

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

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F. Vodopivec (Slovenia), D. Medak (Croatia), F. Zablockyj
(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)

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2006



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)

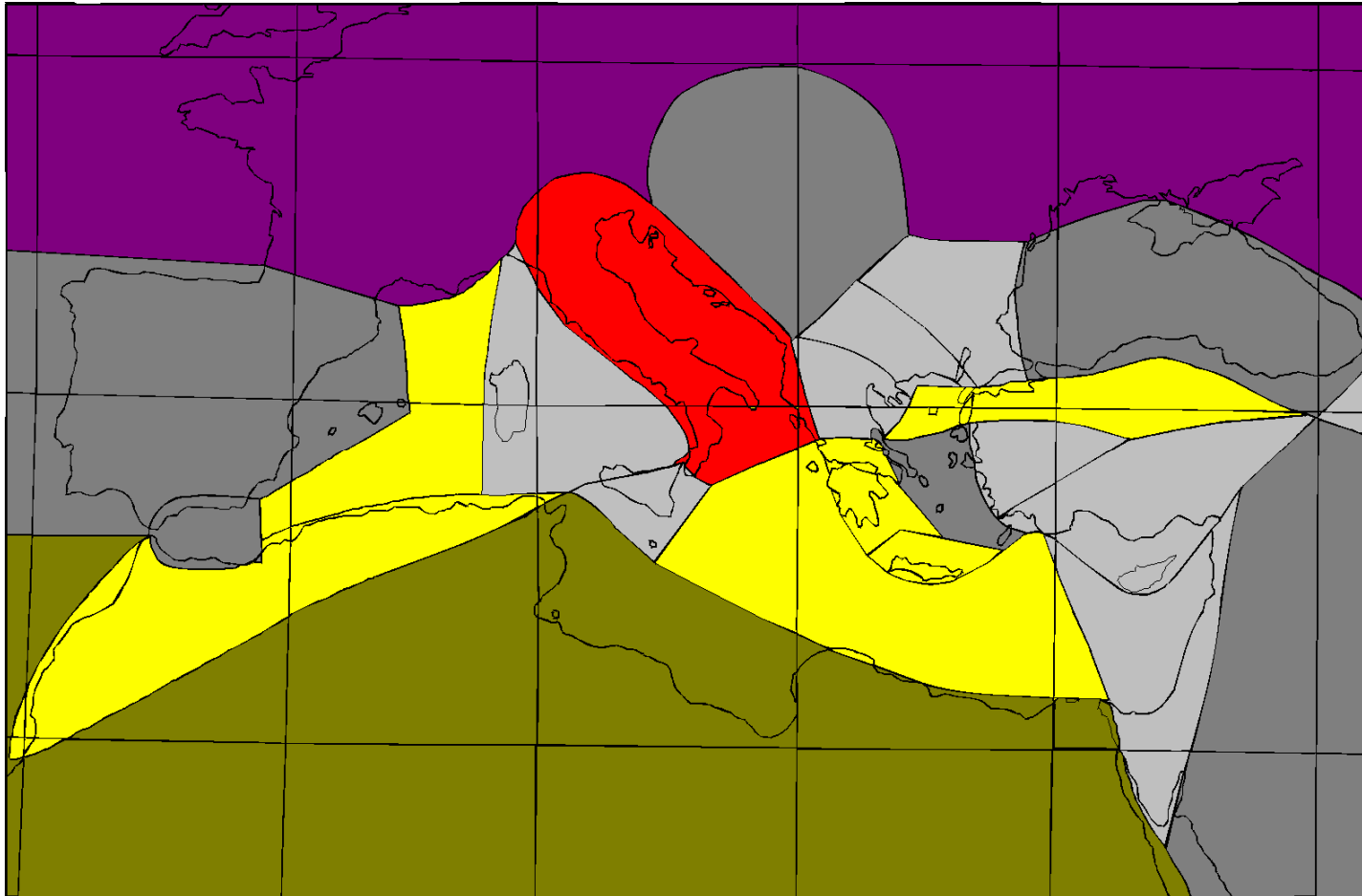
All WP-leaders/contractors will present a “final” report at the final meeting in Graz, July 13-14, 2006, to be published.



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/Geo-kinematical 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



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WP-Description continued:

WP-10: Geodynamics of Central Europe (J. Sledzinski)

WP-10.1: Crustal movements in the Eastern Alps and the Northern Mediterranean; F. Vodopivec, Damir Medak.

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

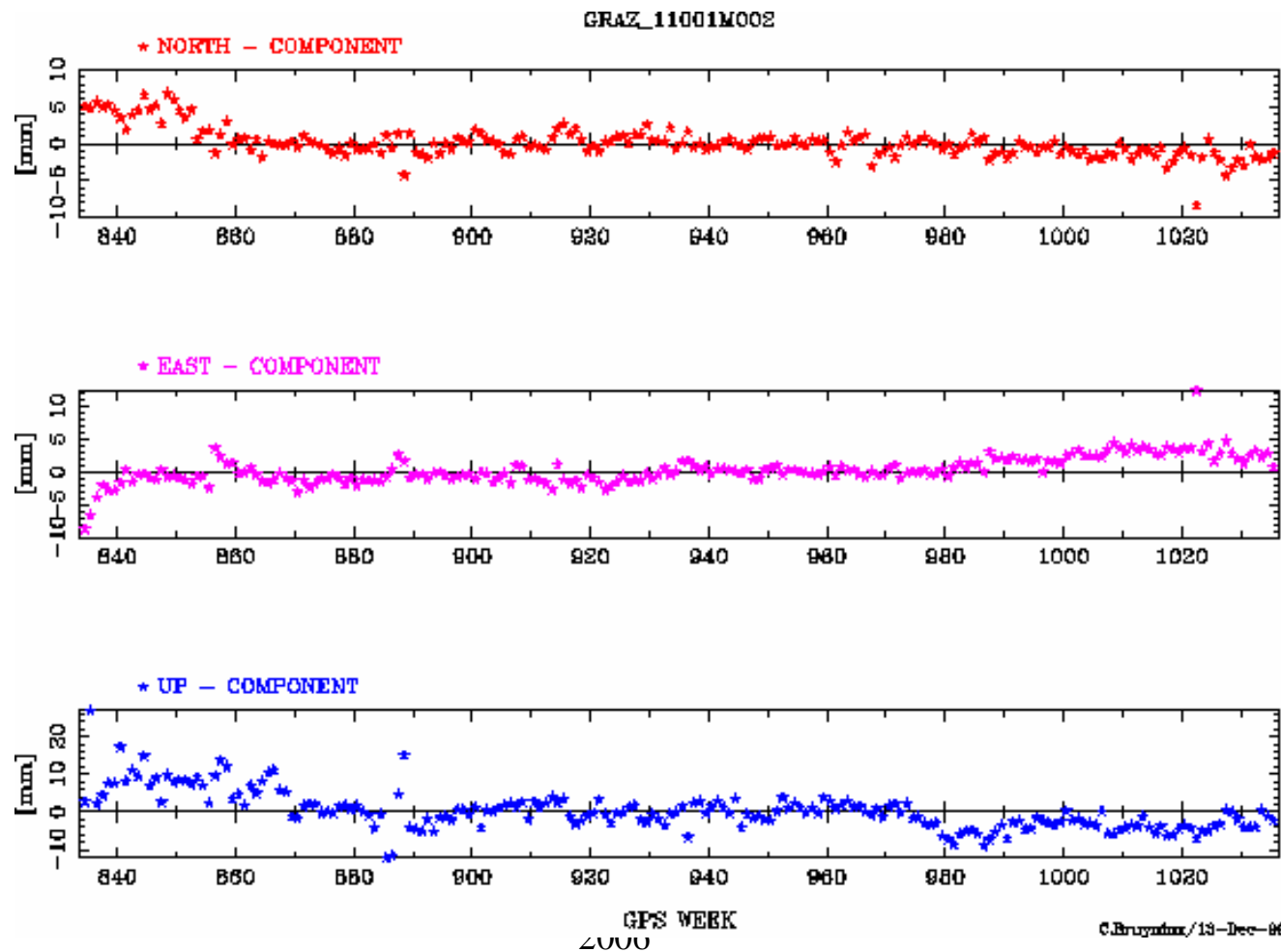
WP-10.6: Geodynamics of the Northern Carpathians; F. Zablotskyj

WP-10.7: Geodynamics of the Balkan peninsula; G. Milev, K. Vassileva

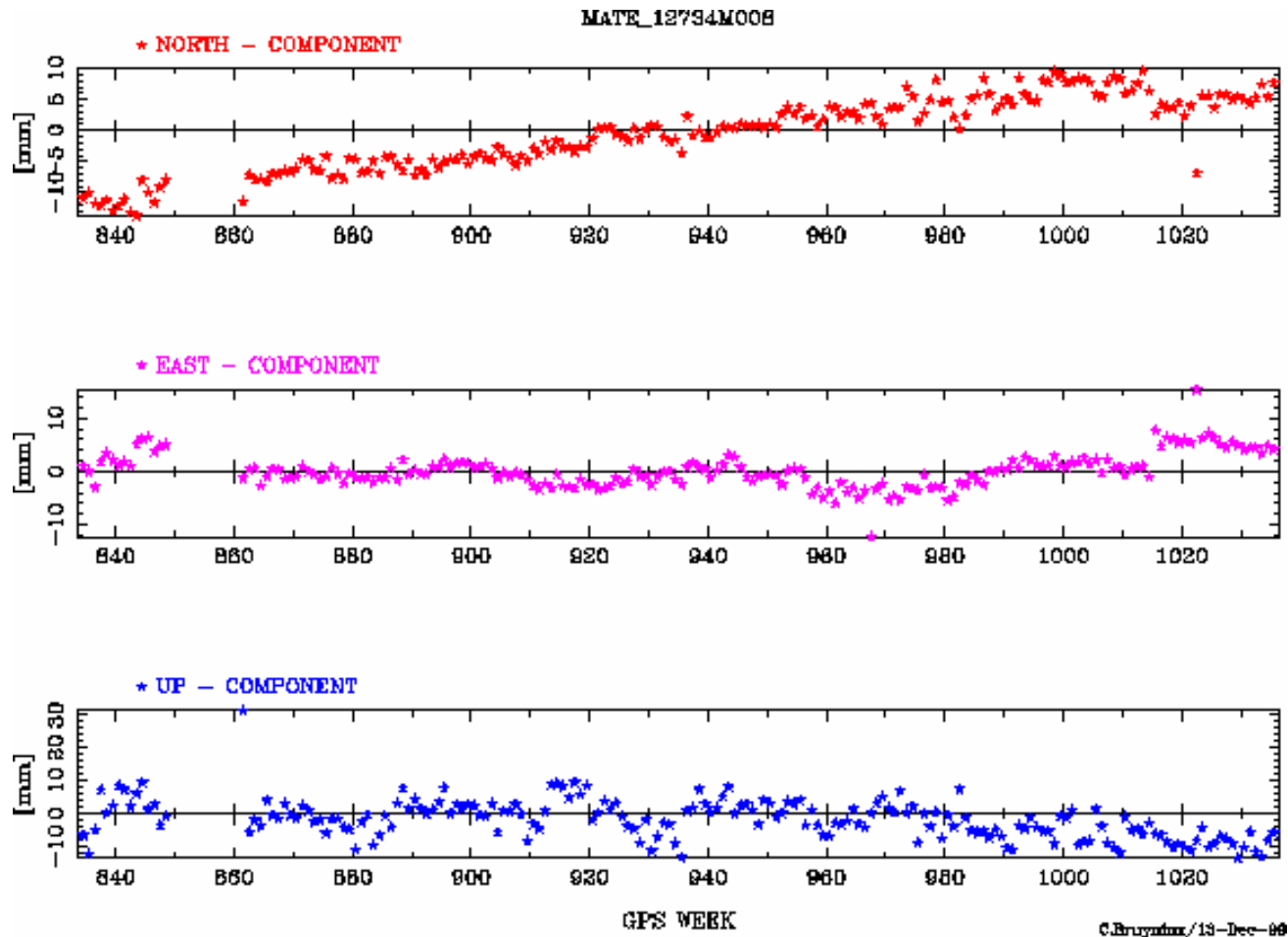
BiH: Report from Bosnia/Herzegovina; M. Mulic

In Vienna: All-together 11 oral presentations and 38 poster presentations

Movements of Graz, centered to the Eurasian plate



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.

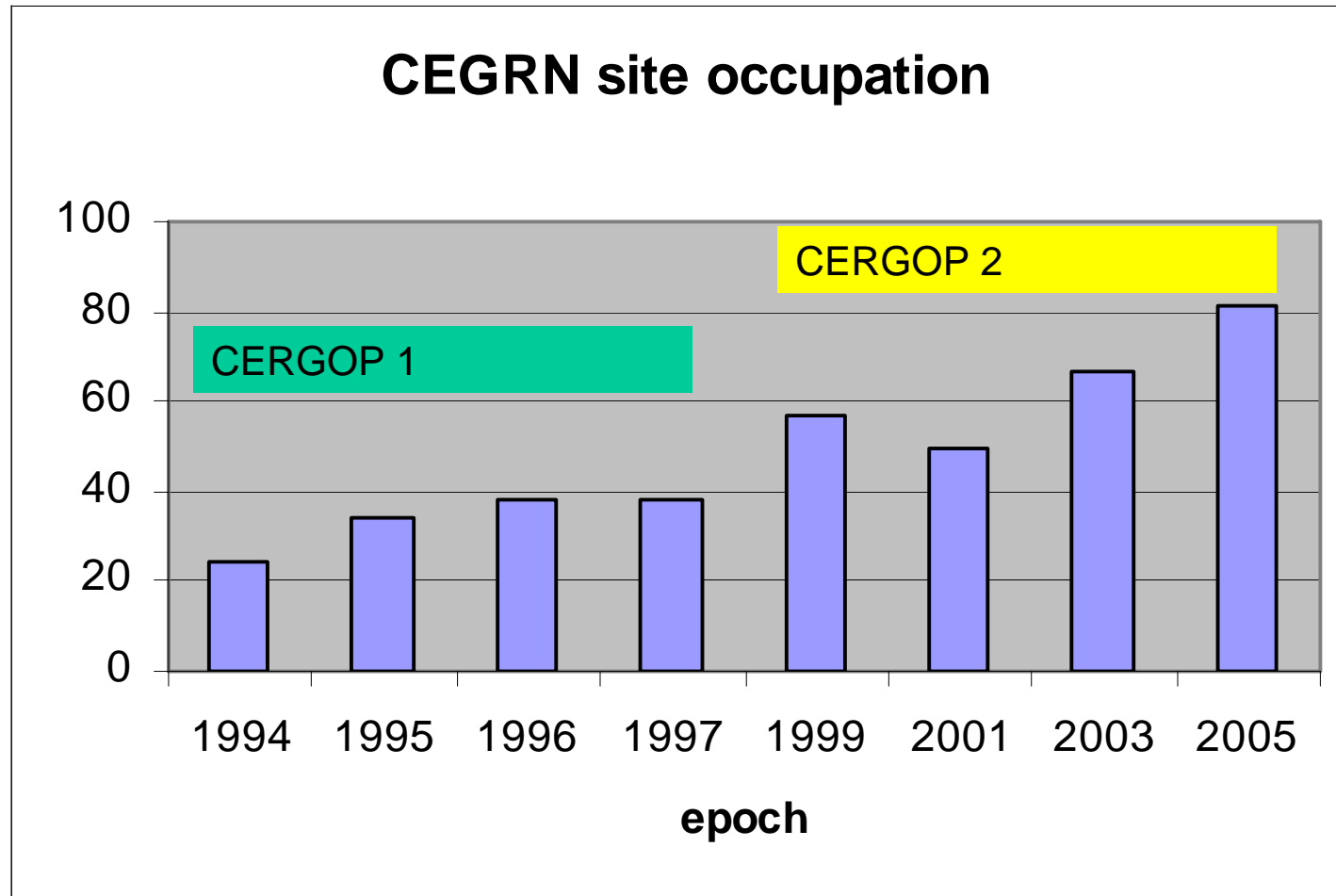
Contributions to implementation plan

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





Extension of CEGRN

Accepted new sites: 9

Trafelberg	TRFB	Austria
Rhozan	RHOZ	Bulgaria
Varna	VARN	Bulgaria
Snezka	SNEC	Czech Rep.
Sümeg	SUME	Hungary
Asiago	ASIA	Italy
Camerino	CAME	Italy
Rovigo	ROVI	Italy
Constanca	COST	Romania



Extension of CEGRN (cont.)

New candidate sites: 13

Craiova	CRAI	Romania
Oradea	ORAD	Romania
Nowy Sacz	SACZ	Poland
Ljig	LJIG	Serbia and Montenegro
Leskovac	LESK	Serbia and Montenegro
Loznica	LOSN	Serbia and Montenegro
Prijepolje	PRIJ	Serbia and Montenegro
Subotica	SUBO	Serbia and montenegro
Lomnický Stit	LOMS	Slovakia
Rimavska Sobota	RISO	Slovakia
Mrzlica	MRZL	Slovenia
Sneznik	SNEZ	Slovenia
Mount Pip Ivan	IVAN	Ukraine

The Central European GPS Geodynamic Reference Network (CEGRN)



- Permanent stations
- ▲ Epoch stations
- Candidate perm. stations
- △ Candidate epoch stations

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Map updated 16 03 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 sites

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

GRAZ	Austria	BOR1	Poland
HUTB/AT01	Austria	GRYB	Poland
BRSK	Croatia	JOZE	Poland
GOPE	Czech Rep.	LAMA	Poland
CSAR	Hungary	SNIE	Poland
DISZ	Hungary	MOPI	Slovakia
PENC	Hungary	SKPL	Slovakia
MATE	Italy	STHO	Slovakia
LJUB	Slovenia	UZHD	Ukraine



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