



Danish Ministry of the Environment
Danish Geodata Agency

National Report Denmark

EUREF Symposium 2015

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Outline

- Geodetic infrastructure in Denmark – status and activities
- Motorised trigonometric levelling – new tests
- GNSS Trans Light – new software for coordinate transformation

The geodetic infrastructure in Denmark

Permanent GNSS stations



10 GNSS stations
operated by the
Danish Geodata
Agency (3 EPN
stations)

+ approx. 70 GNSS
stations operated by
private RTK-
services

The geodetic infrastructure in Denmark

- Contributions to international activities
 - Projects within Nordic Geodetic Commission WGs: NKG GNSS AC, NKG GIA model etc. (Danish Geodata Agency + DTU Space)
- Approx. 1500 km of motorised geometric levelling carried out in 2014
 - Precision levelling connecting 1st order levelling network with GNSS stations and tide gauges (operated by Danish Meteorological Institute etc.)
 - Levelling networks to facilitate new major infrastructure projects
 - Levelling in order to densify/maintain 3rd order levelling network
 - Etc.

Motorised trigonometric levelling – new instrument in test



Trimble S8 Total Station – 0.5 arc second, automatic

A levelling team consists of only 2 persons with a car and an instrument each

First test results:
Accuracy approx. 3 ppm at sighting distances up to 500 m

Levelling speed up to 3 km/h

GNSS Trans Light

GNSS 3D Cartesian Transformation : Keyboard To Screen

Input System : Cartesian 3-d coord, ITRF08(IERS) Write Data to File

Output System : Cartesian 3-d coord, Det grundlæggende 3D referencesystem i Danmark

Input System	Year	EPOCH	X	Y	Z
crt_itrf08	2008	20140701	3 513 649.63200 m	778 954.53800 m	5 248 201.78400 m

Output System	Year	EPOCH	X	Y	Z
crt_etr89			3 513 650.08845 m	778 954.19419 m	5 248 201.50752 m

Swap Input/Output Write 7-par

Select Input/Output System

Input	Output
National	
Denmark	☐
Greenland	☐
Sweden	☐
Norway	☐
Finland	☐
International	
ITRF/IGS	☐
EUREF recommendations	☒

WGS84 definition
WGS84 is characterized by week number of realisation (gxxxx). Select week number accordingly!
(see manual for further info)

Close Dialog

New Windows software for coordinate transformation (ITRF, IGS, ETRS89 etc.)

Developed by DTU Space

Public available autumn 2015 at www.gst.dk



Thank you!

