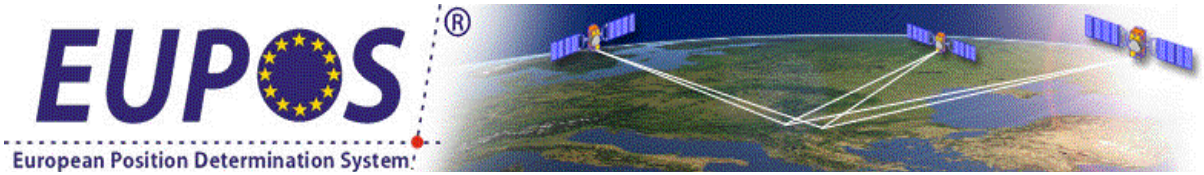

EUPOS® - an Outline

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4th EUPOS® Council and Technical Meeting
Bratislava, Slovakia, 20 – 21 November 2017

What is *EUPOS®* ?

- *EUPOS®* is a free association of Eurpean public institutions aiming at establishing a uniform DGNSS based infrastructure in Central and Eastern Europe
- *EUPOS®* is a ground based European regional GNSS augmentation system
- *EUPOS®* is a mosaic of national DGNSS segments operating according to common standards
- *EUPOS®* provides DGNSS correction data for real-time positioning and navigation and the data for post-processing
- *EUPOS®* supports precise positioning and navigation (metre, sub-metre and centimetre in RT, centimetre and better in PP)
- *EUPOS®* is evolving in both intensive and extensive way by accepting new technical developments
- *EUPOS®* collaborates with other international organizations and scientific institutions acting in the field of GNSS technology

EUPOS® - a History

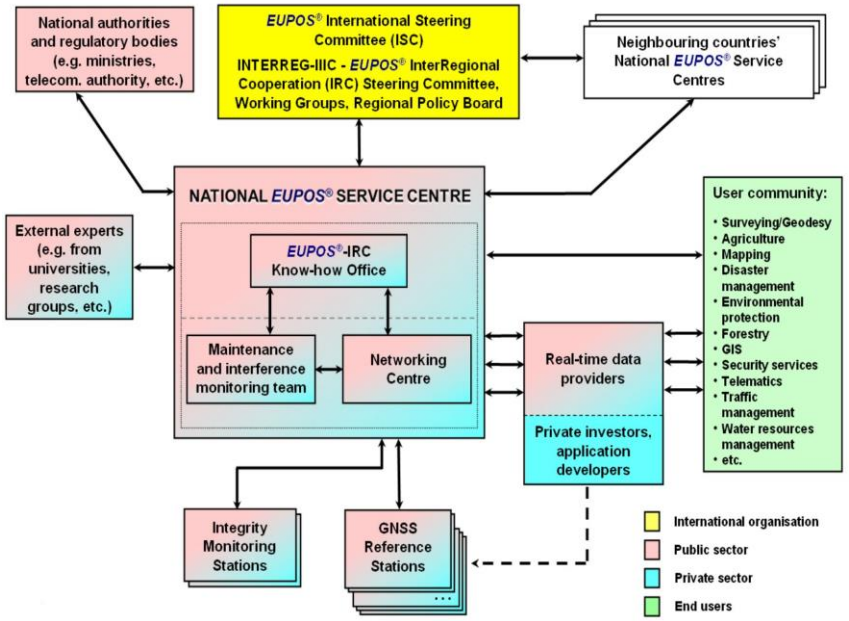
- Workshop *„Multifunctional GNSS Reference Station Systems for Europe“,* Berlin, 4 – 5 March 2002 – organized by the Berlin Senate Department for Urban Development and the European Academy for Urban Environment
- 60 participants from 16 countries
- Founding Committee (later ISC) + EUPOS® Office established (Berlin, Senat)
- 2014 – reorganization, new ToR, Chairmanship, Office relocated to Warsaw

EUPOS® Structure (1)

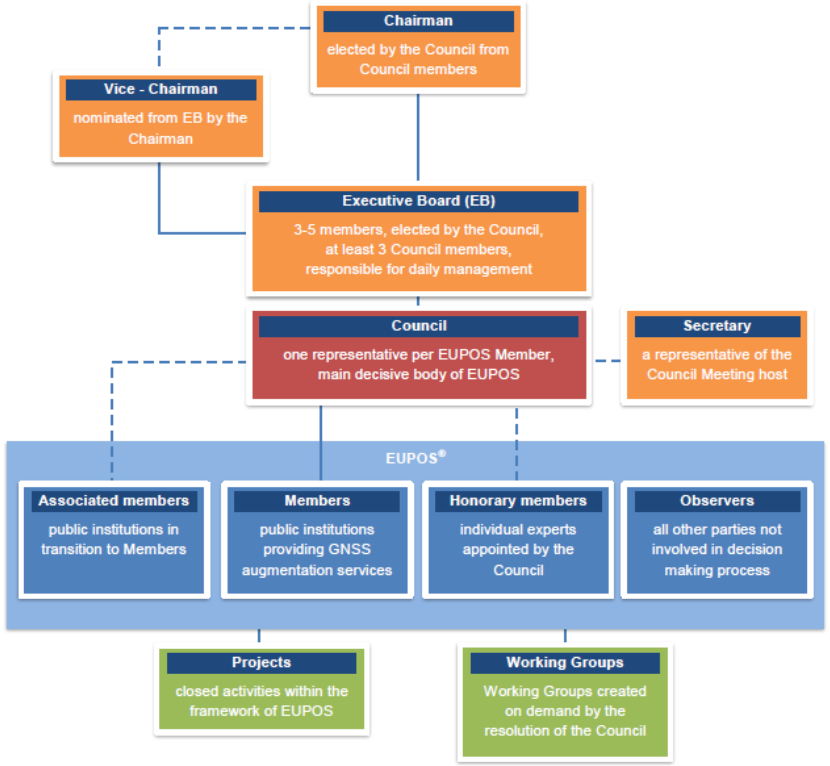
- Council – one representative nominated by each Member
- Executive Board – manages activities on daily basis
- *EUPOS*® Working Groups (QM, ECC)
- National Service Centres – contacts with council delegates, contacts with national authorities and users, network operation, network integrity check, technical developments, personnel training, developing applications, public relations
- Authorized *EUPOS*® resellers
- Manufacturers of *EUPOS*® compatible hardware and software

EUPOS® Structure (3)

Functional structure 2002 -2014



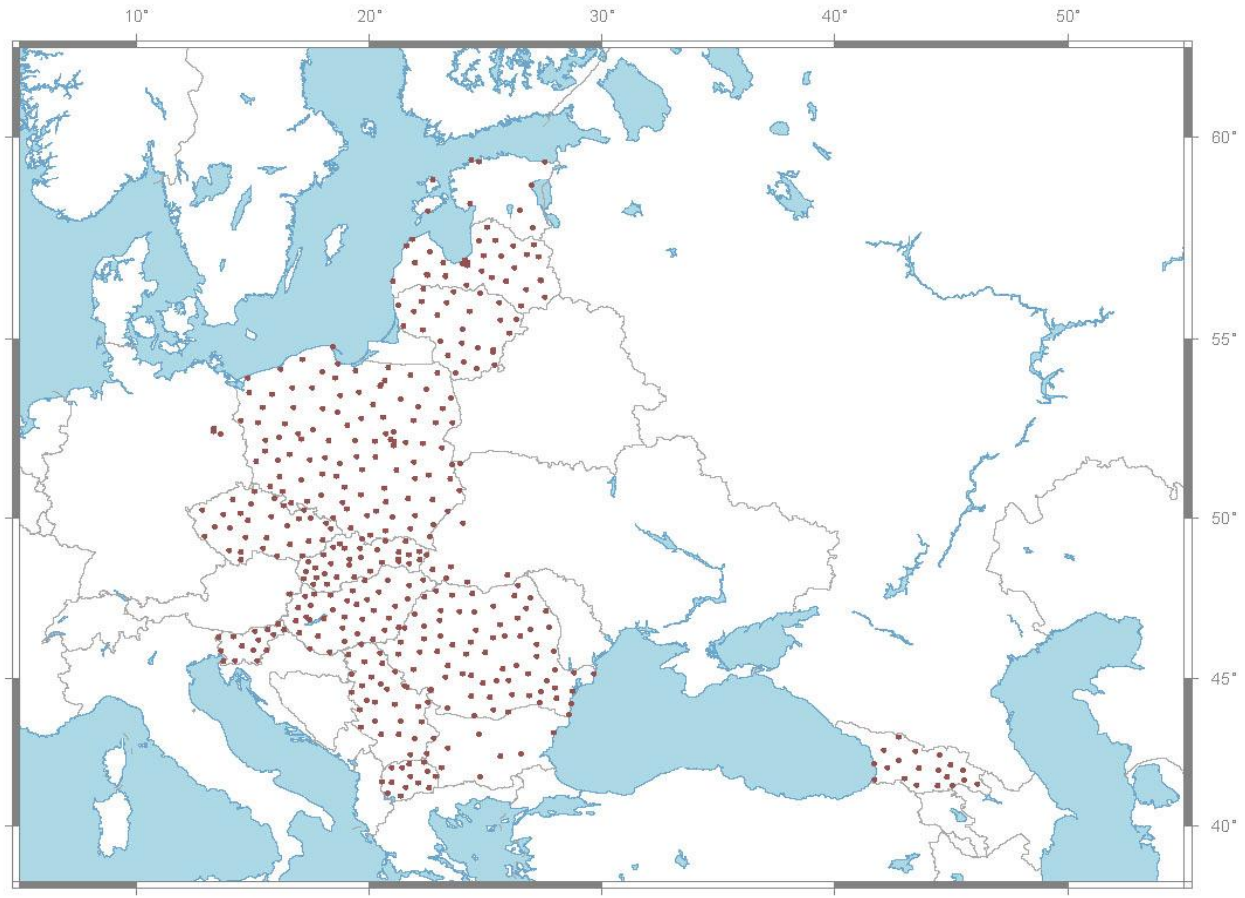
Membership and organisation since May 2014



Membership

- Full member
- Associated member
- Honorary member
- Observer
- Countries + institutions
- At present 15 institutions are full members
- 2 associated members

EUPOS® Stations contributing to ESDB Status 2016



EUPOS® Technical Issues (1)

- *EUPOS*® Technical Standards, Rev. 3 (since 2013)
- DGNSS for RT positioning and navigation, accuracy 2m – 0.5m for moving objects and 0.2m for static
- Network RTK for precise RT positioning - 2 cm
- Geodetic, post-processing – 1 cm and better
- Data streams transmitted via Internet
- NTRIP technology, RTCM SC104 format
- Additionally radio or TV VHF broadcasting
- System availability on the level of at least 99%
- Availability upgrade up to 99.9% is realistic

EUPOS® Technical Issues (2)

- *EUPOS* deploys unified standards and communication lines to achieve full interoperability and compatibility
- Reference stations receive signals from GPS and GLONASS satellites, Galileo expected
- Guidelines for single site design
- Guidelines for cross-border data exchange
- Guidelines for reference frame fixing (in 2014 recommended to use current EUREF guidelines)

EUPOS® Outreach Activities

- EUREF – MoU signed in June 2014
- EUMETNET – MoU signed in May 2013
- EuroGeographics – establishment of EuroGeographics Positioning Knowledge Exchange Network (PosKEN) → EuroGeographics + EUREF + EUPOS + CLGE
- UN OOSA
- International Committee on GNSS (ICG) established to promote GNSS infrastructure on global basis (endorsed by the UN General Assembly) - *EUPOS* is ICG member
- Technical Cooperation with Industry (TCI)
- RTCM Member – Special Committee 104 (until 2015)

EUPOS® in European Programmes (1)

- INTERREG IIIC – interregional cooperation
- Promoting *EUPOS* services for regional development
- Integration of *EUPOS* services into regional decision processes
- 8 *EUPOS* countries, 9 institutions
- 4 work packages
- Duration: Oct 1, 2006 – Dec 31, 2007

Achievements

- Incentive to building up CORS networks
- System of standards and guidelines
- Outreach activities
- *EUPOS*® symposia (impact on professionals from different fields of activities) – 2005, 2008, 2009 (Berlin), 2010 (Brussels), 2011 (Berlin)
- *EUPOS*® in international programmes and projects

Challenges

- *EUPOS*® disposes of a large observation data and product volume which represents a potential that can benefit a number of activities, among others in science
- Reference frames, velocities
- Ground based meteorology
- Geodynamics, neotectonics …
- Space weather, upper atmosphere studies
- Gravity field modelling
- Mixed problems (ionosphere x earthquakes)

Outlook

- To vitalize EUPOS® and its activities towards making full use of its potential
- To develop EUPOS® as a multi-GNSS facility
- To extend EUPOS® both geographically and in application sphere
- To keep and develop all outreach links, WGs, projects, centres but also EUPOS® Symposia

Thank you for
your attention

http://www.eupos.org