas (2.4%), and China (0.5%), but decreased slightly in Japan (-0.2%).

Samsung – Samsung signaled the memory market is heading to a recovery. 3Q23 Samsung memory sales increased 17% Q/Q driven by mid-single digit price increase in DRAM and low single-digit increase in NAND. Samsung noted memory demand improved in 3Q despite still weak demand for conventional servers, thanks to rising adoption of high-density products in PCs and mobile and the completion of customer inventory destocking.

TI – TI has broken ground on its new 300mm fab in Lehi, Utah. The company plans to invest \$11B in the project which is located next to the company's LFAB1

Vietnam – Vietnam is holding talks with chip companies to boost investment in the country and possibly build its first chipmaking plant, or fab, two business executives told Reuters. The Southeast Asian electronics manufacturing hub already hosts U.S. giant Intel's (INTC.O) largest semiconductor packaging and testing plant worldwide and is home to several chip designing software firms. It is working on a strategy to attract more semiconductor investment, including from foundries, which focus on manufacturing chips.

Western Digital – WDC announced plans to split tax-free its NAND business to shareholders in 2HCY24. Over the past year there has been consistent reports and speculations of WDC trying to merge its NAND business with its JV partner Kioxia but according to recent reports, negotiations failed over disagreements with Bain and Hynix, two of the largest

Kioxia shareholders. WDC paid \$19B to purchase SanDisk in 2016.

Wafers – According to SEMI's report, global silicon wafer shipments are expected to decline 14% in 2023, to 12,512 million square inches (MSI) from the record high of 14,565 MSI in 2022 before bouncing back in 2024 as wafer and semiconductor demand recovers and inventory levels normalize. Continued weakness in semiconductor demand and challenging macroeconomic conditions are driving the decline in 2023.

Consumer/EMS/Distribution

Apple – Apple forecasts 4Q sales to be flat Q/Q with growth in iPhone offset by weaker iPad and wearables demand, particularly in China. During Apple's earnings call CEO Tim Cook insisted iPhone 15 sales were doing well in China, downplaying recent concerns of slowing demand due to increased competition from Huawei and reports of government banning the use of iPhones across state entities.

PCs – While inventory of PCs in the channel appears to have returned to normal levels the downstream PC supply chain sees no signs of recovery in orders. 4Q is seen as remaining with capacity utilization hovering around 50% even in the traditional peak season. Substantial improvement is not expected before 2Q24, according to reports from Digitimes.

Farnell – Farnell announced it has expanded its interconnect solutions offering with a diverse selection of products ranging from connectors to cables, designed to address a wide range of applications. Notable brands include TE, Molex, Amphenol, Harting, Phoenix Contact, Aptiv, and Alpha Wire.

PCB – N.A. PCB shipments decreased 15% Y/Y in September, marking an improvement from the 26% decline in August, according to IPC. B2B stood at 1.01.

Smartphones – 3Q global sales declined 0.3% to 296m units says TechInsights. This marks the ninth consecutive quarter of annual sales decline though the firm notes the pace of

Nik Todorov

Sr. Research Analyst

Nik@EdgewaterRC.com

216.206.6103

Dennis Reed

Sr. Research Analyst

Dennis@EdgewaterRC.com

216.426.6279

Sean Muir

Sr. Research Analyst – Partner

Sean@EdgewaterRC.com

216.426.6277



decline has improved from -8% in 2Q signaling a potential bottom.

Japan – Factory output increased 0.2% in September from a month earlier, the industry ministry said Tuesday, missing economist expectations of a 2.5% gain. Automakers supported the rise, while production machinery output dragged on the overall figures. The reading fell 4.6% compared with a year earlier. Output in the July-September quarter retreated 1.3% from the previous period.

Nik Todorov

Sr. Research Analyst

Nik@EdgewaterRC.com

216.206.6103

Dennis Reed

Sr. Research Analyst

Dennis@EdgewaterRC.com

216.426.6279

Sean Muir

Sr. Research Analyst – Partner

Sean@EdgewaterRC.com

216.426.6277



APPENDIX

We Nik Todorov, Dennis Reed, and Sean Muir hereby certify that the views expressed in this research report accurately reflect our personal views about any or all of the subject securities referred to in this research report. We certify that no part of our compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this research report. The analyst(s) responsible for the preparation of this report have no ownership stake in this company. Edgewater Research Company provides no investment banking services on this or any company

Proprietary research and information contained within which forms the basis for findings or opinions expressed by Edgewater Research Company may be used by Edgewater Research Company for other purposes in the course of compensated consulting and other services rendered to third parties. The information transmitted by this email is intended solely for the person or entity to which it is addressed. If you are not the intended recipient of this message, be aware that any use, review, retransmission, distribution, reproduction or any action taken in reliance upon this message is strictly prohibited. If you received this in error, please contact the sender and remove the material

Nik Todorov
Sr. Research Analyst
Nik@EdgewaterRC.com
216.206.6103

Dennis Reed
Sr. Research Analyst
Dennis@EdgewaterRC.com
216.426.6279

Sean Muir
Sr. Research Analyst – Partner
Sean@EdgewaterRC.com
216.426.6277

