

Bringing Order to Geo-spatial Technology at National Level

Developing Geoinformation Infrastructure in Poland

We are witnessing a vigorous, sometimes spontaneous, development of spatial information systems. No wonder that some countries take steps aimed at bringing order to their development, so that the introduction of new digital technologies on the part of users of these systems provides appropriate advantages at national level. The author discusses the need for broadly conceived co-operation between public and private entities in order to raise accessibility, quality and usefulness of spatial data and the need for cutting the costs involved.

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The Executive Order issued by President Clinton in 1994 represented a milestone in the process of creating a legal basis for establishing a national infrastructure for spatial data in the U.S. This infrastructure comprises a collection of techniques, principles, standards and resources, including human resources, indispensable for the acquisition, processing, storage, dissemination and

use of spatial data. Its main goals have been to facilitate access to the data and to restrain budget expenditures, estimated at that time at USD 4.4 billion annually.

Geoinformation Infrastructure

The number of countries introducing their own strategies or action programmes with similar goals is considerable and con-

stantly in-creasing. These initiatives have different names, but the most often used terms are: spatial data infrastructure, geo-spatial data infrastructure and geographic information infrastructure. The shortest one is geoinformation infrastructure. Generally speaking, a geoinformation infrastructure may be

Selection depends on political, legal, economic, social and technical situation

defined as all measures serving rational management of spatial data and its effective use for sustainable development on a country-wide, regional or international scale, including the global one. The selection of these measures and determination of their priorities depends on the political, legal, economic, social and technical situation in the territory under consideration. It is obvious that suggested projects and accepted solutions must be feasible and should meet the requirements of economic and technical efficiency.

Activities

As a rule, the following activities are considered:

1. Establishing and maintaining general purpose spatial databases, i.e. concerning core data used for identification of objects in special purpose or thematic systems
2. Implementation of a metadata clearinghouse as a means of facilitating the search, assessment and downloading of a required set of spatial data
3. Promoting spatial data standards

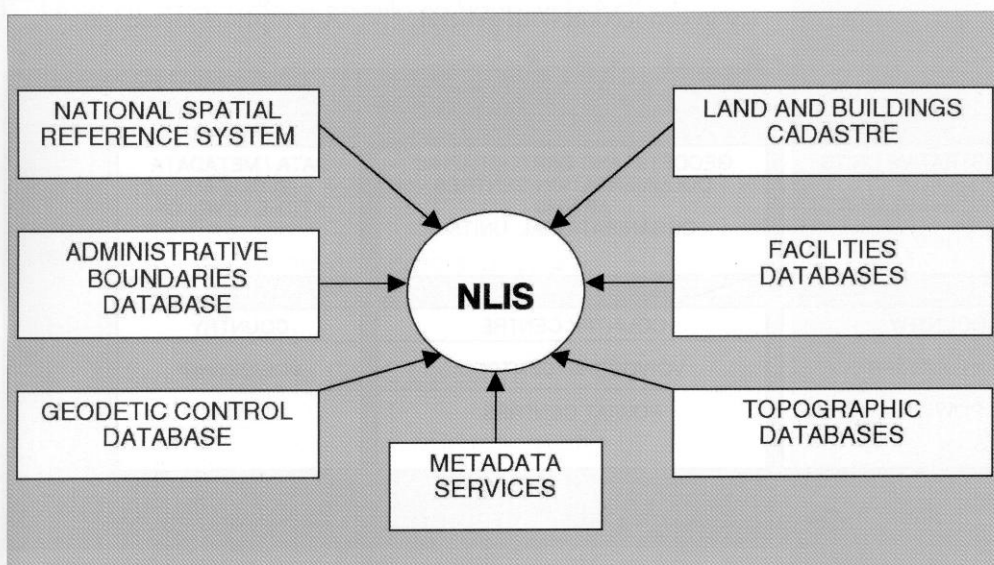


Figure 1, Components of the National Land Information System in Poland

Resolution of the eleventh conference of the Polish Association for Spatial Information (adopted 30th May 2001)

The participants of the Eleventh PASI Conference recognise as rightful the following general principles:

1. Geoinformation referring to a certain area, irrespective of its size, should be treated as a common good of the community interested in this area
2. Geoinformation serves the aim of deepening the knowledge about the human environment and taking space and time-based decisions
3. Everybody has the right to efficiently obtain suitable and reliable geoinformation without any obstacles and unjustified costs
4. The value of geoinformation is fully revealed when it is integrated with other kinds of information within the user's system
5. Partial geoinformation resources are maintained by numerous organisations and their concerted co-operation is crucial for rational management of these resources

Taking into account the above principles, the participants of the XI Conference support:

- Modernisation and integration of cadastre-type systems, treating them as the basis for the national land information system in Poland
- Building of the national land information system, treating it as the basis for spatial information infrastructure in Poland
- Gradual shaping of this infrastructure by means of co-operation between involved entities from government, local governments and private sector, as well as by integrating top-down and bottom-down initiatives and approaches

The participants of the XI Conference recognise the conceptual contribution of the teams of authors dealing with spatial information systems on national, regional and local levels. At the same time, the participants express the opinion that any designing activities should include a study of variant solutions, cost and benefit estimation and risk assessment, as well as opinions of independent experts. The participants of the XI Conference express their particular support for the initiative to establish a Task Force for National Spatial Information Infrastructure, put forward by the General Surveyor of Poland and recognised by representatives of Ministries present at the Conference. In the future, the PASI conferences should serve as a useful forum for wide and open discussion of this Task Force.

4. Co-ordination and organisation of co-operation between relevant central government, local government and private sector entities by an appropriate body which – according to present opinion – should be associated with the government whilst simultaneously maintaining a certain degree of independence
5. Raising awareness, training specialists and encouraging greater use of geoinformation
6. Developing spatial data policy in connection with general

national policy concerning such issues as access, pricing, privacy, liability and copyright with respect to data

Poland

Interest in the problems of the geoinformation infrastructure in Poland has grown significantly. The first studies in this area were conducted as early as 1980. Lately, a team of the Institute of Geodesy and Cartography has completed a concept for a national spatial information system, in which elements of geoinformation infrastructure are considered. The development of geoinformation infrastructure on a voivodship (provincial) scale has already been undertaken in individual initiatives on the part of a few voivodships. Of key importance for the development of the geoinformation infrastructure in Poland is the soon to be signed draft Decree of the Minister of Regional Development and Construction concerning the national land information system. This Decree will regulate actions mentioned above in items 1 and 2, and, indirectly, in item 3. Obligatory databases in the system cover (Figure 1):

- National spatial reference system
- Register of administrative boundaries
- Geodetic control database
- Land and building cadastre
- Facilities databases
- Topographic databases, including digital terrain models
- Appropriate metadata

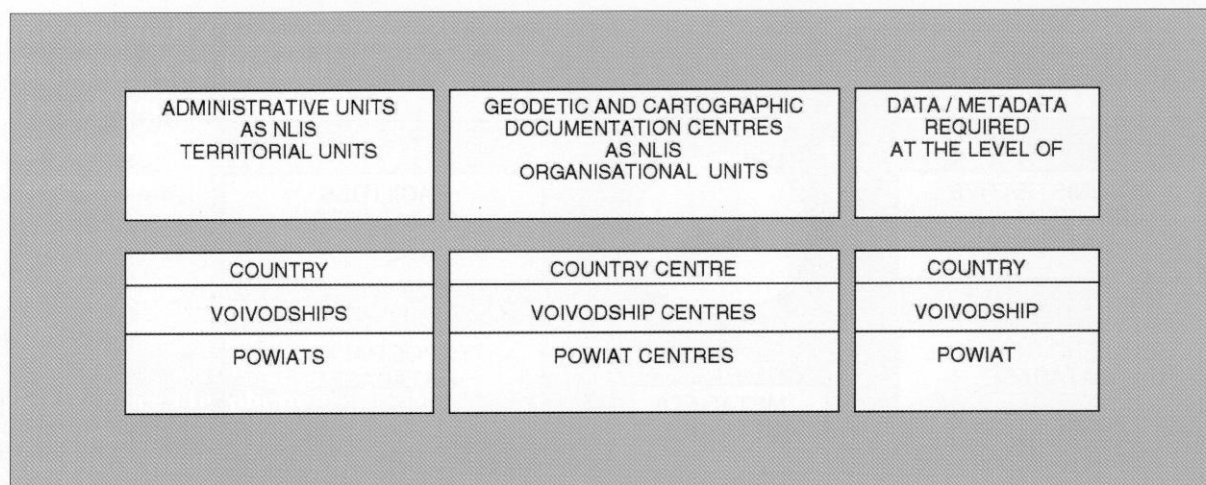


Figure 2, Three levels of the National Land Information System in Poland. The existing network of Geodetic and Cartographic Documentation Centres covers all 16 voivodships and 373 powiats, including 65 cities with powiat status

The Decree provides for the systems to be established and run on three levels (Figure 2):

- National - by the General Surveyor of Poland
- Voivodship - by the marshals (governors) of voivodships
- Powiat (county) - by powiat officials

It is important that the Decree results directly from the binding Law on Geodesy and Cartography, which defines the national land information system and provides that it should be carried out by the State Geodesy and Cartography Service. The structure of the Service is compatible with the structure of the national land information system.

Task Force

There is an urgent need for co-ordination and co-operation, dealt with in item 4 and connected with item 5 and 6 of the above areas of action. In this connection, during the XI Conference of the Polish

Association for Spatial Information, the General Surveyor of Poland, Kazimierz Bujakowski, proposed the establishment of an interdepartmental and interdisciplinary Task Force. This initiative was supported in the Resolution unanimously adopted by that

Urgent need for co-ordination and co-operation

Conference (see box). In effect, the Task Force for Geoinformation Infrastructure was set up as an advisory and consultative body composed mostly of authorised representatives of ministries and other national agencies and institutions.

The first meeting of the Task Force took place on 11th July 2001 and was chaired by the General Surveyor of Poland. Its agenda included development of a gen-

eral geographic database. It was decided after discussion that this database should be a functioning system by the end of 2002 and should result from co-operation between the ministries and institutions concerned.

Further Reading

- Masser, Ian (2001), The First Generation of National Geographic Information Strategies, International Journal of GIS♦

Biography of the Author

Prof. Jerzy Gazdzicki, Ph.D., is presently a freelance consultant in spatial information systems, including cadastres. He is President of the Polish Association for Spatial Information.

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