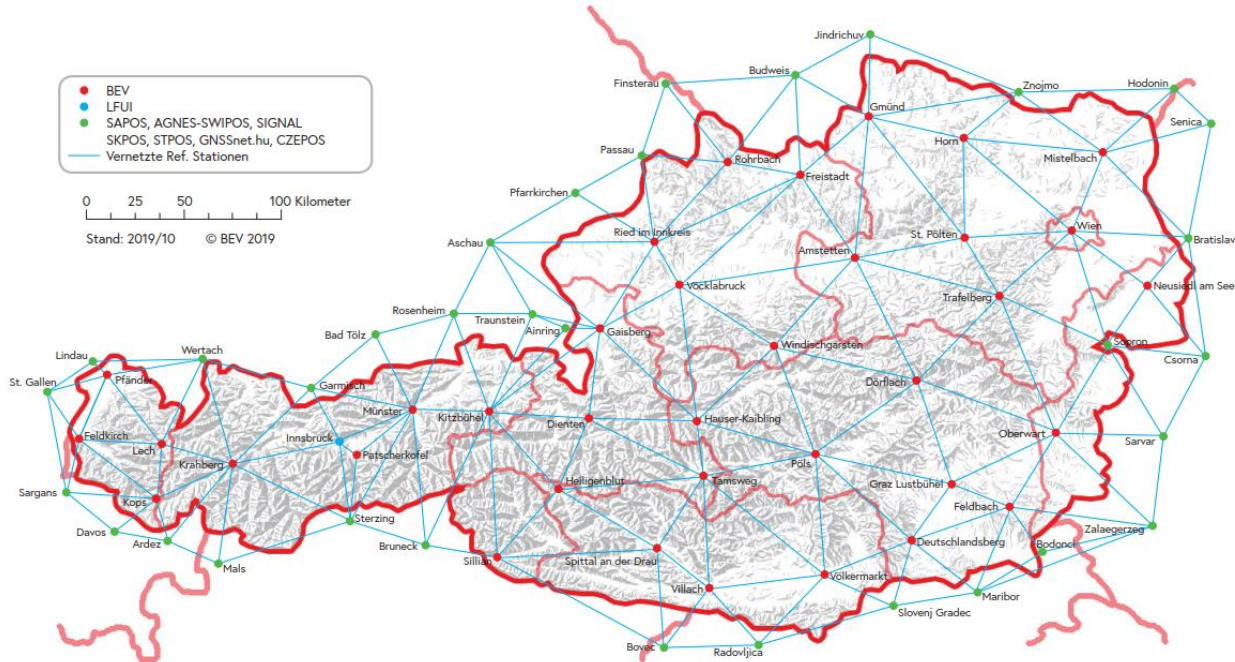


APOS – National Report Austria

EUPOS Council and Technical Meeting 2019, Budapest

Ernst Zahn
BEV – Federal Office of Metrology and Surveying
Budapest, 30th October 2018

APOS Multi GNSS – Network

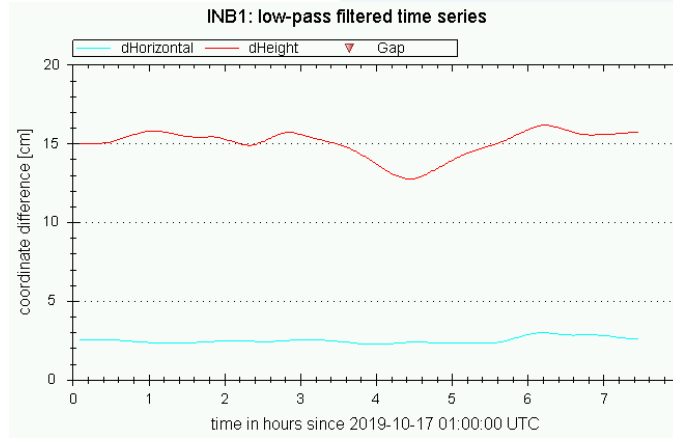


37 Multi GNSS-Referenzstationen

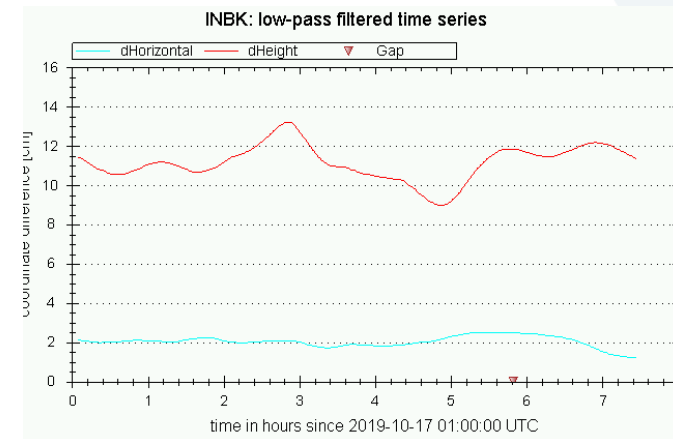
- **36 BEV stations** & 1 station in cooperation with the Leopold-Franzens-University Innsbruck – LFUI (INBK)
 - **New station Neusiedl/See (NSDL)**
 - **Equipment:**
 - 2 x Alloy (INBK, **NSDL**)
 - 33 x Leica GR30
 - 3 x PolaRx5 (**WIEN, GRAZ, VLKM**)
- Leica AR25.R3/R4 (LEIT)

APOS Real Time

- ✓ GALILEO officially since 28.5.2019
- ✓ 3D – Tropospheric-corrections
- Trimble TPP 4.1.3 (WinServer 2008.R2)

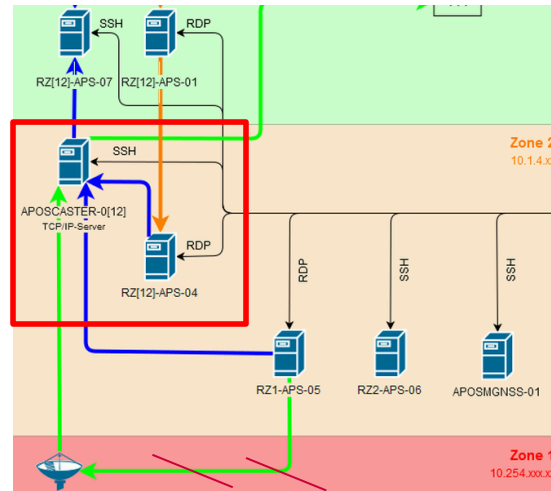
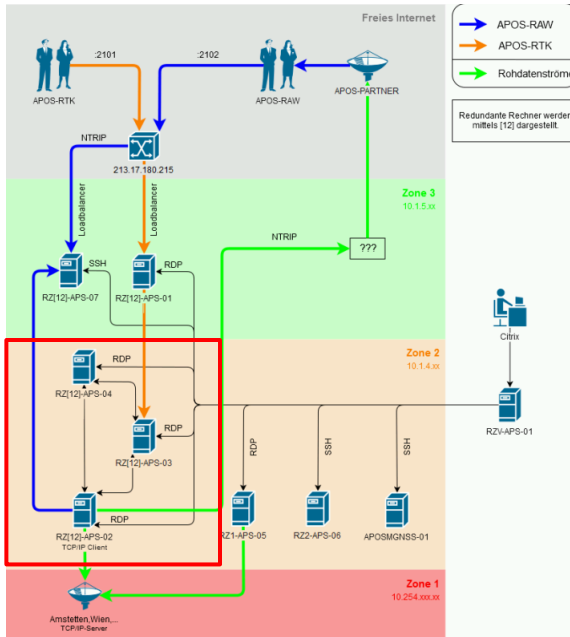


Station Innsbruck
(Antennasplitting)
without 3-D
(NetR9)



with 3-D
(Alloy)

APOS – Processing Center



Planned changes

- **Reorganization of the rawdata-distribution** for all APOS partners and our product „APOS RAW“ based on additional NTRIP-casters, **Decoupling the raw data streams** from the processing-SW
- **Optimization** of the data stream flow through reorganization of the client/server role assignment
- System and maintenance simplification through **server reduction**

Current detailed problems

- Trimble TPP 4.1.3:
 - wrong Dopplerdata in the RINEX-files > bugfix in patch TPP 4.3.2
 - Alloy & NetR9: no antenna listing (Type, serial number ...) in RTCM (1008, 1033)
 - > any experiences?
- CORS - Septentrio PolaRx5 (5.3.0)
 - RTCM 1006: wrong ARP Heightcomponent (e.g. in configuration „Static“/„Cartesian1“)
 - > any experiences?

APOS 2020 (Questions within the scope of the BEV 2025 strategy paper)

- Agriculture: new price model > customer evaluation > tech. realisation > costs
- Current user groups <> agriculture <> authorities <> future mass market?
 - Mass market trend: Multi GNSS for drones, lowcost, 5G, > broadcast solutions (e.g. PPP-SSR)?
 - Authorities: are waiting for GALILEO PRS > what role could APOS already play?
- In the case of Open Data (PSI): will the APOS IT infrastructure be sufficient?
- station maintenance of none GNSS - components: qwn <> external maintenance? Any experiences?

GNSS network reference system ... any EPSG code in Austria?

➤ **NO**

EPSG code	Projection name	Base GeogCRS	Map Projection	Longitude Orig	Latitude Orig	Prime Meridian	false easting	false northing	Projection Method	Latitude of 1st standard parallel	Latitude of 2st standard parallel
neu	3416 ETRS89 / Austria Lambert	ETRS89	Austria Lambert	13d 20m	47d 30m	Greenwich	400000	400000	Lambert Conic Conformal (2SP)	49d	46d
neu	31251 MGI (Ferro) / Austria GK West Zone	MGI (Ferro)	Austria Gauss-Kruger West Zone	28d	0d	Ferro	0	-5000000	Transverse Mercator		
neu	31252 MGI (Ferro) / Austria GK Central Zone	MGI (Ferro)	Austria Gauss-Kruger Central Zone	31d	0d	Ferro	0	-5000000	Transverse Mercator		
neu	31253 MGI (Ferro) / Austria GK East Zone	MGI (Ferro)	Austria Gauss-Kruger East Zone	34d	0d	Ferro	0	-5000000	Transverse Mercator		
neu	31254 MGI / Austria GK West	MGI	Austria Gauss-Kruger West	10d 20m	0d	Greenwich	0	-5000000	Transverse Mercator		
neu	31255 MGI / Austria GK Central	MGI	Austria Gauss-Kruger Central	13d 20m	0d	Greenwich	0	-5000000	Transverse Mercator		
neu	31256 MGI / Austria GK East	MGI	Austria Gauss-Kruger East	16d 20m	0d	Greenwich	0	-5000000	Transverse Mercator		
neu	31257 MGI / Austria GK M28	MGI	Austria Gauss-Kruger M28	10d 20m	0d	Greenwich	150000	-5000000	Transverse Mercator		
neu	31258 MGI / Austria GK M31	MGI	Austria Gauss-Kruger M31	13d 20m	0d	Greenwich	450000	-5000000	Transverse Mercator		
neu	31259 MGI / Austria GK M34	MGI	Austria Gauss-Kruger M34	16d 20m	0d	Greenwich	750000	-5000000	Transverse Mercator		
alt	31281 MGI (Ferro) / Austria West Zone	MGI (Ferro)	Austria West Zone	28d	0d	Ferro	0	0	Transverse Mercator		
alt	31282 MGI (Ferro) / Austria Central Zone	MGI (Ferro)	Austria Central Zone	31d	0d	Ferro	0	0	Transverse Mercator		
alt	31283 MGI (Ferro) / Austria East Zone	MGI (Ferro)	Austria East Zone	34d	0d	Ferro	0	0	Transverse Mercator		
alt	31284 MGI / Austria M28	MGI	Austria M28	10d 20m	0d	Greenwich	150000	0	Transverse Mercator		
alt	31285 MGI / Austria M31	MGI	Austria M31	13d 20m	0d	Greenwich	450000	0	Transverse Mercator		
alt	31286 MGI / Austria M34	MGI	Austria M34	16d 20m	0d	Greenwich	750000	0	Transverse Mercator		
alt	31287 MGI / Austria Lambert	MGI	Austria Lambert	13d 20m	47d 30m	Greenwich	400000	400000	Lambert Conic Conformal (2SP)	49d	46d
alt	31288 MGI (Ferro) / M28	MGI (Ferro)	Austria zone M28	28d	0d	Ferro	150000	0	Transverse Mercator		
alt	31289 MGI (Ferro) / M31	MGI (Ferro)	Austria zone M31	31d	0d	Ferro	450000	0	Transverse Mercator		
alt	31290 MGI (Ferro) / M34	MGI (Ferro)	Austria zone M34	34d	0d	Ferro	750000	0	Transverse Mercator		

Thank You for Your Attention!

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