

Microchip Technology: Capacity Choices Through a Downturn

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Decision date and information cutoff: March 1, 2024

Decision scope: How to sequence further U.S. wafer-fab capacity expansion while demand and channel inventory remain uncertain

Case convention: This strategy assignment is hypothetical. Company disclosures are historical; no private deliberations are represented.

The decision

On March 1, 2024, Microchip Technology's operating and strategy leaders are reviewing how to plan capacity as customers work through excess inventory. Management says most factory expansion activity remains paused, while the company continues selective equipment and facility investment. Should Microchip preserve the pause and invest selectively; resume expansion in stages when demand, utilization and customer commitments meet evidence gates; or accelerate selected projects to protect supply control and readiness for a recovery?

This is a sequencing question, not a choice about whether to honor an already approved project. Public sources do not establish a fixed capital pool, a binding budget constraint, project-level returns, or an internal disagreement. Historical project announcements do not establish current unspent balances or irreversibility. The team must specify what evidence would justify changing the pace.

Demand and inventory signals

For the quarter ended December 31, 2023, Microchip reported net sales of \$1.766 billion, down 18.6% year over year. Management said conditions weakened more than expected; it attributed the decline to slowing economic activity and customers pushing out or canceling backlog while reducing inventory. It expected weakness to continue into the March 2024 quarter. These are management's explanations and outlook, not an independently established decomposition of demand. [P1] [P2]

At December 31, the company reported \$1.31 billion of inventory, or 185 days, versus \$1.32 billion and 169 days at March 31. Distributor-held Microchip inventory was 37 days, compared with 24 days at March 31. The company said this channel measure had ranged approximately 17-40 days over the preceding decade and noted that channel inventory can materially affect its net sales. Company inventory and distributor inventory describe different holdings and are not additive. [P1]

Product trends were also mixed. Q3 mixed-signal microcontrollers (MCUs) generated \$995.2 million, 56.3% of sales, and declined 18.5% year over year; analog products were \$430.6 million, 24.4% of sales, and declined 29.0%. Management said proprietary MCU average selling

prices had remained relatively stable over time. The filing does not map these broad product categories to individual fabs or processes. [P1]

Capacity actions and commitments

Microchip said it planned lower production and up to two weeks of fab shutdown days during each of the March and June 2024 quarters. It also reported that most factory expansion activity remained paused and planned capital investment had been reduced through FY2025. These were plans at the cutoff, not later outcomes. [P1] [P2]

At the same time, the company intended to spend \$200-\$300 million on equipment and facilities over the next 12 months, describing the spending as sufficient for new-product and technology growth and bringing more assembly and test in-house. Its Q3 release separately forecast approximately \$300-\$310 million of capex for FY2024 and \$50-\$60 million in the March quarter, including selective equipment additions. The 12-month intent and fiscal-year outlook cover different periods and scopes; neither allocates funds to a particular fab or defines a project budget. [P1] [P2]

Earlier, Microchip had described a multi-year \$800 million Fab 4 expansion and capital-equipment investment plan in Gresham, Oregon, and an \$880 million Fab 5 silicon-carbide and silicon capacity plan in Colorado Springs. These historical announcements do not establish remaining cost or project status by workstream. In January 2024, the Department of Commerce announced non-binding preliminary terms for proposed CHIPS grants totaling \$162 million: \$90 million for Colorado Springs and \$72 million for Gresham. The announcement was not a final award. [P3] [P4]

Customer-ordering conditions

On February 1, 2024, Microchip discontinued its Preferred Supply Program for new orders, saying that the conditions leading to the program had changed. The change did not affect long-term supply agreements (LTSAs), and orders under the legacy program retained capacity priority through delivery. Management said short-lead “turns” orders were important again and difficult to forecast. This change signals a shift in ordering conditions, but it does not establish that demand has normalized or quantify wafer requirements under LTSAs. [P1]

Evidence at a glance

Evidence available at the cutoff	What it establishes	What remains unknown
Q3 net sales of \$1.766bn, down 18.6% year over year; management reported backlog push-outs and cancellations. [P1] [P2]	Current weakness and management's inventory-correction explanation.	End-customer sell-through, product-level backlog quality, cancellation mix and timing of recovery.
Company inventory at 185 days; distributor inventory at 37 days, within the cited historical 17-40-day range. [P1]	Inventory conditions differ by channel and channel levels are historically variable.	SKU age, customer sell-through, end-market variation and inventory required for service.
Most expansion paused, with selective investments and production reductions planned. [P1] [P2]	The company's stated near-term posture as of February 1.	Fab- and process-specific utilization, bottlenecks, output effects and costs to resume or defer projects.
Historical Fab 4/Fab 5 plans and preliminary CHIPS terms. [P3] [P4]	Announced projects and proposed federal support.	Remaining project cost, award conditions, current construction/equipment status and cancellation costs.
Preferred Supply Program closed to new orders; LTSAs unaffected. [P1]	A change in new-order program terms while some legacy supply obligations remain.	LTSA wafer volumes, timing and the capacity they require.

The choice

Which capacity sequence should Microchip pursue? Specify what demand, channel inventory, customer-commitment, fab-utilization, yield or project-milestone evidence should trigger a pause, selective investment or broader expansion. Address the strongest argument against your proposal. Do not assume the historical Fab 4/Fab 5 plan amounts remain unspent, that proposed CHIPS grants are final, or that a fixed capital pool exists.

Sources and conventions

All facts are limited to sources public by March 1, 2024. The latest quarterly filing used is the Form 10-Q filed February 1, 2024. Management explanations and forecasts are attributed; proposed grant terms are preliminary and non-binding. No later operating results or project outcomes are included.

- **P1:** Microchip FY2024 Q3 Form 10-Q, filed Feb. 1, 2024; MD&A pp. 26-27 (demand, production and expansion), pp. 28-30 (product/channel/company inventory), p. 33 (capex), pp. 41-42 (supply program and LTSAs).
- **P2:** Microchip Q3 FY2024 results release, Feb. 1, 2024; ¶¶52-70 (management explanation and production actions), ¶¶112-134 (outlook and capex).
- **P3:** Microchip FY2023 Form 10-K, filed May 25, 2023; Item 1 printed p. 7 (Fab 4/Fab 5 plans).
- **P4:** U.S. Department of Commerce, Jan. 4, 2024 preliminary CHIPS terms announcement.
- **A1:** Karabuk and Wu (2003), "Coordinating Strategic Capacity Planning in the Semiconductor Industry," *Operations Research* 51(6), 839-849.