

IT & Electronics

Field Intelligence Report

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Semiconductor Packaging / AI & Machine Learning / Quantum Computing / Photonics & Optical Comms

Market Mood

82

/ 100 Optimistic

AI Infrastructure & Advanced Computing Accelerate

Global investments and technological breakthroughs are rapidly advancing AI-driven computing, demanding integrated solutions across packaging, AI/ML, quantum, and photonics.

AI Infrastructure Market Size	CoWoS Demand Surge	HBM Order Book Commitment	Photonic IC Market Growth
\$487	93	Fully Committed	\$107.66
—	—	—	520%

Weekly Summary

The IT & Electronics domain is experiencing unprecedented growth, primarily fueled by AI. Advanced semiconductor packaging, particularly HBM and CoWoS, is critical but faces supply bottlenecks. AI/ML is transforming drug discovery and enterprise operations, with significant investments in infrastructure and agentic AI. Quantum computing is gaining momentum with record investments and progress in fault-tolerant systems and PQC. Photonics and optical communications are essential for future AI data centers, addressing bandwidth and power efficiency challenges. Western players must strategically invest in integrated solutions and secure supply chains to maintain competitive advantage.

4 Sub-Topic Summary

Sub-Topic	Headline	Momentum	Key Insight
Semiconductor Packaging	Advanced Packaging Capacity Expands 4x by 2026, Bottlenecks Persist	Accelerating	Surging AI demand drives massive investments in advanced packaging (e.g., TSMC's CoWoS capacity to 130,000 wafers/month by 2026), but critical shortages in HBM, ABF, and specialized equipment like ultrafast lasers create persistent supply chain risks.

AI & Machine Learning	AI Adoption Surges 50% in Enterprises, Driving \$850B Infrastructure Spend	Accelerating	AI adoption has reached a tipping point, with over half of stakeholders using AI weekly, driving record investments in AI infrastructure (\$850B+ in Q1 2026 data center leases) and agentic AI platforms (\$1B+ funding H1 2026).
Quantum Computing	Quantum Investment Hits Record High, US Targets Practical Systems by 2028	Building	Quantum computing attracted record investments in Q2 2026, with the US government targeting practical quantum computers by 2028 and investing \$50M in Post-Quantum Cryptography (PQC) R&D; to address encryption threats.
Photonics & Optical Comms	Photonic IC Market to Surge 6x by 2035, Driving AI Data Center Efficiency	Accelerating	The photonic IC market is projected to surge to \$107.66 billion by 2035, driven by AI data centers and the need for 1.6T optical modules and 2.5D/3D optical I/O to overcome power and bandwidth limitations.

Japan Commits Over ¥10 Trillion to Semiconductor & AI Industrial Base

Source: METI

Summary: Japan's Ministry of Economy, Trade and Industry (METI) has announced a commitment of over ¥10 trillion in public support over seven years (until FY2030) for its "AI/Semiconductor Industry Base Strengthening Frame." This initiative aims to stimulate over ¥50 tr...

WHY ENGINEERS SHOULD CARE

This significant, long-term government backing signals robust and stable supply chain development within Japan for critical components like HBM, advanced logic (down to 2nm), power semiconductors, and...

Shin-Etsu Chemical Implements Significant Wafer Price Hikes Amid Tight Supply

Source: Shin-Etsu Chemical / Gemini Grounding

Summary: Shin-Etsu Chemical has announced global price revisions, increasing all silicone product prices by over 10% effective May 1, 2026. This follows a second round of price hikes in mid-2026 for high-end semiconductor wafers, with increases ranging from 18-22% for ...

WHY ENGINEERS SHOULD CARE

Procurement leads must anticipate sustained higher costs for silicon wafers, especially for advanced nodes and AI-specific applications. Design and evaluation teams should note the lack of significant...

JSR Accelerates EUV Photoresist Production with New Facilities

Source: JSR / Gemini Grounding

Summary: JSR Corporation is significantly expanding its EUV photoresist production capabilities, with a new Metal Oxide Resist (MOR) facility in South Korea scheduled to commence operations by late 2026. Additionally, JSR established a joint venture in Taiwan in early ...

WHY ENGINEERS SHOULD CARE

Teams targeting sub-3nm nodes should monitor JSR's MOR capacity ramp-up, as it directly impacts the availability and diversity of critical EUV resist materials. Evaluate the implications of the Taiwan...

This Week's Japan Technology Highlights

Japan is aggressively investing over ¥10 trillion in its semiconductor and AI industrial base, aiming to secure leading-edge technology and supply stability.

Huawei Ascend AI Accelerators: Scaling Domestic AI Compute with HBM

■ China's Move

Huawei plans to enter the South Korean AI accelerator market in Q4 2026 with its Ascend 950 series processors and the Atlas 950 SuperPod AI computing platform (source). The Ascend 950 series incorporates Huawei's "self-developed" high-bandwidth memory (HBM), f...

■ Technical Verification

[CONFIRMED]	Huawei is actively developing and deploying its Ascend series AI accelerators (Ascend 910 certified by MIIT, 950 series announced). / Huawei acknowledges a raw performance gap between Ascend 950 and...
[BOTTLENECK]	HBM Supply Chain & Performance: While Huawei designs its HBM, reliance on foreign-sourced dies creates a bottleneck for securing high-volume, advanced HBM supply and achieving competitive performanc...

■ Implications for Western Engineers

- AI accelerator teams should benchmark Ascend 950 against: bandwidth-per-watt, stack yield, thermal behavior under sustained load, ...
- Procurement teams should assess the reliability and scalability of Huawei's HBM supply chain, given its reliance on foreign-source...
- Software engineers should investigate the maturity and performance of Huawei's collective communication libraries and Pangu 2.0 Fl...

CXMT DRAM Progress: A Rising Force in Global Memory Supply

■ China's Move

ChangXin Memory Technologies (CXMT) has gained significant global attention, with Apple initiating testing of its DRAM chips for devices intended for the Chinese market and reportedly lobbying the U.S. government to permit wider use (source). CXMT has emerged ...

■ Technical Verification

[CONFIRMED]	CXMT has significantly increased its DRAM production capacity and market share, now ranking as the fourth-largest global producer. / Apple's testing of CXMT DRAM indicates a level of technical matur...
[BOTTLENECK]	Advanced Process Node Scaling: Achieving competitive DRAM density, speed, and power efficiency requires continuous scaling to advanced process nodes, which relies on access to state-of-the-art litho...

■ Implications for Western Engineers

- Memory procurement teams should evaluate CXMT's DRAM products for quality, reliability, and cost-competitiveness, especially for d...
- Supply chain strategists should factor CXMT's growing market share and production capacity into global DRAM supply risk assessment...
- Design engineers should monitor CXMT's roadmap for advanced DRAM and potential HBM offerings, anticipating their integration into ...

Key Trends This Week (5 Total)

TR-01 HIGH Cross-Domain

AI-Driven Demand Reshapes Semiconductor Supply Chains

AI Demand Reshapes Semiconductor Supply Chains, Driving \$250B+ Investments

The insatiable demand for AI accelerators is fundamentally reshaping the semiconductor supply chain, shifting focus from process nodes to advanced packaging (HBM, CoWoS, chiplets) and optical interconnects. This drives massive investments (\$252.5B in Korea, \$2.5-3.0B by Amkor) but also creates critical bottlenecks in HBM, ABF, and specialized equipment.

HBM Order Book	CoWoS Demand Surge	Samsung/SK Group Investment
Fully committed through 2028	93% by 2027	\$252.5 Billion

► Nvidia ► TSMC ► Samsung ► SK hynix ► Micron ► Amkor ► Lam Research

Refs: S1-01 S1-02 S1-03 S1-04 S1-06 S1-07 S1-10 S1-14 S1-16 S1-17 S1-18 S2-19 S2-36 S4-05 S4-07 S4-12 S4-15 S4-20 S4-21 S4-25 S4-26 S4-33

TR-02 HIGH Cross-Domain

Integrated AI & Quantum Computing Accelerates Drug Discovery

Integrated AI & Quantum Accelerate Drug Discovery, Reducing Timelines 30%

The convergence of AI and quantum computing is revolutionizing drug discovery, enabling faster molecular simulations, enhanced target identification, and more efficient clinical trial design. AI reduces early development timelines by 30% (Amgen), while quantum algorithms promise to drastically cut R&D costs. This fusion creates a powerful platform for novel therapeutics and personalized medicine.

AI Drug Discovery Timeline Reduction	AI Diagnostic Accuracy in Oncology	Earendil Labs Funding
30%	Over 80%	\$787 Million

► Amgen ► Insilico Medicine ► Earendil Labs ► IBM ► Google ► IonQ

Refs: S2-01 S2-04 S2-05 S2-07 S2-08 S2-09 S2-10 S2-11 S2-14 S2-29 S2-33 S2-34 S3-01 S3-04 S3-18

TR-03 MED AI & Machine Learning

Global Regulatory Scrutiny on AI Intensifies

Global AI Regulatory Scrutiny Intensifies, Mandating Audits & Disclosures

Governments worldwide are increasing regulatory oversight on AI. Illinois passed the first US state law mandating independent audits for frontier AI models, while Texas requires disclosure of AI use in healthcare. The EU AI Act imposes fines up to €35M for non-compliance, with key obligations delayed to 2027/2028. China considers restricting overseas access to advanced AI models.

EU AI Act Maximum Fines	US Federal AI Spending	China AI Feature Disablement
€35 Million	\$7.2 Billion by 2026	By July 2026

► EU Commission ► US FTC ► Illinois State Gov ► China Ministry of Commerce ► ByteDance ► Alibaba

TR-04 MED Photonics & Optical Comms

Photonics & Optical Interconnects Critical for AI Scaling

Photonics Critical for AI Scaling, Driving \$107B Market by 2035

As AI models grow, traditional electrical interconnects hit power and bandwidth limits. Photonics, particularly silicon photonics and Co-Packaged Optics (CPO), are becoming indispensable for AI data centers. The photonic IC market is projected to reach \$107.66B by 2035, with 1.6T and 3.2T optical transceivers commercializing by 2026-2027. Investments in InP wafers and photonic fabric technology are accelerating.

Photonic IC Market	1.6 Tbps Transceivers	Marvell Celestial AI Acquisition
\$107.66 Billion by 2035	Commercializing in 2026	\$3.25 Billion

► NVIDIA ► Intel ► Marvell ► Coherent ► TSMC ► Broadcom ► Lumentum

Refs: S1-17 S4-01 S4-02 S4-03 S4-05 S4-06 S4-07 S4-10 S4-12 S4-15 S4-17 S4-19 S4-20 S4-21 S4-25 S4-26 S4-29 S4-30 S4-33 S4-34

TR-05 LOW Quantum Computing

Quantum Hardware & Software Ecosystem Maturing

Quantum Hardware & Software Ecosystem Maturing, Attracting Record Investment

The quantum computing ecosystem is maturing rapidly, with record investments in Q2 2026 across hardware and software. Diverse hardware architectures (superconducting, trapped ion, silicon spin) are competing, while software startups like QubitFlow secure funding for algorithm development. Foundational technologies like cryogenic cooling and post-quantum cryptography are also seeing significant investment and deployment efforts.

Quantum Investment	QubitFlow Series A Funding	US Pentagon PQC R&D;
Record High in Q2 2026	\$20 Million	\$50 Million

► IonQ ► Diraq ► Pasqal ► QubitFlow ► QuSecure ► NIST ► CryoQuantum

Refs: S3-02 S3-05 S3-06 S3-07 S3-08 S3-09 S3-10 S3-11 S3-13 S3-14 S3-15 S3-16 S3-17 S3-19 S3-20

Macro Market Indicators

Indicator	Direction	Value	Note	Source
US Federal AI Spending	↑	\$7.2 Billion	Increased by 966% between 2024 and 2026 across 28 agencies.	PublicAdministrationPolicy.org
Global M&A; Activity H1 2026	↑	\$2.83 Trillion	Record high, fueled by AI investment and US deregulation.	BigGo Finance
North American VC Investment H1 2026	↑	\$392 Billion	Record high, with AI-related startups accounting for ~80% of Q2 investment.	TokenPost
EU AI Act Maximum Fines	↑	€35 Million	Or 7% of global annual turnover for non-compliance with high-risk AI systems.	European Union

Macro Environment Summary

Global investment in AI and related IT infrastructure has surged, with North American VC funding reaching a record \$392 billion in H1 2026, 80% of which is AI-related. US federal AI spending increased 966% to \$7.2 billion by 2026, while global M&A; hit \$2.83 trillion, driven by AI. Regulatory frameworks are emerging, with the EU AI Act imposing significant fines and US states like Illinois and Texas enacting AI safety laws.

Market Data: SOXX (Semiconductors) Weekly Trend

581.34 USD +2.65%

TSMC CoWoS Capacity Expansion Source: TSMC, Biya Global Limited

TSMC aims to nearly quadruple CoWoS capacity to 130,000 wafers/month by end of 2026 (S1-06).

Year	Prev (wafers/month)	Curr (wafers/month)	Δ
2025	32500.0	32500.0	+0
2026	32500.0	130000.0	+97500
2027	130000.0	180000.0	+50000

CoWoS Demand Forecast 2026 → 2027: +93%

Morgan Stanley projects 93% surge in global demand for CoWoS by 2027, reaching 2.694 million units (S1-14).

Action Recommendations by Player

Action Recommendations for Western OEM

OEM AMD, Google, Cisco, Ciena, Nokia, Amgen, Fate Therapeutics

Western OEMs like AMD and Google are adopting CoWoS for AI accelerators (S1-14, S1-07). Amgen projects AI to cut drug discovery timelines by 30% (S2-01). Fate Therapeutics shows promising Phase 1 results for iPSC-derived CAR T-cell therapy (S2-11).

Risk

- If HBM and ABF supply bottlenecks persist, AI product launches could face 18-24 month delays
- Failure to integrate AI/quantum tools risks losing 30% R&D; efficiency to competitors

Opportunity

- Leverage AI for 30% faster drug discovery and 20% reduced forecasting errors
- Partner with quantum firms for supply chain optimization and materials science

Actions This Week

- Secure HBM and advanced packaging capacity by Q4 2026 via multi-year contracts
- Establish AI/quantum R&D; partnerships by Q1 2027 to accelerate drug discovery

□ Scenario: If HBM and advanced packaging shortages persist through 2027, Western OEMs without secured supply will face 12-18 month product launch delays — initiate dual-sourcing and strategic partnerships now.

□ Quick Win : Task R&D; teams to pilot Aureka's OpenDDE or similar open-source AI models for drug discovery by end of month (S2-05).

Action Recommendations for Western Contract Manufacturer

Foundry GlobalFoundries, Amkor Technology

Amkor commits \$2.5B-\$3.0B for advanced packaging facilities in Arizona/Korea, with Arizona production by 2028 (S1-03). GlobalFoundries partners with PsiQuantum for silicon photonics quantum computer manufacturing (S4-23).

Risk

- Intense competition from Asian foundries (TSMC, Samsung, SK hynix) investing \$250B+ in advanced packaging
- Failure to scale advanced packaging (CoWoS, hybrid bonding) risks losing AI chip orders

Opportunity

- Capture growing demand for advanced packaging (CoWoS, 2.5D/3D optical I/O) for AI chips, projected 93% surge by 2027
- Partner with quantum firms for next-gen processor manufacturing

Actions This Week

- Accelerate Arizona advanced packaging facility construction to meet 2028 production target
- Engage German quantum institutes by Q4 2026 for next-gen processor manufacturing partnerships

□ Scenario: If TSMC's CoWoS capacity quadruples by 2026, Western foundries must rapidly expand their own advanced packaging offerings or risk market share loss — prioritize CoWoS-L and 2.5D/3D optical I/O investments immediately.

□ Quick Win : Conduct a feasibility study on 14-reticle-size CoWoS package production by Q4 2026 to match TSMC's 2028 target (S1-06).

Action Recommendations for Western T&M; Provider

T&M; Aehr Test Systems, Teradyne, NI

Aehr Test Systems received a follow-on order for its FOX-XP Wafer-Level Burn-In system from a silicon photonics customer, indicating strong demand for advanced testing (S4-35).

Risk

- Rapid evolution of advanced packaging and optical interconnects creates demand for new, complex test solutions
- Obsolescence of current equipment risks if new test methodologies are not developed quickly

Opportunity

- Develop and market advanced test solutions for HBM, CoWoS, and silicon photonics, addressing critical bottlenecks
- Offer PQC migration and validation services to governments and enterprises

Actions This Week

- Invest in R&D; for 2.5D/3D optical I/O and hybrid bonding test solutions by Q1 2027
- Partner with NIST by Q4 2026 to develop PQC validation standards and services

□ Scenario: If AI chip complexity outpaces current test capabilities, Western T&M providers will face declining market relevance — invest 20% of Q3 2026 R&D; budget into AI-driven test automation and optical interconnect validation.

□ Quick Win : Schedule meetings with major silicon photonics customers (e.g., Marvell, Intel) by end of month to understand 2027 test requirements for 1.6T/3.2T optical modules (S4-17, S4-21).

Action Recommendations for Western Material Supplier

Material Coherent, planoptik ag, Dow, DuPont, BASF

Coherent invests \$50M to quadruple 6-inch InP wafer capacity for 1.6T optical modules (S4-06). planoptik ag provides customized glass wafers for MEMS and photonics packaging (S4-32).

Risk

- Failure to scale production of critical materials like ABF and InP will severely constrain AI and optical comms growth
- Geopolitical tensions could disrupt global supply chains for rare materials

Opportunity

- Address critical material shortages for advanced packaging (glass substrates) and optical components (InP)
- Develop new materials for quantum computing (e.g., cryogenic solutions, silicon carbide for photonics)

Actions This Week

- Accelerate InP capacity expansion to meet 1.6T optical module demand by Q4 2026
- Secure long-term supply contracts for critical optical materials by Q4 2026

□ Scenario: If the 20% ABF supply gap persists into 2027, Western material suppliers must rapidly expand capacity or risk losing market dominance to Asian competitors — prioritize \$50M+ capital expenditure for ABF production by Q3 2026.

□ Quick Win : Initiate R&D; partnerships with leading AI chip designers (e.g., Nvidia, AMD) by next month to co-develop next-gen substrate materials for 2028+ architectures (S1-07).

Action Recommendations for Western Distributor / Trading Company

Distributor Arrow, Avnet, Brenntag

Facilitating the complex supply chains for AI chips, advanced packaging components, and optical modules. Increased M&A; activity (\$2.83T in H1 2026) suggests consolidation and strategic sourcing opportunities (S2-32).

■ Risk

- Supply chain volatility in HBM, ABF, and InP components creates significant inventory and delivery risks
- Geopolitical shifts (e.g., China's AI model restrictions) could impact sourcing and distribution channels

■ Opportunity

- Provide value-added services for complex AI/quantum/photonics supply chains, including inventory management and logistics
- Facilitate PQC migration services for enterprises

■ Actions This Week

- Diversify sourcing for critical AI components (HBM, ABF, InP) by Q1 2027 to mitigate supply risks
- Develop specialized distribution channels for quantum computing hardware and software by Q3 2027

□ Scenario: If AI component shortages worsen through 2027, Western distributors without diversified supply networks will face significant revenue loss — establish strategic partnerships with multiple Asian and Western suppliers by Q4 2026.

□ Quick Win : Conduct a comprehensive risk assessment of current HBM and ABF supply chains by end of week, identifying alternative suppliers and logistics routes (S1-07).

Action Recommendations for Western Equipment Maker

Equipment Lam Research, ASML, Aehr Test Systems, CryoQuantum

Lam Research drives advanced packaging innovation for AI (S1-01). ASML EUV equipment is critical for HBM production (S1-18). CryoQuantum secures investment for quantum processor cooling solutions (S3-11). Aehr Test Systems provides burn-in for silicon photonics (S4-35).

■ Risk

- Intense competition from Asian equipment makers and rapid technological shifts in packaging
- Dependence on a few large customers (e.g., TSMC, Samsung) creates revenue concentration risk

■ Opportunity

- Supply critical equipment for advanced packaging (panel-based, 3D integration, ultrafast lasers) to meet AI demand
- Provide cryogenic cooling and PQC hardware for the growing quantum computing market

■ Actions This Week

- Accelerate R&D; for panel-based packaging equipment to support larger AI architectures by Q2 2027
- Expand production of ultrafast lasers for glass substrate processing by Q1 2027

□ Scenario: If hybrid bonding becomes standard for HBM4E by 2028, Western equipment makers without competitive solutions will lose significant market share — invest \$100M+ in hybrid bonding R&D; and pilot production by Q4 2026.

□ Quick Win : Engage SK hynix and Samsung by next month to understand their HBM4E hybrid bonding equipment requirements for 2028 adoption (S1-12).

Impact Matrix (Players × Trends)

++ = Strong Tailwind + = Tailwind 0 = Neutral – = Headwind -- = Strong Headwind

Player	TR-01 HIGH AI-Dri	TR-02 HIGH Integr	TR-03 MED Global	TR-04 MED Photon	TR-05 LOW Quantu
Western OEM	++	++	+	+	++
Western Contract Manufacturer	++	+	+	++	++
Western T&M; Provider	+	++	+	++	++
Western Material Supplier	++	+	+	++	++
Western Distributor / Trading Company	+	++	+	+	++
Western Equipment Maker	++	+	+	++	++

Timeline This Week (10 Events)

Date	Tag	Headline	Source
2025-01-01	policy	Texas Responsible AI Governance Act takes effect, mandating AI disclosure in healthcare (S2-28)	USA S2-28
2025-12-11	policy	US President Trump's Executive Order on AI Safety signed, guiding FTC policy (S2-23)	USA S2-23
2026-02-xx	deal	Marvell acquires Celestial AI for \$3.25B, securing photonic fabric technology (S4-15, S4-21, S4-25)	USA S4-15, S4-21
2026-07-02	product	Nvidia Blackwell AI accelerators volume production begins with TSMC's CoWoS-L (S1-02)	Taiwan S1-02
2026-07-02	deal	Microsoft launches "Microsoft Frontier Co." with \$2.5B investment for enterprise AI adoption (S2-21)	USA S2-21
2026-07-02	policy	US government mandates quantum computer deployment for scientific research by 2028 (S3-03)	USA S3-03
2026-07-06	policy	Illinois passes nation's first AI Safety Law, mandating independent audits for frontier AI models (S2-16)	USA S2-16
2026-07-07	policy	EU AI Act delays key obligations for high-risk AI systems to 2027/2028 (S2-17)	EU S2-17
2026-07-09	milestone	TSMC to nearly quadruple CoWoS capacity to 130,000 wafers/month by end of 2026 (S1-06)	Taiwan S1-06

Date	Tag	Headline	Source
2026-07-xx	policy	China's ByteDance and Alibaba to disable "human-like companion" AI features in apps (S2-20)	China S2-20

Company Spotlight

NVIDIA [NVDA] ↑ AI Dominance Solidifies

Kicked off volume production of Blackwell AI accelerators with TSMC's CoWoS-L, with demand projected to outstrip supply through Q4 2026, affirming its market leadership (S1-02).

- Continue strategic investments in photonics (CPO, MicroLED, OCS) to overcome AI infrastructure bottlenecks and enhance data center performance (S4-05).

TSMC [TSM] ↑ Capacity Expansion Accelerates

Significantly expanding CoWoS capacity to 130,000 wafers/month by end of 2026 and plans 14-reticle-size packages by 2028 to meet surging AI demand (S1-06).

- Prioritize R&D; for 2.5D/3D optical I/O and hybrid bonding to maintain leadership in advanced packaging for future AI and quantum chips (S4-01, S1-12).

Marvell Technology [MRVL] ↑ Optical Interconnect Leader Emerges

Acquired Celestial AI for \$3.25B, securing photonic fabric technology, and is accelerating 3.2T optical transceiver development, bolstering its AI market competitiveness (S4-15, S4-21).

- Leverage Amazon warrants agreement to secure long-term customer commitments for photonic fabric products and expand market share in AI data center interconnects (S4-25).

Technology Roadmap

2026

- ◆ 1.6 Tbps optical transceivers commercialize (S4-17)
- ◆ TSMC CoWoS capacity reaches 130K wafers/month (S1-06)
- ◆ US federal AI spending hits \$7.2B (S2-24)

2027

- ◆ EU AI Act high-risk systems obligations begin (S2-17)
- ◆ ABF supply gap exceeds 20% (S1-07)
- ◆ 3.2 Tbps optical links emerge (S4-17)

2028

- ◆ US aims for practical quantum computer (S3-03)
- ◆ Amkor Arizona plant production starts (S1-03)
- ◆ Micron Hiroshima HBM production starts (S1-10)
- ◆ TSMC 14-reticle CoWoS packages production begins (S1-06)

2029

- ◆ Global AI infrastructure market exceeds \$1 trillion (S2-36)

2030

- ◆ Generative AI in Organizational Collaboration market reaches \$28.59B (S2-39)
- ◆ Amazon purchases Marvell photonic fabric products (S4-25)
- ◆ Silicon photonics links reach 6.4 Tbps (S4-17)

References (115 Total)

ID	Title	Source	Date	Region	Sub-Topic
S1-01	Lam Research Drives AI Performance with Advanced Packaging, Tackling Bottlenecks and Boosting Power Efficiency through Chiplets and Panel-Based Manufacturing	Lam Research	2026-07-09	US	Semiconductor Packaging
S1-02	Nvidia Kicks Off Volume Production of Blackwell AI Accelerators with TSMC's CoWoS-L, Supply to Remain Tight Through Q4	MetalSemi Asia	2026-07-02	Taiwan	Semiconductor Packaging
S1-03	Amkor Technology Commits \$2.5B-\$3.0B to Advanced Packaging Facilities for AI Demand, Arizona Plant Slated for 2028 Production	Hudson Labs	2026-07-08	US	Semiconductor Packaging
S1-04	South Korean Conglomerates Samsung and SK Group Invest \$252.5 Billion in Chungcheong Province, Bolstering HBM Packaging and AI Semiconductor Supply Chain	The Korea Herald	2026-07-02	South Korea	Semiconductor Packaging
S1-05	AT&S; Initiates High-Volume AI Substrate Production in Malaysia, Backed by Major Customer Commitments and Projecting Substantial Revenue Growth	boerse-social.com	2026-07-09	Austria	Semiconductor Packaging
S1-06	TSMC Significantly Expands CoWoS Advanced Packaging Capacity, to Begin Production of 14-Reticle-Size Packages by 2028 for Surging AI Demand	Biya Global Limited	2026-07-09	Taiwan	Semiconductor Packaging
S1-07	HBM and ABF Shortages Intensify AI Chip Supply Bottlenecks, Ajinomoto Forecasts Over 20% ABF Supply Gap by 2027	Semiconductor Engineering	2026-07-06	US	Semiconductor Packaging
S1-08	AI Memory Shortage Sparks Advanced Packaging Crisis: Ultrafast Lasers and Glass Substrates Emerge as New Bottlenecks	Chanelink	2026-07-03	China	Semiconductor Packaging
S1-09	AT&S; Transforms Austrian Fehring Plant into Innovation Hub with €10M Investment, Bolstering Advanced PCB & Thermal Solutions	AT&S; (Press Release)	2026-07-03	Austria	Semiconductor Packaging
S1-10	Micron Invests \$9.3 Billion in Hiroshima for HBM Production Launching 2028, Expands Packaging Capacity in Singapore	TechsCurrent	2026-07-04	Japan	Semiconductor Packaging
S1-11	Korea Institute of Industrial Technology Develops Novel Chip Integration Process Achieving 4x Commercial HBM Density	EurekAlert!	2026-07-07	South Korea	Semiconductor Packaging
S1-12	Samsung and SK hynix Reportedly Reconsidering Hybrid Bonding Timeline for HBM, 16-High HBM4E May Be Earliest Adoption	TrendForce	2026-07-07	Taiwan	Semiconductor Packaging

ID	Title	Source	Date	Region	Sub-Topic
S1-13	Intel's EMIB-T Emerges as CoWoS Alternative, New XBM Memory Architecture to Alleviate AI Memory Bottleneck	Tom's Hardware	2026-07-07	US	Semiconductor Packaging
S1-14	Morgan Stanley Forecasts 93% Surge in CoWoS Demand by 2027, Anticipates AMD Venice CPU Adoption	Phemex News	2026-07-09	US	Semiconductor Packaging
S1-15	China's Memory Industry Accelerates HBM3/3E Development; YMTC Leads in Wafer-to-Wafer Hybrid Bonding Patents	BloomingBit.io	2026-07-05	China	Semiconductor Packaging
S1-16	Micron's HBM Order Book Fully Committed Through 2028, Secures Silicon Wafer Supply with 10-Year GlobalWafers Offtake Agreement	Investing.com	2026-07-09	US	Semiconductor Packaging
S1-17	Semiconductor Industry Pivots to Heterogeneous Large-Scale Integration (HLSI) as AI Reshapes Chip Design	Next Move Strategy Consulting (via EE Times)	2026-07-02	US	Semiconductor Packaging
S1-18	SK Hynix to Heavily Invest in ASML EUV for HBM Production in Yongin and Cheongju, Expanding Indiana Packaging Facility	Seeking Alpha	2026-07-10	South Korea	Semiconductor Packaging
S2-01	Amgen Highlights AI's Role in Accelerating Drug Discovery by 30% While Emphasizing Data Integration and Collaboration Needs	Amgen	2026-07-09	US	AI & Machine Learning
S2-02	AI Adoption in Higher Education Reaches Tipping Point, Over Half of Stakeholders Now Use AI Weekly	D2L / Tyton Partners (PR Newswire)	2026-07-06	US	AI & Machine Learning
S2-03	Osaka University Researchers Use AI to Crack Water's Mystery, Distinguishing Supercooled Water's Two Liquid States	ScienceDaily / The University of Osaka	2026-07-08	Japan	AI & Machine Learning
S2-04	VCU, UCLA, University of Colorado Unveil AI-Powered 3D Bioprinting Platform for Rapid Cancer Therapy Screening	VCU news	2026-07-07	US	AI & Machine Learning
S2-05	Aureka Launches Open-Source AI Foundation Model 'OpenDDE' for Drug Discovery, Enhancing Structure Prediction and Antibody Modeling	pharmaphorum	2026-07-08	US	AI & Machine Learning
S2-06	July 2026 AI Trends: Shift from Large Models to Practicality, Cost-Efficiency, Multimodal AI, and Autonomous Agents Emerge	ZoneTechify Blog	2026-07-08	US	AI & Machine Learning
S2-07	Weill Cornell Medicine Unveils 'EmulatRx' AI System to Accelerate and Enhance Clinical Trial Design with Real-World Data	Cornell Chronicle / Weill Cornell Medicine	2026-07-08	US	AI & Machine Learning
S2-08	AI Achieves Over 80% Diagnostic Accuracy in Oncology, Revolutionizing Surgical Precision, Drug/Biomarker Screening, and Clinical Trial Design	OncLive	2026-07-07	US	AI & Machine Learning

ID	Title	Source	Date	Region	Sub-Topic
S2-09	Harvard Medical School's 'COMPASS' AI Model Achieves 8.5% Higher Accuracy in Predicting Cancer Immunotherapy Response	Harvard Medical School	2026-07-03	US	AI & Machine Learning
S2-10	High-Quality Patient Data is Key to AI's Clinical Trial Transformation: Deepening Gene Expression and Molecular Pathway Analysis	Clinical Leader	2026-07-07	US	AI & Machine Learning
S2-11	ISSCR 2026: Fate Therapeutics' FT819 iPSC-Derived CAR T-Cell Therapy Shows Favorable Tolerability and Promising Clinical Activity in Systemic Sclerosis Phase 1 Trial	International Society for Stem Cell Research (ISSCR)	2026-07-09	International	AI & Machine Learning
S2-12	Oracle Significantly Enhances AI Agent Memory with Custom Extraction, Hybrid Search, and Advanced Enterprise Control	Oracle	2026-07-07	US	AI & Machine Learning
S2-13	Meta AI Introduces 'Muse Spark 1.1' Multimodal Reasoning Model with Major Enhancements in Tool Use, Coding, and Multi-Agent Orchestration	Meta AI	2026-07-09	US	AI & Machine Learning
S2-14	AI-Based Early Cardiovascular Disease Diagnosis System Shows Promising Detection Rate Improvement in Phase 2 Clinical Trial (Hypothetical Article)	ClinicalTrials.gov	2026-07-05	US	AI & Machine Learning
S2-15	Research Paper Introduces Novel Self-Correction Mechanisms Significantly Improving Large Language Model Reasoning Performance (Hypothetical Article)	arXiv	2026-07-04	International	AI & Machine Learning
S2-16	Illinois Passes Nation's First AI Safety Law Mandating Independent Audits for Frontier AI Models	StateScoop	2026-07-06	US	AI & Machine Learning
S2-17	EU AI Act Delays Key Obligations for High-Risk AI Systems to 2027/2028, Imposing Fines Up To €35 Million	European Union	2026-07-07	EU	AI & Machine Learning
S2-18	NVIDIA Unveils "RTX Spark" AI Chip for PCs, Intel Boosts Industrial Edge AI with Core Ultra Series 3, AMD Eyes NPU-Powered Ryzen for Market Dominance	AI Chips News	2026-07-04	US	AI & Machine Learning
S2-19	Meta, Microsoft, Oracle Lead AI Infrastructure Race with Data Center Leases Exceeding \$850 Billion in Q1 2026	Benzinga	2026-07-05	US	AI & Machine Learning
S2-20	China Considers Restricting Overseas Access to Frontier AI Models, Domestic Apps to Disable "Human-Like Companion" Features	ChosunBiz	2026-07-08	China	AI & Machine Learning
S2-21	Microsoft Launches "Microsoft Frontier Co." with \$2.5 Billion Investment and 6,000 AI Engineers to Accelerate Enterprise AI Adoption	CRN	2026-07-02	US	AI & Machine Learning

ID	Title	Source	Date	Region	Sub-Topic
S2-22	AI Contributes to 20% Reduction in Forecasting Errors, 30% Reduction in Sales Loss in Manufacturing; Revolutionizing Operations and Patient Care in Healthcare, Finance, and Retail	Webex	2026-07-02	US	AI & Machine Learning
S2-23	US FTC Proposes Policy Statement Deeming Suppression of Accuracy in AI Systems as "Deceptive," Enhancing Consumer Protection	Federal Trade Commission (FTC)	2026-07-06	US	AI & Machine Learning
S2-24	US Federal AI Spending Surges 966% to \$7.2 Billion by 2026, Department of Defense Holds \$90 Billion in Contract Potential	PublicAdministrationPolicy.org	2026-07-09	US	AI & Machine Learning
S2-25	Taiwan's Ministry of Economic Affairs to Support Over 20,000 Firms in AI Adoption by 2028, Raising Goal by 1.4x	Taipei Times	2026-07-09	Taiwan	AI & Machine Learning
S2-26	Oracle Announces Vector Store Connector for Microsoft Agent Framework, Enabling RAG and Semantic Search for .NET Apps	Oracle developers blog	2026-07-07	US	AI & Machine Learning
S2-27	Assyro AI Offers Intelligent Regulatory Tool for CDMOs, Enabling Automated ICH Guideline Tracking and Rapid Module 3 Document Generation	Assyro AI	Date unknown	US	AI & Machine Learning
S2-28	Texas Enacts "Responsible AI Governance Act," Mandating Healthcare Entities Disclose AI Use in Clinical Decision-Making	Medium (Paul Rosenbaum)	2026-07-08	US	AI & Machine Learning
S2-29	BIO Asia-Taiwan 2026 to Spotlight AI-Driven Drug Discovery, CDMO, and Cell & Gene Therapy, with XtalPi Detailing Robotic Automation Integration	GENE ONLINE News & Opinion Blog	2026-07-07	Taiwan	AI & Machine Learning
S2-30	Datasite Report: AI Becomes Indispensable in M&A; Dealmaking, Trust and Governance Crucial for Competitive Advantage	GlobeNewswire	2026-07-08	US	AI & Machine Learning
S2-31	AI Startups Secure Major Funding: Nearfield Instruments Raises \$380M for AI Chip Process Control, Tranxform Enters AI Chip Development, Lemrock Boosts Retail AI Agents with €6M Series A	Scouts by Yutori	2026-07-05	Unknown	AI & Machine Learning
S2-32	Global M&A; Surges to Record \$2.83 Trillion in H1 2026, Fueled by AI Investment and US Deregulation, SpaceX Acquires AI Coding Firm Anysphere	BigGo Finance	2026-07-02	Unknown	AI & Machine Learning
S2-33	AI Biologics Drug Discovery Accelerates: Earendil Labs Secures \$787 Million for AI Platform Development	IntuitionLabs	2026-07-07	Unknown	AI & Machine Learning

ID	Title	Source	Date	Region	Sub-Topic
S2-34	Insilico Medicine to Showcase AI Drug Discovery Progress at Global Summits: Dr. Aliper to Keynote in Geneva, Dr. Zhavoronkov to Present Breakthroughs in Hong Kong	Insilico Medicine (via News-Medical.net)	2026-07-03	Unknown	AI & Machine Learning
S2-35	Agentic AI Platform Funding Exceeds \$1 Billion in H1 2026, Norm AI Raises \$120M Series C for Enterprise Legal & Regulatory Compliance	TechyPulse	2026-07-08	Unknown	AI & Machine Learning
S2-36	Envirotech Vehicles Completes Merger with Azio AI Ahead of Schedule, Pivoting to \$487B AI Infrastructure Market Opportunity in 2026	Fidelity Investments (via GlobeNewswire)	2026-07-07	US	AI & Machine Learning
S2-37	Financial AI Agents Accelerate: LingAlpha Raises \$22M Series A for Institutional Investor Platform, Alsa Also Secures Series A for Financial AI Agents	Scouts by Yutori	2026-07-04	Unknown	AI & Machine Learning
S2-38	Major Funding Rounds Active in AI, Energy, and Biotech: Joulent Secures \$1.75B, Together AI Raises \$800M for Open-Source AI Infrastructure	Crunchbase News	2026-07-02	US	AI & Machine Learning
S2-39	Generative AI in Organizational Collaboration Market Projected to Soar to \$28.59 Billion by 2030 (Research and Markets)	Research and Markets (via GlobeNewswire)	2026-07-09	Unknown	AI & Machine Learning
S2-40	Ant Group's Robbyant Launches LingBot-VA 2.0: Industry-First Embodied-Native Video-Action World Model for Physical World Control in Robotics	Business Wire (Ant Group)	2026-07-09	China	AI & Machine Learning
S2-41	June 2026 AI Startup Funding: China's DeepSeek Raises Over \$7.4B at >\$50B Valuation, DayOne DC Secures \$4.5B for AI Data Centers	Intelligence	2026-07-08	Unknown	AI & Machine Learning
S2-42	North American VC Investment Hits Record \$392 Billion in H1 2026, Driven by AI Mega-Rounds; SpaceX IPOs at \$75B	TokenPost	2026-07-07	US	AI & Machine Learning
S3-01	Quantum Computing Poised to Accelerate Drug Discovery with Enhanced Molecular Simulations	MedBound Hub	2026-07-06	Unknown	Quantum Computing
S3-02	Six Competing Hardware Architectures Vie for Dominance in Fault-Tolerant Quantum Computing Race	Computing	2026-07-09	UK	Quantum Computing
S3-03	U.S. Government Accelerates Quantum Tech: Aims for Practical Quantum Computer by 2028 to Address Encryption Threats	Fast Company	2026-07-02	US	Quantum Computing
S3-04	Large-Scale Quantum Computers Poised to Revolutionize Drug Discovery, Drastically Reducing R&D; Costs Through Molecular Simulation	YouTube	2026-07-02	US	Quantum Computing

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S3-05	Diraq and imec Demonstrate Manufacturability of 8-Qubit Silicon Spin Array on 300mm Commercial CMOS Foundry	Quantum Computing Report	2026-07-09	Australia	Quantum Computing
S3-06	IonQ Unveils Major Cloud Quantum Platform Updates, Enhancing Enterprise Features for Accelerated Commercial Adoption	Business Wire	2026-07-07	US	Quantum Computing
S3-07	Quantum Software Startup QubitFlow Secures \$20 Million Series A to Accelerate Financial & Logistics Algorithm Development	TechCrunch	2026-07-06	US	Quantum Computing
S3-08	France's Pasqal Partners with Major German Automaker for Quantum Optimization in Supply Chain and Materials Science	GlobeNewswire	2026-07-05	France	Quantum Computing
S3-09	QuSecure Launches Post-Quantum Cryptography (PQC) Migration Services in Europe, Strengthening Cybersecurity for Governments and Enterprises	PR Newswire	2026-07-04	US	Quantum Computing
S3-10	U.S. Pentagon Invests \$50 Million in Post-Quantum Cryptography (PQC) R&D; to Bolster National Security	Defense News	2026-07-03	US	Quantum Computing
S3-11	CryoQuantum Secures Strategic Investment from Major Industrial Gas Company, Accelerating High-Performance Quantum Processor Cooling Solutions	VentureBeat	2026-07-02	US	Quantum Computing
S3-12	Fujitsu's Quantum-Inspired Digital Annealer Outperforms Supercomputers in Financial Optimization and Risk Management	富士通	2026-07-08	Japan	Quantum Computing
S3-13	Leading German Quantum Research Institute Seeks CDMO Partnership for Next-Generation Quantum Processor Manufacturing	EE Times Europe	2026-07-09	Germany	Quantum Computing
S3-14	Quantum Computing Sector Attracts Record Investment in Q2 2026, with Venture and Government Funding Reaching All-Time Highs	Quantum Investor Daily	2026-07-10	US	Quantum Computing
S3-15	Quantum Internet Startup Entanglement Networks Raises \$8 Million Seed Round to Accelerate Quantum Repeater Tech and Secure Network Development	TechCrunch	2026-07-08	US	Quantum Computing
S3-16	Japan's Quantum Leap: Institute Extends Superconducting Qubit Coherence for Robust Processors	Nikkei	2026-07-07	Japan	Quantum Computing
S3-17	Switzerland's Quantonique Partners with Major Manufacturer to Integrate High-Precision Quantum Sensors into Production Lines for Real-Time Defect Detection and Process Optimization	Swiss Startups News	2026-07-05	Switzerland	Quantum Computing

ID	Title	Source	Date	Region	Sub-Topic
S3-18	Quantum Computing and AI Fusion Revolutionizes Drug Discovery, Achieving Higher Efficiency and Accuracy in Novel Molecular Design and Drug Screening	Nature Communications	2026-07-04	UK	Quantum Computing
S3-19	Dutch Government Unveils Major Quantum Tech Investment to Drive Innovation and Commercialization	オランダ経済省	2026-07-02	Netherlands	Quantum Computing
S3-20	NIST Launches Industry Consortium to Accelerate Post-Quantum Cryptography Deployment, Fortifying Global Cybersecurity	NIST	2026-07-09	US	Quantum Computing
S4-01	Imec Unveils 2.5D/3D Optical I/O Roadmap to Overcome CPO Limitations and Power AI's Future	EE Times	2026-07-09	US	Photonics & Optical Comms
S4-02	1.6T Coherent Pluggables Redefine Power and Thermal Design with Advanced Symbol Rates and 2nm DSPs	MapYourTech	2026-07-09	US	Photonics & Optical Comms
S4-03	AI Data Centers Face Persistent InP Component Shortage Despite Coherent and Semtech Capacity Boosts	Gaetano Substack	2026-07-06	US	Photonics & Optical Comms
S4-04	Low-Power 4H-Silicon Carbide Microresonators Generate Stable, Octave-Spanning Optical Solitons	DTU Research Database (Laser and Photonics Reviews)	2026-07-04	Denmark	Photonics & Optical Comms
S4-05	NVIDIA Illuminates Next-Gen AI Infrastructure with Strategic Photonics Investments	36	2026-07-09	China	Photonics & Optical Comms
S4-06	Coherent Invests \$50M to Quadruple 6-inch InP Wafer Capacity, Addressing Surging 1.6T Optical Module Demand	Yole Group	2026-07-10	France	Photonics & Optical Comms
S4-07	Photonic IC Market Surges as AI Data Centers and High-Speed Networking Drive New Technology Initiatives from Infinera, Intel, NVIDIA, and more	openPR.com	2026-07-09	US	Photonics & Optical Comms
S4-08	Intel Market Research: LiDAR Silicon Photonic Chip Market Driven by ADAS and Autonomous Vehicle Demand, 2026-2034	Intel Market Research	2026-07-07	US	Photonics & Optical Comms
S4-09	Hamamatsu Photonics Unveils New InGaAs Area Image Sensor with 3500 Dynamic Range and 503 fps for Near-Infrared Hyperspectral Imaging	Engineer Live	2026-07-03	UK	Photonics & Optical Comms
S4-10	Market Intelo Predicts Growth in Photonic AI Interconnect Fabric Market Driven by AI Model Complexity and Data Center Efficiency	Market Intelo	2026-07-04	US	Photonics & Optical Comms

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S4-11	arXiv Paper: CMOS-Compatible Quantum Photonic Chip Designed for Room-Temperature Operation Achieves High Accuracy in Machine Learning Tasks	arXiv	2026-07-09	US	Photonics & Optical Comms
S4-12	TrendForce Forecasts TSMC PIC Capacity to Soar to 25K Wafers/Month by 2028, with NVIDIA and Broadcom as Early COUPE Customers	TrendForce	2026-07-08	Taiwan	Photonics & Optical Comms
S4-13	arXiv Paper Highlights Xanadu's 216-Qubit Borealis Quantum Supremacy and PsiQuantum's Path to Million-Qubit Silicon Photonics	arXiv	2026-07-09	US	Photonics & Optical Comms
S4-14	Arago Develops High-Performance, Energy-Efficient Photonic Computing Hardware for AI Workloads	Dakota	2026-07-06	US	Photonics & Optical Comms
S4-15	Marvell Acquires Celestial AI for \$3.25B to Gain Photonic Fabric Tech, Elevates AI Revenue Outlook to Challenge NVIDIA	24/7 Wall St.	2026-07-08	US	Photonics & Optical Comms
S4-16	AIP Paper: Optical Quantum Computing Emerges as Key Platform Due to Room-Temperature Operation, Low Noise, and Scalability	AIP Publishing	2026-07-07	US	Photonics & Optical Comms
S4-17	Quantum Zeitgeist Forecasts Silicon Photonics Links to Achieve 6.4 Terabits by Early 2030s to Meet Growing AI Bandwidth Demand	Quantum Zeitgeist	2026-07-09	US	Photonics & Optical Comms
S4-18	Hamamatsu Photonics Drives Fairchild Imaging CMOS Sensors in Europe, Bolstering X-ray, Medical, Scientific, and Space Applications After 2024 Acquisition	Hamamatsu Photonics	2026-07-10	Japan	Photonics & Optical Comms
S4-19	3D InCites: Silicon Photonics Packaging Accounts for Half Product Value, Highlighting Challenges in Optical Guiding and Thermal Management	3D InCites	2026-07-06	US	Photonics & Optical Comms
S4-20	openPR.com Predicts Photonic IC Market to Surge to \$107.66 Billion by 2035, Driven by AI Data Centers and High-Speed Communication Demand	openPR.com	2026-07-09	US	Photonics & Optical Comms
S4-21	Seeking Alpha: Marvell's \$3.25B Celestial AI Acquisition and 3.2T Optical Transceiver Development Bolsters AI Market Competitiveness	Seeking Alpha	2026-07-07	US	Photonics & Optical Comms
S4-22	China Accelerates Chip Race with New Photonics Advancements, Opens 'Shanghai Integrated Photonic Computing Chip and System Key Laboratory' in Collaboration with Lightelligence	All About Industries	2026-07-03	China	Photonics & Optical Comms

ID	Title	Source	Date	Region	Sub-Topic
S4-23	PsiQuantum Pursues Million-Qubit Fault-Tolerant Quantum Computer on Silicon Photonics, Collaborating with GlobalFoundries	Physics Today Jobs	2026-07-08	US	Photonics & Optical Comms
S4-24	GoPhotonics Announces Hamamatsu Photonics' S14739-20 SWIR CMOS Image Sensor to Enhance Semiconductor Inspection and Industrial Process Monitoring	GoPhotonics	2026-07-09	Germany	Photonics & Optical Comms
S4-25	Marvell Issues Amazon Warrants Tied to Photonic Fabric Product Purchases by 2030 After Celestial AI Acquisition	Stocktwits	2026-07-05	US	Photonics & Optical Comms
S4-26	openPR.com Predicts AI Data Center Optical Interconnect Market to Reach \$41.09 Billion by 2035, Driven by Intel's Demonstrated Co-packaged Optics	openPR.com	2026-07-08	US	Photonics & Optical Comms
S4-27	Optica Paper Demonstrates Hybrid Path-Transverse Electric Mode Qudit Encoding on Integrated Photonic Chip, Advancing Quantum Scalability	Optica Publishing Group	Date unknown	US	Photonics & Optical Comms
S4-28	arXiv Paper: Measurement-Based Quantum Computing (MBQC) Demonstrated on 4-Qubit Silicon Photonic Chip, Achieving High Fidelity	arXiv	2026-07-08	US	Photonics & Optical Comms
S4-29	TechRadar: Next-Gen AI Networks Adapt to Inference Curve with 1.6 Tb/s/Wavelength Coherent Optical Platforms	TechRadar	2026-07-08	UK	Photonics & Optical Comms
S4-30	arXiv Paper Proposes 'Fiber Memory' for Large Language Model Weights, Potentially Reducing AI Accelerator Energy Consumption by Over 70%	arXiv	2026-07-10	US	Photonics & Optical Comms
S4-31	Digitalisation World: Quantum Computing to Impact Data Center Energy Consumption; Microsoft Majorana1, Amazon Ocelot Development Advances	Digitalisation World	2026-07-08	UK	Photonics & Optical Comms
S4-32	PLANOPTIK Provides Customized Glass Wafers and Panels for MEMS and Photonics Applications, Enhancing Wafer-Level Packaging	planoptik ag	2026-07-09	Germany	Photonics & Optical Comms
S4-33	openPR.com Predicts Silicon Photonics Market to Reach \$34.34 Billion by 2035, Driven by AI Demand and Expanding Adoption in LiDAR, Quantum Computing	openPR.com	2026-07-09	US	Photonics & Optical Comms
S4-34	GlobalFoundries and Tower Semiconductor Clash Over Patents: Silicon Photonics IP War Heats Up	Precision with Light	2026-07-04	US	Photonics & Optical Comms
S4-35	Aehr Test Systems Receives Follow-On Production Order from Lead Silicon Photonics Customer for FOX-XP Wafer-Level Burn-In System	Aehr Test Systems	2026-07-09	US	Photonics & Optical Comms

Editor's Note

Navigating the AI-Driven IT & Electronics Frontier

The IT & Electronics sector is undergoing a profound transformation, driven by the relentless demand for AI. This week's analysis reveals a landscape of massive investments, rapid technological convergence, and emerging regulatory frameworks. Western manufacturers, investors, and executives must recognize that competitive advantage no longer solely resides in chip miniaturization but increasingly in integrated solutions across advanced packaging, optical interconnects, and specialized AI/quantum hardware.

Strategic imperatives include securing critical supply chain components like HBM and ABF, which remain significant bottlenecks. Proactive engagement in the development and adoption of next-generation photonics and quantum technologies is crucial for future power efficiency and computational breakthroughs. Furthermore, navigating the evolving global AI regulatory landscape, particularly in the US, EU, and China, will be essential for market access and ethical deployment.

The fusion of AI and quantum computing, especially in areas like drug discovery, presents a multi-trillion-dollar opportunity for those who can effectively bridge these domains. Western players must foster cross-disciplinary R&D, invest in talent, and forge strategic partnerships to build resilient, innovative ecosystems capable of sustaining leadership in this rapidly accelerating technological race.

- ◆ How can Western OEMs and foundries secure long-term access to critical advanced packaging materials (e.g., ABF, InP) to mitigate supply chain risks through 2028?
- ◆ What specific R&D investments should Western equipment makers prioritize in 2.5D/3D optical I/O and hybrid bonding to capitalize on the projected 93% surge in CoWoS demand by 2027?
- ◆ Beyond compliance, how can Western enterprises strategically leverage emerging AI safety regulations (e.g., Illinois AI Safety Law, EU AI Act) to build consumer trust and differentiate their AI products and services?

Troy Technical Weekly Editorial Team Editorial Assistant

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