



NLS
NATIONAL
LAND SURVEY
OF FINLAND

More with less – the Finnish collaboration model

Re-designing organizational co-
operation – enabling quality data to
make the right decisions

Jani Kylmäaho

Chief Digital Officer

National Land Survey of Finland

Finland - geographical challenges

Finland in a nutshell

- 390 000 km² (forested areas 77 %)
- Between 60' and 70' latitudes
- Bordering countries
 - Norway
 - Sweden
 - Russia (1340 km borderline)
- Weather conditions quite often cause challenges for data acquisition
- 64th largest country in the world – lots of data needed to cover the whole country



Image: Geoportal Arctic-SDI

More with less – overcoming the challenges!

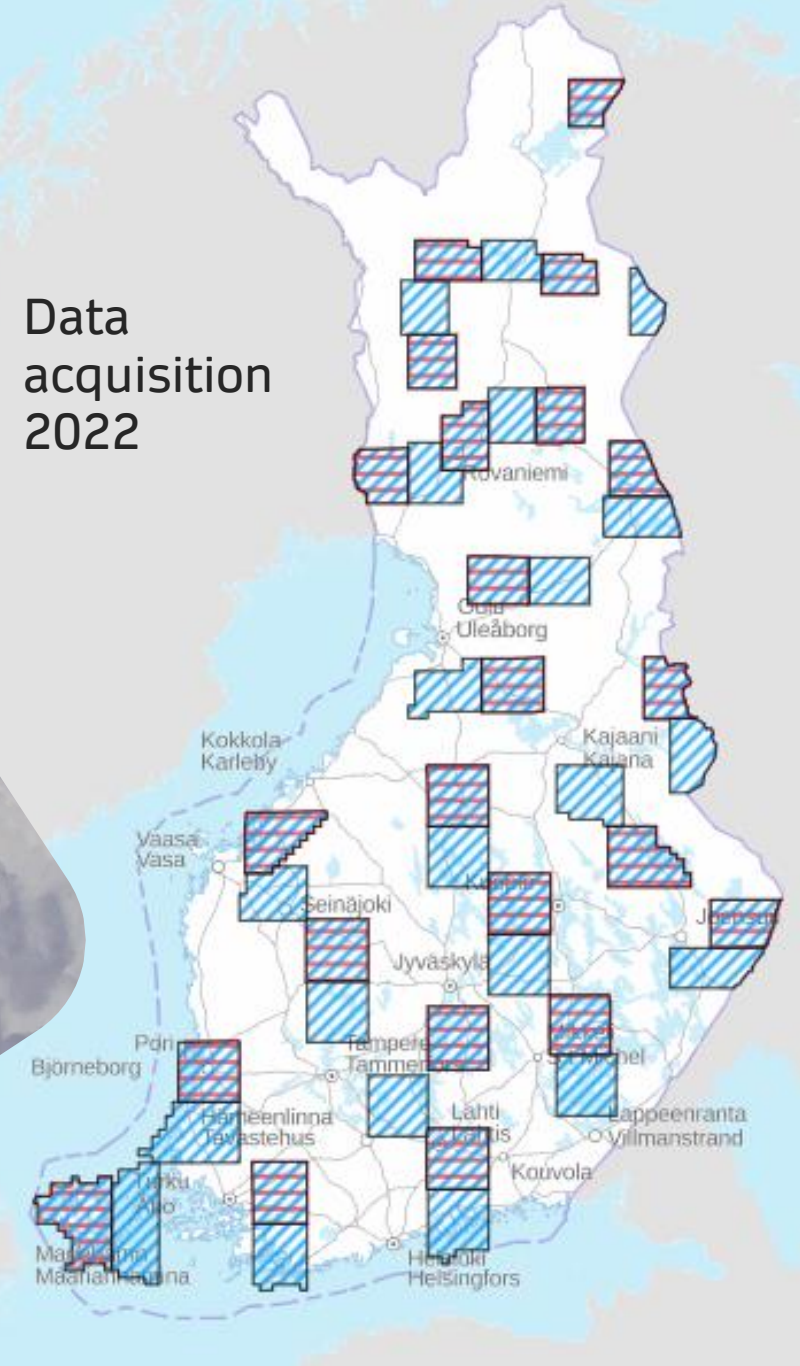
A new model of collaboration has been launched 2020 in the Finnish public sector on acquisition and processing of remote sensing data.

National Lidar and Aerial Image programs produce more data for the whole society every year - with less!

- Aerial images 3-year interval
- Lidar data 6-year interval



Data
acquisition
2022



Co-operation to boost the Finnish economy

Most important public sector partners in the collaboration:

- Forestry & Agriculture
- Environmental protection
- Defence forces

5 public organizations planning and funding the data acquisition costs together (4 million €/year).

→ None of these organizations could afford to acquire all the data by themselves!



Co-operation that benefits the private sector as well

- Interesting business opportunities for private contractors in data acquisition
 - 60 000 km² Lidar data and 110 000 km² aerial photos / year
 - 2022: 5 companies working in 2 framework agreements (aerial imagery and lidar)
- All data as public data - to boost private innovation and creating new business models

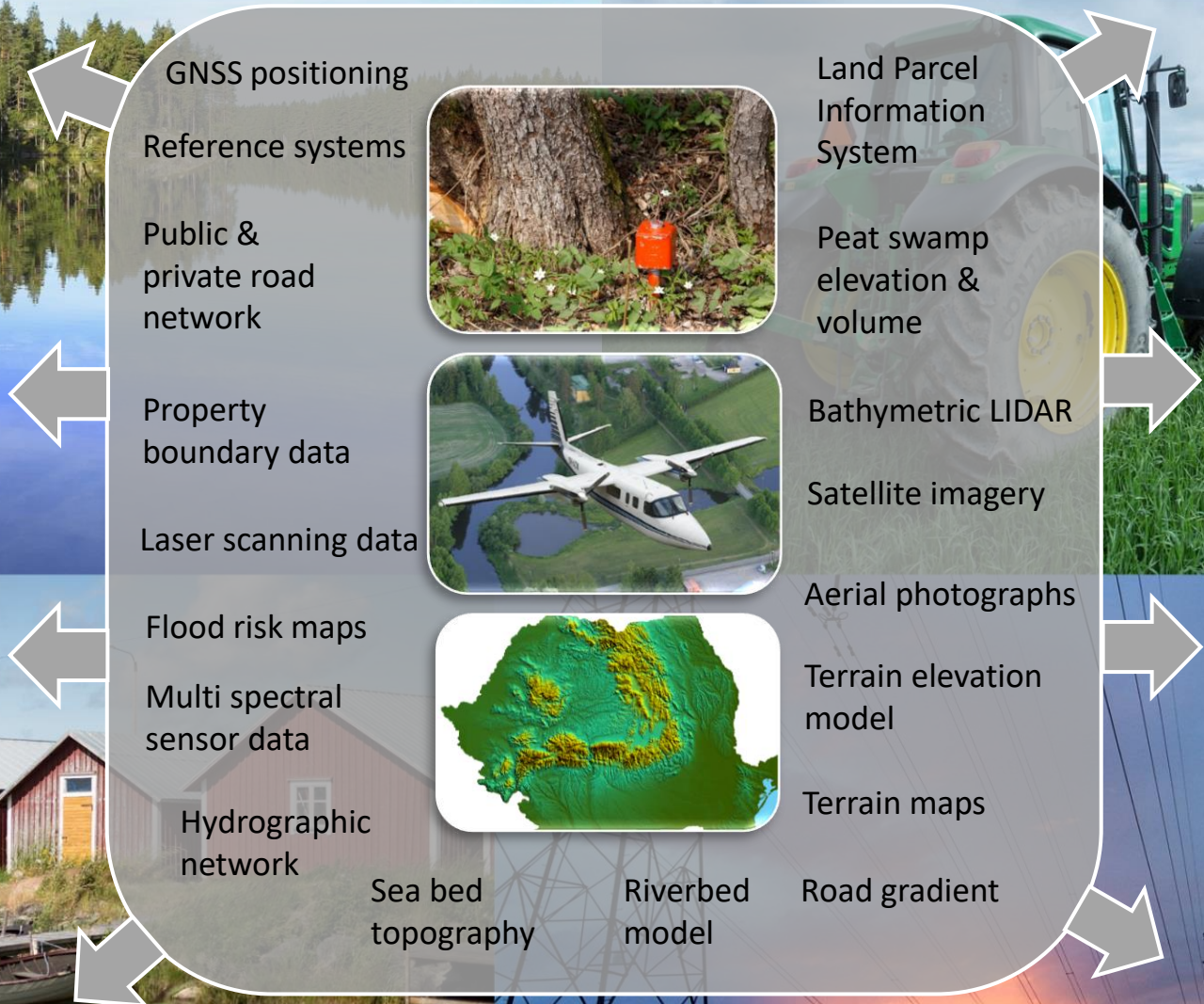


BIOECONOMY ECOSYSTEM

Connecting Spatial Data with bio-ecosystem challenges

- Forest inventory
- Coordinate assisted logging
- Accessibility
- E-trading of timber
- Recreation

- Water protection
- Flood control
- Pest control
- Water resource management
- Fish farming



- Nutrient runoff management
- Recycling of nutrition
- Agriculture subsidiaries
- Peat inventory
- Logistic planning

- Define protection zones
- Energy optimization
- Water cycle management
- Biodiversity protection
- Land use planning

Developing a Common Knowledge Base for Monitoring Land Use and its Changes - Project Partners

Finnish Environment Institute

National Land Survey of Finland

Natural Resources Institute Finland

Finnish Food Authority

Finnish Forest Centre

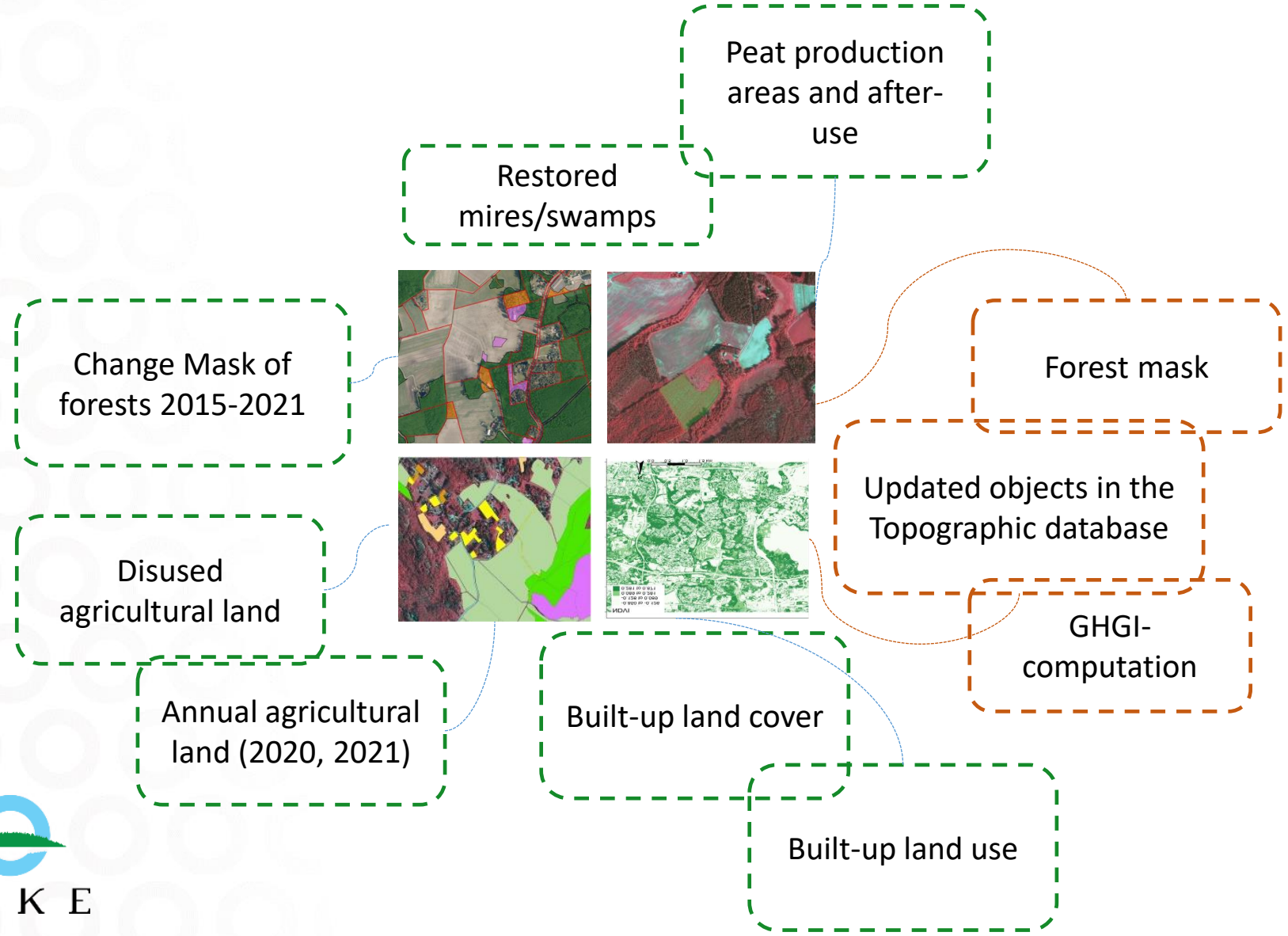
Duration: 2021-2022 (at least)



Developing a Common Knowledge Base for Monitoring Land Use and its Changes - Project Goals:

- Improve the geospatial Knowledge Base describing land use and its changes as a basis for reporting, planning, monitoring and decision-making regarding land use
- Produce data sets describing land use and its changes, combining and further processing data produced by different actors
- Develop a common governance model for land use data production, to enable regular monitoring of land use and its changes

Project Results so far



- **Governance model:** Proposal for roles and responsibilities for different organizations for the production and maintenance of data sets
- **Development proposals:** for the materials and processes used by the project

Takeaways

Digital Transformation is not just about leveraging new technology – it is about new collaboration models.

Interaction with Stakeholders is essential in creating value and impact.

Collaboration across silos and sectors is the key to success!



Thank you!



[@jkylmaaho](https://twitter.com/jkylmaaho)



<https://www.linkedin.com/in/janikylmaaho/>

