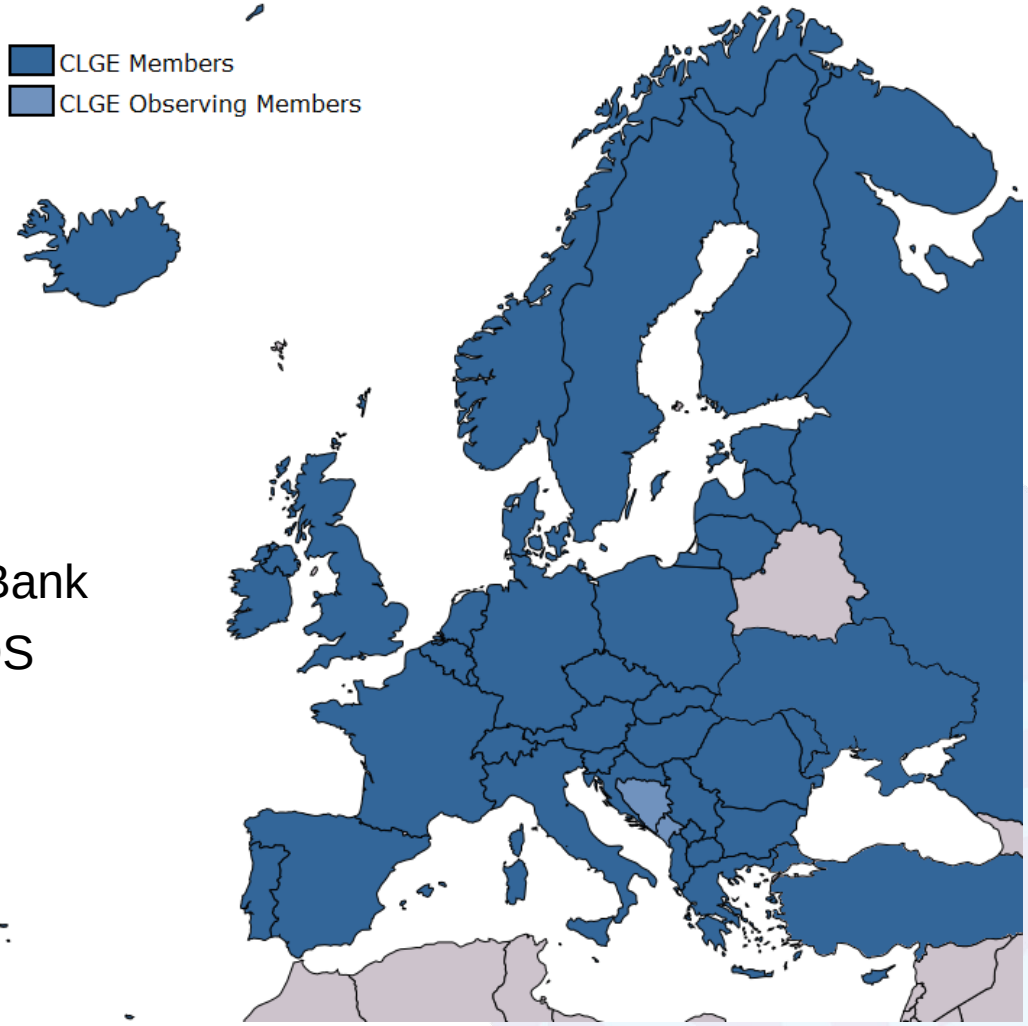
CLGE (Surveyor) needs for GNSS RTK service operators

CLGE: Leading Surveyors Association

- 39 Member countries
- + 2 Observing members
- Last member: Ukraine
- 28 EU Members States
- >> 100.000 Surveyors
- Close cooperation with
  - FIG + YSEN, Notaries, World Bank
  - EuroGeographics, GSA, EUPOS
  - PCC, CEPLIS
  - EuroSDR, IESC
  - Instrument providers
  - National Associations



CLGE: Leading Surveyors Association

- **Mission:** to represent and promote the interests of the geodetic surveying profession in the private and public sector in Europe, especially:
- **The creation** of permanent forum for European geodetic surveyors, who are committed to European co-operation.
- **The promotion and exchange** of technical, scientific, educational and organizational know-how with the European states.
- **Provision of assistance** to member countries, to national associations and EU institutions on request.

Some example Projects

- Blueparking.eu
- EUREAL -> IPMS -> ILMS
- CLGE Student Contest, awarding ceremony's at Intergeo
- The Global Surveyors Day Celebration (21.03.2018, Washington DC with World Bank)
- Surveyor of the Year
  - 2016: Ruder Boškovic
  - 2017: Guillaume-Henry Dufour
  - 2018: Carl Ritter von Ghega
    - 2019: Loránd Eötvöš

2017
EUROPEAN SURVEYOR OF THE YEAR 2017
Guillaume-Henri
DUFOUR

CLGE GA Pristina, Kosovo, 19-21.04.2018

CLGE and positioning

- CLGE represents **users** of permanent GNSS networks for precise positioning, especially surveyors, a large group of users of GNSS precision applications
- For Geodesy, Surveying, Mapping – **precision and reliability of positioning is everything**
- Main cooperation regarding positioning is with GSA, Eurogeographics (PosKEN) and instrument providers (sponsors).
- Technical workshops at our GA-a

GNSS usage and positioning criterias

- Surveyors are using wide range of Technologies
- GNSS is more or less used for most of Technologies
- GNSS is the only, main or supporting sensor
    - RTK GNSS (cm)
    - Static GNSS with postprocessing (mm)
    - Total Station, combined with GNSS (mm-cm)
    - Mobile mapping (cm) Aerial mapping (cm-dm)
    - Drones (,laser scanning and photogrammetry) (cm-dm)
    - Machine control in construction (cm)
    - Surveying robots (cm)
    - Terrestrial scanning (cm)

Don’t forget about 3rd Dimension!!!

Surveyor needs for GNSS

- In daily cases reliable cm level accuracy is enough
- For specific tasks sub-cm is required
- Precision of Geoid model is essential
- Protection against spoofing – (probably) rising danger
- Reliability is critically important, especially in hard environment
  - Woods
  - City canyons
  - Nordic latitudes
  - Edges of the coverage

Availability of the service

- Surveyors are working in public sector as well as private sector – different regulations by countries
- State permanent networks are operating together with private providers in most of Europe
- Different Countries have different availability practice
  - State permanent Network does not provide RTK corrections for commercial use in many Countries
- Majority of Geodetic Surveyors is strongly for wider availability and ready to pay for the service.
  - Minority speaks about market disruptions and double payment

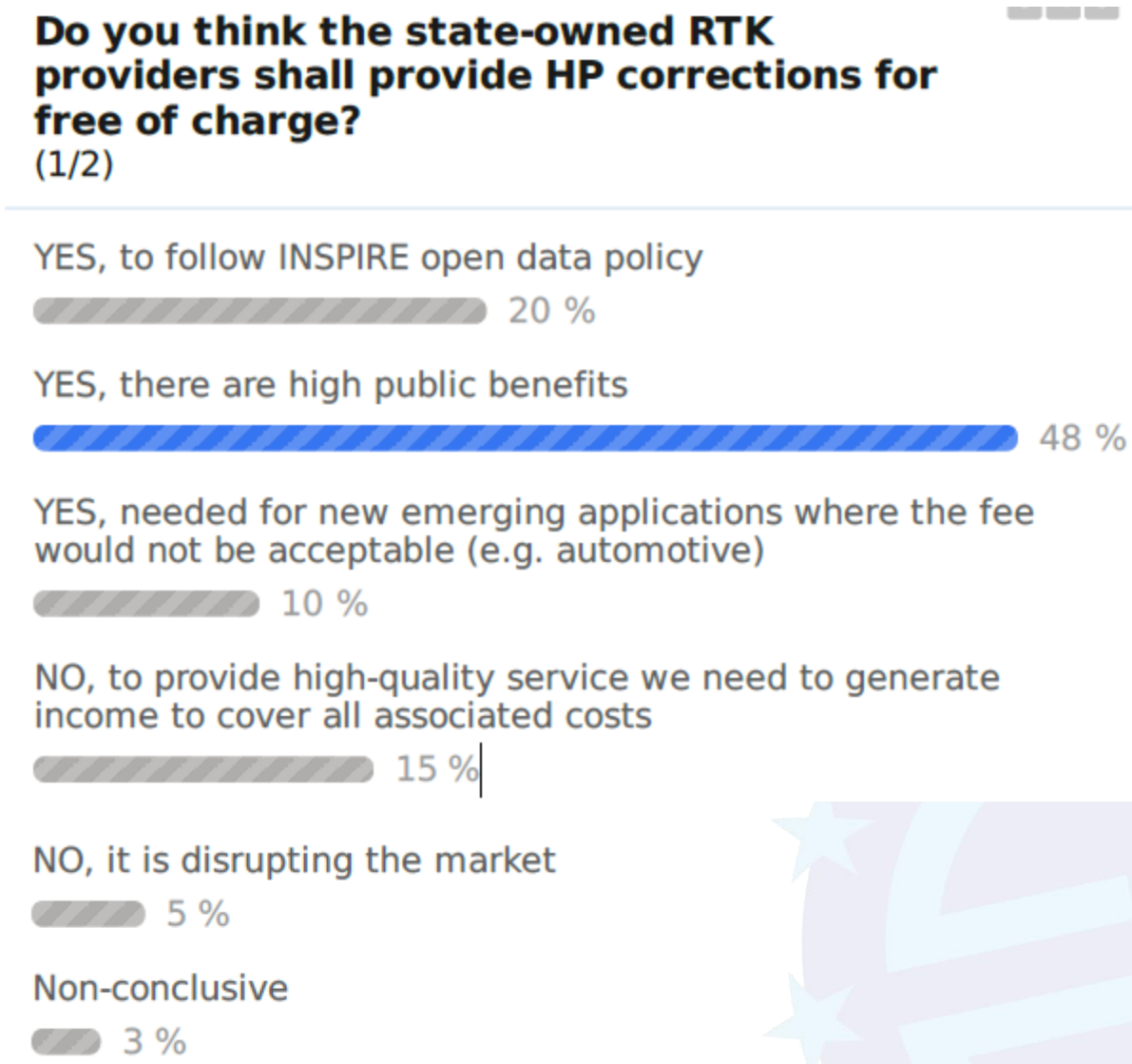
Cooperation

- Sometimes we met difficulties with cross-border services
- We feel that EUPOS has helped a lot to cooperate between its stakeholding Countries
- Why not to spread this practice to all directions?
- Results of cross-border cooperation are sometimes not visible for all geodetic Surveyors
- We expect developments despite the politics, on the professional and geographic basis.
- Galileo signals are still not enough widely in use
  - A question for hardware – software producers

Education, knowledge exchange

- Surveyors are sometimes „blinded“ with the promises of producers as accuracy of equipment is not the only component.
- GNSS-Guidelines
- Different researches
  - How many % of cadastral Surveying is performed with GNSS?
- GSA Questionnaire – Sli.do poll

- Sli.do poll


Do you think the state-owned RTK providers shall provide HP corrections for free of charge?
(1/2)
YES, to follow INSPIRE open data policy
20 %
YES, there are high public benefits
48 %
YES, needed for new emerging applications where the fee would not be acceptable (e.g. automotive)
10 %
NO, to provide high-quality service we need to generate income to cover all associated costs
15 %
NO, it is disrupting the market
5 %
Non-conclusive
3 %

- Sli.do poll

Do you think it makes sense to establish an initiative that would aim to provide a unified Pan-European RTK service that would utilise the data of the current RTK service providers?
(1/2)

Yes, there is a need for this kind of the service to provide a seam-less RTK service for new emerging applications such as autonomous driving
65 %

Yes, but it is rather difficult or not doable
18 %

No, I think there is no need for such a service
10 %

No, as PPP service fits better for the regional type of services and especially mass marke
5 %

Non-conclusive
3 %

Thank You for Your attention!

Mairolt Kakko, CLGE