



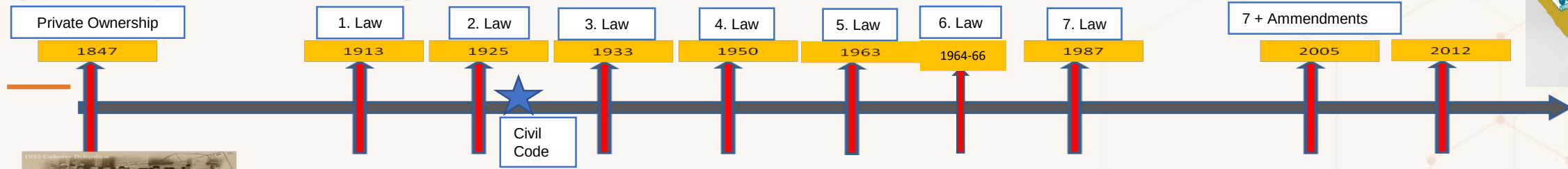
THE ROLE OF LAND REGISTRY AND CADASTRE SYSTEM REGARDING INFRASTRUCTURE DEVELOPMENT IN TURKIYE AND CHALLENGES

**Umit Yildiz
Cadastral Department**

PRESENTATION PLAN

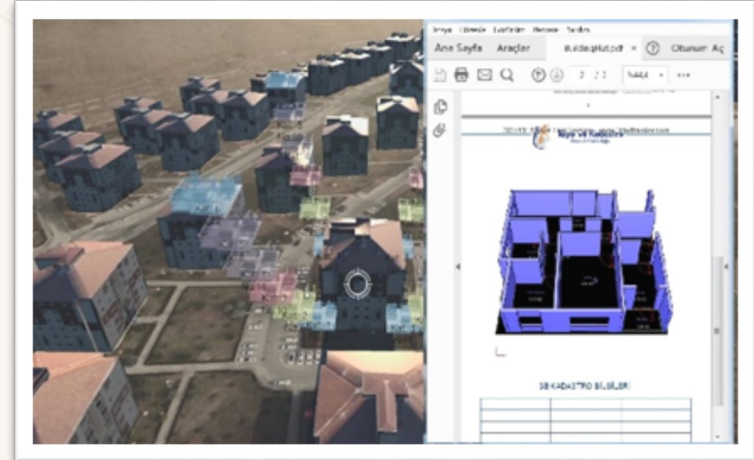
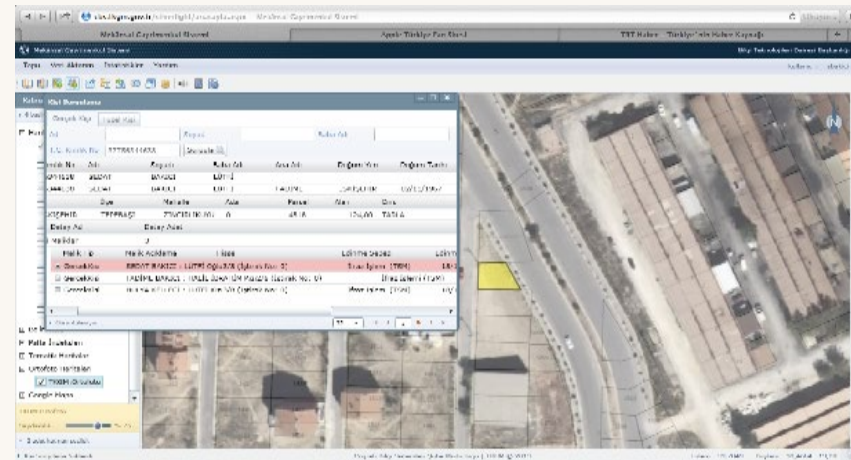
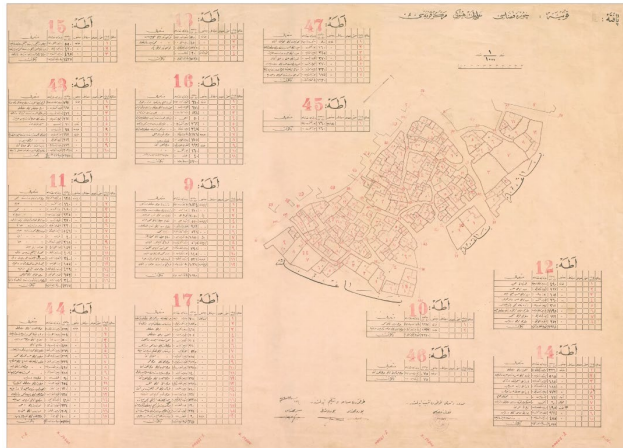
- 1. Land registry and cadastre system in Türkiye**
- 2. Transparency of Cadastre in Türkiye**
- 3. Cadastre and Infrastructure Development in Türkiye**
- 4. Ongoing projects**
- 5. Future challenges**
- 6. Energy generation related innovations and challenges in Turkish Cadastre**

CADASTRE IN TURKIYE

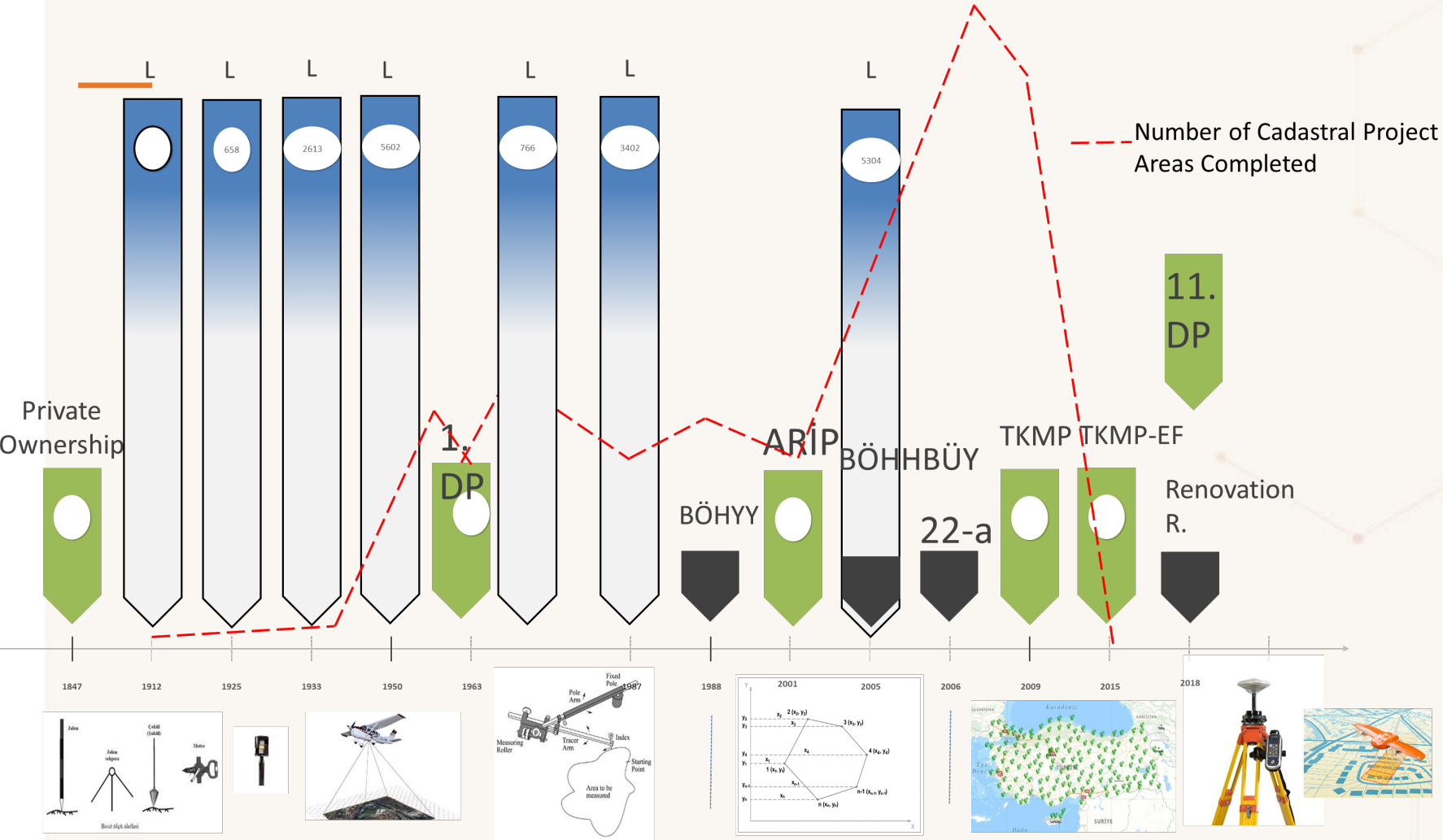


- The Main Purpose: Establishment of Land Registers
- Creation of Infrastructure of the Spatial Information System

- In Order to Fit this purpose;
 - Different regulations for rural and urban areas
 - Different thematic and positional accuracies
 - Different mechanisms and approaches for deliniation, measurement, determination or dispute resolution
- Forest cadastre included in 2005.
- Uptades; systematic or on sporadic appraiches.



CADASTRE IN TURKIYE



CADASTRE IN TURKIYE

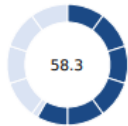
Doing Business 2020

Turkey

Registering Property - Turkey

Indicator	Turkey	Europe & Central Asia	OECD high income	Best Regulatory Performance
Procedures (number)	6	5.5	4.7	1 (5 Economies)
Time (days)	4.5	20.8	23.6	1 (2 Economies)
Cost (% of property value)	3.0	2.7	4.2	0.0 (Saudi Arabia)
Quality of the land administration index (0-30)	27.0	20.4	23.2	None in 2018/19

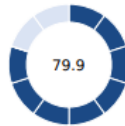
Figure - Registering Property in Turkey - Score



Procedures



Time



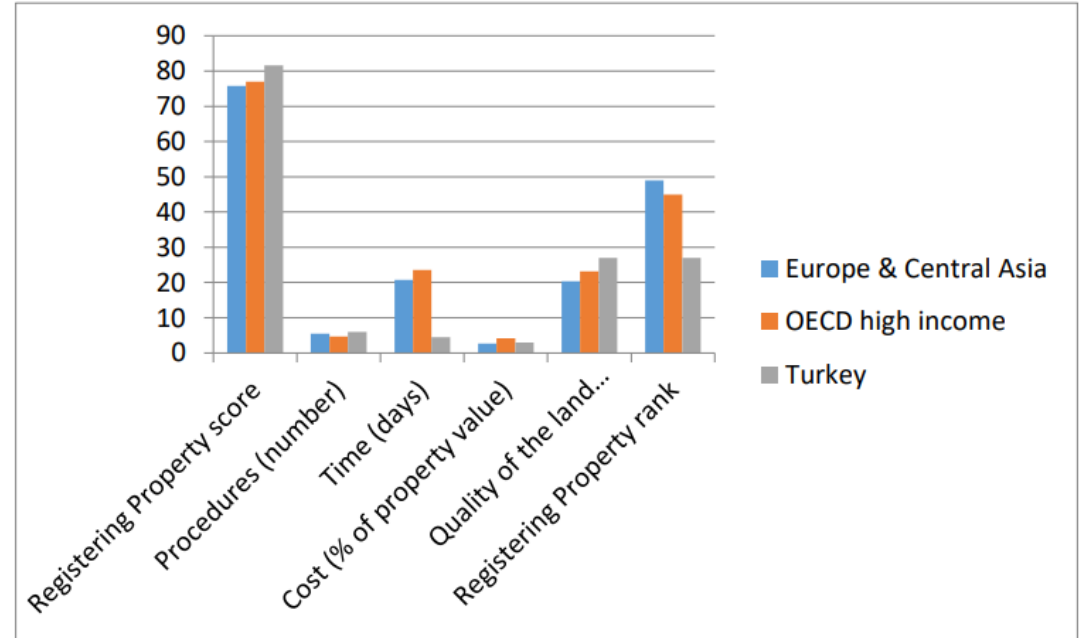
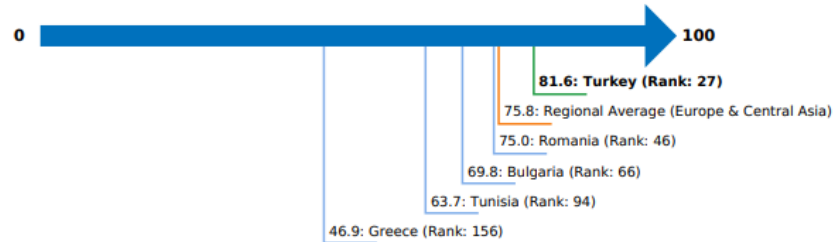
Cost

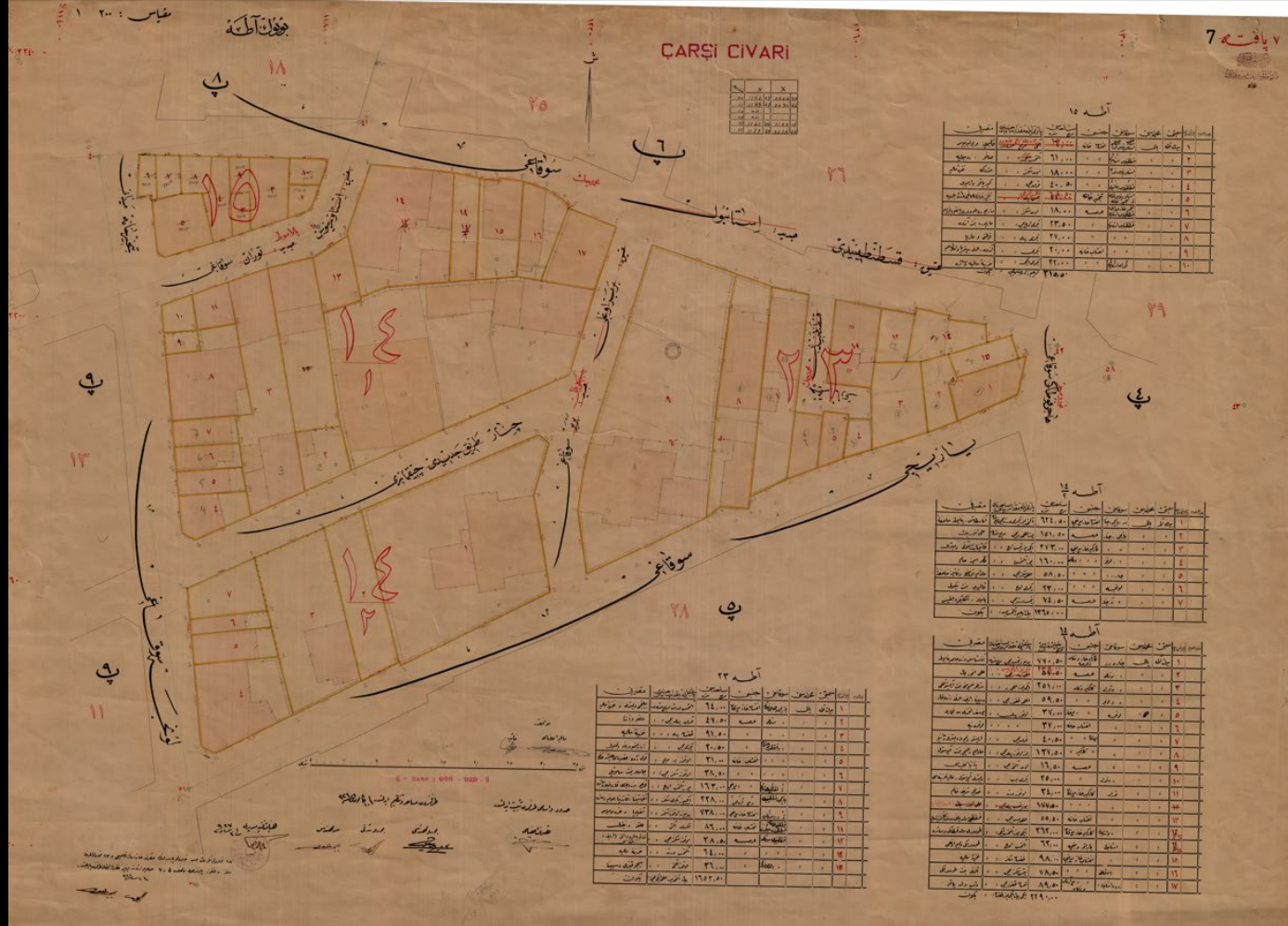


Quality of the land administration index

Figure - Registering Property in Turkey and comparator economies - Ranking and Score

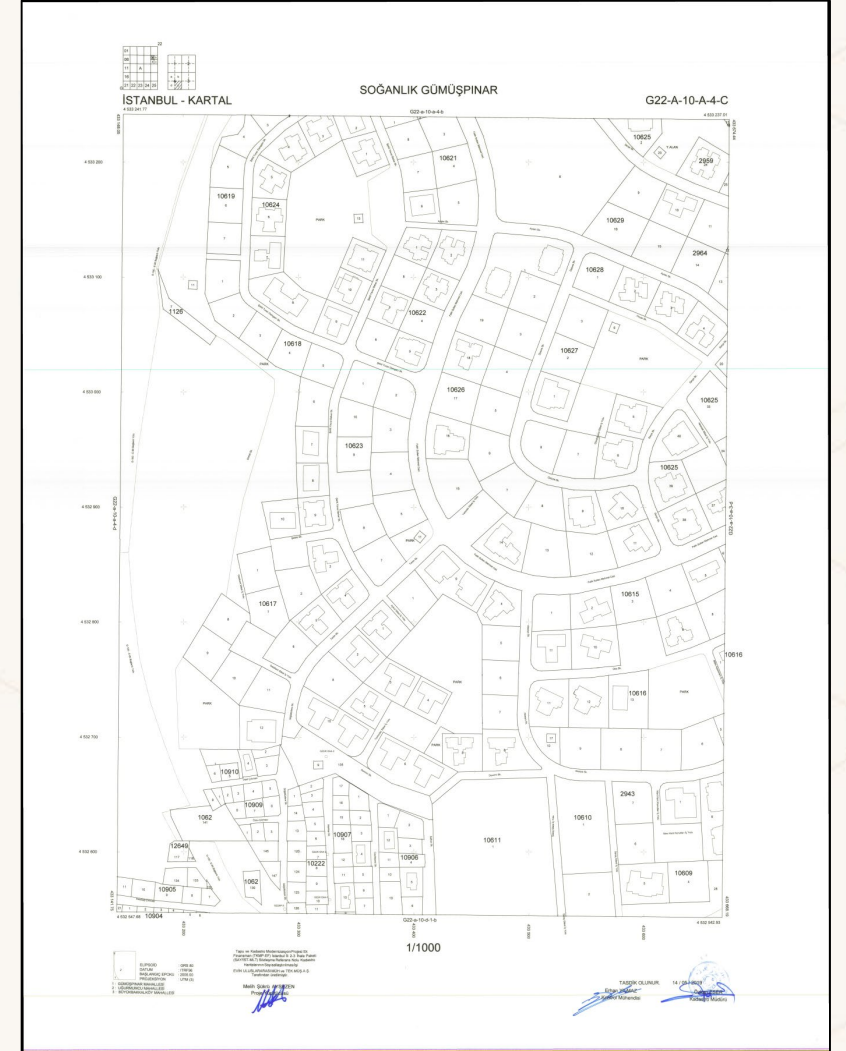
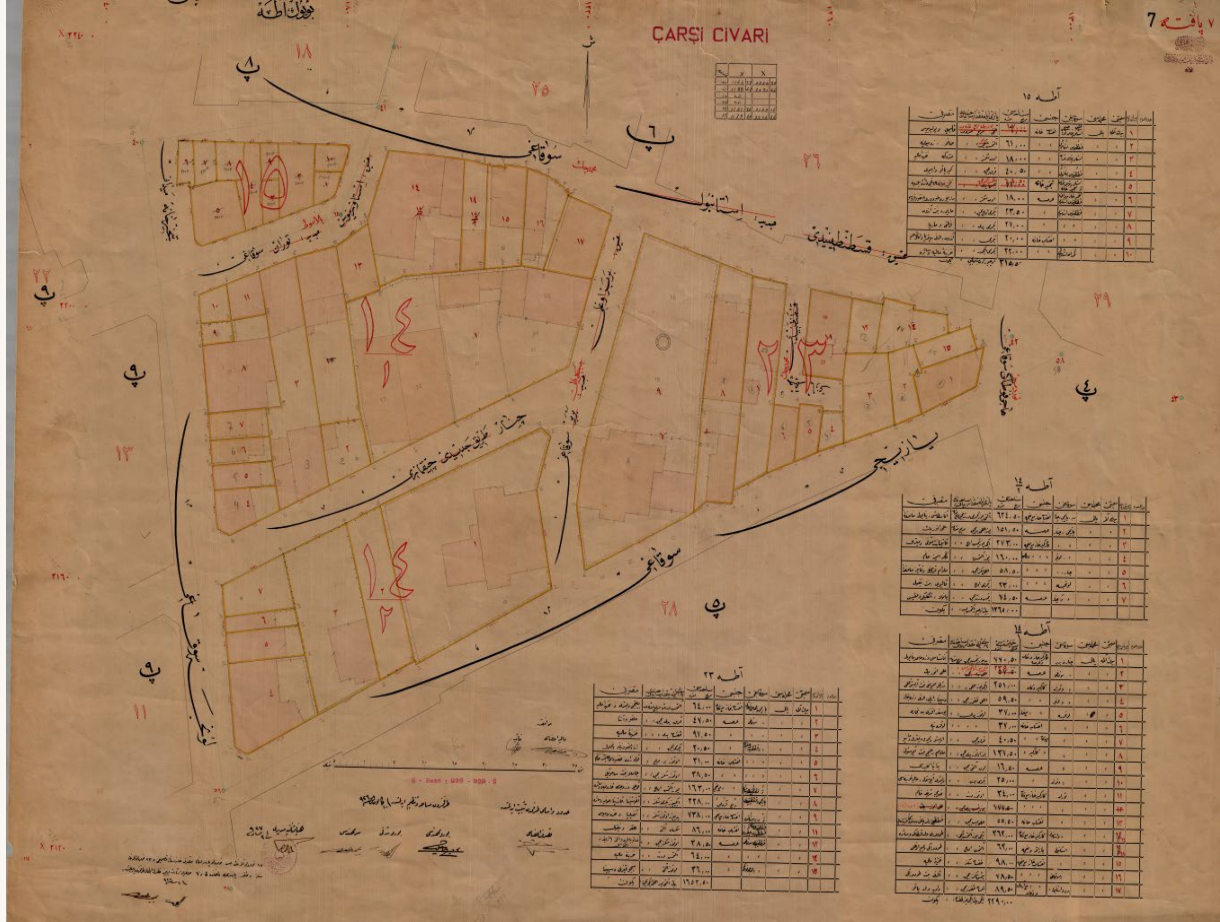
DB 2020 Registering Property Score



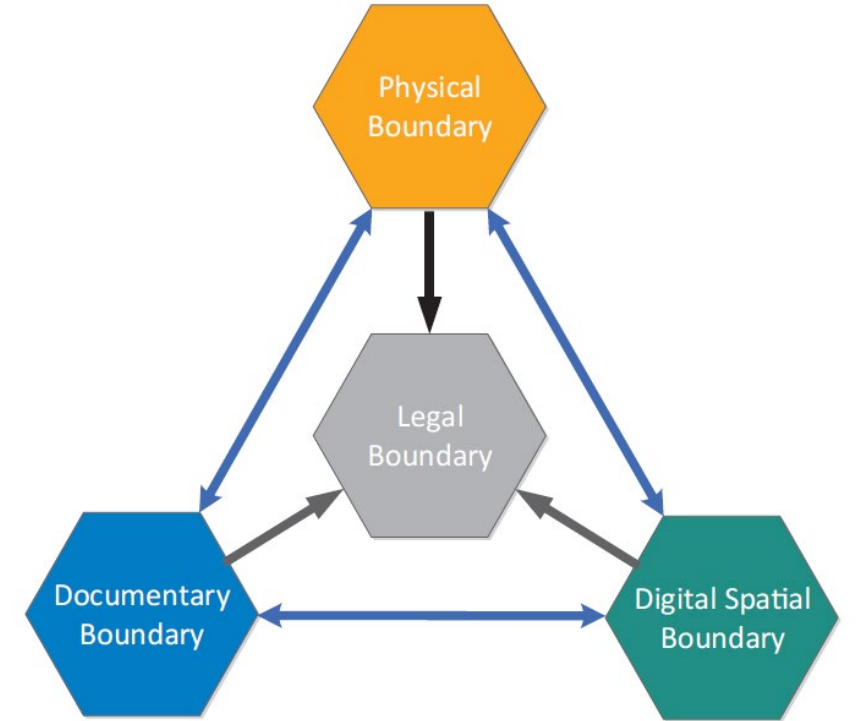


عقد	شماره	سمتی	محلہ	سوق	جنس	ساحہ	بیک	مقرر
۱	۱	برون	یال	یا	افست	۶۴,۰۰	افست	یال
۲	۲	سرد	سرد	سرد	سرد	۴۷,۵۰	سرد	سرد
۳	۳	سرد	سرد	سرد	سرد	۹۷,۵۰	سرد	سرد
۴	۴	سرد	سرد	سرد	سرد	۲۰,۵۰	سرد	سرد
۵	۵	سرد	سرد	سرد	سرد	۳۱,۰۰	سرد	سرد
۶	۶	سرد	سرد	سرد	سرد	۲۸,۵۰	سرد	سرد
۷	۷	سرد	سرد	سرد	سرد	۱۶۳,۰۰	سرد	سرد
۸	۸	سرد	سرد	سرد	سرد	۲۲۸,۰۰	سرد	سرد
۹	۹	سرد	سرد	سرد	سرد	۷۳۸,۰۰	سرد	سرد
۱۱	۱۱	سرد	سرد	سرد	سرد	۸۶,۰۰	سرد	سرد
۱۲	۱۲	سرد	سرد	سرد	سرد	۳۸,۵۰	سرد	سرد
۱۴	۱۴	سرد	سرد	سرد	سرد	۶۴,۰۰	سرد	سرد
۱۵	۱۵	سرد	سرد	سرد	سرد	۳۶,۰۰	سرد	سرد
						۱۶۵۲,۵۰	سرد	سرد

CADASTRE IN TURKIYE



CADASTRE IN TURKIYE



Grant, D., McCamley, G., Mitchell, D., Enemark, S., & Zevenbergen, J. (2018). Upgrading Spatial Cadastres in Australia and New Zealand: Functions, Benefits & Optimal Spatial Uncertainty.

CADASTRE IN TURKIYE

DEFINITION OF «CADASTRAL DATA»

- **Cadastral Data is NOT just about parcels.**
 - ✓ All geometries subject to land registration or not and their connected geometries such as buildings, easements, right of way, etc.,
 - ✓ Ground control points and transformation parameters, which are auxiliary data of cadastral geometries,
 - ✓ Attribute information of cadastral data that all national projects may need (purpose of use, quality, original coordinates, date of manufacture, cadastral process in which it was produced, law in which it was produced, area ...)
 - ✓ Technical documents containing the information entered into the

CADASTRE and INFRASTRUCTURE DEVELOPMENT IN TURKIYE



Parcels

Buildings - Improvements


Easements

Right of Way

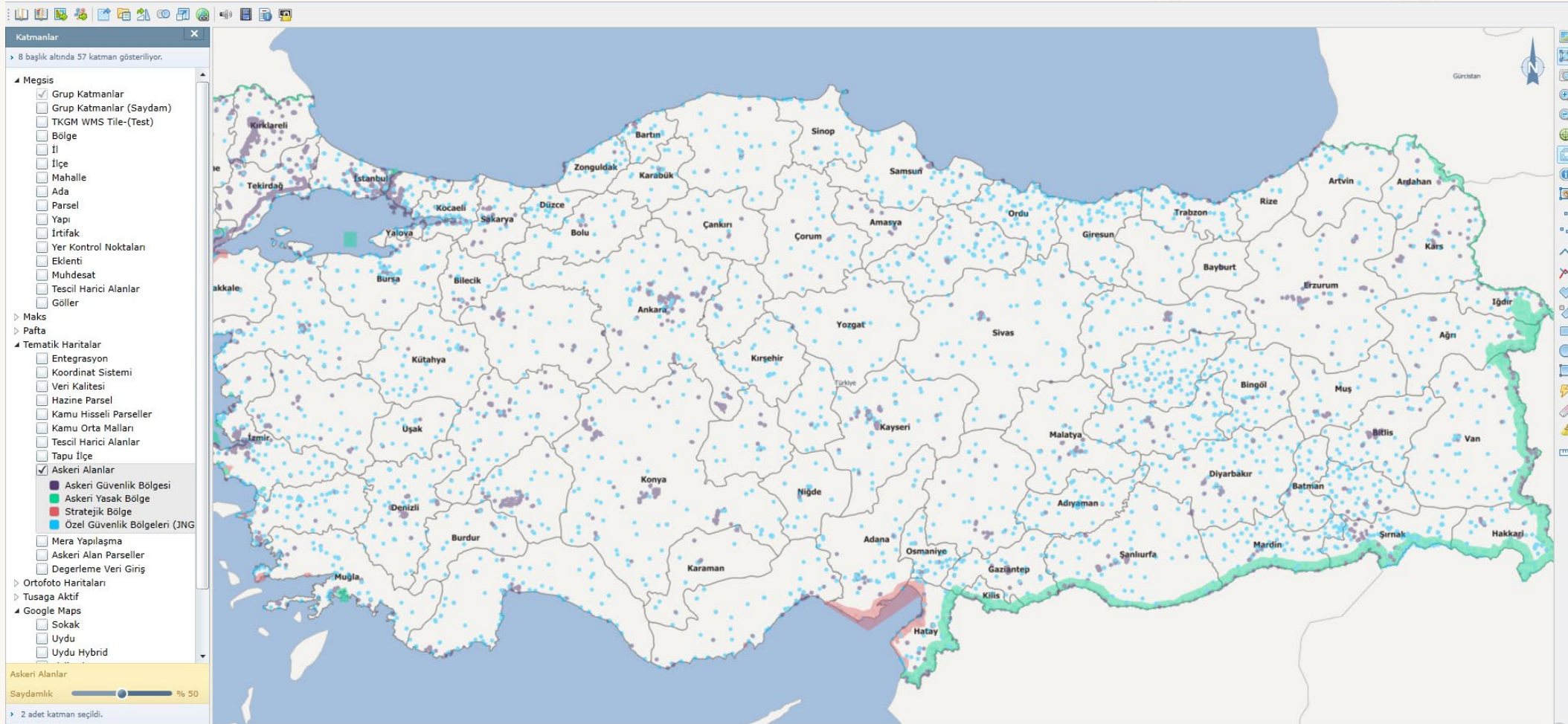
Park Areas

Public Law Restrictions

CADASTRE and INFRASTRUCTURE DEVELOPMENTIN TURKIYE

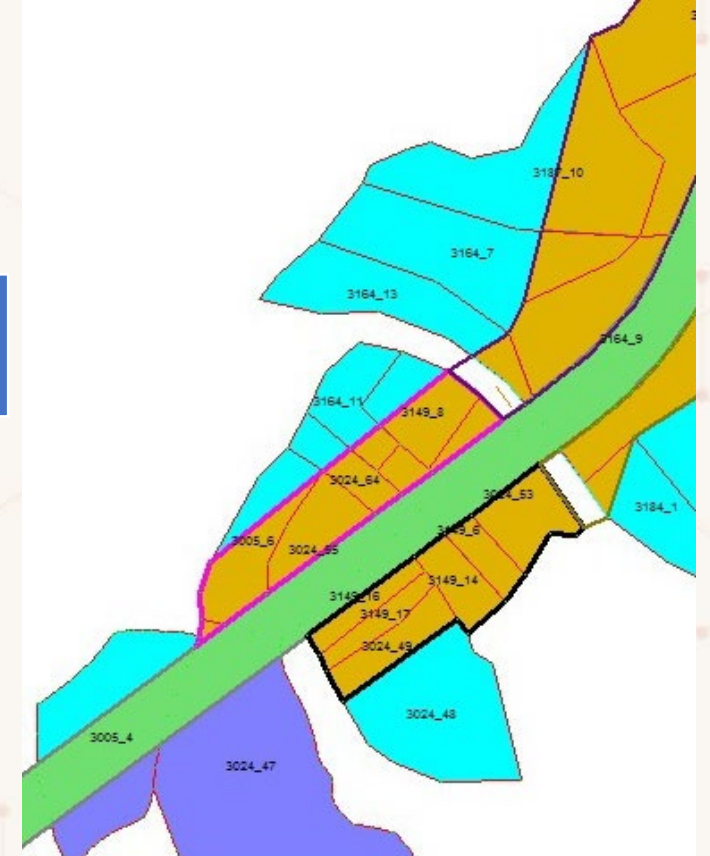
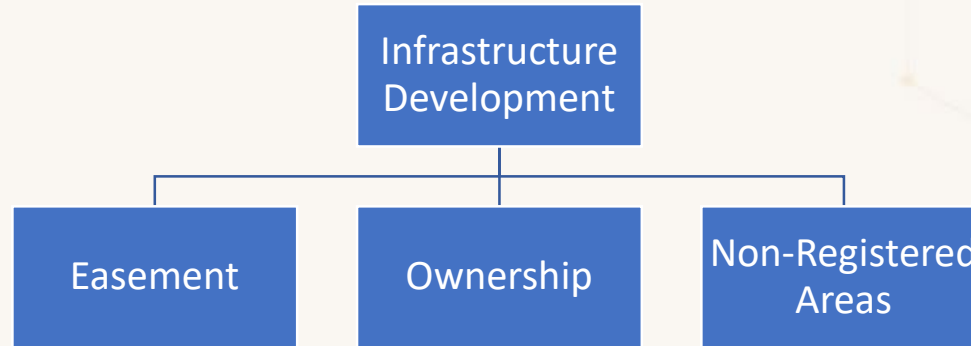
Number of Parcels	Number of Verified Parcels	Number of UnVerified Parcels	Verification Ratio	
58.824.714	57.192.415	1.632.299	97.23	
Parcels with Verified Coordinates	İllere Göre Tapu Parsel Sayıları		Digital	ITRF96 – 2005.00
41.377.422			44.726.581	36.507.680
Parcels with Temporary Coordinates			Photogrammetric	Ed50
15.815.042			7.471.862	
Number of Buildings			Polar	15.776.910
7.892.884			3.106.486	Local
Number of Buildings(3 th parties)			Orthogonal	
347.951			1.153.693	4.137.400
Number of Easements			Photoplan	Without Any Datum
579.623			46.847	
			Graphical	770.117
			686.946	

CADASTRE and INFRASTRUCTURE DEVELOPMENTIN TURKIYE

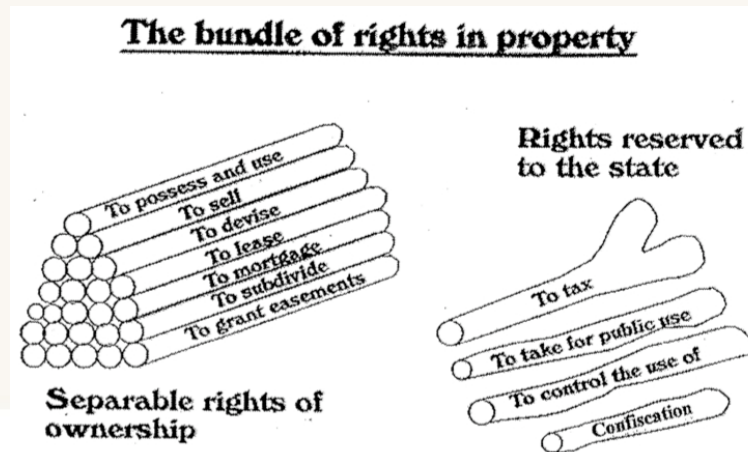


Public Law Restrictions

CADASTRE and INFRASTRUCTURE DEVELOPMENT IN TURKIYE



Easement Purpose	NumberOfParcels
Electricity	694.249
Gas-Natural Gas	128.982
Petroleum	3.249
Water_Drain	128.545
Transportation	2.427





Katmanlar

8 başlık altında 59 katman gösteriliyor.

Megsis

- ☒ Grup Katmanlar
 - ☒ Tescilsiz Yapı
 - ☒ Tescilli Yapı
 - ☒ Tescil Harici Alanlar
 - ☒ Onaysız Parsel
 - ☒ Onaylı Parsel (Kesin)
 - ☒ Onaylı Parsel (Geçici)
 - ☒ Muhdesat
 - ☒ İrtifak
 - ☐ Grup Katmanlar (Saydam)
 - ☐ Bölge
 - ☐ İl
 - ☐ İlçe
 - ☐ Mahalle
 - ☐ Parsel
 - ☐ Yapı
 - ☐ İrtifak
 - ☐ Eklenti
 - ☐ Tescil Harici Alanlar
 - ☐ Göller
 - ☐ Muhdesat
 - ☐ Yer Kontrol Noktaları
 - ☐ Ada ve Kayalıklar
- Pafta
- Maks
- Tematik Haritalar
- Tusaga Aktif
- Ortofoto Haritaları
- Google Maps
- ☐ Sokak
 - ☒ Uydu
 - ☐ Uydu Hybrid
 - ☐ Fiziksel
 - ☐ Fiziksel Hybrid
 - ☐ Sokak Yerleşim
 - ☐ Sokak Su Yerleşim
- Kamu Kurumları

Uydu

Saydamlık % 50

2 adet katman seçildi.

Öznitelik Bilgileri Yüklendi



Coğrafi Bilgi Sistemleri Şube Müdürlüğü | TKGM © 2014

CADASTRE – TRANSPARENCY



General Directorate of Land Registry and Cadastre
Parcel Query Application

Administrative Geographical Address Favorites

Select Province

Select District

Select Neighborhood

Block

Parcel

Search

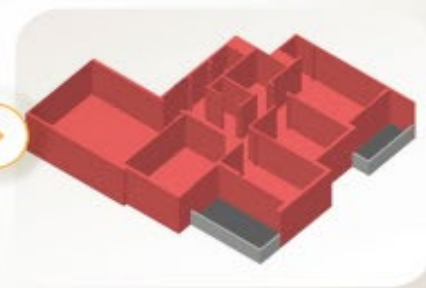
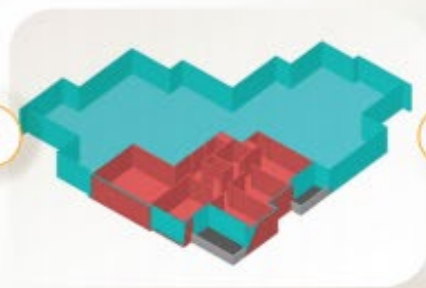
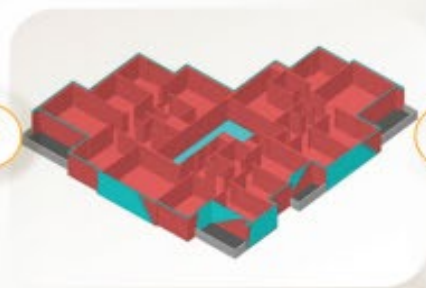
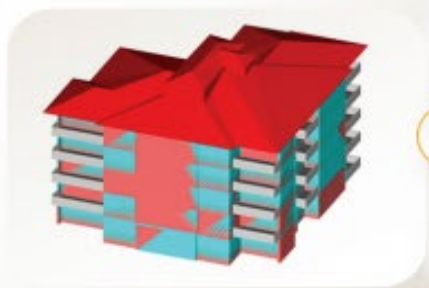
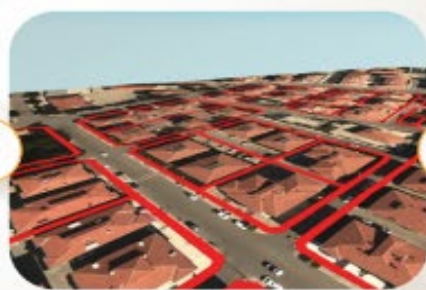
PARCEL INQUIRY APPLICATION

<http://parselsorgulama.tkgm.gov.tr>

~ over 1 million request per day...

The Project that Gives Property a Dimension: **3D CADASTRE**

PRODUCTION OF 3D CITY MODELS



CADASTRE ONGOING PROJECTS

Amasya 3B Kent Modeli

Q Ara İçerik Yardım Ayarlar



CADASTRE FUTURE CHALLENGES



BIG DATA MANAGEMENT

UNLOCKING THE POTENTIAL
OF DATA

DATA QUALITY

INTERNATIONAL STANDARDS

BEST PRACTICES



ADAPTATION TO
TECHNOLOGY

SYSTEM UPDATE

SERVICE DELIVERY QUALITY

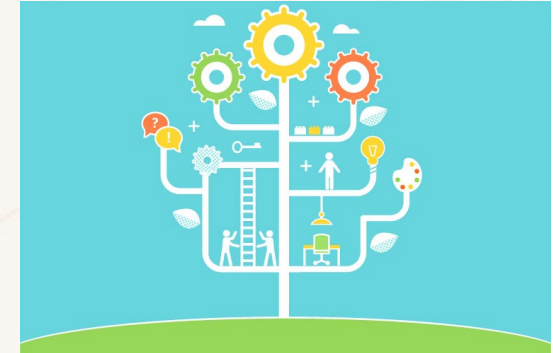
DIGITAL LAND REGISTRY AND
CADASTRE



PERSONAL DATA
PROTECTION

NEW TOOLS FOR DATA
SHARING

INTEROPERABILITY – OPEN
DATA



CONTINUOUS
PROFESSIONAL
DEVELOPMENT

COOPERATION AND
COLLABORATION WITH
UNIVERSITIES, CIVIL
SOCIETY AND
PROFESSIONAL
ORGANIZATIONS

CADASTRE and RENEWABLE ENERGY - RERAs

- The concept was introduced in 2005.
- Remained inactive → Electricity Market Law (2016)
- The aim → identifying the feasible areas for energy generation. (solar and wind power)
- Public + Private owned lands
- Regulation -- > Ministry of Energy and Natural Resources
 - Identification of an area (Public + Private owned lands) as RERA
 - Land use plans
 - Land Registry Records → Temporary Annotations (3 years)
 - Cadastre plans (Public Restrictions)
- A Licence issued in 3 years → Expropriation
- Not → annulment of the annotations



CADASTRE and RENEWABLE ENERGY –ENERGY CERTIFICATION

- Energy Identity Certification → Market instruments created to support the development of renewable energy generation.
- Regulation → 2009 (entered into force in 2020)
- The document contains information on the building's energy needs and energy consumption classification, insulation characteristics, exterior sheathing and the efficiency of heating and cooling systems.
- Regulation ;
 - Sales and rental transaction -- > existence of energy identity certification (official deeds)
 - Purpose:
 - extending usage area of the certificates
 - Compelling parties to apply for the certificates
 - ...



CADASTRE and RENEWABLE ENERGY –SUPERFICIES

- Installation of Electric Energy Generation System from Solar Panel
- Demands for «establishment of superficies right» on condominium units
- superficies → civil code: type of easement which gives a right to a 3rd person except the owner for building a construction above or under a land parcel or maintain an existing structure
- Condominium Law → superficies on individual units are not allowed
- Energy market regulation Vs Civil Code

Thank you...

uyildiz@tkgm.gov.tr