ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

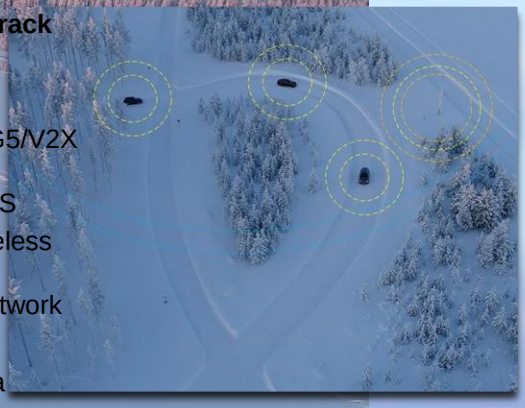
Arctic vehicular wireless communication testing and development environment

Timo Sukuvaara Kari Mäenpää

European Union
European Regional Development Fund
Leverage from the EU 2014–2020

BUSINESS FINLAND

Combined 5G and V2X winter testing track



- Versatile 1.7 km road network
- 5G cellular test network
- 2 road weather stations as ITS-G5/V2X RSU
- Drone docking stations near RWS
- V2X networking with Cohda Wireless MK5 (ITS-G5)
- Roadside IoT weather sensor network
- Underground sensor pipelines
- Weather radar in the vicinity area

Mobile instrumentation

- Institute vehicles with weather sensors
- Drone fleet with weather sensors and automated features
- Miniature vehicles with automated features
- On-board 5G/ITS-G5 communication devices
- On-board vehicle cameras with RoadAI sensing system
- On-board Lidar and radar systems

Research objectives

- Intelligent traffic and road weather services
- Autonomous driving and robotic platforms
- Energy efficient intelligent traffic
- Drone-assisted intelligent traffic

AA3D Arctic Airborne 3D
interreg Pohjoinen

VED Vähähiilisyyttä edistävät drooniratkaisut
Low-carbon, energy-efficient drones
Vipuvoimaa EU:lta 2014–2020

EMAL Energiatehokkaat menetelmät Arktisessa liikenteessä
Energy-efficient methods in Arctic traffic
Vipuvoimaa EU:lta 2014–2020

5G-SAFE+
BUSINESS FINLAND

Timo Sukuvaara
timo.sukuvaara@fmi.fi

Kari Mäenpää
kari.maenpaa@fmi.fi

Sodankylä Arctic Space Centre
Finnish Meteorological Institute
http://fmiarc.fmi.fi