

NEW EUROPEAN INITIATIVE OF REGIONAL COOPERATION: EUPOS INTERREG IIC

A. Blaser¹, W. Graszka², G. Rosenthal¹, J. Śledziński³

¹ Senate Department of Urban Development of Berlin, Germany
Division III – Geoinformation, Land Surveying, Valuation

² Head Office for Geodesy and Cartography, Warsaw, Poland

³ Warsaw University of Technology,
Institute of Geodesy and Geodetic Astronomy, Poland

ABSTRACT

Eight European countries have initiated lately a new European project supported financially by the EU European Regional Development Fund INTERREG IIC Office in Vienna. Title of the Project „European Position Determination System – InterRegional Co-operation” was accepted by all participating countries: Bulgaria, Germany, Hungary, Latvia, Lithuania, Poland, Romania and Serbia. This new initiative is a newly emerging European partnership of public administrations and institutes working in the field of geographic information, land surveying and geodetic survey. The co-operation will consist of four components: 1. “Management and co-ordination”, 2. “EUPOS-IRC Know-how Offices promoting Geoinformation in the Context of Regional Policy”, 3 “Large-Scale Information Exchange and Training”, 4. Planning Sustainable Multi-Sectoral Satellite-Based Geoinformation Applications, User Acquisition, Investment Preparation”. The paper contains details of these components and actions of the international community. The programme will be concluded by the end of 2007.

INTRODUCTION

The InterRegional Cooperation INTERREG III Programme of the European Community is designed to strengthen economic and social cohesion in the European Union and is divided into three particular sectors of international cooperation: A - cross-border cooperation, B - trans-national cooperation and C - interregional co-operation. So, the INTERREG IIC Programme focuses on interregional co-operation and its aim is to improve the effectiveness of policies and instruments for regional development and cohesion through large-scale information exchange, transfer of technologies and sharing of experience. INTERREG IIC Programme should encourage regional and other public authorities, to view interregional co-operation as a means of enhancing their development through access to the experiences of others. In this way, the added value of the individual Structural Funds interventions in the different regions can be expanded throughout Europe.

EUPOS INTERREG IIC INITIATIVE

The European Position Determination System (EUPOS), that was initiated in 2002, is an international initiative and a project to establish and to provide a basis infrastructure particularly for positioning and navigation in Central and Eastern Europe (CEE) realised by ground based multifunctional DGNSS reference station systems and services in the participating countries, which use agreed uniform standards. The EUPOS ground-based GNSS augmentation system will cover about 25% of the territory of European Union and more than 60% of the area of the whole Europe. Members of the EUPOS cooperation are topically Bosnia and Herzegovina, Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Poland, Romania, Russia, Serbia and Montenegro, Slovakia, Ukraine and the German States Hamburg (advisory) and Berlin as chair. Slovenia has an observer status (see Fig.1).

Nine institutions from 8 countries coming from the EUPOS initiative have decided to form a Consortium under the leadership of the Berlin Senate Department for Urban Development and have submitted the application for "EUPOS-Interregional Co-operation (EUPOS-IRC)". The Senate Department for Urban Development had the leading role in the development of the operation's idea which was discussed with and agreed by all partners. The operation has the moral support of the full EUPOS partnership and the United Nations. The aim of EUPOS-IRC is - shortly speaking - to promote the use of the satellite positioning and geoinformation services of EUPOS for all regional development tasks that need to position their information. Therefore a long-term co-operation between the partner institutions and experts for regional development has been established and will be kept in the future.

The operation will establish a network of EUPOS-IRC Know-how Offices providing relevant information concerning satellite positioning applications. These Know-how Offices will be then transformed into National EUPOS Service Centres ensuring the know-how provision and the interdisciplinary long-term information exchange.

There are several fields in which satellite positioning can contribute to a sustainable regional development, e.g. urban and rural planning, traffic management, environmental protection, disaster management for example in the case of floods, land surveying, cadastre management, cartography or GIS applications. Those applications of the EUPOS services that have a significant impact for the regions in various sectors of regional development shall be identified as well as the respective grounds for investments. Sustainable applications development, training of technical and regional development experts as well as attracting private and public investments will be promoted.

EUPOS-IRC will prepare demonstration pilots which show the relevance of the technologies for the regional development. One regional user workshop, study visits in Berlin and a training course will take place facing the special situation in the partner countries. The operation will be presented on the internet and using a brochure.

The total project amount is about 310.000 Euro, the ERDF (European Regional Development Fund) funding will be about 192.000 Euro for the partner institutions coming from EU member countries.

The operation has started on 1 October 2006 and will be finished on 31 December 2007.

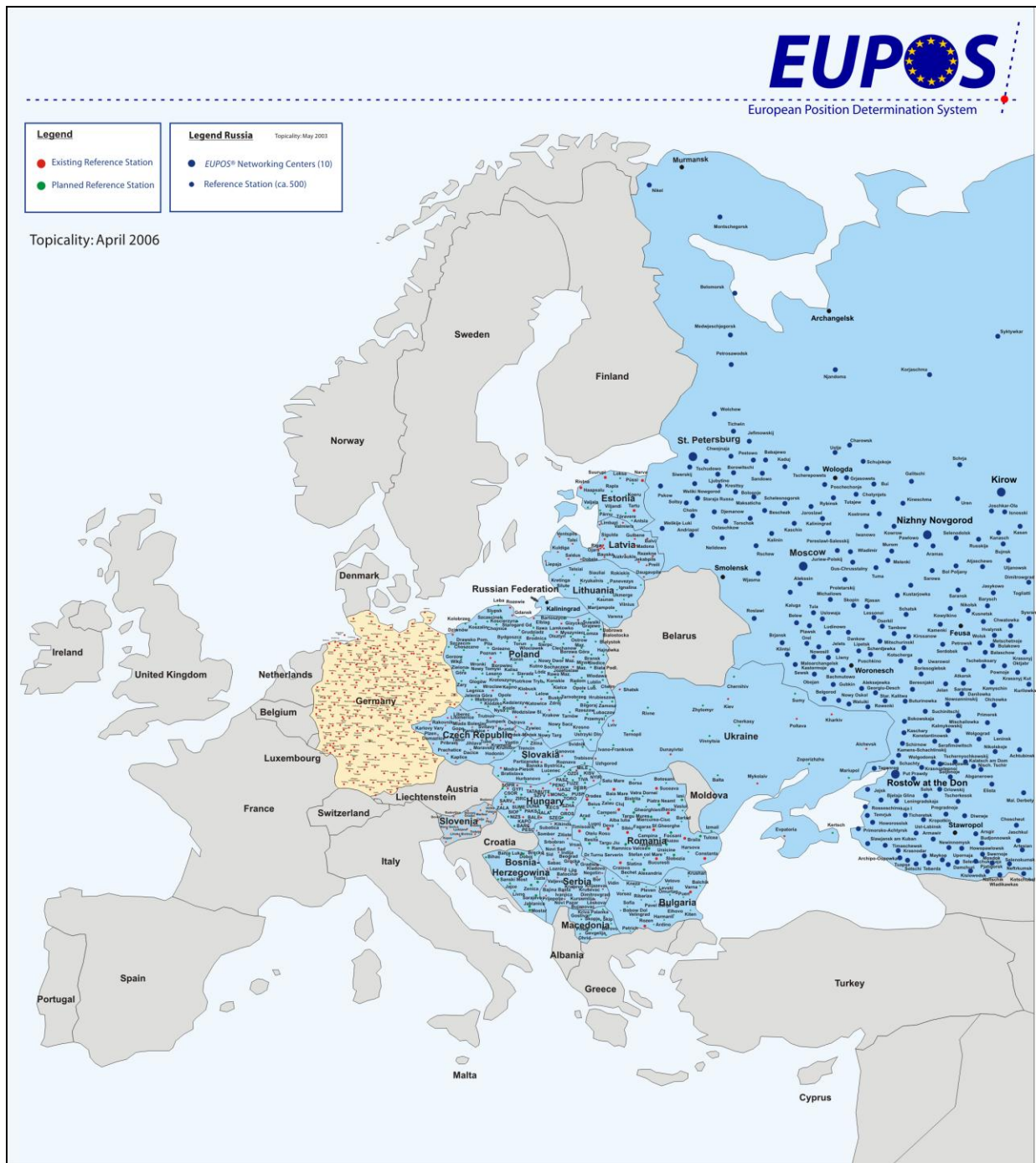


Fig. 1. Stations of the western part of the network EUPOS

Partner Consortium was formed by nine institutions from the eight countries. They are listed below in Table 1.

Table 1. Partner Consortium EUPOS INTERREG

No.	Country	Institution
1.	Germany	Berlin Senate Department for Urban Development
2.	Hungary	Institute of Geodesy, Cartography and Remote Sensing, FÖMI Satellite Geodetic Observatory
3.	Poland	Head Office of Geodesy and Cartography
4.	Latvia	University of Latvia Institute of Geodesy and Geoinformation
5.	Latvia	Riga Geometrs
6.	Lithuania	Institute of Geodesy of Vilnius Gediminas Technical University
7.	Serbia	University of Novi Sad Faculty of Technical Sciences
8.	Bulgaria	Bulgarian Academy of Sciences Institute of Water Problems
9.	Romania	National Agency for Cadastre and Land Registration

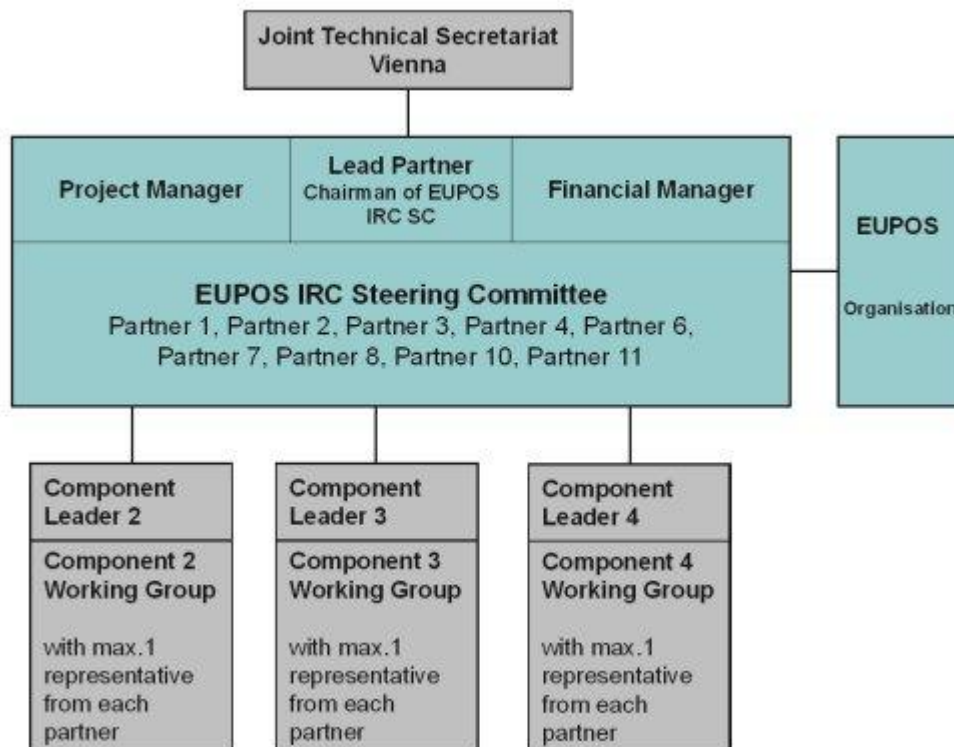


Fig. 2. Organisational scheme of the Project EUPOS INTERREG

COMPONENTS OF THE EUPOS INTERREG

INTERREG III C operations are divided in work packages the so called components. Each component is led by one of the partners and has special working groups. EUPOS-IRC includes 4 components, which are listed in the following table.

The coordination of the component work is done by the Component Leader who comes from or works by order of a partner organisation. The topics of the four components are listed in the following table 2.

Table 2. Components of the EUPOS INTERREG Project

Component No.	Component subject	Responsible country
Component 1	Management and coordination	Germany
Component 2	EUPOS-IRC Know-how Offices promoting geoinformation in the context of regional policy	Hungary
Component 3	Large-scale information exchange and training	Poland
Component 4	Planning sustainable multi-sectoral satellite-based geoinformation applications, user acquisition, investment preparation	Latvia

The common work of the component 1 is done in the EUPOS-IRC Steering Committee, of the components 2-4 by Component Working Groups (CWG 2-4).

Generally, as it results from the component work subjects, the operation will strengthen the co-operation and cohesion between the participating countries and regions and will create awareness for the benefits of satellite-based applications for regional development. The objectives are:

- to provide a platform for a long-term interregional co-operation in the field of geoinformation and regional development,
- to ensure regular meetings of the EUPOS-IRC partners,
- to create the co-operation with regional development bodies and the integration of the activities in the fields of geoinformation and regional development,
- to establish a network of Know-how Offices as the overarching interregional institution,
- to provide a strategy concerning the establishment of relevant applications,
- to promote large-scale information exchange,
- to provide training course, lectures, study visits, user workshop dependent on the special needs of the partner regions,
- to harmonise the development between the regions,
- to provide demonstration pilots with relevance for regional development,
- to establish an operation website,

- to contribute to the interregional development in several sectors,
- to identify the requirements of regional development bodies to support the integration of satellite-based technology into regional development activities,
- to provide specifications for positioning applications with clear benefits for regional development,
- to prepare implementation and business plans for multi-sectoral applications which shall become effective in the regions,
- to promote the co-operation between the stakeholders of different countries in a common way so that they benefit from interregional actions.

Below there are given more detailed component descriptions.

Component 1. *Management and coordination.*

Responsible partner: Berlin Senate Department for Urban Development (DE)

Project Leader: Gerd Rosenthal

Project Manager: Anette Blaser

The component ensures the overall co-ordination of the operation including the monitoring of the activities and finances and the co-ordination of the work between the components by a project management, the reporting concerning activities and finances, the financial auditing of reports as well as the everyday exchange of information, the management of the operation according to the INTERREG IIC programme requirements, especially concerning the overall co-ordination of activities and finances. Co-ordination of the operation's activities and the decisions related to all management and coordination tasks are made by the **EUPOS-IRC Steering Committee (SC)** where all partners are represented. The Lead Partner's representative Mr. Gerd Rosenthal chairs the SC. He is supported by the Project Manager Ms. Anette Blaser who comes also from the Lead Partner's authority and the Financial Manager Mr. Jörg Dubbert who works for the PÖYRY INFRA TRAFFIC GmbH which was subcontracted for all financial tasks. Outputs of the other components can be provided according to the plan

Component 2. *EUPOS-IRC Know-how Offices promoting geoinformation in the context of regional policy.*

Responsible partner: Institute of Geodesy, Cartography and Remote Sensing (HU)
Component Leader: Tamás Horváth

A network of national EUPOS-IRC Know-How Offices co-operating with each other is going to be established. The Offices are know-how centres for the operation as well as for everybody else who is interested in applications of satellite positioning technology. The Offices support the regional aspect of the operation e.g. by making and maintaining contacts to regional development bodies in order to identify corresponding stakeholder and experts as members of a Regional Policy Board and as participants of the regional user workshop and the training course. The Offices support Component 4 with background information for the studies, personnel support of the demonstration pilots and the show cases. The Offices will produce information material in order to inform about and create awareness for the possibilities and benefits of satellite-based applications.

The EUPOS initiative has planned to install National EUPOS Service Centres (NSCs) in all EUPOS countries with tasks like coordinating the technological development in DGNSS sector, linking involved organisations, bringing together users, public bodies

and industry, planning technical infrastructure, monitoring EUPOS reference station systems etc. At the moment no NSC exists, only DGNSS computing centres in the partner countries monitor the reference stations. All other tasks cannot be done due to missing personnel and financial resources as well as due to missing official authorisation. In this component the NSC establishment will be prepared by creating implementation concepts and working programmes for the NSCs defining the specific tasks, the roles and the decision-power, the management, the personnel and financial concept. The concepts must also include the administrative roadmap for the NSC establishment. One idea to be examined is to connect the existing DGNSS computing centres with the EUPOS-IRC Offices in order to ensure a long-term impact of this operation and to continue the know-how providing in the regions.

The work of the EUPOS-IRC Know-how Offices is coordinated by a Working Group (CWG 2) which meets also regularly with representatives from the not involved EUPOS countries in order to ensure the regular information exchange for a common EUPOS development. The first meeting took place in November 2006 in Budapest / Hungary, the second meeting was held in Riga, Latvia in March 2007.

In case the regional development high level representatives can be identified and contacted quick enough they will be invited to a Regional Policy Board meeting in order to exchange satellite positioning and regional development experience and to create awareness for the benefits EUPOS based applications that can have for the regional development.

Component 3. Large-scale information exchange and training

Responsible Partner: The Head Office of Geodesy and Cartography (PL)

Component Leader: Prof. Dr.-Ing. habil. Janusz Śledziński, Warsaw University of Technology, Institute of Geodesy and Geodetic Astronomy

The main goal of this component is the interregional and international exchange of experience in the field of geoinformation and satellite-based positioning as well as multi-purpose applications in the sectors of regional development. A set of measures has started to introduce a systematic and thus effective exchange of experience. The methods are chosen corresponding to the special needs of the regions. This exchange of experience has a couple of dimensions: It takes place between regional development and geoinformation/satellite positioning experts, between representatives from several countries and regions as well as amongst satellite positioning experts. Since there is also varying expertise in Central and East European regions, clear synergy effects are obtained from an interregional co-operation. The activities are supervised and supported by the EUPOS initiative organisation as international competence centre and the EUPOS IRC Know-how Offices which are going to be established by Component 2.

Technical study visits for satellite positioning experts to Berlin are conceived which give the opportunity to get to know advanced positioning systems on the spot. One regional user workshops will take place in Riga, Latvia specially for participants from Latvia and Lithuania but also from other EUPOS countries. Potential users of geoinformation and positioning applications shall be informed about the benefits of the technologies in order to create awareness for the benefits. Experts coming from all sectors of regional development, policy makers, industry partners, service providers will be invited. This workshop will provide a platform for the presentation of the technology and the discussion of relevant sustainable multi-sectoral applications in order not only to inform about the possibilities but also to hear about the requirements of the potential users.

Moreover, one training course for Polish experts will take place in Poland, where the national EUPOS network will be built up in 2006 by national ERDF funds. The course will be given on the establishment of satellite positioning technology and the implementation of multi-sectoral applications, in order to train in using EUPOS for all regional development tasks.

All activities are supported by advertising, awareness creation and dissemination measures such as presentations given by all EUPOS-IRC experts on corresponding national and international events. The component work is co-ordinated by the Component Working Group (CWG3) which has met in November 2006 in Budapest, Hungary and now works by e-mail exchange.

Component 4. Planning sustainable multi-sectoral satellite-based geoinformation applications, user acquisition, investment preparation

Responsible Partner: University of Latvia, Institute of Geodesy and Geoinformation (LV)

Component Leader: Prof. Dr. Janis Balodis

The EUPOS-IRC partners assume that satellite positioning-based geoinformation applications will get more and more important in several sectors which are relevant for regional development, such as land surveying, land registration/cadastral management, cartography, topography, traffic, transport and fleet management, rescue and safety services, public security, environmental protection, weather forecasting, agriculture etc. This Component will make the attempt to develop a common strategy for the future use of EUPOS by applications sustainable for regional development in the participating countries. A list of well-defined applications shall be set up which can use EUPOS for their positioning tasks with a description of the benefits compared with the situation when solving the positioning tasks without EUPOS. The main emphasis will lie on applications in the context of regional development. An external expert with know-how in geoinformation as well as in regional development matters will be subcontracted to create a corresponding study. Implementation and investment possibilities shall also be proposed in the study. The study will become the basis for a work programme for the EUPOS initiative which then goes beyond EUPOS-IRC.

It is also the aim of the operation partnership to support awareness raising by practical demonstration for the stakeholders (users, industry, authorities, researchers etc.). Therefore small-scale pilot demonstrations shall be provided which show applications based on DGNSS which are clearly relevant for regional development. The functionality and the benefit of EUPOS for a range of satellite positioning-based geoinformation applications will be demonstrated potential public and private users. The relevant application which will be demonstrated in EUPOS-IRC is land register/cadastral management. The field is important for regional development because, especially in the participating countries of CEE, there is a huge need for highly precise satellite-based land measuring, since everybody who intends to invest in a region e.g. by building up a factory needs the guarantee for his property. The functionality of high-precise differential GNSS service will be demonstrated in show case events for interested public and private potential users. Beside raising interest among users, the aim of these demonstrations is also to attract the interest of potential investors which would allow the implementation of technology and applications on a larger scale.

INTERNATIONAL COOPERATIONS

Since the first steps of EUPOS have been done, many lectures were given on the background, the objectives, the organisational structure and the technical standards of EUPOS. This has aroused much interest not only in the EUPOS countries but also at international organisations and the industry. Therefore EUPOS is cooperating with international organisations beyond the EUPOS countries in order to exchange knowledge and experience, to promote the peaceful use of GNSS ground-based augmentation systems and in order to ensure the further development of EUPOS.

EUPOS-INTERREGIONAL COOPERATION

The first meetings of the EUPOS INTERREG III C took place in Budapest/Hungary on 21-24 November 2006. The Steering Committee met for its constituting meeting as well as the working groups of the components. The formal rules of the project were agreed, the planned activities were put in concrete terms, first concepts for different events were set up like the regional user workshop in Riga, Latvia, a education training course in Warsaw, Poland, and study visits to Berlin and work schedules were discussed.

The second meeting was held in Riga, Latvia on 27-28 March 2007. First progress reports of the component leaders were presented, further actions planned within all components were discussed and final budget adjusted to real actions was agreed.

REFERENCES

A. Blaser, G. Rosenthal, J. Śledziński. The INTERREG IIC Project EUPOS – Interregional cooperation and EUPOS status report. INTERGEO Conference, Sofia, Bulgaria, 1-2 March 2007.

J. Śledziński. Nowy program współpracy regionalnej EUPOS-INTERREG III C. (A new programme of the regional cooperation EUPOS INTERREG IIC), GEODETA, nr 3, marzec 2007

A. Blaser, W. Graszka, G. Rosenthal, J. Śledziński. EUPOS and EUPOS INTERREG IIC – two European initiatives of the regional cooperation. Paper presented at the IAG General Assembly Perugia, Italy, 2-13 July 2007 (in preparation).