The EPOS GNSS Data Gateway

- Presentation of the EPOS-GNSS Data Gateway
- How to explore and download data & metadata
  - with the EPOS GNSS web client
  - with the command line client

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Collaborators : K.M. Ngo, A. Fontaine

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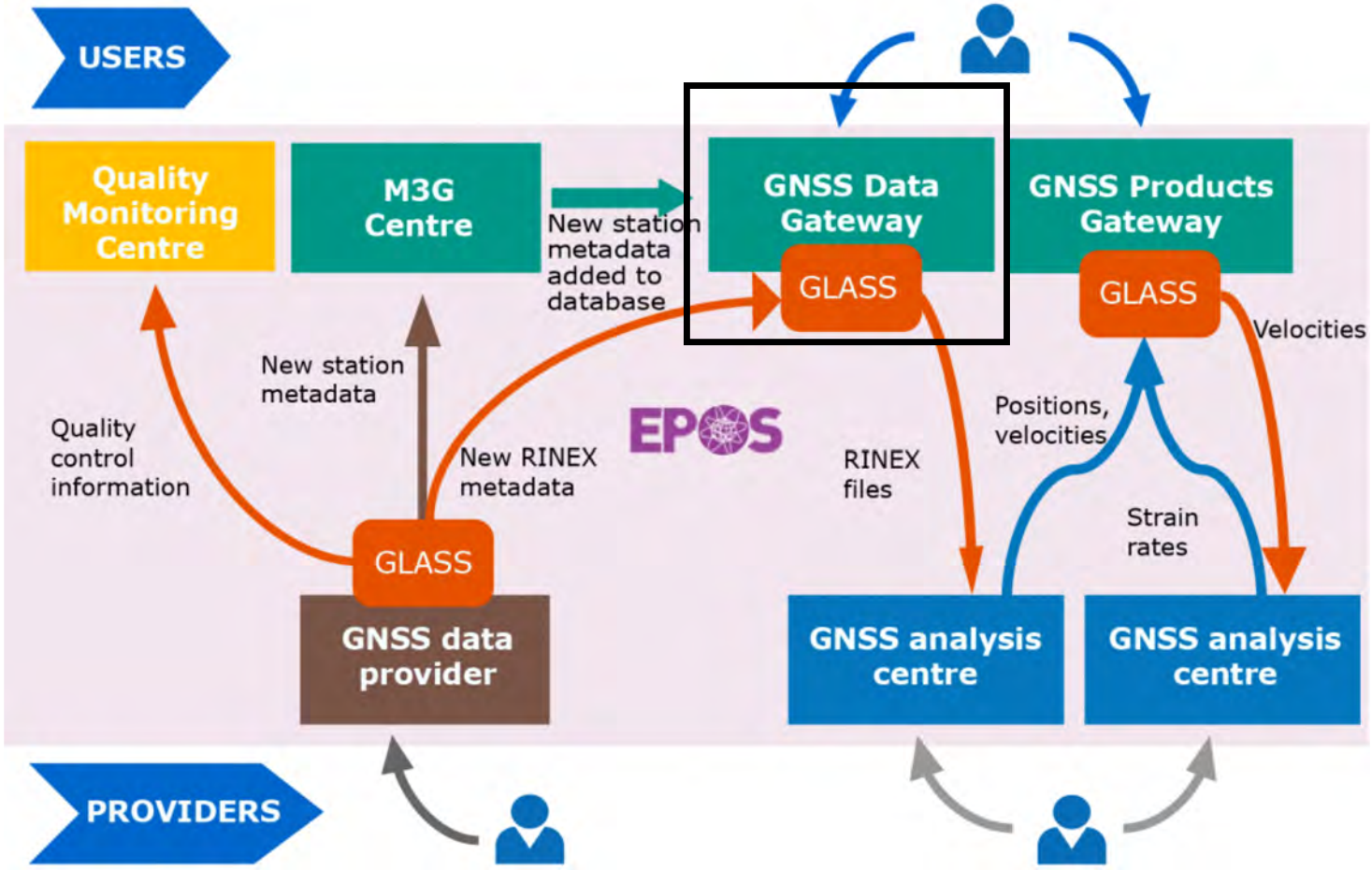
OBSERVATOIRE DE LA CÔTE D'AZUR
UNIVERSITÉ CÔTE D'AZUR

The EPOS GNSS Data Gateway (DGW)

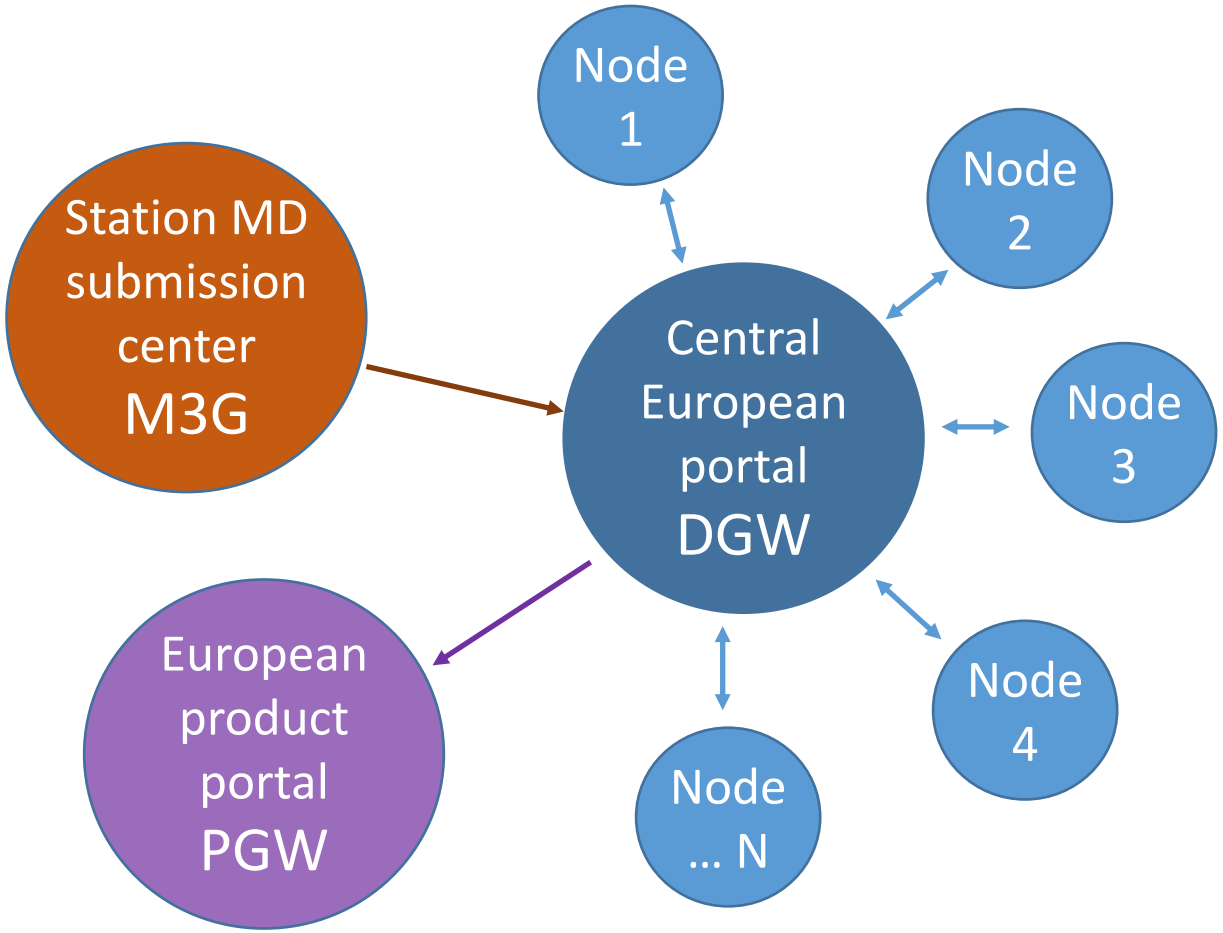


- The portal where users can request for GNSS metadata and data of all the GNSS stations integrated to the EPOS network

- System supporting the portal is hosted at the Côte d'Azur Observatory and maintained by CNRS (Fr)

- What is it?
- How does it work?
- What is its current status?

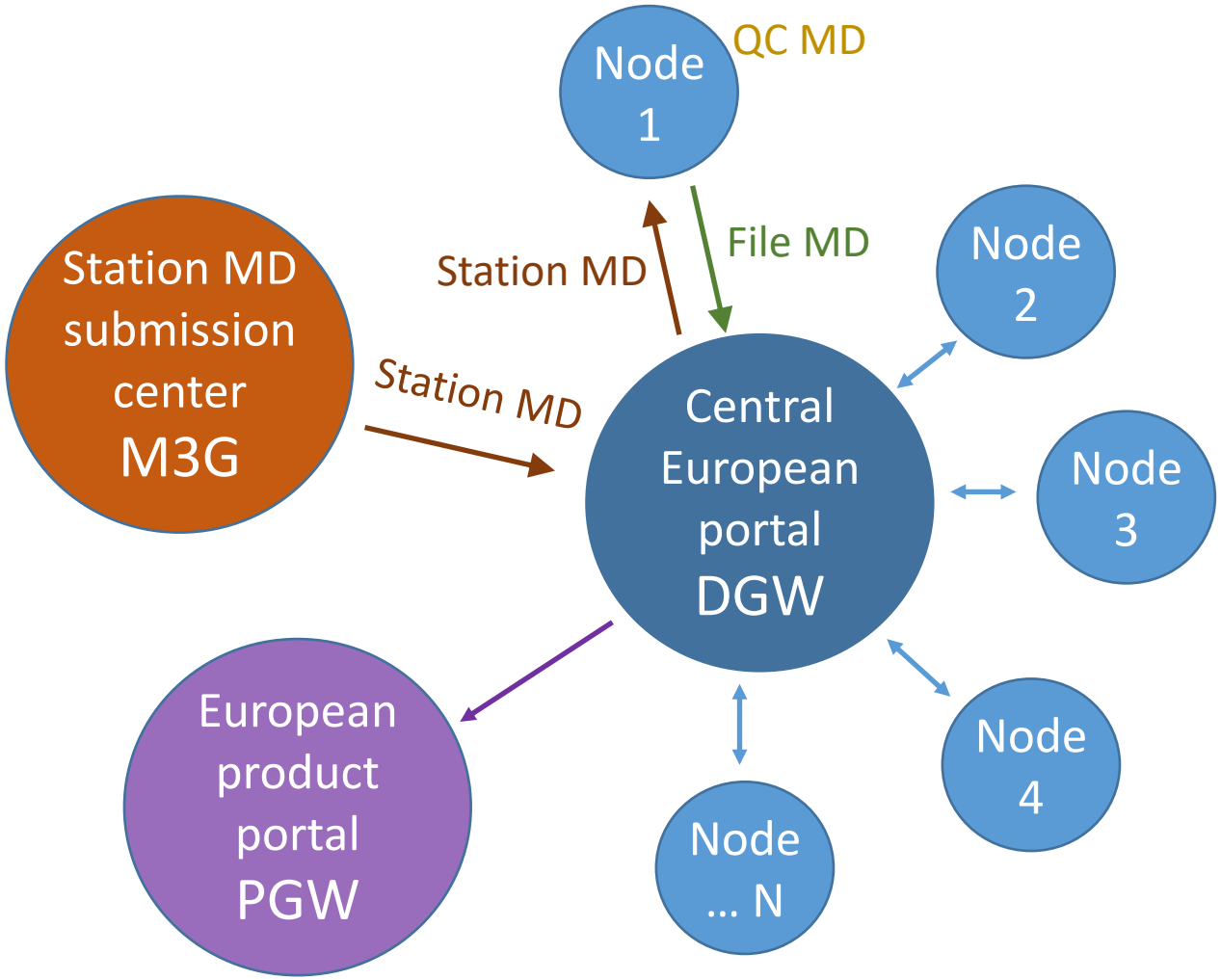
The DGW : What is it?



- The EPOS GNSS distribution system:
  - developed in the framework of the EPOS-IP project
  - designed to provide access to data from 2000+ GNSS stations from data centers across Europe

- Principle : a European portal system integrating data and metadata from independent local nodes

The DGW : How does it works?



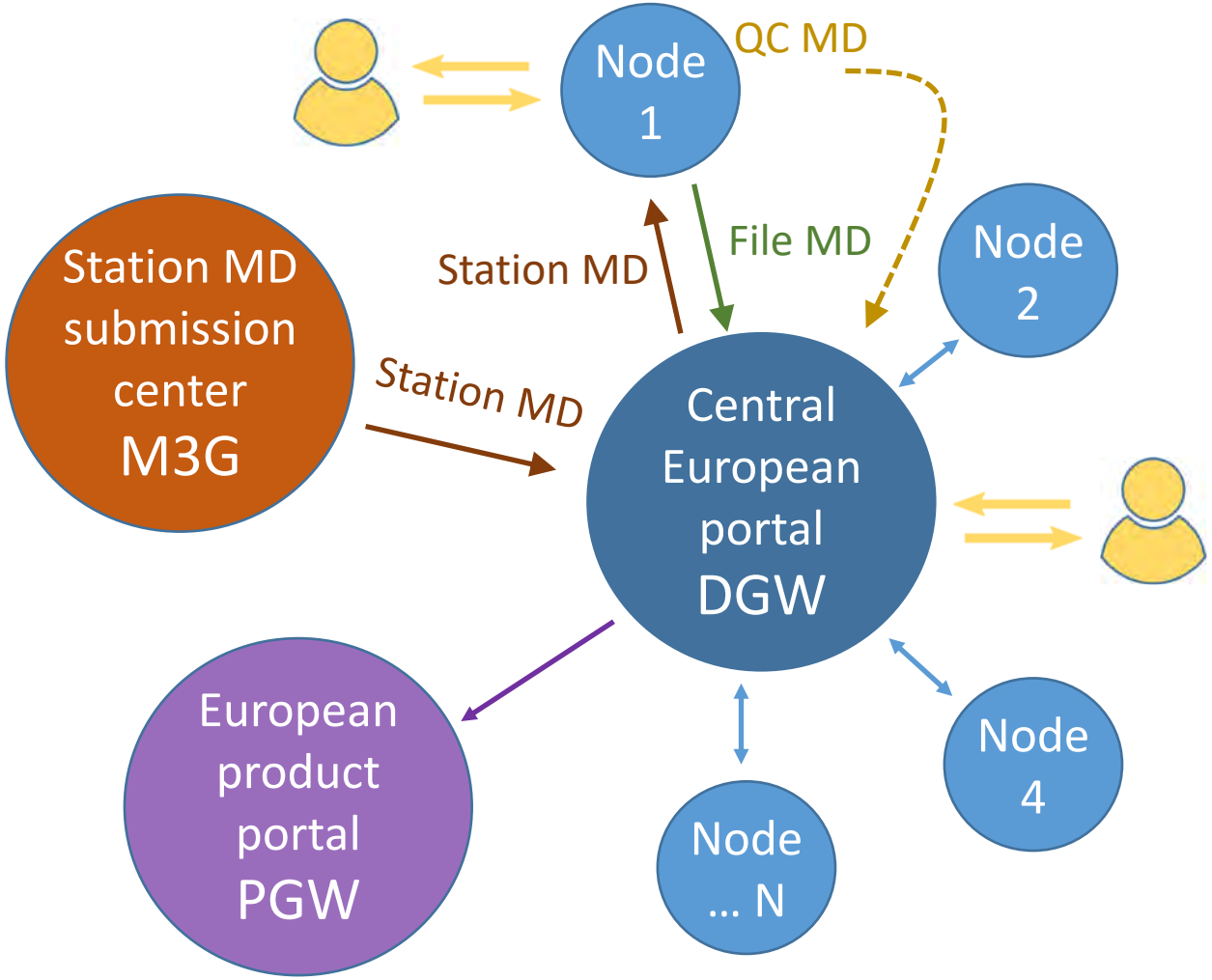
It works with **transfers of metadata** :

- **station metadata** from the submission center (M3G) to the Data Gateway
- **station metadata** from the Data Gateway to the local node
- **file metadata** from the local nodes to the Data Gateway, **if** their **QC** are validated

The QC metadata stay at the local node

The (rinex) **files** stay in their data center

The DGW : How does it works?

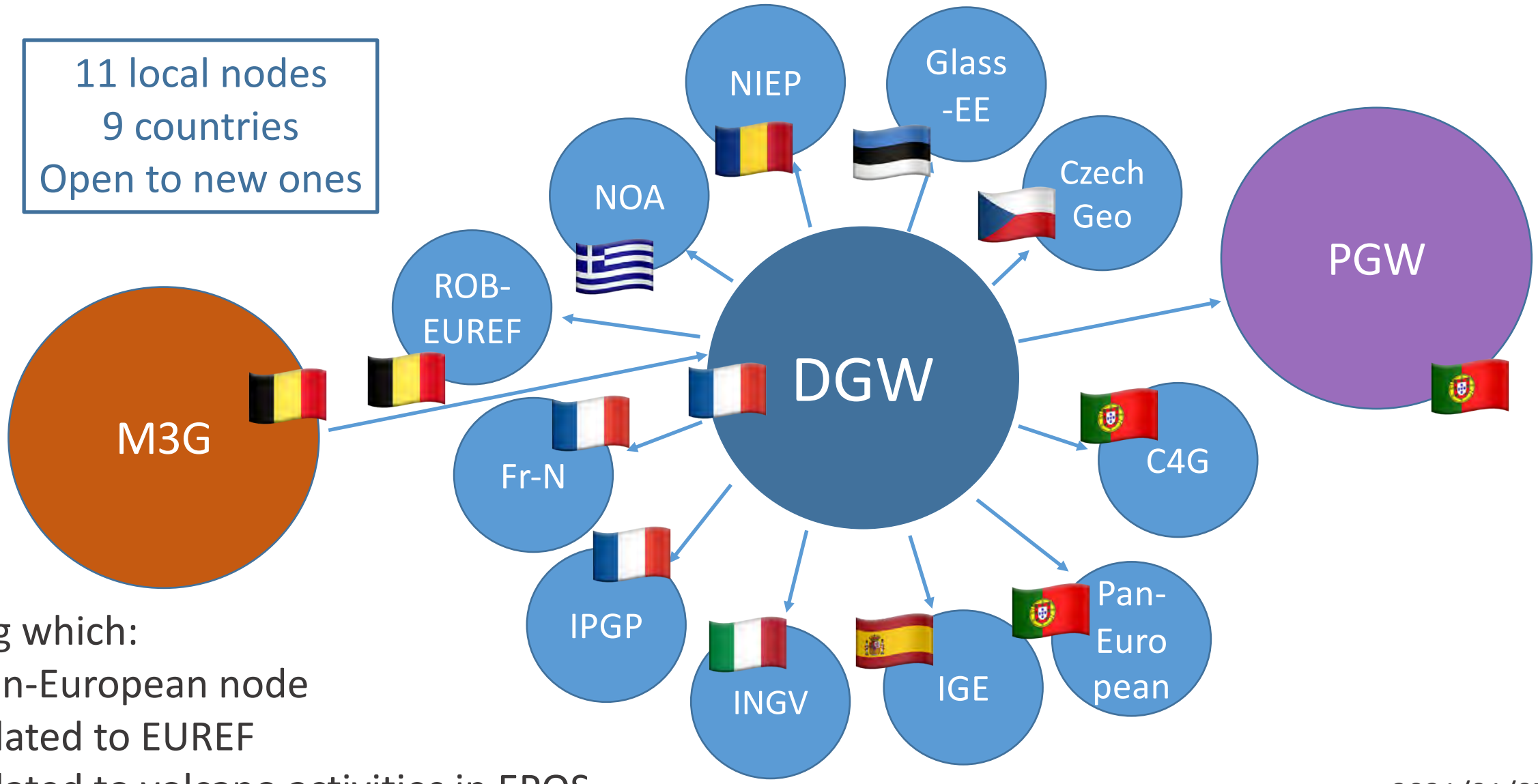


What does it mean?

- *All data and metadata* can be found and requested *through the Data Gateway (even QC metadata)*
- *"Local" data and metadata* can be found and requested at the *local nodes*
- **Unique metadata for a data file over the system**

Current status of the node network as seen by the DGW

11 local nodes
9 countries
Open to new ones

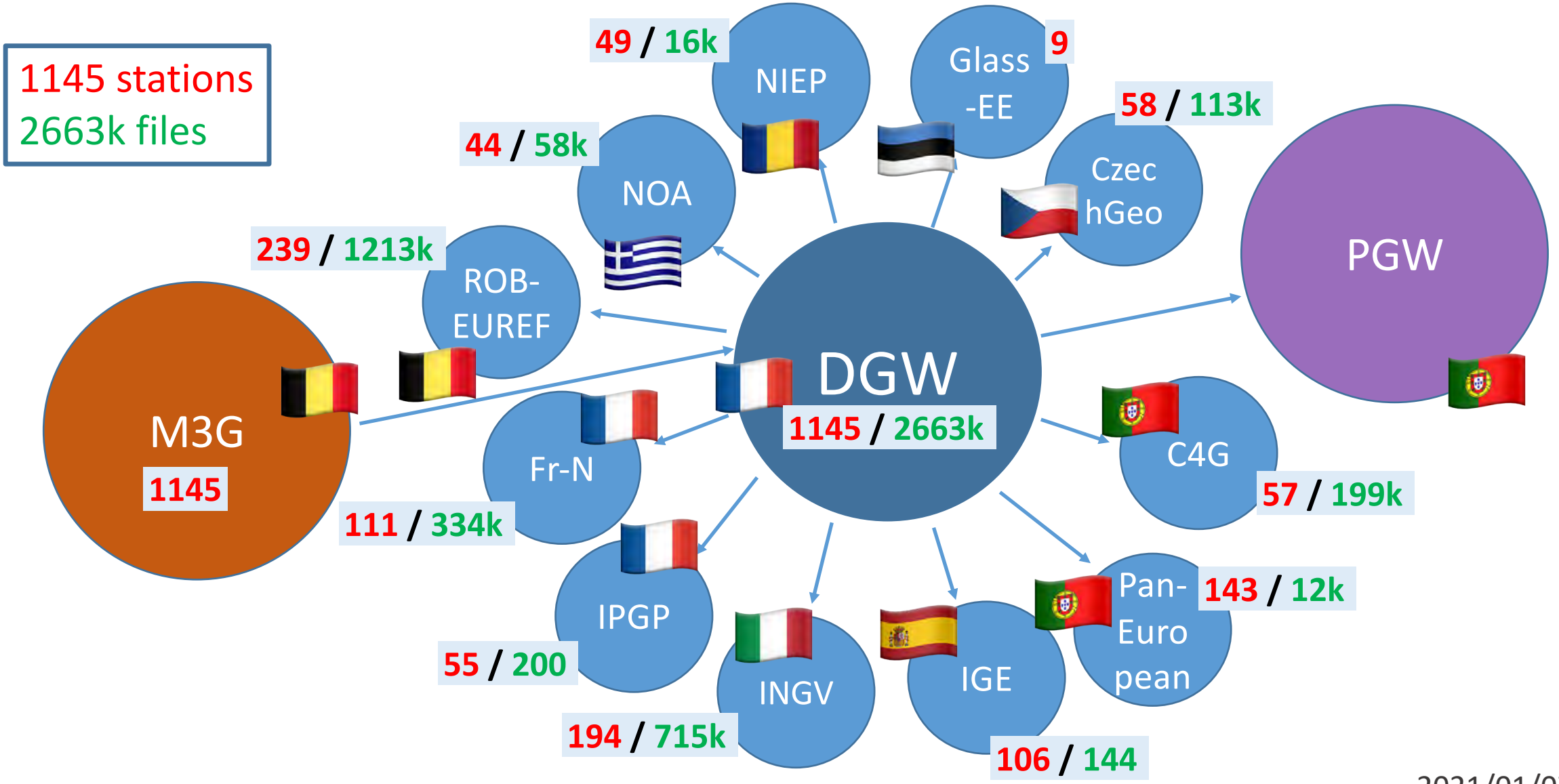


Among which:

- 1 pan-European node
- 1 related to EUREF
- 1 related to volcano activities in EPOS

2021/01/07

What is currently available?



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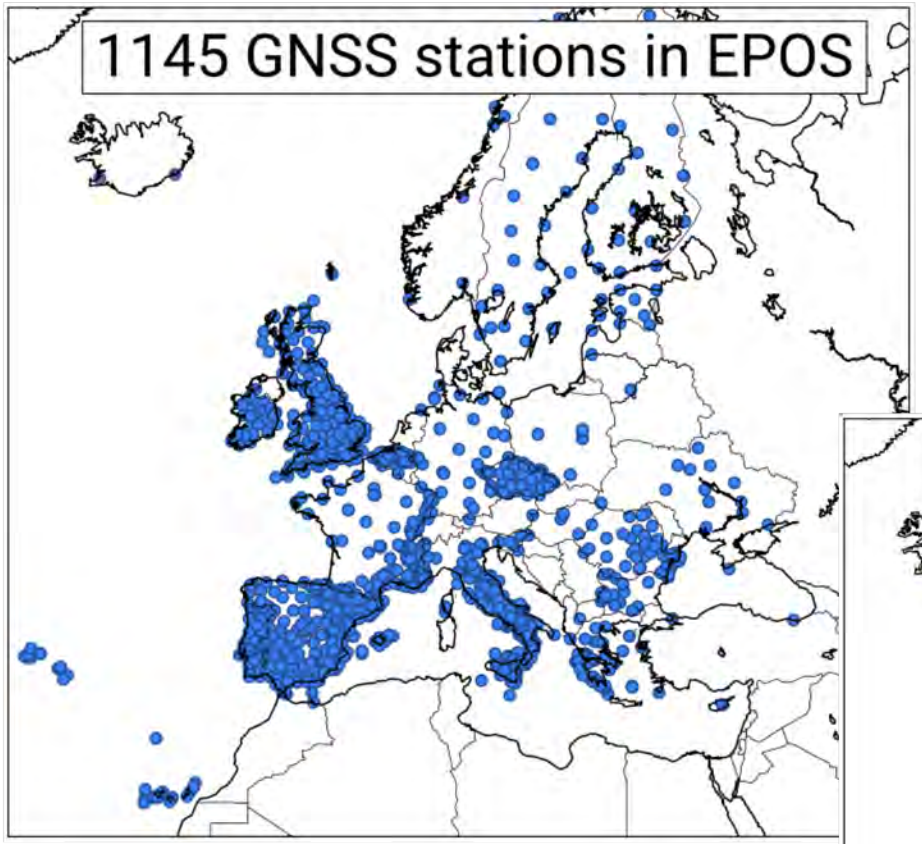
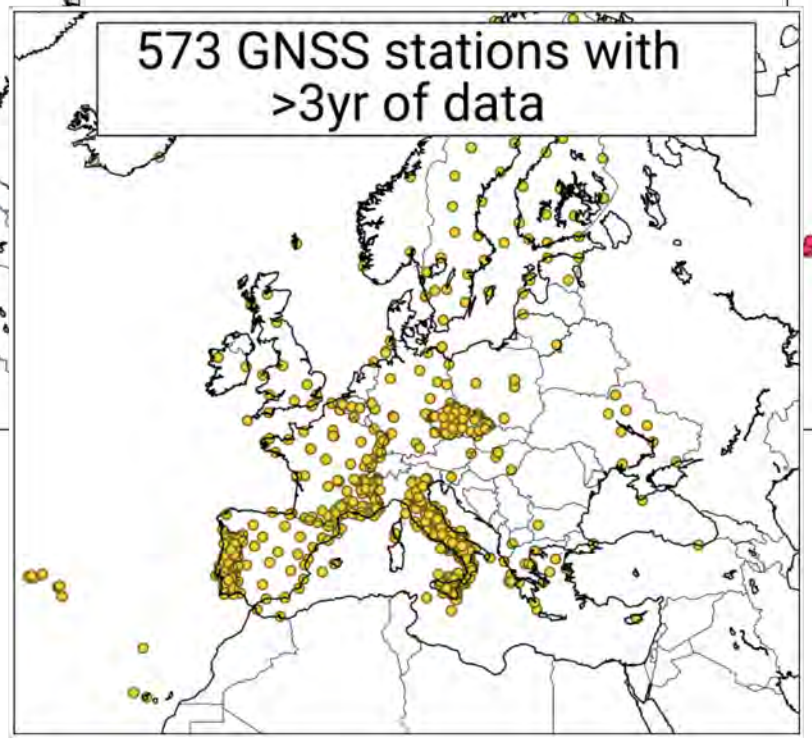
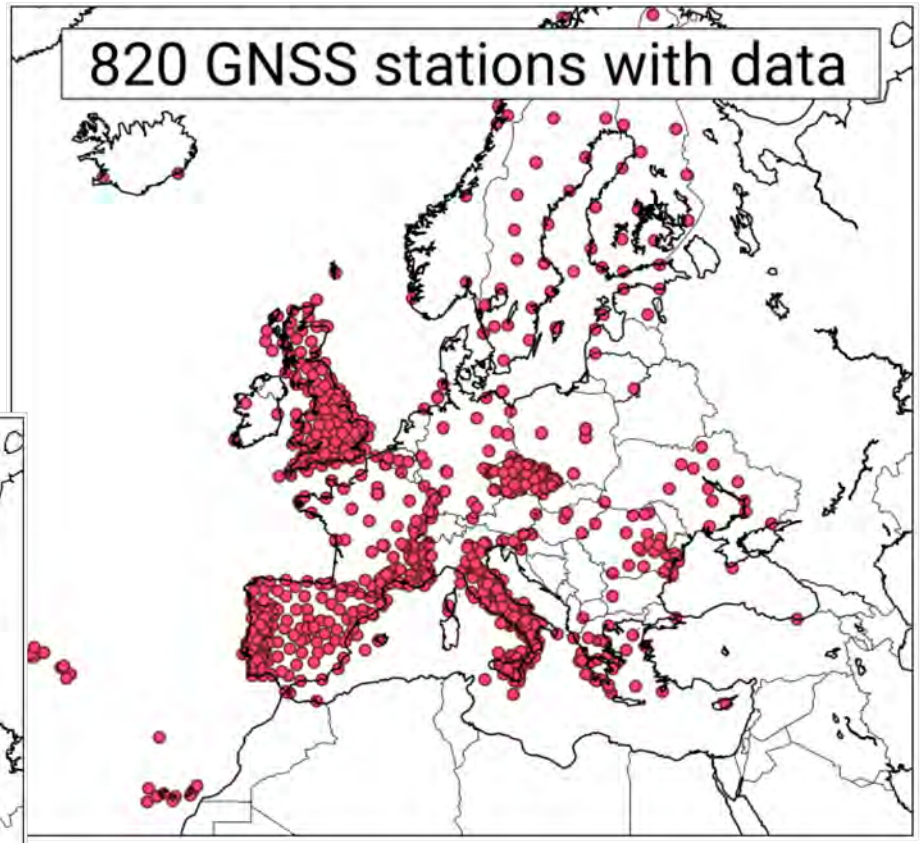
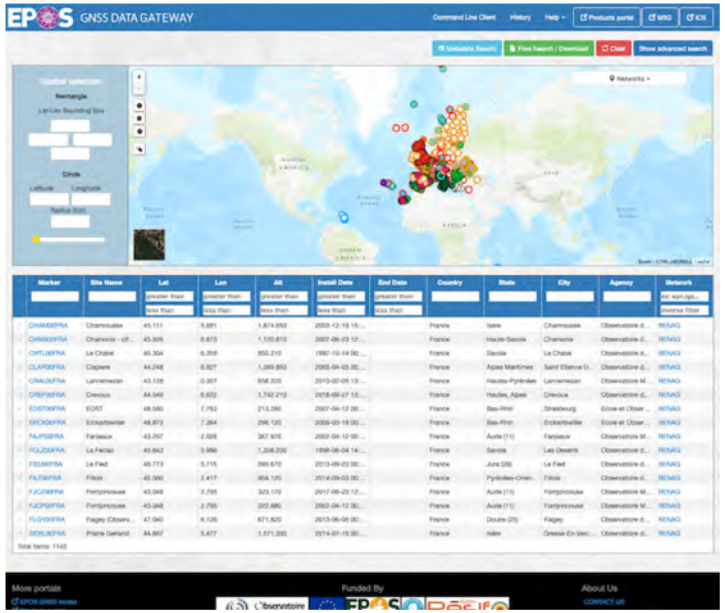




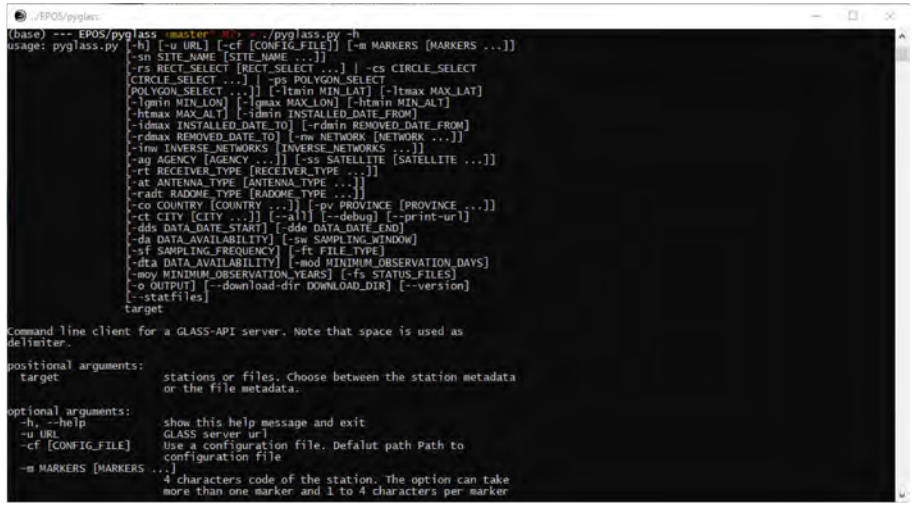


How to use the EPOS GNSS web and command line clients to get GNSS data and metadata

Web Client



Command Line Client



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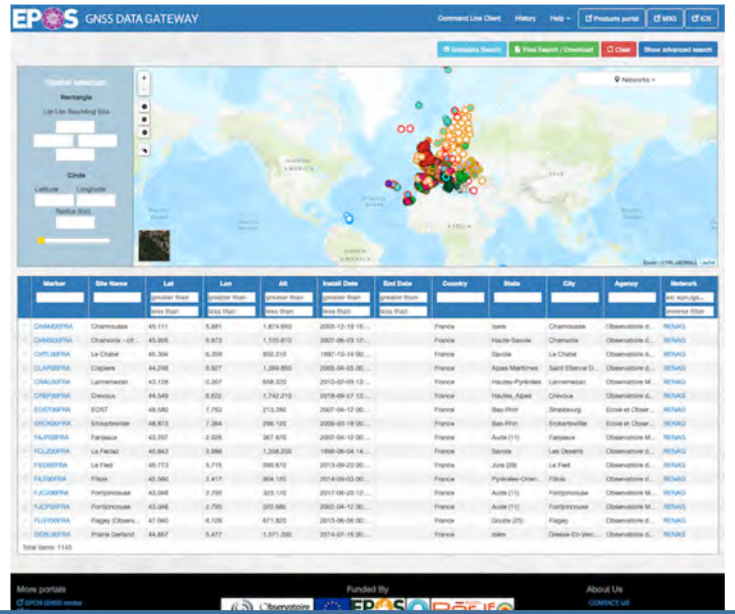
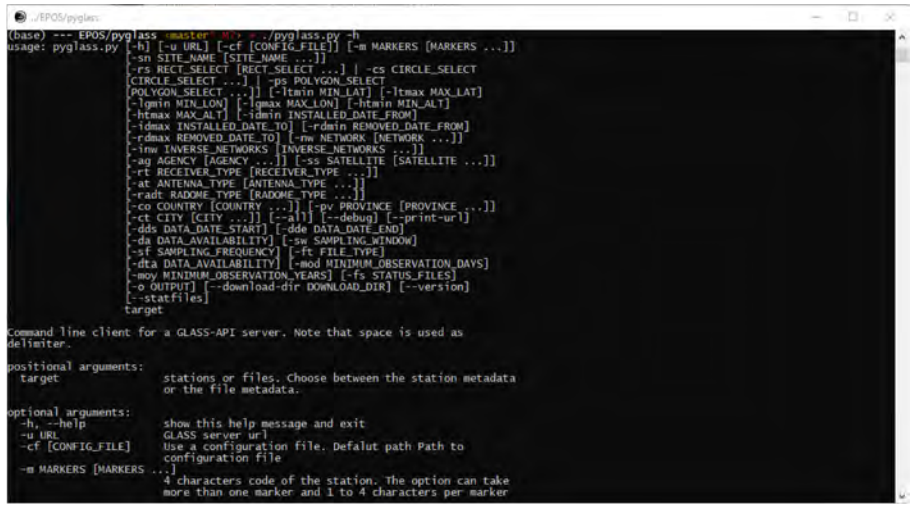
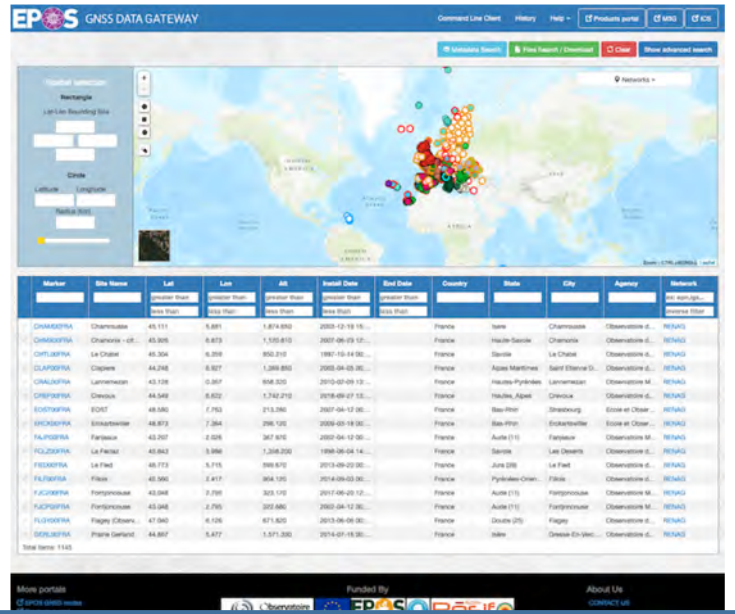


Command Line Client



How to use the EPOS GNSS web client

Web Client



- Overview of the web client
- Discovering and downloading metadata
- Discovering and downloading data

http://gnssdata-epos.oca.eu

See the video of the demo
http://gnssdata-epos.oca.eu or https://gnss-epos.eu/webinar-2021/

How to use the EPOS GNSS command line client

- Overview of the command line client
- Discovering and downloading metadata
- Discovering and downloading data

Tool accessible via
http://gnssdata-epos.oca.eu

See the video of the demo
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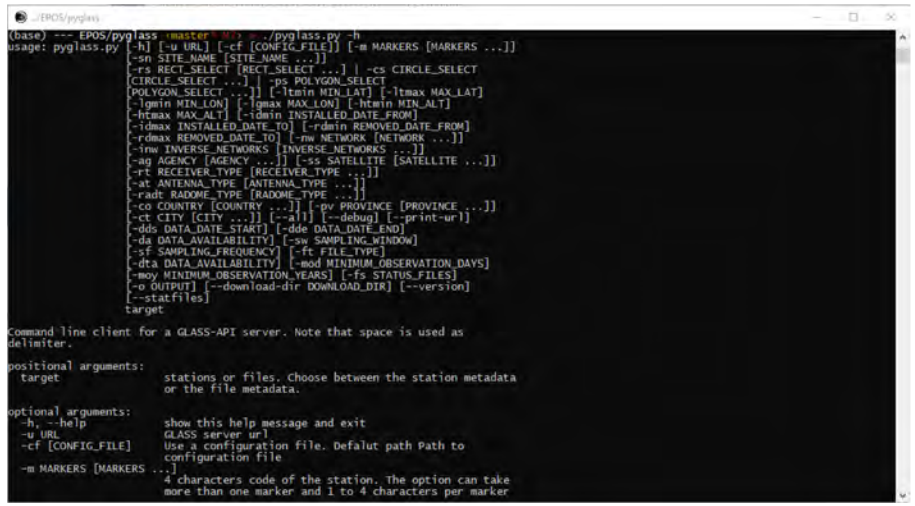
Command Line Client



Portals and useful links for EPOS GNSS data

- **M³G**: https://gnss-metadata.eu/
- **Data Gateway**: http://gnssdata-epos.oca.eu/
- **Product Portal**: https://gnssproducts.epos.ubi.pt/
- **ICS**: https://www.ics-c.epos-eu.org/

To contact the Data Gateway: gnss-dgw@oca.eu

How to become a GLASS node?

EPOS GUIDELINES	
PROCEDURE FOR INCLUDING GNSS STATIONS IN EPOS	Last Update: January 6, 2021
PROCEDURE FOR INCLUDING EPN STATIONS IN EPOS	Last Update: August 5, 2020
EPOS-GNSS DATA SUPPLIER LETTER	Last Update: May 14, 2020
GUIDELINES FOR EPOS-GNSS STATIONS, DATA SUPPLIERS, AND OPERATIONAL CENTRES	Last Update: January 6, 2021
GUIDELINES FOR SETTING-UP AND OPERATING AN EPOS GNSS DATA NODE	Last Update: January 31, 2020
EPOS-GNSS DATA NODE LETTER	Last Update: January 21, 2020
EPOS-GNSS GLASS NODE CONFIGURATION LETTER	Last Update: April 6, 2020
EPOS DATA POLICY	Last Update: July 1, 2018
EUREF PERMANENT NETWORK (EPN) GUIDELINES	
PROCEDURE FOR BECOMING AN EPN STATION	Last Update: May 8, 2019
GUIDELINES FOR EPN STATIONS AND OPERATIONAL CENTRES	Last Update: October 18, 2019
GUIDELINES FOR EPN DATA CENTRES & EPN BROADCASTERS	Last Update: April 11, 2017
GUIDELINES FOR EPN ANALYSIS CENTRES	Last Update: June 12, 2018
ADDITIONAL INFORMATION	
CONTACT AND AGENCY INFORMATION IN M3G	Last Update: August 31, 2020

Documentation currently available from the M3G Documentation Page

Do not hesitate to contact (inside documentation):

m3g@oma.be (M3G)

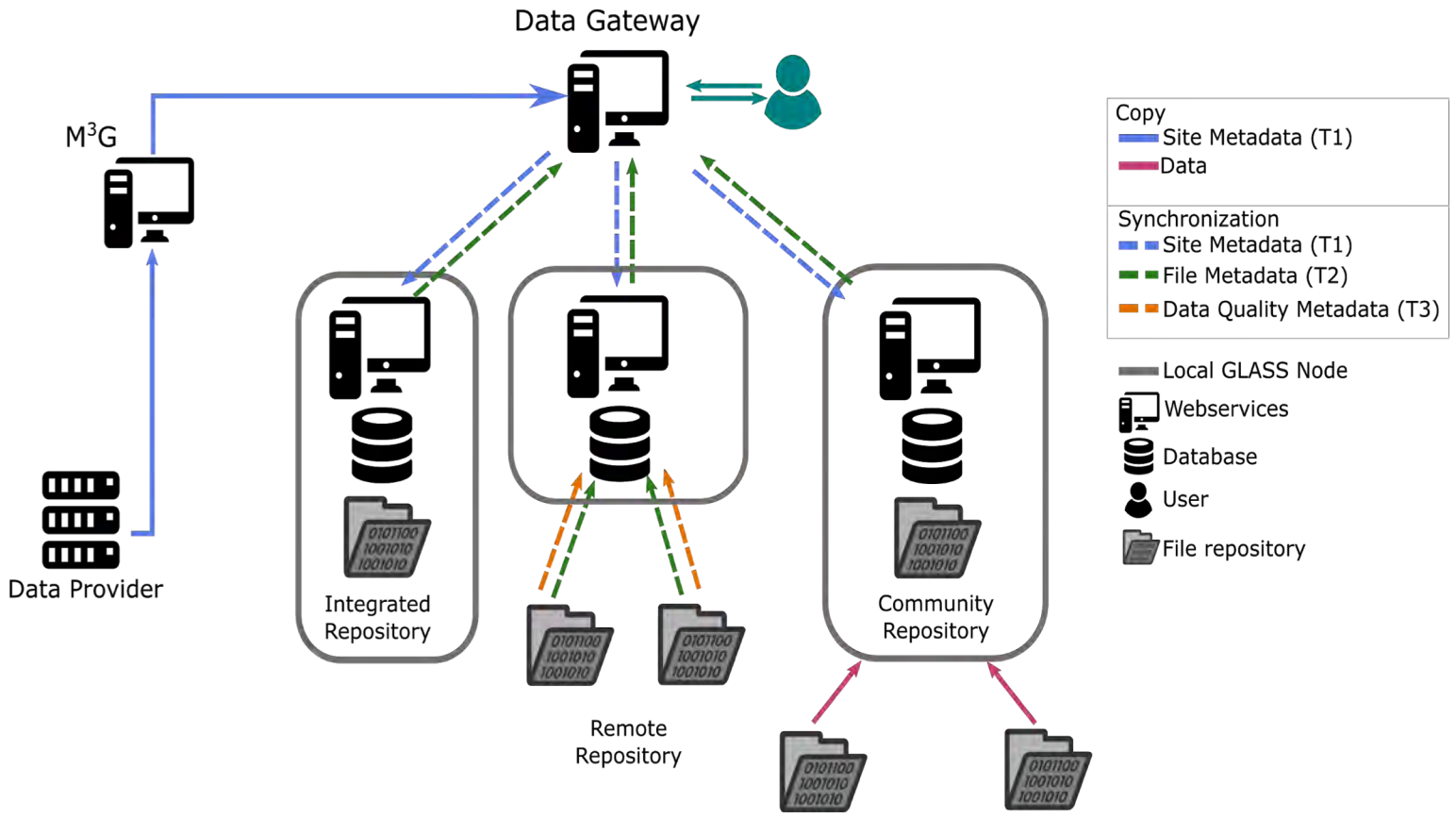
and

gnss-dgw@oca.eu (EPOS GNSS Data Gateway – node coordinator)

and

software@gnss-epos.eu (software coordinator)

Three solutions (data flow schemes) to make EPOS data discoverable through a GLASS node



Option 1 : Integrated Repository

GLASS node and ***Data Repository(ies)*** hosted at the same location and managed by a single agency.

→Activity centralized at the node (generation of file and QC metadata)

Option 2 : Remote Repository

GLASS node and ***Data Repository(ies)*** physically independent and managed by different agencies.

→ An agreement between the repository owner and node manager to decide who is doing what

Option 3 : Community Repository

Data owner transfers the (rinex) files to this repository.