Reality Modeling - ContextCapture

What's new!

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Advancing Infrastructure

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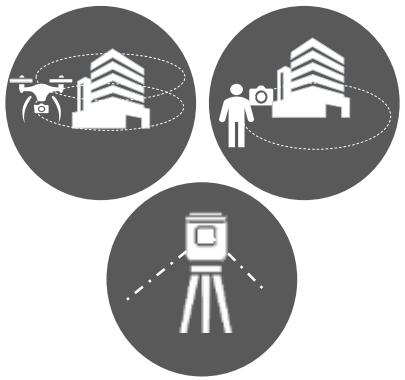
Reality Modeling Portfolio

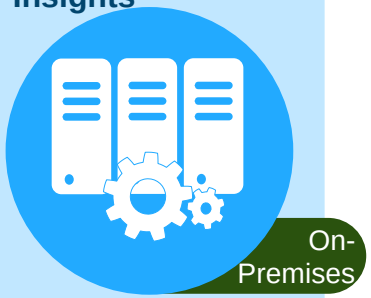
CAPTURE

- ContextCapture Mobile App



PROCESS

- ContextCapture
- ContextCapture Cloud Processing Service
- ContextCapture Insights*



EDIT & EXTRACT

- ContextCapture Editor
- Descartes
- Pointools
- New Reality Web Viewer*

Reality Modeling Academy

STORE, MANAGE, & SHARE

- ProjectWise ContextShare

CONSUME IN WORKFLOWS

Mapping/Planning

Design

Construction

Operations and Inspection

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ContextCapture Overview

ContextCapture can use a wide array of acquisition devices

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Unlimited Scalability

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Latest features

Reality Modeling

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Photos and Point Clouds

Hybrid Input

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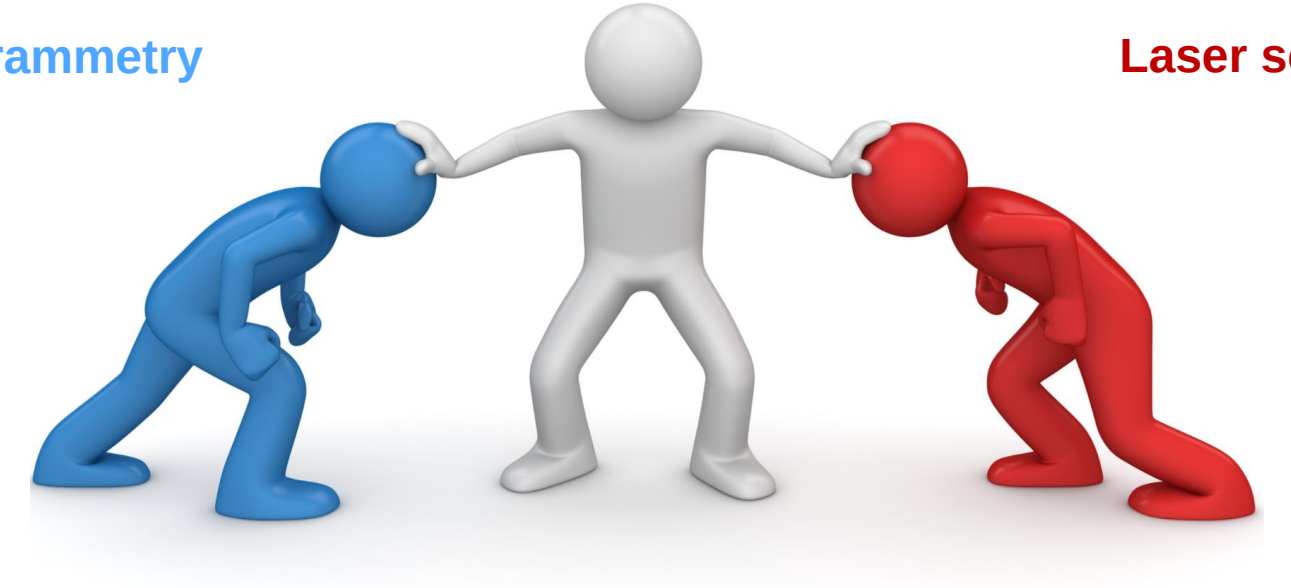
Hybrid Modelling with ContextCapture

Photogrammetry

Laser scanning



- Images Only
- Point Clouds Only
- Point Clouds and Imagery Combined
- Point Cloud geometry with an Image texture map!

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Point Clouds Only
Point Clouds and Photos

Use directly inside many Bentley applications

3SM File Format

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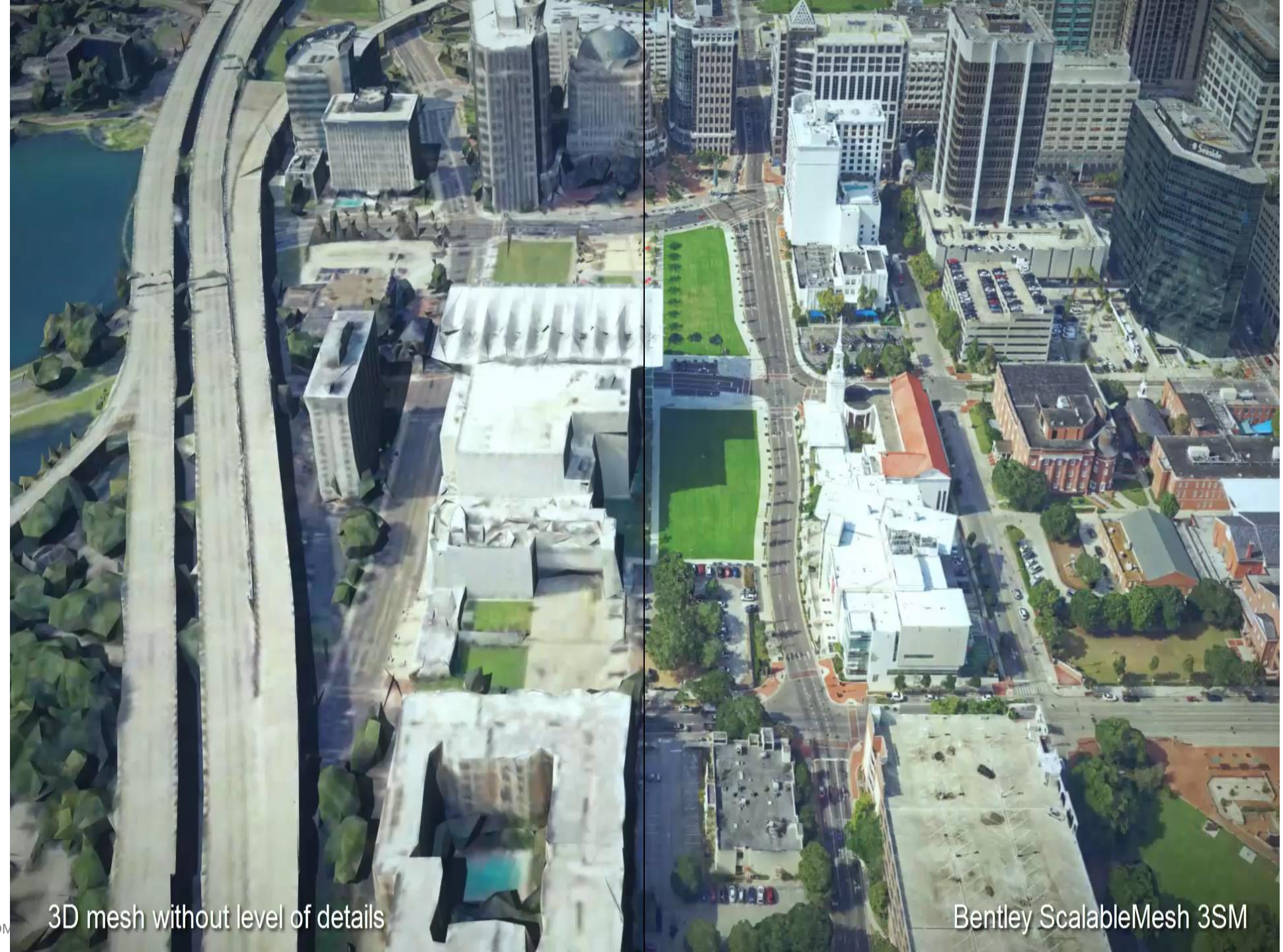

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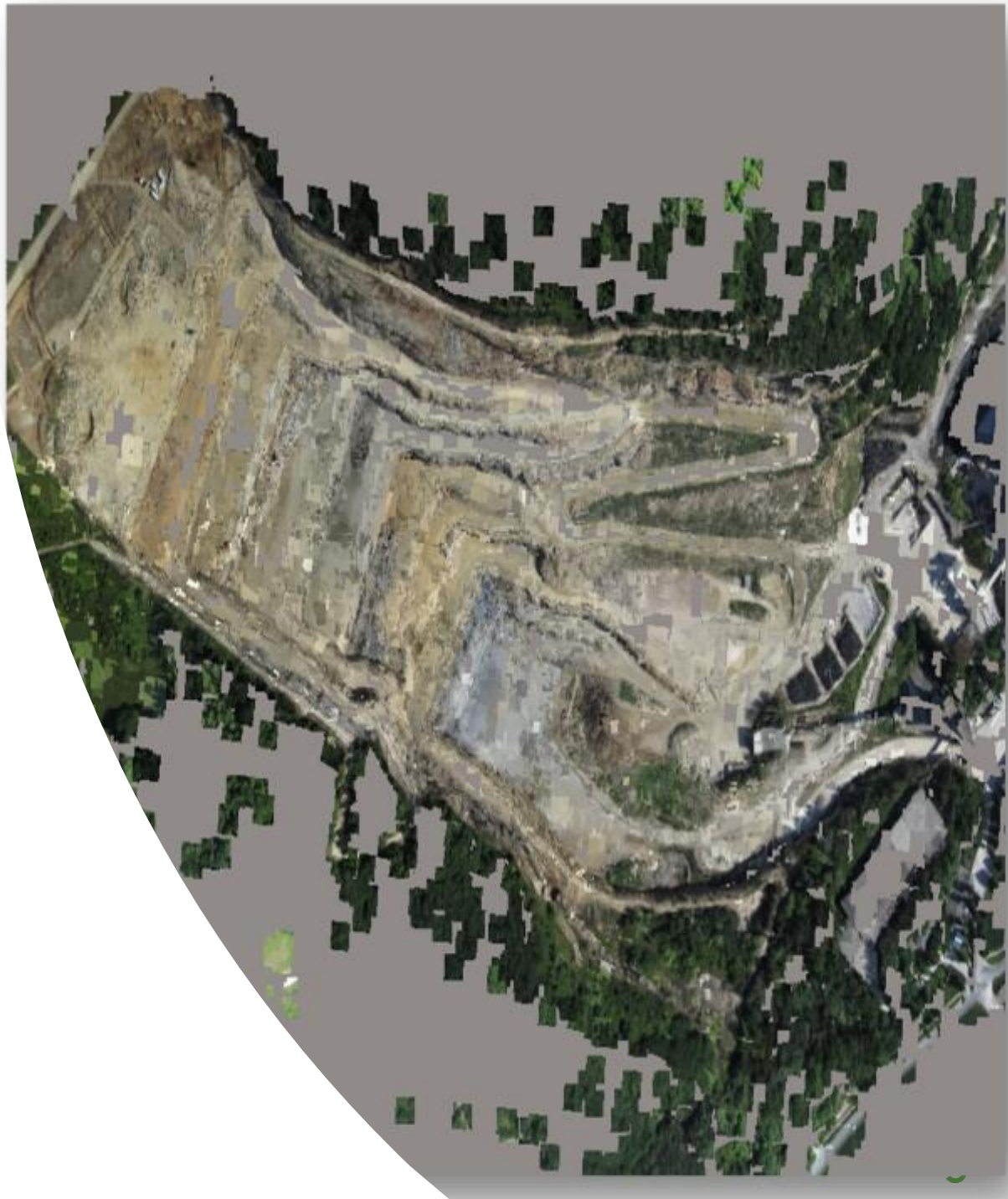
AT Quality Control and a draft 3D scene

Splats & Photo Navigation



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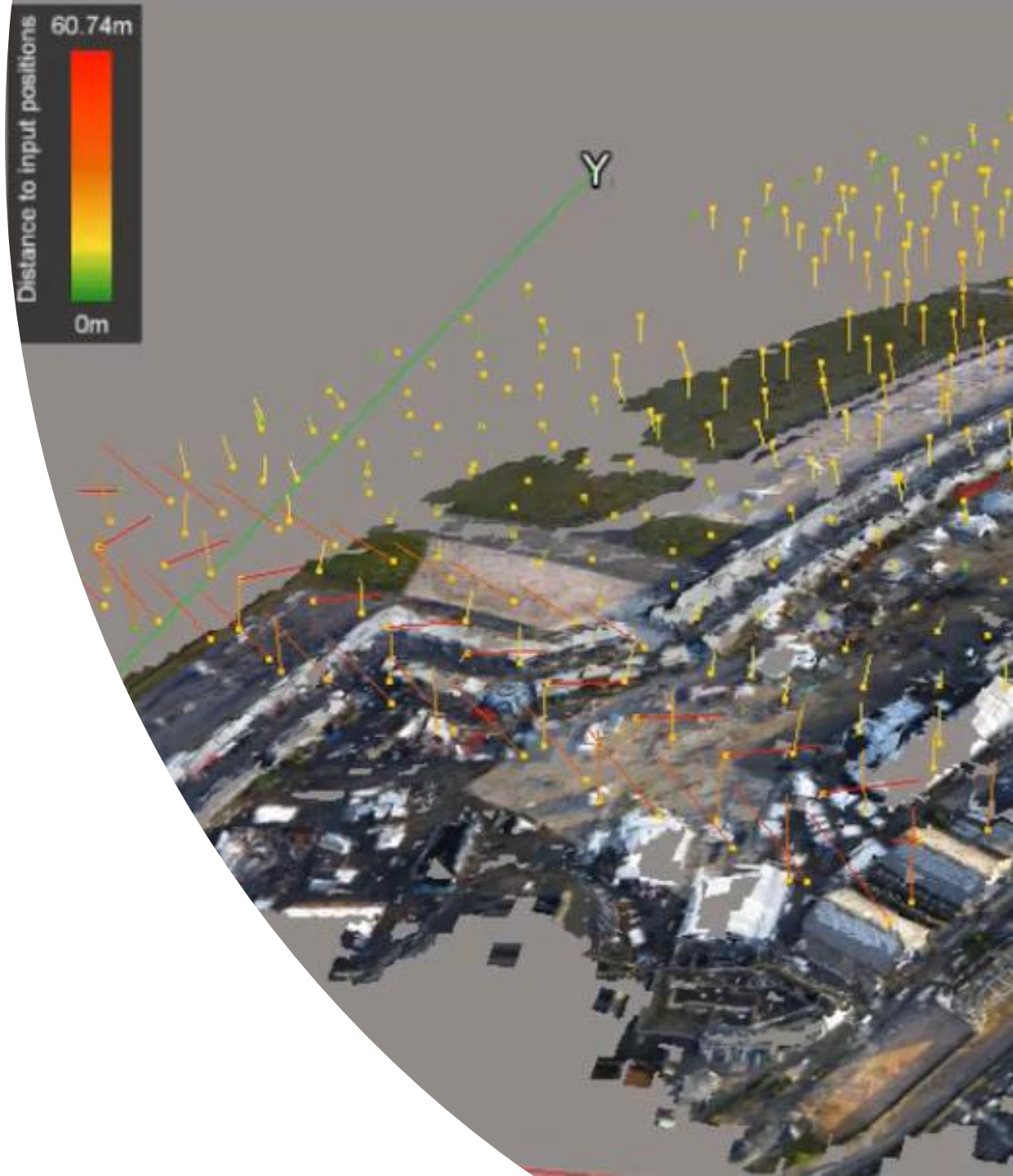
Improved AT and Quality Metrics to help with your more difficult projects

Aerotriangulation and quality metrics



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Improve the accuracy of your 3D reality meshes

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Faster reconstruction with more engines available

Parallel Processing

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Capabilities	ContextCapture	ContextCapture Centre	ContextCapture Cloud
Imagery dataset size per project	Up to 300 Gigapixels	Unlimited	Unlimited
Scanned point clouds limitation per project	500 Million	Unlimited	Unlimited
Processing engines	**1-2***	Unlimited	2-10

A single engine on **a high end desktop will reconstruct between 30-50 Gpix per 24h** and around **10-15 Gpix on the cloud.**

1 Gpix = **83 iPhone** pictures or **27 DSLR** pictures

10 Gpix = **830 iPhone** pictures or **270 DSLR** pictures

20 Gpix = **1660 iPhone** pictures or **540 DSLR** pictures

30 Gpix = **2490 iPhone** pictures or **810 DSLR** pictures

*To utilise 2 processing engines 2 separate copies of ContextCapture Desktop will be needed.

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Faster reconstruction through migration to cloud processing!

Migrate to Cloud

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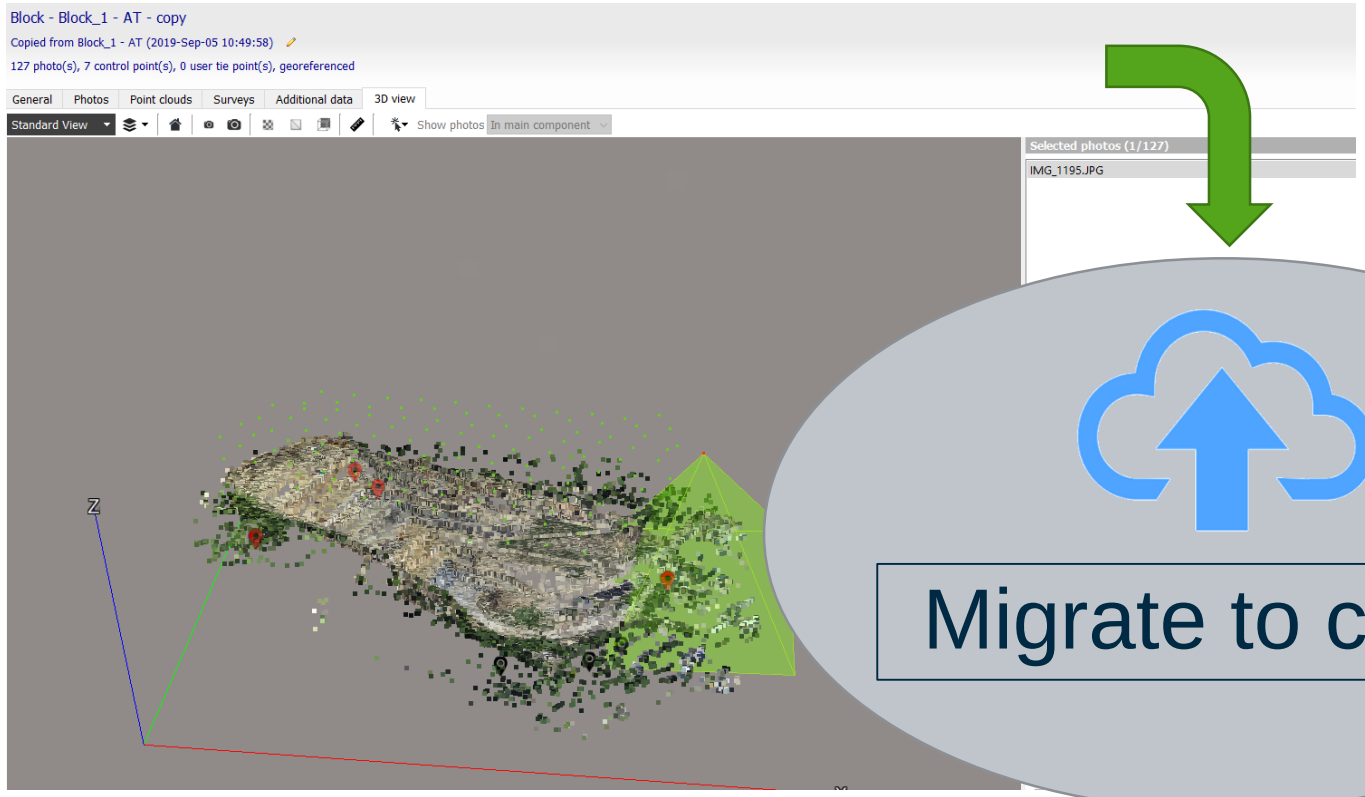
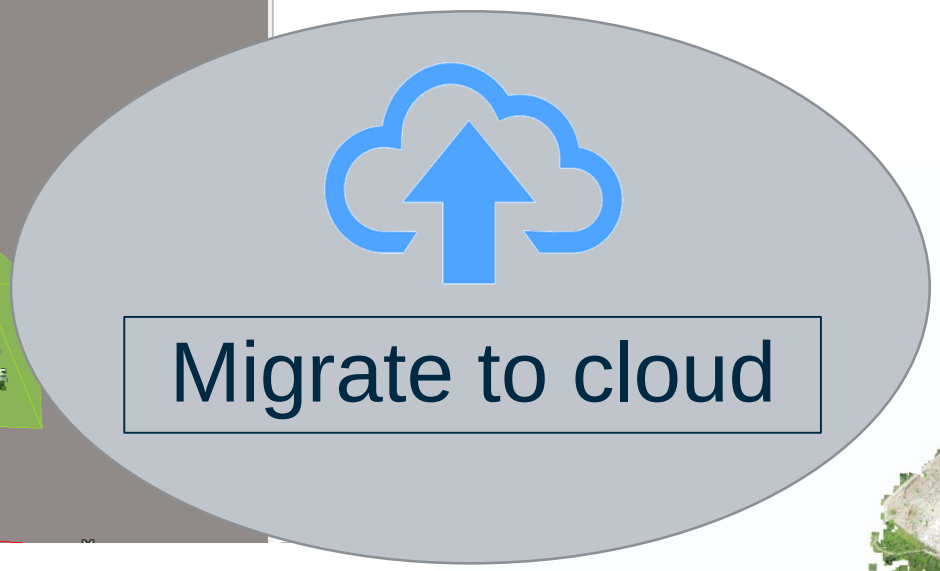
Migrate to Cloud





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Save time when processing your data with automatic Geo registration.

April Tags

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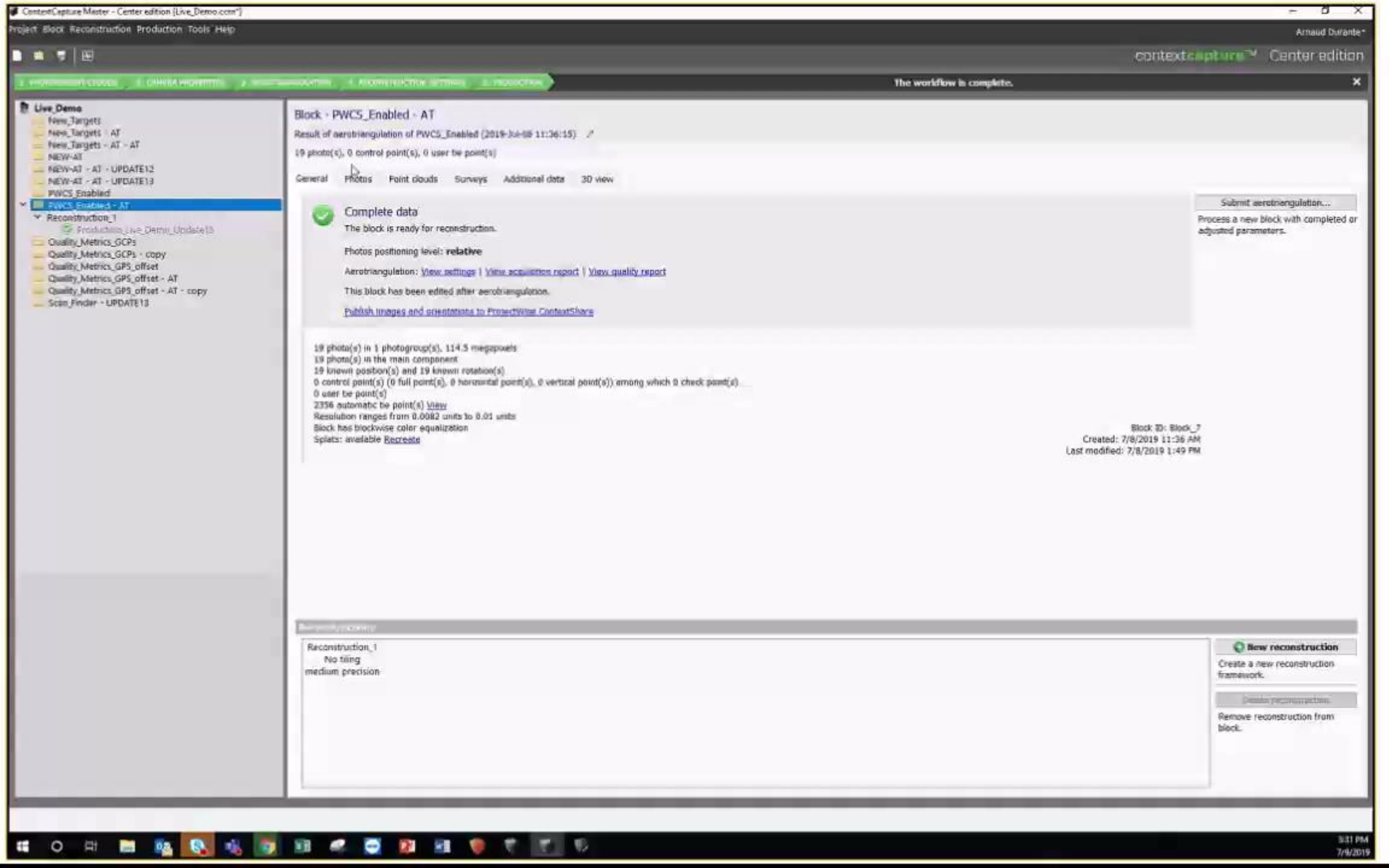
ContentCapture Master - Center edition [Live_Demo.ccm*]
Project Block Reconstruction Production Tools Help
Arnaud Durante*
contextcapture™ Center edition
The workflow is complete.
Live_Demo
New_Targets
New_Targets - AT
New_Targets - AT - AT
NEW-AT
NEW-AT - AT - UPDATE12
NEW-AT - AT - UPDATE13
PWCS_Enabled
PWCS_Enabled - AT
Reconstruction_1
Production_Live_Demo_Update13
Quality_Metrics_GCPs
Quality_Metrics_GCPs - copy
Quality_Metrics_GPS_offset
Quality_Metrics_GPS_offset - AT
Quality_Metrics_GPS_offset - AT - copy
Scan_Finder - UPDATE13
Block - PWCS_Enabled - AT
Result of aerotriangulation of PWCS_Enabled (2019-Jul-08 11:36:15)
19 photo(s), 0 control point(s), 0 user tie point(s)
General
Photos
Point clouds
Surveys
Additional data
3D view
Complete data
The block is ready for reconstruction.
Photos positioning level: relative
Aerotriangulation: View settings | View acquisition report | View quality report
This block has been edited after aerotriangulation.
Publish images and orientations to ProjectWise ContextShare
Submit aerotriangulation...
Process a new block with completed or adjusted parameters.
19 photo(s) in 1 photogroup(s), 114.5 megapixels
19 photo(s) in the main component
19 known position(s) and 19 known rotation(s)
0 control point(s) (0 full point(s), 0 horizontal point(s), 0 vertical point(s)) among which 0 check point(s)
0 user tie point(s)
2356 automatic tie point(s) View
Resolution ranges from 0.0082 units to 0.01 units
Block has blockwise color equalization
Splats: available Recreate
Block ID: Block_7
Created: 7/8/2019 11:36 AM
Last modified: 7/8/2019 1:49 PM
Reconstruction_1
No tiling
medium precision
New reconstruction
Create a new reconstruction framework.
Remove reconstruction from block.

Other new notable features..

- **Scan import now supports scans with unknown source position** and POD format.
- Support of unicode path for input photos.
- **Updated coordinate system database - HS2 SnakeGrid & OSTN15**
- Survey points report: horizontal errors now detailed for X and Y.
- Color equalization: improved performance
- **Surface constraint import: support of DGN polygons**
- Reconstruction: image sharpness considered for texturing.
- **Share Reality Data to ContextShare**
- Improvements on the overall software robustness/stability.

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Coming very soon!!

Reality Modeling

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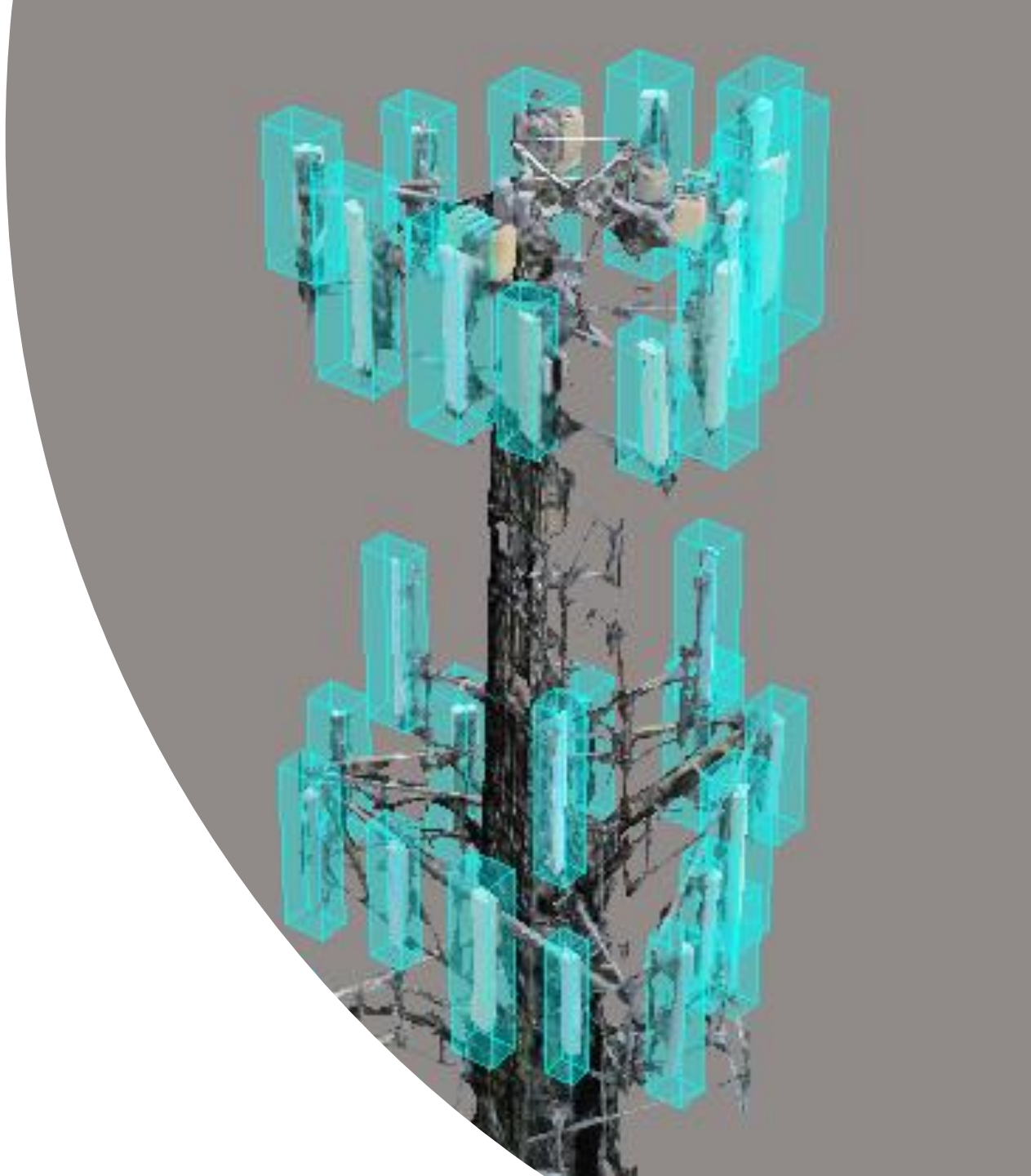
*Streamline the **detection and 3D location of objects from 3D Reality Data** using unique **3D M**achine **L**earning*

ContextCapture Insights!



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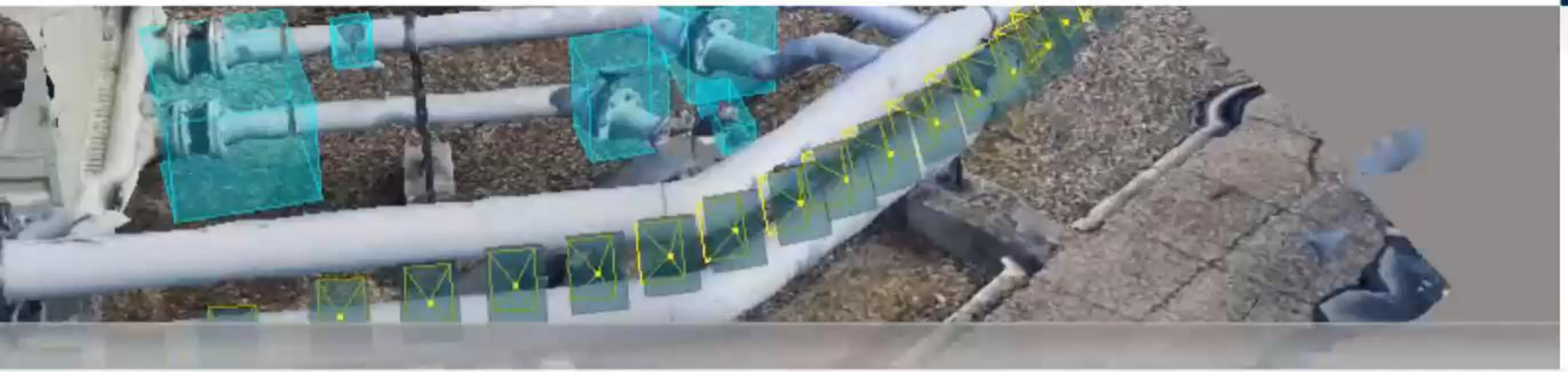
ContextCapture Insights

Automatically detect and locate objects using 3D machine-learning technology



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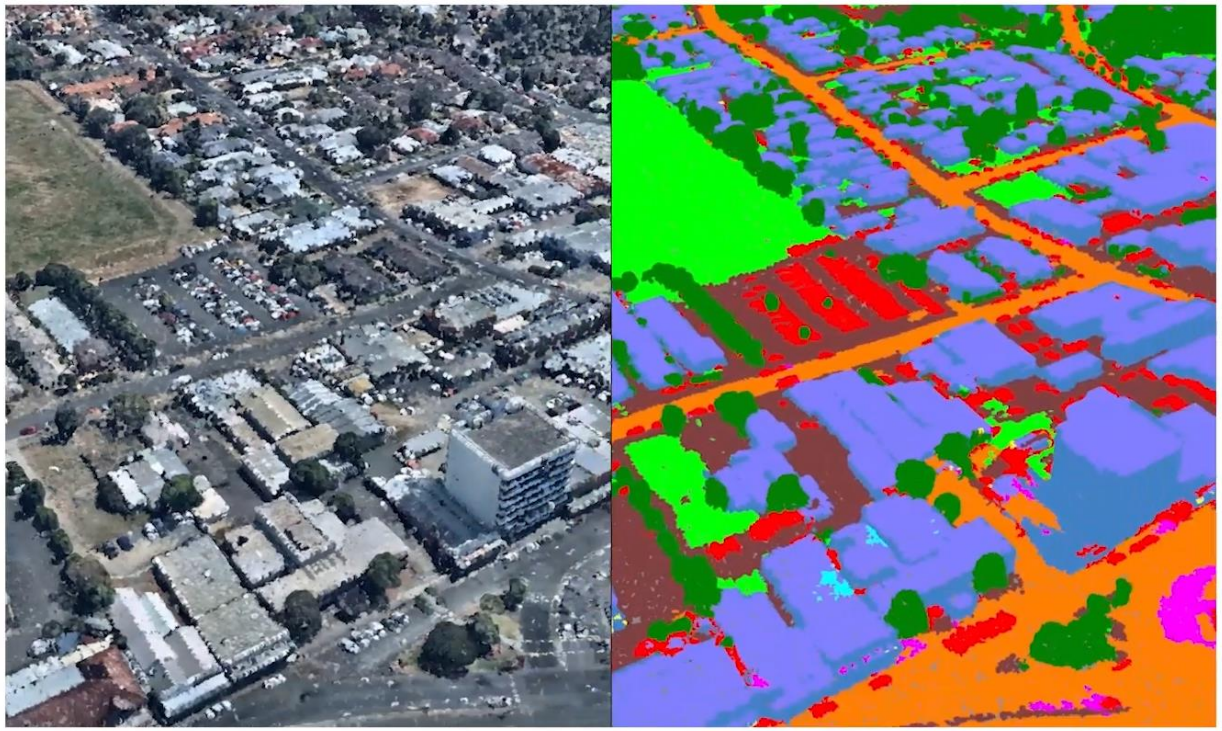
Advancing Infrastructure

What’s next?

– City-scale semantization

- Ground extraction to prepare design work
- Water extraction for constraints
- Transportation, water or power network detection
- Vegetation extraction



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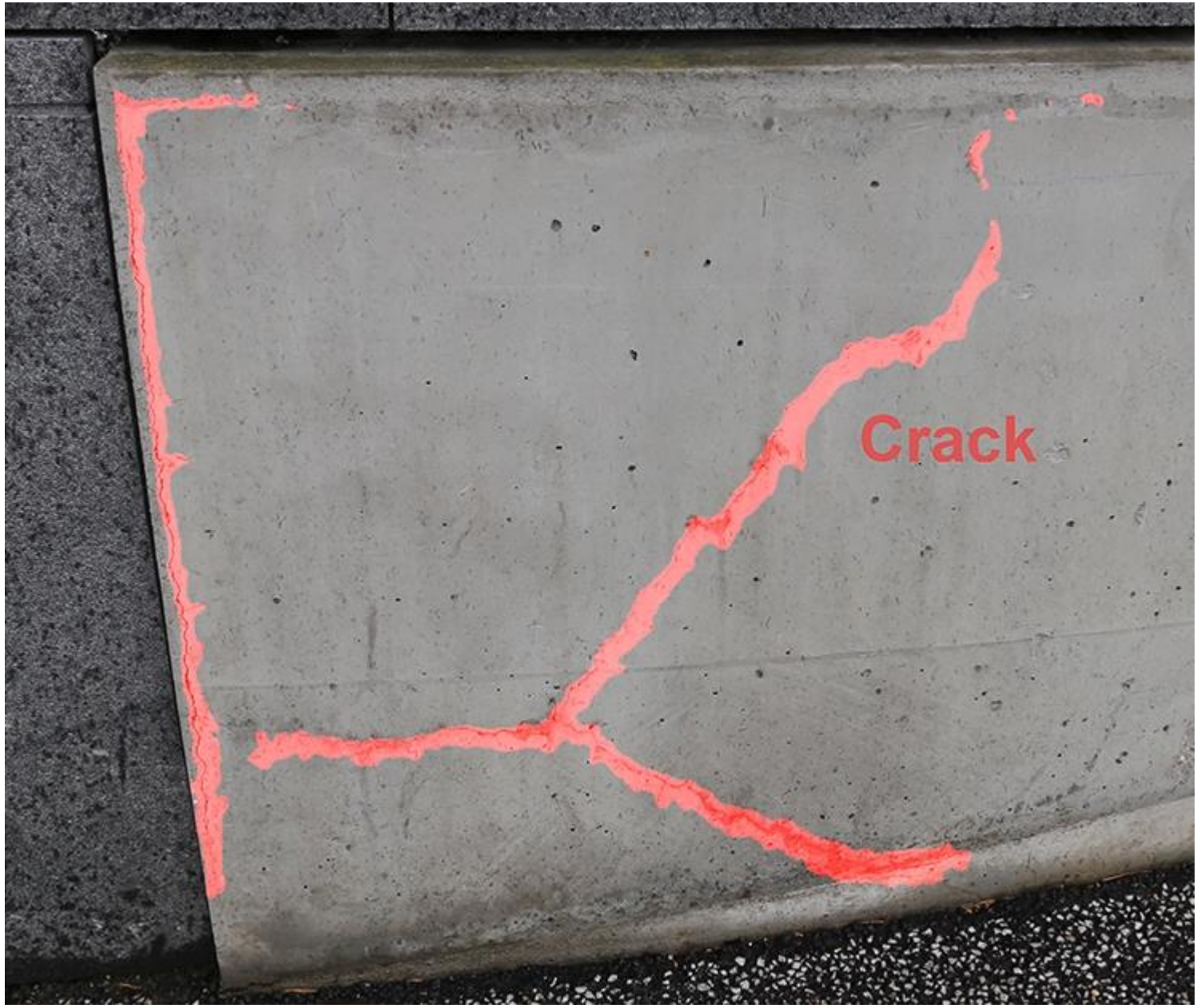
What's next?

– Defect detection

- Identify cracks
- Identify rust
- Monitor defect evolution along time
- Improve inspection and response to defect observation



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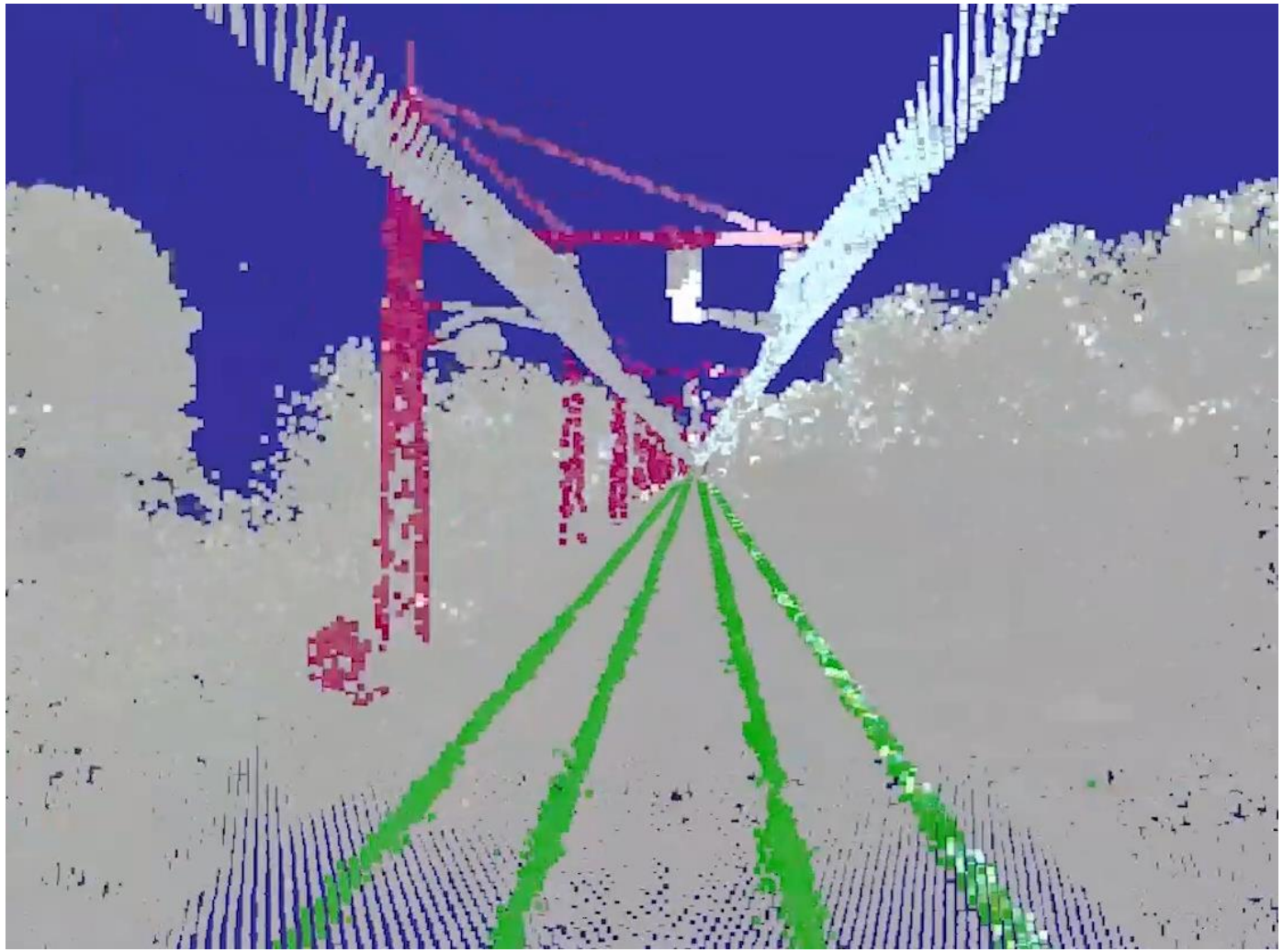
What’s next?

– Learn from pointclouds

- Rail network semantization
- Automatic identification of assets and signs
- Path to autonomous driving



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Early Access Program

- Program Manager?
  - Arnaud Durante - Arnaud.durante@Bentley.com
- When does it start?
  - Already running
- Prerequisite?
  - Be a user of ContextCapture or ContextCapture Center
  - No cost associated.
  - Commitment to participate to sync meeting with Bentley team and provide feedback
  - Agree to share with Bentley your training data for the purpose of improve the technology (will not be disclosed or disseminated to third parties except in an aggregated form).

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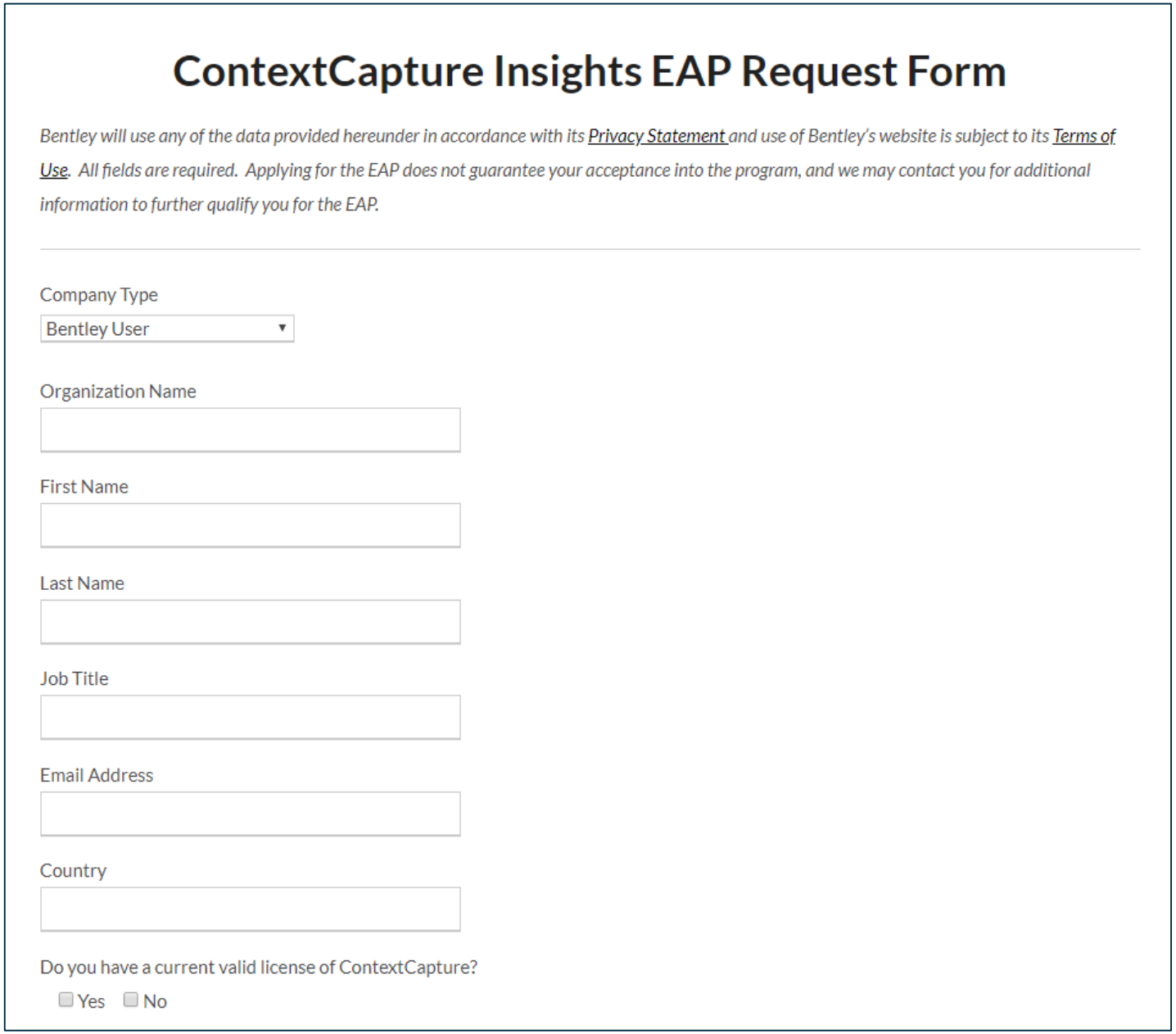
Early Access Program

- Fill the form and we will on-board you

http://realitymodelingeap.com/contextcapture-insights-eap-request-form/



ContextCapture Insights EAP Request Form

Bentley will use any of the data provided hereunder in accordance with its Privacy Statement and use of Bentley's website is subject to its Terms of Use. All fields are required. Applying for the EAP does not guarantee your acceptance into the program, and we may contact you for additional information to further qualify you for the EAP.

Company Type

Bentley User

Organization Name

First Name

Last Name

Job Title

Email Address

Country

Do you have a current valid license of ContextCapture?

Yes No

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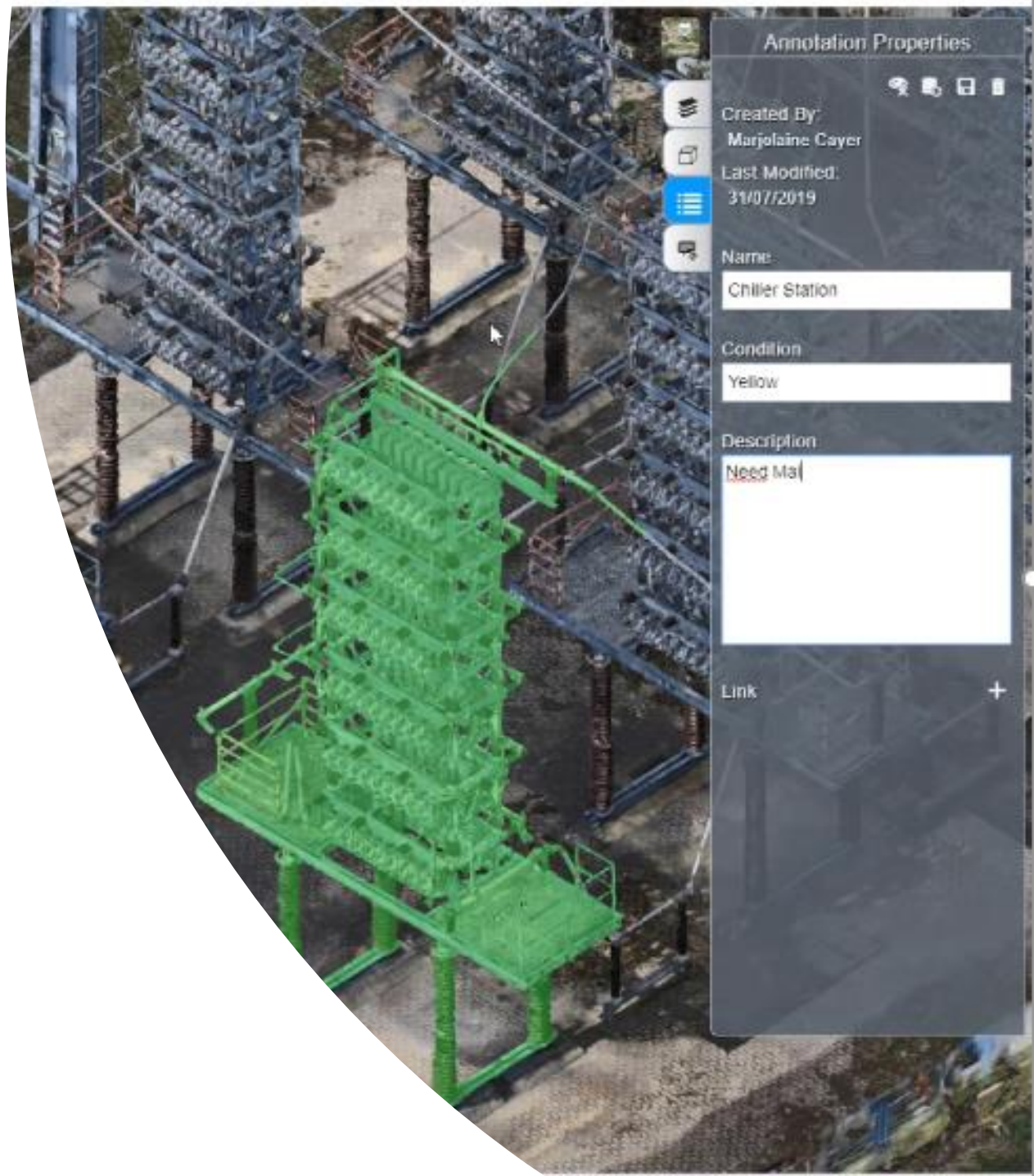
Add intelligence to your reality models with the ability to classify, tag and add links straight from the web.

Reality Data Web Viewer



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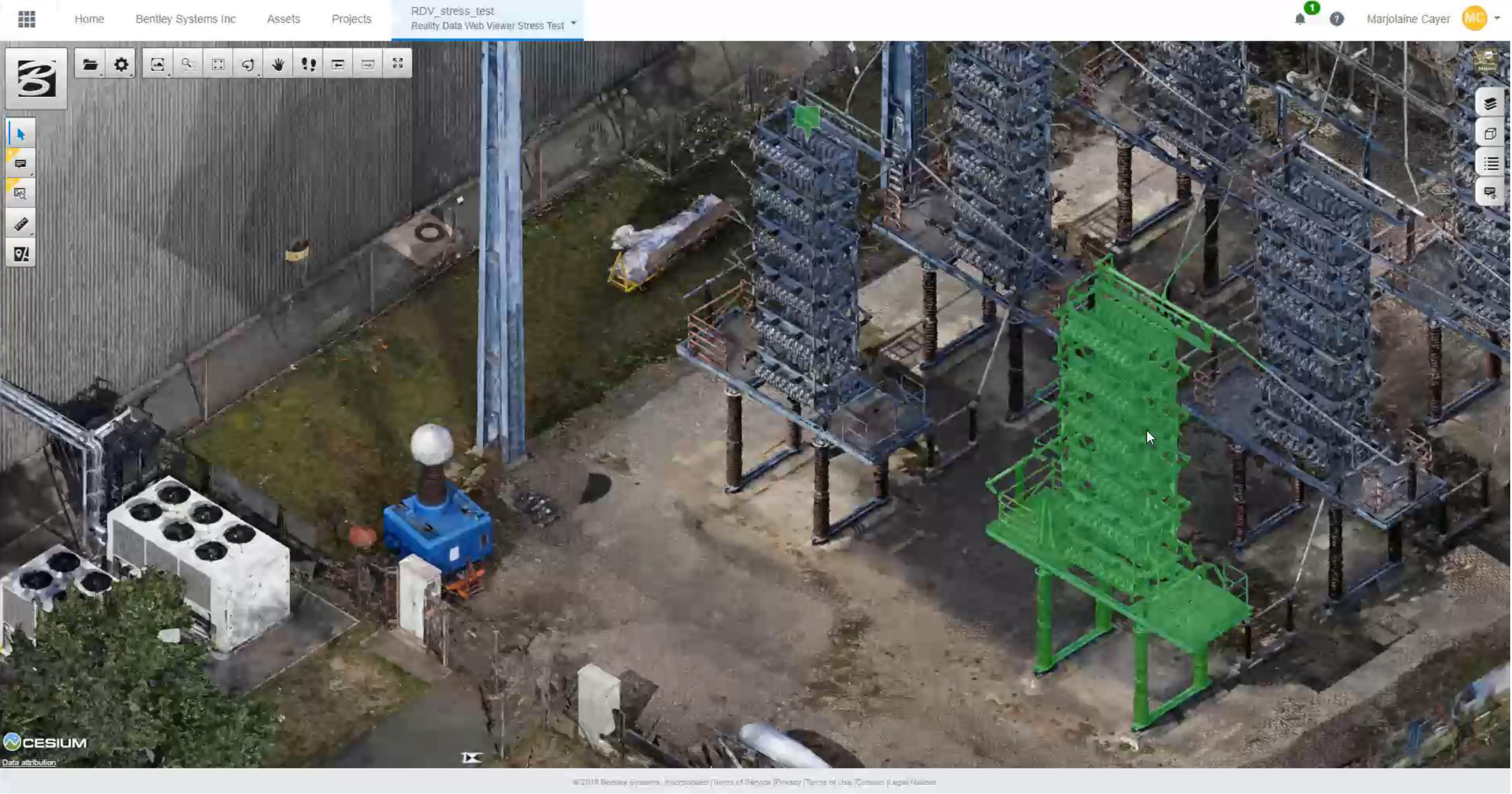

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Release dates…

ContextCapture Insights – 2020

Reality Data Web Viewer – Released

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Thank you!

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