VEXCEL IMAGING

Vexcel Imaging

PhoWo 2019
Alexander.Wiechert@Vexcel-Imaging.com

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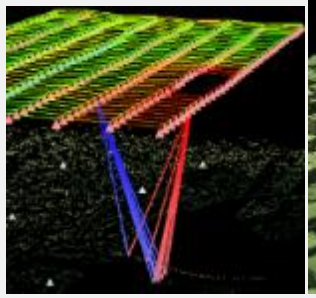
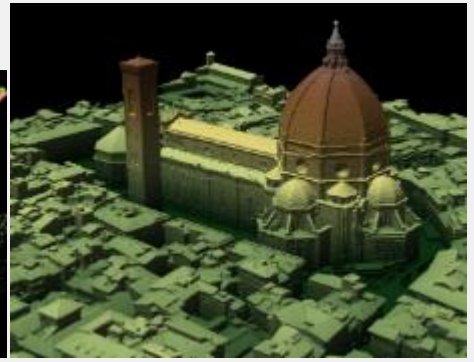
Our product portfolio

Aerial Cameras

Terrestrial Systems

UltraMap & Orbit Software





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ULTRACAM

EAGLE

26,460 pixels across track together with a unique user-exchangeable lens system make one of the most versatile aerial systems on the market.

Ultra-large footprint of 450 Megapixels.

It is the only digital aerial sensor that features a user-exchangeable lens system to serve all your aerial acquisition missions.

One camera – four lens kits

The UltraCam Eagle features a user-exchangeable lens system

80 mm PAN

27 mm RGB & NIR

100 mm PAN

33 mm RGB & NIR

120 mm PAN

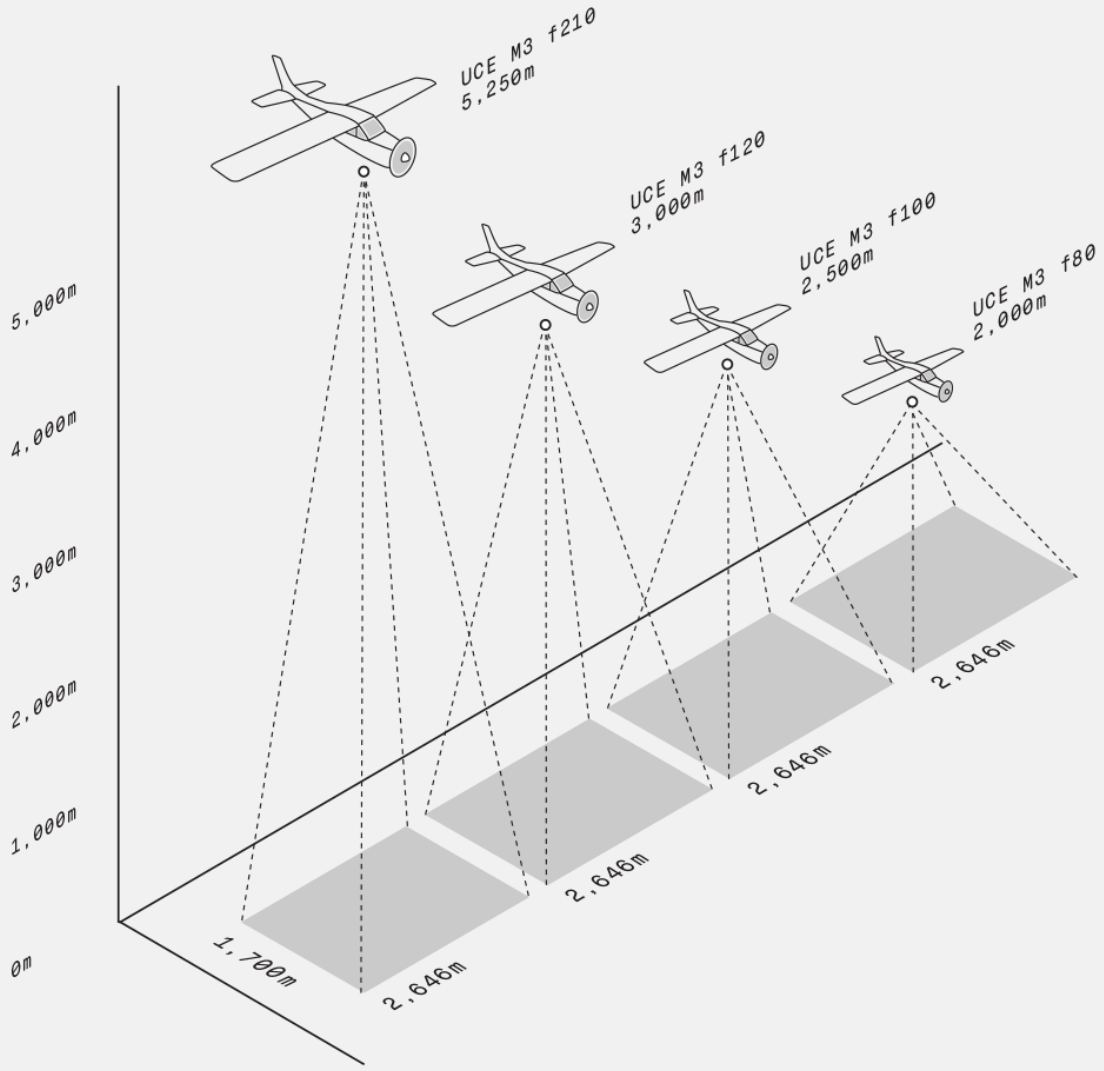
40 mm RGB & NIR

210 mm PAN

70 mm RGB & NIR

Greater efficiency than ever before.

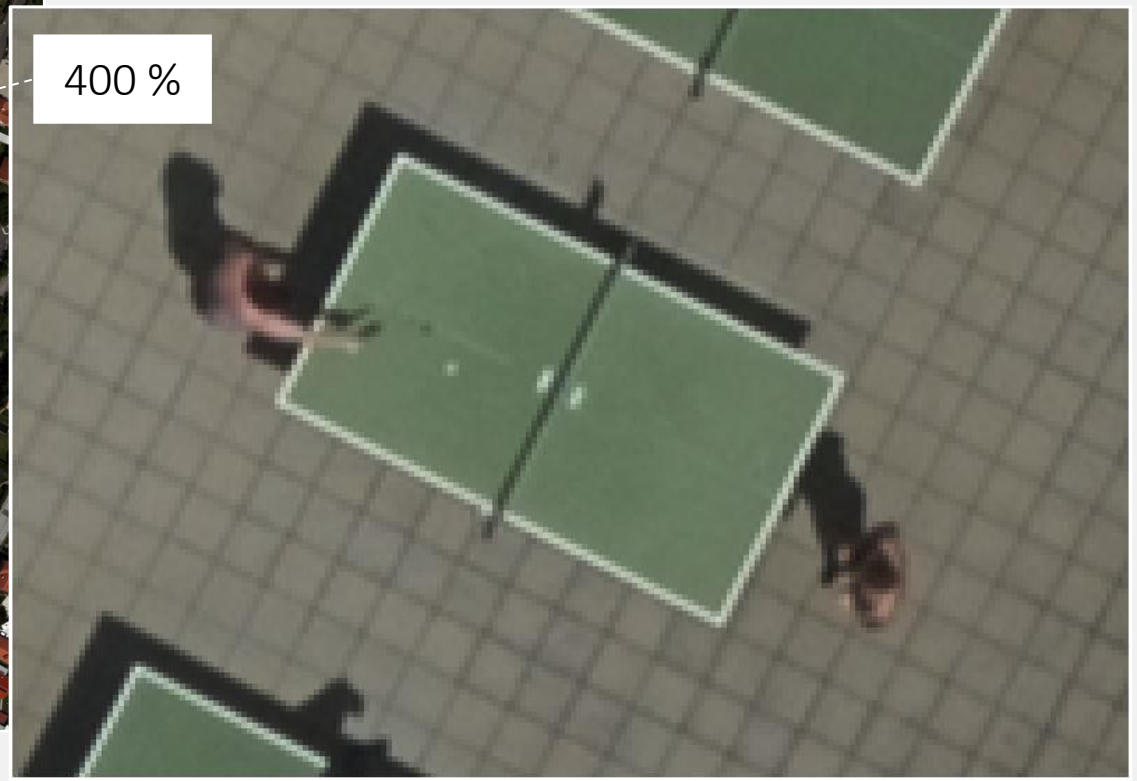
From lower-altitude engineering applications to high-altitude orthophotography projects: Customers can exchange lens systems based on their mission needs.



Gleisdorf, Austria 2017 • UltraCam Eagle Mark 3 • GSD 5 cm • RGB

Capture the smallest details with an ultra-large footprint

A ping pong balls has a diameter of 40 mm.



Gleisdorf, Austria 2015 • UltraCam Eagle • GSD 3 cm • RGB • 1200 m AGL

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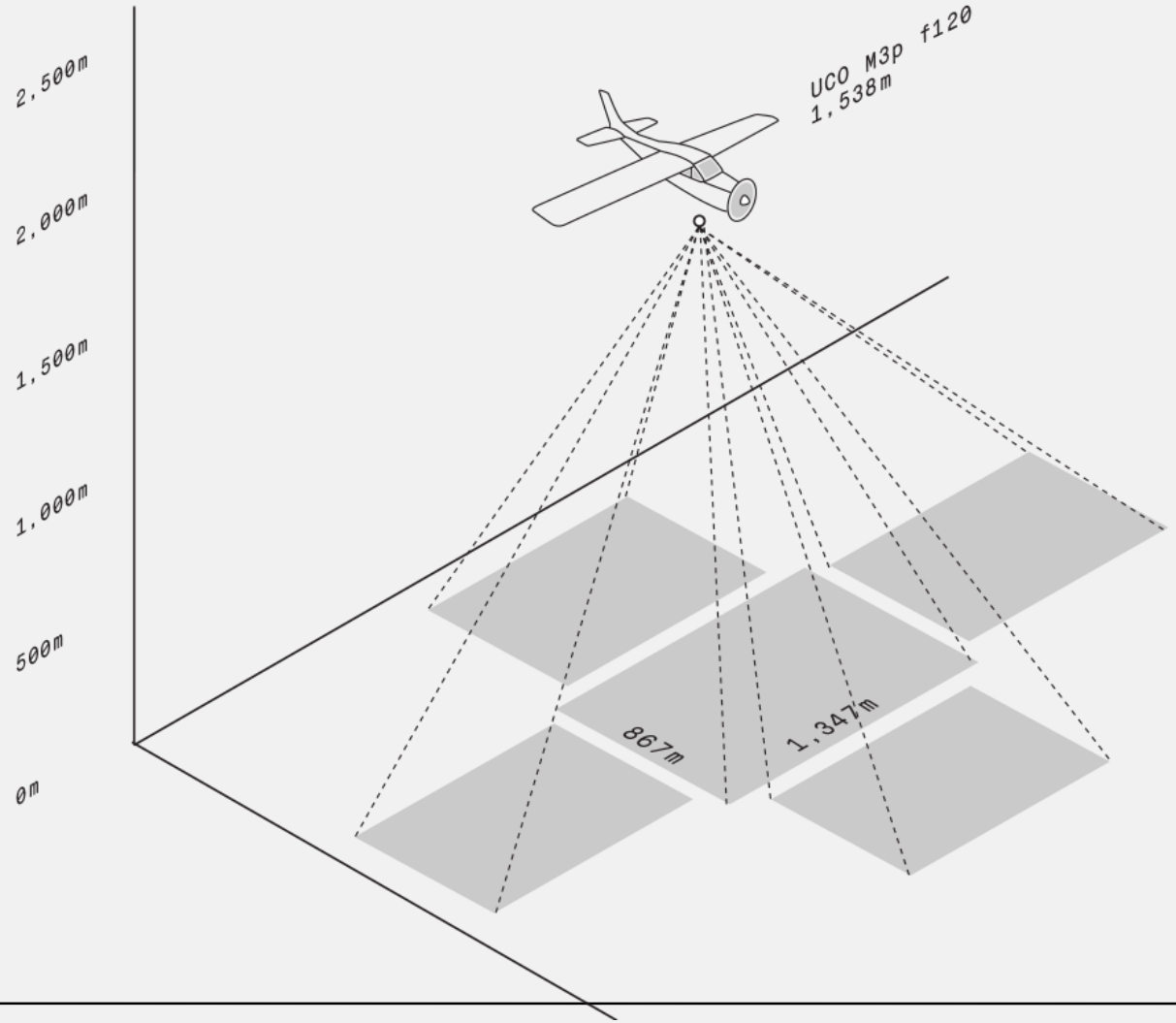
OSPREY

Extending a full photogrammetric nadir camera with oblique capture capability in four directions.

More than a standard camera.

The UltraCam Osprey offers cutting edge technology to collect photogrammetry-grade nadir images (PAN, RGB and NIR) and oblique images (80 Mega pixel RGB) simultaneously.



Best-in-class flight collection efficiency.

The UltraCam Osprey Mark 3 Premium uses the full swath width of the photogrammetric nadir cone (13,470 pixel) in conjunction with the perfectly configured oblique image overlap.

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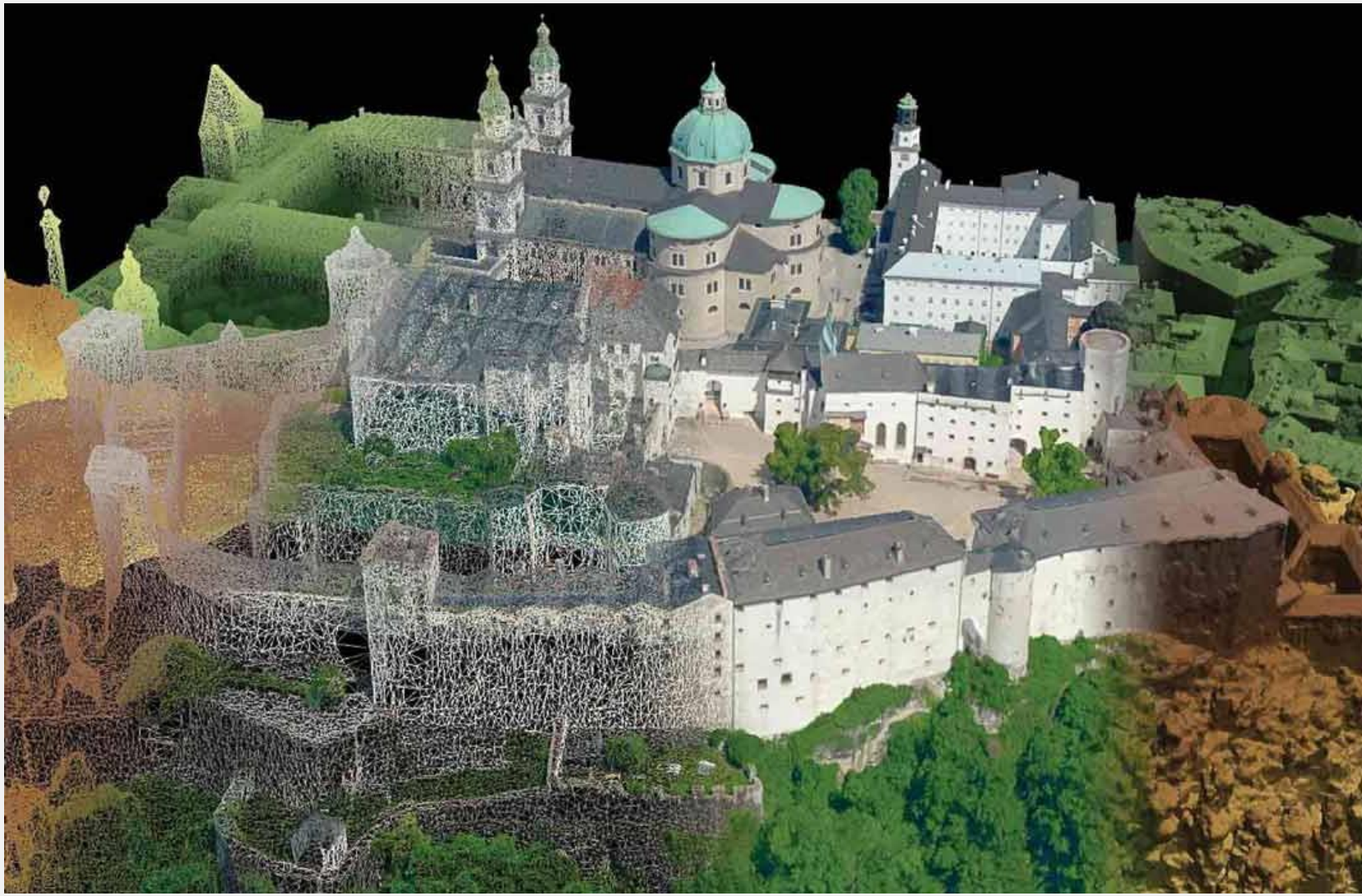
Create 3D models of amazing fidelity & accuracy.

The intuitive end-to-end UltraMap workflow features color-balancing and de-hazing of nadir and oblique imagery as well as the ability to automatically generate 3D cities.



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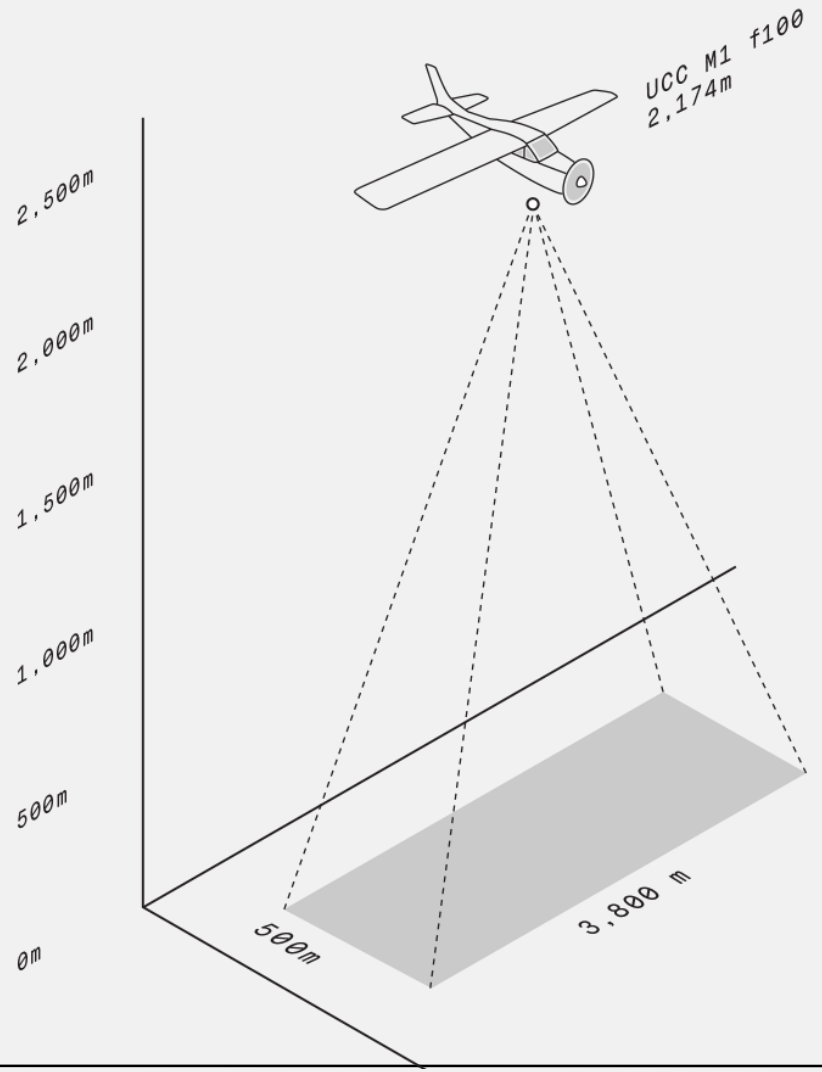
CONDOR

The UltraCam Condor Mark 1 is the single-source data acquisition solution for wide-area and high-altitude mapping

Setting a new standard.

By collecting data much faster for wide-area mapping than smaller cameras, the UltraCam Condor is redefining the efficiency / quality ratio in this segment.



Everything you need.

Basic classification needs are supported by a NIR channel.

Long years of experience.

The predecessor model was used exclusively to provide Bing Maps imagery with stunning 30 cm blanket coverage of the continental US and Western Europe in two flight seasons.

UltraCam Condor Results

Flight Mission Baden Württemberg 2019
Detail: City of Stuttgart
UltraCam Condor, 20 cm GSD

UC Gen 1

UC Gen. 2

UC Gen. 3

2003
UltraCam D
90 MP

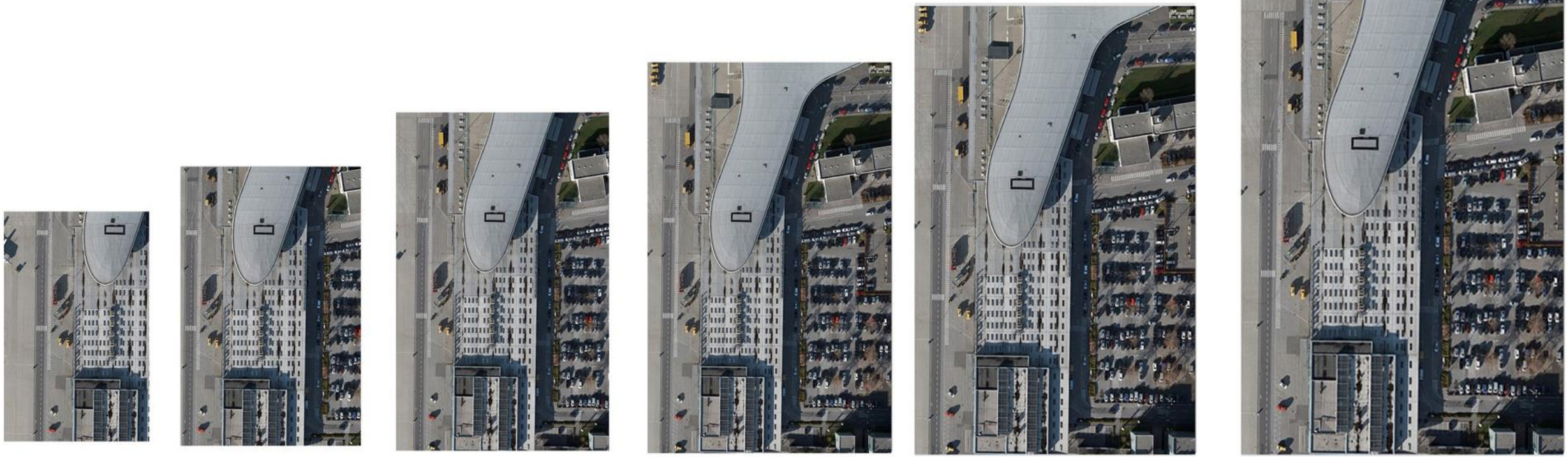
2006
UltraCam X
136 MP

2008
UltraCam Xp
196 MP

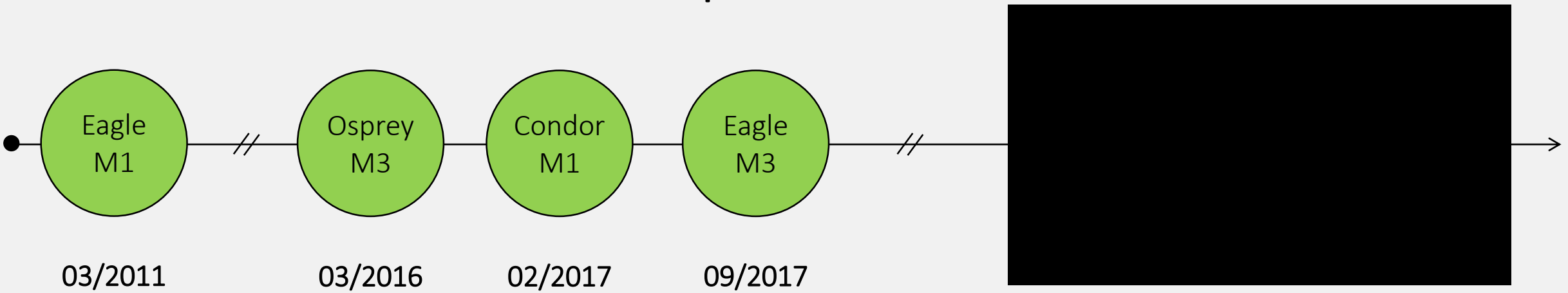
2011
Eagle M1
260 MP

2014
Eagle M2
349 MP

2017
Eagle M3
450 MPixel



Aerial camera roadmap



Starting 2020

4th generation camera architecture

- New imaging sensors
- New electronic
- New storage
- New housing
- Outperforming specifications

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PANTHER

The UltraCam Panther defines a new class of 3D Reality Capture Systems.

KEY FEATURES

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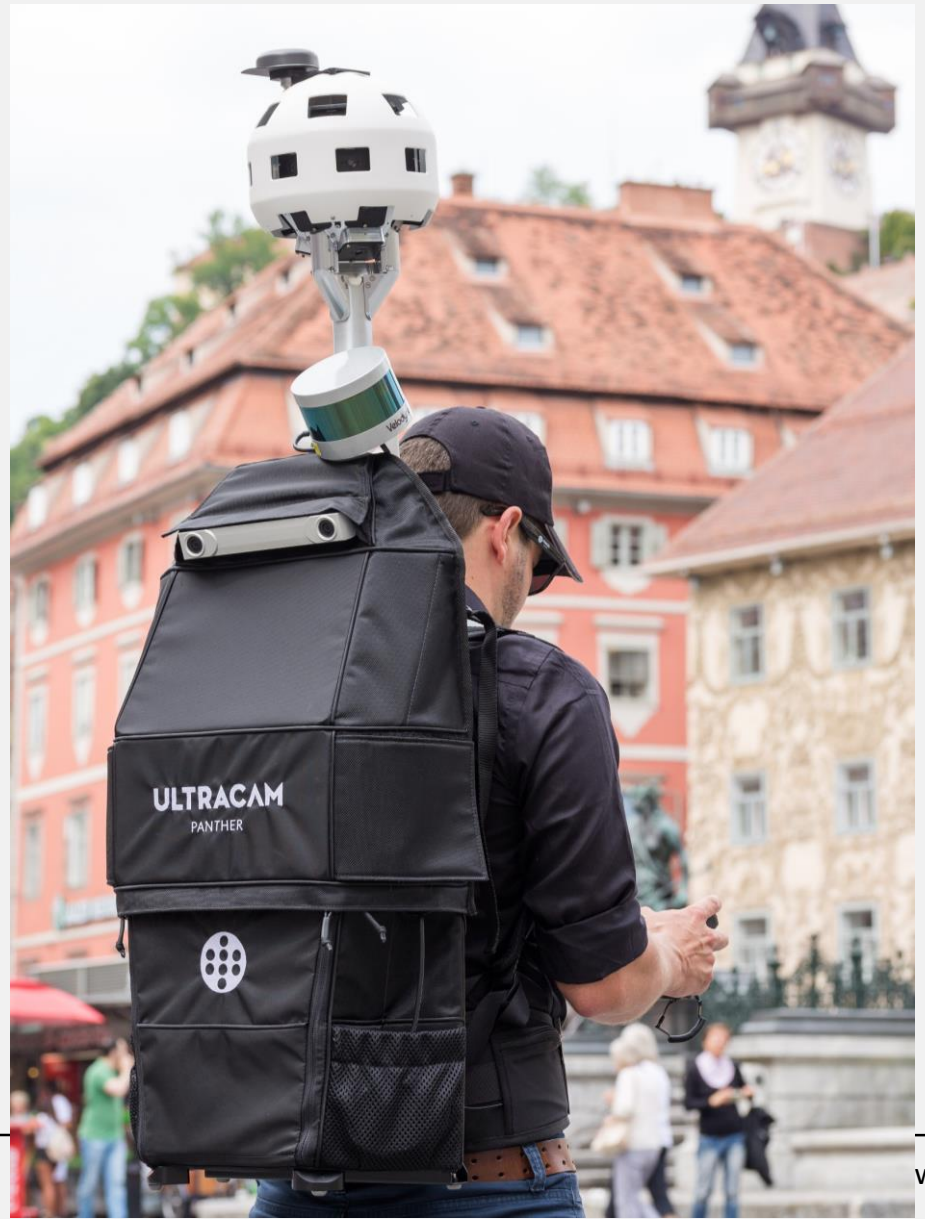
Perfectly exposed.

Even images with high variations in luminance provide detailed information in every part of the image.

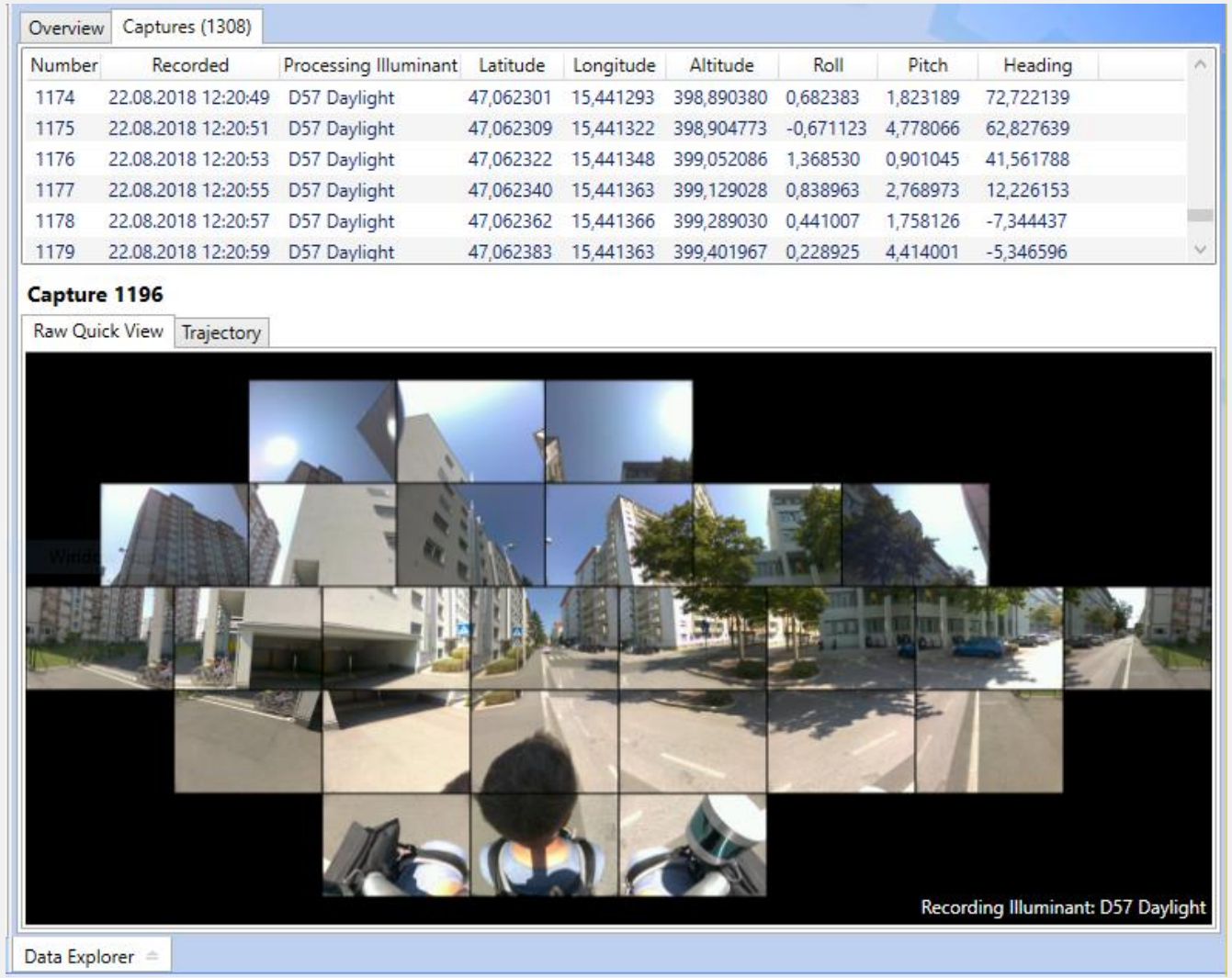
High geometric accuracy.

Each individual orientation-, LiDAR- and odometry-module is factory adjusted for perfect system integration.



Modular design.

Modular concept allows customization to meet varying needs.



Straightforward processing.

Intuitive raw data processing using UltraMap Terrestrial, available within UltraMap Studio.

SYSTEM COMPONENTS

GNSS antenna

LiDAR module

Orientation module

Battery system

Panoramic head

Odometry module

Storage system

Panoramic Head

Field of view:
360° full spherical coverage

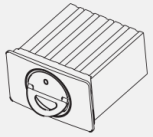
Camera resolution:
172 Megapixels

Maximum frame rate:
1.5 frames/second

Number of cameras:
26

More than the sum of its parts

Raw data capture | Raw data processing | Visualization & feature extraction



Data import

ULTRAMAP

Terrestrial

Data processing

Geo-positioning

3D geometry

Image composition

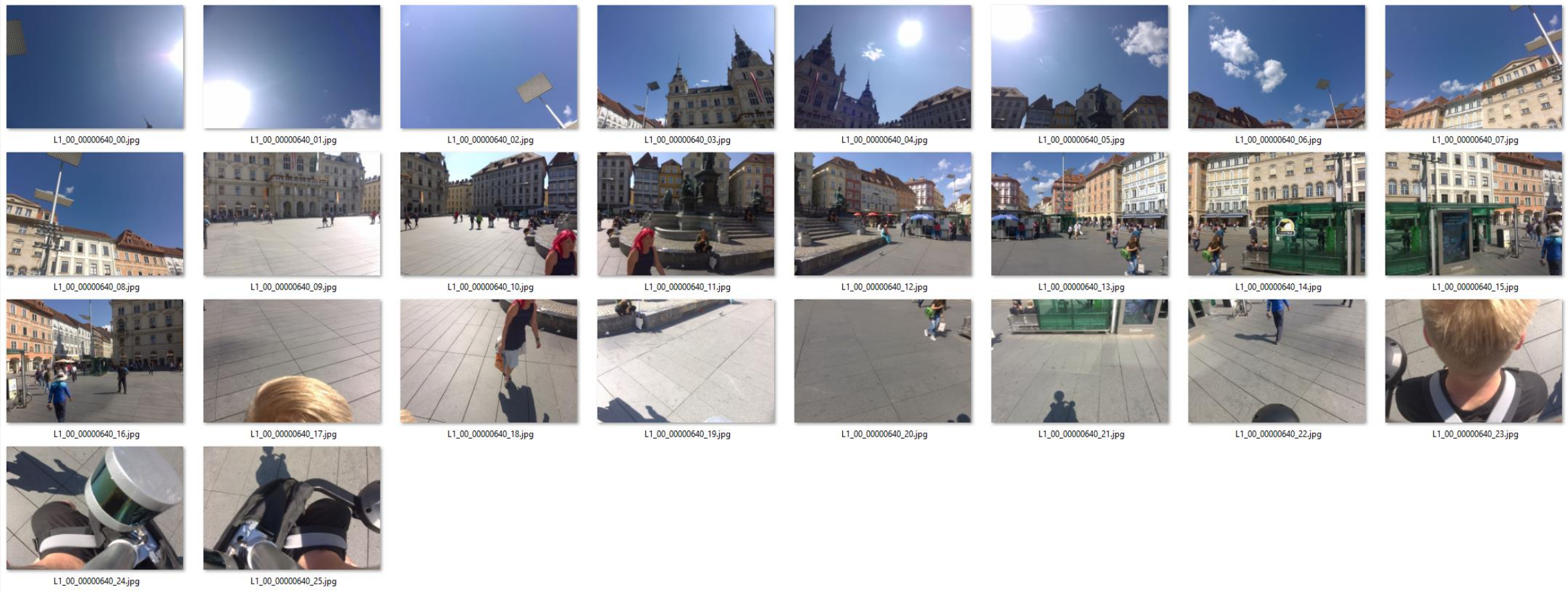
Imagery, panoramas
JPG, TIFF

Geometry
Point cloud Laser File Format (LAS)

Trajectory
Various formats

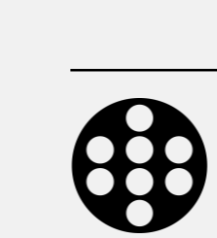
e.g. Orbit GT

Planar Images (26 per capture)



Equirectangular Panorama

In-door application



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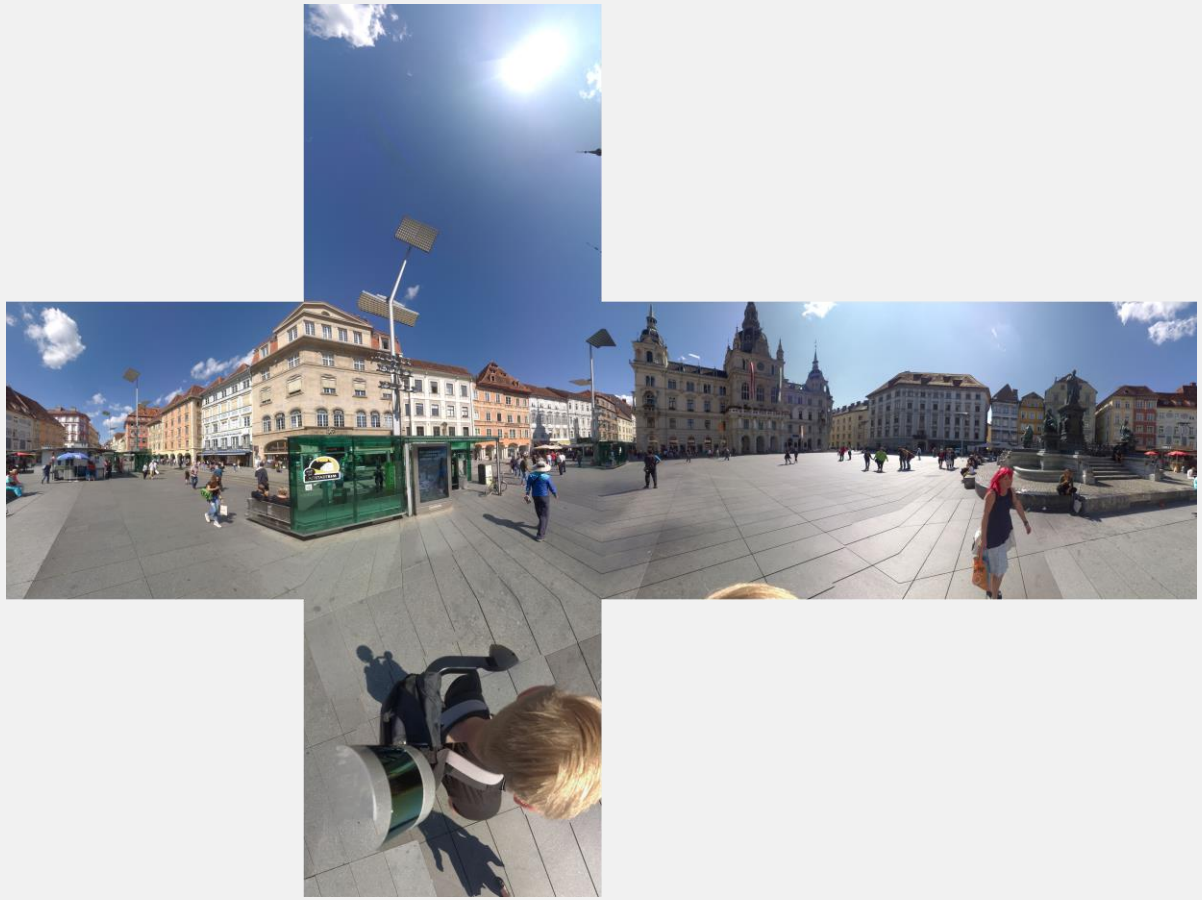
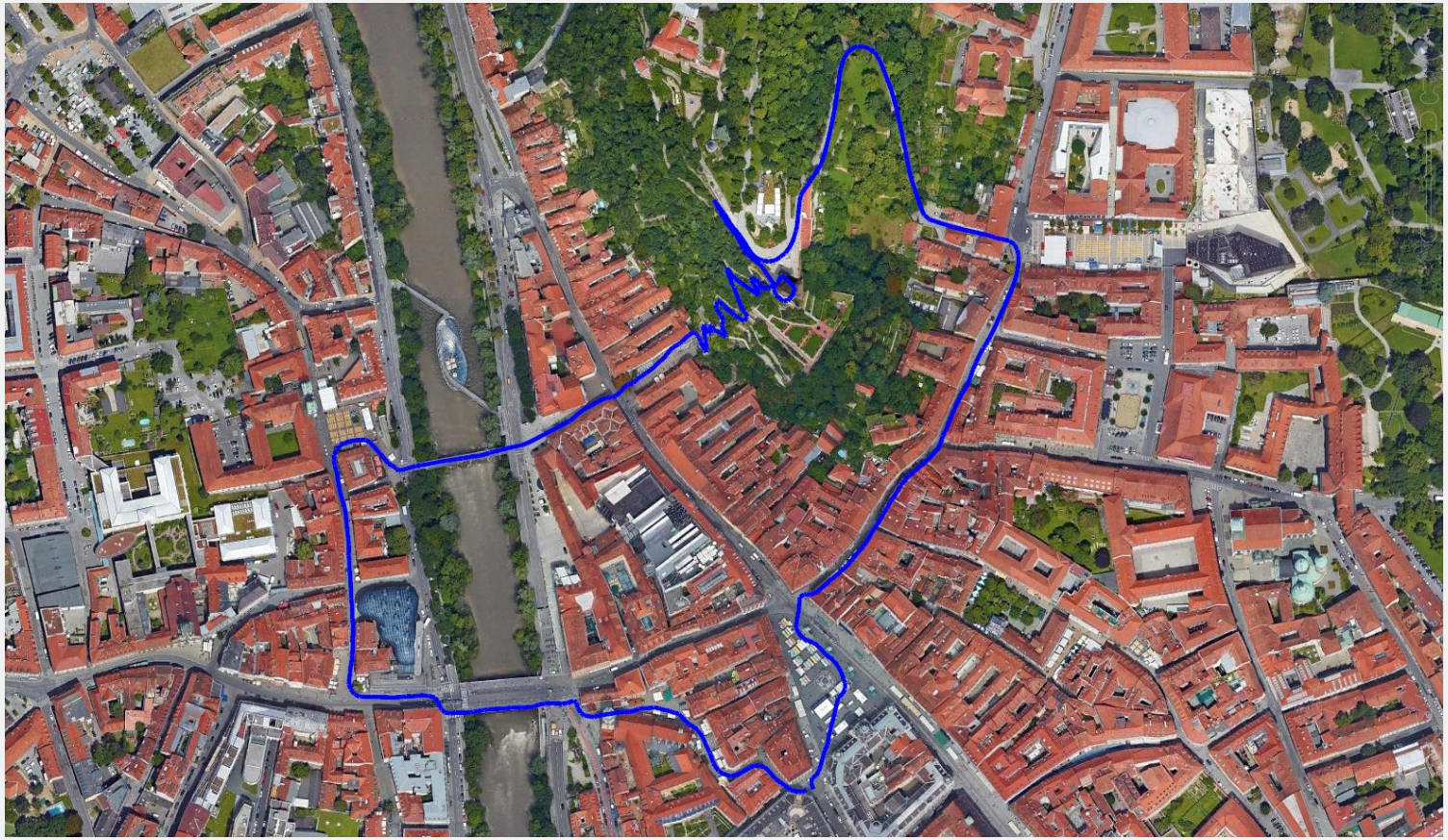
Cube Face Panorama



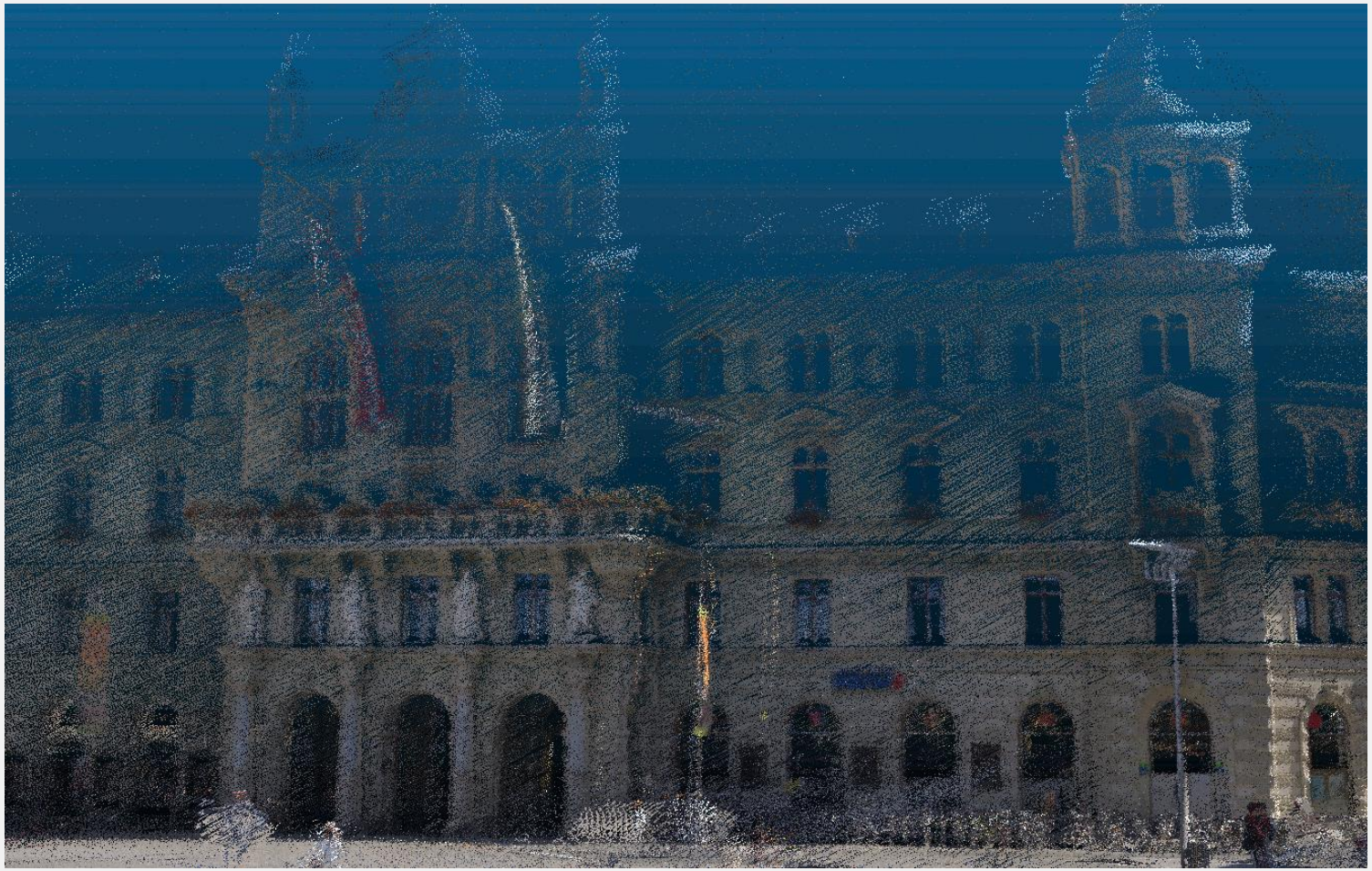
Castle of Eggenberg
Graz, Austria

UltraCam Panther
2.5 mm GSD

Device Trajectory



Colored Point Cloud



APPLICATION AREAS

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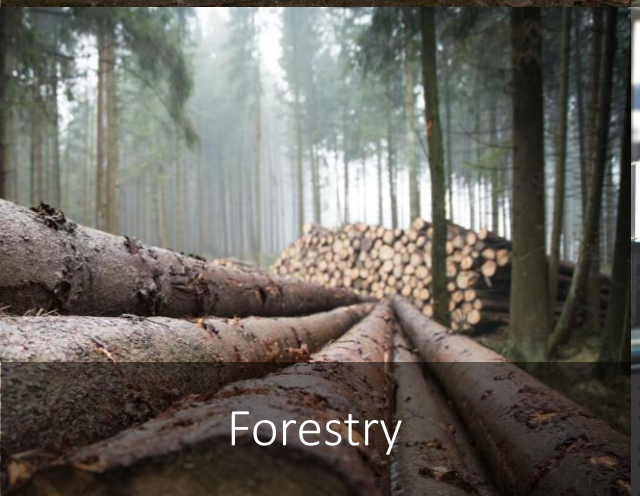
Industries



UltraMap Software

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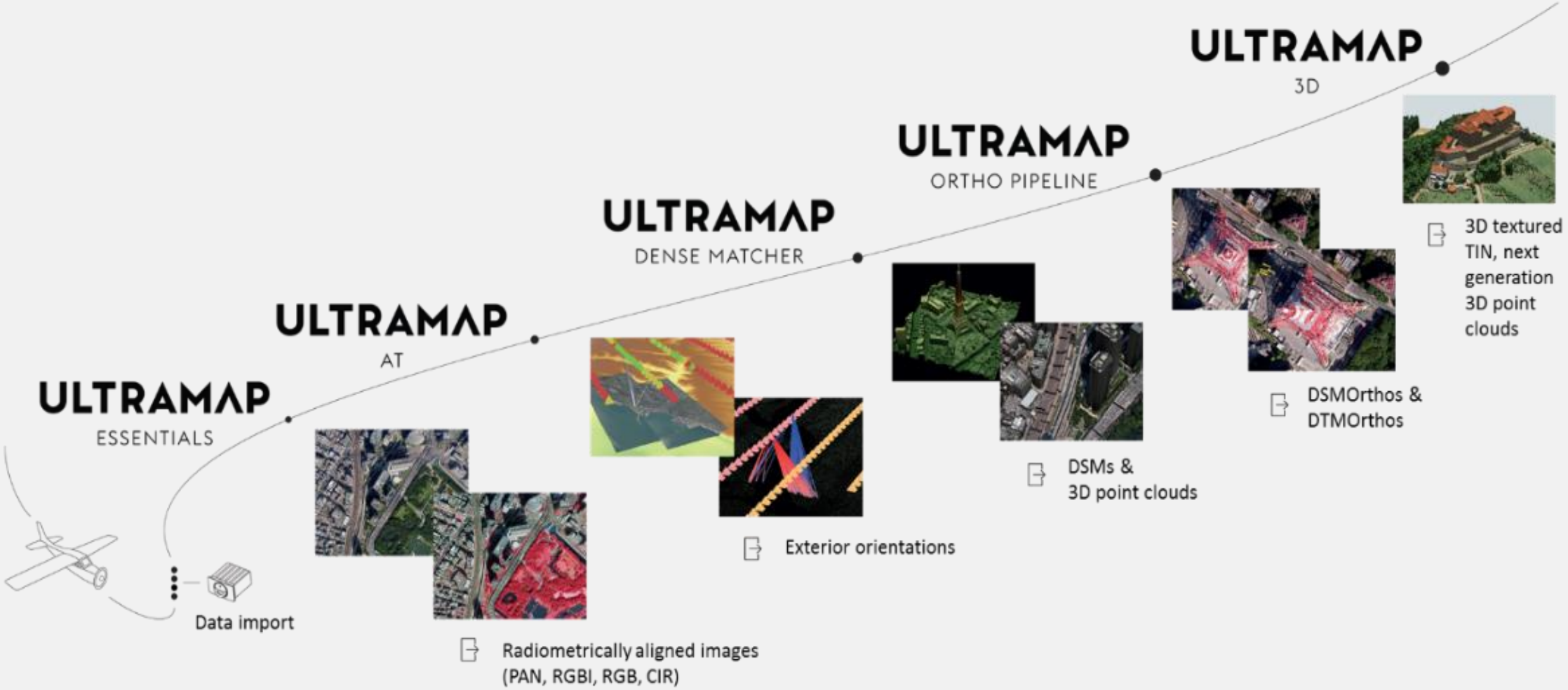
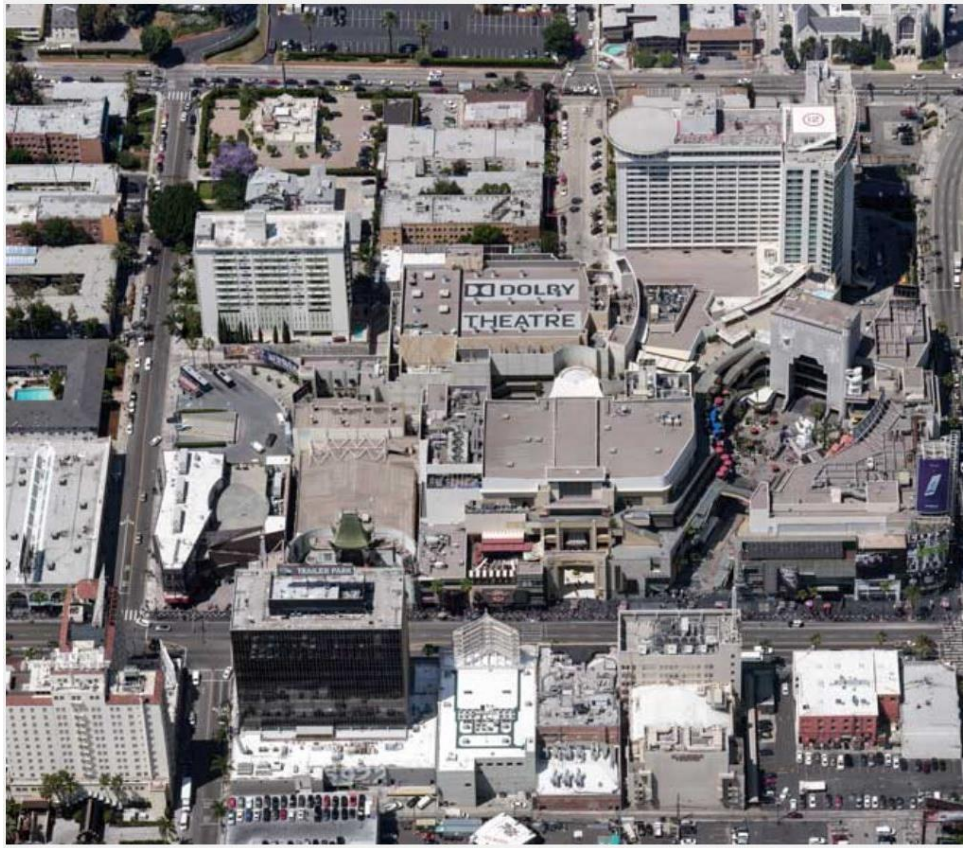
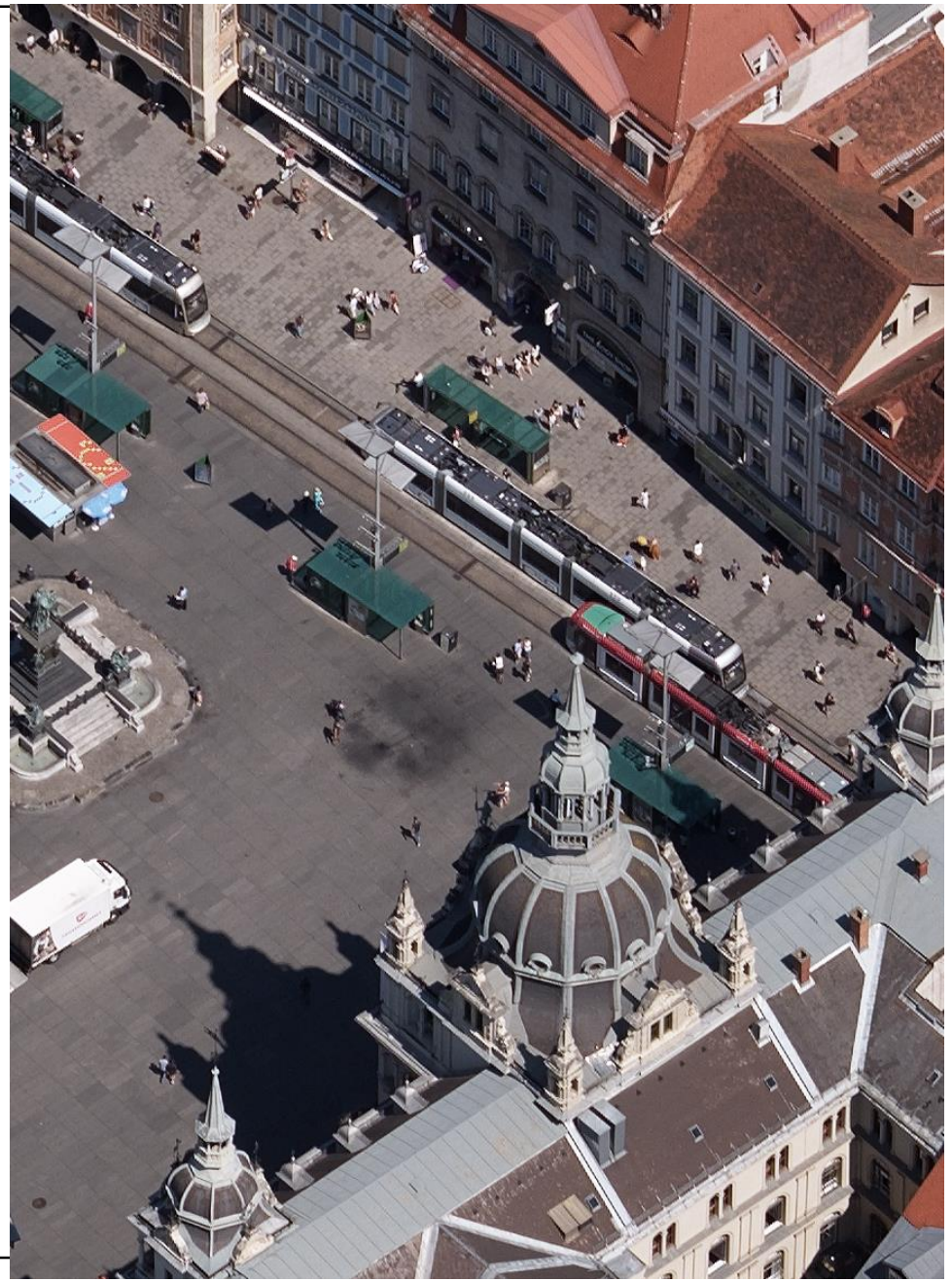
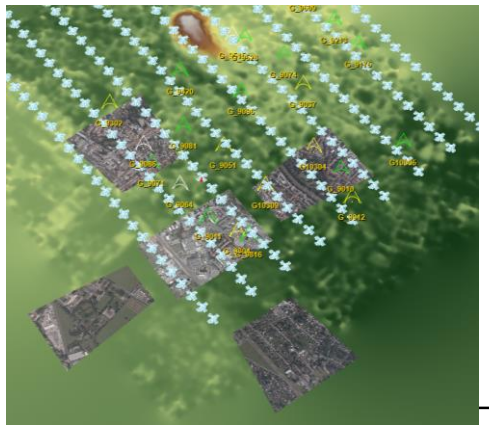



DOLBY
THEATRE





UltraMap generations

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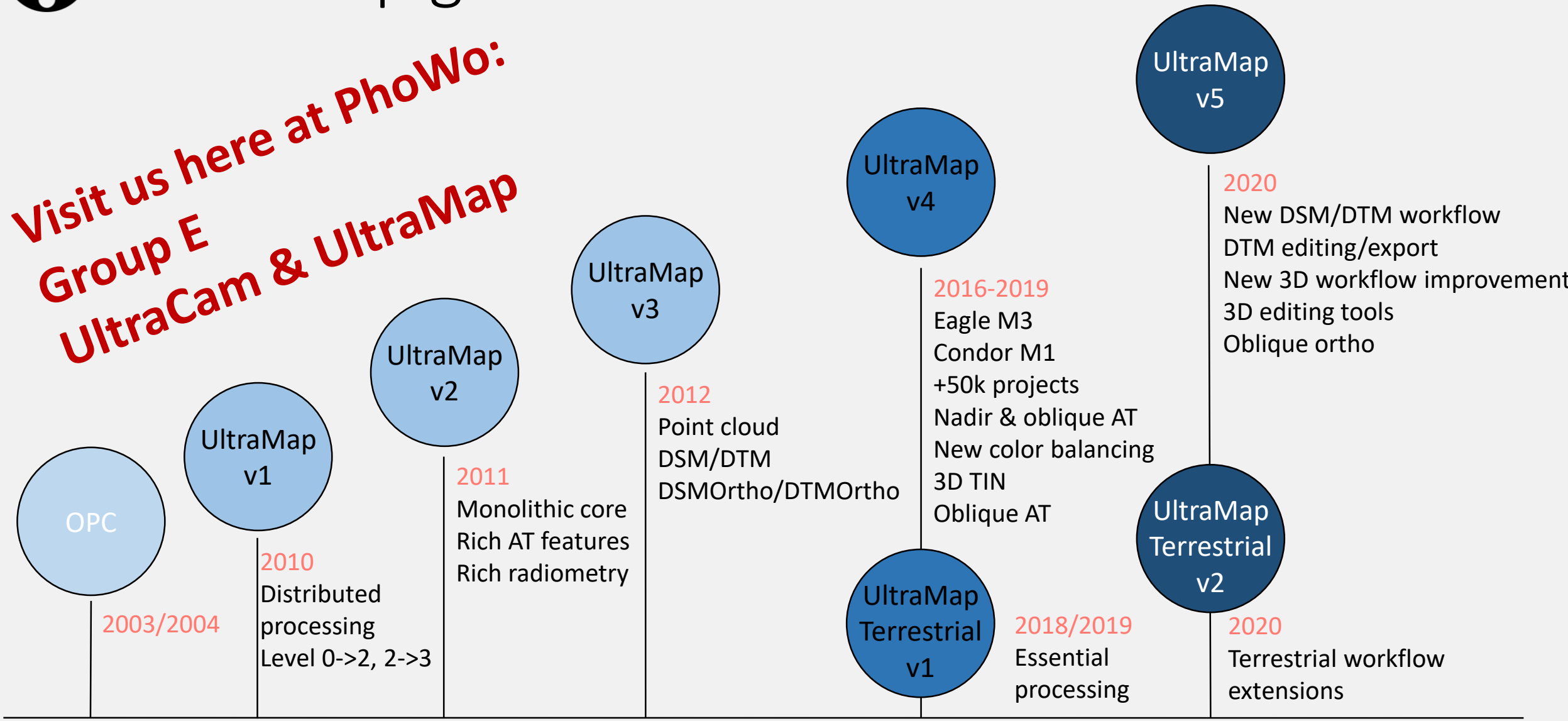
UltraCam & UltraMap



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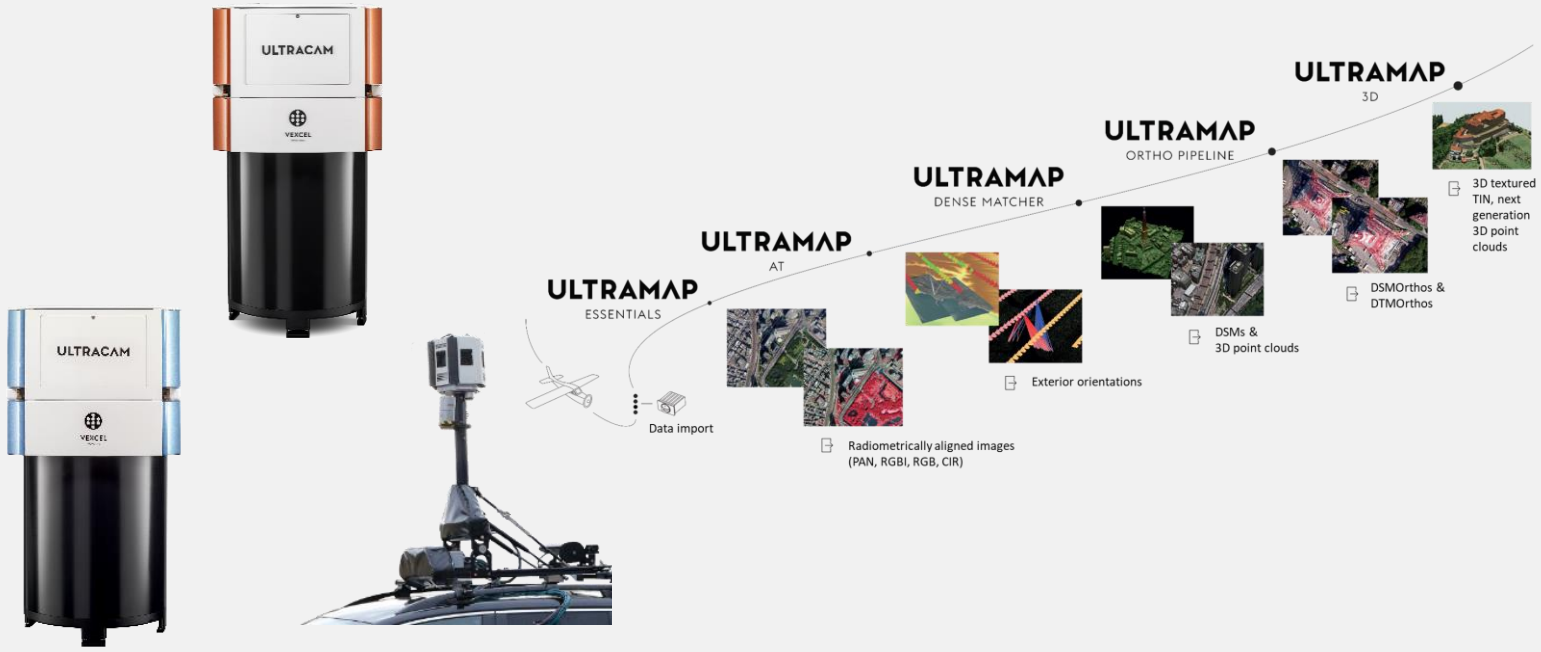
Vexcel Data Program

Cloud-based imagery service “powered by UltraCam” that offers an unprecedented highly detailed image collection covering entire states and countries.



PROGRAM FEATURES

- Covering entire states and countries
- Currently capturing: USA, Australia, Europe
- Annual collections
- Catastrophe monitoring & disaster response
- High-resolution vertical & oblique aerial imagery
- Street-level 360° imagery
- Derivative products
- Advanced analytics
- Ressources
  - > 25 UltraCam cameras in the air, mixed fleet of UltraCam Osprey M3 and UltraCam Condor M1
  - Mass production by UltraMap in Denver/Boulder & Graz
    - > 4000 processing cores
    - > 6 peta byte of storage on-premise
  - Data access through AWS, Azure and web services

BLUE SKY

ANNUAL IMAGERY

VDP collects high-resolution imagery and data for every of whole states.

Currently capturing US, Australia and Europe

BLUE SKY

ANNUAL IMAGERY

NATIONAL MAPS:

High-resolution imagery @ 20 cm resolution over a two-year collection period by UltraCam Condor

BLUE SKY

ANNUAL IMAGERY

Metro Maps:

- Ultra-high-resolution imagery and data @ 7.5cm resolution repeated annually buy UltraCam Osprey
- Coverage includes top metro areas = >>75% of countries population.
- 360-degree aerial imagery
- 5 views of a property

GRAY SKY
Disaster Response

- GIC Responds to every major catastrophe in the United States
- Imagery is available to members within 24 hours of collection
- Free access for 1st Responders
- Best possible resolution

2019 GRAY SKY EVENTS

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SONOMA COUNTY FLOOD

LEE COUNTY TORNADO

Camp Fire and Woolsey

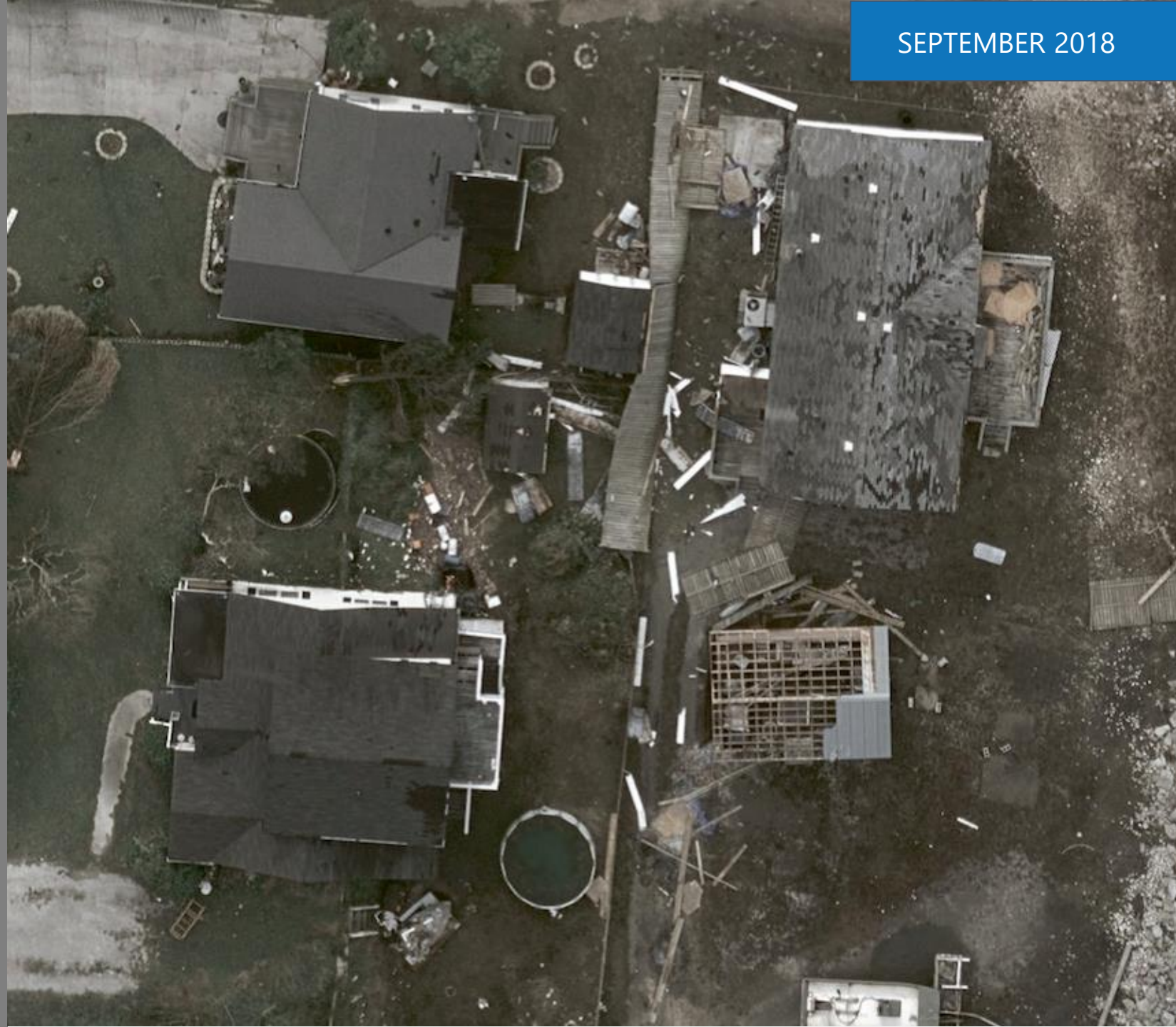
November 2018

- Over 2,500 sq. km. of imagery
- Flown during active flight restrictions
- Additional imagery each day
- Under 24-hour turnaround
- USAF, National Guard, and FEMA priority imagery

Hurricane Florence

September 2018

- 65,000 sq. km. collected
- Active partnership with FEMA and NOAA
- First deployment of Condor wide-area sensor



Hurricane Michael

October 2018

- 85,000 sq. km. collected, processed and delivered in 3 days
- Implemented daily member briefing
- Coordinated with FEMA and NOAA

OCTOBER 2018

Imagery pre and post Hurricane Michael
Bay County, 2018

POLICY

70012323
Henry Roberts

25562 Vio Road
San Juan, CA 92675

Show policy details | Adjust address

CLAIM

0575199720101033
2018-10-26 - 13:52

Client claims that recent storm damaged roof
Of the house and needs full replacement

Show full claim | Attachments

ROOF DAMAGE

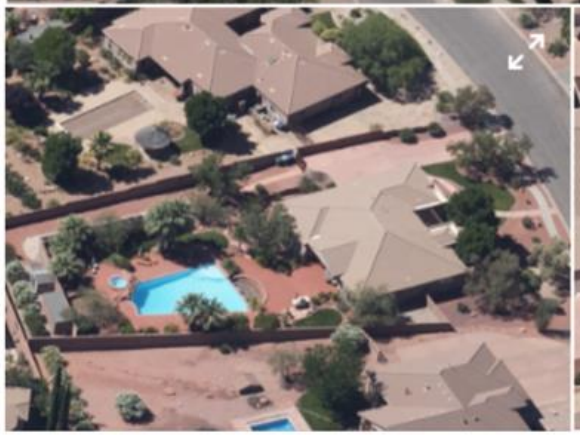
0% 20% 60% 80% 100%

Cannot detect any roof damage

MARK AS

- [ ] Onsite inspection needed
- [ ] Elevate to supervisor
- [x] Potential fraud
- [ ] Unable to assess at this time

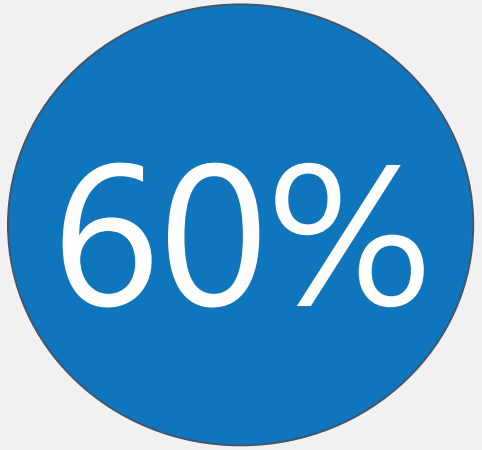
Share Back



An important mission of the GIC is to have **the insurance industry lead the way** in improving response and relief efforts following disasters, and reducing FRAUD after major events.

The GIC is doing this by **transforming how critical information and imagery is collected and disseminated**, driving a coordinated effort across local, state and federal agencies and responders.

The GIC also aims to **increase public awareness** of these important initiatives, and in doing so improve the perception of the insurance industry's positive impact when it matters most



Currently for the CA wildfires, FEMA and the National Guard calculate that the GIC Imagery has been the definitive source in 60% of the overall damage assessment and response.

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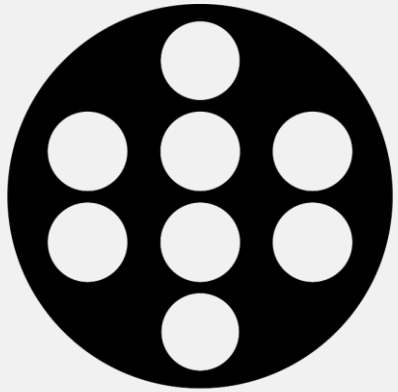

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