



Responsible AI enabled Sustainability

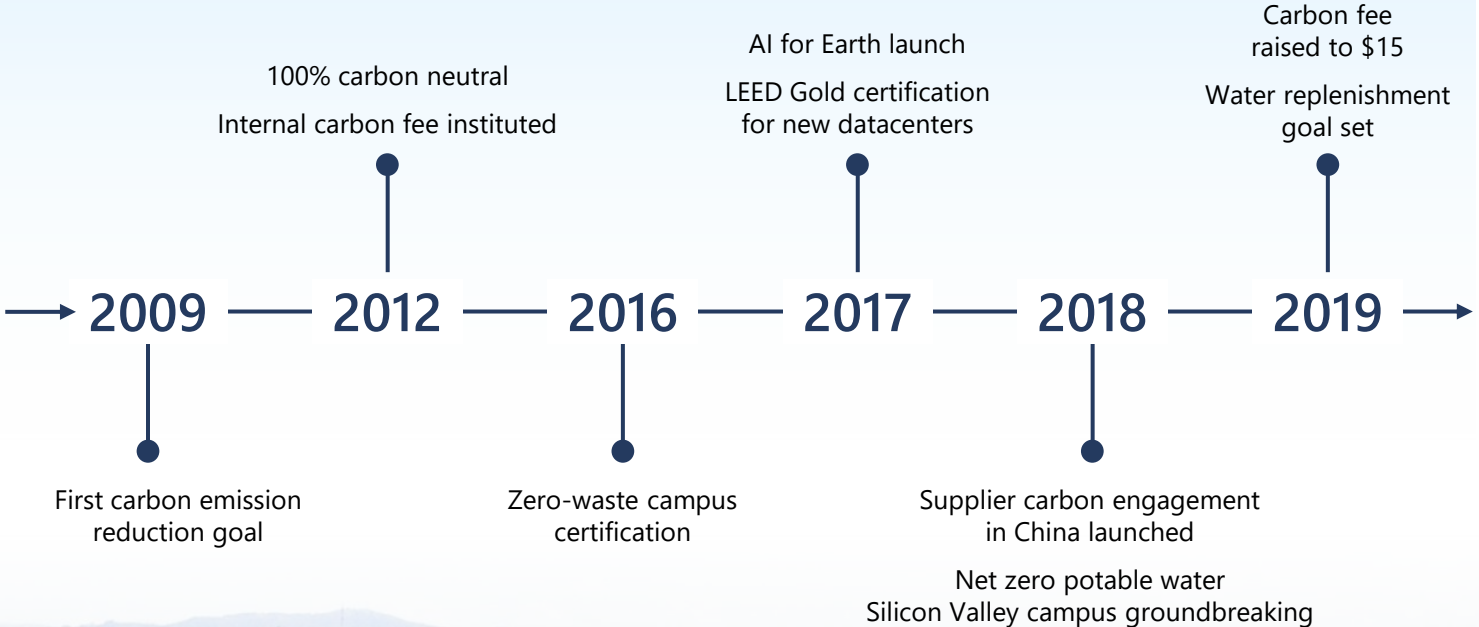
Fabrice Gürmann

Data & AI principal | Microsoft Switzerland

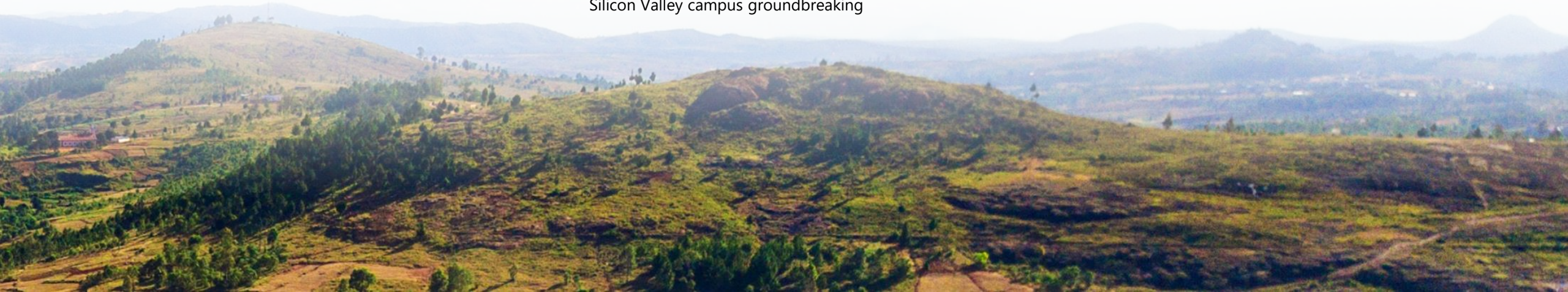
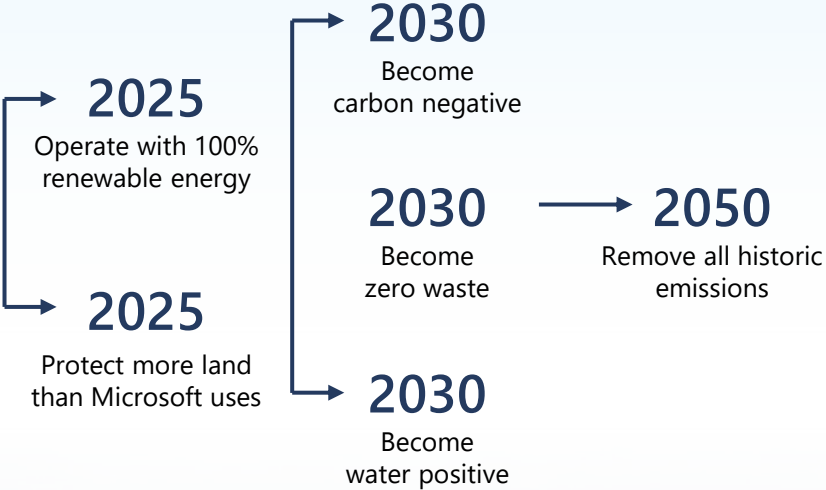


Decades of action

Our history 2009-2019



Our commitments 2020-2050



Applying our best practices to help others achieve meaningful transformation

A more resilient future is possible through collaborative partnerships



**Carbon negative
by 2030**




**Water positive
by 2030**



**Zero waste
by 2030**



**Protect ecosystems
and build a Planetary
Computer**

A woman with blonde hair, wearing an orange hard hat and a white blazer with blue accents, is smiling and looking to her right. She is holding a silver tablet computer. The background is a large pile of sorted recycling materials, including plastic and paper, in an industrial setting.

Microsoft is committed to leading the way, delivering **trusted, integrated, data-driven solutions** to address environmental challenges

Data intelligence accelerates sustainability progress



Create efficiencies
in your spaces and
processes



Facilitate supply
chain transparency



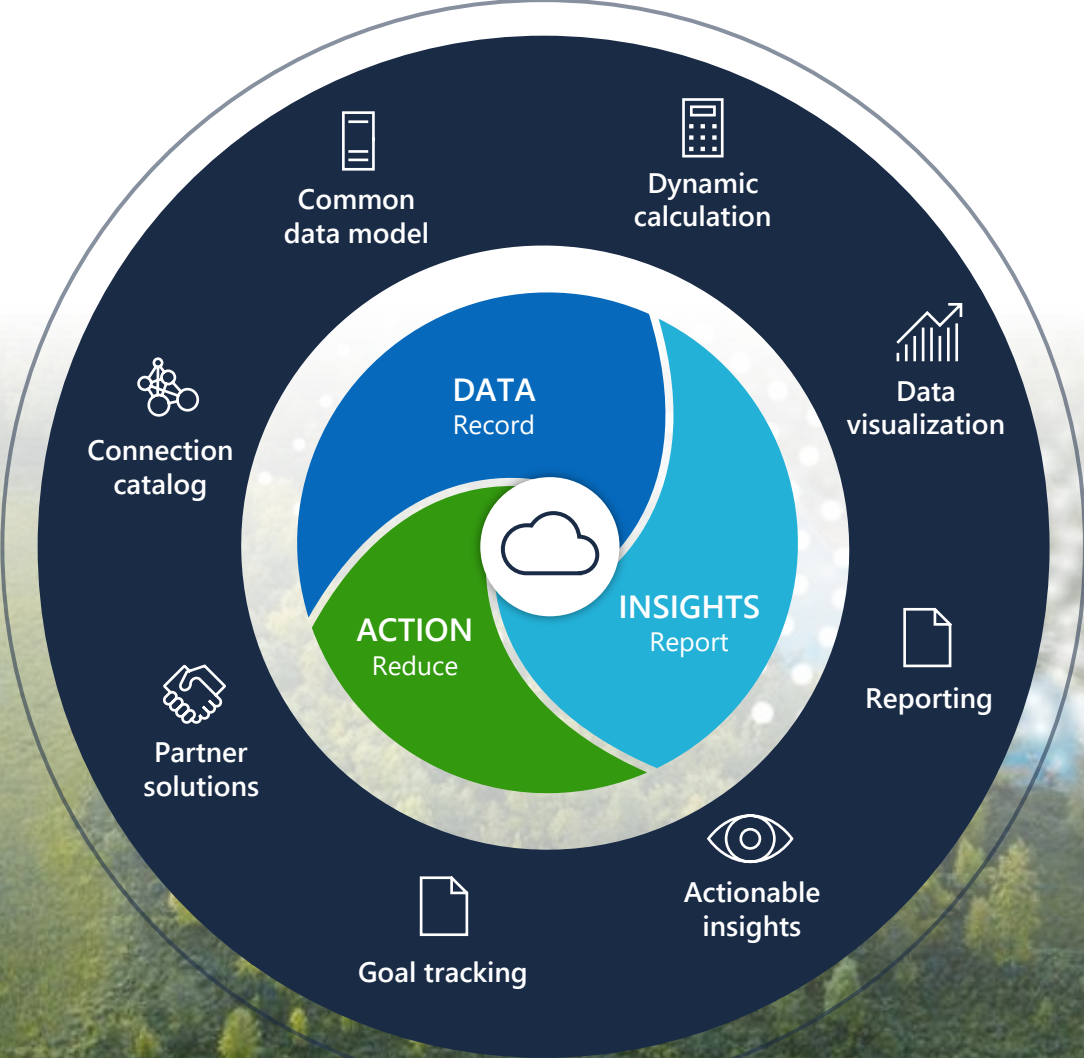
Support reuse and
repurposing of
materials and
products



Shift to
clean energy



Microsoft Cloud for Sustainability



We're on a
common,
connected
journey



Using data to drive insights, results
—and transformation

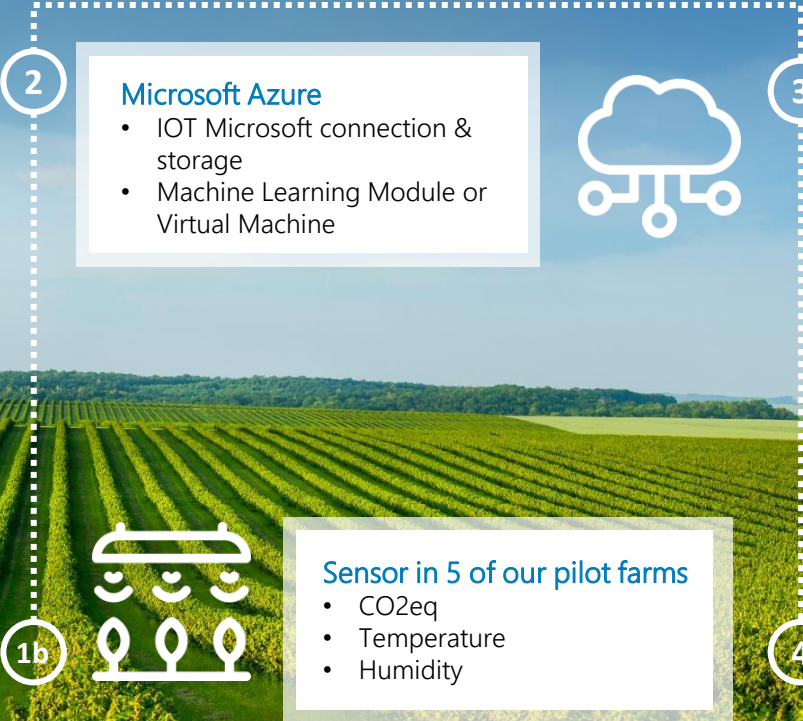
Water Waste Avoidance

Infant Nutrition Mexico roadmap to zero emissions.

The use of technology will be key for detection, monitoring, projections, which allow us to take effective and timely actions.

1a

Data collection in field
Herd, Grazing, Feed, Manure Management, energy, milk processing, fertilization, free stall, carbon stock, soil and irrigation.



2

Microsoft Azure

- IOT Microsoft connection & storage
- Machine Learning Module or Virtual Machine



1b

Sensor in 5 of our pilot farms

- CO2eq
- Temperature
- Humidity



3

Detect, monitor and project GHG impact.



4

Deploy specific actions and control
In the communities of our pilots, enabling farmers to run profitable and sustainable farms

Sustainable Fishing

IoT, Sensors and Edge devices for sustainable salmon fishing.



Shifting into high gear with Bing Ads

"To continuously improve sustainability and increase the safety of our individuals, we worked with ABB and Microsoft to co-create innovative ways that empower us to achieve more on every level."

- Arve Olav Lervag, COO Farming, NRS.

Empower Fish Farmers through AI

Norway Royal Salmon (NRS) is a leading producer of sustainable salmon, selling about 70,000 tons of salmon every year. This equates to one million salmon meals per day, all year round.

In the harsh and sometimes dangerous environments of the most northern parts of Norway, NRS sought to **increase the safety** of its employees, **reduce operational costs** and **prioritize sustainability** of Nordic aquaculture.

Want to learn more? [Read the full story.](#)

The challenge

How can we measure, weight the fish more accurately?
How can we check for sea lice more safely, without visiting the farm in stormy weather?

The results

To date, Norway Royal Salmon already shows **double digit savings** due to less on site visits, **improved safety**, better food distribution **and better planning** for harvesting.

The solutions



Biomass Underwater cameras capture images of the salmon in their submerged fish pens, floating kilometers offshore at sea. A layer of AI on top of the video footage makes it possible to measure and count salmon automatically.

Our intelligent edge analyses fishes through video stream 24/7 that allow us to continuously improve the accuracy of the biomass.



Sea Lice detection 4k cameras allow NRS to detect Sea Lice in real time and forward the information to the government. In addition, the data collection helps NRS to detect under what conditions sea lice appear.

The used convolutional deep learning framework allow us as well to analyse fish lice, wounds or other behaviours of the fishes.

Thank you!

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