Surveying the world of tomorrow - From digitalisation to augmented reality
The cadastral map of The Netherlands improved

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Plans to improve the geometric quality & the communication of the Cadastral Map
Map improvement

What?
1. communicating quality
2. improving geometric quality of lines

Why?
1. need for “find-the-boundary-yourself”
2. insecurity of square metres

How?
1. automatic calculation & map-making
2. storing data structured -> new model
Goal 1: more transparency of quality

1832
\[ \sigma = \frac{40}{40} \text{ cm}^2 \]

2015
\[ \sigma = \frac{2}{2} \text{ cm}^2 \]

1930
\[ \sigma = \frac{20}{5} \text{ cm}^2 \]

1976
\[ \sigma = \frac{20}{5} \text{ cm}^2 \]

Assen C 1492
grt. = 820 m$^2$
\[ \sigma = \frac{80}{15} \text{ m}^2 \]

Local dimension
“3 tiles”

Easy access to archive

\( \sigma_{\text{map}} / \sigma_{\text{archive}} \)
Feasibility study: “from good to better”

*increasing geometric quality and consistency*

- **Field Sheets**
  - → **reconstruction**
  - **accurate** & local relations

- **Cadastral Map**
  - → **overview and relations**
  - inaccurate & coordinates

- **“1 to 1 map”**
  - → **reconstruction & viewer**
  - accurate & coordinates
Goal 2: Boundary information (Do It Yourself)

Costumer gets:
- “easy” local dimensions (own tape)
- accurate coordinates (hired GPS)
- additional info & instructions
New datamodel -> LADM survey package?

G.I.S.
- automated map making
  - LA_BoundaryFaceString ↓ NL_boundary
  - LA_SpatialUnit ↓ NLParcel

Geodesy
- automated calculation & quality description by "Delft" method
  - LA_Point ↓ NL_Point
  - LA_SpatialSource ↓ NL_SpatialSource
  - LA_BoundaryFace
    - NL: (later 3D?)
    - always connected!
FIG WORKING WEEK 2017
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Smart Surveyors for Land and Water Management