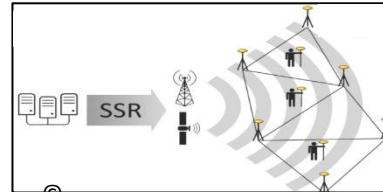
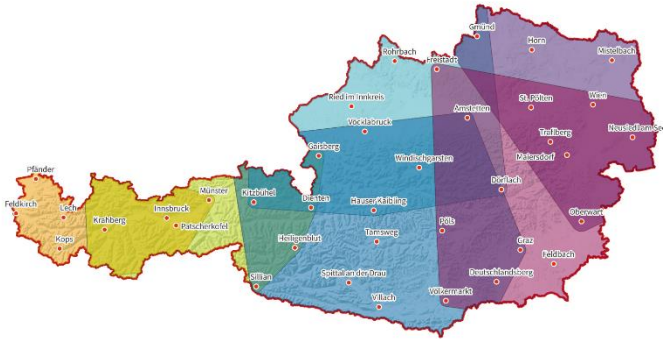


# APOS – national report

APOS\_SSRZ\_1 APOS\_SSRZ\_2 APOS\_SSRZ\_3 APOS\_SSRZ\_4 APOS\_SSRZ\_5 APOS\_SSRZ\_6



©  
Geo++  
GmbH



Ernst Zahn, APOS/BEV - Austria  
8<sup>th</sup> EUPOS technical meeting 11/2022, Ljubljana

## Focus topics

### **APOS – Broadcast > Finalising the Project**

(APOS Commercial Service > User-Migration from TPP to GNSmart)

(APOS Datamanagement > open data (RINEX 3.x))



## APOS Team

Janina Boisits (Develop., hotline (HL), Vice Head sec. „APOS“)

Flora David (Develop., Data-management)

Jürgen Fredriksson (Chief developer, Head sec. „Control Survey“ )

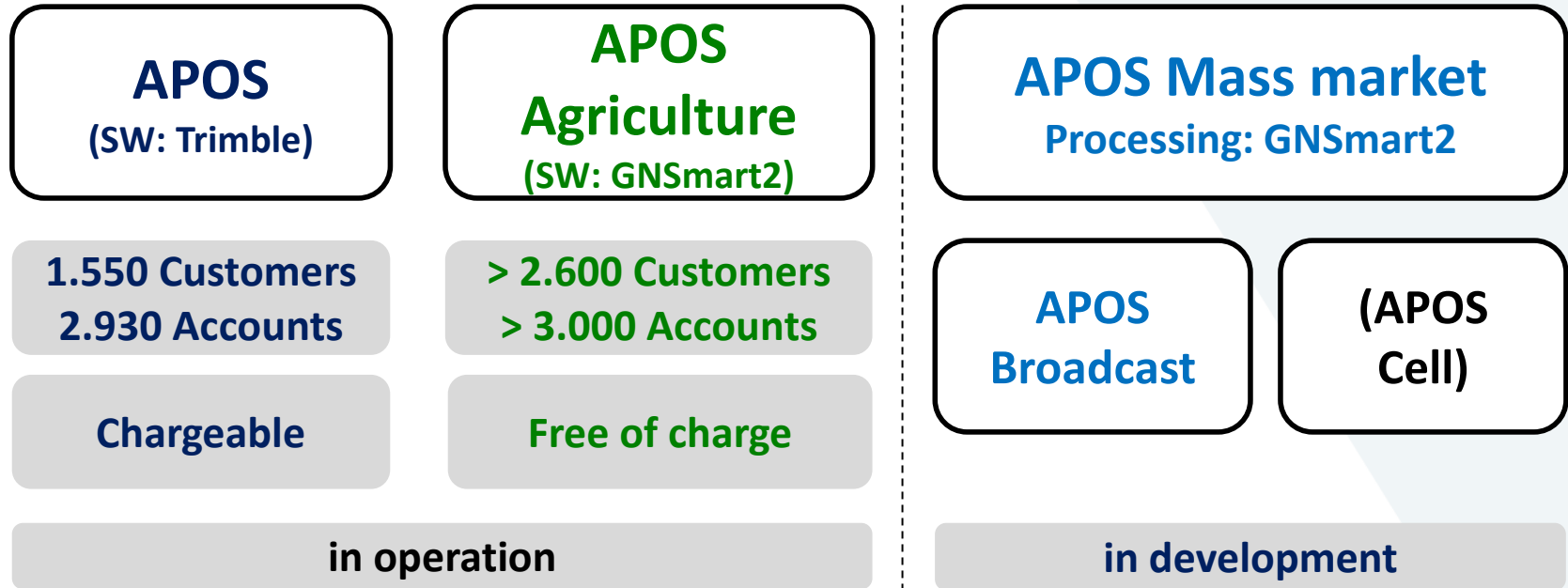
Martin Haslinger (Head Station-segment, HL)

Yannic Öhlknecht (Develop., APOS-Centre, HL)

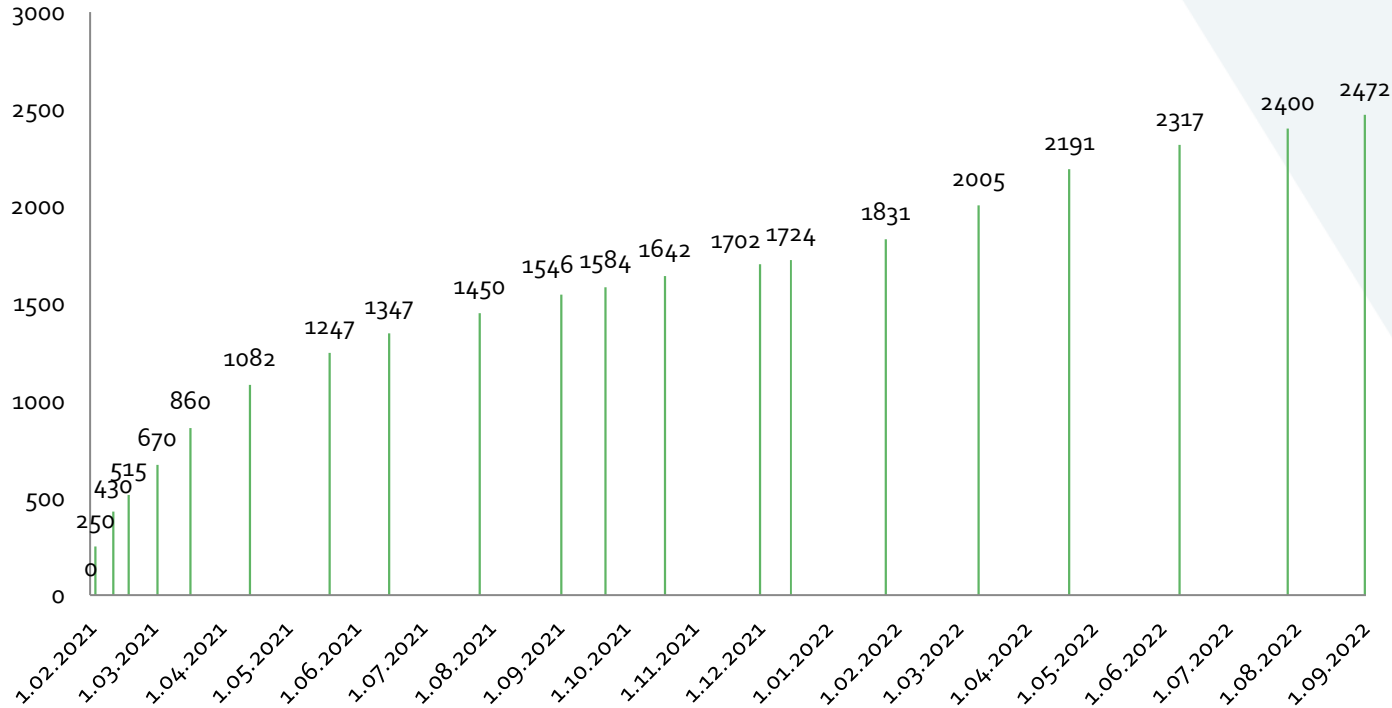
Ernst Zahn (Admin., Head sec. „APOS“)



## APOS Realtime-services at a glance



## APOS for Agriculture – development of customer numbers



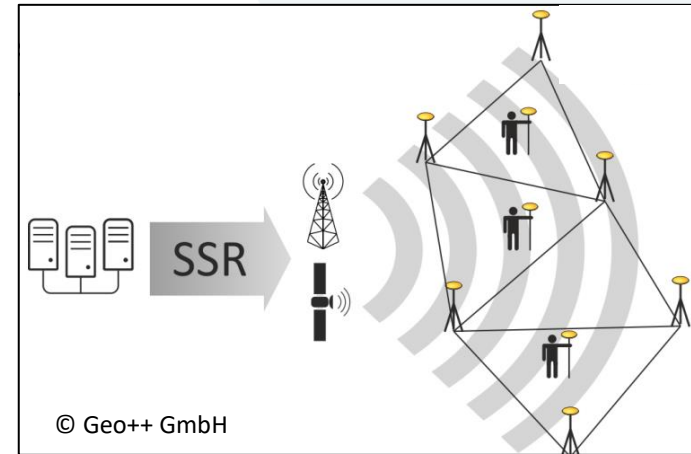
**2-4 New  
registrations  
per day**

**Trouble-free  
operation since  
February 2021**

## 2<sup>nd</sup> step towards mass market > **APOS Broadcast (2023?)**

**free of charge**

**...logistics, drones,  
vehicles of any kind....**

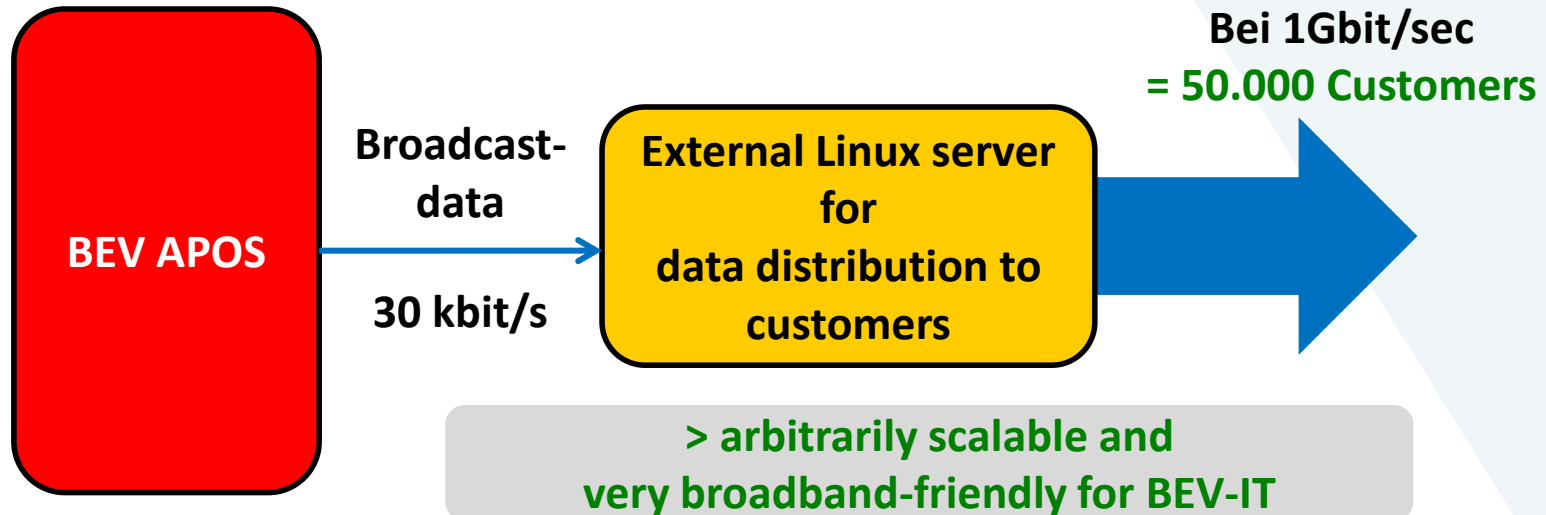


**SSR technology/ unidirectional**



## How to solve the "bottleneck" bandwidth?

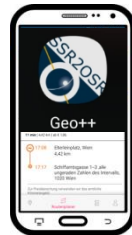
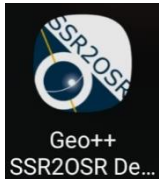
Using a Linux cloud server upstream of the BEV infrastructure as a data distributor ...



## Using the SSRZ format ...

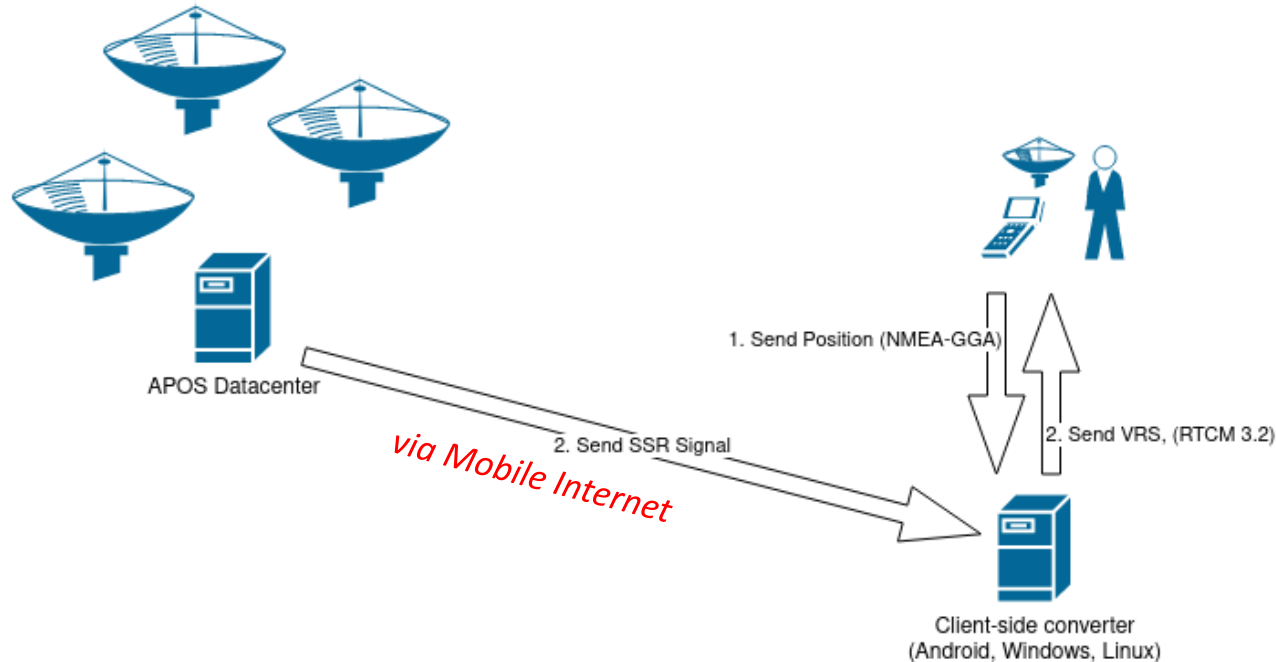
**No GNSS receiver can directly use this format to date**

**An APP is needed that converts the SSRZ corrections into classic VRS corrections**






## APOS-Broadcast using the Geo++ SSR2OSR Converter app



## SSR2OSR App 2.7.2



**Geo++® SSR2OSR**

STATISTI CS LOG SETTINGS INFO

SERVICES ABOUT

### Verfügbare SSRZ Dienste

Hier können sie die Liste der für Ihren aktuellen Standort registrierten SSRZ Dienste bzw. Dienstanbieter anzeigen lassen.

Mit Betätigung des *Suche* Buttons werden die angezeigten Standortkoordinaten an den Verzeichnisserver gesendet.

Nach Click auf *Details* im Suchergebnis können die Einstellungen für den jeweiligen Dienst direkt in die App Settings übernommen werden.

geog. Breite:    
geog. Länge:

**Suche SSRZ Streams**



**Geo++® SSR2OSR**

STATISTI CS LOG SETTINGS INFO

SERVICES ABOUT

**zurück**

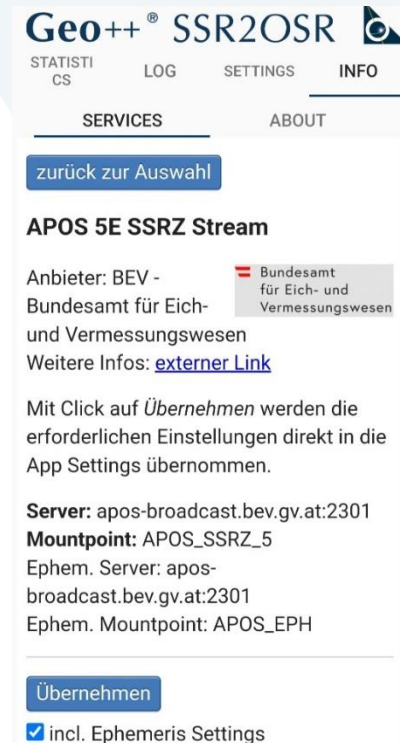
**Suchergebnis: (2 gefunden)**

**APOS 5E SSRZ**



**Details**

**APOS 6E SSRZ**




**Geo++® SSR2OSR**

STATISTI CS LOG SETTINGS INFO

SERVICES ABOUT

**zurück zur Auswahl**

### APOS 5E SSRZ Stream

Anbieter: BEV -  Bundesamt für Eich- und Vermessungswesen

Weitere Infos: [externer Link](#)

Mit Click auf *Übernehmen* werden die erforderlichen Einstellungen direkt in die App Settings übernommen.

**Server:** apos-broadcast.bev.gv.at:2301  
**Mountpoint:** APOS\_SSRZ\_5  
Ephem. Server: apos-broadcast.bev.gv.at:2301  
Ephem. Mountpoint: APOS\_EPH

**Übernehmen**

incl. Ephemeris Settings

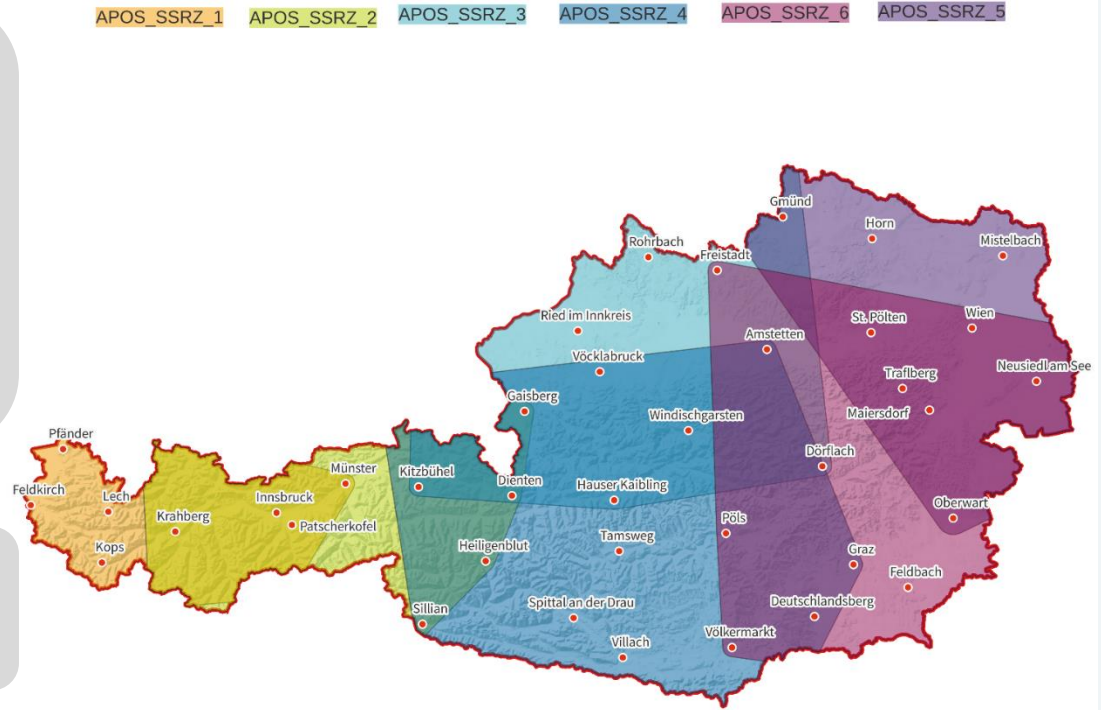
## 6 sub-networks

mainly due to additional BDS  
processing

## 6 Mountpoints

redirecting via SSR2OSR App

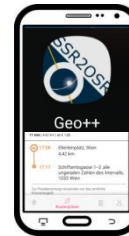
**8 kbit/s per sub-network**



## APOS Broadcast: SSRZ-Testing at BEV

Position/Height < 1.5 cm/4 cm (TTFF ~ 10s)

Stonex-Receiver with APP, u-blox F9P with APP on Tablet



## Transmission medium

Mobile radio



current

DAB+



Currently not an issue  
in Austria due to good  
internet coverage

3GPP