

2024

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创新中国论坛

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INNOVATION
Shanghai Emerging
Industries Foundation
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产业发展基金会


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innovationchinaconference.com
cmventure.net

A.I. +

AI + materials 材料 | AI + industrial 工业 | AI + energy 新能源

Rapidly innovating new materials for
sustainability by powering AI with HTE

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xinterra

A New World of Materials

We are on a mission
to **rapidly innovate new
materials for sustainability**
by powering AI with tailored
high throughput experimentation.

Current materials R&D process: Slow, expensive, limited.

FORMULATIONS 2-5y

“GREEN” CHEMICALS 10y

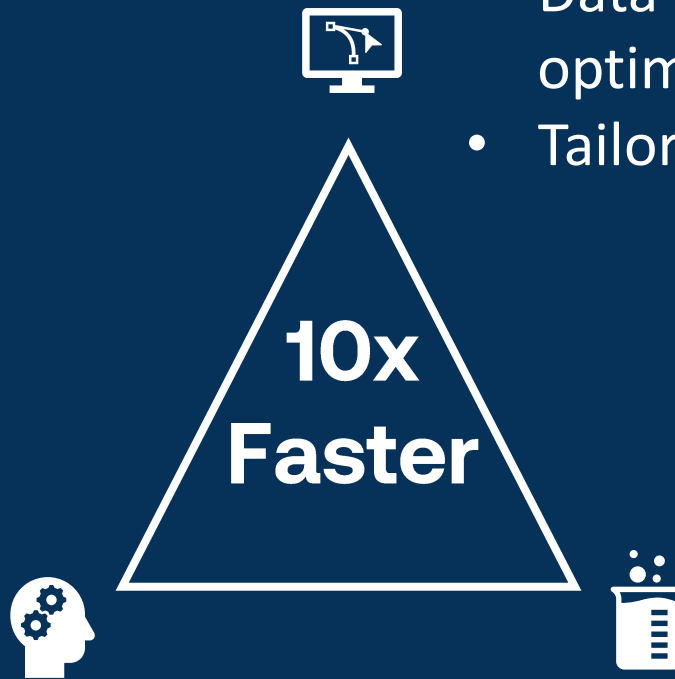
TEFLON 25y



Xinterra Design Factory™ (XDF)

Deep Materials Science Expertise

- Carbon Removal Textiles
- Polymers & composites
- Photovoltaics
- Inorganic crystals & semiconductors
- Thermoelectrics
- Batteries
- Porous materials
- Catalysts
- Nanoparticles



AI Systems

- Data augmentation, prediction, optimization, and inverse design
- Tailored to sparse materials science data

High Throughput Experimentation Tools

- Proxy measurements, miniaturization, parallelization

Business Model

In Progress

Expansion



Materials IP Creation

- Starting with Carbon Capture materials



Materials IP Creation

- “100 in 10” Vision: 100 materials/formulations in 10 years
- Multiple materials verticals
- Consolidation as the “ARM” of materials for sustainability

[*https://www.arm.com/](https://www.arm.com/)



Monetization mechanisms:

- Licensing
- JVs/Spin-offs
- Materials Sales, if needed to catalyze

First Xinterra's Proprietary Formulation IP

Empowering each individual on our planet in becoming CO₂ Capture agents



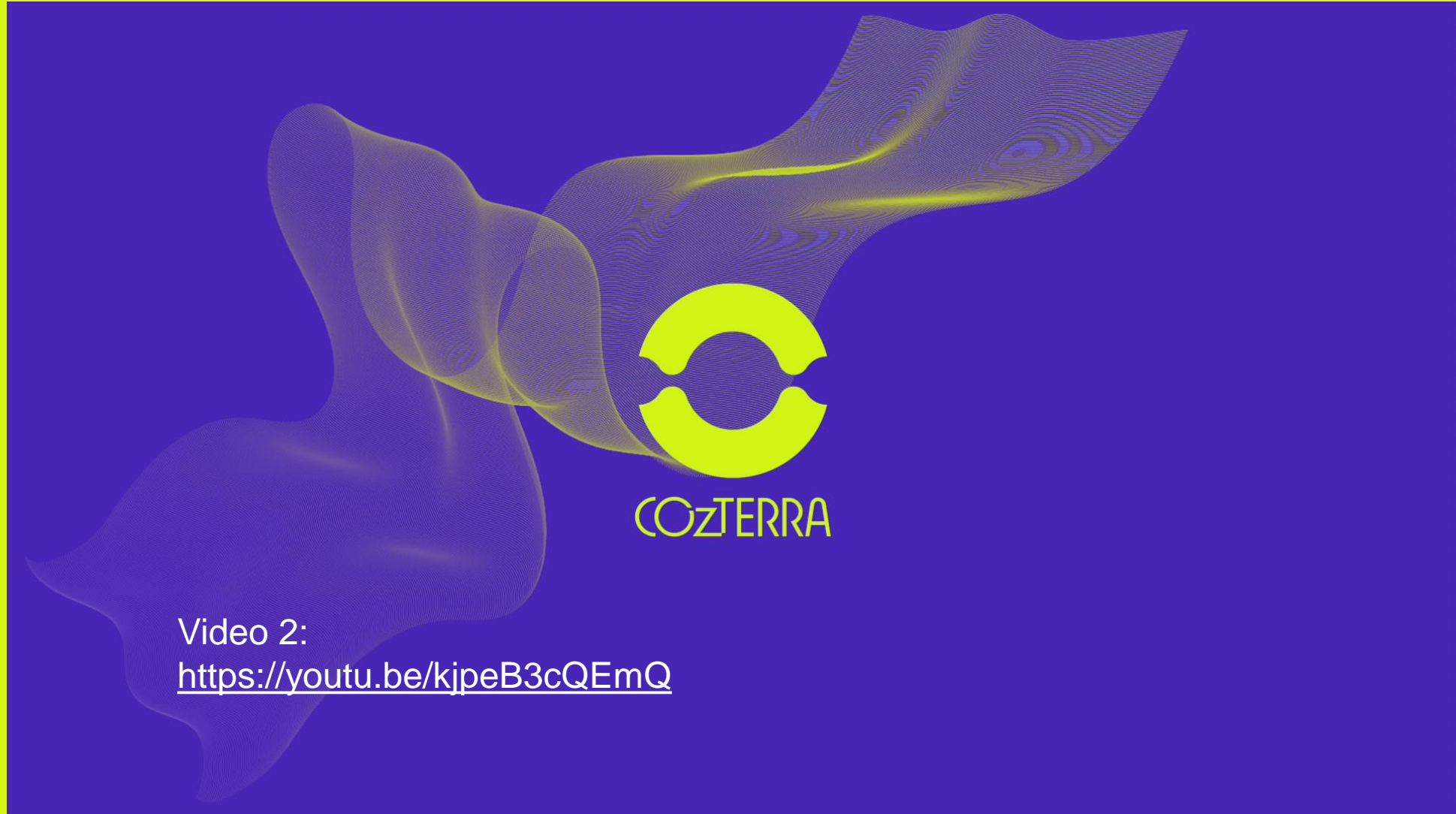
CO2TERRA

Individual Action, Collective Impact

COzTERRA in action



COzTERRA working with nature



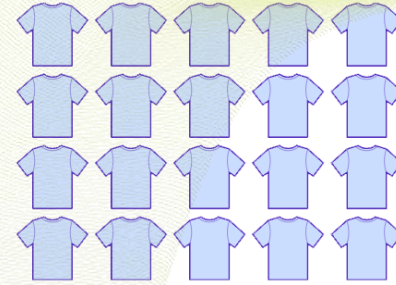
Video 2:
<https://youtu.be/kjpeB3cQEmQ>

COzTERRA Formulation



CO₂ removal auxiliaries

- Liquid form
- Finishing stage
- Drop-in manufacturing
- Optimized for cellulose
- Promising results on wool, polyester, polyamide and blends



20 T-Shirts
in each wear



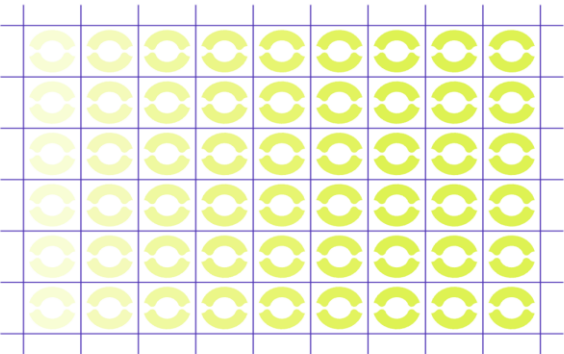
1 Mature
Tree
in a day

Typical t-shirt can remove
16g to 41g of CO₂ in its lifetime*

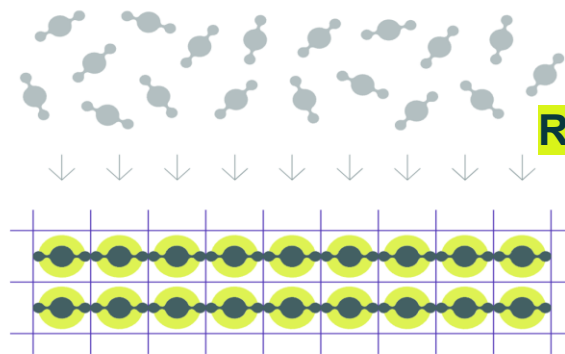
- *Depends on type of fibers, weight of textile and the total number of wears of the t-shirt

How does COzTERRA work?

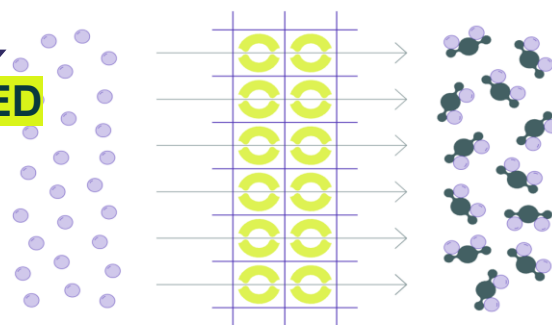
1 Functionalising textiles with our CO₂ removal auxiliaries
(Patent pending)



2 When exposed to CO₂ in air the textile captures and holds the CO₂




3 Regular detergents ensure CO₂ is sequestered, forming a harmless mineral that is washed away




RECHARGED

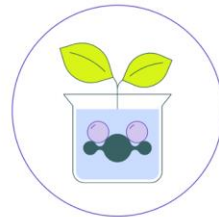
The harmless mineral formed is



Stable
Doesn't degrade at temperatures textiles are exposed to

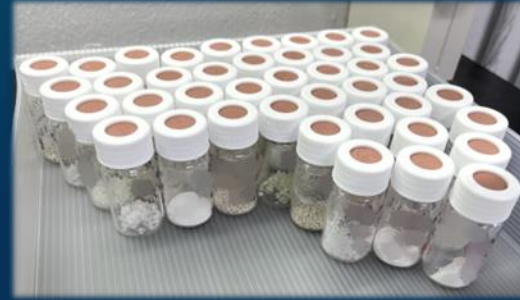
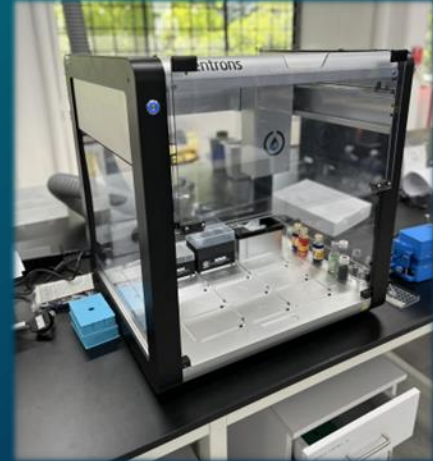
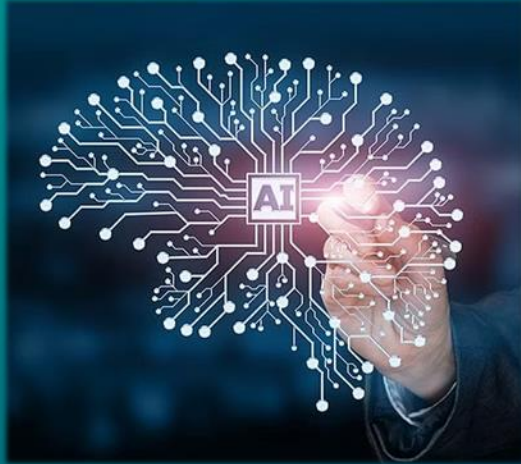
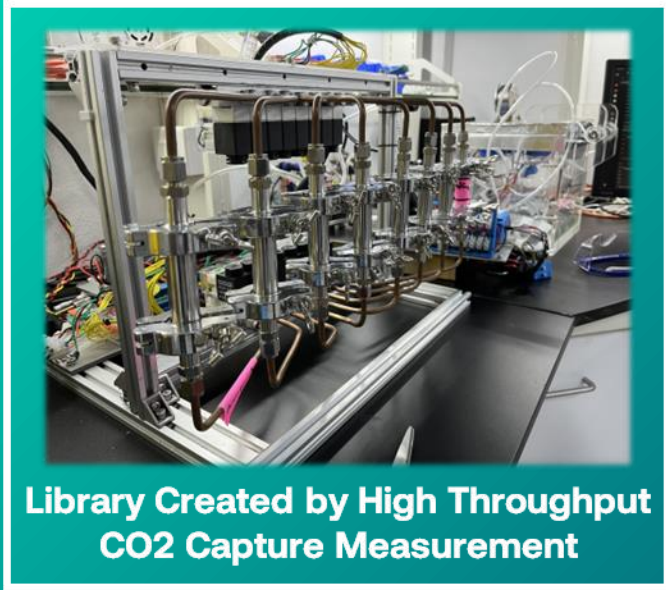


Common
Commonly used in daily life



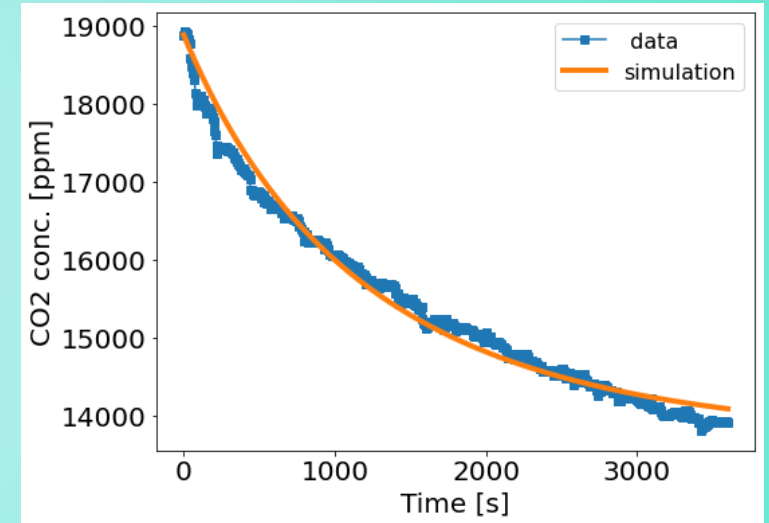
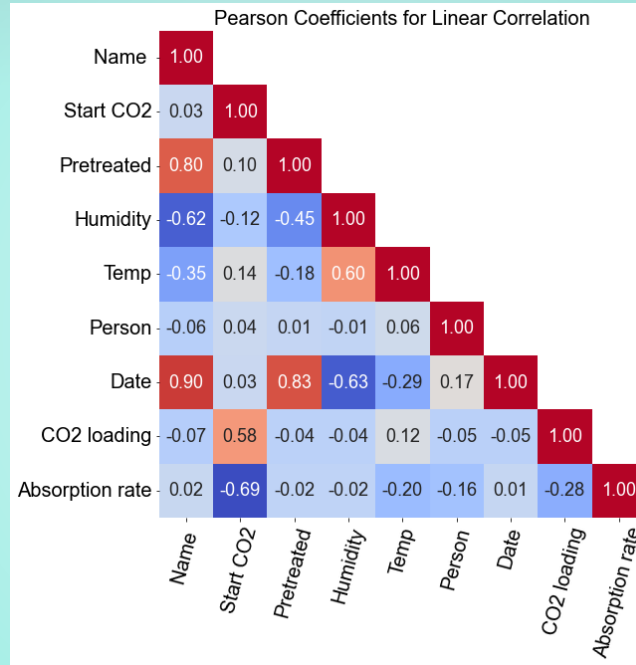
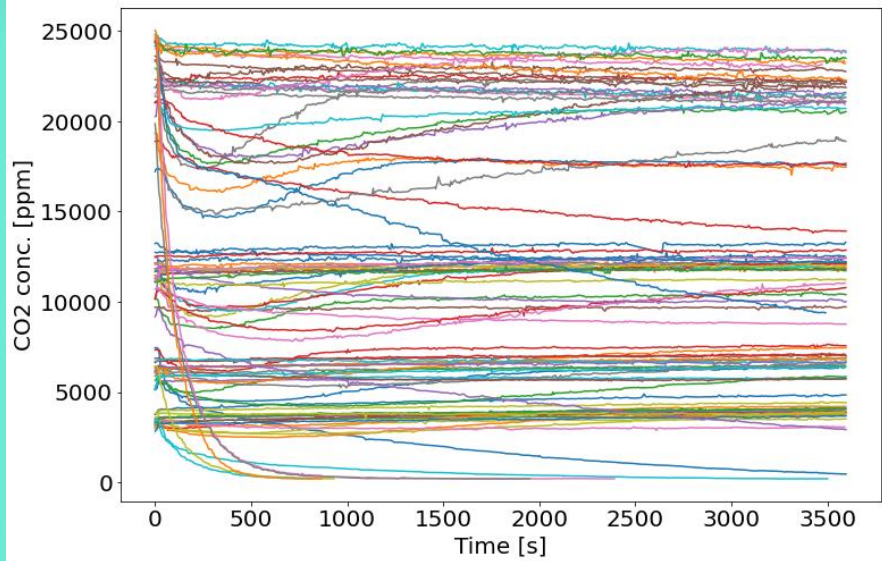
Environmentally safe
Already exists in abundance

XDF in Action to Create COzTERRA



***From ground zero to patent in just 11 months!**

A leap forward in Carbon Capture innovation



Our data

- High fidelity kinetic plots
- Multi-modal response
- Materials dependent performance

Data driven insights

- Derive correlations
- Drive DoE & materials design

Empirical modelling

- Our models capture the experimental characteristics
- Ability to simulate performance to find the best materials

RESULTS:

Carbon capture materials database - **real** world, reproducible data. Not theoretical performance

Scaling up

From our lab to the textile mills

TRL 1 to 8 in 14 months



COzTERRA crowned winner of the Vogue x BMW Innovation Prize 2023



Founding Team



Patrick Teyssonneyre
CEO



Jatin Kumar
CTO



Zekun Ren
AI Lead



Daniil Bash
Experimental Chemist



Kedar Hippalgaonkar
Prof. NTU MatSci



Liu Zhe
Prof. NPU



Operating Team

Scientific Advisors



- **Revolutionizing** the materials value chain
- Generating **high quality experimental data, fast and cheap**
- To **magnify** the power of our **AI**
- **Create the “ARM” of materials for sustainability**

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