

# STEDIN.NET

Deformation

Risk determination using satellite data

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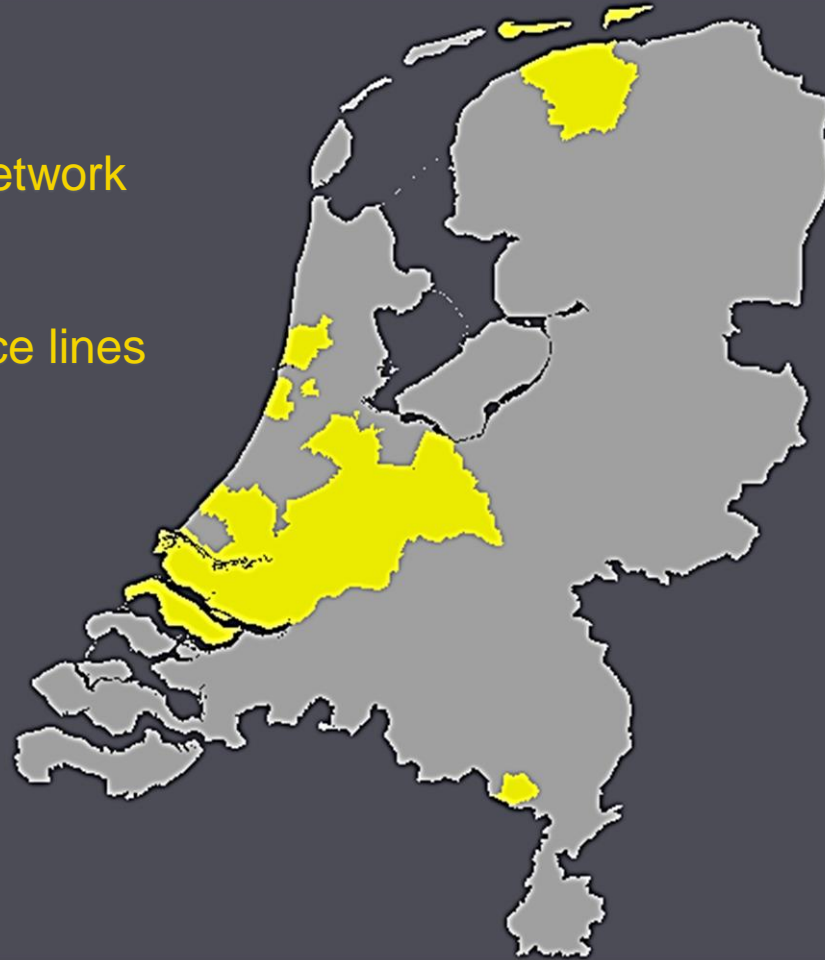
# Stedin Netbeheer (DSO)

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

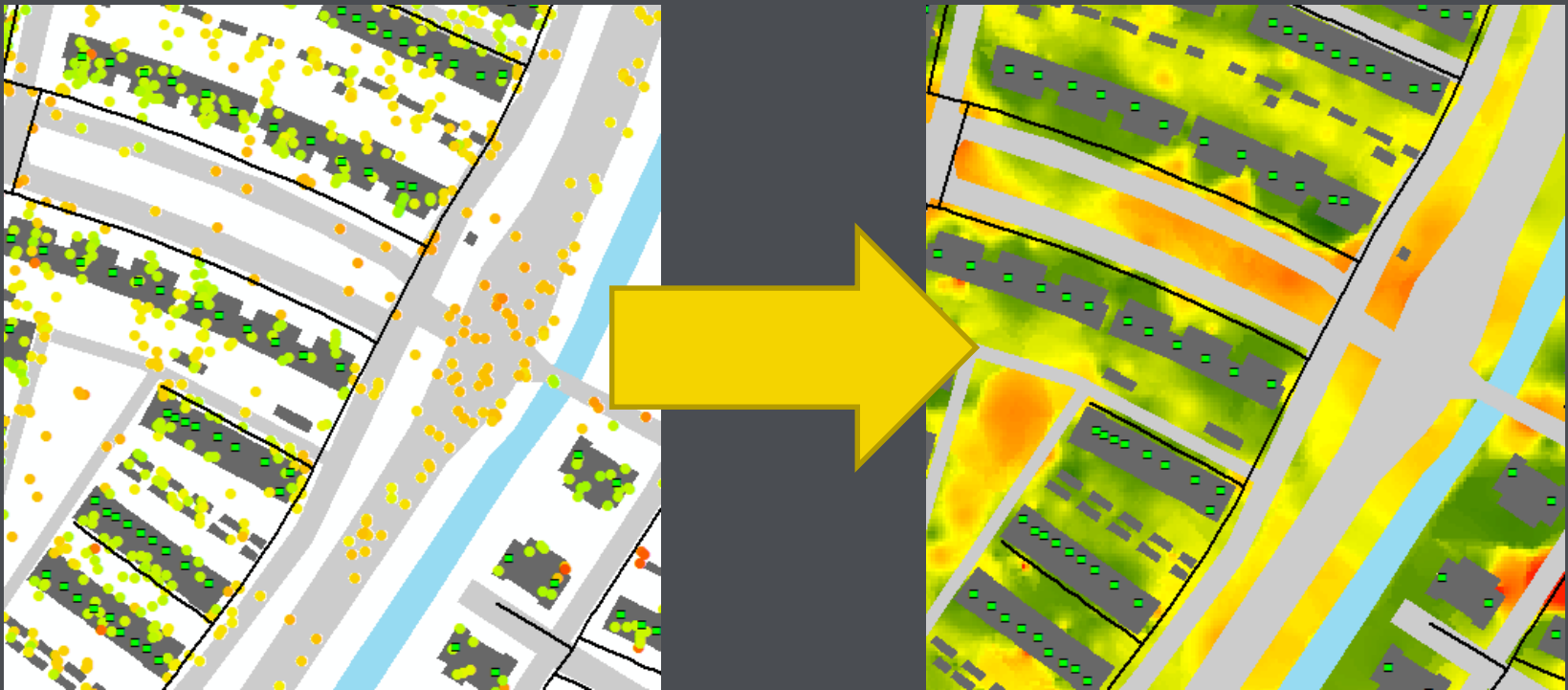


- Influence of deformation



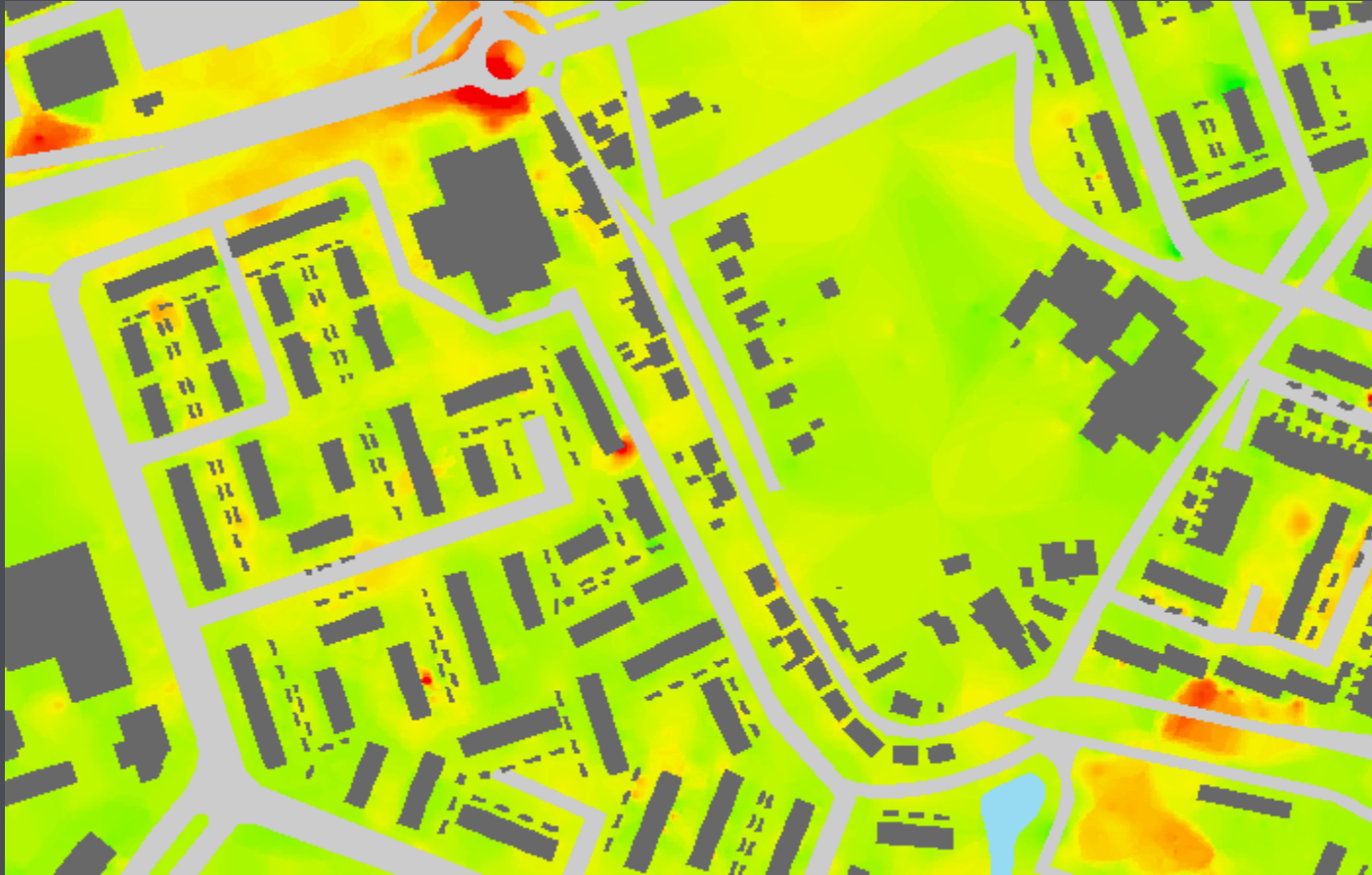
# Processing measurement points

- Visualize spatial patterns



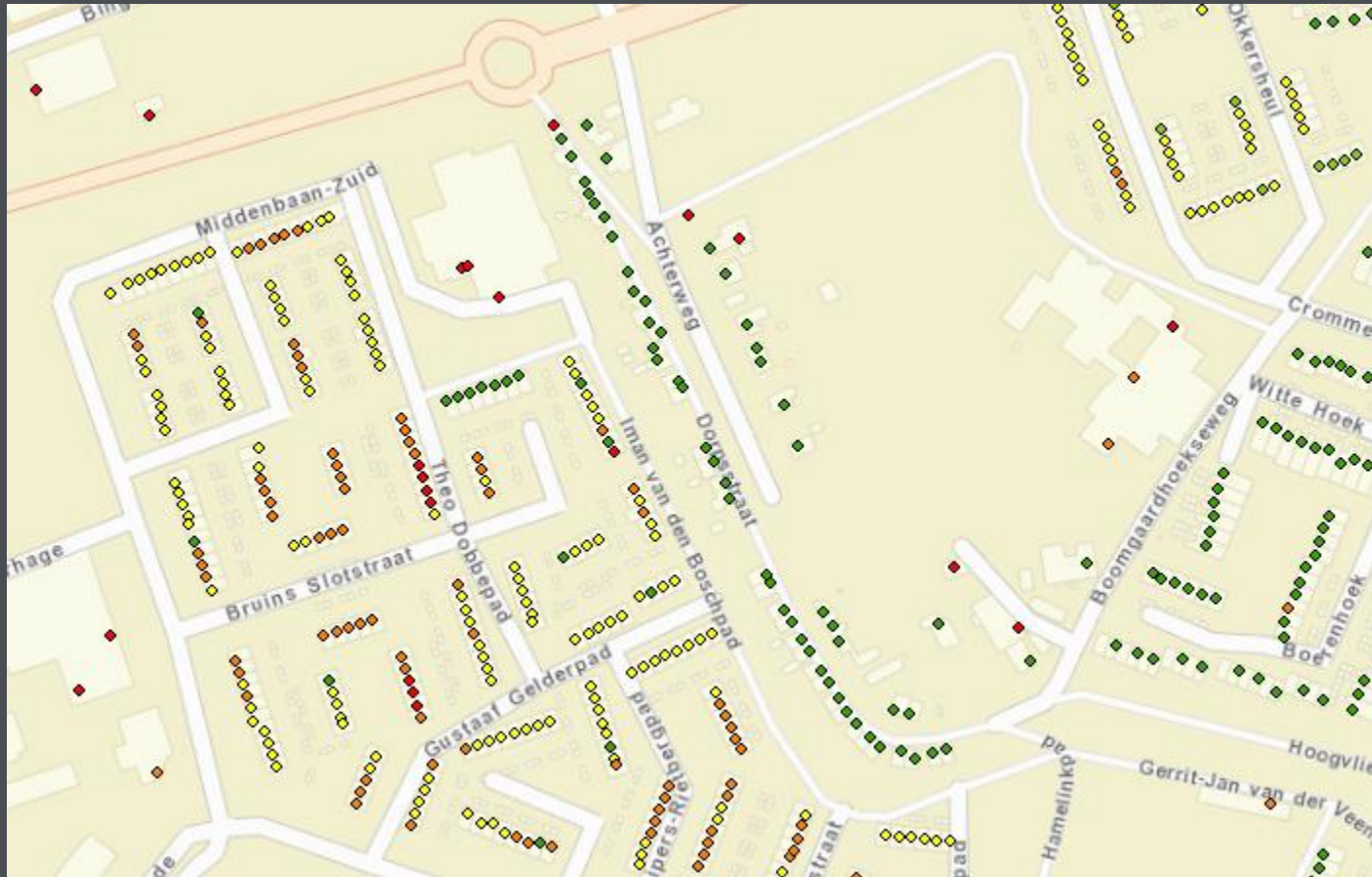
# A neighbourhood

- Deformation map



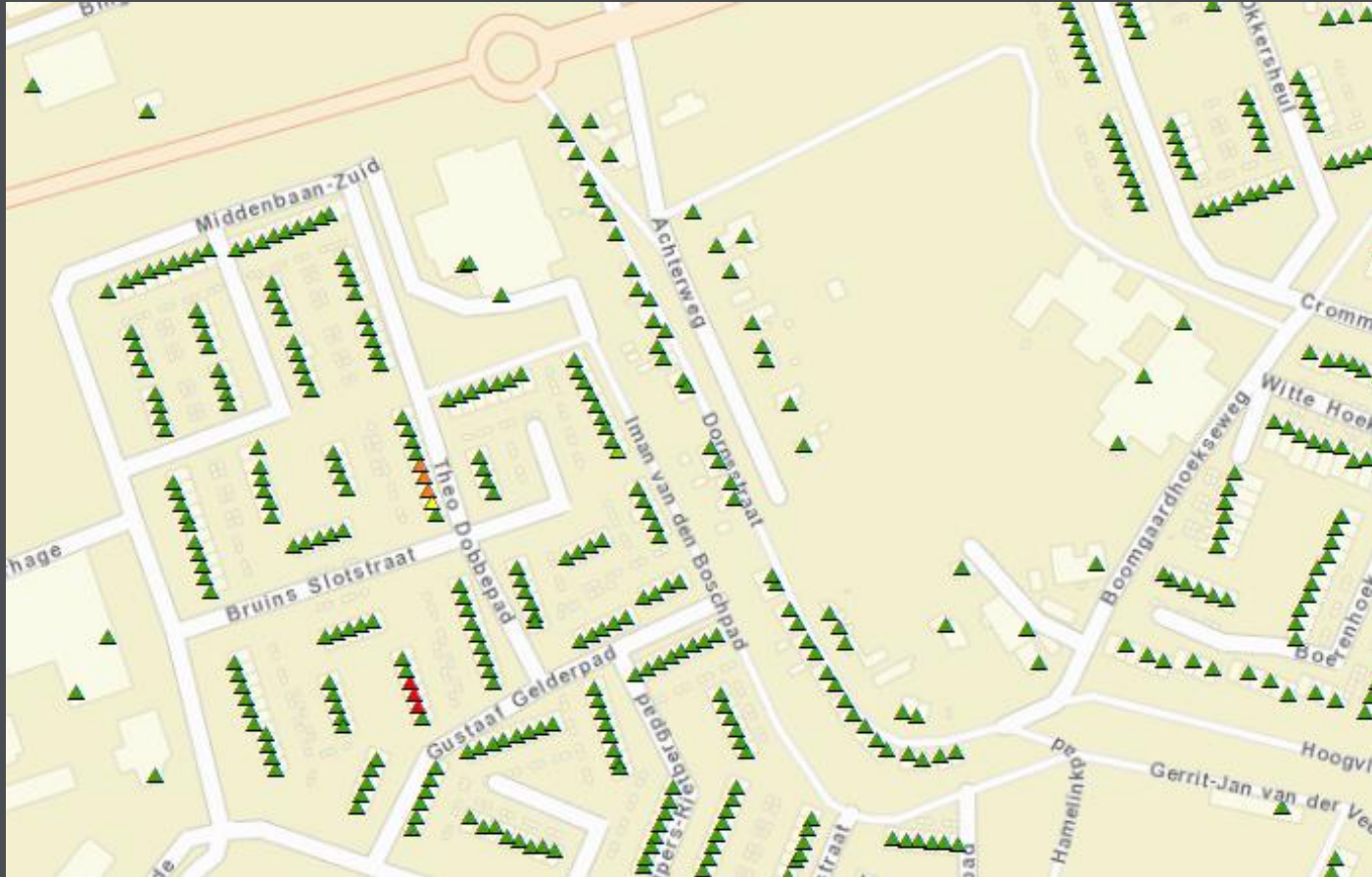
# Deformation on each gas service line

- 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

