



Digital Earth in a Transformed Society - Twin Cities

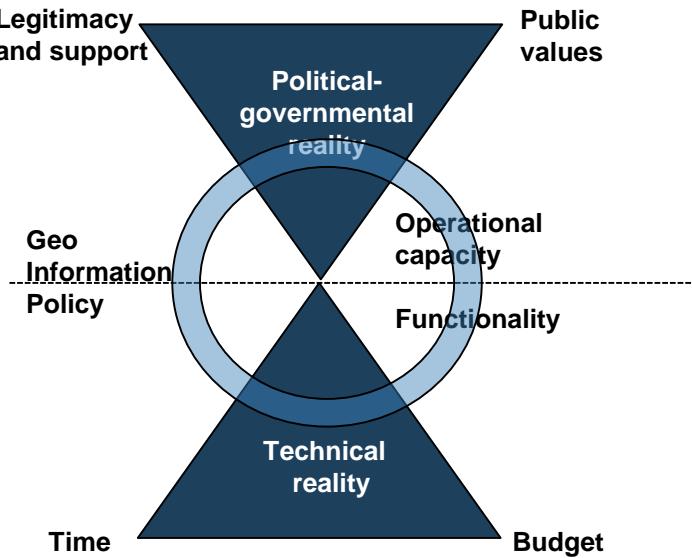
12:00 - 12:15 Digital Twin of the Lekdijk

Martin Peersmann

Cecile Fruijtier - Leon Nieuwland

Perspective for action Climate Change: "Uncertainty as a challenge"

Scientific Council for Government Policy - Precautionary principle and responsibilities regarding physical safety





Ontwerp Nationale Omgevingsvisie

Duurzaam perspectief voor onze leefomgeving



National spatial planning policy of the Netherlands

with high regional and local impact



The Netherlands is working on 4 major tasks



Climate adaption & Energietransition



Strong and Climate proof Cities and Regions



Sustainable Economic Growth



Circulair Agriculture and vital rural areas



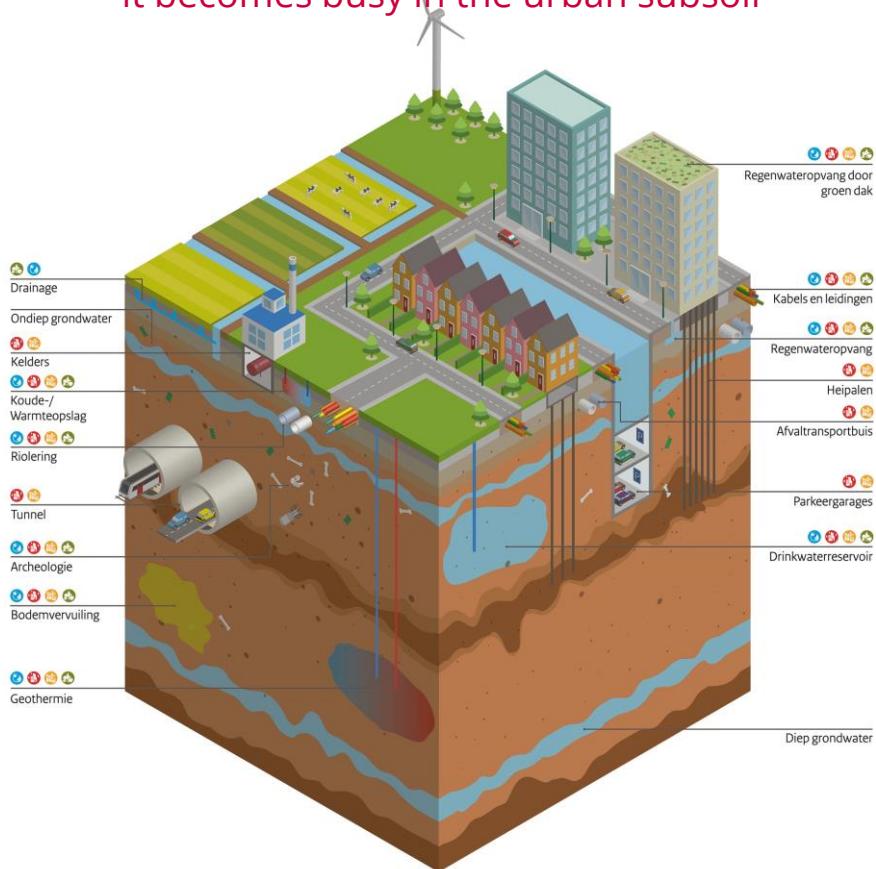
Perspective for action: "Uncertainty as a challenge"

Scientific Council for Government Policy - Precautionary principle and responsibilities regarding physical safety



Spatial planning of the subsurface

it becomes busy in the urban subsoil



Digital Twin



Regional Energy Transition Strategies 2018 - 2019

- RES Friesland - Ternaard/Wierum + 18 dorpen: energieneutraal 2025
- RES Twente – (ultra) diepe geothermie in Twente
- RES Goeree-Overflakkee– Getijde energie centrale Brouwersdam
- RES Groningen – Hoogkerk woonopgave voormalig
- RES Noord-Holland Zuid– Amstelstad
- RES Prov Utrecht– Nieuwegein en Veenendaal woonopgave
- RES Midden Holland– Monitor Het Groene Hart

BRO 3D Webservices en Software Service Industry

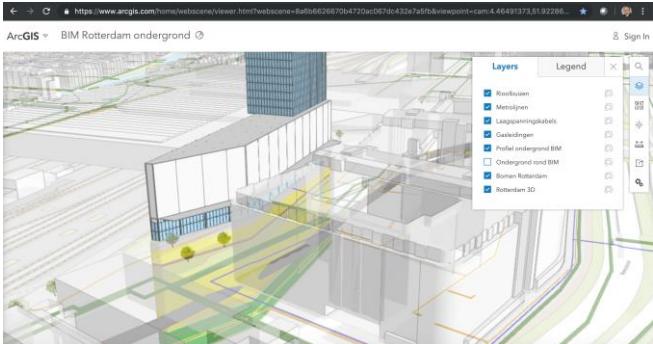
Open data policy – From Innovation to Implementation by “Equal Level of playing field”



GEOWEB



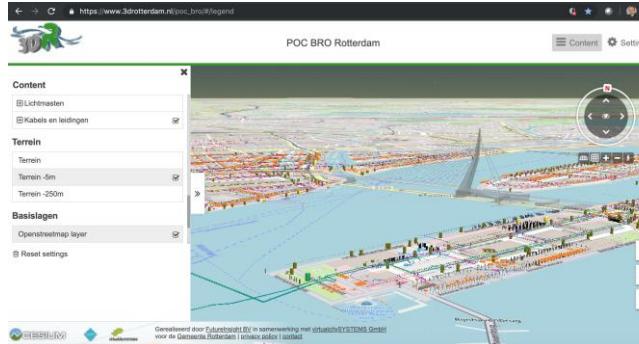
unity



esri Nederland
THE SCIENCE OF WHERE™



Geodan



FUTURE INSIGHT



OL3-Cesium
Third dimension for OpenLayers



FA^{ED}M

unity

A detailed 3D BIM model of Rotterdam's underground infrastructure, visualized over a grayscale city map. The model includes a prominent blue cylindrical structure, likely a tunnel or pipe, and several modern buildings with glass facades. The interface features a toolbar on the left with icons for home, zoom, and orientation, and a control panel on the right for daylight simulation. The control panel shows the date as March 15, 2018, at 11:42 AM GMT, with a timeline from 12 AM to 12 PM and a checkbox for 'Show shadows'.

Daylight

11:42 AM GMT

March 15, 2018

Show shadows

Kadaster, Esri, HERE, Garmin, INCREMENT P, USGS | RET

Visualisation instruments 3D GIS/BIM/GEO-Model



AR – AUGMENTED

Unity

multidisciplinary team



VR – AUGMENTED - interactief

Unity

GIS specialist
Civil Engineer



VR – AUGMENTED - passief

ArcGis / Unity

General Public



Touch table- interactief

ArcGis Online

Participative decision-making



Mobile Device – interactief / passief

ArcGis Story Map

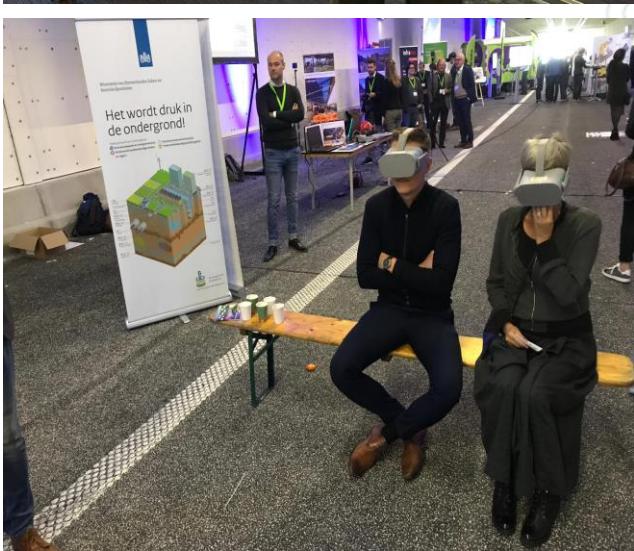
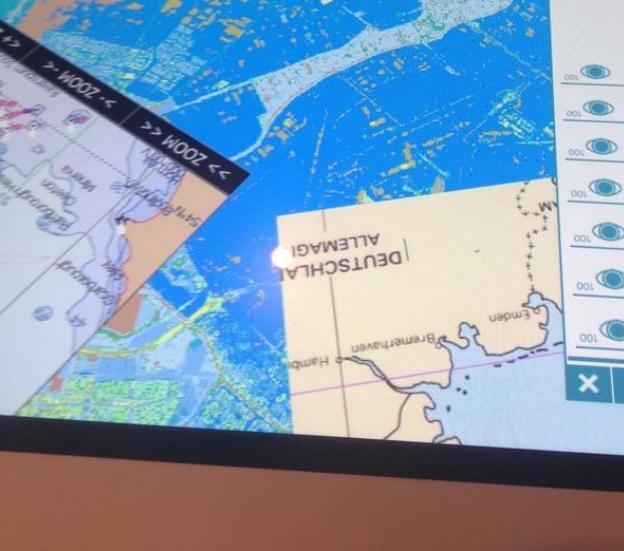
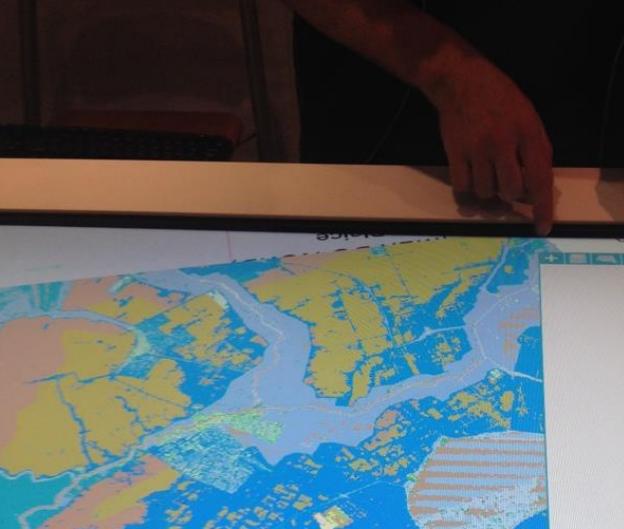
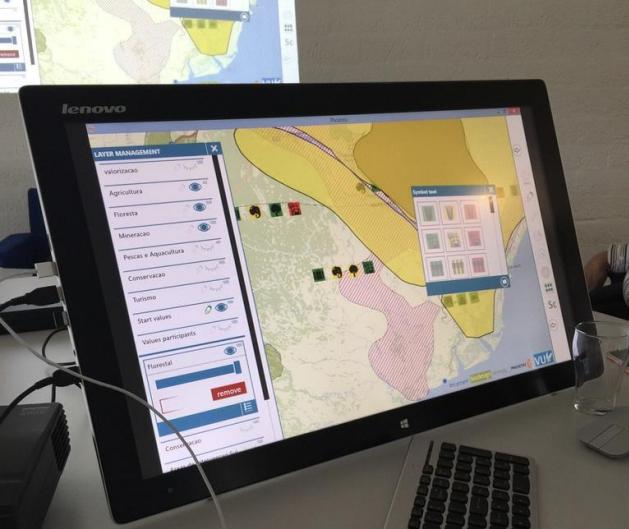
Decision maker
General Public



Desk top – interactief / passief

ArcGis / BIM

GIS specialist





Met de BRO op zoek naar het "risico-DNA" van de Lekdijk

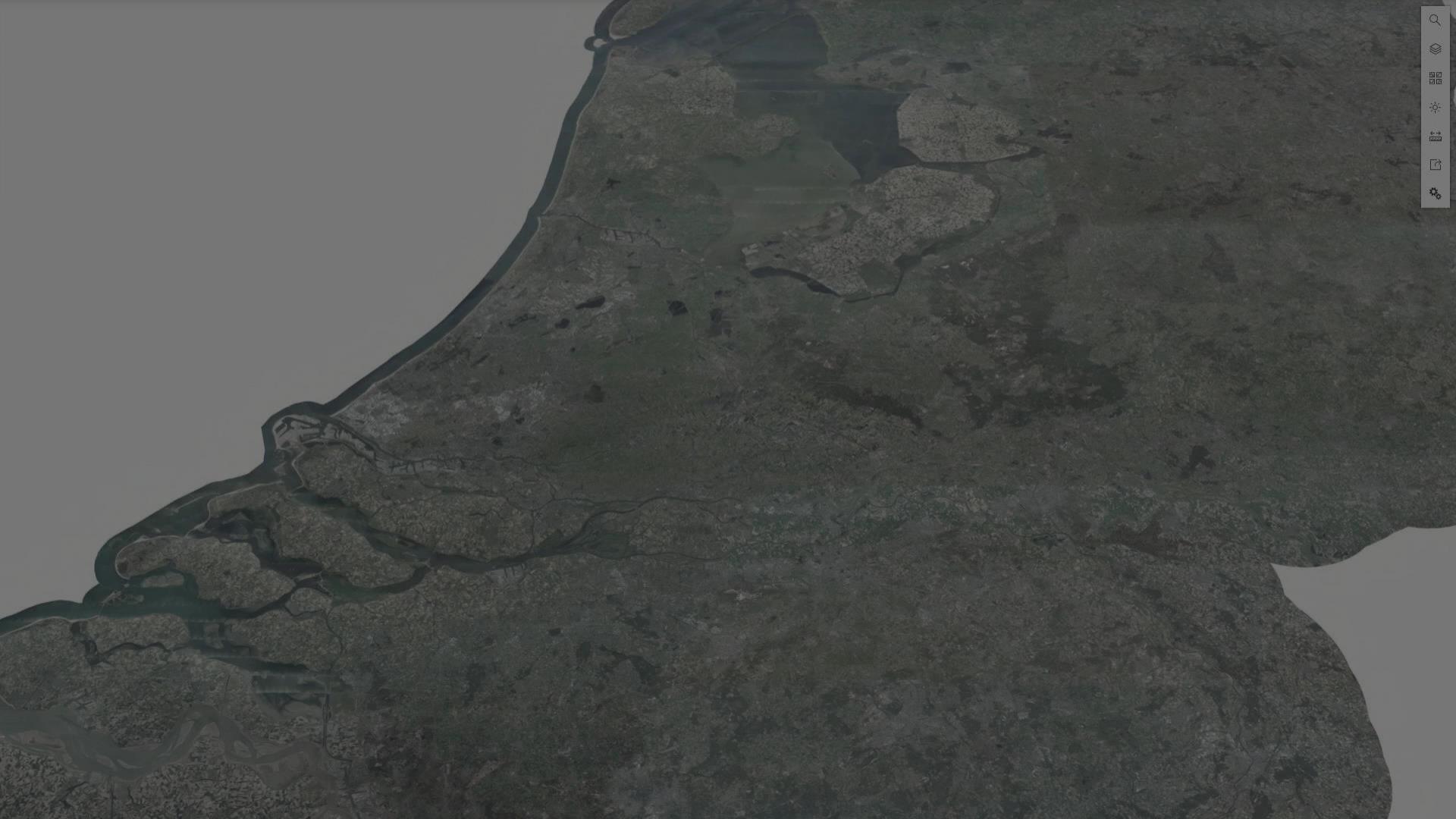
Project Sterke Lekdijk en de Basisregistratie Ondergrond (BRO)



Meerwaarde van de BRO

Alle beschikbare ondergrondgegevens bij elkaar brengen en inzichtelijk maken in 3D visualiseren genereert waardevolle inzichten.

Openbare authentieke gegevens van de Basisregistratie Ondergrond (BRO) zijn gedownload en beschikbaar gesteld door Icecream APPS.





Ministerie van Binnenlandse Zaken en
Koninkrijksrelaties



Universiteit Utrecht



Rijkswaterstaat
Ministerie van Verkeer en Waterstaat



kadaster



ProRail

The logo for Geodan, featuring the word "Geodan" in a large, red, sans-serif font with a grey striped circular graphic to the left.

The logo for ARCADIS, featuring a stylized orange and grey graphic followed by the word "ARCADIS" in a black sans-serif font.

The logo for FUTURE INSIGHT, featuring the words "FUTURE INSIGHT" in a light blue sans-serif font.



Spatial planning of the Subsurface :

“You only realize it, when you see it in a Digital Twin”



11th INTERNATIONAL
SYMPOSIUM ON
DIGITAL EARTH

Thanks for your attention

