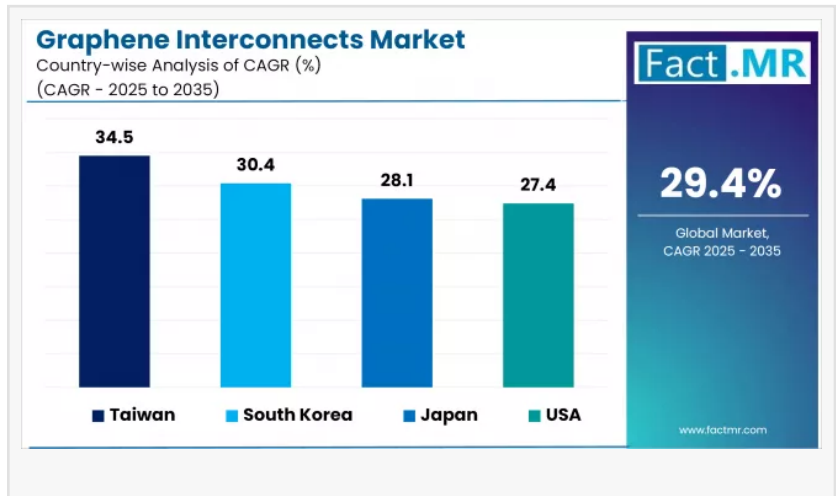


Graphene Interconnects Market is Expanding at USD 737 million by 2035 | Fact.MR Report

Monolayer Graphene Segment Is Projected To Grow At A CAGR Of 29.4%, Whereas Another Segment Semiconductor & IC Manufacturing Is Likely To Grow At 27.6%.

ROCKVILLE, MD, UNITED STATES, August 12, 2025 /EINPresswire.com/ -- Semiconductor Miniaturization and Thermal Bottlenecks Accelerate Demand for Graphene Interconnects, Driving Global Market Toward Wafer-

Scale Fabrication, Hybrid 2D Material Integration, and CMOS-Compatible Processing Aligned with Post-Copper Electronics Roadmaps, States Fact.MR



According to Fact.MR, a market research and competitive intelligence provider, the [Graphene Interconnects market](#) was valued at USD 56 million in 2025 and is expected to grow at a CAGR of 29.4% during the forecast period of 2025 to 2035.

Increasing demand for graphene interconnects owing to major semiconductor firms and research organizations looking for solutions to copper's constraints in advanced technology nodes. A crucial factor in this transition is the advancement of wafer-scale graphene integration techniques that align with CMOS manufacturing settings.

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Regionally, the Asia-Pacific area leads the graphene market driven by robust government support and concentrated electronics production centers. In the meantime, North America and Europe continue to be vital for innovation and initial deployment, bolstered by programs such as the U.S. CHIPS Act and the EU's Graphene Flagship initiative.

In the semiconductor sector, firms are thoroughly exploring hybrid metal/graphene interconnect architectures, graphene nanoribbons (GNRs), and low-temperature chemical vapor deposition

(CVD) methods to satisfy the requirements of sub-5nm node logic circuits and high-frequency RF devices.

Increasing enthusiasm and advancements in research and development, wider commercial acceptance still encounters challenges. Challenges encompass variations in the quality of graphene production, an absence of worldwide standards for graphene materials, and elevated manufacturing costs, particularly for monolayer graphene, which continues to be hard to produce on a large scale. These obstacles persist in hindering the complete incorporation of graphene interconnects into conventional chip production methods.

Key Takeaways from Market Study:

- The Graphene Interconnects market is projected to grow at 29.4% CAGR and reach USD 737 million by 2035
- The market created an absolute \$ opportunity of USD 681 million between 2025 to 2035
- East Asia is a prominent region that is estimated to hold a market share of 33.2% in 2035
- Predominating market players include are Destination 2D, Inc., Paragraf Limited, Graphenea S.A., Global Graphene Group, Inc., Cerioustech, and Black Semiconductor GmbH among others
- East Asia & North America are expected to create an absolute \$ opportunity of USD 408 million collectively

Shrinking transistor nodes, heat management challenges, and the global push for next-generation electronics are compelling industries to adopt advanced materials like graphene within structured, CMOS-compatible interconnect ecosystems," says a Fact.MR analyst.

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Market Development:

The Global Graphene Interconnects Market is hitting a crucial turning point as the semiconductor sector intensifies its quest for materials capable of supporting performance scaling in sub-5nm nodes and further. Graphene, recognized for its outstanding electrical and thermal conductivity, is attracting considerable attention as a next-generation interconnect material that can substitute or enhance copper, particularly in situations where resistivity and heat dissipation restrict additional miniaturization.

Recent advancements indicate a transition from laboratory research to initial commercialization. Advancements in wafer-scale deposition methods like low-temperature CVD and pressure-assisted solid-phase diffusion have enabled the incorporation of monolayer graphene into CMOS-compatible workflows.

In December 2024, Destination 2D, Inc. (USA) effectively showcased wafer-scale, CMOS-compatible synthesis of graphene interconnects utilizing its exclusive pressure-assisted solid-phase diffusion method. This achievement signifies a crucial advancement in incorporating graphene into standard semiconductor production, with the capacity to revolutionize future chip

design by providing reduced electrical resistivity, improved energy efficiency, and increased reliability over traditional copper interconnects.

More Valuable Insights on Offer:

Fact.MR, in its new offering, presents an unbiased analysis of the the Graphene Interconnect market, presenting historical data for 2020 to 2024 and forecast statistics for 2025 to 2035.

The Graphene Interconnects market is segmented by type of graphene (monolayer graphene, few-layer graphene (FLG), graphene nanoribbons (GNRS), graphene oxide (GO), reduced graphene oxide (RGO), hybrid metal/graphene structures), by deposition/fabrication technology (chemical vapor deposition (CVD), mechanical exfoliation, liquid phase exfoliation, e-beam lithography, roll-to-roll processing), by end-use (semiconductor & ic manufacturing, consumer electronics, telecommunications, aerospace & defense, healthcare (wearables), automotive electronics) across major regions of the world (North America, Latin America, Western Europe, Eastern Europe, East Asia, South Asia & Pacific, and Middle East & Africa).

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S. N. Jha

Fact.MR

+1 628-251-1583

[email us here](#)

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