ASX Announcement
17 November 2025

Adisyn Achieves Key Technical Milestone in Graphene Deposition Process

Highlights

- Instrumental technical milestone achieved in Adisyn's *pre-clean stage* of its graphene deposition development program.
- Successful validation of a key sub-process within the pre-clean sequence effectively prepares wafer surfaces for graphene growth.
- Confirms the Company's process architecture is performing to design expectations and ready to enter broader deposition trials.
- Represents another step forward toward enabling direct graphene growth on semiconductor wafers - a breakthrough goal for the industry.
- Development continues to advance under Adisyn's globally experienced, multi-disciplinary R&D team and international collaborations with Tel Aviv University, imec and the EU Connecting Chips Initiative.

Adisyn Ltd (ASX: AI1) ("Adisyn" or "the Company") is pleased to announce that its wholly owned subsidiary 2D Generation (2DG) has successfully achieved the initial phase of developing a wafer (or coupon level) surface pre-clean step, one of several sub-processes within the overall pre-clean stage within its proprietary low-temperature graphene deposition process.

This achievement represents an important technical milestone in Adisyn's program to develop a repeatable, scalable, low-temperature graphene deposition process, aimed at enabling the next generation of graphene-based semiconductor interconnects - a breakthrough that could redefine how next-generation chips are made.

Building a Pathway to Next-Generation Semiconductor Performance

Adisyn's graphene program targets one of the most significant challenges in advanced semiconductor manufacturing - the physical limits of copper interconnects at sub-2nm process nodes.

As chip features shrink, copper interconnects become less efficient, increasing electrical resistance, heat, and energy use. These limitations threaten the continued miniaturisation and performance scaling that underpin computing and AI advancement.

Graphene, a single layer of carbon atoms arranged in a hexagonal lattice, offers superior electrical conductivity, heat resistance, and mechanical strength, making it a promising alternative for interconnect materials. However, traditional graphene growth processes require temperatures too high for semiconductor environments (900–1000°C), making integration impractical.

Adisyn's patented low-temperature Atomic Layer Deposition (ALD) approach has the potential to overcome this challenge, allowing direct graphene growth on semiconductor wafers within standard fabrication conditions.

Success would enable faster, smaller and more energy-efficient chips powering the next generation of AI, computing and communications technologies.

Technical Progress: Initial Pre-Clean Step Created

The pre-clean stage is the first and one of the most crucial elements of Adisyn's graphene growth sequence. It prepares the wafer surface for atomic-scale film deposition by removing residual contamination and optimising surface chemistry.

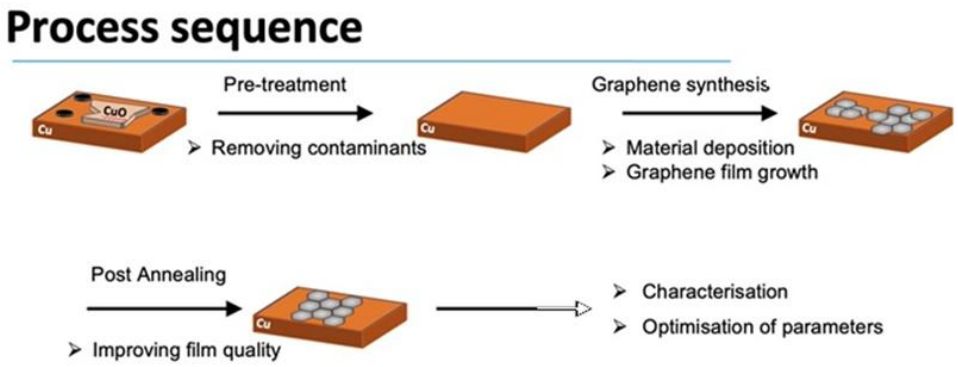

Figure 1: Process sequence for Phase 1 development activities

2DG's research team has now successfully validated one of the major sub-processes within this stage - demonstrating that the Company's low-temperaturepre-treatment can effectively prepare wafer surfaces for subsequent graphene deposition.

This achievement confirms that the Company's process architecture is operating as expected and provides confidence to proceed into the next major experimental phase.

Additional sub-steps within the pre-clean stage are being refined in parallel as Adisyn continues to improve the metal surface compatibility with graphene deposition..

Next Phase: Entering Deposition Trials and Process Parameter Optimisation

Following this achievement, Adisyn and 2DG will now:

- **Commence extensive deposition trials** using multiple carbon-ring-based precursor compounds.
- **Continue refining the remaining sub-processes** within the pre-clean stage to improve surface uniformity and reproducibility.
- **Optimise deposition parameters** including plasma power, gas flow rates, pressure, and temperature.
- **Characterise resulting films** to assess structure, crystalline quality, and electrical conductivity.
- **Iterate findings** to progressively converge on a full, scalable graphene growth "recipe."

This experimental campaign will continue through late 2025 and into 2026, consistent with the Company's previously disclosed development roadmap (ASX: 6 August 2025).

Comment – Kevin Crofton, Chairman, Adisyn Ltd

"Validating this key sub-process within our pre-clean stage is a meaningful technical advancement and a strong indicator that our low-temperature approach will work as designed.

The ability to effectively prepare wafer surfaces at semiconductor-compatible temperatures is essential to the success of our overall deposition process.

We are now expanding our efforts into deposition trials while continuing to refine and integrate the remaining pre-clean sub-processes."

Outlook and Next Milestones

Over the coming quarters, Adisyn will:

- Continue iterative development across all pre-clean parameters.
- Undertake broader coupon testing of graphene precursor candidates and their deposition parameters.
- Begin evaluating scalability and wafer-level deposition.

The Company remains on track to deliver progressive technical validation through 2025 and into early 2026 and will provide further updates as additional technical milestones are achieved.

Global Team and Collaborations

Adisyn's graphene program is being driven by a multi-disciplinary team of more than 20 experts across Israel, Europe and the United States, bringing together specialists in:

- Atomic Layer Deposition (ALD), Chemical Vapour Deposition (CVD) and Physical Vapour Deposition (PVD);
- Nanomaterials and surface chemistry;
- Semiconductor process design and plasma engineering;
- Characterisation, metrology and materials analytics; and
- Device physics and system integration.

Key leadership includes:

- **Kevin Crofton – Chairman**: Former CEO of Comet AG and SPTS Technologies, and past Chair of SEMI International, bringing more than 30 years of semiconductor leadership.
- **Arye Kohavi – CEO, 2D Generation**: Israeli entrepreneur and founder of Water-Gen, recognised among *Foreign Policy's* 100 Leading Global Thinkers.
- **Miri Kish Dagan – VP R&D**: Award-winning Israeli technologist with over 20 years in semiconductor and laser system innovation.
- **Paul Rich – Technology Leader**: Former Vice President of Technology and Engineering at SPTS Technologies, with deep process equipment expertise.

Adisyn's efforts are also supported by leading institutional and industry partners:

- **Tel Aviv University Nano Centre** – providing parallel ALD capacity and advanced characterisation tools.
- **imec (Belgium)** – the world's foremost semiconductor R&D hub, engaged in simulation and validation testing.
- **Connecting Chips (EU)** – a European semiconductor integration initiative linking Adisyn with major technology companies including NVIDIA, Valeo, NXP, and Applied Materials.

These combined capabilities position Adisyn among the most credible emerging players globally in the race to commercialise graphene for semiconductor interconnects.

This announcement has been approved for release by the Board of Adisyn Ltd.

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About 2D Generation

2D Generation is a high-tech company specialising in graphene-based solutions for the semiconductor industry. Founded by Arye Kohavi, the company is dedicated to overcoming current technological limitations by developing faster, stronger, and more energy-efficient computer processing solutions. These advancements will support the next generation of AI, data storage, telecommunications, cybersecurity, mobile devices, and more.

About Adisyn

Adisyn is a highly innovative ASX-listed company specialising in the development of graphene-based solutions for the semiconductor industry and the provision of managed IT services for the SME market. The Company's graphene technology is focused on advancing a patented low-temperature Atomic Layer Deposition (ALD) process to enable direct graphene growth on semiconductor wafers. This technology is anticipated to address the performance limits of copper interconnects and deliver faster, stronger, and more energy-efficient computer processing. The Company's broader technology platform is supported by Adisyn Services which

provides managed IT solutions, including cloud, cybersecurity and artificial intelligence, primarily to Australian SMEs.

Forward-looking statements:

Statements contained in this release, particularly those regarding possible or assumed future performance, revenue, costs, dividends, production levels or rates, prices, or potential growth of Adisyn Ltd are, or may be, forward-looking statements. Such statements relate to future events and expectations and as such, involve known and unknown risks and uncertainties. These forward-looking statements are not guarantees or predictions of future performance and involve known and unknown risks, uncertainties, and other factors, many of which are beyond the Company's control, and which may cause actual results to differ materially from those expressed in the statements contained in this release.

The Company cautions shareholders and prospective shareholders not to put undue reliance on forward-looking statements, which reflect the Company's expectations only as of the date of this announcement. The Company disclaims any obligation to update or revise any forward-looking information, whether as a result of new information, future events or otherwise, except as required by law.