CERGOP-2/Environment
Summary of the third Year
The official end of the project 31.3.2006
but
Prolongation of 4 months until 31.7.2006

P. Pesec (Austria), coordinator and
M. Becker (Germany), F. Vespe, A. Caporali (Italy), G. Milev (Bulgaria), J. Simek (Czech Republic), I. Fejes (Hungary), J. Sledzinski (Poland), T. Rus (Romania), M. Mojzes (Slovakia), F. Vodopivec (Slovenia), D. Medak (Croatia), F. Zablozkyj (Ukraine), M. Mulic (Bosnia/Herzegovina)
General Statements

5th FP of EU: Environment and sustainable development

The proposal was based on the results and experience of CERGOP-1 (1993 – 1999)

Confirmed duration of the project: April 1, 03 – July 31, 06.
Partners: 14 from 13 European countries
Total costs for the project: € 2,748,423
Maximal EU contribution: € 2,045,319

Arrived by now: € 990,464
Advance payment: € 818,749
April 2005/November 2005: € 150,000/€ 21,715

Problems: Cost statements were not accepted for all partners
Durable equipment (Depreciation)
The Scientific Task

Problems to be solved:
- Maintenance and update of the monitoring network CEGRN
- Guarantee of long term stability and operation (at least one decade); Data holding.
- Moving towards real-time (hourly files, 1-sec sample rate, real-time communication)
- Establishment of a timely changing velocity field for the complete project area and some dedicated regions
- Geodynamics in CEI countries

Objectives and approach:
- Creation of new permanent station facilities
- Precise site monitoring
- Computation of weekly co-ordinates (time series)
- Periodic re-measurements of CEGRN and local networks
- Interpretation of the results (velocity/stress field, geodynamic)
- Meteorology, hazard mitigation, local assessments
- Monographs (up to 8 editions)
Work Packages – An Overview

The work packages are the basic content of the project. Their success should guarantee an optimal termination of the project and the definition of an implementation plan.

In order to give each partner a considerable part of responsibility each partner (except Bosnia) is a responsible leader of a work-package.

We defined 10 work-packages, work-package 10 is extended to sub-packages 10.1 to 10.7.

The performance of these work packages is supported by the special study groups CSG-1 to CSG-6, which have a nearly congruent task, and will be re-installed after project end.

Half yearly reports as well as regular meetings of CERGOP-2 and/or the consortium acted as a means to adjust the work in the work packages, which are partly highly correlated.
Deliverables

The deliverables are arranged in 3 categories:

Category 1: “immediately and permanently available”
  e.g.: information system, raw/met data, station coordinates, zenith delays, RTK corrections, hazard indicators (may be in the next Project)

Category 2: “periodic delivery by date”
  e.g.: data from epoch stations, station velocities, quality assessments, time series analysis, reference frame, geophysical interpretations, geo-kinematical maps and strain analysis

Category 3: “final product delivered once”
  e.g.: station prototype, tools for site monitoring, models for height determination, long term observation facility, monographs
Present status based on:

Proceedings of the EGU G9 Symposium “Geodetic and geodynamic programmes of the CEI; 25-30 April 2005, Vienna; Reports on Geodesy, Warsaw University of Technology, No. 2 (73), 2005

Proceedings of the CERGOP-2/Environment Semi-annual Conference; 11-12 November 2005, Sarajevo, BiH; Reports on Geodesy, Warsaw University of Technology, No. 4 (75), 2005

EGU G6 Symposium “Geodetic and geodynamic programmes of the CEI; 3-7 April 2006, Vienna (to be published)

All WP-leaders/contractors will present a “final” report at the final meeting in Graz, July 13-14, 2006, to be published.
WP-Description

WP-1: Internet based seamless data bank for environmental studies; responsible Günter Stangl, Cornelia Haslinger, Sandro Kruss.
WP-2: Station quality assessment and upgrade; responsible Gabor Virag.
WP-3: Periodic improvement of the reference frame CEGRN; FOMI Budapest and all partners.
WP-4: Creation of new permanent observation facilities in CEI countries; responsible M. Becker et al.
WP-5/7: GPS data analysis and the definition of reference frames/Geokinematical modeling and strain analysis; responsible J. Hefty.
WP-6: Analysis of long term coordinate time series; responsible A. Caporali
WP-8: Impact of atmospheric effects on GPS height determination; responsible J. Simek.
WP-9: GPS-Based rapid service for meteorology and hazard assessment; responsible F. Vespe
Microplates in the Mediterranean region

EUREF-2006, Riga, 14.6. - 17.6.
2006
WP-Description continued:

WP-10: Geodynamics of Central Europe (J. Sledzinski)
WP-10.2: Three dimensional plate kinematics in Romania; T. Rus
WP-10.3: Integration of present geodynamic investigations in the Pannonian basin; Gyula Grenerczy
WP-10.4: International geodynamic test area Plitvice Lakes; D. Medak, B. Pribicevic
WP-10.5: Geodynamics of the Tatra mountains; M. Mojzes
WP-10.6: Geodynamics of the Northern Carpathians; F. Zablotskyj
WP-10.7: Geodynamics of the Balkan peninsula; G. Milev, K. Vassileva
BiH: Report from Bosnia/Herzegovina; M. Mulic

In Vienna: All-together 11 oral presentations and 38 poster presentations
 Movements of Graz, centered to the Eurasian plate

![Graphs showing movements of Graz centered to the Eurasian plate.](image)
Northern movement of Calabria represented by Matera
Works to be done immediately

Cost statements for the third year (plus cost statements for the first and second year for some of the partners)
New cost estimates for the prolongation (if not yet sent)
Decision for a final project meeting (hopefully before end of July 2006).
“Final” work package reports (maximal 4 pages) including the prolongation estimate.
Contributions to implementation plan
Proposals how to continue CERGOP after 2006.
The CEGRN Consortium

- CEGRN sites, monitoring, maintenance, quality assurance, extensions
- The CEGRN’05 campaign (20-25 June 05)
- The CEGRN web site (www.fomi.hu/cegrn)
- CCGB meeting (Sarajevo, November 05)
- New project initiatives
CEGRN site occupation

- **CERGOP 1**
- **CERGOP 2**

**epoch**

- 1994
- 1995
- 1996
- 1997
- 1999
- 2001
- 2003
- 2005

EUREF-2006, Riga, 14.6. - 17.6.
2006
## Extension of CEGRN

### Accepted new sites: 9

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2006
### Extension of CEGRN (cont.)

**New candidate sites: 13**

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EUREF-2006, Riga, 14.6. - 17.6. 2006
The Central European GPS Geodynamic Reference Network (CEGRN)

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2006
Site inspections

Romania, Italy, Slovenia, Hungary: 19 sites

- Checking, complementing site documentations
- Horizont mask photos (using HOPP device)
- Radio frequency spectrum measurements – checking for interference signals, 6 measurements at each site
Sites of interference monitoring

Number of inspected sites: 51

Number of measurement sets: 63

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The outstanding group
1994 – 2005 full 8 epoch participation

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New initiatives

• Socio – economic benefits:

Complementing EUPOS

• Hungary: SUME
• Slovakia: RISO, LOMS
• Etc.

• Participation in GMES
  Monitoring Solid Earth Processes for Environment and Security in Central Europe (MOSES-CE)

• Integration tendencies:
  - technique specific (e.g. GALILEO)
  vs.
  - subject specific (e.g. GMES) approaches
Conclusion

• CERGOP-2 project conclusion in 2006
• CEGRN Consortium activities to be continued
• New projects and initiatives
  - ADRIA, GMES, GEO, GALILEO

Thank you