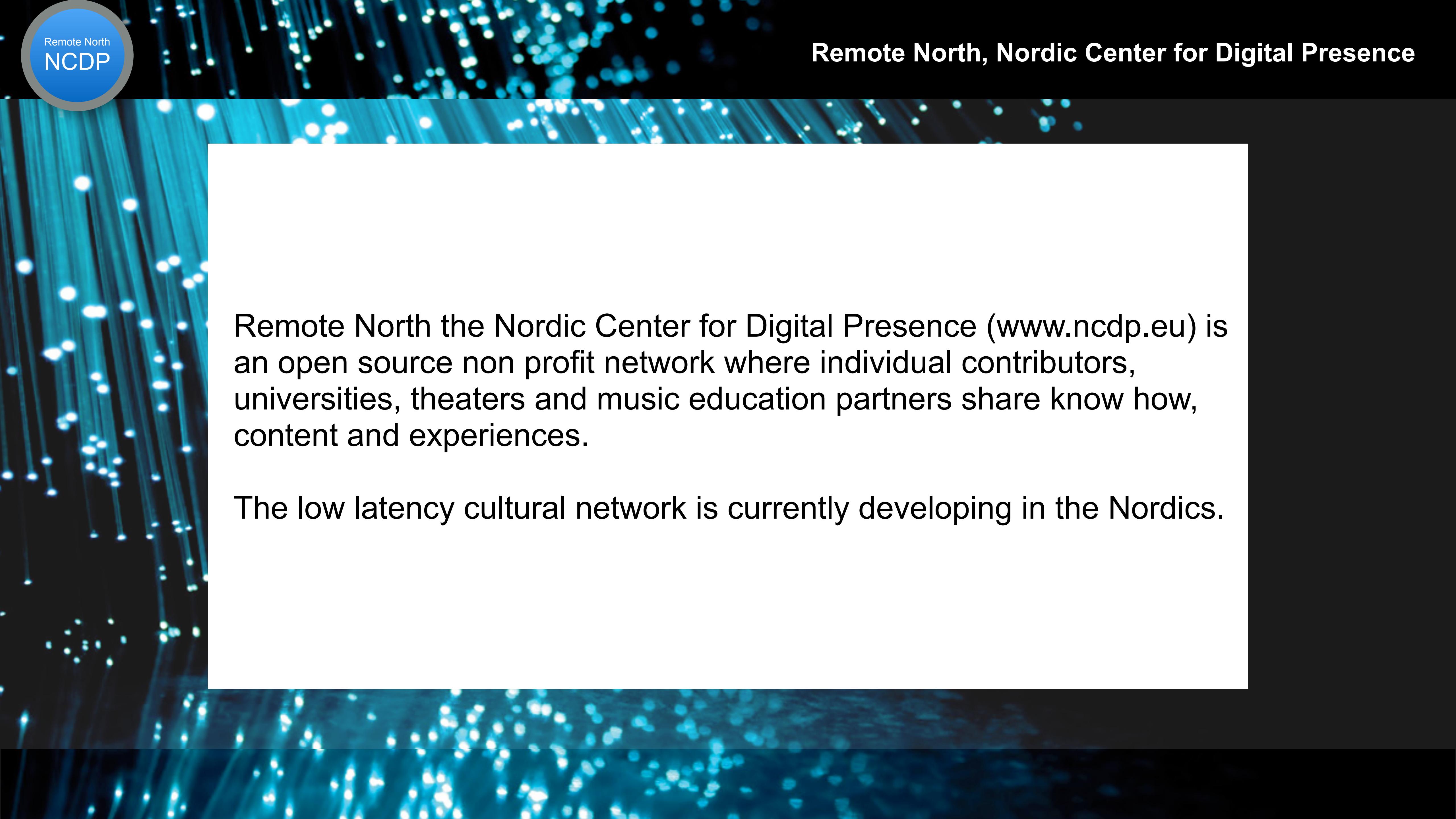




Remote North

Nordic Center for Digital Presence



Remote North the Nordic Center for Digital Presence (www.ncdp.eu) is an open source non profit network where individual contributors, universities, theaters and music education partners share know how, content and experiences.

The low latency cultural network is currently developing in the Nordics.

Since we created the low latency network 130+ Nordic organizations in performing arts, music education and research have joined Remote North NCDP.

Denmark

Aalborg Kulturskole
Allerød Musikskole
Bornholms Kulturskole
Egedal Musikskole
Glostrup Musikskole
Hørsholm Musikskole
Køge Musikskole
Kolding musikskole
Kulturskolen Skanderborg
Kulturskolen Viborg
Kulturværfret
Lejre musikskole
Musikskolen i Frederikshavn
Kommune
Musikskolen Ringkøbing-Skjern
Musikskolen Vejle Kommune
Odense Musikskole

Estonia

University of Tartu Viljandi
Culture Academy

Finland

Centralförbundet för Finlands
Svenska Teaterorganisationer
Degree program in Theatre
Arts, University off Tampere
FINFRINGE
Hangö teaterträff
Helsinki University of the Arts,
Sibelius-Academy, Uniarts

Kirkkonummen musiikkiopisto -
Kyrkslätt's musikinstitut
Korsholms musikinstitut
Kokkolan kaupunginteatteri
Kuopion konservatorio
Kuula-institutet
Musikinstitutet Kungsvägen
Musikinstitutet Legato
Oblivia rf
Sibelius Academy, University of
the Arts
Tampere University of Applied
Sciences
Turku Science Park Oy
Unga Teatern
Wasa Teater
Yrkeshögskolan Novia
Åbo filharmoniska orkester
Åbo Svenska Teater

Greenland

Ilisimatusarfik/University of
Greenland
Katuaq Grönlands Kulturhus
The National Theatre of
Greenland

Iceland

Borgarholtsskóli
Menntaskólinn í Tónlist
Tónlistarskóli Árbæjar
Tónlistarskólinn á Akureyri

Norway

Det Samiske Nasjonalteatret
Beaivvás
Kulturskolen i Fredrikstad
Lillehammer University College
Molde kulturskole
Norges Musikkhøgskole
NTNU Institutt for musikk
Øksnes kulturskole
Rana Kulturskole
Rødøy Kommunale
Musikkskole
Sunndal kulturskole
Tynset kulturskole
Universitetet i Oslo, Institutt for
musikkvitenskap

Sweden

Arboga kulturskola
ArtPlant ekr
Betaniastiftelsen
Centerpartiet i Uppsala
Compodium International AB
Eksjö Kulturskola
Eslövs kulturskola
Finlandsinstitutet
Giron Sámi Teáhter
Gnosjö Musikskola
Göteborgs Symfoniker
Gurstad Music
Härjedalens Kulturskola
Knopster
KTH Kungl Tekniska

högskolan, Medieteknik och
interaktionsdesign

Kulturskolan Askim-Frölunda-
Högsbo, Göteborg
Kulturskolan Enköping
Kulturskolan i Bräcke kommun
Kulturskolan i Landskrona
Kulturskolan i Nynäshamn
Kulturskolan Krokom
Kulturskolan Lund
Kulturskolan Mjölby kommun
Kulturskolan Skurup
Musik i Dalarna
Musik i Syd/Palladium Malmö
Musikskolan Lilla Akademien
NEP Sweden AB
Nordisk Musik Union
Norra Vätterns Musikskola
Nybro Kulturskola
Operahögskolan-Stockholms
konstnärliga högskola
PlayAlong AB
Regional kulturskola i
Västmanland
Riksorganisationen Hela
Sverige ska leva
Riksteatern
Riksteatern Dalarna
Riksteatern Halland
RUM – Riksförbundet Unga
Musikanter
Sigtuna kulturskola
Sjöbo kulturskola

Slottehubben, Ljusdal
Smålands Musik och Teater
SMI (Stockholms
Musikpedagogiska Institut)
Sollentuna Kulturskola
Stiftelsen Folkets Hubb
Strömsunds Kulturskola
Studio Acusticum
Stureplan Musik-kulturskola
SVT
Tekniska museet
Tranås Kulturskola
Tranemo Kulturskola
Trosa kulturskola
Ulriksdals slottsteater
Confidencen
Vadstena-Akademien
Vårgårda Musikskola
Västerbottensteatern AB
Vattnäs Konsertlada

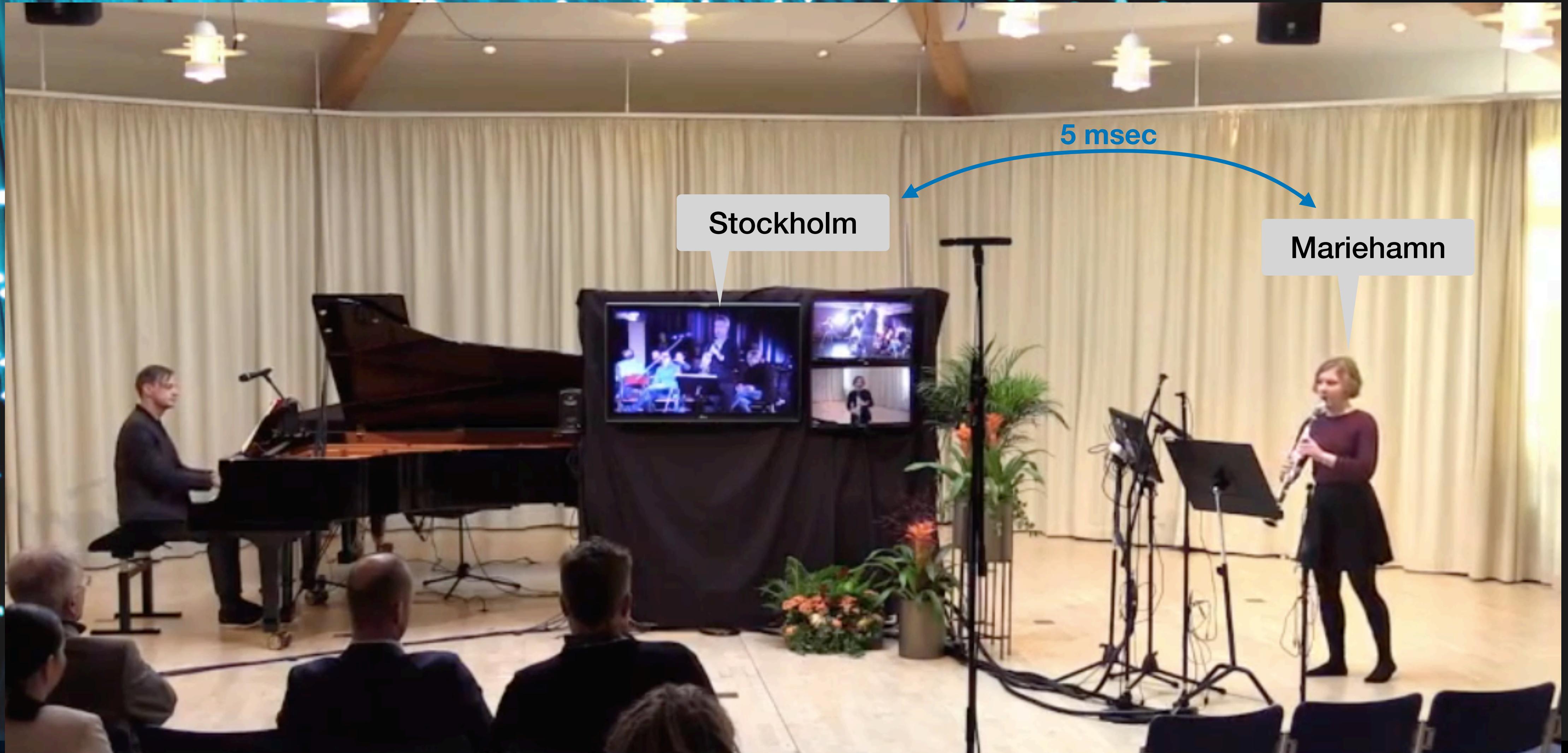
UK

Coventry University

Åland

Nordens institut på Åland
Ålands musikinstitut
Bio Savoy

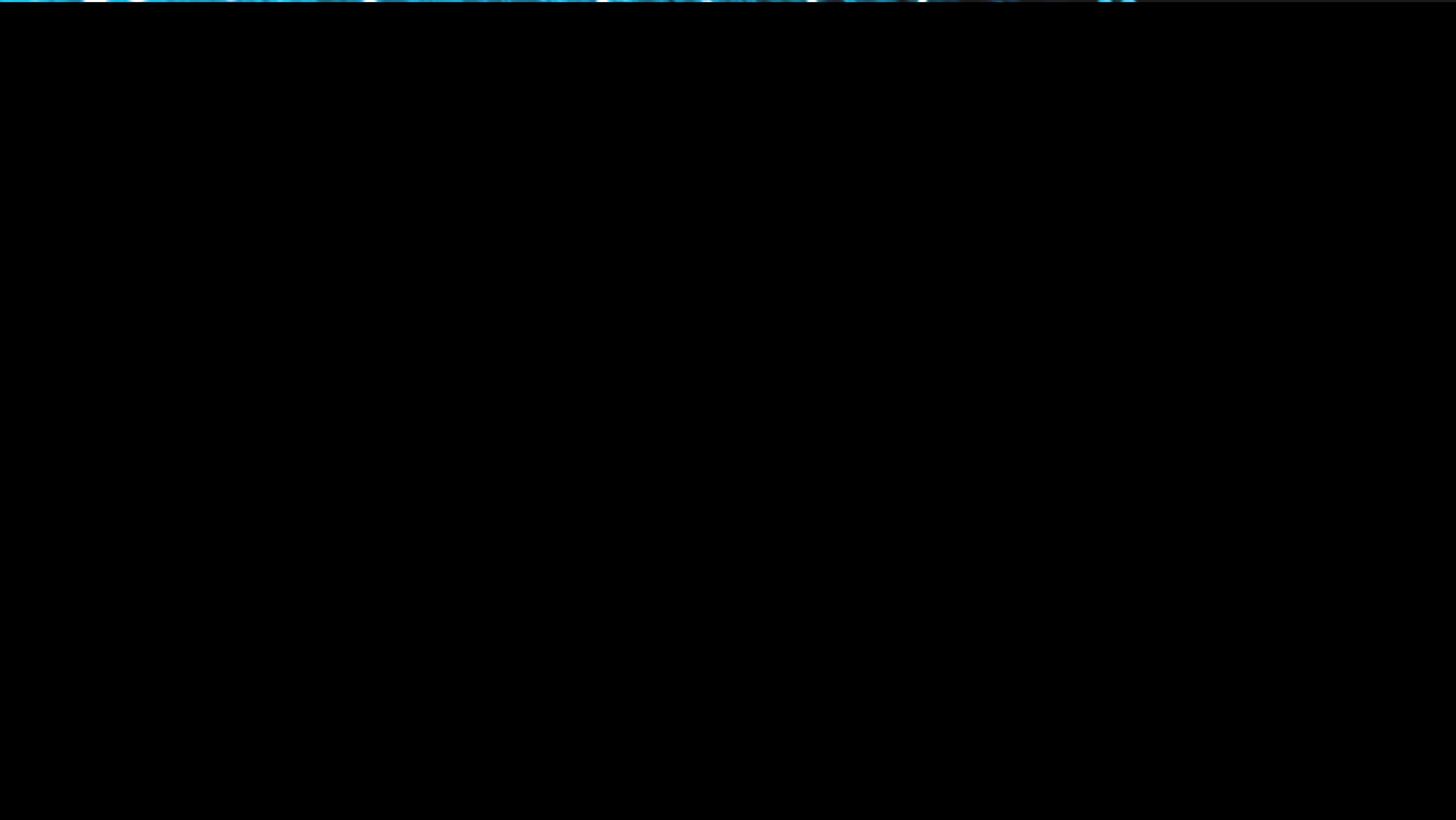
Between Stockholm and Mariehamn we have a 5 ms delay or equivalent to 1.5 meter in a room.



The Remote North NCDP method is content agnostic. It can be used for any signal or application such as remote control of mining machines. It can also provide sync for 5G operators



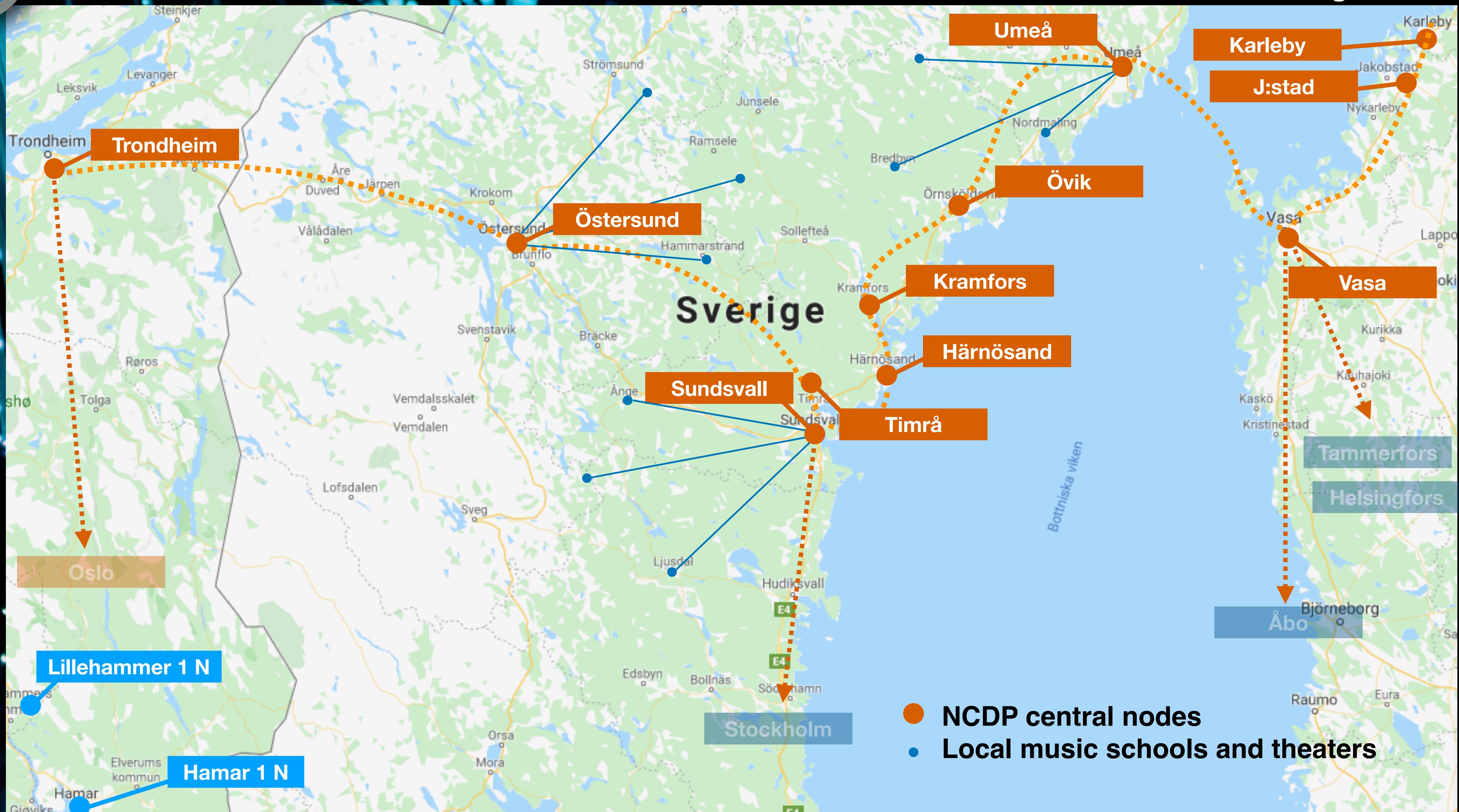
A low latency network for performing arts,
music education, research, societal services



Gradually we are extending the user network. In 2021
Uniarts, Aalto Uni (Finland) and Skellefteå, Norsjö, Malå¹
(Sweden) will be added.



In spring 2021 we will finish a feasibility study in Västernorrland to permanently connect music schools and local theatres in the region.



Projectpartners VN

Riksteatern, Swedish national touring theatre

Peoples University Sundsvall

Stockholm college of music education

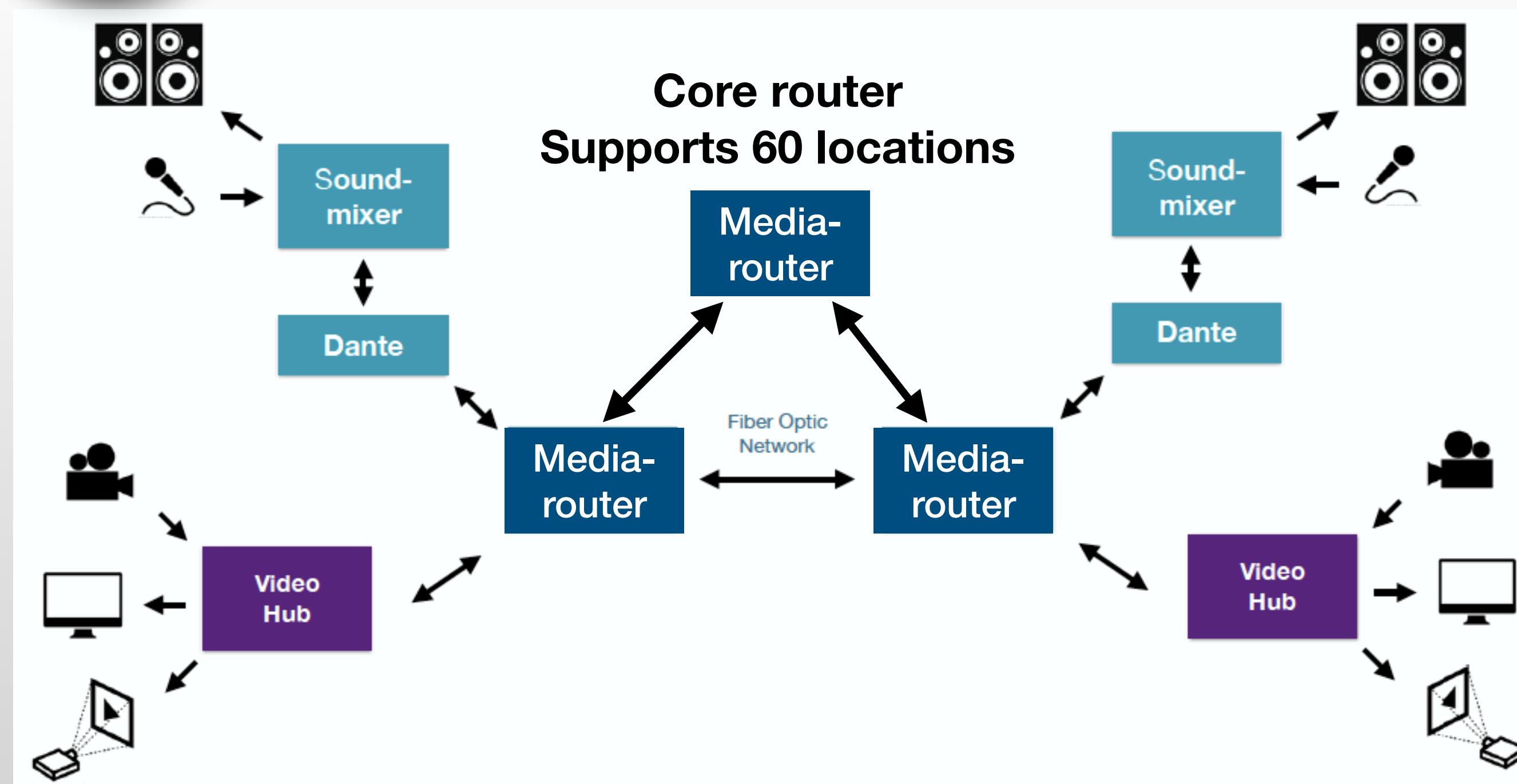
Norrsken - Inter regional network operator

Riksteatern Västernorrland

Scen Sundsvall, a regional theatre association

Culture schools in the cities of Örnsköldsvik, Kramfors,

Timrå, Härnösand och Sundsvall



We have identified 3 formats

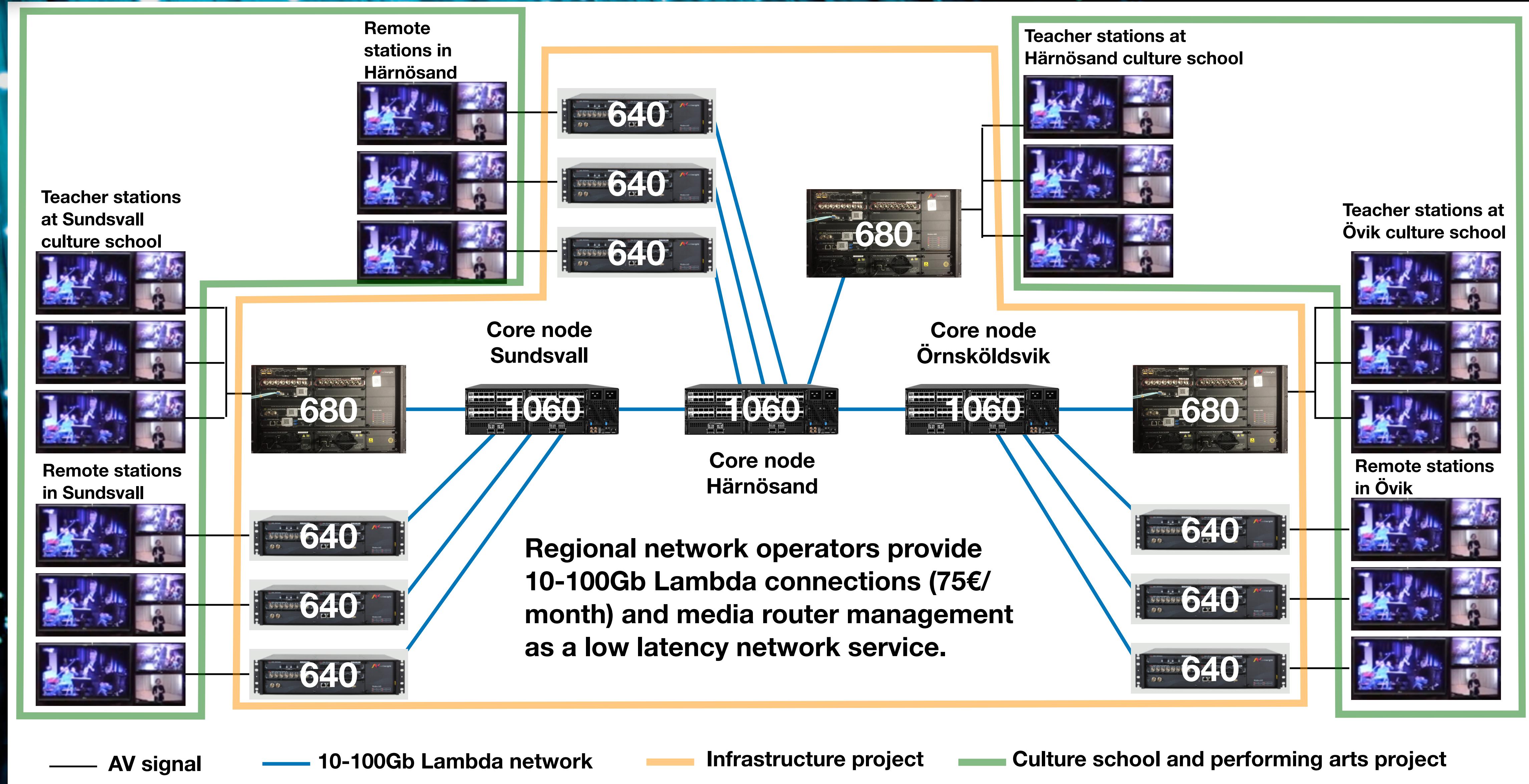
Format A. Music education, monitors 1 x 50-60" + 2 x 24".

Format B. Conference or small ensembles, half stage 3-5 m projection

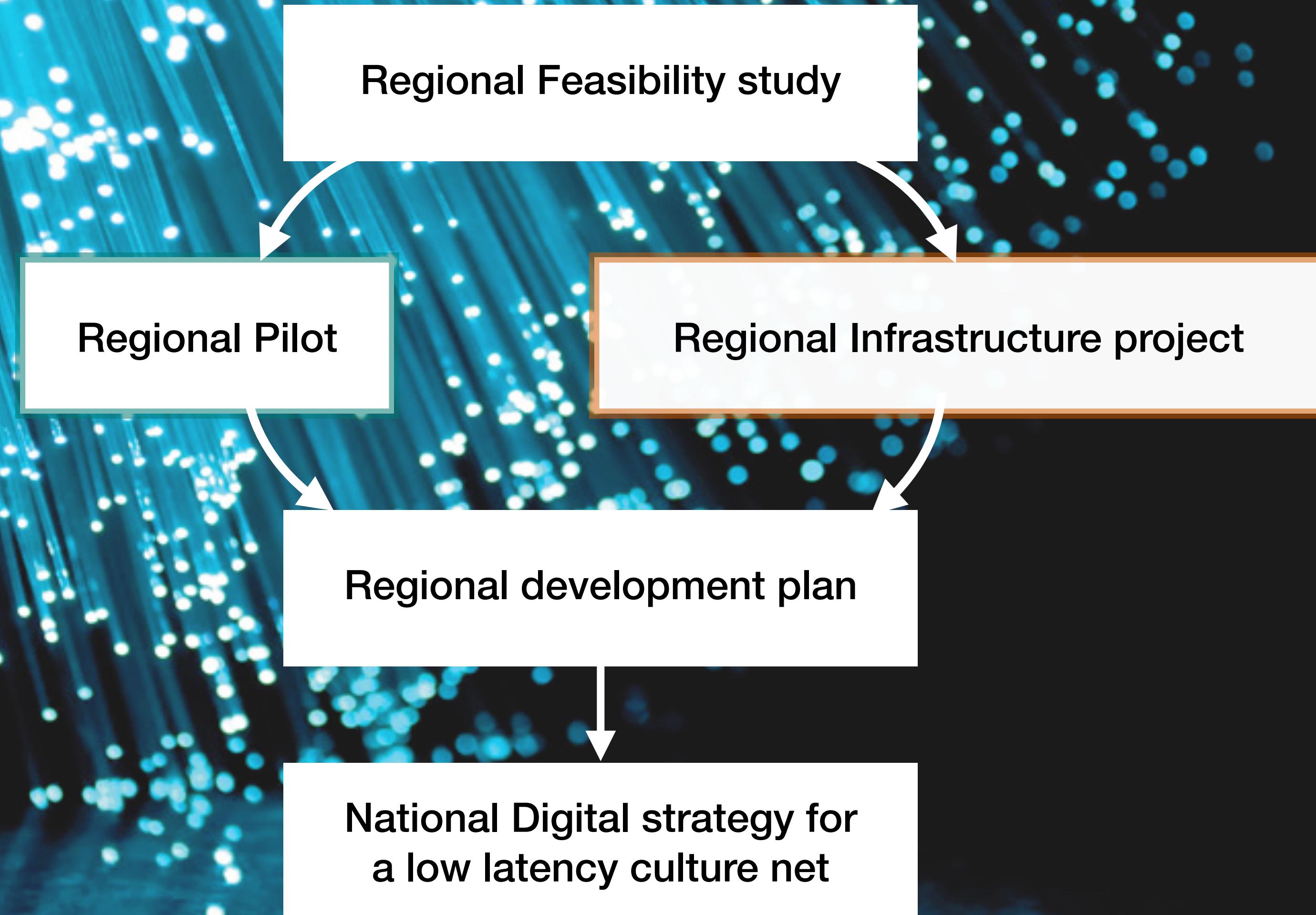
Format C. Theater or concert halls, full stage 12-15 m projection



A new model for content providers and network operators



Remote North model of operation in a nutshell



Regional Feasibility study 6 mths

Regional and national Theatre's

Regional Fiber network provider or operator

Music institute/culture schools

Community center association

Higher Music education

Universities

Remote North PM and System specialist

Present and future operation and technical needs

Funding plan and pilot projects

Funding 50 000 €

Regional council

Municipalities

Project partners, In kind participation

Regional Pilot 2-3 yrs

Regional Theatre's
Music institute/culture school
Community center association
Higher Music education
University
Remote North PM and
System specialist

Remote stations and content

Funding 300-400 K€

National and EU funding
Regional council
Municipalities
Project partners
In kind participation

Regional Infrastructure project

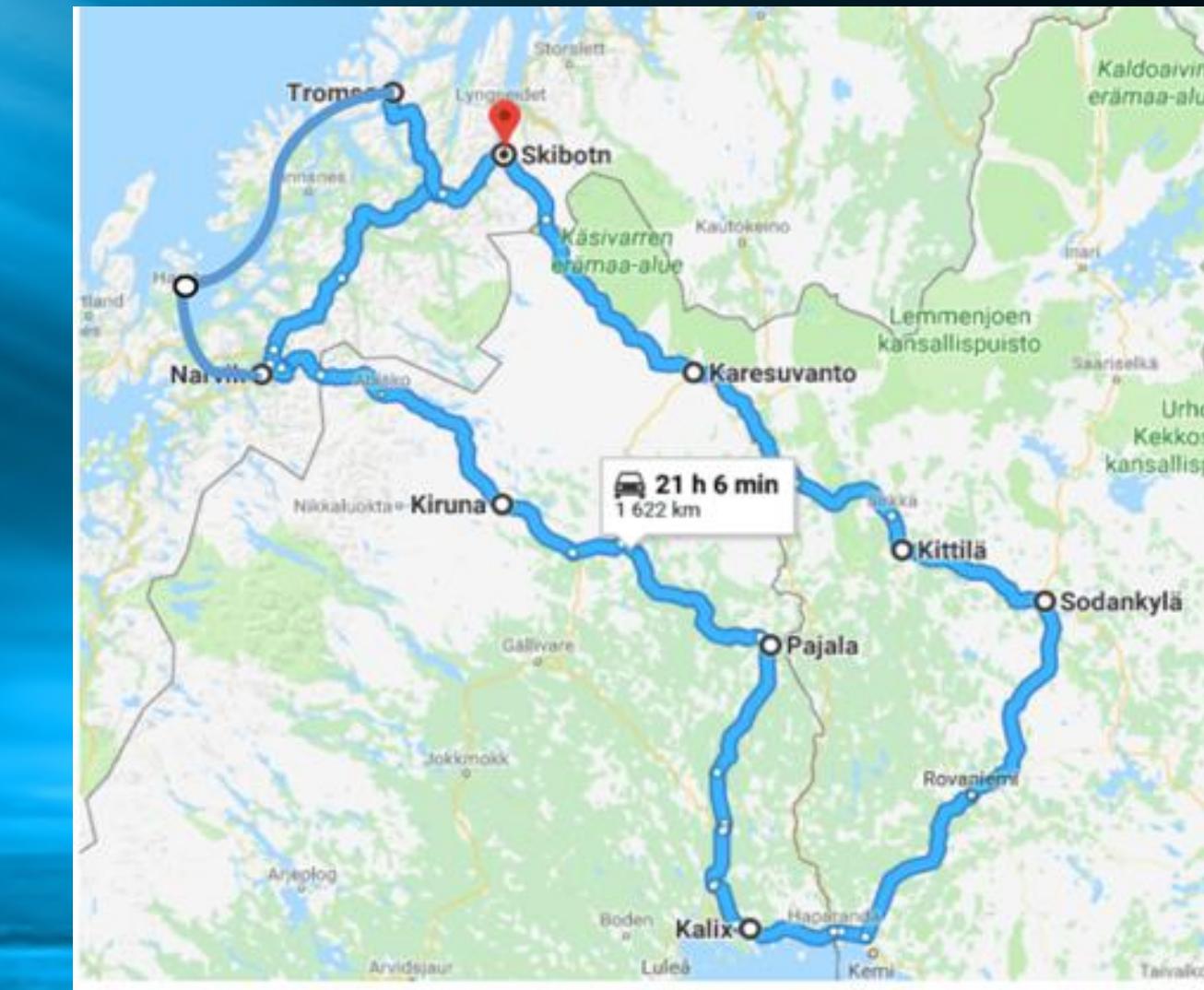
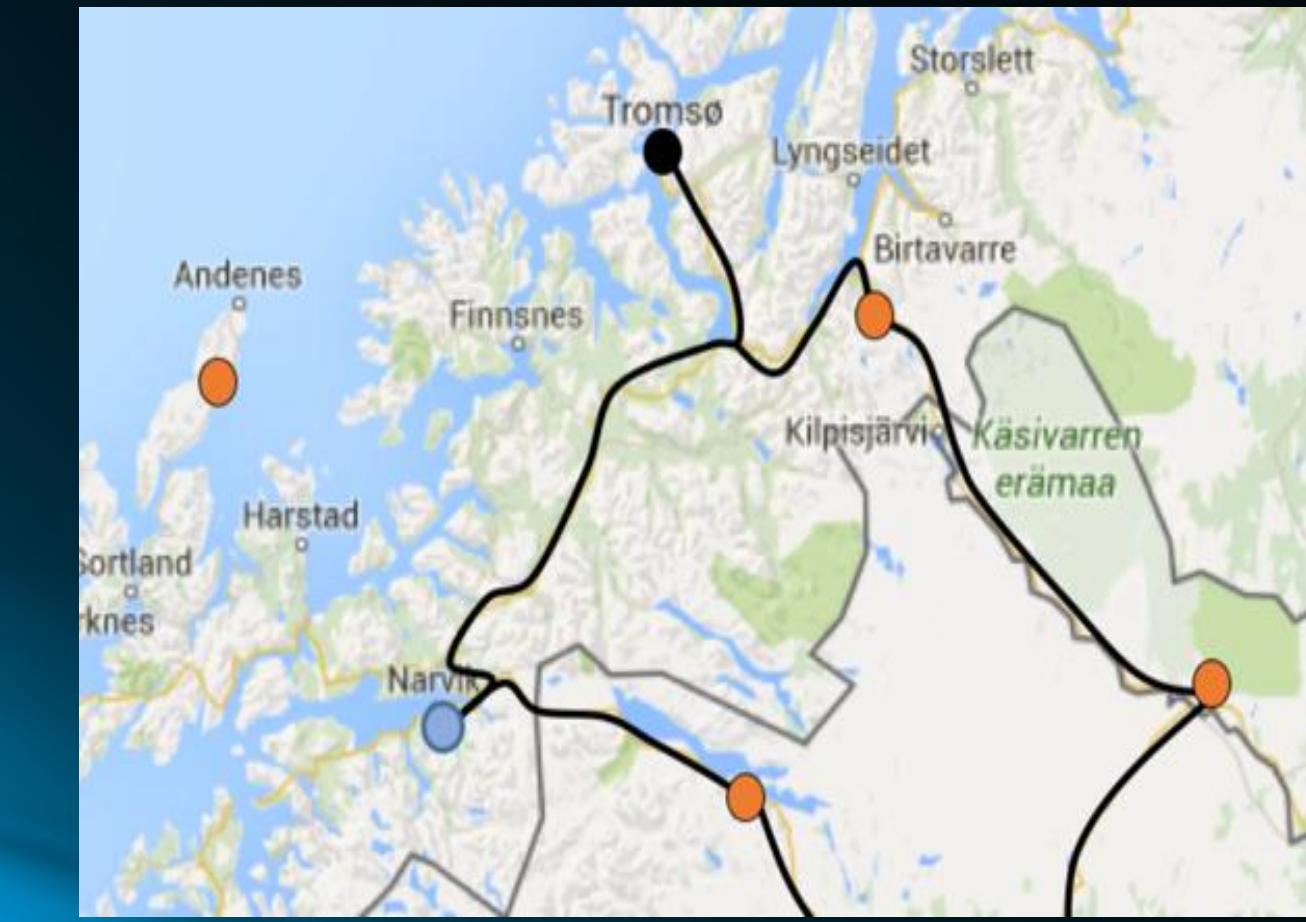
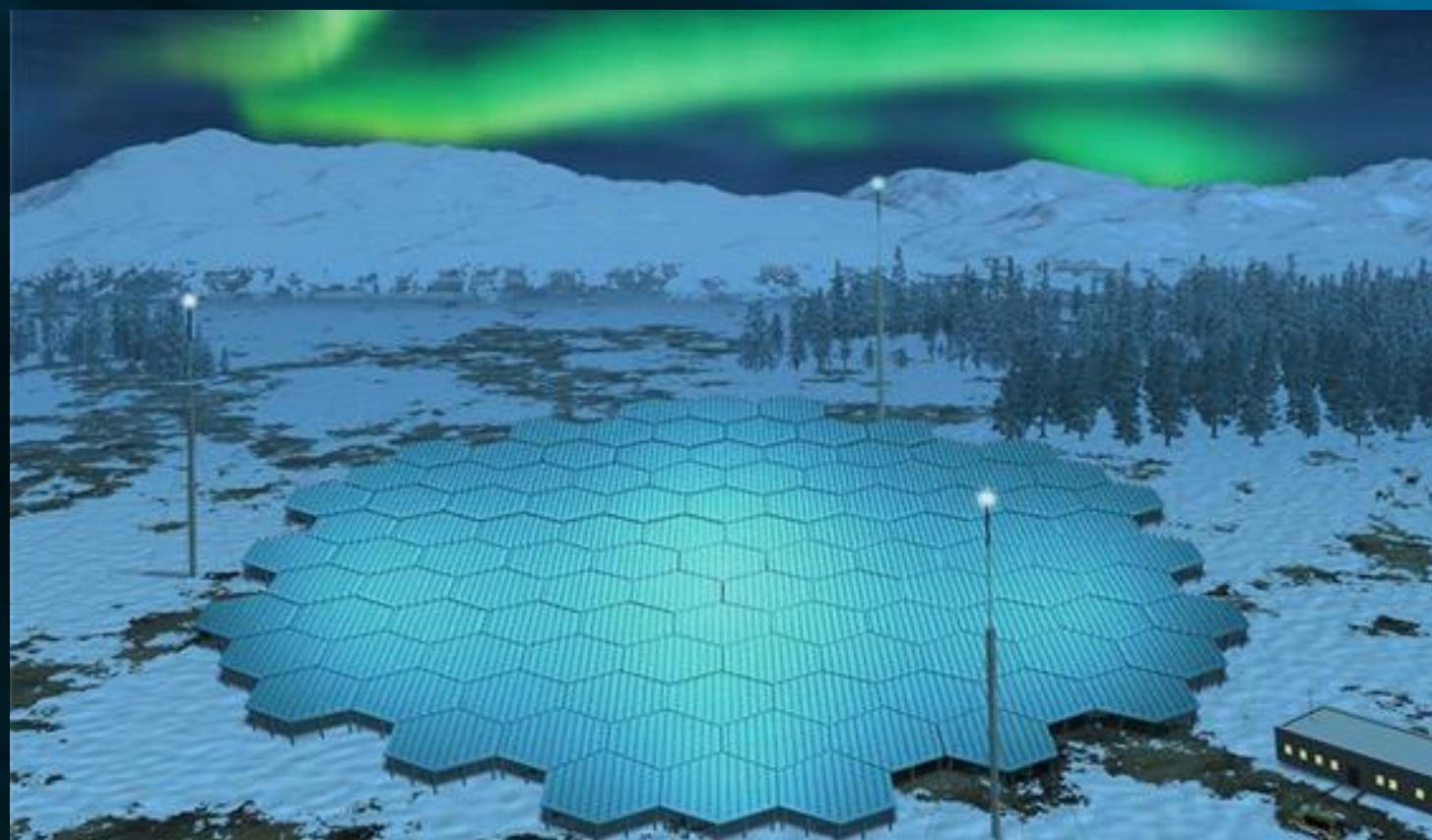
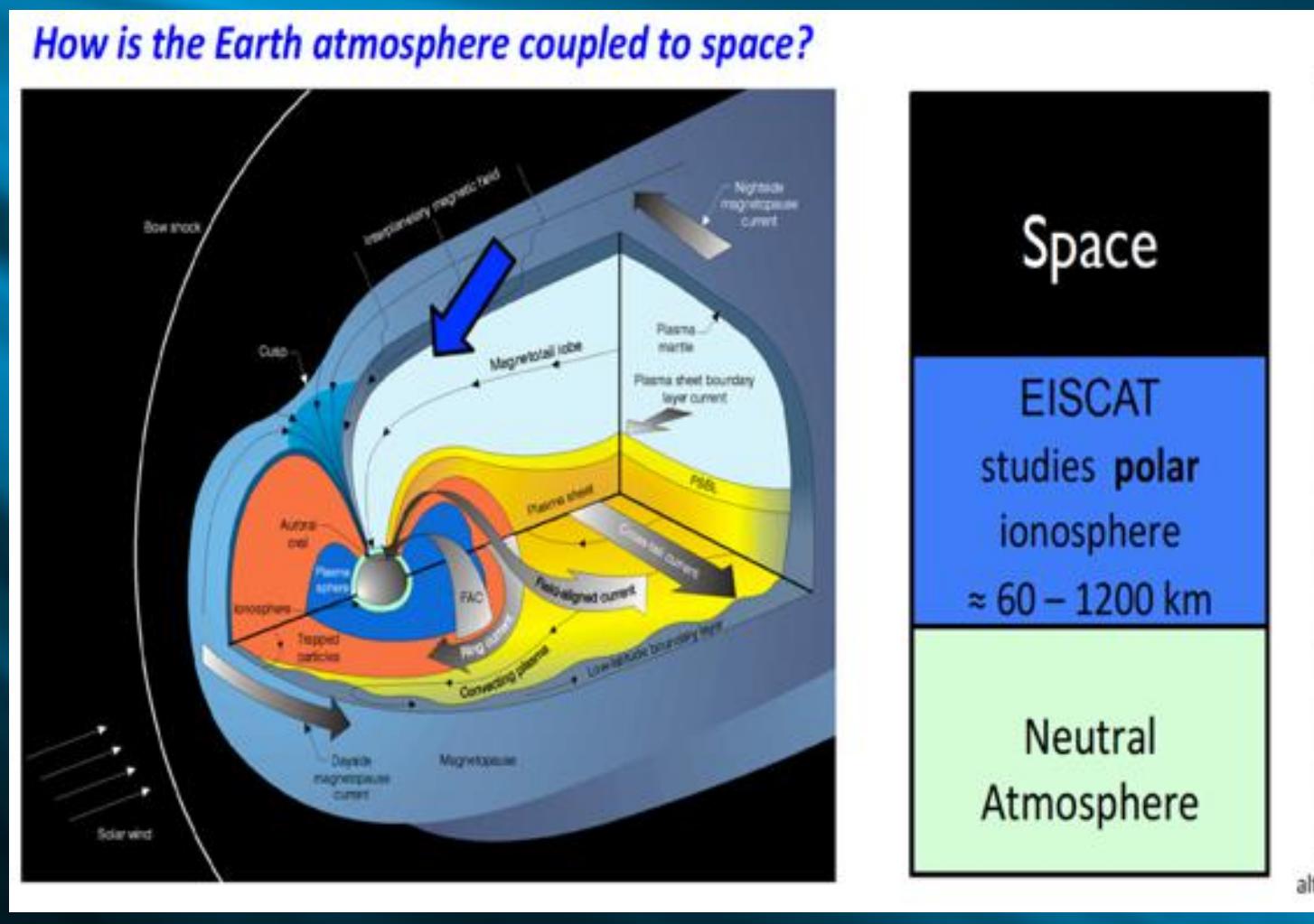
Regional Fiber network provider or operator, NREN's
Suppliers and manufacturers

Lambda network and mediarouter management as a service. Continuing education, service development.

Funding/region 1-10 M€/year

Regional, National and EU funding

EISCAT3D atmospheric radar



The 3D atmospheric radar is a Nordic engineering collaboration that raises the need from 100Gbps to 8 Tbps

Research infrastructure

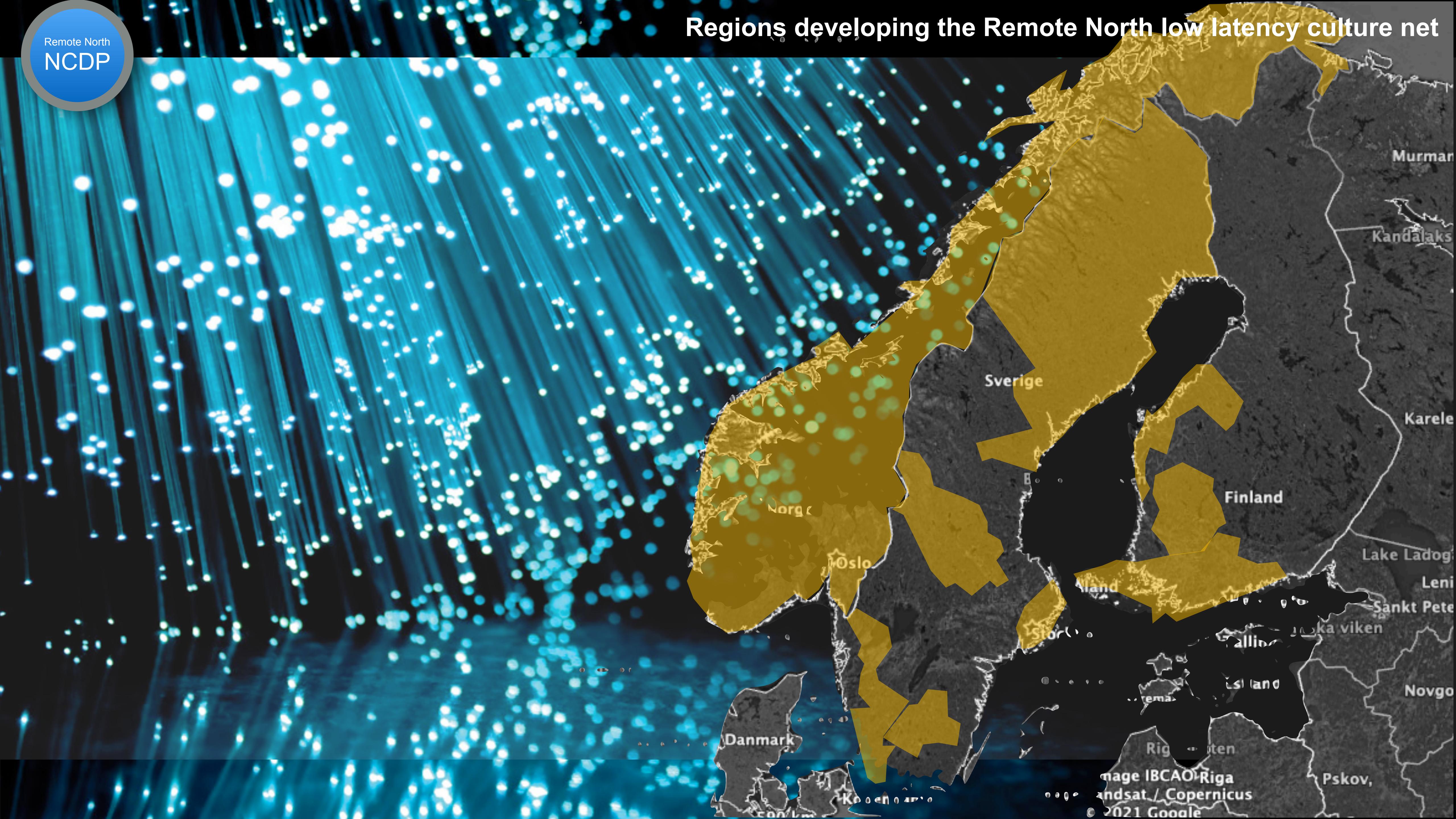


EOSC pilot
The European Open Science
Cloud for Research Pilot Project

The Lumi supercomputer is a EU collaboration that raises the need from 100Gbps to handling 0,55 Exaflops at 2Tbps I/O connections

Regions developing the Remote North low latency culture net

Remote North
NCDP



General effects of a low latency Nordic culture-net

Develops

- performing arts
- remote music education
- rural/city equality of service
- democratic processes
- time and cost effectiveness
- technology
- new work methods within the creative industries, like game development
- arena, conference and events industries

General effects of a low latency Nordic culture-net

Provides

- travel and carbon footprint reduction
- a model with export potential
- common Nordic (EU) regulatory framework for IPR and remote productions
- pan-nordic content for small and large media companies including public service.



Remote North

NORDIC CENTER FOR DIGITAL PRESENCE

www.ncdp.eu