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SPECIALTY SEMICONDUCTOR INVESTOR BRIEFING

MAY 2026

The Unlocking Catalyst: Tower's Path to \$2.8B Revenue



SILICON
PHOTONICS



VISIBILITY



ADVANCED
POWER/BCD



RF & 5G



SMART
SENSING



VISIBILITY

SPECIALTY
LEADERSHIP

1.6T AI INTERCONNECT DOMINANCE
FAB 7 CONSOLIDATION IN JAPAN
POWERING THE DATA CENTER

INVESTOR KEY TAKEAWAYS

- Photonics Hypergrowth Locked In
- Securing 300mm Autonomy
- Strategic AI Power Pivot

TOWER
Semiconductor



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May 2026

Tower Semiconductor

As AI data centers scale exponentially, the critical bottleneck is no longer just raw computing power — it is the underlying bandwidth, power delivery, and specialized analog routing where Tower Semiconductor holds a structural advantage.

What is Tower Semiconductor (TSEM)?

Imagine traditional tech giants like TSMC, Samsung, or Intel Foundry as companies building ultra-fast sports cars, racing to make the smallest, most powerful engines on earth at 3nm and below. Tower Semiconductor (NASDAQ: TSEM) operates on an entirely different track.

Instead of building the engines, Tower builds the complex, high-speed highway systems, specialized fuel lines, and sensory dashboards that allow those sports cars to function safely and efficiently in the real world.

Headquartered in Israel, Tower is a specialty foundry contract manufacturer. They do not design chips under their own brand; they manufacture them custom-tailored for other technology firms. Tower's expertise lies in highly specialized manufacturing processes that enable chips to talk to each other using light (optically), manage heavy electrical power efficiently, sense the physical world, and route wireless signals.

Because these specialty processes require years of testing and rigorous customization by the customers who buy them, this market is far less vulnerable to price wars. Once a customer integrates Tower's architecture into their product line, switching to a competitor is incredibly difficult, creating a steady stream of high-margin, sticky revenue.

The Macro Backdrop: Why the AI Buildout Demands Specialty Tech

The artificial intelligence boom is triggering an unprecedented spending spree across the globe. The world's four largest tech giants — Amazon, Google, Meta, and Microsoft — are collectively targeting a breathtaking \$600 to \$630 billion in capital expenditures for 2026. This is roughly triple what they spent just two years ago, and approximately 75% of that massive mountain of cash is going directly into AI infrastructure, including GPUs, memory, and networking systems.

But here is the catch that many retail traders miss: an AI data center isn't just a building filled with expensive compute units. As these supercomputing clusters grow larger, engineers are running into a physical wall made of copper. Traditional copper cables simply cannot move data fast enough or cheaply enough between servers without overheating or consuming massive amounts of power.

To break through this bottleneck, the tech industry is shifting to Silicon Photonics (SiPho) — a technology that allows data to travel via ultra-fast light beams rather than electrical currents. The next major evolution is Co-packaged Optics (CPO), which integrates these light-speed components directly alongside the main networking brains. Major chip designers are scrambling to find manufacturing partners capable of building these complex systems at scale, and Tower's 300mm

SiPho platform is one of the only game-ready options in the world.

Three Core Catalysts Driving Valuation

For a long time, investing in semiconductor foundries felt like guesswork, with stock prices swinging wildly based on unpredictable industry cycles. Today, Tower has rewritten that script with three concrete catalysts:

1. A Clear Line of Sight:

Management has thrown out the guesswork by publishing an explicit long-term destination: \$2.8 billion in annual revenue and \$750 million in net profit. Investors now have a clear scorecard to track progress.

2. Taking the Wheel in Japan:

Tower has consolidated full operational control of Fab 7 in Uozu, Japan — the crown jewel facility responsible for its silicon photonics expansion. Previously, Tower relied on a manufacturing agreement with Intel in New Mexico, which introduced uncertainty into their plans. By re-routing production flows to its fully controlled Japanese facility, Tower has eliminated strategic dependencies and cleared the runway for a fourfold capacity expansion just as AI demand peaks.

3. Show Me the Money:

Tower isn't just hoping for customers; they have already locked in a staggering \$1.3 billion in contracted Silicon Photonics revenue for 2027, with 2028 volumes already signed even higher. To prove how desperate the market is for Tower's capacity, customers have already handed over \$290 million in cash prepayments just to reserve their spot in line. This upfront cash effectively converts future demand into present-day balance sheet strength.

Financial Dashboard & Key Milestones

To balance the big-picture narrative with hard data, institutional investors are closely watching how these milestones de-risk Tower's aggressive capital spending:

Metric	Value / Guidance	Investment Significance
Q1 2026 Revenue	\$414M (+15% YoY)	Represents the strongest specialty demand turnaround in company history.
Q2 2026 Guidance	~\$455M	Projected to break the company's all-time quarterly revenue record.
Current Annualized Run-Rate	~\$1.7B	Leaves an incremental gap of ~\$1.1B to reach management's ultimate growth target.
SiPho 2027 Contract	\$1.3B	Fully contracted backlog; serves as the primary engine bridging the gap to \$2.8B.
Customer Prepayments	\$290M	Cash in hand; materially cushions capital expenditure risks and confirms supply scarcity.
SiGe & SiPho CapEx	\$920M	Massive investment program to scale advanced photonics capacity to >5x the late-2025 baseline.
Capacity Reserved (thru 2028)	>70%	High demand-side visibility that heavily de-risks the execution of their capital deployment.

The Multi-Layered Moat: Tower's 6 Technology Platforms

While competitors like GlobalFoundries, X-Fab, and Skywater Technology own pieces of the specialty analog market, none have successfully brought Tower's exact recipe under a single roof. GlobalFoundries walked away from the cutting-edge race years ago but has not made photonics a strategic focus at this scale, while smaller peers remain trapped on older, less efficient 200mm manufacturing infrastructure.

Tower's business is intentionally balanced across six distinct technology pillars, ensuring they capture multiple slots of value inside the exact same AI data center:

- **Silicon Photonics (SiPho) — The Star Player:** Replaces power-hungry copper wires with light-speed data pathways on silicon wafers. It is the crown jewel driving the \$1.3B backlog.
- **SiGe BiCMOS — The Sidekick:** A specialized process that creates lightning-fast electronic components like laser drivers and amplifiers. By manufacturing both the optical brain (SiPho) and the electronic muscle (SiGe) for a single networking module, Tower doubles its content value per unit and deepens customer lock-in.
- **BCD Power Management — The Unsung Hero:** This platform blends logic and high-voltage power switching onto a single chip. It allows massive currents of electricity to be fed safely and cleanly right next to delicate AI cores. Secondary demand is strongly backed by the automotive electric vehicle market.
- **RF SOI / RF CMOS — The Steady Foundation:** Essential for routing wireless signals and 5G/6G antennas. A temporary platform migration from 200mm to 300mm is masking its core strength, but it remains a critical infrastructure asset.

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- **Specialty Imaging, MEMS, and Display Backplanes:** High-margin niches that add defensive resilience to the business. These components power everything from advanced automotive driver-assistance sensors (ADAS) and medical imaging systems to microdisplays for AR/VR headsets.

The Reality of the Moat: In this industry, changing your chip manufacturer isn't like switching software vendors. It requires an 18-to-36-month qualification process and tens of millions of dollars. For defense, automotive, and medical customers, walking away from Tower is financially and operationally cost-prohibitive.

Risks to Keep on Your Radar

No investment thesis is perfect, and Tower's stock re-rating means the market expects flawless execution. Here is what retail and institutional investors must watch closely:

- **The Manufacturing Scale-Up:** Demand is not the issue here — execution is. Tower must scale up its photonics capacity to more than five times its late-2025 baseline while hitting rigid, contracted timelines. Because optimism is already baked into the stock price, any major operational delay will hurt valuation.
- **A Concentrated Supply Chain:** Silicon Photonics requires a rare chemical element called Indium Phosphide (InP) to build its lasers. The global supply chain for InP is highly concentrated. If a disruption occurs, Tower cannot easily ship finished modules, threatening their forward contracts.
- **The Global Tax Man:** The roll-out of the OECD Pillar Two Global Minimum Tax is set to push Tower's effective tax rate higher. As a result, top-line revenue growth will outpace net income expansion. Investors should note that hitting the \$750 million net profit goal will be a much steeper climb than hitting the \$2.8 billion revenue target.

5 Things to Remember for Your Portfolio

1. **Contracts Over Promises:** Tower's growth isn't built on Wall Street hype or speculative forecasts. It is anchored by a hard \$1.3B photonics backlog and \$290M in cash already deposited by customers.
2. **Diversified Protection:** While Silicon Photonics grabs the headlines, the other five platforms give Tower unique cross-domain coverage, protecting the company if one specific market slows down.
3. **Complete Independence:** Full ownership of Fab 7 in Japan gives Tower total control over its manufacturing destiny, perfectly timed for the massive industry pivot toward co-packaged optics.
4. **Shift in Focus:** The primary investment risk to watch isn't whether big tech will stop buying AI chips; it is purely whether Tower can install tools and scale its factory floor fast enough to meet its obligations.
5. **Watch the Margins:** Keep a close eye on tax headwinds. Because of global minimum tax regulations, revenue figures will look more explosive than net income growth over the next few years.

Sources & Methodology: Based on Tower Semiconductor's publicly disclosed Q1 2026 earnings, Q2 2026 guidance, management commentary on SiPho contracts and CapEx, and publicly available information on technology platforms and Fab 7 restructuring. Hyperscaler CapEx and CPO market context draws on publicly available industry data. All financial figures reflect management-disclosed data. Forward estimates subject to execution, supply chain, tax, and macroeconomic risks.

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