

**CONCISE PROGRESS REPORT ON THE ACTIVITIES**  
**of the**  
**IAG PERMANENT WORKING GROUP**  
**„GEODYNAMICS OF CENTRAL EUROPE”**

The programme of activities of the IAG Permanent Working Group „*GEODYNAMICS OF CENTRAL EUROPE*” is coincided with very active actions performed by the Section C „Geodesy” of the WG „Science and Technology” of the Central European Initiative. The formal membership list of the IAG WG includes 29 scientists from 12 European countries. The programme of the IAG WG (Plan of Action for 2003-2006) includes the following subjects:

- **Geodetic and geodynamic programmes**
  - **European programmes:**
    - **CERGOP** = Central Europe Regional Geodynamics Project;
    - **CEGRN** = (Central European GPS Reference Network) Consortium,
    - **Post-UNIGRACE** action (Unification of gravity system in Central and Eastern Europe).
  - **Local geodynamic projects**
    - projects realised by the subgroups of the CERGOP Study Group CSG.5 “Geotectonic Analysis of the Region of Central Europe”; they concern the following regions:
      - Eastern Alps and the North and Eastern Adriatic Sea,
      - Romania Plate,
      - Pannonian Basin;
      - Plitvice Lakes, Croatia;
      - Tatra Mountains;
      - Northern Carpathians;
      - Balkan Peninsula.
    - projects realised in bilateral/multilateral agreements of CEI countries, e.g. Czech-Polish-Slovak Cross-Border Studies of Regional Geodynamics (Sudetes, Beskydy, Tatra, Pieniny Mts);
- **Working Group on University Education Standards;**
- **Working Group on Satellite Navigation Systems;**
- **Cooperation CEI Section C “Geodesy”– European Geophysical Society (EGS) / European Geosciences Union (EGU).**

Below you have very brief report on realisation and implementation of the above mentioned Plan of Action.

- 1. Realisation of the Programme of the Central Europe Regional Geodynamics- CERGOP-2/Environment “A Multipurpose and Interdisciplinary Sensor Array for Environmental Research in Central Europe (CERGOP-2/Environment)”.** Programme is supported by the European Commission. Coordinated actions of 13 countries lay particular emphasis on geodynamic research of the regions of Eastern Alps and North and Eastern Adriatic Sea, Romanian Plate, Pannonian Basin of Hungary, Area of Plitvice Lakes of Croatia, Tatra Mountains, Northern Carpathians and Balkan Peninsula as well as organisation of two monitoring satellite GPS campaigns (2003 and 2005) with data processing and calculation of velocity (displacement) vectors and interpretation of long term results of geodetic and geophysical investigations. In total 8 five-day satellite GPS campaigns of the CEGRN (Central European GPS Reference Network) consisting of 65 stations in Europe were organised in 1994-2005. 17 thematic working study groups (workpackages) are acting in realisation of the Project. Remarkable is the continuation of development of the **CEGRN Consortium** of institutes involved in realisation of the Project with the aim to maintain, currently upgrade and develop the CEGRN Network) set up in the frame of the Project CERGOP as well as to perform coordinated monitoring satellite CEGRN campaigns and to organise and maintain the CEGRN (CERGOP) Data Centre and Processing Centres. The Consortium will also be a seedbed of new European projects and initiatives. Two CERGOP working conferences are organised every year.
- 2. Further development of the cross-border cooperation in geodesy and geodynamics.** Local and cross-border geodynamic projects are realised as bilateral/multilateral agreements of CEI countries. In particular, the following geodynamic projects are realised: Czech-Polish Cross-Border Studies of Regional Geodynamics – Project “Sudetes”, Polish-Slovak Project “Geodynamics of Tatra Mts without border” and Project “Pieniny” (Polish-Slovak cooperation). The monitoring satellite GPS campaigns are organised every year

3. **Post-UNIGRACE (Unification of gravity system in Central and Eastern European countries) follow-up action** leading to full implementation of the project “Unification of Gravity System in Central and Eastern European Countries”, consisting in the investigation of the unclear considerable gravity time changes at some main European gravity stations. The Project UNIGRACE itself, supported financially by EC, consisting in establishment of 17 absolute gravimetric stations in 13 European countries forming the frame for unification of gravity system in Central and Eastern Europe, was concluded in 2003. The Plan of Action includes the formulation of the detailed programme of the project. The working conference of post-UNIGRACE action is planned to be organised in Warsaw in 2005.
4. **Activities of the Working Group on University Education Standards** will continue organising the educational seminars and workshops on the topics that will be the most important from practical point of view (satellite DGPS techniques, different geodetic applications of GPS). Every year are organised such seminars and workshops: Ljubljana – 1996, 1997; Grybow, Poland – 1998; Sarajevo – 2000; Lvov – 2001; Trieste – 2002; Sofia – 2003, 2004. The WG will also initiate a close cooperation with the international professional organisation FIG (Federation International de Geometres).
5. **Activities of the Working Group on Satellite Navigation Systems.** The Working Group actions focuses mainly on the application of the system EGNOS for road traffic control. Works are done in cooperation of the Warmia-Mazury University of Poland and the University of Trieste, Italy.
6. **Development of satellite GNSS systems in CEI countries (Project EUPOS – European Position Determination System).** This is a project initiated in 2002 by Germany consisting in establishment of a multifunctional GNSS system of reference stations that could be used for both geodetic point positioning and for land, air and marine navigation. 430 reference stations will be established in 14 Central and Eastern European countries (including 10 CEI countries). The conferences of the Steering Committee of the Project are organised every year (2004 – Sofia, 2005 Prague). Project supported financially by EC.
7. **Cooperation with other scientific organisations – European Geophysical Society (EGS) / European Geosciences Union (EGU).** Cooperation with EGS/EGU results in organisation every year symposia on “Geodetic and geodynamic programmes of the CEI”. They are included to the programme of annual general assemblies of the EGS/EGU: 1997 – Vienna, 1998 – Nice, 1999 – The Hague, 2000-2004 – Nice, 2005 – Vienna. Fifty seven papers discussing mainly geodynamic problems in Central Europe were presented in 2005 at the symposium in Vienna.

## CONCLUSION

CEI WGST Section C “Geodesy” declares further close cooperation with the International Association of Geodesy in any form that would be considered as the most effective. The research and interpretation of recent crustal movements detected by satellite techniques are recognised as most important and urgent action within the mentioned workpackages of the CERGOP-2. The Section C “Geodesy” will provide the velocity vectors (displacement vectors) from the regions of Central Europe covering the area of CEI countries. The results of the CERGOP and other CEI projects will be release for the IAG scientific groups dealing with geodynamic investigations.