



KAJAANI DATA CENTER
ECOSYSTEM

Business Case Meets a Natural Edge



Cloud Colocation & Enterprise

Social and Corporate
Proven Sustainability

Business Case: Kajaani City & Kainuu Region



How the Nordic region positions as a Data Center location vs FLAP-D markets.

From Nordic Council of Ministers report: Data Centre Opportunities in the Nordic's - An Analysis of the Competitive Advantages.



NORDIC's **Frankfurt** **London** **Amsterdam** **Paris** **Dublin**



We Have Low Carbon Sustainable Solutions within an Competitive Environment

1

LOW OPEX, TCO, TAX

- Competitive Network Pricing
- Low Corporation Tax 20% (2022)
- Power Prices: one of EU most competitive. 10 year PPAs

2

MARKET: REACH & SPEED

Speed to market and reach. Low risk stable location. Networks reach 800 million people in 60ms

3

PROVEN ECO-SYSTEM

Multiple Data Center operators in Kajaani. Experienced workforce to deliver Data Center infrastructure. Government and Kainuu Region

4

SUSTAINABLE SCALABLE

Sustainable green power from the world class Fingrid/national grid and Infrastructure. Ability to scale, permit, power, land availability

Renewable energy available

100%

ELECTRICITY TAXATION INCENTIVES FOR INDUSTRIES

Including:
Mining (as of 2017)
Manufacturing
Green houses
Data centers

Reference projects

4 Data Centers with **30 MWh** allocated

on time and on budget

Data center electricity costs in Kajaani

TYPICAL COST SAVINGS

50%

With PPA contracts even to 30 €/MWh

Enterprise & Cloud

Enterprise Outsourcing to Cloud Colocation Edges

Not all data needs to be in ultra low latency geographical locations with their higher cost base. Workload placement is about relying on your base infrastructure and workload applications or backups to strong networks within a facility able and agile in meeting current and future needs. Colocation or Cloud-Colocation. We provide businesses with economies of infrastructure scale. KDC can facilitate the design and delivery of resilient assets.



The case for enterprises to hold all its Data Center infrastructure on-premise is harder to justify a return-on-investment to building or refresh their own. We see enterprises looking for proven corporate and social (CSR and CER) solutions that include reducing their overall carbon loads. The Kajaani Data Center Ecosystem offers advantages to these demands for any company's duty to abstain from damaging natural environments.

Enterprises can deploy Cloud/Colocation onto our regions world class networks with extensive connectivity. We also understand that businesses see the advantage of reducing capital and operational expenditure into off balance sheet expenditure model; where greater levels of availability, growth, security and flexibility at scale are seen as added value e.g. Enterprise or Colocation models.

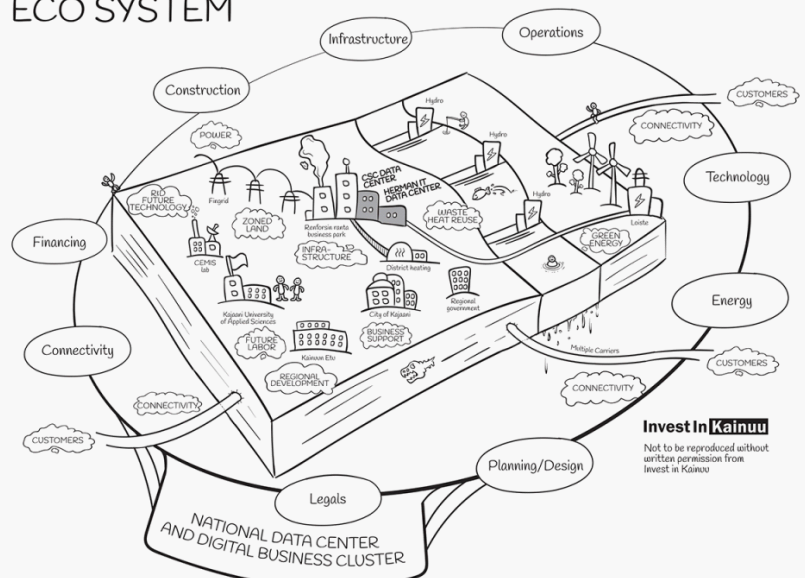


KDC Ecosystem can facilitate delivering outstanding operational performance that provides confidence in meeting and leading service level agreements. We are supported with an eco-system that demonstrates Finland world renowned ICT & Technology heritage. The Finnish geographical climate enables leading PUE figures, while Finland's business climate delivers political and legal stability with a data center sector supportive government driving and leading world class digital infrastructure.

SUSTAINABLE WELCOME:

KDC Ecosystem is also supported by the **Kainuu regional council** together with Business Finland are driving new Data Center investments and companies into the region. Finland encourages foreign investment. Today 100% foreign ownership is recognized in most sectors with no discrimination against foreign companies in favour of domestic ones. Business are encouraged through grants, tax reductions, loans, regional incentives, export support, R&D.

KAINUU DATA CENTRE ECO SYSTEM

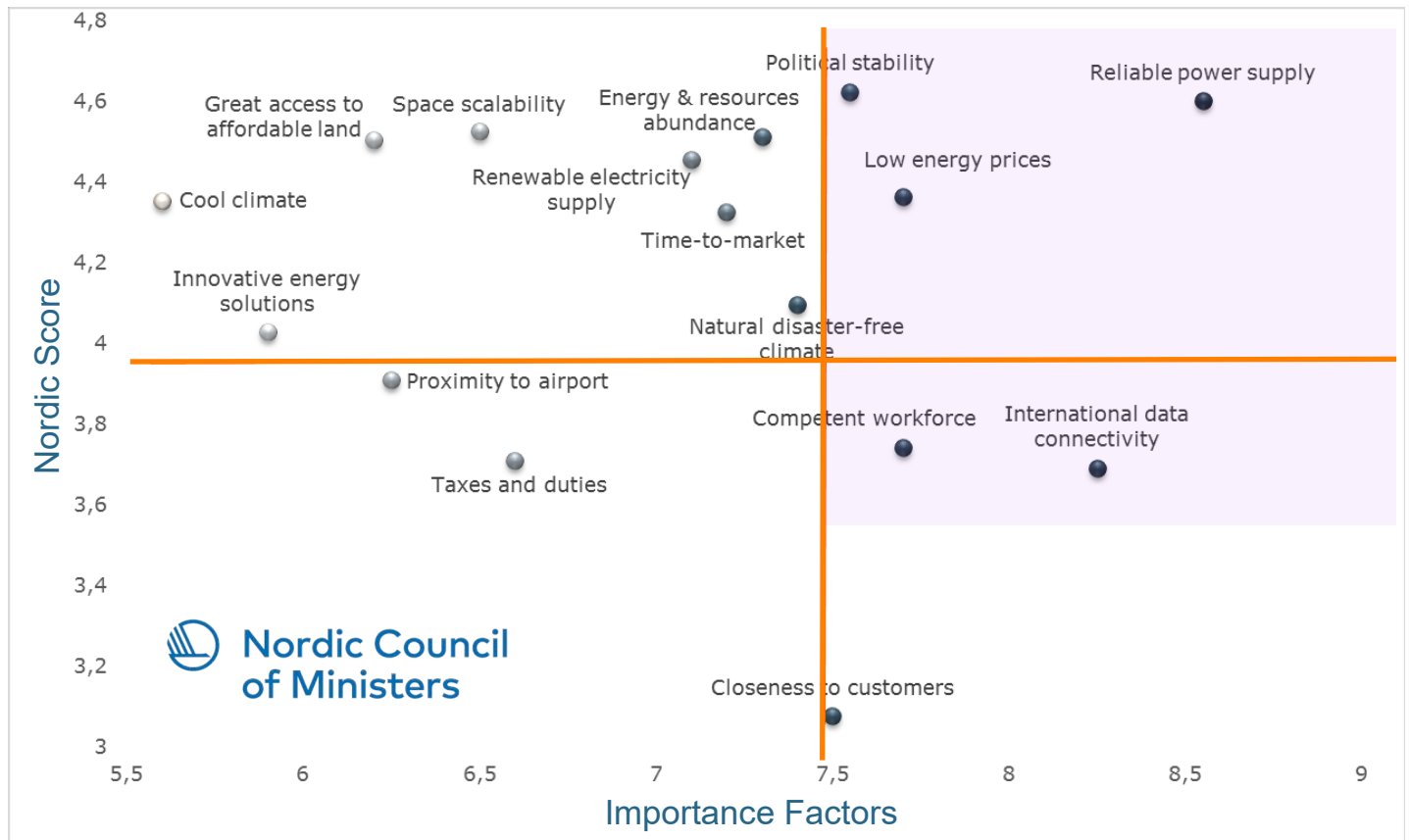


Enterprise & Colo Business Case

Nordic Value for colocation and enterprise Data Centers

Important factors for Data Center selection and the Nordic regions scores are illustrated within the Nordic Council of Ministers report DATA CENTRE OPPORTUNITIES IN THE NORDICS (2018). Shown below is that reports figure 12 as sourced by COWI, Analysis of Data Centre Investment Opportunities in the Nordic Countries.

Colocation and Enterprise Segment desired quadrants

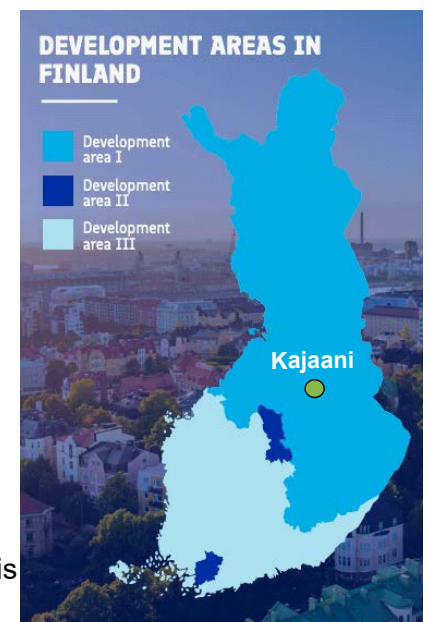


The Kajaani Data Center Ecosystem offers that right quadrant to Enterprise & Colocation segment and also in its ability to include parts of the other quadrants into a the KDC Value Proposition.

Ecosystem to Deliver

Cost Effective TCO Location and Low PUE Environment

The Kajaani climate enables excellent energy efficiency. The Renforsin Ranta Business Park, enables one of the lowest total cost of ownership (TCO) in Europe. Cost-efficiency via a private industrial electricity network, local renewable energy production and the potential for selling waste heat to the district heating network to the City of Kajaani. CSC LUMI sells waste heat savings up to 40% on energy costs. Free cooling helps achieve very low PUE values. Average PUE value (2021) at CSC's national Data Center was a PUE 1.03. **Tax Relief:** Kajaani is in Finland's Development area 1 which affords this region the greatest incentive support ranging from 30 - 40%.



Renforsin Ranta Data Center Real Estate

Kajaani 64° 13' 37.402" N 27° 43' 42.964" E



Investment Options:

- Existing Powered Shells
- Real Estate Options
- Green Field Packets
- Brown Field Options
- Developments
 - Design & Build
 - Operate

SCALEABLE SOLUTIONS AND OPTIONS

The Renforsin Ranta business park provides world leading Data Center infrastructure to deliver small to mega Data Center potentials with world leading speed to market delivery.

'Brown Field' options for new Data Center developments located within the Renforsin Ranta business park together with 'Green Field Site Options' close to Fingrid substation.

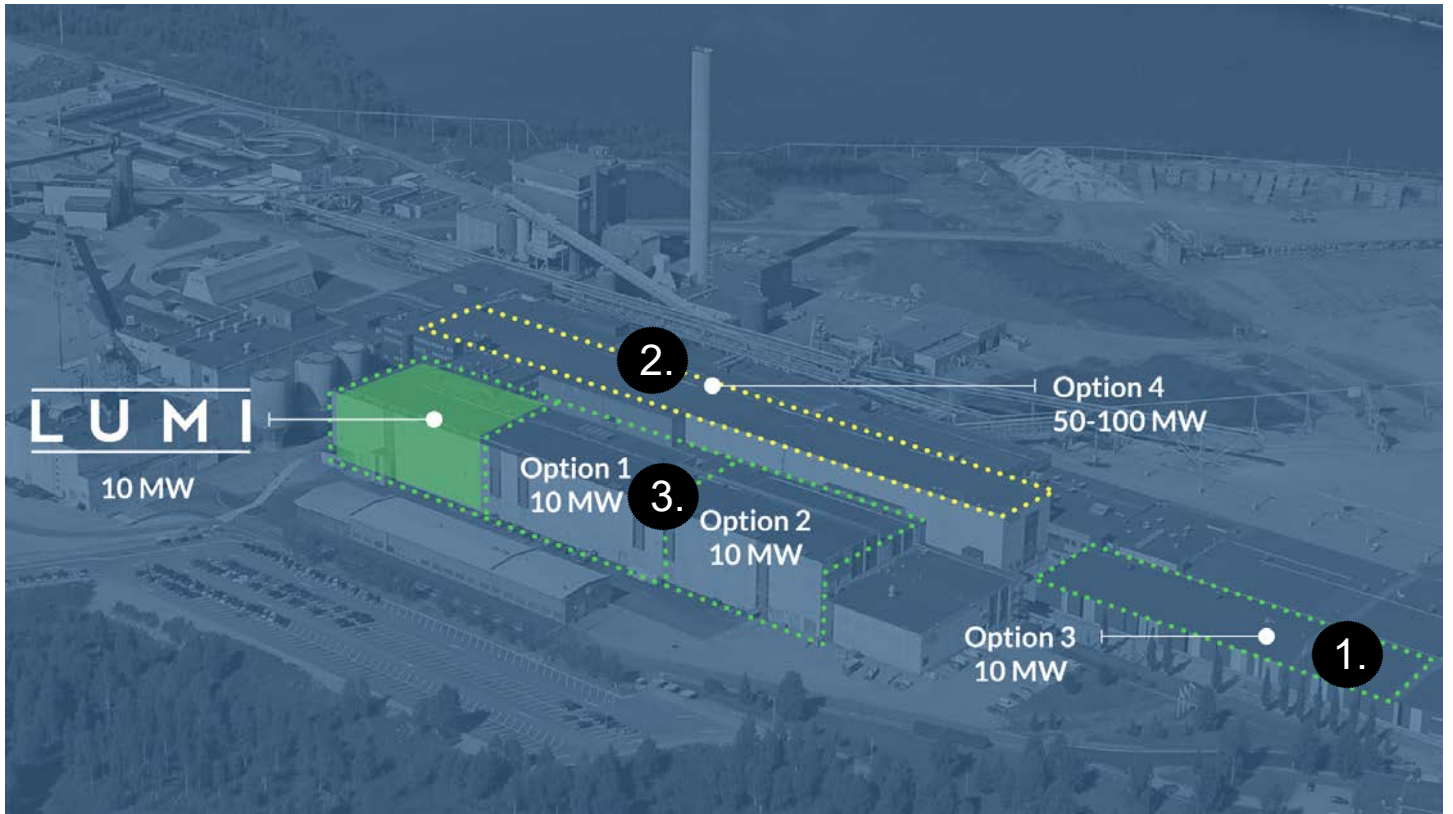
Renforsin Ranta, Kajaani

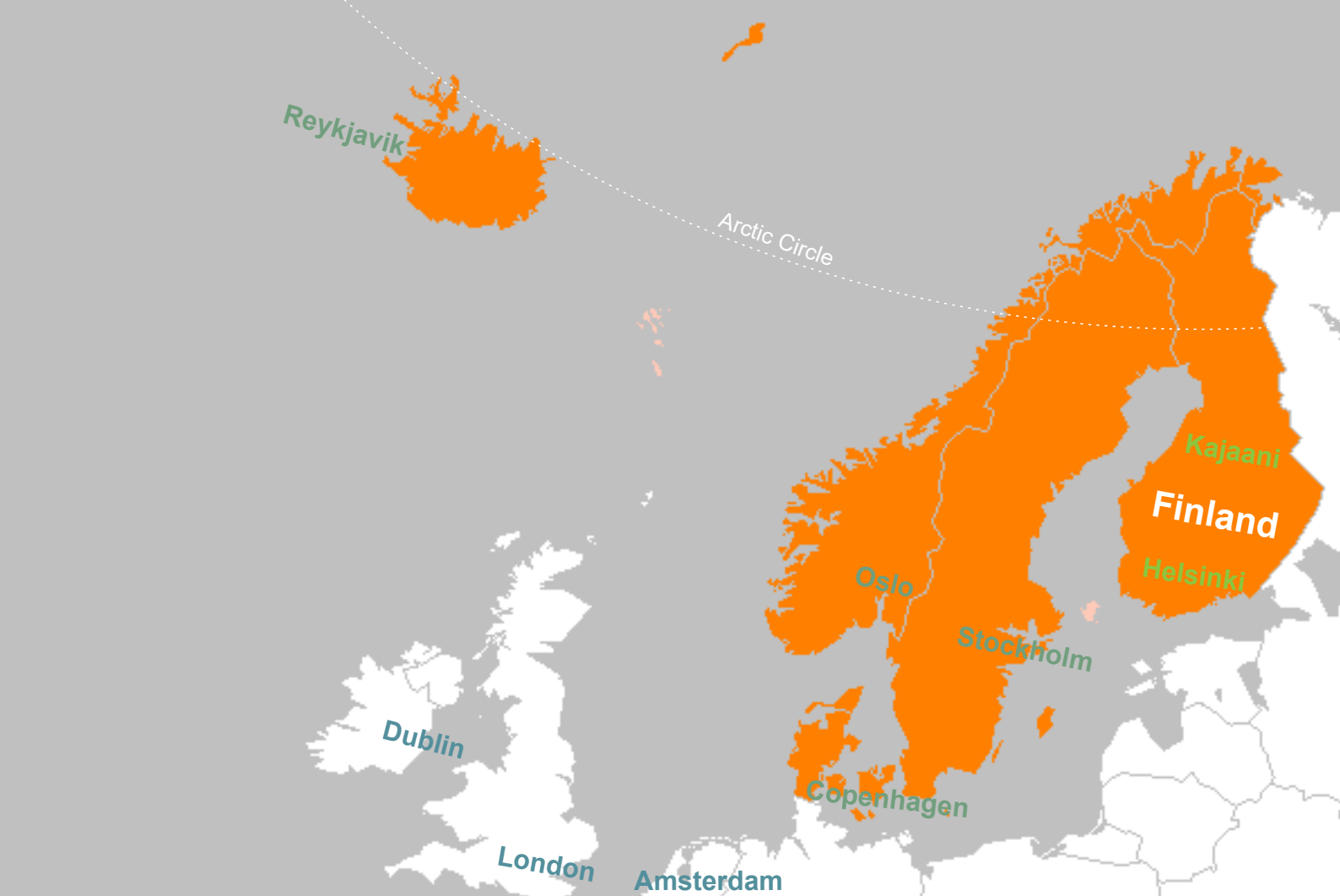


Brown Field Options Renforsin Ranta:

- 3 existing shell & core units
- 50,000 m²
- 160 MW available today
- Lease terms available
- Power terms available
- Project Management delivery
- Ecosystem engagement

Renforsin Ranta 'Brown Field' Real Estate





1:25 hour Flight from Helsinki



Contact Details

Kajaani Data Center Ecosystem offering is promoted and supported by CSC - IT Center for Science Ltd, with the support of Kainuu Regional Council and the City of Kajaani. For more detailed information and material contact:



CSC



Jukka-Pekka Partanen

Director

tel. +358 40 544 3501

jukka-pekka.partanen@csc.fi



Mikko Kerttula

Project manager

tel. +358 50 381 2766

mikko.kerttula@csc.fi



Veli-Antti Leinonen

Specialist

tel. +358 44 740 1010

veli-antti.leinonen@csc.fi

LinkedIn: <https://www.linkedin.com/company/csc---it-center-for-science/>

YouTube: <https://www.youtube.com/c/cscfi>

#KajaaniDClocation #lumieurohpc #CSC



Follow us: www.csc.fi

www.aikaecosystem.com

www.lumi-supercomputer.eu