Rebound
Electronics

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Monthly Market Insights

July Issue 2024

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General Market Updates

IC Distributors Anticipate Strong 3Q24 Revenue Driven by Server Demand

IC distributors expect robust revenue growth in Q3 2024, driven by strong server and data center sales, especially in AI edge computing and High-Performance Computing (HPC) solutions. Key players like WPG Holdings and WT Microelectronics are benefiting, while automotive and industrial sectors face short-term supply chain issues with recovery expected later. The seasonal increase in high-end foldable handset demand also boosts market optimism despite PC market uncertainties.

TV Market Replenishes in 2Q24, Faces Risks Heading into 2H24

The global TV market saw a rise in large-size Display Driver IC orders in Q2 2024, fueled by sporting events. However, high inventory levels may reduce orders, affecting DDI manufacturers in H2 2024. Despite promotional boosts from events like China's 618 shopping festival, consumer purchasing power concerns prompt revised shipment forecasts. Growth in DDIs for mobile phones and other electronics may offset potential declines in TV applications.

NAND Flash Shortage Looms in 2H24 Amid AI Data Center Demand

A NAND flash shortage is anticipated in H2 2024 due to high demand for SSDs in AI-driven data centers, with enterprise storage growth contrasting weak consumer electronics demand. NAND wafer prices have tripled, and major manufacturers expect insufficient production beyond Q3, maintaining high prices amid constrained supply and ongoing demand.

EU's Silicon Supply Concerns

The European Commission is worried about a potential silicon oversupply due to China's expanding silicon production capacity. As China boosts its production of legacy silicon, there are fears of market imbalances and price drops that could destabilize the global semiconductor market. This situation may lead to increased collaboration between the EU and the U.S. to mitigate risks and manage dependencies.

China's HBM Demand to Reach 7% of Global Total in 2024

China's High Bandwidth Memory (HBM) demand is projected to hit 7% of the global total in 2024, crucial for the High-Performance Computing (HPC) sector. Nvidia leads global HBM demand, followed by Google and AMD. Despite US export restrictions, Chinese AI GPU startups are progressing, though lagging in HBM technology, with domestic mass production expected by 2025-2026.

General Market Updates

Samsung Workers’ Strike Supplier Impact

On July 9, 2024, approximately 6,500 members of the National Samsung Electronics Union (NSEU) initiated an indefinite strike after unsuccessful negotiations with Samsung Electronics for higher wages and better working conditions. The NSEU, representing about 24% of Samsung’s workforce in South Korea, demands a 3.5% base pay increase and improvements to the performance bonus system. Samsung claims no disruption to production, while the NSEU anticipates significant impacts on production lines.

Impacted Suppliers and Commodities

Ten major semiconductor suppliers are identified as potentially affected by the strike. These suppliers source various commodities from Samsung’s South Korean operations, which are at risk due to the strike.

Supplier	Commodities Sourced
Cavium, Inc.	Microprocessors (MPU)
Infineon Technologies AG	MOSFETs
NXP Semiconductors	Microprocessors (MPU), Telecom Interfaces, Specialized ICs, Microcontrollers (MCU), Embedded Interface Boards, Evaluation/ Development Kit & Boards
Samsung Electronics Co. Ltd.	White LED Lighting
Samsung Semiconductor, Inc.	DRAM, Memory Modules
STMicroelectronics N.V.	GBT (Board Mount) - Single, Power Drive Modules, Motor Drive ICs
Texas Instruments Inc.	Display Drivers & Controllers, Specialized ICs, Interface Controllers
Toshiba Electronic Devices & Storage Corp	Specialized Interfaces
Xilinx, Inc.	FPGAs

General Market Updates

Affected Sites and Commodities

The strike primarily affects semiconductor production lines located in the Gyeonggi-do, Gyeongsangbuk-do, and Chungcheongnam-do provinces, which host key Samsung operations.

Province	Major Cities	Commodities	Supplier
Gyeonggi-do	Yongin-si, Hwaseong-si, Pyeongtaek-si	**Microprocessors (MPU), MOSFETs, FPGAs, Telecom Interfaces, Specialized ICs, Microcontrollers (MCU), Embedded Interface Boards, Evaluation/Development Kit & Boards, Display Drivers & Controllers, Specialized ICs, Interface Controllers, IGBT (Board Mount) - Single, Power Drive Modules, Motor Drive ICs, Specialized Interfaces**	**Cavium, Inc., Infineon Technologies AG, Lattice Semiconductor Corp., NXP, Semiconductors, Texas Instruments Inc., STMicroelectronics N.V.,Toshiba Electronic Devices, & Storage Corp., Xilinx, Inc.**
Chunacheonanam-do	Asan-si, Cheonan-si	DRAM, Memory Modules	Samsung Semiconductor, Inc.
Geonasanabuk-do	Gumi-si	Memorv Modules	Samsung Semiconductor, Inc.

The ongoing strike by the National Samsung Electronics Union has the potential to significantly disrupt Samsung's semiconductor production, impacting multiple global suppliers. Continuous monitoring and alternative sourcing strategies may be necessary for affected companies.

North America Experiences Surge in EV Battery Factory Construction Amid Growing Demand

North America is witnessing a surge in EV battery factory construction. This boom is driven by increased demand for electric vehicles and government incentives. Companies are investing heavily in new facilities to secure a competitive edge and meet the growing market needs.

Company	Update
Tesla	Expanding Gigafactory operations in Texas to increase battery production capacity.
LG Energy	Building a new battery plant in Ontario, Canada, to meet rising EV demand.
Panasonic	nvesting in a new facility in Kansas to boost battery supply for North American markets.
CATL	Setting up a major battery manufacturing site in Tennessee to support local EV production.

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General Market Updates

Semiconductor Supply Chain July Overview

Continued Demand

The demand for semiconductors remains strong across various sectors, including automotive, consumer electronics, and industrial applications. Emerging technologies like AI and 5G are also driving demand. Supply Chain Disruptions: Although some improvement has been seen, supply chain disruptions continue due to geopolitical tensions, natural disasters, and logistical issues. Issues in sourcing raw materials and transportation delays are still prevalent.

Geopolitical Tensions

Trade tensions, particularly between the U.S. and China, continue to impact the semiconductor industry. Export controls and tariffs affect the global flow of semiconductor components and materials.

Capacity Expansion

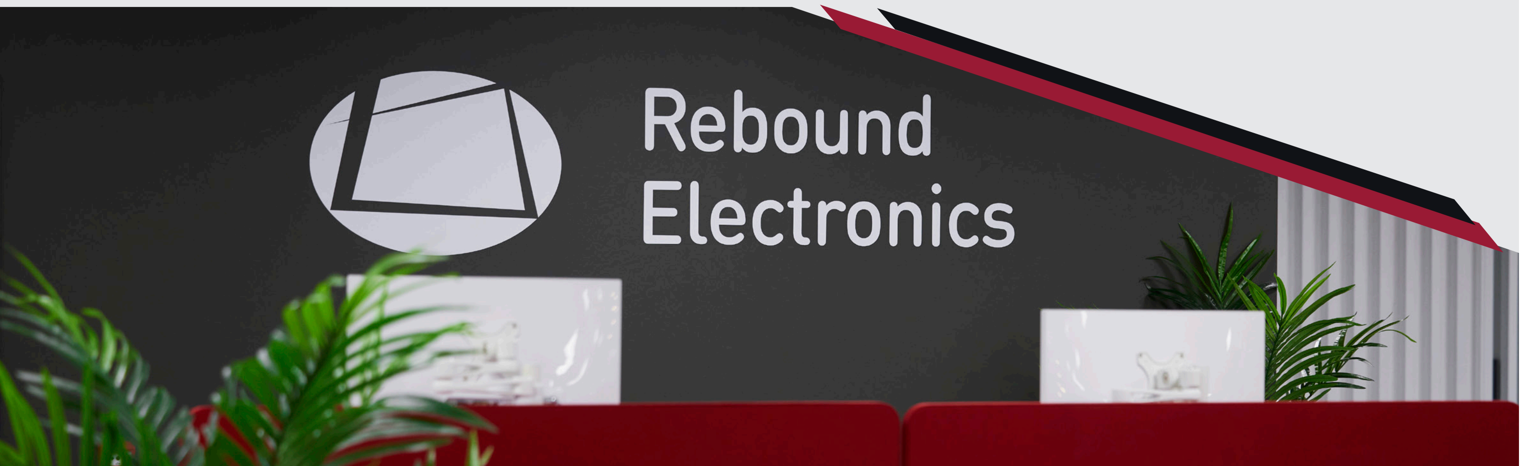
Many semiconductor manufacturers are investing in new fabrication facilities and expanding existing ones to meet growing demand and mitigate future supply chain risks. However, building new fabs and ramping up production is a lengthy and capital-intensive process.

Technological Advancements

The industry is focusing on advancing technology to produce smaller, more efficient, and more powerful chips. Companies are investing heavily in research and development to push the boundaries of semiconductor technology.

Sustainability Efforts

There is an increasing emphasis on sustainability within the semiconductor supply chain. Companies are working on reducing their environmental impact through more energy-efficient processes and sustainable practices.



General Market Updates

- AMD is set to acquire Silo AI, Europe's largest private AI lab, for $665 million, enhancing its global enterprise AI solutions and accelerating its AI strategy through Silo AI's advanced models and expertise.
- AMD has confirmed that its Zen 6 and Zen 6c processors will be released in 2025, while Intel is set to surpass AMD in CPU server performance for the first time in a decade with its upcoming 128 P-core Granite Rapids-AP line, anticipated to launch in September.
- AMD's upcoming RDNA 4 GPUs will introduce significant ray tracing enhancements, including a Double RT Intersect Engine and various optimizations, for the Radeon RX 8000 series and Sony PS5 Pro, aiming to compete more effectively with NVIDIA's leading ray tracing technology.

- Infineon and Amkor have signed an MoU to advance sustainability across their supply chain by focusing on decarbonization, engaging with suppliers to implement science-based emissions reduction strategies, and supporting each other's climate goals, including Infineon's aim to become CO2-neutral by 2030 and Amkor's goal for net-zero emissions by 2050.
- Infineon has launched the AIROC CYW5591x Connected MCU family, offering robust Wi-Fi 6/6E and Bluetooth Low Energy 5.4 for cost-efficient, power-saving IoT applications.
- Cooler Master is expanding its partnership with Infineon to integrate advanced semiconductor technology into its new X series high-wattage power supplies, ranging from 850W to 2000W, enhancing performance and efficiency for gaming, AI, and industrial applications.

General Market Updates

Panasonic

- Panasonic has agreed to acquire Area Cooling Solutions, a Polish refrigeration equipment manufacturer, to bolster its condensing unit business in Europe, enhance local manufacturing, and align with environmental regulations by leveraging Area Cooling's expertise in inverter-controlled and CO2 condensing units.
- Panasonic Energy has partnered with CSIRO to develop advanced nickel laterite processing technologies for lithium-ion batteries, aiming to create a sustainable and efficient supply chain for nickel and enhance Australia's role in global battery production while minimizing environmental impact

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- Onsemi unveils EliteSiC M3e MOSFET roadmap through 2030 to boost EV and renewable energy tech.
- Onsemi acquires SWIR Vision Systems to enhance sensor capabilities and expand into SWIR technology applications.

General Market Updates

- Vishay Intertechnology launches TSHF5211, a high-speed 890 nm IR emitter with 50% higher radiant intensity, ideal for smoke detectors and industrial sensors.
- Vishay Intertechnology acquires Ametherm for $31.5 million, enhancing its portfolio with advanced inrush current limiters and sensing thermistors for automotive, industrial, aerospace, and medical markets.

- Competition among automotive IDMs is heating up, with Infineon, NXP, STMicroelectronics, Texas Instruments, and Renesas leading the market, each excelling in areas like wide-bandgap semiconductors, MCUs, and sensor accuracy.
- STMicroelectronics has released new versions of STM32CubeProgrammer, STM32CubeMonitor, and their associated tools, including Secure Manager in STM32CubeProgrammer 2.14, enhancing security and support for STM32H573 and other MCUs. Key updates include improved secure firmware installation, expanded support for STM32WB and STM32WBA, and new GUI features for managing security and provisioning.

General Market Updates

Texas Instruments

- Texas Instruments has introduced six new ‘MagPack’ power modules designed to improve power density, efficiency, and reduce EMI, suitable for industrial, enterprise, and communications applications, and featuring integrated magnetic isolation.
- Texas Instruments (TXN) shares rose in Q2 2024 as investors grew optimistic about the industry’s long-term demand despite current weak sales and profits.

TDK

- TDK’s greenhouse gas reduction targets for 2030 have been verified as science-based by the SBTi, supporting their goal of achieving net zero emissions by 2050.
- Apple supplier TDK has developed ‘CeraCharge’, a next-gen solid-state battery with 100 times greater energy density than conventional models, potentially revolutionizing wearable devices like the Apple Watch with enhanced safety and efficiency.

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