



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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DATAPOINT OF THE WEEK: Weekly auto sales in China continued to improve towards the end of Sep according to data from the China Passenger Car Association (CPCA). From Sep 1 to Sept 24 retail sales of all light vehicles increase 13% Y/Y and 6% compared to the same period last month, while xEV sales increased 33% Y/Y and 11% compared to last month.

Reports published this week:

[IP&E Insights – September 2023](#)

Key Takeaways:

1. 3Q shipments seen tracking in-line, flat Q/Q with POP/POA weakness in distribution offset by more stable demand direct.
2. Bookings relatively stable Q/Q and mixed by end market with AI strength, stability in Auto and weakness in Industrial/Telco/IT.
3. 2H outlooks little changed; down in distis, flattish direct with added risk to 4Q N.A. Auto from the UAW strike.
4. Inventory globally seen as off-peak levels, but progress is slow, particularly for Industrial customers. Digestion projected into 1Q24 as inventory headwinds are seen as compounded by signs of softening end demand.
5. China/APAC still seen relatively weakest; supply chain less optimistic China rebounds meaningfully before 2Q24.
6. EMEA 3Q seen tracking seasonal; Sept order rebound disappointing; 4Q seen down Q/Q on weaker Industrial/Comm Transportation.
7. Americas more stable; 3Q seen flat to up Q/Q on Mil/Aero, AI strength, stable Auto offsetting Industrial/distribution softness.

[HDD Insights – September 2023](#)

Key Takeaways:

1. C3Q23 HDD shipment TAM forecast of ~29-31M units unchanged, assuming slight decline in client/consumer (and channel) HDD shipments following modest pull-ins late last quarter, modest Q/Q nearline unit growth forecast at risk on limited pull-in appetite.
2. CY23 HDD shipment TAM forecast of ~122-125M units, down ~25-30% Y/Y unchanged, yet reduction to C2H23 HDD production forecasts suggest pace of recovery unclear/delayed into CY24; CY24 HDD shipment TAM forecast unchanged at ~115-120M units.
3. PC OEM client HDD attach-rate unchanged at mid-single-digits % entering C2H23, while HDD vendor/s still expected to effectively EOL client 2.5" HDD offerings by mid-CY24 and client 3.5" by YE24; Microsoft O/S HDD boot policy being enacted in mid-C4Q23.
4. Nearline HDD shipment TAM forecasts unchanged at ~9-9.5M units in C3Q23 and ~10-10.5M units in C4Q23, assuming modest recovery in shipments Q/Q throughout C2H23 yet to-date most buyer/s appear uninterested in pulling-in late-quarter volumes.
5. Forecasting CY24 nearline HDD shipment TAM to improve to ~50-54M units, or up low-30% Y/Y yet pace of recovery likely to be lumpy given mixed U.S. hyperscale recovery timelines; long-term (CY22-CY30) exabyte (EB) growth adjusted lower to ~15-20%

Auto/Transportation

China EV – The Chinese government is looking for ways to enhance the country's EV supply chain to avoid battery technology outflow and create a self-sufficient EV supply chain. As part of that the Government has recently asked local EV companies to source chips and other electronics domestically. Currently most of the Chinese auto demand is supplied by European, US and Japanese semi suppliers. In addition, the Chinese government intends to ban rare earth alloy exports used for EV battery production.

Europe EVs – The European Union and Britain need to take urgent action to postpone rules for electric vehicles traded between the bloc and the UK that will trigger 10% tariffs, Europe's car industry group said this week. Under the EU-UK post-Brexit trade deal, EVs need to have 45% EU or UK content from 2024, with a 50%-60% requirement for their battery cells and packs or face British or EU import tariffs of 10%. The problem is that neither carmakers in Britain nor the EU have built up their EV supply chains sufficiently to meet those requirements and have called for the rules to be postponed until 2027.

European Emission Standards – European Union ministers agreed on Monday to water down a European Commission proposal on Euro 7 vehicle emissions after automakers and eight countries including France and Italy said the changes could divert investment from electric vehicles. The EU countries agreed not to change the existing Euro 6 test conditions and emissions limits for cars and vans, although they will be lower for buses and heavy vehicles. They also accepted new particle emissions limits for brakes and tires.

Ford – Ford said on Monday it has paused work on a \$3.5 billion electric vehicle battery plant in Michigan, citing concerns about its ability to competitively operate the plant at a time when it remains locked in broader contract negotiations. UAW responded by saying that its goal is not to stop but get a just transition to electric vehicles and instead, Ford is doubling down on their race to the bottom. The development is seen as a step back in negotiations between the two after UAW spared Ford from additional

strikes last week as negotiations with Ford had shown progress.

GM – Canadian labor union Unifor said on Thursday it has informed GM that Oct. 9 has been set as the deadline for negotiating a deal with the U.S. automaker. "Negotiations between Unifor and General Motors are underway to secure a tentative agreement that follows the pattern set with Ford of Canada," Unifor said in a statement.

Kia/Hyundai – Hyundai and Kia are recalling a combined 3.37 million vehicles in the United States due to the risk of engine fires, telling owners to park outside and away from structures until repairs are complete. The automakers say internal brake fluid leaks can cause an electrical short that could lead to a fire. The National Highway Traffic Safety Administration (NHTSA) said owners should follow the advice of automakers and park vehicles outside until repairs are made.

Lucid – Lucid announced it has opened its first international manufacturing plant in Saudi Arabia. Lucid announced plans for the Jeddah factory last year and said the kingdom had signed an agreement to buy up to 100,000 vehicles from the company over 10 years. Saudi's sovereign wealth fund, Lucid's largest shareholder, has been tasked with driving the kingdom's ambitious plan to reduce reliance on oil revenue as it ventures into an EV industry dominated by countries like China and the United States.

Mitsubishi Automotive – The Japanese automaker announced it is stopping production in China and planning to exit its JV with Guangzhou due to sluggish sales of ICE vehicles and the transition to EVs. Mitsubishi started production in China in 2012.

Stellantis – Stellantis is planning a new automotive architecture design that will significantly cut the number of semiconductors in a vehicle. This comes after Stellantis CTO Ned Curic highlighted the need to cut the number of chips. Stellantis is looking to centralize the architecture with high-performance computing and zone controllers and significantly fewer edge devices compared to the current architecture where a vehicle can have from 50 to 120

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electronic control units (ECUs). Stellantis said it will explore AI use and other methods to centralize the architecture.

Tesla – Tesla and European carmakers that export from China to the EU will be part of the bloc's probe into whether the country's electric vehicles industry is receiving unfair subsidies, the Financial Times reported on Tuesday, citing Brussels' most senior trade official.

Tesla – Tesla is expected to report 3Q global deliveries on Sunday. Consensus expectations is for 458K vehicles or 1.6% decline from 2Q, which would mark the first sequential decline in Tesla's deliveries since 2Q22. Some analysts recently however are warning of high risk of Tesla missing consensus expectations with deliveries coming in as low as 439K due to downtime in Europe and China factories to upgrade equipment and prepare for the production of updated Model 3 and Cybertruck. Some analysts believe that the a disappointing report could spark the need for further price cuts in the face of increasing competition.

Toyota – Toyota said global production climbed 4% Y/Y in Aug to a record high 798k. Domestic production rose 22%, offsetting a 2% drop in overseas output.

VW – VW is cutting production of EV models at two German plants due to declining European demand and shrinking government subsidies. The impacted models as ID.3 and Cupra's Born and production curbs are expected to last at least until Oct 16. The German government's decision to end subsidies for electric cars in company fleets this month led to a 171% increase in new EV registrations in August compared to the previous year, according to Germany's VDA auto lobby.

VW – Factories across Germany for VW, Audi, and Porsche were halted for two days this week due to an IT outage. VW production networking was up and running again on Thursday after the incident.

UAW – UAW announced on Friday it will expand the strike to Ford's Chicago assembly plant and GM's Lansing, Michigan plant but spare Stellantis this time. 7000 workers are joining the strike, bringing the total to 25,000. UAW and Ford were perceived to be close to a deal but negotiations

experienced a setback midweek as Ford announced pausing construction of its EV battery project citing concerns of operating it competitively. UAW slammed the announcement as a strategy to signal job cuts. This week Stellantis was spared from additional strike as the company made a last-moment proposal that signaled progress. Bloomberg reported earlier in the week that the UAW is aiming for at least 30% increase in wages over four years, which is down from the previous 35% and the original 40% request.

US. New Auto Sales – Cox Automotive expects September new auto sales in the US to increase 13% Y/Y to 15.5M SAAR from 15.3M in August. Sales are again expected to be driven by demand from commercial and rental fleets while retail demand growth is more modest. Cox notes the pace of sales in 3Q (15.4M) while growing Y/Y is seen as down ticking from the 15.6M in 2Q. Cox anticipates the pace to see further moderation in 4Q due to the saturation of fleet pent-up demand and macro headwinds slowing retail demand. That said Cox raised its full year SAAR forecast to 15.4M from 15M projected in June. Cox estimates retail sales increasing 7% in 2023 while fleet demand will increase by 40%.

Datacenter

Accenture – Accenture reported mixed results for its fiscal fourth quarter. The company reported \$2.71 in adjusted earnings per share on \$15.99 billion of revenue. Analysts were expecting \$2.65 per share on \$16.07 billion of revenue, according to FactSet. The company's full-year guidance for the upcoming fiscal year for earnings and cash from operations also came in below expectations.

Semiconductors

China Semi Equipment – Revenue from China's top chip equipment makers surged in the first half of the year, research released Thursday showed, as Beijing continues to aim for self-reliance for its semiconductor industry. The top 10 domestic equipment manufacturers logged revenue of

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around 16.2 billion Chinese yuan (\$2.2 billion) in the first half of the year, up 39% year-on-year, according to Shanghai-based CINNO Research.

Japan Subsidies – In hopes of bolstering domestic semi supply chains the Japanese government has decided to expand its subsidies to TSMC and Kioxia/Western Digital JV. The Nikkei reports TSMC is set to receive up to ¥476B (\$3.2B) while WDC/Kioxia JV would receive up to ¥93B (\$620M).

Korean Semis – The U.S. is expected to indefinitely extend a waiver granted to South Korean chipmakers Samsung and SK Hynix on needing licenses to bring U.S. chip equipment into China, Yonhap news agency reported on Wednesday. Last year, the chipmakers had received authorization from the U.S. Commerce Department to supply equipment needed for chip production in China for a year without seeking additional licenses.

Intel – Intel announced that its fab in Ireland has started mass production of Intel 4 node using EUV.

Microchip – Microchip announced nine new tech and application specific solution stacks for its growing mid-range FPGA and SoC portfolio spanning edge, smart embedded vision and edge communications.

Microchips – Microchip and GlobalFoundries announced starting production of Microchips 28-nm NVM controller for next gen flash solutions.

Micron – Micron announced it will invest up to \$3.3B in next gen 1-gamma process technology over the next few years which includes the use of EUV. Micron said its 1-gamma node will start production in Japan in 2025 and the company anticipates receiving support from the government.

Nvidia – According to reports from Asia, Nvidia has placed 3nm orders with TSMC for its upcoming Blackwell architecture. The reports state that the first chip will be for HPC and AI names GB100 and the next is expected to be GH100 used for Hopper cards.

NPX – NXP expects its first automotive-grade chip on 5nm, made by TSMC to be available to automakers in 2025,

according to reports from Asia. This would mean a major upgrade from today's 16nm technology used in NXP's existing range of MCUs.

Single Board Computers – Raspberry PI released its 5th generation of SBC touting twice the speed of its predecessor, dual 4kp60 display capability, PCIe interface and an on-board real time clock. RPi 5s are available to order through Farnell and scheduled to ship at the end of October and will remain in production until at least January 2035

Samsung Foundry – Utilization of 8-inch wafer processing at Samsung Foundry has dropped below 50% in 2Q due to weak demand. As a result, Samsung has recently cut prices by 10% for 8-inch wafer services, according to a report from Asia. The report adds that SK Hynix's foundry is similarly struggling with low utilization. Samsung's 8-inch foundry produces PMICs, panel driver ICs and MCUs.

US Semi Industry – A recent study made by the Semiconductor Industry Association (SIA), together with Oxford Economics, says that employment in the sector will grow to 460,000 by the end of the decade, up from roughly 345,000 now. However, this won't be nearly enough to meet the total demand for qualified professionals in the field. Instead, the industry will still be 67,000 workers short by 2030. Based on this forecast, 39% of chip factory technician jobs may remain vacant.

Qualcomm – The U.K.'s Competition and Markets Authority said it will open a probe into Qualcomm's planned acquisition of the Israel-based auto chip maker Autotalks.

TSMC – TSMC has increased orders for CoWoS equipment by 30% to meet the growing demand for AI from Nvidia, AMD and Amazon, according to a report by the Economic Daily News. According to the report, Nvidia accounts for 60% of TSMC CoWoS capacity with AMD, Amazon, Broadcom occupying the rest. Currently, TSMC's monthly CoWoS capacity is 12,000 units and the company is targeting to expand to 25-30k.

TSMC – TSMC may delay its 2nm to 2026 according to a report by TechNews in Asia. That could create an opportunity for Intel to catch up or even surpass TSMC with

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its 18A process – its version of 2nm – which Intel claims will be manufacturing ready in 2H24 and in production in 2025. 18A will be Intel's second process using GAA transistors – they will come in at the 20A node which is running about six months ahead of 18A.

PC – Analyst forecast 3Q US PC shipments would decline by 4% Y/Y before rebounding 12% Y/Y in 4Q. 2Q US PC shipments decline 6% Y/Y and marked the bottom in shipments as channel inventory was cleared says the firm.

Consumer

Apple – Apple is planning to increase iPhone production in India by 5x over the next few years, according to several reports in Asia.

Apple – Some of the first owners of Apple's iPhone 15 Pro and Pro Max are complaining that the new devices get too hot during use or while charging. The gripes have spread across Apple online forums and social media networks, including Reddit and X. Customers say that the back or side of the phone becomes hot to the touch while gaming or when conducting a phone call or FaceTime video chat. For some users, the issue is more prominent while the device is plugged in to charge.

Apple – Taiwanese EMS provider Pegatron has reportedly temporarily shut down production at an iPhone assembly facility in India on Monday following a fire. The fire reportedly broke out on Sunday night, sources familiar with the situation told Reuters. As a result of the fire, all shifts on Monday have been called off at the plant in Chennai, and according to the sources. The factory resumed operations on Wednesday. Although the factory has a daily production capacity of roughly 26,000 iPhones, the report states that in recent months the facility has been assembling between 8,000 and 12,000 iPhones daily.

Tablets – Global tablets reached 28.09 million units in 2Q23, down 5% Q/Q according to DigiTimes Research. Shipments are forecasted to increase sequentially in 2H23 but growth is viewed as muted. DigiTimes notes iPad shipments underperformed the market in 1H23 but Apple is expected to regain some share in 2H.

Huawei – Huawei launched several consumer products at its conference this week, including smart glasses, headphones, a tablet and a smartwatch.

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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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