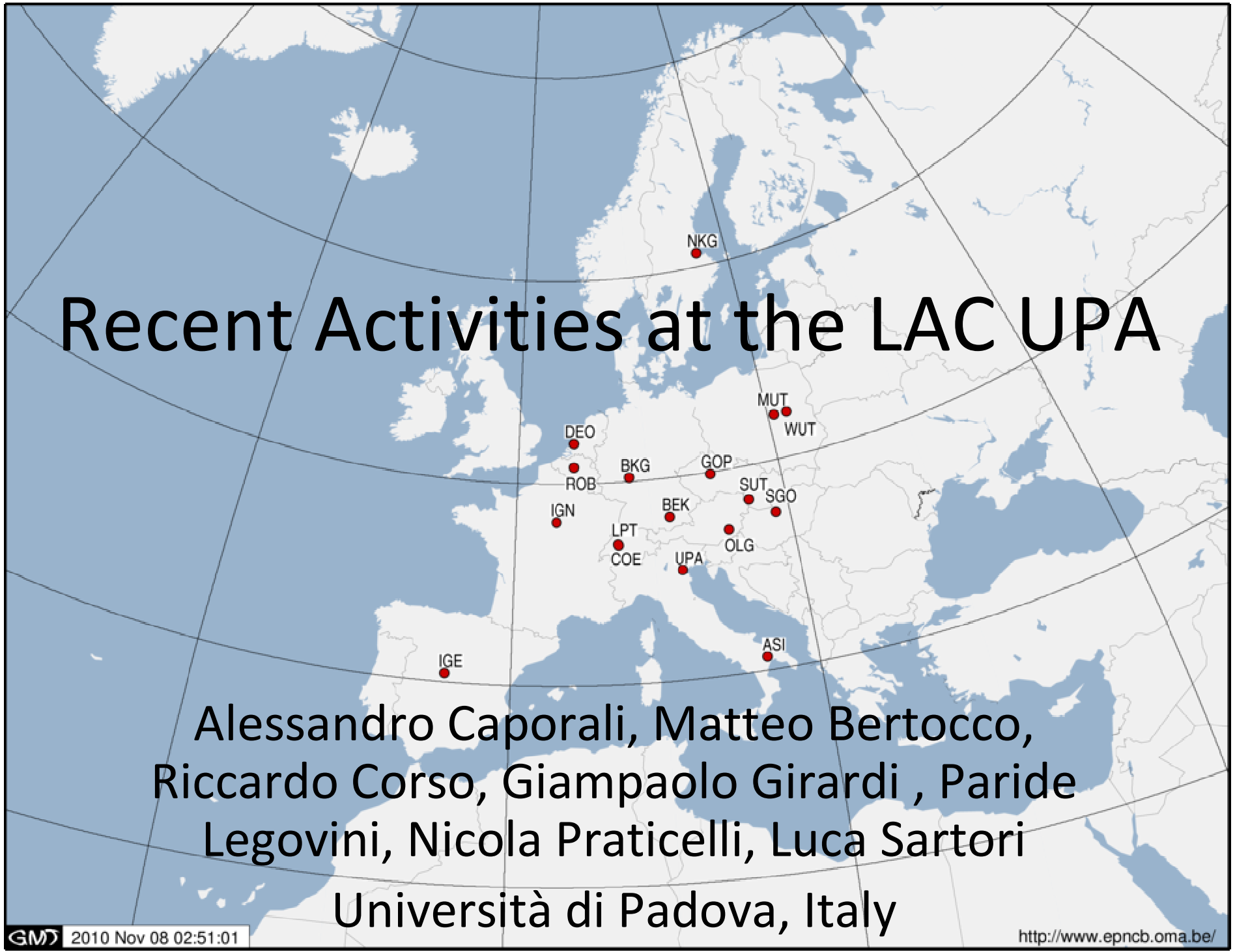


Recent Activities at the LAC UPA

Alessandro Caporali, Matteo Bertocco, Riccardo Corso, Giampaolo Girardi , Paride Legovini, Nicola Praticelli, Luca Sartori

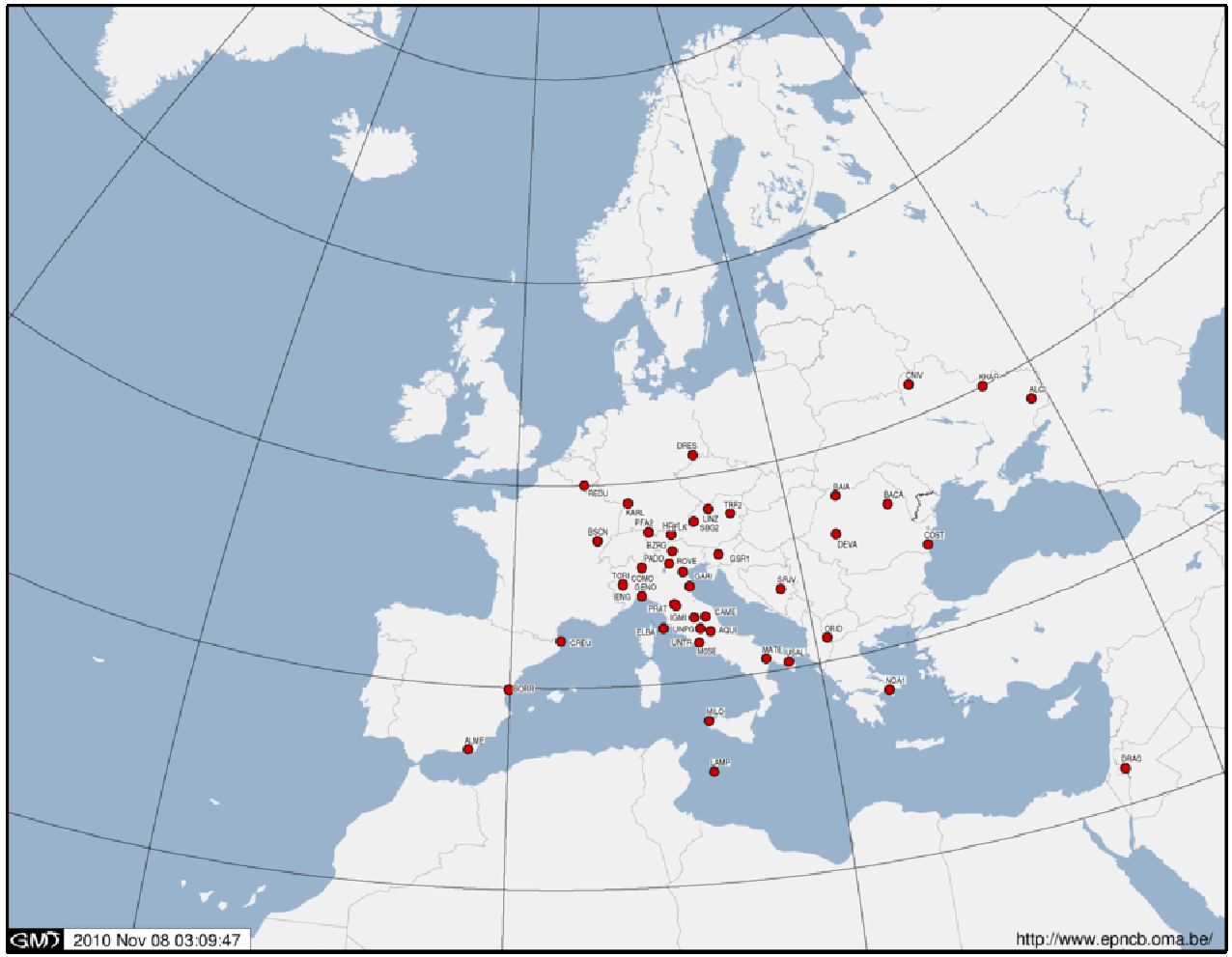
Università di Padova, Italy

Outlook

- Subnetwork activity
  - Subnetwork
  - SW
  - solutions
  - reprocessing
- National realization of ETRS89
- National Network maintenance and Geophysical application
- Proposed Cost Action

Subnetwork activity

- UPA LAC active since week 0995 (Jan 31., 1999)
- Present subnetwork 45 stations, BSW 5.0
- October 2010: moved from Windows to Linux
- Added: daily processing with IGS rapid orbits (to be submitted to BKG)
- Reprocessing of 2006: 45 + 8 (now inactive) stations considered

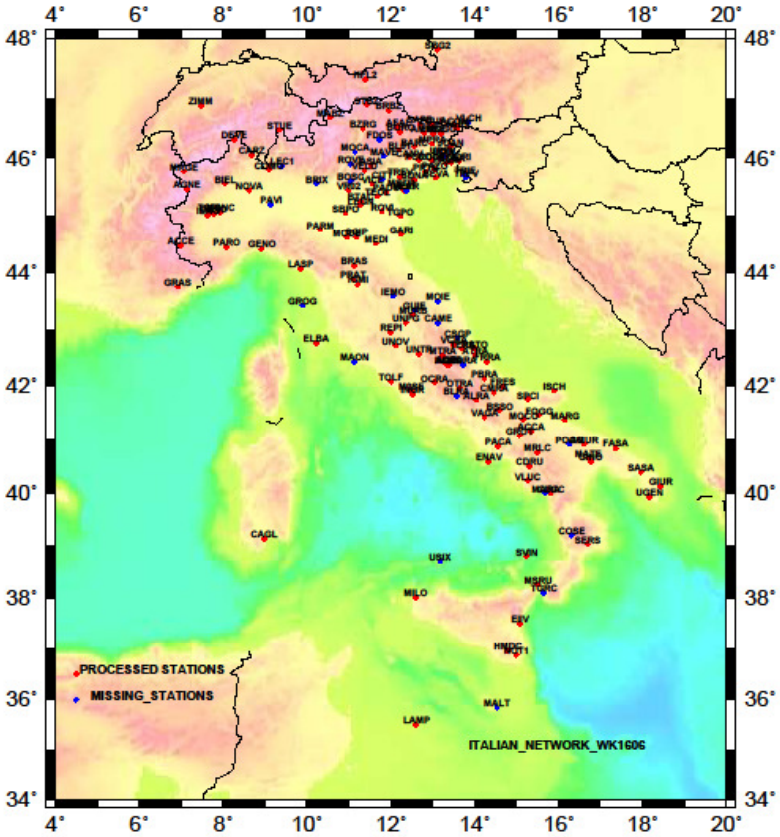


Support to the national NMA IGMI for the RDN realization of ETRS89 (ETRF2000 at 2008.0)

- total of 99 stations processed for 4 weeks centered at 2008.0
- BSW50, EPN Processing Standards
- Approved as ETRS89 ETRF2000 national network at the 2009 EUREF Symposium .

Weekly maintenance dense regional network

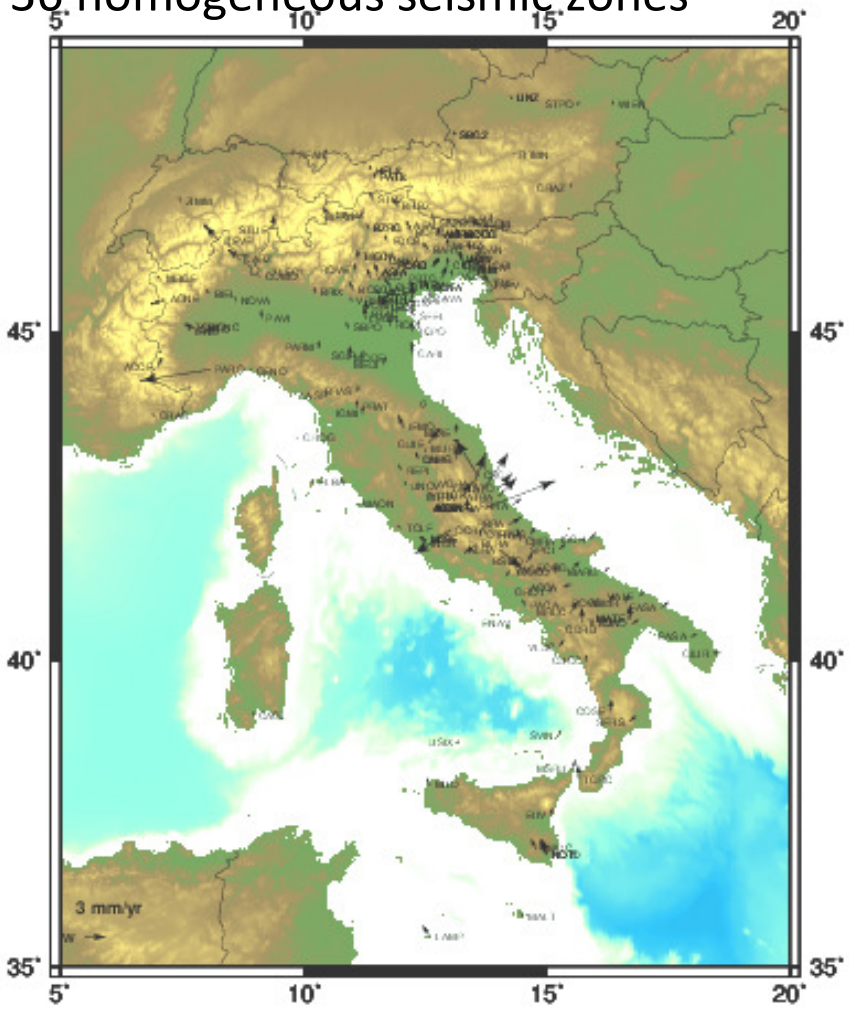
- 135 permanent stations processed weekly
- BSW50, EPN processing standards
- Weekly bullettin, updated coordinates in ITRF2005, ETRF2000
- XYZ, lat long h, UTM (32,33,34) supported
- EGG08 geoid N, ξ,η , convergence of meridian, scale factor
- INSPIRE

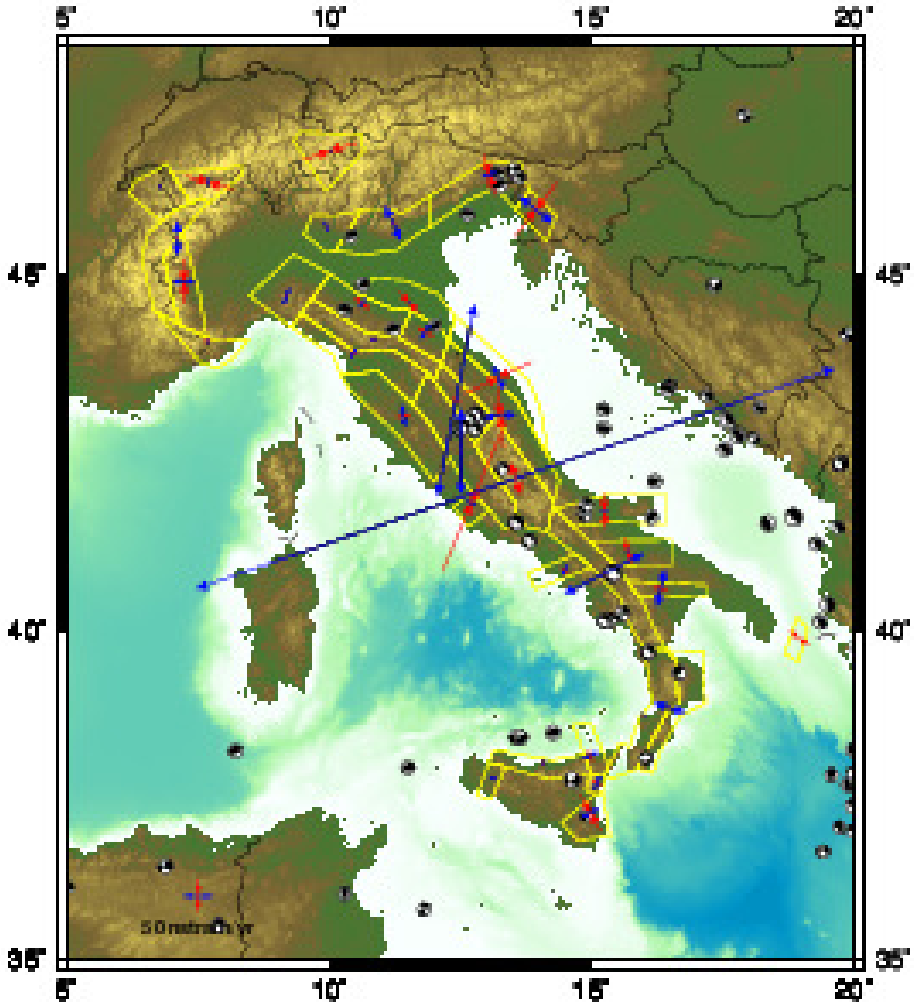


Velocities, Horizontal deformation

• Velocities from NEQ stacking, ITRF2005 constraints, reduced for ETRF2000 Eurasian pole

•Strain rate computed by LSQ collocation, d_0=50 km, interpolated at the center of 36 homogeneous seismic zones





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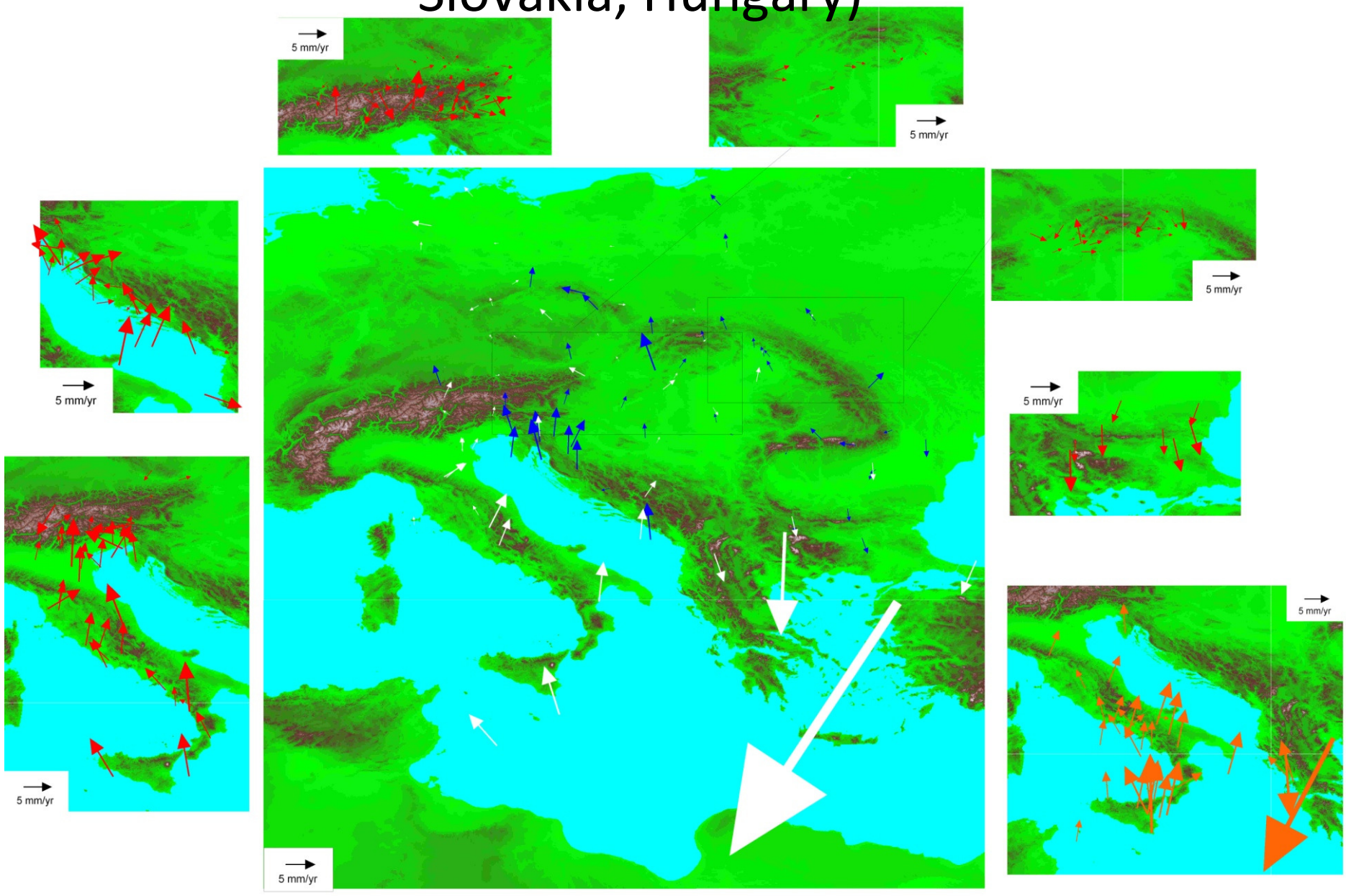
Combination of multiyear SINEX files in XV space: Central Europe (CEGRN,EPN,Italy, Crodyn,Austria, Slovakia, Hungary)



Proposed COST Action
TEGO – Towards an European GNSS Observatory

- Rationale
  - Request from the geophysical/geodynamical community to know in detail the 3D velocities in Europe and surroundings
  - PBO in the US is an important example
  - Several independent and overlapping solutions exist (EPN, CEGRN, national solutions), yet they have not been combined into one
  - Combination could lead the way to widespread introduction and maintenance of ETRS89 in several countries (INSPIRE directive)

COST

- COST Action: 4 year program intended to support meetings among people addressing the same scientific topic; it does not support the research itself
- COST initiatives in the GNSS field:
  - 716 Exploitation of Ground-based GPS for Climate and Numerical Weather Prediction Applications (End date: March 2004)
  - ES0701 Improved Constraints on Models of Glacial Isostatic Adjustment (End Date: April 2012)
- A new action must be proposed by 5 to 10 different COST countries, at specific deadlines

TEGO objectives

- Coordinate the action of European Research Groups in space geodesy in view of a single sustainable, permanent observational infrastructure
- Promote discussion on options of computation of precise coordinates and velocities of permanent GNSS stations, using GPS and GLONASS data
- Coordinate the smooth integration of the forthcoming European Galileo GNSS and its products for geodynamics and reference frame applications
- Define optimal strategies of combination for all available GNSS data and solution types of continuous or epoch sites
- Identify ways to integrate the geodetic monitoring networks into geophysical monitoring networks (e.g. seismic networks), local observatories (e.g. volcano observatories) and experimental laboratories in Europe and adjacent regions and the cooperation with EPOS.
- Contribute to lay out a road map towards an e-infrastructure capable to provide open access to distributed geodetic data and modelling tools,enabling a step change in multidisciplinary scientific research into natural hazards and environmental change
- Establish the international framework and cooperation with US (UNAVCO), African and Asian initiatives
- Promote cross-disciplinary approaches to challenging scientific and technological GMES issues through links with other space borne missions (e.g. InSAR GOCE) and concepts (e.g. ECGN, GGOS).

List of proponents

Participants interested in network (max 10, from up to 10 different COST Countries:

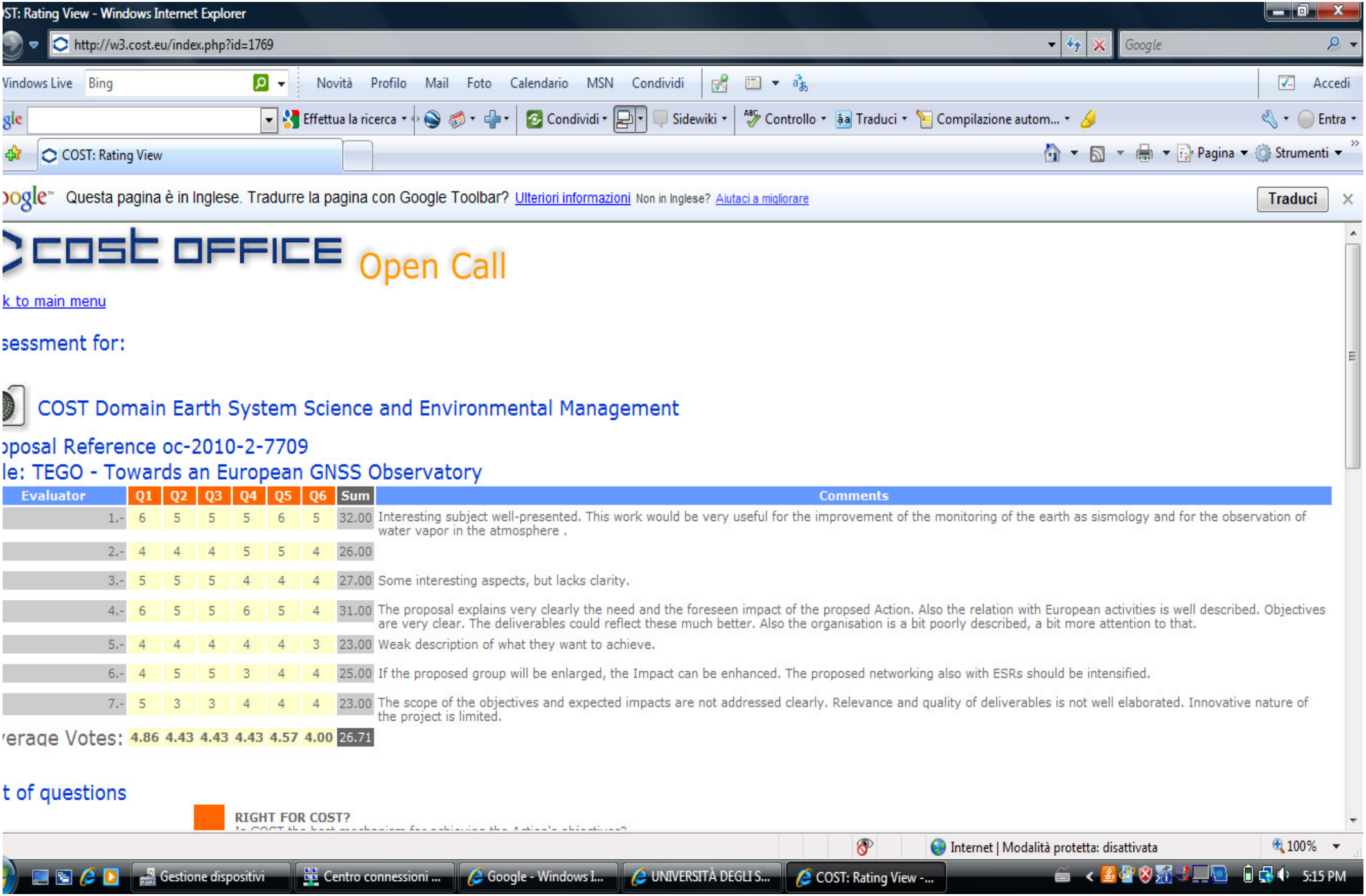
1-. Zuheir Altamimi, Institut Geographique Nationale IGN , FR
2-. Luisa Bastos, University of Porto, PT
3-. Matthias Becker, TU Darmstadt, DE
4-. Richard M. Bingley, University of Nottingham, UK
5-. Carine Bruyninx, Royal Belgian Observatory, BE
6-. Alessandro Caporali, University of Padova, IT
7-. Tonie van Dam, University of Luxembourg, LU
8-. Ambrus Kenyeres, FOMI Satellite Geodetic Observatory, HU
9-. Markku Poutanen, Finnish Geodetic Institute, FI
10-. Guenter Stangl, Austrian Academy of Sciences, AT

Tentative list of TEGO Study Groups

- SG1: Combination of network solutions
- SG2: Standardization of data and processing centers
- SG3: Quality criteria and coordination of permanent GNSS station deployment
- SG4: Integration of the Dense Velocity Field into the Global Velocity Field
- SG5: Liaison/Interface to EPOS, Topoeurope and other EU and global programs

Assessment criteria

- 1. right for COST?
- 2. Public Utility/Science
- 3. Innovation
- 4. Impact
- 5. Networking
- 6. Parameters


ST: Rating View - Windows Internet Explorer
http://w3.cost.eu/index.php?id=1769
Google
Windows Live
Bing
Novità
Profilo
Mail
Foto
Calendario
MSN
Condividi
Accedi
Effettua la ricerca
Condividi
Sidewiki
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Ulteriori informazioni
Non in Inglese?
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COST Domain Earth System Science and Environmental Management
oposal Reference oc-2010-2-7709
le: TEGO - Towards an European GNSS Observatory
Evaluator
Q1
Q2
Q3
Q4
Q5
Q6
Sum
Comments
1.- 6 5 5 5 6 5 32.00 Interesting subject well-presented. This work would be very useful for the improvement of the monitoring of the earth as sismology and for the observation of water vapor in the atmosphere .
2.- 4 4 4 5 5 4 26.00
3.- 5 5 5 4 4 4 27.00 Some interesting aspects, but lacks clarity.
4.- 6 5 5 6 5 4 31.00 The proposal explains very clearly the need and the foreseen impact of the propsed Action. Also the relation with European activities is well described. Objectives are very clear. The deliverables could reflect these much better. Also the organisation is a bit poorly described, a bit more attention to that.
5.- 4 4 4 4 4 3 23.00 Weak description of what they want to achieve.
6.- 4 5 5 3 4 4 25.00 If the proposed group will be enlarged, the Impact can be enhanced. The proposed networking also with ESRs should be intensified.
7.- 5 3 3 4 4 4 23.00 The scope of the objectives and expected impacts are not addressed clearly. Relevance and quality of deliverables is not well elaborated. Innovative nature of the project is limited.
verage Votes: 4.86 4.43 4.43 4.43 4.57 4.00 26.71
t of questions
RIGHT FOR COST?
Internet | Modalità protetta: disattivata
100%
Gestione dispositivi
Centro connessioni ...
Google - Windows I...
UNIVERSITÀ DEGLI S...
COST: Rating View -...
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Next deadline

- March 25, 2011

What happens if the full proposal is approved

- MoU + Technical Annex (background, objectives and benefits, scientific programme, organisation and timetable, economic dimension and dissemination plan) to be signed by at least 5 COST Countries and by CSO (COST Committee of Senior Officials)
- The MoU remains open for 12 months for acceptance to any COST member Country
- The new Action can start