

Coherent Corp. - Sequencing the Datacom Ramp

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Decision scope: Sequencing incremental datacom capacity and integration choices for 800G and 1.6T products

Case convention: This is an author-created strategy decision exercise. The review assignment and next-step choices are hypothetical; company disclosures are historical. No private deliberations are represented.

The decision

On 1 March 2024, Coherent's strategy team is preparing for its next operating review. The company has disclosed a rapid 800G transceiver ramp, supply constraints, active 1.6T development, investment and new-product-introduction work at four wafer fabs, and plans to consolidate certain fabs; the disclosures do not establish whether these are separate or overlapping fab populations. The next increments of capacity and internal component production must be sequenced against those commitments and a mixed demand picture.

The assignment is hypothetical: recommend how Coherent should sequence additional datacom capacity and integration commitments beyond the activities already disclosed. Should it prioritize relieving 800G bottlenecks and preparing 1.6T capacity, stage further commitments against demand and qualification evidence, or preserve more flexibility across non-AI Datacom, Telecom and other businesses? Identify the evidence that should govern the next step. Do not assume a specific budget, capacity level or customer commitment; the public record supplies none.

A company across materials, components and systems

Coherent develops and manufactures engineered materials, optoelectronic components and devices, lasers, subsystems and systems. It reports three operating segments: Networking, Materials and Lasers. It also presents revenue by four end markets: Communications, Industrial, Electronics and Instrumentation. These are different views of the company: a segment is not the same as an end market, and products used in datacom can draw on capabilities across the portfolio. The Lasers segment represents Legacy Coherent, acquired in July 2022. [S1]

In fiscal 2023, revenue was \$5.160 billion: \$2.341 billion in Networking, \$1.350 billion in Materials and \$1.469 billion in Lasers. By end market, Communications represented \$2.293 billion, Industrial \$1.762 billion, Electronics \$626 million and Instrumentation \$479 million. The company attributed much of its year-over-year revenue growth to the acquired Lasers segment and industrial market, while Communications grew 6%. These figures describe different business dimensions and a changing acquisition perimeter. [S1]

Coherent manufactures transceivers as well as many enabling components, including lasers, detectors and passive optics. It also works with suppliers. The 2023 annual report says the company decides what to develop internally and what to source based on business case, time to market and strategic considerations. Coherent's public materials do not disclose product-level make-versus-buy costs, yields or returns. [S1]

A demand surge and a mixed recovery

For the quarter ended 31 December 2023, Coherent reported consolidated revenue of \$1.131 billion, up 7% sequentially and down 17% year over year. Rounded segment revenues were \$524 million for Networking, \$254 million for Materials and \$354 million for Lasers. Each segment increased sequentially, but each remained below its year-earlier level. Company-wide revenue and segment totals do not isolate AI datacom economics. [S2]

Inside Networking, Coherent reported that datacom transceiver orders had increased more than 100% year over year and backlog had risen more than 10% sequentially. Q2 revenue from 800G transceivers exceeded \$100 million and more than doubled sequentially. Management said supply constraints affected Q2 shipments and revenue. It expected the constraints to ease and fully resolve by the end of FY2024 based on its then-current demand view. [S2]

Coherent described active customer engagement on 1.6T transceivers and components, with expected commercial launch and revenue in Q1 FY2025. It said demand for lasers used in internal transceivers and by outside manufacturers required substantial investment, product development and new-product-introduction ramps across four wafer fabs for 800G, 1.6T and 3.2T development. At the same time, Coherent had initiated consolidation of certain wafer fabs to increase utilization and profitability. These are management statements about activities and expectations; the letter does not disclose unit capacity or a datacom-specific capital amount. [S2]

Coherent's Communications end-market revenues were also uneven. Within that company-reported end market, Datacom revenue was approximately \$358 million, up 10% sequentially and 7% year over year; Telecom revenue was approximately \$162 million, up 22% sequentially but down 39% year over year. Coherent attributed weakness in non-AI Datacom and Telecom to customer inventory digestion and some Telecom project delays. [S2]

The company estimated that the overall Datacom transceiver market would grow at a 25% compound annual rate from calendar 2023 through 2028, up from its prior estimate of 18%, based on revised forecasts for 800G, 1.6T and 3.2T products. It also expected AI-related revenue to exceed half of Coherent's Datacom transceiver revenue in FY2024. Both are management estimates, not independently verified market forecasts or guarantees of Coherent revenue. Datacom transceivers are only one product category within Networking. [S2]

Investment and competitive context

Coherent maintained FY2024 capital-expenditure guidance of \$350-400 million and expected Silicon Carbide LLC to fund about \$150 million of that amount. It expected to repay \$225-275 million of debt during the year. Those figures are company-wide; they do not identify an available budget for datacom. The company also reported that Mitsubishi Electric and DENSO had invested a combined \$1 billion for 25% noncontrolling ownership of Silicon Carbide LLC and entered long-term supply agreements. The SiC investment and restricted cash are not a datacom funding pool. [S2]

Competition was moving toward the next speed tier as well. In February 2024, Lumentum reported \$366.8 million in quarterly revenue and said it was expanding transceiver production

in Thailand. Its CEO expected a summer capacity ramp and said Lumentum aimed to lead the first wave of 1.6T transceivers for multiple customers. Lumentum also expected customer inventory digestion to continue through the rest of its fiscal year because of sluggish carrier capital spending. These were competitor management statements, not independent demand evidence or a like-for-like comparison with Coherent. [S3]

Evidence and open questions

Evidence available at the cutoff	What it establishes	What remains unknown
800G Q2 revenue above \$100m; more than doubled sequentially; orders more than doubled year over year	Coherent reported substantial current demand and a fast product ramp. [S2]	Product margin, unit volume, order conversion, cancellation terms, and the portion of revenue constrained by supply.
Management expected supply constraints to ease by FY2024 year-end	The company had a plan and a demand-based expectation for improving supply. [S2]	Which components or processes constrained output, how much capacity could be added, and the cost of delay or expansion.
1.6T launch and revenue expected in Q1 FY2025; work at four wafer fabs	Product and manufacturing preparation were underway. [S2]	Qualification yield, customer commitments, total investment and target production volume.
Fab consolidation alongside new-product investment	Capacity expansion and utilization improvement were occurring at the same time. [S2]	Which sites and products were affected, capacity transfers, and the net effect on output.
Non-AI Datacom and Telecom weakness; competitor investment in 1.6T	The opportunity sits alongside demand uncertainty and competitive moves. [S2] [S3]	Timing and magnitude of a recovery, whether 1.6T demand will materialize on schedule, and relative returns.

The available company-wide segment and end-market data do not reveal the economics of a particular 800G or 1.6T line. No disclosed customer-level forecast, capacity-by-product schedule, fab utilization rate, qualification yield, make-versus-buy comparison, incremental margin or datacom expansion budget resolves the choice.

The choice

Coherent can push the next increments toward current 800G bottlenecks and early 1.6T readiness. It can stage further commitments against observable demand, qualification and production milestones. Or it can preserve more flexibility across Networking's non-AI and Telecom businesses and the wider portfolio while continuing disclosed development work. The alternatives differ in timing, learning, utilization and the risk of committing to capacity before demand and product requirements settle.

Decision prompt: Which next-step sequence should Coherent adopt? Specify the evidence and milestones that should trigger an increase, a pause or a shift in capacity. Explain the strongest argument against your own recommendation. Separate what management reported from what you infer; do not invent project economics or a capital pool.

Sources and conventions

All company facts are limited to information public by 1 March 2024. Management statements, market estimates and forecasts are attributed. Rounded segment revenues may not sum to the rounded consolidated figure. Segment revenue and end-market revenue are separate classifications. No post-cutoff company results or outcomes are included.

[S1]: [Coherent Corp. FY2023 Form 10-K](#), filed 18 August 2023; Item 1 business and manufacturing, printed pp. 5-14; Item 7 revenue/segments, pp. 54-56; Note 4 end-market revenue, p. 83; Note 14 reportable segments, pp. 102-103 and following. [S2]: [Coherent Corp. Q2 FY2024 Shareholder Letter](#), dated 5 February 2024, released 6 February 2024; orders/backlog/800G/1.6T PDF pp. 11-14 (printed pp. 12-15); fabs PDF p. 14 (printed p. 15); capital outlook and SiC PDF pp. 14-16 (printed pp. 15-17); segment results PDF pp. 16-17 (printed pp. 17-18); market split PDF p. 22 (printed p. 23); detailed tables PDF pp. 34-36 (printed pp. 35-37). [S3]: [Lumentum FY2024 Q2 results release](#), 8 February 2024; CEO comments and results table.