







## AnteoTech Ltd (ASX:ADO)

Company Presentation 10 March 2022



#### DISCLAIMER



#### Important Information

The purpose of the presentation is to provide an update of the business of AnteoTech Ltd (ASX:ADO) (AnteoTech). These slides have been prepared as a presentation aid only and the information they contain may require further explanation and/or clarification. Accordingly, these slides and the information they contain should be read in conjunction with past and future announcements made by AnteoTech and should not be relied upon as an independent source of information. Please contact AnteoTech and/or refer to the Company's website for further information. The views expressed in this presentation contain information derived from publicly available sources that have not been independently verified. No representation or warranty is made as to the accuracy, completeness or reliability of the information.

#### **Forward-looking statements**

The presentation may contain certain "forward-looking statements". Forward-looking statements can generally be identified by the use of forward-looking words such as "may", "will", "would", "could", "expect", "intend", "plan", "aim", "estimate", "target", "anticipate", "believe", "continue", "objectives", "outlook", "guidance" or other similar words, and include statements regarding AnteoTech's intent, belief or current expectations with respect to AnteoTech's business and operations, market conditions, results of operations and financial condition, capital adequacy and risk management. These forward looking statements should not be relied upon as a representation or warranty, express or implied, as to future matters. Prospective financial information has been based on current expectations about future events and is, however, subject to risks, uncertainties, contingencies and assumptions that could cause actual results to differ materially from the expectations described in such prospective information. AnteoTech disclaims any obligation to update any forward looking statement to reflect events or circumstances after the date of the presentation, subject to the disclosure requirements applicable to the Group.

#### Not an offer of securities

This presentation should not be relied on as a recommendation or forecast by AnteoTech Nothing in this presentation should be construed as either an offer to sell or a solicitation of an offer to buy or sell shares in any jurisdiction. The information in this presentation is not intended to be relied upon as advice to investors or potential investors and does not take into account your financial objectives, situation or needs. Investors should consult with their own legal, tax, business and/or financial advisors in connection with any investment decision

#### EuGeni SARS-CoV-2 Ag RDT – CE Marked - not available in other jurisdictions

- The COVID-19 rapid antigen test (RAT) must not be supplied for the purpose of self-testing
- The COVID-19 RAT must only be used by relevant practitioners, or persons under their supervision, who are trained in the correct use of the goods and the interpretation of the test results
- Negative test results do not exclude infection with COVID-19 (so face masks, social distancing and good hygiene practice must be maintained)
- Positive test results or symptomatic persons require immediate confirmatory testing with a polymerase chain reaction (PCR) test.

GROWTH

MARKETS

5

### ANTEOTECH - TODAY

AnteoTech is commercialising innovative patented nano-technology – with lucrative revenue opportunities across two key growth sectors: Point of Care (POC) diagnostics and Lithium-ion (Li-io) battery market



## Unique, proprietary nano-polymer technology

- Proven product in market AnteoBind
- Core technology has delivered proof of concept applications across Life Science & Energy applications



- Improving POC testing & assay development in diagnostics, drug development
- Improving Li-ion battery energy storage through enhanced silicon integration

Ready to deliver – short to medium term opportunity

- Life Science Growing distribution network and pipeline of tests.
- Li-ion batteries strong network of collaborators spanning battery value chain

- Active in growth markets
- **POC diagnostics** Lateral Flow Assay (LFA) market forecast to grow to US\$12.19b by 2027
- Lithium-ion battery market forecast to hit US\$130 Billion by 2030.<sup>2</sup>



**HIGH IMPACT** 

SECTORS

**CORPORATE SNAPSHOT** 



#### Headquartered in Brisbane, Australia

CORPORATE OVERVIEW:	As at 4/03/2022
ASX code	ADO
Cash (as at 31 Dec 2021)	\$16.61m
Market Cap (at \$0.18/per share)	\$397m
52 week low - high (\$/share)	0.155 – 0.495
Shares on issue	1,985,499,755
Debt	Nil
Board and management holding (%)	4.02%
Top 20 holding (%):	28.63%
BOARD & MANAGEMENT :	
Chairman	Dr Jack Hamilton
Chief Executive Officer	Derek Thomson
Non-Executive Director	Dr Geoff Cumming
Non-Executive Director	Glenda McLaughlin
Non-Executive Director	Christopher Parker

Non-Executive Director

CFO and Company Secretary

Dr Katherine Woodthorpe AO **Tim Pritchard** 



### **POSITIONED FOR GROWTH**

nteo Tech

A strong internal capability and an expanding network of international distributors, partners and collaborators positions AnteoTech for growth.



# **Point of Care Diagnostics**



#### **EUGENI – POINT OF CARE RAPID TEST PLATFORM**

EuGeni is an analytical multi-test platform incorporating a fluorescence read, data management and connectivity to associated peripherals enabling efficient Point of Care testing workflow and COVID-19 result reporting.



AnteoBind™ Activated Europium Detection	Rapid Results	Easy Data Management
Fluorescent qualities of	Rapid Test – 15 minutes in	Simple User Interface
optimal reporting system.	cassette	Connectivity over LAN
Stable reaction allowing a	Less than 1 minute in reader	Data storge
read to be performed after	Clear, definitive result on the screen based on fluorescence	Laboratory Information
to 2 hours post sample	Up to 60 tests per hour per	System (LIS) Compatible
application	reader	

### **EUGENI – OUR REVENUE & GROWTH STRATEGY**



	Leverage	Develop	Accelerate		
	CY 2022	CY 2023	CY 2024 +		
Grow Target Segments	<ul> <li>Establish Revenue streams</li> <li>Establish key advocates for EuGeni</li> <li>Secure Common List registration</li> <li>Build head-to-head performance data</li> </ul>	<ul> <li>Grow revenue streams</li> <li>Establish key directly managed accounts</li> <li>Expand sales teams in international markets</li> </ul>	<ul> <li>Maximise product revenues</li> <li>Increase use of test result data to offer increased quantification</li> <li>Expand retail sales channels</li> </ul>		
Expand Distribution Footprint	<ul> <li>Continued rollout in Europe</li> <li>Evolve the EuGeni platform options to expand reach for different market segments</li> </ul>	<ul> <li>Initiate US market entry</li> <li>Evaluate entry to Latin America &amp; Africa markets</li> <li>SE Asian market expansion</li> </ul>	<ul> <li>Expand footprint across all markets</li> </ul>		
Expand Suite Contraction Contr	<ul> <li>COVID-19 clinical trials</li> <li>Flu A/B COVID-19 Multiplex development</li> <li>Inflammatory markers development - Sepsis</li> </ul>	<ul> <li>Inflammatory markers – Sepsis Regulatory submissions</li> <li>Develop 2 more test market families e.g. cardiac markers, viral v bacterial</li> </ul>	<ul> <li>Develop more test market families</li> <li>Evaluate specialist area such as sports tests, drug or STD</li> </ul>		
Increase Manufacturing Capacity	<ul> <li>Implement ISO Certified Brisbane based test strip manufacturing</li> </ul>	<ul> <li>Increase Brisbane capacity</li> <li>Leverage increased manufacturing capacity at Operon</li> <li>Evaluate AnteoTech US based manufacturing</li> </ul>	<ul> <li>Grow AnteoTech manufacturing bases to meet growth needs</li> </ul>		

### **EUGENI – POINT OF CARE RAPID DIAGNOSTICS ACHIEVEMENTS TO DATE**





### THE MARKET STRATEGY TO LEVERAGE EUGENI'S KEY ATTRIBUTES



The immediate goal is to focus on opportunities in Spain, Italy and Greece, to drive revenues by leveraging EuGeni key attributes to maximise efficient POC testing and workflow management:

- Instrument Read Provides clear definitive results, flexible read time 15 min 1<sup>3</sup>/<sub>4</sub> hours
- Data Management Allows connectivity to IT network or USB file download
- Workflow Facilitation Printer and Scanner

CY 2022 / 2023								
Anchor Customers	Expand Footprint		Expand Application		Add Distribution			
Establish laboratory use case -	Italy & Greece to follow Spain		Addressable market opportunities		Enhancing distributor network to			
Spain	• Leverage learnings from Spain to		will increase post Common List		support EuGeni specific market			
• 2 Laboratory evaluation sites	engage and execute in our served		registration, it will enable us to:		segment.			
engaged	available market segments, as		<ul> <li>Expand on laboratory and</li> </ul>		Seek additional distributors that			
<ul> <li>Leverage evaluation</li> </ul>	identified by Exxe, Ramma Dental		pharmacy opportunities in Italy		will complement segments and			
performance data with ~30	and AnteoTech;		and Spain;		increase our footprint in Europe;			
prequalified sites	<ul> <li>AnteoTech to strengthen</li> </ul>		<ul> <li>Tender responses as issued by</li> </ul>		<ul> <li>NDA signed with major Germany</li> </ul>			
<ul> <li>Identify alternative market</li> </ul>	distributor technical support		Government Departments and		diagnostic and life science			
segments outside common list	training and associated resources		Health authorities;		company;			
	for ongoing customer support		<ul> <li>Be a recognised test for any</li> </ul>		<ul> <li>Review additional European</li> </ul>			
	and management.		travel testing with EU Digital		based AnteoTech resources.			

COVID Certificate.

### THE DYNAMIC MARKET FOR COVID-19 RAPID ANTIGEN TESTING



#### Market

Strong demand associated with onset of COVID-19 variants. Supply difficulties at peak demand times. Number of test providers driving price down.

#### Outlook

- Demand for high sensitivity testing remains strong epidemic phase – lab, hospital segments and primary care.
- Another variant could drive demand and prices up.
- COVID-19 / Flu A Flu B Multiplex testing is an opportunity to support differential diagnosis between Flu A, Flu B and SARS-CoV-2 viruses and there is a strong market opportunity for this test.

#### Regulatory

Regulators are imposing tougher standards in submission requirements whist operating in markets.

#### Post Market Regulatory Surveillance.

- TGA post market surveillance currently being conducted by Doherty Institute, with the current focus on variants of concern. Stringent post market surveillance is expected in the future.
- EU Common List is updated monthly it has removed 10 test and ~180 test rejected for not meeting MDCG guidelines.<sup>1</sup>
- Independent evaluations undertaken by the German Paul Ehrlich Institute have found that, out of 245 tests analysed 46 did not meet the criteria.<sup>2</sup>

#### **Our Response:**

- We are focusing on market opportunities that utilise EuGeni differentiators data capability, long reading window
- Modified the test in production to ensure optimal performance.
- Redoubled our efforts to eliminate potential manufacturing issues implementing bi-lateral visits with Operon to ensure correct technical transfer
- Reviewed and subsequently re-engineered our QC release procedures & continued to enhance our QMS procedures & systems.

Life Science

### **TYPES OF TRIAL ACTIVITIES**



#### The varying stages of product development require different types of validation studies and clinical trials.



### THE LATERAL FLOW POINT OF CARE DEVELOPMENT JOURNEY





Targeting COVID-19 opportunities via CE mark and emergency use authorisations

AnteoTech is building a business in lateral flow technology utilising the industry adopted pathway. The COVID-19 pandemic has offered opportunities to accelerate some of these processes and therefore the potential to accelerate revenues. Our validation studies aligned to development progression have allowed some approvals and registrations. We are now moving to prospective clinical trials. Some regulatory authorities allowed limited trial data as part of emergency use conditions. These conditions are now closing. We have established an initial market presence leveraging our CE certification of April 2021. This provides the opportunity to achieve some revenues before the end of the full development cycle.

### **EUGENI – CLINICAL TRIAL & REGULATORY NEXT STEPS**



The TGA has requested AnteoTech provide additional information to align with the WHO<sup>1</sup> and European MDCG<sup>2</sup> requirements. In addition AnteoTech is preparing to apply for the EU Common List to allow expanded operations in Europe. To meet these new requirements AnteoTech have engaged a Spanish Clinical Research Organisation to conduct a Prospective Clinical Trial.

#### **Trial Overview**

- Alfred Trial is ongoing and continues to recruit volunteers to support detection of variants of concern.
- European trial will be complex involving, multiple sites to meet WHO requirements and also meet MDCG Guidelines for Common List registration.

#### **Trial Next Steps**

- Finalising Trial protocol with CRO in Spain
- Identify and qualify trial sites with CRO
- Sign off trial ethics with sites
- Commence Patient Recruitment and testing Timeline going forward will be dependent on patient recruitment meeting the MDCG and WHO guidelines on sensitivity and performance at varying Ct values and days post onset of symptoms

#### **In Parallel to Trial**

- Full analytical testing including cross reactivity and variants of concern.
- Full stability, shelf life and transport studies.

10 March 2022



#### **GLOBAL LATERAL FLOW ADDRESSABLE MARKET**

EuGeni platform and tests in development are addressing large and growing markets



1. Source: Fortune Business Insights 2. Source: Growth Plus Reports. 3. Source: Global NewsWire 4. Source: Research and Markets.



### OUR VISION - MULTIPLE TESTS MULTIPLE MARKET SEGMENTS $^{*}$

10 March 2022



The EuGeni platform is designed for point-of-care settings where laboratory resources are limited and time to results is important, the potential test opportunities are broad, with a wide range of end user segments.

	High Margin									
IEuGeni	Labs	Hospitals			Clinics			Screening		
In development		Metropolitan	Remote	Community	GP	Pharmacy	Aged Care	Tourism	Transport	Construction
COVID 19 RAT	•	•	•	•	٠	•	•	٠	•	•
Flu A/ B COVID-19 RAT		•	•	•	•	•	•	٠	•	•
Inflammatory markers -Sepsis		•	•	•	•					
Next Targets										
Bacterial vs viral		•	•	•	•		•			
Emerging pathogens		•	•	•						
Cardiac Markers		•	•	•	•					
Cancer markers		•	•		•					
R&D Areas	Labs					Clinics		Persor	nal / Industry /	Agriculture
Veterinary (Pets and cattle) Food (Dairy, brewery)	•							•	•	•

# **Lithium-Ion Battery Market**



#### THE GLOBAL TRANSITION TO RENEWABLES AND ELECTRIC VEHICLES



Transition to renewables and EVs requires extensive battery tech improvements The industry standard material for anodes, graphite, has reached its limits but increasing silicon content in battery anodes equates to higher electrical storage capacity & potentially lower cost

- EV sales will drive a surge in demand all along the battery value chain, from raw materials to additives, binders and cells.
- We are at the start of a very long-term S-curve across energy storage including wearables, IOT, mobile devices, drones, consumer electronics and energy storage systems.
- Low-cost and light-weight energy storage with equivalent capacity output is critical to EV manufacturers and other battery-driven industries.

About Lithium-ion batteries and how they work

Charged: lithium ions migrating from cathode to anode

**Discharge:** lithium ions migrating from anode to cathode



### THE SILICON SOLUTION

10 March 2022

Silicon is widely accepted as the "go to" means of increasing an anode's capacity.

**3**x

More energy capacity by volume **Lower** cost per unit of energy stored (\$/kWh)

**The problem with high silicon anodes** is volume expansion (swelling) resulting in degradation. When the anode is charged silicon swells up to **280%**<sup>1</sup>. During repeated charge/discharge cycle silicon and anode structure degrades, leading to rapid capacity loss. Hence, silicon is presently used at low percentages (ie <10%) in mass produced cells

 $(2,194 \text{ mAh / cm}^3)^2$ 

Global desire to increase the silicon content in anodes to increase the amount of energy batteries able to deliver

More energy capacity by weight

 $(3,579 \text{mAh/g})^2$ 

- Silicon must be well integrated with the electrode structure to • optimise battery performance and to avoid structural degradation
- Leading battery manufacturers currently limit silicon content to • less than 10% but goal is 20 - 40 %<sup>3</sup>



teoTech



#### **ADDRESSING THE SILICON CHALLENGE**



#### AnteoTech's IP addresses the main problem with high silicon anodes.

AnteoTech believes its products are set to become an important element of cell manufacturers' development roadmap by achieving higher energy battery cells and improving cost efficiencies by lifting performance of silicon anodes.



### THE ANODE MARKET IS SET FOR HIGH GROWTH

Anode material demand is projected to grow at CAGR of ~19% between 2020 and 2040 – growing the addressable market for AnteoX.

10000

9000

8000

7000

6000

5000

4000

3000

2000

1000

**Tonnes** (Thousands)

- There is a large growing addressable market for AnteoX
- The highest value use case for AnteoX = high silicon content segment and silicon dominant anode designs. (1)
- A secondary use case for AnteoX = (natural and synthetic) blended with low contents of silicon (7-15%) (2)



■ Natural graphite ■ Synthetic graphite ■ MCMB ■ Silicon (dominant) ■ LTO ■ Other

Source: Benchmark Mineral Intelligence 2021



Energy

### **RECENT RESULTS – Inhouse micro silicon reference design with AnteoX**



Full cell batteries using AnteoTech designed silicon dominant anodes (containing ~70% silicon) in two variations: 1) with PAA binder content (○ curve) and 2) with AnteoX & PAA Binder (● curve) were tested inhouse.

The below graph demonstrates that in all instances that AnteoX significantly improves performance of the electrode at every tested binder level.



#### **ANTEOX VALUE PROPOSITION IS MULTI-FACETED**



Our testing with collaborators demonstrated that the higher the anode capacity target, the more AnteoX helps cycle life

>1000 mAh/g – AnteoX provides impressive improvements in cycle life – Demonstrated

~500-800 mAh/g – AnteoX shows useful improvements in cycle life – Demonstrated

~300-450mAh/g – AnteoX provides enhanced Cohesion and Adhesion – Demonstration for lower anode capacity configuration in progress The higher we go in capacity the clearer the cycle life extension facilitated by AnteoX becomes.

### WHERE TO NEXT FOR OUR MICRO SILICON ANODE PROTOTYPE – ACHIEVING COMMERCIAL THRESHOLD

From our first design achieving 100 cycles we have already now demonstrated ~ 290 cycles at 80%. Our target is to reach the commercial threshold of 500 cycles at 80% capacity retention to engage the niche battery applications market establishing revenues and product endorsement in market. Ultimate goal is to achieve 1000 cycles at 80% capacity retention opening access to the full range of applications e.g. EV market.



Energy

nteo Tech

#### **ENERGY DIVISION FOCUS FOR CY2022**

Our focus for 2022 is to develop commercial partnerships, and advance and showcase the high silicon content anode design.

- Processing trials of AnteoX are underway with 6 organisations that are spread across the Lithium- ion battery value chain.
- Early results are coming in and they are encouraging.
- Results highlight the need for continued collaboration and testing to fully discover and understand the many variables in the chemistry, allowing for optimisation of AnteoX.
- Our development pathway for the high silicon anode design has been drafted and resourcing profiles identified. Screening work to begin in 2022.
- Facilities to be expanded in March / April allowing greater throughput for battery testing.





# Questions







# AnteoTech Ltd (ASX:ADO)

**Derek Thomson** Chief Executive Officer

derek.thomson@anteotech.com 0419 412 285 **Dr Jack Hamilton** Chairman

jack.hamilton@anteotech.com 0419 916 892

