EVOLUTION TOWARDS THE DIGITAL LAND OFFICES

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Evolution towards the Digital Land Office

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1. INTRODUCTION
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    2.1. Management Features of the Hungarian Land Administration System
    2.2. Results of the Modernisation Programme
3. THE LONG-TERM DIGITAL LAND OFFICE DEVELOPMENT PROGRAMME
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Introduction

From national economic point of view, the uniform land registration system operating in Hungary is one of the most important databases of the country. This system has been keeping and maintaining all descriptive (legal) and geometric data, also information on ownership and other rights (e.g. mortgage), land use and land protection relating to all landed properties and other real estates in Hungary in an authorized way and continuously updated status. The cadastral maps integrated into the uniform land registration system show spatial relations and references of rights, facts and other information appearing on the property sheets, serving as a basis of engineering planning for the national economy. The national spatial data infrastructure can be built on this uniform, authorized and public land registration system, in small partial modules, following the EU INSPIRE Directive.

The latest development idea is to organize the data into one database (data warehouse) synchronized with the central land office database, and in another one, which serves for the data market and data mining. Consequently, data maintenance and data supply will be separated. This way, through organized centralisation of data, a „round-the-clock" land office information service can be realized, which will strengthen the data security in Hungary. This will be accessible for citizens through the Central Clients' Gate on the Governmental Portal. In the first phase of the long-term "Digital Land Office" development plan, the central system will only supply data, but it is also the basis of the future electronic case management procedure supported by countrywide uniform forms.

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The Hungarian Uniform Land Registration

- Registered are the real estates: lands, buildings, flats
- Registration to guarantee of
    - Safe and secure real estate ownership rights
    - Safe and secure transfer of title
- Registration to supervise, control and influence
    - Real estate market
    - Land consolidation
    - Land use and protection
- Registration to serve
    - Plysical planning
    - Market economy
    - Sustainable development
    - Sustainable environment

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The Hungarian Uniform Land Registration

- Elements of registration unified into one system called Uniform Land Registration
  - Legal information of real estates (rights, facts and others)
  - Administrative, financial and physical description of real estates
  - Spatial refferencing of the above elements = cadastral maps
  - These elements integrated/unified, beginning of 1970-s

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The Hungarian Uniform Land Registration

- It is necessary to have well functioning
  - Legal background
  - Institutional system
  - Financial background
  - Data and price policy
  - Information technology
- The elements of good functionality are (and are to be) affected by EVOLUTION !

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The Hungarian Uniform Land Registration

**The Land Administration and Geoinformation Institutional Network in Hungary**

- District Land Offices with registering and service tasks with area responsibility, altogether <u>118 DLO</u>
- County Land Offices and the Capital One with principle activites relating to DLO-s groupped to them, altogether <u>20 CLO</u>
- Institute of Geodesy, Cartography and Remote Sensing (FÖMI) as of the nationwide responsibility for state surveying, mapping, remote sensing and land administgration IT developments, maintenance, rutine operation and data handling and servicing
- The Governmental management is provided by Ministray of Agriculture and Regional Development/Department of Land Administration and Geoinformation (MARD DLAG)

The Hungarian Uniform Land Registration

Overview of the Land Office services
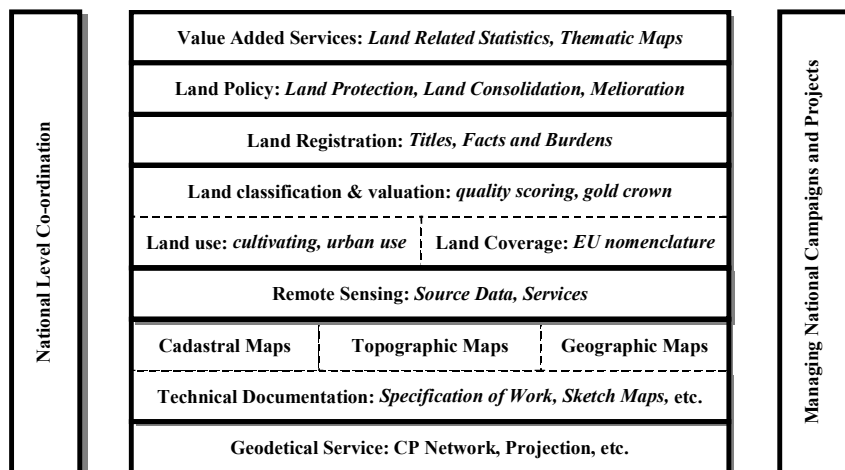
The Hungarian Uniform Land Registration
Modernization of Land Offices

- From beginning of 1990's: EU PHARE supported programme „Computerisation of the Land Offices"
  - IT
  - Legal
  - Operational
  - Marketing
- Steps and results of modernization (1)
  - A „TAKAROS" IT concept elaborated, 1996
  - Digital Base Map Hungarian standard (called DAT) and instructions ellaborated and issued, 1997
  - All the property sheets digitized in Hungary, 1999
  - At each DLO the TAKAROS software introduced, digital property sheets data migrated under TAKAROS software, forming 118 TAKAROS databases decentralized, 1999-2000

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The Hungarian Uniform Land Registration
Modernization of Land Offices

- Steps and results of modernization (2)
  - The intranet-like TAKARNET over the Land Administration Institutional Network elaborated and introduced at 140 sites in Hungary, 2000-2003
  - TAKARNET data service started, using the decentralized TAKAROS databases, through FÖMI and the Land Offices in all possible combination, based on special certification (notaries, banks, attarneys, lawyers, local governments, courts etc.) (no private individuals), 2003-2008
  - Government introduced self-financing budget for Land Administration Institutional Network, 2007-2008.

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The Hungarian Uniform Land Registration
Modernization of Land Offices

- Steps and results of modernization (3)
  - TAKARNET data service income grown up
  - The Main Electronic Governmental Network become physical base for TAKARNET, with possibility of public access and e-payment trought its „Central Client's Gate", 2008
  - National Cadastre Programme: Partially Digital reservey of cadastre maps, and mostly digitizing of them: for whole country, based on bank credit financing! Started 1998, finished 2007
  - So called DATView and ITR cadastre map handling software solutions running the digital cadastral maps at the DLO-s – with problems, 2007-2008
  - A new, unified and standard based DATR software developed by FÖMI under introduction for the DLO-s.

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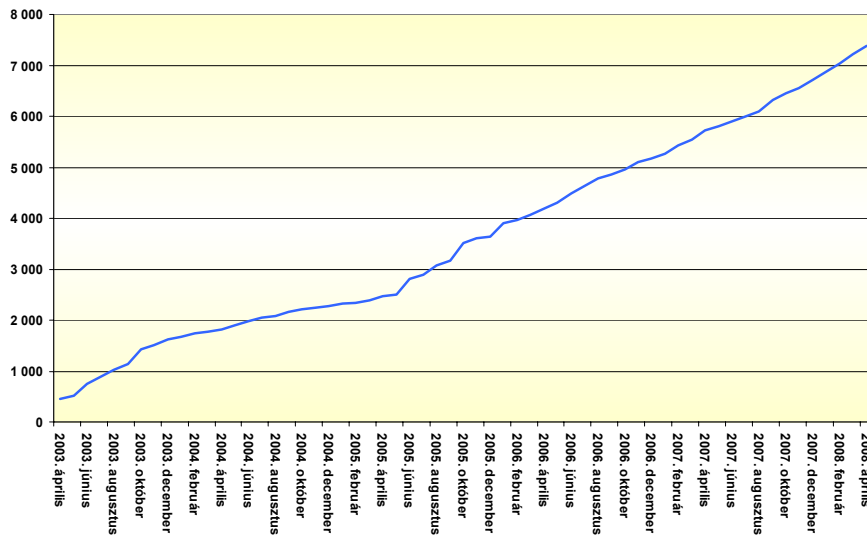FIG Working Week 2008
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Architecture of the TAKARNET for Land Administration and Geoinformation Institutional Network

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Number of TAKARNET users (certificates)

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Number of property sheet copies requested per year
9,6 million requests in all
April 2003 – April 2008

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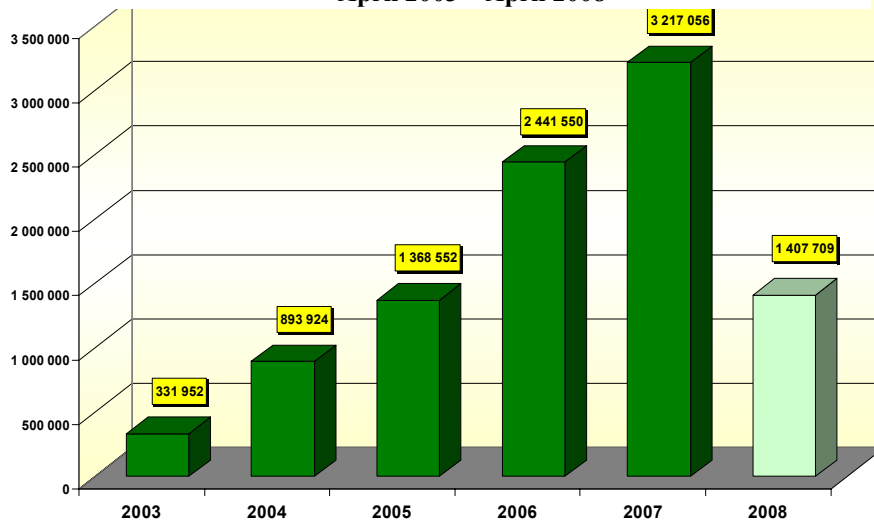FIG Working Week 2008
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**Number TAKARNET of propertz sheet copies requested per month
(14 April 2003 – 30 April 2008)**

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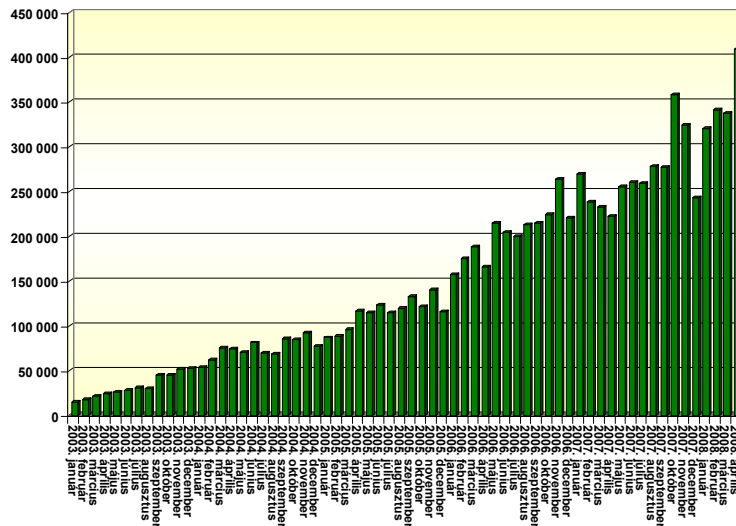FIG Working Week 2008
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Long-Term Digital Land Office Development Programme
Main Elements of the Development Programme

The development plan has dual strategic aim:
- Increasing the efficiency of land registration, providing a more clientoriented case management, improving the quality of services
- Elaboration of controlled basis for National Spatial Data Infrastructure (NSDI) and methods of its use also for other purposes through the establishment of Digital Land Office

To fulfil these aims the following goals are necessary to reach:
- Raising the level of land administration services, extension of electronical services and providing wide access to them,
- Rationalizing the resources needed for operation.

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Main elements of the long-term development plan „Digital Land Office"
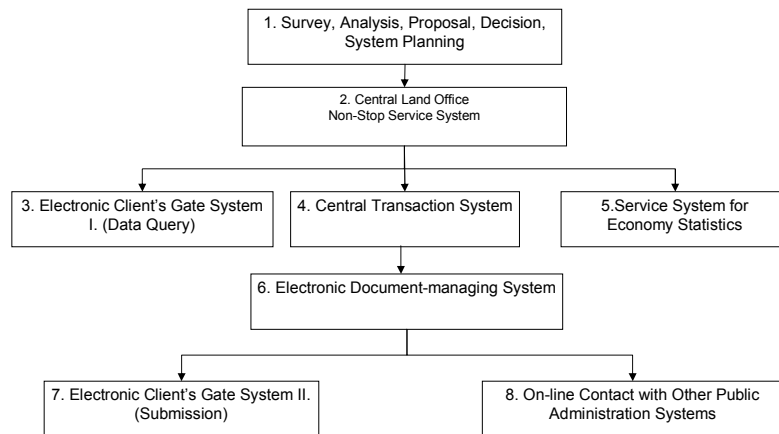
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          ┌─────────────────────────────────────┐
          │ 1. Survey, Analysis, Proposal,       │
          │    Decision, System Planning         │
          └─────────────────────────────────────┘
                            │
          ┌─────────────────────────────────────┐
          │ 2. Central Land Office               │
          │    Non-Stop Service System           │
          └─────────────────────────────────────┘
                            │
        ┌───────────────────┼───────────────────┐
┌───────────────┐  ┌──────────────────┐  ┌──────────────────┐
│ 3. Electronic │  │ 4. Central       │  │ 5. Service System│
│ Client's Gate │  │ Transaction      │  │ for Economy      │
│ System I.     │  │ System           │  │ Statistics       │
│ (Data Query)  │  │                  │  │                  │
└───────────────┘  └──────────────────┘  └──────────────────┘
                            │
          ┌─────────────────────────────────────┐
          │ 6. Electronic Document-managing      │
          │    System                            │
          └─────────────────────────────────────┘
                            │
        ┌───────────────────┴───────────────────┐
┌──────────────────────┐          ┌──────────────────────────┐
│ 7. Electronic         │          │ 8. On-line Contact with  │
│ Client's Gate System  │          │ Other Public             │
│ II. (Submission)      │          │ Administration Systems   │
└──────────────────────┘          └──────────────────────────┘
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The Long-Term Digital Land Office Development Programme
Main Elements of the Development Programme

1. Surveying opportunities and tools. Elaboration of uniform system plans for all projects
2. Leaving the existing server structure (119 DLO servers) unchanged, building Service System of a Central Land Office as the only land registration data supplier by TAKARNET
3. Creating interface in Service System of Central Land Office for data query by identified clients through the Client's Gate of the Governmental Portal
4. Completing the services with data-mining tools
5. Replacing the 119 servers with Central Transaction System operated safer and cost-effective
6. Through electronic managing the arriving and outgoing documents/applications, the case management making quicker and location-independent
7. Submission of applications making location-independent
8. Electronic interchange of documents between offices, exchange of digital data and also data control provide more economic and more efficient public administration

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The Long-Term Digital Land Office Development Programme
Main Elements of the Development Programme

Results expected of the step-by-step development:

- Completely electronic case management and servicing
- Level of servicing and data quality improved
- Opportunity of crosscomplying with other public administration databases
- Legal security strengthened
- The public and personal individuals access the land registry on Internet through Client's Gate of the Governmental Portal
- Selective data collection approach between public databases
- Allowing multilingual user interfacing
- The central database practice providing high-secure, one-duty and cheaper approach

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The Long-Term Digital Land Office Development Programme
Central Land Office Non-Stop Service System

- Operability of present land office information systems proves: the developments completed are in accordance with principles of e-government
- However it is a severe problem of the land office data supply through internet that the data are available only during the main eight-hour work time
- The land registration databases are currently decentralized in the DLO keeping the records up-to-date, and those databases are separated physically
- On the TAKARNET, connecting 119 DLO the externally registered clients can have access to land registration data during eight hours work time only

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The Long-Term Digital Land Office Development Programme
Central Land Office Non-Stop Service System

- In the first phase of the development it is planned to organize the data into
  - data warehouse synchronized with the Central Land Office Database, and
  - another one, which serves the data market and data mining
- Consequently, data maintenance and data supply will be separated
  - One group of servers, the land office transaction servers will perform the functions of closed system of application, registration and processing
  - the other one, the server for enquiries open to the world will provide services and data supply
- This way, through organized centralisation of data, a „round-the-clock" land office information service will be realized in Hungary
- This will be accessible through Central Clients' Gate of Governmental Portal

The Long-Term Digital Land Office Development Programme
Central Land Office Non-Stop Service System

- In first phase of this long-term development plan, the central system is only for data supply
- The updating – according to rules of law – will happen in line with the principle of territorial competence in databases of the DLO-s, as usual
- Modifying the services and enlarging the applications in content, space and time, the land management sector could more efficiently cope with the demand and supply relations in the market by
  - Improving the value-added services
  - Extending the services
  - Enlarging the circle of authenticated users
  - Influencing the needs
- Realisation of non-stop service is the first step towards a modern countrywide hardware system of high technical level for the land registration network

The Long-Term Digital Land Office Development Programme
Central Land Office Non-Stop Service System

- Out of the three elements of land office work procedures – application registration, case management and data supply/service – data supply/service can be performed on the central computer. In this way, land office data queries arrive at the central query server only

- The land offices will be able to supply all necessary information for planning, compile periodical systematic statistics, perform ad hoc special queries for analysis etc. in a more efficient way, involving less resources and will be more reliable

- The central core database is also the basis of the future electronic case management procedure supported by countrywide uniform forms

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Digital Land Office Project Draft

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