



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

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DATAPOINTS OF THE WEEK: China Passenger Car Associated reported retail passenger vehicles in August totaled 1.93M units, up 8.6% M/M and up 2.5% Y/Y, marking a return to Y/Y growth after two months of declines as deeper discounts and tax breaks boosted demand. xEV sales increased 11.8% and 35% Y/Y with BEV/PHEV sales up 16.6% and 2.7% M/M and 23%/68% Y/Y respectively. xEV penetration increased to 37%, up 1 point M/M.

S&P reported August global electronics PMI of 46.9 vs 47.5 in July signaling sustained and stronger deterioration in operating conditions. The downturn was noted as solid and strongest since June 2020 with the strongest contraction in new orders since Nov 2022 which also contributed to a stronger fall in output. New orders in the Consumer and Computing segments fell at the fastest pace for ten and six months respectively, while Industrial saw the strongest contraction since mid-2020. Post-production inventory held by global electronics firms contracted, albeit modestly, for the first time in four months. Global electronics firms posted a thirteenth consecutive monthly decline in purchasing activity in August with the rate of contraction increasing vs. July. The decrease in purchasing activity was broad-based across all sub-sectors and led by Industrials.

Auto/Transportation

EVs – Europe's carmakers have to produce lower-cost electric vehicles (EVs) and erase China's lead in developing cheaper, more consumer-friendly models, executives said at Munich's IAA mobility show. Chinese EV makers, including BYD, Nio, and Xpeng are all targeting Europe's EV market, where sales soared nearly 55% to about 820,000 vehicles in the first seven months of 2023, making up about 13% of all car sales.

EV Battery Prices – Prices for EV battery cells in China have fallen 10% M/M in August driven by weak demand domestically and globally says TrendForce. The slowdown has forced battery manufacturers to pump the brakes on production, and with the glut of capacity the firm sees continued price declines for the rest of the year as unavoidable.

ChargePoint – The EV Charger supplier reported disappointing results with revenue failing to meet expectations despite growing 39% Y/Y and profit loss coming 3x larger than consensus. CEO Romano said the company is facing a hesitant economy and it is initiating a restructuring action including a 10% cut to the workforce.

Ford – Ford confirmed previous reports from August that the company is pushing out by more than 6 months the production of its long-awaited Explorer SUV in Europe. The company said it has decided to wait for the new generation of VW battery technology to be available.

Germany Auto – German new-car sales rose 37 percent in August to 273,417, boosted by demand for EVs, which jumped 171 percent. Electric vehicle registrations were helped by the impending end of incentives for business buyers on Sept. 1. Tesla had offered additional discounts for company cars registered by that date. Chinese newcomers too continued to make inroads into Europe's No. 1 market, with BYD's registrations at 2,034 for the month. Great Wall Motor sold 2,211 cars, while Nio sold 411 vehicles. Sales of gasoline cars increased 8.9 percent for a 27.6 percent market share. Diesel sales rose 9.2 percent for a 14.5 percent share. Plug-in hybrid registrations fell by 41 percent

Mercedes – Mercedes-Benz does not expect its sales in Europe to be all-electric by 2030 but will have its line-up ready, Chief Executive Ola Kaellenius said in an interview at the Munich car show. The EV market has grown substantially in recent years but it won't be ready for all EV by 2030 due to the lack of adequate charging infrastructure and barriers to producing and selling EVs on a larger scale at competitive prices. Mercedes notes variable costs for producing EVs will remain higher compared to ICE in the foreseeable future.

Nissan – Nissan will delay the start of production of its next "Kicks" SUV model in Mexico by about six months after some mold components were stolen at a local supplier, the Nikkei newspaper reported on Tuesday. Production of the remodeled "Kicks" had been due to start in December, but will now likely begin around June 2024, the paper said.

Qualcomm – Qualcomm on Tuesday said it will supply chips to power in-car infotainment systems to luxury automakers Mercedes and BMW.

Tesla – Tesla China has extended delivery time for its Model Y Long Range to between six and eight weeks, according to its website on Monday.

Tesla – Tesla is eyeing 2026 or 2027 to potentially begin production at a major new factory planned for Mexico, according to a report published in Mexican daily Reforma on Wednesday. The report cited an anonymous Chinese supplier saying that they and several other Chinese companies may delay plans to launch operations near the still un-built Tesla factory, set for the northern state of Nuevo Leon, after learning of Tesla's slower-than-expected plans. Several sources previously told Reuters that Tesla planned to begin production in Mexico in 2025.

VW – After trimming production of its best-selling SUV last week, the shortages of engine parts caused by the flooding in Slovenia have reached VW's factories in Germany. The OEM announced it will reduce work hours at its home plant in Wolfsburg from Sep 11-29. The company is also cutting production at its commercial vehicle factory in Hanover.

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US New Auto Sales – August sales into large rental, commercial, and government fleet increased 33.9% Y/Y estimates Cox Automotive. Rental fleet sales increased 102%, while sales to gov fleet rose 39%, while sales to commercial fleet were mostly flat. The remaining retail sales increased 13.9% leading up to 12.6M SAAR, up 0.9m from last year but down 0.6 million from July.

UAW – UAW union on Wednesday made a labor contract counterproposal on economic issues to Ford, while Chrysler's parent company Stellantis planned its counteroffer this week. "They chose to follow the same path they have in the past, which is delay, delay," UAW President Shawn Fain told CNBC Wednesday night. "They waited now until the last eight days to want to start talking -- so we've got a lot of work to do." Last week, Ford said it had offered a 9% wage increase through 2027, much less than the 46% wage hike being sought by the union. The UAW expects to receive a proposal from GM on Thursday, a source told Reuters, who spoke on condition of anonymity.

UAW – GM on Thursday offered workers represented by the union a 10% wage hike and two additional 3% annual lump sum payments over 4 years, but UAW president Shawn Fain called the offer "insulting".

US New Auto Inventory – New-vehicle inventory, especially for most domestic brands, grew through August ahead of a potential strike by the UAW, according to Cox Automotive. Total supply grew 5% M/M to 2.06M units, the highest since April 2021. Days of supply stood at 58, consistent with the level YTD. According to Cox, all but two domestic brands had supply above industry average. Stellantis particularly appears bloated with inventory with Dodge brands at 136 days of supply followed by Chrysler at 125 and RAM at 115. At the opposite end of the inventory spectrum at Japanese brands Honda and Toyota as well as Korea's Kia. EV supply was modestly lower M/M but at 98 days remains well above the industry average says Cox.

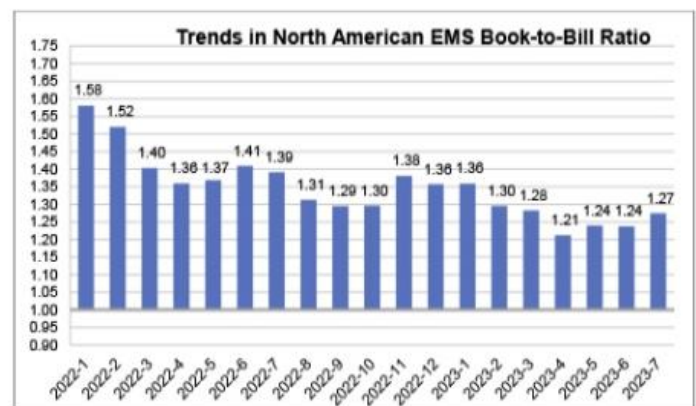
Industrial

Wind Energy – Germany's wind power expansion is facing an unexpected roadblock: builders need permits to transport the heavy turbines down the country's roads, and they are waiting months to get them. With a backlog of more than 15,000 applications for approvals, companies say their projects are heavily delayed, with the costs of prolonged warehousing for steel tower segments, generators and blades running into the millions, according to a report by Reuters.

Distribution and EMS

Farnell – Farnell announced it has recently added 7,000 new ADI products to its existing stock, bringing the total number of ADI products available to more than 23,000. Farnell says more than 50% of ADI products offered are expected to have a lead time shorter than 13 weeks.

EMS – N.A. July EMS shipments increased 3.4% Y/Y but decreased 0.7% M/M. EMS bookings in June decreased 3.5% year-over-year and increased 2.1% from the previous month. The book-to-bill ratio stands at 1.27, according to IPC.



Source: IPC

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Semiconductors

Arm – SoftBank is planning to raise as much as \$4.87B in a significantly smaller IPO than previously planned. Arm will offer 95.5 million shares for \$47-\$51 a share, valuing the company at \$54.5B at the top of the range, says Bloomberg. Arm previously expected to raise \$8-\$10B.

ASE – Projections for the duration of inventory digestion continue to get revised further out in time said ASE Chief Operating Officer Wu Tianyu this week. In the long run, the company still sees demand for semis as healthy and as a result, the company announced it will expand its production facilities by building two new factories in Penang, Malaysia.

Auto Semi Supply Chain – According to a report from Capgemini Institute the automotive semi supply chain is not sustainable in the longer term. While issues have been stabilized in the short-term, supply chains are still transforming due to their complexity and evolving factors, including the shift to electric vehicle (EV) production. The report adds that based on its survey of automotive customers only half of the OEMs consider the current supply chain for semis as secure and of those surveyed 70% said that the majority of the supply is currently coming from Taiwan, Japan, Korea, or China. In a bid to achieve a greater level of supply-security OEMs are investing in alternative supply methods and moving away from tier-1 and -2 suppliers. Similarly, OEMs have secured only three years of EV battery raw materials on average.

China – China is set to launch a new state-backed investment fund that aims to raise \$40B for investments in semis, according to a report by Reuters. If successful this could be the biggest such fund launched by the China Integrated Circuit Industry as the target would outstrip the \$20B and \$28B funds that launched in 2014 and 2019. The report states that one main area of investment will be equipment for chip manufacturing.

Foundry – 2Q23 sales for the top 10 global foundries declined 1% Q/Q reflecting weakness in end demand from Smartphones and PCs and inventory correction in Automotive, Industrial and Datacenter end markets,

according to a TrendForce report. In 2Q some foundries experienced a windfall from some emergency orders from the display sector for Driver ICs but outside of those last-minute orders, demand has remained sluggish. Looking into 3Q, TrendForces sees demand trending softer than seasonal with anticipation of an uptick from AP and modem chips for smartphones as well as an uptick in demand for HPC AI chips but softer than typical demand from other end markets.

Huawei – Huawei and SMIC have built advanced 7 nm processors to power Huawei's latest smartphone according to a teardown report by TechInsights. Huawei started selling its Mate 60 Pro phone last week. The specifications provided advertised its ability to make satellite calls but offered no information on the power of the chipset inside. The processor is the first to utilize SMIC's most advanced 7nm technology and suggests the Chinese government is making some headway in attempts to build a domestic chip ecosystem, the research firm said. The breakthrough is seen as potentially prompting a response by Washington to tighten the curbs even more.

Intel – After the failed acquisition of Tower Semi the two companies announced an agreement where Intel will provide Tower with access to 300mm wafer production in its New Mexico facility. Tower, meanwhile, will spend \$300M on manufacturing equipment at the Fab 11x Site which will manufacture 65nm power management bipolar CMOS-DMOS and radio frequency Silicon-on-insulator solutions starting in 2024.

MPS – MPS announced it has opened a new design center in Porto, Portugal to support its growth of power solutions for Datacenter, EVs, solar power, battery power storage, robotics, telco, cloud, automotive and industrial applications.

Marvell – Marvell announced an expansion in India including a new office and plans to double its workforce capacity in Pune.

NXP – NXP has recently alerted clients of a data breach that exposed their private information. The data breach was first flagged by Troy Hunt, the owner of Have I Been Pwned, who tweeted a copy of the email NXP sent to customers affected

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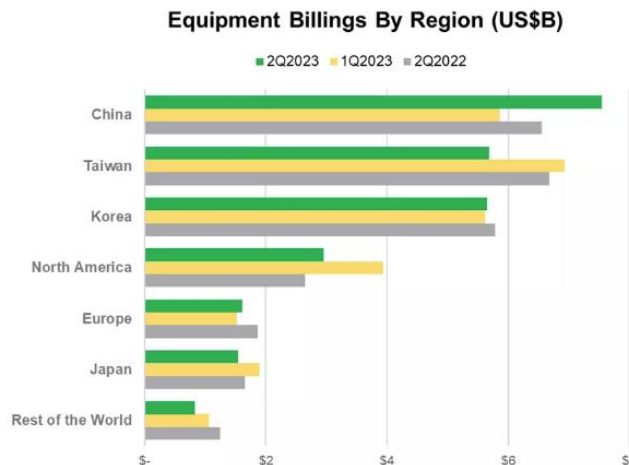


by the breach. Those affected appear to be individuals with an online NXP account, which provides access to technical content and community support. According to NXP spokesperson Andrea Lempart, an "unauthorized party" gained access to "basic personal information" through a system connected to the company's website. The compromised information includes NXP customers' full names, email addresses, postal addresses, business and cell phone numbers, company names, job titles, descriptions, and communication preferences.

Semis – Global semi sales have bottomed in 2Q23 but inventory depletion is progressing slower than expected and the recovery in demand is slow said SEMI. July global semi sales increased 2.3% M/M, marking the fourth consecutive M/M increase in sales. SEMI forecasts semi sales to increase 6% Q/Q in 3Q but inventory is also projected to increase, indicating that progress is slower. The current forecast is recovery of demand expects to pick up in 2Q24.

ST Micro – ST Micro and Foxconn are teaming up for a bid to build a semi fab in India. The two companies are applying for state support for 40-nm fab reports Bloomberg. The move comes after Foxconn's attempted partnership with billionaire Anil Agarwal's Vedanta Resources Ltd. fell apart after a year of little progress.

Semi Equipment – Semi equipment sales declined 2% Y/Y to \$25.8B in 2Q23 while Q/Q sales declined 4% says SEMI. On a Y/Y basis sales to China and N.A. increased 15% and 12% respectively, while sales to all other regions declined.



Source: SEMI (www.semi.org) and SEAJ (www.seaj.or.jp), September 2023

TMSC – TSMC chairman Liu Deyin said that shortages of AI chips are caused by advanced CoWoS production capacity due to the recent tripling of demand. At present TSMC is able to support only 80% of demand. The company is building additional CoWoS capacity and expects to be able to meet 100% of demand within the next 18 months.

TSMC – TSMC reported August revenue of NT\$188.686B, up 6.2% M/M and down 13.5% Y/Y. TSMC pointed out that overall economic situation remains weak, China's demand recovery is slower than expected and customers are cautious planning to further digest inventory into 4Q.

UMC – UMC reported August revenue declined 1% M/M and 25% Y/Y. UMC sees 3Q wafer shipments declining 3-4% Q/Q and utilization dropping to 64-66% from 70% prior quarter while ASP could increase 2% Q/Q though reports suggest foundries are experiencing pressure from customers to lower prices.

US Exports – The U.S. Commerce Department should end all technology exports to Huawei and China's top semiconductor firm SMIC following the discovery of new chips in Huawei phones that may violate trade restrictions, the chair of the House of Representatives' committee on China Mike Gallagher said on Wednesday. "This chip likely could not be produced without US technology and thus



SMIC may have violated the Department of Commerce's Foreign Direct Product Rule," Gallagher said in a statement.

Vishay – Vishay announced that the company has opened a new manufacturing facility in Gómez Palacio, Durango, Mexico, where its initial activity will be mass production of power inductors. The new Vishay La Laguna S. de R.L. de C.V. is an 18,000 square meter, LEED v4-certified facility that will make a significant addition to Vishay's power inductor manufacturing capacity.

Consumer

Apple – Apple has been placing fewer orders with the supply chain for the upcoming iPhone 15 series for the second half of 2023 than the iPhone 14 for the second half of 2022, according to DIGITIMES. According to the report, Apple ordered a total of 80–90 million smartphones for its iPhone 15 series from the supply chain for the second half of 2023 in August, down from the 90–100 million units ordered in August 2020 for the iPhone 14 series for the second half of 2022.

Apple – China has ordered officials at central government agencies to not use Apple's iPhones and other foreign-branded devices for work or bring them into the office, the Wall Street Journal reported on Wednesday. Later in the week Bloomberg reported that China plans to expand its ban on the use of iPhone to government-backed agencies and state companies. According to the report, several agencies have begun instructing staff to not bring their iPhones to work. It is unclear how many companies or agencies could adopt restrictions on personal devices and there has been no formal or written injunction yet.

Huawei – According to reports from Asia, Huawei's new 5G phone Mate 60 has been sold out in China within hours of launch and the company has placed orders with its suppliers for an additional 15-17 million units.

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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

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