

ASX Announcement

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US Patent Allowed for Core Graphene Coating Technology

Patent Protects Proprietary Method and Product Claims Across Graphene-Coated Metallic Surfaces

Highlights

- US Patent No. 18/692,223 allowed by the United States Patent and Trademark Office (USPTO), covering Adisyn's core graphene coating technology for metallic surfaces
- Patent covers a method of applying graphene coatings to metal surfaces, the resulting graphene-coated metal products and devices, which include these products - providing comprehensive IP protection across manufacture and end-use
- Covalently bonded graphene layers with defect density equal to or lower than 10^{12} defects/cm² and graphene coverage exceeding 90% - addressing critical performance thresholds for semiconductor applications
- Patent covers applications across interconnects, back-end-of-line (BEOL) semiconductor devices, nano-electromechanical devices, OLEDs, transparent conductive electrodes and high-conductance interconnects
- The allowance strengthens Adisyn's commercial position as the Company advances its graphene technology platform

Adisyn Ltd (ASX: AI1) ("Adisyn" or the "Company") is pleased to announce that the United States Patent and Trademark Office (USPTO) has allowed US Patent Application No. 18/692,223 covering the Company's core proprietary technology for graphene-coated metallic surfaces.

The patent, titled *Graphene Coated Metallic Surfaces, Devices and Method of Manufacture Thereof*, protects both the method of manufacturing graphene-coated metal surfaces and the resulting coated products, as well as devices which include these products providing comprehensive intellectual property protection across the full value chain from production process through to commercial application.

Technology Overview - What the Patent Covers

The granted patent protects a novel method for coating metallic surfaces with graphene using molecular precursor compounds. Unlike conventional graphene deposition methods that require high-temperature chemical vapour deposition (CVD) or the use of catalytic metals that leave contaminating residues, Adisyn's approach enables graphene to be deposited on metal surfaces at low temperatures, producing high-quality coatings bound to the metal surface by covalent bonds.

The method involves obtaining specially designed graphene molecular precursor compounds - categorised as Compounds A through F in the patent - and depositing them directly onto the metal surface before transforming them into a graphene interfacial layer. The process can be extended to produce multi-layer graphene coatings, with each successive graphene layer covalently bound to the layer below.

Key technical characteristics of the patented graphene coating include:

- Graphene defect density equal to or lower than 10^{12} defects per cm^2
- Graphene surface coverage exceeding 90%
- Covalent bonding between graphene and the metal substrate, providing superior adhesion and durability
- Essentially free of catalytic metal residue, addressing a key limitation of competing deposition technologies
- Applicable to two or more graphene layers, including graphene coatings incorporating both acidic and basic tethering groups to enhance inter-layer bonding
- Deposition via vacuum deposition, including atomic layer deposition (ALD), enabling precision at the nanoscale

Internal Intellectual Property

AI1's Intellectual Property moat is not built on this patent alone, there is significant protection in the non-registered layer including trade secrets, proprietary processes, accumulated know-how, and the practical expertise built over many years.

While AI1 will look to expand its formal patent portfolio to further strengthen defensibility, some of the most valuable elements of the Company's core technology will remain internal. The combination of registered patents plus tightly controlled trade secrets and operational know-how creates a strong blended protection strategy that is extremely difficult to reverse-engineer.

Commercial Applications

The patent covers applications across a broad range of high-value technology verticals, including:

- Semiconductor interconnects and back-end-of-line (BEOL) devices, where graphene's superior conductivity can address the performance limitations of conventional copper interconnects
- Nano-electromechanical devices and graphene transistors
- Organic LEDs (OLEDs) and transparent conductive electrodes
- Electro-optical sensors and high-conductance interconnects
- Advanced composite materials, including applications relevant to Adisyn's radar signature reduction program via 2D Radar Absorbers Ltd

Strategic Significance

The allowance of this patent represents a significant milestone for Adisyn, providing enforceable intellectual property protection over the Company's core graphene deposition technology in the world's largest and most commercially significant patent jurisdiction.

The Company's patented low-temperature Atomic Layer Deposition (ALD) process is designed to enable direct graphene growth on semiconductor wafers and metallic surfaces, targeting the performance limitations of copper interconnects in next-generation semiconductor devices - a rapidly growing market as demand for faster, more energy-efficient computing continues to accelerate.

Separately, the technology's capability to produce high-quality graphene coatings on metal surfaces at low temperatures without catalytic residues positions it as a potential platform for Adisyn's radar signature reduction activities, where graphene-enhanced composite materials are being developed to reduce the radar detectability of UAV and autonomous defence platforms.

Commenting on the patent grant, Adisyn Managing Director Arye Kohavi said:

"The allowance of this US patent is a landmark moment for Adisyn. It confirms that our graphene deposition technology is both novel and inventive - representing a genuine scientific advance over existing approaches.

This patent will protect not just our manufacturing method but also the graphene-coated metal products and devices that result from it, giving us broad coverage across the technology value chain.

The ability to deposit covalently bonded graphene at low temperatures, without catalytic metal residues, addresses real limitations that have constrained commercialisation of graphene coatings in semiconductors and advanced materials. We are positive that this positions Adisyn strongly as these markets mature".

Next Steps

Adisyn will continue to advance the commercialisation of its patented graphene technology across both its semiconductor interconnect program and its radar signature reduction vertical. The Company is progressing engagement with potential partners and customers in both verticals and will provide further updates as appropriate.

The Company is also evaluating the extension of its intellectual property position through additional patent filings in relevant jurisdictions.

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

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About Adisyn

Adisyn Ltd (ASX: AI1) is an Australian technology company developing advanced graphene materials for high-value applications in the semiconductor and advanced materials sectors.

The Company's core focus is the development of a patented low-temperature Atomic Layer Deposition (ALD) process designed to enable direct graphene growth on semiconductor wafers. This technology aims to address the performance limitations of copper interconnects and support faster, more energy-efficient next-generation semiconductor devices.

Adisyn is also exploring additional commercial applications of its graphene expertise, including advanced composite materials designed to reduce radar signatures in UAV and defence platforms.

Adisyn's broader business includes Adisyn Services, which provides managed IT services, cloud, cybersecurity and artificial intelligence solutions to Australian small and medium-sized enterprises.

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.