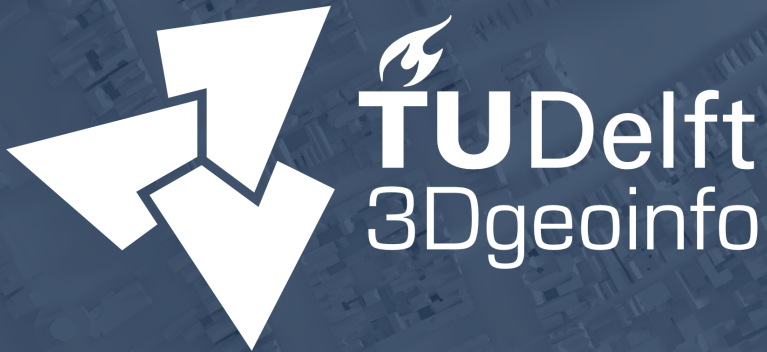


Introductie 3D BAG

DigiGO 3D Geo + BIM

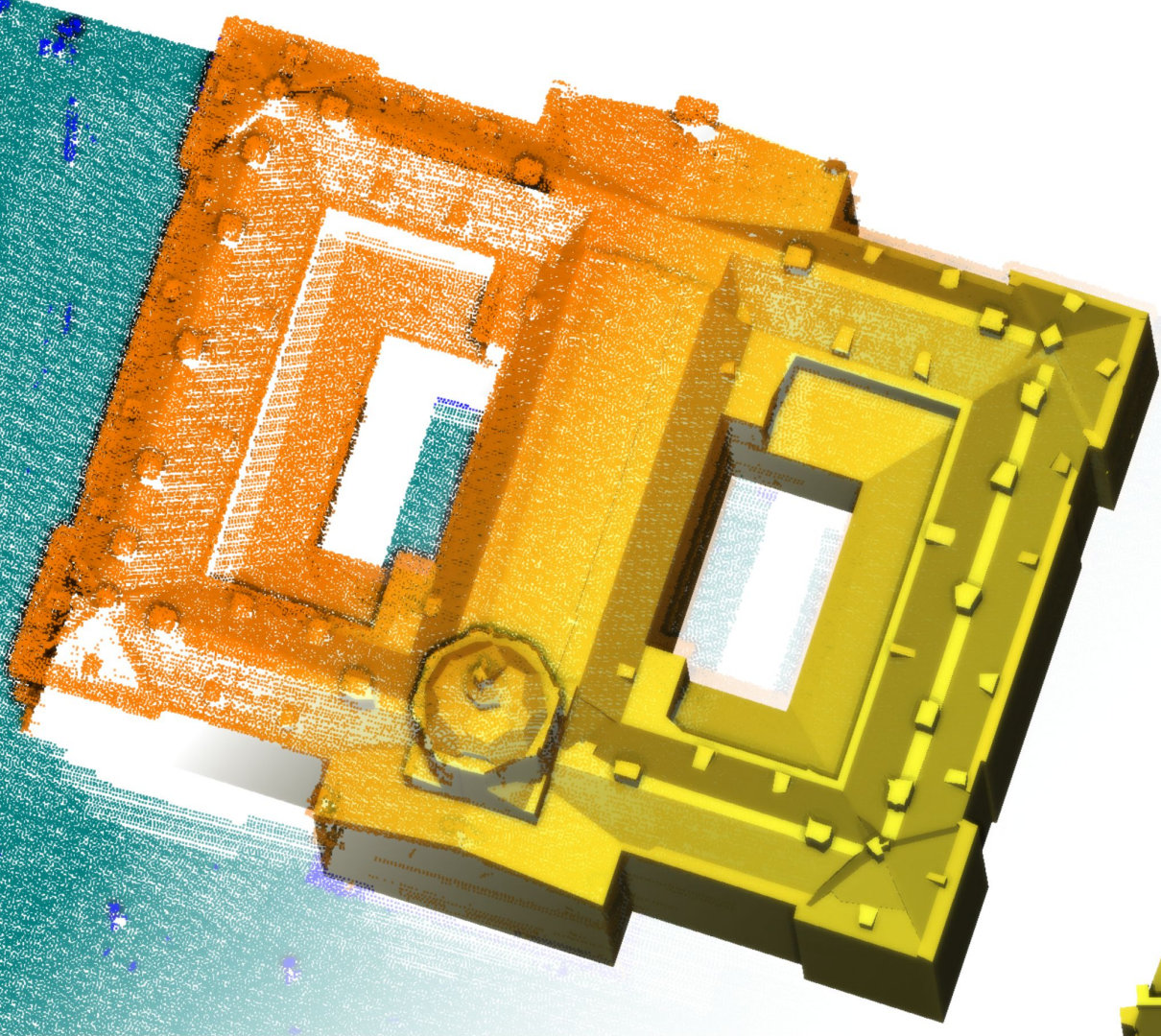
Delft, 17-11-2022

Ravi Peters, Balázs Dukai





Automatische gebouw-reconstructie



Van puntenwolk
naar 3D gebouw model

Zonder handwerk

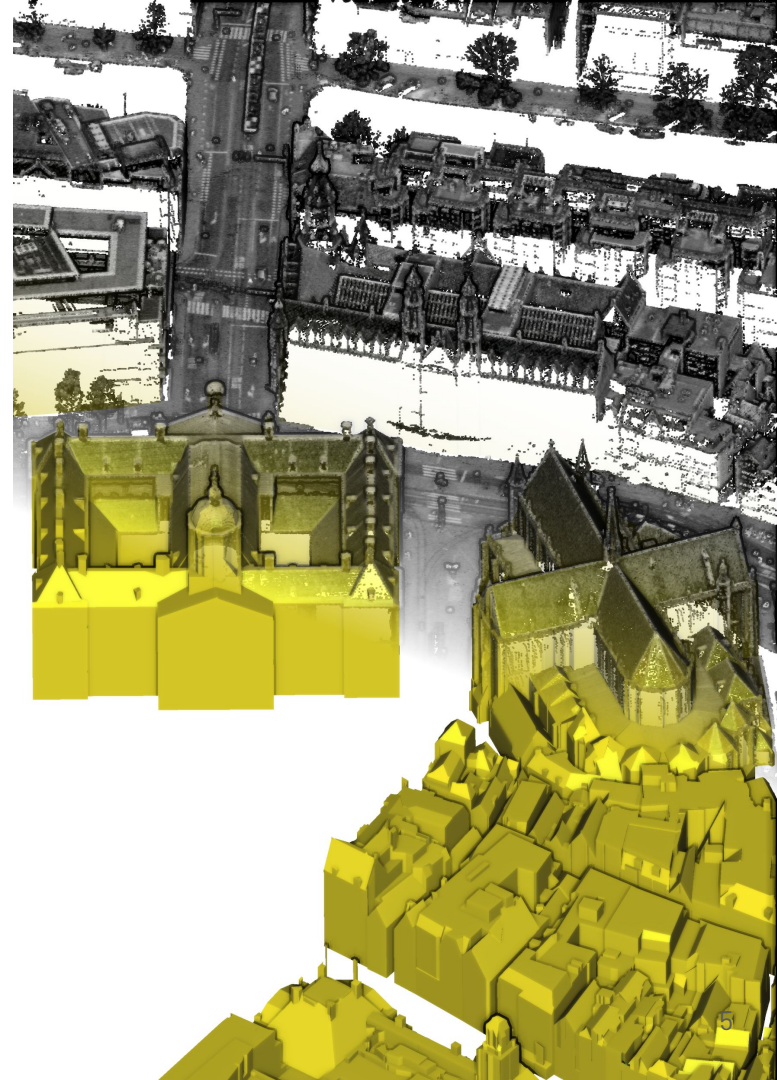
Mogelijk dankzij open data

BAG <https://www.kadaster.nl/bag>

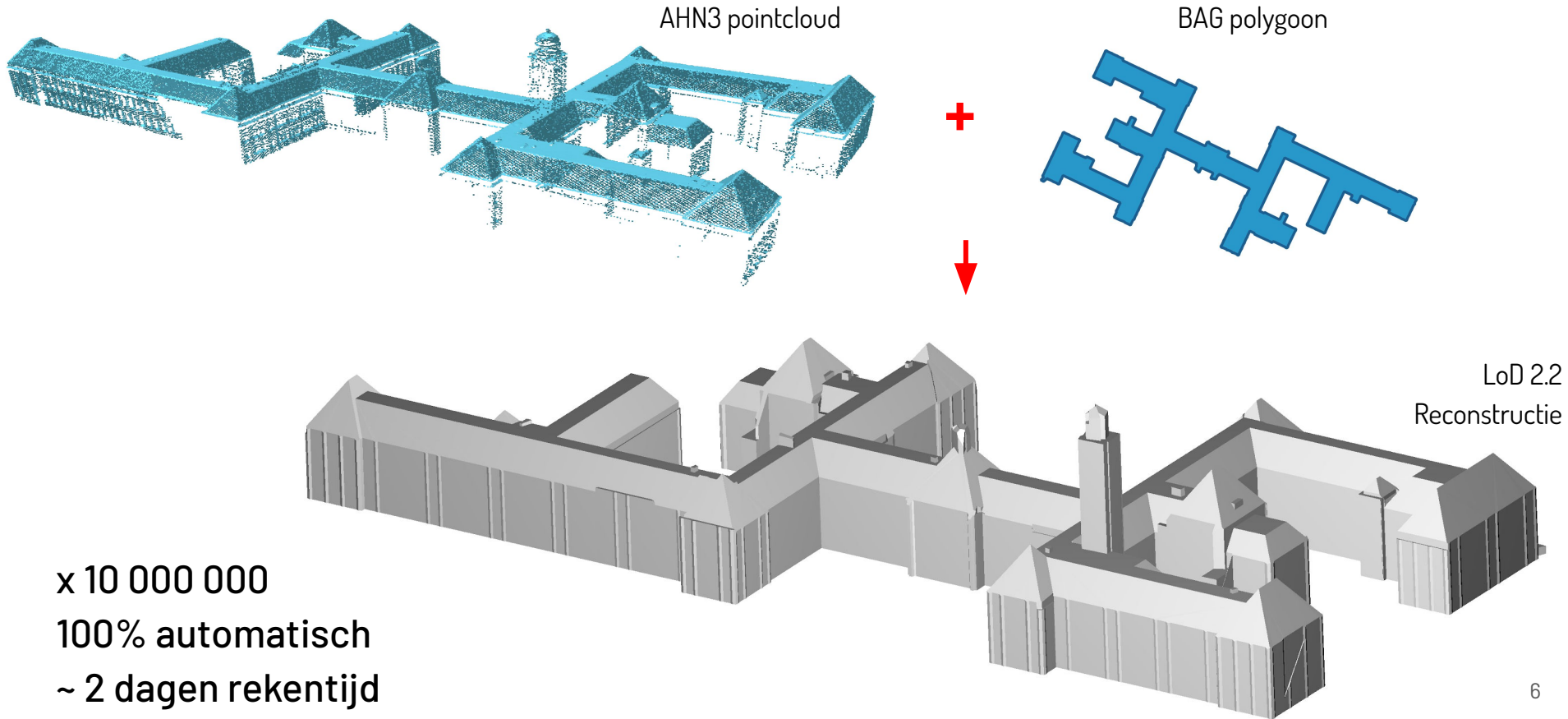
Basisregistratie adressen en gebouwen
2D gebouw polygonen

AHN <https://ahn.nl>

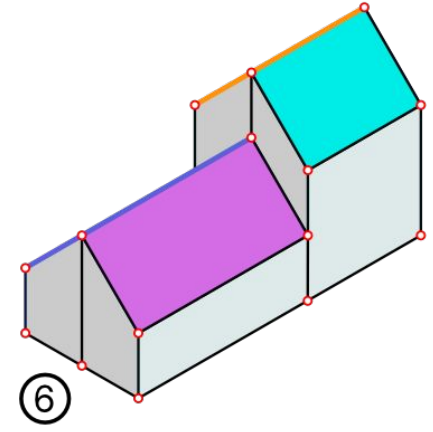
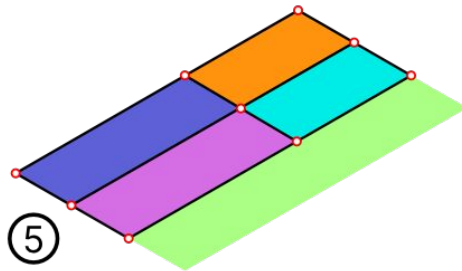
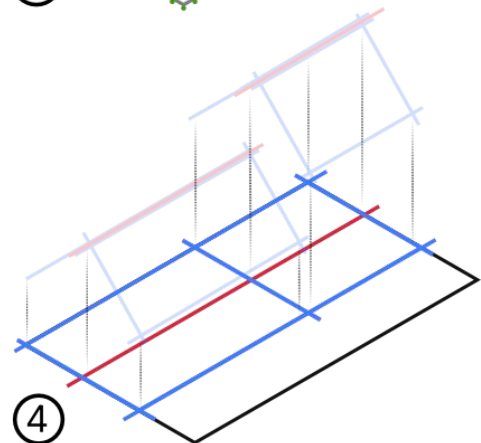
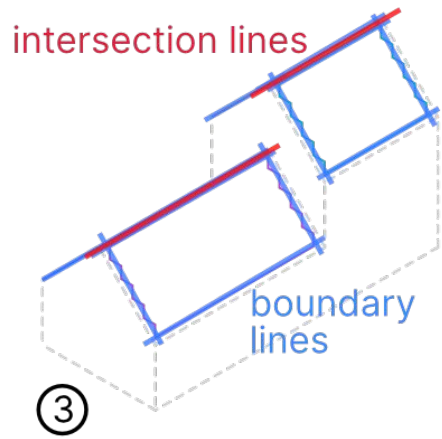
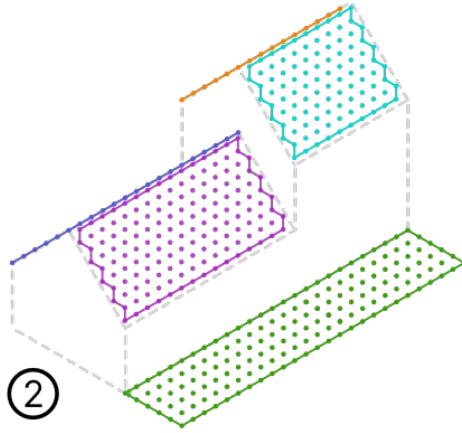
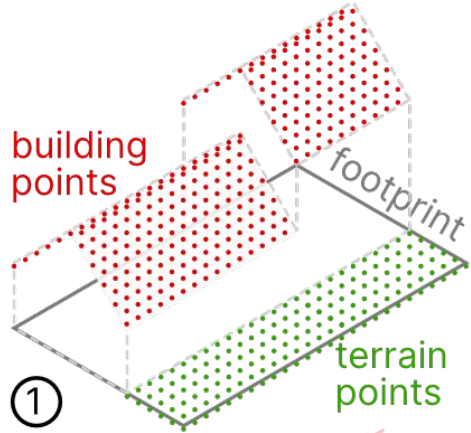
Actueel Hoogtebestand Nederland
Geclassificeerde 3D puntenwolk
8-15 punten/m²



Overzicht reconstructie algoritme



Overzicht reconstructie algoritme



Open en toegankelijke data

3D webviewer: 3dbag.nl

The screenshot displays the 3D BAG webviewer interface. At the top, it shows the version 'v20.10.0 beta' and navigation options like '3D Map', 'Download', and 'Docs'. The main area features a 3D city model with buildings and streets. A 'Building Information' panel is open, displaying a table of attributes and values for a selected building. The panel includes a 'Report a problem' button and a link to documentation. The table lists various attributes such as Batch ID, identificatie, _rmse, _mzpc_error_max, validity_codes, _roof_pt_cnt, _wall_pt_cnt, _unsegmented_pt_cnt, lod, _x_run, _data_area, _lod13_22_missing, and h_maalveld.

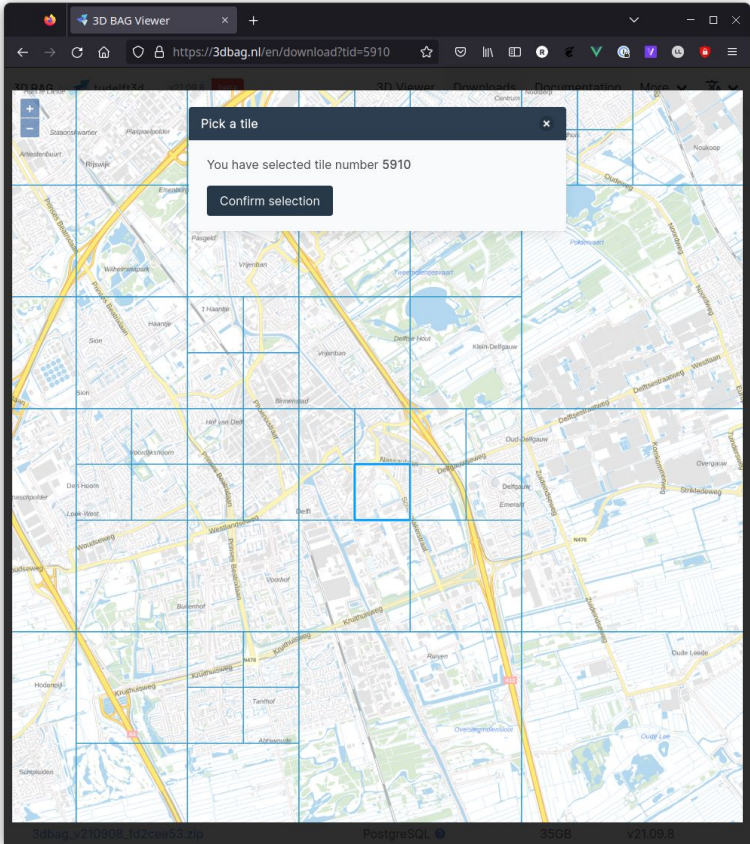
Building Information [Report a problem](#)

See the documentation for the attribute descriptions.

Attribute	Value
Batch ID	464
identificatie	0503100000019275
_rmse	0.216726
_mzpc_error_max	3.23384
validity_codes	[104]
_roof_pt_cnt	111142
_wall_pt_cnt	16
_unsegmented_pt_cnt	2614
lod	2.2
_x_run	35873.5
_data_area	5031.4
_lod13_22_missing	false
h_maalveld	-0.919

Give feedback [Report data issue](#) | Baselayer from PPOK | 3DBAG by the 3D geoinformation group

Makkelijk downloaden in open formaten



Downloads for tile number 5910

To keep filesizes manageable the 3D BAG dataset is subdivided in tiles. For each tile we offer the data in a number of different file formats. Use the button below to select the tile of interest to see the download options.

Tile number	Format	File	Version
5910	CityJSON	3dbag_v210908_fd2cee53_5910.json	v21.09.8
5910	OBJ	3dbag_v210908_fd2cee53_5910.zip	v21.09.8
5910	GPKG	3dbag_v210908_fd2cee53_5910.gpkg	v21.09.8

[Pick another tile](#)

Webservices

These allow you to explore the entire dataset in another software (eg. QGIS) without having to download anything beforehand.

Type	URL
WMS	https://data.3dbag.nl/api/BAG3D_v2/wms?request=getcapabilities
WFS	https://data.3dbag.nl/api/BAG3D_v2/wfs?request=getcapabilities

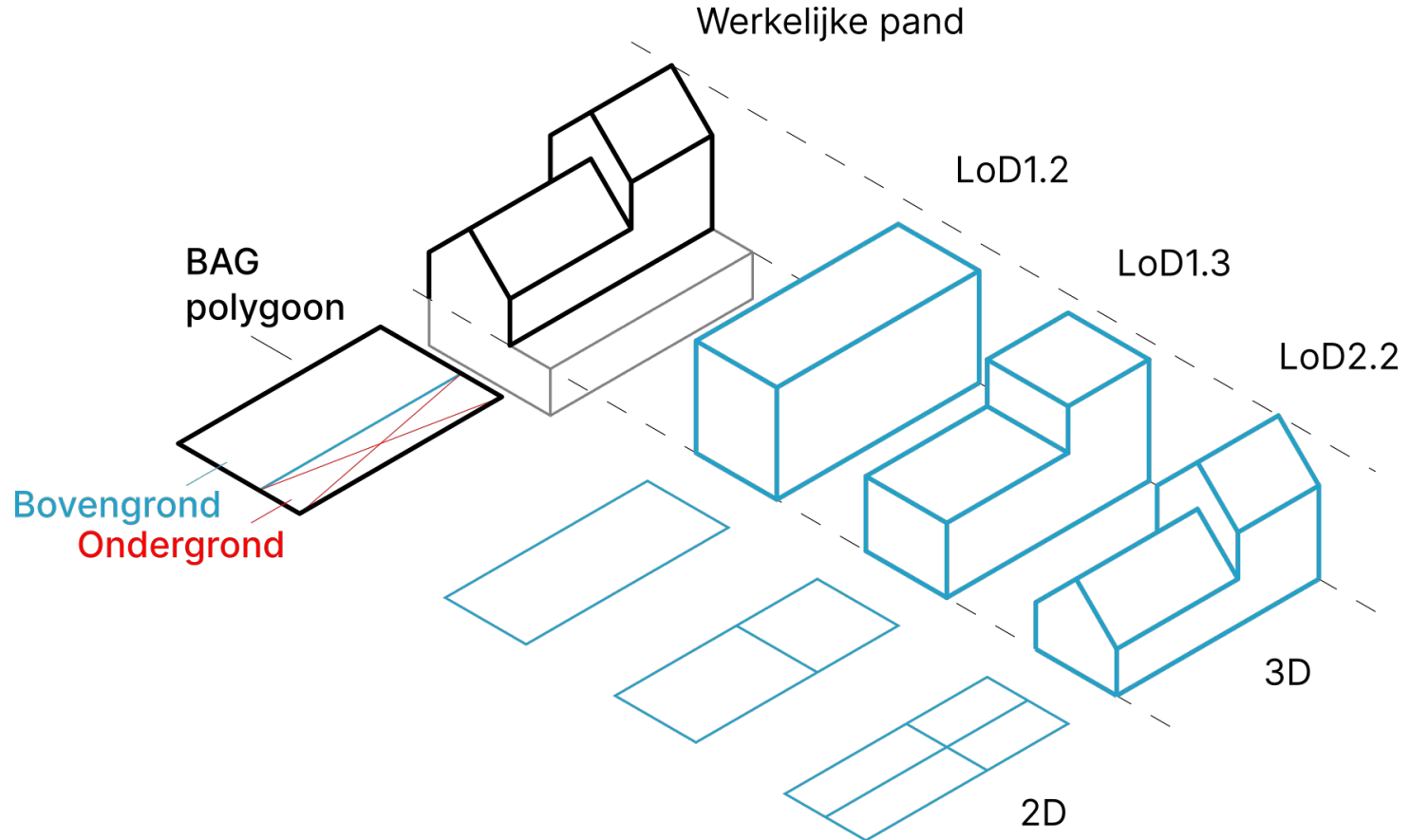
PostgreSQL data dump

The PostgreSQL file below contain the raw 3D BAG data for the whole of the Netherlands, including geometry and attributes. Beware, this is a very large file to download.

We fixed the `pond` table for v21.09.8 (it was broken at release), and now it contains the appropriate data.

File	Format	Size	Version
3dbag_v210908_fd2cee53.zip	PostgreSQL	35GB	v21.09.8

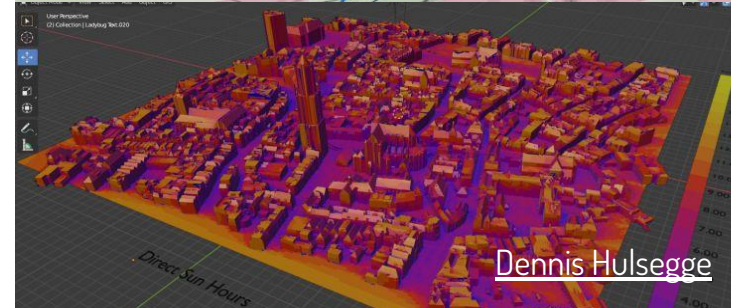
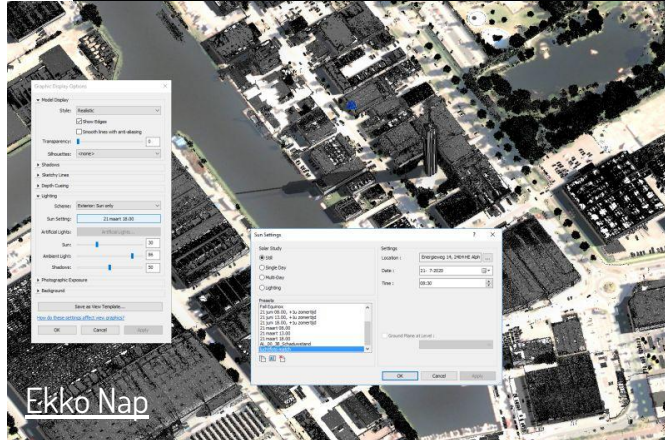
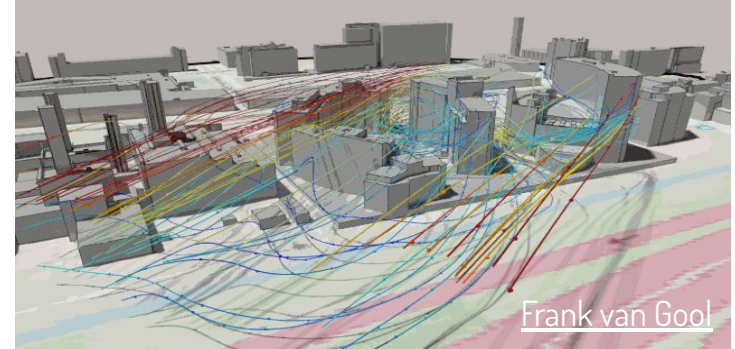
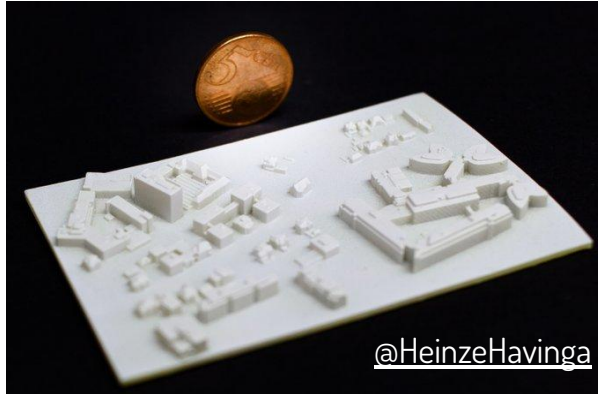
Verschillende detailniveaus



3D BAG in de praktijk

3DBAG gebruikers

<https://docs.3dbag.nl/en/overview/media/>



We bereiken non-geo mensen

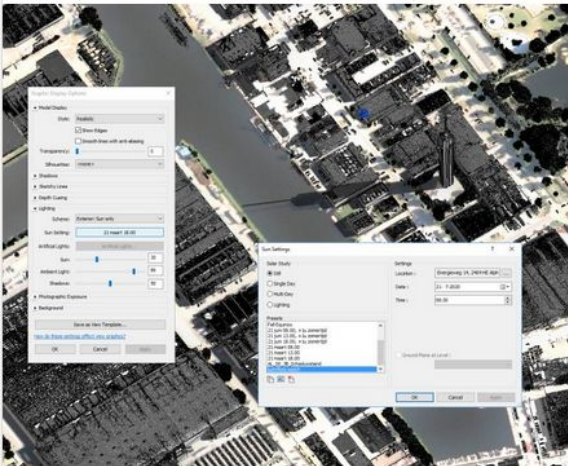
 **Ekko Nap** • 2nd
docent parametrisch ontwerpen en BIM @HHS
1yr • 🌐

Vandaag even gespeeld met de nieuwe **#3DBAG** LOD 2.2. De schaal van de Alphense zendmast om half 9 's ochtends klopt heel aardig, in lucht met de AHN3 Pointcloud en 3D BAG, in **#Revit**.


Krijn Geevers **Vilmante D.** **Nick Tettero** niet te hard van stapel lopen, nog binnen als complete Mesh Tiles. Zodra ik de CityJSON in ons kader verwerkt heb krijgen we gewoon gebouwobjecten met alle data die we nodig hebben. Geweldig zijn.

Credits voor **Balázs Dukai**, **Ravi Peters**, **Jantien Stoter**, **Stelios Vitalis** en **van Liempt** ziet er erg bruikbaar uit!

[See translation](#)

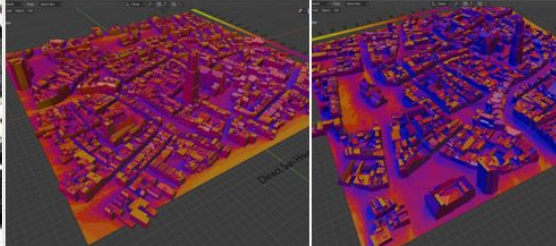
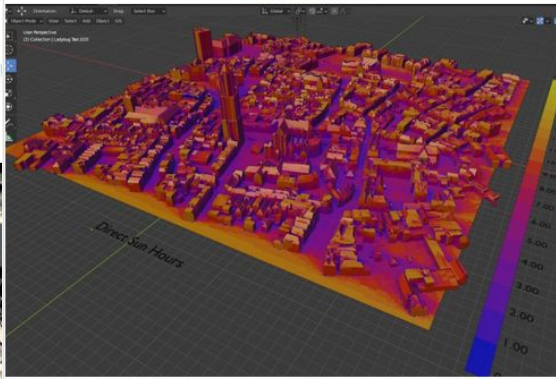


👍 49

 **Dennis Hulsegge** • 2nd
Engineer R & D at DigiBase, DigitaalBouwen @VolkerWessels
1yr • 🌐

#Digibase #Bag3d #openbim #ladybug #blender3d #blenderBIM #tudelft #OSArch

Today I created a solar analysis. This dataset has been provided by: **Balázs Dukai**, **Jordi van Liempt**, **Ravi Peters**, **Jantien Stoter** & **Stelios Vitalis** thanks for this amazing data! After converting the data to IFC, I could import the data into Blender with the use of blenderBIM. For the analysis I used python/Ladybug. Thanks OSArch community and **Dion Mout** keep up the good work!



👍 You and 135 others

7 comments • 7

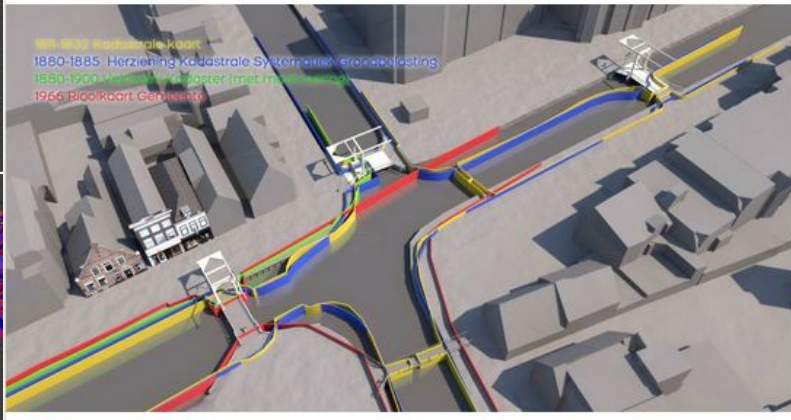
 **Andy Benjamins** • 2nd
3D Modelleur / 3D Designer / Game Developer/ Gis Medewerker at Kadaster
8mo • Edited • 🌐

Historische Kadastrale grenzen in 3D:
Voor mijn project Virtueel Hoogeven ben ik bezig om oude kadastrale grenzen vast te leggen en te digitaliseren. Hoe krijg je nu alles goed op de juiste locatie?, dit is een grote uitdaging.

Georefereren van de oude kaarten blijkt toch lastig, eigenlijk onmogelijk omdat de tekeningen toch behoorlijk afwijken en niet maatvast zijn. Gelukkig zijn er veel oude panden bewaard gebleven en met behulp van van de LOD2.2 dataset van de TU delft kon ik toch vrij nauwkeurig (bij benadering) de kaarten op de plek leggen. Nu nog uitvogelen welke dicht bij de waarheid ligt.

pijplijn: FME, ArcGispro, CityEngine, Cinema4D en Unreal Engine.

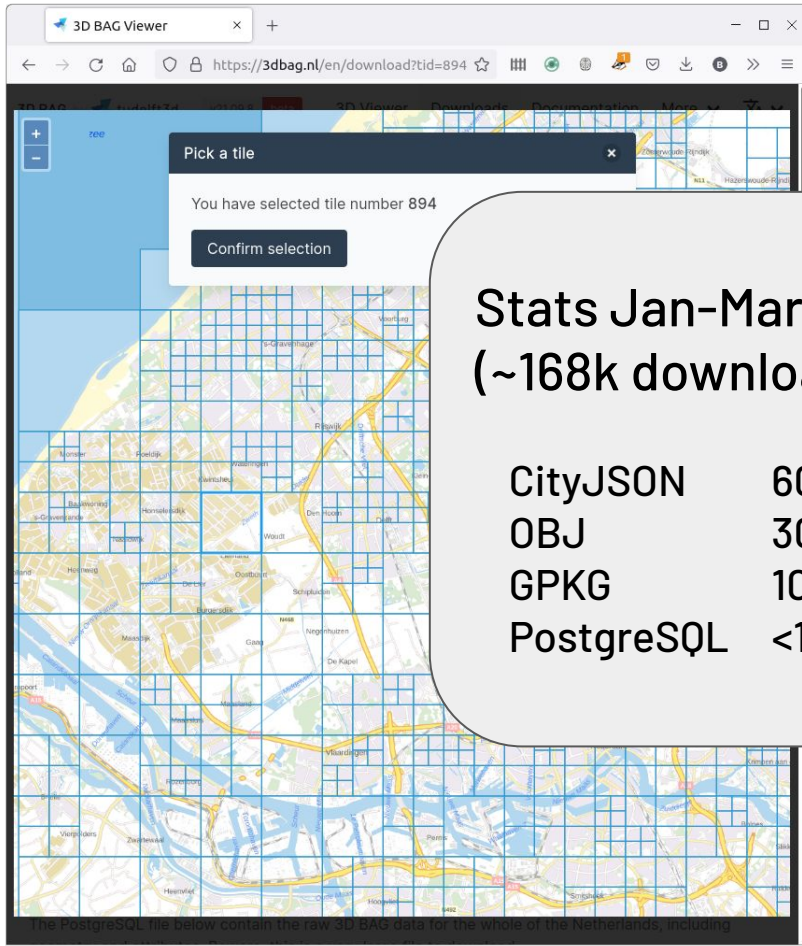
[See translation](#)



👍 You and 68 others

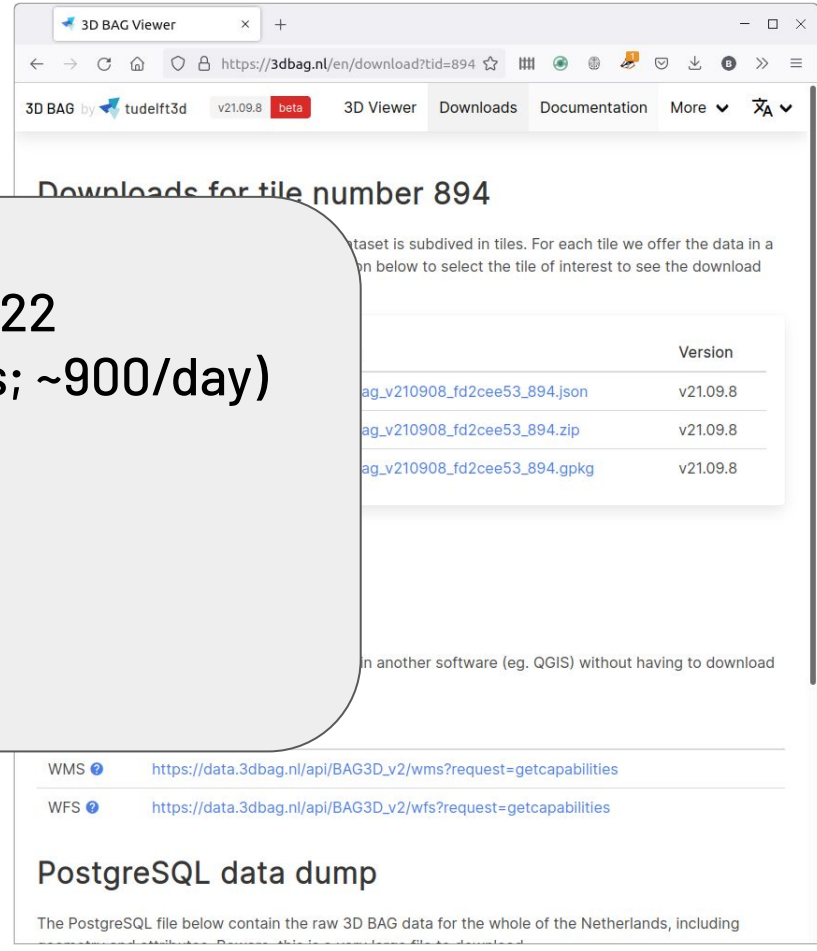
10 comments

3D BAG in cijfers



Stats Jan-Mar 2022
(~168k downloads; ~900/day)

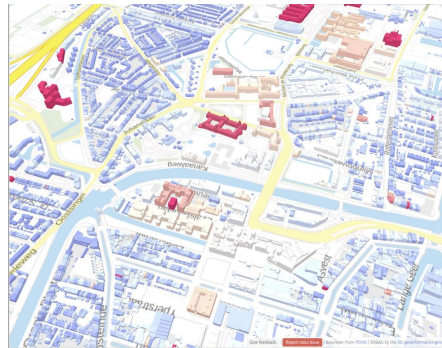
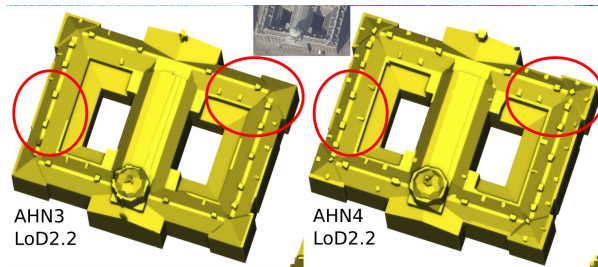
CityJSON	60%
OBJ	30%
GPKG	10%
PostgreSQL	<1%



De toekomst

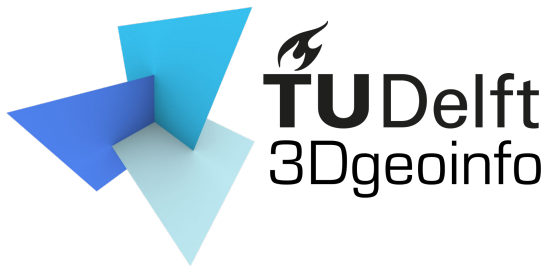
Data en nieuwe features

1. Updates met op basis van nieuwe puntenwolken (AHN4)
2. Onderhoud, innovatie in achterliggende techniek en standaarden (CityJSON)
3. Meer disseminatie mogelijkheden (web API voor CityJSON)
4. Verrijking met extra informatie, bv scheidingswanden, verdiepingen
5. Verbeteren 3D viewer



Organisatie en beheer

1. Samenwerking TU Delft + 3DGI ([EU subsidie tot 2024](#))
2. Onderzoek naar toepassingen en gebruikers
3. Uitwerken bekostiging op de lange termijn
4. Open data aspect is belangrijk en blijft



Dankjewel!

3dbag.nl

email: info@3dbag.nl



This project has received funding from the European Research Council (ERC) under the European Unions Horizon2020 Research & Innovation Programme (grant agreement no. 677312 UMnD: Urban modelling in higher dimensions).

The technology behind the 3D BAG service was developed by the 3D Geoinformation research group, Department of Urbanism at the Delft University of Technology. This has been done in various research projects. Funding has been received from the European Commission (ERC), the Netherlands Organization for Scientific Research (NWO), and the Amsterdam Institute of Advanced Metropolitan Solutions (AMS). The algorithms have been further improved in collaborations with partners such as RIVM, Rijkswaterstaat and Kadaster.