



Deformation

Risk determination using satellite data

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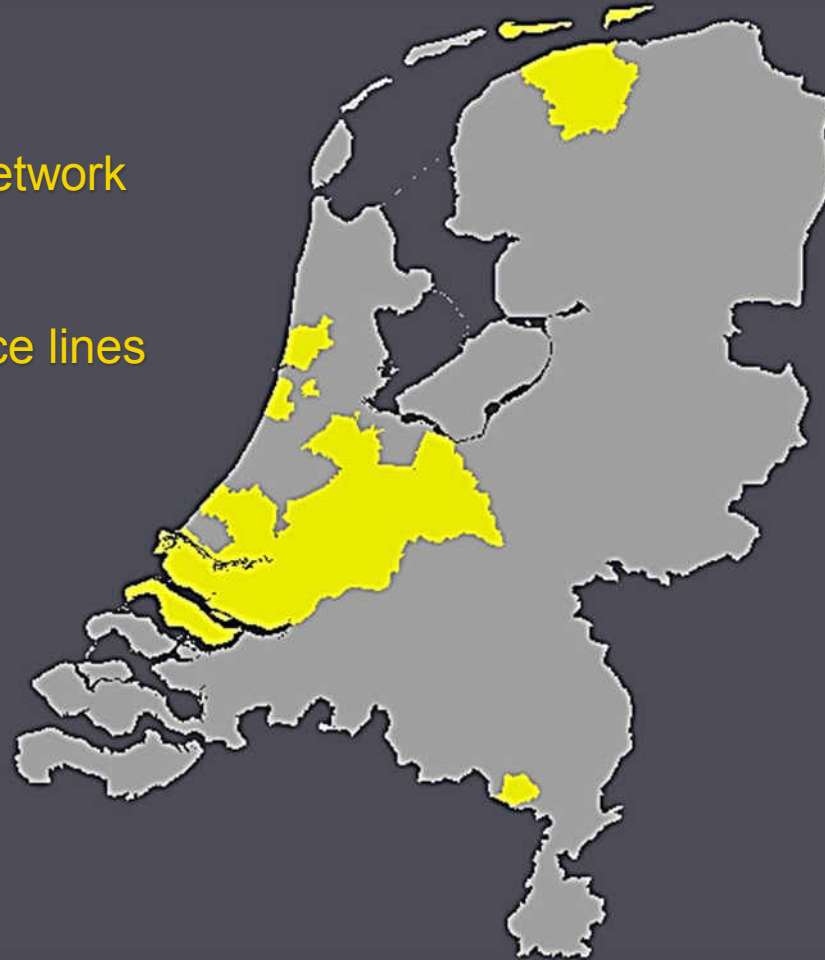
Stedin Netbeheer (DSO)

Electricity + Gas

Gas distribution network
24,000 km

Primary gas service lines
1,400,000

Customers
2,000,000



Ground deformation

- Different deformation rates
 - Leakages
 - Bends



Deformation on gas service lines

- Normal

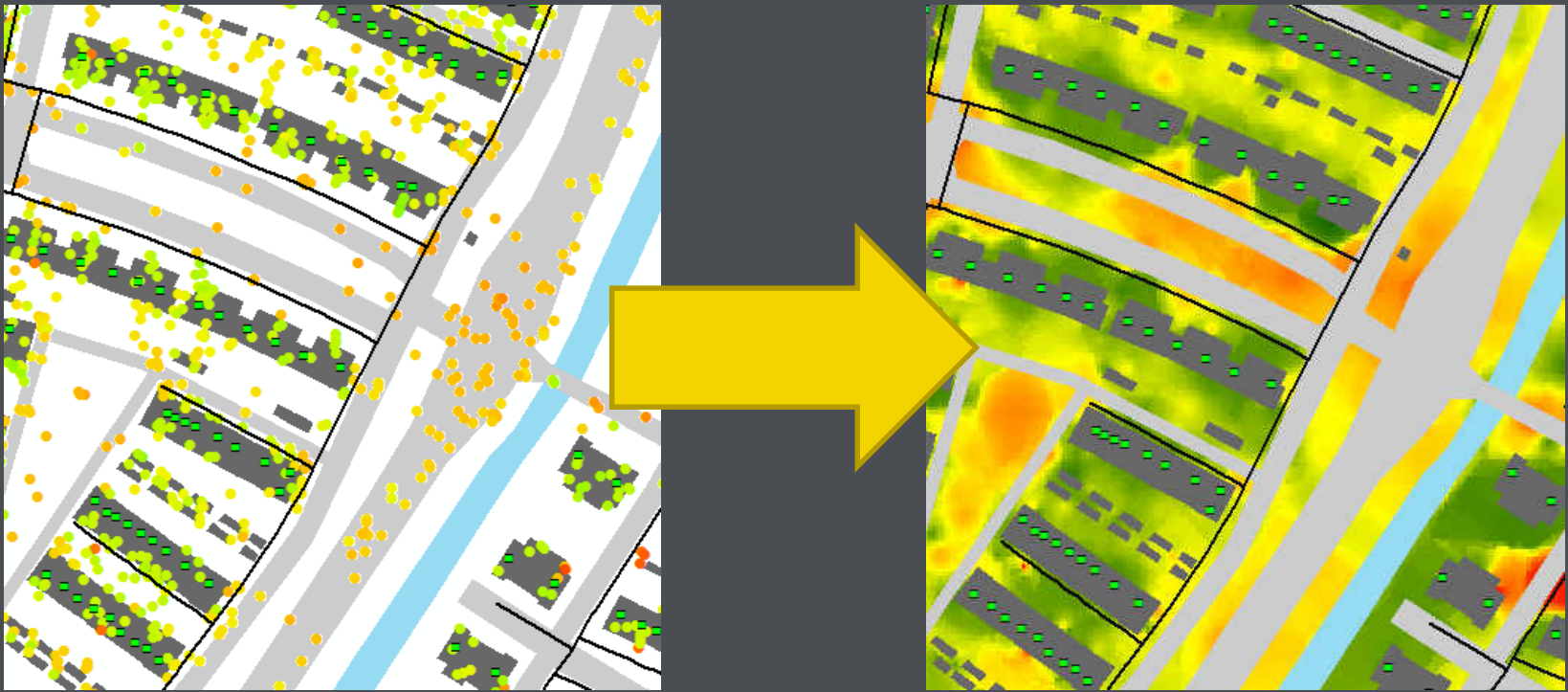


- Influence of deformation



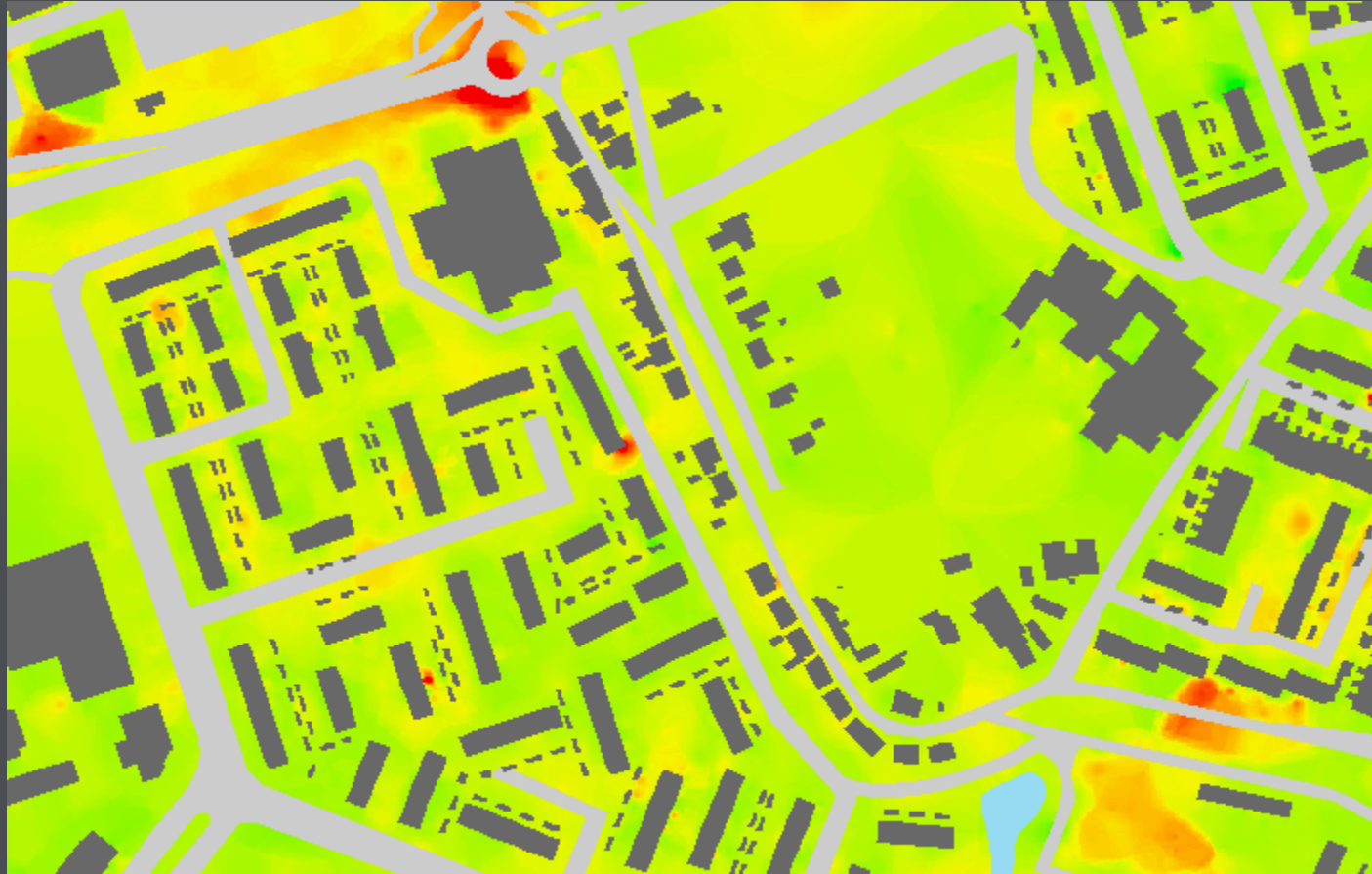
Processing measurement points

- Visualize spatial patterns



A neighbourhood

- Deformation map



Deformation on each gas service line

- Total deformation per address



Time until replacement

- How many years until the gas service line needs to be replaced?



Using satellite data within Stedin

- Effectiveness:
 - Reduced costs per neighbourhood
 - Increased safety for customers
 - Previously unknown risk areas discovered automatically
- Strategic planning:
 - Predictive analysis

