



# PRESENTATION AT ADVANCED AUTOMOTIVE BATTERY CONFERENCE

**BRISBANE, AUSTRALIA, 26 June 2025:** AnteoTech Ltd (ASX:ADO) (**AnteoTech** or the **Company**) is pleased to release a copy of the presentation that is being delivered by Manuel Wieser, Chief Technology Officer at the 15<sup>th</sup> International Advanced Automotive Battery Conference (**AABC**) Europe in Mainz, Germany, today, Thursday 26 June 2025.

The presentation titled "Maximising high silicon anode performance" presents how AnteoTech's products; Anteo X<sup>™</sup>, a cross-linker that works with binders to improve anode integrity and performance and Ultranode<sup>™</sup>, a fully integrated silicon anode technology, are supporting customers to deliver the next generation of high-silicon anodes which are lighter, smaller, and more powerful, into batteries.

#### About the 15th International Advanced Automotive Battery Conference Europe

Each year, AABC Europe<sup>1</sup> brings together a global audience of battery technologists working in the Automotive industry and their key suppliers for a must-attend week of development trends, breakthrough technologies and predictions of the market for years to come. As European nations and international automotive OEMs invest in their commitment to vehicle electrification and eMobility, the 2025 event in Mainz will help propel that momentum forward, presenting unparalleled coverage of the research and development that helps drive outcomes and supports the next generation of electric vehicle batteries

This announcement has been authorised for release by the Board of AnteoTech Ltd.

#### - ENDS -

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For further information, please check our website www.anteotech.com

#### About AnteoTech - (ASX:ADO)

AnteoTech is a supplier of advanced material solutions to the battery materials and life sciences markets. We leverage our market leading binding chemical platform technology to develop and commercialise material solutions for our global customer base. From our patented cross linker and binder product AnteoX™ to our next-generation high silicon anode formulations, Ultranode™, our Advanced Battery Technology division is applying its unique engineering expertise to address the growing demand for high performance, low cost, sustainable materials within the global battery market. Our Life Sciences division supplies advanced activation materials through our Anteobind™ suite of products to leading developers of diagnostic tests which enable faster, more reliable and accurate test results wherever needed.

#### **AnteoTech - Social Media Policy**

AnteoTech is committed to communicating with the investment community through all available channels. Whilst ASX remains the prime channel for market sensitive news, investors and other interested parties are encouraged to follow AnteoTech on LinkedIn. Subscribe to AnteoTech Latest News emails - visit our website at

AnteoTech Ltd

<sup>&</sup>lt;sup>1</sup> AABC Europe | 23-26 June 2025 | Mainz, Germany | Advanced Automotive Battery Conference



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Maximising high silicon anode performance

26 June 2025

Manuel Wieser - CTO

Mainz, Germany – 15th International AABC Europe



#### **Disclaimer**



#### AABC Europe 2025 – Mainz, Germany

#### IMPORTANT INFORMATION

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26 June 2025 Anteo Tech Ltd. – AABC Europe, Mainz

# Leading in high silicon anode technology







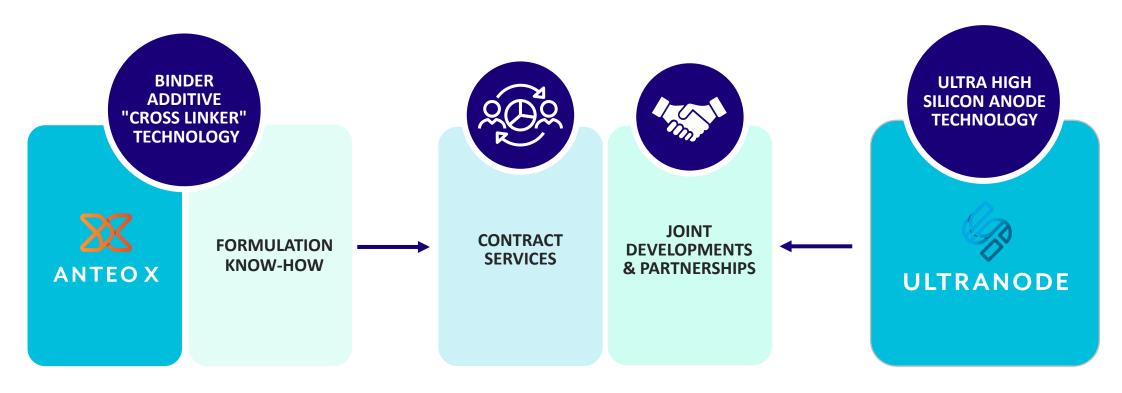
# **ULTRANODE**<sup>TM</sup>



# **Technology Platforms & Commercial Engagement Frameworks** AnteoTech



Combining AnteoTech's silicon-enabling products and anode design know-how we create pathways to smaller, lighter and cheaper Lithium-ion Batteries (LiB) for our customers



Unique "cross-linker" product for high silicon anodes

Flexible commercial approach to partnering. Supporting the advancement of 'next generation' high silicon anode battery solutions

Tailored to meet a variety of anode design criteria. Available under development partnerships and licensing arrangements

## **Partnerships and Customer Relationships currently in progress**



Our partnerships span the value chain from advanced materials to application OEMs

**3C Battery Manufacturer** 





Global Speciality
Chemical Company

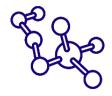








**CNT Company** 





**Separator Coatings** 



# Anteo X™ – A cross-linking additive product for high silicon anodes Anteo Tech

Anteo X cross-links binders to create uniform 3D network structures improving the electrochemical and mechanical performance of batteries

#### Safe and Versatile

- Non-hazardous, water-based and PFAS free
- Compatible with a large range of commonly used binders
- Easy to integrate into manufacturing processes

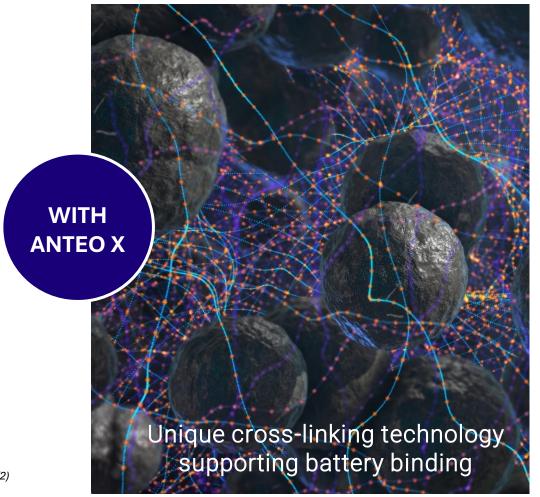
#### **Delivering Increased performance**

- Increased capacity retention by up to 5% <sup>1</sup>
- Improved cycle life (in excess of 35% achieved) <sup>1</sup>
- Reduced expansion by up to 40% achieved <sup>2</sup>

#### Potential for improved cost efficiencies

- Reduction and/or optimisation in binder content by >2wt.%<sup>3</sup>
- Reduction and/or optimisation in CNT content by 50% <sup>1</sup>

Demonstrated in full coin cells with a 20% Si/C containing anode at 80% of original anode coating capacity <sup>2</sup>Demonstrated in AnteoTech's proprietary Ultranode™ design at cycle 100 at cycling capacity of 1,300mAh/g (C/2) 3 Demonstrated by external party in 80% SiO, anode for eVTOL applications



### **Anteo X<sup>™</sup> – A cross-linking additive for high silicon anodes**



\* sourced from MTI – 400,000 g/mol, 1.5 wt.% in  $H_2O$ 

Cross-linking chemistry that can be paired with a range of binder materials

\* sourced from Sigma Aldrich – 6wt.% in H<sub>2</sub>O, 80% neutr. with LiOH

#### LiPAA\* NaAlginate\* NaCMC\* Increase in ANTEO X content Increase in ANTEO X content Increase in ANTEO X content Control Anteo X Anteo X Control Anteo X Anteo X Anteo X Anteo X Anteo X Increased gel strength After heating to 90°C for 6h.

\*sourced from Sigma Aldrich - ≥2,000 cP, 2 % (25 °C), 2

wt.% in H<sub>2</sub>O

### **Anteo X™ – Performance results in full coin cells**



Control

(8% LiPAA)

1,291

1,074

Anteo X (8% LiPAA)

1,290

1,074

Control

Anteo X

+100% in cycle life for micro silicon-based anode without CNTs

							(6% LiPAA)	(6% LiPAA)	
			Specific coating	g capacity	(Formation	cycle @ C/20)	1,308	1,300	
1	L00		Specific coating	g capacity	(1 <sup>st</sup> cycle @	C/2)	1,081	1,080	
	95								
ation	90								_
I. form	85							Capacity Capacit	
exc	80	90 85 80 75							У
ion (%)	75							Reduction	١i
tent	70				<b></b>			0	O,
Capacity retention (%) excl. formation	65		<u></u> -1_1_1		<b>&gt;</b>			8	7
- 60	60	+Anteo X = +~90%							%
	55		nteo X (8% LiPAA) ontrol (8% LiPAA)			nitial capacity @C/2 nitial capacity @C/2		4	%
	50	2 10 20 20 10 50 50 70	20 00 100	110 120	120 110	450 460 470 4	180 190 200		
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 Cycle number									

### **EXPANSION STUDY** Capacity @ C/20 ~1,600 mAh/g Capacity @ C/2 ~1,300 mAh/g Reduction in expansion @ cycle 100 **8% PAA** -8% -32% **6% PAA 4% PAA** -43%

## **Anteo X<sup>™</sup> – Production facility**

**Anteo**Tech

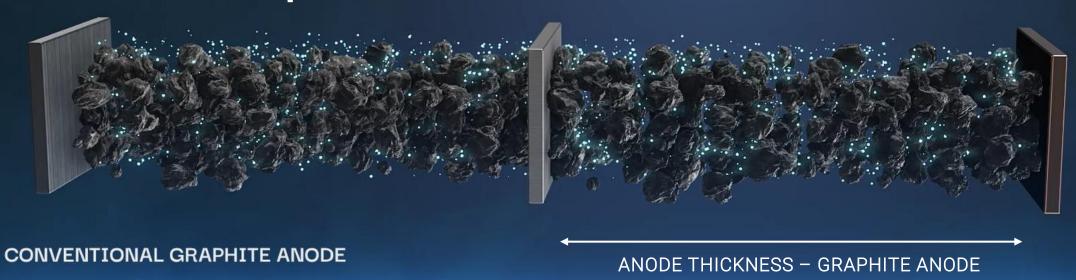
- Anteo X manufacturing facility located at AnteoTech's HQ in Brisbane
- Production capacity of 20,000 liters/year
- With the capacity to expand to 80,000 liters/year

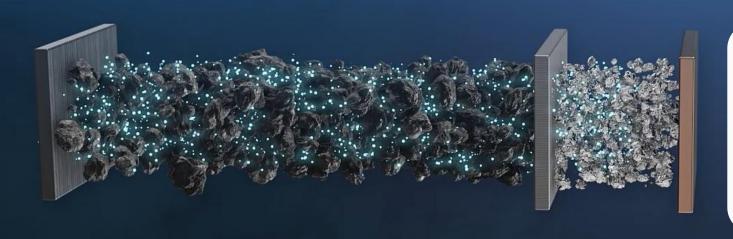






# **Ultranode**<sup>™</sup> – Concept





#### **ULTRANODE** ™

- >70-95% silicon active material
- Crude micron-sized elemental silicon particles
- Available up to ton-scale in every geography

ULTRANODE™

# **Ultranode**<sup>™</sup> - **Maximum Capacity**



Highly customisable anode configuration using scalable and cost-effective components and processes

#### **Ultranode 95**

- Maximum capacity anode coatings of 1,800-2,400mAh/g @ C/20
- "Low" cycle life 250 to 380 cycles @ 80%

#### **Ultranode 70**

- Medium capacity anode coatings of 600-1,200 mAh/g
- Intermediate cycle life of up to 670 cycles @ 80%

#### **Engagement mechanism - Sampling**

- Sheets
- R2R coatings

#### **APPLICATIONS**







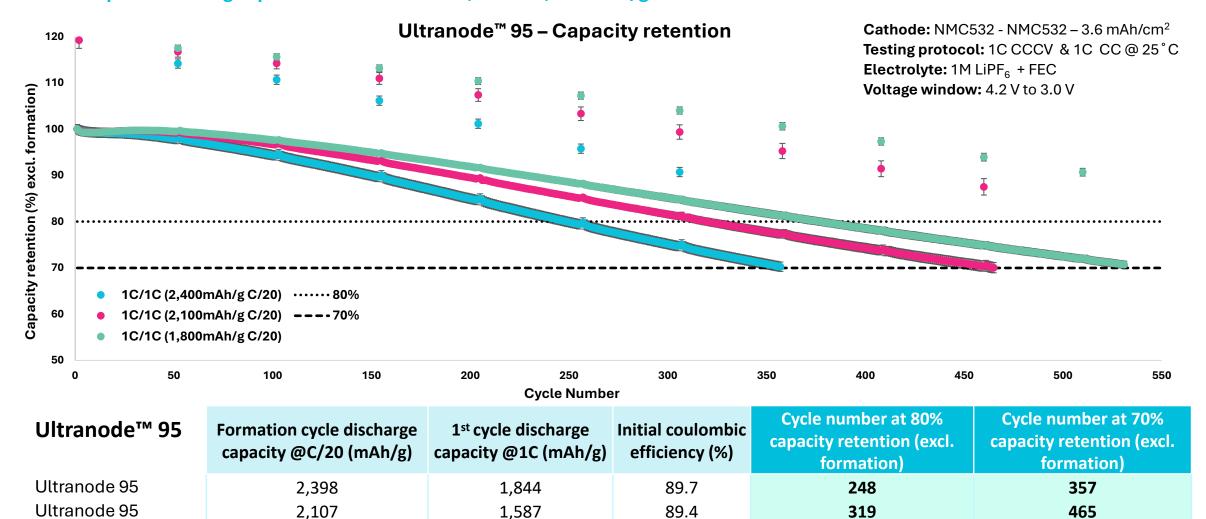
**E-micromobility** 

**3C Markets** 

# **Ultranode**<sup>™</sup> 95 – Maximum Capacity



Delivers specific coating capacities of in between 1,800 to 2,400 mAh/g



89.6

376

1,374

1,833

Ultranode 95

531

# **Ultranode™ X - Maximum Cycle Life**



Proprietary technologies and know-how to maximise cycle life for demanding yet cost sensitive applications

#### **Ultranode X**

- Maximum cycle life for a given anode coating capacity target
- Specification driven by customer/partner requirements

#### **Currently achieves**

- Coating capacities of in between 900 to 1,100 mAh/g @C/20
- Up over 800 cycles at 1C/1C rates with roadmap to >1,000 cycles

#### **Engagement mechanism**

- Partnerships
- JDAs

#### **APPLICATIONS**





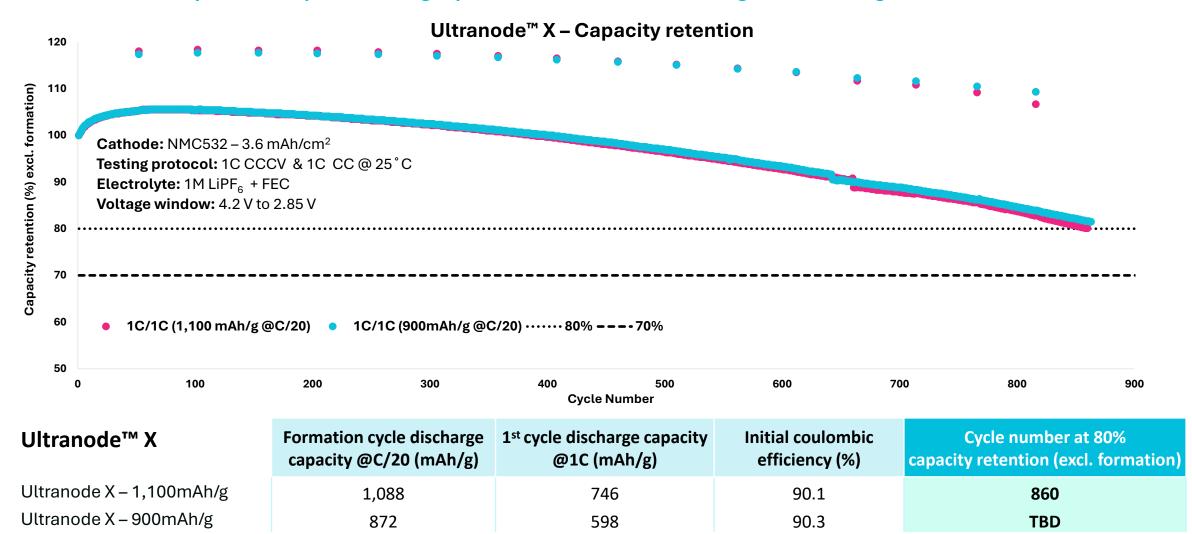
**Electric Vehicles** 

**eVTOL** 



# **Ultranode**<sup>™</sup> X – Maximum Cycle Life

Delivers maximum cycle life for specific coating capacities of in between 900mAh/g to 1,100mAh/g



# Supporting Services in silicon anode formulation development



Deep experience and capabilities in silicon anode development and designs

#### **Optimising the inactive material fraction matters**

- Performance improvements and cost advantages
- Ever-growing number of design and material choices
- Optimising can be time consuming and expensive

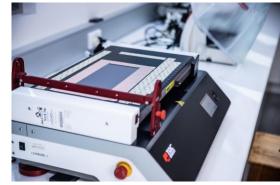
#### Partnering to accelerate development timeframes

- Established team and expertise to immediately tap into
- Extensive testing data set and experience base across materials
- Accelerated screening of formulations
- Independent assessments

#### In-house capabilities

- ~250m<sup>2</sup> R&D laboratory space
- Powder processing and slurry fabrication
- Electrode coating and cell assembly
- Full cell, half cell, CV, EIS and DCIR
- Capacity for 1,000 test channels



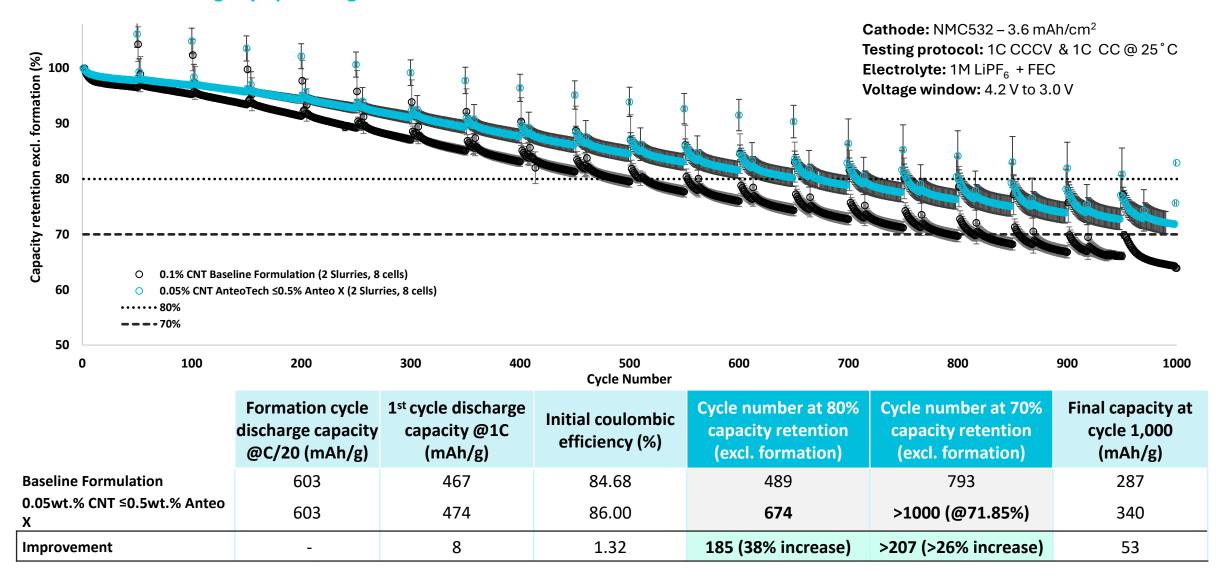




# Step 1 - Formulation Screening - 600mAh/g with Si/C and Gr AnteoTech



#### Potential cost savings by optimising the inactive material fraction of the anode



## **Step 2 – Single-layer or Multi-layer Pouch Cells**

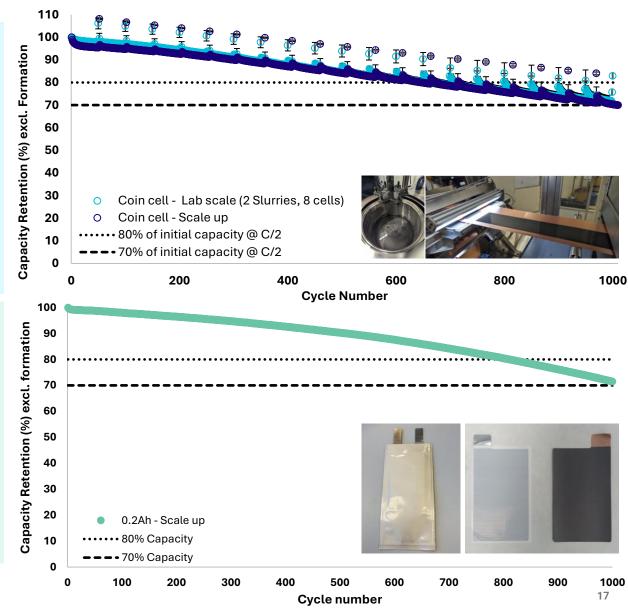


# Lab-scale produced electrodes vs. R2R coated electrodes

- Full coin cells produced from A4 hand sheet coatings almost perfectly match results produced form R2R coated anode formulation
- Coin cell (A4 hand sheets): 673 cycles @ 80%
- Coin cells (R2R coated): 653 cycles @ 80%

#### Full coin cells vs. Single Layer Pouch Cells

- The R2R coated anode formulation tested in 0.2Ah
   SLP cells showed a 17% improvement in capacity
   retention when compared against coin cell data
- Results from full coin cell to SLP cells showed excellent scalability
- 0.2Ah SLPs (R2R coated): 820 cycles @ 80%



### Our Products, Technologies and What we can Deliver



#### Leading in silicon anode technology



- Cross-linker that can improve silicon anode performance by 30%
- Coated separator additive improving cost and safety
- "Jump start" Implementation support Sample plus Lite service package
- +20,000L existing production capacity



- Integrated silicon anode technology development expertise
- Highly customisable for Maximum Capacity or Maximum Cycle Life
- Cost effective silicon material sourcing support/established supply chains
- Range of commercial partnering opportunities



- Can rapidly deliver into customer's formulation design
- Independent advice on silicon active materials
- Flexible service packages with clear pricing structures



# **CONTACT US**

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ANTEO X™, PROPRIETARY CROSS-LINKER ADDITIVE

Enabling our partners to cost-effectively produce lighter, more compact high-energy lithium-ion batteries.





ULTRANODE™ HIGH SILICON ANODE DESIGN

Targeting Energy Density Improvement of more than 30%

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