Dotz.
Capture the Future

Nanotechnology Powering Industry and Environment

Dotz Nano Limited [ASX:DTZ] Corporate Deck

June 2024

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Dotz in a Nutshell.

- **VAST EXPERIENCE** IN SYNTHESIS AND SURFACE CHEMISTRY
- **PROVEN** EXPERIENCE IN PRODUCT COMMERCIALISATION
- **SKILLED** TEAM
- **STRATEGIC** PARTNERSHIPS
- **CLEAR** STRATEGY & ROADMAP

Dotz. SHIELD

In-product Authentication

Commercial

Dotz. EARTH

Carbon Capture

Development

Strategic partners.

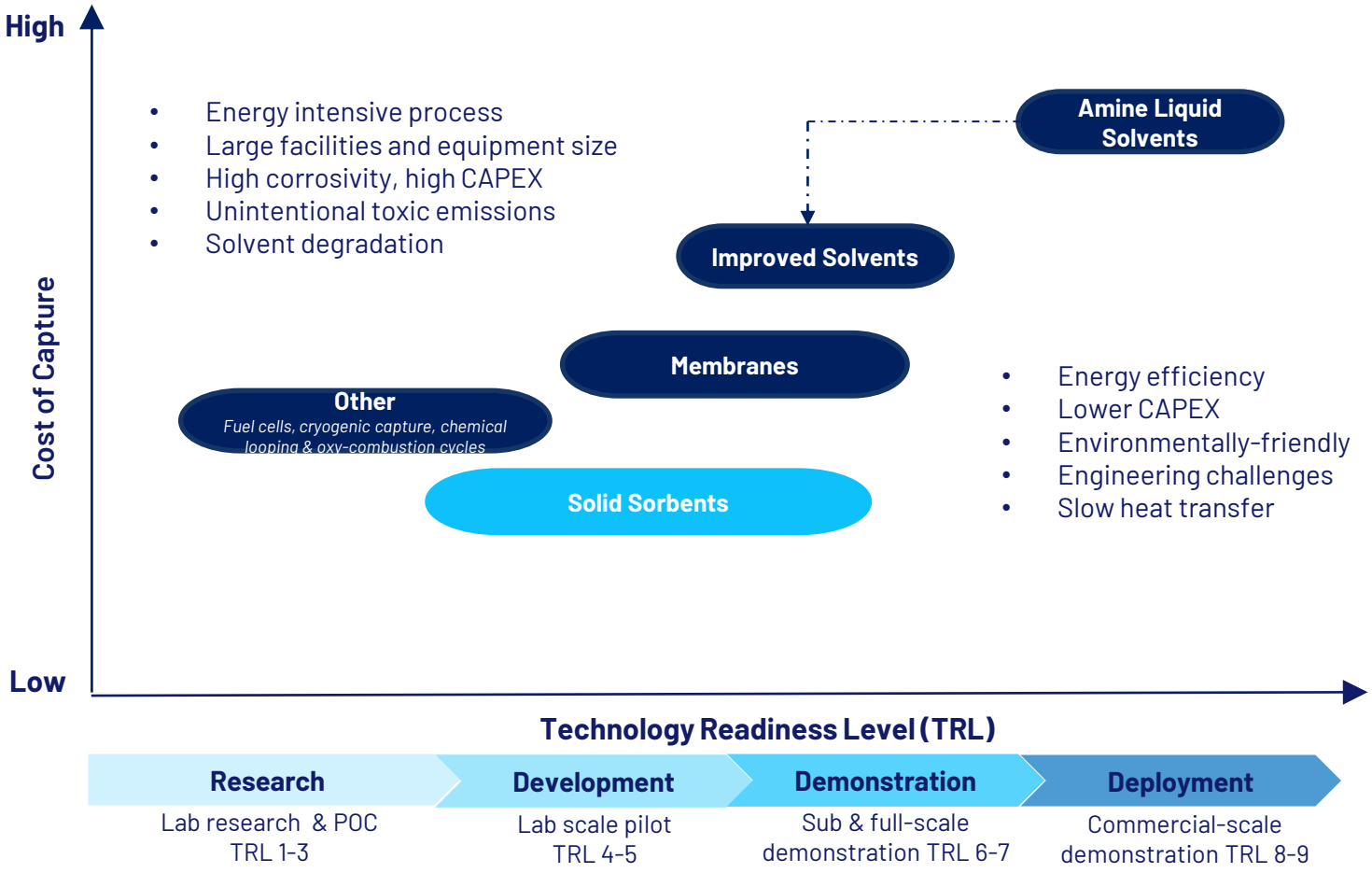
SINTEF

RICE UNIVERSITY

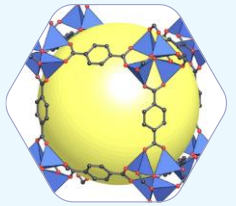
THE UNIVERSITY OF MELBOURNE

Superior technology

Energy efficiency, resistance to degradation and low cost, make nanoporous carbon sorbent ideal for carbon capture.

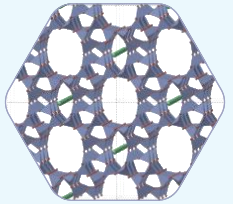


Metal organic frame-work



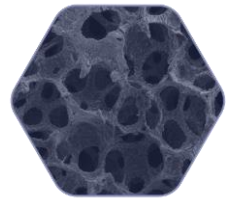
- CO_2 capacity
- Selectivity
- Resistance to H_2O
- Cost of sorbent
- Resistance to impurities

Zeolite



- Cost of sorbent
- Selectivity
- Thermal stability
- Resistance to H_2O
- Resistance to impurities

Porous Carbon

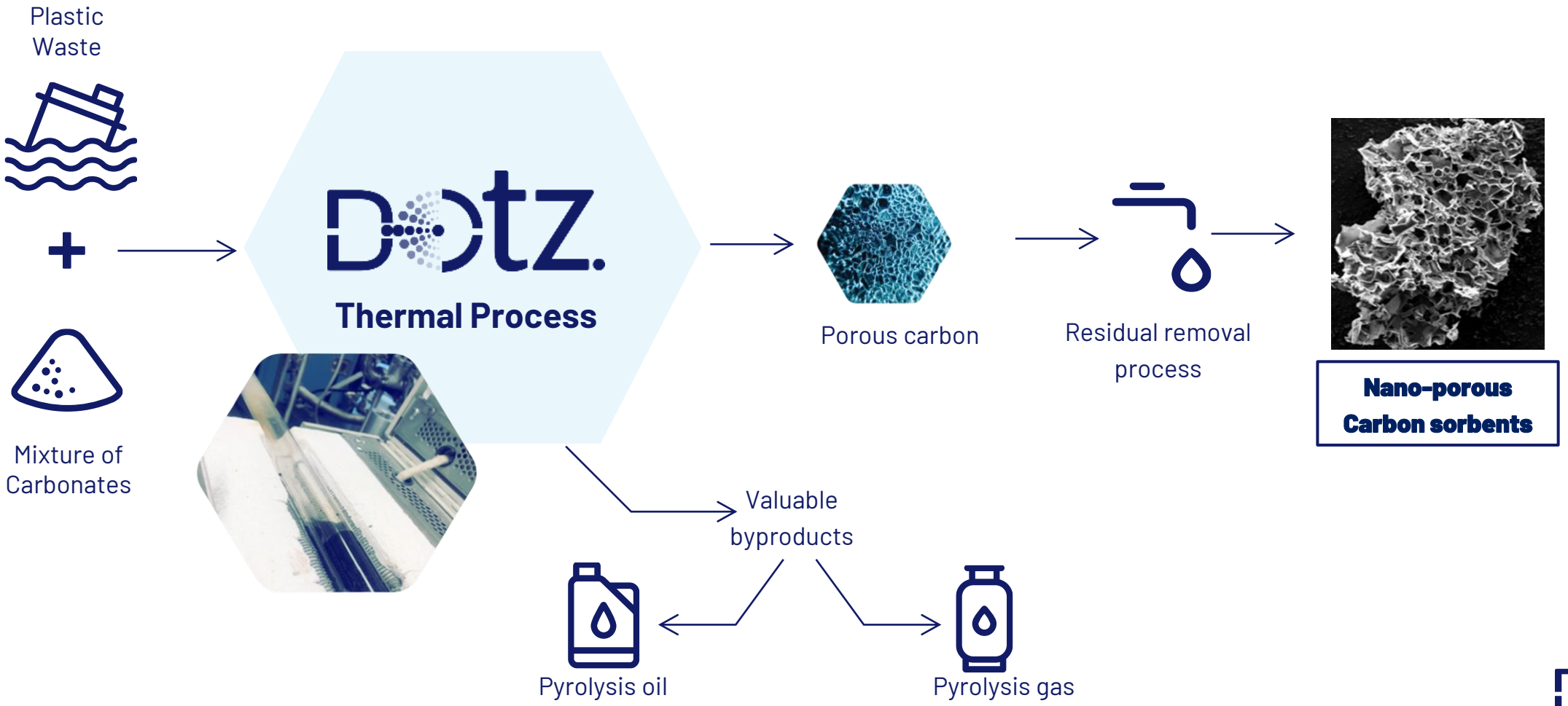


- CO_2 capacity
- Selectivity
- Resistive to impurities
- Inexpensive

Source : Next generation carbon capture technology: technology review work package 2 (publishing.service.gov.uk)

Superior technology

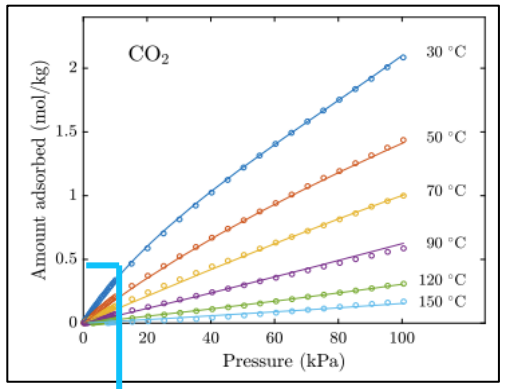
Patented synthesis method for converting plastic waste into porous carbon sorbents.



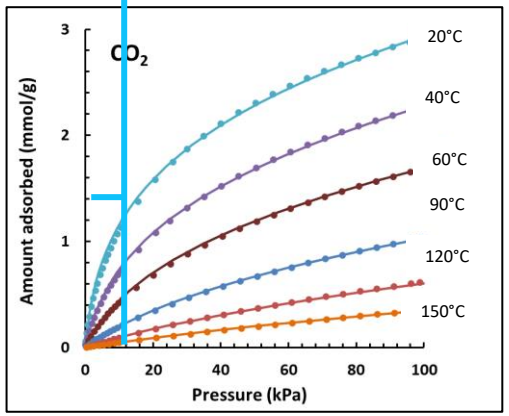
Superior technology

Validation testing and simulations demonstrate preferable performance.

Commercial activated carbon*



Dotz's nano-porous carbon sorbent



3X higher adsorption capacity (at 10-20 kPa)

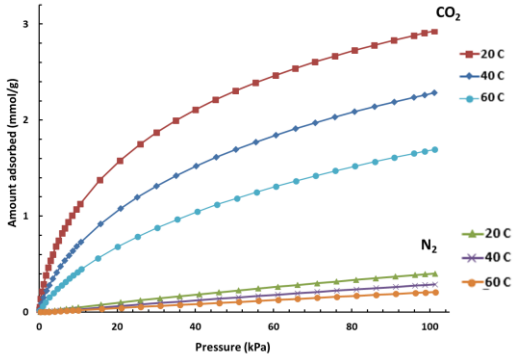
Process simulation performed on SINTEF's Moving Bed Temperature Swing system (WtE, Cement scenarios)

Process performance and main operating conditions

		Comm. AC WtE		DotzShield WtE	DotzShield Cement
Amount of circulating sorbent	kg/h	650		360	552
CO_2 purity	%	97.2		98.1	99.8
CO_2 capture rate	%	90.8		93.5	96.74
CO_2 captured	kg/h	8.26		8.6	15.3
System footprint	m^2	203	-63%	75	112
External heat duty (sorbent regeneration)	kW	47		29.5	48.6
External cooling duty	MW	46		28	45
Specific heat duty	GJ/t CO_2	5.7	-40%	3.4	3.2

Hight CO_2/N_2 selectivity

Dotz's nano-porous carbon sorbent



TARGET PERFORMANCE CRITERIA:

Cost of sorbent:
<20 USD/Kg

Energy requirement:
<2.5 GJ/t CO_2

Cost of carbon capture:
<50 USD/t CO_2

** Provided by Blücher (Germany)*

Clear growth pathway

Technology development roadmap: clear value creation development milestones.

2023 *TRL 2 POC*

Technology Transfer

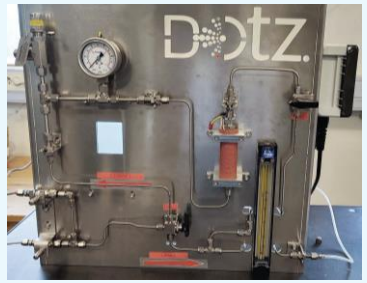
2024 *TRL 3 – lab validation*

Bench-scale demo unit

Objective: technology demonstration at lab scale

Sorbent validation

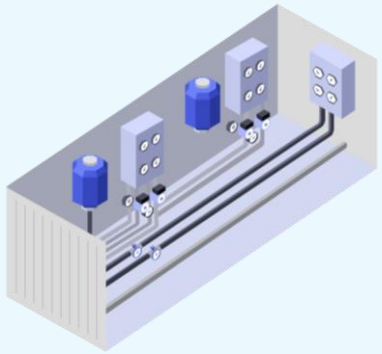
Process simulation



2025 *TRL 4-5 – tech demonstration*

Small-scale pilot unit

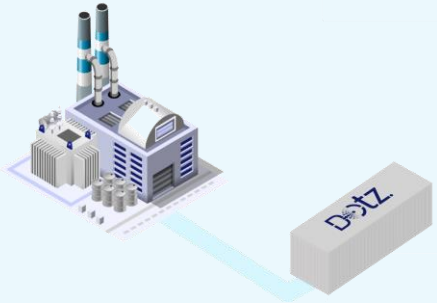
Design and manufacture a pilot unit designed to capture 1-2 TPD
Objective: validate a technology for a given flue gas/application



2026 *TRL 6-8 – tech demonstration*

Industrial pilot unit

Design and manufacture an industrial unit designed to capture >10 TPD
Objective: unit for small/med scale emitters / first step CCS implementation



2023

Sorbent optimization

Formulation and formation of the sorbent, scale-up and optimization

Join our Journey