4D DIGITAL CONSTRUCTION CONFERENCE

SYNCHRO SOFTWARE

Pix4D Construction

THE BENEFITS OF DRONE MAPPING FOR CONSTRUCTION PLANNING AND SCHEDULING

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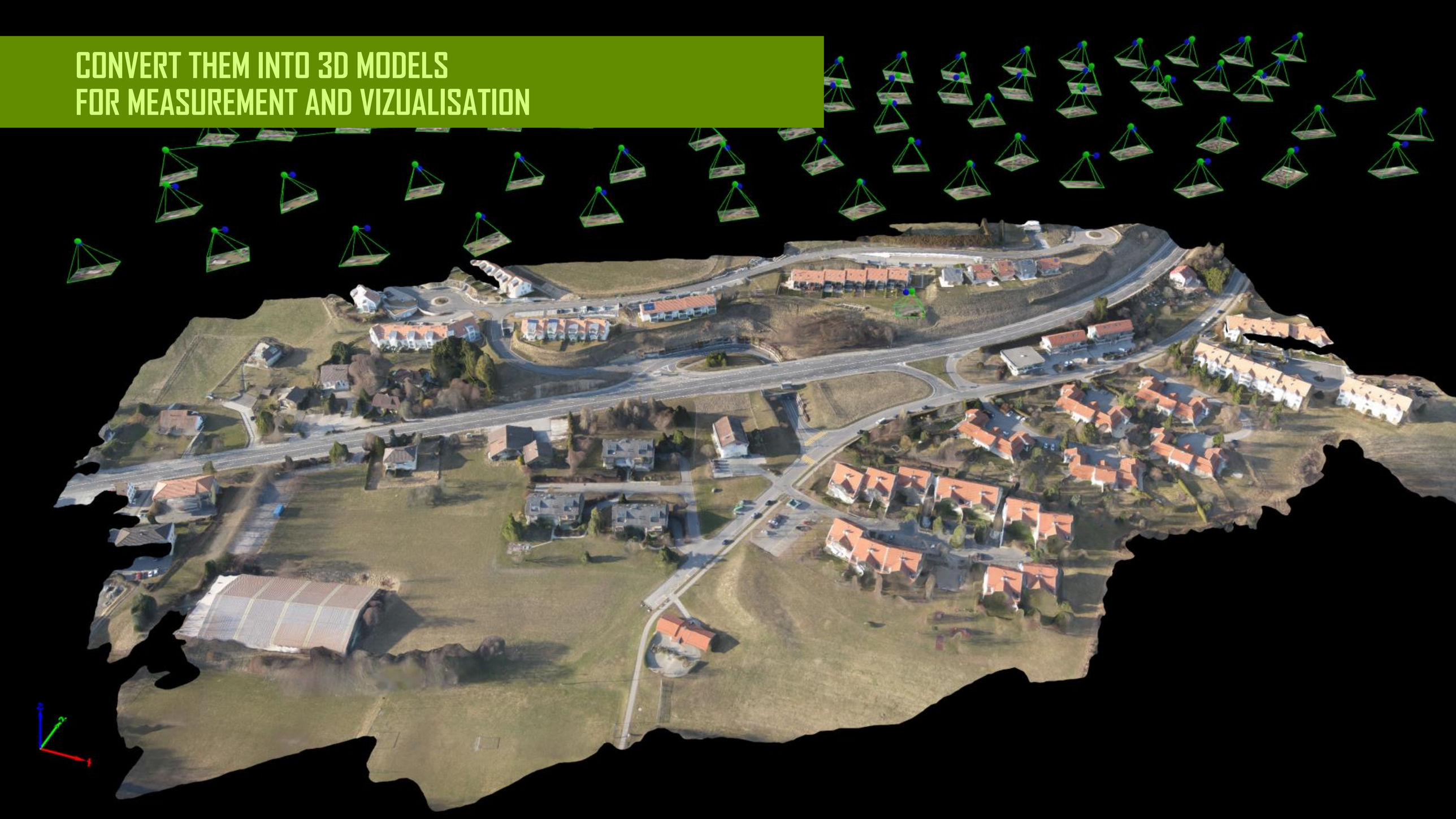
13.03.2018 Final Version

WE TAKE IMAGES CAPTURED BY DRONES...

CONVERT THEM INTO 3D MODELS
FOR MEASUREMENT AND VIZUALISATION



AND 2D ORTHO-PHOTOS
FOR CAD/BIM/GIS COMPATIBILITY

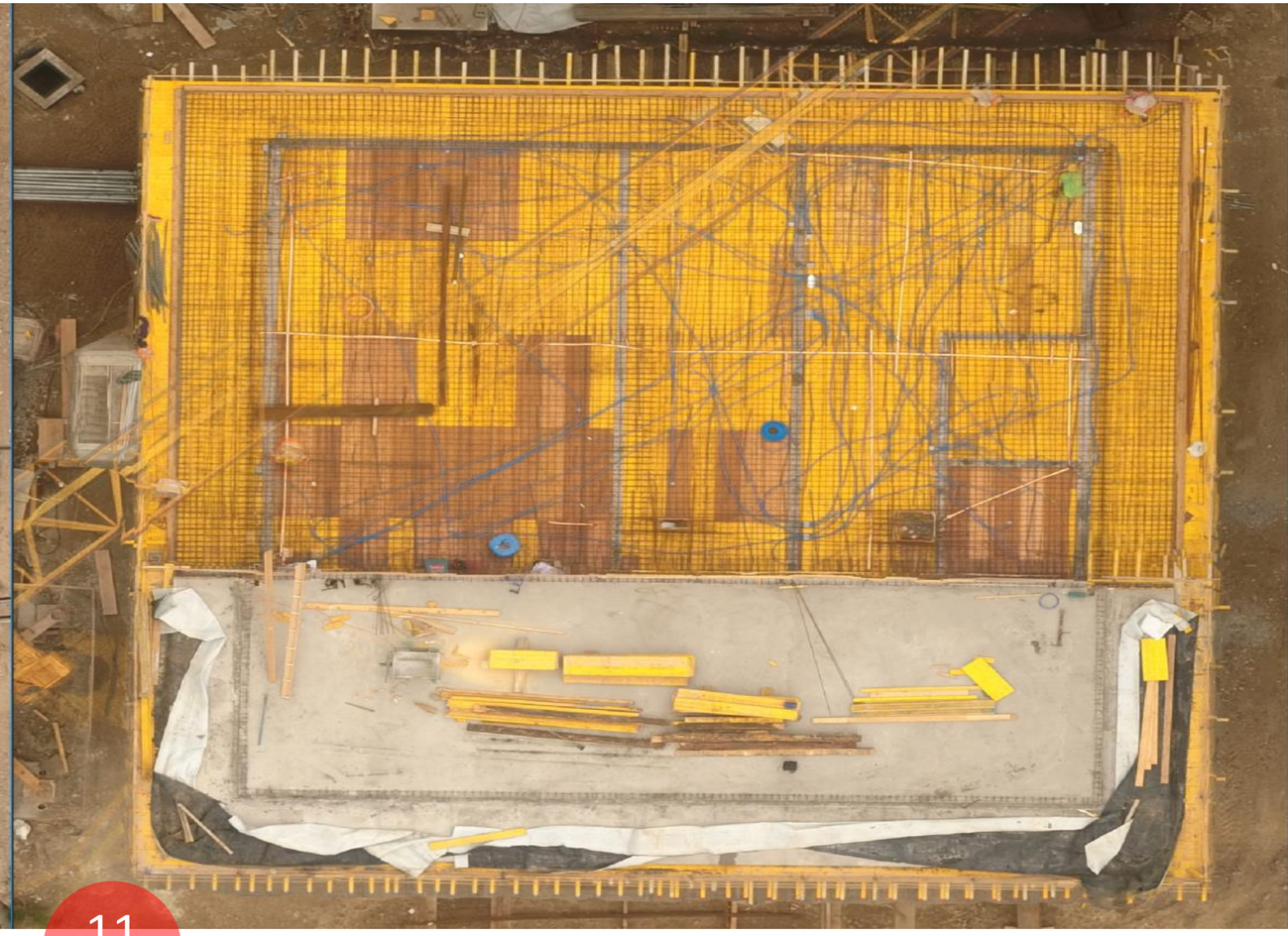
ORTHOGRAPHIC
2D MAPPING

PIX4D

PROGRESS MONITORING

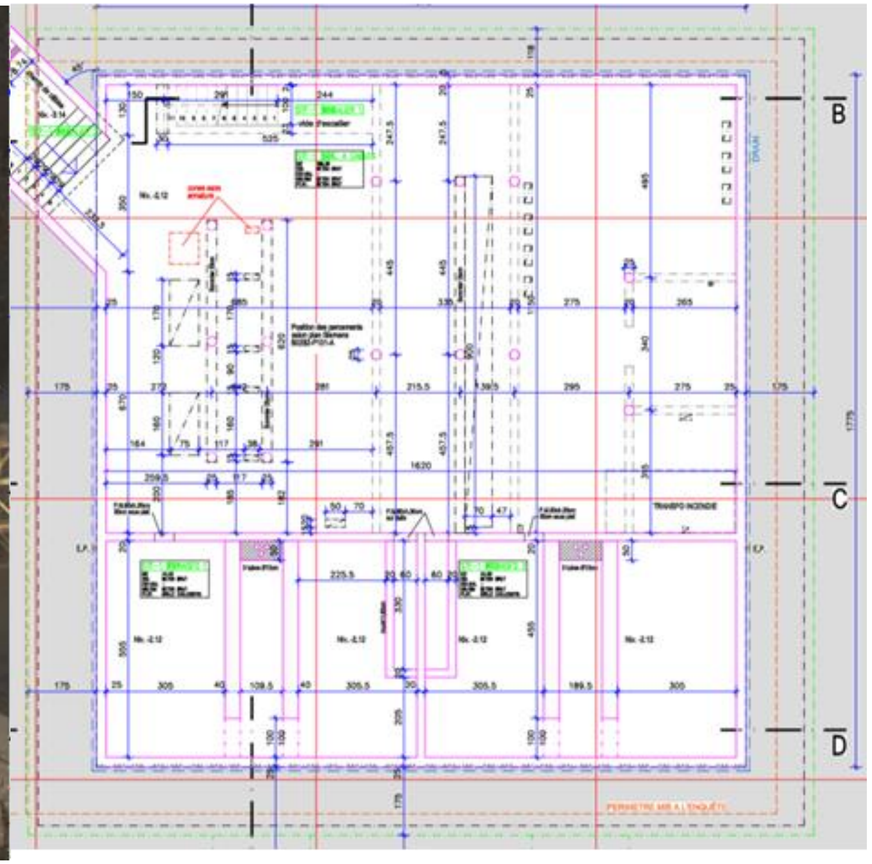
FINDING ERRORS EARLY

10
May



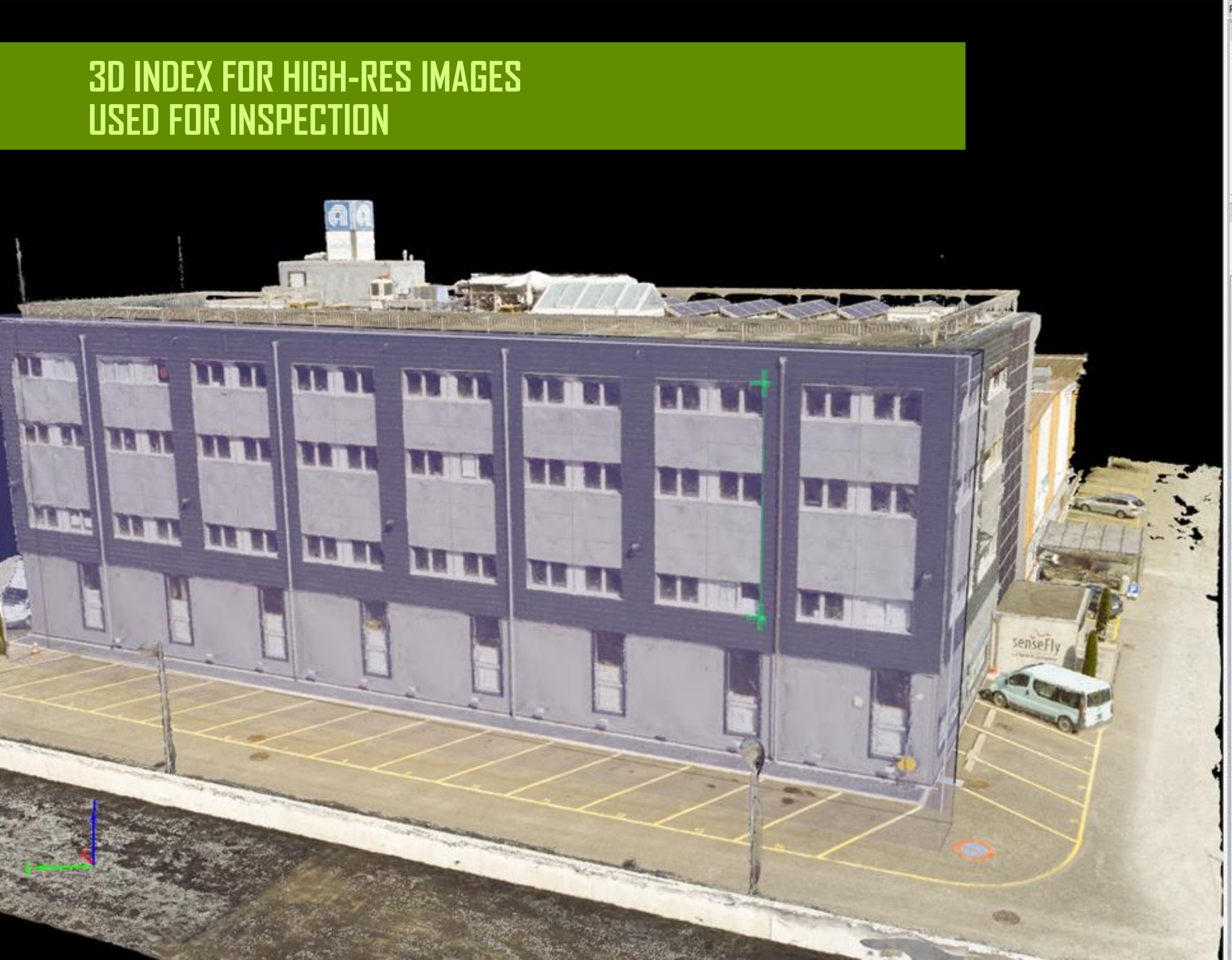
11
May

AS-BUILT VS. AS-DESIGN



3D POINT CLOUD
EARTHWORKS AND VOLUME CALCULATIONS

3D INDEX FOR HIGH-RES IMAGES USED FOR INSPECTION



Properties

Selection

Polyline 1 (Polyline)

Number of Vertices: 2

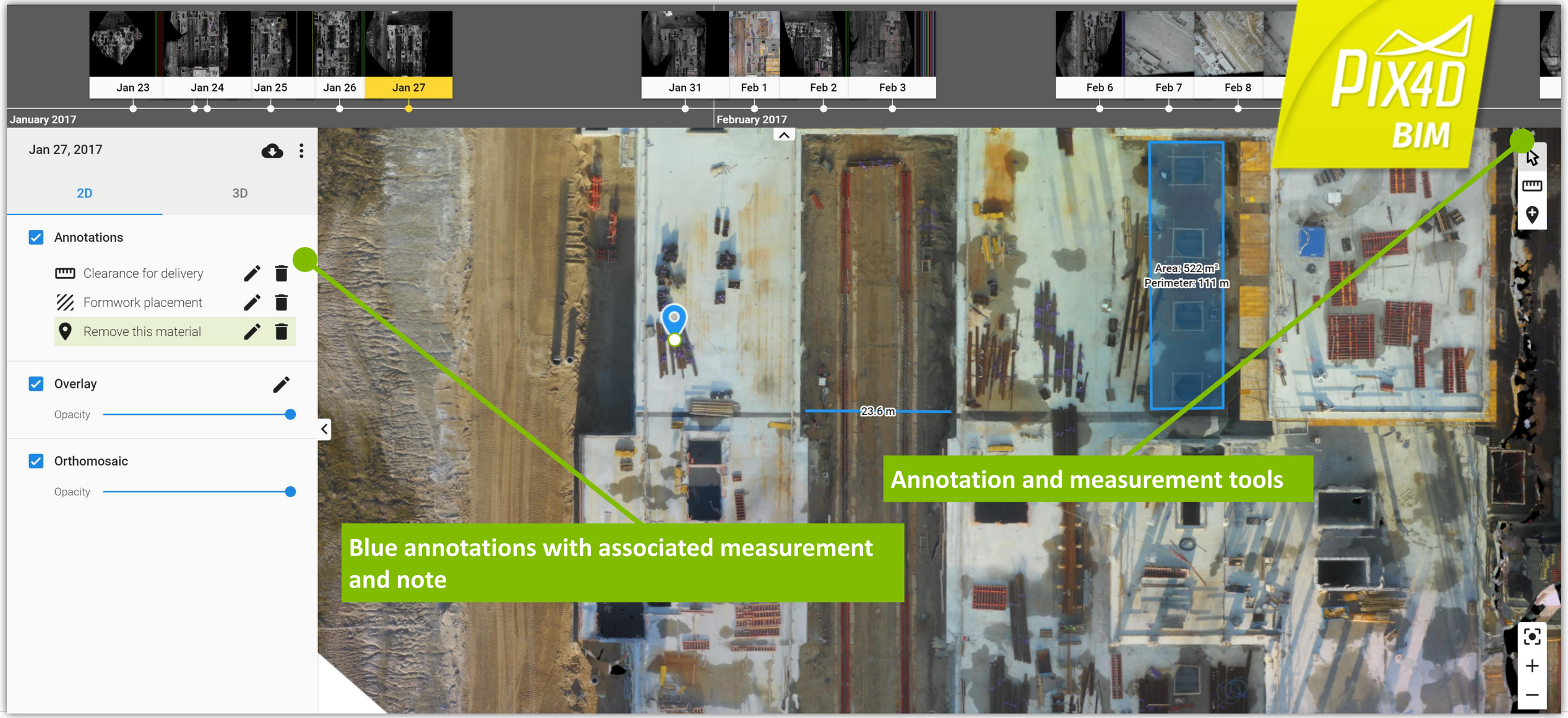
Measurements

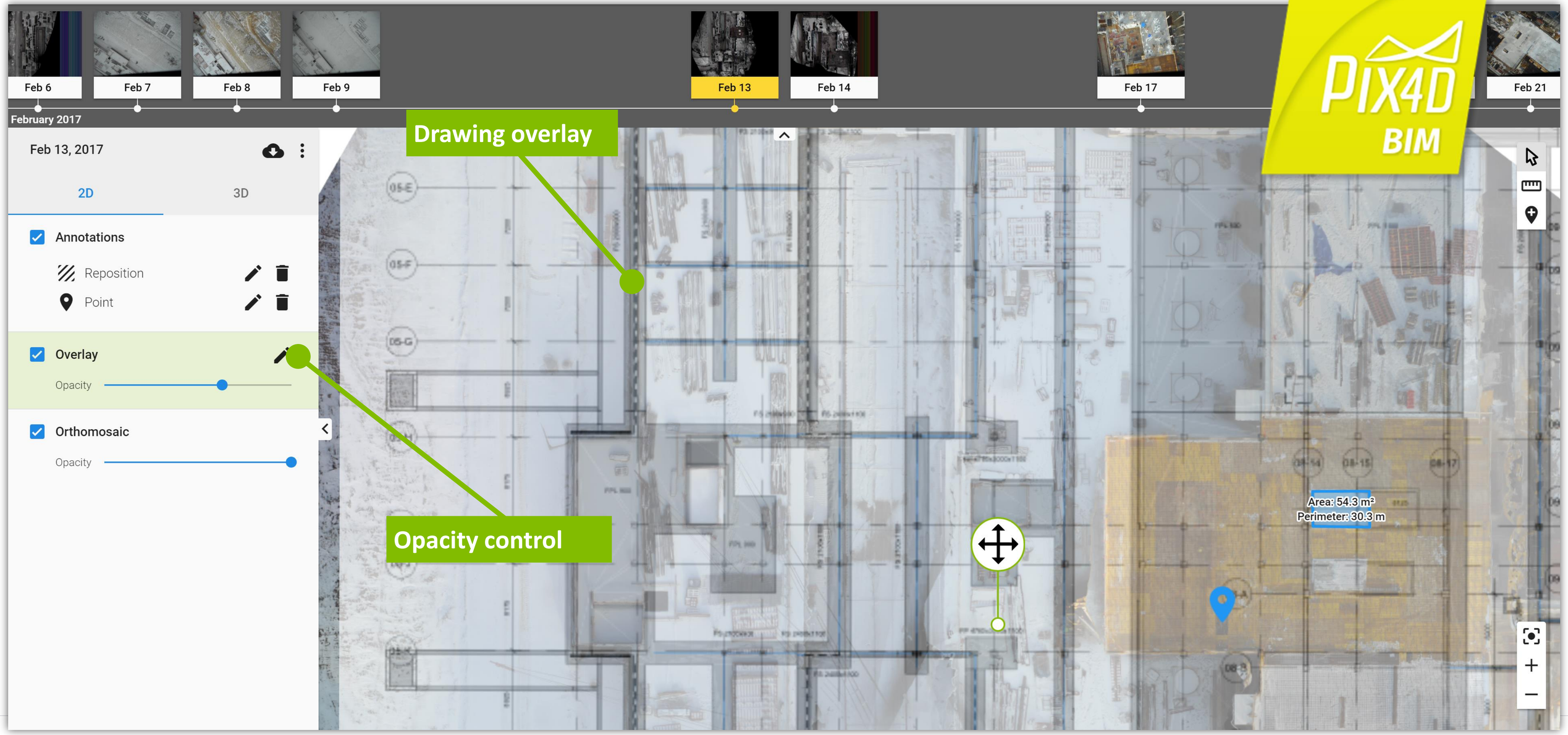
Terrain 3D Length [m]:	8.83	± 0.03
Projected 2D Length [m]:	0.12	± 0.03

Copy to Clipboard | Apply | Cancel

Images

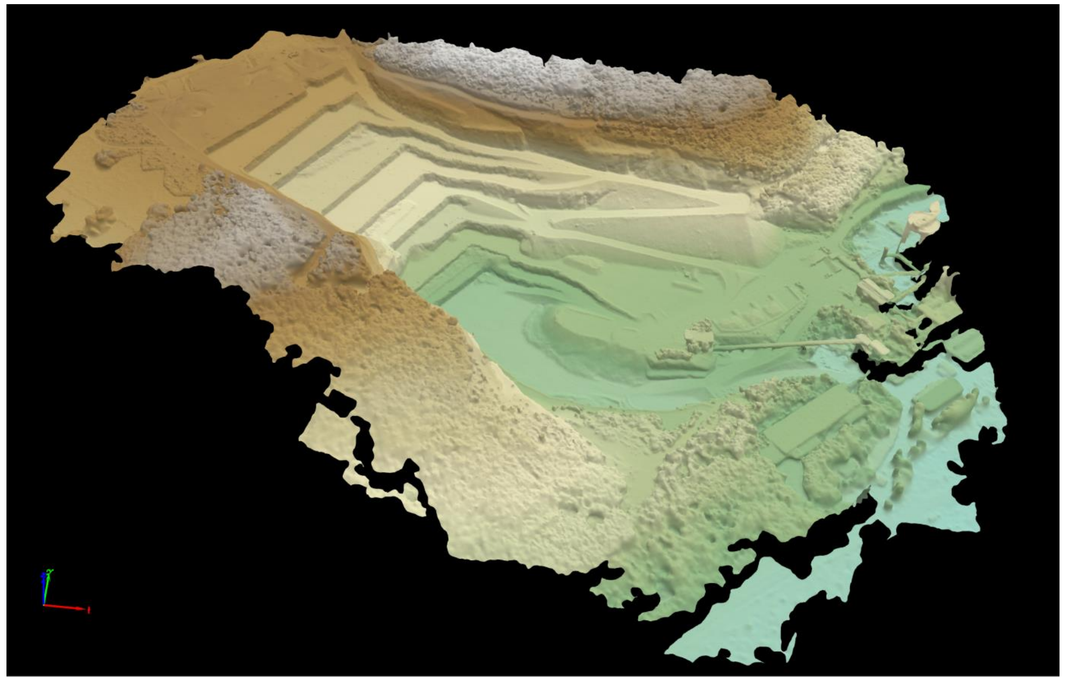
Image Size | Zoom Level


Jan 23
Jan 24
Jan 25
Jan 26
Jan 27
Jan 31
Feb 1
Feb 2
Feb 3
Feb 6
Feb 7
Feb 8
January 2017
February 2017
Jan 27, 2017
2D
3D
Annotations
Clearance for delivery
Formwork placement
Remove this material
Overlay
Opacity
Orthomosaic
Opacity
Area: 522 m²
Perimeter: 111 m
23.6 m
Blue annotations with associated measurement and note
Annotation and measurement tools


Feb 6
Feb 7
Feb 8
Feb 9
Feb 13
Feb 14
Feb 17
Feb 21
February 2017
PIX4D BIM
Feb 13, 2017
2D
3D
Annotations
Reposition
Point
Overlay
Opacity
Orthomosaic
Opacity
Drawing overlay
Opacity control
Area: 54.3 m²
Perimeter: 30.3 m

OUR CONSTRUCTION CUSTOMERS ARE USING DRONES TO CAPTURE INFORMATION ABOUT THE SITE

3D model for earthwork measurement and analysis



Ortho-photos for site visualisation and construction progress monitoring

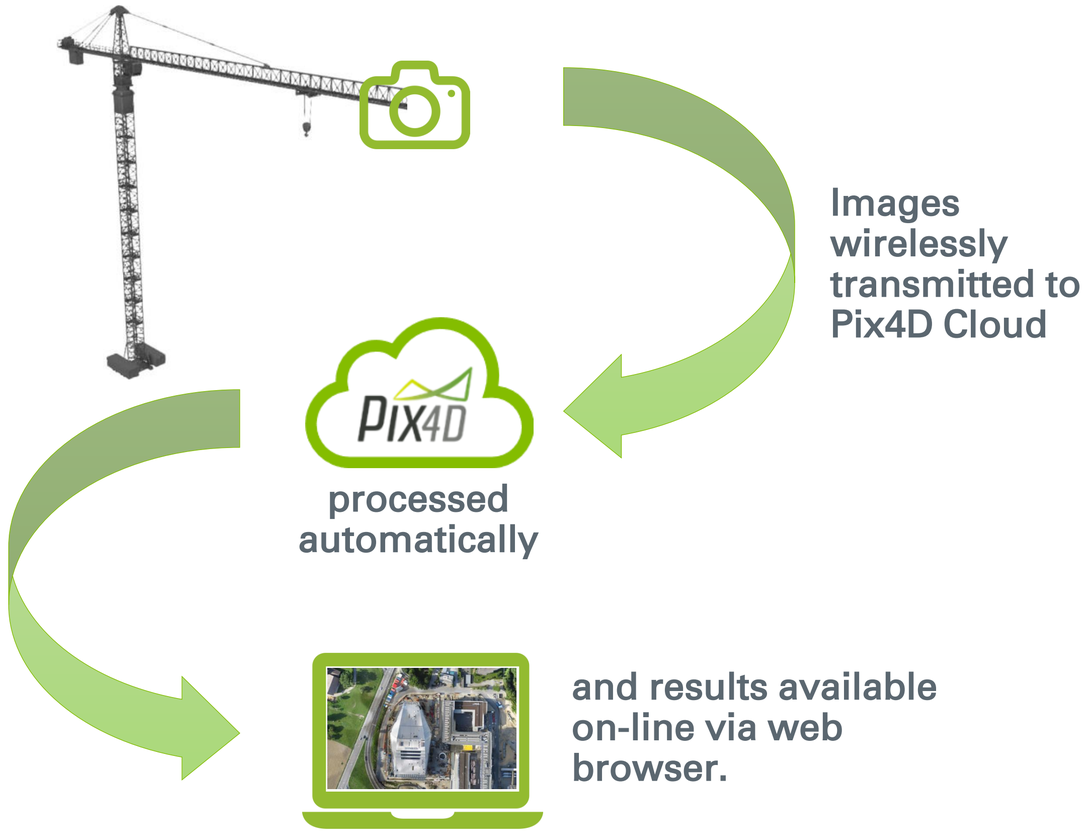
Week 1

Week 50

BUT IT IS NOT ALWAYS EASY TO FLY A DRONE ON SITE EVERYDAY

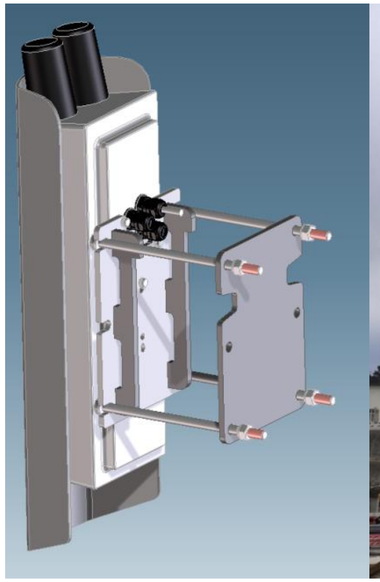
SO WE HAVE DEVELOPED A CAMERA SYSTEM THAT ATTACHES TO THE TOWER CRANE AND CAPTURES IMAGES FROM THERE

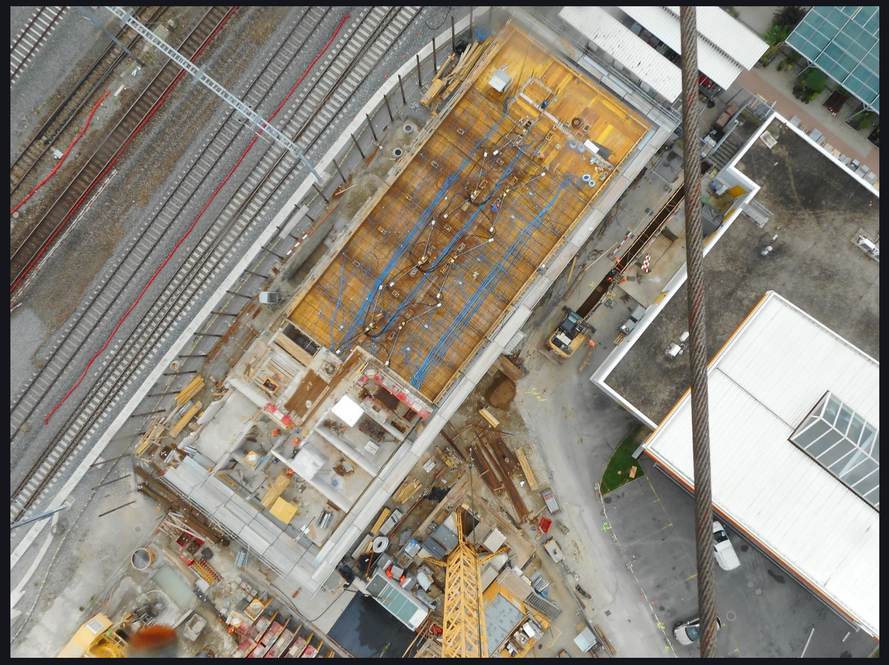
Images captured during normal crane operation or on-demand

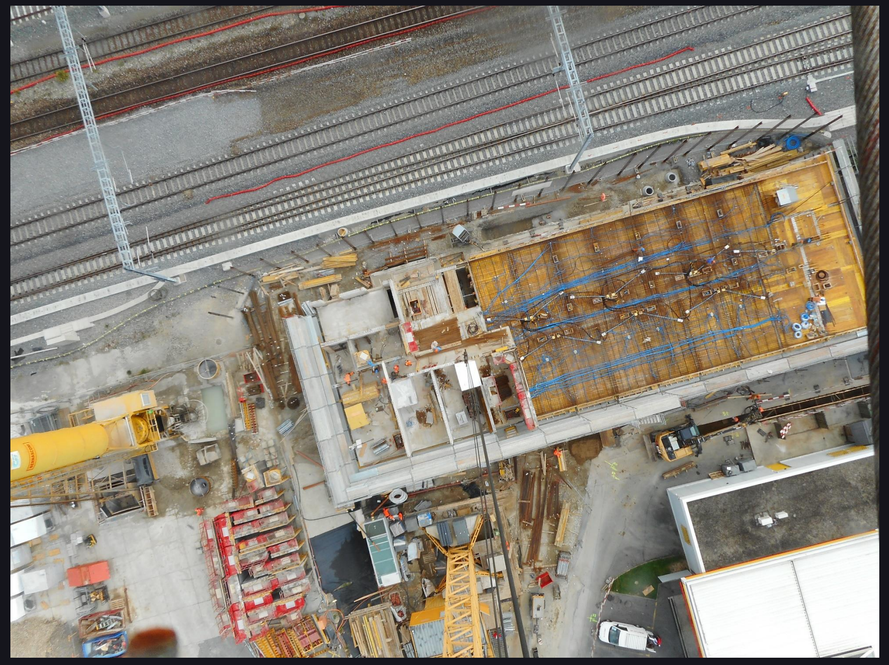


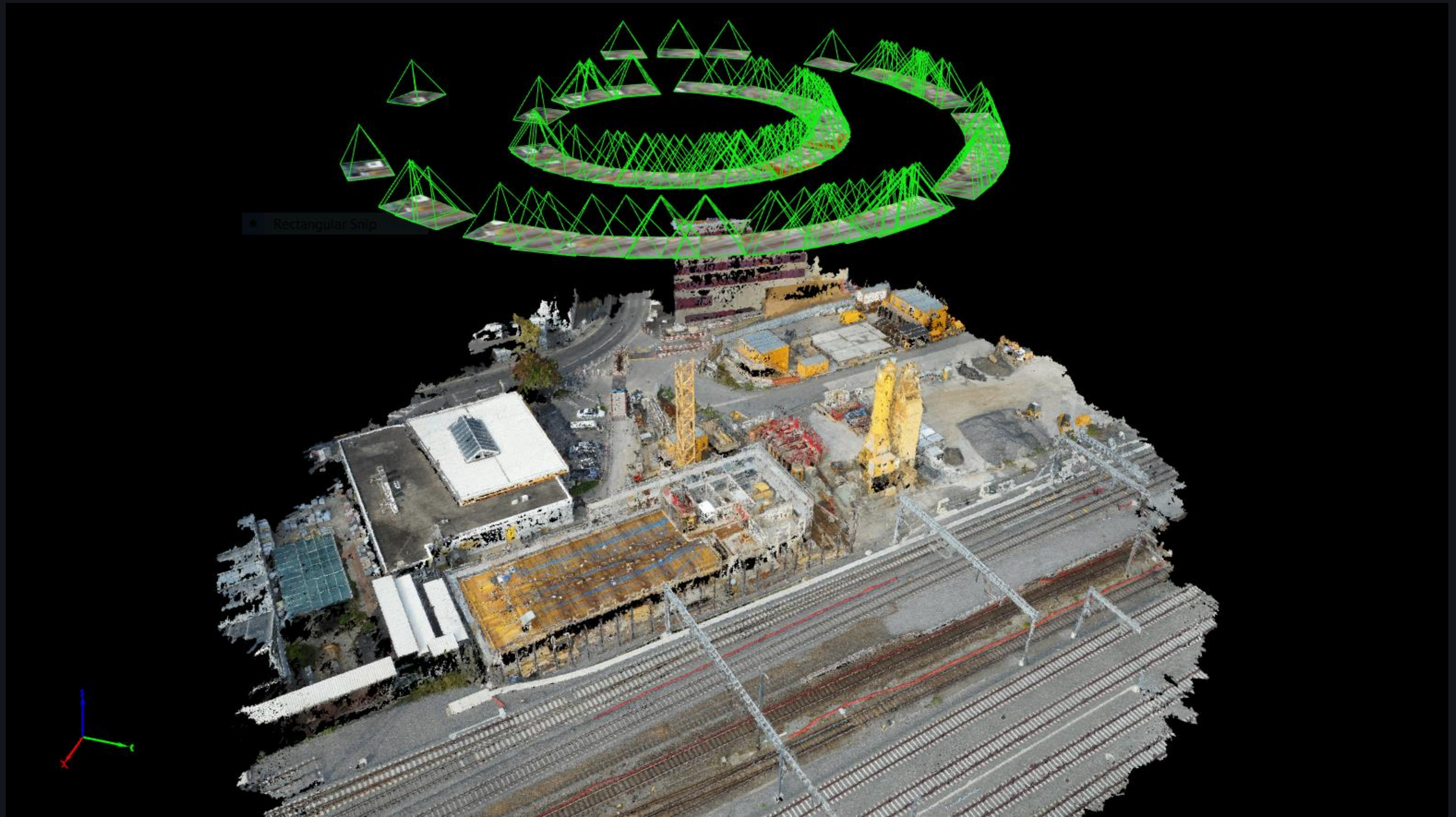
PIX4D

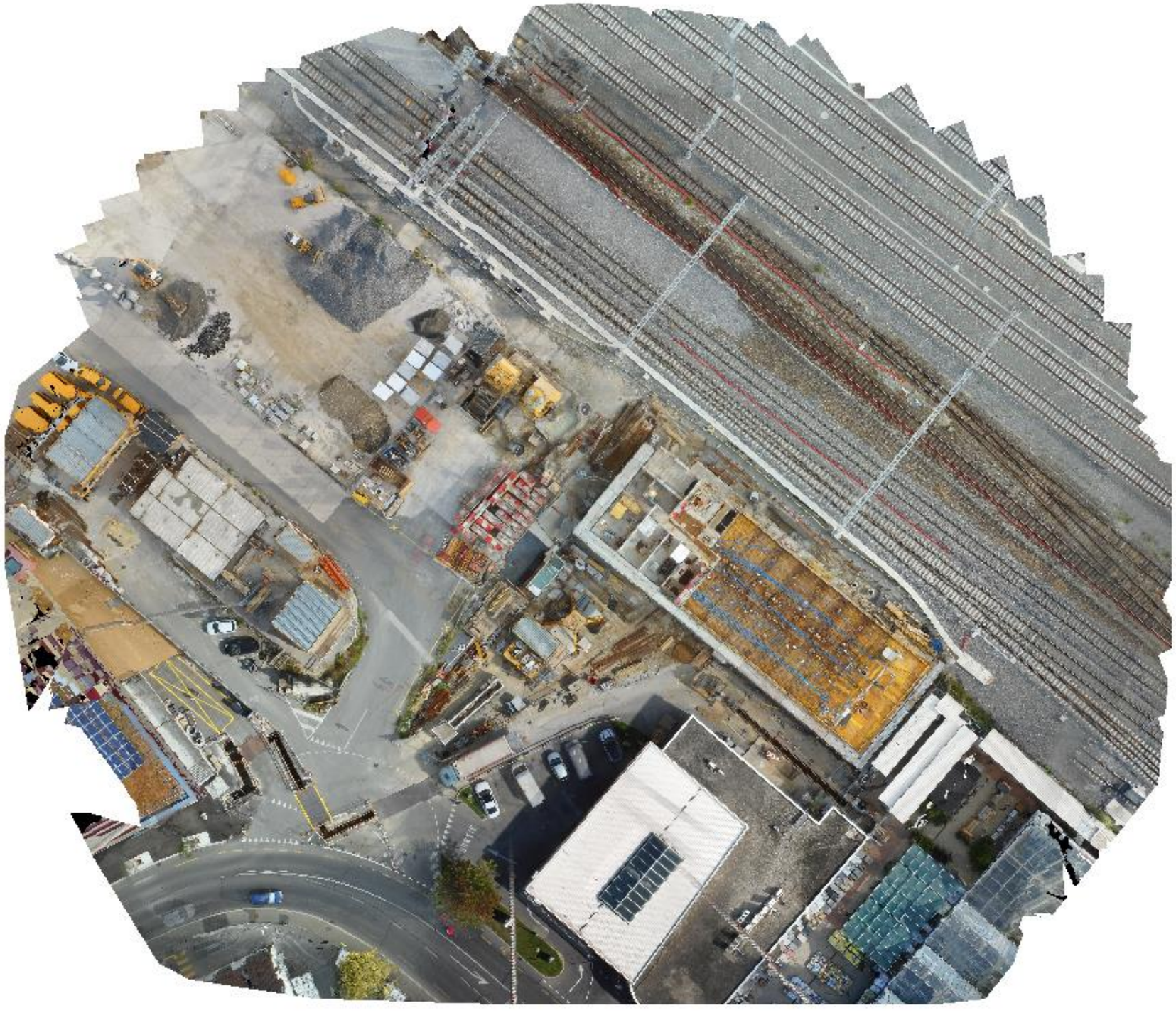
PIX4D

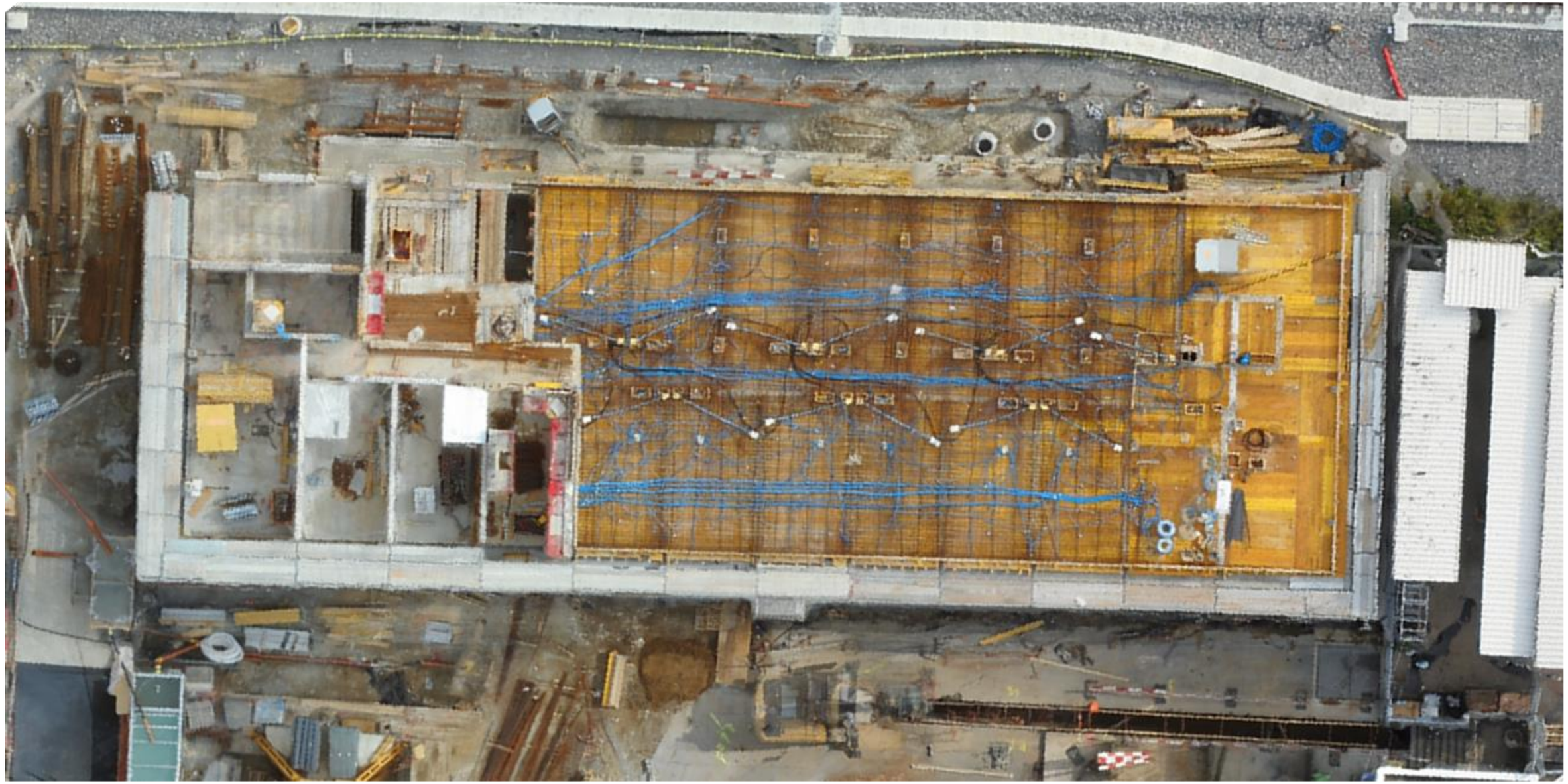








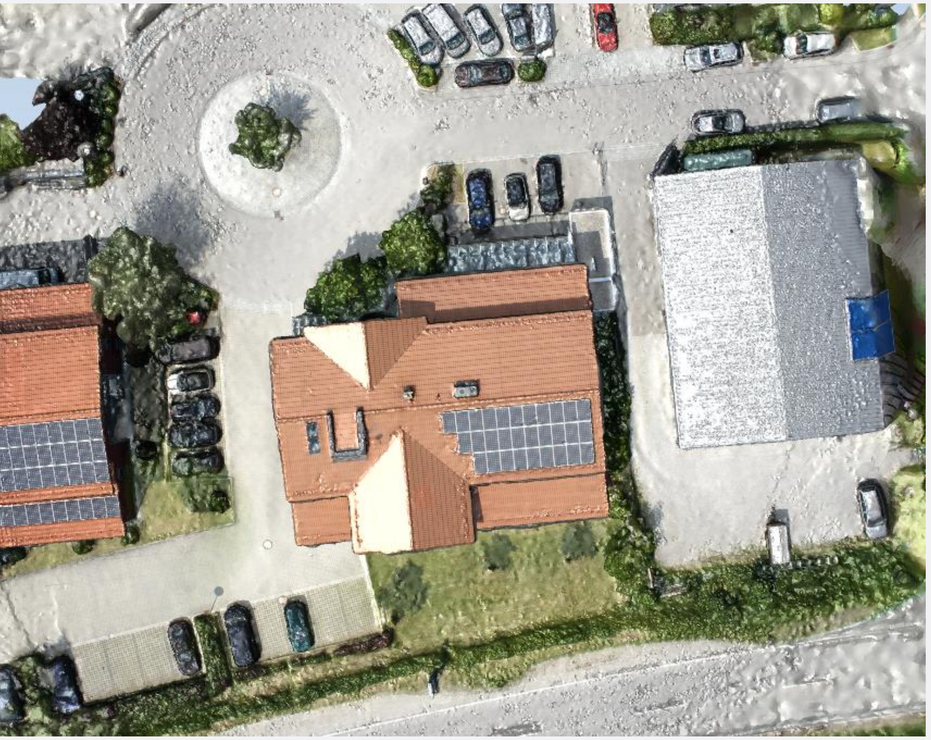


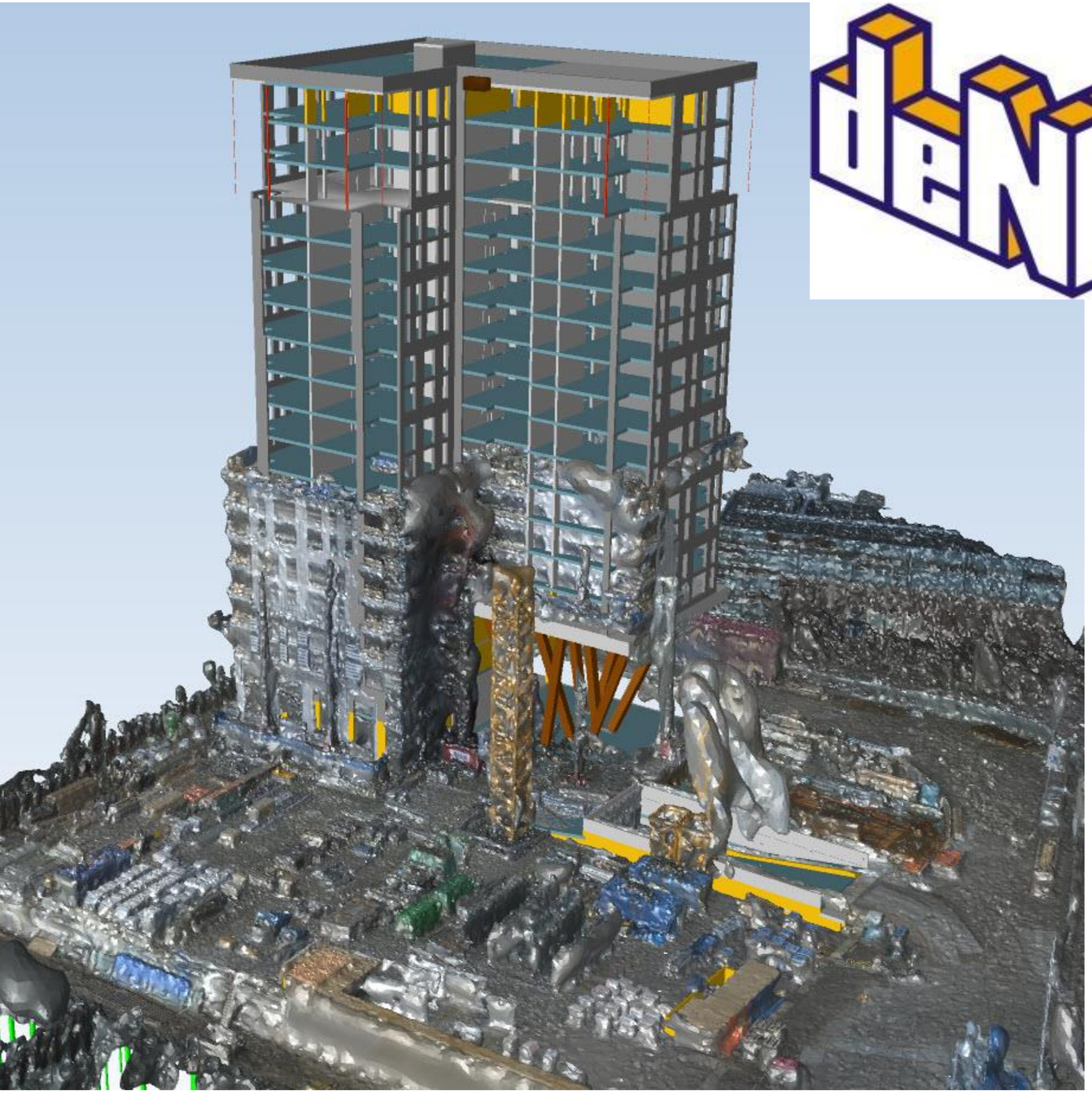


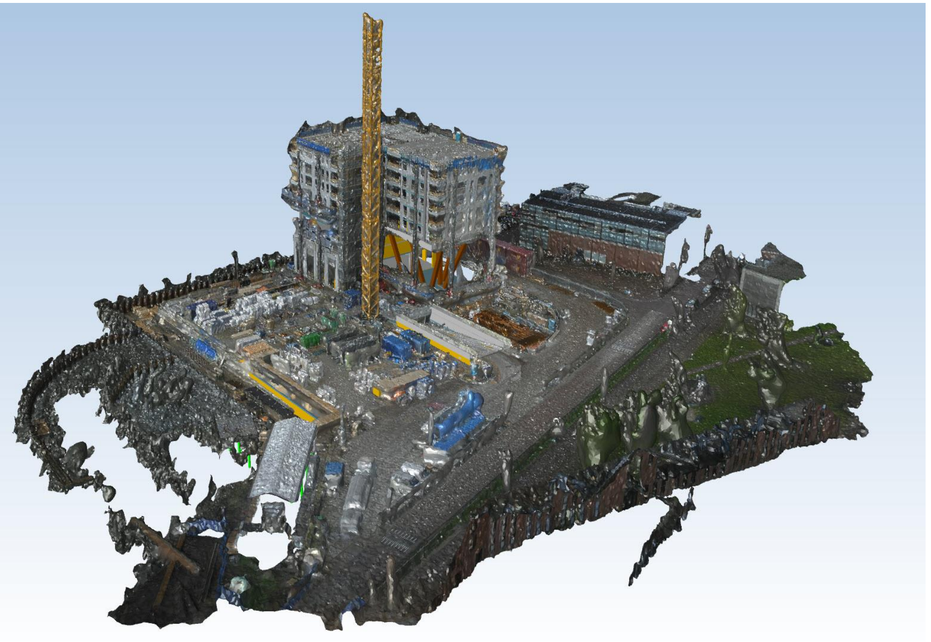
4D DIGITAL CONSTRUCTION

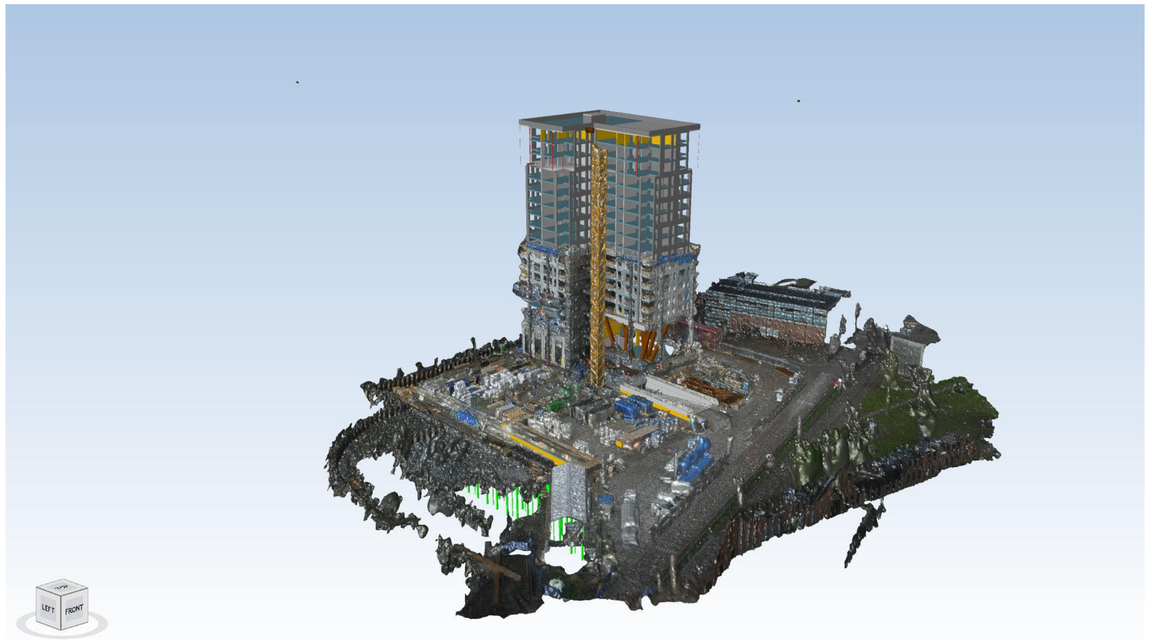
CONFERENCE

SYNCHRO SOFTWARE






TOP
LEFT
FRONT


TOP
LEFT
FRONT

MULTIPLE SOLUTIONS

SURVEYING

- Land surveying
- Mining surveying
- GIS & Mapping
- Forensics
- Thermal Modeling

PIX4D MAPPER

AGRICULTURE

- Crop Science
- Forestry
- Turfgrass Management

PIX4D AG

PIX4D MAPPER

CONSTRUCTION

- Earthworks
- Site Management
- Building Inspection
- BIM

PIX4D BIM

REAL ESTATE

- Communication
- Landscape Modeling
- Architecture
- Hobby & Design

PIX4D MODEL

THANK YOU

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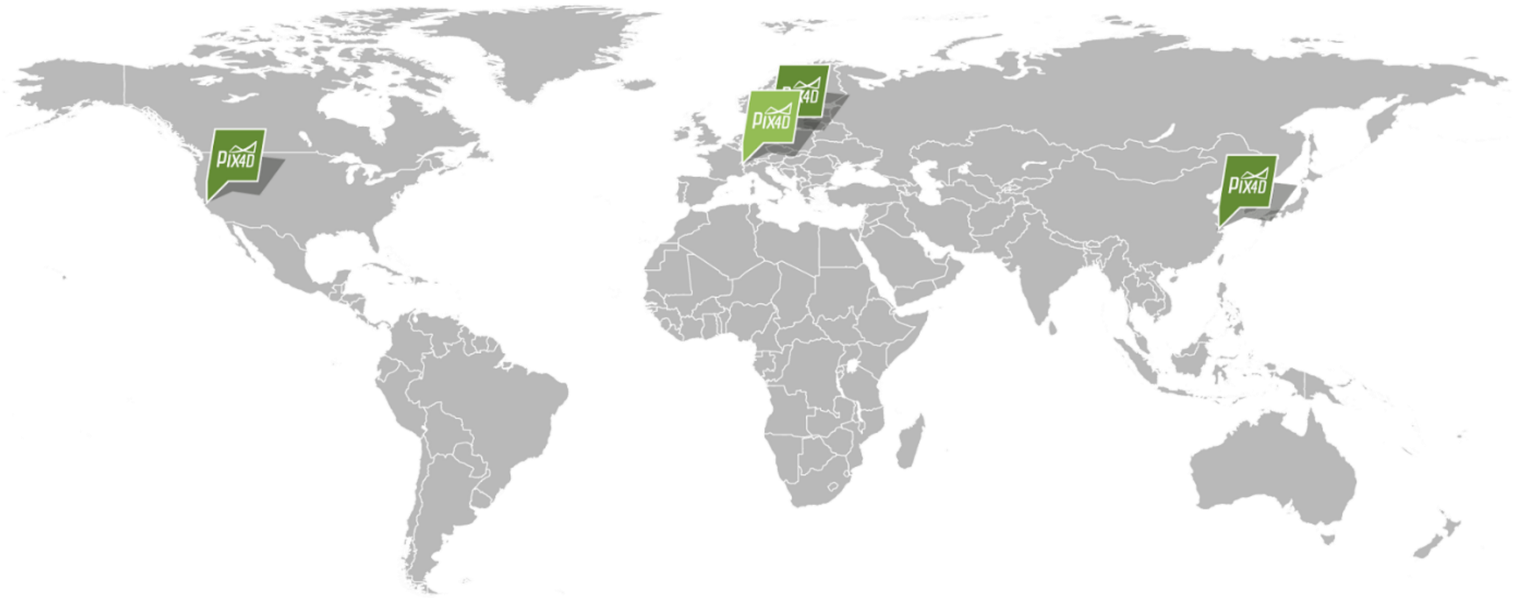

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130+ global employees

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26+ business languages spoken

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