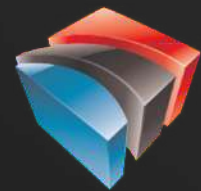


A NEW GENERATION OF DATA CENTER DEVELOPMENT WITH CIRCULAR ECONOMY SOLUTIONS

CTS Nordics Group of Companies





CTS Nordics
Group of Companies

is Starting its Operations in
Finland



CTS Nordics

Who are **We**

Today, we are the largest design & build contractor solely focused on Data Centers in the Nordics.

Our services include:



Design



Build



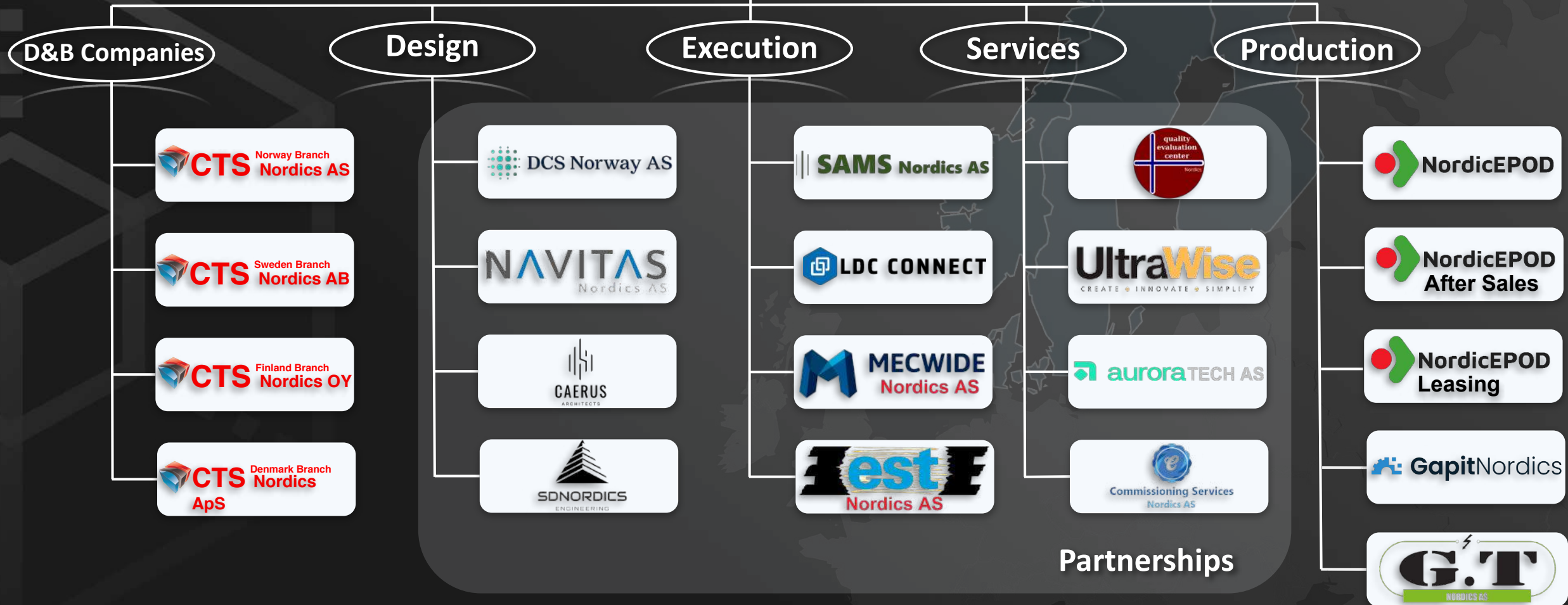
Commissioning



Production



CTS Nordics Group of Companies



Control Over Supply Chain

From 2021, CTS Nordics has developed a Nordic network of specialized partnerships from international companies.

Design Partners



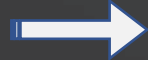
❖ Architectural, Structural, Mechanical, and Electrical Design

Execution Partners



❖ Mechanical, Electrical, and Connectivity Execution

Service Partners



❖ QA, IT, Cost Control, and Commissioning Services

Full
Supply
Chain
Control



+

ISO Certificates for other
Group Companies

CTS Nordics is ISO certified with certificates in **ISO 9001, 14001 and 45001**

HOW TO SUCCESSFULLY BUILD DATA CENTERS IN THE NORDICS

HOW CAN WE DO IT: A DIFFERENT WAY TO BUILD DATA CENTERS

Green / Sustainability

1. DESIGN

2. CONSTRUCTION

3. COMMISSIONING

4. PRODUCTION

→ Speed

→ Price

→ Quality



Data Center = Sardine box with a lot of power and cooling



Data Center “Changing”



Or





From our factory in Sande, NordicEPOD is currently in production of **152** new generation Electrical Power PODs of **2MW**.

Our Targets:

- ❖ Digitalization
- ❖ Standardization
- ❖ **Quality, Price, and Fast-Track**
- ❖ Web based production tracking

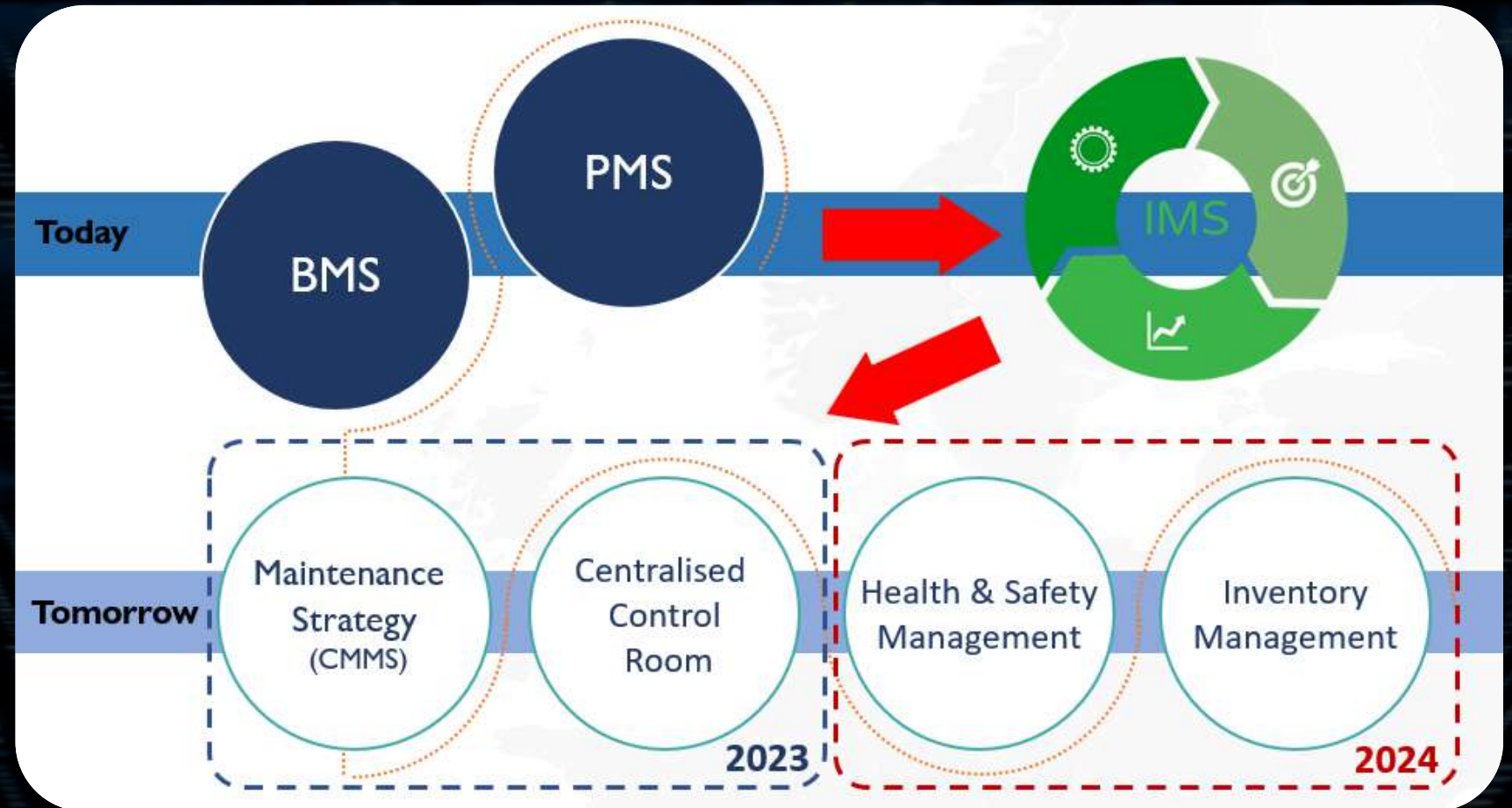




Today, Gapit is the largest **PMS** supplier in Norway providing specialized **BMS** and **PMS** in an **Integrated Management System**.

Future Objectives:

- ❖ Expand services to include **CMMS** by the end of **2023**
- ❖ Development of **Centralized Control Rooms**





G.T. Nordics AS is the sole manufacturer of electric switchboards and control panels for CTS Nordics Group of Companies.
Value added:

- ❖ Market-leading production time through pre-approved design solutions
- ❖ Fast-track assembly



Utilization of **New Technologies**



Prefabrication of key components

Maximize pre-fabricated and pre-assembled components

Reduces costs and improves safety & quality



New technologies for Project

Use of Rotary Laser Levels for construction

Introduction of industrial robots for building construction



Vertical integration and software development

Standardization, optimization and digitalization of procedures and systems

Sole focus on Datacenters



New organization for execution

Integration of experts via partnerships

Time optimization during design and construction



Integration of a Remote-control room

New infrastructure design to enable 24/7 availability and remote operation of Datacenters



New efficient cooling Systems

Design & construction of facilities to support new cooling technologies

CAPEX Reduction

OPEX Reduction

Design & Build Projects

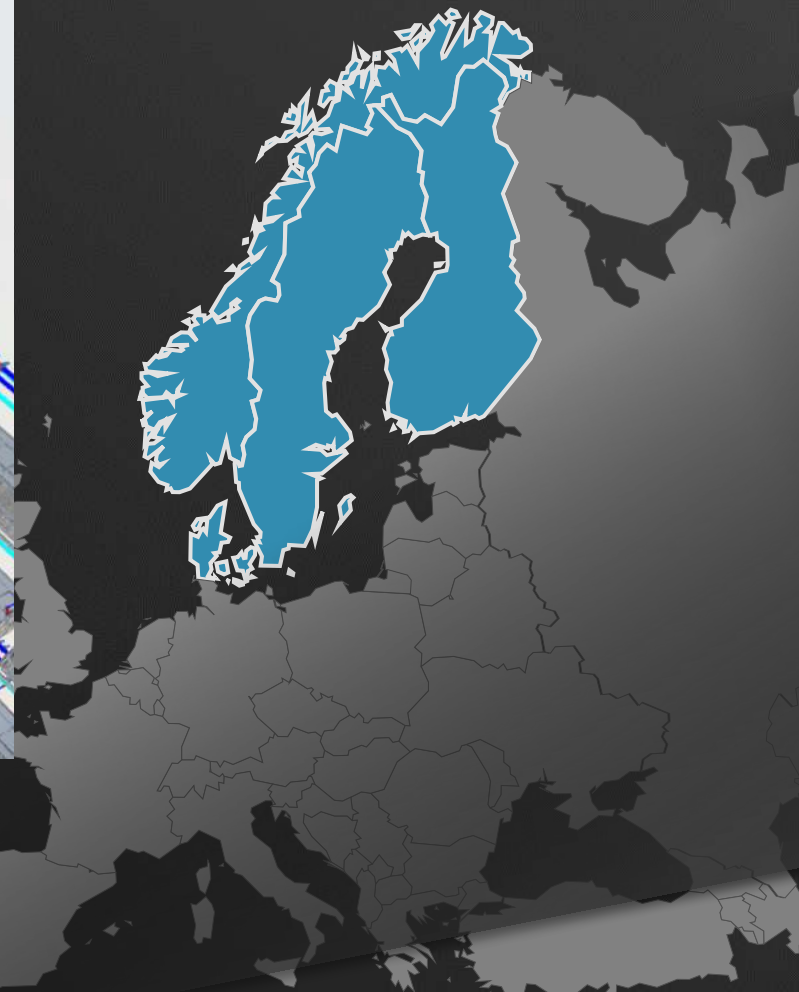
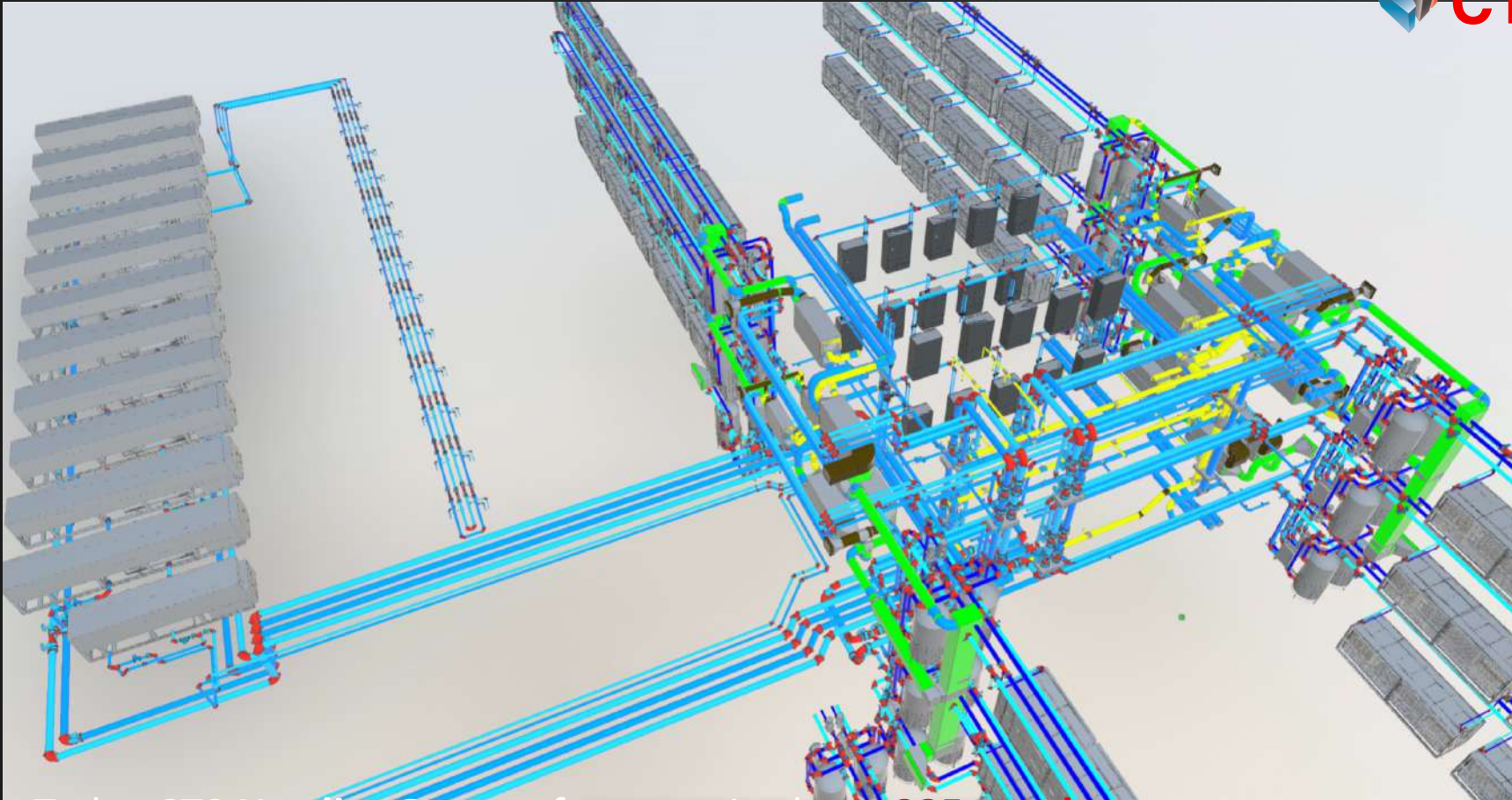


CTS Nordics is currently executing build projects for over **230 MW** in Norway



Development Pipeline

CTS Nordics has an additional development pipeline providing design engineering services for **585MW** of projects in four Nordic countries.



Today CTS Nordics Group of companies have **235 employees**.

In the coming year, we are growing further up-to **± 370 employees**.

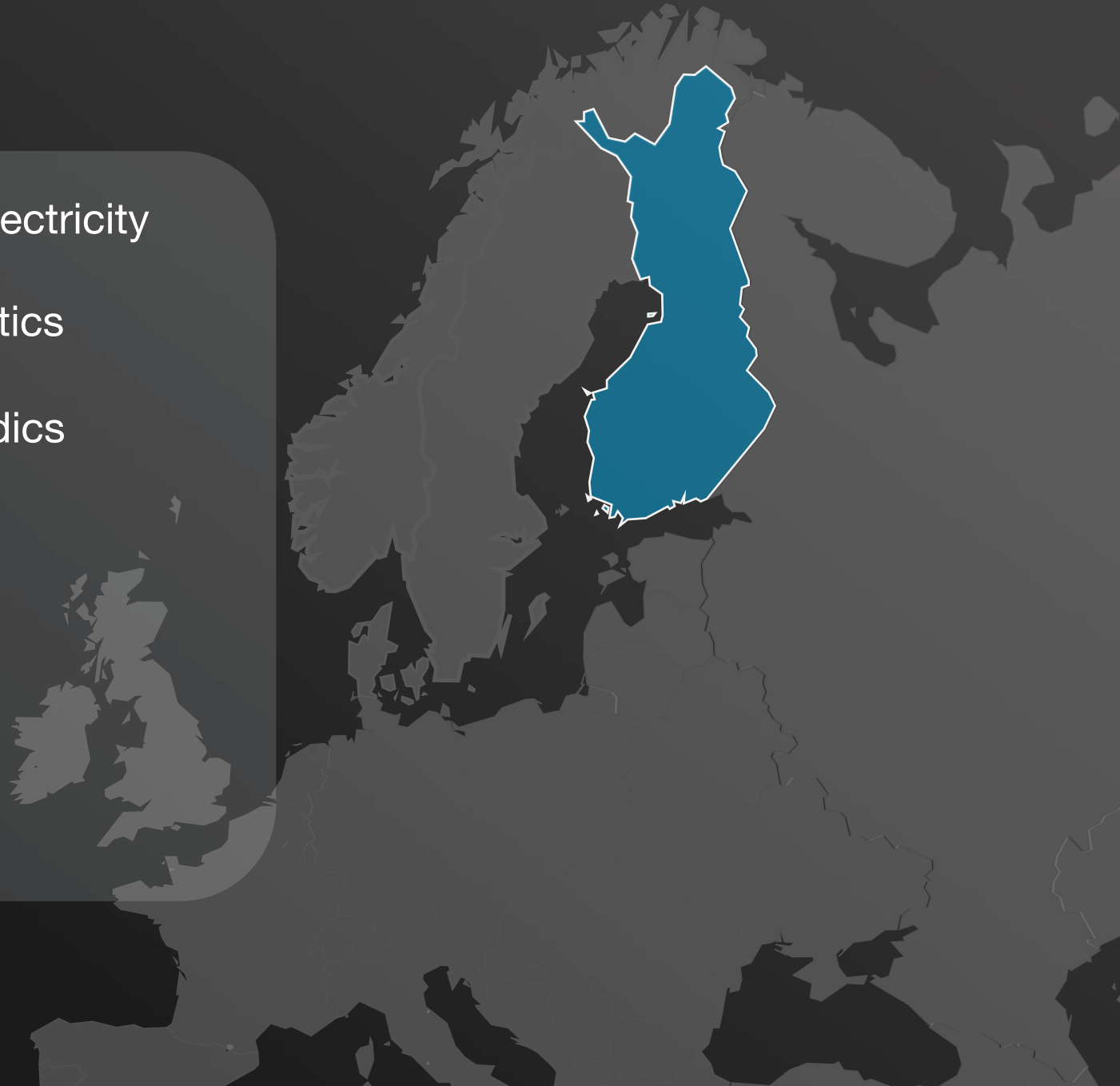
Data Center Market is Changing

- The market is moving towards new standards where the previous projects had rack capacities around 10 kW till current above 50 to 90 kW / Rack.
- Market is becoming more complex and challenging which is demanding higher specialization in new technologies such as liquid cooling.
- The design moves on from the “hyperscaler” standard towards a more industrial standard.
- It is all about pricing and Speed of delivery.



Why Finland

- Availability of Power and Price of Electricity
- Availability of Land and good Logistics
- One of the most Stable Grid in Nordics
- Availability of Skilled Workforce
- Presence of Hyper Scalers
- Strong Economy
- Part of EU and NATO



Partnership with **Hyperco**

And First Projects in **Finland**

We believe in partnerships, not only with sub-contractors and suppliers,
but with our clients as well.

➤ We are pleased to announce our
partnership with ***HYPERCO***



HYPERCO

HYPERCO

- ✓ No-legacy data center developer able to start from scratch and use state-of-the-art solutions.
- ✓ Deep and discrete customer relationships.
- ✓ Versatile local teams combining finance, real estate, data center operations and development capabilities on the ground in Finland and Sweden.
- ✓ Optimizing customer's TCO by selecting best sites for development.

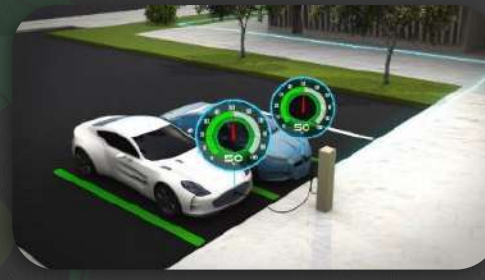
Sustainability Solutions



Photovoltaic Solar Panels



Smart Lighting



Electrical Vehicle And Charger Stations



Wooden Construction



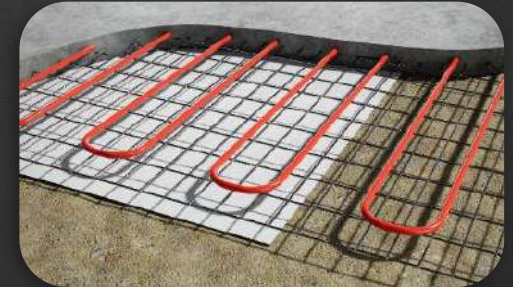
Sustainable Material Construction



Waste Water Use



Storm Water Use



Snow Melt System

Linear vs **Circular Economy**

Issues with Current Linear Economy:

- ❖ Data centers are estimated to reach 4% of global electricity consumption by 2030
(Source: Vertiv news - London November 2022)
- ❖ Vulnerability to raw material and electronic equipment supply chain

Solution: *Circular Economy*



Future Developments: Circular Economy

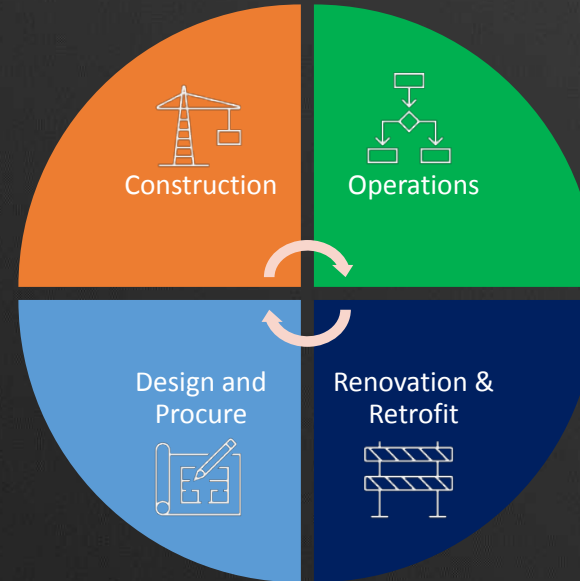
Circular Economy Implementation

- ✓ As the demand for datacenters is increasing, the need to design and build in a more sustainable approach has increased.
- ✓ Joining the circular economy could significantly reduce the carbon footprint.
- ✓ The waste heat could be used for different purposes:
 - District heating
 - Greenhouses
 - Vertical farming
 - Food production plants

We must create new economies

Reduce, reuse & recycle materials

Modularity
Durability
Green procurement



Digital transformation
Remote control room
Waste to energy

Smart renovation
Imaginative reuse



Thank You



**Our Value is passion
for the business**