

# Land Surveyor Business Areas in Planning and Realization of Renewable Energy Plants Use of Cadastral Information - a Danish Case Study -



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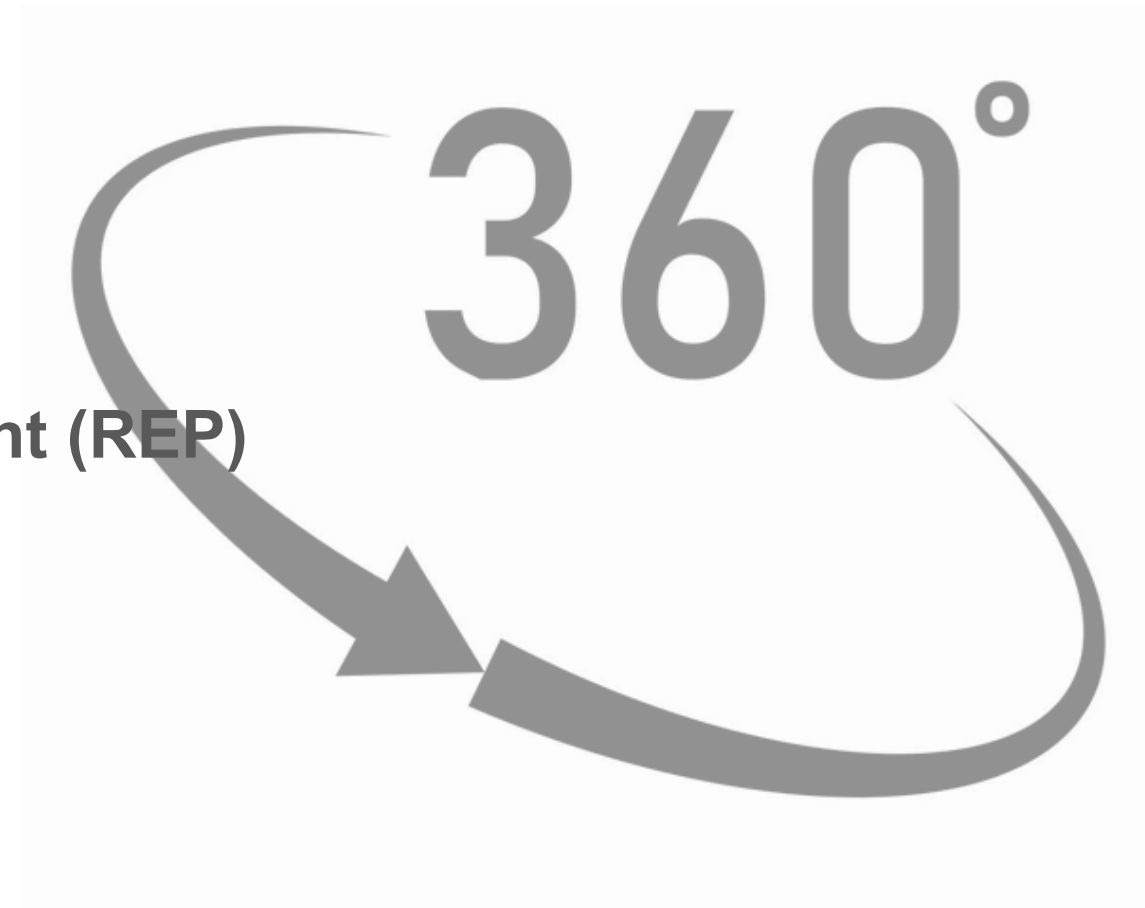
# Outline

## Framework – of understanding

- **Political and Constitutional**
- **The Basic Data Programme**
- **Professional Profile**

## Business Areas – Renewable Energy Plant (REP)

- **Screening**
- **Physical Planning**
- **Project Planning**
- **Construction**
- **Rectification and registration**





## Framework

### Energy policy objectives in Denmark – by government

- The long-term goal for Danish energy policy is that Denmark must be independent of coal, oil and gas in 2050
- Quadrupling (4 x) of electricity production from solar energy and onshore wind towards 2030
- Overall, a quadrupling of production will require up to 1.3 percent of Denmark's land area, compared to around 0.5 percent today

[Facts: Existing solar cell plants are up to 350 ha.]

# Framework

## The Constitutional Act of Denmark

- **§ 73 (1) The right of property shall be inviolable. No person shall be ordered to surrender his property except where required in the public interest. It shall be done only as provided by statute and against full compensation.**



# Framework

## The Basic Data Program (2011-2015)

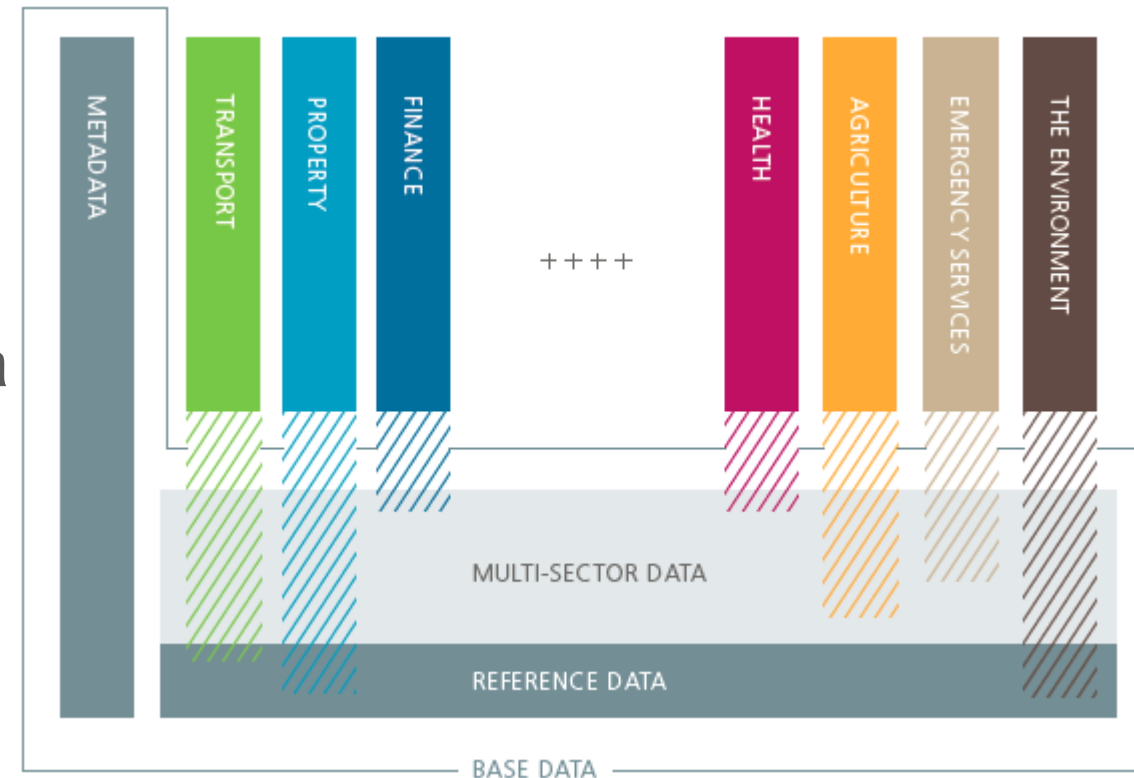
- Making Basic Data freely available
- Standardizing Basic Data – data modelling project
- Improving the quality of Basic Data
- Improving the availability of Basic Data through a shared and efficient distribution platform – data distributor project



# Framework

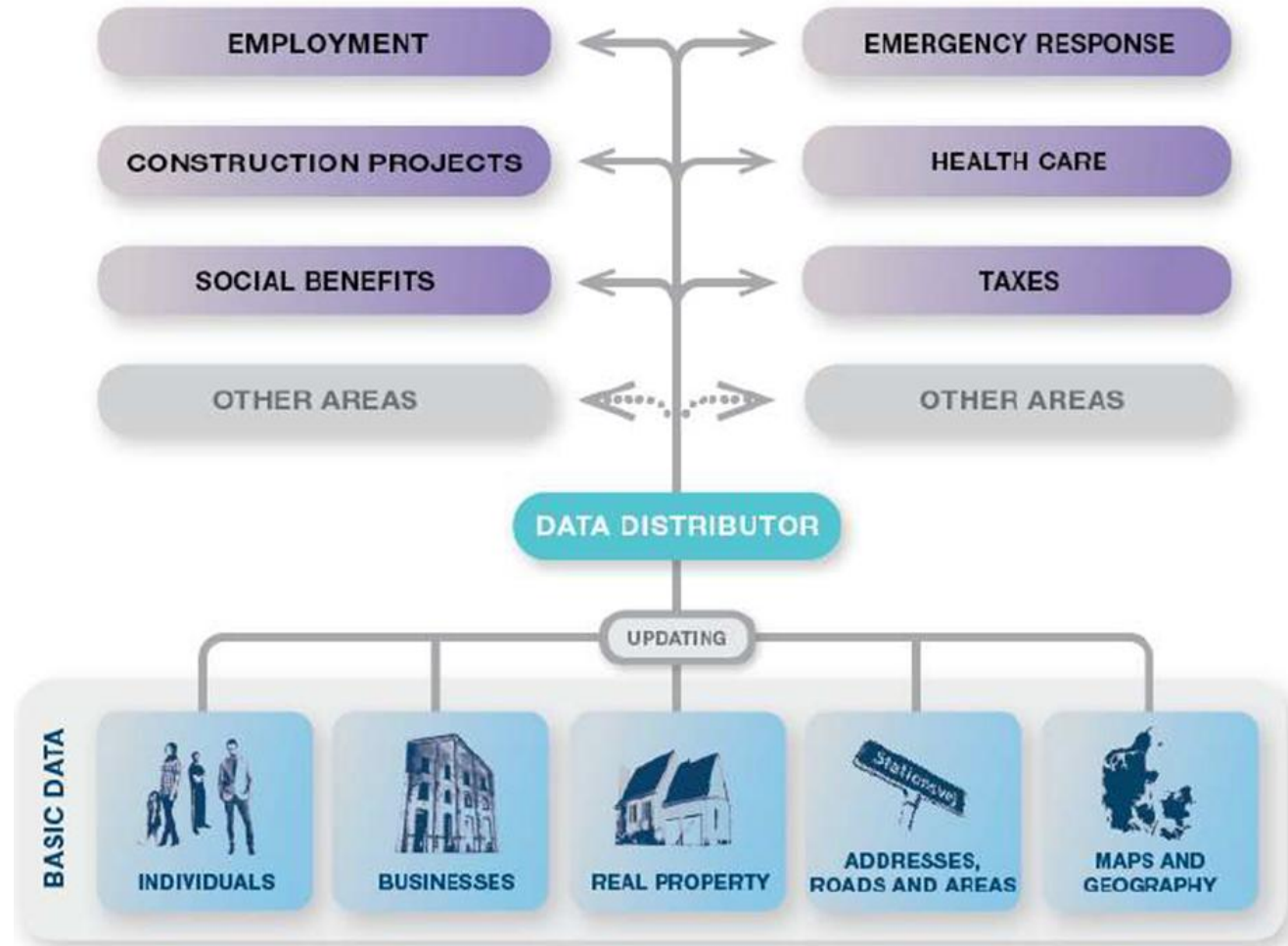
## The Danish Spatial Data Infrastructure Model

- Sector-specific data – geodata used in one administrative area
- Multi-sector data – geodata used in more than one sector
- Reference data – fundamental geodata used as reference in all sectors



# Framework

## Data distribution



# Framework

## Professional Profile – "Land Surveyor Science"

- Property Law – cadastral, landadministration
- Physical Planning – urban and rural areas
- Surveying and Mapping
- Geoinformatics

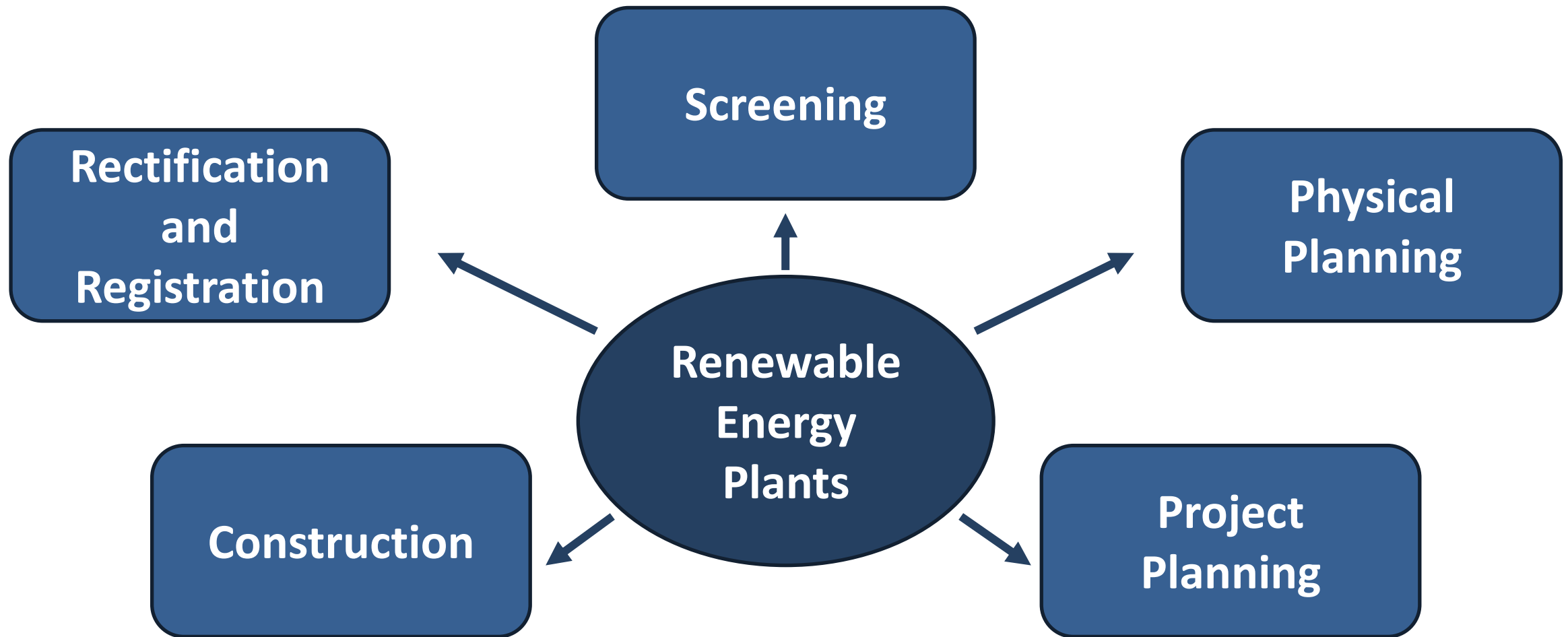
**Focused on real estate –  
Land use, property  
change and development**

## Professional distinctions – Danish Surveyors

- Looking across sectors and legislation in task performance and consultancy
- Working in the cross field between private initiative and public regulation – with employment in both private and public sector



## Business Areas REP – use of Cadastral Information



# Business Areas REP

## Screening

- Landscape potential
- Legal Rights – ownership, rights of use, easement rights
- Public Law Regulation – bindings, restrictions on use
- Other issues – underground facilities



# Business Areas REP

## Screening

- Landscape map





# Business Areas REP

## Screening

- Cadastral map





# Business Areas REP

## Screening

- Bindings map

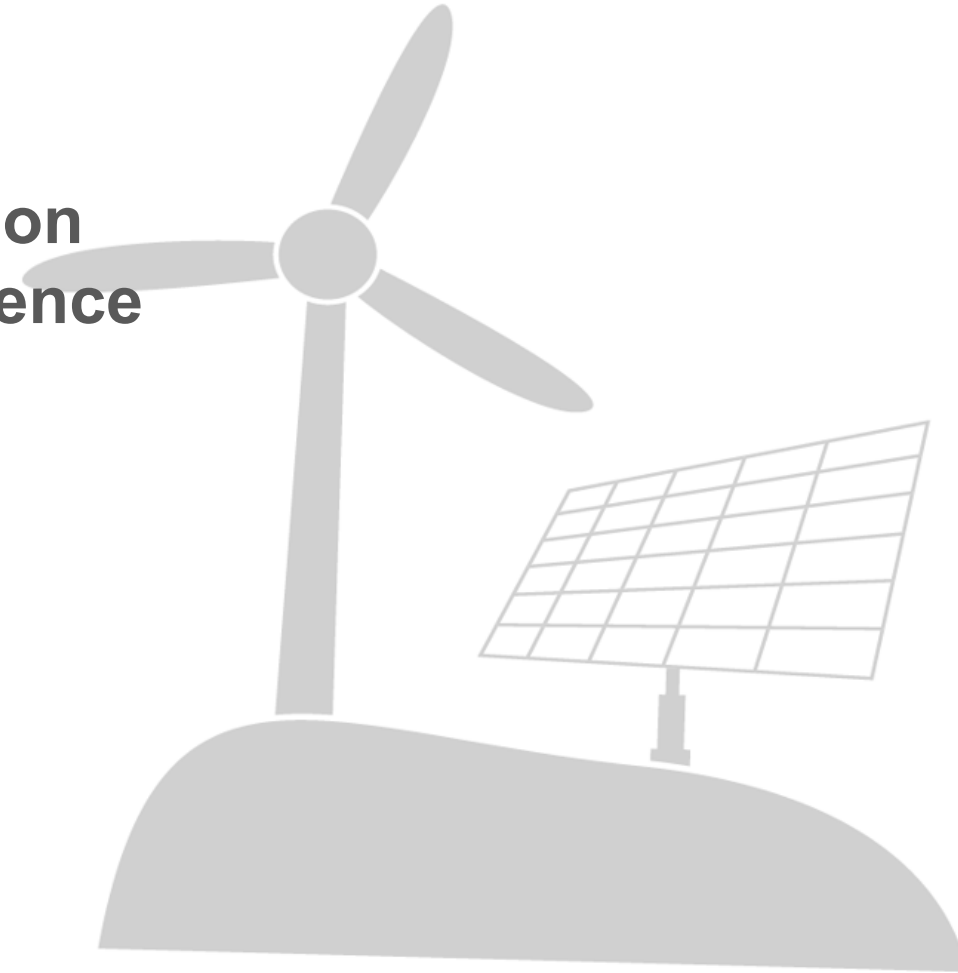




# Business Areas REP

## Physical Planning

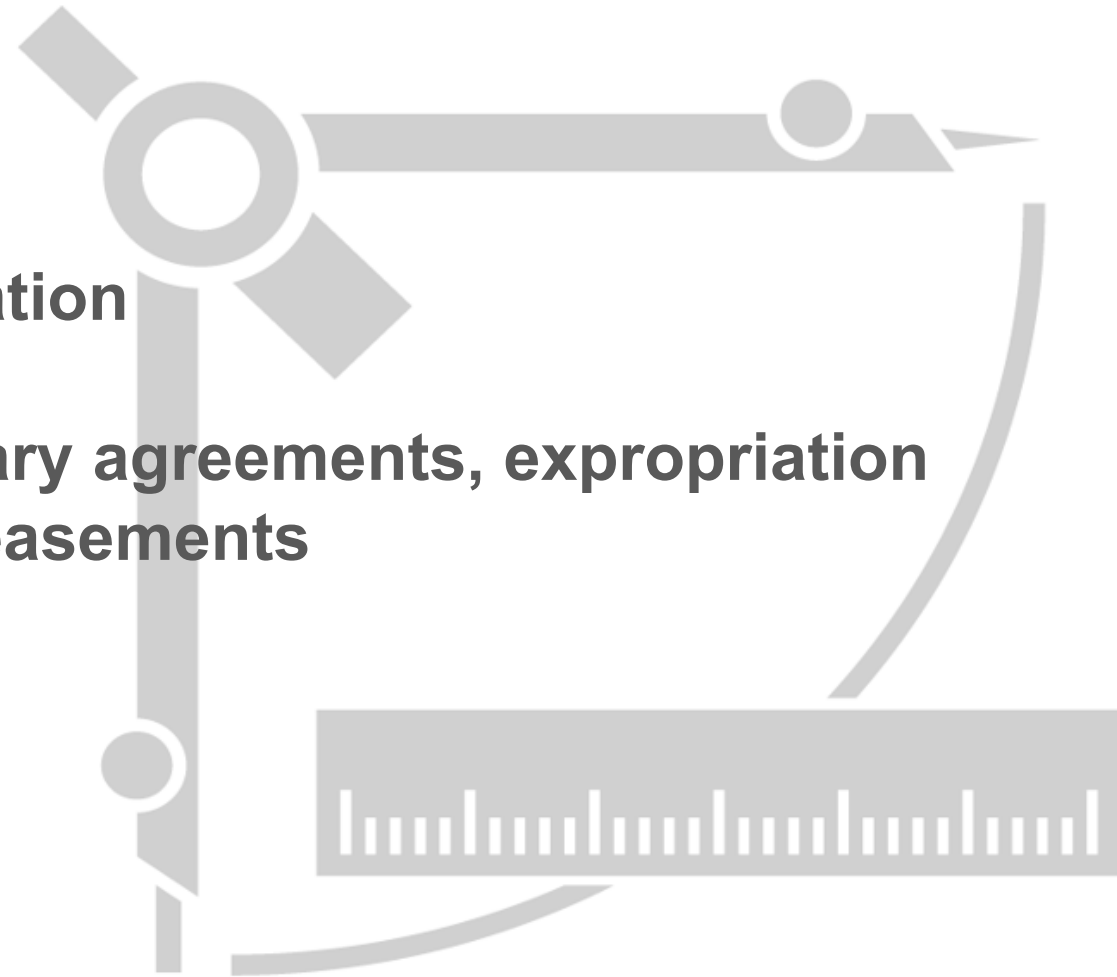
- **Local Planning – plan development, facilitation**
- **Public meetings – democratic process, influence**
- **Visualization – Effects on the Environment**



# Business Areas REP

## Project Planning

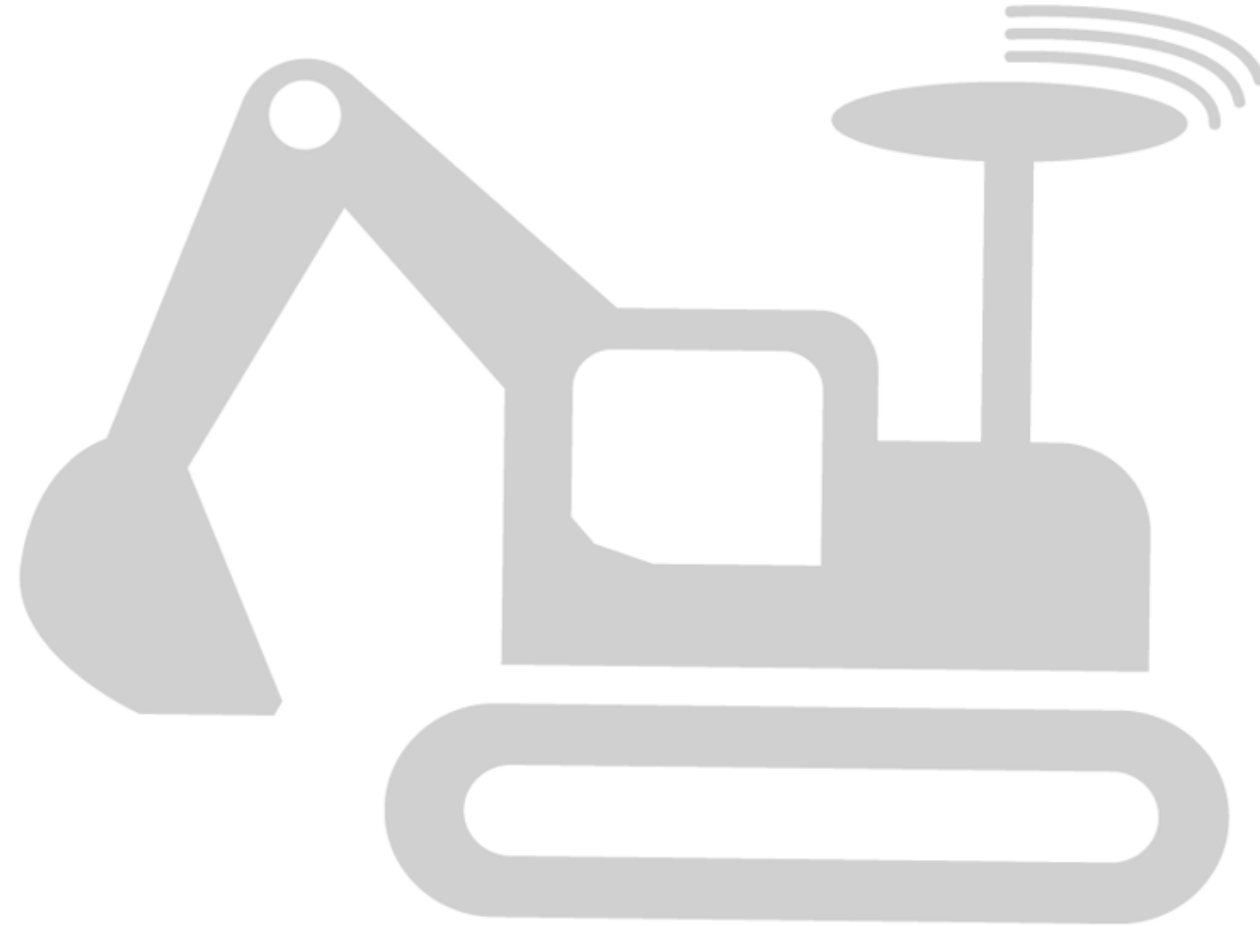
- **Surveying and Mapping – 3D models**
- **Property relations, boundary determination**
- **Land consolidation**
- **Acquisition of land and rights – voluntary agreements, expropriation**
- **Securing rights – basis of agreement, easements**
- **Authority application**
- **Compensation management**



# Business Areas REP

## Construction

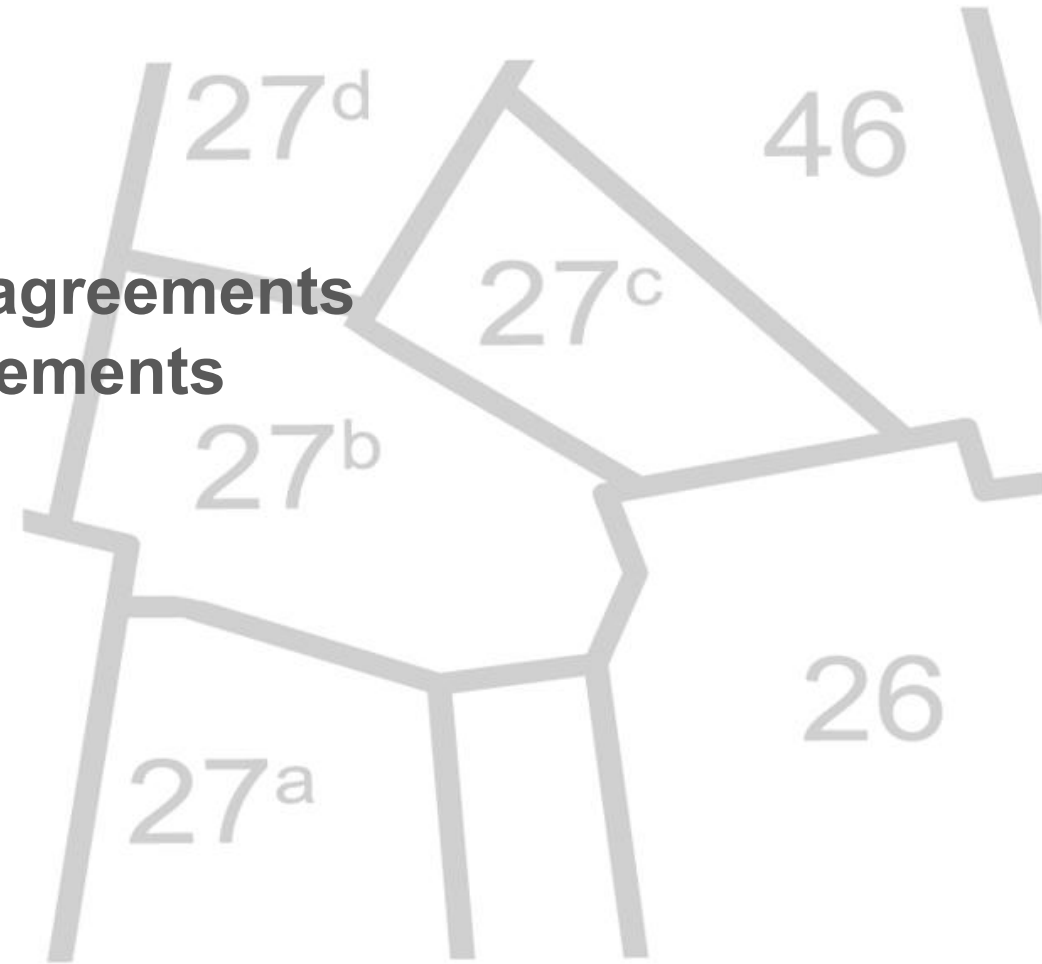
- Machine Management Data
- Staking out
- Monitoring and evaluation



## Business Areas REP

### Rectification and registration

- Registration of new boundaries
- Drawing up and registration of purchase agreements
- Drawing up and registration of lease agreements
- Securing mortgage rights
- Registration of rights – easements
- As-built documentation
- Economic payments





# Thank You for Your attention !