Transformational Technologies for Global Industries

Annual General Meeting
November 2023
ASX: SPN

Disclaimer

The release, publication or distribution of this presentation in certain jurisdictions may be restricted by law and therefore persons in such jurisdictions into which this presentation is released, published or distributed should inform themselves about and observe such restrictions.

This presentation is for informational purposes only and does not constitute an offer to sell, or solicitation to purchase, any securities. Such Offer can be made only through proper subscription documentation and only to investors meeting strict suitability requirements. Any failure to comply with these restrictions may constitute a violation of applicable securities laws. In providing this presentation Sparc Technologies Limited ACN 009 092 068 ("SPN") has not considered the financial position or needs of the recipient.

Persons needing advice should consult their stockbroker, bank manager, solicitor, attorney, accountant or other independent financial and legal advisors.

This document may contain forward-looking statements with respect to the financial condition, results of operations, and business strategy of SPN. These forward-looking statements are based on estimates, projections and assumptions made by SPN about circumstances and events that have not yet taken place. Although SPN believes the forward looking statements to be reasonable, they are not certain. Forward-looking statements involve known and unknown risks, uncertainties and other factors that are in some cases beyond SPN's control, and which may cause actual results, performance or achievements to differ materially from those expressed or implied by the forward-looking statements (and from past results). SPN makes no representation or warranty as to the accuracy of any forward-looking statements in this presentation and undue reliance should not be placed upon such statements. Forward-looking statements may be identified by words such as "aim", "anticipate", "assume", "continue", "could", "estimate", "expect", "intend", "may", "plan", "predict", "should", "will", or "would" or the negative of such terms or other similar expressions that are predictions of or otherwise indicate future events or trends.

The forward-looking statements included in this presentation speak only as of the date of this presentation. SPN does not intend to update the forward-looking statements in this presentation in the future. Certain statistical and other information included in this presentation is sourced from publicly available third-party sources and has not been independently verified.

This presentation is not a disclosure document for the purposes of Chapter 6D of the Corporations Act 2001 (Cth) and does not purport to include the information required of such a disclosure document. It has not been lodged with or approved by any regulatory authority, such as the Australian Securities and Investments Commission or the Australian Securities Exchange.

The information in this presentation does not constitute personal investment advice. This presentation is not intended to be comprehensive or provide all information required by investors to make an informed decision on any investment in the Company. Specifically, this presentation does not purport to contain all the information that investors and their professional advisers would reasonably require to make an informed assessment of the Company's assets and liabilities, financial position and performance, profits, losses and prospects. In preparing this presentation, the Company, did not take into account the investment objectives, financial situation and particular needs of any particular investor.

Corporate Snapshot

86m
Shares on issue

$23m
Market Cap*

$0.27
Share price*

$2.0m
Cash (30 Sep 2023)

~38.5%
Top 20 s/holders

7.7%
University of Adelaide

BOARD OF DIRECTORS

Stephen Hunt
Executive Chairman

Adrien Wing
Non-Executive Director

Daniel Eddington
Non-Executive Director

EXECUTIVE MANAGEMENT TEAM

Denis Wright
General Manager
Graphene Materials

Nick O'Loughlin
General Manager
Renewable Energy

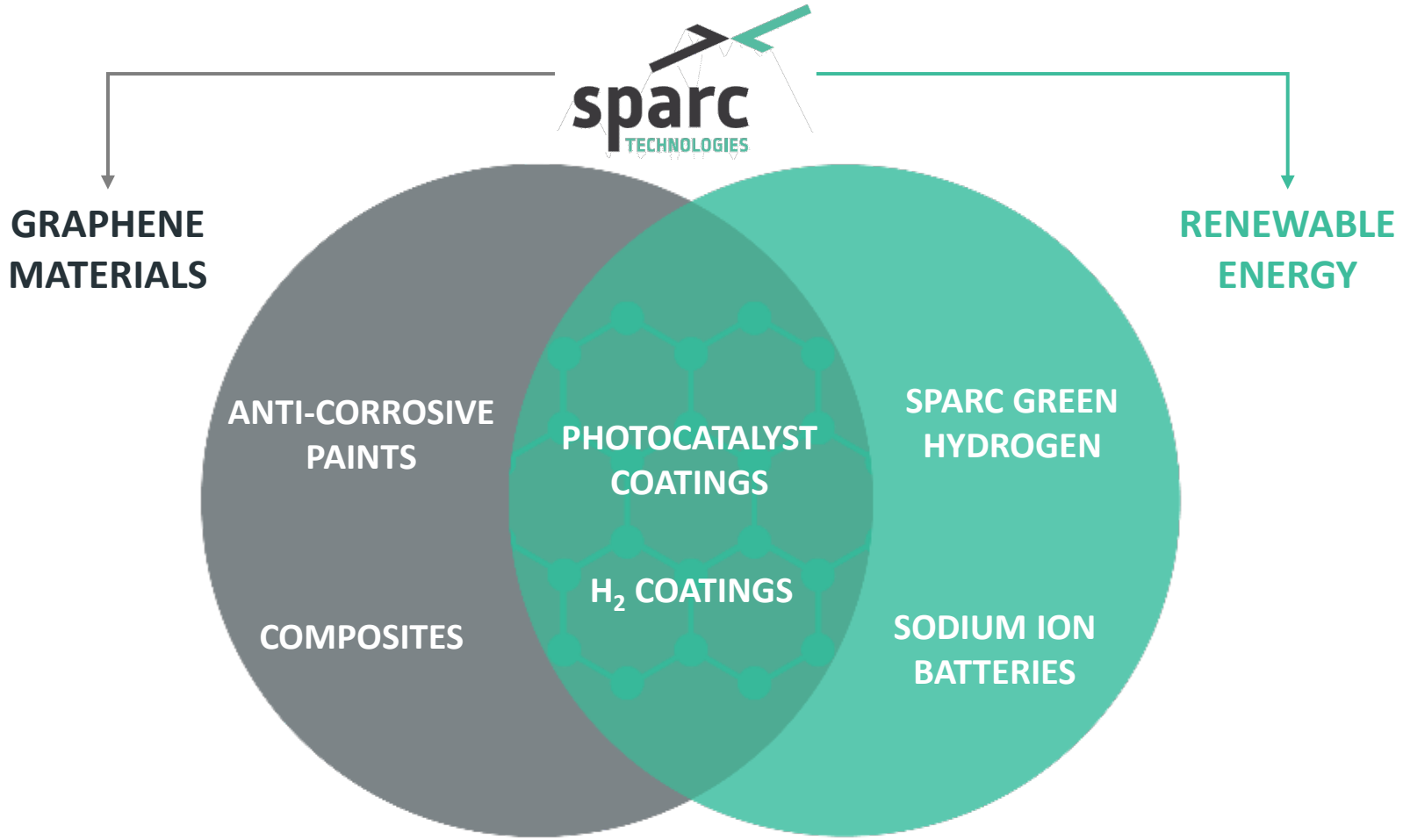
Kristen Kubank
Chief Financial Officer

Unique Technology Portfolio

- Sparc is developing a **portfolio of technologies** that target a world increasingly focused on **sustainability** and **environmental outcomes**
- Sparc has two core business lines:

Graphene Materials focusing on developing high performance anticorrosive paints and other protective coatings

Renewable Energy with a majority shareholding in Sparc Hydrogen and an emerging project in sodium ion batteries



GRAPHENE

Unique Approach to a Next Generation Super-material

Sparc's Unique Graphene Position

Based in Kent Town, Adelaide

Production of commercially applicable graphene-based materials

World leading 'Graphene in Coatings' R&D team

Patent application for graphene-based additive filed

Key innovation partners:

THE UNIVERSITY of ADELAIDE

Flinders UNIVERSITY

The Problem – Corrosion of Steel

The Cost and Carbon Problem

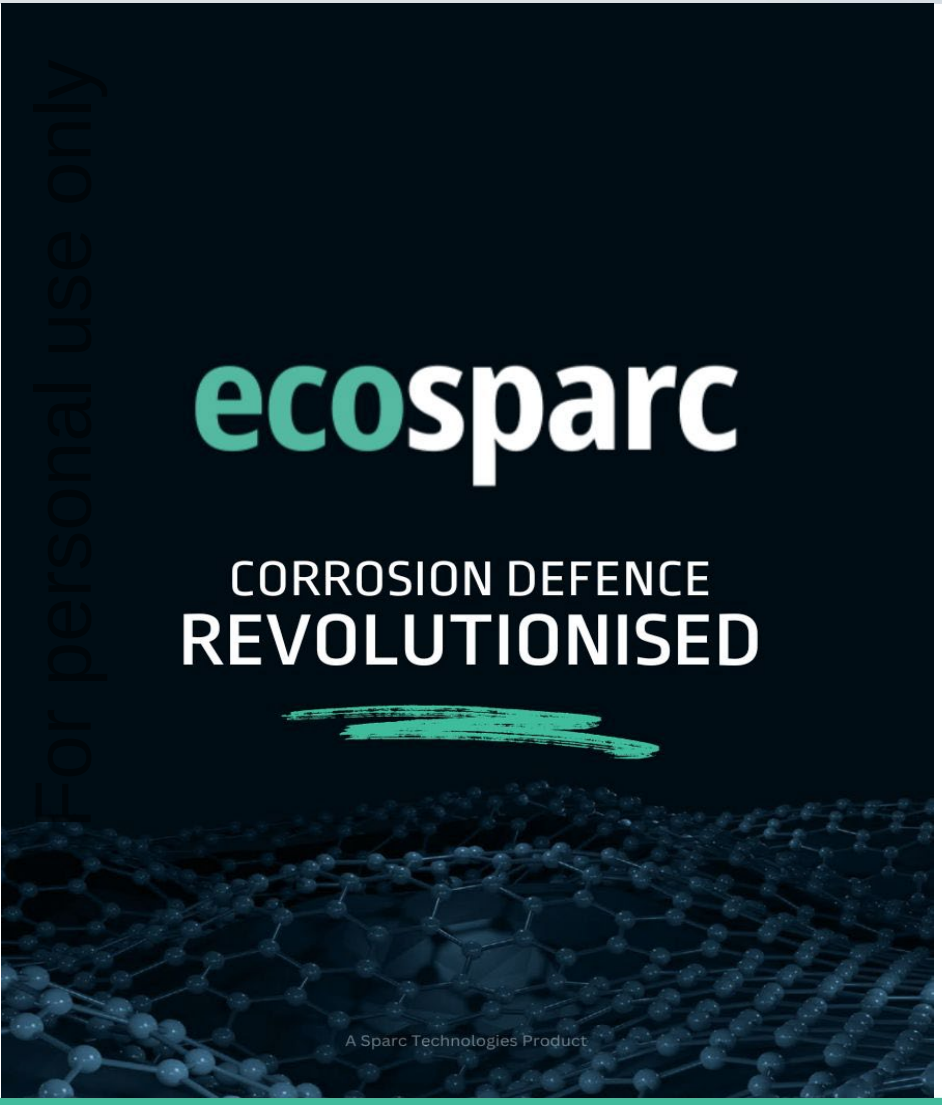
- **$78 billion spent on remediating assets affected by corrosion in Australia per annum[1]**
- **Corroded steel replacement accounts for up to 3.4% of global greenhouse gas (GHG) emissions[2]**

The Business Interruption Problem

- Asset shutdowns
- Loss of productivity
- Personnel safety risks

1. Australian Corrosion Association (2023), https://membership.corrosion.com.au/blog/cost-of-corrosion-part-one/#:~:text=If%20these%20results%20are%20extrapolated,remediating%20assets%20affected%20by%20corrosion.
2. Iannuzzi, M., Frankel, G.S. The carbon footprint of steel corrosion. *npj Mater Degrad* **6**, 101 (2022)

Introduction to ecosparc®



Sparc Technologies has developed **ecosparc** on the back of **>4 years** of research and development.

ecosparc is a drop-in **graphene-based additive** which is added to currently used **marine and protective coatings** for steel infrastructure.

ecosparc significantly enhances the anti-corrosive properties of these **paints**.

About ecosparc®

ecosparc is not a paint.

ecosparc, when added in tiny amounts, supercharges coatings currently used to protect steel assets from corrosion.

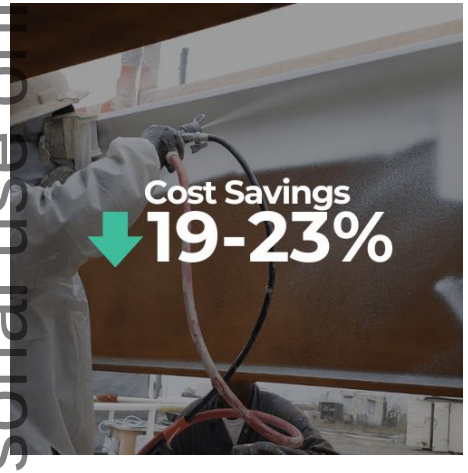
The benefits of **ecosparc**, including cost and emissions savings, are the direct result of **ecosparc** extending the time between maintenance events.

18-21%
reduction in carbon emissions[1]

19-23%
savings in maintenance costs[1]

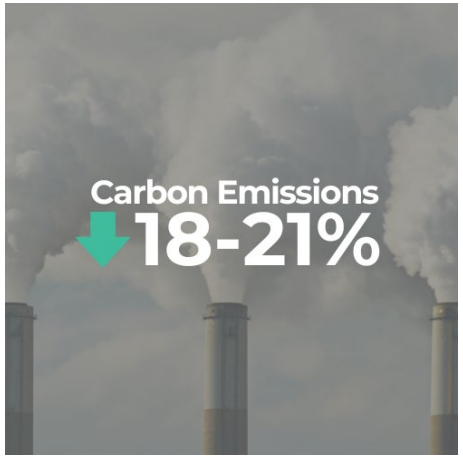
1 Bontick, P.A. (2023), Carbon footprint of ecosparc graphene additive for protective coating applications, Lifecycles, Melbourne, Australia

Why Choose ecosparc®



Cost Savings

Enhancing conventional coatings with **ecosparc** results in a minimum saving in steel maintenance costs of 19-23%[1].



Reduced CO_2 Emissions

Enhancing conventional coatings with **ecosparc** results in a reduction of carbon emissions associated with asset maintenance of 18-21%[1].

Easier Maintenance

Reduced maintenance events;
Fewer on-site check-ups;
Reduced asset downtime;
Increased productivity.

Increased Safety

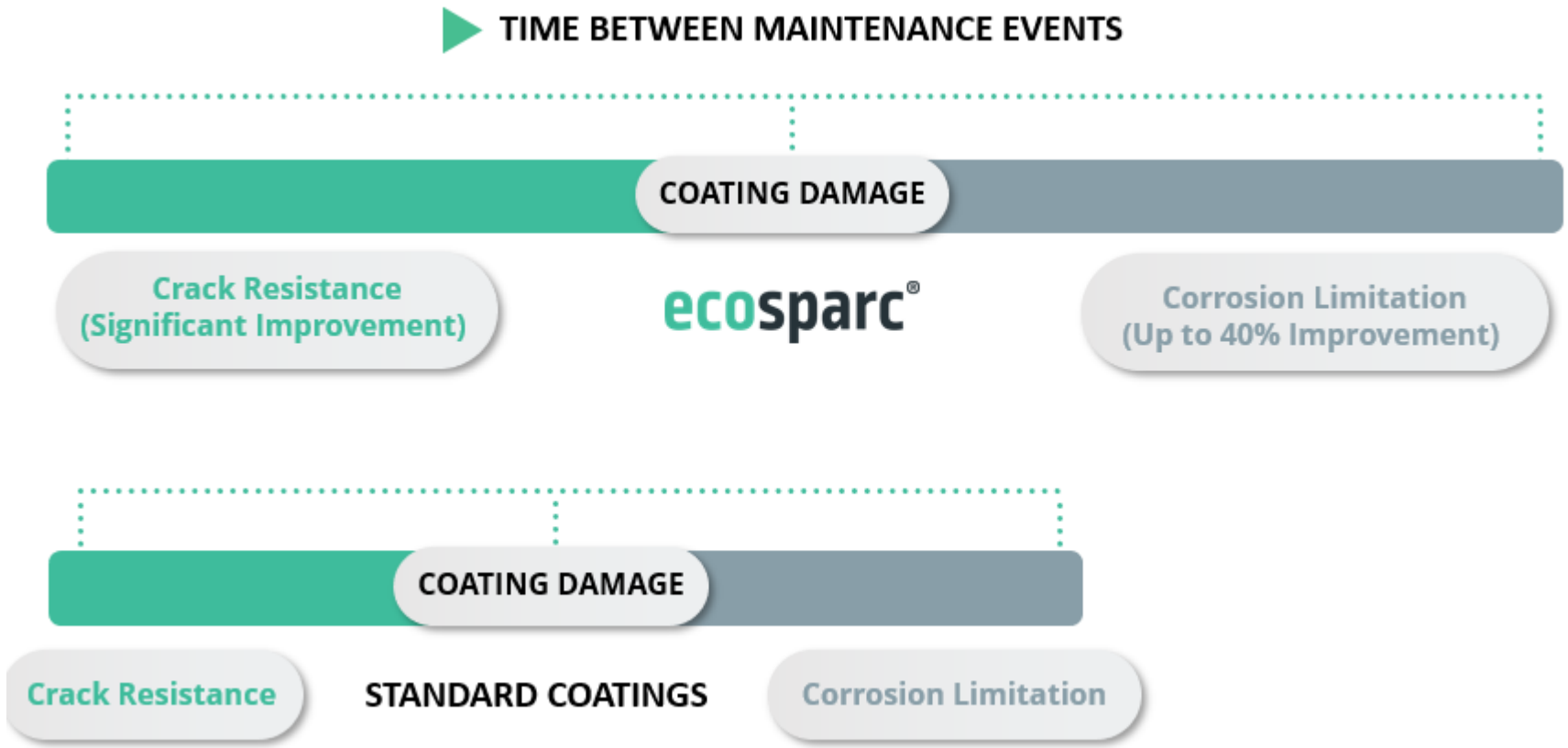
Enhancing conventional coatings with **ecosparc** will help to protect your workforce.

1 Bontick, P.A. (2023), Carbon footprint of ecosparc graphene additive for protective coating applications, Lifecycles, Melbourne, Australia

Dual Anti-Corrosion Mechanism

ecosparc enhanced coatings:

- Delay coating cracking. This delays the onset of corrosion.
- When damage does eventually occur, **ecosparc** further limits corrosion spread by up to 40%.



Ease of Manufacture and Use

- Commercial production facility can produce enough **ecosparc** to dose 7 million litres of paint.
- Simple and easy to incorporate into existing coatings.
- No change to current paint application or removal methods.
- Only 2% volume of additive required.

The specialist ecosparc® formula is manufactured at our Lonsdale facility

Ecosparc is added to conventional coatings at the point of paint manufacture

To produce **graphene enhanced high performance coatings**

Addressable Market for Anti-Corrosive Coatings

1. Sourced from Coatings World 2022 https://www.coatingsworld.com/heaps/view/10269/1/
2. Sourced from Exactitude Consultancy https://exactitudeconsultancy.com/reports/3960/anti-corrosion-coatings-market/
3. Sourced from Research and Markets 2016 https://www.prnewswire.com/news-releases/australia-us11-billion-corrosion-protective-coatings-cpc--acid-proof-lining-apl-market-analysis-and-opportunity-assessment-2016-2026---research-and-markets-300345758.html

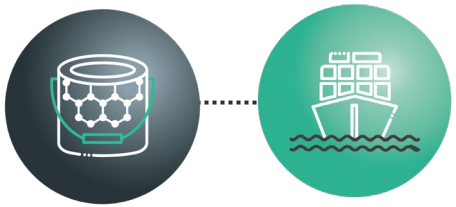
Pathway to Market

Dual track approach to commercialising ecosparc within the global anti-corrosive coatings market:

1. Actively working with several of the **world's largest coatings companies** on testing and trials with results due in H1 2024.

2. Partnering with **asset owners** to trial **ecosparc** on relevant steel infrastructure such as steel frames, tanks and other structures close to the ocean. Infrastructure owners being targeted include government, defence, mining, and oil and gas companies.

Other Target Applications



Anti-fouling Paints

- Fouling is the result of accumulation of marine growth, resulting in reduced vessel speed, increased bunker consumption and the accrual of cleaning costs
- Sparc is developing antifouling technology which would substantially reduce fouling on marine vessels and structures
- Global market size is estimated to be growing at 8.2% CAGR reaching US$13.5bn in 2028[1]

Composites

- Composites are two or more distinct materials that, when combined, create a new material with enhanced properties
- Composite materials are widely used in aerospace, automotive, construction, and other industries where high performance and lightweight materials are required
- Sparc's graphene additives are being tested in multiple applications targeting improved flexibility, strength, conductivity and elasticity

1. Sourced from imarc group 2022 https://www.imarcgroup.com/antifouling-paints-coatings-market

Sparc's Competitive Advantage

The Expertise

- A global coatings team consisting of former senior members of the world's largest global coatings companies
- A specialist 'graphene in coatings' team based out of our labs in Adelaide, Australia

The Data

- An ISO testing regime which has been run over the past 4 years
- Thousands of data points collected which provide repeatable, rigorous evidence proving just how effective **ecosparc®** is

Intellectual property

- Patent application filed
- Significant know-how developed

Global Network of Coating Specialists

Ian Rowell

- Sparc North America LLC
- Former Head of Global Strategy Development for AkzoNobel

Aidan Mernin

- Sparc Technologies Europe Limited
- Former Technical Director for Marine and Protective Coatings at AkzoNobel and Technical Director for Protective Coatings at Hempel

Dr. Andrew Smith

- Technical Manager – Graphene
- Former Asia Pacific Senior Regional Technical Manager

Dr. Denis Wright

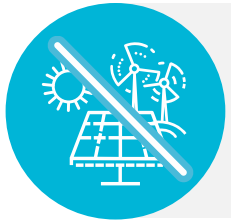
- General Manager – Graphene
- Former Senior Regional Manager for Marine and Protective Coatings at Wattyl/Sherwin Williams

SPARC GREEN HYDROGEN

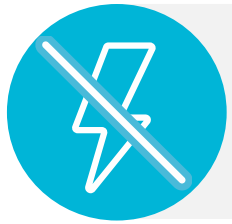
Next Generation Green Hydrogen Technology

Technology Highlights

- **Globally disruptive** green hydrogen production technology
- Direct solar-to-hydrogen via **photocatalytic water splitting**
- **NO ELECTRICITY REQUIRED to split water**
- Flexible and **scalable infrastructure**
- **Prototyping and pilot plant development** underway
- Targeting a system with **industry leading costs**



No Wind or Solar PV Farms



No Electrolysers

sparc TECHNOLOGIES

Fortescue

THE UNIVERSITY of ADELAIDE

Flinders UNIVERSITY

Technology Advantages

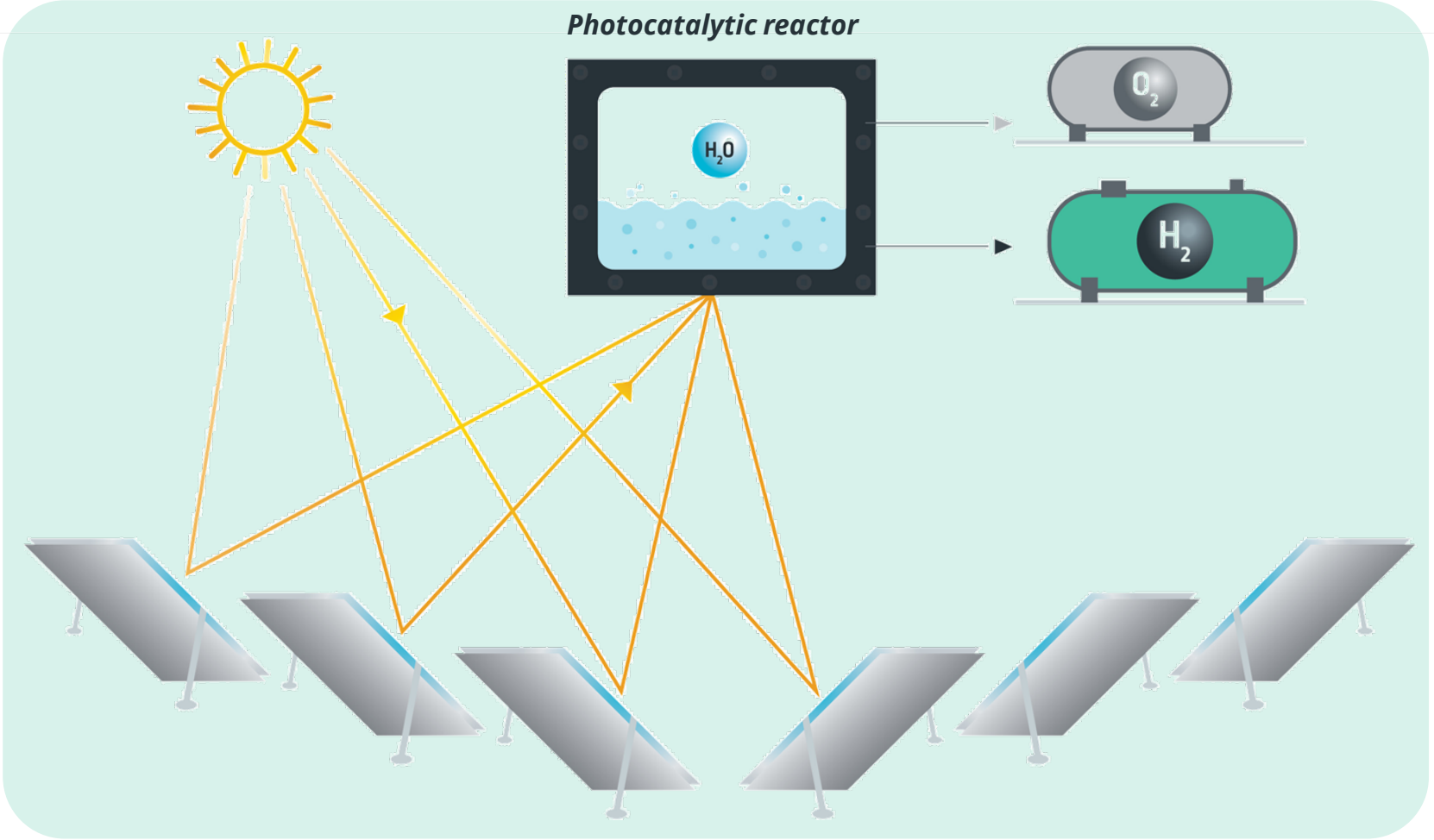
*"Such systems (**photocatalytic water splitting**) offer great potential for cost reduction of electrolytic hydrogen, compared with conventional two-step technologies." (CSIRO National Hydrogen Roadmap[1])*

	Sparc Green H_2	Green H_2	Blue H_2	Grey H_2
Description	**Photocatalysis**	Electrolysis powered by renewables	Grey production with carbon capture	Steam methane reforming
Feedstock	✓ **Water**	✓ Water	✗ Natural gas, Water	✗ Natural gas, Water
By-product	✓ **Oxygen**	✓ Oxygen	• Emissions sequestered	✗ CO_2, NO_x, SO_x, PM
Scope 1 & 2 emissions[2]	✓ **Nil**	✓ Nil	✗ 0.76kg CO_2 / 1kg H_2	✗ 8.5kg CO_2 / 1kg H_2
Location	✓ **Solar resource**	✗ Solar +/- wind & HV infrastructure	✗ Natural gas source and suitable storage	✗ Natural gas source
Requisite scale	✓ **Scalable**	✗ Very large	✗ Very large	✗ Large

1 Sourced from Bruce S, Temminghoff M, Hayward J, Schmidt E, Munnings C, Palfreyman D, Hartley P (2018) National Hydrogen Roadmap. CSIRO, Australia
2 Sourced from Commonwealth of Australia, 'Australia's National Hydrogen Strategy', 2019

Sparc Hydrogen's Unique Approach

- Sparc Hydrogen's reactor is one of the only known combinations of concentrated solar with photocatalytic water splitting (PWS):
  - Reduced photocatalyst use.
  - Modular and scalable mirror fields.
- Sparc Hydrogen's reactor is being designed to:
  - Slot into an off-the-shelf linear Fresnel field.
  - Utilise by-product heat for industry use or power generation.
- Sparc Hydrogen is working with a leading photocatalyst developer.



Prototype Testing at CSIRO Energy Centre

- Sparc Hydrogen recently completed the first phase of prototype testing its PWS reactor at the CSIRO Energy Centre in Newcastle.
- Represents the first demonstration of the technology outside of the laboratory and has produced vital information for reactor scale up towards a pilot plant.
- Prototype has advanced the technology readiness level (TRL)[1] of Sparc Hydrogen's reactor from 4 to 5.
- Support and funding provided through CSIRO's Kick-Start Program.

1 ARENA, Technology Readiness Levels for Renewable Energy Sectors, Commonwealth of Australia (Australian Renewable Energy Agency) 2014

Development Pathway

✓ Sparc Hydrogen joint venture **established beginning 2022**

✓ Preliminary TEA **confirms commercial potential** in Q4 2022

✓ **Solar reactor prototype** for on-sun testing at CSIRO in **Q4 2023**

~A$470k AEA grant funding awarded Oct-23

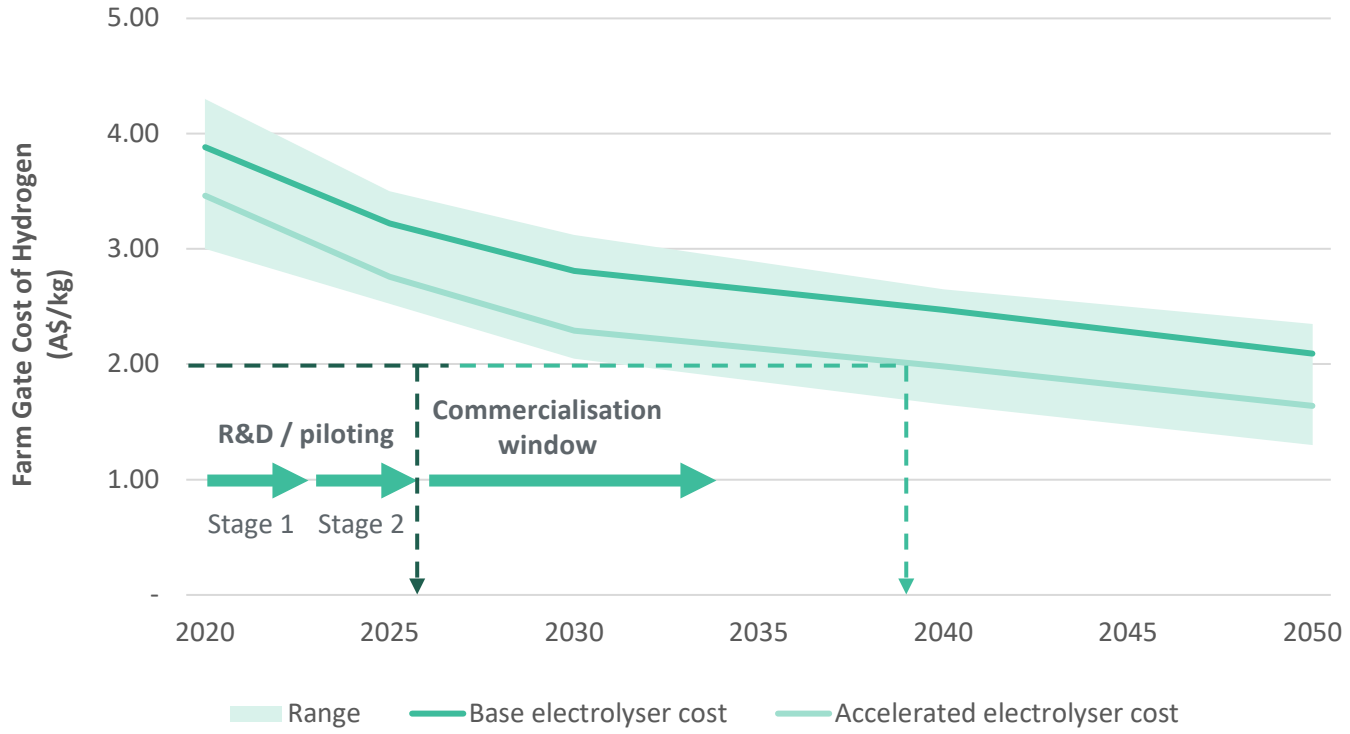
Pilot plant engineering, design and funding workstreams **H1 2024**

Increasing technology and commercial readiness

The Green Hydrogen Race is On

- Conventional green hydrogen (electrolysis) projects will not reach industry and Government cost targets until well into the 2030s, at best.
- There is a **substantial window of opportunity** for **new technologies** such as Sparc Hydrogen to commercialise **low-cost hydrogen** production.
- Sparc Hydrogen is well placed to benefit from funding support from Australia, the US, EU and other jurisdictions with clean hydrogen policies.

Forecast cost of green hydrogen via electrolysis[1]



1 Australian hydrogen market study - Sector analysis summary, Advisian, 24 May 2021

Best-in-Class Partners

sparc TECHNOLOGIES

- 52% Sparc Hydrogen shareholder[1]
- JV management and coordination
- Technology commercialisation expertise

Fortescue

- 20% Sparc Hydrogen shareholder[1]
- Global leader in green hydrogen
- Substantial project development experience

THE UNIVERSITY of ADELAIDE

- 28% Sparc Hydrogen shareholder[1]
- Developer and contributor of IP[2]
- Leading R&D work and providing lab facilities

1. Stage 1 shareholdings; refer to SPN ASX release 2 February 2022
2. Together with Flinders University

SODIUM ION BATTERIES

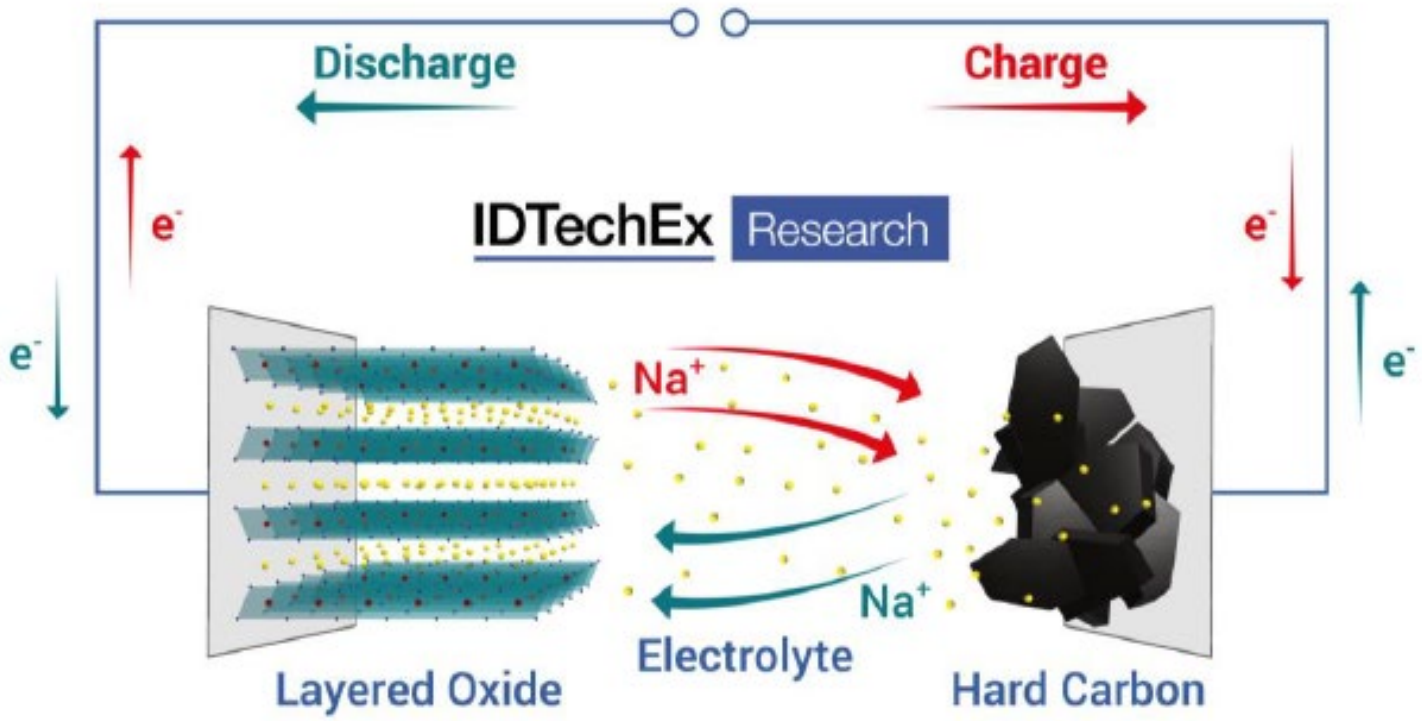
Emerging Low-Cost Alternative to Lithium-ion Batteries

Introduction to Sodium-Ion Batteries

- Sodium ion batteries (SIBs) are an **alternative battery technology** which work based on the same 'rocking-chair' principle of reversible cation intercalation as lithium-ion batteries

- The use of low cost, sustainable, abundant materials in sodium-ion batteries is a key advantage over lithium-ion -> sodium is over **1,000 times more abundant than lithium** in the earth's crust

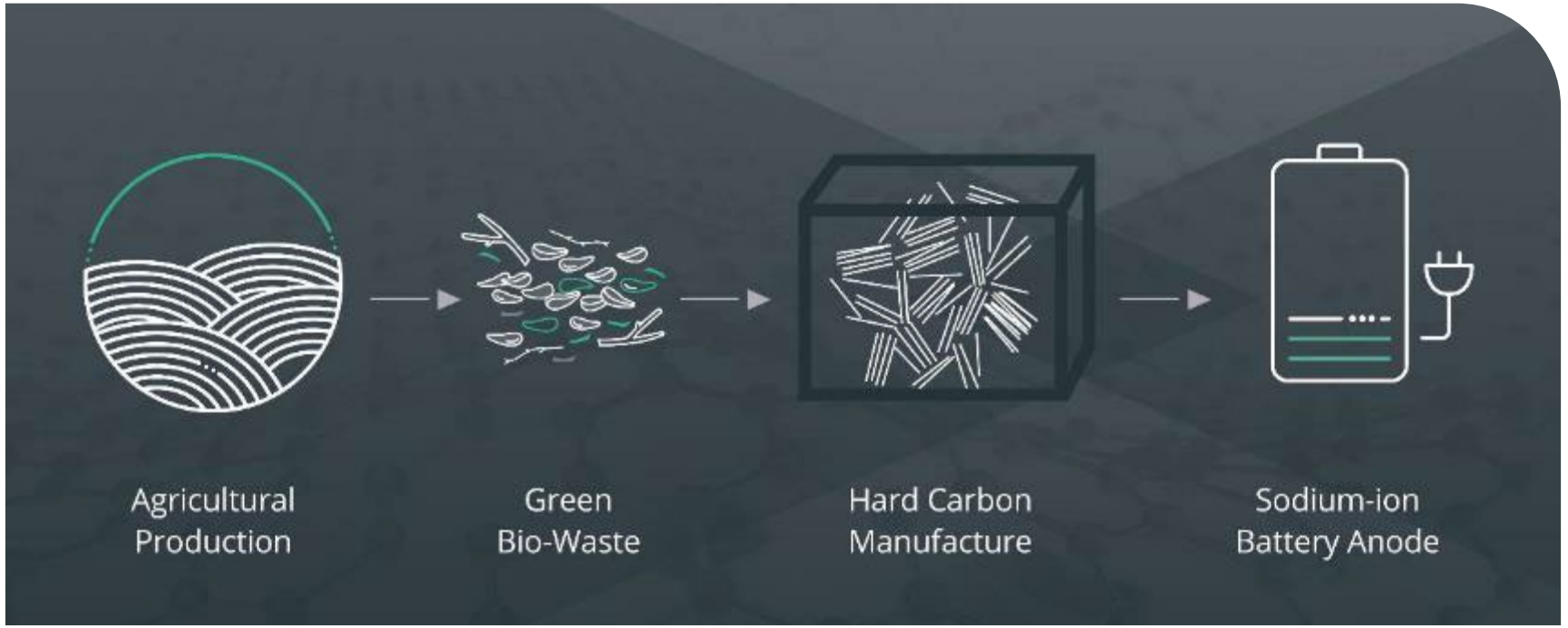
- According to IDTechEx research, the 2024 market value for SIBs is US$0.6bn growing to **US$11.6bn in 2033** (**39% CAGR**) driven by rapid uptake in **stationary storage** and **light-duty EV applications**



Source: IDTechEx

Hard Carbon Anode Project

- Sparc, in collaboration with Queensland University of Technology, is developing a high performing hard carbon anode material for SIBs.
- Key features of the technology under development include:
  - Low cost, sustainably sourced green bio-waste feedstock.
  - Faster, less energy intensive processing.
- Development of hard carbon materials for SIBs is analogous to synthetic graphite for lithium-ion batteries.



Lower cost and no scarcity of raw materials

Safety and ease of transport

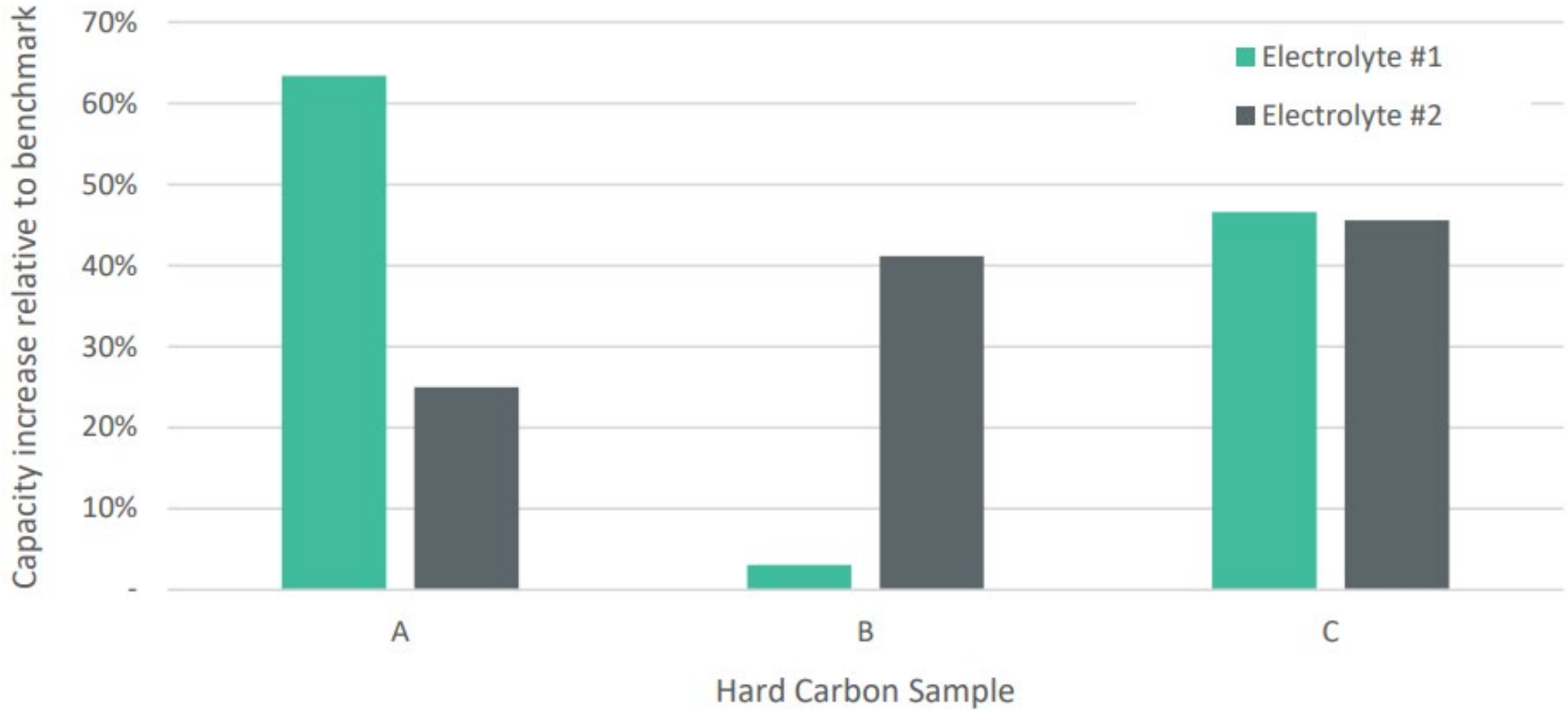
Similar manufacturing techniques to Li-ion

Positive Capacity Results Achieved

- Testing has demonstrated up to **63% improved reversible capacity**[1] versus commercially available hard carbon materials.

The technology under development has the potential to **reduce the carbon footprint** of SIB anode material whilst improving performance.

In Oct-23, Sparc and QUT were awarded **~A$384k in AEA grant funding** which will be used for full cell testing and scale up.



1 Refer to Sparc Technologies' announcement on 29 September 2023 for further detailed results.

Momentum Building in Sodium-Ion

Dec-21 — Reliance Industries Limited — *"acquires battery tech firm Faradion for GBP100m"*

Nov-22 — MERCURIA — *"Invests in Natron Energy's Sodium-Ion Battery Technology"*

Dec-22 — BYD — *"BYD to launch electric hatchbacks with new Sodium-ion batteries"*

Jan-23 — NGK — *"begins operation of NAS batteries for self-wheeling of renewable energy"*

Nov-23 — BYD — *"BYD to build 30GWh sodium battery plant"*

Jul-21 — CATL — *"Unveils Its Latest Breakthrough Technology by Releasing Its First Generation of Sodium-ion Batteries"*

Oct-22 — CATL — *"Will Mass Produce Sodium-Ion Batteries in 2023"*

Dec-22 — UNITED AIRLINES — *"United Airlines is investing in sodium-ion battery development"*

Feb-23 — 大众安徽 VOLKSWAGEN ANHUI — *"Hina Battery becomes 1st battery maker to put sodium-ion batteries in EVs in China"*

Nov-23 — northvolt® — *"State of the art sodium-ion battery with best-in-class energy density of 160Wh/kg"*

Contacts

Stephen Hunt
Executive Chairman
+61 402 956 205
stephen.hunt@sparctechnologies.com.au

Mark Flynn
Investor Relations
+61 416 068 733
mark.flynn@sparctechnologies.com.au

Released with the authority of the Board – 28 November 2023