Agenda

1. Vision
2. Workflow
3. Real cases
1. Vision

- 170+ global employees
- 23 nationalities
- 60% R&D talent
Why?
Why?

Reliable information for faster and better decisions
Why Surveyors?
Why Surveyors?

You are **pushing the limits** of the latest technology to fit your **exacting standards** across any industry and application.

That’s why you **challenge** us to continue **innovating**.
How?
How?

From images and/or videos
What is photogrammetry?

Photogrammetry allows to digitize the world, purely from images.
Industry mindset

Surveyor [noun]
A person whose job is to measure and record the details of areas of land.*

*https://dictionary.cambridge.org/dictionary/english/surveyor
Industry mindset
Industry mindset change

Digital Surveyor  [noun]
A person whose job is to measure and record the details of areas of land with cutting-edge digital technology.*

*Pix4D
Industry mindset change

Capture (inputs)

Process (outputs)

CAD/GIS

Now I have the terrain in my office.

I am working in CAD/GIS software.

I am working in CAD/GIS software.
Pix4D unique software ecosystem
2. Workflow

1. Capture
2. Digitize
3. Check, Measure & Inspect
4. Share
Inputs

- RGB images
- Drone images
- Multispectral images
- Thermal images
- Fisheye images
- 360° camera images
- Camera rig images
- Videos
Inputs
Inputs
Pix4D software: surveying & mapping

Pix4Dcapture
Free mobile flight planning app

Pix4Dmapper
Desktop and Cloud software
1. Capture

- Plan and control drone flights for professional mapping and data capture
- iOS & Android
- DJI, Parrot, and Yuneec drones

Flight missions:
- Polygon
- Grid
- Double grid
- Circular
- Free flight
- Multi-battery
2. Digitize

- Transform your images into accurate digital outputs.
- Process your projects locally on Pix4Dmapper Desktop or online on Pix4Dmapper Cloud.
Outputs

- **Full-color point cloud**
  - .las, .laz, .ply, .xyz

- **Orthomosaic**
  - GeoTiff (.tif), .kml

- **Digital surface model (DSM)**
  - GeoTiff (.tif), .xyz, .las, .laz

- **3D textured mesh**
  - .ply, .fbx, .dxf, .obj, .pdf

- **Index map**
  - GeoTiff (.tif), .shp

- **Thermal maps**
  - GeoTiff (.tif)

And more...
3. Check, Measure & Inspect

**Desktop:**
- Assess and improve the accuracy of your project with the Quality Report and the rayCloud™
- Perform measurements locally

**Cloud:**
- Measure distances, areas, and volumes
- Extract elevation profile data
- Perform virtual inspections
4. Collaborate & share

- Export individual files
- Perform extra analysis
- Work with third-party software
- Select and securely share data only with an URL link
4. Collaborate & share
Why mapping with Pix4D?

**Increased productivity**
- Reduce field time and surveying time
- Reduce operational risks

**Accurate results**
- Assess and improve your data accuracy

**Updated maps**
- Simple workflow
- Easily repeatable data capture
3. Real cases

- Land surveying
- GIS
- Mining & aggregates
- Planning & design
- Construction
- Infrastructure & asset management
Drone photogrammetry

- DJI Matrice 210 RTK
- 82 hectares, 1 h flight, 12 h processing
- GSD 3.7 cm
- Ferrexpo, Yeristovo, Ukraine
- Project [here](#)
Drone photogrammetry

- QuestUAV PPK
- 200 hectares, United Kingdom
- Project [here](#)

PwC's first drone stock audit completed 85% faster
Drone photogrammetry

- eBee, SODA camera
- 115 km, Switzerland
- GSD 3 cm
- Project [here](#)
Drone photogrammetry

- DJI P4P
- 34 acres, 318 images
- GSD 1.9 cm
- 21 GCPs, Trimble R10 RTK
- Nevada, USA
- Project [here](https://www.pix4d.com)
## Drone photogrammetry

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<th>Number of GCPs</th>
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<th>10</th>
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<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
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</tbody>
</table>

| Check Point RMSE | Easting | 0.045 | 0.049 | 0.047 | 0.039 | 0.048 | 0.043 | 0.081 | 3.594 | 4.880 | 1.388 |
|                  | Northing | 0.046 | 0.048 | 0.055 | 0.044 | 0.056 | 0.041 | 0.041 | 1.087 | 4.776 | 1.912 |
|                  | Vertical | 0.051 | 0.047 | 0.111 | 0.112 | 0.117 | 0.128 | 0.320 | 10.469 | 11.157 | 53.873 |

| RMSE Divided by GSD | Easting | 0.715 | 0.784 | 0.756 | 0.622 | 0.767 | 0.693 | 1.292 | 57.507 | 78.076 | 22.208 |
|                     | Northing | 0.740 | 0.769 | 0.883 | 0.698 | 0.893 | 0.657 | 0.658 | 17.386 | 76.412 | 30.597 |
|                     | Vertical | 0.810 | 0.749 | 1.771 | 1.792 | 1.874 | 2.043 | 5.127 | 167.504 | 178.508 | 861.974 |
Terrestrial and drone photogrammetry

- DJI P4 Pro + Canon EOS 6D
- 755 aerial, 646 terrestrial, Finland
- GSD 0.5 cm/pixel
- Project [here](#)
Terrestrial “Mobile-grammetry”

- Project [here](#)
Terrestrial “Mobile-grammetry”
Terrestrial Mobile-grammetry
Terrestrial “Mobile-grammetry”
What else?
BIM Integration

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

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