

ULTRACAM

UltraCam and UltraMap – An Update

Alexander Wiechert
Microsoft Business Director

Photogrammetric Week
2013, Stuttgart



ULTRACAM

UltraCam – A Decade Of Innovation



UltraCam – A Decade Of Success



2006

2008

$$238+48 = 286!$$

U

 Microsoft

Camera Family



ULTRACAM

 Microsoft

Camera Family

UCD

UCX, UCXp

UltraCam
3rd
Generation
Architecture

Eagle

f210

f100

f80

FalconP
Falcon

f100

f70

UCLp



Camera Family (@10cm GSD)



Hi Altitude Ortho Mapping
@ UltraCam Quality

4,038m

2,019m

1,675m

972m

Eagle

FalconP

Falcon

UCLp



Camera Family

UCD

UCX, UCXp

UltraCam
3rd
Generation
Architecture

Eagle

f210

f100

f80

FalconP
Falcon

f100

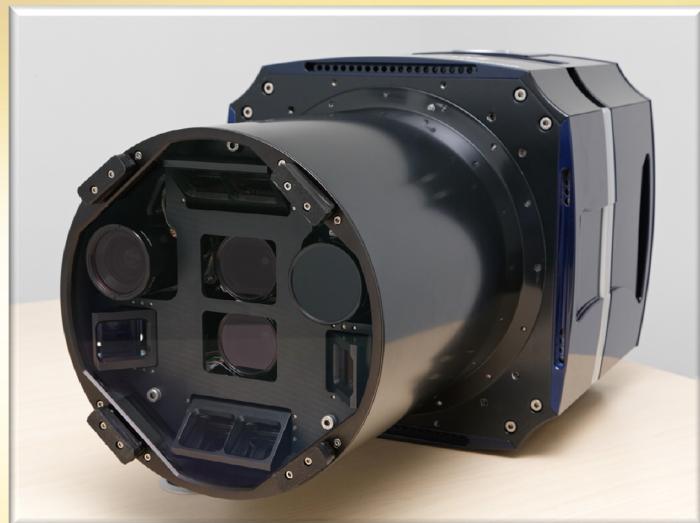
f70

Osprey

UCLp



UltraCam Osprey



ULTRACAM

UltraCam Osprey

Front wing

RGB Bayer pattern

13,450 x 4,520

landscape orientation



Left wing
RGB Bayer pattern
6,870 x 4,520
portrait orientation

Nadir cone:

High res PAN (11,674 x 7,514)
RGB, NIR (1:2 pan sharpen ratio)

Right wing
RGB Bayer pattern
6,870 x 4,520
portrait orientation

Back wing
RGB Bayer pattern
13,450 x 4,520
landscape orientation

 Microsoft

ULTRACAM

UltraCam Osprey - Valencia



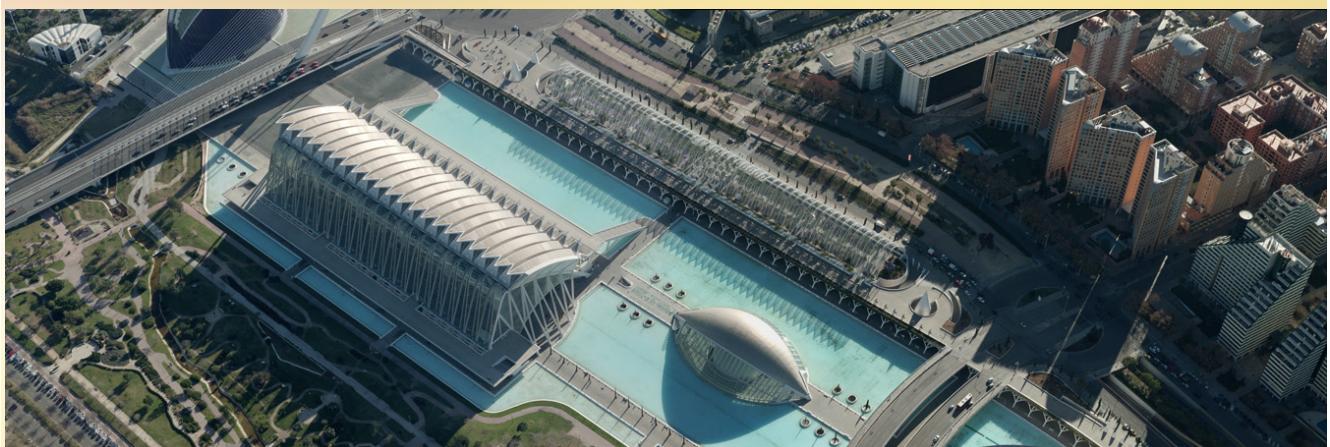
Nadir RGB, 7.5cm GSD

 Microsoft

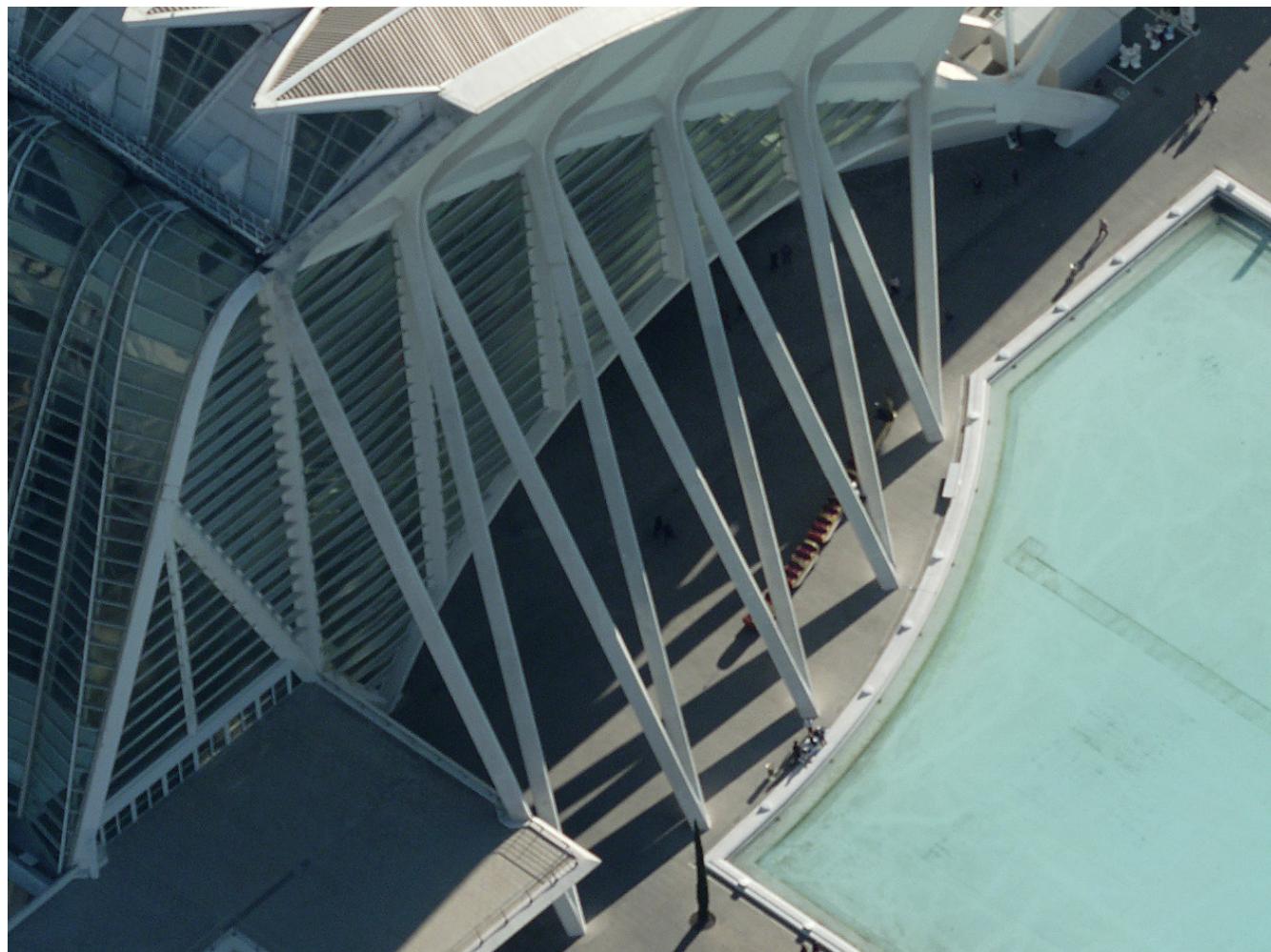


ULTRACAM

UltraCam Osprey - Valencia

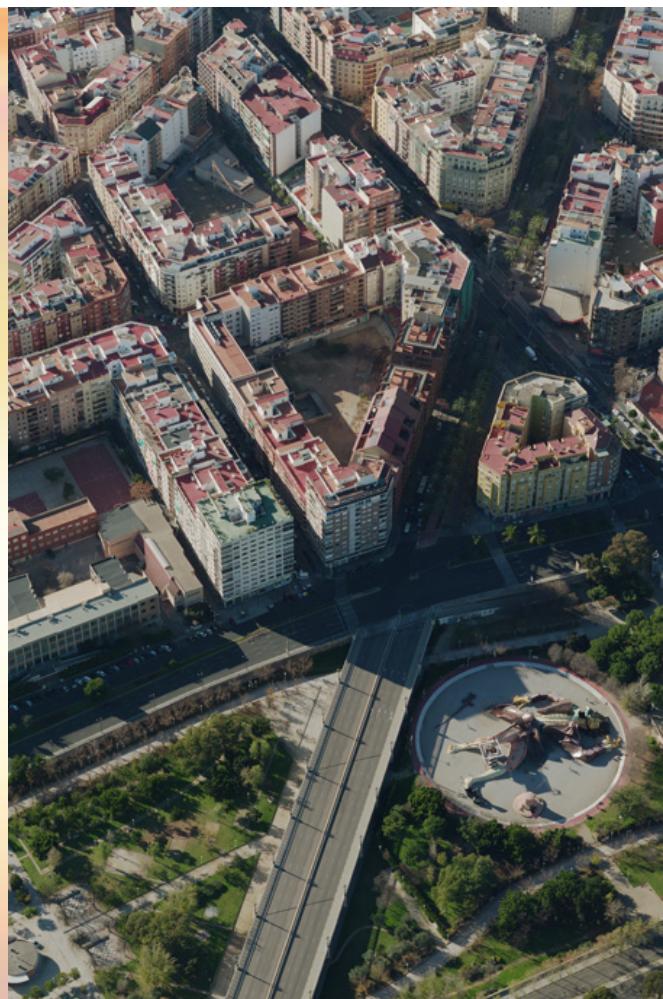


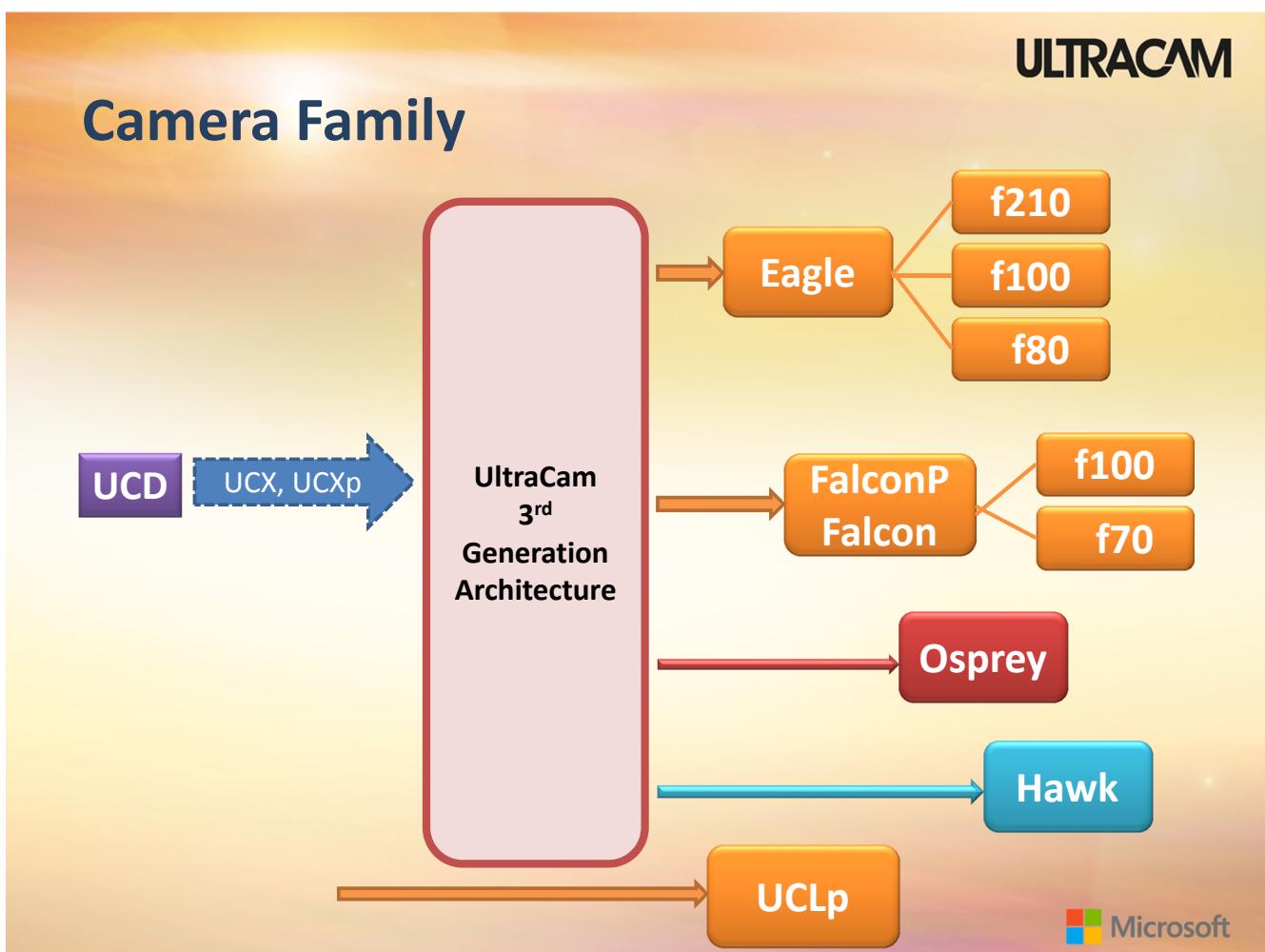
Forward Oblique (cones A+B stitched), RGB



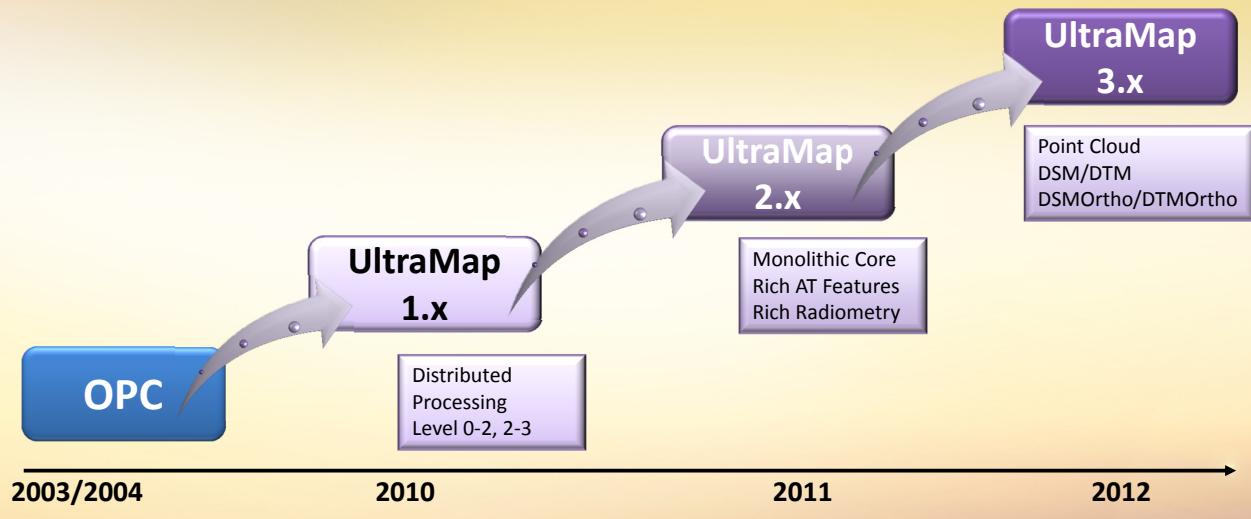
UltraCam Osprey
Valencia

Right Oblique, RGB

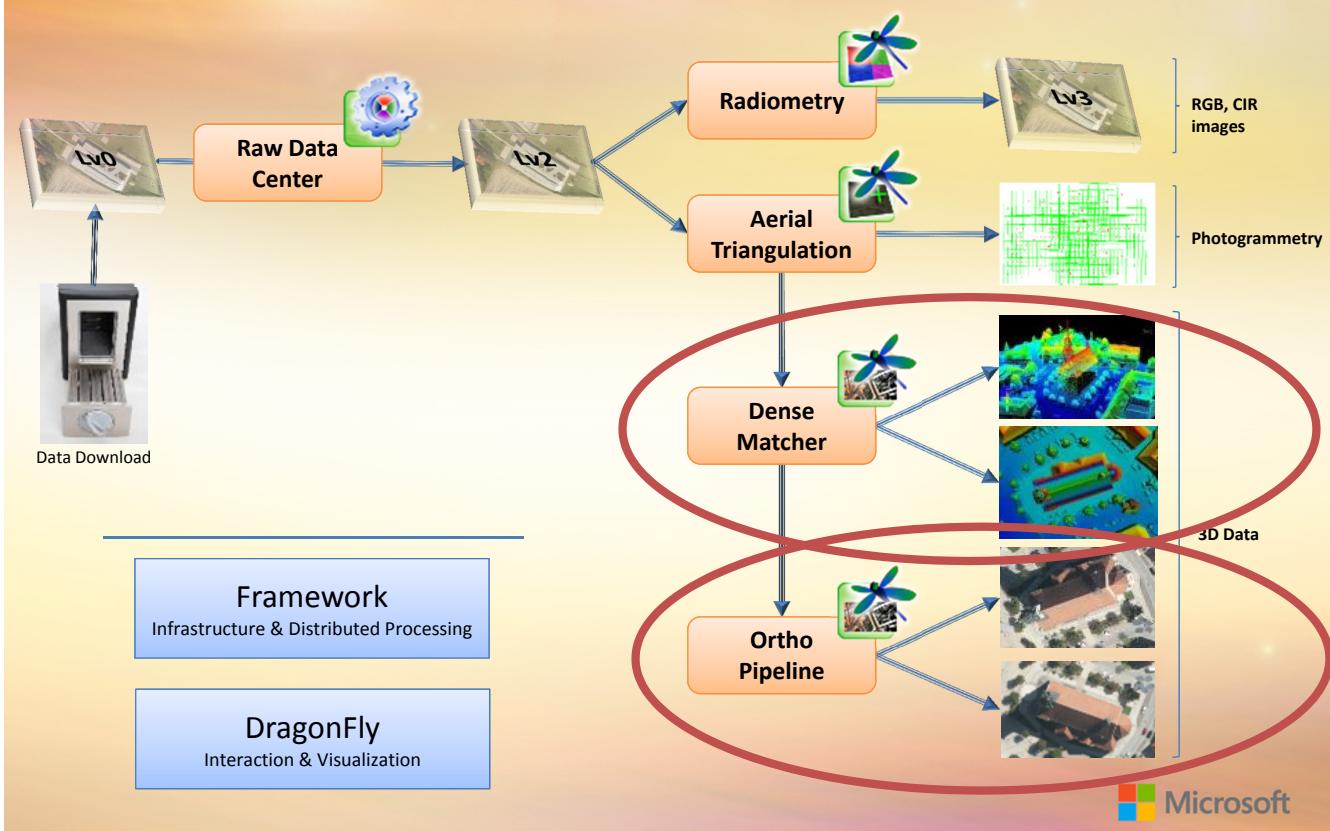


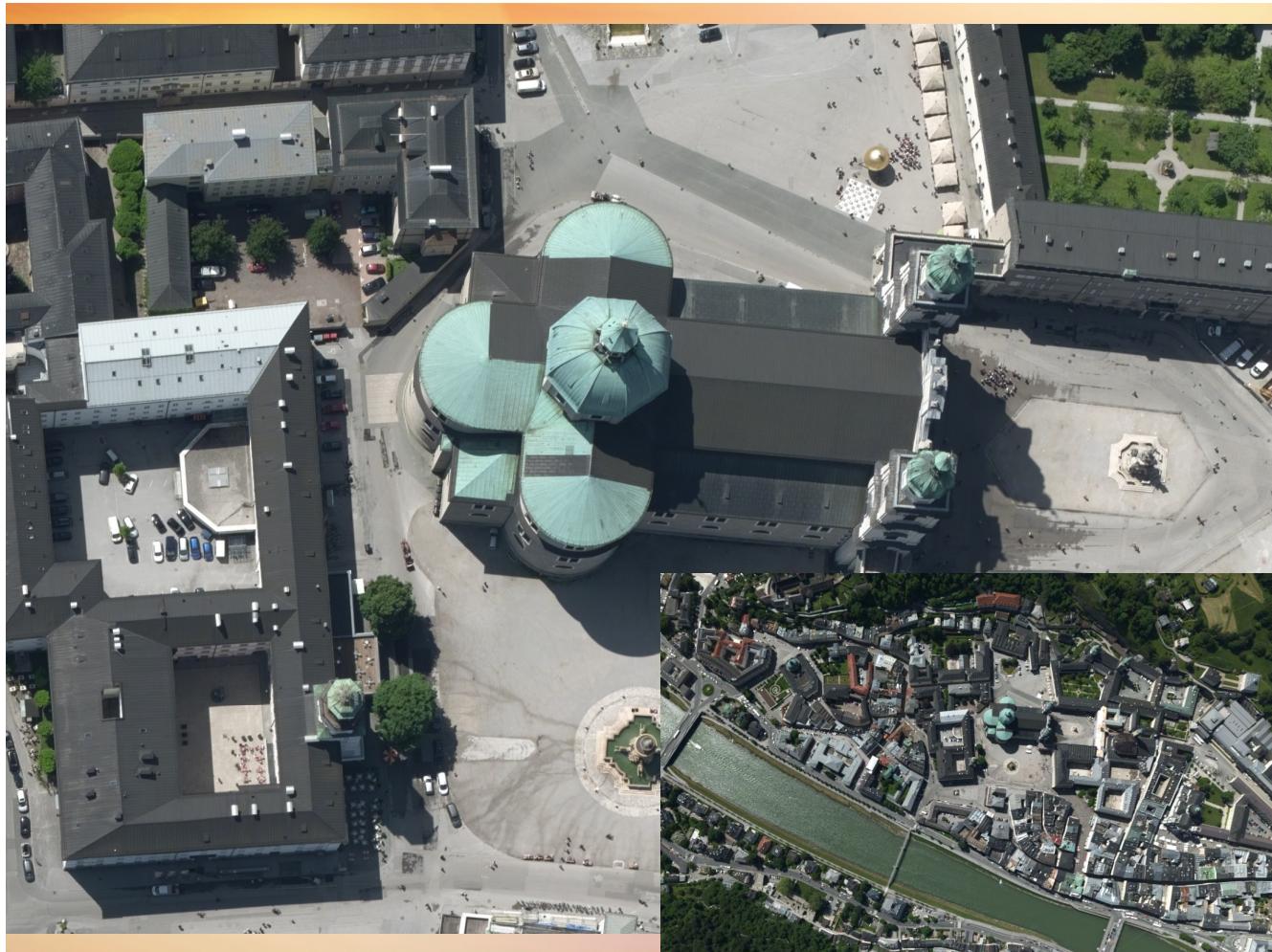


UltraMap



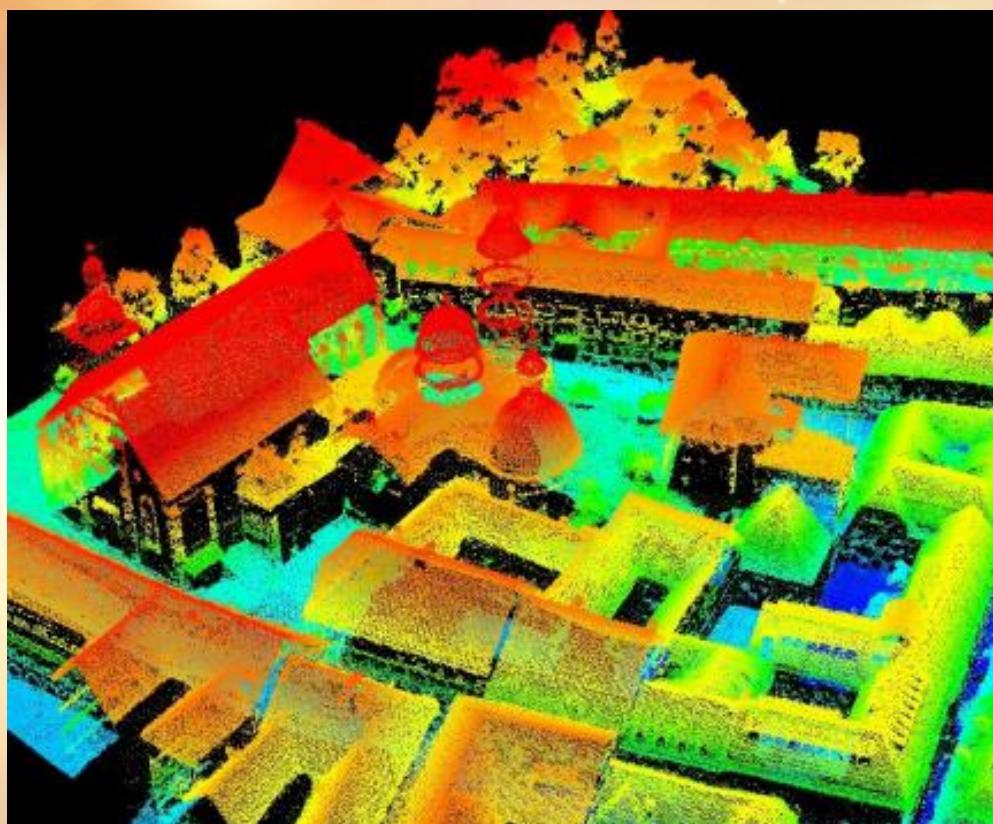
UltraCam Osprey – Processing Nadir





 **UM/Dense Matching - Point Cloud**

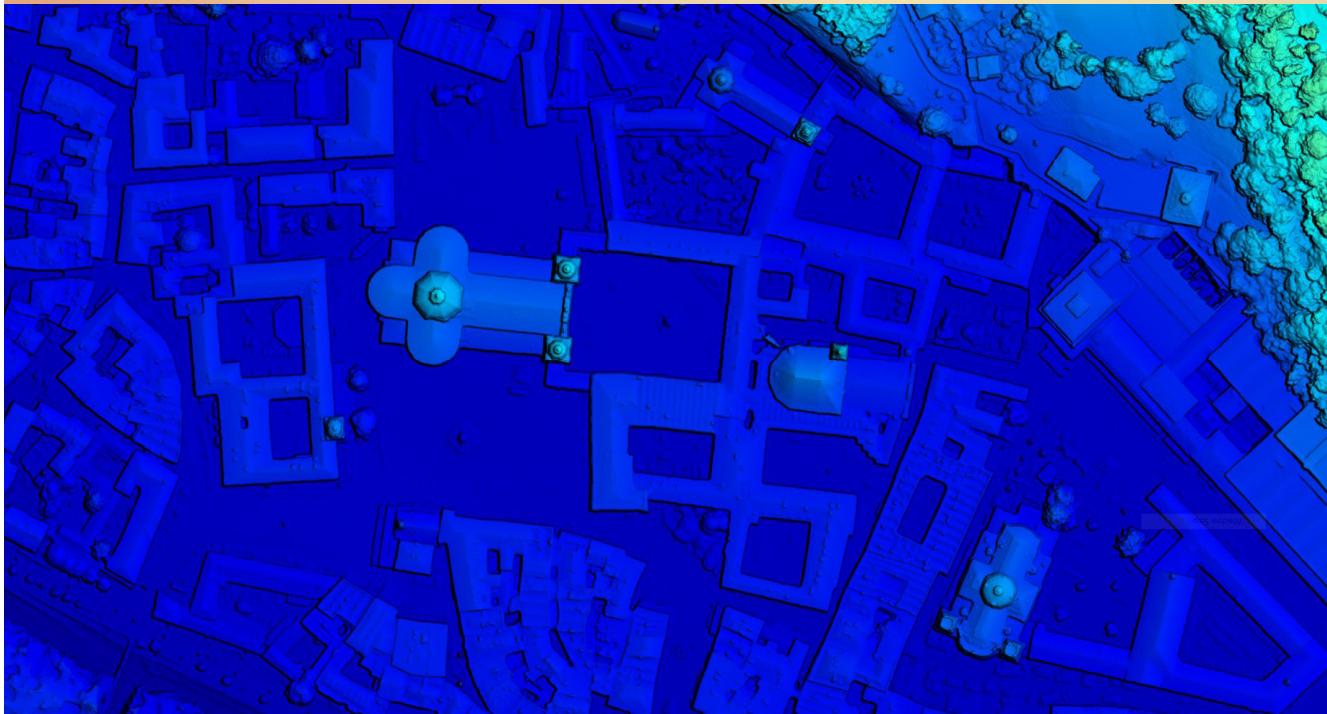
ULTRACAM



 Microsoft

ULTRACAM

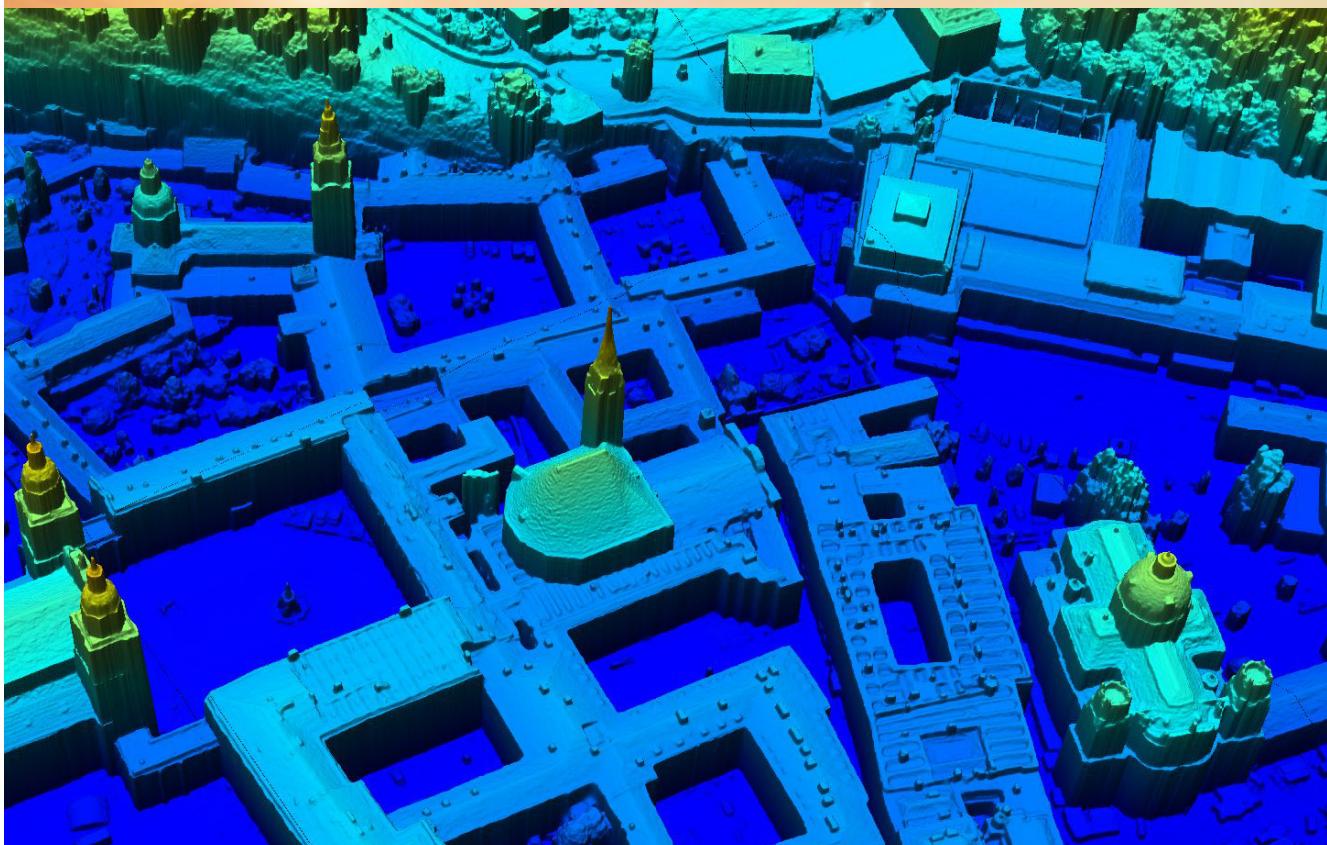
UM/Dense Matcher - DSM



Microsoft

ULTRACAM

UM/Dense Matcher - DSM





UM/Ortho Pipeline



ULTRACAM

- Fully automated and distributed processing of DSM- and DTMOortho tiles based on user defined region



DSMOrtho



DTMOortho

The Change Already Started ...

- **Madrid 2013:**

- El Ayuntamiento realiza miles de ortofotos de la ciudad para actualizar el Plan de Urbanismo



- Durante siete días, un avión Cesna 421 bimotor ha sobrevolado Madrid a 4.000 metros de altura, y disparado más de 10.700 fotos aéreas con una cámara Ultracam-Eagle f210. Con una técnica de gran precisión, ha obtenido ortofotos de altísima nitidez que descubre todo tipo de edificaciones, lo que permite renovar la cartografía municipal de cara al nuevo Plan de Urbanismo que actualmente se está redactando.

Thank you very much!

... and ...

**See you at our demonstrations here at
PhoWo: Group „F“**