

National Report of Austria



EUREF 05
Vienna 1.6 - 3.6. 2005

Ernst Zahn - BEV Vienna



ISR - Space Research Institute / Austrian Academy of Sciences - Österreichische Akademie der Wissenschaften (ÖAW)



BEV - Federal Office of Metrology and Surveying - Bundeamt für Eich- und Vermessungswesen



IGG / Institute of Geodesy and Geophysics / Vienna University of Technology - TU Wien

OLG (Observatory Lustbühel Graz)-**activities:**

- **Upgrade** to Regional DC within EPN
- **Mirroring** of recent contents of the BKG RDC

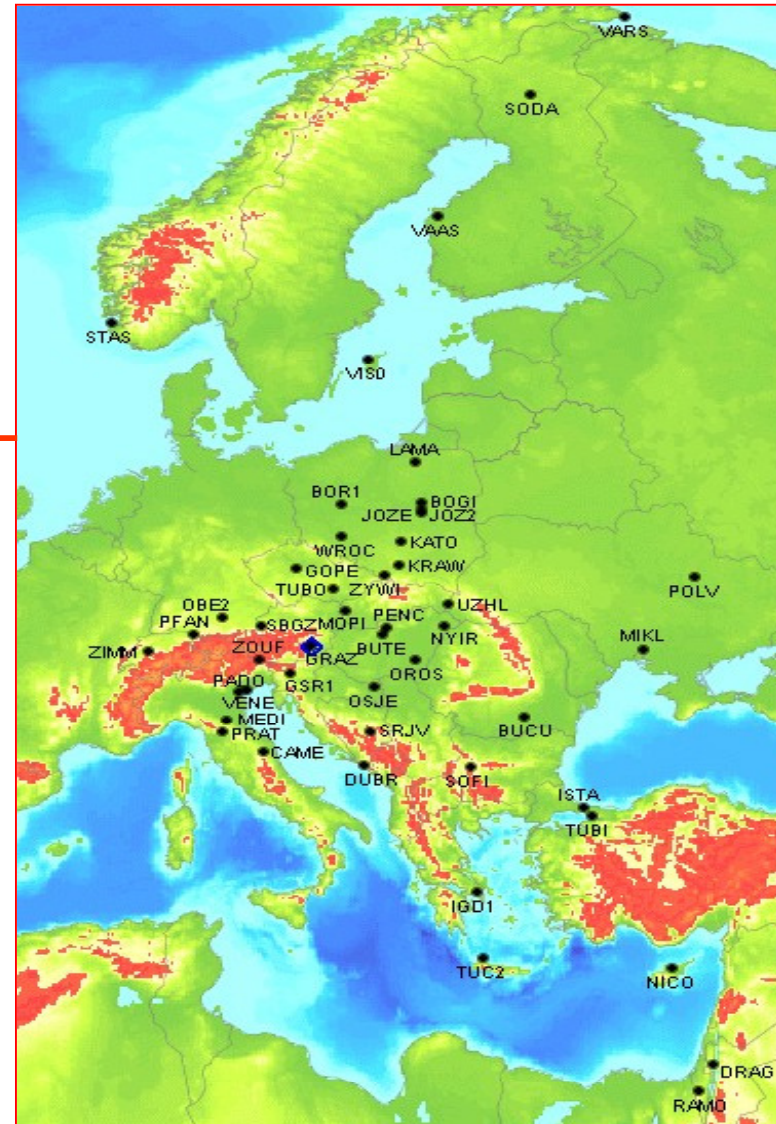


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Computed networks:

- **Sub-network in EUREF (~ 50 sites)** ←
- ARE/CERGOP-2 Network (~ 50 sites)
- MON - Anatolia, Eastern
Mediterranean (~ 25 sites)
- APOS ... Austrian Positioning Service
(~ 50 Stations)
- AGREF/AREF epoch network (~ 400
markers)

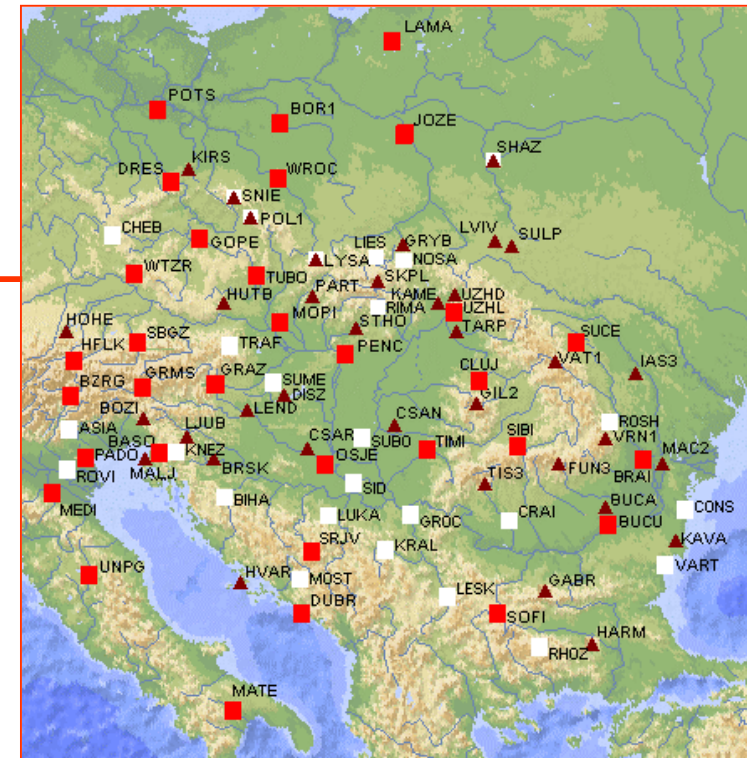


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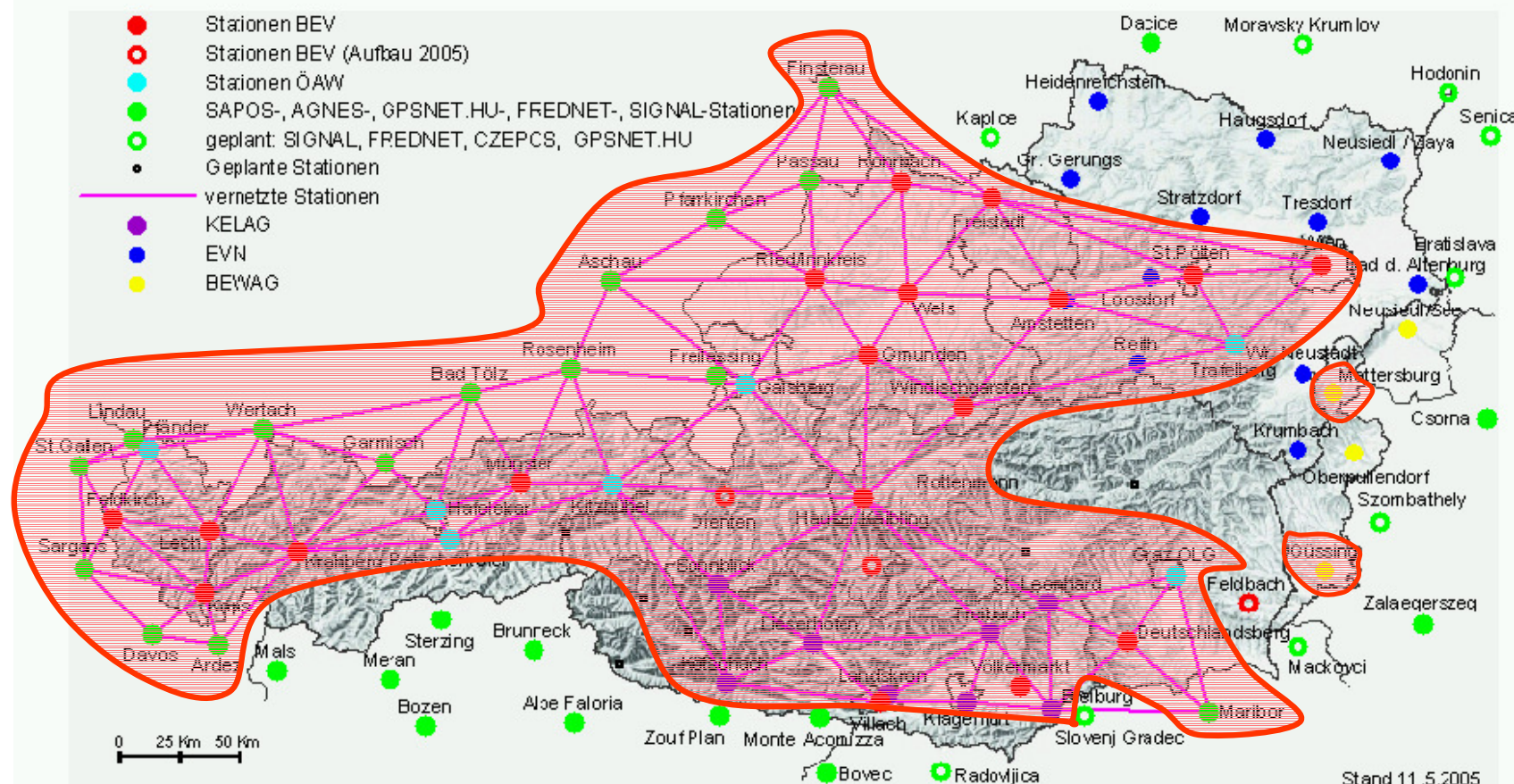
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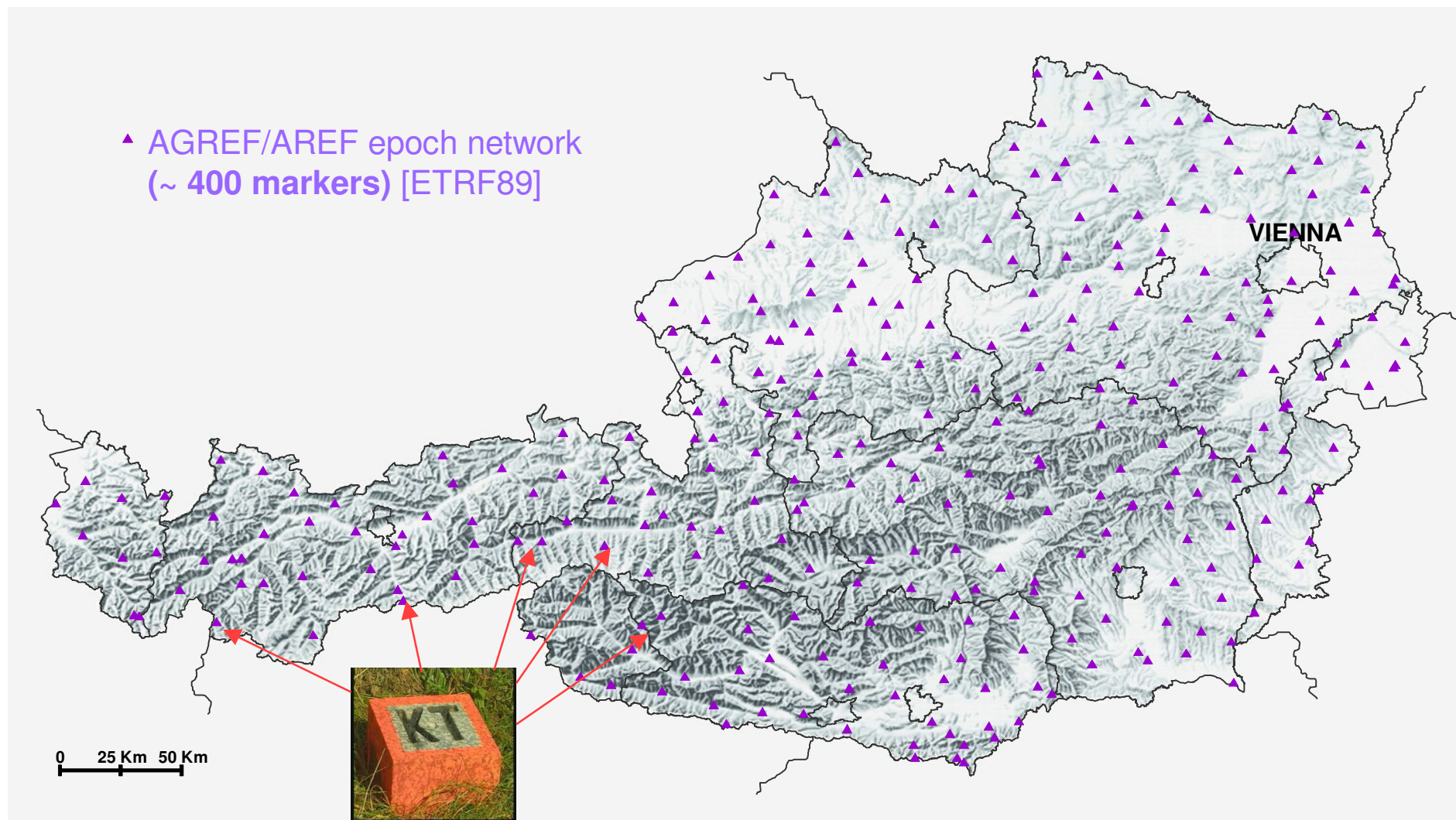
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**part of the ETRF89 -
realisation in Austria**

APOS - Austrian Positioning Service (> 50 Stations)





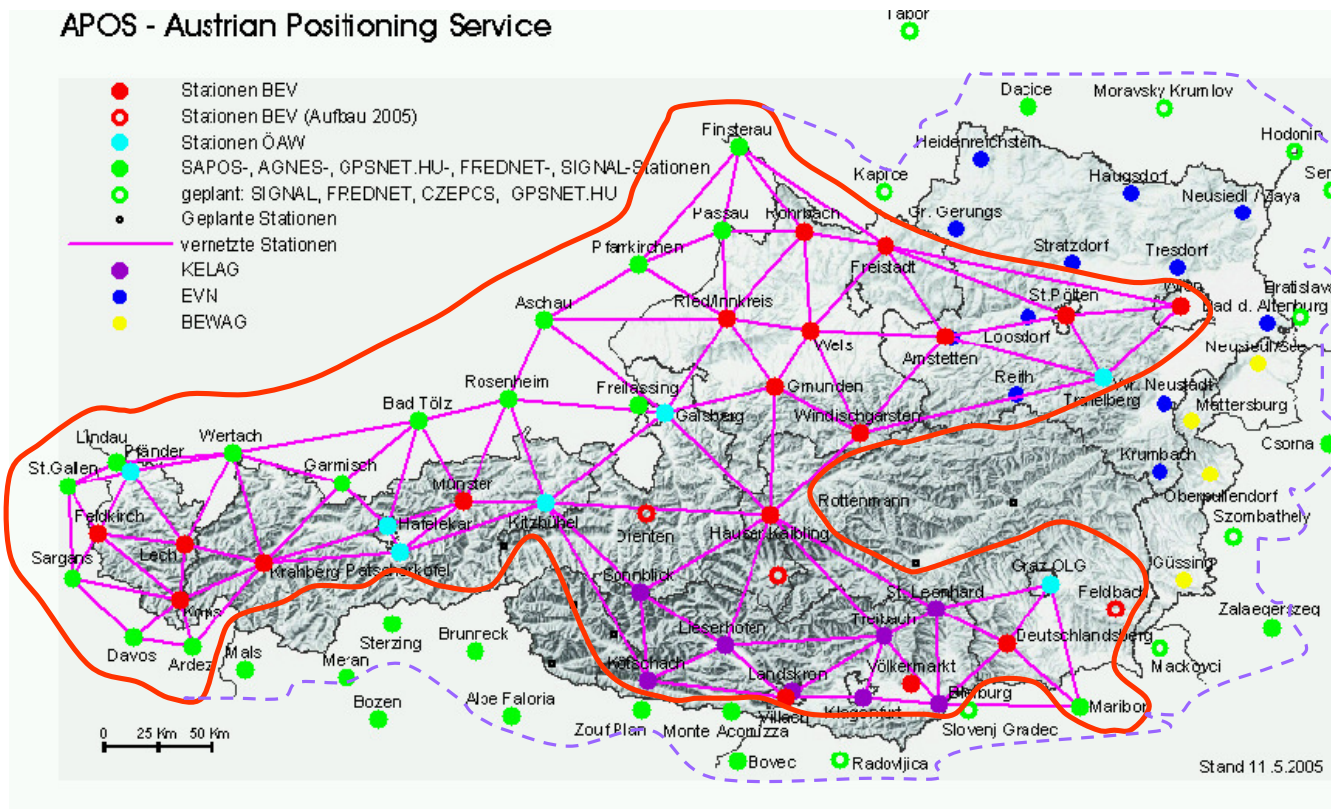


- Wind velocities > 200 km/h;
- IGG/ Research:
meteo sensors for
tropospheric studies
(Zenith path delay - IWV)

**Co-operation BEV-KELAG
since spring 2005**

3120 m above sea-level: KELAG station
at Sonnblick observatory

GNSS - Permanent Stations / sub-networks in Austria (Status 2005)



Operators:

BEV (GPS)

ÖAW / AAS (GPS)

**Energy supply
companies
(GPS/Glonass)
supported by IGG/
TU Vienna**

APOS / BEV - Intention: VRS (realtime + pp) for all of Austria in 2006 (ETRF89)

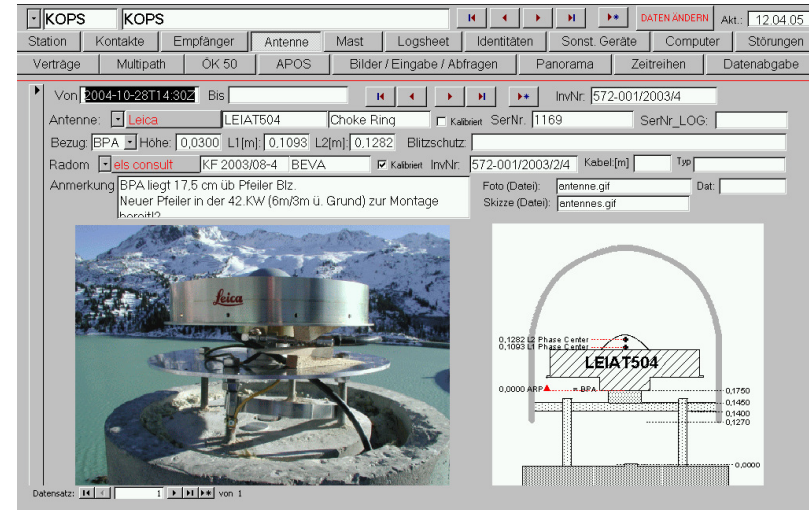
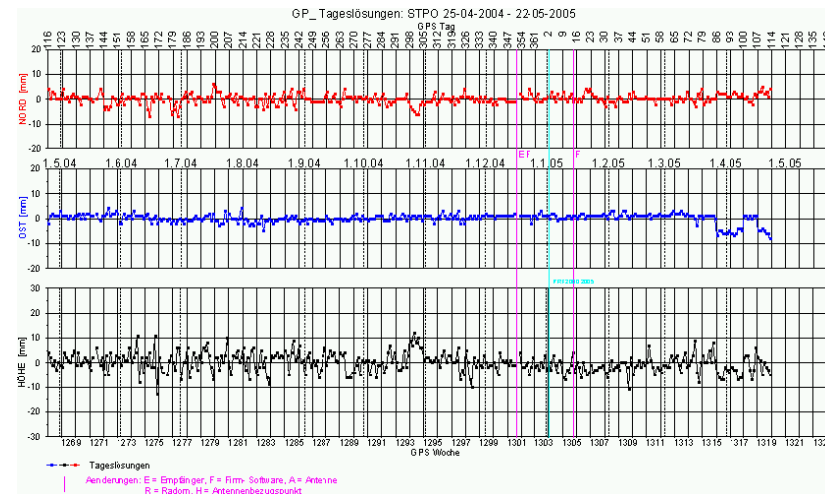
Co-operations: national (PPP) and international (SAPOS, SWIPOS, SIGNAL, ...)

APOS quality management

- **tools:**
station - DB: administration, log files, time series graphics, Reports (data -availability, dial in statistics, ...)
- **tests:**
 new equipment (complex faults possible), radome (before / after calibration), measuring (system acc.)
- **to do:** exacting analyses of collected data; reports, articles ...

APOS processing center

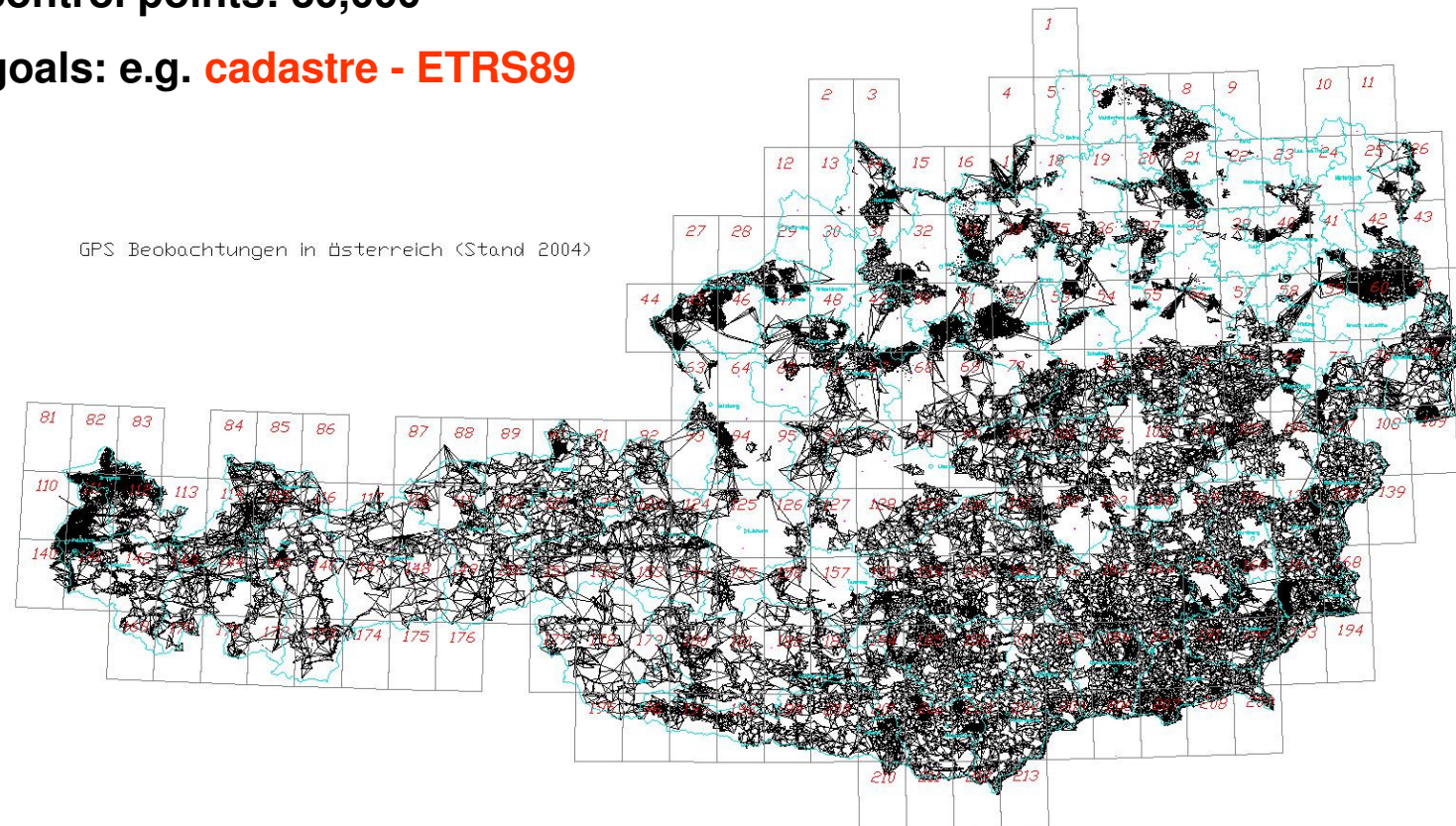
- **renewal / modification of the APOS - core currently**

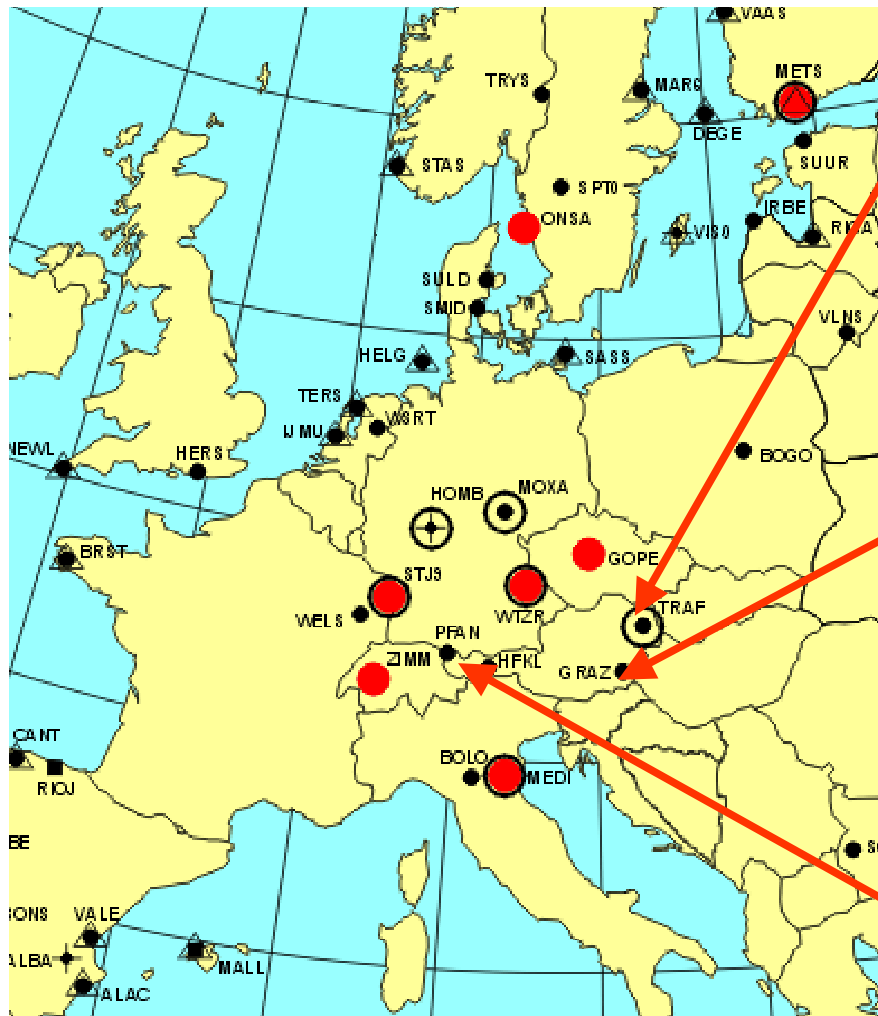
GPS - base lines (since 1989, Status 2004): 60,000

control points: 30,000

goals: e.g. cadastre - ETRS89



ECGN Stations in Austria: Pfänder, Graz, Trafelberg



EPN:

GPS since 1997:
Levelling/C-values: 1996
local ties 1992, 2005
Absolut gravity: 2004



IGS:

Laser since 1982
GPS since 1992
Levelling/C-values: 1987
Absolut gravity: 2000/04
local ties 1997, 2005



GPS since 2004
Levelling/C-values: 2003
local ties 2003/04
Absolut gravity: 2003/04
SCG: 2004
seismic devices

CERGOP-2 (ISR - activities)

- **delivery** of GPS data
- **daily / weekly** computation
- new campaigns **2005** (co-operation with BEV)
- **DB - update** at GRAZ (WP1)
- investigation of **new CEGRN sites** (WP2)
- preparation of **local geodynamic investigations** (WP 10.1)

absolute gravity measurements by BEV in:

- **Romania:** Timisoara, Surlari, Iasi, Constanta
- **Bulgaria:** Varna, Sofia, Sandanski, Rozhen, Gorna Oriahovitsa, Belogradcik



Austrian Bouguer Map

- in situ measurements for about 52% of the points
- resulting acc. between: ± 0.1 and ± 2 mGal

