EuroSDR Workshop
Sustainable Business Models

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Key Register Topography

Basisregistratie Topografie (BRT)

Topographic maps give a complete image of the terrain and landscape, with houses, streets, water, woodland and annotation.

Data

Maps

Webservices
Challenges

1. Open data since 2012, fixed budget
2. Up to date, legal obligation 2 years
3. Increasing demand of customers for:
   - new products, services and downloads
   - better content
4. Without any compensation for higher cost / inflation

Do more and better business with the same budget.
Opportunities to do more and better business with the same budget.

1. Aerial images and panorama photos
   No field visits needed anymore
2. Fully automatic generalisation, no manual improvements
3. Lean management
4. Customer orientation, user community
5. New products
6. BRT.Next
BRT production, aerial and panorama photos

Aerial images en panorama photo's

Scan for differences (manually)

Update TOP10NL
BRT production: Automatic generalisation

- **enlargement**
- **displacement**
- **exaggerate**
- **reclassify**
- **aggregate**

1. Numerical bullets
2. Sub-bullets
3. Leestekst

**Transform**
BRT production
Automatic generalisation

Manually, 2 weeks work

ERM

T250

T100

T50

T25

T100

T50

T10

Background
Lean Management

1. Visual management, digital Obeya
2. Value stream, value for the customer
3. No waste: reduce waiting time, no overproduction, reduce non-value adding activities, delete unnecessary quality control, no defects, no stock/inventory, reduce work in progress
4. Just in Time, First time right
5. Flow and Kanban, from push to pull
6. Plan Do Check Act, continuous improvement
7. Chess pattern for mapsheets
8. Takt time, lead time, cycle time
Customers / users priorities

1. Maps up to date
2. Maps up to date
3. Maps up to date

User community 4 times per year:
- wishes and demands, complaints
- developments
- share user experiences
## BRT updates 2023

### Luchtfoto 2022 vs Aantal bladen

<table>
<thead>
<tr>
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<th>Aantal bladen</th>
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<tr>
<td>Levering Februari 2023</td>
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<td>Levering April 2023</td>
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<td>Levering Juni 2023</td>
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<td>Levering September 2023</td>
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<tr>
<td>geen levering</td>
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</table>
New products

1. Topotijdreis.nl: Topo time travel, in 2015 200 years of map production within Dutch government.

2. Scalable Background map for webservice (Google Maps without ads, no track and trace), and NLMaps.nl

3. New map scales: 1:500K and 1:1,000K

4. New data products (Geopackage)
Results so far

Happy Customers 😊 !

Motivated employees
From 4 year update cycle to the whole country in 1 year
80 % reduction in production capacity for 1 update cycle
Lead time +/- 50 %, Work in Progress +/- 50 %
Steady production of 3 map sheets per day
National Lean award: study trip to Japan
The future is BRT.Next

1. Use of available data from other Key Registers, and from other data sources
2. Single data capture, multiple use
3. New software, new technologies: open source software, Cloud, Geo AI
4. Future proof: physical and functional objects
5. Automatic generalisation 1:1.000 => 1:10.000

New products, new production process, new datamodel. Different content and quality.
Thank You

Questions ?
Dutch system of Key Registers (NSDI)

A modern and dynamic government that:

✓ Single data capture, multiple use
✓ Obligatory use by the government
✓ Does not ask twice (relief of administrative burden)
✓ Is demand driven and pro-active
✓ Is not fooled around with (fraud fighting)
✓ Is well informed about its targets (effective)
✓ Is properly organised and cost effective (efficient)