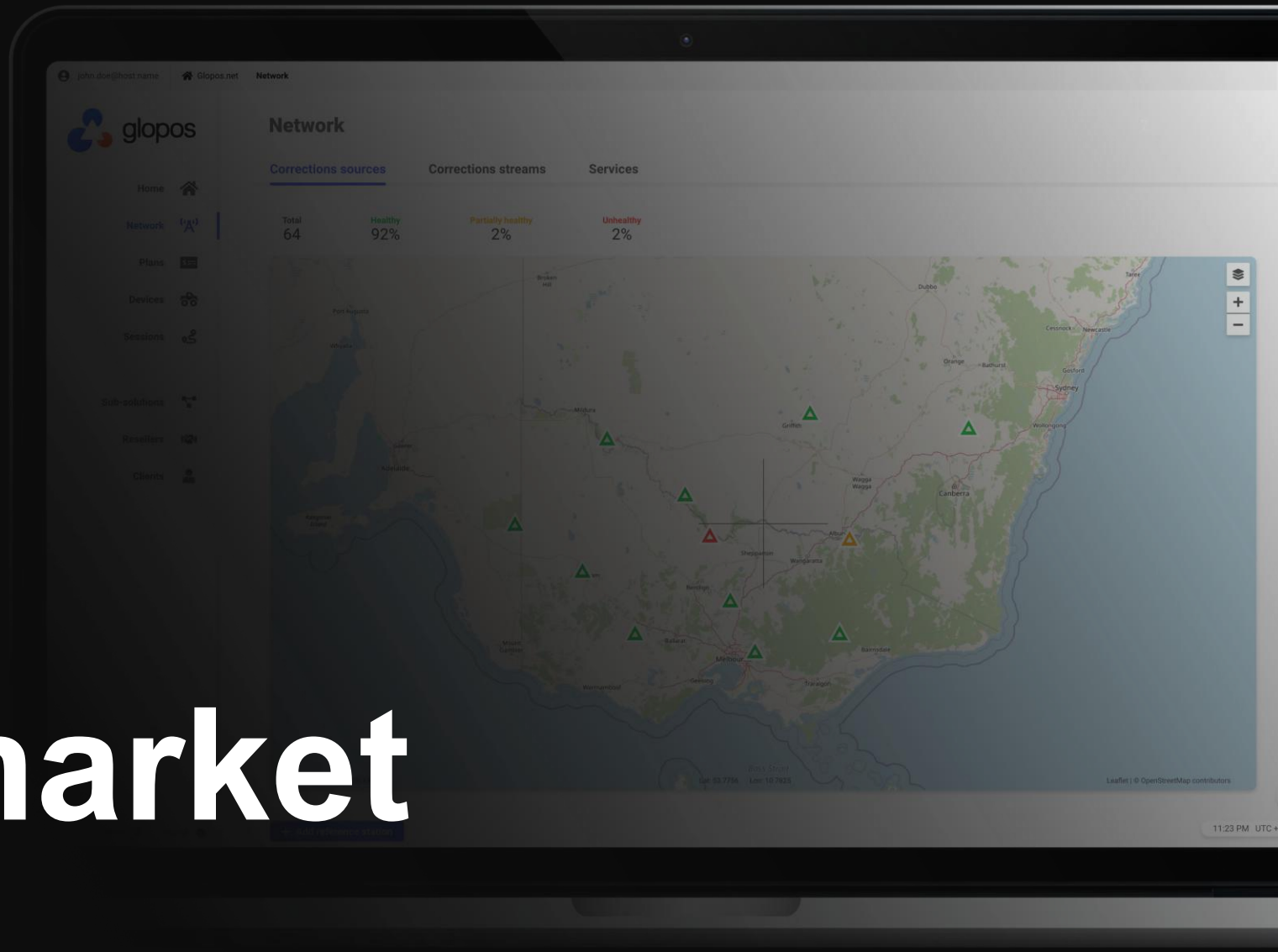
glopos

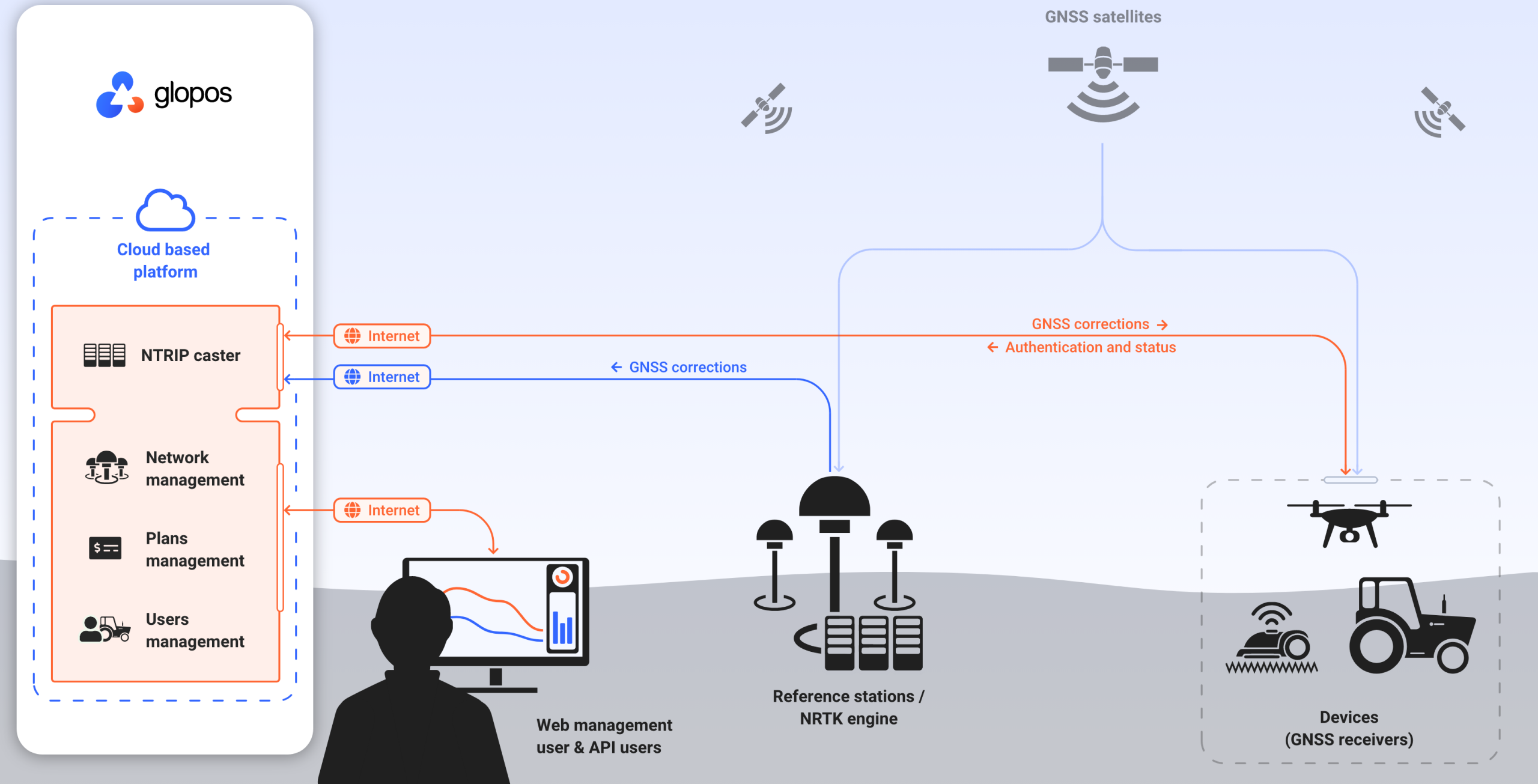
RTK
for mass market



Ondrej Kutik, Navmatix

EUPOS Meeting 2025

navmatix


glopos
Cloud based platform
NTRIP caster
Network management
Plans management
Users management
GNSS satellites
Internet
Internet
Internet
GNSS corrections →
← Authentication and status
← GNSS corrections
Web management user & API users
Reference stations / NRTK engine
Devices (GNSS receivers)

The Motivation

Precision as commodity

- Robotics
- Drones
- IoT

Use network of reference stations to a maximum

- Offer VRS experience to 10 thousands of devices

The Problem

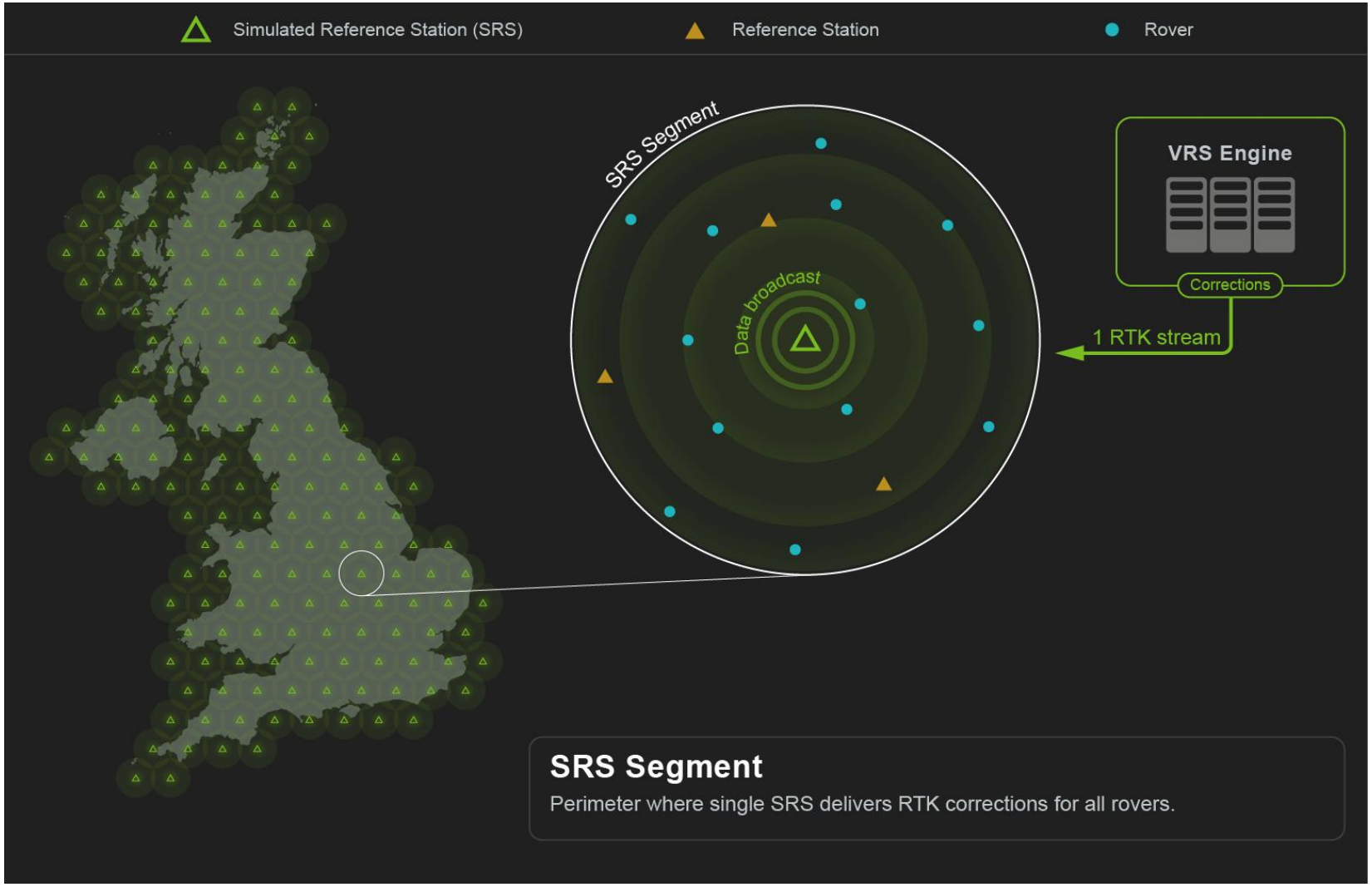
Traditional Network RTK with Virtual Reference Stations (VRS)

- ⊕ High precision
- ⊕ Fast convergence
- ⊕ RTK is supported by many devices

- ⊖ Resource intensive

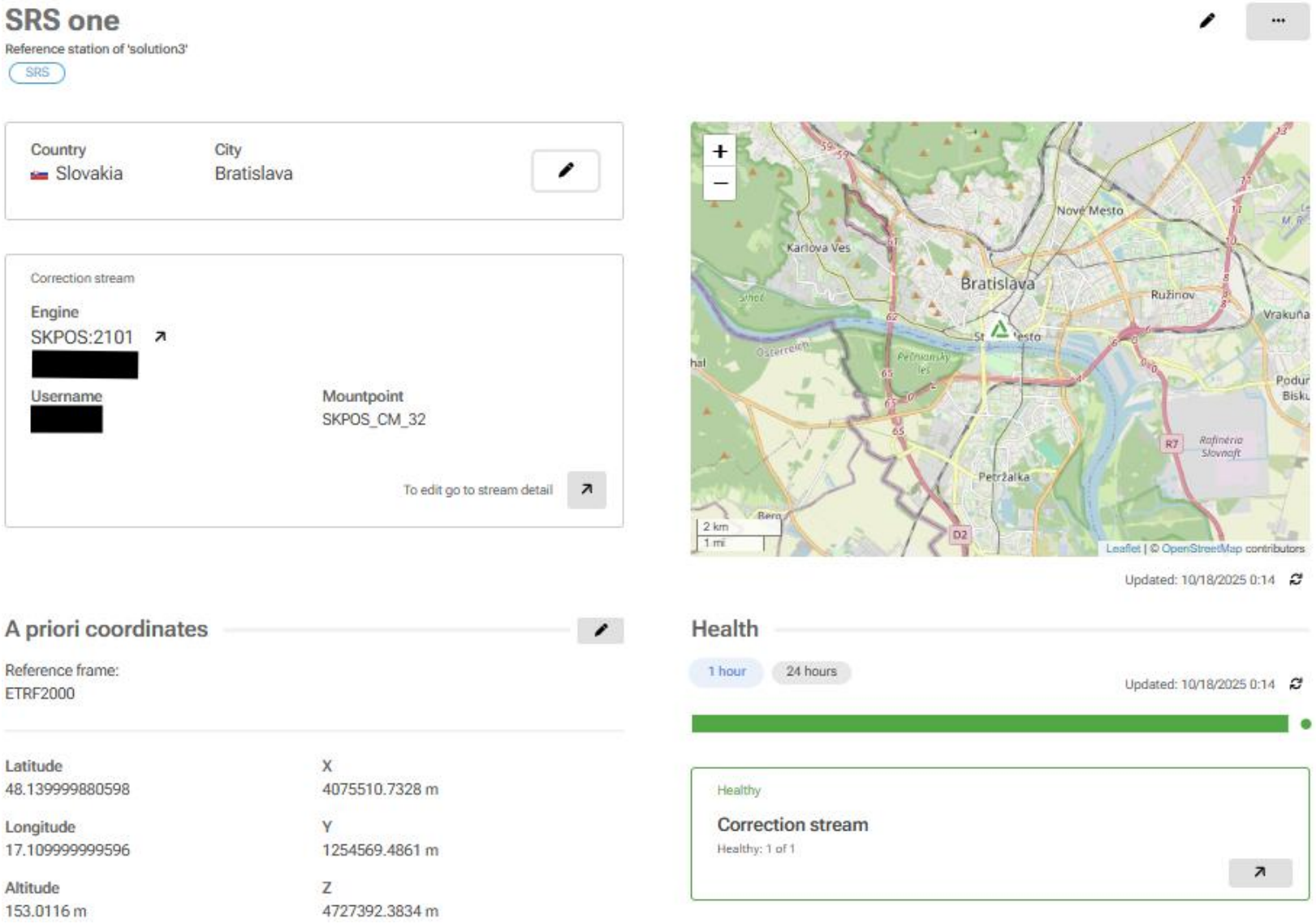
The Concept

From "1 VRS per User" to "1 SRS per Cell"



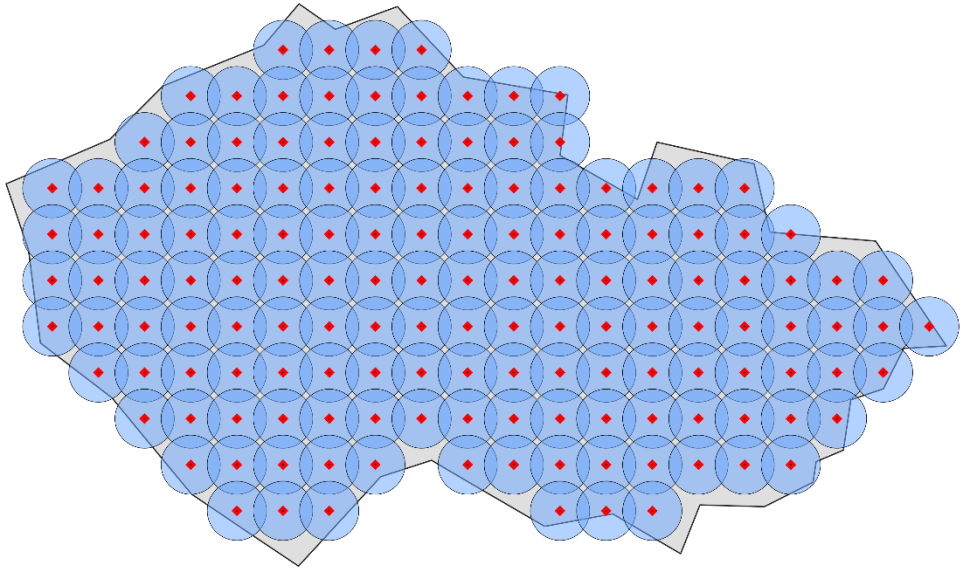
SRS management

Fully integrated into Glopos – Use in the Nearest mode



Cell distribution

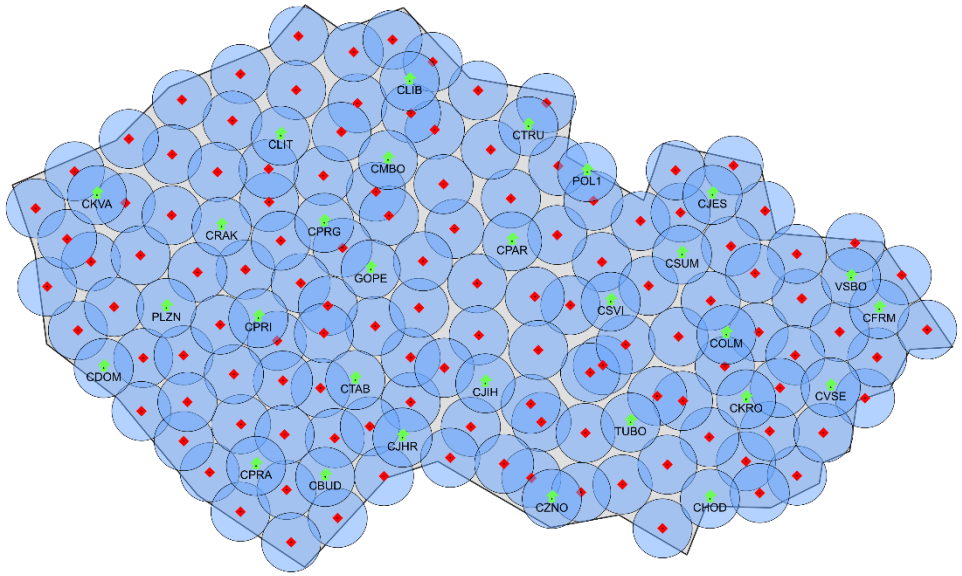
Uniform, radius 23km



- SRS: 148
- Median baseline: 9,6 km
- Max baseline: 29 km

Cell distribution

Optimized with CORS



- SRS: 122
- Median baseline: 9,6 km
- Max baseline: 18.4 km

EUPOS-demo

Network

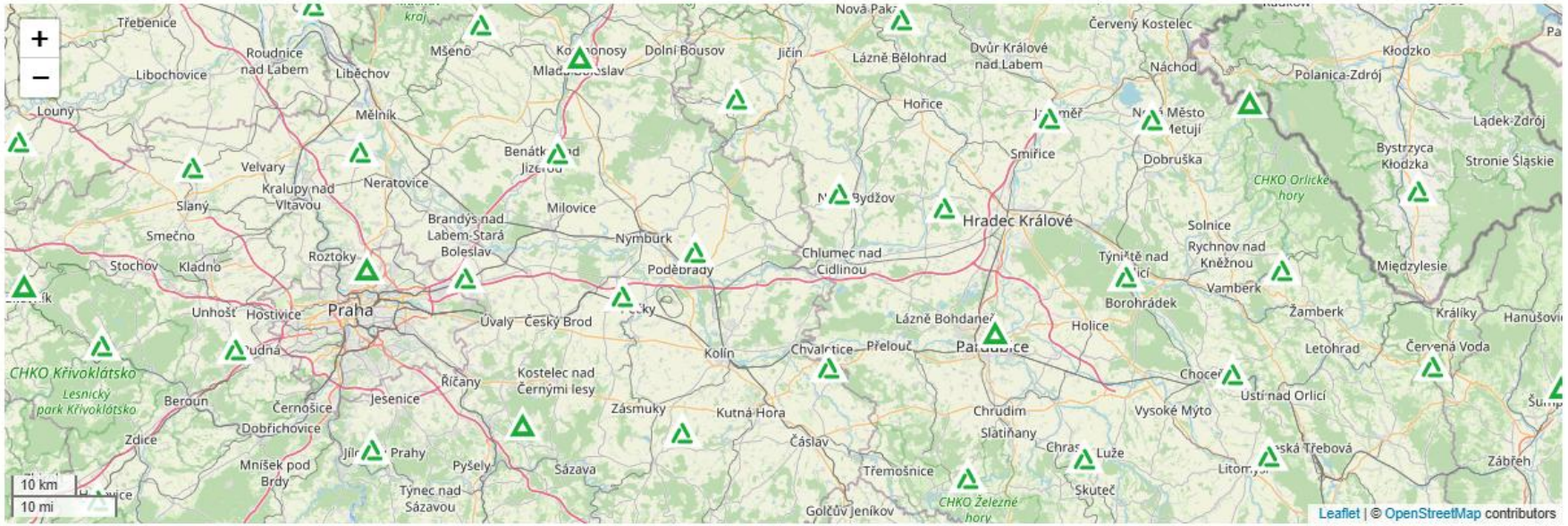
- Home
- Network
- Plans
- Devices
- Sessions
- Sub-solutions
- Resellers
- Clients

Correction sources | Corrections streams | Services | Zones

Reference stations | Engines

+ Add reference station

● Physical (RS) ● Simulated (SRS)



Total	Healthy	Partially healthy	Unhealthy	Not computed
164	100%	0%	0%	0%

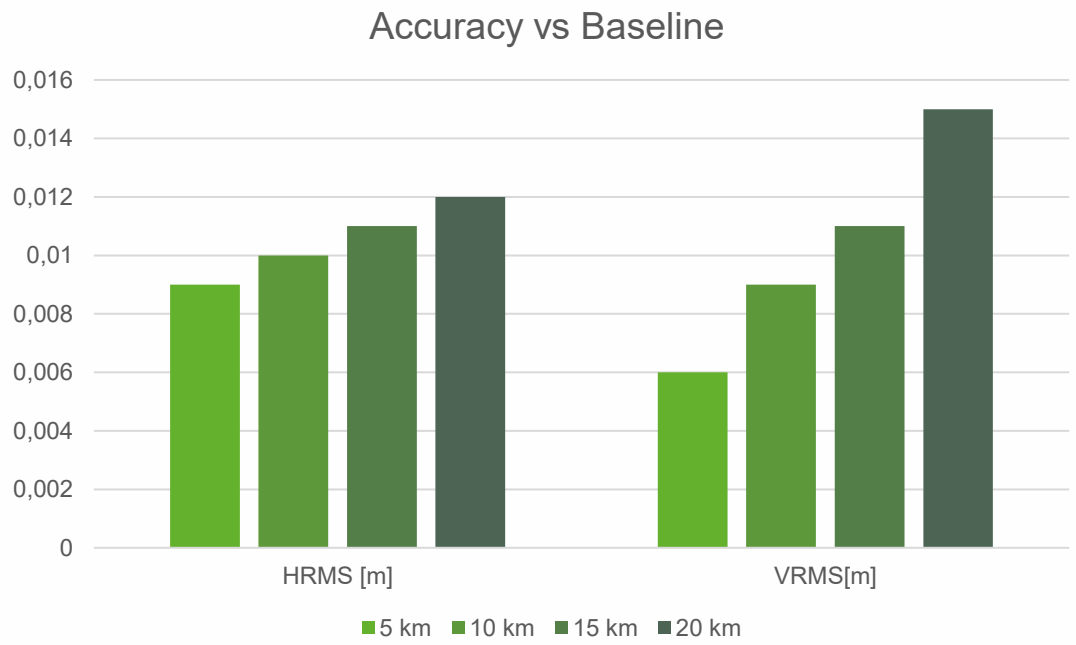
Refresh

Search...

4 Records

The Performance

- Accuracy RMS ~1cm
  - Dynamic scenario with cell switch
- 50,000 simultaneous rover sessions



Monitoring

Continuous monitoring of the VRS engine

PPP based SRS position solution

Glopos for Mass Market RTK

Support large number of devices

Using your existing network of stations and VRS engine

Smooth integration

Use SRS similar as physical station

Quality control

Define grid density, define service level, health monitoring

Thank you

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