



Construction
15th October 2018

Summary

1. Drone mapping solutions for construction

- a. Products
- b. Workflow
- c. Applications

2. Pix4Dbim

- a. Pix4Dbim workflow
- b. Pix4Dbim tools and features
- c. Pix4Dbim outputs

3. Crane Camera solution

- d. Crane Camera workflow
- e. Crane Camera outputs

4. Use Cases

- a. Pix4Dbim use case
- b. Crane Camera use case

A large construction site is shown in the foreground, featuring a complex network of steel reinforcement bars and concrete structures. A tall tower crane stands prominently on the right side of the site. In the background, a dense urban skyline with various high-rise buildings is visible across a body of water. The entire scene is bathed in a warm, golden-yellow light, suggesting either sunrise or sunset. The text "Drone mapping solutions for construction" is overlaid in the center in a bold, white, sans-serif font.

Drone mapping solutions for construction

Pix4D Products for Construction



Pix4D**bim**

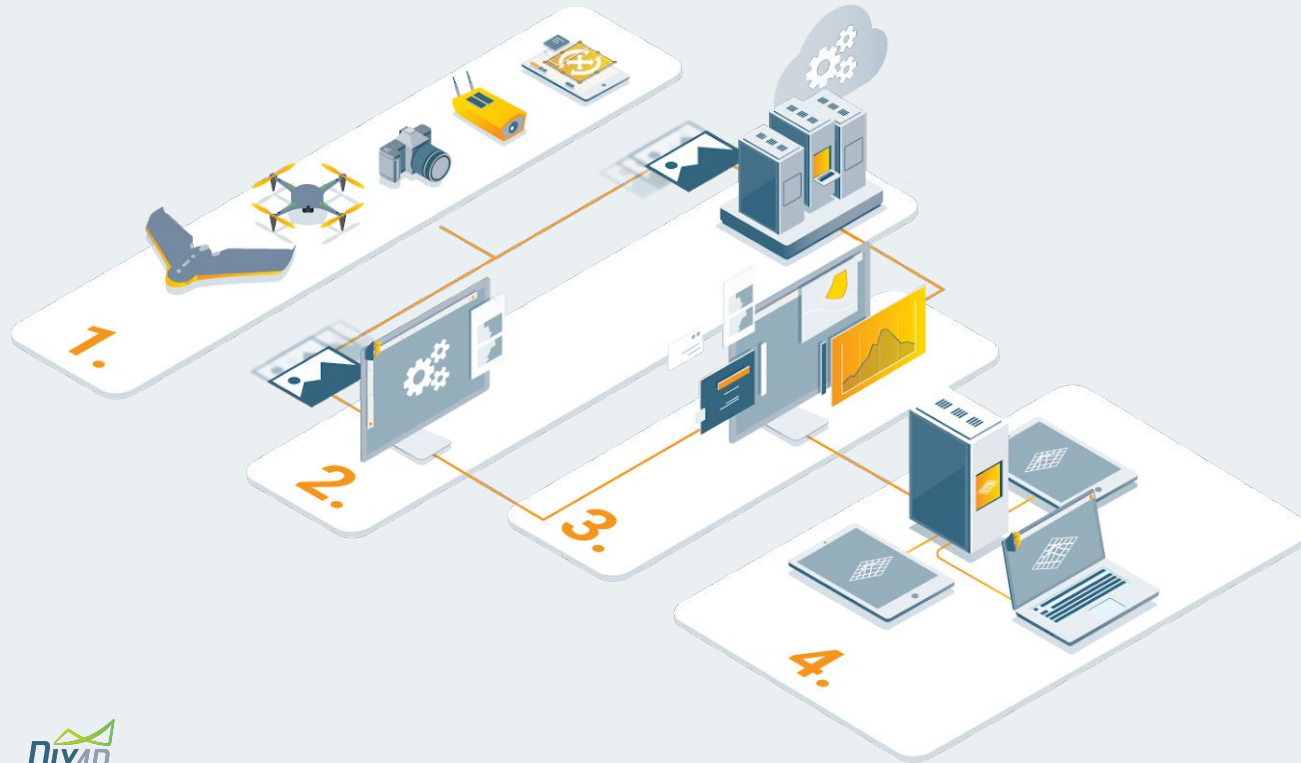
3D mapping software for earthworks, construction and infrastructure management



Crane Camera

Automated and daily 2D and 3D as-built updates of construction sites

Pix4D Workflow



1. Capture
2. Process & Output
3. Analyze
4. Share & Integrate

Applications



Project planning & design



Earthworks management



As-built verification



Asset inspection



Project documentation



BIM integration



Pix4Dbim

3D mapping software for earthworks,
construction and infrastructure management

Three Pillars behind Pix4Dbim



Repeatable, accurate results

Rely on our processing to get the survey-grade results you expect



Instant analysis

Get instant view of any jobsite with online results that you can analyze and share.



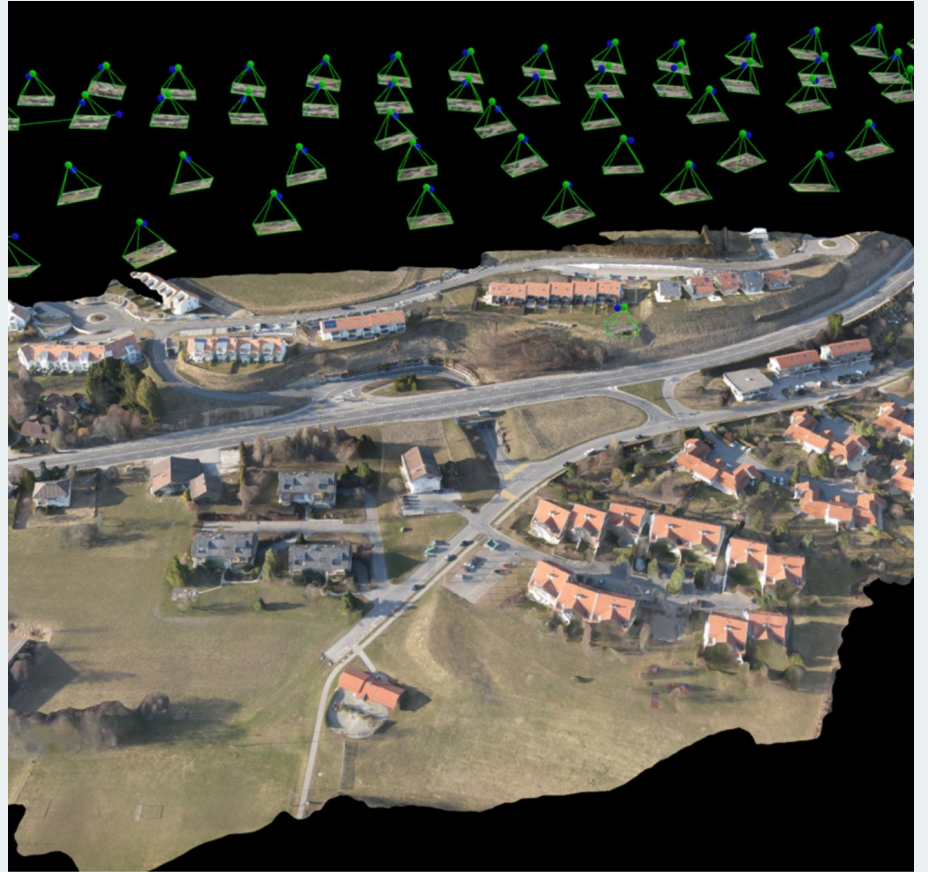
BIM integration

Import ready-to-use data within BIM/CAD software for seamless management of your project.

Applications and Deliverables

Planning & Design

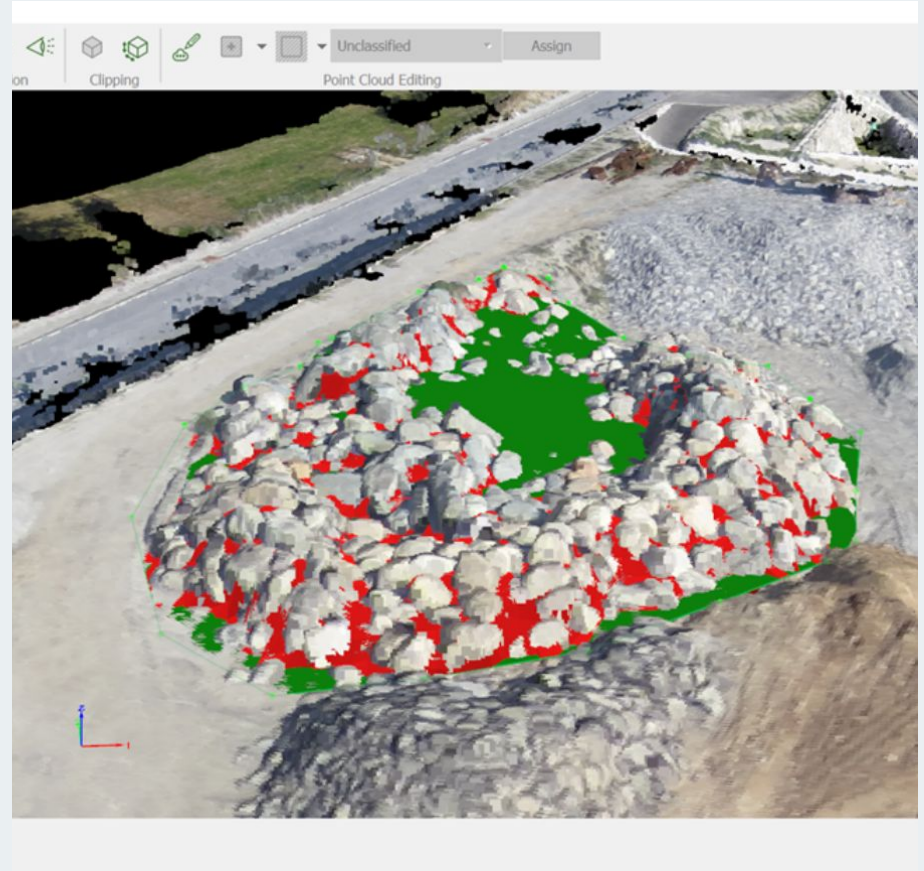
- 3D models
- 2D mapping
- GIS deliverables



Applications and Deliverables

Earthworks

- Stockpile measurements
- Volume calculations
- Cut and fill analysis
- Contours
- Elevation maps



Applications and Deliverables

Site Surveys

2D orthophotos
3D point clouds
3D mesh models

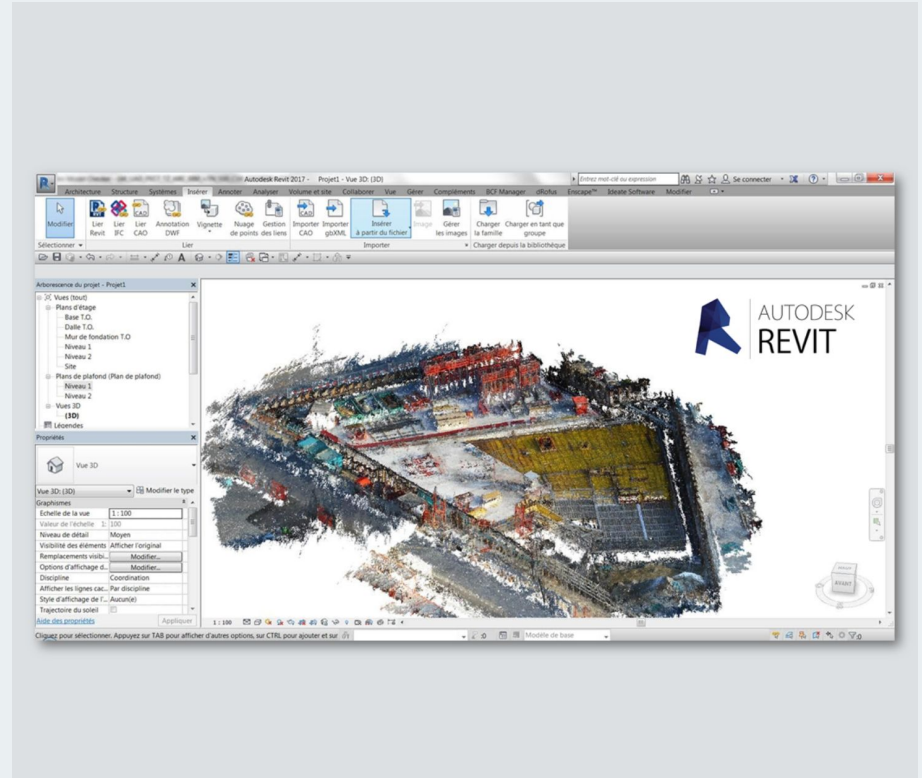
- Operational planning and communication
- Progress monitoring
- Finding errors early
- As-built vs as-design



Applications and Deliverables

BIM Integration

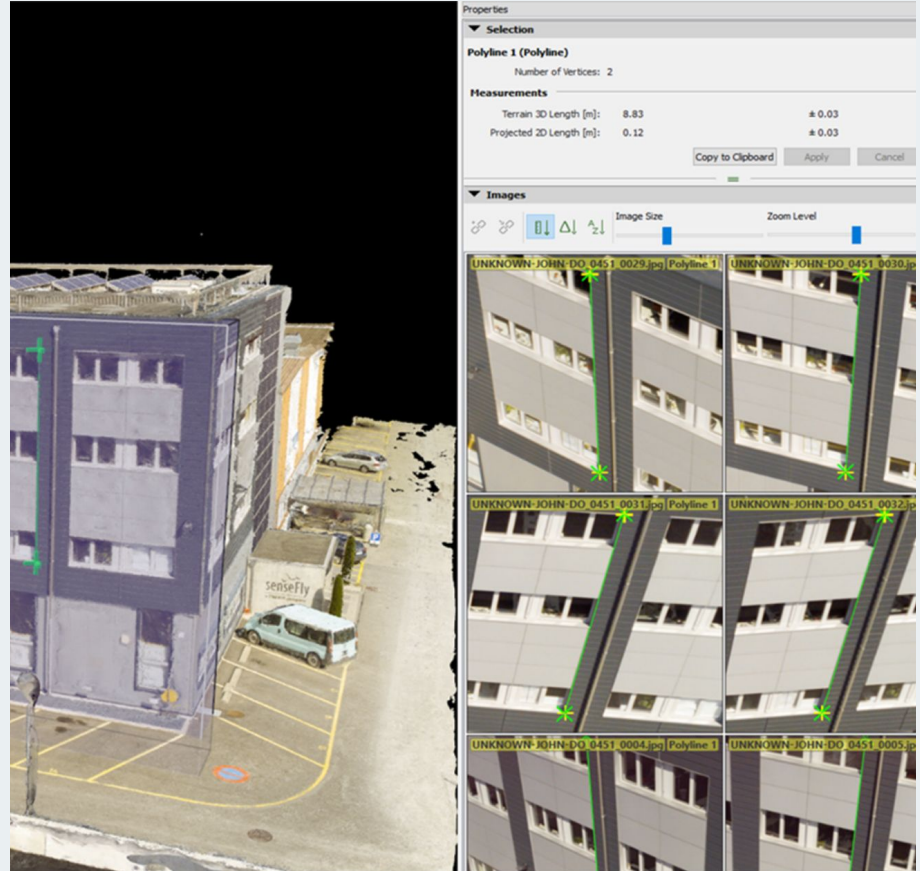
As-built data integrated with your 3D design and collaboration software



Applications and Deliverables

Inspection

High resolution images indexed from the 3D models





Sep 6



Oct 4



Nov 11

2013

2014

Mar 20, 2014 2:16 PM

Processed

Because you are not the owner of this project, any changes you make will not be saved.

FILES

MAP

3D MODEL

Annotations



New excavation area

Max. width for vehicle entrance

Emergency meeting point

CAD Overlay

Image map

Basemap



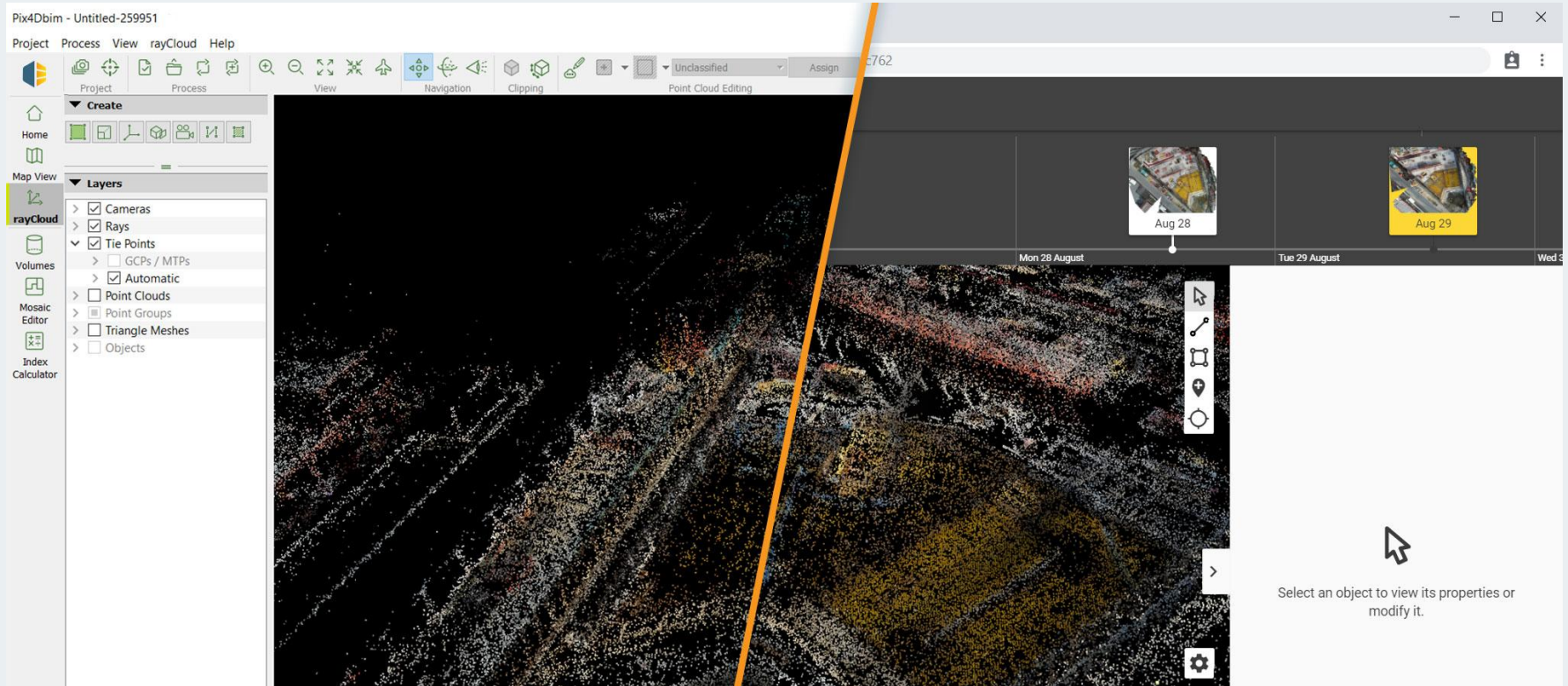
1:266.24 m²

Pix4Dbim

Tools and Features



Seamless Integration between Desktop & Cloud



Desktop

Cloud

Pix4Dbim Projects and Sites Management

The screenshot displays the Pix4Dbim web application interface. On the left is a dark sidebar with a menu icon and the Pix4Dbim logo. Below the logo, the user's name 'Dany Boletas' is shown with a dropdown arrow. Further down, the 'Pix4Dbim' logo is repeated with another dropdown arrow. The 'Sites' menu item is highlighted in grey. Below this are links for downloading Pix4Dmapper, Pix4Dcapture, and Pix4Dfields, along with links for Support, Community, and Store.

The main content area features two blue buttons at the top: 'NEW DATASET' and 'NEW SITE', which are highlighted with an orange border. Below these are two dataset cards. The first card, 'Crane Camera Demo', includes an aerial image of a construction site, the text 'Demo', 'Latest dataset: Aug 29, 2017', and an 'OPEN' link. The second card, 'UAV Demo Dataset', includes an aerial image of a building complex, the text 'Demo', 'Latest dataset: Mar 20, 2014', and an 'OPEN' link.

Below the dataset cards, the text 'Uncategorized Datasets' is visible. At the bottom left of the page, the copyright notice reads: '© 2012-2018 Pix4D. All rights reserved.'

Timeline

☰ Crane Camera Demo ➔ SHARE

August 2017

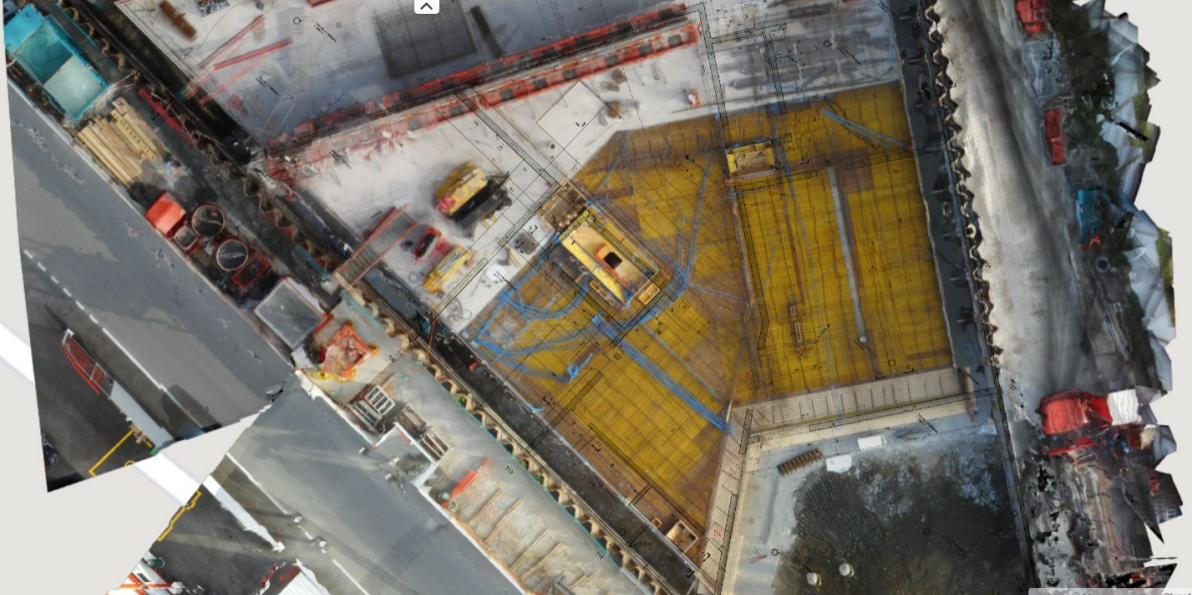
Aug 21 Aug 22 Aug 23 Aug 24 Aug 25 Aug 28 Aug 29

Aug 29, 2017 2:37 PM Processed

⚠ Because you are not the owner of this project, any changes you make will not be saved.

FILES **MAP** 3D MODEL

- Annotations +
- CAD Overlay
- Elevation map
- Image map
- Basemap



StreetMap | Improve this map

Virtual Inspector

UAV Demo Dataset SHARE

Mar 20, 2014 2:16 PM Processed

⚠ Because you are not the owner of this project, any changes you make will not be saved.

FILES MAP **3D MODEL**

Annotations



Inspection

IMG_6388.JPG

SAVE INSPECTION AS ANNOTATION

We found 48 images matching the selected point of the model. They will be included in the inspection annotation.

Name Inspection

Description No description

Color ●

Annotations

CAD Overlay

Crane Camera Demo SHARE

Aug 15 Aug 16 Aug 17 **Aug 21** Aug 22 Aug 23 Aug 24 Aug 25

August 2017

Aug 21, 2017 2:31 PM Processed

⚠ Because you are not the owner of this project, any changes you make will not be saved.

FILES **MAP** 3D MODEL

- Annotations
- CAD Overlay
- Elevation map
- Image map
- Basemap

CAD Overlay

MPW_UAD_PEC7_TZ_COO_BIM_+TN...

Name: CAD Overlay

Description: No description

Visible:

Opacity:

Transparency:

Elevation Profile

BAM Digital event - Hawk training center

Nov 2, 2018 2:27 PM
All changes saved

FILES MAP **3D MODEL**

Annotations
Line

Processed



The 3D model shows a construction site with a dirt area and a building. A white line represents the terrain, and an orange dashed line represents the elevation profile. An orange arrow points to the profile line in the 3D view.

Elevation Profile (meters)



The graph shows the elevation profile in meters. The x-axis represents distance in meters (0 to 35), and the y-axis represents elevation in meters (-49 to -47). The profile shows a series of peaks and valleys, with the highest peak at approximately 35 meters distance.

| Property | Value |
|----------------------|--------------------------|
| Name | Line |
| Description | No description |
| Color | Orange |
| Length | 39.1 m |
| Projected length | 39.1 m |
| Min. elevation | -49.28 m |
| Max. elevation | -49.01 m |
| Elevation difference | 0.270 m |
| Min. slope | 0.00 deg |
| Max. slope | 0.39 deg |
| Slope as percentage | <input type="checkbox"/> |

HIDE ELEVATION PROFILE

Volume Calculations

BAM Digital event - Hawk training center

Jun 19 Jun 20 Jun 21

Tue 19 June Wed 20 June Thu 21 June

Jun 21, 12:12 AM
All changes saved

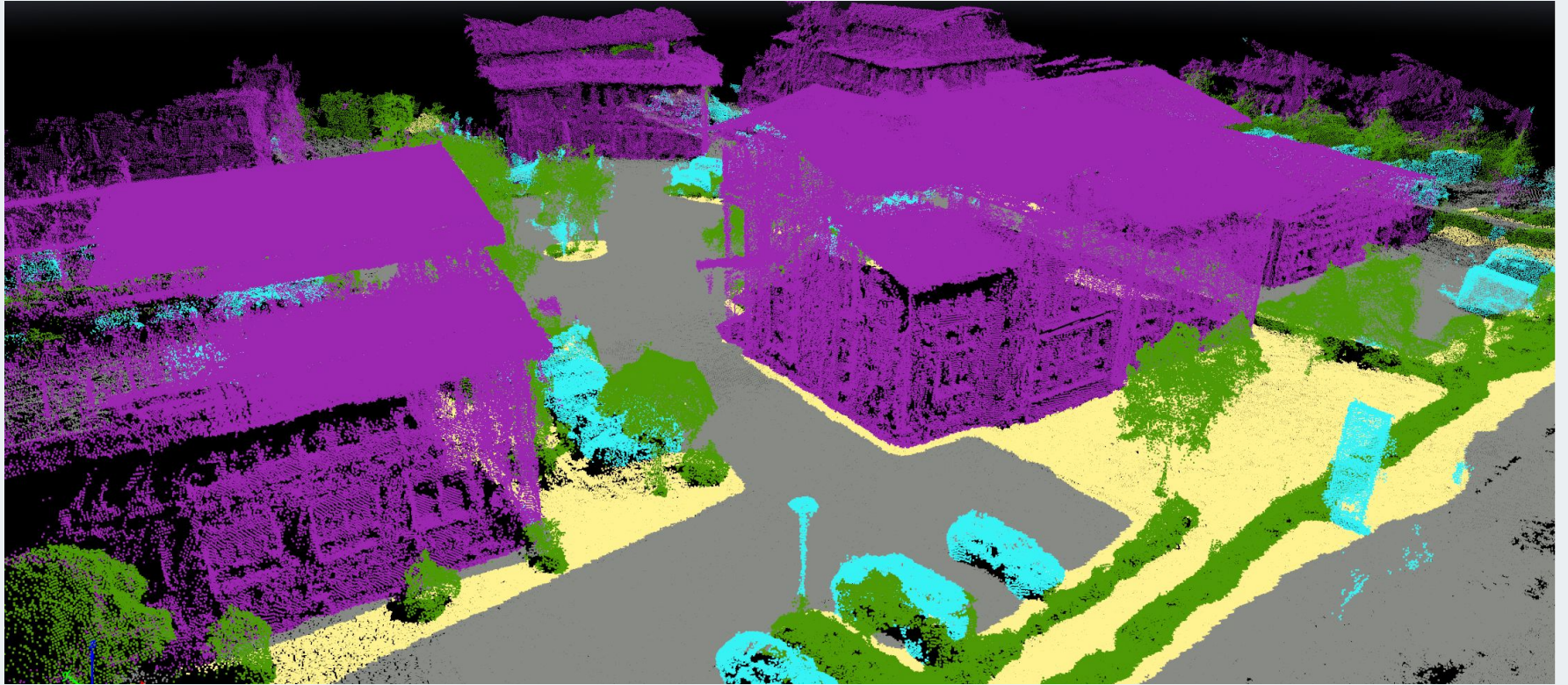
MAP 3D MODEL

- Annotations
 - Pippo ispeziona questo
 - Inspection
 - Line 2
 - Annotation 1
 - Volume 6
 - Volume 4
 - Volume
 - Profile 3

Volume 4

| | |
|----------------------------|--------------------------------------|
| Name | Volume 4 |
| Description | site 1 |
| Color | ● |
| Area | 330.287 m ² |
| Projected area | 326.303 m ² |
| Perimeter | 103.14 m |
| Projected perimeter | 102.99 m |
| Min. elevation | -49.65 m |
| Max. elevation | -47.49 m |
| Elevation difference | 2.16 m |
| Base surface | Triangulated |
| Above surface volume | 164.095 m ³ |
| Above surface volume error | 10.9954 m ³ |
| Below surface volume | -10.5364 m ³ |
| Below surface | |

Automatic Point Cloud Classification



Exporting

☰ BAM Digital event - Hawk training center

Tue 19 June Jun 19 Wed 20 June Jun 20 Thu 21 June Jun 21

Jun 21, 2018 12:12 AM Processed

All changes saved

MAP 3D MODEL

- Annotations +
- Marker
- Volume 5
- Profile
- Volume 3
- Volume 2
- Training Area
- Workshop 1
- Conference area

Annotations

Name Annotations

Description No description

Visible

Opacity 100

Export

- GEOJSON**
- SHAPEFILE (WGS84)
- CSV

Pix4D | © Mapbox | © OpenStreetMap | Improve this map

Exporting

Crane Camera Demo SHARE

Aug 21 Aug 22 Aug 23 Aug 24 Aug 25 Aug 28 Aug 29

August 2017









Aug 29, 2017 2:37 PM Processed

Because you are not the owner of this project, any changes you make will not be saved.

FILES MAP 3D MODEL

Images

Results

| | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  Processed Export to Pix4D Desktop ZIP DOWNLOAD |  Processed Input images 65 images ZIP DOWNLOAD |  Processed Quality report PDF DOWNLOAD |  Processed Orthomosaic TIFF DOWNLOAD REPLACE FILE |
|  Processed DSM TIFF DOWNLOAD REPLACE FILE |  Processed Point cloud LAS DOWNLOAD REPLACE FILE |  Processed Mesh OBJ .obj + .mtl + .jpg OBJ DOWNLOAD REPLACE FILES |  Processed Mesh FBX FBX DOWNLOAD |

Sharing Options

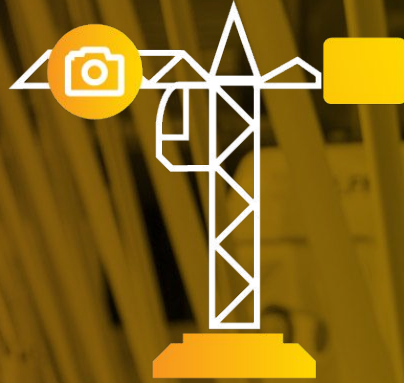
The screenshot shows the Pix4D software interface with a modal window open for sharing a BIM model. The modal window is titled "Share BAM Digital event - Hawk training center" and has two tabs: "LINK" (selected) and "EMBED".

The "LINK" tab displays two sharing options:

- Anyone with the link can view and measure** (Selected, toggle is ON)
URL: <https://cloud.pix4d.com/bim/site/44060/project/315122/map?shareToken=1a450acd> PREVIEW COPY
- Anyone with the link can edit and save** (Toggle is OFF)
URL: <https://cloud.pix4d.com/bim/site/44060/project/315122/map?shareToken=4acb2c42> PREVIEW COPY

The modal window also includes a "CLOSE" button at the bottom right.

The background interface shows a top navigation bar with a menu icon, the title "BAM Digital event - Hawk training center", and a "SHARE" button. A sidebar on the left lists various elements: Annotations (checked), Marker, Volume 5, Profile, Volume 3, Volume 2, Training Area, Workshop 1, and Conference area. The main area displays a 3D model of a building on a map.



Crane Camera solution

Three pillars behind Pix4D Crane Camera solution



A trouble-free system

Capture site images automatically and remotely without human resources or interference with site operations.



Daily automated site monitoring

Control your project with daily visual updates in 2D and 3D available online and rapidly detect.



Ready-to-use data

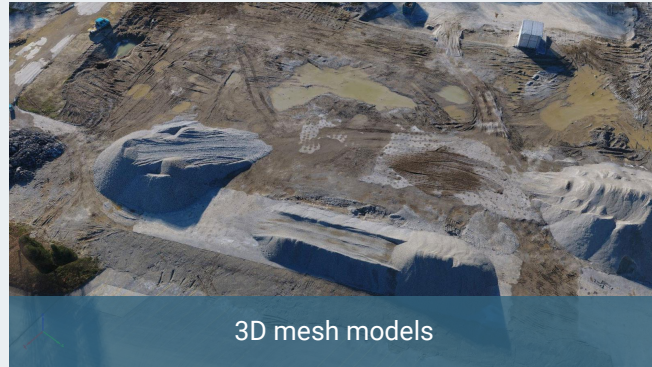
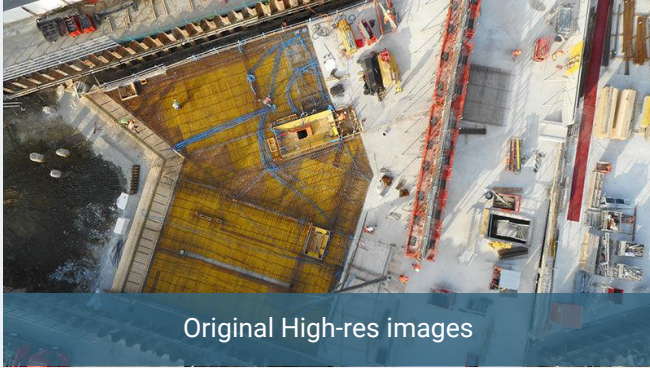
Measure, inspect, annotate, compare to CAD drawings, share and export to CAD/BIM software for a complete BIM integration.

Workflow



1. Capture images automatically
2. Transfer and process images automatically on Pix4Dbim cloud
3. Display results online

Outputs

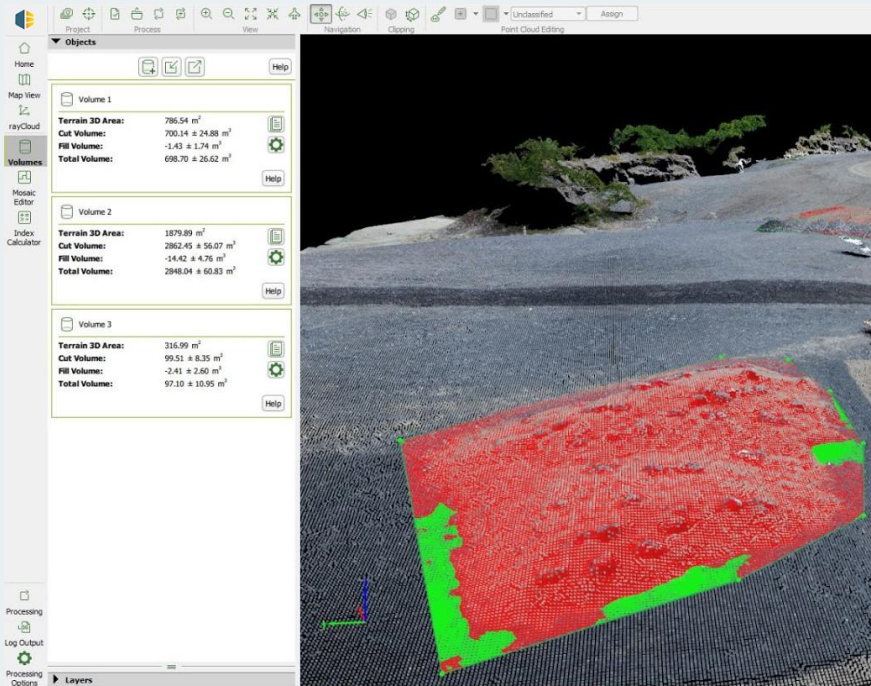


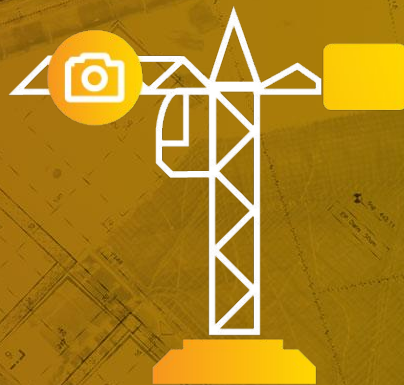


Pix4D**bim**

Use cases

Save Time and Money with Pix4Dbim and Drone Mapping

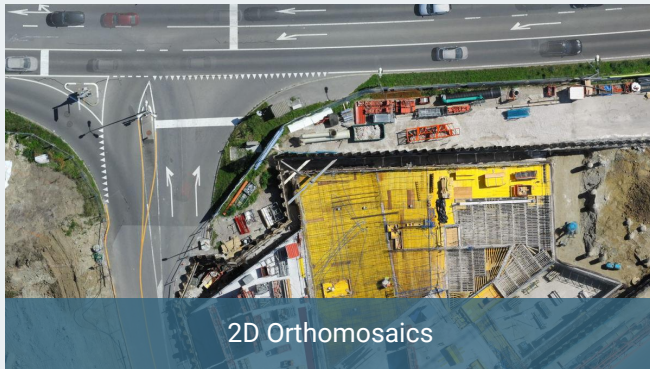
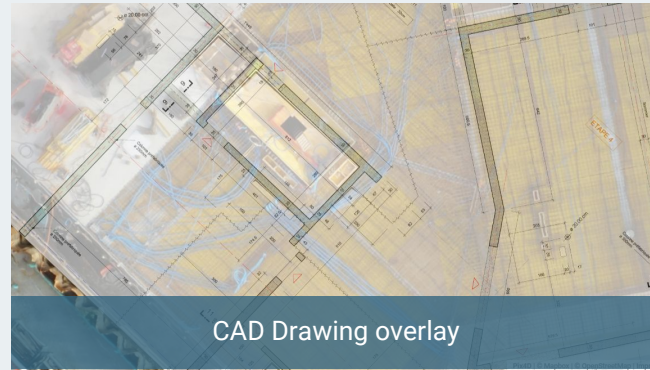
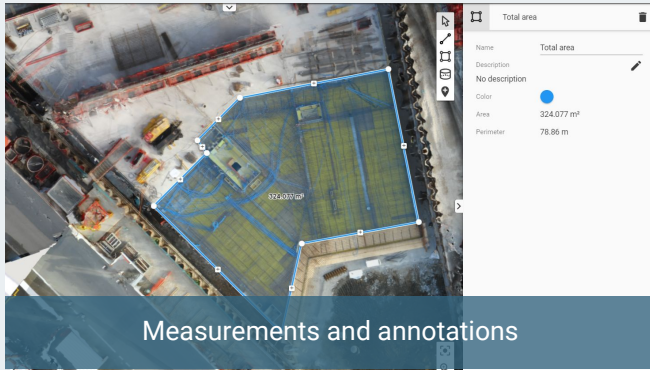




Crane Camera solution

Use cases

Collect and Verify As-built Data Automatically



Best Practices for a Sales DEMO

- Workflow 1:
 - In Desktop, import images + GCP, run Rapid Check Temp. in Pix4D desktop
- Workflow 2:
 - In Desktop, import images + GCP (mark into basic editor)
 - Push and upload to Pix4D Cloud
- Workflow 3:
 - Just in Pix4D Cloud