

South Korea Semiconductor Intermediates Market Surges; Samsung and SK Hynix Lead

HBM and EUV adoption drive strong semiconductor supply chain growth

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According to the latest analysis by Fact.MR, [South Korea's semiconductor intermediates market](https://www.factmr.com/connectus/sample?flag=S&rep_id=14749) is entering a decade of structural expansion, fueled by the relentless demand for High-Bandwidth Memory (HBM) and next-generation logic nodes. Valued at USD 73.3 billion in 2025, the regional

market is estimated to grow to USD 76.6 billion in 2026, on a trajectory toward USD 119.5 billion by 2036.

While the global market projects a 4.5% CAGR, South Korea is significantly outperforming with a 6.2% CAGR. This surge is anchored by Samsung Electronics' KRW 300 trillion "Megaccluster" plan and SK Hynix's aggressive expansion in Icheon and Yongin, positioning the country as the global epicenter for AI-centric semiconductor intermediates.

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Quick Stats Section

Market Size (2025): USD 73.3 Billion

Market Size (2026E): USD 76.6 Billion

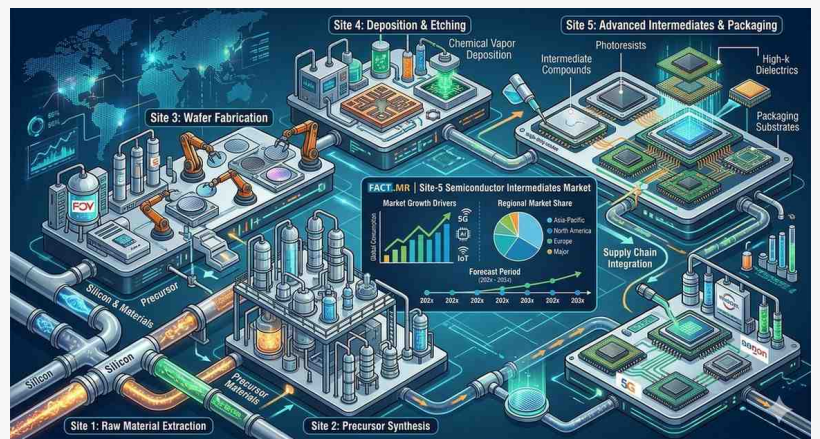
Forecast Value (2036F): USD 119.5 Billion

South Korea CAGR:2% (2026–2036)

Incremental Opportunity: USD 42.9 Billion

Leading Segment: Photoresist & Lithography Intermediates (36% Share)

Leading Application: IC Fabrication (62% Share)



semiconductor intermediates market

Key Players: Samsung Electronics, SK Hynix, Merck KGaA, JSR Corporation, Shin-Etsu Chemical, Tokyo Ohka Kogyo (TOK).

Executive Insight for Decision Makers

The market is shifting from a price-driven commodity cycle to a performance-driven differentiation model.

The Strategic Shift: Intermediate chemicals are no longer simple consumables; they are now co-engineered with the hardware. For the first time, memory scaling depends as much on packaging and chemical innovation as it does on lithography.

Action for OEMs & Investors: Suppliers must secure early "Advanced Node Qualification" at Samsung or SK Hynix. Without EUV-compatible or HBM-specific formulations, suppliers face exclusion from the highest-margin contracts.

The Risk: Companies failing to localize supply within South Korea's new semiconductor clusters risk logistical displacement as "Resilience" becomes the primary procurement metric over "Price."

Market Dynamics

Key Growth Drivers:

HBM4 & AI Supercycle: The shift to HBM4 and 3D-IC stacking requires a 30% increase in specialized cleaning, etching, and deposition chemicals per wafer.

EUV Layer Expansion: As Samsung and SK Hynix migrate to sub-15nm class DRAM, the number of EUV lithography steps is doubling, driving massive demand for ultra-pure photoresists.

Advanced Packaging (CoWoS): Growth in 2.5D/3D packaging is creating a new lucrative market for specialized bonding and dielectric intermediates.

Key Restraints:

High Qualification Barriers: The validation cycle for advanced intermediates can exceed 24 months, limiting new market entrants.

Supply Concentration: Reliance on specific high-purity precursors from Japan remains a strategic bottleneck.

Emerging Trends:

ALD Precursor Innovation: Atomic Layer Deposition (ALD) is becoming critical for high-aspect-ratio transistors.

Sustainability-Led Chemistry: Growing pressure to eliminate PFAS from semiconductor cleaning agents is driving R&D into "Green Intermediates."

Segment Analysis

Leading Segment: Photoresist and Lithography Intermediates (36% share in 2026). This dominance is driven by the transition to High-NA EUV lithography, where specialty polymers command 40–60% price premiums.

Application Focus: IC Fabrication holds 62% of the market. The complexity of multi-patterning in logic and memory fabs ensures a high-volume, recurring revenue stream for chemical producers.

End-Use Powerhouse: Foundries and IDMs (70% share) are the primary buyers, with procurement increasingly moving toward long-term, pre-allocated capacity agreements.

Supply Chain Analysis: The South Korean "Cluster" Model

The supply chain is evolving from a global web into a regionalized, high-density ecosystem:

Raw Material Suppliers: Global giants like Merck KGaA and Shin-Etsu are localizing production in Gyeonggi Province to provide just-in-time delivery.

Manufacturers/Producers: Companies like JSR and TOK have established "Advanced R&D Centers" in Korea to co-develop chemicals with Samsung's engineering teams.

Distributors: Specialist chemical distributors are shifting toward "Value-Added Logistics," offering real-time purity monitoring.

End-Users: Samsung Electronics and SK Hynix absorb over 85% of South Korean intermediate production, dictating the technical roadmap for the entire chain.

Pricing Trends

The Premium Shift: While commodity solvents face price stagnation, EUV-grade photoresists and ALD precursors maintain high margins due to the extreme purity requirements (9N or higher).

Influence Factors: Pricing is heavily influenced by "Node Specificity." A chemical qualified for a 2nm process can command triple the price of its 28nm counterpart.

Regional Analysis: South Korea's Dominance

South Korea (6.2% CAGR): Growth is investment-led. With Samsung's KRW 300 trillion plan and SK Hynix's \$15 billion HBM commitment, the country is the world's most active semiconductor construction site.

Global Comparison: South Korea outpaces Taiwan (5.8%) and the U.S. (5.5%) in memory-specific intermediate consumption, though China leads in raw volume (6.8%) due to domestic localization policies.

Competitive Landscape

The market is highly consolidated, with the top 5 players controlling nearly 70% of advanced-node supply.

Strategic Alliances: Merck KGaA and Entegris are expanding local footprints to secure "funding eligibility" and proximity to fabs.

Innovation Leaders: JSR and Shin-Etsu remain the gold standard for lithography, though domestic Korean firms like Soulbrain and Dongjin Semichem are rapidly gaining share in cleaning and etching.

Future Outlook

The long-term opportunity lies in Next-Gen Transistor Architectures (GAA). As the industry moves toward sub-2nm nodes, the consumption of intermediates will shift from volume-centric to precision-centric, where the ability to control defects at the atomic level will define the market winners of 2036.

Conclusion

South Korea's semiconductor intermediates market is no longer a peripheral sector—it is the lifeblood of the AI era. As Samsung and SK Hynix cement their leadership in the memory supercycle, the intermediate suppliers who invest in localized R&D and EUV-ready portfolios will capture the lion's share of the USD 42.9 billion incremental opportunity ahead.

Why This Market Matters:

Intermediates are the "invisible" layer of the digital world. Without these ultra-pure chemicals, the advanced processors powering AI, 5G, and autonomous vehicles would be impossible to manufacture. In South Korea, this market is not just an industry; it is a matter of national economic security.

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