

Cadastral registration of cross-boundary infrastructure objects



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Main principles of land ownership

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

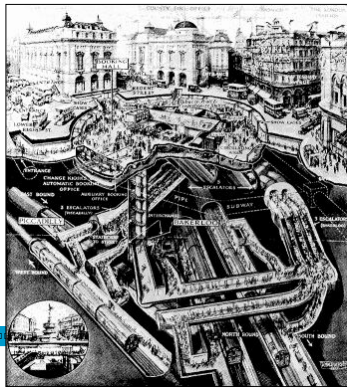
Land ownership = (surface) parcel based

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The complex subsurface world

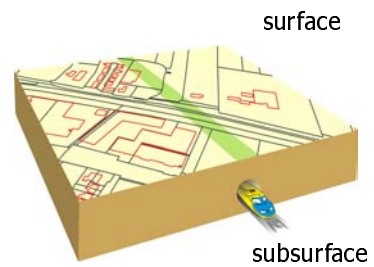


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Two spheres



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Cross-boundary infrastructure



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Importance of cross-boundary infrastructure



Utilities in
The Netherlands:

- Length: 2.000.000 km
- Value: EUR 100.000.000

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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

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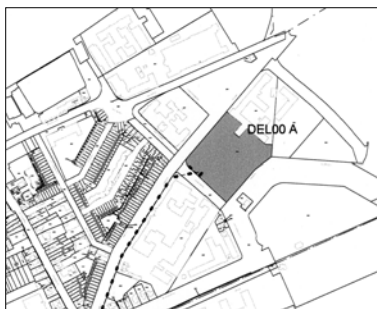
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Registration of rights on cross-boundary infrastructure

- 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

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"Anchor parcel"



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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

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