Cadastral registration of cross-boundary infrastructure objects

Main principles of land ownership

- *Superfices solo cedit* (vertical accession)
- *Cuius est solum, est usque ad sidera, usque ad inferos*

Land ownership = (surface) parcel based

The complex subsurface world

The Netherlands:
- Length: 2,000,000 km
- Value: EUR 100,000,000

Cross-boundary infrastructure

Importance of cross-boundary infrastructure
**Rights on cross-boundary infrastructure**

*In the Netherlands only clear in two cases*

- Right of superficies: ownership is the "sum" of all rights per parcel
- Public networks for telecommunication: permit holder is owner of complete network

**Registration of rights on cross-boundary infrastructure**

- Superficies: Registration of the limited real right per parcel. No cadastral "overview" of the complete infrastructure
- Telecommunication network: Analogue network map Reference to a "anchor parcel" Notification per parcel

**How to improve the registration?**

- Registration of 3D physical objects in cadastre
- Object (network) can be queried as a whole
  - all intersecting parcels
  - rights established on each of the parcels
  - the subjects of those rights
  - the "holder" (manager) of the object