

FIG

FIG WORKING WEEK 2017

Helsinki Finland

29 May - 2 June 2017

Presented at the FIG Working Week 2017,
May 29 - June 2, 2017 in Helsinki, Finland

UN Resolution on GGRF

(...and its implementation in Europe)

Markku Poutanen, FIG

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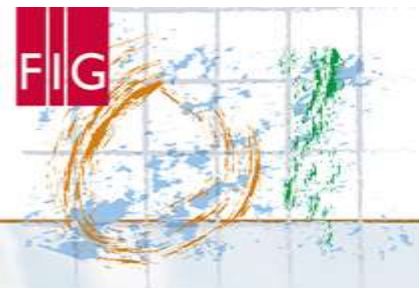


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Contents

- Global Geodetic Reference Frame (GGRF)
- UN GGIM: Europe working group GRF
- Case Iceland



UN-GGIM: EUROPE

UNITED NATIONS COMMITTEE OF EXPERTS ON
GLOBAL GEOSPATIAL INFORMATION MANAGEMENT



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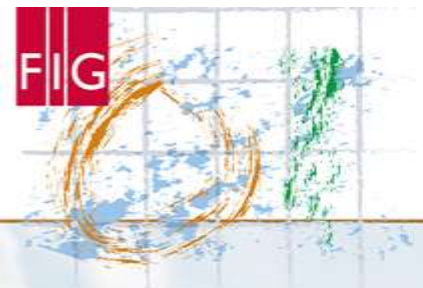


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Global Geodetic Reference Frame – GGRF

- The UN Committee of Experts on Global Geospatial Information Management (UN-GGIM) decided in July 2013 to formulate and facilitate a draft resolution for a Global Geodetic Reference Frame.
- The United Nations General Assembly adopted resolution 69/266 on a Global Geodetic Reference Frame for Sustainable Development in February 2015. Total of 53 Member States sponsored the resolution.



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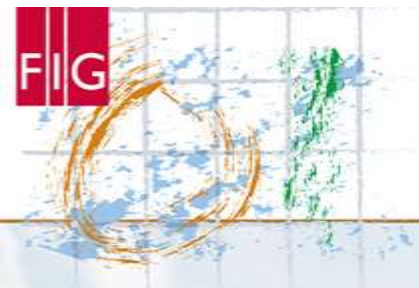


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UN Resolution on GGRF

UN General Assembly urges the sharing of geospatial data to benefit People and Planet

- To ensure development and sustainability of the GGRF
- To enhance global and multilateral cooperation
- To provide technical and knowledge-based assistance for developing countries in need
- To promote open sharing of geodetic data, standards and conventions
- To commit the Member States to improving and maintaining geodetic infrastructure (out of currently used “best-effort” maintenance of geodetic infrastructure)
- To develop outreach programmes



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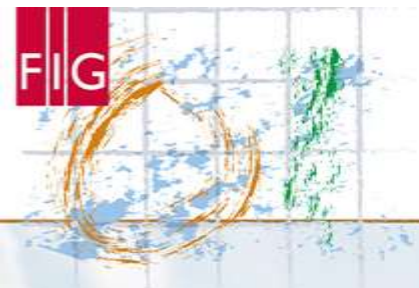


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GGRF – Global collaboration

- Global geodesy is dependent on **contributions from nations all around the globe**
- **No single country can maintain the global geodetic reference frame alone**
- We aim to change from the current system where contributions to the development of the global geodetic reference frame are undertaken on a "best efforts" basis to one where they are made through a **multilateral collaboration under a UN mandate**



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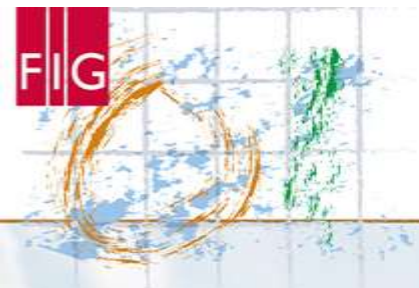


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GGRF: from a working group to a sub-committee on geodesy

- At the UN-GGIM sixth session in New York in August 2016, the UN-GGIM endorsed the GGRF Roadmap and decided to establish a permanent sub-committee on geodesy.
- The GGRF roadmap addresses each of the key areas of action described in the UN General Assembly resolution.



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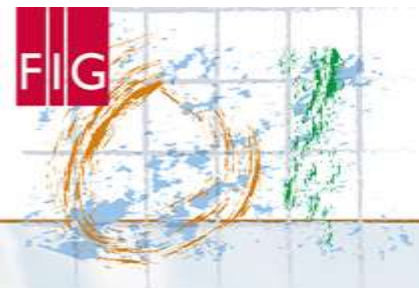


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GGRF Roadmap and implementation plan

- **Data sharing:** Development of geodetic standards and open geodetic data sharing.
- **Education and capacity building:** geodetic skills and educational programs
- **Geodetic infrastructure:** A more homogeneous distribution of geodetic infrastructure
- **Communication and outreach:** enable GGRF to be more visible to society
- **Governance:** improved governance structure



Implementation plan under development. Focus groups: Geodetic Infrastructure; Policies; Standards and Conventions; Education; Training and Capacity building; Outreach and Communication; Governance



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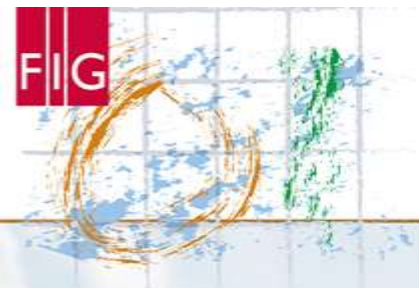


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Global Geodetic Reference Frame for Sustainable Development – the European Contribution: “GRF-Europe”

Why: GGRF covers topic globally but cannot act detailed enough on regional level. Continental/regional group is needed. Current georeferencing-related organizations in Europe either do not have political or economical power or they are not expert organizations in Geodetic Reference Frames.

Basic principle: No new layer or entity is needed but we need an interface and expert group between different actors in the field and the UN-GGIM: Europe



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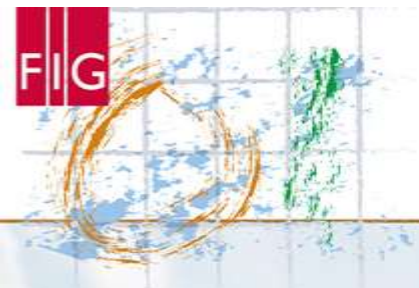


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Goals

- GRF-Europe will be working as a geodesy 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 sub-committee on Geodesy.
- GRF-Europe will provide a link between the geospatial community, scientists and policy makers.
- 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.
- A close co-operation with EUREF and other organisations, research institutes and National mapping authorities



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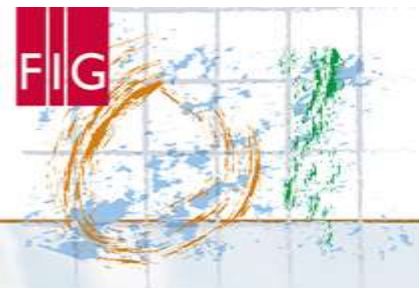


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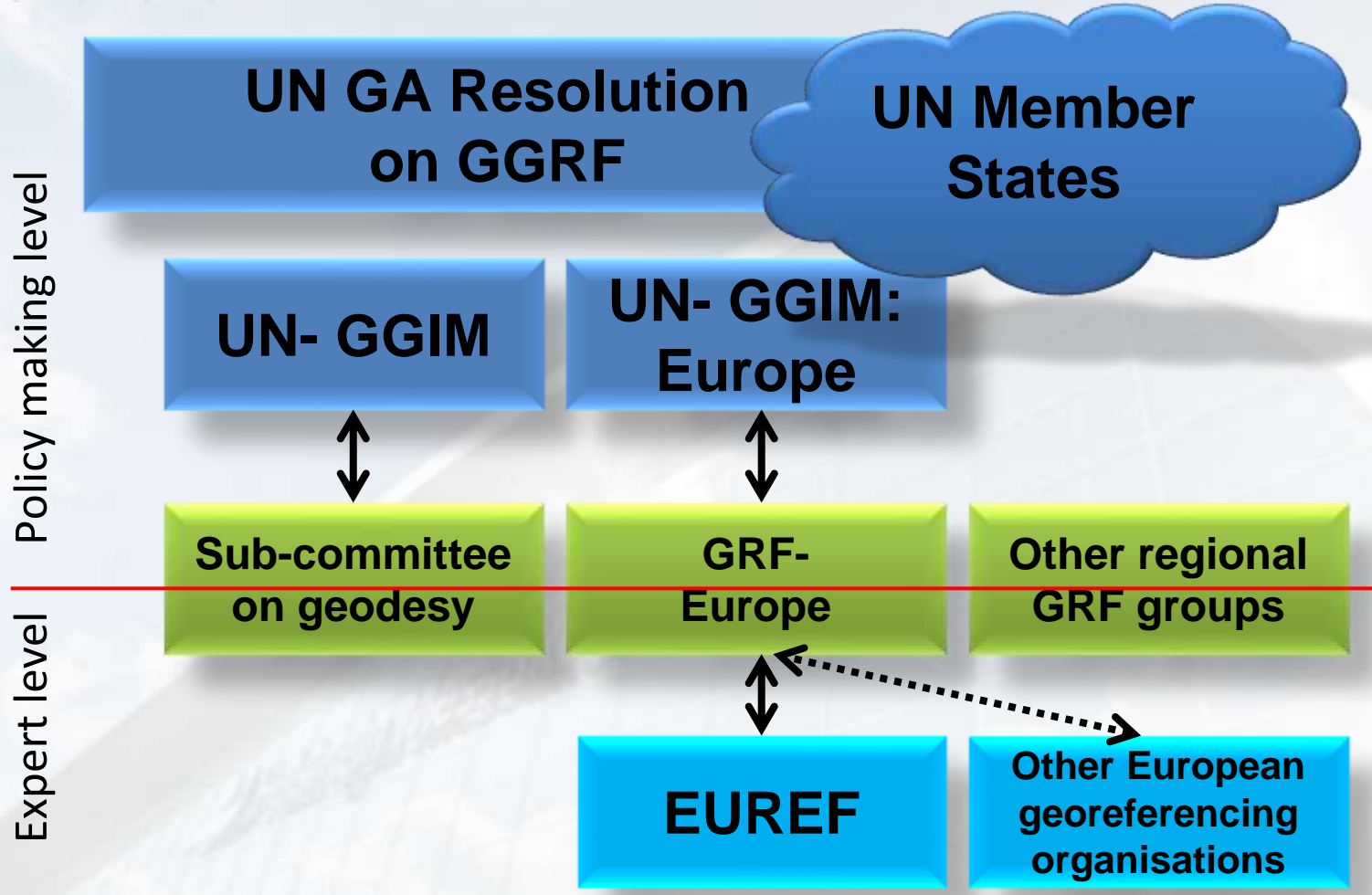
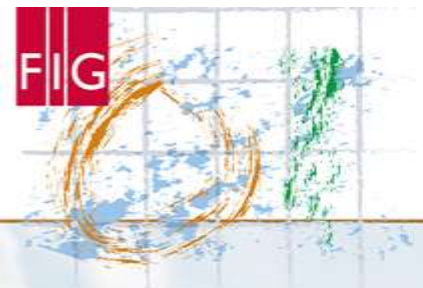
Objectives

- 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 geo-referencing tasks
- Support and foster geodetic capacity building within Europe when improving and maintaining appropriate national geodetic infrastructure



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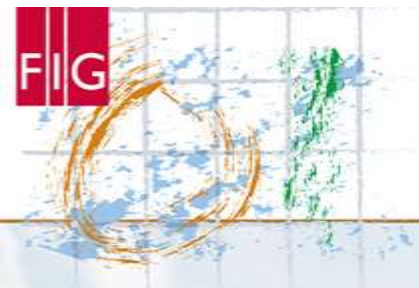


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Geodesy and georeferencing related organizations in Europe

- **EUREF**
- EuroGeographics
- EUPOS
- International Federation of Surveyors (FIG)
- Council of European Geodetic Surveyors (CLGE)
- European Plate Observing System (EPOS)
- Local or sub-regional entities, like the Nordic Geodetic Commission
 - EUREF is the provider of data and reference frames, it defines and maintains coordinate reference systems, deliver products,...
 - Others are mostly customers and users, not prominently providers



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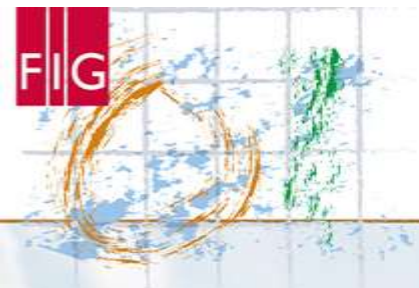


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EUREF – IAG Subcommittee for Reference Frames in Europe

- Definition, realization and maintenance of the European Reference Frame, height system and gravity
- Promotes the adoption of the reference systems in Europe (ETRS89, EVRS)
- Coordinates the geodetic infrastructure and analysis to maintain reference frames
- A part of global reference networks, and contributes to the IAG services
- The key infrastructure: EPN EUREF Permanent GNSS Network; voluntary federation of over 100 self-funding agencies, universities, and research institutions in more than 30 European countries with more than 200 GNSS permanent stations



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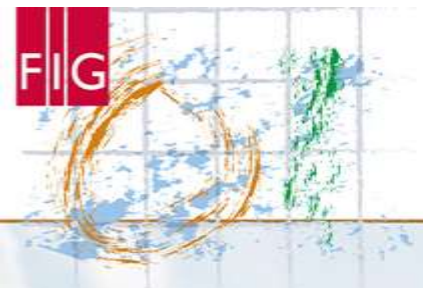


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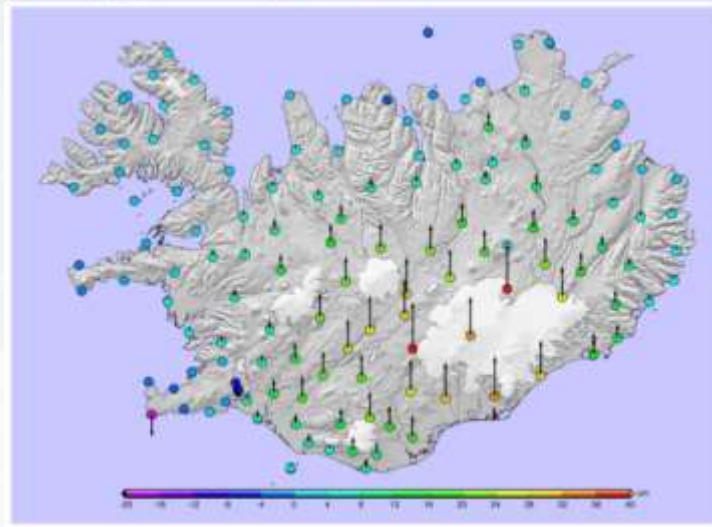
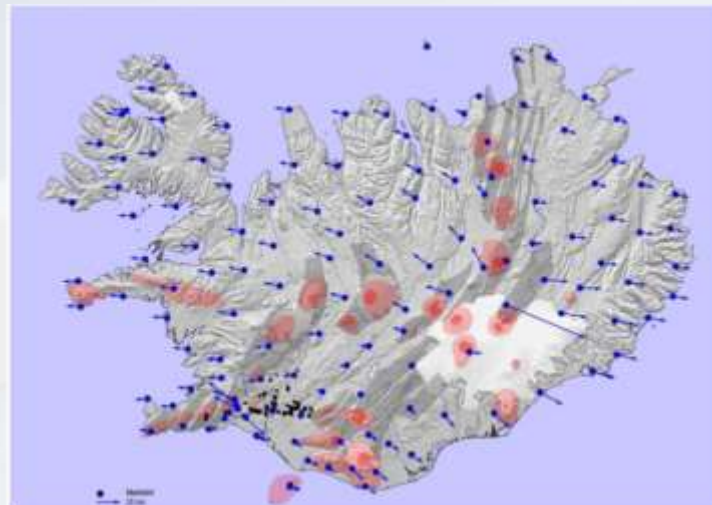
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Case Iceland

- Directors of Nordic Mapping Authorities asked the Nordic Geodetic Commission (NKG) to study a possibility to create a dynamic reference frame for Iceland
- Large crustal movements, traditional reference frames do not fulfil requirements and needs of modern positioning
- Started April 2017 with planning a pilot project in Iceland as a Nordic co-op.
- Fulfills UN resolution request
- Example of needs of a regional GRF



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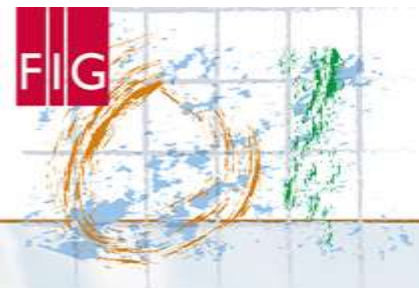


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Task Force GRF, current members

Markku Poutanen, Chair	FI	(EUREF, NKG, GGRF)	Liasion to major georeferencing related organizations (IAG, EUREF, EUPOS, FIG)
Zuheir Altamimi	F	(IAG, EUREF, GGRF)	
Halfdan Pascal Kierulf	N	(NMA/RI)	
Mikael Lilje	S	(FIG, NKG, GGRF)	
Laila Løvhøiden	N	(GGRF)	NMA/RI = National Mapping Authority or Research Institute
Dimitrios Mastoris	GR	(NMA/RI)	
Gianniu Mixalis	GR	(NMA/RI)	
Jaroslav Šimek	Cz	(EUPOS)	NKG = Nordic Geodetic Commission
Wolfgang Söhne	D	(EUREF)	
Adrian Wiget	CH	(NMA/RI)	

First meeting (telecon) planned for June 2017



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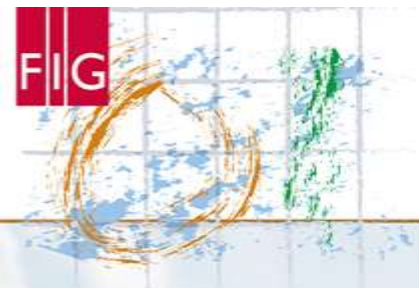


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Actions

- ✓ A short status report and position paper has been delivered (done)
- ✓ Invitation to organisations, research institutes, NMAs or individual researchers interested in to participate the work of GRF-Europe (done)
- ✓ To define the structure and governance of the GRF-Europe (prepared)

Based on progress in UN GGRF implementation plan:

- Creating a more detailed working plan to identify the specific needs
- To find the ways to do the work without duplicating existing structures or repeating the work already done, filling the gaps and identifying the existing structures or entities which can be used for GRF-Europe

Contributions are welcome; contact markku.poutanen@nls.fi



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