



**adisyn**

(ASX:A11)



# Graphene Materials for UAV Defence Systems

AI1 Drone Radar Absorption Initiative

March 2026



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# Adisyn Graphene Tech Platform

Adisyn (ASX:A11) is developing advanced graphene solutions addressing two major technology opportunities:

## Radar Signature Reduction (emerging vertical)

<b>Problem:</b>	Radar detection of drones
<b>Breakthrough:</b>	Graphene radar absorption
<b>Markets:</b>	Defence, UAV
<b>Market Size UAV:</b>	US\$20.7Bn (2026)* US\$66.5Bn (2035)*

## Semiconductor Industry (core track)

<b>Problem:</b>	For advanced process nodes, copper interconnects are a bottleneck
<b>Breakthrough:</b>	Novel technologies and methods to produce high-quality graphene targeting interconnects
<b>Markets:</b>	Semiconductors
<b>Market Size:</b>	US\$772Bn (2025)^

The top corners of the slide feature decorative hexagonal patterns. The top-left corner has a cluster of overlapping hexagons in various colors (blue, green, orange, purple). The top-right corner has a larger, more prominent hexagonal structure with a central hexagon and several surrounding ones, also in various colors.

# Radar Signature Reduction

Graphene Materials for Radar Signature Reduction

A decorative graphic in the bottom right corner consisting of a grid of dashed lines. The lines are arranged in a pattern that tapers towards the right, with the lines becoming more vertical and closer together as they move right. The lines are colored in a gradient from purple to blue.

# The Challenge:

## Multi-band Radar Systems Detect UAVs Earlier Than Ever

- Advances in radar technology mean UAVs can now be detected and tracked earlier than ever before. AI-assisted multi-band radar systems are increasingly capable of identifying small, low-altitude UAV signatures.
- Earlier detection significantly expands the reaction window for interception systems.
- As a result, UAVs are increasingly intercepted or neutralized before reaching their intended target.

### Materials used in UAVs fail against radar

- Carbon-based materials are excellent for aviation (light & strong) but fail completely against radar due to a large Radar Cross Section (RCS) signature.



# The Challenge:

## Multi-band Radar Systems Detect UAVs Earlier Than Ever

### How Modern Radar Systems Detect UAVs

- A radar system:
  - Transmits a pulse of radio-frequencies
  - The signals hit an object (e.g. a UAV)
  - Part of the signal is reflected back to the radar receiver
  - The radar measures the strength of the returned signal
- That signal strength is usually expressed in decibels (dB) because radar signals vary over extremely large ranges of power

**Decibels are a logarithmic scale and a 30dB reduction can equate to a 1,000x decrease in radar signature.**

### The Physical Meaning of 30dB: Reducing Radar Signature by 1,000 Times

**Before:** Standard UAV (1 Square Meter)

**After:** Stealth Butterfly (Only 10 sq cm)

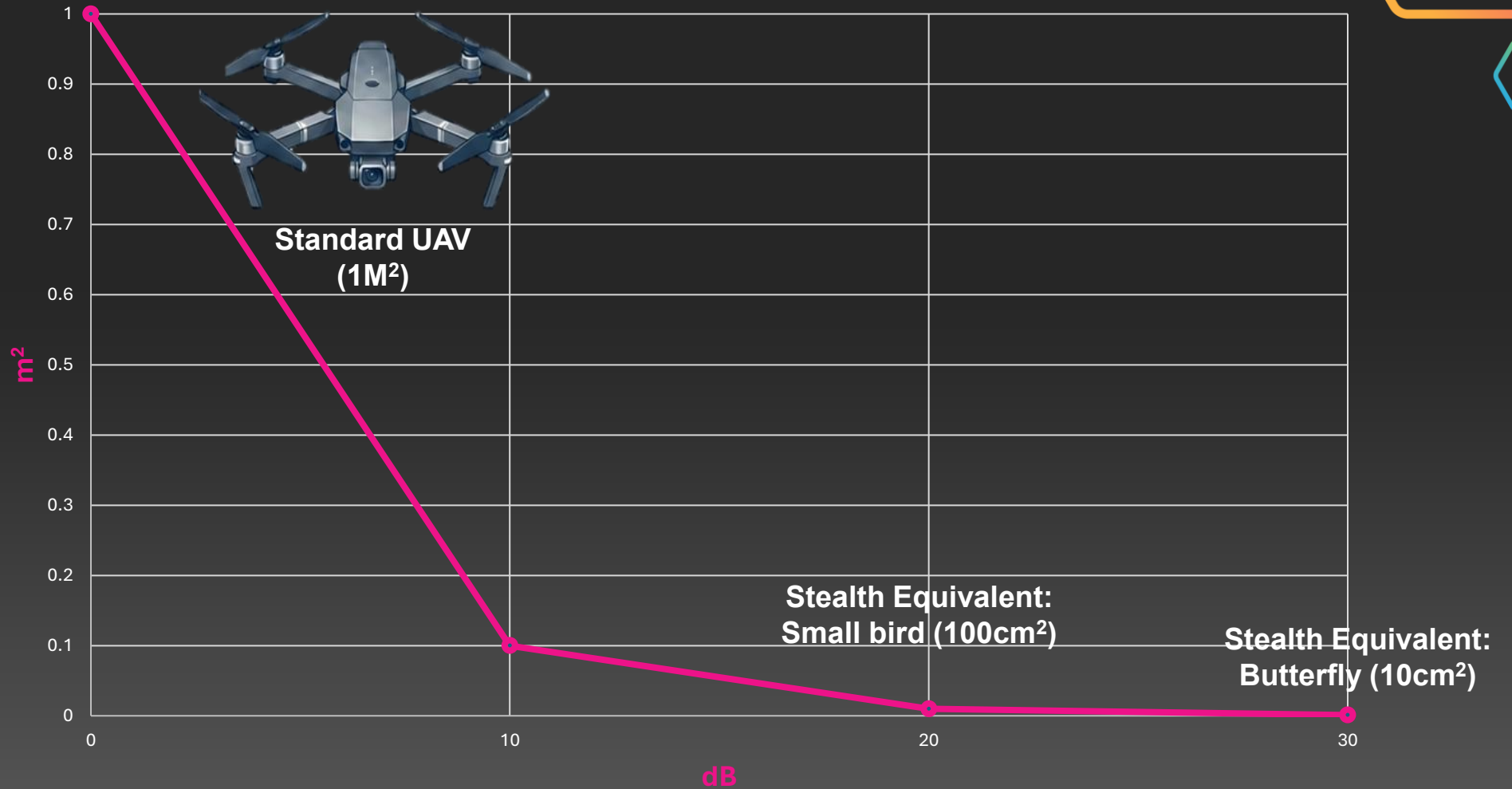


1 Square Meter



10 sq cm Only

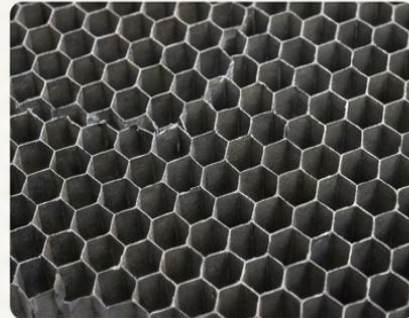
## Physical meaning of a 30dB reduction in radar signature



# The Adisyn Solution

Graphene-enhanced structural components which are light, strong and possesses significant radar-absorbing properties

**Proven Feasibility: 20dB Goal Successfully Achieved in Lab**



Current Achievement:

**Proven 20dB Reduction**

20dB with graphene composites compared to base materials

**Successfully Completed**

Proven reduction in radar signal return

Optimization Goal:

**30dB**

Optimization target for 12.2026

**Current Achievement:**

Proof-of-Concept result - 20dB Reduction (100-fold decrease in radar return) successfully achieved in the lab by integrating advanced 2D graphene materials directly into the printed plastic matrix.

**Target Performance:**

Ongoing optimization targeting ~30 dB radar signature reduction (can equate to 1000-fold decrease in radar return). This reduction substantially surpasses current conventional products and would permit access to higher-margin markets

# Clear Industry Demand

Strategic advantages for aerospace and defence sectors in using graphene-enhanced materials in UAV manufacturing include:

## **Reduced Radar Detection:**

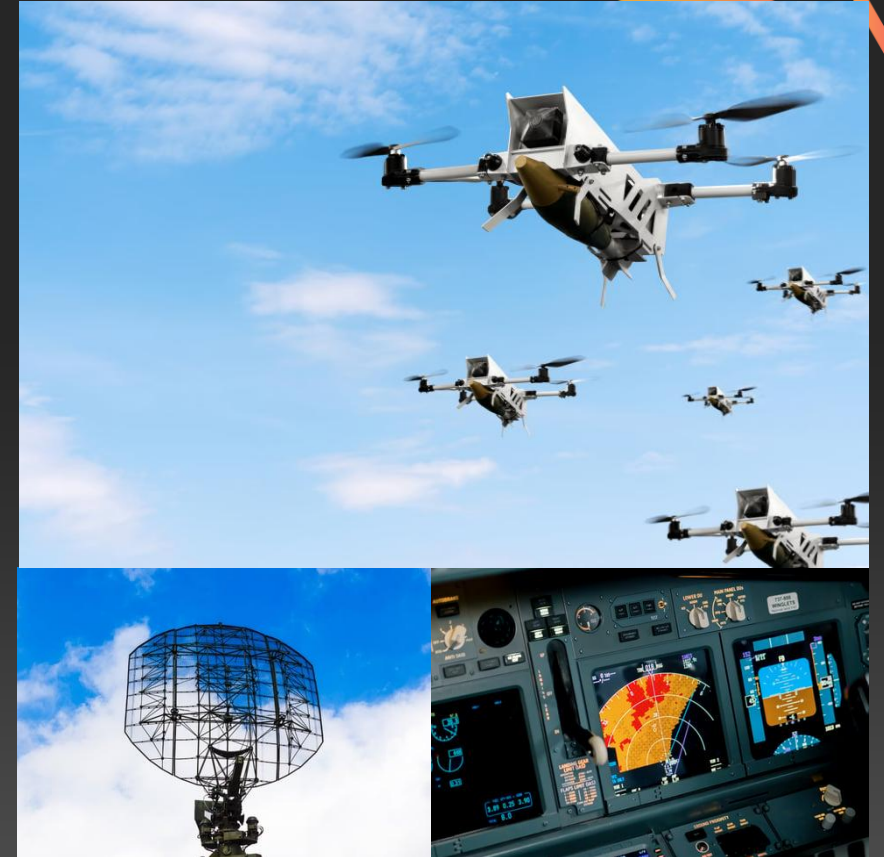
Drastic reduction in RCS, making it significantly harder for air defence systems to detect and track the UAV.

## **Enhanced Penetration Capability:**

Enables silent approach to high-value targets without early detection.

## **High Survivability:**

Increased probability of mission success with minimum losses.



# Size of The Prize

## Military Drones Market – Global Forecast

- **2026 Market Size: US\$20.7Bn**
- **2035 Forecast Market Size: US\$66.5Bn**

*“Several factors contribute to the growth of the military drones market, such as the increase in defense & homeland security spending, the continual shift towards unmanned and autonomous warfare, growing need for border security and maritime surveillance, and expansion of electronic warfare and payload capabilities.”\**

- **Further opportunities in aerospace and other markets**



# Proven Scientific Leadership

Prof. Pavel Ginzburg - Full Professor of Electrical Engineering at Tel Aviv University

- ❖ A world-renowned researcher in radar physics and electromagnetics leads the research program.
- ❖ Core Expertise: Metamaterials, radar scattering control, and advanced antenna systems
- ❖ Award Recognition: February 2026 – awarded a prestigious European Research Council (ERC) Proof of Concept (PoC) grant. Only 150 worldwide.
- ❖ Role in Project/company: Technology Leader



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# Clear Development Roadmap

Visible pathway towards development and eventual commercialisation of radar technology:

- ❖ **Proof of concept (20 dB) ✓**
- ❖ **Subsidiary – 2D Radar Absorbers Ltd ✓**
- ❖ **Ministry of Defence grant application**
- ❖ **Manufacturer collaborations**
- ❖ **Defence-focused advisory board**
- ❖ **Drone company collaborations**



# Corporate Snapshot

**Adisyn (ASX:AI1) is developing advanced graphene materials addressing two major technology opportunities:**

## **1. Semiconductor Interconnects (core track)**

Through 2D Generation (a fully owned subsidiary) – development of novel technologies and methods to produce high-quality graphene, in a low-temperature process, targeting semiconductors interconnect and other applications.

## **2. Radar Signature Reduction for UAV & defense systems (emerging vertical)**

Leveraging deep graphene expertise in developing enhanced composite materials in radar reflection reduction. Successful proof-of-concept (“POC”) program completed in collaboration with Tel Aviv University.

## **Corporate Snapshot**

- Share Price<sup>1</sup> (A\$): 0.049
- Market Cap (A\$): 41M
- Cash 31/12/2025 (A\$): 4.9M

## **Board of Directors**

- Kevin Crofton – Chairman
- Arye Kohavi – Managing Director of Adisyn, CEO of 2D Generation
- Dominic O'Hanlon – Non-Executive Director
- Blake Burton - Executive Director

# Board In Focus

## Arye Kohavi MD at Adisyn, CEO of 2D Generation



Arye is an Israeli entrepreneur and innovator. He was the founder, president & Co-CEO of Water-Gen, which develops water-from-air and air dehumidification technologies. Kohavi holds an MBA (Finance) and a BA in Economics and Accounting, both from the Hebrew University in Jerusalem.

### Awards:

- Arye has been chosen as one of the world's 100 Leading Global Thinkers, and one of the world's top innovators, by "Foreign Policy" magazine.
- Water-Gen, founded by Arye, was chosen as one of the World's 50 Most Innovative Companies, by "Fast Company" magazine.
- As part of Israel's 70th anniversary celebrations, the Israeli Ministry of Economy and Ynet readers chose Water-Gen as one of the "Nine Greatest Israeli Inventions of All Times".
- Water-Gen's Genny was chosen as one of the world's 100 Best Inventions, by TIME magazine.



## Kevin Crofton Non-Executive Chairman



Kevin Crofton has more than 30 years' experience in the semiconductor industry, holding senior leadership roles at global technology companies including Lam Research, KLA Corporation, Comet AG, Newport Corporation, NEXX Systems and Aviza Technology.

- In 2006, he led a private equity-backed buyout of Aviza Technology UK, forming SPTS Technologies, where he served as President and Managing Director until 2020. Under his leadership, SPTS grew into a highly profitable market leader generating £500M in revenue, before being acquired by Orbotech, which was later purchased by KLA for US\$3.4B.
- Mr. Crofton served as CEO of Comet AG (SIX:COTN) from 2020 to 2022, delivering 60% revenue growth to CHF600M, nearly doubling EBITDA and increasing market capitalization from CHF0.8B to CHF2.2B.
- He also served eight years on the board of SEMI, including as Vice Chair and Chair, and has advised US Senator Mark Warner on the CHIPS Act and Virginia Governor Glenn Youngkin on semiconductor initiatives. Mr. Crofton holds an MBA from American University and a BS in Aerospace Engineering from Virginia Tech.

# Investment Highlights

Adisyn's graphene expertise creates the potential for multiple commercial applications across high-value global industries.



## Defence Industry / UAVs:

Graphene-enhanced materials targeting radar signature reduction.

## Semiconductor Interconnects:

Graphene-based solutions for next-generation semiconductor devices.



**Opportunity to transform a global markets**



**Major early-mover advantage**



**World-leading results**



**Partnerships to drive development**



**Landmark agreement accelerates research**



**Strong leadership**



## CONTACT DETAILS

Arye Kohavi – MD of Adisyn,  
CEO of 2D Generation  
[arye@2DGeneration.com](mailto:arye@2DGeneration.com)

**David Tasker** – IR / PR  
[dtasker@chapteroneadvisors.com.au](mailto:dtasker@chapteroneadvisors.com.au)

**Michael Shaw-Taylor** – Corporate Advisor  
[mst@sandtoncapital.com.au](mailto:mst@sandtoncapital.com.au)

# Thank you