EILAT 2009
FIG Working Week
Surveyors Key Role in Accelerated Development
3-8 May 2009

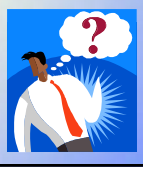
Geospatial Information Online by the Survey of Israel

Dr. Haim Srebro
Director General
Survey of Israel

Plenary Session
5 May 2009

Presentation Outline

1. **Challenges and problems**
2. **Responsibilities and relevancy**
3. **Why going online?**
4. **Which services should be provided online by the SOI.**
5. **The plan of online services and the current status.**



Challenges and problems

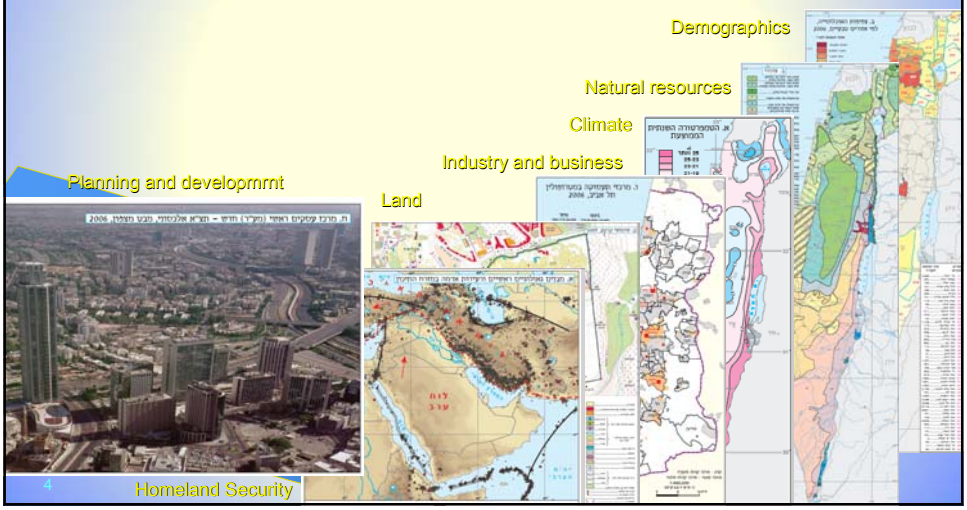
The State of Israel is facing some tough challenges:

- High population density
- Rapid urbanization
- Severe shortage in land
- Serious scarcity in water
- Global problems:
  - Global warming
  - Energy crisis
  - Rising cost of basic commodities
- Specific problem
  - Security

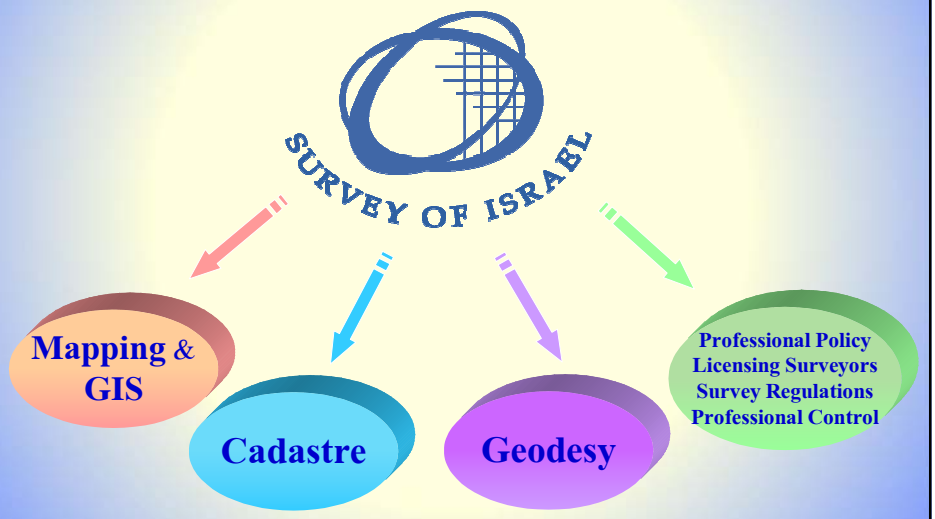
The Dead Sea

Effective solution requires:

- Accessible geospatial information (online)
- Data integration and sharing among agencies



Survey of Israel Responsibilities



Relevancy of the Survey

- The existence of SOI depends on its ability to give reliable, efficient and available services to customers, basing the service on internal confident infrastructure.

- The activity should be based on cooperation with governmental and public organizations as well as on cooperation with the private market and the public, including the surveyors as suppliers and customers.

- The future services should be online and the Survey of Israel is adjusting itself to achieve online services in most of the areas in the coming years.

Additional requirements to support relevancy

- Encouraging initiatives, inventiveness and professional leadership.
- Cooperation between the Survey of Israel and the private market for production, R&D and maintenance.
- Cooperation between the Survey of Israel, governmental and public organizations and the public itself.
- Continuous improvement of external and internal services on the basis of service level agreements.

Why going online?

1. Fast response to emergency problems.
2. Reduce costs and staff in governmental agencies
3. Improve service to the public (24/7).

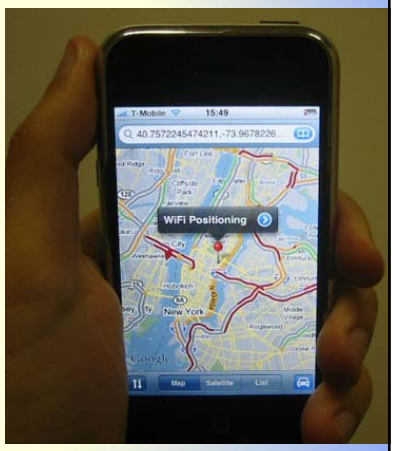
   The public and consumers know best their requirements. Fast accessibility to information becomes a basic requirement. Geo-referenced information is a basis for most of the required information.
4. Citizens do not have to spend time on travelling, parking, waiting in long lines or be on hold for hours.
5. Increase the outreach of government to periphery, and areas that are far from governmental facilities.
6. Cut bureaucracy.

What are the requirements for a good online geo-spatial information service?

1. Easy to use, friendly user interface.
2. High speed service (Internet).
3. Comprehensive, i.e. a portal or an umbrella web site that operates as a front door, linking users to additional resources.
4. Reliable (service level agreement)
5. Secure and protected against web hackers

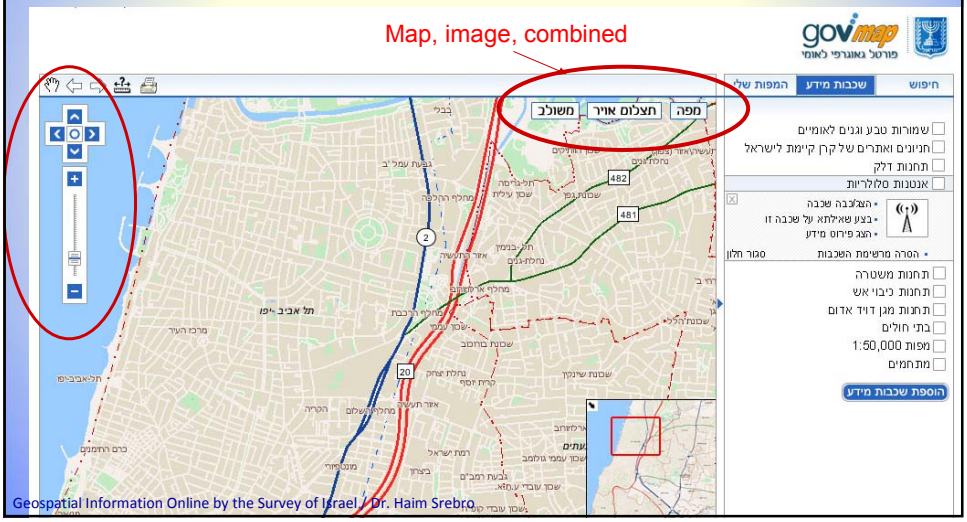
Easy to use, friendly user interface

- Simplicity (one button GUI)
- Intuitive
- Using wizards instead of menus
- "Cool" visualization (3D, animated UI)
- Mobility (iPhone)



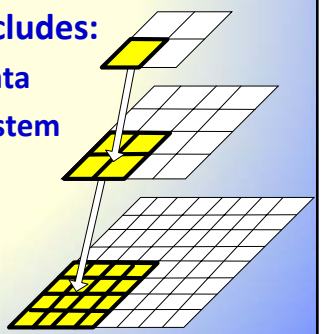
Simple user interface for geographic portal

- Important tools are highlighted and presented graphically
- Less information in every page (layer content)



Speed / Performance

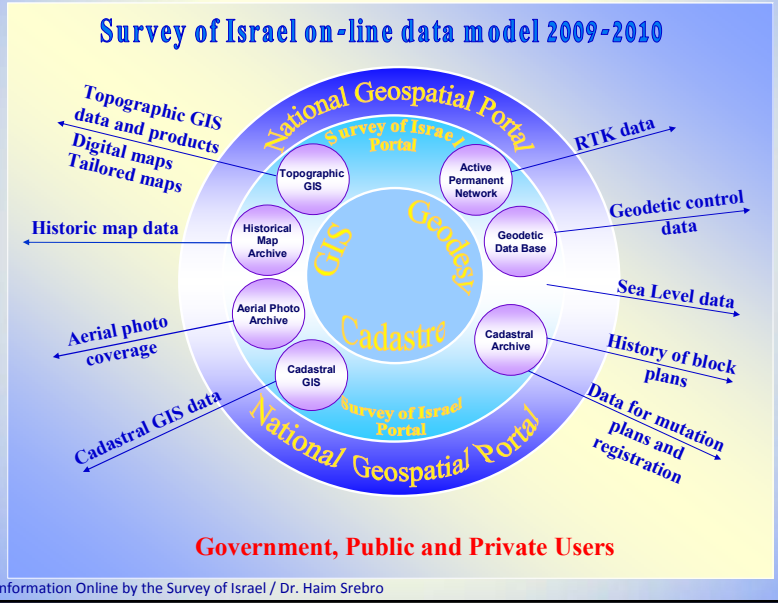
- A necessary condition for the system.
- Smart cache system, a system that predicts the next step of the user.
- Pre-posting data processing that includes:
  - Converting vector data into raster data
  - Building image pyramid and tiling system



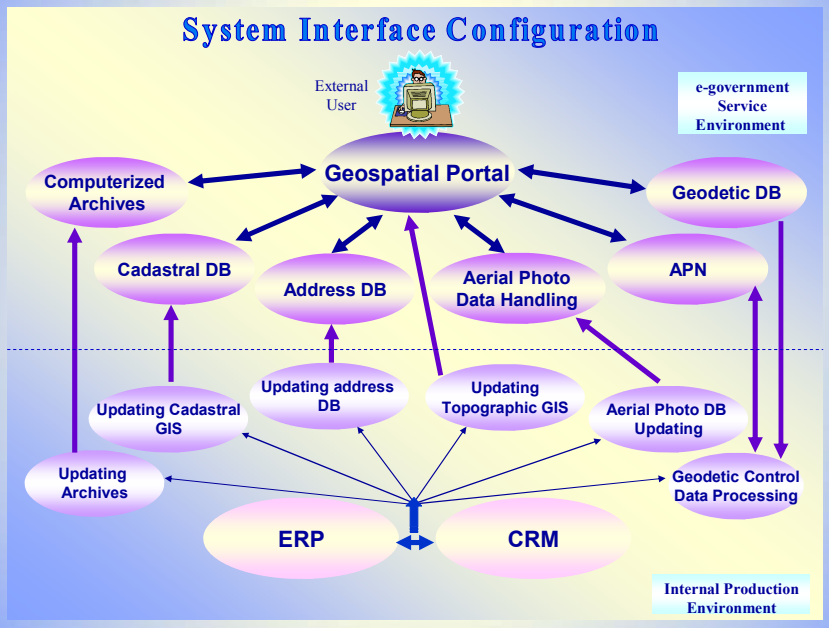
What services are and will be provided as online services by the Survey of Israel?

- National spatial data portal
- Cadastral maps archive
- Active permanent GPS stations
- National geodetic database
- Secure online project management and supervision for surveying cadastral work
- Metadata creation and storage service
- Surveying and mapping regulations and standards online archive

The plan for the near future



System Interface Configuration



The Current Status Geodesy

- APN – Active Permanent – 19 stations – RTK service – since 2005
- National Geodetic Database online – 2009
- Online service of approving control points – 2010/2011

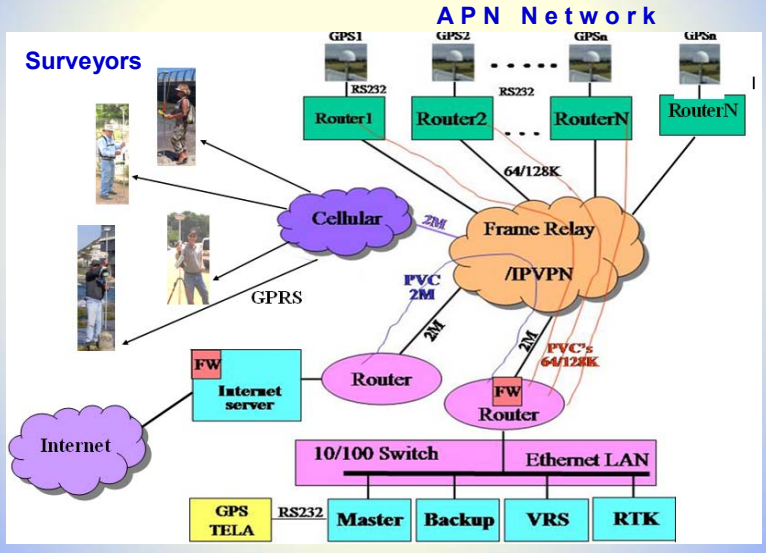
APN

Active Permanent Network

30 sec sampling rate data

1-5 sec sampling rate data

The APN, RTK-DGPS APPLICATIONS



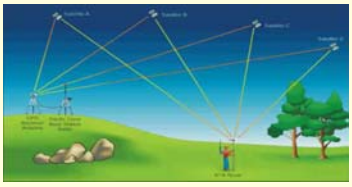
APN Online Services

DGPS

Real time navigation and GIS

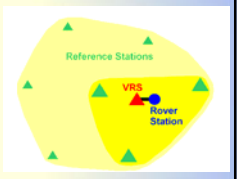
Better than 1 meter

RTK

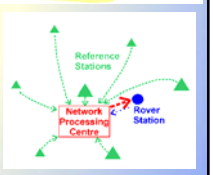


Since 2005

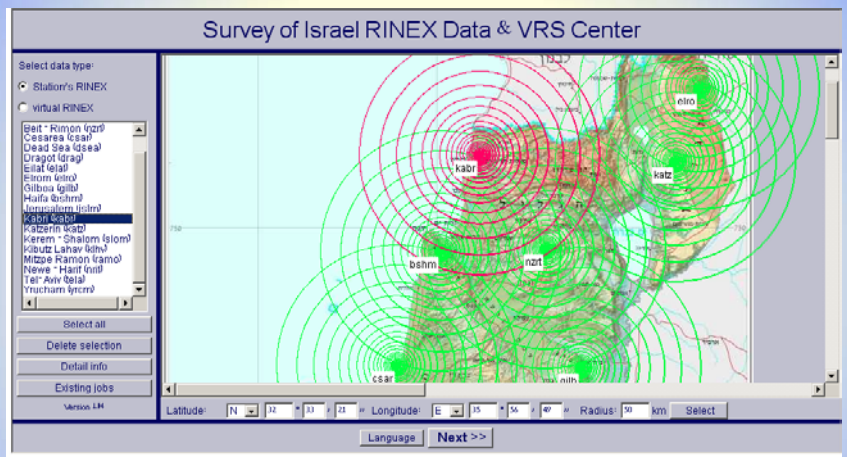
2-3 cm



Vertical undulations 2010



Post Processing Data Web Site

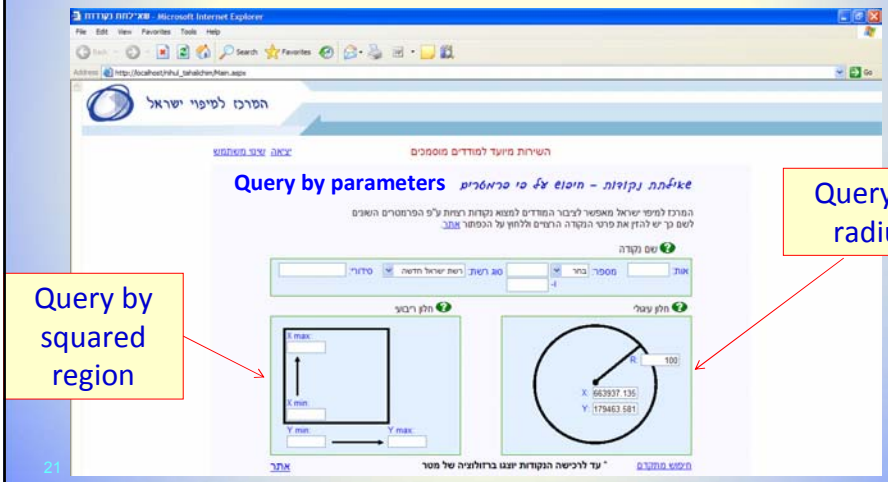


Stations and VRS Rinex files

The stations information is being transferred to the data collecting center, via APN FTP web site: - IGS collecting RAMO station
- SOPAC collecting 19 stations
- EPN – GIBS collecting RAMO, DRAG stations

National Geodetic Database

Allows professional surveyors to obtain information and query the national geodetic database (Oracle)

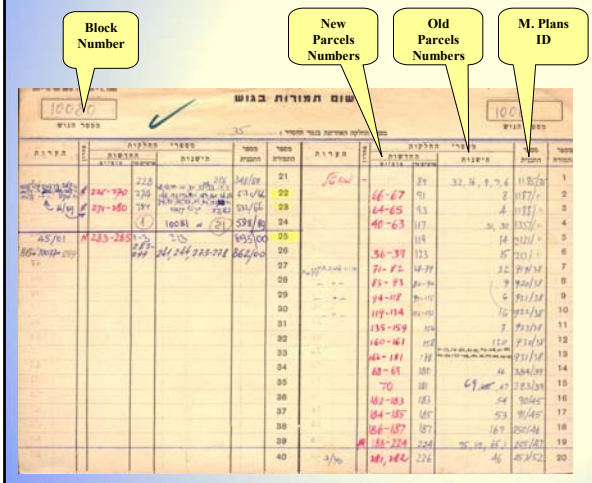


Cadastre

- **Cadastral & information for general public since 2005.**
- **Cadastral GIS for General public via Geo-Portal since 2006/7.**
- **Online Cadastral Archive for surveyors 2010.**
- **Coordinate Based Cadastre Gradual proceeding from 2009 until 2020.**
- **3D Cadastre 2010.**

Cadastre Online

Historical Cadastral Information
blocks, parcels, mutation plans

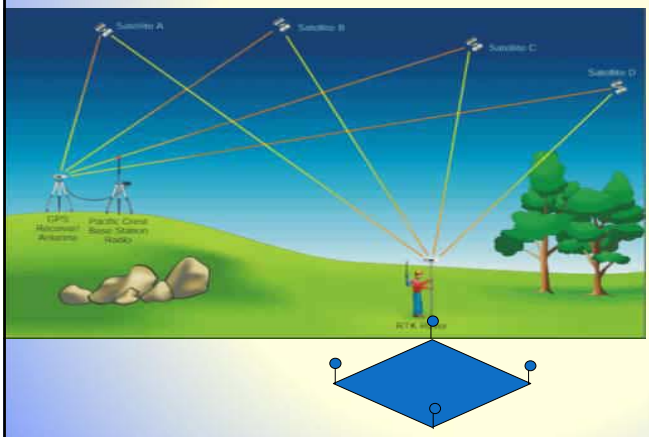


Cadastral GIS fully Updated Since 2006

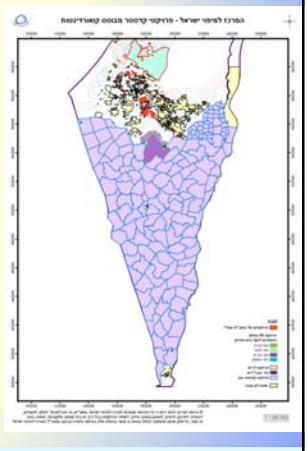
Full Cadastral Archive 2010

Cadastre Online

Coordinate based cadastre



2010 in the South



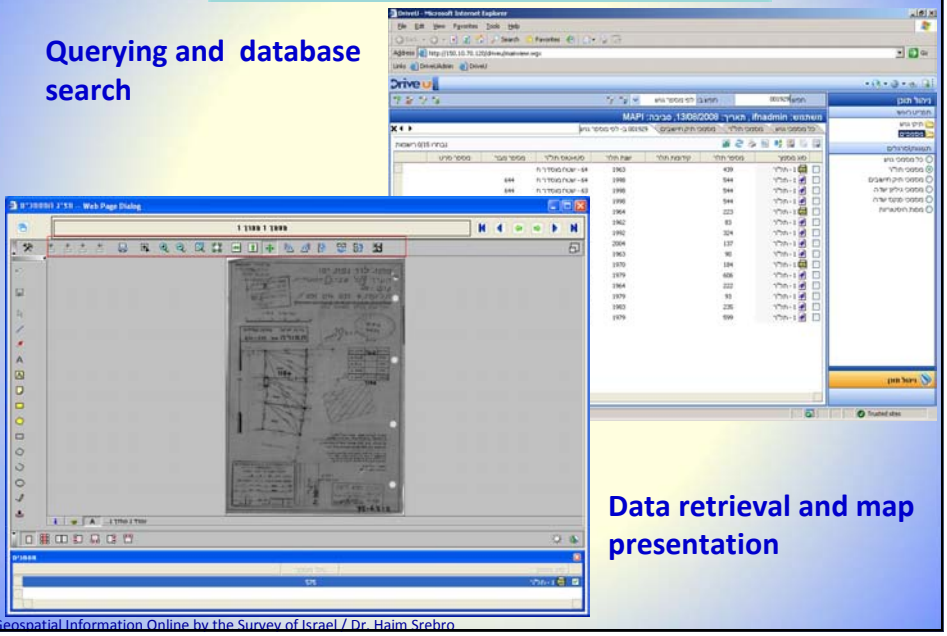
Entire Israel 2020-2030 ?

Online Cadastral Maps Archive

- More than one million cadastral documents and maps will be available to the public to purchase or obtain online
- The system is developed using an oracle database with IBM DriveU platform
- The system will serve licensed surveyors, valuers, real-estate agents in the public and private sectors
- Scanned documents will be presented at the highest quality and with legal certification.

Online Cadastral Maps Archive

Querying and database search



Data retrieval and map presentation

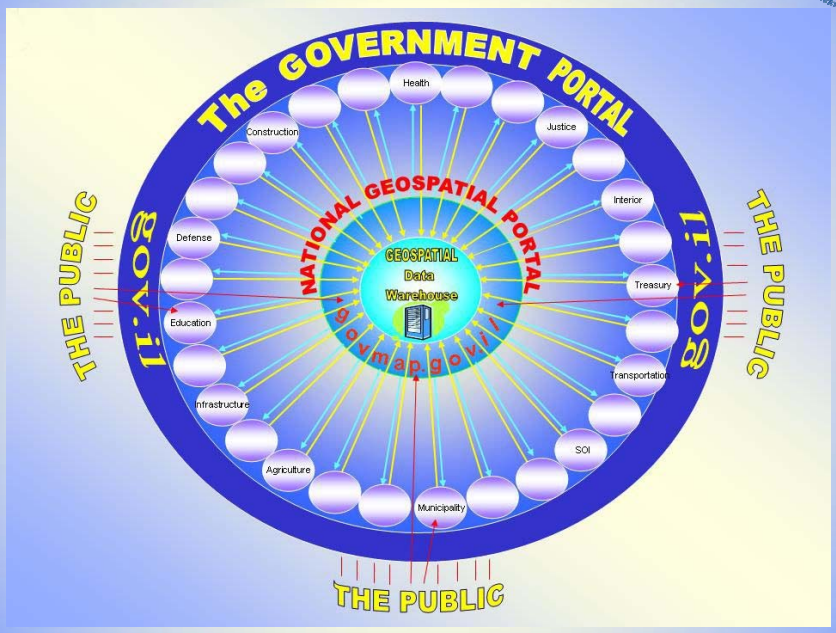
National Geospatial Portal

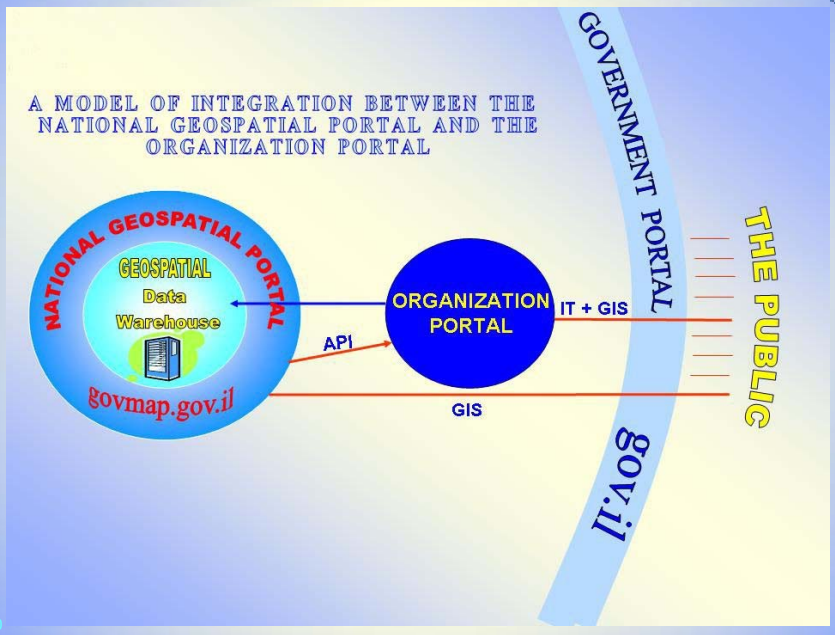
Operating free access since 2006.

New upgrade including web services – End of 2009

National Spatial data Portal

- The geographic portal provides free online access to more than 100 layers of national geospatial data
- It employs a central database approach (Data Warehouse - DWH) and ESRI's, ArcGIS Server technology
- A steering committee headed by the Director General of the SOI defines its goals and plans.
- Spatial data layers include: topographic data, cadastre data, Orthophotography, zoning plans, parks, etc.)


The GOVERNMENT PORTAL
gov.il
THE PUBLIC
NATIONAL GEOSPATIAL PORTAL
GEOSPATIAL
Data
Warehouse
govmap.gov.il
Health
Justice
Interior
Treasury
Transportation
SOI
Municipality
Agriculture
Infrastructure
Education
Defense
Construction
THE PUBLIC


A MODEL OF INTEGRATION BETWEEN THE NATIONAL GEOSPATIAL PORTAL AND THE ORGANIZATION PORTAL
GOVERNMENT PORTAL
gov.il
THE PUBLIC
NATIONAL GEOSPATIAL PORTAL
GEOSPATIAL
Data
Warehouse
govmap.gov.il
ORGANIZATION PORTAL
IT + GIS
API
GIS

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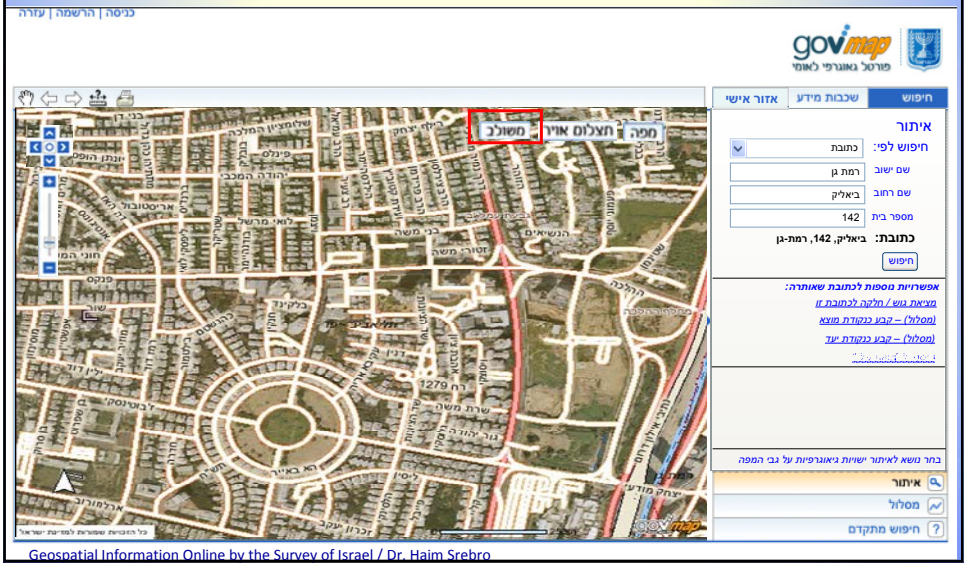
National Geospatial Portal

Simple user interface that provides wealth of information



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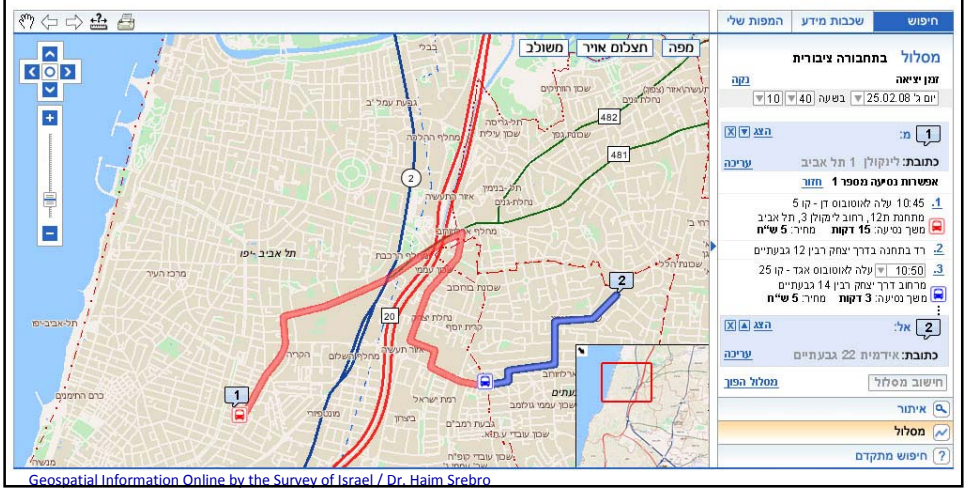
National geospatial portal provides information about public transportation and shortest routes



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The geospatial portal will allow other agencies to integrate spatial information in their sites

National healthcare service - pharmacies

A list of pharmacies:

Central region:

Givataim, 1 Waitsman st.

Tel-Aviv, 124 Dizingov St.

Northern Region:
Haifa, 3 Hasan Sukri St.

- אודות
- מגיע לי בלאומית
- רפואה מונעת
- שב"ן(ביטוח משלים)
- לאומית סיעוד
- לאומית טבעית
- דרכונית לאומית
- לאומית מקסימום
- עוד בלאומית
- פניות הציבור
- שירותי און-ליין
- רופאים עונים

חדש: בתי מרקחת המוכנים שירותים לחברי הקופה בהנחה

Securing Against Web Hackers

- The SOI has realized the need for secure online project management and supervision application for surveying cadastral work.
- This application will improve and organize communication between the government, agencies and the private surveyors.
- This project will use digital signature technologies , secure data sharing methods, and electronic forms technology.

Joint Projects with other Government Agencies

- Promote the use of public transportation.
- Develop internet service that provides real-time information about buses, trains and other public transportation services using online maps.
- A joint project with the Ministry of Transportation, Finance Ministry and the Survey of Israel.
- Develop a more effective public transportation by mapping population needs and geographic zones.

Conclusions and Further Discussion

- Geospatial data is essential for proper decision making and for a country to prosper
- Online technologies enhance the government ability to provide better service to citizens
- Online technologies bring many governmental units together for better management of our scarce global resources.
- The Survey of Israel enables access to most of its information and will transfer most of its services online until 2011.

Thank you For your attention