



Austrian  
Development Cooperation



# Unconventional approaches

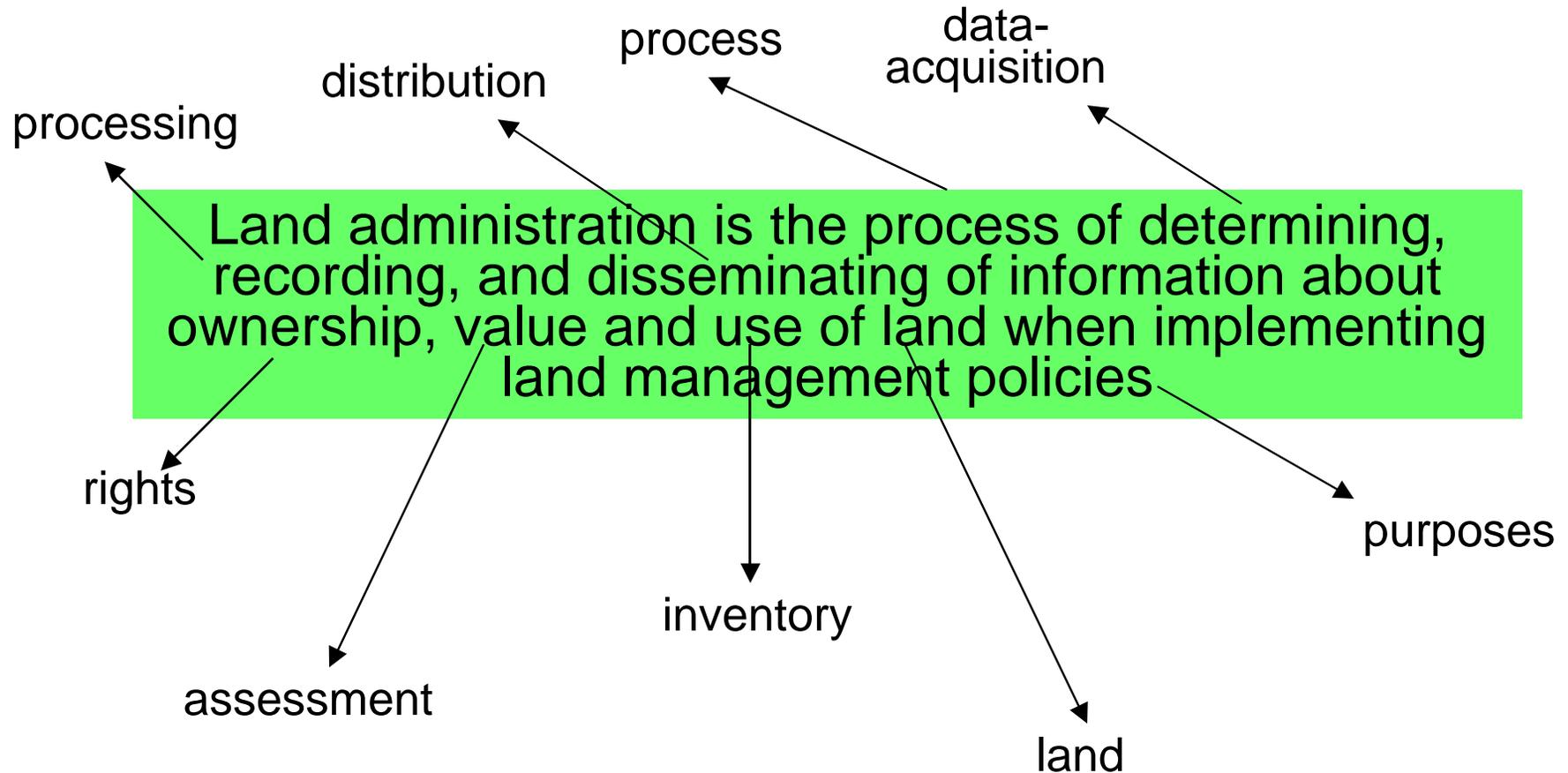
a point of view of land registrars and land surveyors

Paul van der Molen &  
Christiaan Lemmen

Expert Group Meeting  
Nairobi 11-12 Nov 2004

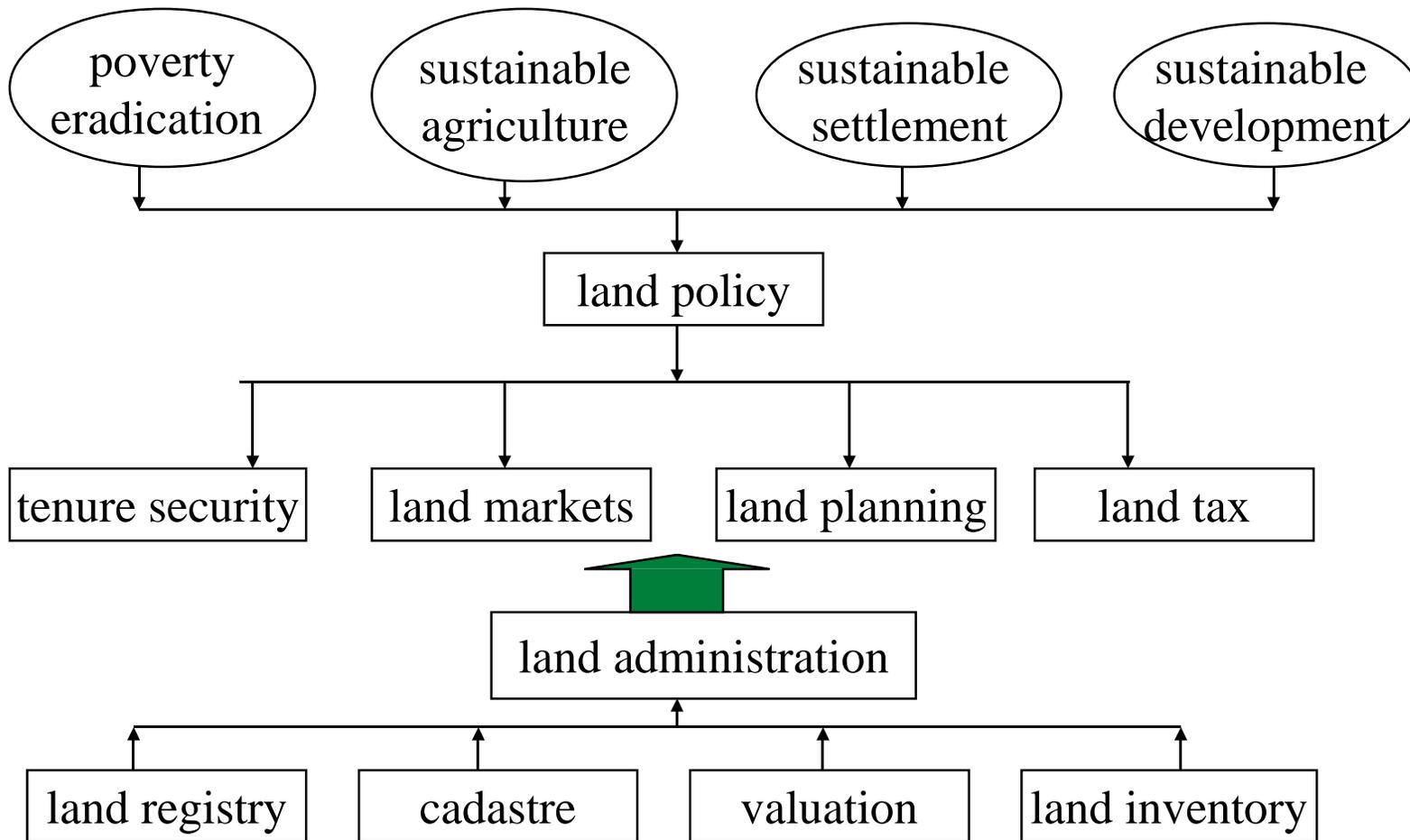


# What is land administration



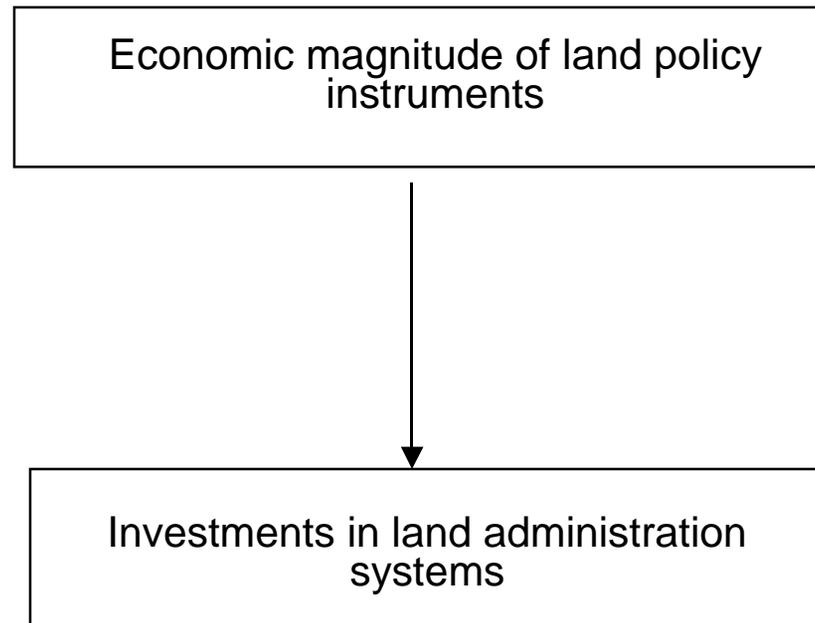
Source: UN/ECE Land Administration Guidelines 1996

## Functions of land administration: example



# Economic justification

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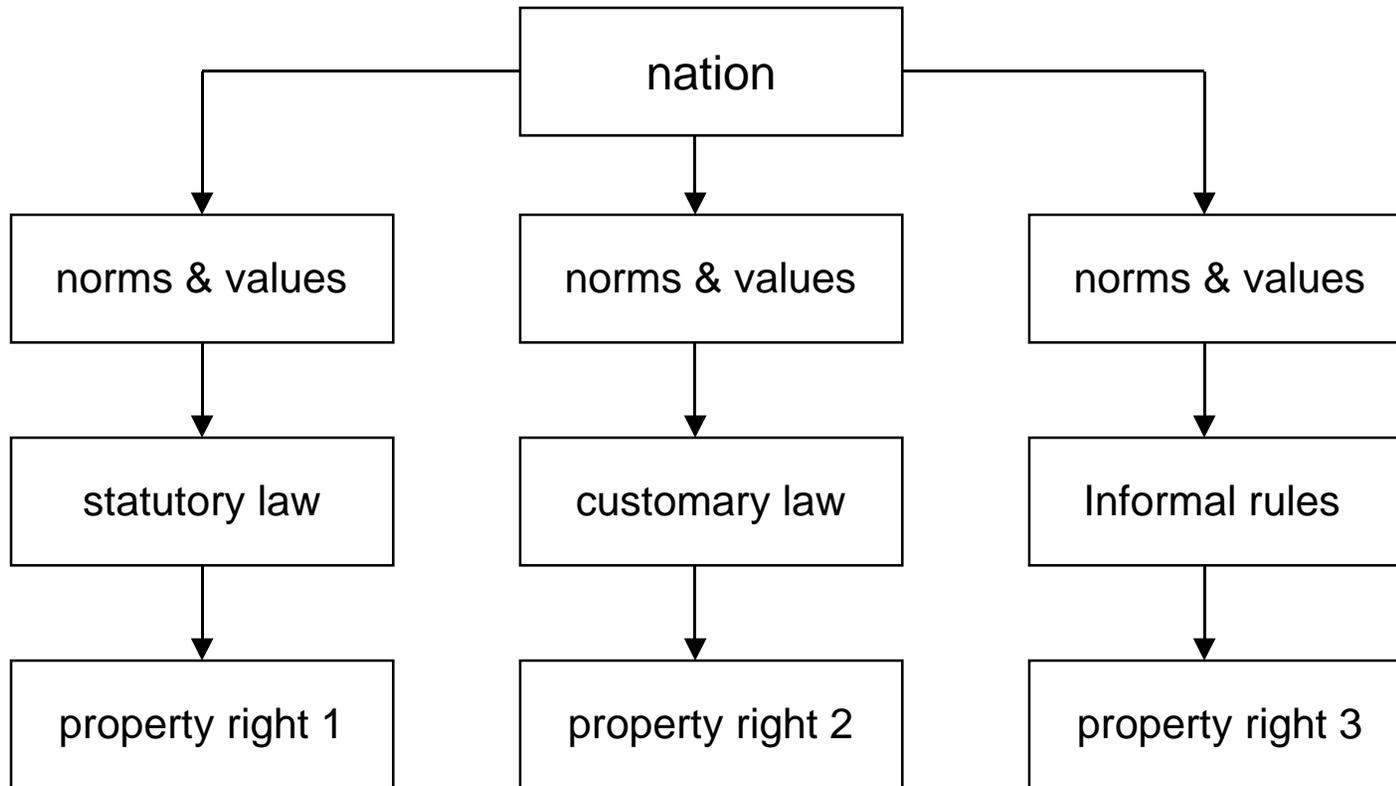


## Status of land administration systems

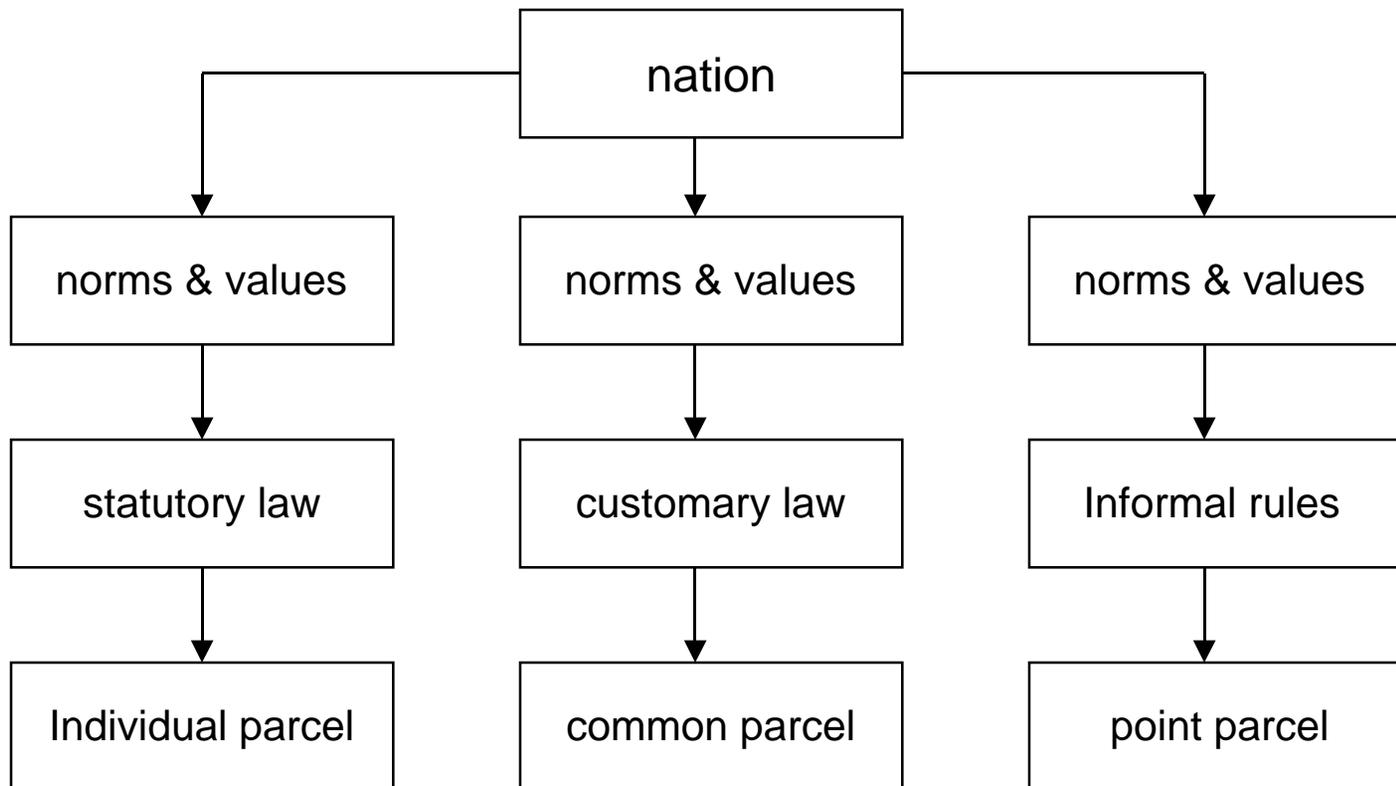
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- ❑ **Industrialized countries: quite OK**
- ❑ **Central & Eastern Europe: well up steam**
- ❑ **Latin America: problems with land reform**
- ❑ **Africa: problems with legal pluralism**
- ❑ **Asia/Australia: up steam**
  
- ❑ **Overall: 50 (OK) - 150 (something) - 50 (not OK)**

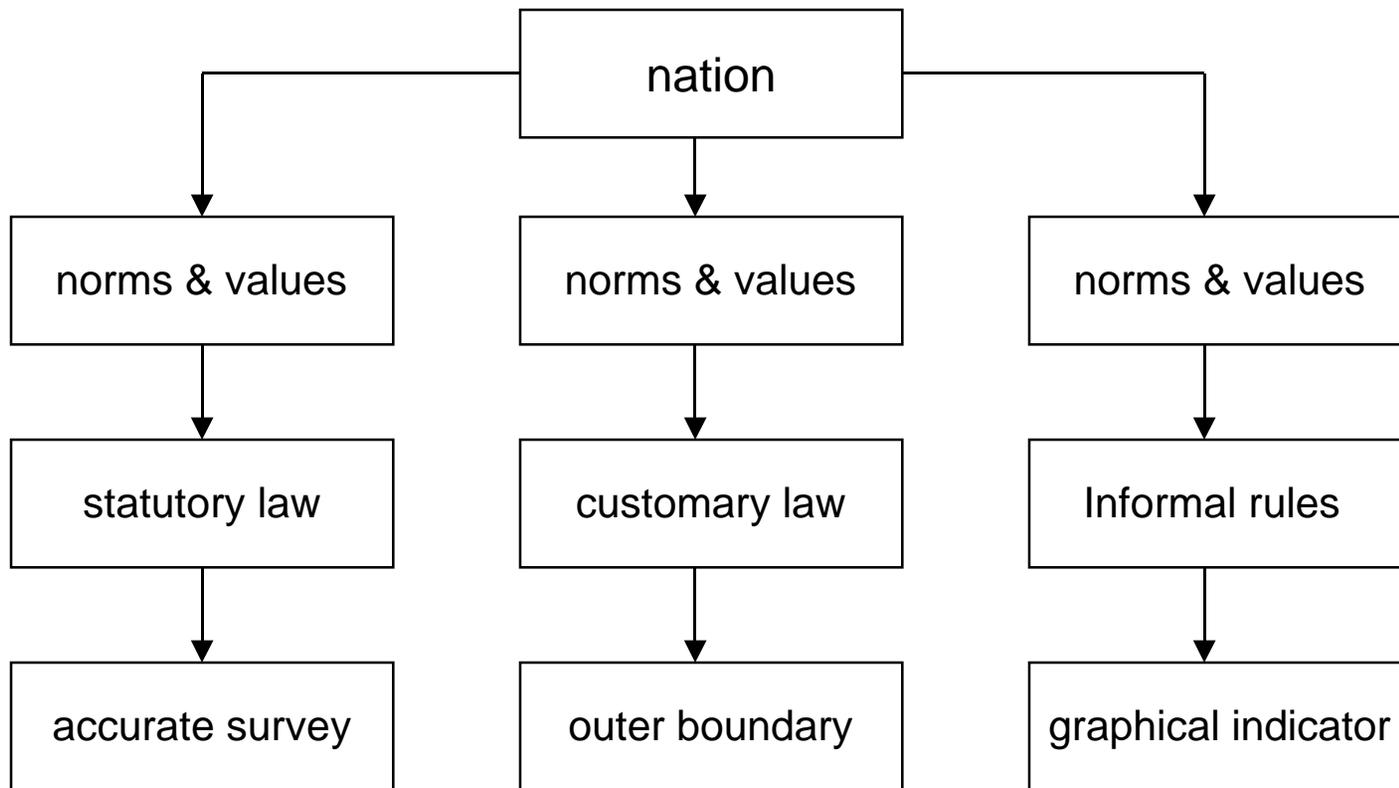
# Legal pluralism: example



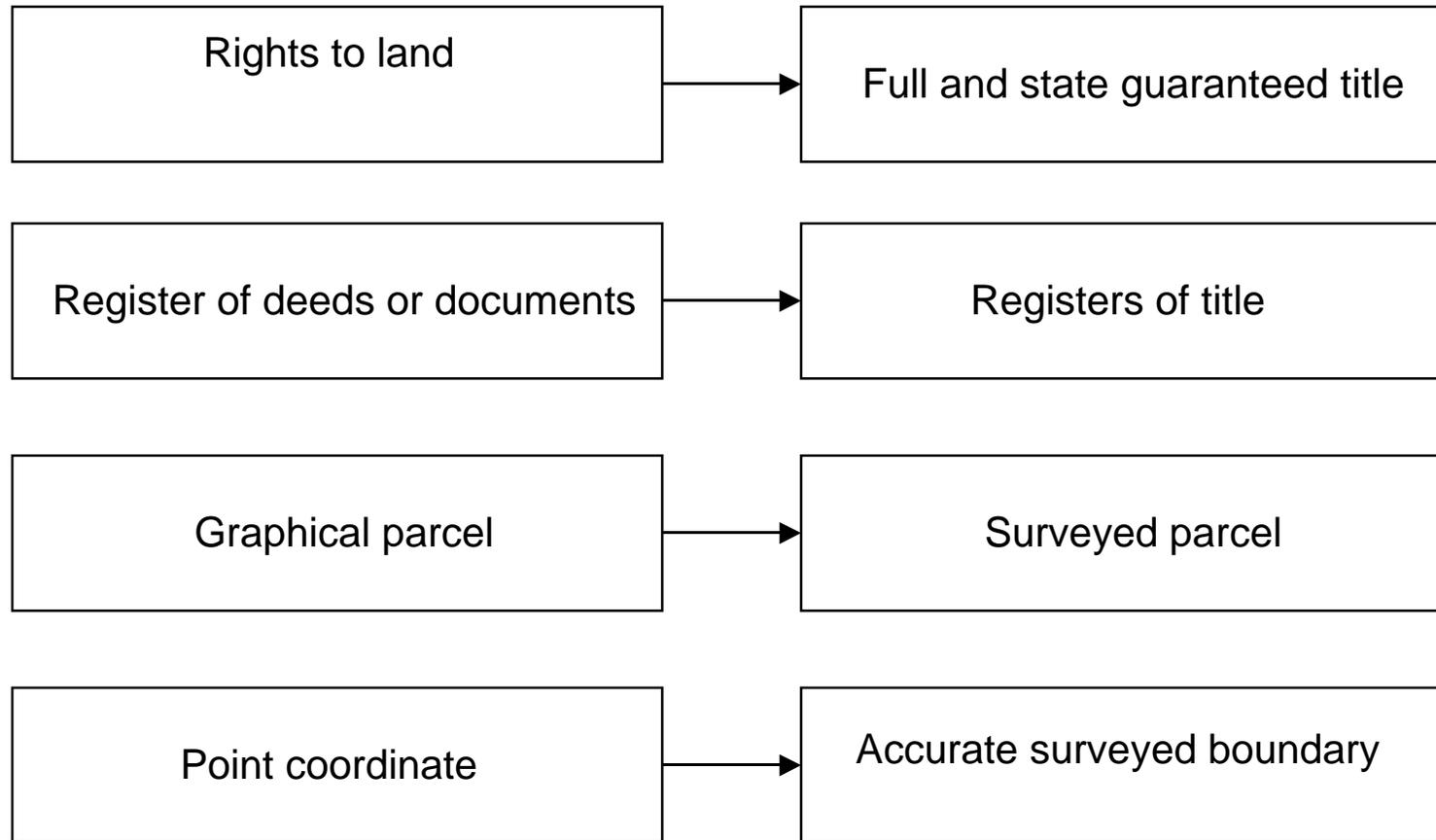
# Spatial units: example



# Cadastral boundary survey: example



# Evolutionary approach: example



# Technical Approaches

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- Standards
- Data Acquisition: initial and maintenance

# Standards

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- ❑ There are supposed to be huge differences between systems
- ❑ Look to the common area's:
  - ▶ ***Standardised Model***
  - ▶ ***Avoid re-inventing the wheel***
  - ▶ ***Enable involved parties to communicate***

# Basic datamodel

- 1. Parcel
- 2. Apartment
- 3. Building
- 4. Spatial Unit
  
- One Point
- Lines
- Polygon (low accuracy)
- Polygon (high accuracy)
  
- Quality labels

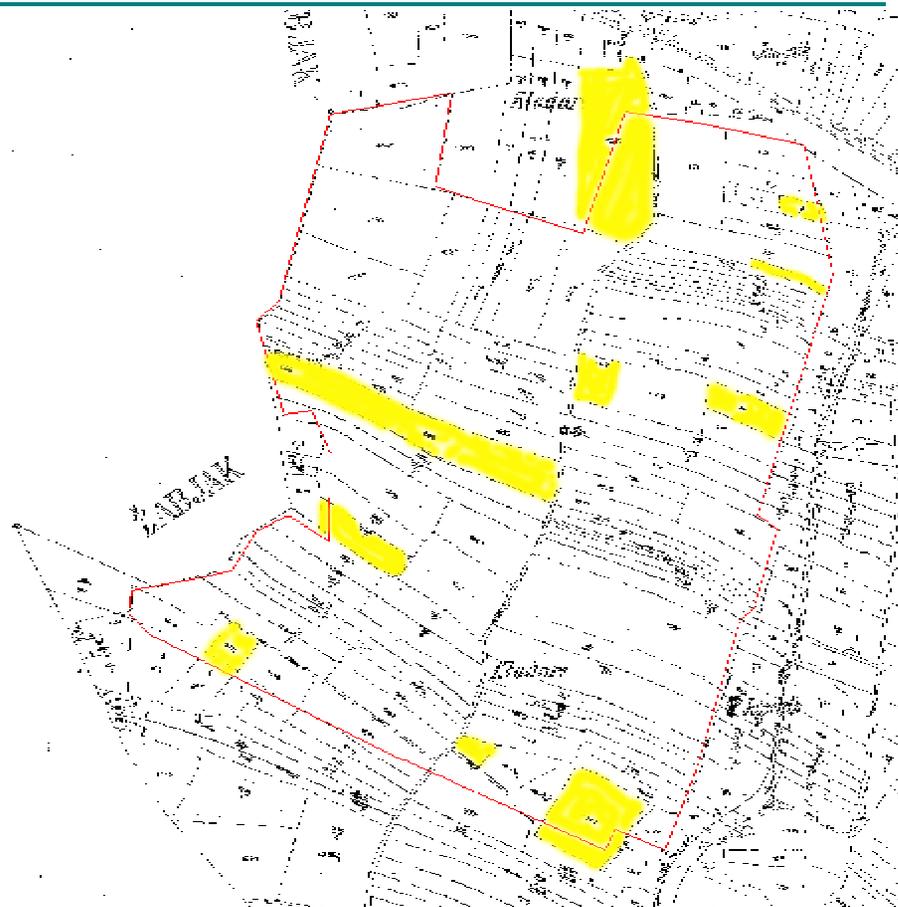
- 1. Formal Ownership
  - 2. Customary
  - 3. Indigenous
  - 4. Tenancy
  - 5. Starter, landhold, freehold
  - 6. Possession
  - 7. Mortgage
  - 8. Usufruct
  - 9. Long Lease
  - 10. Restriction Type 1
  - 11. Restriction Type 2
  - 12. State
  - 13. Informal
  - 14. Unknown
  - 15. Disagreement
  - 16. Occupation
  - 17. Uncontrolled privatisation
  - 18. Conflict
- Overlap

- 1. Natural Person
  - 2. Company
  - 3. Municipality
  - 4. Co-operation
  - 5. Group
  - 6. Ministry
- Biometric identification

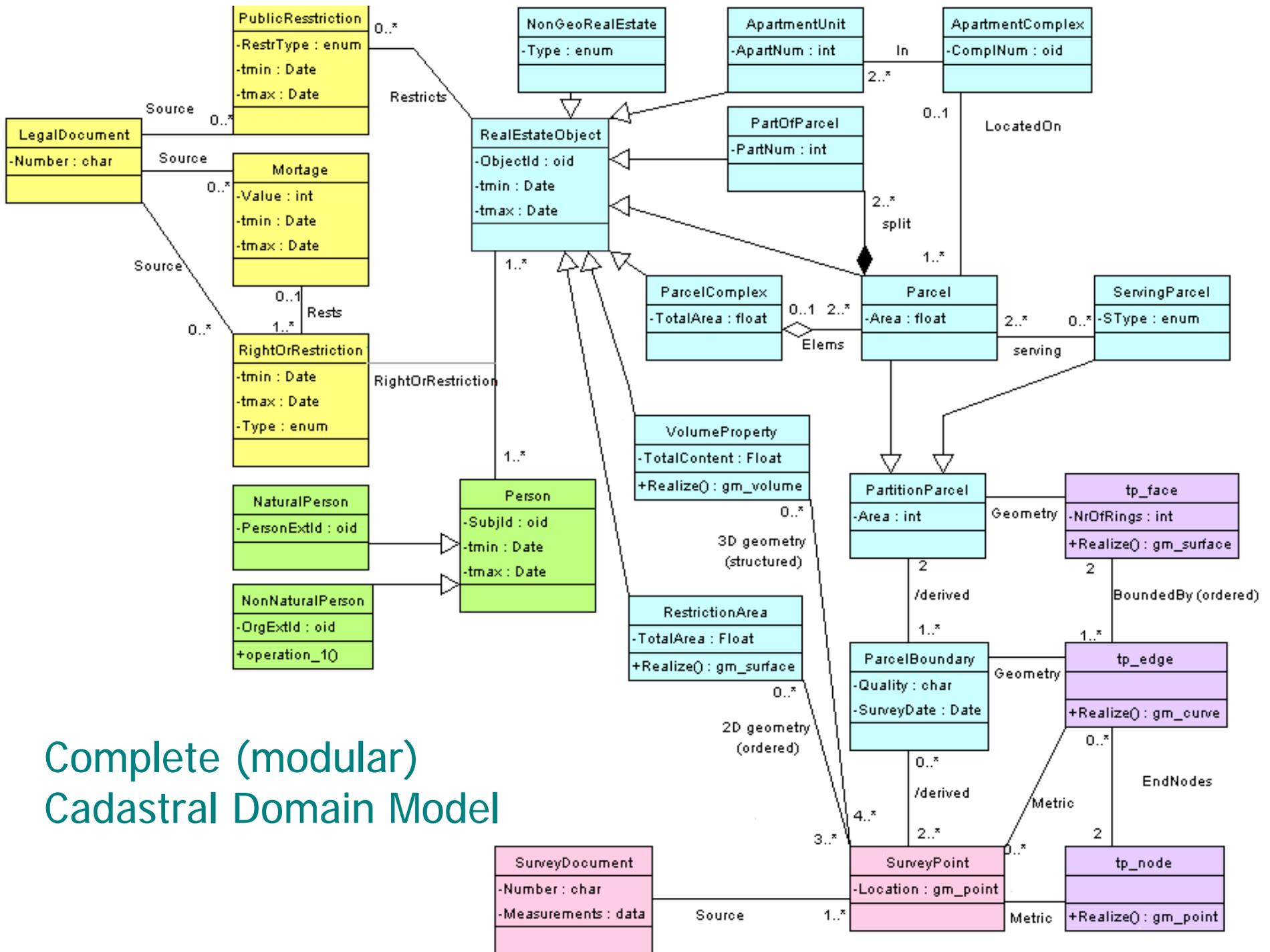
Situation in field



Situation on Cadastral map

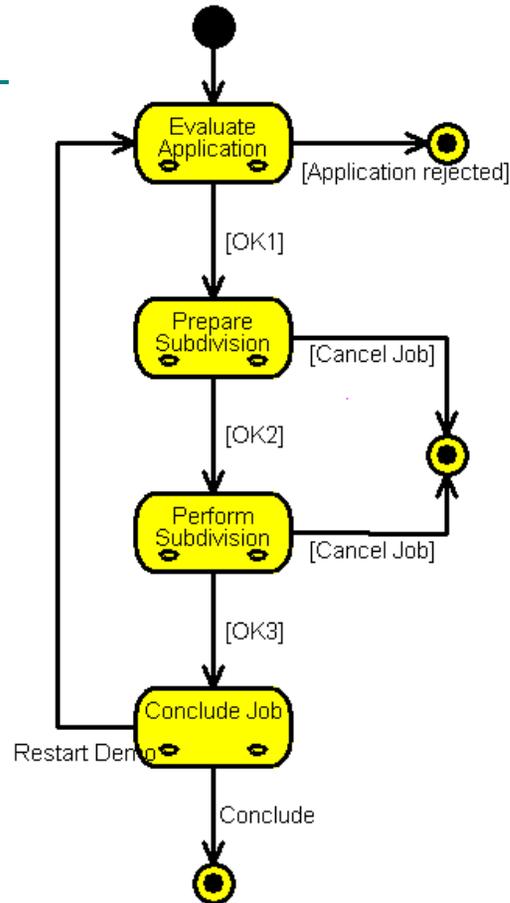


 Parcels with unsolved ownership



## Complete (modular) Cadastral Domain Model

# Work Flow



- Guides User through all steps in a Job
- Controls the Work Process
- Includes manual- & automated steps

Interorganisational workflows

Again: standards to be developed

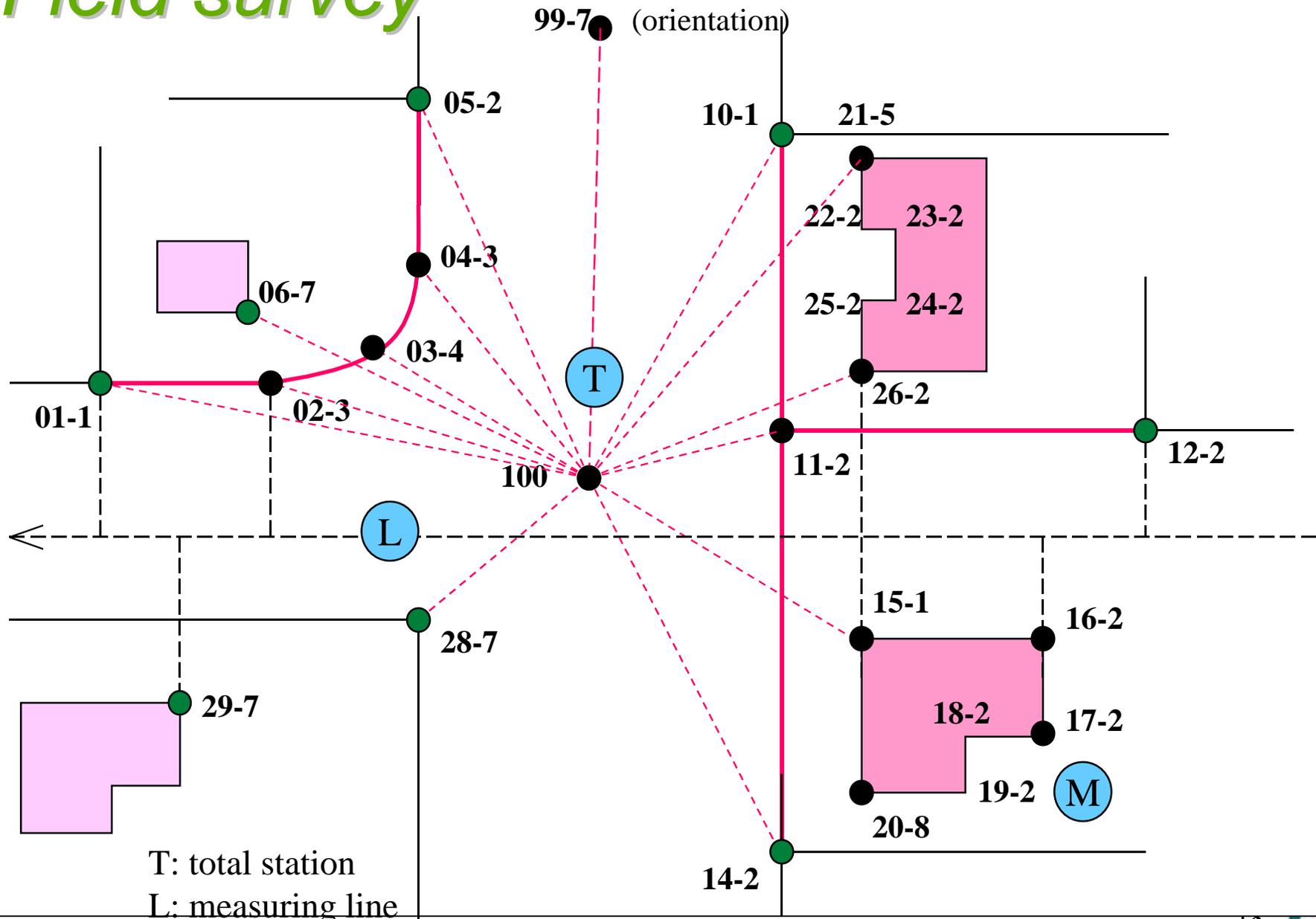
## Data Acquisition

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- ❑ Different accuracy in different area's
- ❑ It should be more easy to combine different data acquisition methods with available data sources
- ❑ Lidar, Ikonos, Quickbird, GPS, Galileo, Cyclomedia, Tape measurements, Total stations, Ortho Photo's, Aerial Photographs
- ❑ Source documents
- ❑ WGS/UTM
- ❑ No monumentation



# Field survey



T: total station  
 L: measuring line  
 M: distance-series

# Organisation, network, cadastral data exchange

