Running Tide

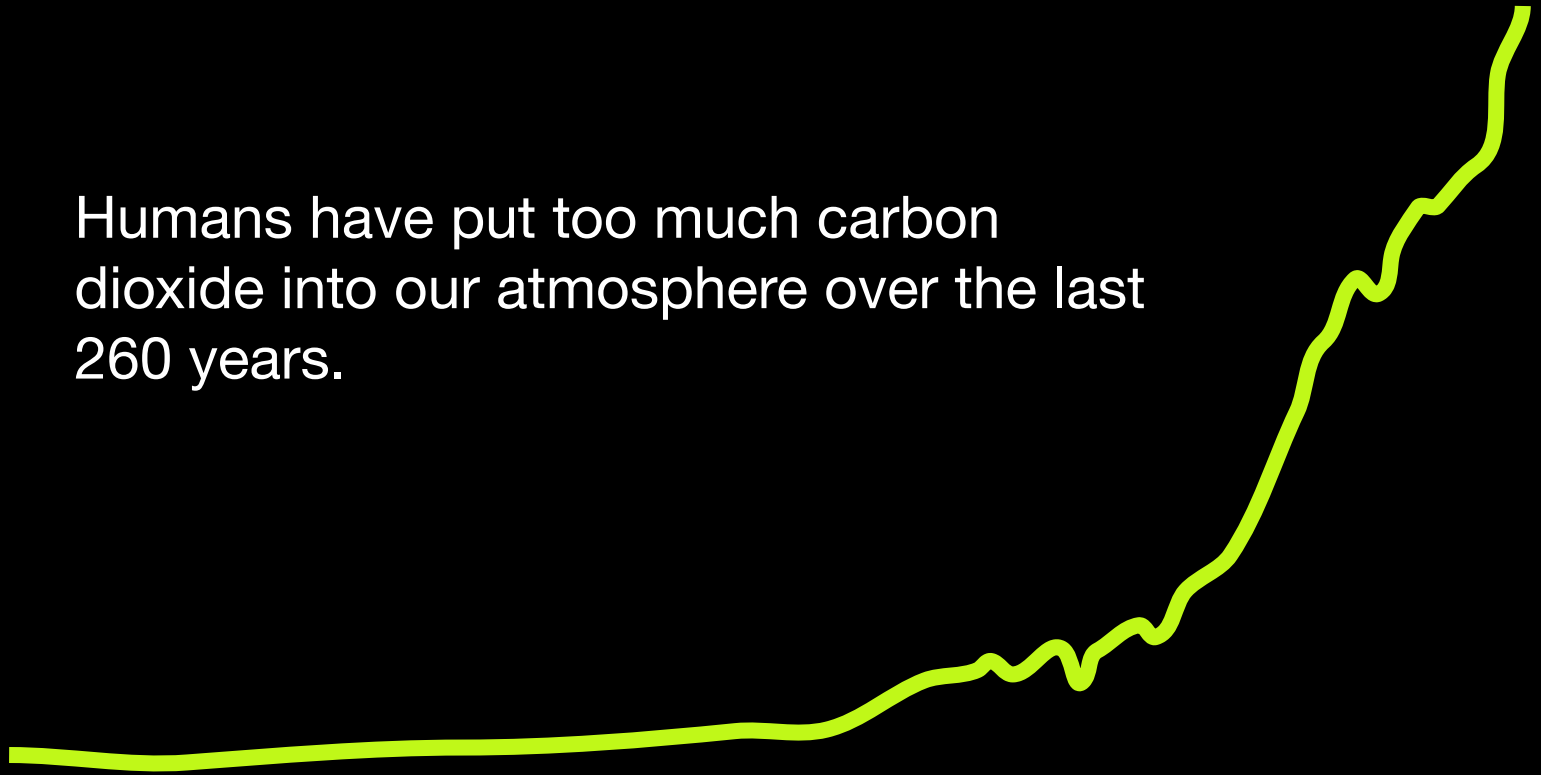
We grow biomass to absorb carbon, and sink it in the deep sea.

Team

redacted

venrock FOUNDER COLLECTIVE FOUNDRY GROUP LOWERCARBON CAPITAL YES VC PATHBREAKER VENTURES SLOW VENTURES

Humans have put too much carbon dioxide into our atmosphere over the last 260 years.



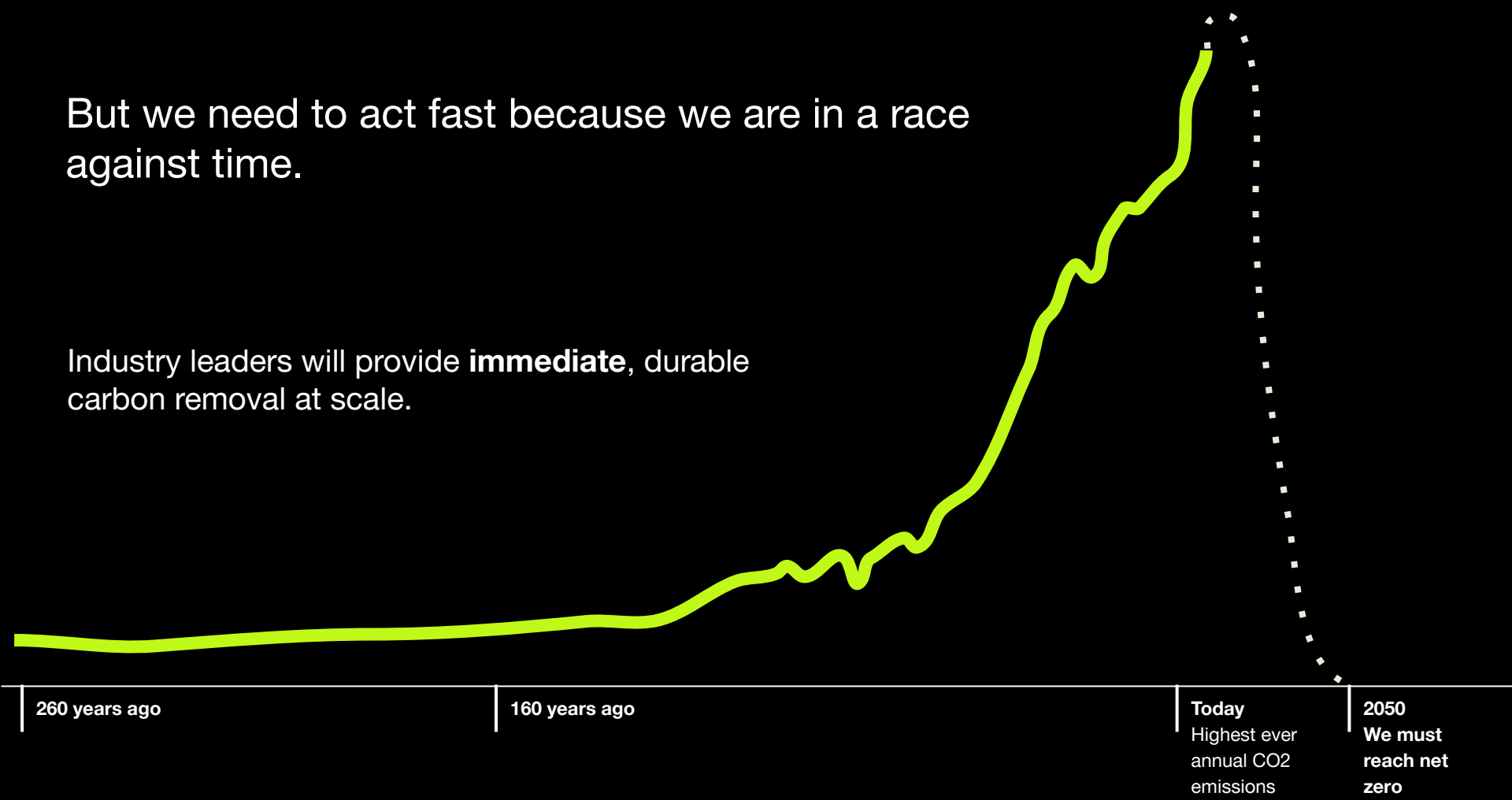
260 years ago
Industrial Revolution
Humans start emitting CO2

160 years ago
Oil & Gas Industry
Human emissions accelerate

Today
Highest ever annual CO2 emissions

But we need to act fast because we are in a race against time.

Industry leaders will provide **immediate**, durable carbon removal at scale.



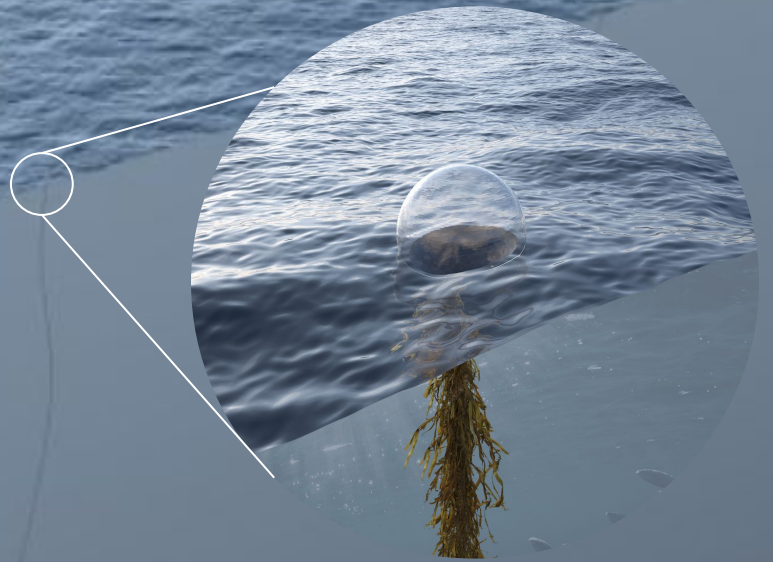
The ocean balances the atmosphere. We turn ocean gyres into the countervailing force for anthropogenic emissions.

Running Tide accelerates carbon dioxide removal in the ocean with technology and operational expertise .

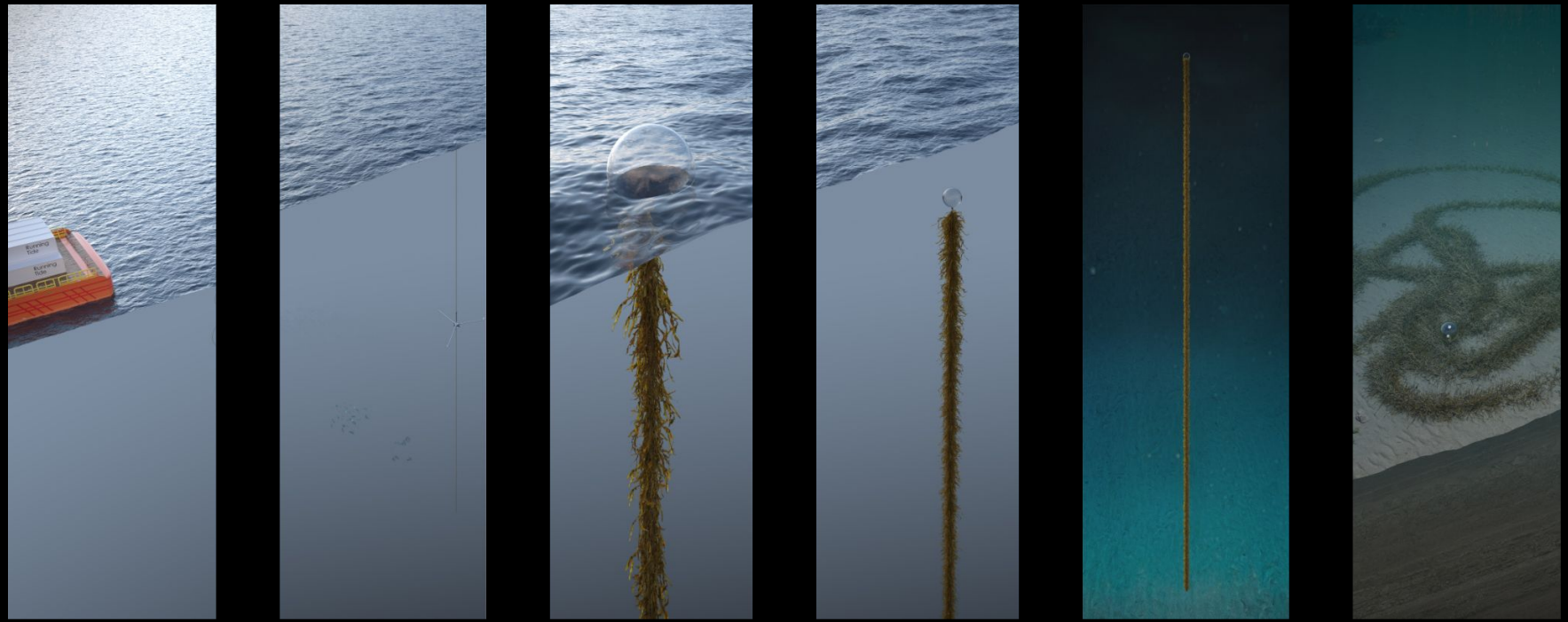
We are building a system to remove megatons and eventually gigatons of CO_2.

We grow and sink biomass in targeted open-ocean currents. This turns ocean currents into highly productive carbon conveyor belts.

We transport biomass and alkaline materials and grow kelp far offshore.
Then we sink it into the deep ocean.
This permanently removes carbon.
We get paid to do it.



Biomass microforests are the world’s most efficient carbon removal system, relying primarily on photosynthesis, ocean currents and gravity.



Our results are promising.

1

Kelp Growth Targets
Over 1k buoys deployed in Maine coastal waters. Our microforests exceeded expectations for growth and carbon content. 300 lbs of macroalage in a unit achieved.

2

Open-ocean Operations
Multiple successful deployments into open-ocean currents, including a 1,200 mile trip, the most difficult journey we will do.

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Proprietary Machine Vision
In nutrient rich offshore waters we are measuring biomass with a proprietary machine vision system.

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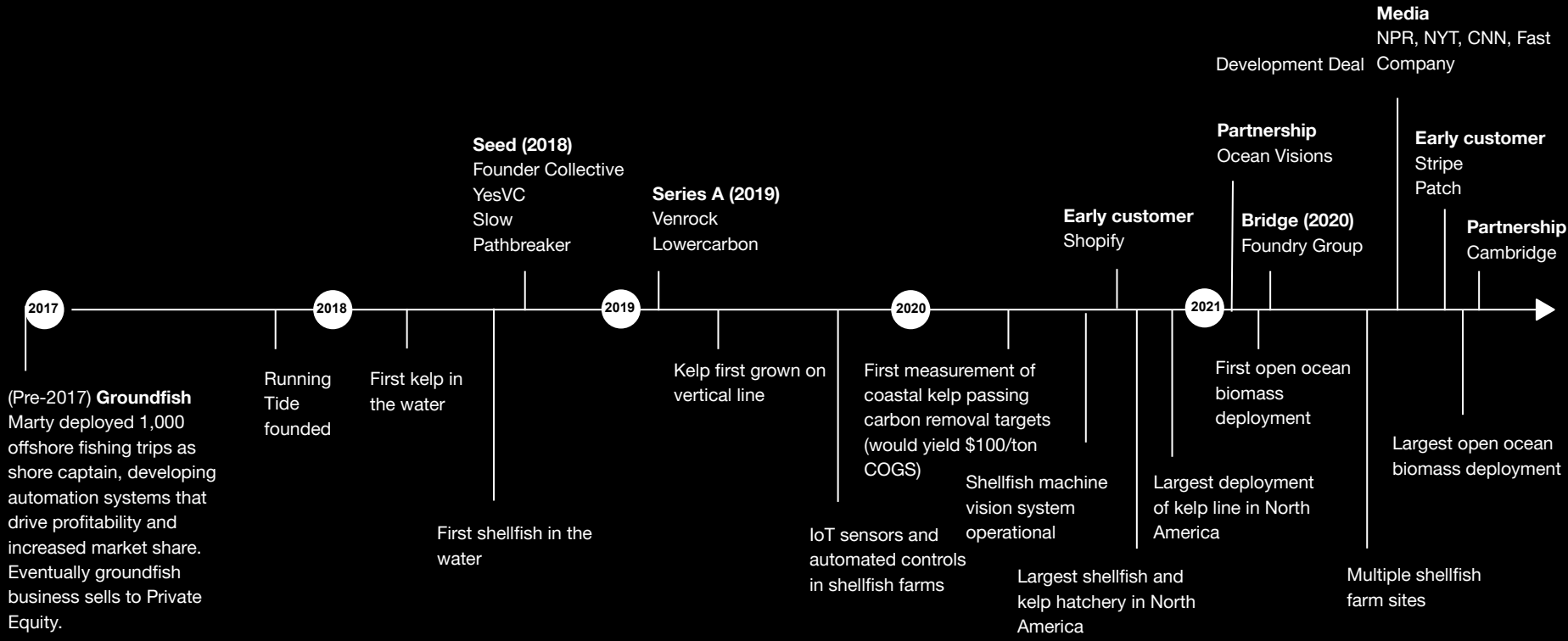
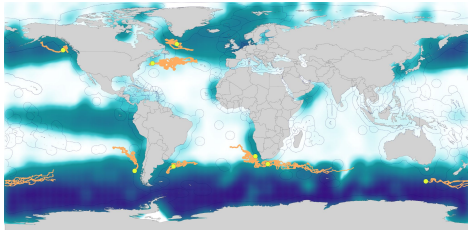
Ocean Modeling
Our ocean models are incorporating real time data from multiple deployments.

Our traction so far.



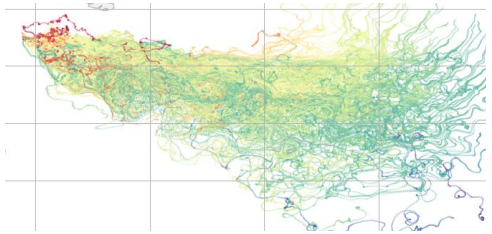
Underlying everything we do is our Ocean Data Platform

1



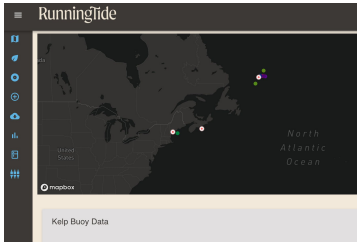
Ocean Science Analysis : identify ocean currents based on drift model, permanence, environmental conditions, carrying capacities and more.

2



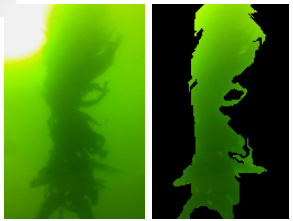
Drift Analysis: deploy in specific locations based on our ocean current models.

5



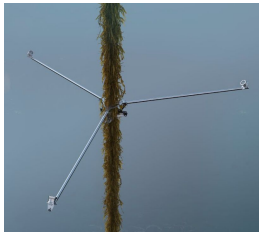
Modelling & Dashboards: aggregate ocean science data from around the world. Model biomass growth and carbon content.

4



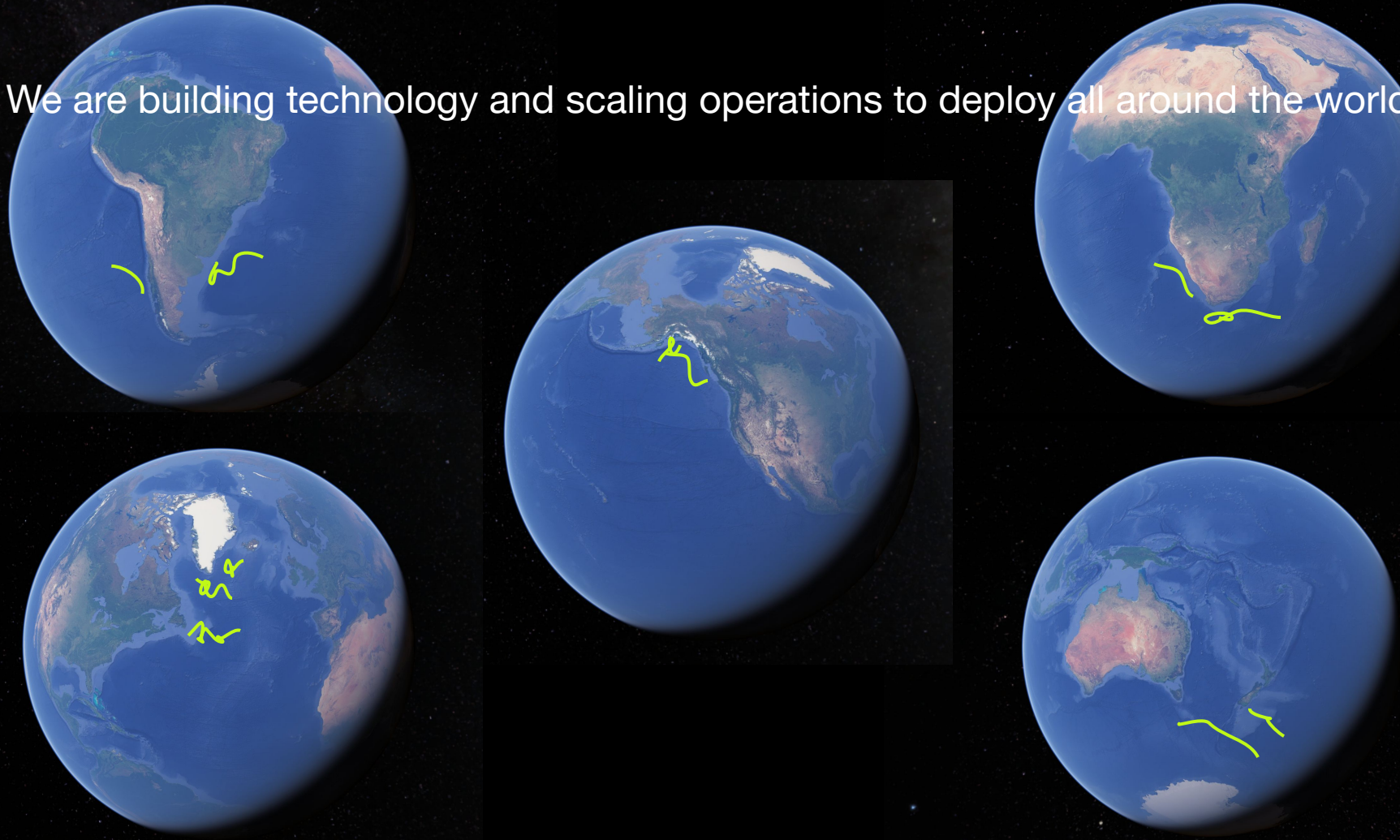
Machine Vision : data captured from deployments is fed back into our models. Data is also made available for verification

3

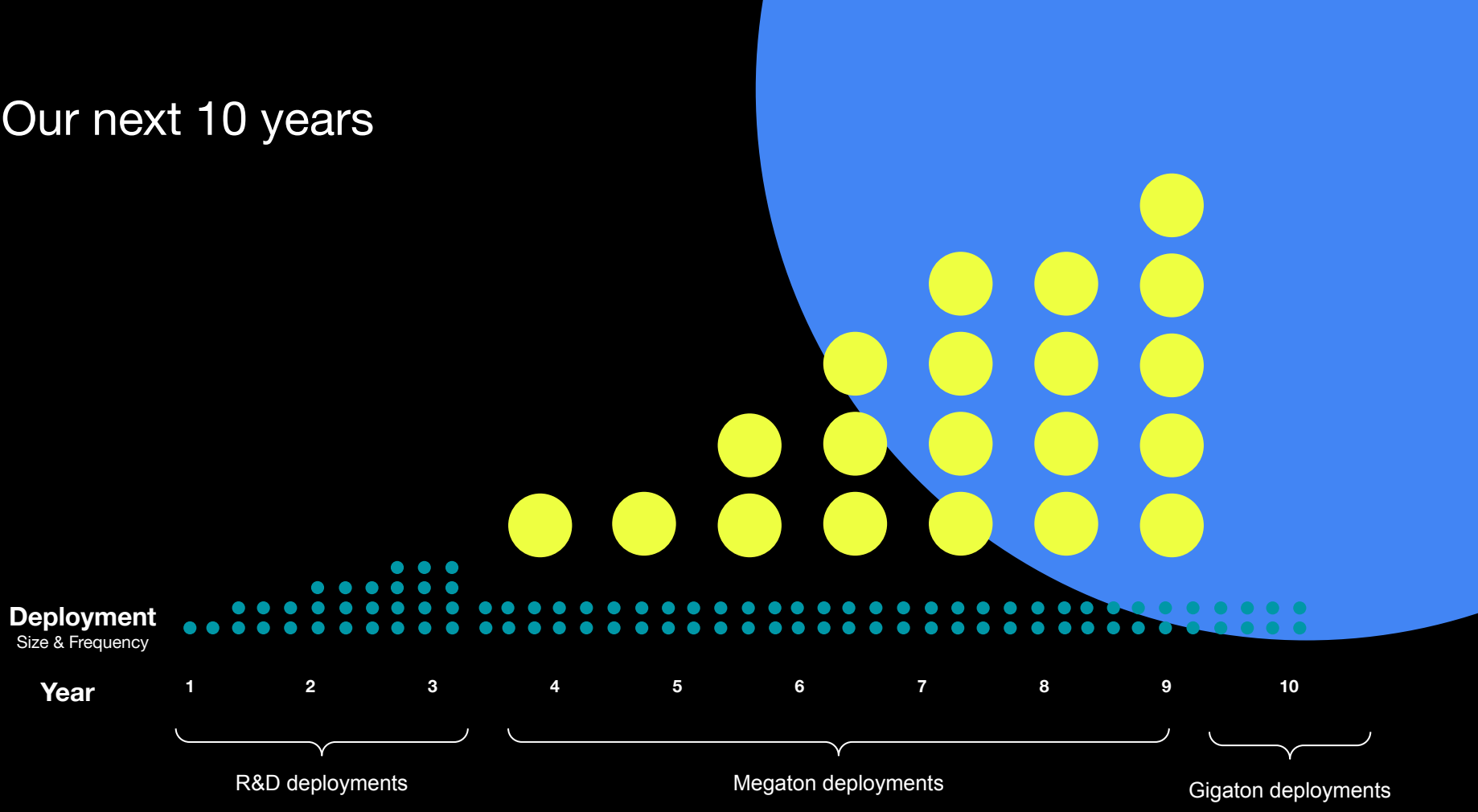


Remote Tracking Systems : biomass images, growth data & environmental data are captured with proprietary systems. Information is sent via satellite telemetry.

We are building technology and scaling operations to deploy all around the world.



Our next 10 years



We need $100M in the next 3 years to reach megaton scale

$23M
Iterative deployments to increase carbon yield

Approximately 10 small deployments annually for the next 3 years, locations around globally

$66M
Production ramp to operate at megaton scale

Capital intensive biomass development to prepare systems to operate at massive scale

$7M
Research

Ongoing research in key areas such as genetics, chemistry, ocean modeling and more

$4M
Supporting functions

Functions that will support our long term operations such as policy, lobbying and communications

Thank you.

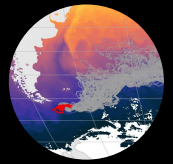
Appendix

To reach target cost per ton, we must be run two paths in parallel.

Increase or decrease?

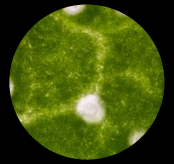
Kelp Yield
(R&D)

Agronomy
Kelp production methods using fertilizers, hormones, and more.



Ocean Science
Drift models and identify ideal deployment locations.

Operations
Operations optimization from handling to deployment.



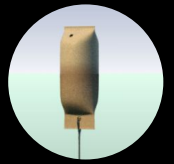
Microbes
Kelp microbiome to understand overall impact to plant and ocean health.

Genetics
Computational genetics for optimal traits.

Cost to Deploy
(Megaton System)

Design for Scale
For example, our container hatcheries are designed to fit as much line as possible. They are efficient and systems that allow for processing on land and at sea.

Automate
Critical bottlenecks in the process are addressed with automation and robotics, leveraging solutions from other industries wherever possible.



Dematerialize
Design solutions that require as little as processing as possible.

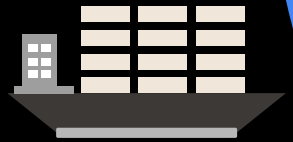
Supply Chains
Establish early supply chains, leverage existing pulp & paper refuse that are easy to spin up.

How our operations scale

R&D

Small deployments to iterate and optimize the system

Goal = Increase Kelp Growth and Alkalinity Yields



Megaton

Building a biomass deployment system to operate at megaton scale.

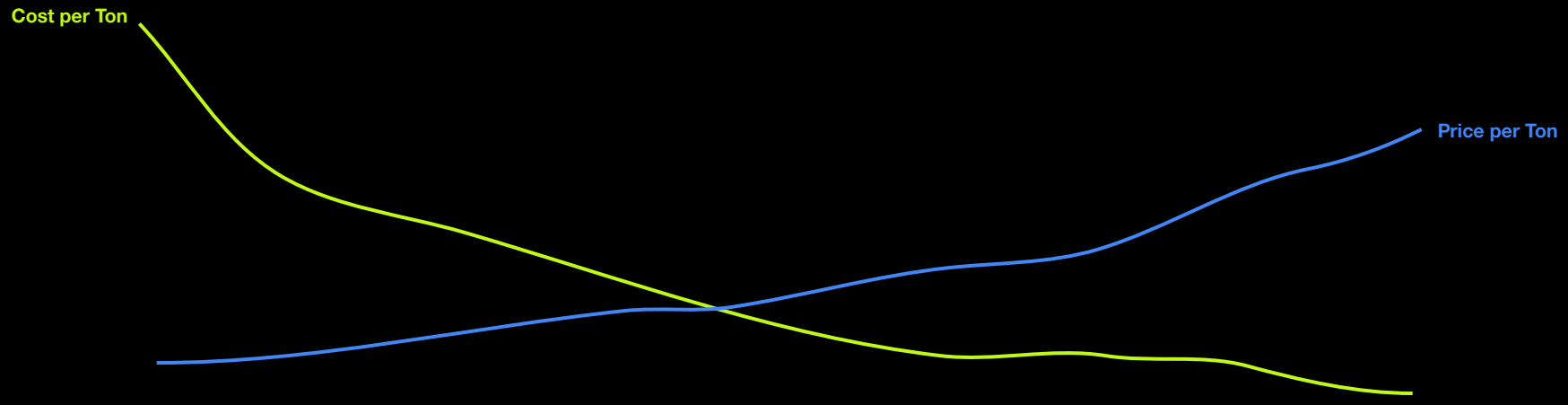
Goal = Decrease costs

Gigaton

Designing an integrated system to operate at gigaton scale.

Goal = Push the boundaries of what's proven

Cost of Goods Sold vs Revenue



Cost per Ton	$308	$280	$252	$126	$99	$90	$81	$72	$63	$25
Expected Price per Ton	$	$	$	$	$100	$	$	$	$	$100
Estimated Revenue										$100B
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

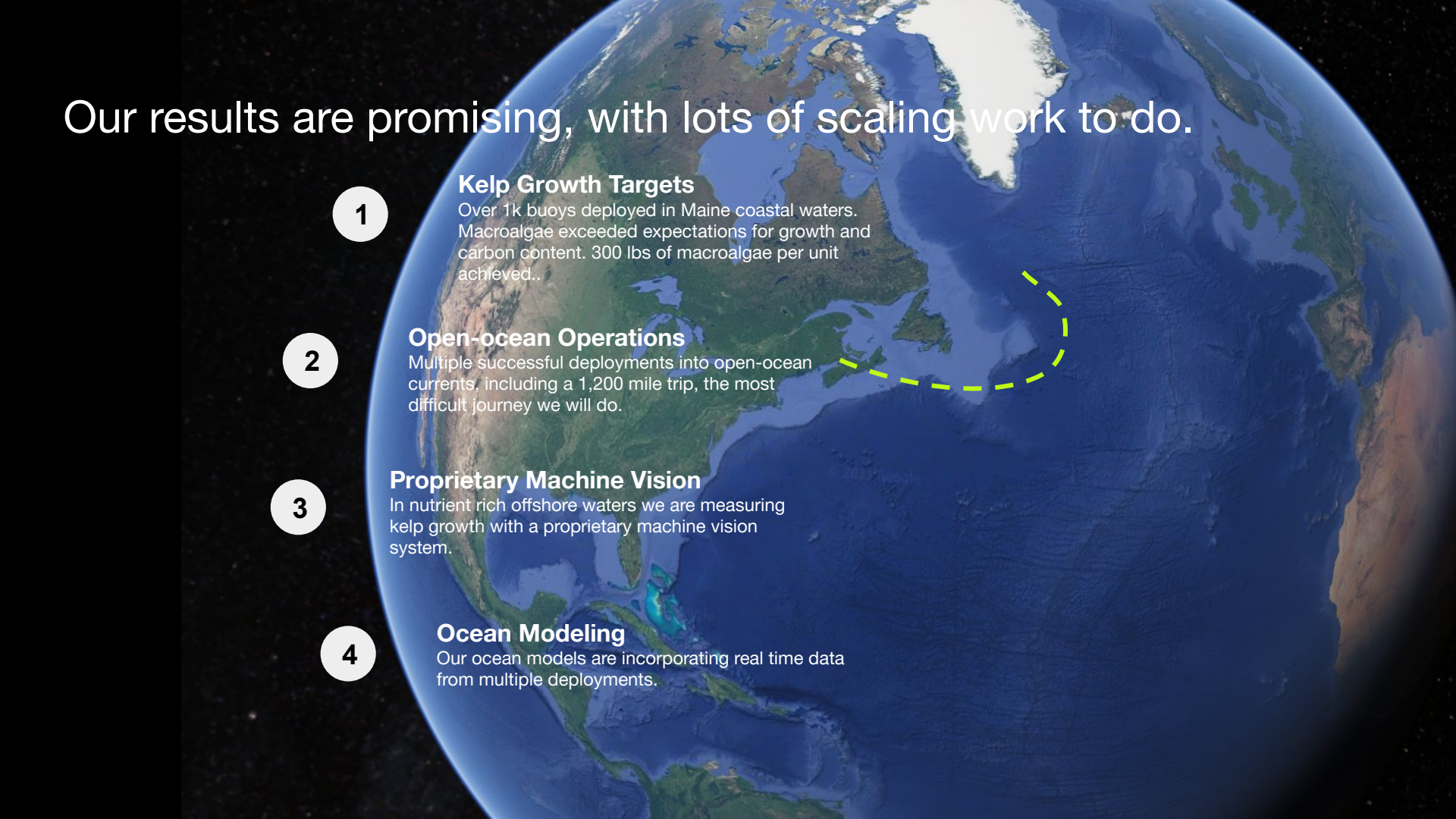
Macroalgae is the perfect carbon removal solution

Low Cost.
Macroalgae removes carbon naturally with photosynthesis, ocean currents & gravity.

Durable.
The deep ocean is a natural carbon store.

Fast.
Kelp removes carbon 20x faster than trees, reaching maximum growth in 9 months.

Our results are promising, with lots of scaling work to do.



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