

# Enhancing EUREF

***EUREF TWG Meeting, March 5-6, 2007  
Lisbon***

# Motivation

- **EUREF's main pillars are well established, but does that hold for the next five or ten years?**
- **A number of topics are under discussion. However, focus and appropriate strategy for the future is not always visible today.**
- **Is there a contradiction between our brave EUREF way of handling European geodetic topics and the ideology of the global IAG strategy as visible in**
  - **GGOS, the European EPIGGOS, the EU-funded project GAGOS,**
  - **The European program GMES for the global System of Systems GEOS?**

# Scope

**Independently from EUREF, starting in the second half of 2006 in the IGS there has been kicked off a discussion about self-conception and future work. Within two IGS documents one may find a number of keywords which can be adopted for EUREF as well:**

- **“serve as the premier source of the highest-quality GNSS data and products”**
- **“promote the value and benefits (...) to society, the broader scientific community and in particular to policy makers and funding entities”**
- **“facilitate the integration (...) into more broadly based (...) systems”**
- **promote; expand outreach**
- **understand user needs**
- **recognition – political, scientific, academic**
- **addition of products, tools, applications (“tsunami, global warming, space weather, weather forecasting, timing products etc.”)**
- **“raise profile“, “raise (...) visibility“**
- **“develop a plan to promote the value of (...) as a primary source of high-precision GNSS information”**
- **“implement the plan through personal visits, newsletters, annual reports, e-mails, educational forums, and workshops”**
- **“attract leading-edge expertise”**
- **“motivating participants with exiting new projects”**
- **“expand beyond scientists – economists, lobbyists, open source representatives”**
- **“broader global participation”**

**With these general considerations in mind, the scope of such a discussion paper should, at least, comprise three main topics:**

- **Policy**
- **EUREF modernization in a general sense**
- **EUREF modernization in a technical sense**

# 1. Integration of space techniques and gravity (GNSS/Height/Gravity)

***Key question: Should EUREF be enhanced by gravity matters as a necessary supplement to the vertical?***

**Motivation (requests, technological developments):**

- Importance of gravity for the monitoring of global change processes
- Increasing number of worldwide AG observations
- Growing importance of the gravity field for a better understanding of the complex system
- Use of gravity field products in other geosciences
- Combination of terrestrial observations with satellite gravity field missions CHAMP, GRACE, GOCE
- Detection of periodic mass changes
- Increase accuracy of terrestrial gravity observations
- Absolute gravity measurements (AG), few  $\mu\text{Gal}$ -level
- High sensitivity in time-dependent observations (SG), sub- $\mu\text{Gal}$  level

# Discussion Items

- **Should gravity aspects (AG, SG) be integrated in EUREF and, if yes, how to integrate gravity into EUREF (e.g. data base)?**
- **Who are the responsible groups in the gravimetric community which should be involved?**
- **Which upcoming topics can be covered by ECGN?**
- **If EUREF is not able to cover gravity aspect (GGM, EGM, SGM, satellite altimetry), than it may be worthwhile to create an IAG Sub-Commission for gravity field determinations (not a projects like EGGP)**