



NLS
FINNISH GEOSPATIAL
RESEARCH INSTITUTE
FGI

NMAs and European Data Spaces

Prof. Jarkko Koskinen

FGI /NLS

European Strategy for Data

2020

A common European data space, a single market for data



Common European data spaces

Data Spaces is an umbrella term corresponding to any ecosystem of data models, datasets, ontologies, data sharing contracts, and specialized management services

Rich pool of data
(varying degree of
accessibility)

Free flow of data
across sectors and
countries

Full respect of GDPR

Horizontal
framework for data
governance and data
access



Health



Industrial &
Manufacturing



Agriculture



Finance



Mobility



Green Deal



Energy



Public
Administration



Skills

- Technical tools for data pooling and sharing
- Standards & interoperability (technical, semantic)

- Sectoral Data Governance (contracts, licenses, access rights, usage rights)
- IT capacity, including cloud storage, processing and services

Benefits

- **Opportunities for Business**
- **Opportunities for Science**
- **Opportunities for Citizens**
- **Opportunities for Government and Public Bodies**
 - Data commons for better government services
 - AI-enhanced digital services
 - Real-time European statistics
 - Lean business environment enabled by access to government service
 - Evidence-based policymaking
 - Data as evidence of policy compliance

Possibilities for NMA

- We could provide base data for European Data Spaces
- We could play important role by being active in some of the Data Spaces
- This will highlight our role as
 - Increase the visibility and active role in future of the Digital Europe
 - European base data provider
 - Hel of new application and business incubation
 - Highlight the importance of spatial data and positioning in digital applications

13
business partners
3
regions

15
university, public sector, NGO
partners
20
associated and other partners

7
reference spaces
200
spatial data services

600
data sets
5
novel sensor data sets

100
SMEs in our
network

50 000
potential location data
services available
through European Data
Portal

55
countries involved



Built Environment



Bioeconomy



**Health &
wellbeing**



Transportation

€93.4 billion

Estimated value for the
European geospatial industry
market (by 2020)

59%

of the companies receive their
revenue from the public sector

€13 billion

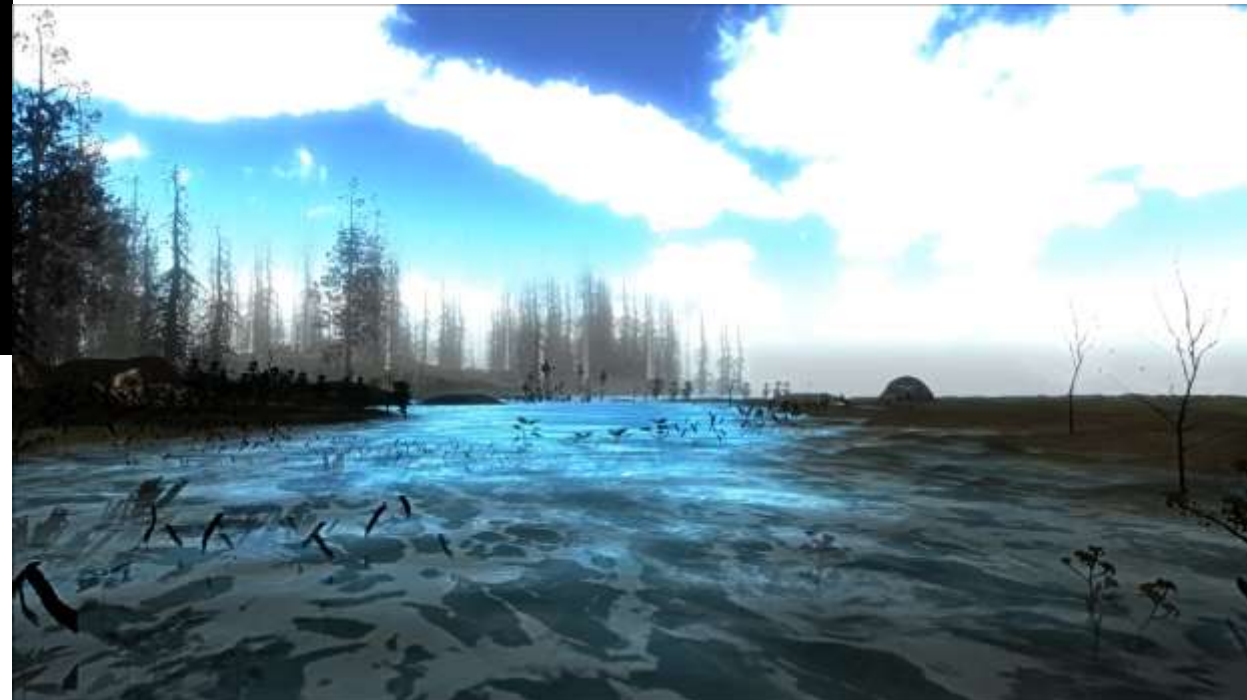
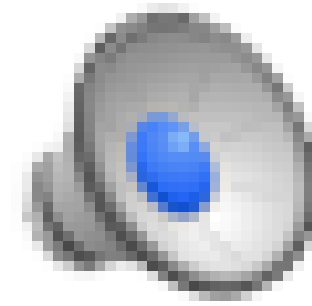
Estimated potential value of
economic benefits in increasing
use of location intelligence
annually in Finland (Study 2019)

Interoperability of location and other data

Precise positioning

Next generation navigation space

Digital Twins



Point Cloud Data



Automation in agriculture



Farmer application

- Flight planning
- Data capture flight
- Data transfer to cloud service
- Processed data transfer to farmer

Farmer controls process

- Selection of area of interest
- Scheduling tasks
- Decision making

Approximate costs

- Drone: 1000 – 2000 €
- Sensor: RGB/CIR: 500 €
- Service: 100 €/month
- Speed <1 day



Cloud service

- Image data processing, analysis, classification

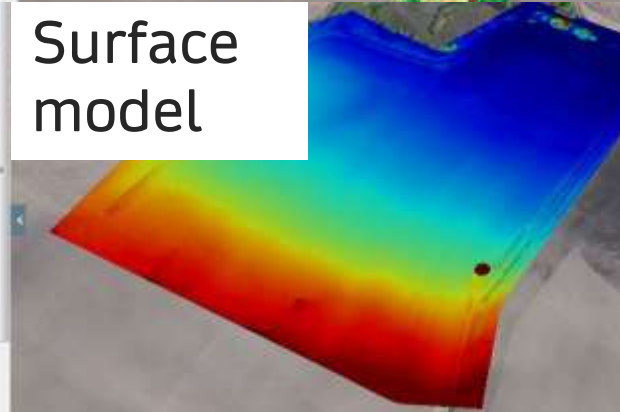
RGB Mosaic



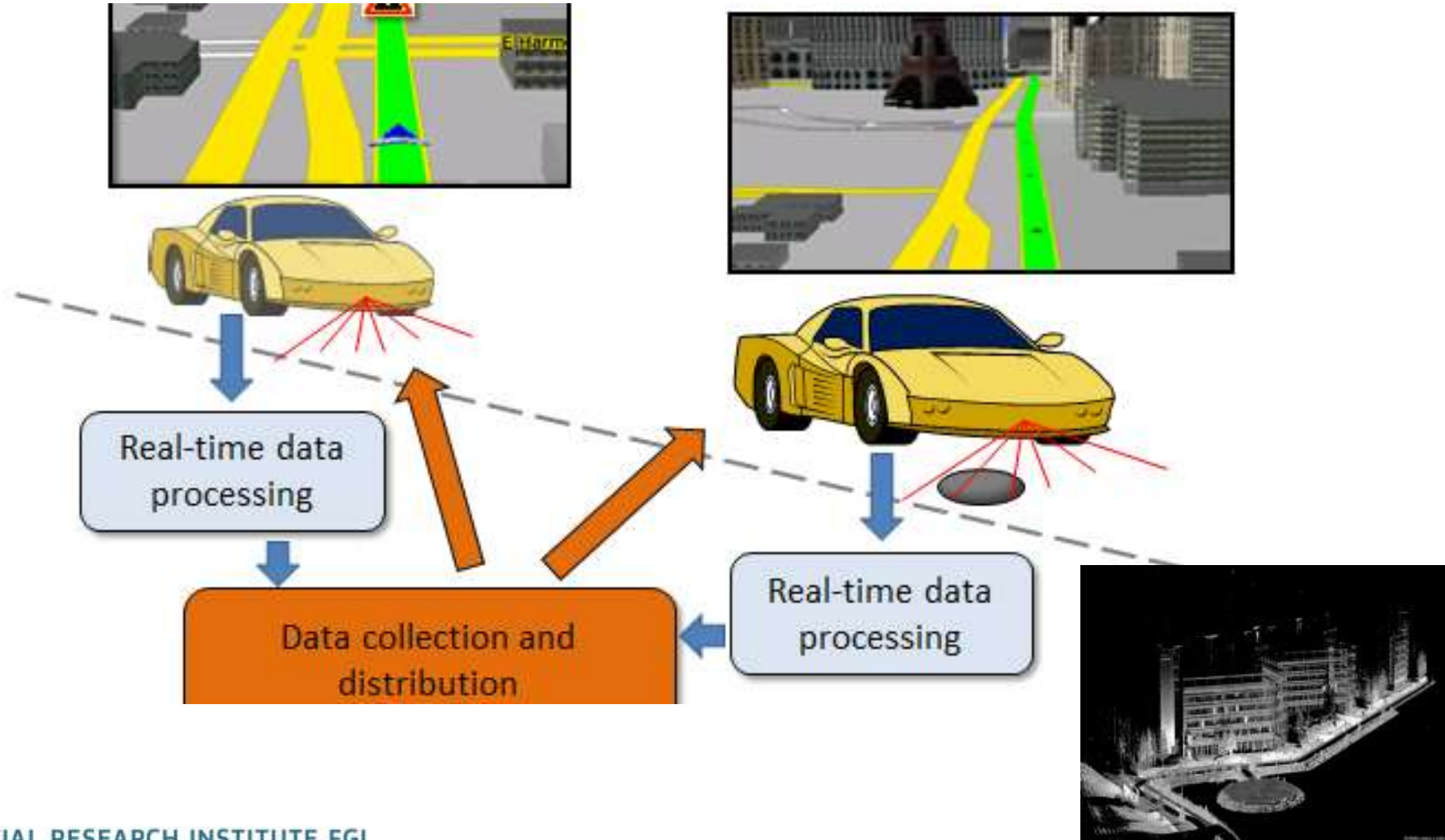
Vegetation health



Surface model

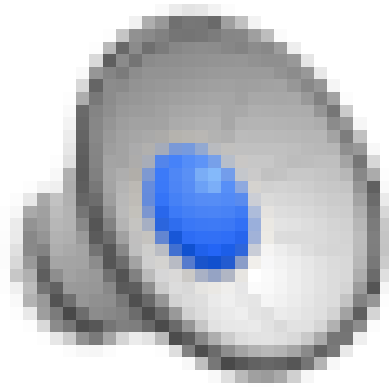


Autonomous Big Data



Autonomous driving Research Platform

Ford Mondeo Hybrid 2017



- Velodyne VLS-128 & 4 VLD-16 LiDAR installed on the roof of the vehicle
- One monochrome and two RGB cameras inside the vehicle viewing forward
- One radar installed in the front of the vehicle and two rear side detection radars
- GPS+IMU Measurement unit





https://youtu.be/lNwdSmQV_

Advancing together

