NLS
NATIONAL
LAND SURVEY
OF FINLAND

Together (even) more with less – co-operation in the Finnish public sector

Heli Laaksonen

National Land Survey of Finland

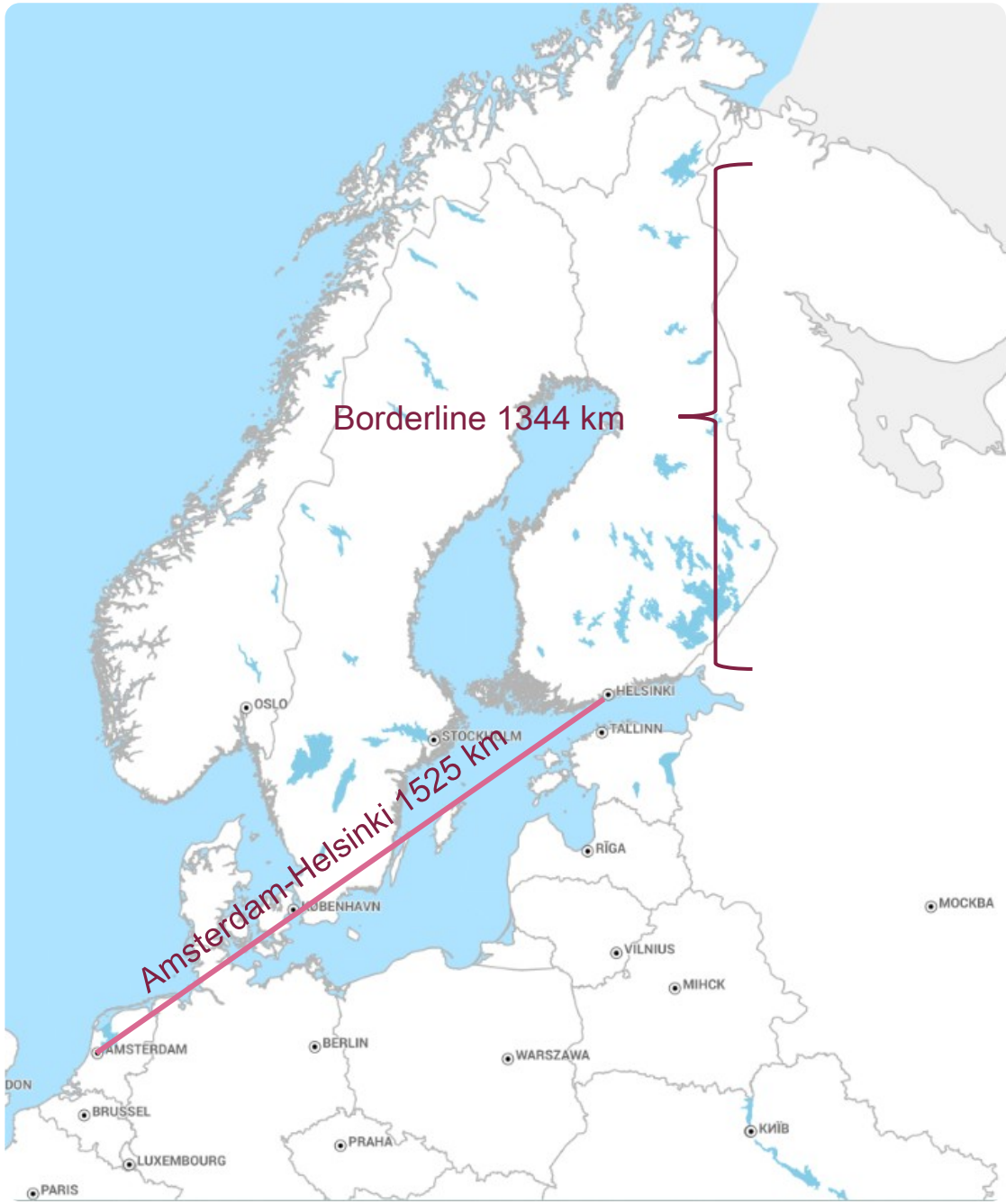
Finland facts

338 000 km2
5,7 million people
Population density less than 18/km2

Helsinki (capital)
Finnish and swedish as official languages

+
3,2 million saunas and 168 000 lakes ☺

World Happiness Report 2026.



National Aerial image and Lidar programmes

”KALLIO” co-operation

2020-2025 & 2026→

National Aerial Imaging and Lidar Programmes 2020–2025 (“KALLIO1”)

- Aerial images on a 3-year cycle (50 cm orthophotos)
- Laser scanning point cloud on a 6-year cycle (5 pts/m²)

"Together. Efficiently. More."

5 organizations under the same ministry (of agriculture and forestry) + Defence Forces

MML MAANMITTAUSLAITOS

METSÄHALLITUS

Suomen ympäristökeskus
Finlands miljöcentral
Finnish Environment Institute

Puolustusvoimat

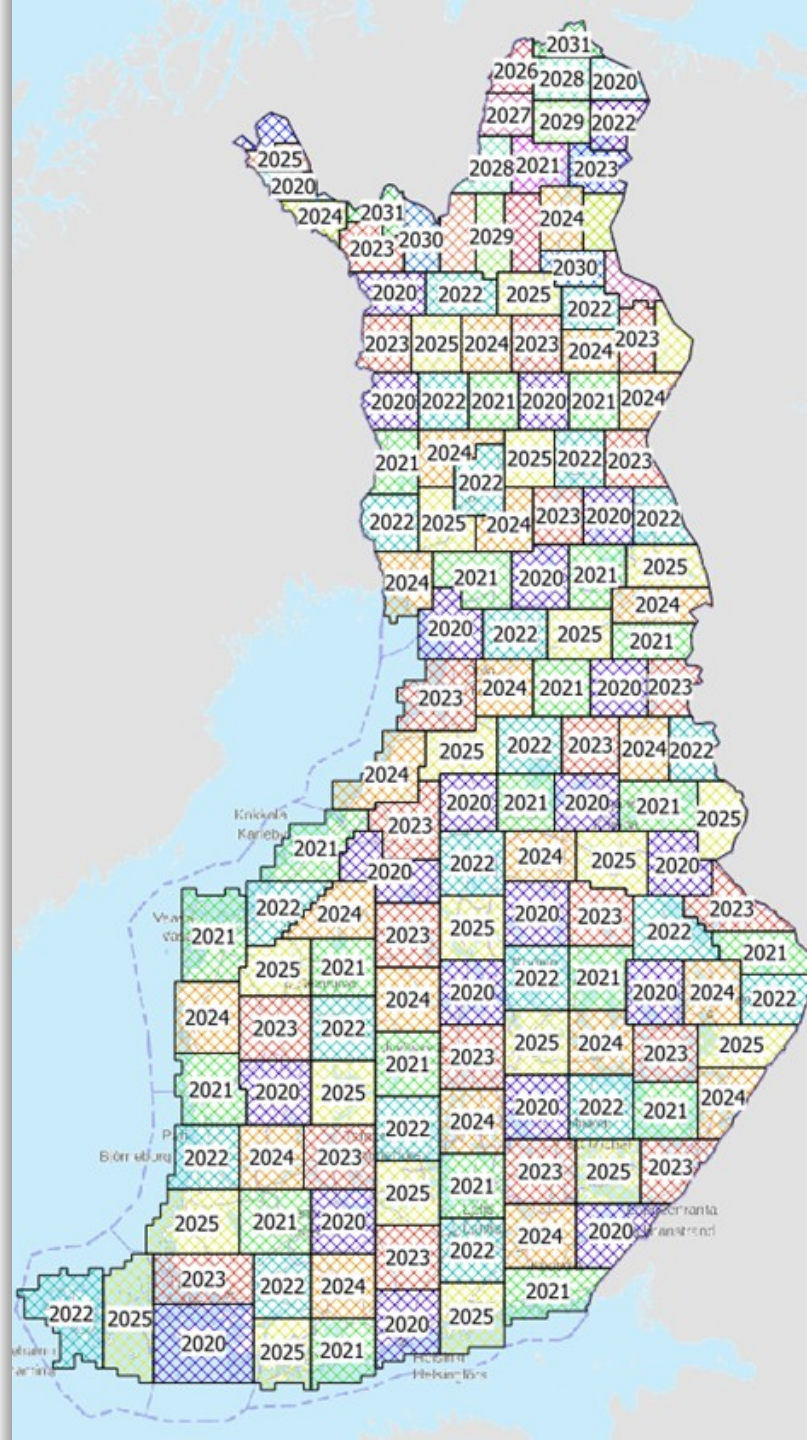
Puolustusministeriö
Försvarsministeriet
Ministry of Defence

Metsäkeskus

RUOKAVIRASTO
Livsmedelsverket • Finnish Food Authority

Maa- ja metsätalousministeriö

Ympäristöministeriö
Miljöministeriet
Ministry of the Environment



More with less!

KALLIO collaboration organizations use the data for example to:

- produce and update forest data
- regulate agricultural subsidies and forest law
- flood mapping
- updating the new national topographic database

+All data as public and/or open data to benefit the whole Finnish society.

Economic impact of the datasets on the national economy:
€23 million is the estimated annual benefits from the use of geospatial data in the forest industry alone* (Forestry makes 1/5 of the Finnish early exports)

*Kaukokartoitukseen perustuvan metsävaratiedon hyötyanalyysi, MetKu-hankkeen loppuraportti. Kangas, A. ym. (2019). Luonnonvara- ja biotalouden tutkimus 6/2019, Luonnonvarakeskus.

”KALLIO2” Partners 2026→

Väylävirasto
Trafikledsverket

Puolustusvoimat

MML
MAAN-
MITTAUS-
LAITOS

GTK

Luke
LUONNONVARAKESKUS

METSÄHALLITUS

Metsäkeskus

RUOKAVIRASTO
Livsmedelsverket • Finnish Food Authority

Suomen ympäristökeskus
Finlands miljöcentral
Finnish Environment Institute

National Land Survey of Finland
Finnish Forest Centre
Metsähallitus (state enterprise) / Finnish Forest Administration (general English form)
Finnish Environment Institute
Finnish Food Authority
Finnish Defence Forces
Geological Survey of Finland
Natural Resources Institute Finland
Finnish Transport Infrastructure Agency

Maa- ja metsätalousministeriö

Työ- ja elinkeinoministeriö
Arbets- och näringsministeriet

Puolustusministeriö
Försvarsministeriet
Ministry of Defence

Ympäristöministeriö
Miljöministeriet
Ministry of the Environment

LIIKENNE- JA VIESTINTÄMINISTERIÖ
KOMMUNIKATIONSMINISTERIET

KALLIO2 - programmes

Aerial images, 30 cm

- 3-year cycle, ~110,000 km²/year
  - Annual costs approx. 1,7 milj/euros

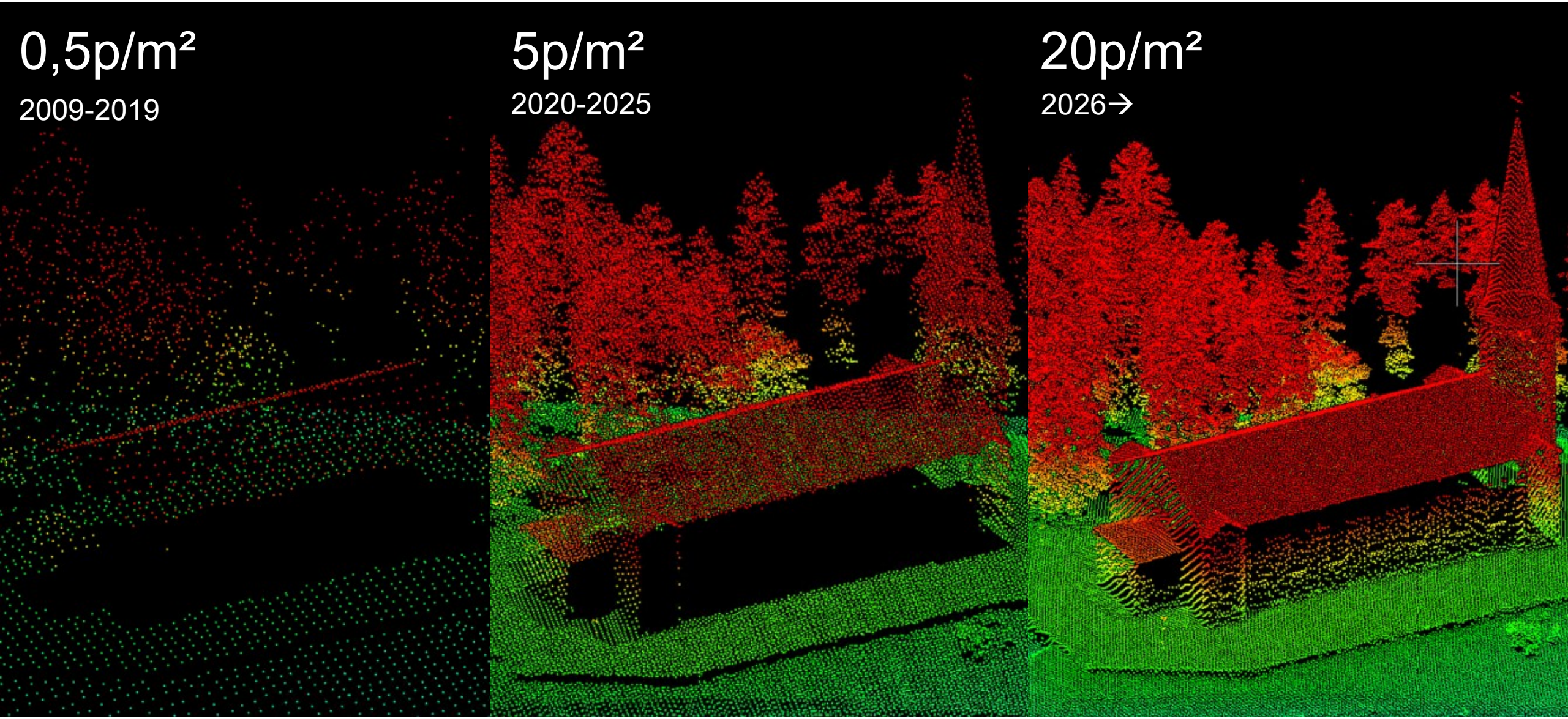
Laser scanning, 20 pts/m2

- 9-year cycle, ~37,000 km²/year
  - Annual costs approx. 1,6 milj/euros

Laser scanning, 5 pts/m2

- (Years 2026–2031), ~6,000–19,000 km²
  - annual costs approx. 0,16 milj/euros

Change in the Point Density of National Laser Scanning Datasets since 2008→



High-impact data!

- Forest and environment data
- Field monitoring
- National topographic database
- Flood mapping
- Transport infrastructure planning
- Soil mapping
- Archaeological sites
- Research projects

…and ? & ?

- Non of the organizations could collect as much data on their own
- Bigger contracts – ”better” bids (volume advantage)
- NLS-FI as the expert organization – tendering, QC, etc.

→ Other organizations can trust the data and they don’t need to use their resources for the data acquisition.

Thank you!

Heli Laaksonen

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We know the Earth
– we secure the future

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