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

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PRESENTATION PLAN

1. Land registry and cadastre system in Turkiye
2. Transparency of Cadastre in Turkiye
3. Cadastre and Infrastructure Development in Turkiye
4. Ongoing projects
5. Future challenges
6. Energy generation related innovations and challenges in Turkish Cadastre
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.
- Updates; systematic or on sporadic approaches.
CADASTRE IN TURKIYE

Cadastre; a tool for establishing land registries

Land registry → under the state guarantee

Ownership, Easements (personal/real), incumbrance, liens (mortgage etc), restrictions (public, private) and responsibilities (Civil Code Article 1000)
CADASTRE IN TURKIYE
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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 system
CADASTRE and INFRASTRUCTURE DEVELOPMENT IN TURKIYE

- Parcels
- Buildings - Improvements
- Easements
- Right of Way
- Park Areas
- Public Law Restrictions
<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
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<tbody>
<tr>
<td>Number of Parcels</td>
<td>58,824,714</td>
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<tr>
<td>Parcels with Verified Coordinates</td>
<td>41,377,422</td>
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<tr>
<td>Parcels with Temporary Coordinates</td>
<td>15,815,042</td>
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<tr>
<td>Number of Buildings</td>
<td>7,892,884</td>
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<tr>
<td>Number of Buildings (3rd parties)</td>
<td>347,951</td>
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<td>Number of Easements</td>
<td>579,623</td>
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<tr>
<td>Number of Verified Parcels</td>
<td>57,192,415</td>
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<tr>
<td>Number of UnVerified Parcels</td>
<td>1,632,299</td>
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<tr>
<td>Verification Ratio</td>
<td>97.23</td>
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<td>Verification Methods</td>
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<td>Digital</td>
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<td>Photogrammetric</td>
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<td>Polar</td>
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<td>Photoplan</td>
<td>46,847</td>
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<tr>
<td>Graphical</td>
<td>686,946</td>
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<tr>
<td>Without Any Datum</td>
<td>4,137,400</td>
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<td>ITRF96 – 2005.00</td>
<td>36,507,680</td>
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<tr>
<td>Ed50</td>
<td>15,776,910</td>
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<tr>
<td>Local</td>
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<tr>
<td>Without Any Datum</td>
<td>770,117</td>
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**General Directorate of Land Registry and Cadastre**

**CADASTRE and INFRASTRUCTURE DEVELOPMENT IN TURKIYE**
CADASTRE and INFRASTRUCTURE DEVELOPMENT IN TURKIYE
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### Easement Purpose

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Number of Parcels</th>
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<tbody>
<tr>
<td>Electricity</td>
<td>694,249</td>
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<tr>
<td>Gas - Natural Gas</td>
<td>128,982</td>
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<tr>
<td>Petroleum</td>
<td>3,249</td>
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<tr>
<td>Water_Drain</td>
<td>128,545</td>
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<tr>
<td>Transportation</td>
<td>2,427</td>
</tr>
</tbody>
</table>

*Zevenbergen, Jaap, Responsible Land Administration*
CADASTRE – TRANSPARENCY

http://parcelsorgulama.tkgm.gov.tr

~ over 1 million request per day...
The Project that Gives Property a Dimension: 3D CADASTRE
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

GEOSPATIAL BIG DATA
DATA PROTECTION
INTEROPERABILITY
OPEN DATA
CONTINUOUS PROFESSIONAL DEVELOPMENT
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...

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