



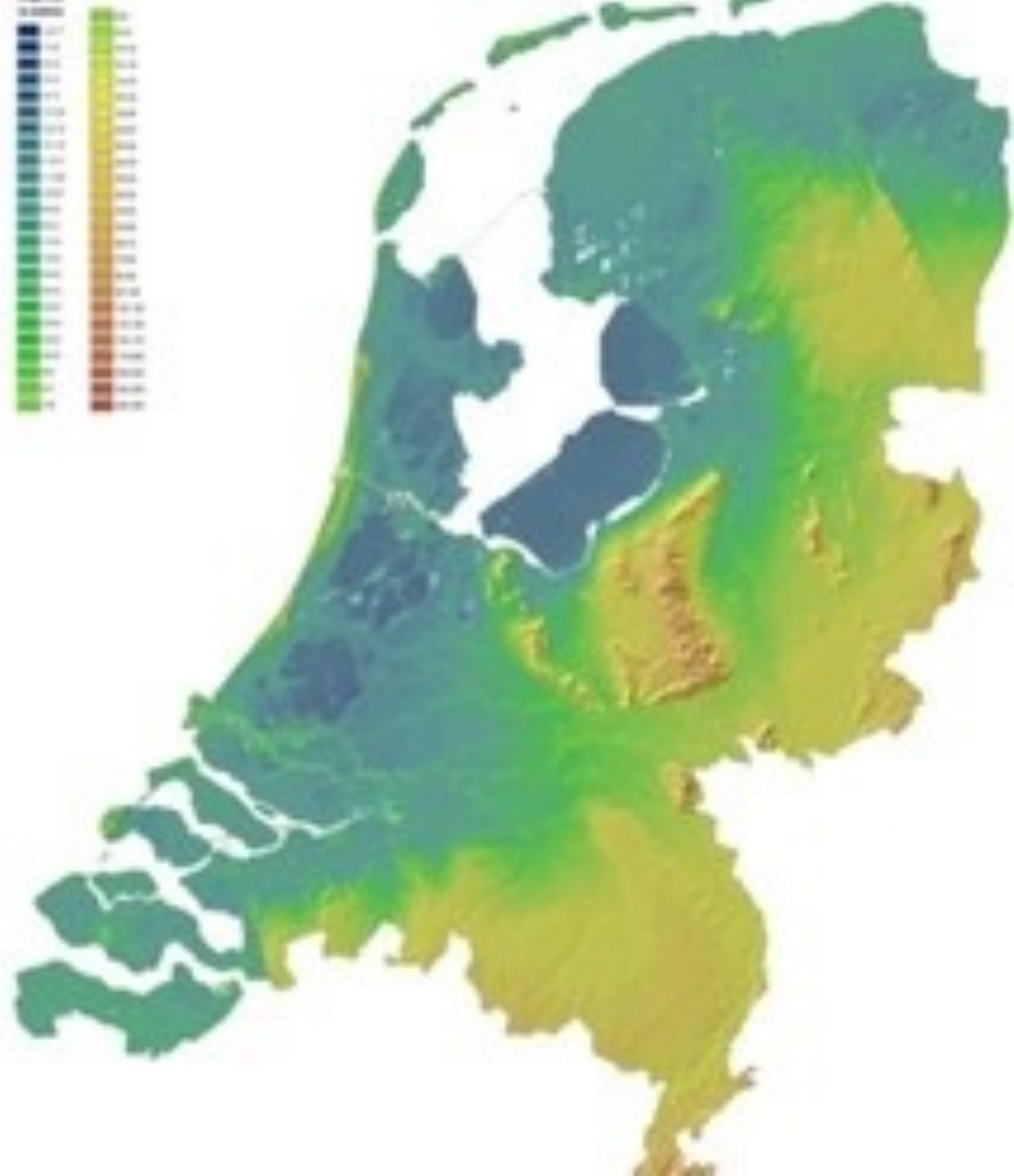
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Digital Twin and City Management

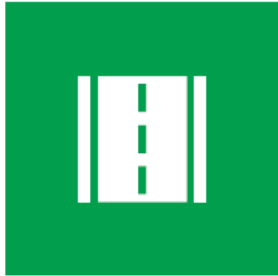


Christian Veldhuis





Rotterdam – Public Works department



Wegen
1.500 km



Openbare
verlichting
x 100.000



Groen
350 km²



Spelen
x 6.000



Watergangen
390 km



Riolering
2.400 km



Ondergrond
160 km³



Civiele
kunstwerken
x 1.050



Kademuren 30 km,
Glooiingen 19 km



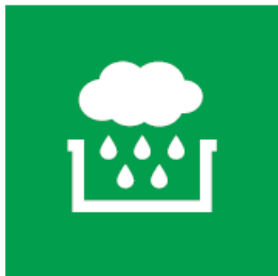
Beeldende kunst
& monumenten
x 425



Gemalen
x 1.100



Persleidingen
320 km



Waterbergingen
& -pleinen x 7



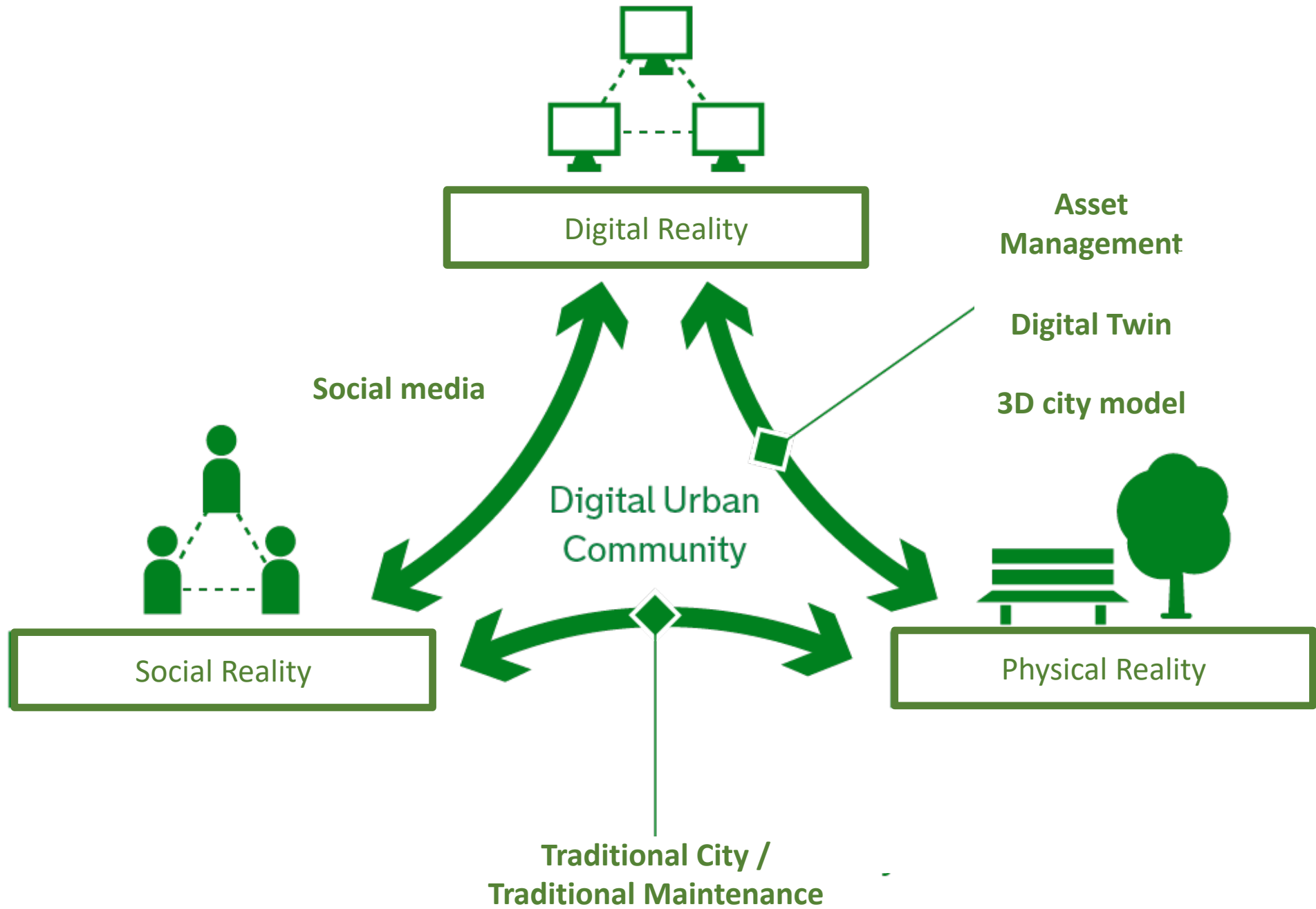
Duikers
x 1.550



Fietspaden
600 km

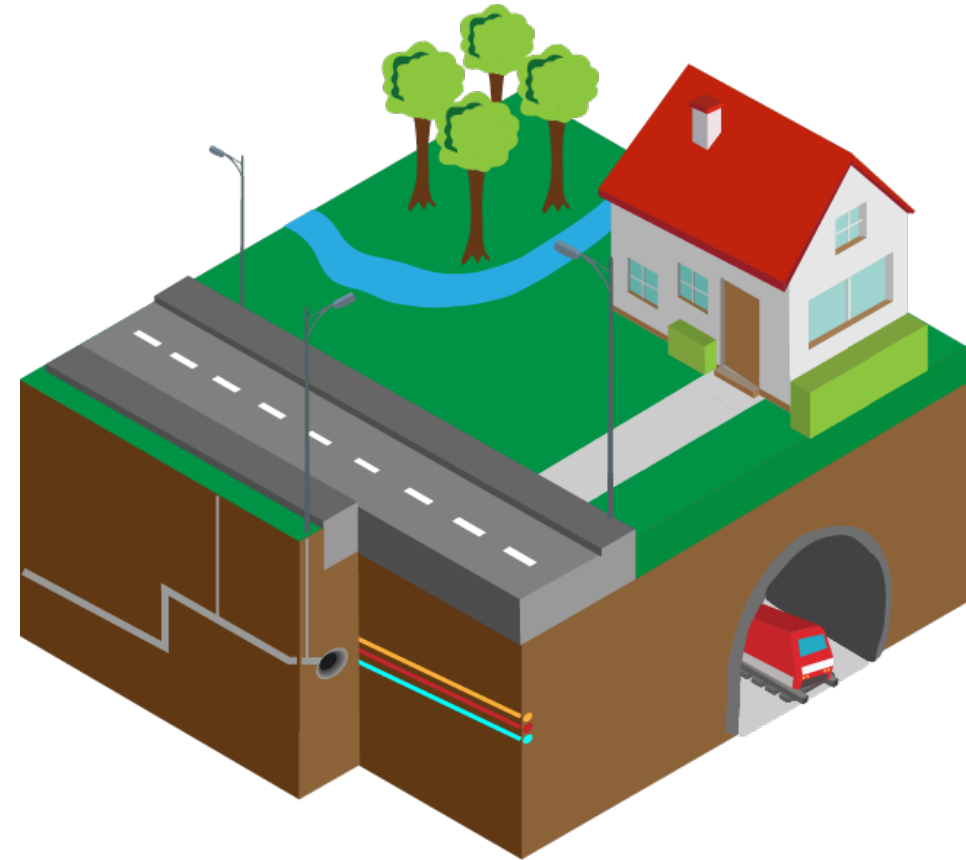
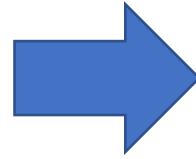
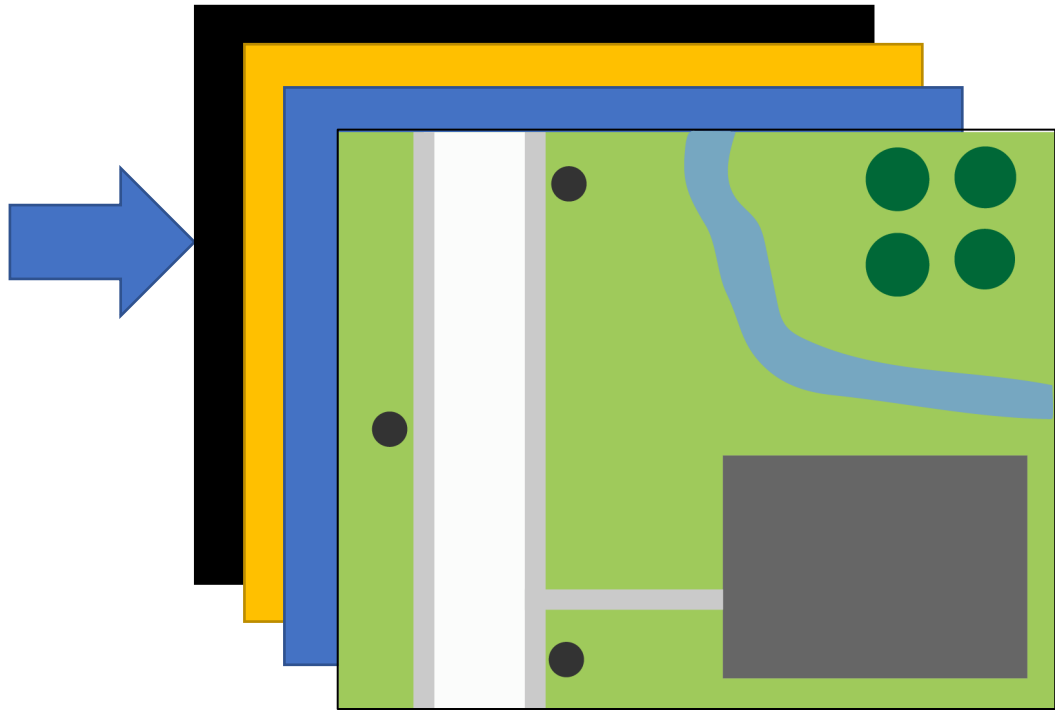


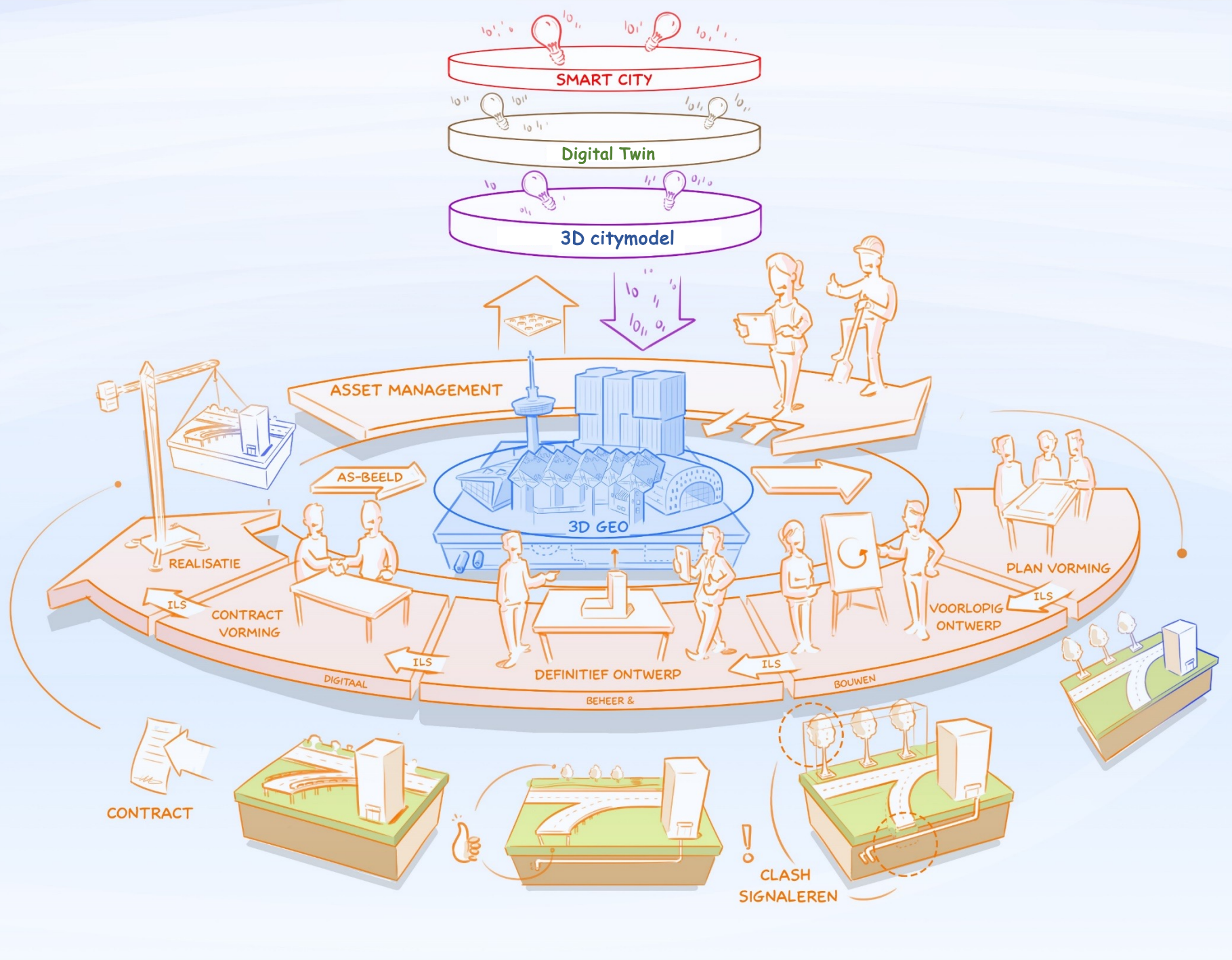
Straatmeubilair,
banken, borden
x 120.000



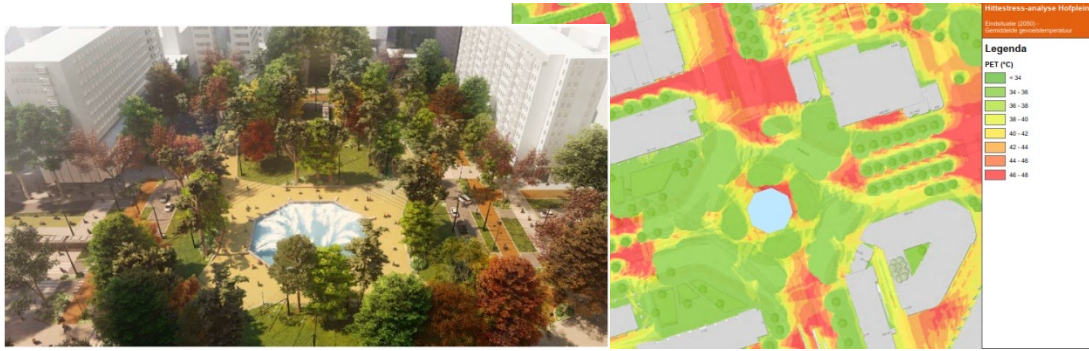
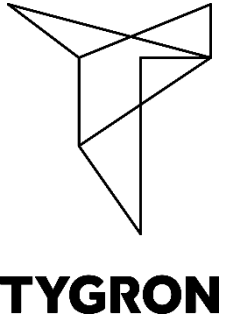
2D -> 3D

BAG
BGT
WOZ
BRO
BOR

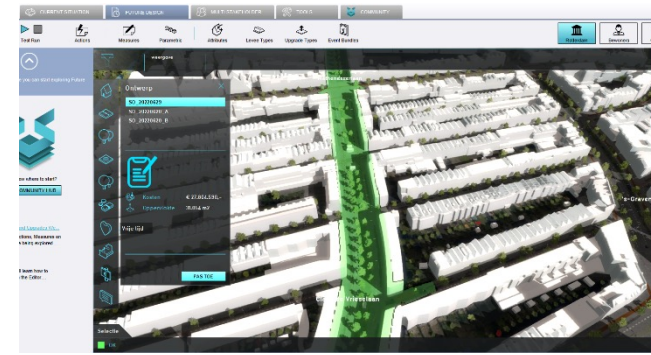




Digital Twin for master plans



Hofplein



Claes de Vrieselaan



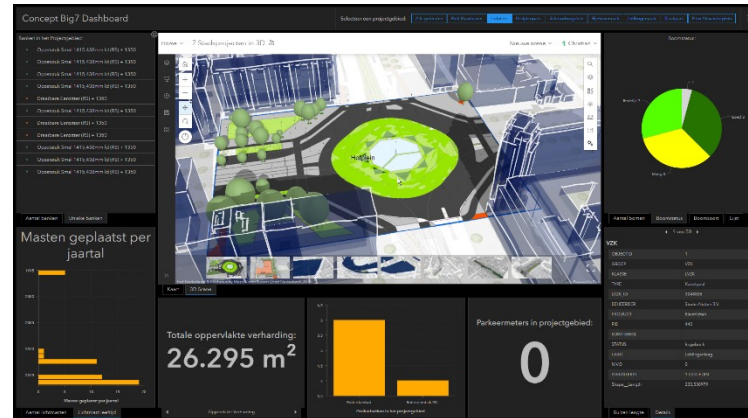
Schiehaven Noord
water vs landuse+trees



M4H - urban development

Insight in maintenance costs

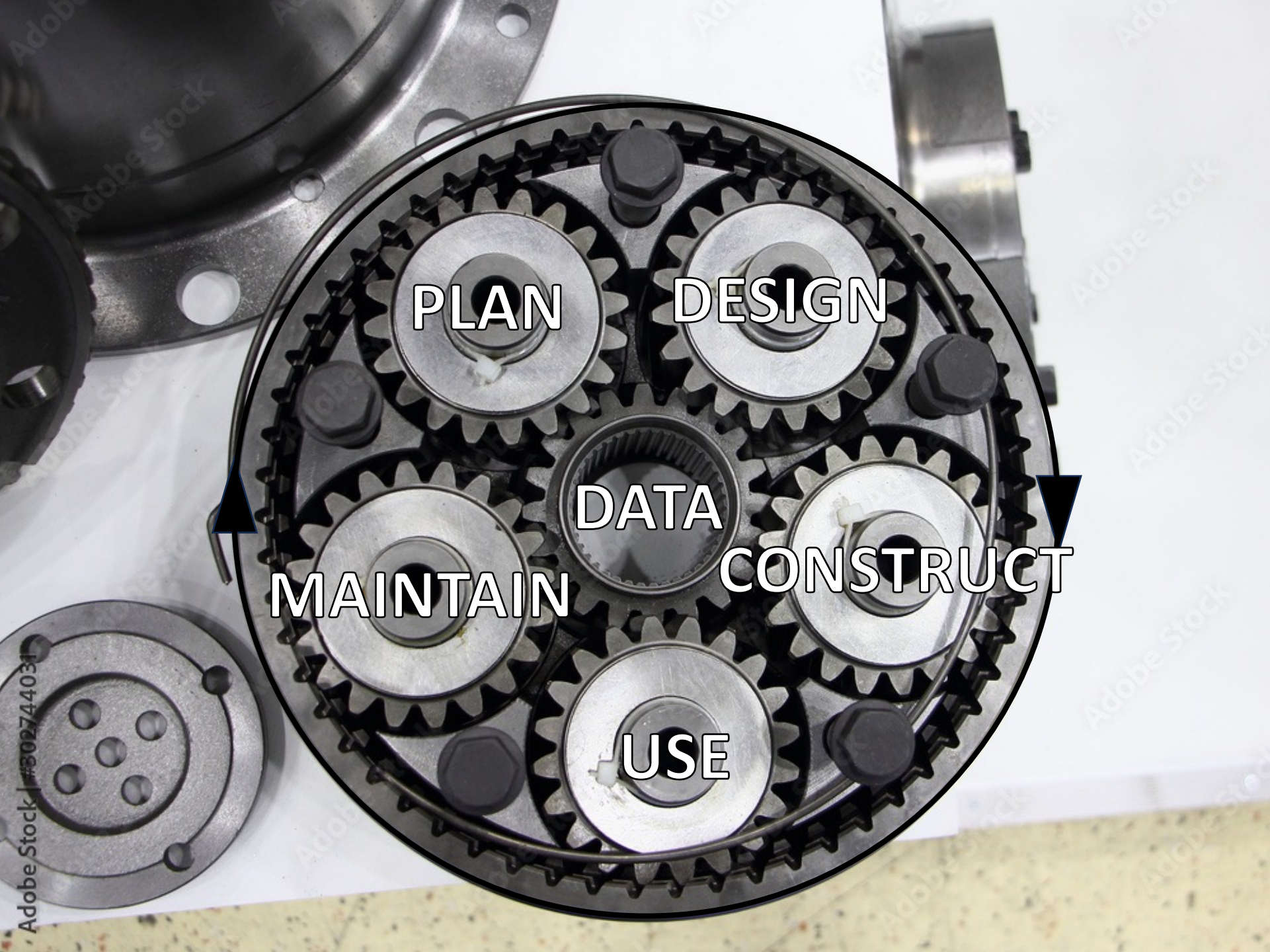
- Impact plan and design
- Normcosts & trends.
- Estimates, residual value



“Wat we **inkloppen**, is **goud waard**”
Datagedreven werken bij Stadsbeheer.







PLAN

DESIGN

DATA

CONSTRUCT

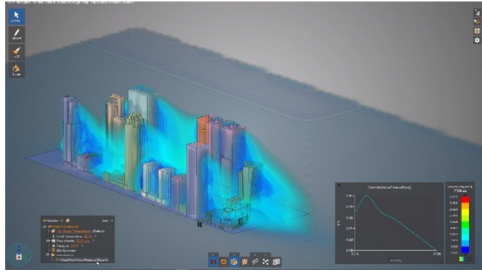
USE

MAINTAIN

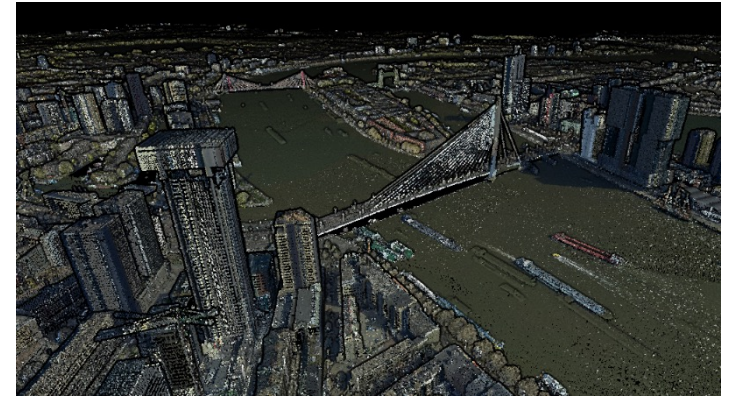
Adobe Stock | #302744031



Simulations

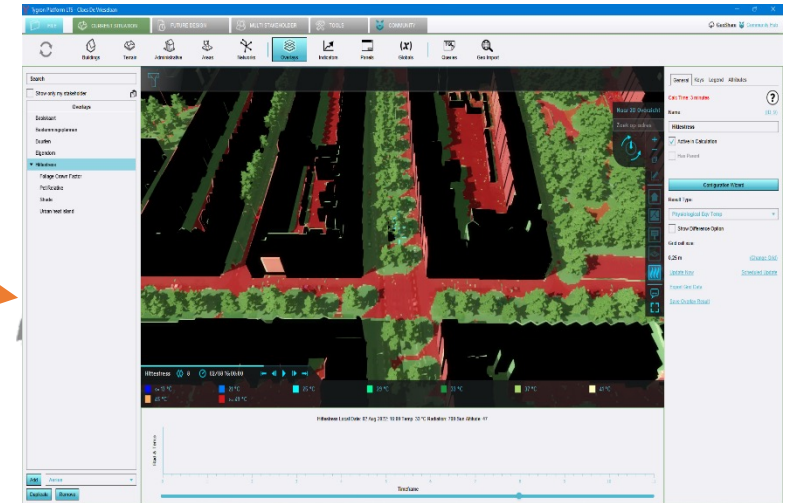
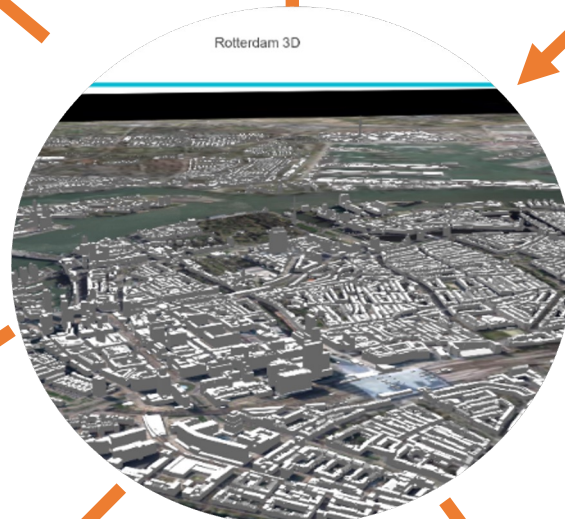


Water safety



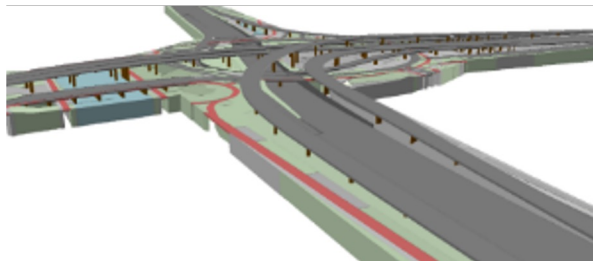
Pointclouds

(Serious) gaming



Analyses

Public works



Urban design



City marketing

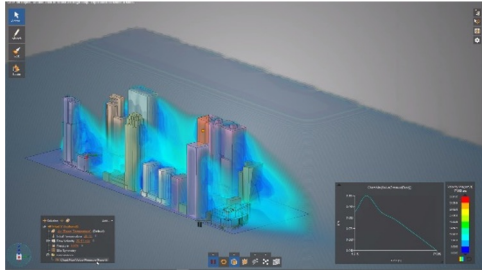


Events

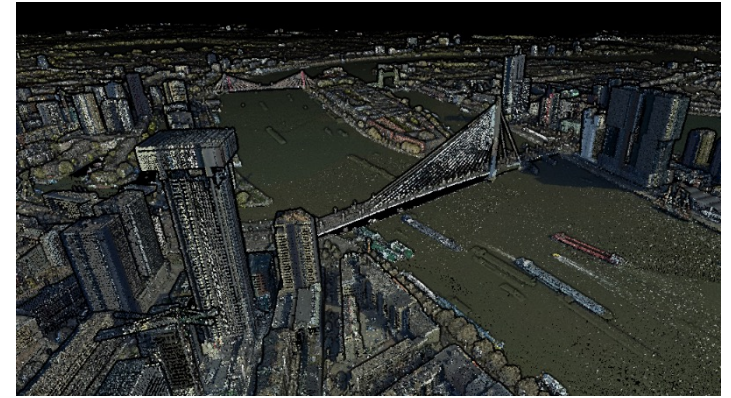
BIM



Simulations

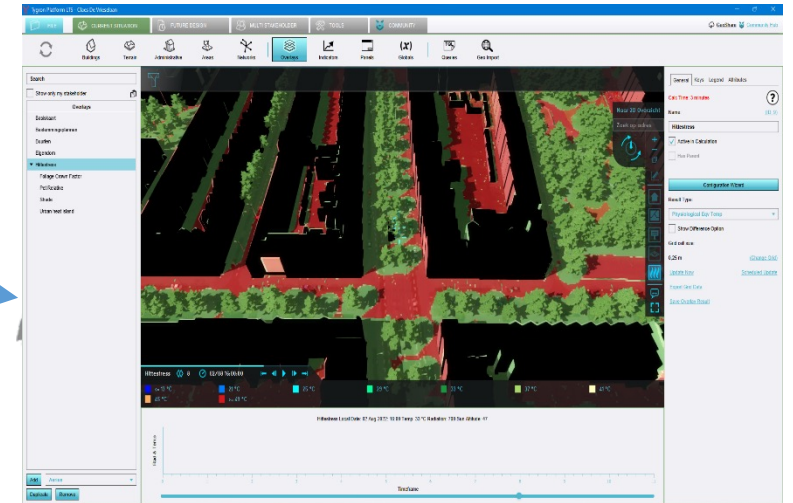
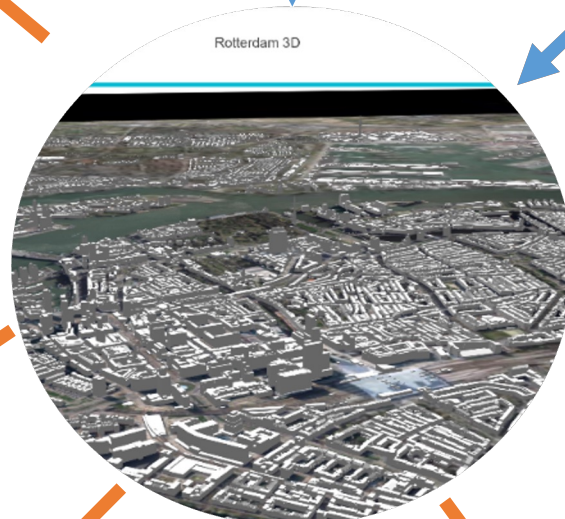


Water safety



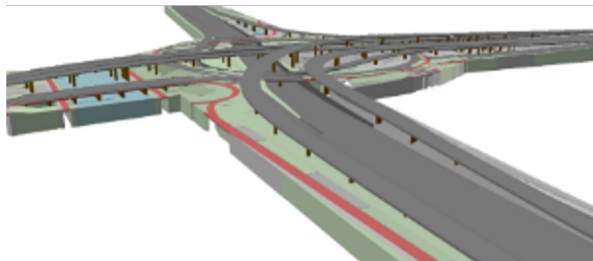
Pointclouds

(Serious) gaming



Analyses (UHI)

Public works



Urban design



BIM



City marketing



Events

Why open standards?

- Standards are like parachutes



They work best when open

Source: OGC

“technology makes things possible,

people make things happen!”