TYRÉNS

FAIR

FINDING INNOVATIONS TO ACCELERATE IMPLEMENTATION OF ELECTRIC REGIONAL AVIATION

Seinäjoki 2020-02-05

KVARKENRÅDET
MERENKURKUN
NEUVOSTO

CROSS-BORDER COOPERATION IN THE KVARKEN REGION

The operating area of the Kvarken Council is called ***THE KVARKEN REGION*** The Kvarken Region consists of the **three Regional Councils of Ostrobothnia in Finland** as well as the **Regional Council of Västerbotten** and the Municipality of **Örnsköldsvik in Sweden**

The narrowest part of the Gulf of Bothnia is called *Kvarken*

A Common history

Founded in 1972

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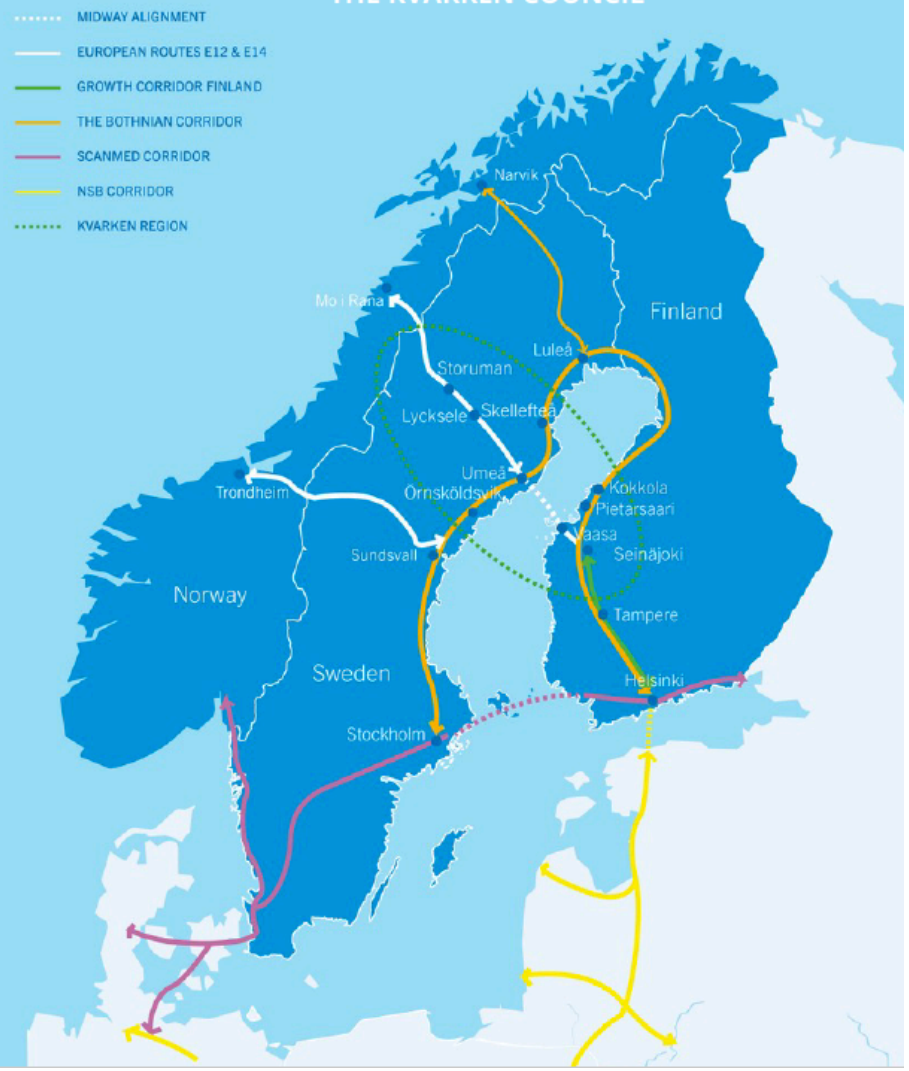
Nordic Co-operation

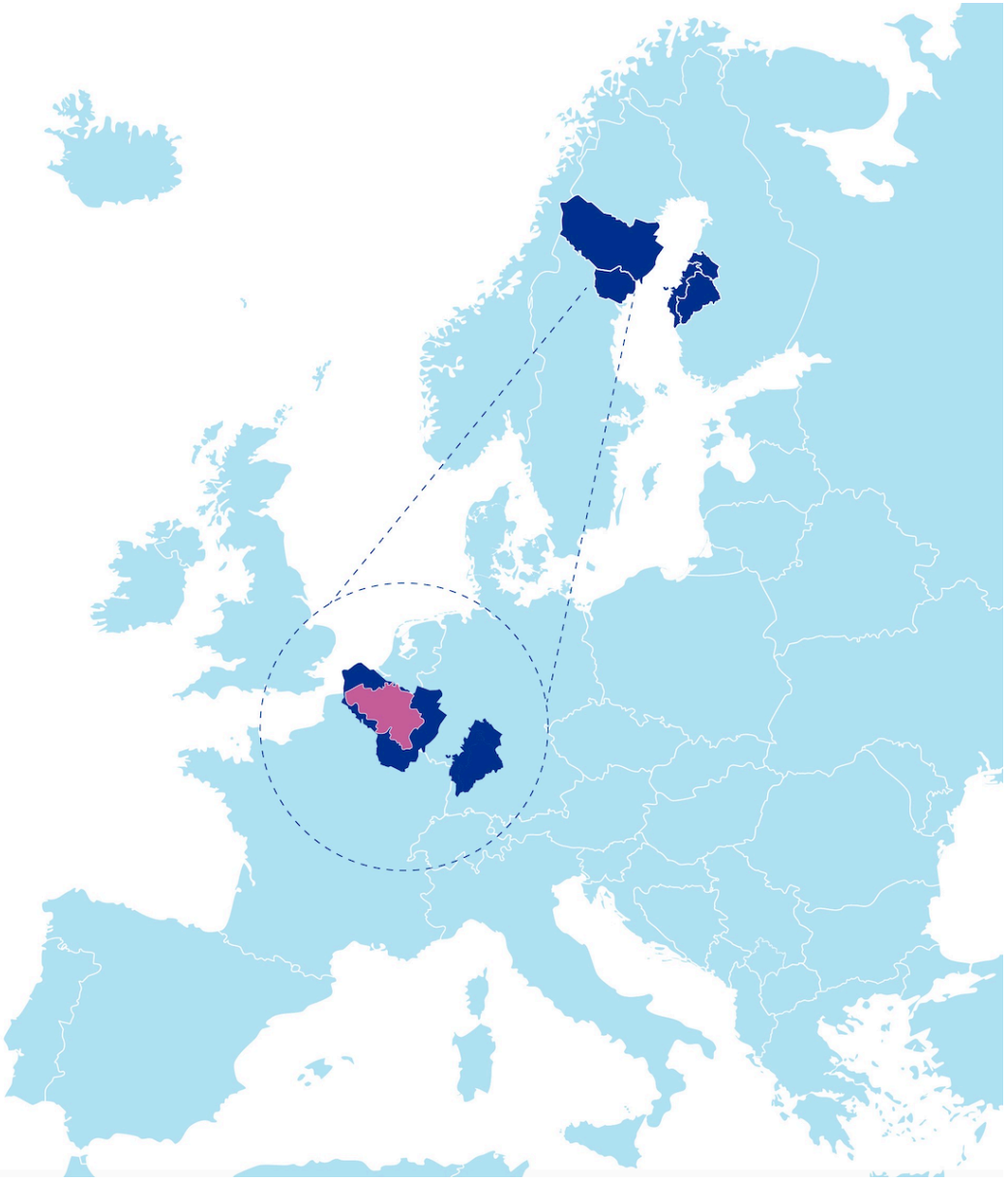
THE KVARKEN COUNCIL



Long distances is a challenge

Sparsely populated

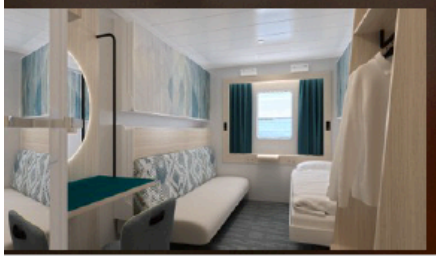
Highly developed




Nordiska ministerrådet
Pohjoismaiden neuvosto
Nordic Council of Ministers
Our activities are funded with membership fees and support from the Nordic Council of Ministers
One of twelve official cross-border operators co-funded by the Nordic Council of Ministers
Photo: Søren Sigfusson/norden.org

THE KVARKEN COUNCIL – **DEVELOPING THE REGION**

- **by supporting** the cooperation between actors in the Kvarken region
- **by reducing and eliminating** border barriers
- **by increasing** the visibility of the region at national and European levels
- **by working actively** in several European networks
- **by utilising** the region's strengths and supporting the development of the region



Provides a platform for cooperation for all actors in the region

Encourages actively for all types of cooperation, ranging **from grassroots level** to trade and industry and universities

Daily work focused on the *securing* of the ferry connection over the last 10 years

The ferry connection – A prerequisite for continued joint history and continued cooperation across the country borders

Over 100 cross-border projects during almost 50 years

INDUSTRY
EDUCATION
DEVELOPMENT
HEALTHCARE
SPORTS
INFRASTRUCTURE
RESERACH
WORLD HERITAGE
TOURISM
CULTURE

CHALLENGES & POSSIBILITIES

The aviation industry

- Climate change/environment
- Profitability
- Accessibility

The Botnia Atlantica region

- Long distances
- Economic conditions for regional airports and air routes
- Ambition & history of collaboration
- Sustainable electricity generation & good grid capacity

POLITICAL FRAMEWORK

Global level

- Paris agreement
- Sustainable development goals (Agenda 2030)

National level

- Sweden: Fossil Free Sweden – fossil-free domestic flights 2030, international flights 2045
- Norway: Avinor – 100% electric domestic flights 2040
- Finland: Programme of Government – carbon neautrality 2035

Regional level

- Mobility strategy BA E12 Atlantica Transport
- CO2-neutral transport 2030
- East-west regional flights

ELECTRIC AVIATION

Around-the-world on solar energy in 2016

About 300 different electric aircraft-programs worldwide 2019

Photo: Pipistrel

Photo: Heart Aerospace

Photo: Wikipedia

Photo: solarimpulse.com

EFFECTS

Climate & environment

Zero operational emissions

50 % lower noise

Economy

75-80 % lower fuel costs

50 % lower maintenance costs

”Same cost per passenger for electric 19-seater as for 150-seater conventional aircraft”

Accessibility

Profitability for less busy routes

New opportunities for regional air traffic

Photo: H55/Anna Pizzolante

PROJECT APPLICATION PROCESS

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Aim
- Method for a swift and effective commercialization of regional electric aviation

Scope
- Project runs from May 1 2020 to June 30 2022 if approved
- Budget is 1 087 500 EUR

Financing
- Botnia Atlantica Innovation
- Region of Västerbotten
- Region of Ostrobothnia

Timeline for continued process

PARTNERSHIP

KVARKENRÅDET
MERENKURKUN
NEUVOSTO

Coordinating beneficiary Kvarkenrådet

Beneficiaries Vasa Universitet, Umeå Universitet, Biofuel Region, RISE

Financers Region Västerbotten, Österbottens Förbund, Vasa Stad, VASEK, Kronoby-Jakobstad Flyghangar, INTO Seinäjoki, Skellefteå Flygplats, Umeå kommun, Örnsköldsvik Airport, Swedavia Umeå Airport, Storumans flygplats, Lycksele flygplats, Handelskammaren Österbotten, Handelskammaren Västerbotten, Södra Österbottens Handelskammare, MidtSkandia, Skellefteå Kraft, Vasa Elektriska

Supporters Green Flyway, Future Cleantech Solutions, Luftfartsverket, Nordic Electric Aviation network, ELISE, Heart Aerospace, Helsinki Electric Aviation Association ry, BSR ACCESS, UKF Kollektivtrafik, Air Traffic Network, Grön Flygplats, Umeå Institute of design, Transportföretagen, Funktionshinderrådet Umeå, Finavia, Jon Air

PROJECT GOALS

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Main goal

Develop a method for commercializing electric aviation in the Botnia Atlantica region in order to effectively harness positive regional effects in public and private sectors

Milestones/intermediate targets

- Based on a scientific market analysis, propose where electric aviation should be implemented in the Botnia Atlantica region
- Identify measures, estimate costs and propose financing solutions necessary to make the region ready for electric aviation
- Develop innovative concepts and business models
- Increase awareness of electric aviation in the region to promote demand and accelerate implementation

WP 1 – REGIONAL EFFECTS OF ELECTRIC AVIATION

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Where will electric aviation apply and how does it affect the region?

Activities:

- Market analysis
  - Costs (electric aviation transport costs compared to other transport modes)
  - → change in demand
- Proposal for new regional flight routes
  - Commercially viable routes
  - Non-commercial routes (that are profitable for society)
- Regional effects (time gains, accessibility)

UMEÅ UNIVERSITET

University of Vaasa

WP 2 – GUIDELINES FOR IMPLEMENTATION

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How to prepare strategic nodes for implementation of electric aviation and how do we finance measures?

Activities:

- External analysis (technology and infrastructure)
  - Input from associated projects
- Action plan
  - Necessary measures at airports/nodes
- Financing solutions

BioFuel Region™

WP 3 – CROSS-BORDER INNOVATION PROCESS

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How do we add societal value from technology development through cross-border innovation processes?

Activities:

- Competence network for electric aviation
  - Data collection, quality control, network and dissemination
- Innovation process for societal development
  - Products, services and business models

RI.
SE

PROJECT RESULTS

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- Method for commercializing electric aviation in the Botnia Atlantica region
  - Know-how on the effects of electric aviation in the region
  - Guideline on needs of measures and funding solutions
  - Innovative concepts (products, services and business models)
  - Integration of gender equality and non-discrimination
- International network on electric aviation
- Enhanced connections between regional actors and businesses
- Input to EU, national level, aviation industry


THANK YOU FOR YOUR
ATTENTION AND WELCOME TO
THE KVARKEN REGION!