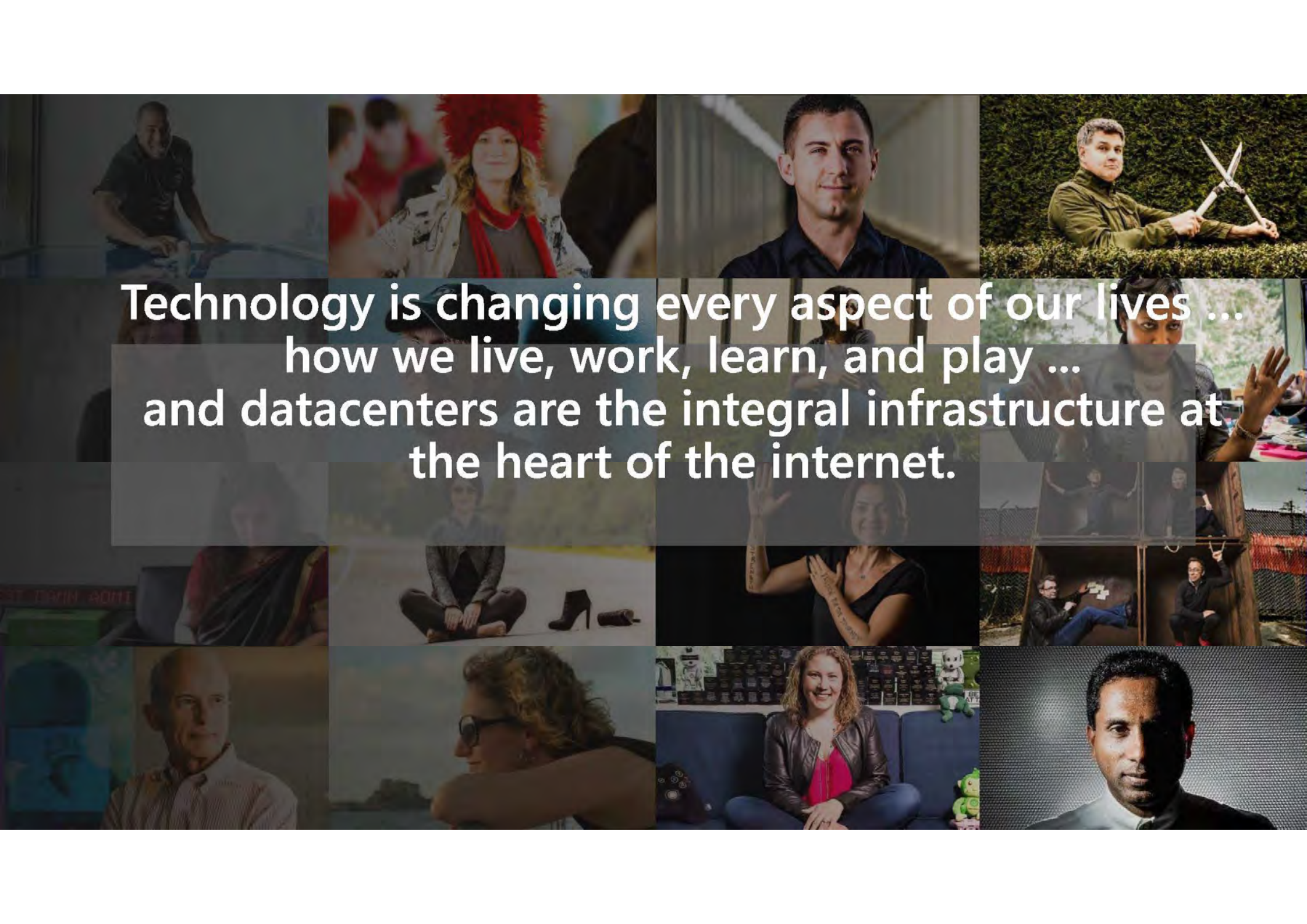**Microsoft**
Microsoft Building Datacenters in Finland

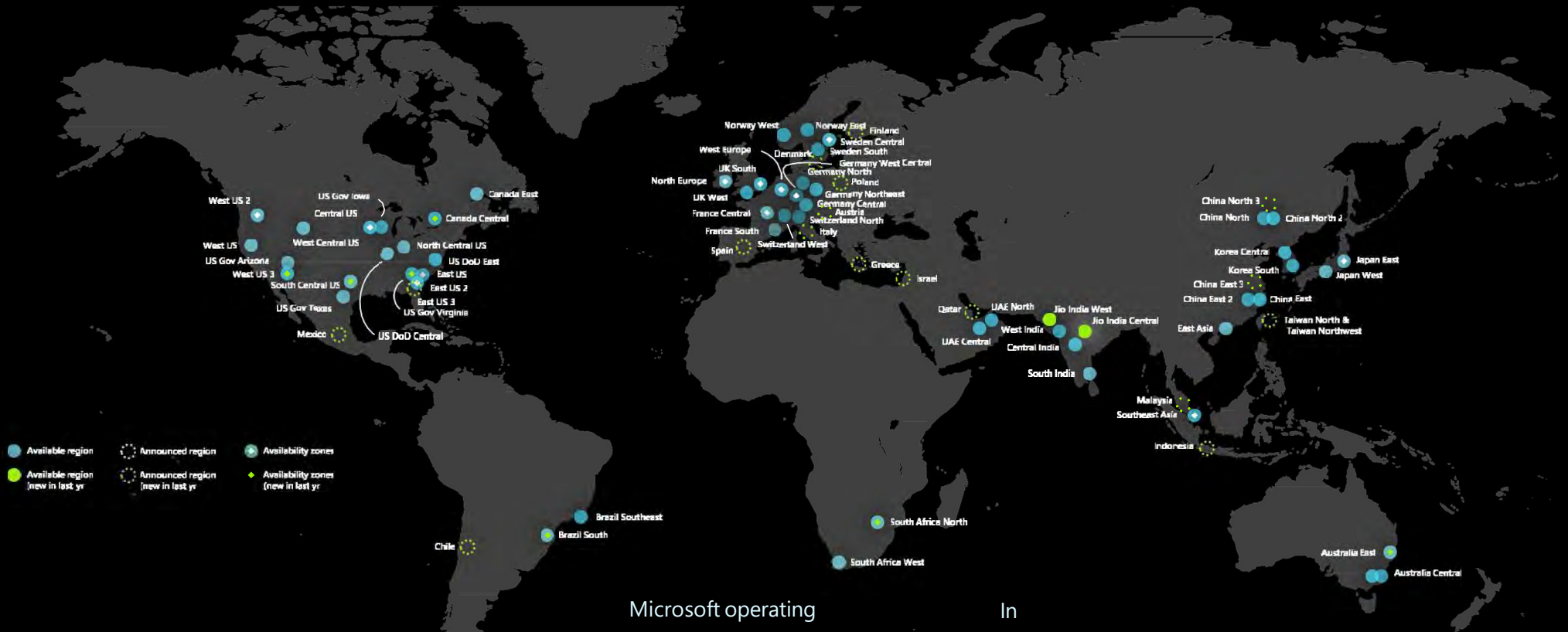Future Data Summit

FDCA Helsinki

Frej Werner 11 October 2023

Technology is changing every aspect of our lives ...
how we live, work, learn, and play ...
and datacenters are the integral infrastructure at
the heart of the internet.

Microsoft Datacenters around the world
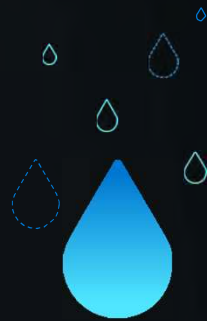

Microsoft operating
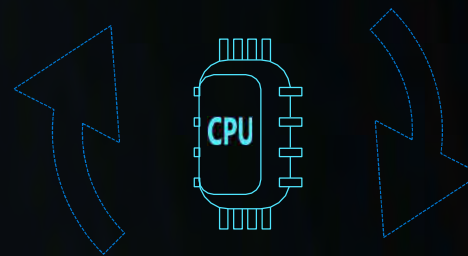
200+
datacenters

In

34+
countries

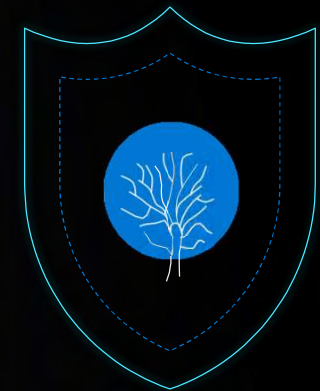# Microsoft - Global Sustainability Goals

Carbon negative by 2030, and by 2050 we will remove our historical carbon footprint from 1975 onwards

Water-positive by 2030

Zero waste by 2030

We protect more land than we use by 2030

Energy from three perspectives

A consumer
on the grid

Large customer with **stable, high-value load** and high average load factor
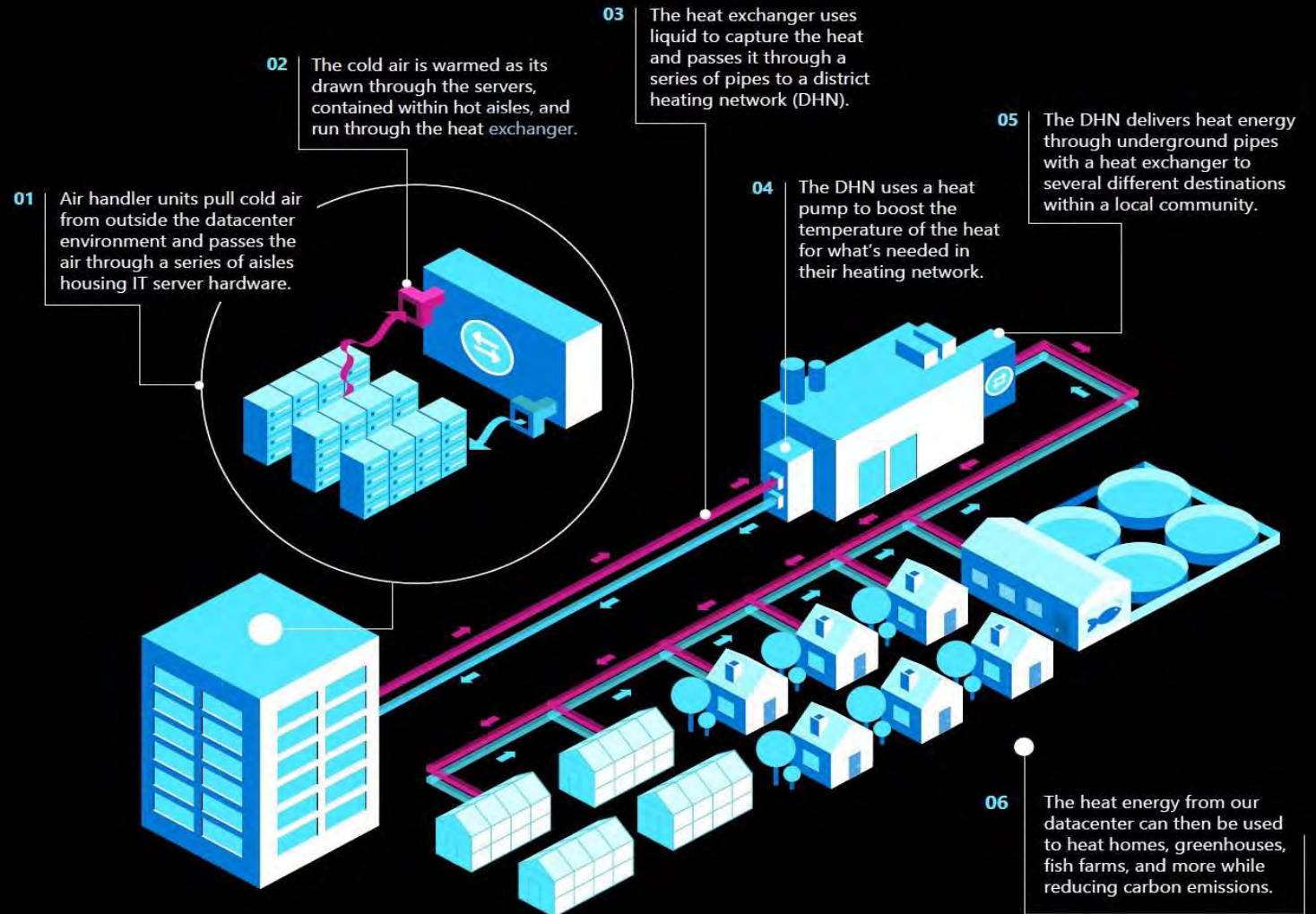
A collaborator
in clean energy & grid

Dedicated to procuring **100% emissions free energy** and being **carbon negative** and **diesel free** by **2030.**

An innovator
of energy technology

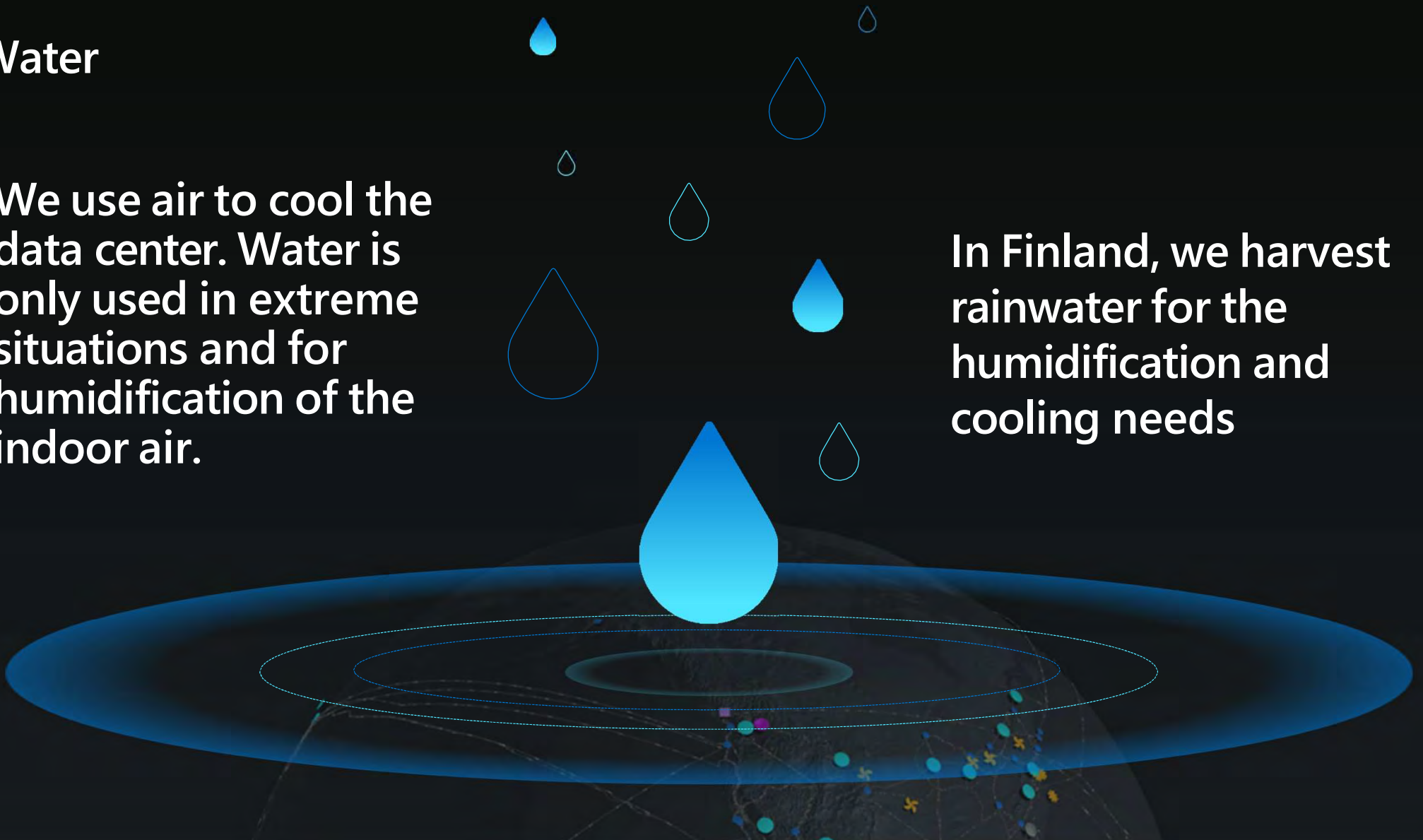Improving **grid reliability** and enabling **environmental efficiencies**

Reuse of waste heat in the aircooled datacenter

01 | Air handler units pull cold air from outside the datacenter environment and passes the air through a series of aisles housing IT server hardware.

02 | The cold air is warmed as its drawn through the servers, contained within hot aisles, and run through the heat exchanger.

03 | The heat exchanger uses liquid to capture the heat and passes it through a series of pipes to a district heating network (DHN).

04 | The DHN uses a heat pump to boost the temperature of the heat for what's needed in their heating network.

05 | The DHN delivers heat energy through underground pipes with a heat exchanger to several different destinations within a local community.

06 | The heat energy from our datacenter can then be used to heat homes, greenhouses, fish farms, and more while reducing carbon emissions.

Water

We use air to cool the data center. Water is only used in extreme situations and for humidification of the indoor air.

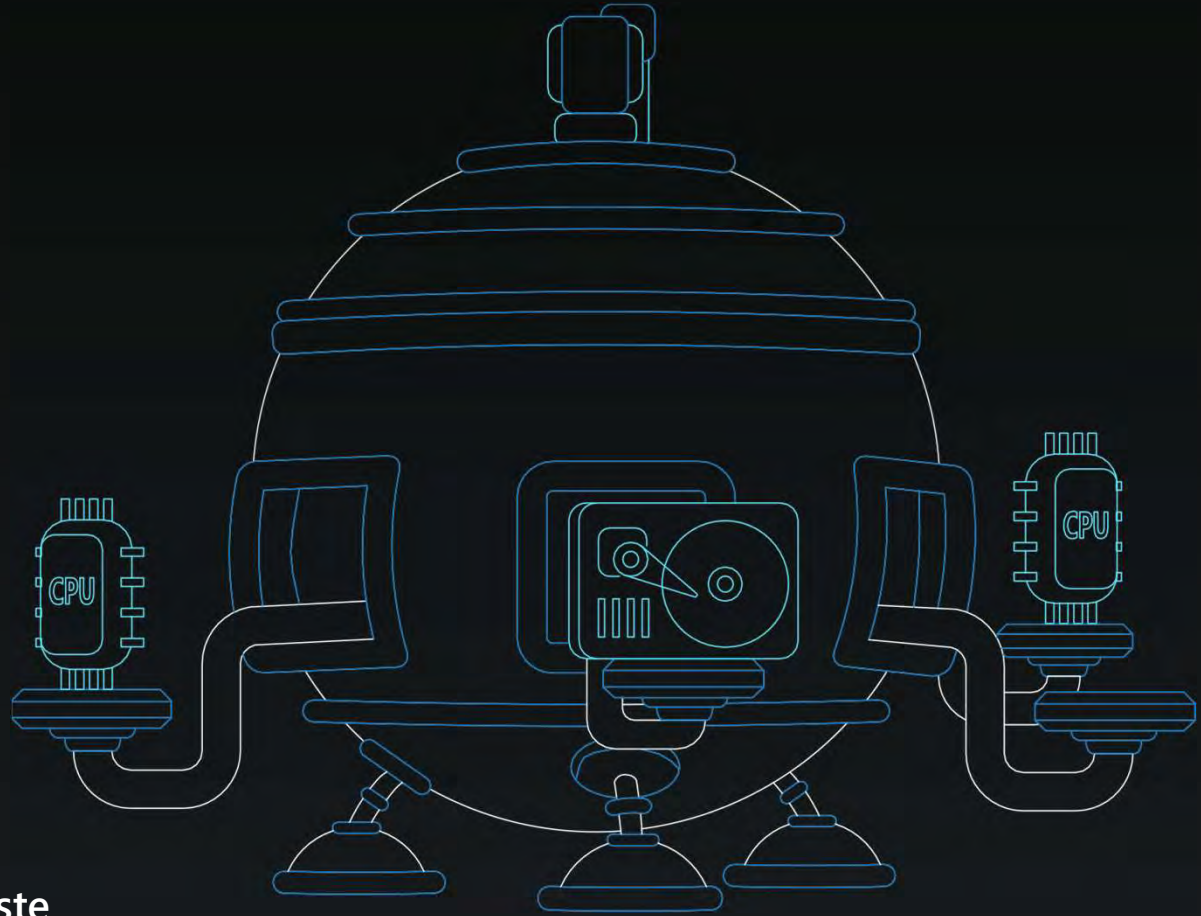In Finland, we harvest rainwater for the humidification and cooling needs

Waste (circular economy)

90%

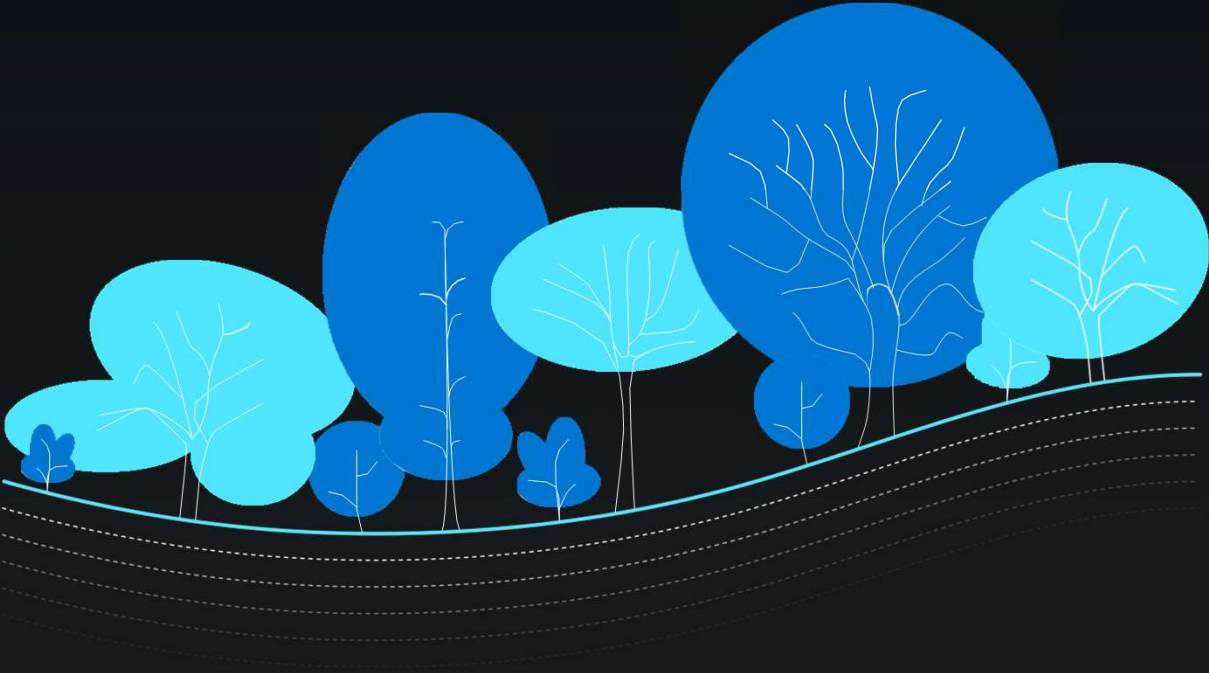**of servers and components will be recycled by 2024**

We commit to achieving "zero waste" by 2030

E.g. Dublin Ireland data center zero-waste certificate

Ecosystems

We will protect and restore more land than we use by 2030.

Social Sustainability

Microsoft strives to be a good neighbor and to create a positive impact in the communities that host our datacenters.

We invest in people through **skill-building programs**

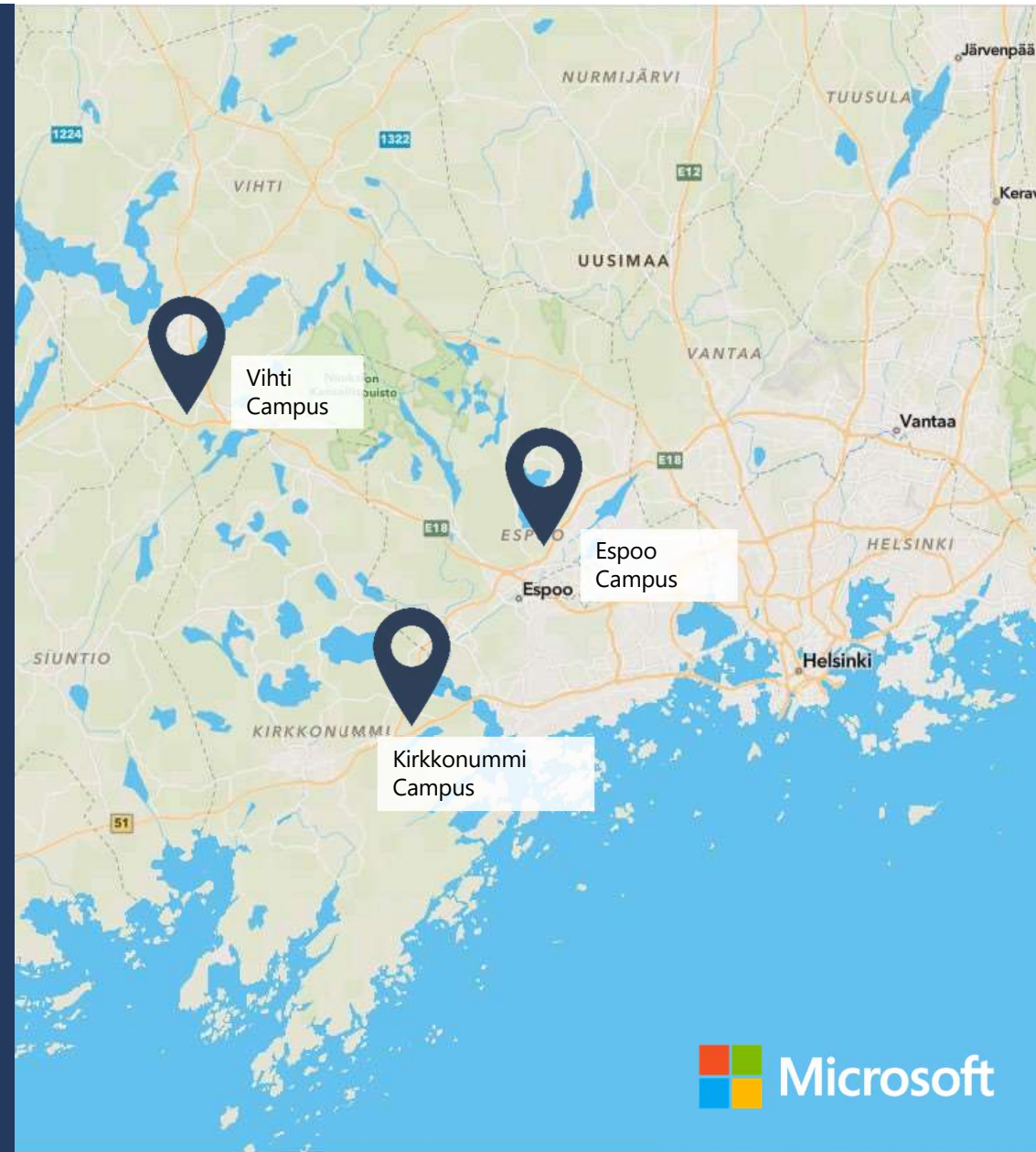We support **local projects** in response to community needs

We partner with **environmental sustainability programs** in the region
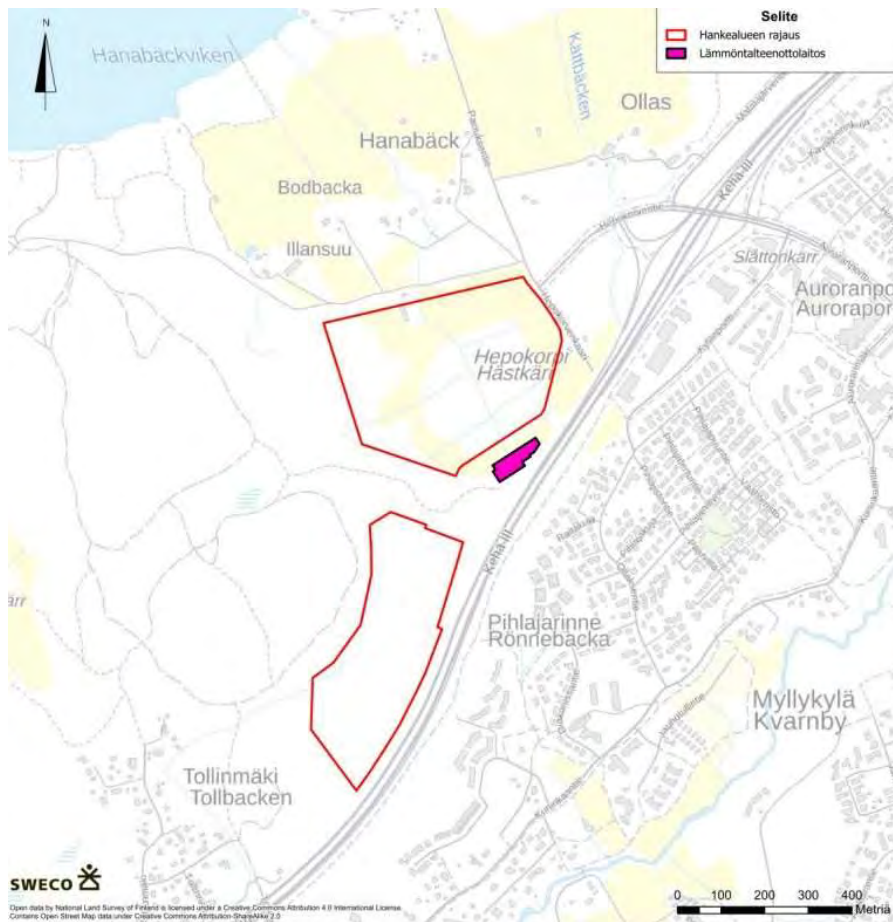
Microsoft datacenter region program

Land area
+ 1,400,000 sq m

Building right
+ 850,000 sq m

Location
Länsi-Uusimaa

KIRKKONUMMI KYRKSLÄTT

ESPOO ESBO

VIHTI

Vihti Campus

Espoo Campus

Kirkkonummi Campus

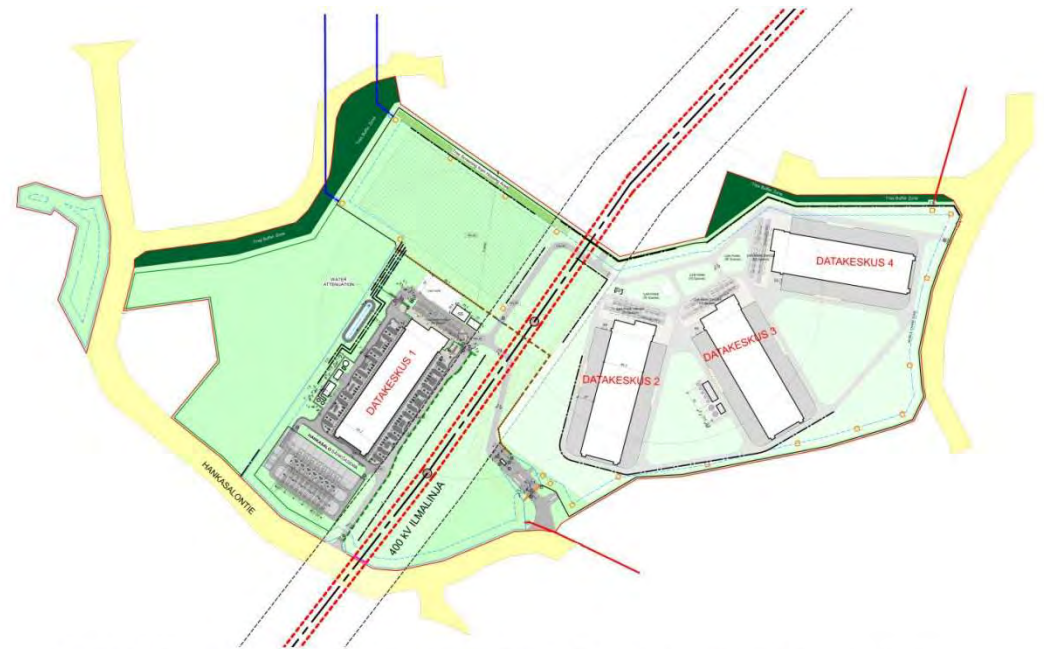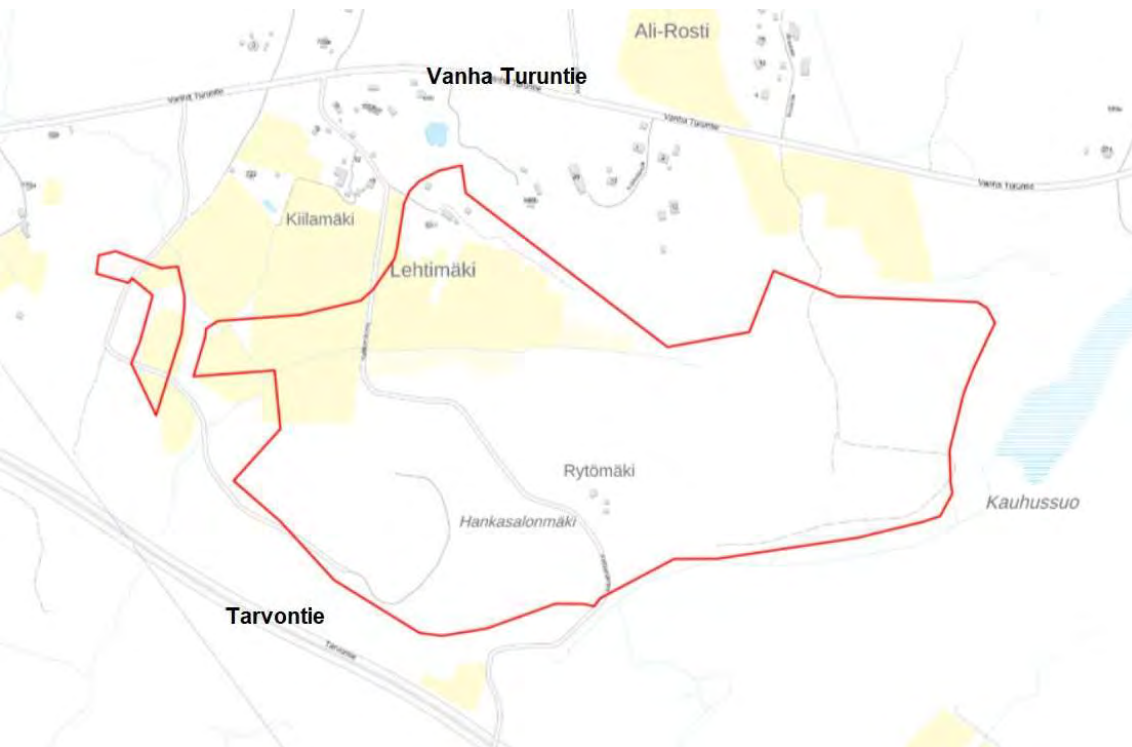Microsoft

Espoon Campus

Kuva 4. Nykyisen suunnitelman mukainen asemapiirros. Bild 4. Situationsplan enligt nuvarande plan.
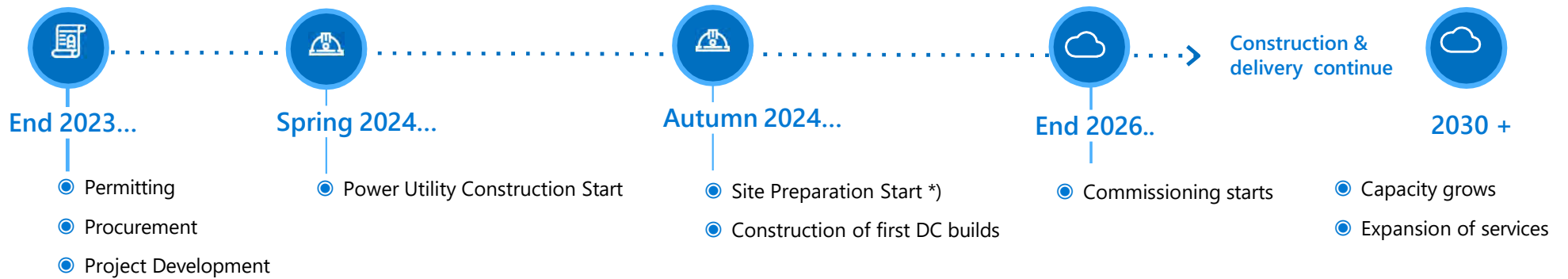
Kirkkonummi Campus

Vihti Campus

Kuva 4. Nykyisen suunnitelman mukainen asemapiirros. Bild 4. Situationsplan enligt nuvarande plan.

Datacenter Program timeline

End 2023...
- Permitting
- Procurement
- Project Development

Spring 2024...
- Power Utility Construction Start

Autumn 2024...
- Site Preparation Start *)
- Construction of first DC builds

End 2026..
- Commissioning starts

Construction & delivery continue

2030 +
- Capacity grows
- Expansion of services

*) Subject to permitting

Datacenter Community
aka.ms/SuomiDC