Taiwan Semiconductor Risk

Supply Concentration, Diversification Progress & Component Sourcing Strategy

Week of February 20, 2026

EXECUTIVE SUMMARY

MODERATE	**Taiwan Concentration**	TSMC holds ~67-71% of global foundry market share (TrendForce Q3 2025); produces 90%+ of leading-edge logic chips (sub-7nm). Diversification underway but years from meaningful impact
ELEVATED	**Capacity Tightening**	TSMC preparing 3-10% price hikes on sub-5nm nodes (TrendForce/Digitimes); AI demand consuming allocation through end of 2026; mature-node lead times extending
MONITORING	**US-Taiwan Deal**	US Commerce Secretary targets 40% of Taiwan semiconductor supply chain relocated to US; experts call this unrealistic before 2030

1. STRATEGIC CONTEXT

Taiwan's semiconductor dominance remains the single largest supply chain concentration risk in the global economy. TSMC produces over 90% of the world's most advanced logic semiconductors (sub-7nm) and commands roughly 67-71% of the total global foundry market (per TrendForce, trending upward throughout 2025). The company's customers include Apple, NVIDIA, AMD, and Qualcomm — collectively powering the AI boom that is reshaping global technology spending. Bloomberg Economics has estimated that a Chinese invasion of Taiwan would cost approximately $10 trillion globally, equivalent to roughly 10% of world GDP.

In January 2026, the US and Taiwan reached a landmark deal aimed at expanding chip production capacity in the US. Commerce Secretary Howard Lutnick stated the goal is to bring 40% of Taiwan's semiconductor supply chain to America. However, analysts are deeply skeptical. Taiwan enforces an 'N-2 rule' restricting TSMC from operating its most advanced technology overseas — meaning the Arizona fab produces 4nm chips while Taiwan already manufactures at 2nm. CSIS analyst William Reinsch noted that Taiwan's engineering talent pipeline and ecosystem are not replicable at scale anywhere else. TSMC's CFO Wendell Huang told CNBC (January 2026) the company will continue developing its most cutting-edge technology in Taiwan.

The near-term military risk remains contained. Research assessing PLA capabilities concludes that China would most likely employ a quarantine rather than invasion, and that Taiwan's supply chain is particularly vulnerable to such action before 2027 — before diversification efforts gain traction. A full-scale amphibious invasion is assessed as logistically impractical before 2028-2030.

2. SEMICONDUCTOR MARKET CONDITIONS — 2026

AI-Driven Capacity Crunch

The semiconductor market in 2026 is defined by a stark divergence. Deloitte estimates that up to half of industry revenues could come from AI data center chips. NVIDIA and Apple have secured large blocks of

TSMC production capacity through the end of 2026, leaving second-tier clients competing for limited remaining allocation. TSMC is preparing price increases of 3-10% on sub-5nm offerings (per TrendForce, Digitimes, Q4 2025 reporting), with these increases expected to ripple through the AI supply chain.

Memory Market Stress

Sourceability's 2026 outlook identifies memory as the potential single largest friction point in the semiconductor supply chain this year. DDR4 is reaching end-of-life, DDR5 allocation is constrained, and AI-driven demand for HBM (High Bandwidth Memory) is consuming production capacity. Deloitte projects potential 50% memory price spikes by mid-2026.

Mature Nodes (28nm+): The Real Risk for Mid-Market

While headlines focus on cutting-edge AI chips, the supply risk most relevant to mid-market manufacturers is at mature nodes (28nm-65nm and above). These chips power automotive MCUs, industrial controllers, power management ICs, and IoT devices. Gartner reports that legacy-node semiconductors still show elevated supplier-held inventories from the post-COVID correction. However, specific segments remain tight, and AI-driven capacity allocation at advanced nodes is creating upstream pressure on mature-node availability as fabs prioritize higher-margin production.

3. VULNERABILITY ASSESSMENT BY SCENARIO (Meridian Risk Assessment)

Scenario	Probability	Supply Impact	Duration
Continued tension (baseline)	65-70%	**Limited**	Ongoing
Quarantine / economic coercion	5-10%	**Severe**	Weeks-months
Naval blockade	3-5%	**Catastrophic**	Months-years
Full-scale invasion	<2%	**Catastrophic**	Years+

Note: TSMC's chairman Mark Liu has publicly stated that a military takeover would "render TSMC's fabs inoperable" (CNN, August 2022). Even in an invasion scenario, China would be unlikely to gain functional advanced chip production capability.

4. DIVERSIFICATION PROGRESS TRACKER

- **TSMC Arizona (4nm):** In production since Q4 2024 (4nm). Full ramp ongoing through 2025-2026. Produces chips 2 generations behind Taiwan's cutting edge (N-2 rule).
- **Samsung Taylor, TX:** Targeting 2027 for volume production. Upgraded from 4nm to 2nm node (Nikkei Asia, 2025) but behind TSMC on yield rates.
- **Intel Ohio fabs:** Under construction; first fab now targeting 2030-2031 production (delayed from original 2025, then 2028 targets). Intel Foundry Services still developing competitiveness vs. TSMC.
- **China domestic (SMIC, Hua Hong):** Capable at 28nm+. Blocked from advanced equipment by US export controls. Could capture significant mature-node capacity by late decade.
- **GlobalFoundries (US/Germany/Singapore):** Viable alternative for mature nodes (22nm+). Qualification cycles 12-18 months.

Bottom line: Meaningful reduction in Taiwan advanced-chip dependency is 3-5 years away. For mature nodes, alternatives exist today but require proactive qualification investment.

5. RECOMMENDED ACTIONS

RECOMMENDED ACTIONS

- Immediate (this week): Map your complete semiconductor BOM to fab location. Identify which components are single-sourced from Taiwan and quantify revenue at risk under a 30-day, 90-day, and 6-month disruption scenario.
- Short-term (30-60 days): For AI-adjacent applications: secure TSMC capacity commitments for H2 2026 now, before remaining allocation is consumed. For automotive/industrial MCUs: evaluate pricing pressure from TSMC's announced 3-10% increases and assess alternative fabs.
- Medium-term (3-6 months): Begin qualification of alternative fabs for your top 10 highest-risk components. Even if alternatives cost 10-15% more, the supply security premium is justified. Prioritize components with longest re-qualification lead times.
- Strategic: Design for semiconductor flexibility. Where possible, architect products to run on chips from multiple foundries rather than single-vendor lock-in. This is the single highest-ROI investment in supply chain resilience.

SOURCES

[1] CNBC, 'What the US-Taiwan deal means for the island's silicon shield,' January 19, 2026
[2] Sourceability, '2026 Semiconductor Industry Market Outlook,' January 2026
[3] Deloitte Insights, '2026 Semiconductor Industry Outlook,' February 2026
[4] Stimson Center, 'Why Taiwan Fears America First Risks Eroding Its Silicon Shield,' November 2025
[5] ScienceDirect, 'From vulnerabilities to resilience: Taiwan's semiconductor industry,' March 2025
[6] AEI, 'How Disruptive Would a Chinese Invasion of Taiwan Be?' November 2024
[7] TradingView/Invezz, 'A $10-trillion reckoning,' January 2026
[8] Resilinc, 'What Would Happen If China Invaded Taiwan,' May 2025
[9] Gartner Global Inventory Index (GIISST), Q3 2025 via Sourceability

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