



# AIR VIEW ENGINEERING LTD

Capturing CO2 from Thin Air

Supported By

ClimAccelerator

CARBON REMOVAL



Climate-KIC

Co-funded by the  
European Union



Innovate  
UK



Prifysgol Abertawe  
Swansea University

**CATAPULT**  
Offshore Renewable Energy



# The World Needs Carbon Removal Technologies

**Existing engineered  
Carbon Dioxide Removal (CDR)**

**Solutions simply do not**

**Scale Fast Enough**



Compared to  
**Existing DAC Systems**

**+ 4x Faster to Deploy**

**+ up to 50% Less CAPEX**

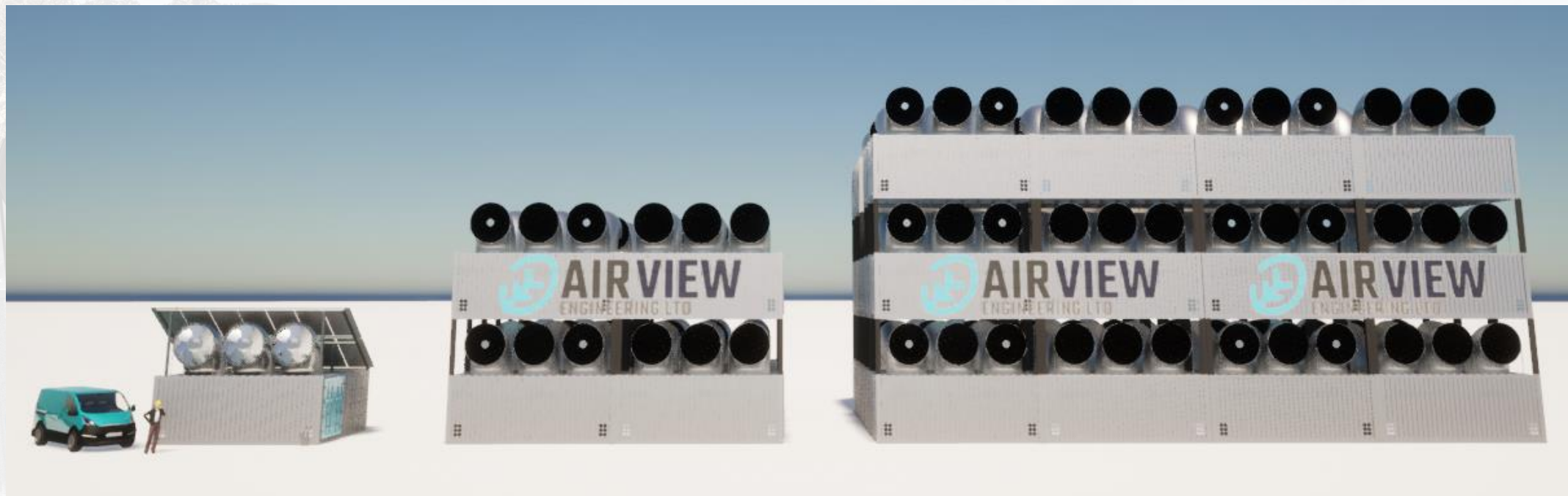
**+ Fully Modular and Scalable**

Our Approach to DAC

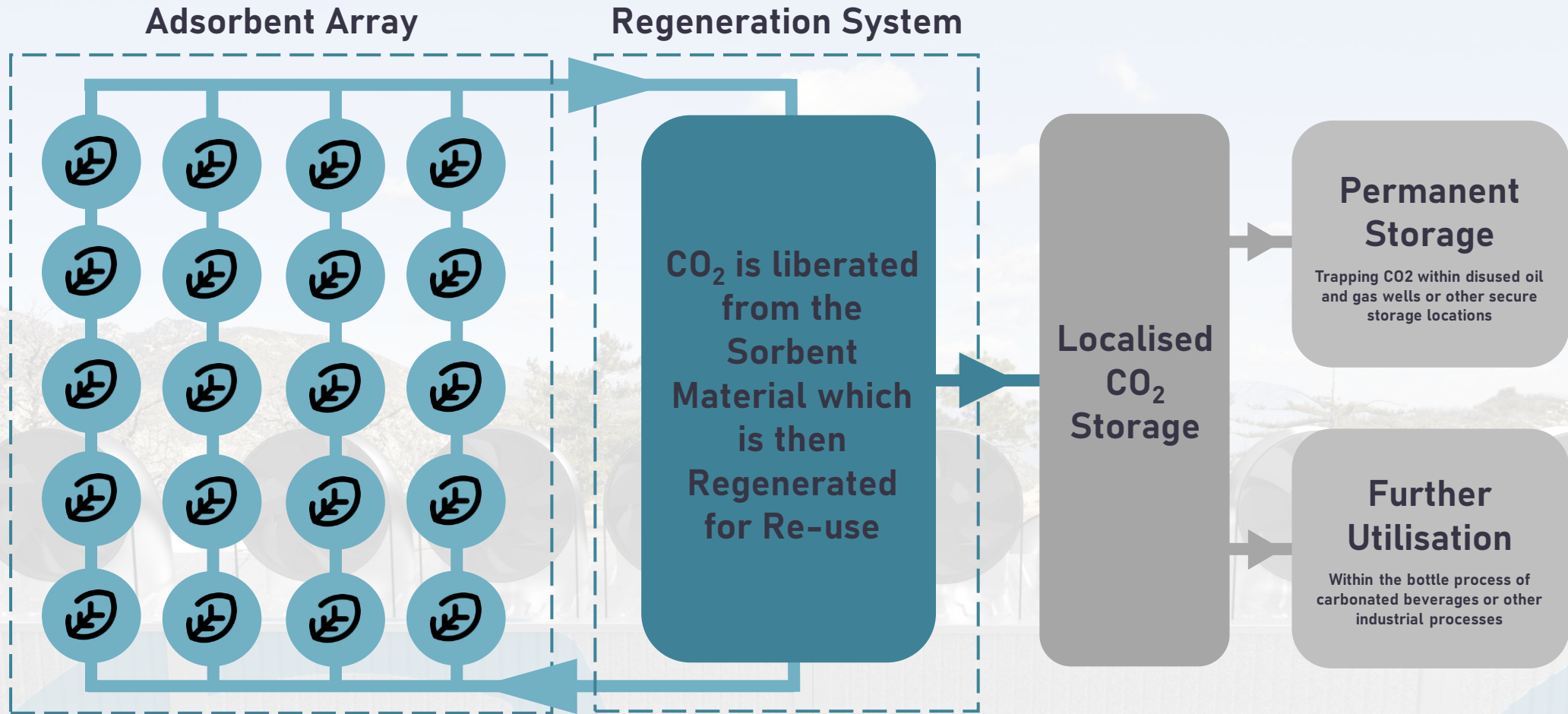
**Intrinsically  
Modular**

+

**Rapidly  
Deployable**



# Modular System Architecture



1. Material Loaded within the Adsorbent System Array is exposed to Ambient Air where it begins to capture  $\text{CO}_2$
2. Once the Material is fully saturated with  $\text{CO}_2$  it is then moved removed from each system and transferred to the Arrays respective Regeneration System
3. At the same time Material is loaded back into the Array from a reserve hopper.
4. The Material is exposed to varying temperatures and pressures to liberate the  $\text{CO}_2$  from the Adsorbent Material for subsequent storage.
5. The freshly regenerated material is moved to the storage hopper for later use

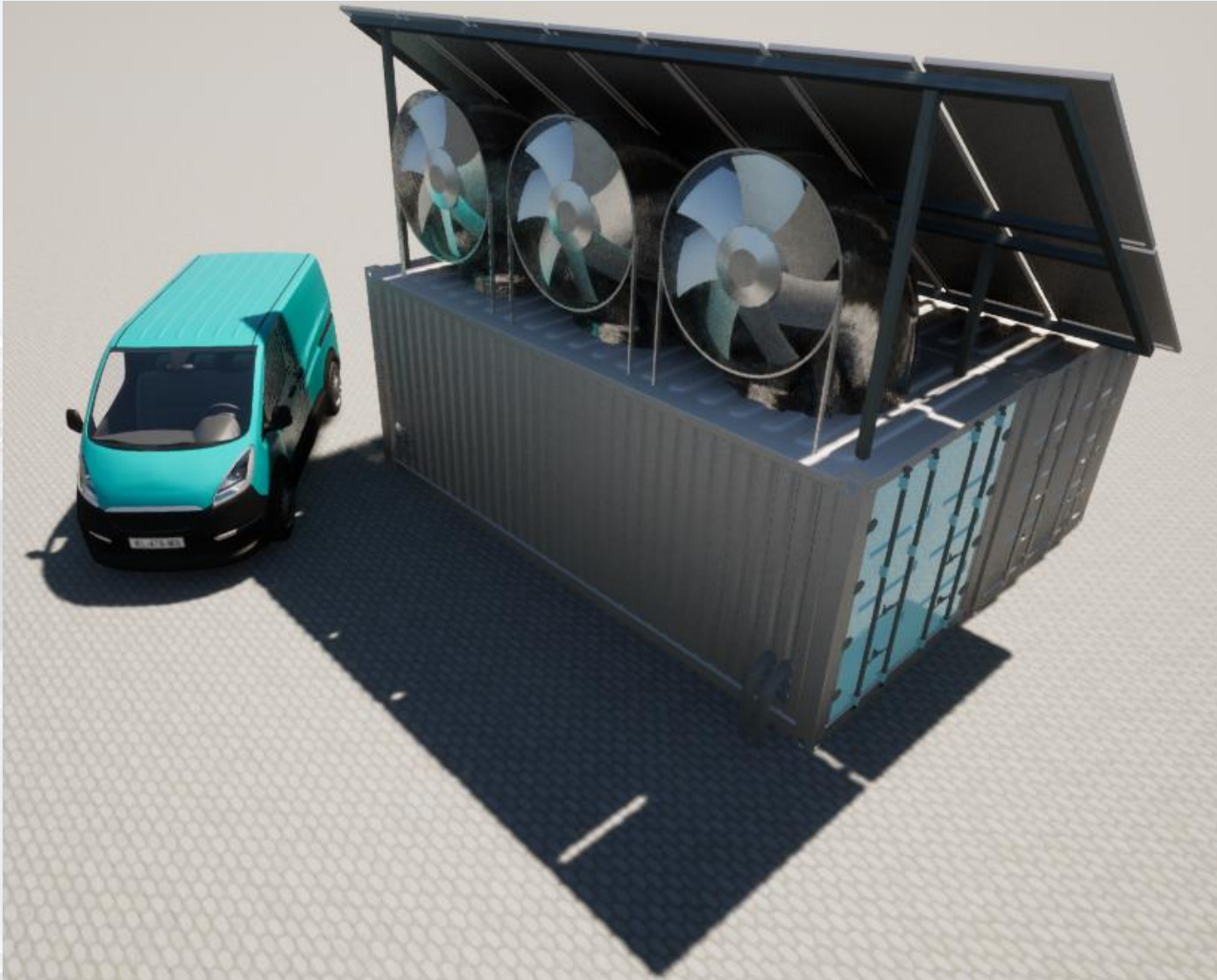




**Innovate  
UK**

**£411,000 Grant from  
Innovate UK to develop a  
Pilot Facility**

# Pilot Scale Deployment



**Construction of a  
Small-Scale Pilot  
Facility will  
commence in spring  
2024**



# Deployment Opportunities

- **Integrated within existing structures / processes**
- **Next to roads / locations with concentrated emissions**
- **Confined areas with small available footprint**
- **Large open areas**



# Revenue Generation

**Our Modular approach to DAC opens up Two Main revenue generation streams**

**Selling Captured CO<sub>2</sub> to Consumers**

**Captured on their site**

**Captured at our own facility**

**Offsetting and Storing Captured CO<sub>2</sub> on a customers behalf**



# Additional Comparative Benefits

**Can be deployed right alongside where the CO<sub>2</sub> is to be Sequestered or Utilised**

**Provides businesses that utilise CO<sub>2</sub> with a plug & play solution for mining their own supply**

**Scalable System Architecture allows DAC System deployments in locations previously thought ineligible**

- Minimizes the amount of energy required to transport the captured CO<sub>2</sub>
- Not dependent upon any one method of Sequestration
- Removes their dependence on their current CO<sub>2</sub> supply chain
- Far greener alternative of CO<sub>2</sub> supply than current methods
- Systems can easily be deployed in urban environments and scaled to meet the required demand
- Can be easily integrated into existing processes and locations



# Major Commercial Milestones

September 2021  
Part of the 2021 European  
Climaccelerator Program  
(€25,000)

August 2022  
Part of the 2022 Airminers  
Launchpad Cohort

February 2021  
Allocated £11,500 from  
AgorIP through Swansea  
University

March 2022  
Awarded £36,000 from  
MEECE towards the  
development of Adsorbent  
Materials

January 2023  
Won an **Innovate UK**  
Smart Grant  
(£411,000)

AgorIP - <https://www.agorip.com/> : Climaccelerator - <https://climaccelerator.climate-kic.org/> : MEECE - <https://www.meece.org.uk/> : AIRMINERS - <https://airminers.org/accelerate> :  
Innovate UK - <https://www.ukri.org/councils/innovate-uk/>

# Past Technological Milestones



**September 2021**

Constructed and tested our desk based (Stage 1) prototype

**January 2022**

Design of our 0.5-meter diameter large scale (Stage 2) prototype finalized, and construction commenced

**March 2022**

Construction of our Stage 2 prototype completed

**March 2022**

6-month Adsorbent materials research contract with Swansea University awarded by MEECE

**June 2022**

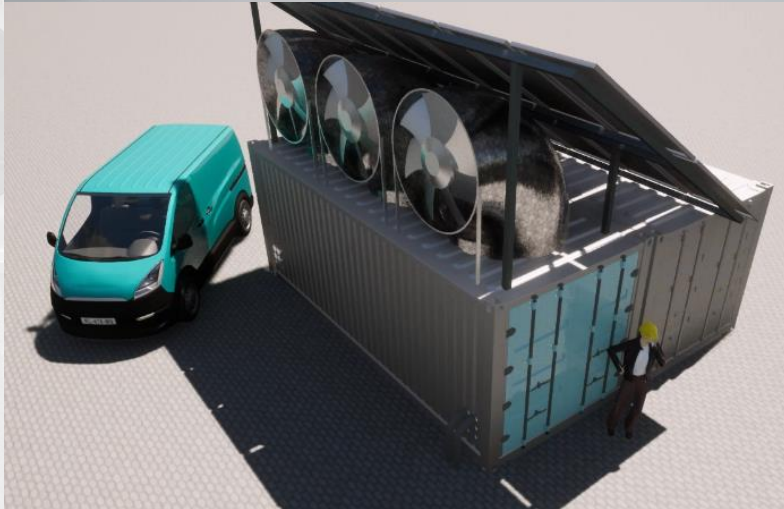
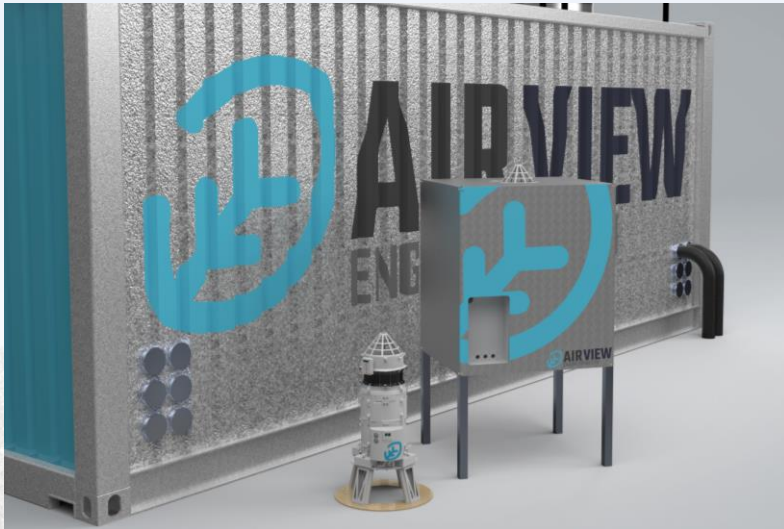
Novel method of Pneumatic Adsorbent movement validated

**October 2022**

Materials Research Contract commenced (still ongoing)



# Technological Milestones – Next 18 Months



**April 2023**

18 Month Innovate UK Funded Project commenced

**June 2023**

Finalized designs of both Adsorbent & Regeneration sub-systems produced and evaluated in VR ready for construction to begin

**October 2023**

Construction and preliminary testing of both initial prototype sub-systems completed

**February 2024**

Finalized Sub-Systems are combined and Insitu testing is completed. Final design adjustments are completed, and the finalized designs are ready for Pilot Plant construction to begin

**July 2024**

Pilot Plant Construction is completed and ready for evaluation

**September 2024**

Pilot Plant efficiency evaluated, and manufacturing outline constructed to begin the move towards the mass manufacturing of larger DAC Units



# Our Team

**Simon Oliver MEng**



**Significant prior experience of business management, advanced engineering practices and Industry 4.0 Technologies**

**Matthew Tucker MEng**



**Mechanical Engineer with extensive experience in the production of computational models capable of predicting Adsorbent behaviour.**

**Intent on expanding the team over the next 18 Months**

**3x Mechanical Engineers**

**2x Software Engineers**

**Chemical Engineer**

**Operations Manager**

**Mechanic & Assembly Professional**

**Marketing and Partnerships Lead**

Please reach out if you have any questions or want more information



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