ASX Announcement
6 August 2025

Graphene Interconnect Development Enters Next Phase

Highlights:

- **BENEQ Atomic Layer Deposition (ALD) systems now operational, replacing legacy VEECO system.**
- **R&D activities at the Adisyn facility, in parallel with Tel Aviv University.**
- **Phase One activity, focused on precursor testing, graphene growth, and optimisation, underway.**
- **Multiple carbon-ring-based precursors to be evaluated in repeated test-refine cycles.**
- **Key technical milestones are expected to be achieved throughout the year 2025 and into early Q1 2026.**
- **From Q1 CY2026 focus will be on input refinement, repeatability, and uniformity.**
- **Development led by a globally experienced team across Israel, Europe, and the US.**
- **Major partnerships in place to facilitate the development of AI1's graphene interconnect technology to enable the next generation high performance chips.**

Adisyn Limited (ASX: AI1) ("Adisyn" or "the Company") is pleased to provide shareholders with a comprehensive development update following the successful commissioning of its newly acquired Beneq TFS 200 Atomic Layer Deposition (ALD) system at its R&D facility in Israel[1].

This milestone marks the beginning of a major phase of technical activity focused on optimising the Company's patented low-temperature graphene technology, which is designed to address one of the most significant technological bottlenecks in semiconductor manufacturing - the limitations of copper interconnects at advanced nodes (sub-5nm).

Solving a Semiconductor Bottleneck

Copper interconnects are reaching their physical and performance limitations in advanced semiconductor manufacturing (sub-5nm nodes), constraining speed, energy efficiency, and miniaturisation.

Graphene, renowned for its exceptional electrical and thermal conductivity, is seen as the ideal replacement. Yet, the industry has faced a critical challenge: its inability to grow high-quality graphene directly onto wafers at semiconductor-compatible temperatures.

Adisyn, through its wholly owned subsidiary 2D Generation (2DG), is addressing this issue via a patented, low-temperature ALD process using carbon-ring-based organic precursors. This approach enables direct graphene deposition at lower temperatures, making it compatible with existing semiconductor manufacturing infrastructure.

[1] Refer to ASX announcement dated 17 July 2025

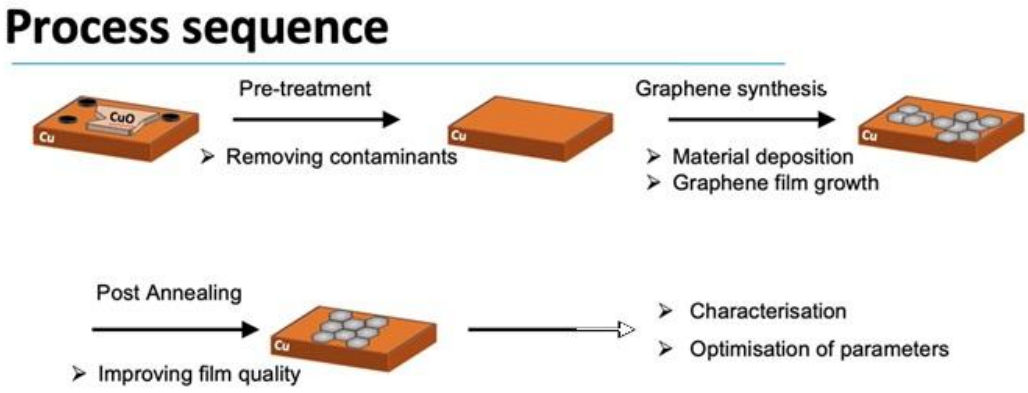
Phase One: Precursor Development and Graphene Growth Underway

This is a key development phase in which the results of several years of foundational research and internal experimentation are being validated through controlled testing and iterative optimisation. The goal is to confirm the practical feasibility of Adisyn's proprietary low-temperature graphene growth process under semiconductor-relevant conditions.

Following the commissioning of the BENEQ TFS 200 ALD system in Israel and parallel access to a similar system in Tel Aviv University[2], Adisyn has now commenced the next critical phase of graphene development.

The first phase of activity is focused on precursor development and involves several interdependent steps designed to establish the graphene growth sequence. These include:

- **Plasma Pre-Clean:** This crucial initial step removes contamination from the surface enabling a clean substrate for the subsequent growth of ultra-thin atomic level films.
- **Deposition Sequence:** The graphene growth process begins by mixing gases with selected organic precursors to co-react and form graphene films.
- **Post-Anneal:** After deposition, annealing is used to enhance the crystalline quality and electrical properties of the graphene.
- **Characterisation and Feedback:** Resulting films are evaluated through rigorous testing, feeding into a continuous test-refine cycle to optimise growth parameters.



This cycle will be repeated numerous times to assess at least three identified precursor candidates, with the aim of determining optimal growth conditions and validating repeatability.

The BENEQ system is critical to this progress, enabling:

- Heated precursor lines for low-volatility materials.
- Use of multiple reactive gases
- Plasma-enhanced surface activation.
- Flexible temperature controls for film tuning.
- Cleaner deposition environment with ultra-low pressure chamber.

[2]Refer to ASX announcement dated 27 March 2025

This phase is expected to continue during the balance of 2025 and into early Q1 2026, at which point the project will move into development phase focused on:

- **Recipe Development:** Optimising pre-clean and deposition cycles for uniformity and yield.
- **Repeatability Testing:** Assessing reproducibility of high-quality graphene growth.
- **Wafer-Scale Integration:** Moving to larger format substrates.
- **Industry Collaboration:** Engaging partners for commercial trialling and joint development.

Adisyn believes this low-temperature ALD graphene growth process, if scalable and repeatable, has the potential to unlock a new generation of semiconductor interconnects.

The Company will continue to provide regular updates as development milestones are achieved.

A Global Team and Partnerships

Adisyn's graphene development program is being executed by a world-class multidisciplinary team of over 20 experts in nanomaterials, ALD/CVD/PVD, organic chemistry, metrology, surface science, and semiconductor fabrication. Team members are based primarily across Israel, Europe, and the US.

Key leadership includes:

- **Kevin Crofton – Chairman**

  Kevin Crofton is a globally recognised executive with over 30 years of leadership experience in the semiconductor industry. He has held senior roles at some of the world's most prominent technology companies, including Lam Research, KLA Corporation, Comet AG, SPTS Technologies, Newport Corporation, and NEXX Systems. Kevin previously served as CEO of Comet AG and SPTS Technologies, where he led transformative growth and innovation. A former Chair of SEMI International, Kevin has also advised on major policy initiatives such as the US CHIPS Act and Virginia's Semiconductor Initiative. He is a recipient of multiple prestigious honours, including the MEMS Industry CEO of the Year and three Queen's Awards for Innovation.

- **Arye Kohavi – Director & CEO, 2D Generation**

  Arye Kohavi is a pioneering Israeli entrepreneur known for founding Water-Gen, a breakthrough company behind air-to-water and dehumidification technologies. Arye was named one of the world's 100 Leading Global Thinkers and a Top Innovator by *Foreign Policy* magazine. Water-Gen has been internationally recognised as one of the "World's 50 Most Innovative Companies" by *Fast Company*, and its GENNY system was selected as one of *TIME* magazine's "100 Best Inventions" of 2019. Arye holds an MBA in Finance and a BA in Economics and Accounting from the Hebrew University of Jerusalem.

- **Dominic O'Hanlon – Non-Executive Director**

  Dominic O'Hanlon is a seasoned technology executive and entrepreneur with more than 30 years of experience in building and scaling IT businesses globally. As CEO and Managing Director of rhipe Limited (ASX:RHP), Dominic oversaw the company's expansion from $74.5 million to $377.4 million in annual sales and a tenfold increase in EBITDA, growing the business across 10 countries. He has previously held leadership roles at Haley Limited and MYOB and is currently a Non-Executive Director at Pentanet (ASX:5GG) and Chair of the privately held BeMoved.app. Dominic brings deep commercial, strategic, and operational expertise to the Adisyn board.

- **Miri Kish Dagan –VP R&D**

  Miri Kish Dagan is an accomplished technology executive with over 20 years of management experience, specializing in complex technologies including semiconductors, lasers, and quantum components. She is adept at leading multidisciplinary global teams, driving innovation from concept to execution, and building strategic partnerships with leading Israeli and international companies.

  Recognized as a Pioneering Woman in Tech by the Israeli Hi-Tech Association and the Manufacturers Association of Israel. Former CTO and VP R&D at Raicol Crystals and Suron, where she led the development of advanced electro-optic solutions for semiconductor, medical, aerospace, and defence applications. Previously held senior positions at Tower Semiconductors, focusing on materials engineering and process development. Holds BSc and MSc degrees in Materials Engineering from Ben-Gurion University.

- **Paul Rich – Technology Leader**

  Paul Rich is a highly respected technologist with more than 35 years of experience in the semiconductor sector. He served as Vice President of Technology and Engineering at SPTS Technologies, where he led global product development for advanced wafer processing solutions. Paul holds a BSc in Physics from the University of Bath and is the author of numerous technical publications, with several patents in plasma processing. His deep domain knowledge and innovation credentials are integral to Adisyn's technology roadmap.

These activities of the team are supported by major institutional research and development partnerships:

- **Tel Aviv University Nano Center –** Parallel ALD development access and advanced characterisation capabilities.
- **imec –** Strategic collaboration for simulation, validation, and potential commercial integration. with one of the world's leading R&D hubs for nano and digital technologies.
- **Connecting Chips (EU) –** Selected for EU-led semiconductor integration program, with research partners including NVIDIA, imec, Valeo, Applied Materials, NXP, and Unity. Note this program has not yet received grant funding.

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

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Further Information:

Investors
Blake Burton – Managing Director
E: investors@adisyn.com.au
T: 1300 331 888

Media
David Tasker – Chapter One Advisors
E: dtasker@chapteroneadvisors.com.au
T: +61 433 112 936

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 leading provider of managed technology solutions, primarily serving the SME market. The Company leverages cutting-edge technologies, including artificial intelligence and cybersecurity, to deliver bespoke solutions. Through its wholly owned subsidiary, **2D Generation**, Adisyn is advancing graphene-based semiconductor technologies to overcome industry limitations and drive innovation across sectors including AI, telecommunications, and data storage.

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.