
GWF
GEOSPATIAL WORLD FORUM
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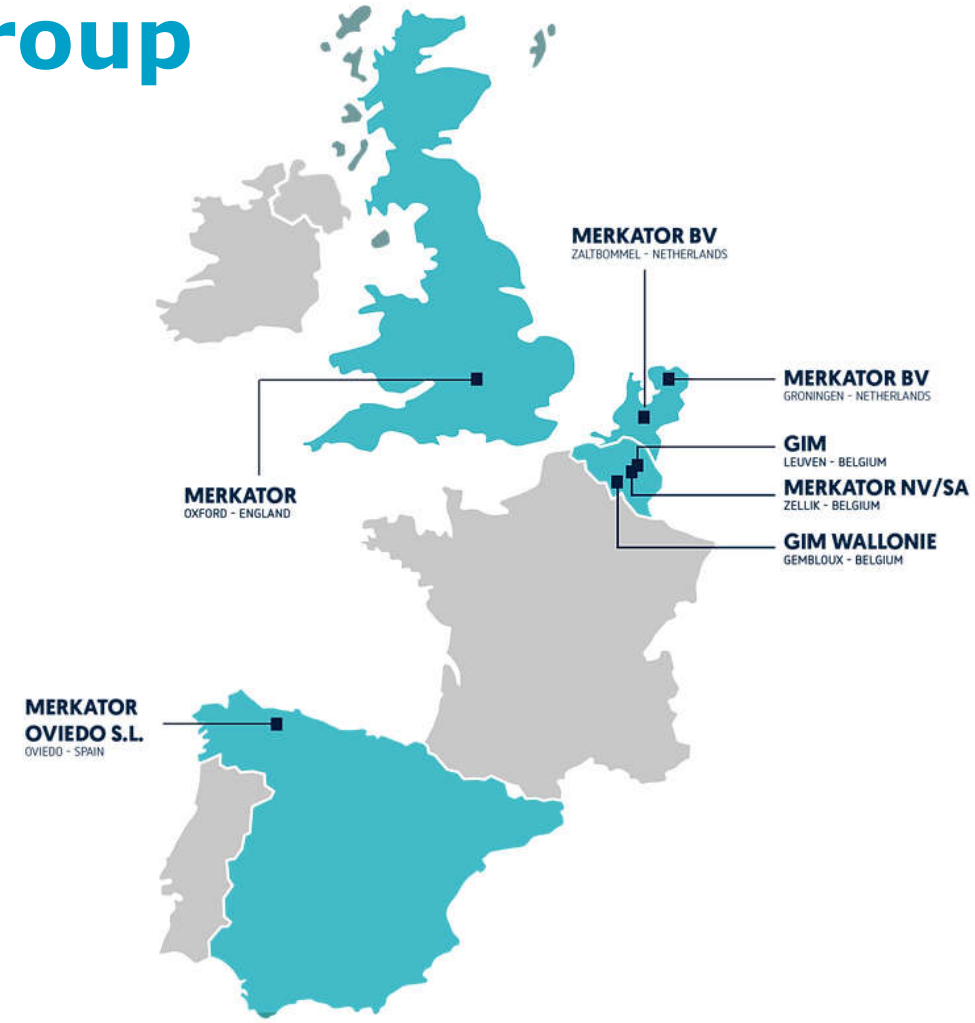
gim SMART GEO INSIGHTS

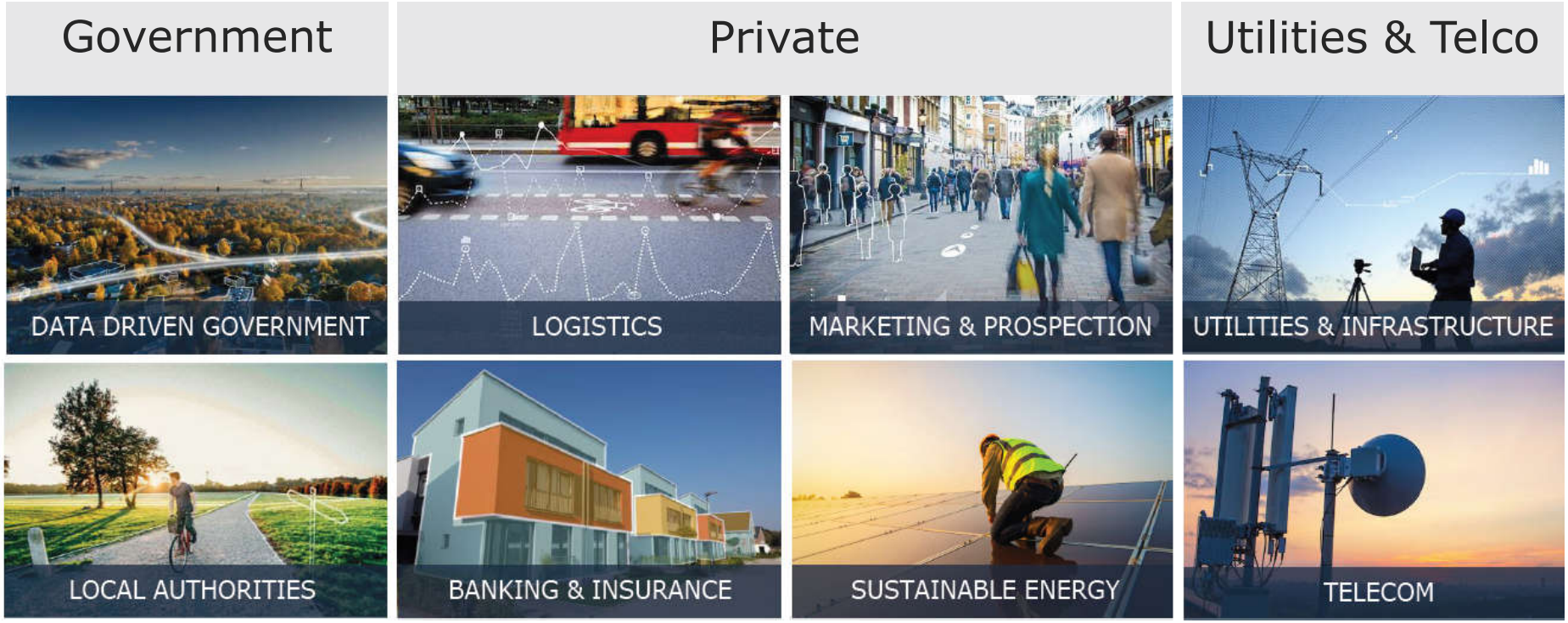
Geo Digital Twin in support of a sustainable future for our living environment

“Every location has a story… we bring it to life”

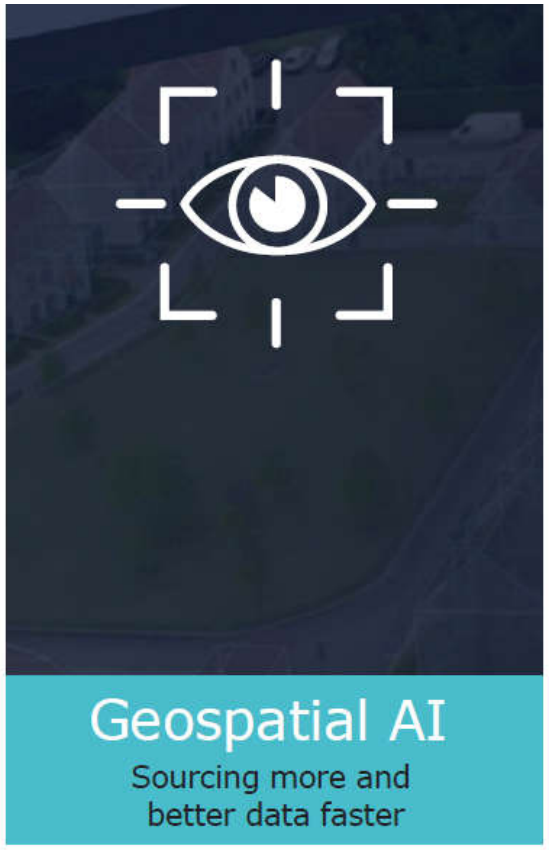
Part of a strong group
(since 06/2022)



At home in various markets



All-round expertise for the collection, integration and exchange of geodata

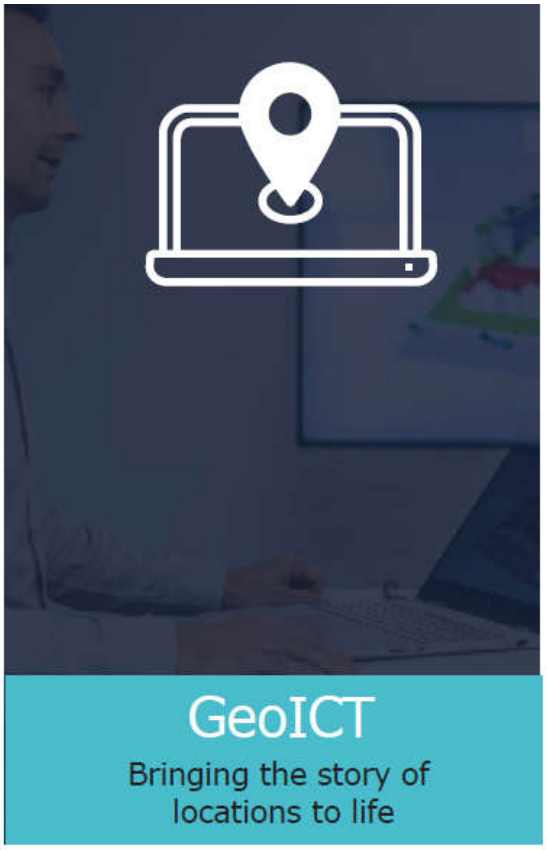


Geospatial AI

Sourcing more and better data faster

Geodata Engineering

Making data work for you



GeoICT

Bringing the story of locations to life

Building blocks of a Geo Digital Twin

3D BASE MAP

SIMULATION PLATFORM

IOT SENSORS

Quality

Completeness

Maintenance

Building blocks of a Geo Digital Twin

3D BASE MAP

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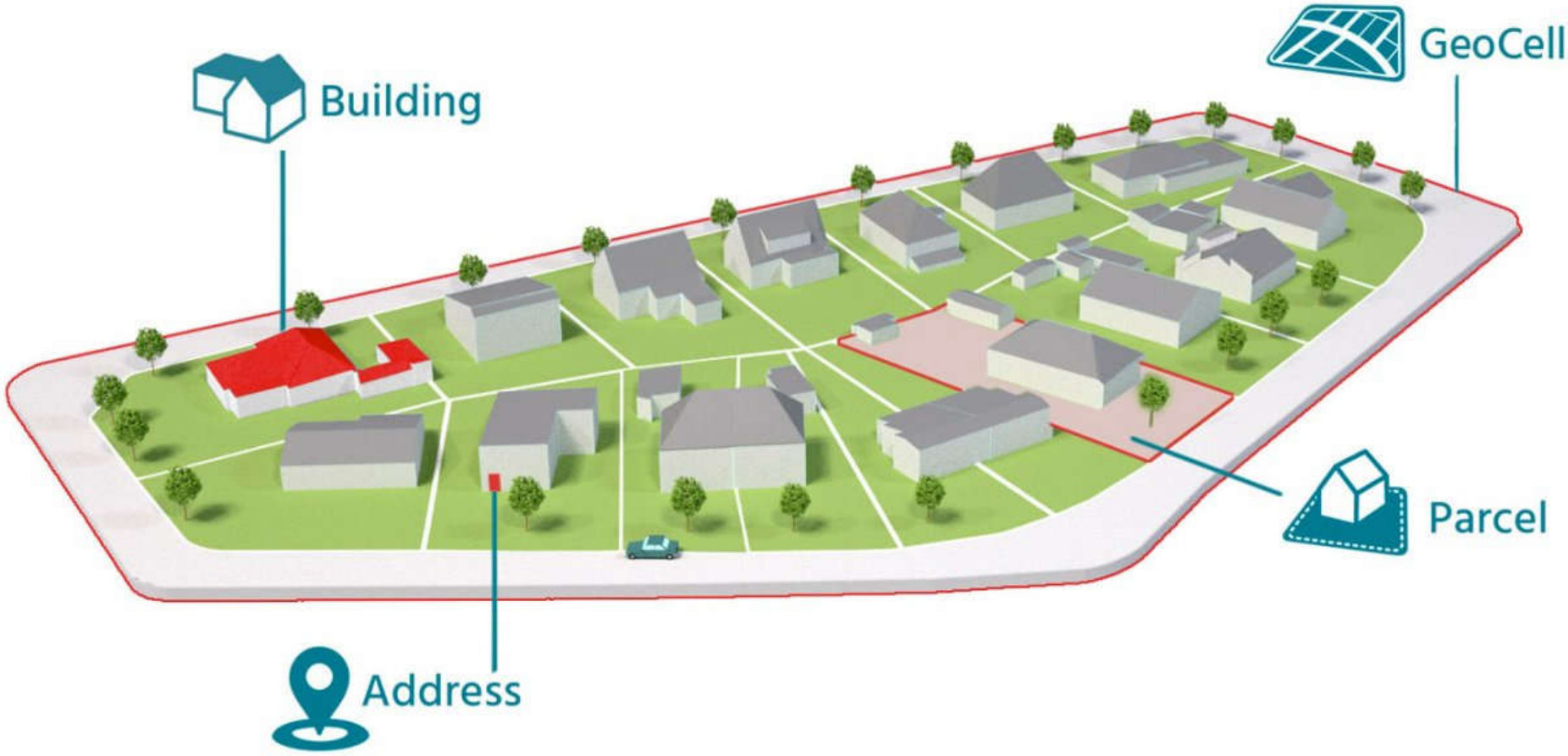
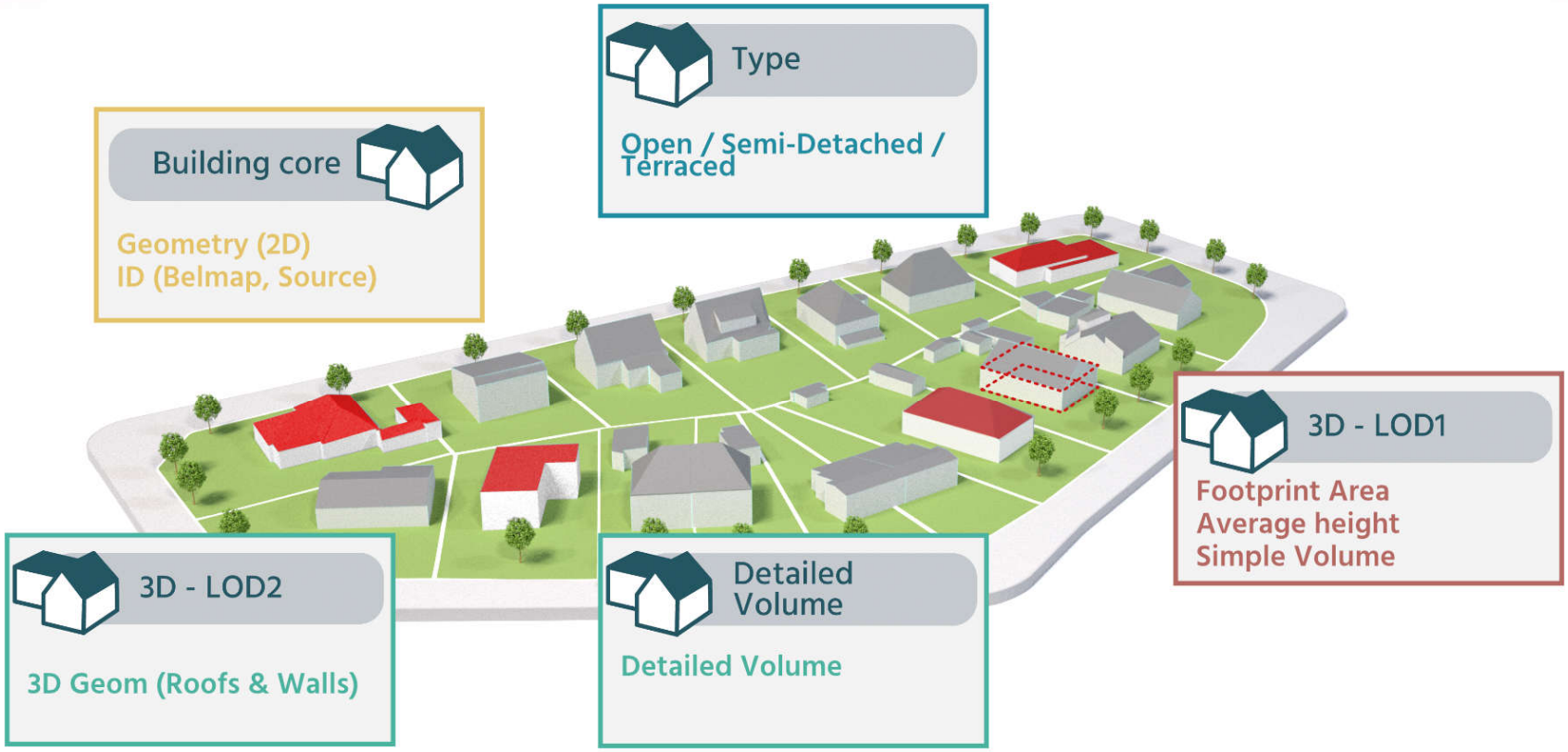
80% of all data is linked to location…

Belmap - Embrace Reality



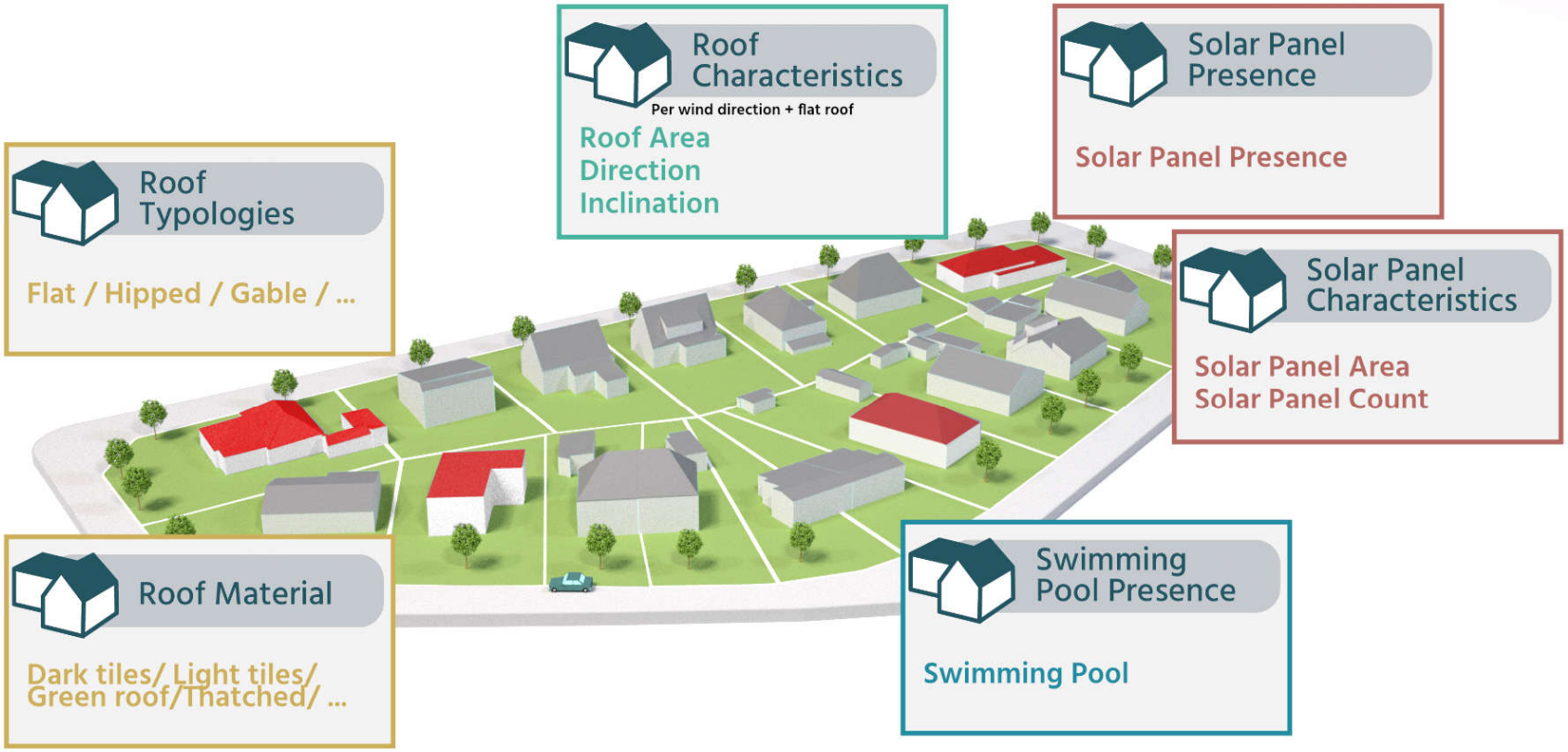
Belmap - Embrace Reality



Building Data Modules

1/3

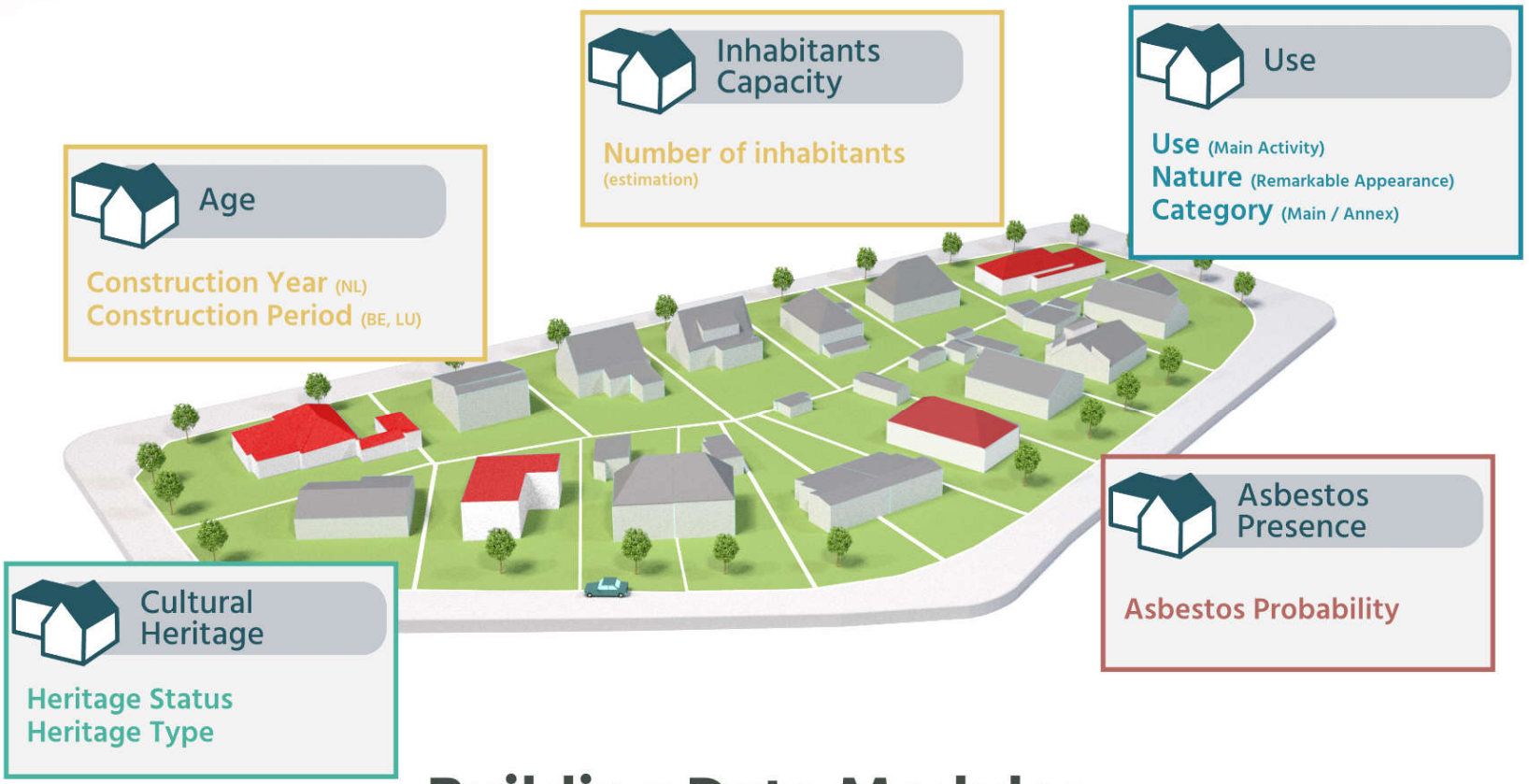
Belmap - Embrace Reality



Building Data Modules

2/3

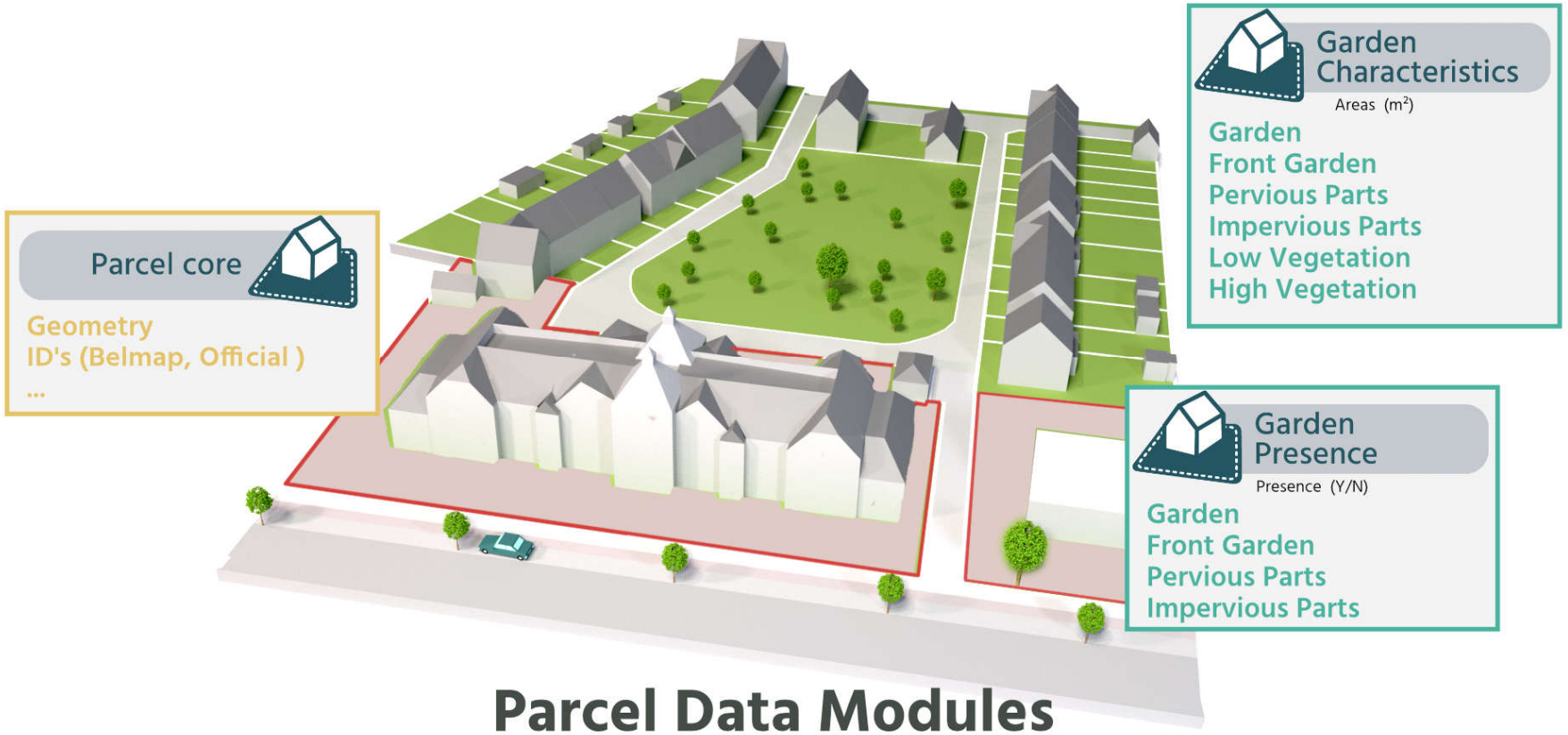
Belmap - Embrace Reality



Building Data Modules

3/3

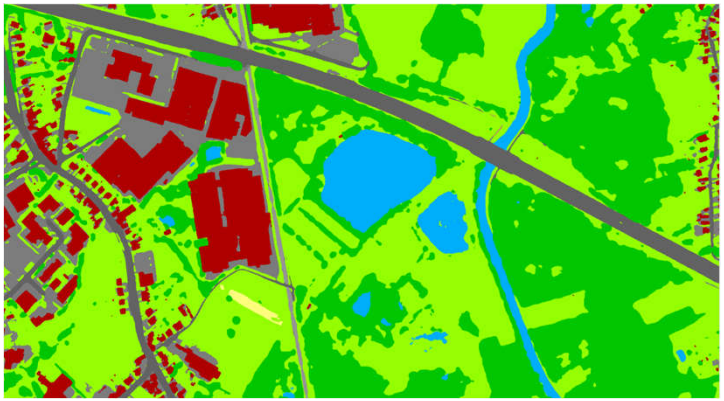
Belmap - Embrace Reality



Parcel Data Modules

Garden Modules

1. Buildings
2. Roads
3. Other Covered
4. Railroads
5. Water
6. Other Uncovered
7. Fields
8. Grass and bushes
9. Trees



GIM’s Land Cover Map

GIM’s Front Garden Demarcation

Garden Presence

Garden Characteristics

Building blocks of a Geo Digital Twin

3D BASEMAP

Quality

Completeness

Maintenance

SIMULATION PLATFORM

IOT SENSORS

Zanadoo - Geo Digital Twin Platform

Understand the dynamics of today's and tomorrow's realities

Design | Simulation | Validation | Implementation

Climate & Water

Urban Planning

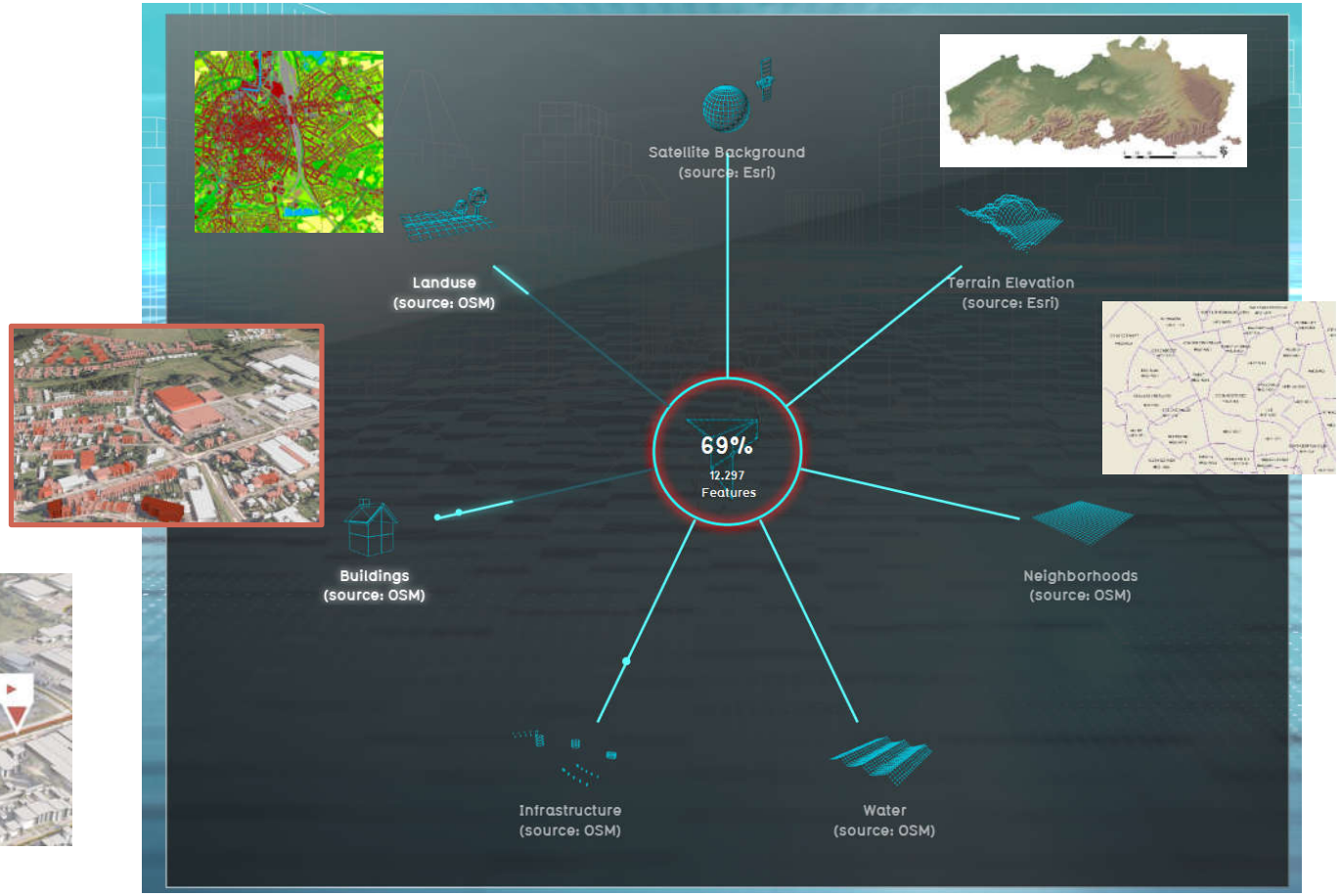
Energy Transition

Use Case: Sustainable Urban Planning

- New housing block for young families > focus on no private garden but embedded in existing, already developed space with communal facilities
- Bottleneck between affordable housing and sufficient green/open space
- Consider impact on heat stress - traffic - livability

Loading data for building the 3D environment & the use case

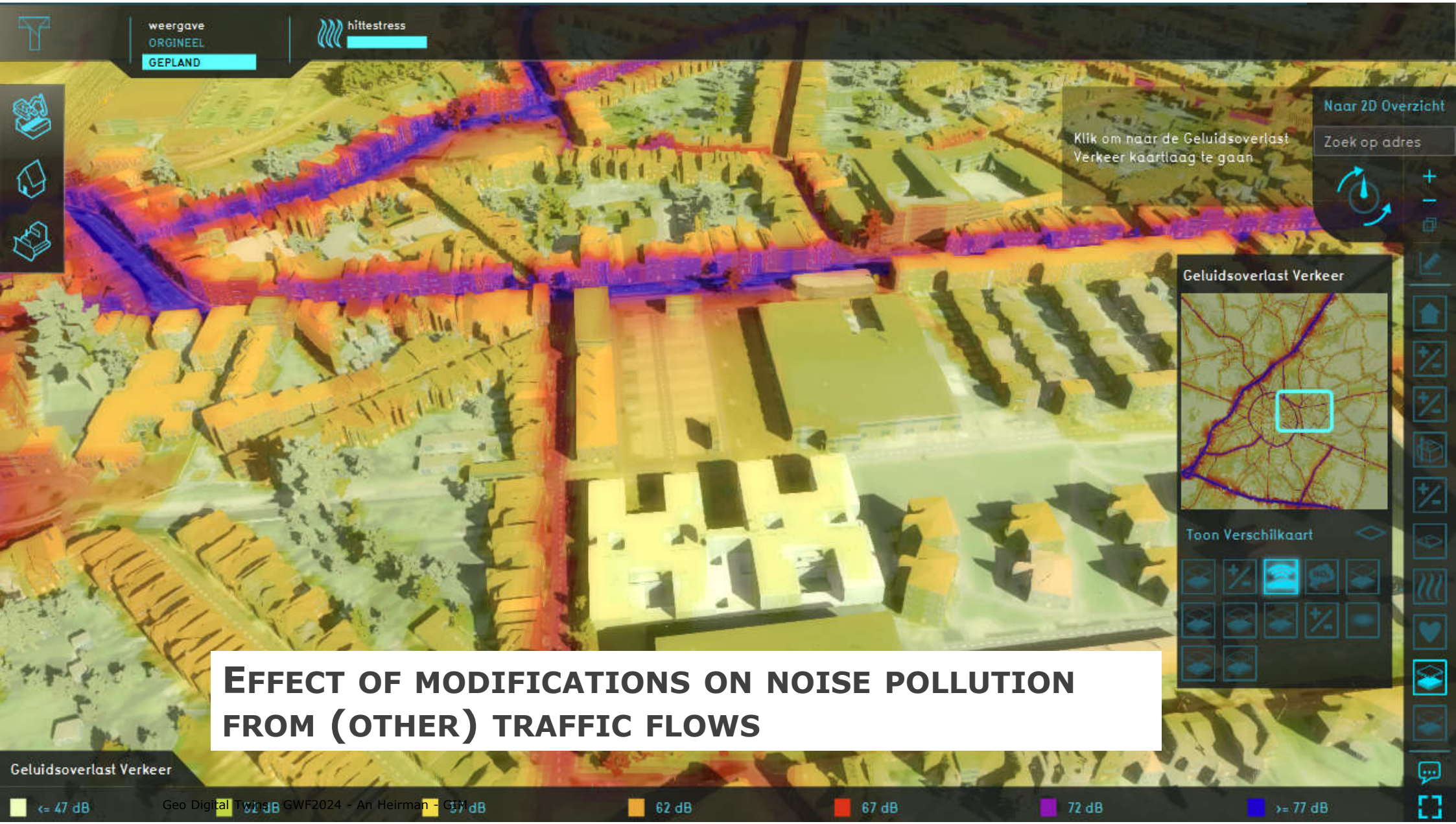
- Belmap LOD1 / LOD2
- Landcover Map
- DHMVII
- Statistical Sectors (NIS)
- Trees
- Traffic (TomTom)



ADDING BIM BUILDING TO THE DIGITAL TWIN

EFFECT OF NEW BUILDING ON HEAT STRESS

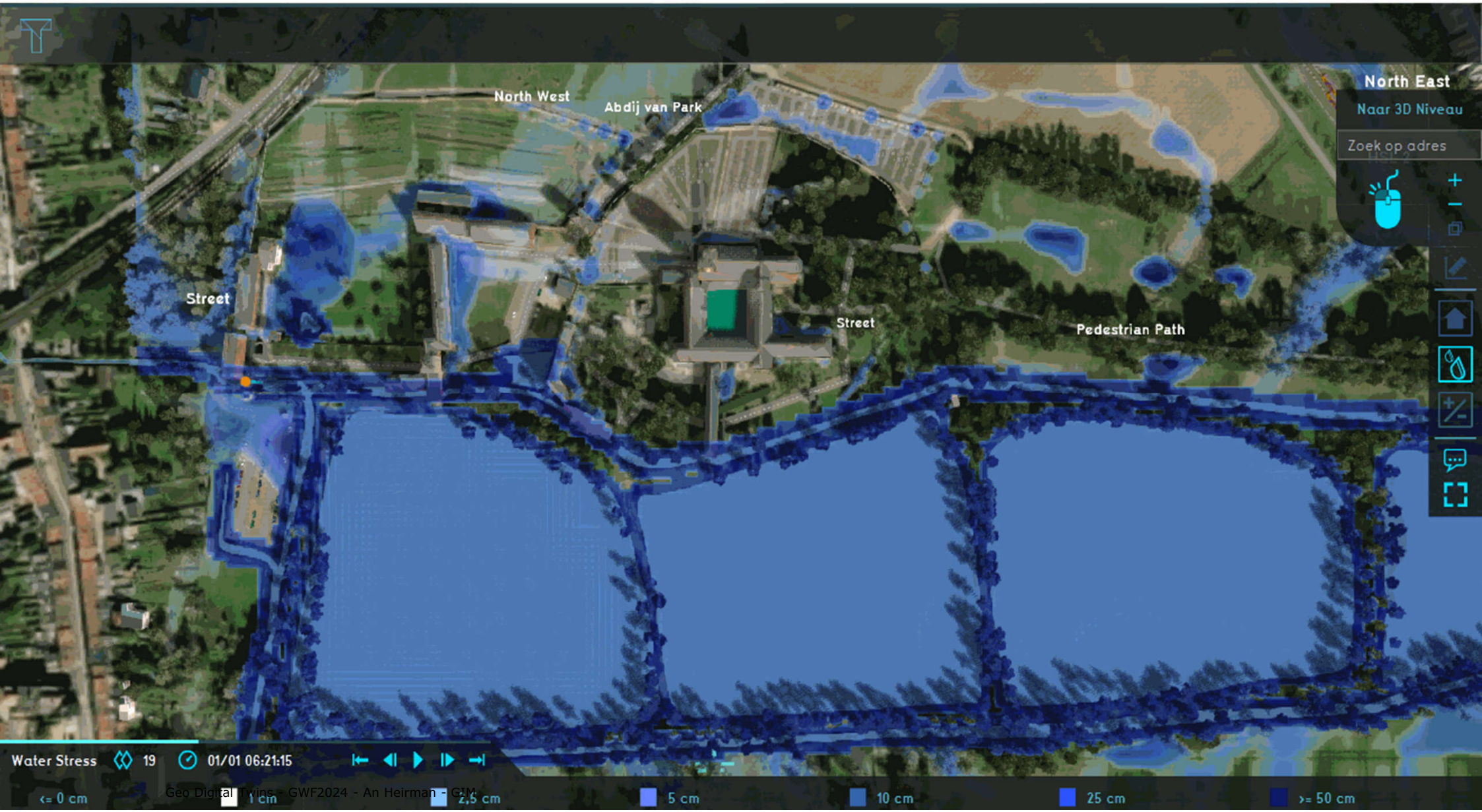
EFFECT TRAFFIC ON AIR QUALITY



EFFECT OF MODIFICATIONS ON NOISE POLLUTION FROM (OTHER) TRAFFIC FLOWS

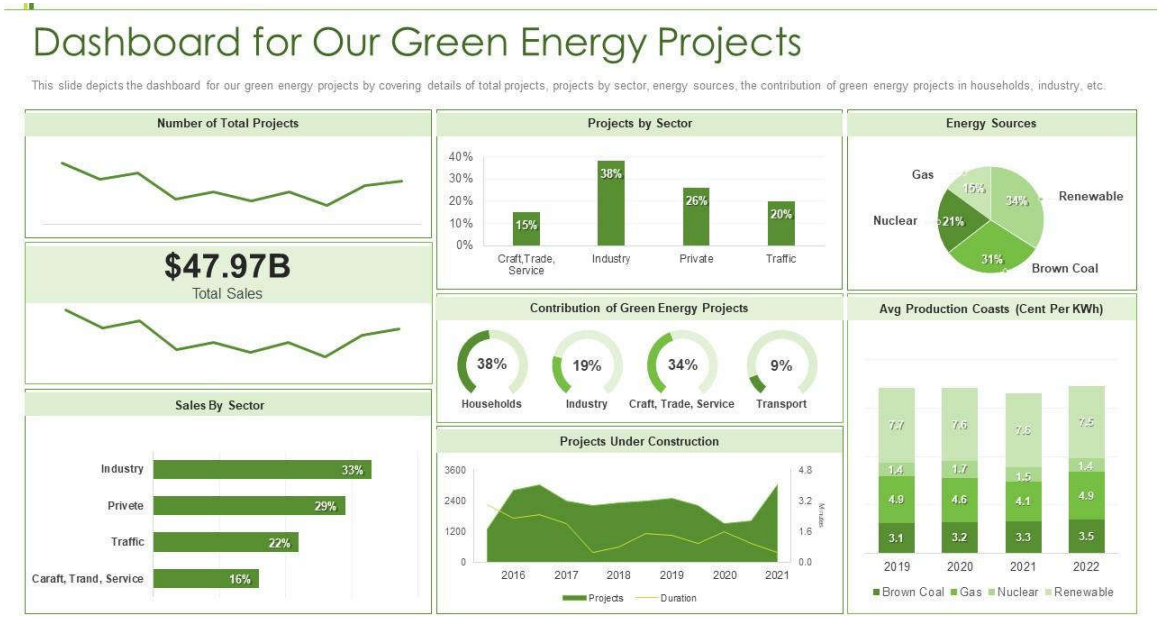
IMPACT OF COMPENSATORY MEASURES IS EXPLORED - EX: PLANTING TREES

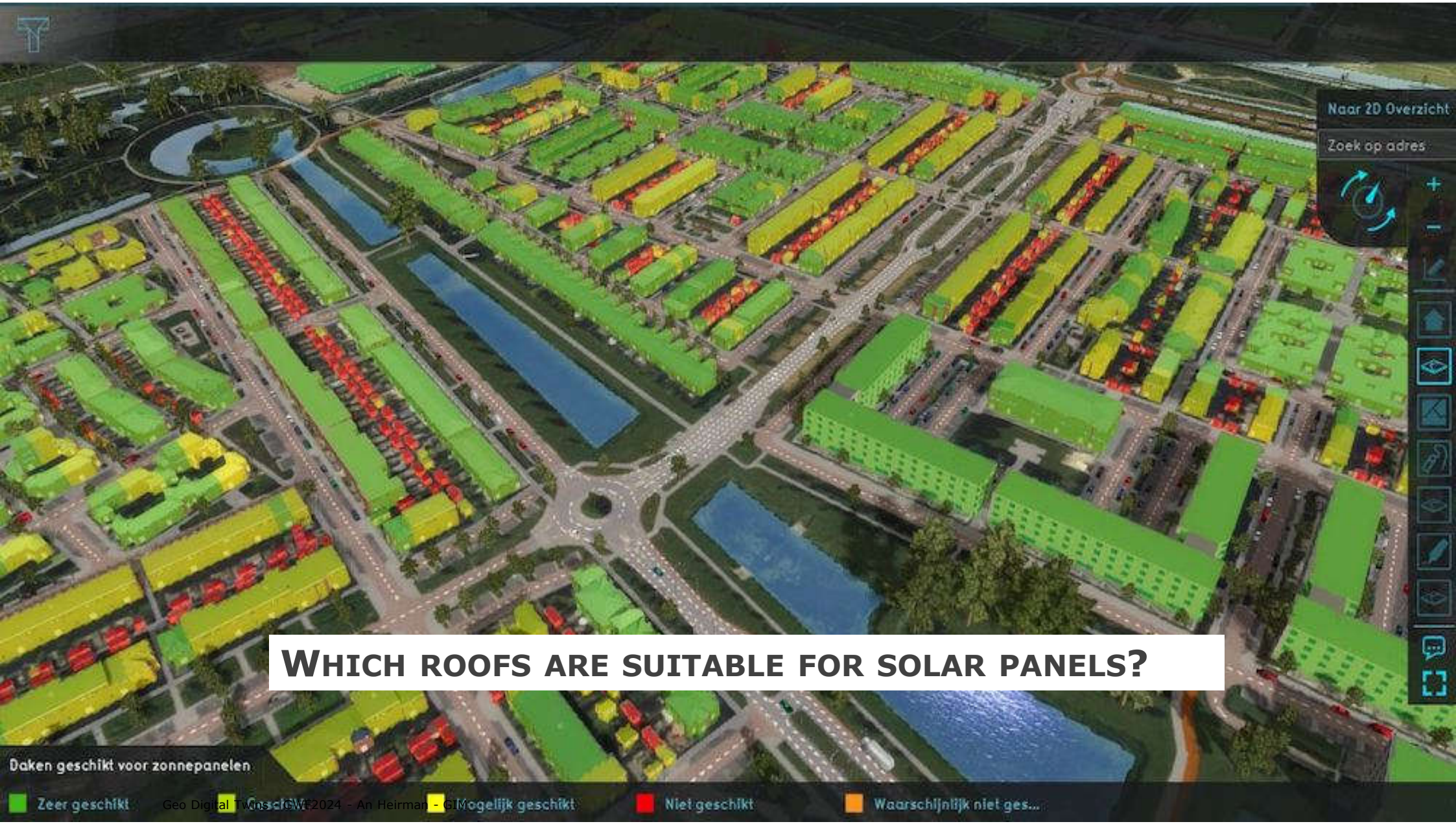
Use Case: climate and water


North West
Abdij van Park
Street
Street
Pedestrian Path
North East
Naar 3D Niveau
Zoek op adres
Water Stress
19
01/01 06:21:15
<= 0 cm
1 cm
2,5 cm
5 cm
10 cm
25 cm
>= 50 cm

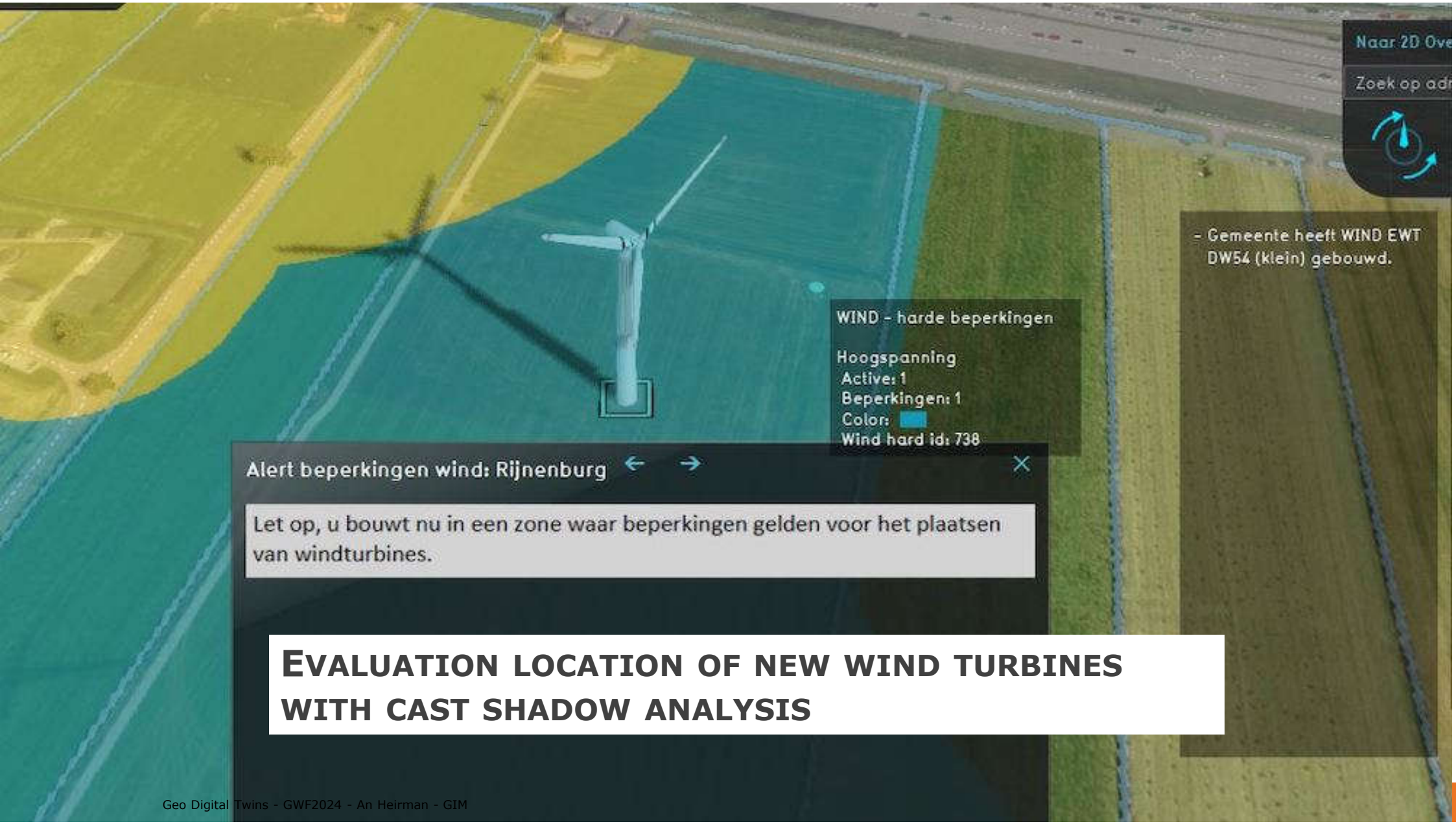
Use Case: Energy transition

- '**Energy dashboard**'
  - Investigate which energy transition measures are possible in a given area (municipality, neighborhood, etc.)
  - Evaluate results, adjust goals
  - Use Dashboard in participation moments with experts, local residents, companies, ... through the presentation of different scenarios





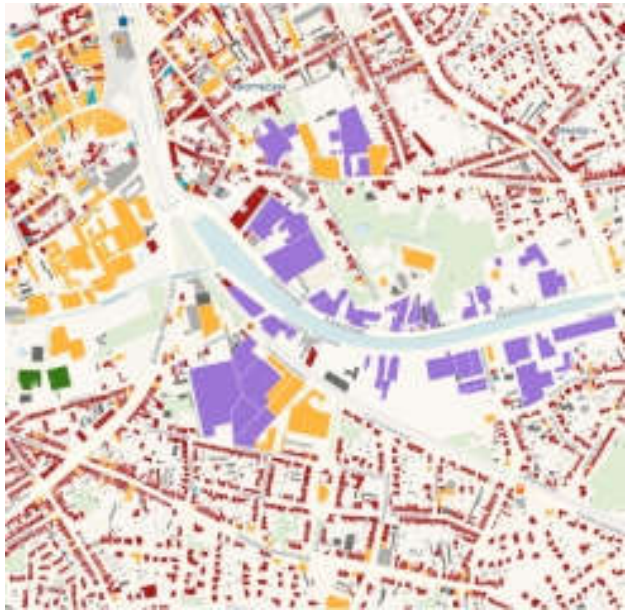
WHICH ROOFS ARE SUITABLE FOR SOLAR PANELS?



EVALUATION LOCATION OF NEW WIND TURBINES WITH CAST SHADOW ANALYSIS

"A digital copy of the built environment that models reality and enables to shape a sustainable future"

from 2D GIS…



to 6D Geo Digital Twins

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Thank you

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