



# Grow Your

# Own Cloud

Introductory Presentation

June 2021

-G-Y-O-C



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Grow Your Own Cloud

Grow Your Own Cloud is a creative venture developing DNA data storage in plants and other living organisms.

Our vision is to create a truly green model for data storage, working with nature to absorb CO<sub>2</sub>, and regenerate ecosystems.

We are a multidisciplinary team developing cutting-edge research. Our work has been recognised by the United Nations, presented at the WEF and is the recipient of numerous international awards.

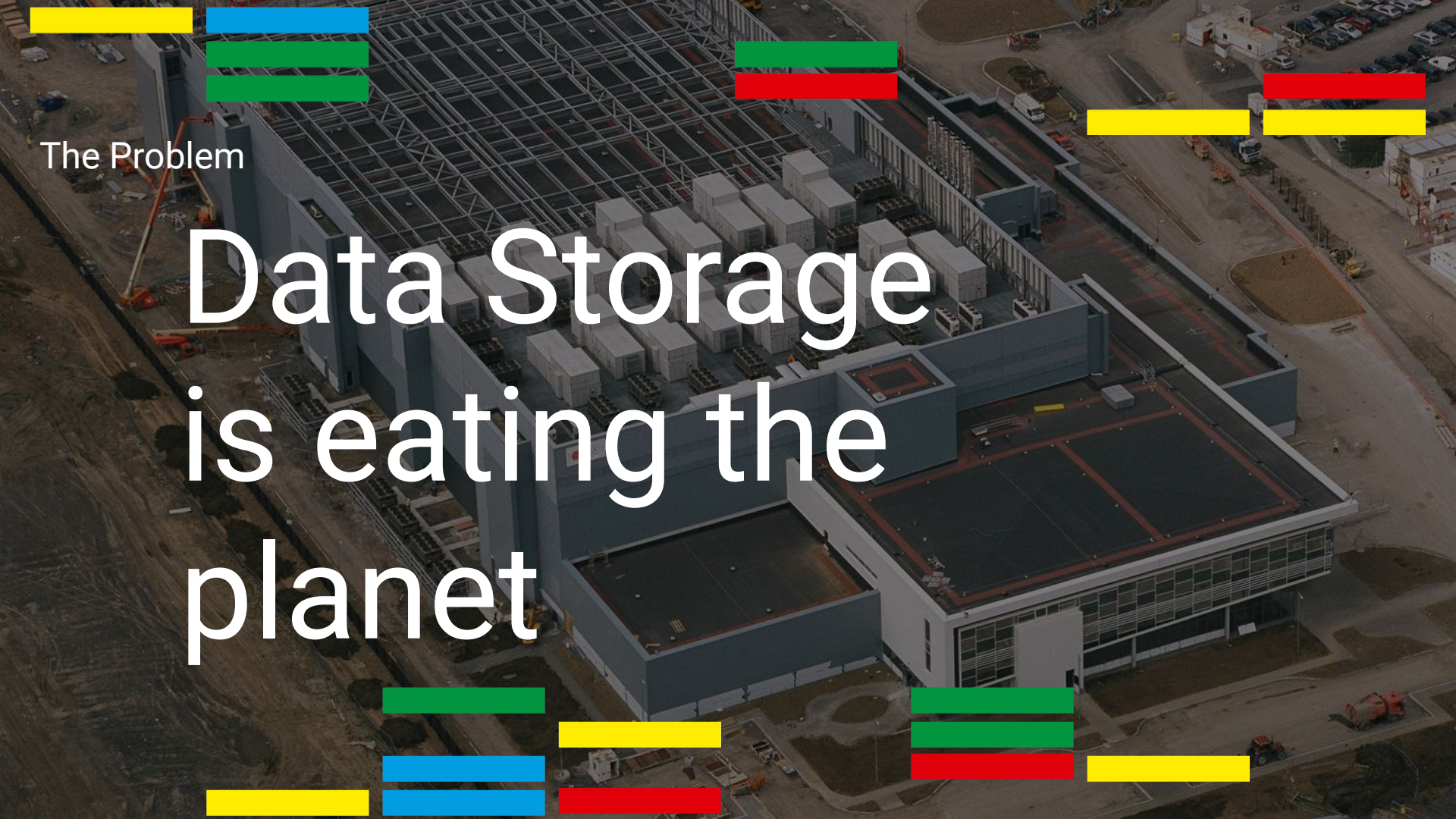


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The Problem

# Data Storage is eating the planet







The Technology

# The Oldest Storage Device in the World

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The background features three green apples. Overlaid on the image are several vertical columns of horizontal bars in yellow, red, green, and blue. The text 'Store your data, Nature's way' is written in a large, black, sans-serif font across the center.

Store your  
data, Nature's  
way

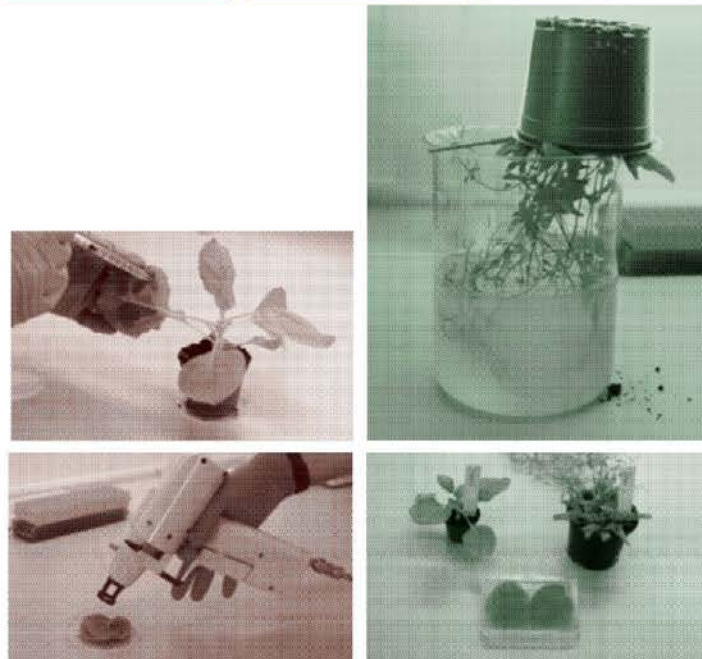
## Our Technology

# Working with Nature

Our multidisciplinary team combines plant genetic science, design research, synthetic biology, DNA data technology and ethics.

We have developed proprietary technology and techniques to encode (store) and decode (download) digital data from plants and other organisms (in vivo)

Working with nature, safely and ethically with other organisms is of the utmost importance to us.





## Proof of Concepts

# Data In / Data Out

We have prototyped and validated our concept and technology through two proof of concepts:

- 1) Data Flower Shop: a pop-up experience showcasing DNA data encoding and validating demand for plant-based data storage.
- 2) Data Garden: fully functional data storage facility validating the feasibility of data downloads from plants, which led to the development of our data decoding system.



Proof of Concept #1: [click to play]

# The Data Flower-Shop





Proof of Concept #2: [click to play]

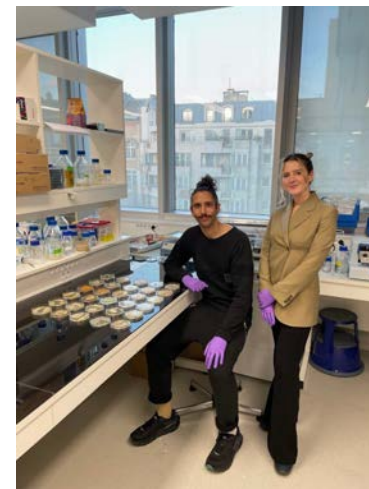
# The Data Garden

SXSW 2020



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# Scientific and Technical Network





# Founding Team



Monika Seyfried: Creative Lead

Monika's extensive knowledge in art and interaction design drives the creative process of GYOC where science meets aesthetics providing the creation of futures and experiences for everyday people.

Through her research work, Monika engages at the intersection of emerging technologies, digital media and the natural environment, developing ethical processes for the creation of new technologies.


Monika is a former PI Researcher at Copenhagen Institute of Interaction Design. She holds a Master's Degree in Media Arts and Interaction Design.







# Founding Team



## Cyrus Clarke: Strategy Lead

Cyrus brings together his background in design and economics as well as his expertise as a futurist specialising in emerging technologies to shape the strategy for GYOC.

He is passionate about establishing new models of symbiosis between people, ecosystems and technologies which he seeks to inspire through GYOC, as well as teaching, speaking and writing.

He is a former Digital Innovation Lead at L'Oréal Global and has worked with clients including World Expo 2020 and IKEA on shaping future strategies. Cyrus holds a Master's Degree in Interaction Design and Bachelor degree in economics.

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# Founding Team



Jeff Nivala: Research Lead

Jeff Nivala is a Research Scientist and Principal Investigator at the University of Washington. He works closely with faculty and students as part of the Molecular Information Systems Lab.

His scientific interests are broadly focused on the intersection of molecular and synthetic biology/biochemistry with technology development. His research has been published in journals such as Nature, Science, and Nature Biotechnology.

In 2017, he was recognized by Forbes Magazine as a "30 Under 30" in science. He conducted post-doctoral research in George Church's lab at Harvard Medical School.





# Roadmap



Phase 0: Completed May 2021

## Proof of Concepts

Developed R&D prototypes to validate user-experience and technology for plant-based data storage and extraction system



Phase 1: July 2021 - Mar 2022

## Develop GYOC As A Service


Strategic R&D into use cases and applications, initial applications, seed round, launching activations and building community



Phase 2: Apr 2022 - Apr 2023

## Launch GYOC as a Service

Develop end-to-end technology for commercial use, applications in personal products, advertising, art, archiving, Series A round financing








# Fundraising



Our vision is to develop next generation green data centres and we are currently fundraising as part of a pre-seed round to develop this vision:

## Phase 1 Objectives:

- R&D: Develop applications and user research
- Activations: VivaTech, COP26, Brand Partnerships
- Team: Biz dev and communication leads recruited
- Community: Growth to 50k supporters
- Finances: Finish Pre-seed and begin Seed round



## Seeking \$188,000 (key lines detailed)

- Personnel (49.5%)
    - 2 FTE (founders), Research Scientist (P/T), Comms Lead and Biz Dev Lead
  - Technical & Development (21%)
    - Biological consumables
    - DNA sequencing
    - Lab equipment
  - Design & Communication (8%)
    - Marketing for activations
    - Graphic and Motion designers
    - Web development
  - Facilities & Infrastructure (5.5%)
    - Lab & Work Space
  - Admin & Legal (16%)
    - IP protection
- 
- 



# Publications

## Scientific Papers by Jeff Nivala

[Molecular digital data storage using DNA](#)

[CRISPR-Cas encoding of a digital movie into the genomes of a population of living bacteria](#)

[Rapid and robust assembly and decoding of molecular tags with DNA-based nanopore signatures](#)



## Selected Press Coverage

[Interview in L'ADN with Cyrus Clarke \(French\)](#)

[The Cloud of The Future in La Stampa \(Italian\)](#)



# Thanks!

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