



The Future of Power Grids is here

How DLR can deliver transmission capacity faster, better and more cost-effectively

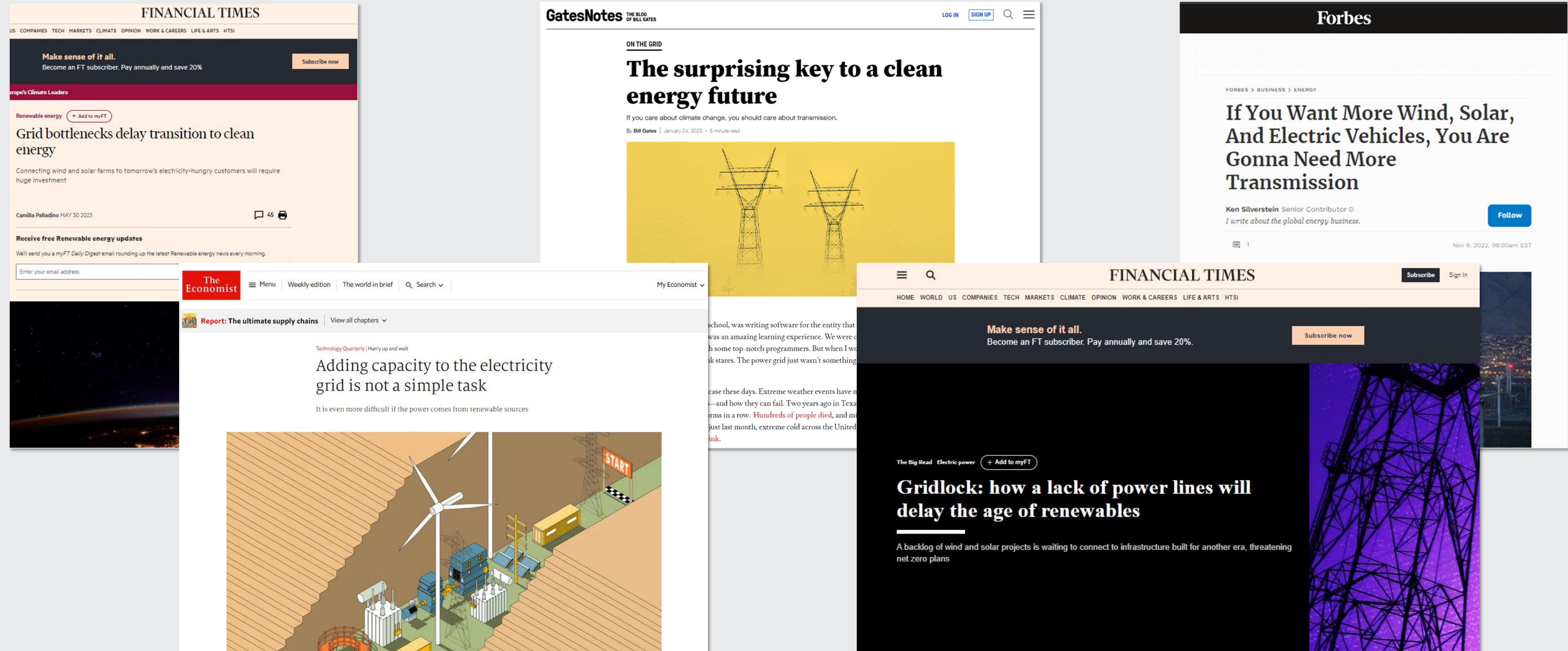






Power grids have become a mainstream topic

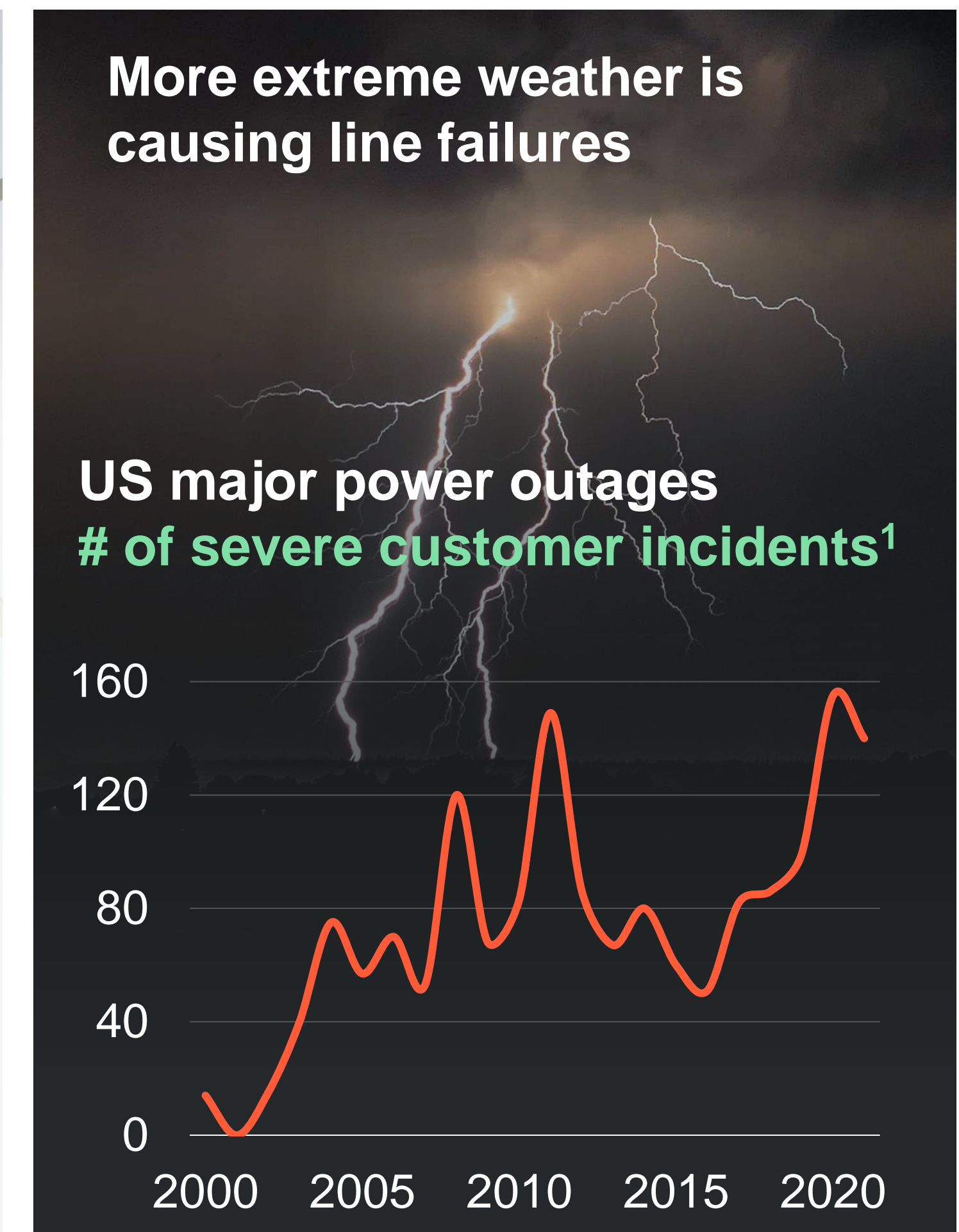
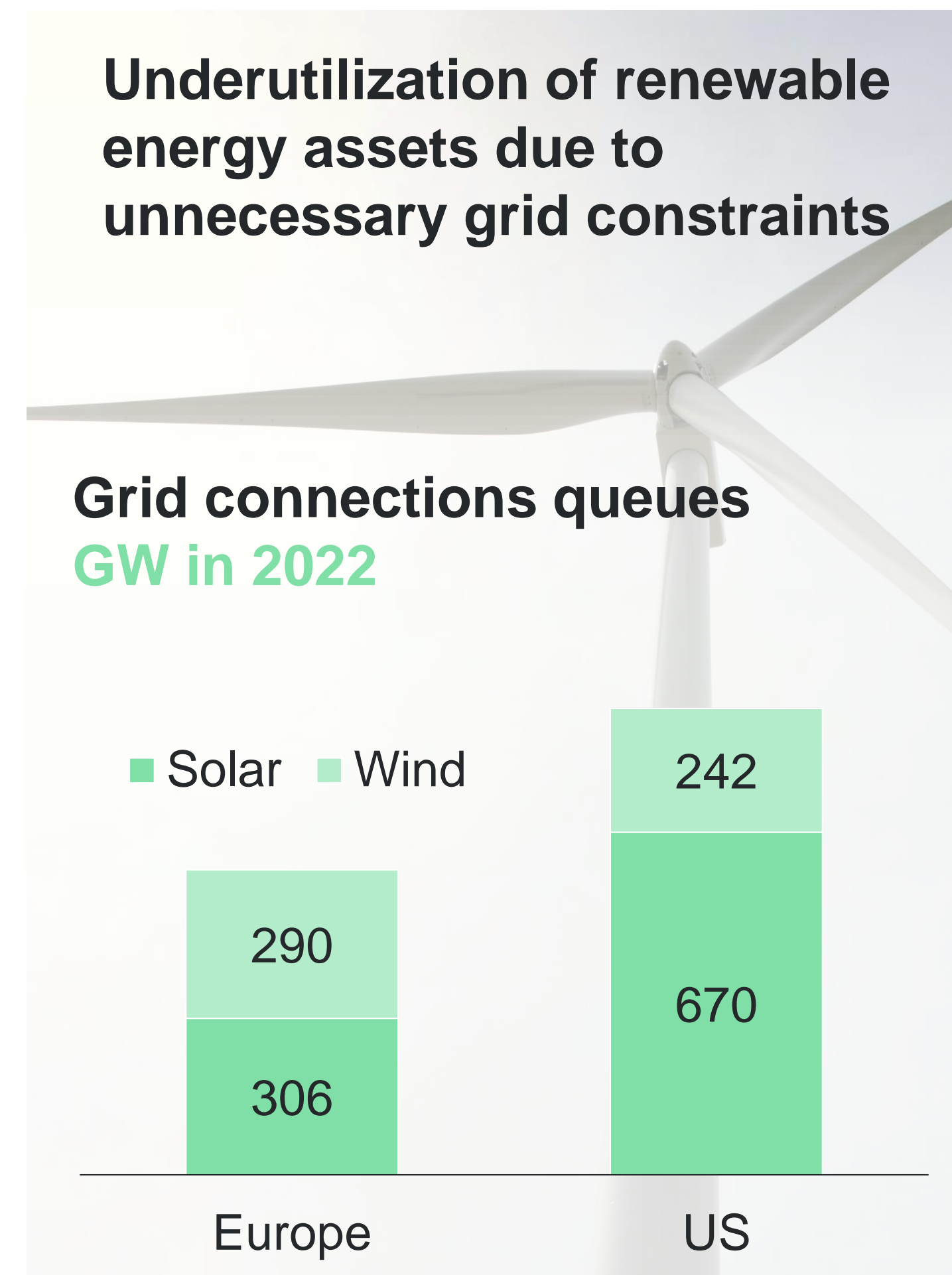
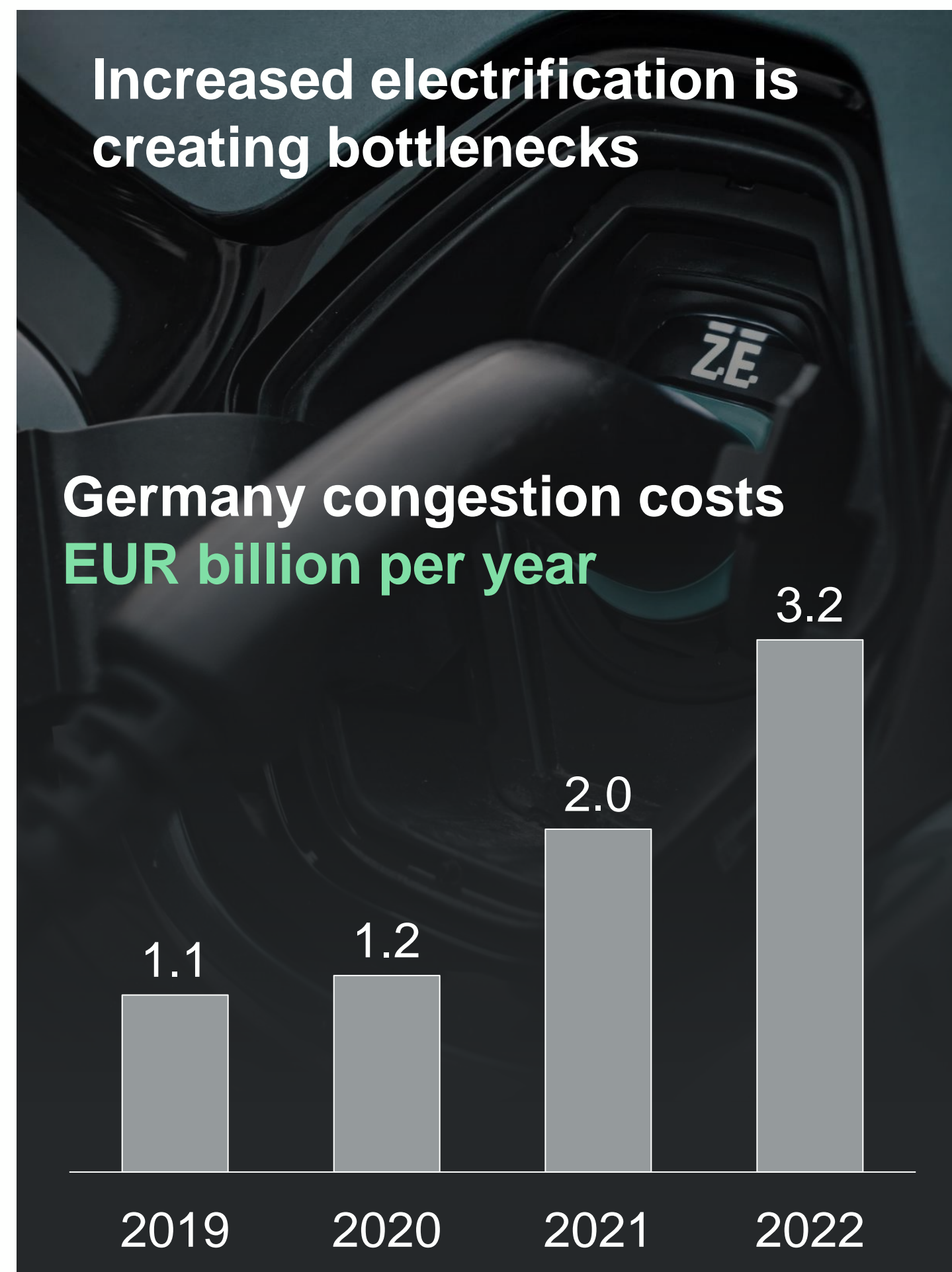
With a focus on the need to squeeze more out of the existing infrastructure



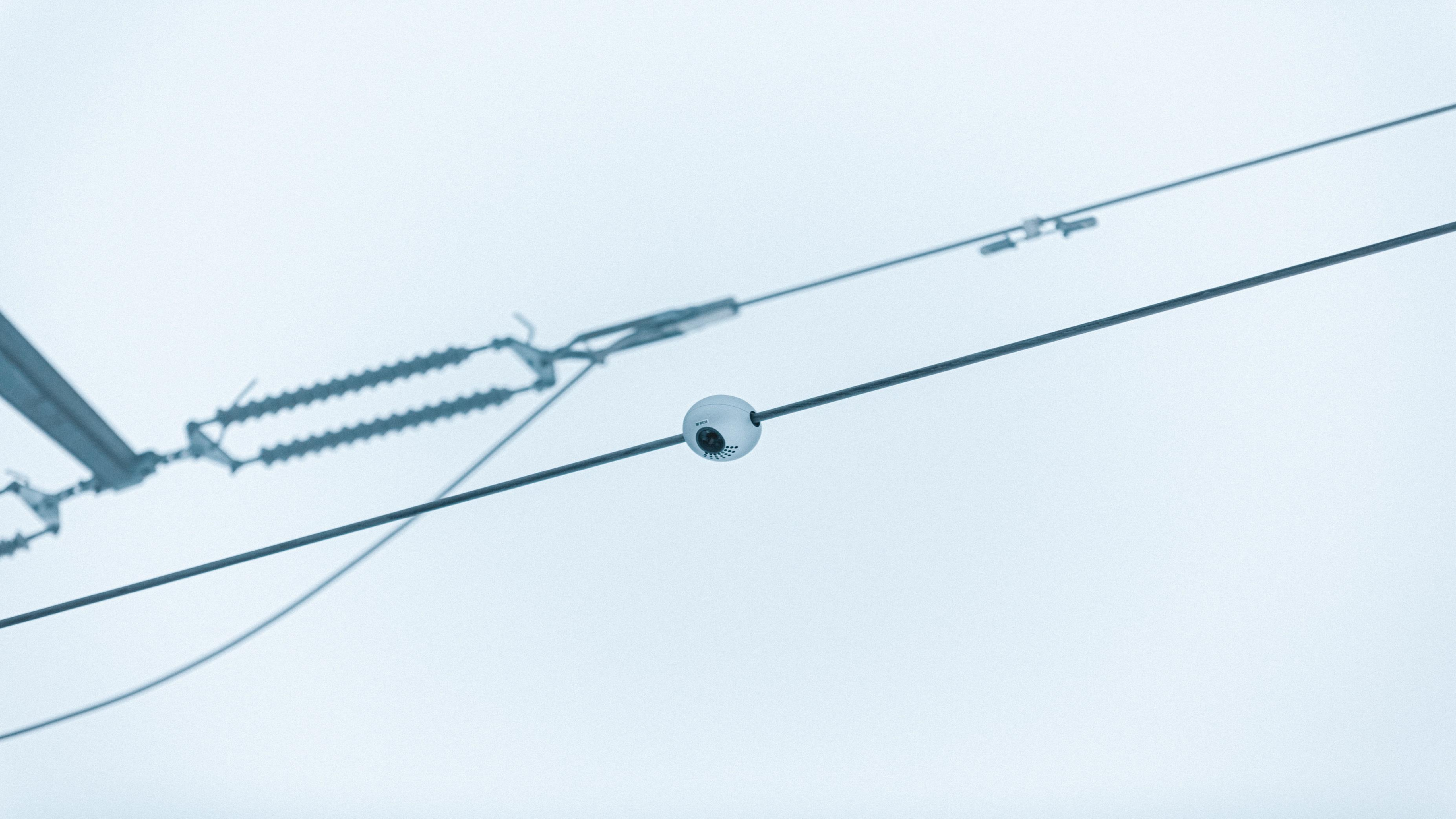


The grid is facing new challenges

Grid operators need digital tools to accommodate renewables and electrification









Heimdall combines software and sensors to increase grid capacity by **30-40% on average...**

...at a **fraction** of the **cost and time** of setting up a new power line

The “Neuron” State-of-the-art sensor

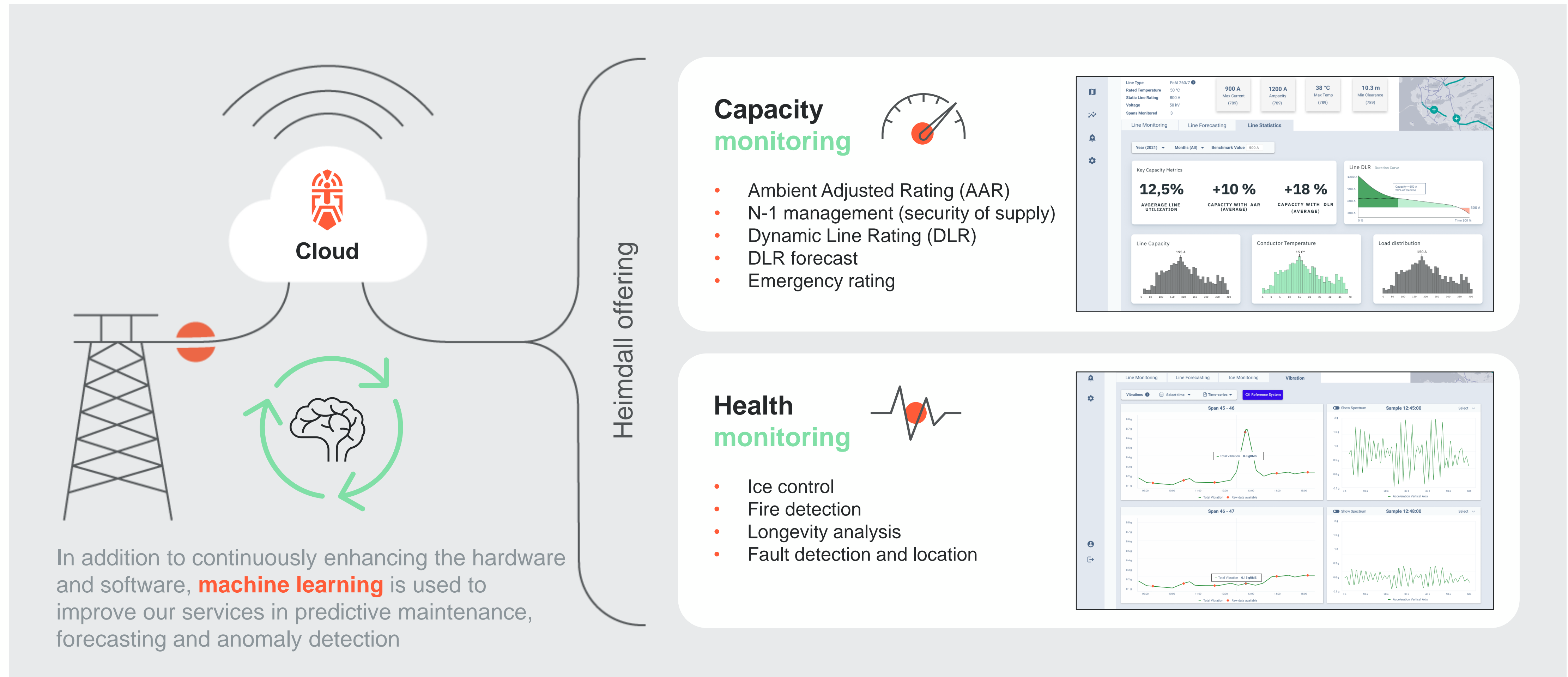
Supports a wide range of **use-cases, voltages** and **line diameters** – designed for **single-line** projects and **system-wide** deployment





Providing DLR & situational awareness

The software for real-time monitoring, forecasting and analysis of the power grid





99 % of high voltage power lines are not monitored by sensors...

...resulting in low observability and underutilization of grid assets

Without sensors...



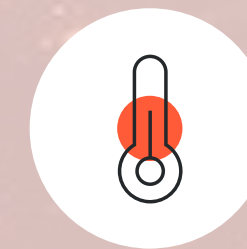
Line capacity

...grid operators use conservative static line ratings well below actual available capacity leading to curtailments



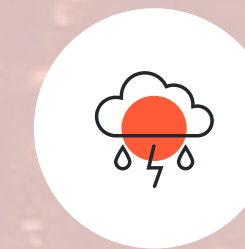
Line faults

...damages to lines can be difficult to locate resulting in increased downtime, maintenance and costs



Line condition

...local and rapidly changing temperatures and weather conditions make it difficult to manage risk



Line forecast

...it is difficult to predict future health and capacity of power lines, leading to less efficient operations



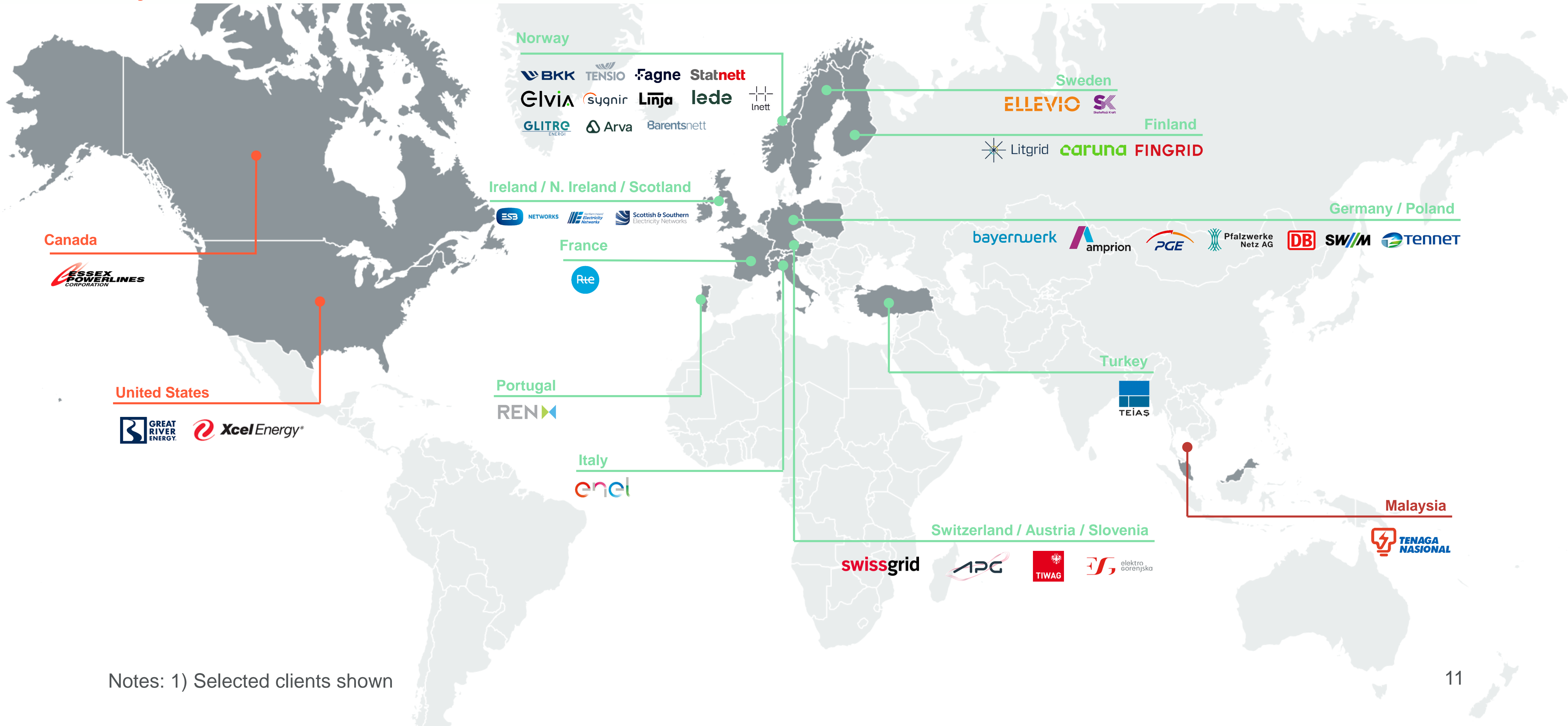
Concern #1

Unproven



HPs DLR-technology is being deployed worldwide

By 48 customers across 18 countries¹



Notes: 1) Selected clients shown



Concern #2

Expensive





Concern #3

Difficult to deploy





Concern #4

Complicated

The largest DLR project in the US in record time

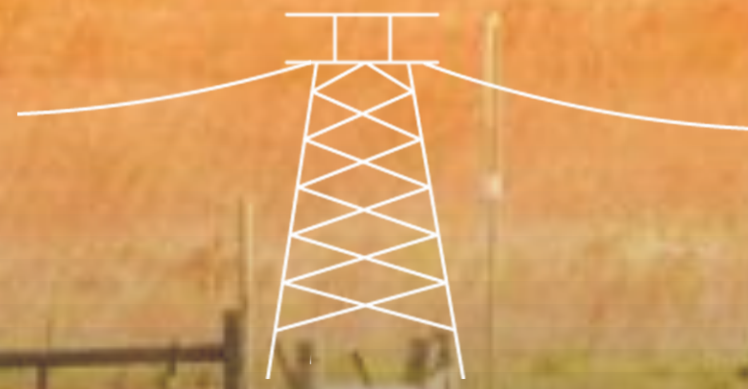
With Great River Energy (providing electricity to 1.7m people)



+



Heimdal Power



Grid to be monitored

9 critical lines



Physical Neuros

56



Neurons installed by drone

> 80%



So how do we move
forward from here?

Panel: State Legislators and Regulators

- Moderator: **Whitney Muse**, White House Office of Clean Energy Innovation and Implementation
- **Chris Hansen**, Colorado State Senate
- **Phil Hernandez**, Virginia House of Delegates
- **Nate Blouin**, Utah State Senate
- **Joe Sullivan**, Minnesota Public Utilities Commission
- **Ann Rendahl**, Washington Utilities and Transportation Commission

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Source: The White House



Thank you!

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