

# National Report of Finland

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# Renewal of Metsähovi Research Station



Photo: J. Näränen

- ❑ SCG; new instrument installed early 2014 (dual-sphere)
- ❑ AG; upgraded to FG5-X in 2013
- ❑ SLR (new telescope)
  - Contract signed for new kHz-capable SLR telescope late 2013. Installation in 2015.
  - Design of the new SLR observatory building finished in May 2014, building project complete January 2015.
  - Contracts for new dome for the SLR observatory and for master control SW for the kHz SLR system signed in spring 2014. Dome delivery late 2014, SW early 2015.
  - SLR operational in 2016.
- ❑ VLBI (VLBI-2010 compatible new telescope)
  - Current plan 2015-2017
- ❑ Installation of renewed JPL GPS receiver in late 2013



Photo: J. Näränen

# Renewal of Metsähovi Research Station



Photo: J. Näränen

- ❑ DORIS (owned by CNES, IGN) renewed in 2012
  - Permanent REGINA GNSS station **METG, part of global IGS network in March 2014**
- ❑ **TerraSAR-X retroreflector installed late 2013**
- ❑ A new meteorological WMO standard meteorological station will be installed in co-operation with the FMI in 2014. This will serve all instrumentation in Metsähovi.
- ❑ **Extension of pillar network for GNSS antenna calibration studies** (as part of European Metrology Research Programme, EMRP JRP SIB60)
- ❑ Local tie studies for VLBI continued



Photo: J. Näränen



# FinnRef permanent GNSS network

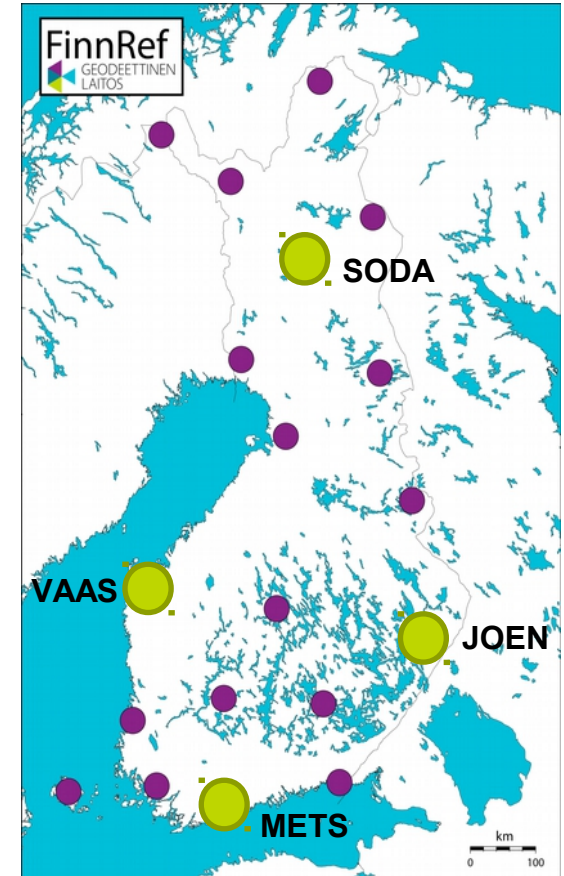
- ❑ Renewal of network **completed in 2013**
  - Better coverage
  - Modernized to GNSS capable
- ❑ 19 new stations, 3 m masts
- ❑ Mainly parallel to old ones
- ❑ Equipment (Javad)
  - Delta-G3T –receiver
  - RingAnt-DM antenna with SCIGN radome
- ❑ Applications to EPN later in 2014

GNSS	Signals
GPS	L1, L2, L2C, L5
Glonass	L1, L2, L3
Galileo	E1, E5a, E5b, AltBOC
BeiDou	B1, B2 (MET3)

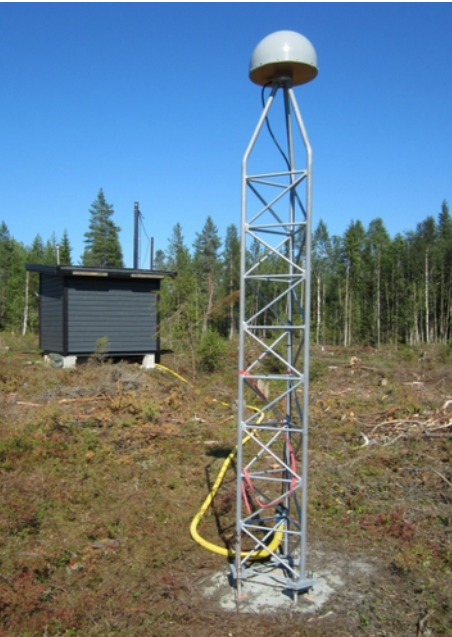


Photo: Geo+

Antennas are individually calibrated



# New FinnRef Positioning Service



- ☐ Open data policy
- ☐ Real time data streams
- ☐ Positioning service opened in January 2014
  - GNSMART by Geo++
  - **DGNSS service** (free of charge)
    - Nearest station, single station 1/2014
    - Network solution 2/2014
  - Network RTK service (pilot)
    - **Will be opened 6/2014**
  - Rinex data (free of charge)
    - Webserver
    - **Will be opened 6/2014**
- ☐ More information
  - <http://euref-fin.fgi.fi/fgi/en>

