

SWEPOS® Status and future development

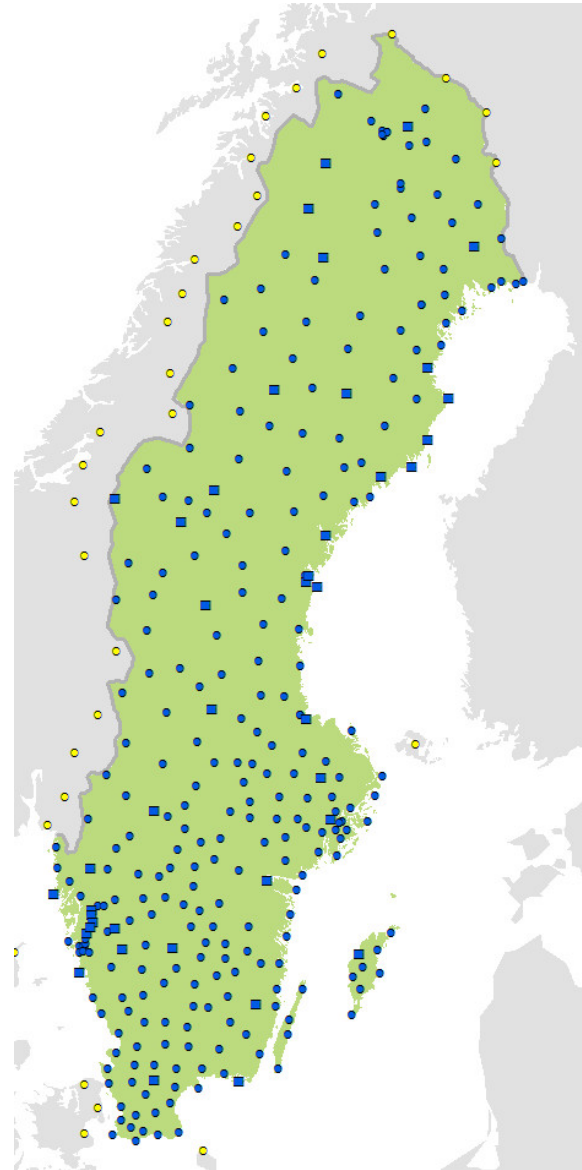
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SWEPOS®

- A national network of permanent reference stations and a part of the national geodetic infrastructure
- The investment is covered mainly by governmental funds
- The operation costs including future upgrades are covered by user fees
- Established in cooperation with Onsala Space Observatory/Chalmers and SP Technical Research Institute of Sweden



SWEPOS - Purpose

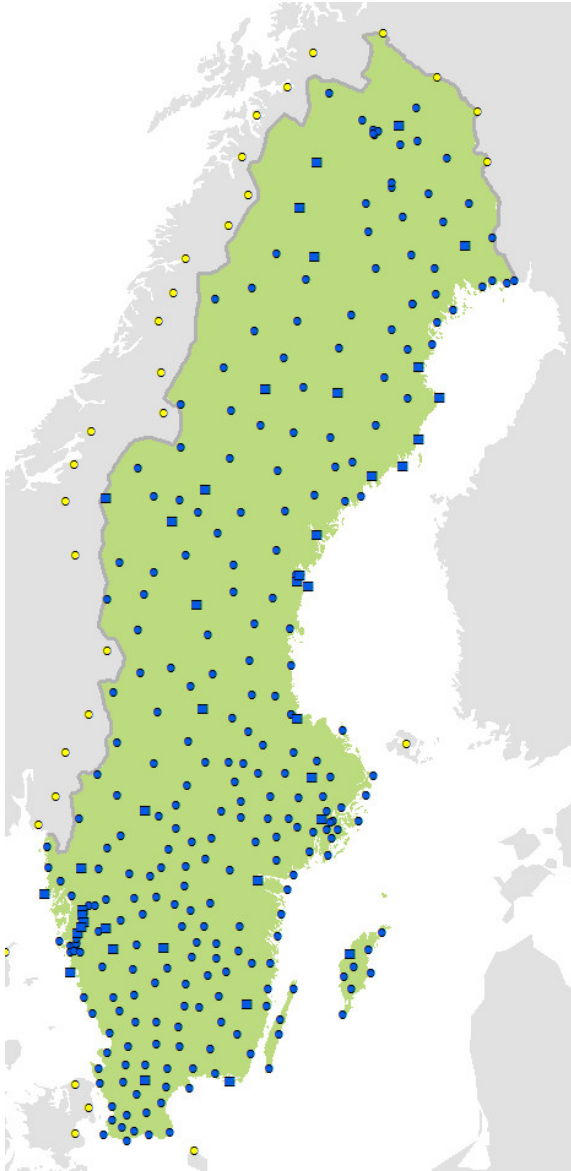


Överkalix

The purposes of SWEPOS are:

- GNSS raw data for post-processing
- DGNSS and RTK corrections
- High-precision control points, a tool for connection to the national reference system SWEREF99
- Scientific studies of crustal motion
- Monitor the integrity of the GNSS systems

SWEPOS Stations



41 class A stations

266 class B stations

5 IGS- and 24 EPN stations

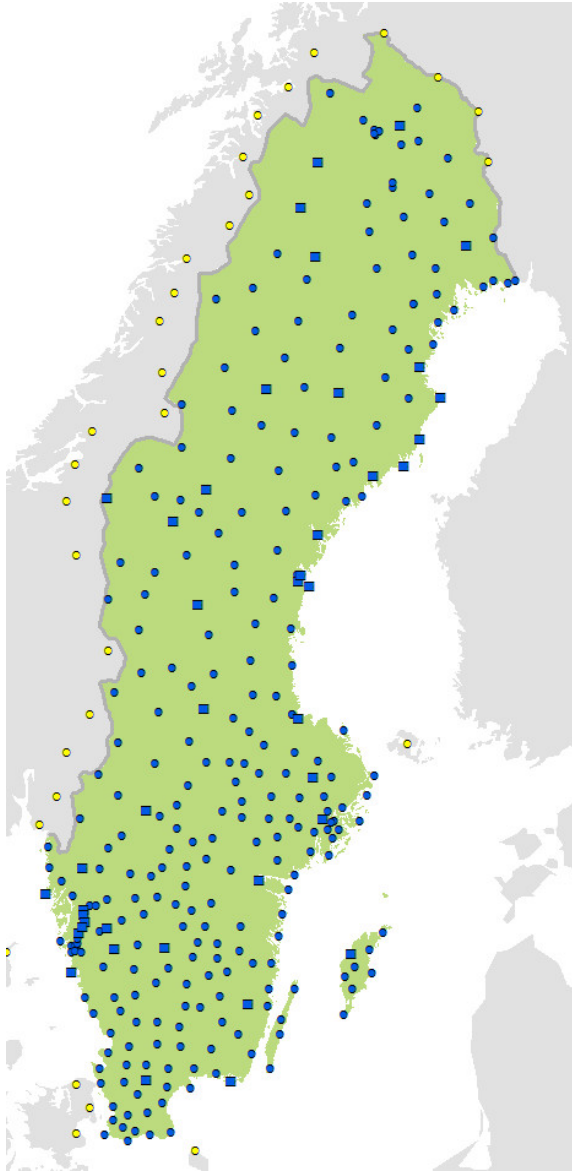
SWEPOS Infrastructure

- Data lines: 0.5mbit ADSL with a 24/7 service. Redundant wireless communication to about half of the stations
- GNSS receivers
 - Trimble Net R9
 - Leica 1200 GNSS
 - Javad Delta
 - Javad Sigma
- Trimble TPP software for RTK service
- FTP for RINEX access
- Tape archive containing all SWEPOS data from the beginning

SWEPOS control centre

- Opening hours
 - Weekdays 06:30 to 20:30
 - Weekends and night: on call dutyTurn based support duty at the control center
- Surveillance of CORS /GNSS-stations, data communication, electricity and backup power, temperature.
- Customer support
- Problem solving
- Quality control of data



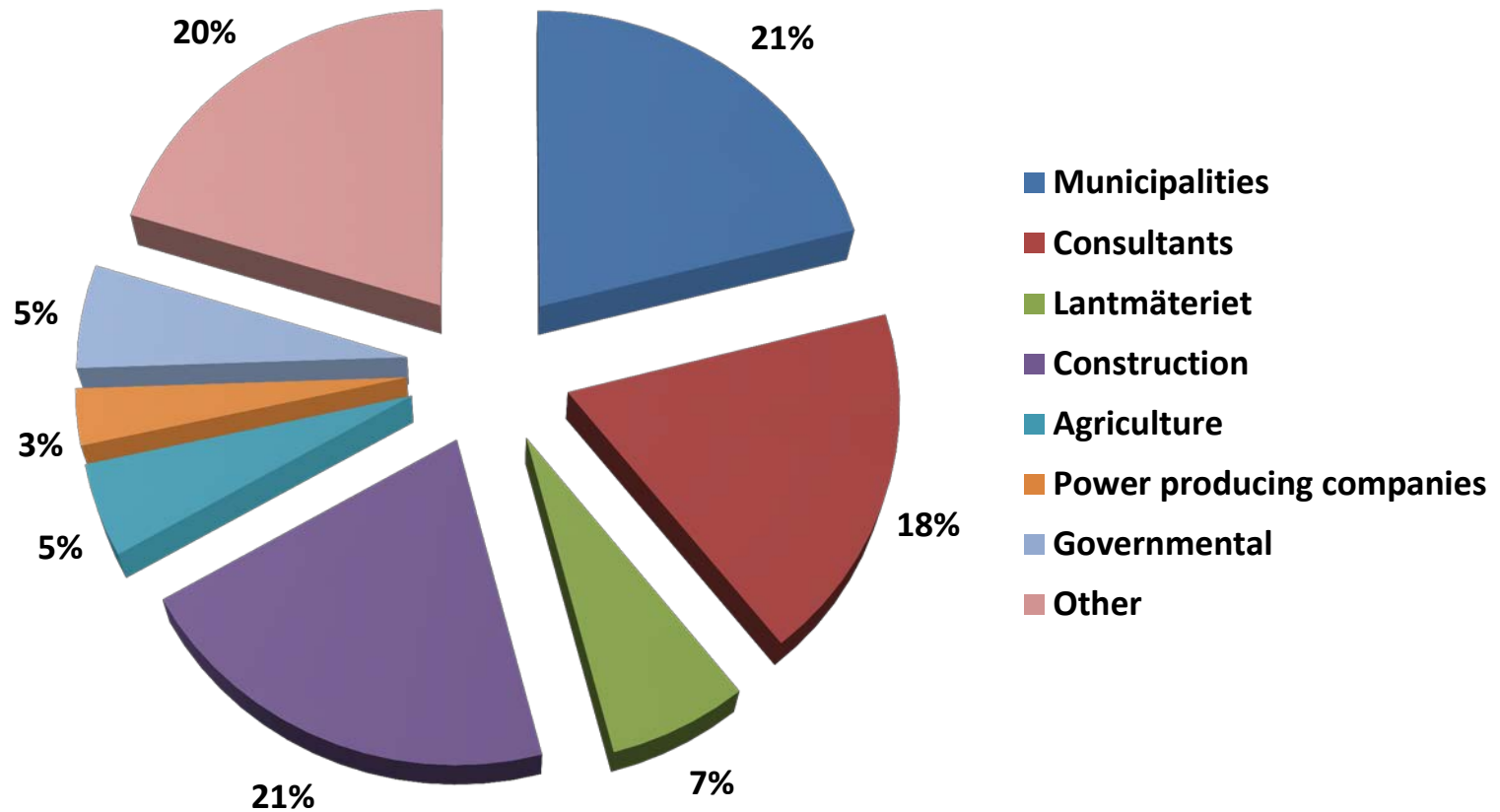


SWEPOS[®] services

- Post processing data (RINEX-data)
- Virtual RINEX-data
- SWEPOS Automatic calculation service
- Real time services
 - Network DGNSS service
 - Network RTK service
- SWEPOS-website
 - Coordinate transformation
 - Satellite prediction
 - Monitor stations
 - Ionosphere monitor



Our users





Partners

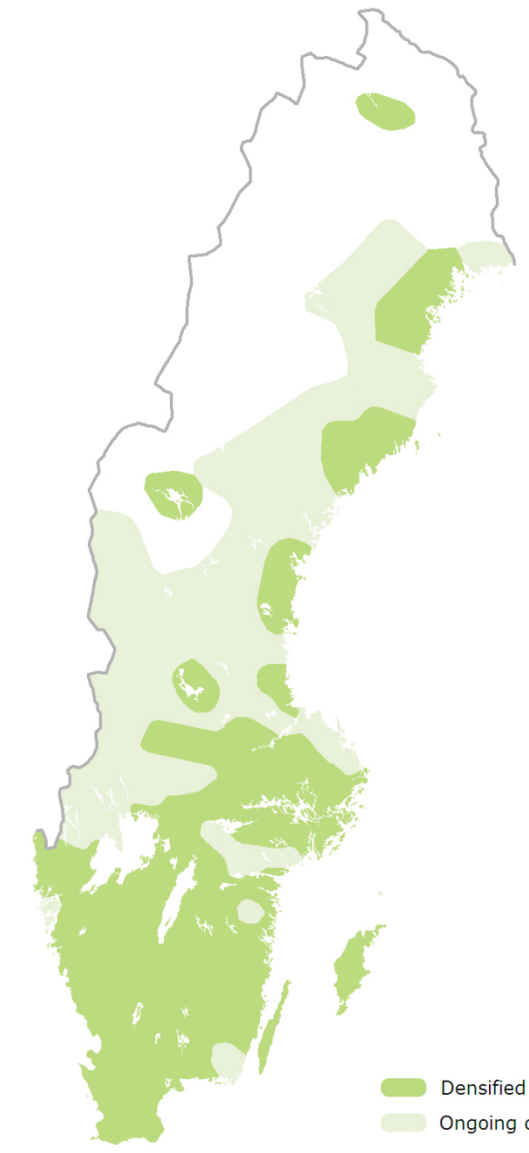


- Cooperation with Trimble VRS now, Leica SmartNet and TopCon TopNet Live to increase the use of SWEPOS data.
- To find new applications and widen the use of GNSS
- Use of one common geodetic infrastructure for GNSS, all users contribute to a common infrastructure. The users do not need to finance several separate geodetic infrastructures.



Development of SWEPOS densification of SWEPOS 2011 -

- During recent years many users have requested improvements especially in the vertical position uncertainty
- The **3rd generation** SWEPOS network will be an almost nation-wide densification of the 2nd generation network, with in-between distances of **~35 km**
- Improved redundancy
- Improved modelling of the Ionosphere and Troposphere
- Within some years further improvements with new satellite signals and systems.



■ Densified network
■ Ongoing densification project

Development of SWEPOS

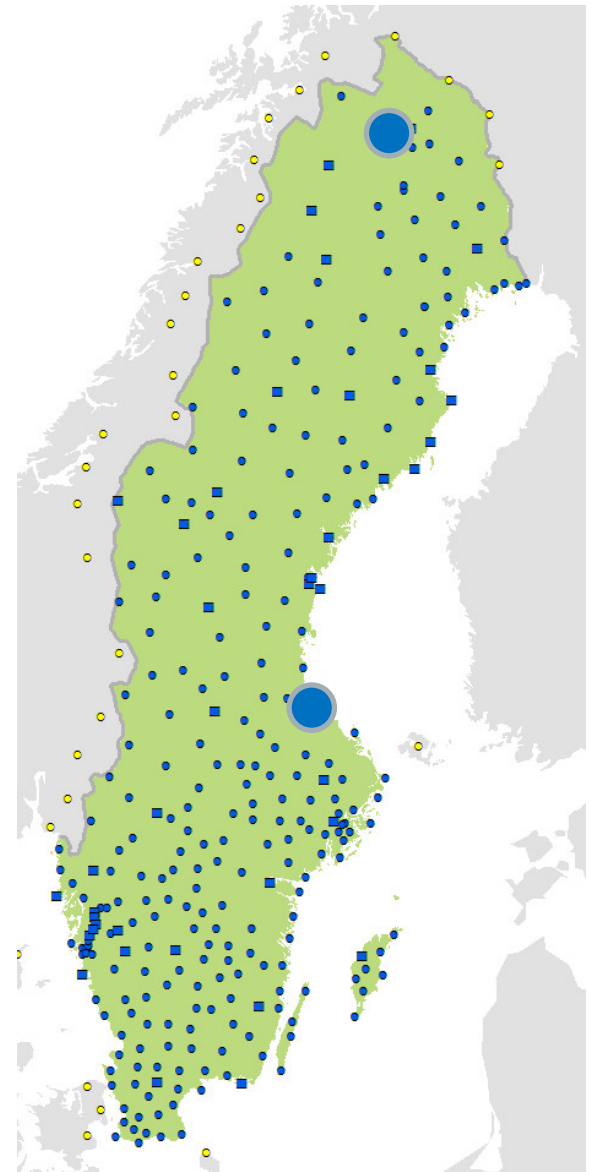
SWEPOS modernisation

- The 21 fundamental Class A stations was during 2011 equipped with a new monuments in parallel with the old monuments. The new monument are prepared to track GPS/Glonass, Galileo and Compass. Important with an overlap of observation data series between the monuments
- The rest of the class A and all class B stations will be upgraded with GNSS receivers and DM Choke ring antennas for GPS/Glonass, Galileo and Compass during this year



Development of SWEPOS IT improvements

- Virtualization of all servers and HA (High Availability) configuration, in case of hardware failure the software is automatically moved to other hardware
- Disaster Recovery solution established in Kiruna during 2014
- When not used for DR the IT equipment in Kiruna can be used as a test platform
- Datacommunication
 - tests with 4G as backup solution and also as primary solution

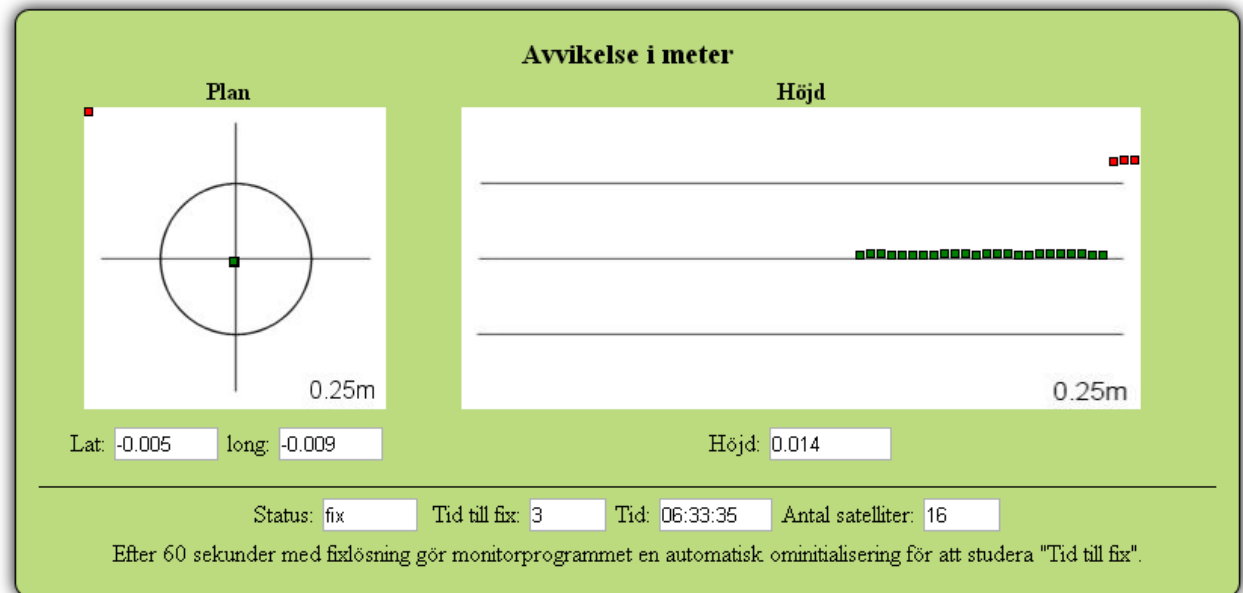


Development of SWEPOS CLOSE III, new study by SP Technical Research Institute of Sweden

- Make a comparison between VRS, MAC and PPP with SWEPOS as infrastructure. To be able to meet future demands from the user community and new applications.
- Establish guidelines on how to analyse calibration measurements for the fundamental SWEPOS class A stations.
- Gather knowledge on the installation and establishment of CORS stations to be able to make recommendations for future CORS establishments.

SWEPOS monitoring stations

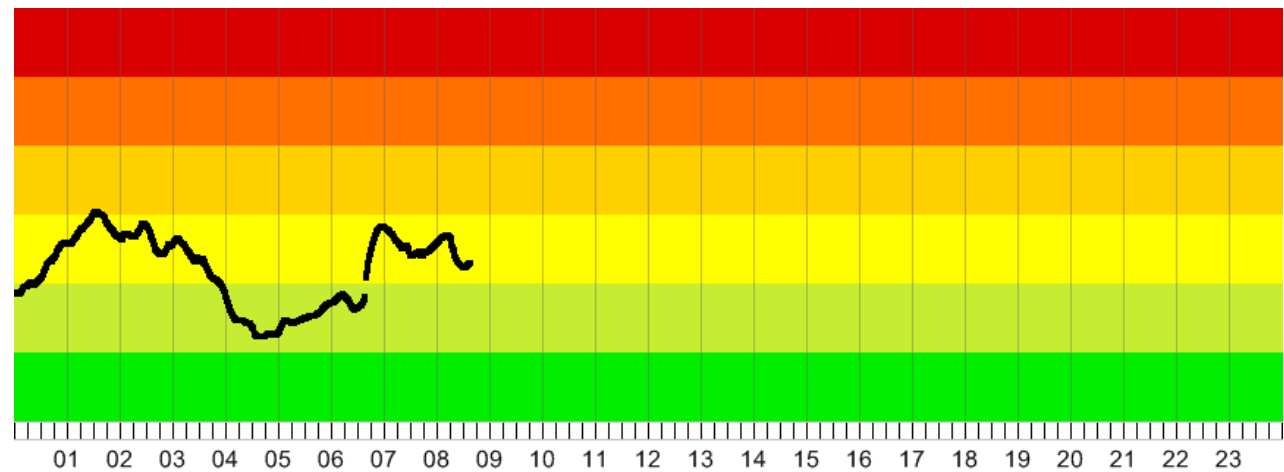
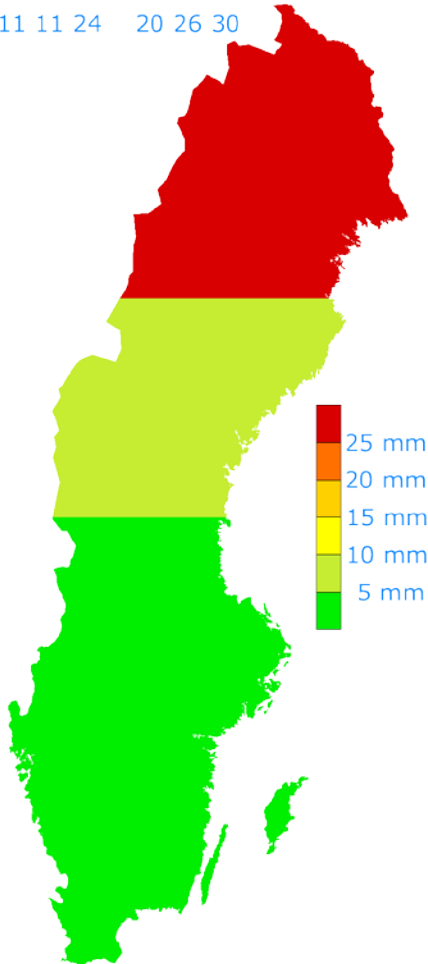
- 5 monitoring stations in the national network today.
- To monitor the function and accuracy in SWEPOS Network-RTK service
- The monitors are accessible on SWEPOS website
- Data stored in a database for later analysis



Ionospheric monitor

2011 11 24 20 26 30

Ionospheric monitor on www.swepos.com



LANTMÄTERIET





Välkommen till SWEPOS

SWEPOS är Lantmäteriets stödsystem för satellitpositionering i Sverige. Med hjälp av våra ca 300 referensstationer kan du få bättre koll på läget!

<p>Nätverks-RTK-tjänst</p>	<p>Efterberäkning</p>	<p>Jonosfärsmonitor</p>	<p>Beställ abonnemang</p>
<p>Mina sidor</p>	<p>Kontakt</p>	<p>Kurser i GNSS/Geodesi</p>	<p>SWEPOS kartstöd</p>

Nyheter och drift

Nyheter Driftsmeddelanden

SWEPOS har en ny webbplats!
Publicerad: 2013-10-21 14:20
[swepos.se](#) heter vår...
[Läs hela artikeln](#)

Förlängd anmälan till GNSS/SWEPOS-seminariet
Publicerad: 2013-10-21 11:34
 22-23 oktober är det GNSS/SWEPOS-seminariet i Gävle. Sista anmälan är onsdagen den...
[Läs hela artikeln](#)

Servicekväll på SWEPOS 1/10
Publicerad: 2013-09-26 00:00
 På tisdag den 1 oktober mellan kl. 22:00 och ca. 24:00 genomför vi planerad service på SWEPOS.
[Läs hela artikeln](#)

Driftsinformation

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Thanks for your attention!

