

# GLOBAL GEODETIC REFERENCE FRAME FOR SUSTAINABLE DEVELOPMENT - THE EUROPEAN CONTRIBUTION “GRF-EUROPE”

Position Paper and invitation to participate the  
UN-GGIM: Europe Expert Working Group  
*Geodetic Reference Frame – Europe (GRF-Europe)*

Markku Poutanen, chair of the GRF-Europe

With contributions of: Zuheir Altamimi, Johannes Ihde, Laila Løvholden, Wolfgang Söhne, Daniela Thaller

## I. Introduction: The Global Geodetic Reference Frame GGRF

In February 2015 the United Nations General Assembly adopted the resolution on a Global Geodetic Reference Frame for Sustainable Development (A/RES/69/266), recognizing the importance of a globally coordinated approach to geodesy – the discipline focused on accurately measuring the shape, rotation and gravitational field of the Earth.

The United Nations (UN) Committee of Experts on Global Geospatial Information Management (UN-GGIM 3rd session in 2013) decided to formulate and facilitate a resolution for a global geodetic reference frame and established a working group on the Global Geodetic Reference Frame (GGRF). The task of the working group was to formulate the resolution and prepare a roadmap for GGRF for sustainable development according to the UN GA resolution.

At the UN-GGIM sixth session in New York in August 2016, the UN-GGIM endorsed the GGRF Roadmap and decided to elevate the GGRF working group to a permanent sub-committee on geodesy.

The GGRF roadmap addresses each of the key areas of action described in the UN General Assembly resolution:

*Data sharing:* Development of geodetic standards and open geodetic data sharing are required to enhance and develop the GGRF.

*Education and capacity building:* Appropriate geodetic skills and educational programs are essential for the development, sustainability and utilization of the GGRF.

*Geodetic infrastructure:* A more homogeneous distribution of geodetic infrastructure is needed to develop and utilize an accurate GGRF.

*Communication and outreach:* It is imperative to develop communication and outreach programmes that enable the GGRF to be more visible and understandable to society.

*Governance:* The development and sustainability of the GGRF is reliant on an improved governance structure.



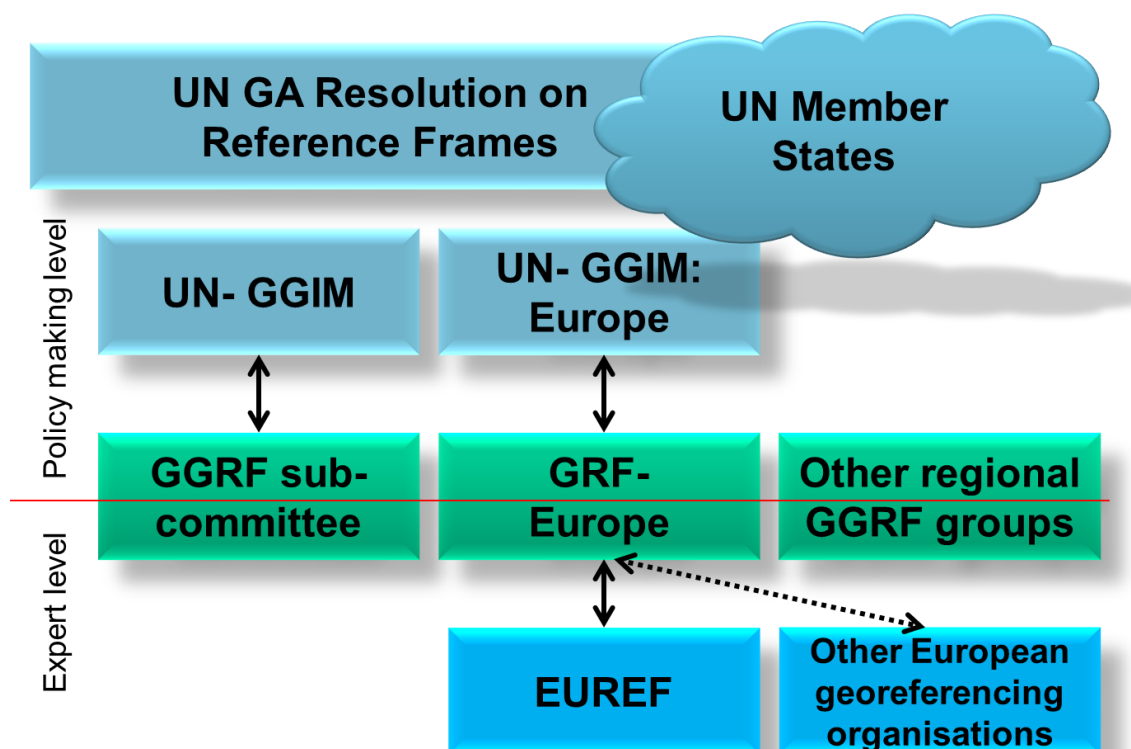
## II. UN-GGIM: Europe Working Group GRF-Europe

UN-GGIM has established regional entities: UN-GGIM: Africa, UN-GGIM: Americas, UN-GGIM: Arab States, UN-GGIM: Asia-Pacific and UN-GGIM: Europe. In connection with the implementation of the GGRF roadmap it is assumed beneficial that the regions contribute through regional GGRF working groups. The UN-GGIM: Europe working group “GRF-Europe” was established in 2016.

GRF-Europe will be working as a GGRF expert group within the UN-GGIM: Europe with close connection to the geodesy-related organizations in Europe, and actively contribute to the work of the GGRF sub-committee. GRF-Europe will provide a link between the geospatial community, scientists and policy makers. Its objectives is to

- Support European countries to respond to the General Assembly Resolution on A Global Geodetic Reference Frame (GGRF) for Sustainable Development and implementation of the GGRF Roadmap
- Develop promotion and outreach programmes to make the geodetic reference frames (coordinates, height, gravity) more visible and understandable to the society, support open-data policy and foster the usage of geodetic products in georeferencing tasks
- Support and foster geodetic capacity building within Europe when improving and maintaining appropriate national geodetic infrastructure

The next diagram is outlining GRF-Europe’s organizational chart. GRF-Europe intends to be a link between the technical/expert level and the UN-related level, without duplicating the work done on either level.



There are many geodesy or georeferencing related organizations in Europe, which may contribute to or participate in the GRF Europe WG. Among these are EUREF, EUPOS, EuroGeographics, International Federation of Surveyors (FIG), Council of European Geodetic Surveyors (CLGE), and European Plate Observing System (EPOS). There are also scientific communities that do not cover the whole Europe but are concentrating on specific areas or specific topics. Additionally, National Mapping Authorities are directly involved in the topic.

### **III. Invitation to participate on the work of GRF-Europe**

Our aim is to provide a common forum for those involved in maintaining and enhancing national geodetic infrastructures throughout Europe and the users of this infrastructure and the data supplied by it. Working under the UN mandate will help to avoid duplication and enable multilateral collaboration among organisations that do not have technical expertise or hold political or economic power of their own.

We will work in a close co-operation with EUREF, and invite all organisations, institutes, National mapping authorities or individual researchers interested in contributing in the common European effort, to participate the work of GRF-Europe.

The GRF-Europe work will start by creating objectives and a more detailed working plan to identify the specific needs of regional development. This work will be funded in the GGRF Roadmap recommendations and done in co-operation with the GGRF sub-committee.

