



Investor Presentation

March 2021

ASX: SPN

Transformational Technology for Global Industries

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Investment Highlights



Sparc is pioneering new graphene technologies to disrupt and transform industry and science for a cleaner, greener and healthier world

1

World leading team and partners - cornerstoned by the University of Adelaide in collaboration with 5 leading universities in the ARC Graphene Hub

2

Profound opportunity to reshape multi billion dollar global markets underpinned by exclusive IP harnessing graphene as a new super material

3

Developing ground breaking technologies across our two core divisions in Environment & Sustainability and Bio-Medical & Health

4

Unique leverage to graphene's potential: well funded with commercialisation underway

Sparc Technologies - Snapshot



Corporate overview

ASX Code	SPN
Market cap (at \$0.28 per share)	\$20m
Shares on issue	71.4m
Cash (as at 31 Dec 2020)	\$4.9m
Debt (as at 31 Dec 2020)	\$0.0m
EV	\$16.5m
Major shareholders	% held
Adelaide University	5.5%
Hoperidge Enterprises	5.1%
Director's and Management	17.0%
Top 20 Shareholders	43.1%

SPARC TECHNOLOGIES BOARD



Stephen Hunt
Executive Chairman



Tom Spurling
Non-Exec Director



Daniel Eddington
Non-Exec Director

EXECUTIVE MANAGEMENT TEAM



Mike Bartels
CEO



Peter Wilson
General Manager,
Engineering



Andrew Smith
Technical Manager –
Coatings & Composites



Ben Yerbury
Technical Lead –
Bio-Medical & Health



Don Darkin
Strategic Advisor -
Commercialisation

Graphene: A New Generation Supermaterial



WHAT IS GRAPHENE?

Graphene is a 2D material made of carbon atoms arranged in a hexagonal lattice which creates unique and powerful properties capable of transforming and disrupting global industries.



PROPERTIES OF GRAPHENE



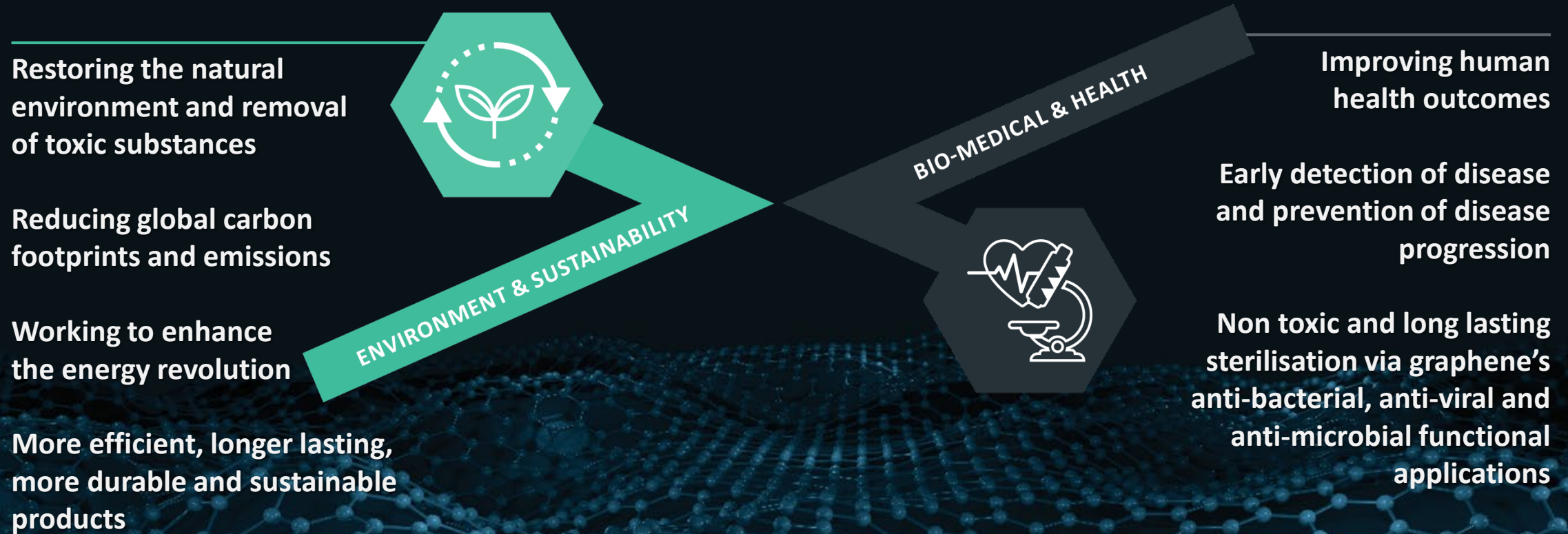
SPARC GRAPHENE DIVISIONS



Focusing on adding functionality to selected grades of graphene in order to deliver targeted market solutions

Sparc's Graphene Divisions

Sparc aims to harness graphene as a new generation supermaterial to transform global industries in our two core divisions: Environment & Sustainability and Bio-medical & Health



Initial Target Markets

Environment & Sustainability – Business Units



Coatings

- Our graphene products have been demonstrated under strict IOS standards to significantly enhance corrosion resistance in coatings
- Further work underway to test drag reduction in global shipping fleet, diesel fuel savings, carbon emission reduction and non toxic anti-fouling applications
- US\$44 billion addressable market by 2025 and early engagements with key industry players underway
- Key applications in defence, aerospace and industry being explored
- Evaluation of the antibacterial properties of graphene based additives in coating systems with recent results showing significant improvement



Environmental Remediation

- Our graphene products have been demonstrated under strict testing standards to substantially improve PFAS and other chemical removal from waterways and soils
- US defence alone has contaminated PFAS sites exceeding US\$2 billion in remediation costs
- Widespread contamination of sites continues to affect public health across the globe



Metals Recovery

- Utilising specialised graphene filters to separate specific metals from mine tailings to increase sustainability in environmentally conscious manner
- Initial focus on precious metals - exploration for carbon neutral energy metals recovery underway
- +US\$1 trillion in unrecovered metals currently in mine tailings

Bio-Medical & Health – Business Units



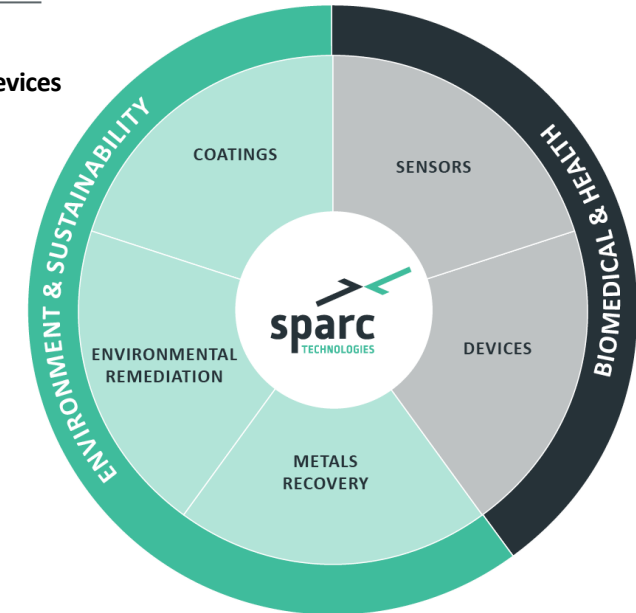
Biomedical Sensors

- Development of non-invasive biomedical sensors to detect specific markers of disease in breath
- Potential for profound global applications in the early detection and management of a wide range of disease
- Possible human and animal applications



Broader biotechnology applications and devices

- Work underway to consider utilisation of Graphene's unique properties for further biotechnologies
- Hospital, surgical, in-patient out-patient and community applications currently under consideration



Coating Industries



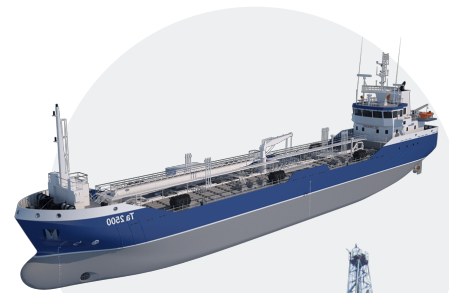
Environment & Sustainability



Sparc TECHNOLOGIES graphene enhanced coatings have the potential to enhance billion dollar markets

Graphene and Coatings ¹

- ▶ Graphene as a performance additive in marine, aerospace and industrial applications of coatings
- ▶ Graphene's unique features provide added benefit to coatings;
 - ✓ **Unique anti-corrosion qualities**
 - ✓ **Improved drag efficiency**
 - ✓ **Anti-microbial benefits**
 - ✓ Superior hydrophobic qualities
 - ✓ Chemical repulsion
 - ✓ Exceptional UV protection
 - ✓ Fire-resistance
 - ✓ Improved electrical and thermal conductivity
- ▶ SPN has exclusive access to patented technology to enable targeting of the above markets globally



Andrew Smith

Technical Manager - Coatings



Andrew is a development chemist specialising in Heavy Duty Coatings, specifically, the development and testing of anti-corrosive coatings. Andrew has held senior regional technical management roles for AkzoNobel (world leader in coatings with brands including International, Chartek, Sikkens, Awlgrip, Devoe), in Australia, Asia and the Americas.

These roles involved responsibility for product development, testing and integrity, as well as Technical Support functions. Andrew most recently has been involved in implementing major restructuring initiatives for AkzoNobel, including rationalisation of manufacturing capability in the South Asia region.

Coating Industries - SPARC Product Performance

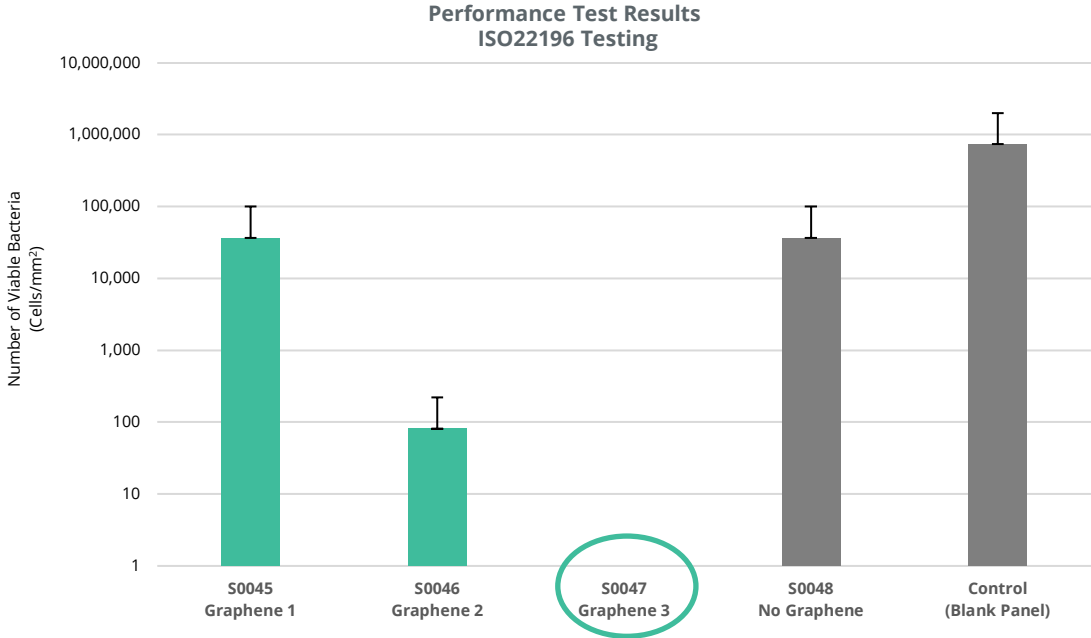
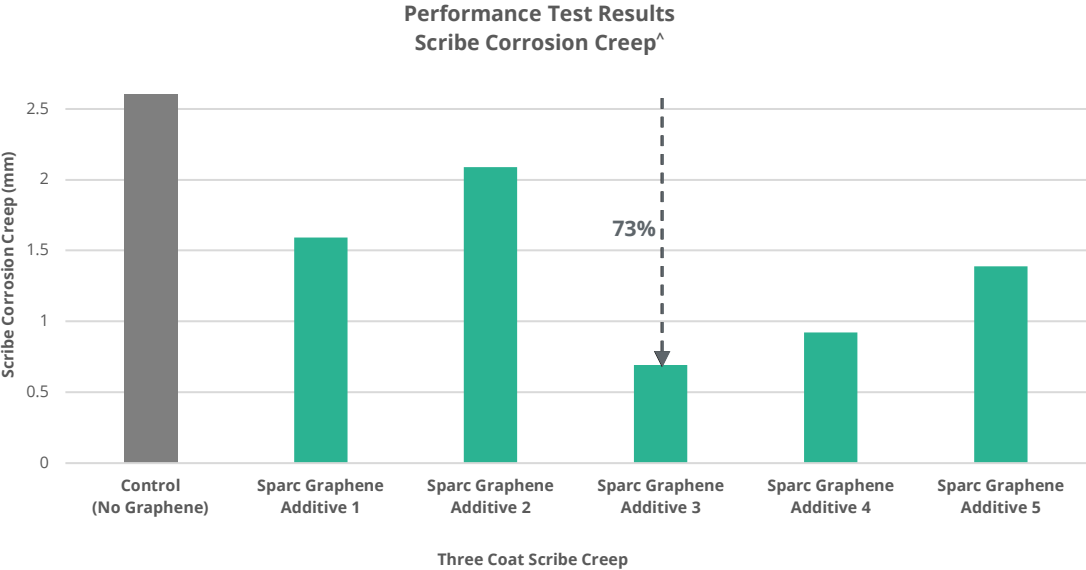


- ▶ SPARC Graphene enhanced coating performs with a **73% improvement*** on industry standard coatings

- ▶ SPARC Graphene enhanced coating showed **complete destruction of the E-Coli bacteria** when compared to the same coating type containing no graphene.

SPARC enhanced coating has demonstrated the potential to improve the performance of a low cost commodity product with the addition of a Graphene based additive.

SPARC enhanced coatings have potential applications in areas for the control of bacterial growth on surfaces such as; hospitals, public areas, food preparation facilities, drinking water systems, antifouling for shipping and coating for wastewater systems.



Test results showing anti-corrosion performance of coatings with a Sparc Graphene additive. Lower values demonstrate better performance

Testwork included multiple coatings containing proprietary graphene formulations. Coating with Graphene 3 formulation, Sample S0047, demonstrated the most significant improvement to the destruction of E-Coli.

* See ASX Announcement 14 January 2021

Water Purification and Soil Remediation



Proven application of water and soil remediation to be utilised at environmentally contaminated sites

Pollution Remediation

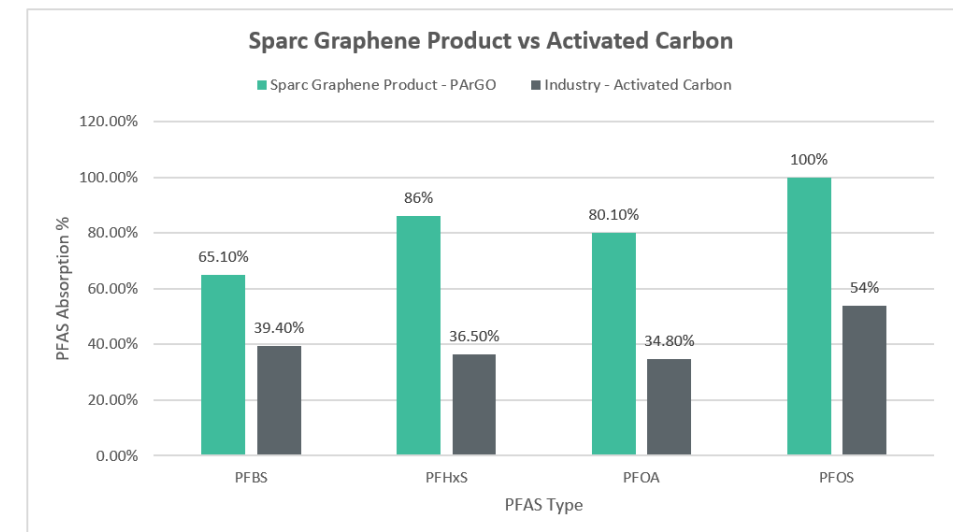
- ▶ The potential applications of graphene in pollution remediation are adsorption, membrane separation, catalysis and environmental analysis
- ▶ The adsorption efficiency of graphene adsorbents largely depends on its surface area, porous structure, oxygen-containing groups and other functional groups, adsorption conditions, and also the properties of adsorbates¹
 - ▶ SPN has identified potential applications of water purification and soil remediation
- ▶ Australia alone has an estimated 160,000 contaminated sites with as many as 75,000 different contaminants²

Global Patent Pending

PCT/AU2016/05041– Water Purification and Soil Remediation - water purification, oil removal from water, soil remediation

Progress

- ▶ SPN has demonstrated its graphene remedy is substantially more effective than the industry standard and is undergoing active development to prove the commercial application for:
 - ▶ Containment of PFAS using graphene
 - ▶ Destruction of PFAS using graphene, which is potentially transformational



Absorption rates of various forms of PFAS with Sparc graphene product versus Granulated Activated Carbon

Metals in Tailings



Estimated US\$1 trillion worth of precious metals sitting in mine tailings¹

Graphene and Soil Remediation

- ▶ Sparc graphene based adsorbent testing demonstrates significant outperformance of commercially available adsorbents for gold (Au) and silver (Ag)
- ▶ Best Sparc results highlight 96.98% and 97.82% adsorption of gold and silver from solution into graphene based adsorbents
- ▶ Further test work underway including plans to include trials from gold and silver tailings from mine sites

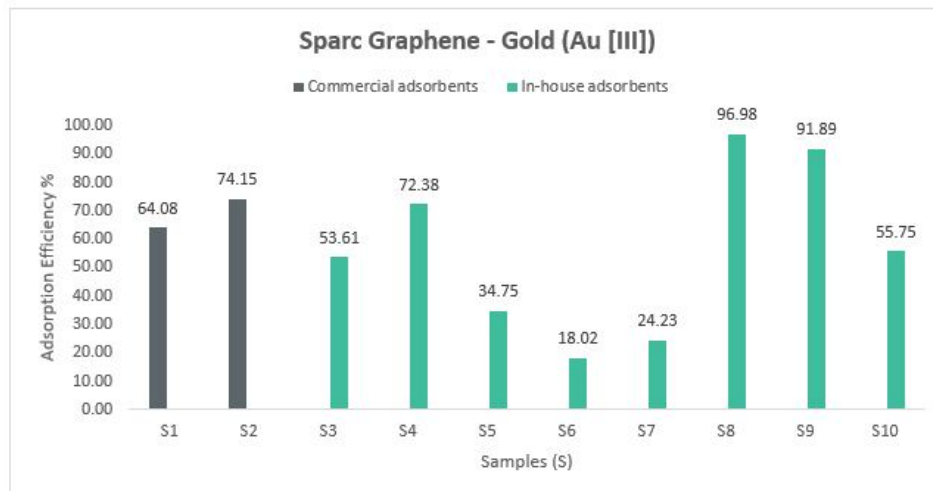


Chart 1 – Adsorption efficiency of different commercial and in-house adsorbents for Gold (Au [III]) ions. Adsorption conditions: Volume 20 mL; sample dosage: ~20 mg; pH (Au³⁺) = 4.20; Au³⁺ = 1.2 mg L⁻¹; T= 21.0-22.0 °C; equilibration time: 5 hours at 200 rpm.

Market Size

- ▶ Estimates that there is approximately US\$1T worth of precious metals already extracted from the ground, sitting at old mining sites globally¹
- ▶ Opportunity to work with local mining industry
- ▶ Initial Focus on Precious and Base Metals
- ▶ Exploring potential for recovery of green energy metals



Bio-Medical Sensors



Bio-Medical & Health



Sparc TECHNOLOGIES' recently established bio-medical division aims to improve health outcomes and disease identification and management

Biomedical Sensors

- ▶ Focus of the project will be on research and development of graphene-based sensing devices
- ▶ Initial work by Sparc, in collaboration with University of Adelaide, will include development/fabrication of lab-scale sensing devices

Ben Yerbury

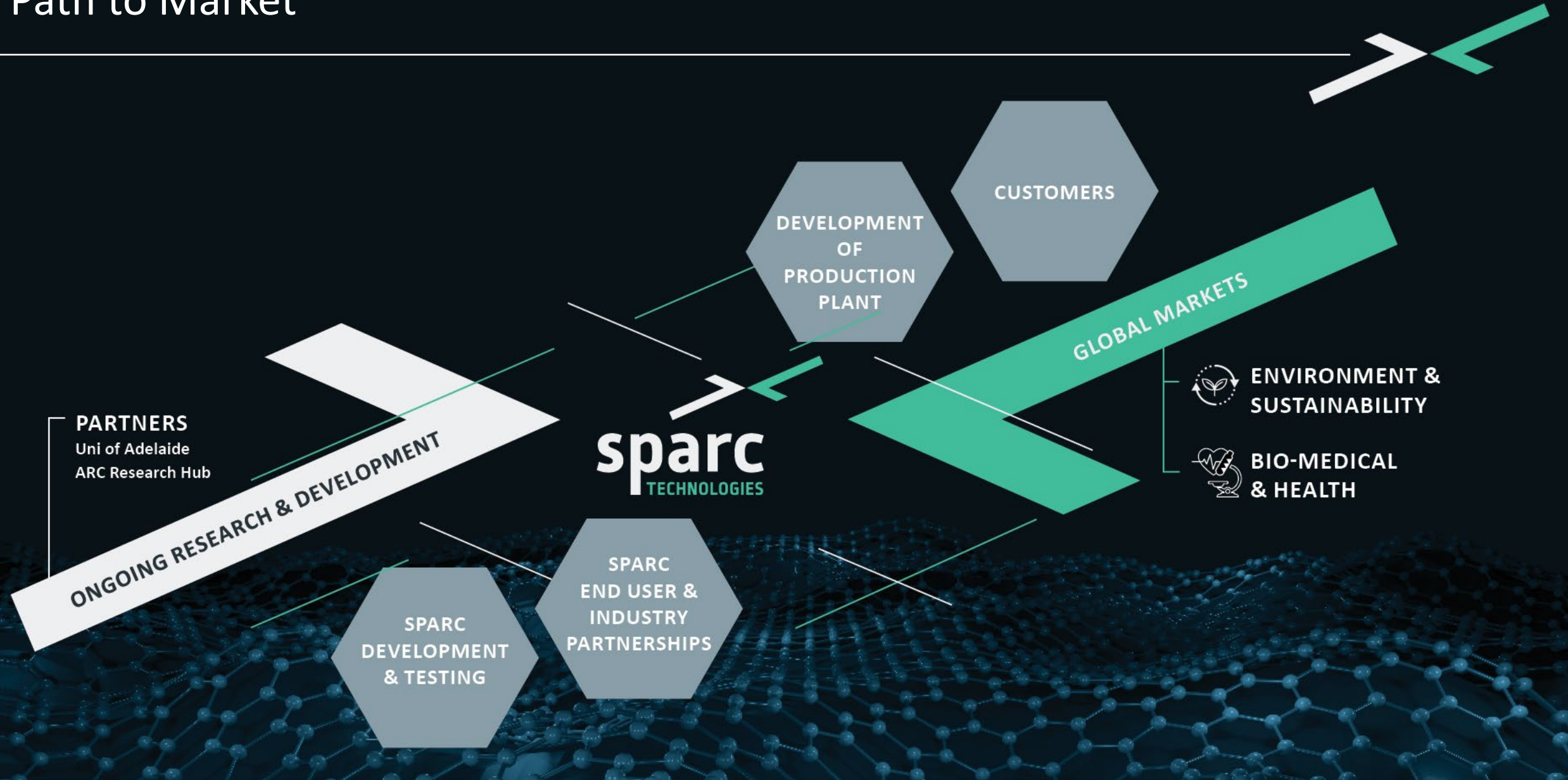
Technical Lead – Bio-Medical



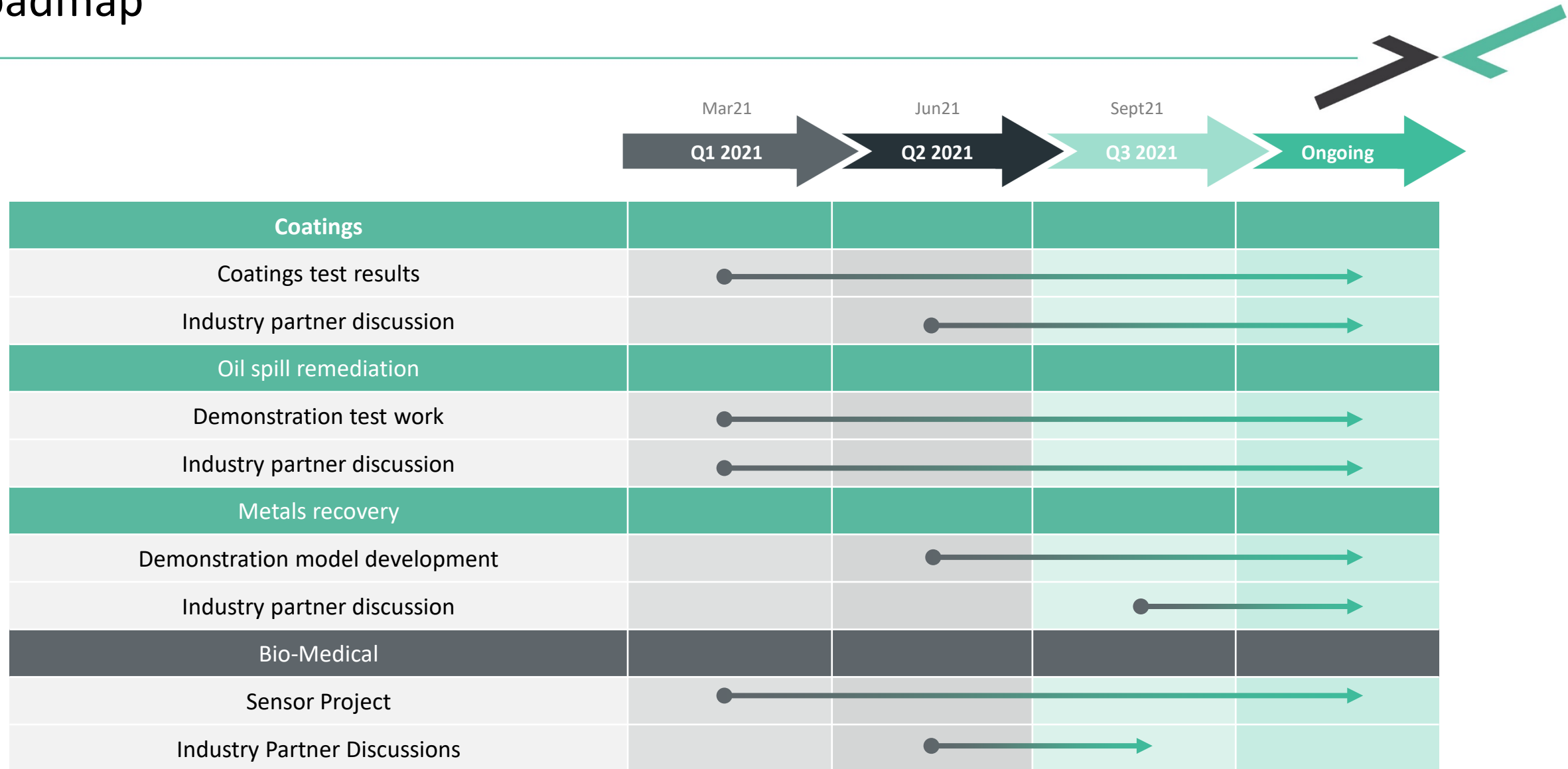
Mr Yerbury has over 20-years' experience in the global medical device industry with Fortune 500 organisations including ResMed, Baxter Healthcare, Boston Scientific and Zimmer Biomet. His experience spans a broad range of clinical specialties and technologies across the respiratory and cardiovascular fields to orthopaedics and general surgery, to infusion therapy and nephrology.

Mr Yerbury brings a wealth of experience across Australia and New Zealand, Asia Pacific and European markets and their respective reimbursement models and regulatory environments, which will be invaluable to Sparc's commercialisation and development strategies. Mr Yerbury has direct and wide expertise in launching new, disruptive, technologies and business models to accelerate business growth and build competitive advantages in the medical device industry

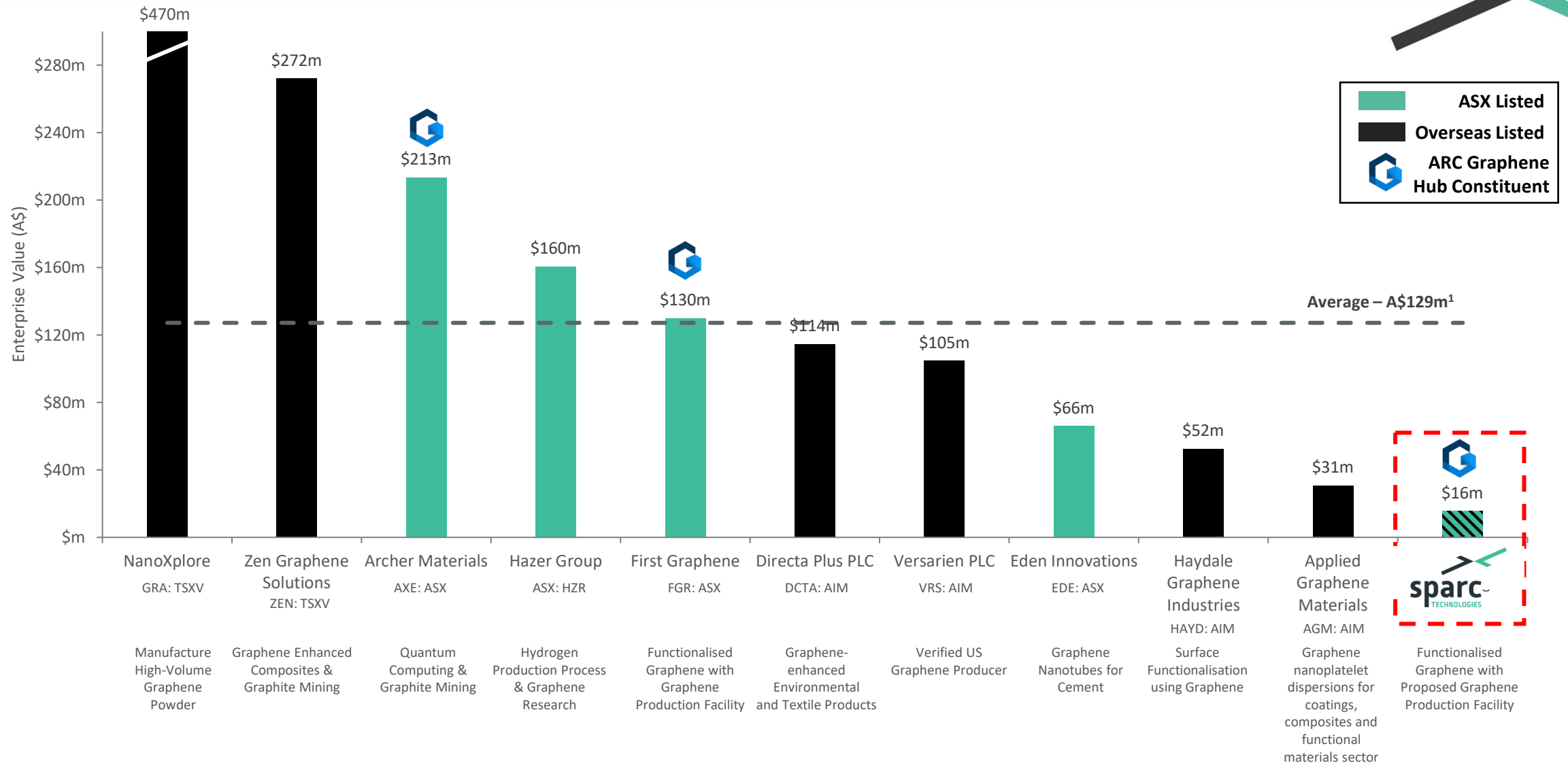
Path to Market



Roadmap



Broader Industry Comparisons



Collaboration with the University of Adelaide



Sparc TECHNOLOGIES has a strategic relationship and exclusive licensing agreements with key collaborator and partner, the **University of Adelaide (UA)**, which is a world leader in graphene

- ▶ UA ranked as principal member of the Graphene Hub. UA is a world class institution, ranked in the top 1% of Universities globally
- ▶ The UA team has generated 7 patent applications (4 at PCT stage and 3 IP Disclosures) and developed over 20 graphene based products
- ▶ SPN to contribute at least \$1.5M over three years to UA and Graphene Hub or graphene research and development in order to retain and develop world leading applications

1

Exclusive Licensing Agreement with UA

- ▶ UA is a cornerstone shareholder of SPN
- ▶ SPN is currently licensing 3 technologies under patent application related to marine and protective coatings, water purification & soil remediation, and sound absorption
- ▶ Patents have 20-30 year lives
- ▶ Extremely favourable terms - No ongoing licence fees or royalties for SPN

2

Strategic Partnership with UA

- ▶ SPN has first right of offer on any future unencumbered graphene technologies developed by UA
- ▶ Other projects identified – research and development underway

3

Project Agreement with UA

- ▶ SPN to contribute towards research and development of coatings applications at UA
- ▶ SPN already committed \$500K within one year for first project development

4

Project Agreements with the Graphene Hub

- ▶ SPN contributing towards research and development on three projects in conjunction with the Graphene Hub
- ▶ Projects include water purification, metals recovery from tailings and soil remediation

The background features a dark blue gradient with abstract geometric elements. At the top, there are two large, stylized arrow-like shapes pointing towards each other, one in light grey and one in teal. Several thin white and teal lines crisscross the upper half of the image. A solid teal horizontal band spans the middle, containing the main text. The bottom section shows a detailed 3D molecular lattice structure in shades of blue and teal.

Disrupting global industries with Graphene based transformational technology

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