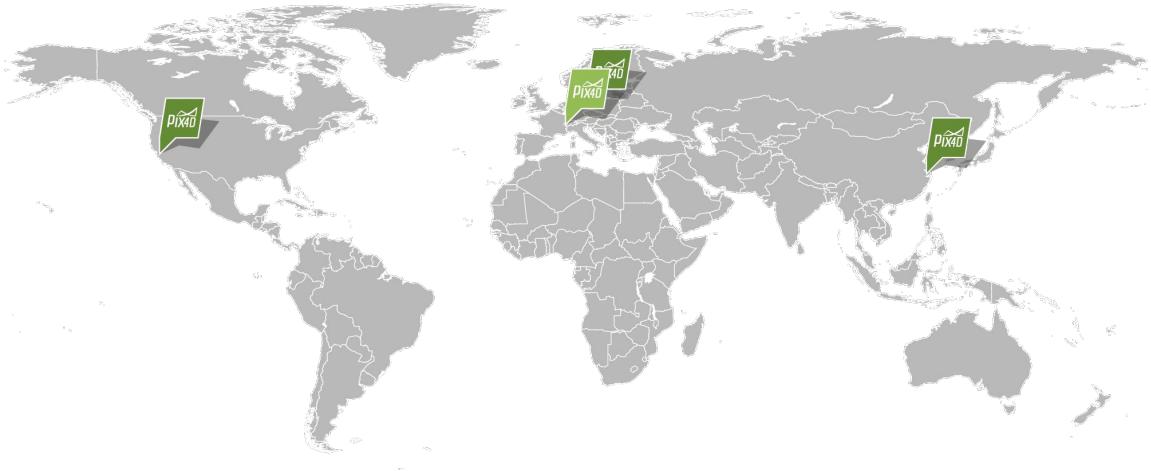
Emergency Response

Aug 2017

pix4d.com

OFFICES



90+ global employees
23 nationalities
26 business languages spoken

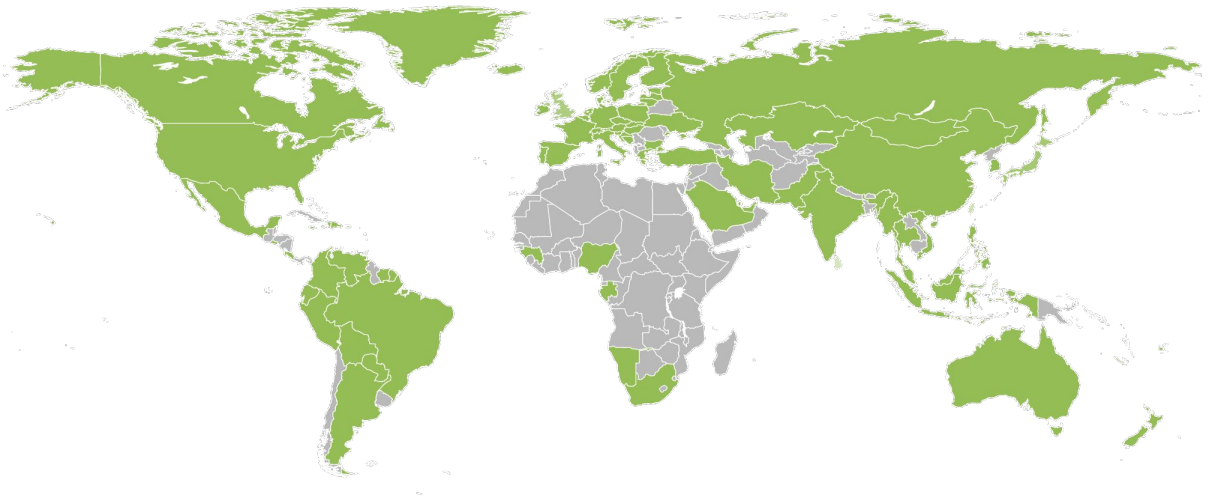
SAN FRANCISCO
U.S.A

LAUSANNE
SWITZERLAND

BERLIN
GERMANY

SHANGHAI
CHINA

11,000+ ACTIVE USERS/ MONTH globally



What does Pix4D software do?

PHOTOGRAMMETRY SOFTWARE

Pix4D generates
georeferenced
2D and **3D models**
purely from images

PIX4D IN ACTION

PIX4D WORKFLOW

- Capture images (Mobile app)
- Process images (Desktop or Cloud processing)
- Create georeferenced models in 2D and 3D
- Analyse
  - Inspect scene
  - Make measurements
  - See original images
  - Add annotations
- Export & share models in variety of formats

Which products do I need to achieve this?

PIX4D PRODUCTS

- Capture images with **Pix4Dcapture** application
  - Mobile app (free of charge)

- Process images with **Pix4Dmapper Pro** software
  - Desktop processing
  - Cloud processing

How can this benefit my organization?

BENEFITS OF USING PIX4D SOLUTIONS

Fast
- Fast processing
- Fast site analysis = smart action
- Fast site re-opening

Reliable
- Court evidence
- Efficient data storage tool
- Offline processing option

Accurate
- Sub 1-cm point clouds possible

Safe
- Fewer ground staff needed

Unintrusive
- Rescue teams not hindered
- Clean-up not hindered

Inexpensive
- Low man-hours requirement
- Training material online

What features does Pix4Dmapper Pro have and why would they interest me?

KEY FEATURE 1: 3D Point Cloud

KEY FEATURE 1: BENEFITS

- Create a 3D point cloud model
  - Revisit the crash scene from your office
- Make measurements between points
  - Reduces time needed for measurements on-site
- View original images in context
  - See original detail for deeper analysis

KEY FEATURE 2: 2D Orthomosaic

KEY FEATURE 2: BENEFITS

- View whole crash site from above
  - Identify obstacles that may have caused accident
  - Estimate extent of damage and alert necessary ground teams
  - Find items not easily visible from eye-level

- Identify any tire-marks and point of impact
  - Use data to assess vehicle speed

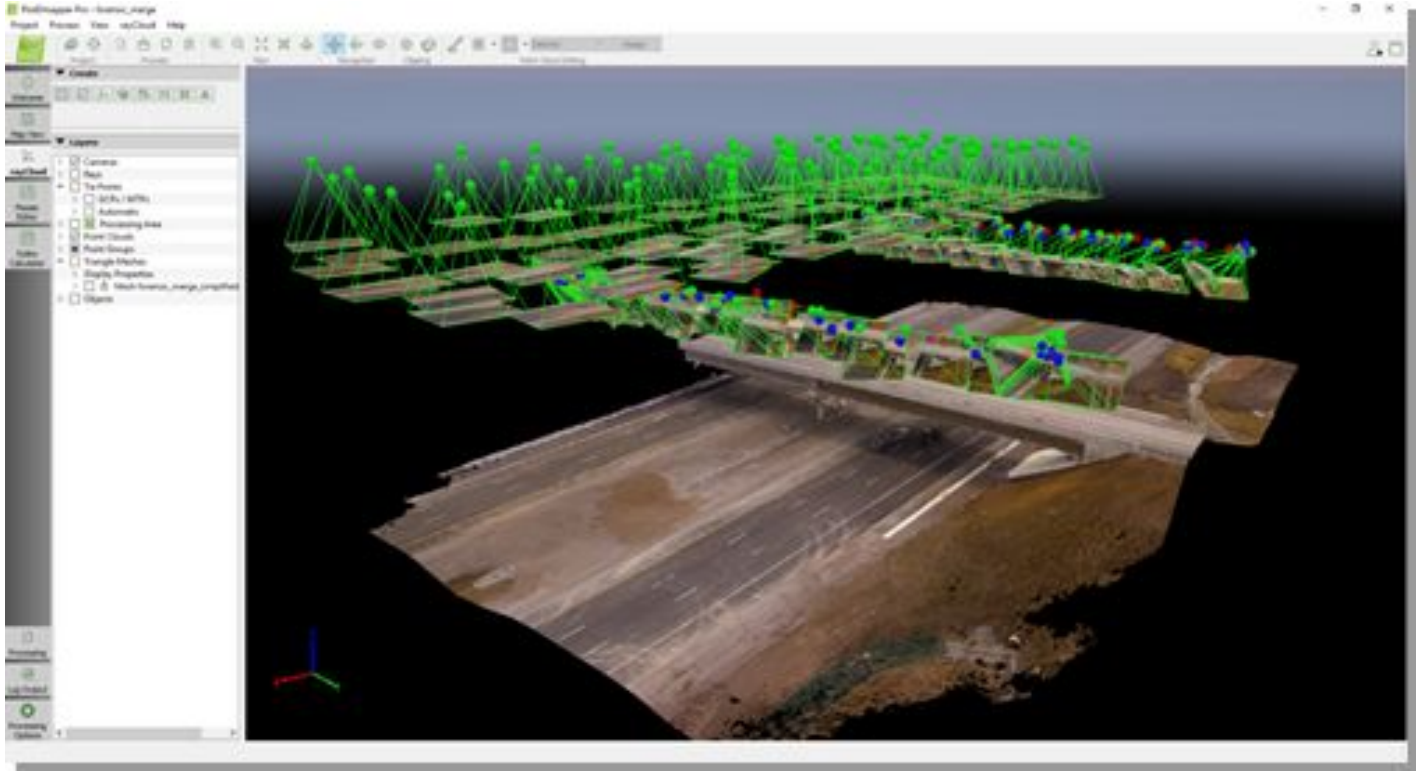
Case study

CASE STUDY - Ontario Provincial Police

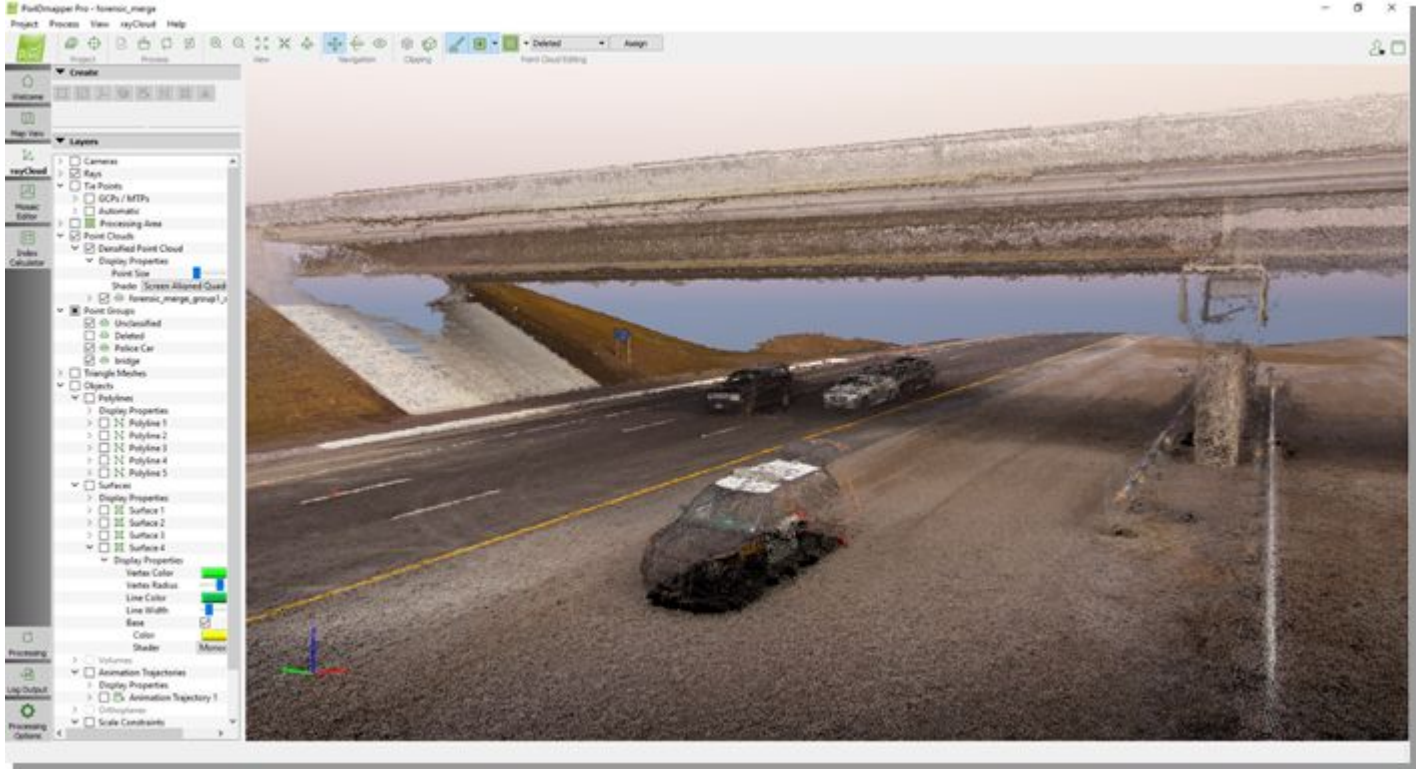
Situation: Highway car crash under a bridge

Area	950 m²
Flight plan	Grid x 2
Flight time	20 mins + 30 mins
Number of images	150
Image Quality	15 MP

DOUBLE GRID FLIGHT PATH

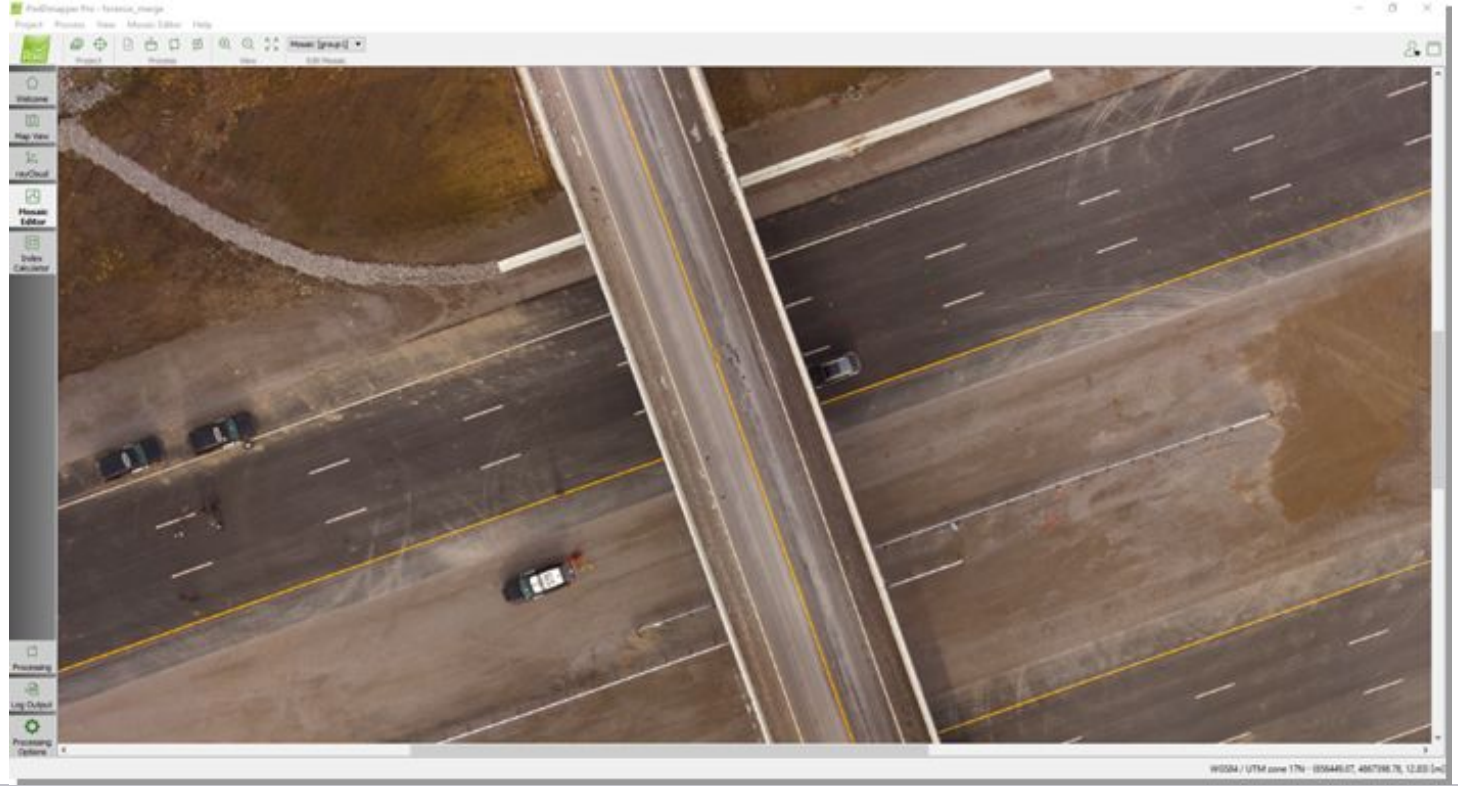


3D POINT CLOUD



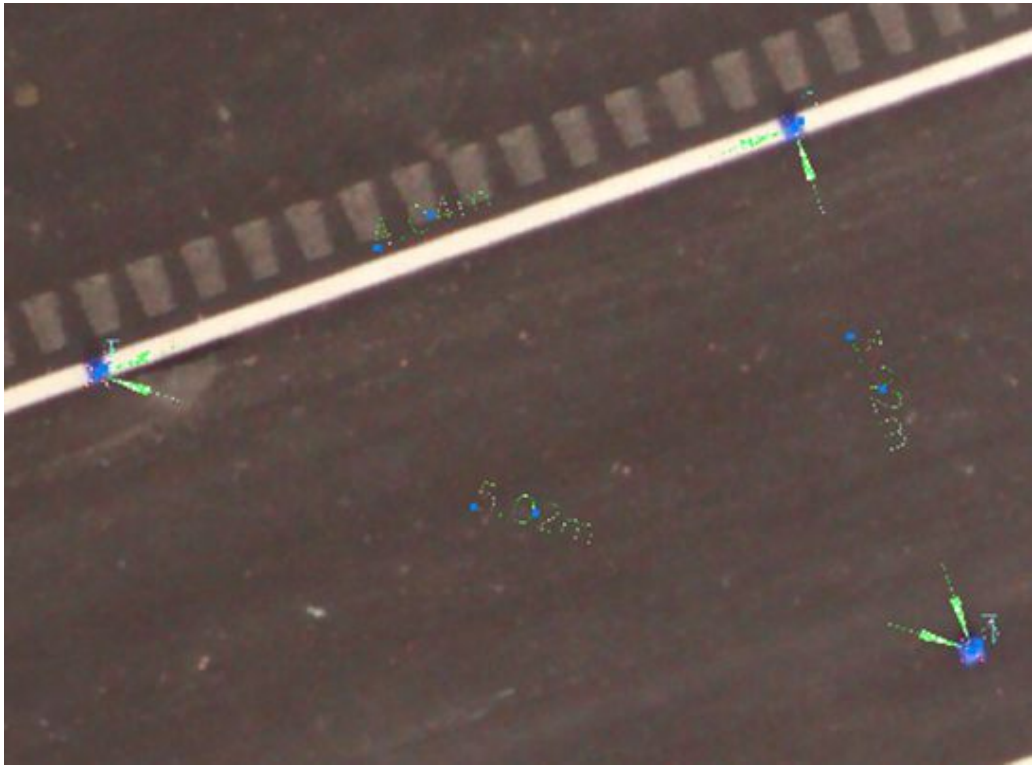
3D MESH

2D ORTHOMOSAIC



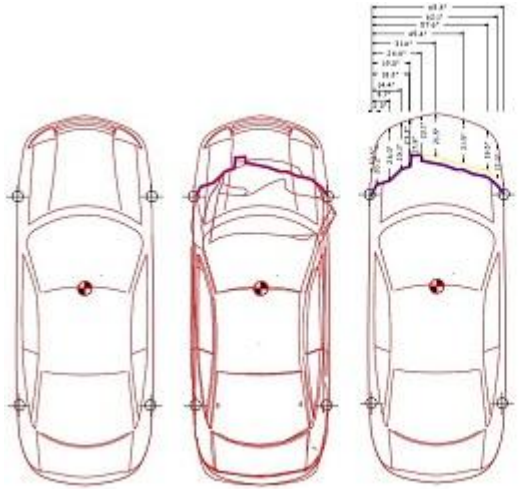
ORTHOMOSAIC: Bridge Removal

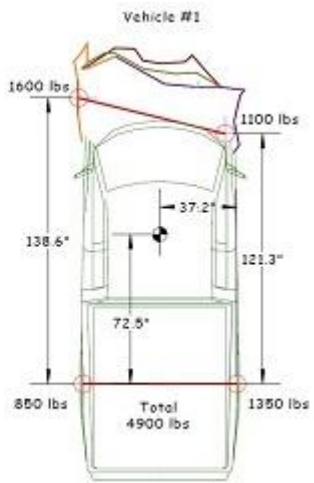
MEASUREMENTS: Control



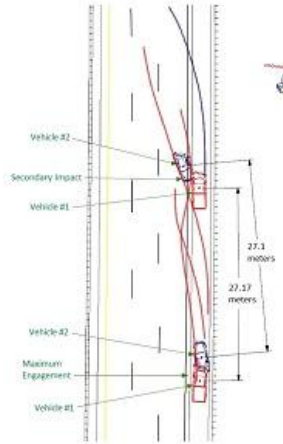
EXPORT & ANALYSIS

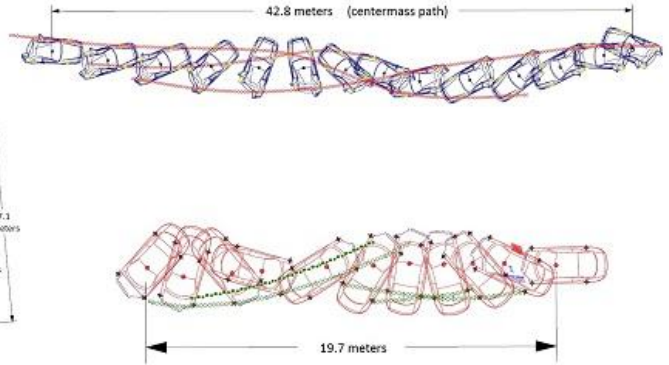
Orthomosaic images were exported to 3rd party software for further analysis





Crush analysis





Skid analysis

Client Quotes

"Using drone images plus Pix4D software helps us to recreate crash scenes in challenging environments. It is cheaper and more flexible than other methods of image capture (e.g. helicopter)."

"The reconstructed point cloud allowed us to make various measurements and analyses in a non-dangerous, non-stressed situation back in our office."

"The risk to officer safety was reduced due to the fewer number of personnel required on-site to document the scene."

Drones 2017: Accident & Emergency event, Cranfield, UK

Frequently asked questions

“How accurate is Pix4D?”

Accuracy:

- Approx 1-2 x **GSD** on horizontal axes
- Approx 1-3 x **GSD** on vertical axis

GSD (cm/ pixel) = Ground Sampling Distance
This is the distance between two consecutive pixel centers measured on the ground.

Dependent on:

- Sensor type, sensor focal length, flight height, image overlap

“How long does Pix4D take to process?”

Pix4D example dataset: Forensic (free online)

• Images	69, 12 Megapixel
• GSD	0.24 cm/ pixel
• Operating System	Windows 10 Pro, 64-bit
• RAM	8GB
• GPU	Intel(R) HD Graphics 4600
• CPU	Intel(R) Core(TM) i7-4710MQ CPU @ 2.50GHz
• Processing time (desktop)	1 hour 5 mins
• Processing time (cloud)	50 mins

“Why Pix4D?”

Connected workflows: **Capture - Process - Analyse - Share**

- Saves time and effort

Hybrid solutions: **Mobile - Desktop - Cloud** (no other competitor offers this)

- Mobile app delivers quality datasets
- Desktop processing offers more control & analysis options
- Cloud processing is fast and saves desktop power
- Cloud offers data storage

“Why Pix4D?”

Licenses are floating

- Software can be installed on many devices, not bound to one

Pix4D offers high quality support and training

- Support team continuously answer emails
- Detailled support website *(support.pix4d.com)*
- Workshops around the world
- Personalised training available
- Video academy

Prices

Pix4Dmapper Pro

Rental
- 260 € per month
- 2600 € per year

Perpetual
- 6500 €

Prices exc. VAT, include up to 1 year of Support & Upgrades