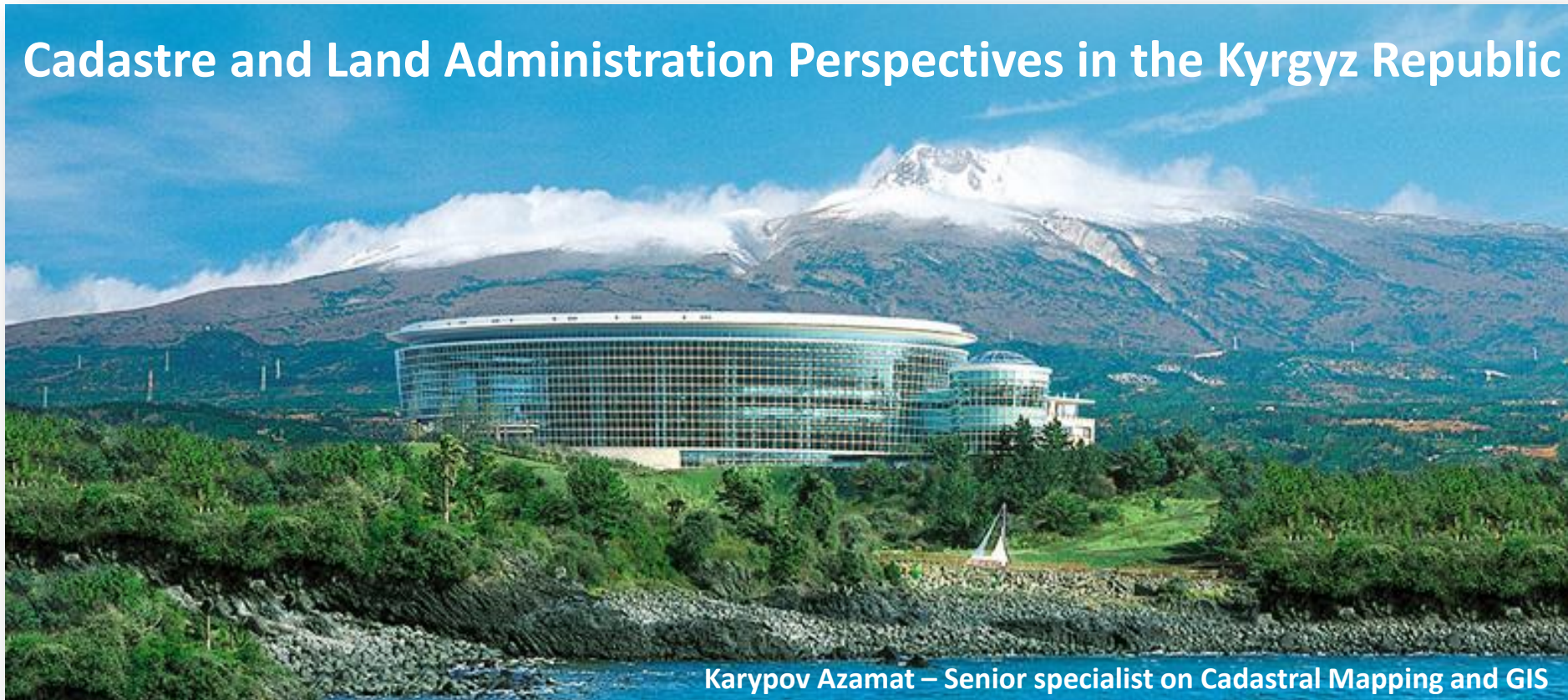


Cadastral and Land Administration Perspectives in the Kyrgyz Republic



Karypov Azamat – Senior specialist on Cadastral Mapping and GIS

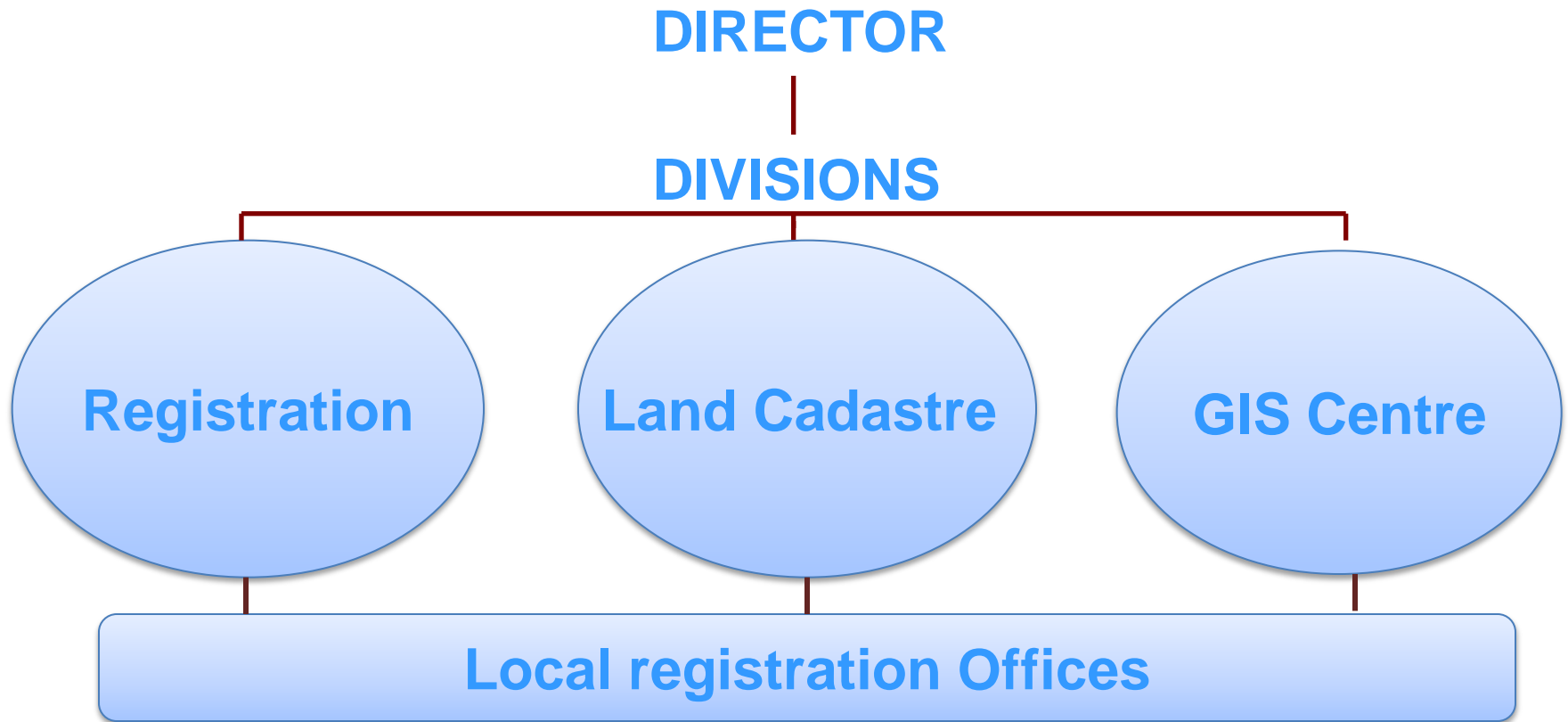
**Department of Cadastre and Registration of Rights to
Immovable property under the State Registration Service
under the Government of Kyrgyz Republic**



Department of Cadaster and Registration of Rights to immovable property

- **Organization**
- **Real Property Register**
- **GNSS/GPS development**
- **Cadastral mapping**
- **SDI – development**
- **Coming Project from KOICA**
- **Conclusion**

Organisation



Local registration offices (49 local registration offices)



Local registration offices



21/03/2007 23:26



Functions:

- Registration of rights to immovable property
- Provision of information on registered rights to immovable property
- Processing land management files and issuance of right-establishing documents to land parcels
- Carrying out technical survey of immovable property units

Human Resources

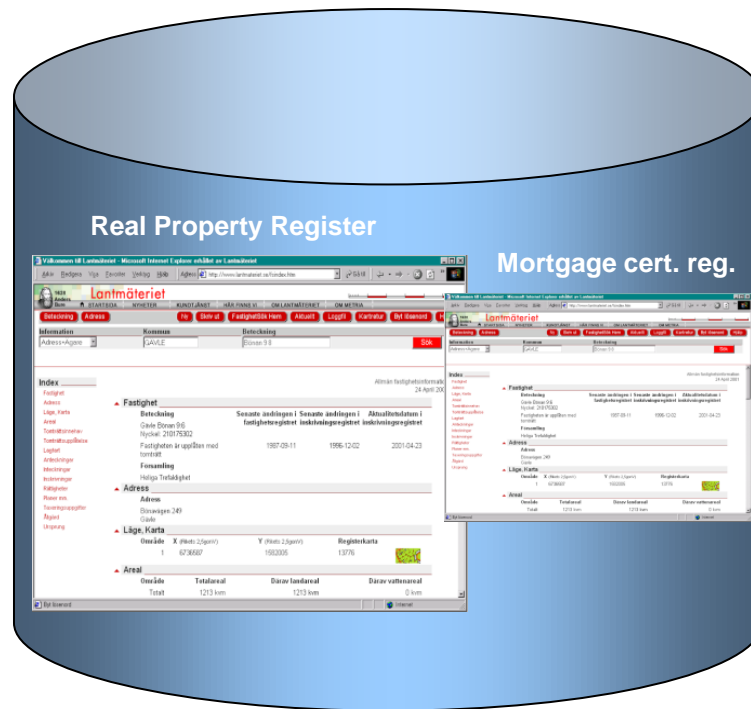


- **Total staff 1600 persons**

Department of Cadaster and Registration of Rights to immovable property

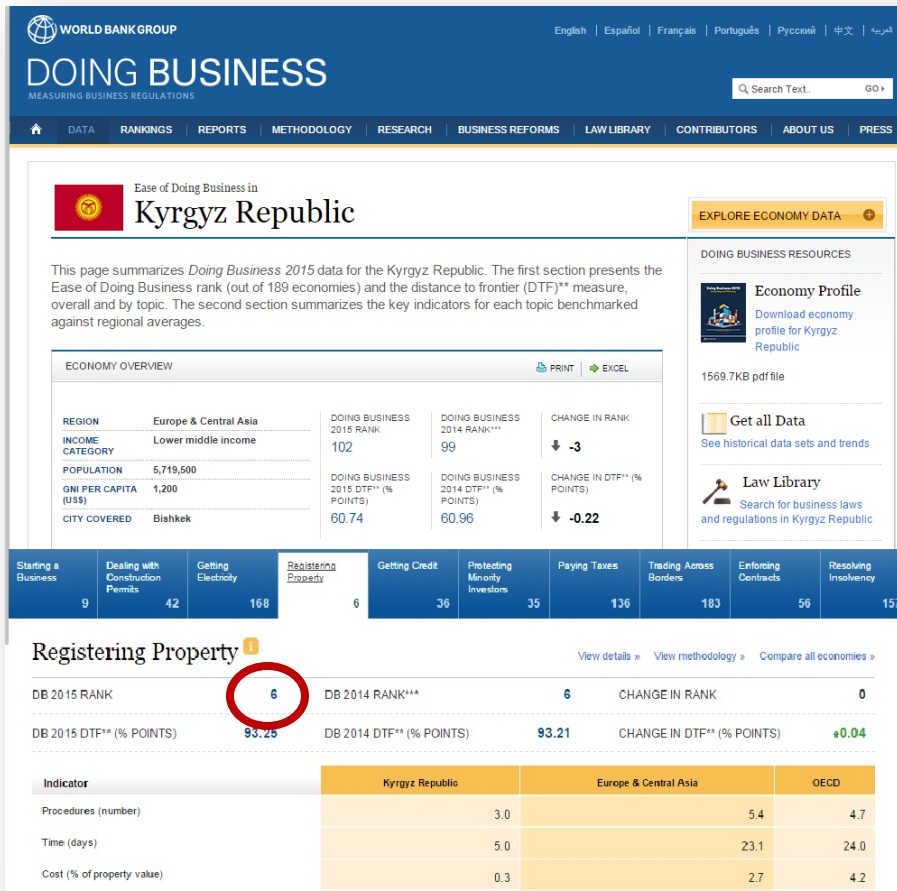
- Organization
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Real Property Register



- ❑ Total 3,0 mln. properties
- ❑ 95% registered

Time for registration



- ❑ Time for primary registration – 5 days
- ❑ Time for registration after transactions – 1 day
- ❑ Mandatory notary certification of sale, gift, exchange, lease with subsequent buy-out has been cancelled

It can be done in local registration office – 1 day

Implementation of automated registration system (ARS)

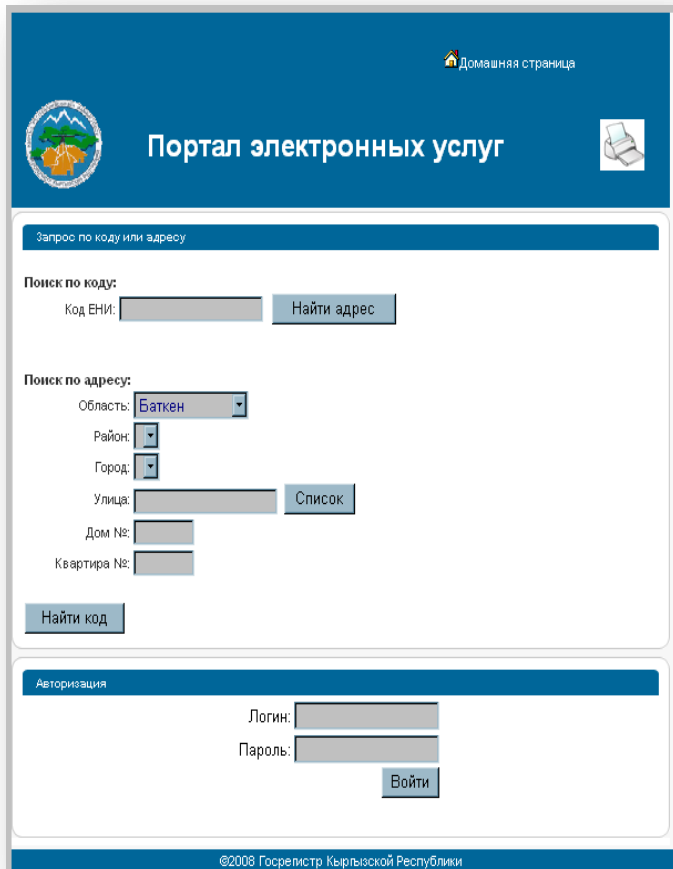
The screenshot displays the 'Форма параметров ЕНИ' (Form of parameters of the State Register of Rights to Immovable Property) interface. The form is divided into several sections:

- Общие (General):** Includes fields for 'Код ЕНИ' (1-02-10-0034-0090), 'Адрес' (Бишкек, Ляйлакский пер д.8), 'Дата обследования' (21 января 2008 г.), and 'Имя карты'. It also shows 'Форма собственности' (Частная), 'Целевое назначение' (Жилое), 'Форма использования' (Жилый дом), and area measurements: 'Общ. площадь юр' (719.00 кв.м), 'Общ. площадь факт' (772.00 кв.м), and 'Площадь на карте' (759.26 кв.м).
- Площадь (Area):** 'Полезная площадь' (275 кв.м).
- Постройки (Buildings):** 'Год постройки' (1996), 'Кол-во комнат' (6), 'Этаж' (0), 'Кол-во балконов' (0), 'Кол-во лоджий' (0), 'Площадь кухни' (0.00), 'Коз. коэффициент налогообложения' (0.00), and 'Кол-во этажей в здании' (1).
- Материалы (Materials):** 'Материал стен' (Кирпич), 'Тип санузла', 'Тип отопления' (Газовое), 'Тип кровли' (Шифер), and 'Налогооблагаемая зона'.
- Услуги (Services):** Checkboxes for 'Ванна', 'Газ', 'Канализация', and 'Сливная труба'.

ARS implemented within 49 offices

- ❑ To improve quality of services provided
- ❑ To increase efficiency of local registration offices through improvement of operating processes
- ❑ To ensure authenticity and reliability of information in the state register of rights to immovable property
- ❑ Record of immovable property rights confirming origin, restriction or termination of rights

Kyrgyz Land Information System (KLIS)



The screenshot shows the main interface of the Kyrgyz Land Information System (KLIS) portal. At the top, there is a blue header with the text "Портал электронных услуг" (Portal of Electronic Services) and a "Домашняя страница" (Home) link. Below the header, there are two main sections: "Запрос по коду или адресу" (Request by code or address) and "Авторизация" (Authorization). The "Запрос по коду" section includes a search box for "Код ЕНИ" and a "Найти адрес" button. The "Запрос по адресу" section includes dropdown menus for "Область" (Region) and "Район" (District), a "Город" (City) dropdown, and input fields for "Улица" (Street), "Дом №" (House No.), and "Квартира №" (Apartment No.), with a "Найти код" button. The "Авторизация" section includes input fields for "Логин" (Login) and "Пароль" (Password), and a "Войти" (Login) button. At the bottom, there is a copyright notice: "©2008 Госрегистр Кыргызской Республики".

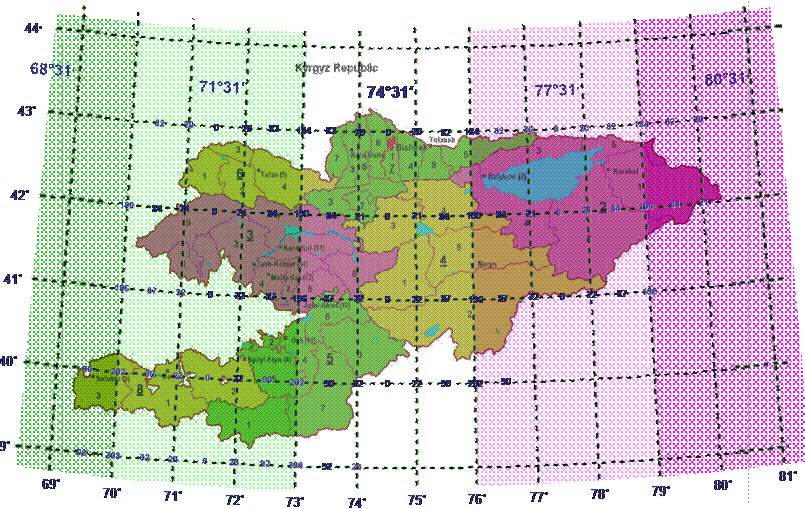
- ❑ Establishment of real estate objects and owners recording system
- ❑ Increase public awareness and other services
- ❑ Ensure effective, reliable cooperation on information exchange with government and non-government bodies
- ❑ Creation of real estate database for valuation and taxation

<http://klis.gosreg.kg/>

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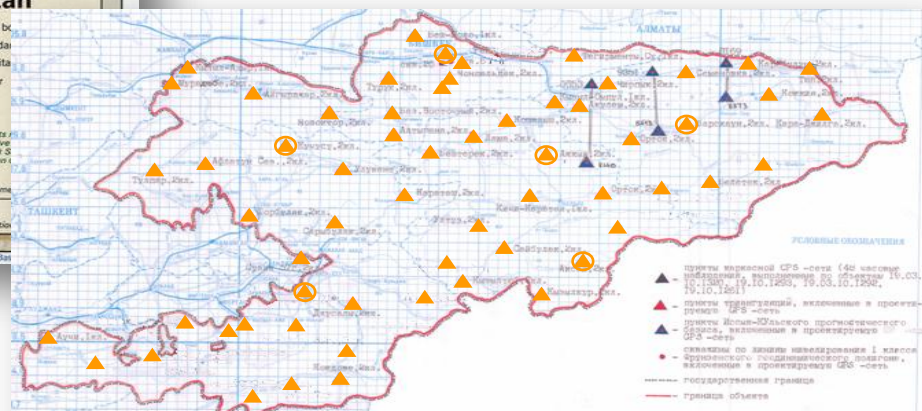
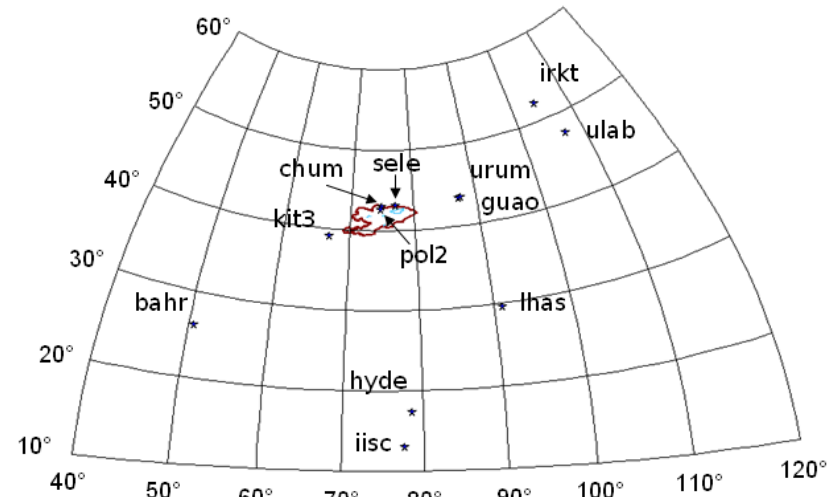
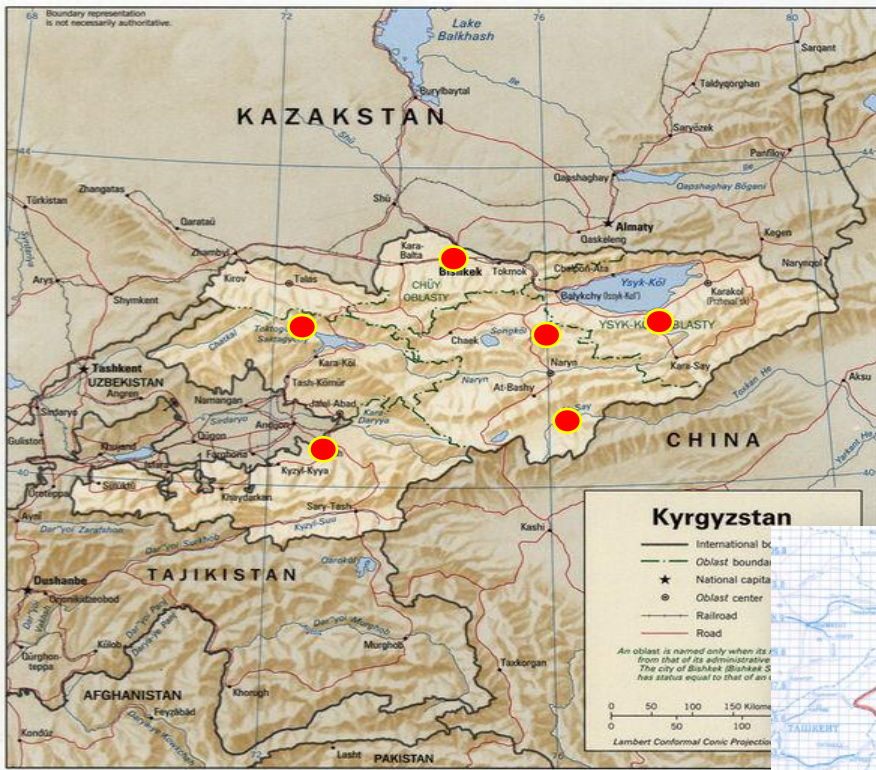
National coordinate system Kyrg-06



ITRF2005 based, UTM, 3° zones, GPS observed, implemented in 2010

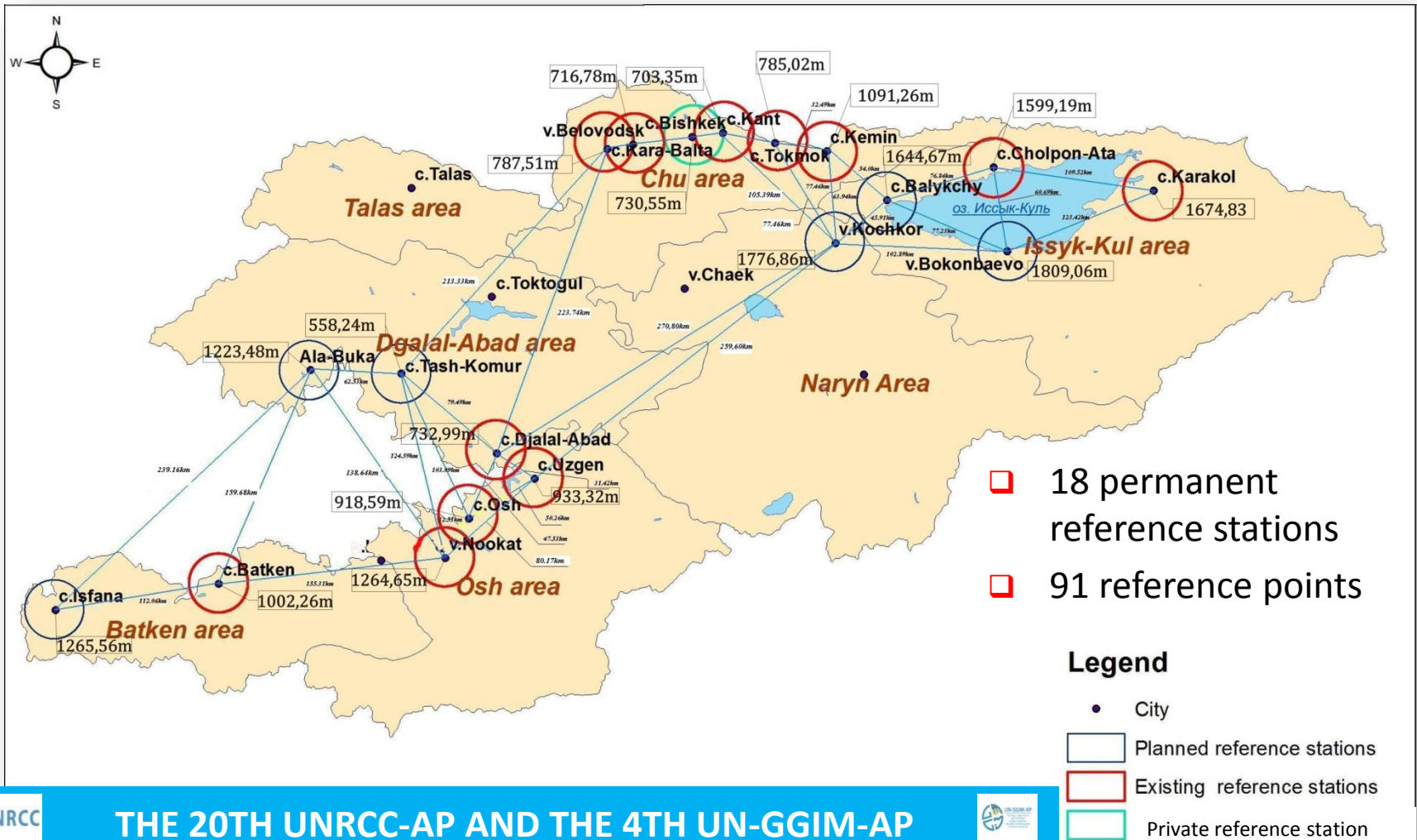
- ❑ National coordinate system is approved in 2010 October
- ❑ Uniform and open co-ordinate system for civil applications
- ❑ Kyrg-06 based on ITRF-2005
- ❑ Global reference system for GNSS applications
- ❑ 18 stations in Kyrgyzstan
- ❑ Kyrgyzstan is located in 5 zones
- ❑ GNSS/GPS monitoring centre “KyrPos”

New Kyrgyz National reference frame

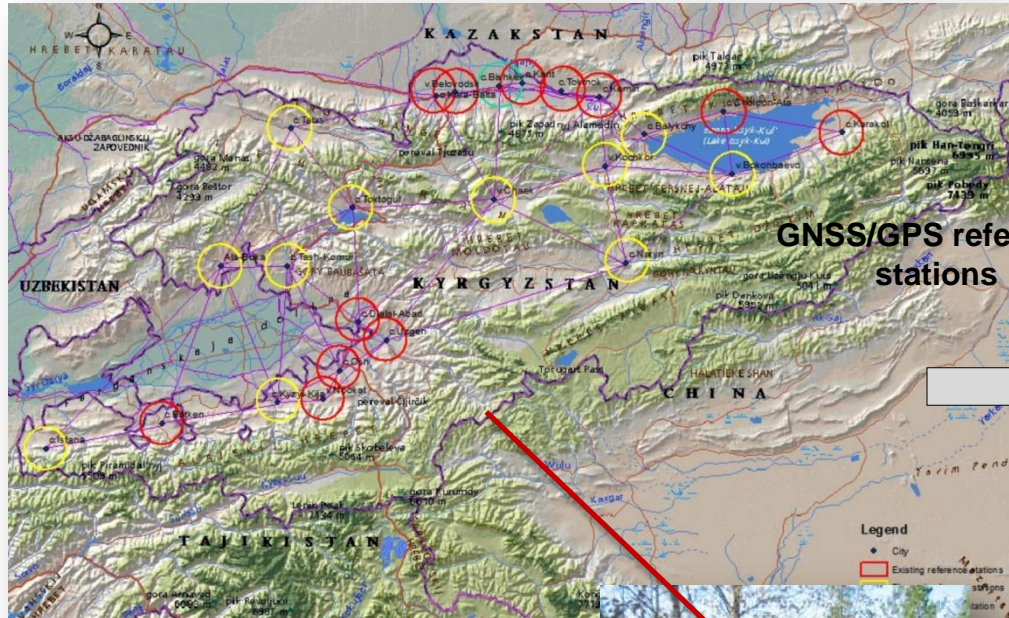


Zero Order 6 Geodetic Points
 First Order 67 Geodetic Points
 KSGCS

Active GNSS network in Kyrgyzstan (18 CORS)



Cadastral topography development



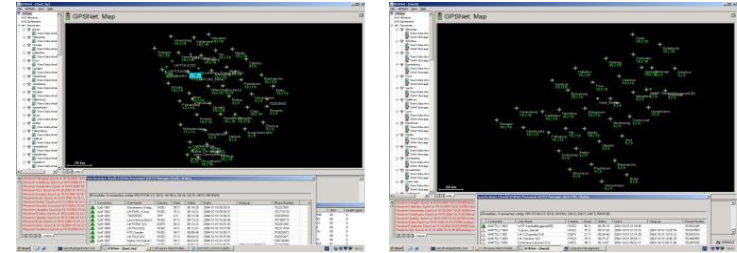
GNSS/GPS reference stations

GPS device

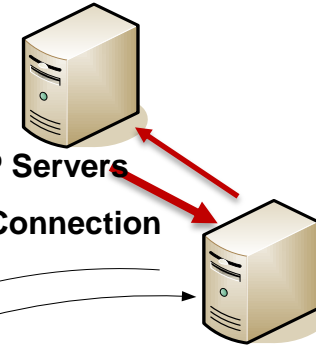


Positioning

Control centre in Bishkek «KyrPOS» based on Spider (Leica)

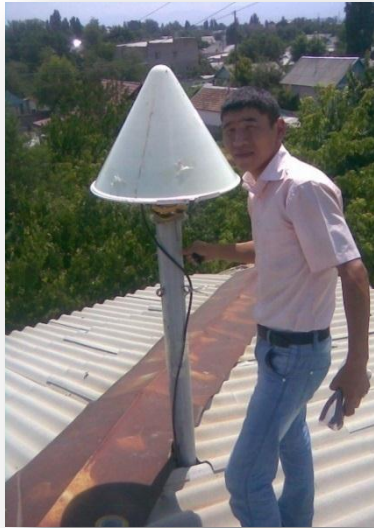


FTP Servers
RTK-Connection



GNSS/GPS CORS in Kyrgyzstan - KyrPOS

Continuously Operating Reference Stations (CORS)



The pictures are courtesy of DCR SRS KR

KyrPOS – Active GNSS Network Processing and Control Centre

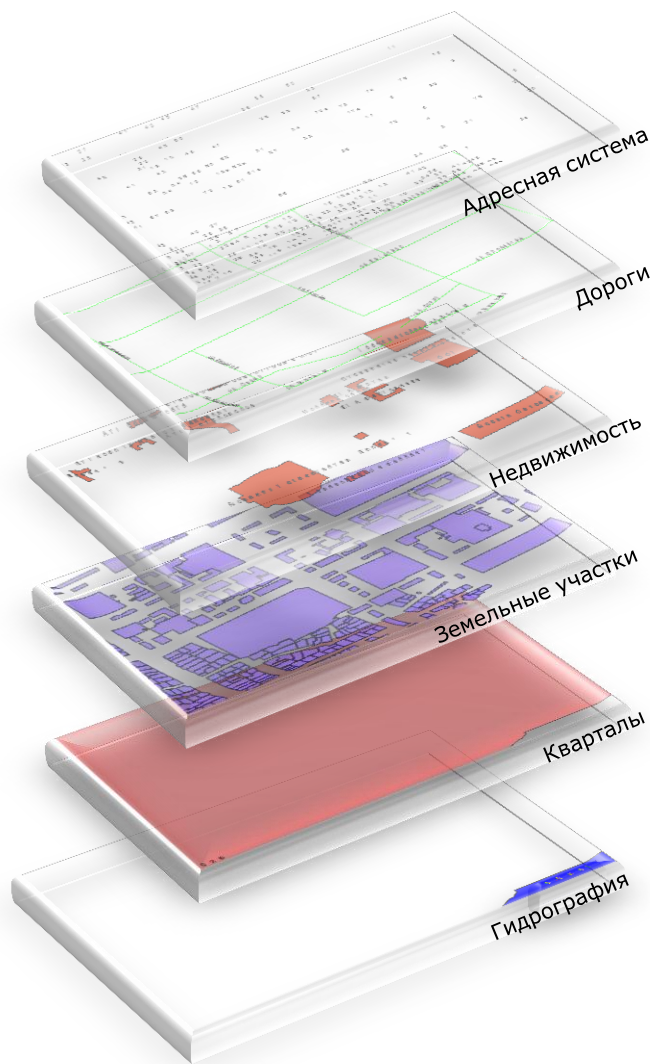


17

Department of Cadastre and Registration of Rights to immovable property

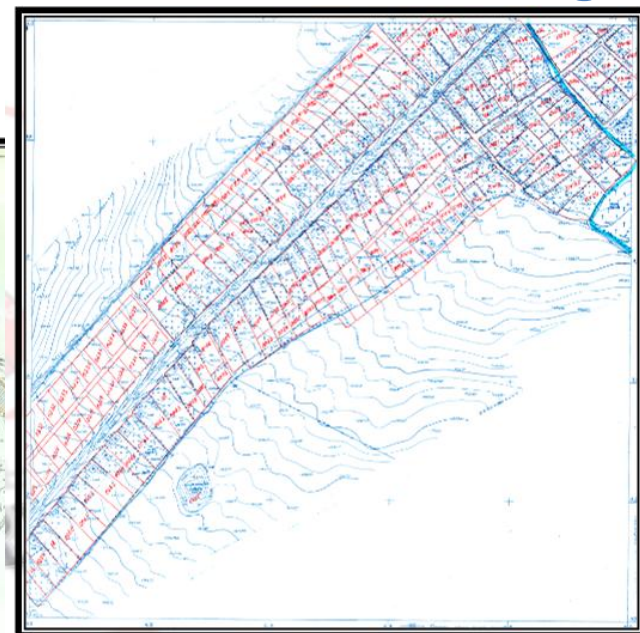
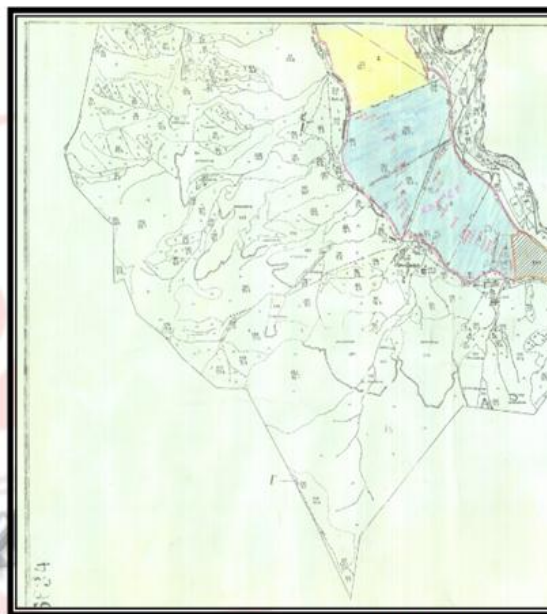
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Vectorizing process of cadastral mapping



Mass scanning activities:

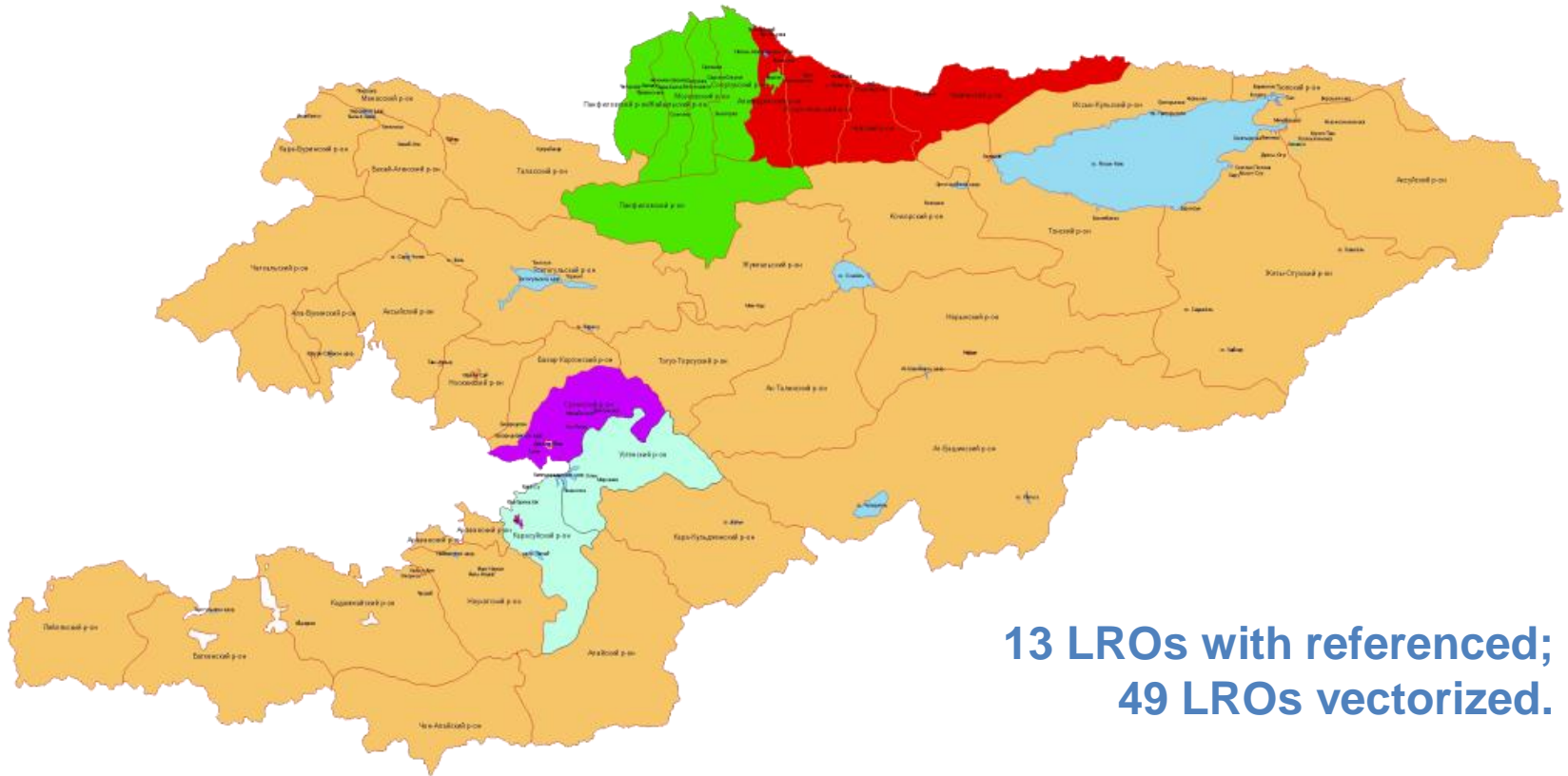
Scanning-
Vectorizing-
Field GNSS/GPS survey-
Geo-referencing



М 1: 10 000

М 1: 2 000

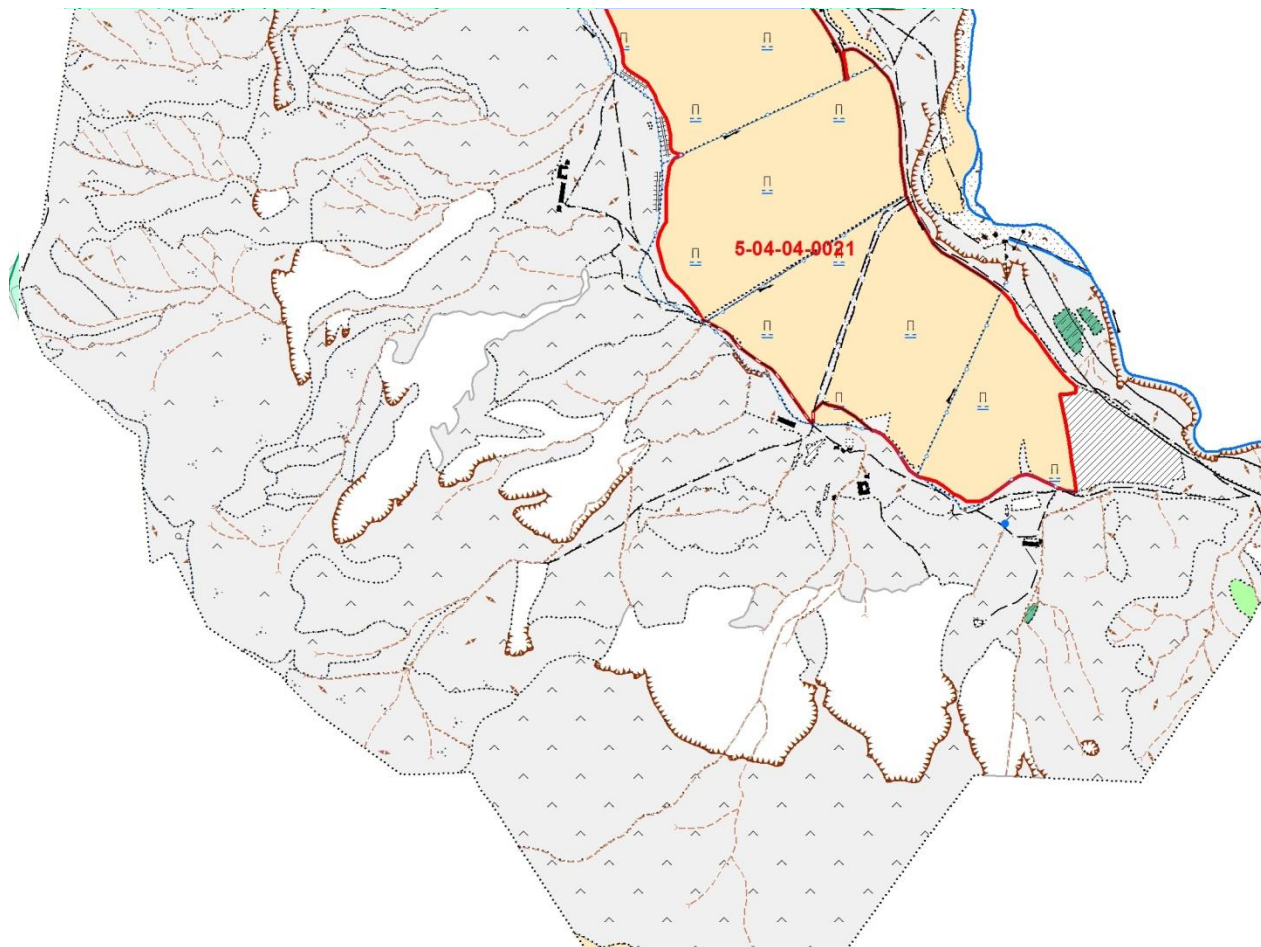
Results of mass vectorizing process



13 LROs with referenced;
49 LROs vectorized.

VECTOR MAP

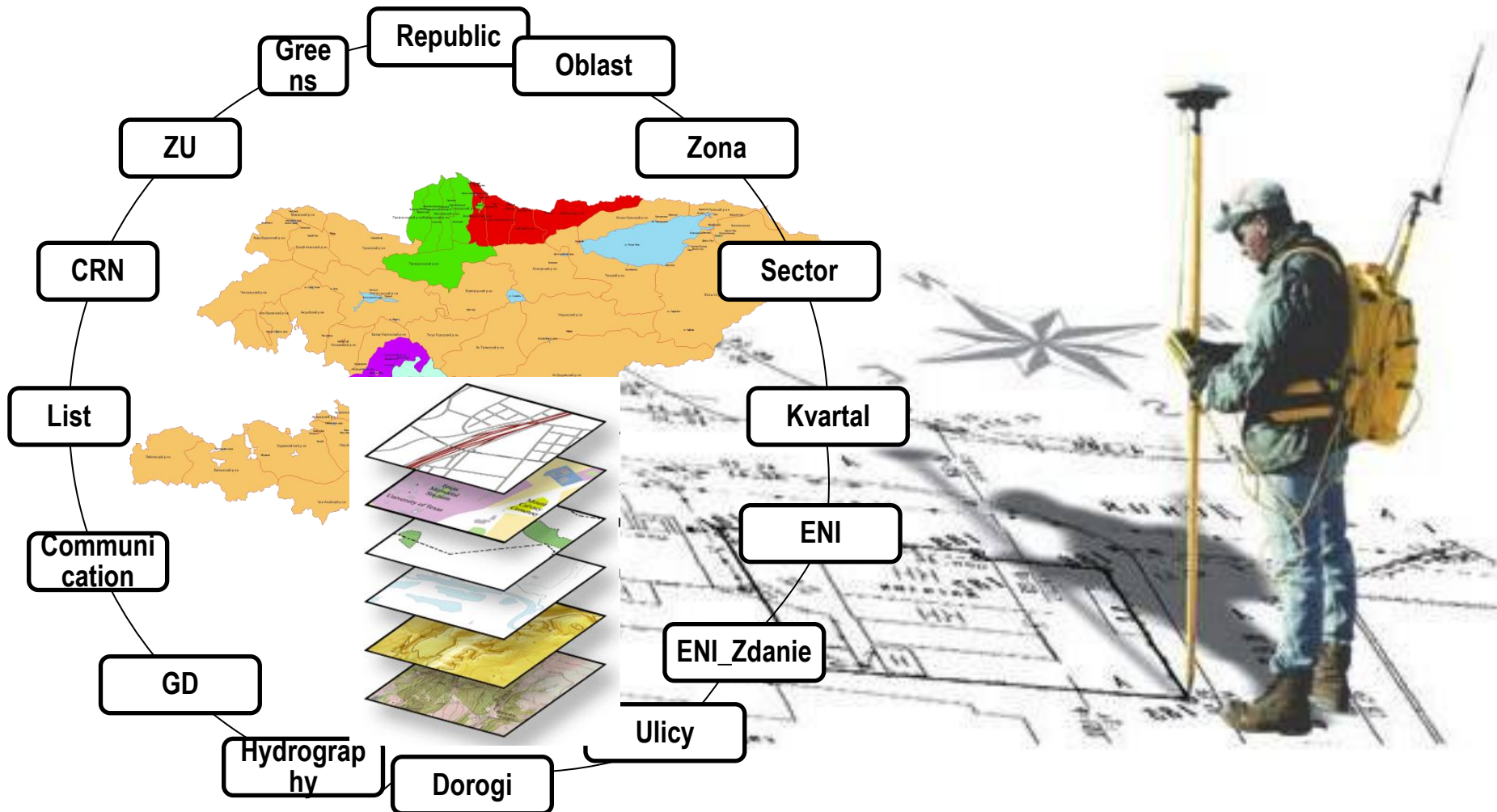
Scale 1:10 000 (agricultural land)



Jany-Aryk municipality digital map fragment



Graphical cadastre data



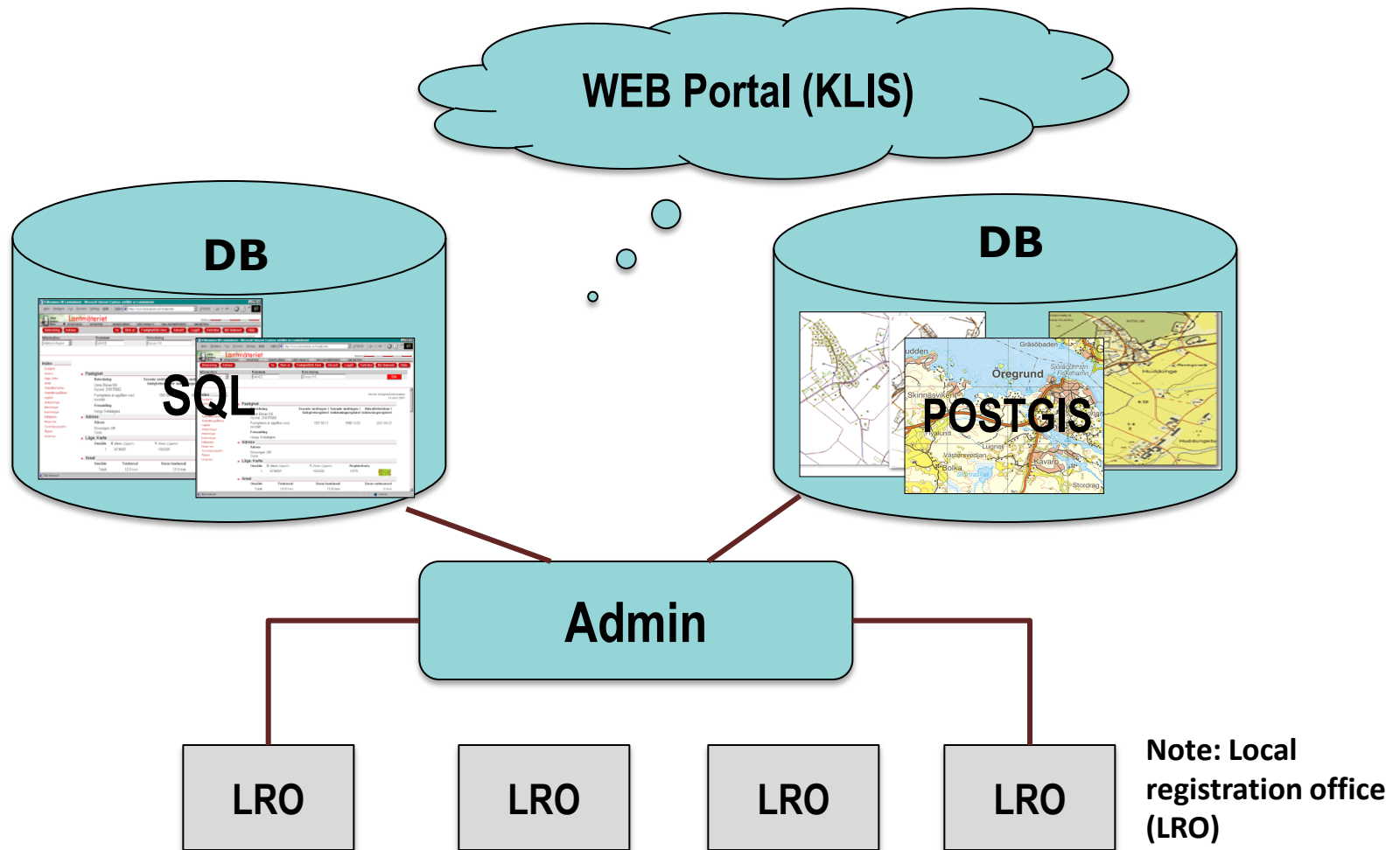
Automated cadastral system (ACR)

The screenshot displays the Quantum GIS 2a4d79d interface. The main window shows an aerial map with red outlines representing cadastral parcels. A yellow parcel is highlighted. A search panel on the right allows for searching by code and address. A data table window titled 'Результат определения' (Search Result) displays the following information:

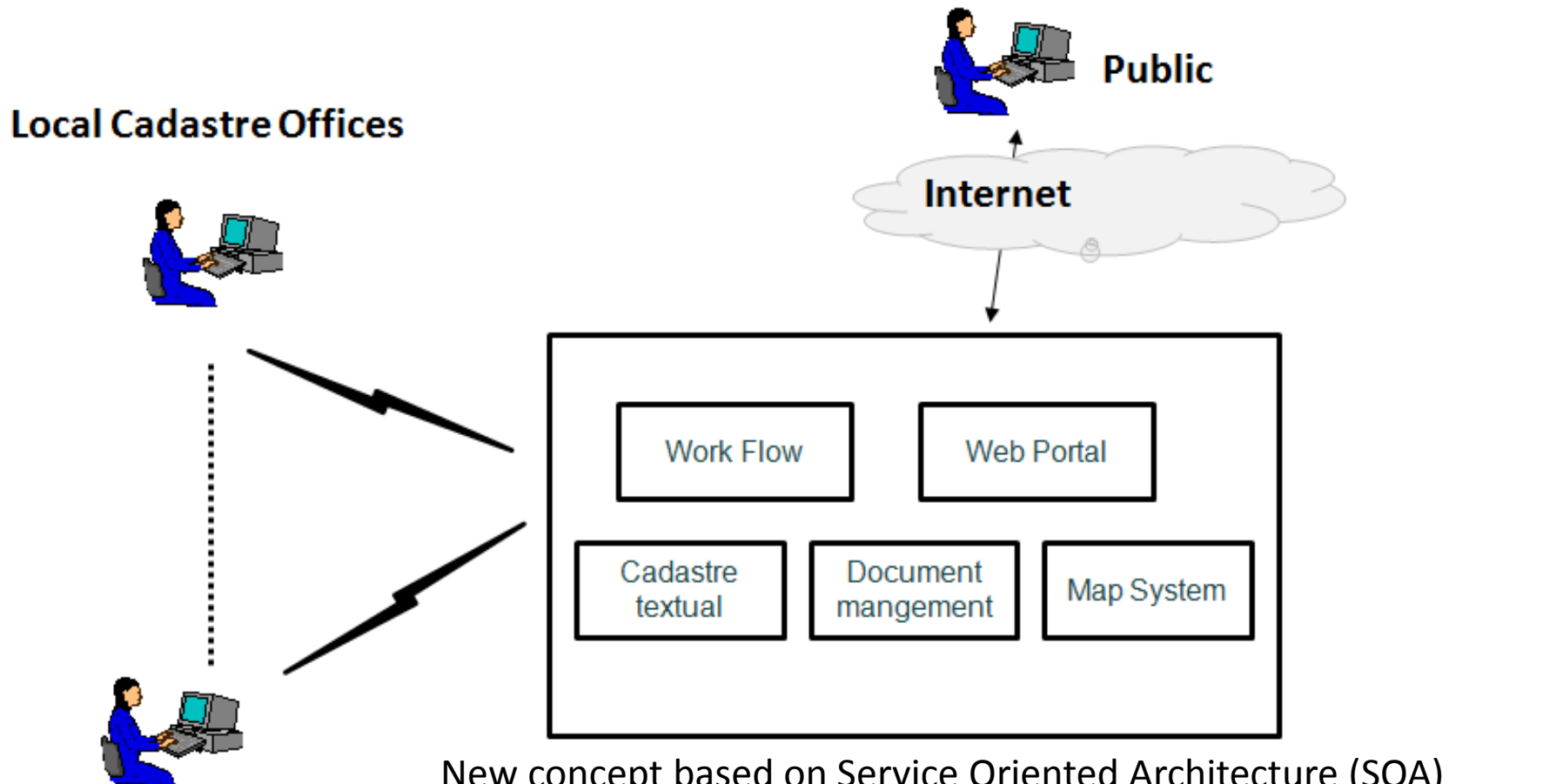
Объект	Значение
0	Слой ЕНИ (участки)
oid	38890
(Выведенные) (Действия)	
dotcode	позлачени
oid	38890
primechani	
proprcode	1-04-01-0008-0001
shape_le_2	91.54908474
uslcode	

Callouts identify the 'Instrumental Panel' (top toolbar), 'Map Layers' (left sidebar), 'Map' (main map area), and 'Search inlays' (search panel).

Current Architecture Concepts of cadastre



New Architecture Concepts of cadastre

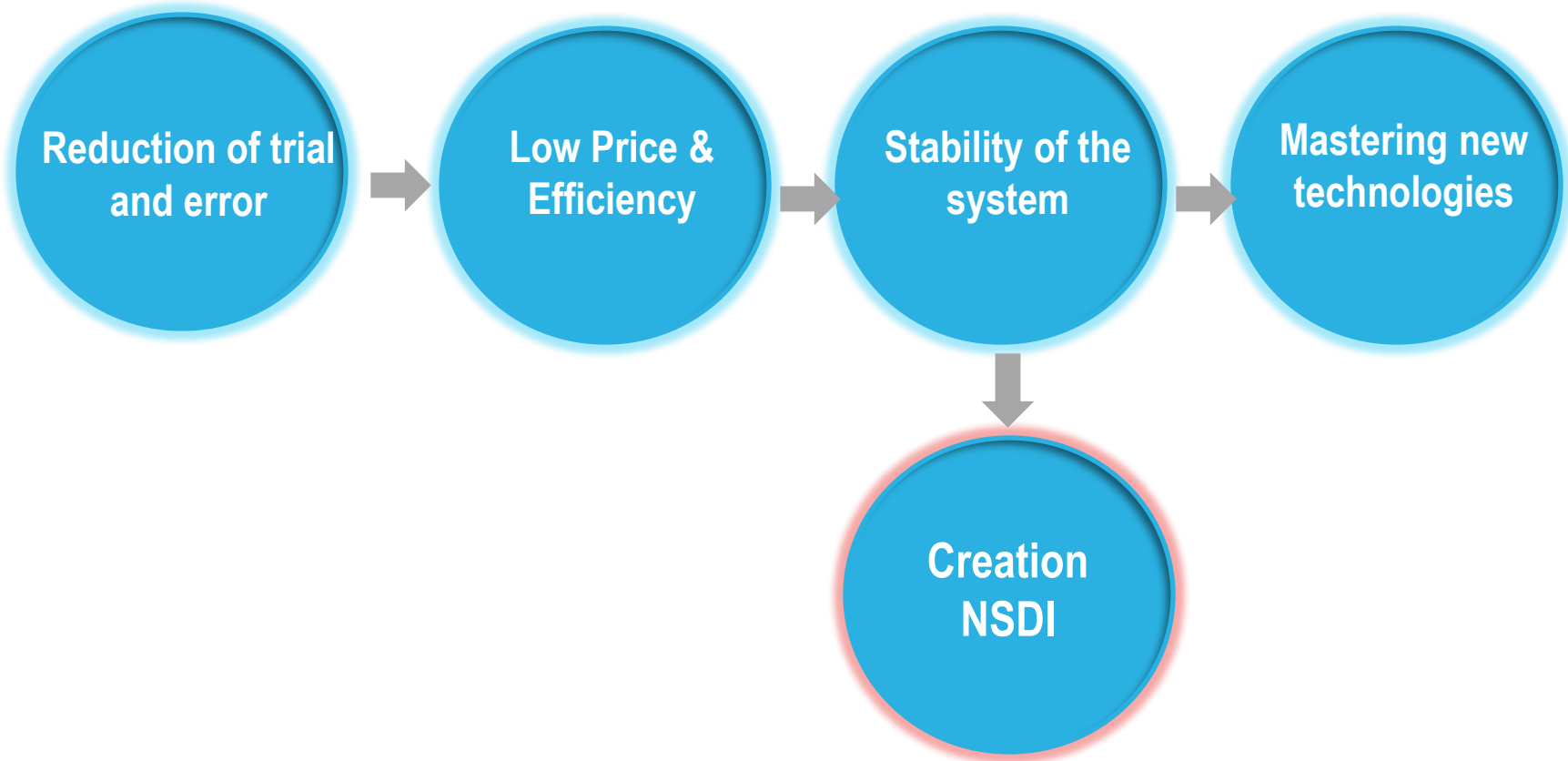


New concept based on Service Oriented Architecture (SOA)
Which is a well accepted and up-to-date approach to Information system design, implementation, and operation.

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Government needs

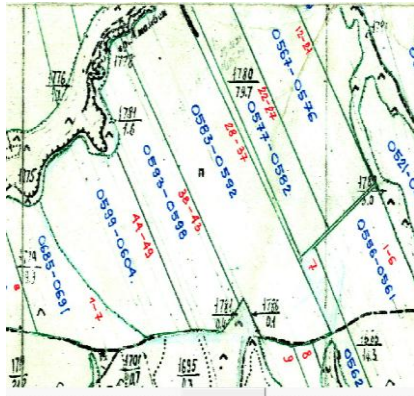


Needs for Spatial Data Infrastructure



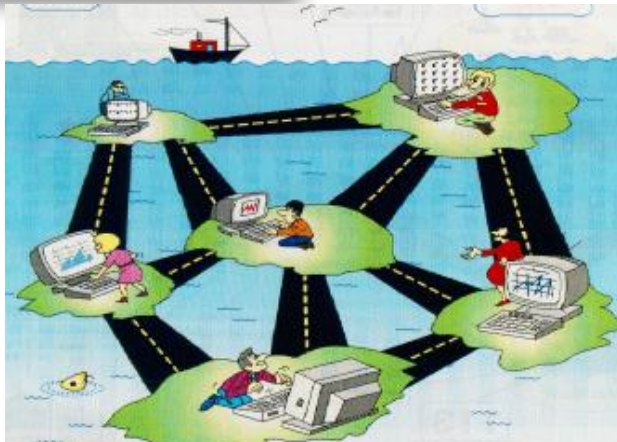
- ❑ Integrated place-based information is valuable for decision making;
- ❑ Less duplication and more reuse;
- ❑ Benefits to the individual;
- ❑ Value added products and businesses opportunities.

The present situation in Kyrgyzstan regarding spatial data



- Duplication of efforts and costs
- Insufficient use of standards
- Poor accessibility
- Unclear copyright and licensing policy
- Lack of coordination

Geospatial data status



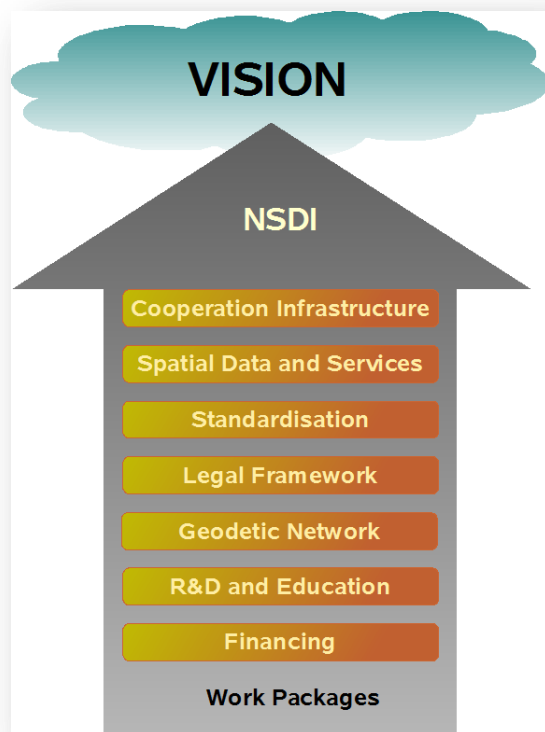
- Geospatial data in Kyrgyzstan primarily exist in an analogue form.
- A common body responsible for general coordination and cooperation on all social levels regarding geospatial data is missing.

National Spatial Data Infrastructure



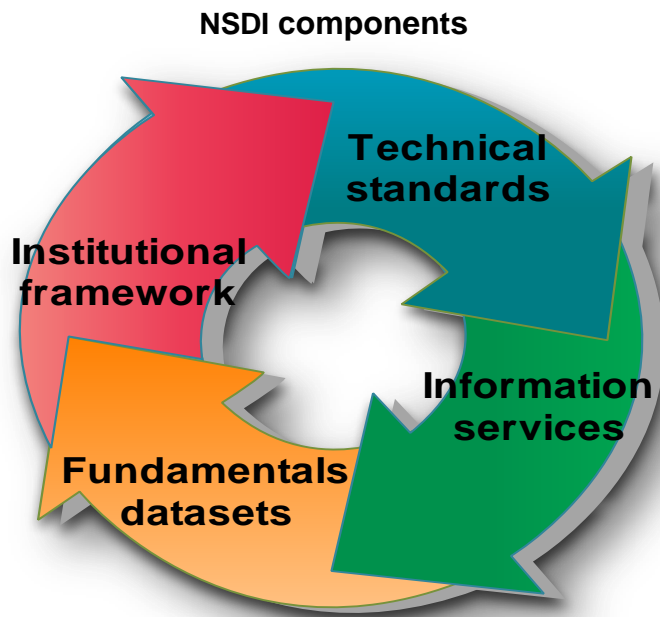
- ❑ An interdepartmental working group of NSDI created by the Government Order of the Kyrgyz Republic 7 October 2014 № 430
- ❑ The Working Group developed a Draft Strategy for the establishment and development of the NSDI in the Kyrgyz Republic 2015-2020
- ❑ Now the Strategy under the consideration of Government.

Vision - Implementation - The Action plan



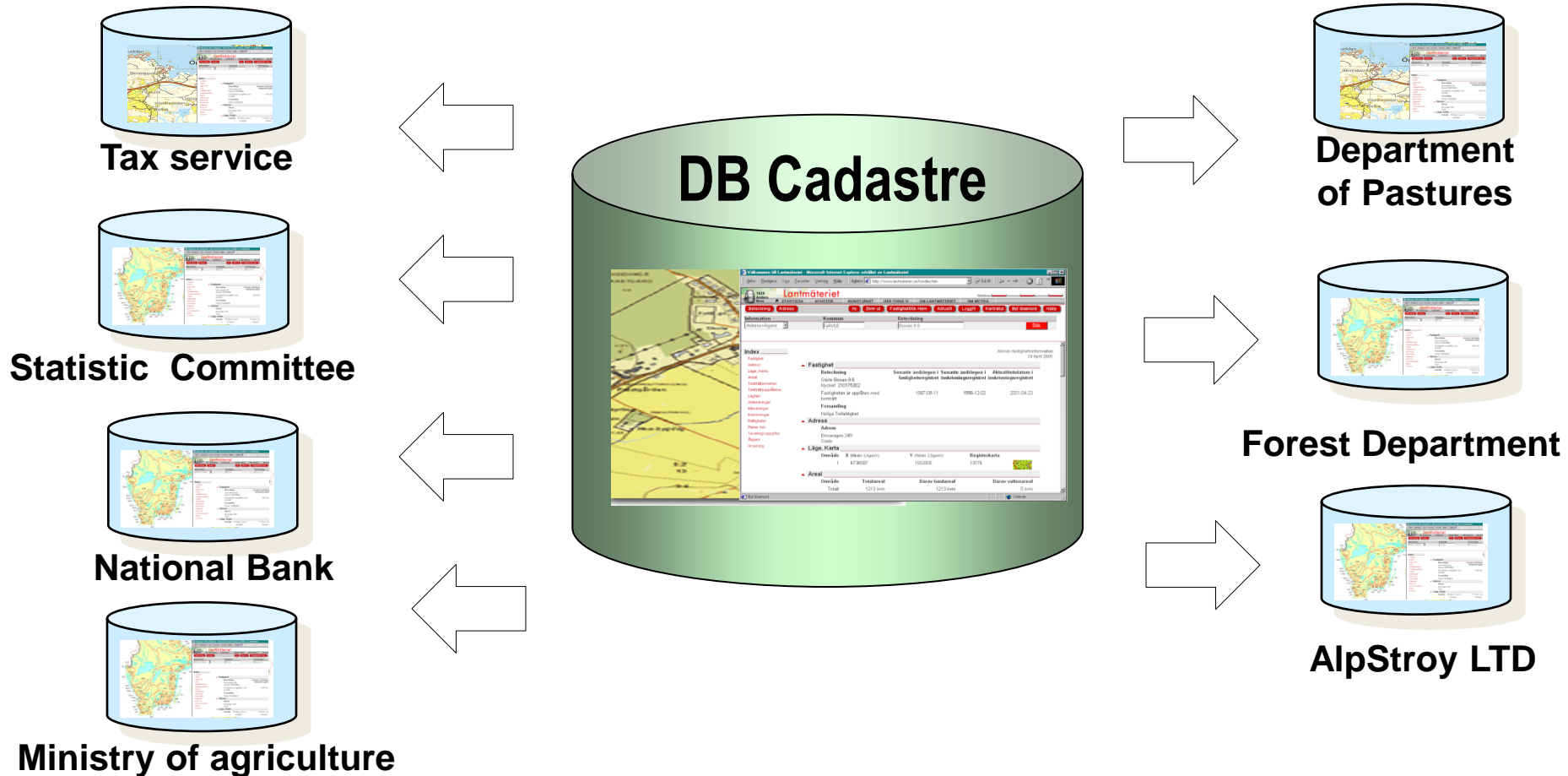
- Cooperation Infrastructure
- Spatial data and services
- Standardization
- Legal framework
- Geodetic network
- Financing and pricing
- Research, development and education

Basic principles of the NSDI









- maximum use of already established in the Kyrgyz Republic of spatial data;
- accessibility of information resources, containing the basic spatial data;
- mandatory use of already established and basic spatial data at work on updating them;
- establish uniform conditions and tariffs in the provision of basic spatial data.

Role of the DCR in Data provision



International Geographical Standards

- **ISO19100-family (TC/ 211) / CEN TC/ 287**

- **OGC - Open Geospatial Consortium**


- **INSPIRE (EU)**



- **NATIONAL data models and services**

ISO 19100 Family of Standards

(about 60 substandards)

- ISO 19103 CSL - Conceptual schema language
- ISO 19107 Spatial schema
- ISO 19108 Temporal schema
- ISO 19109 Rules for application schema
- ISO 19110 Methodology for feature cataloguing
- ISO 19115 Metadata
- ISO 19118 Encoding
- ISO 19119 Services
- ISO 19128 WMS - Web map server interface
- ISO 19136 GML - Geography Markup Language
- ISO 19142 WFS - Web Feature Service
- ISO 19143 FE- Filter encoding
- ISO 19152 LADM

Coming Project from KOCIA

“Modernization of Land Registration and Cadastral System of the Kyrgyz Republic”

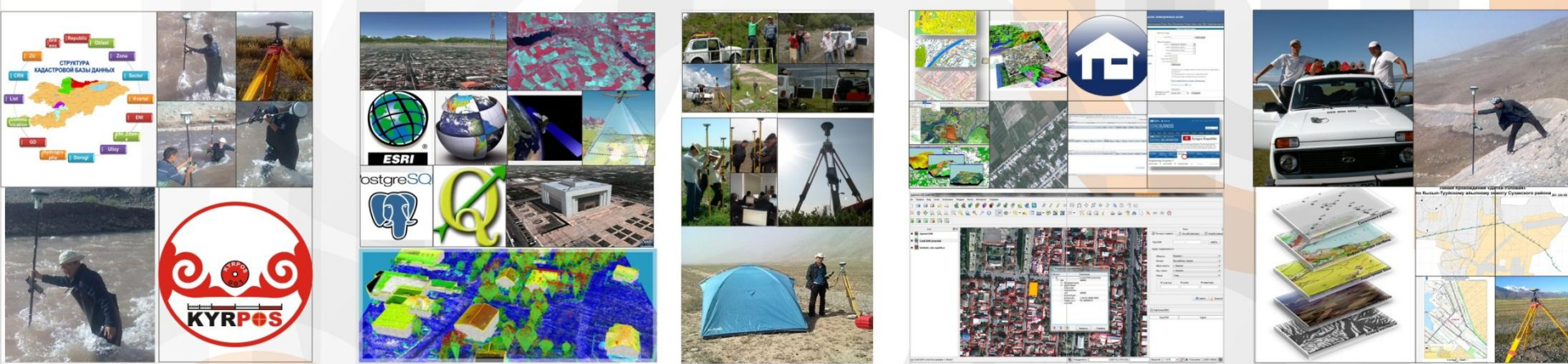
Objectives:

To contribute the sustainable national land management and economic development by strengthen and modernize the cadastral system of the Kyrgyz Republic

Conclusion

- Registration system is one of the most important tool of market economy in the Kyrgyz Republic;
- Land Administration system has gradually continued to develop in Kyrgyzstan;
- Kyrgyzstan has had extensive experience in the implementation of the World Bank projects of registration of land and immovable property;
- High rating of Kyrgyzstan in property registration Bank Doing Business Report;
- Digital cadastral mapping, Open source software;
- Active GNSS network in Kyrgyzstan;
- NSDI Strategy in Kyrgyzstan;
- Cooperation.

Thank you for your attention!!!



ҶОҲ ПАХМАТ!
감사합니다!

azamatik2007@yahoo.com