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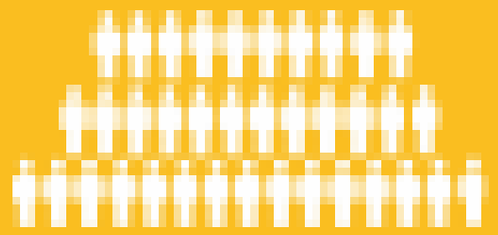
AERIAL DATA ACQUISITION

INNOVATION IN AERIAL SURVEY DATA ACQUISITION

A worldwide presence

11 aircraft



37 people

Aerial Survey - Vertical Imagery - Lidar - Oblique Imagery

BOOMING CITIES
need acurate, high resolution, fast updated, 2D and 3D city models

IN 2012,
IMAO CREATED THE FIRST 250 MPIXELS OBLIQUE AND NADIR CAMERA FOR AUTOMATIC 3D URBAN MODEL GENERATION

The 3DCAM
combines on the same support 4 oblique cameras and one vertical, allowing it to be used on all standard platforms on the market. 4 oblique 50 Mpx Cameras with 150 mm lens and 1 vertical camera with 100 mm lens.

and produces 20 3D models in France

1200km2 over Paris at 10cm GSD

IN 2016

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PRESENTS

B66, a BIG step
for Aerial Photography

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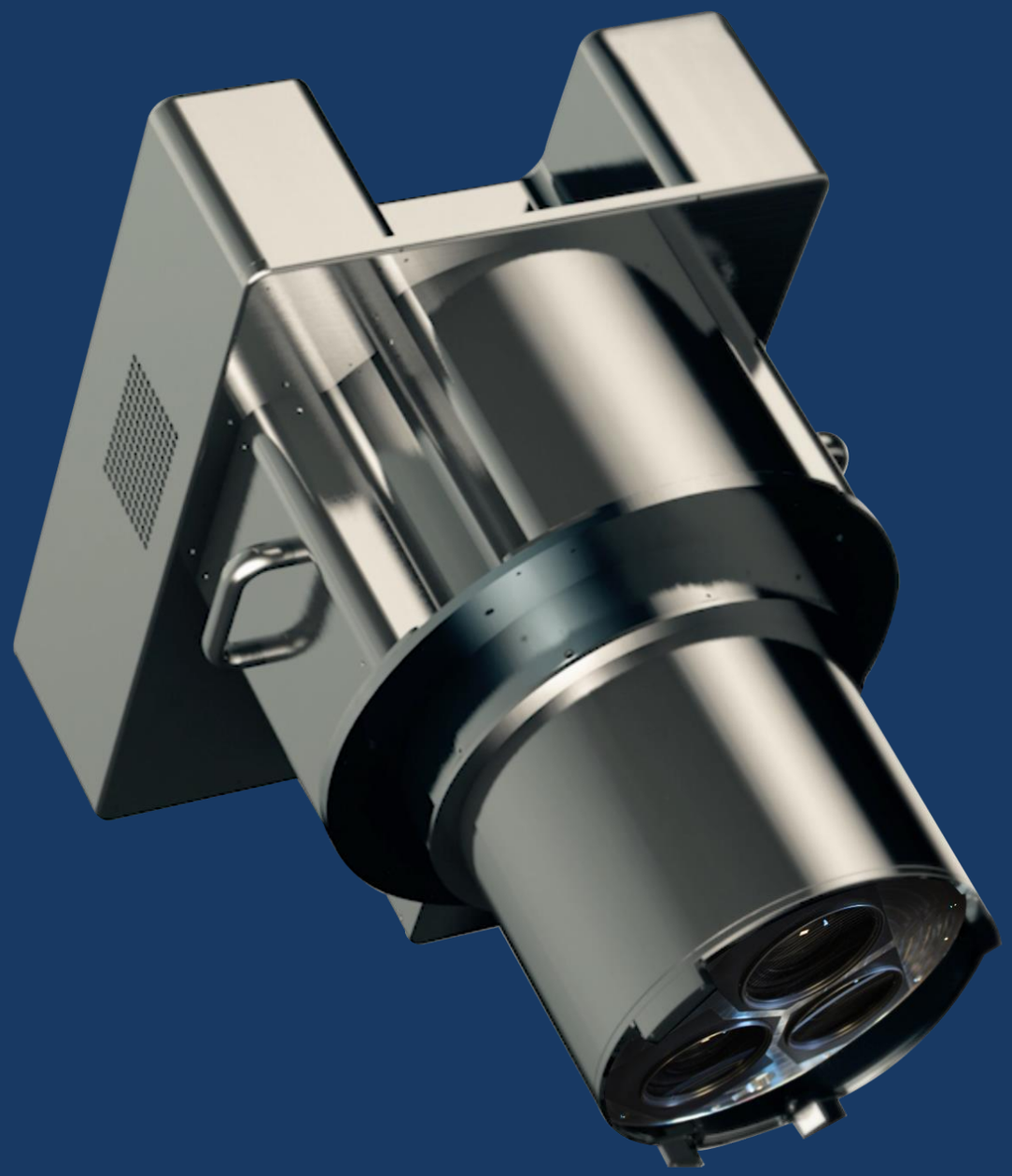

B66: the biggest photogrammetry frame camera in the world

« B like...

big

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BIG: image size 30000x22000 pixels

BIG: footprint of 26km2 at 20cm GSD

BIG: footprint of 7km2 at 10cm GSD

BIG: 660 Mpixel images

BIG: 2 GB TIF files

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Comparative Base
> Image sizes

Other current commercial cameras **B66**

30 000 X 22 000 pixels

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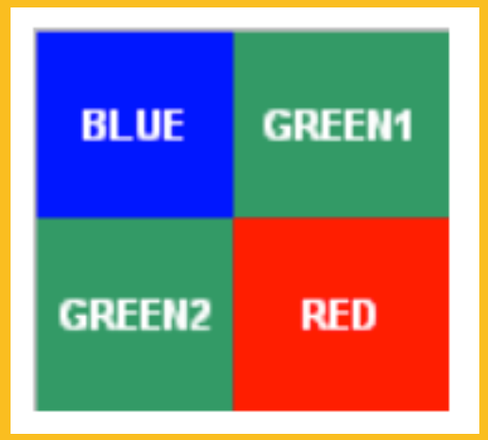
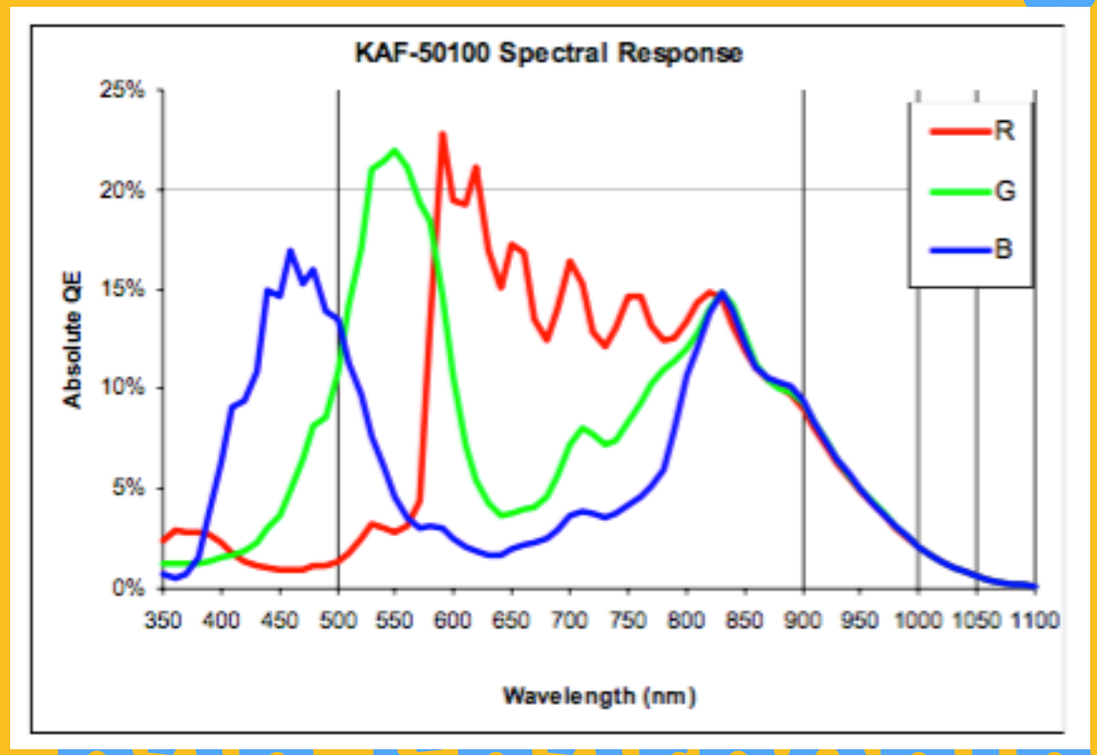
BIG Difference

Bayer Pattern technology





no pan sharpening
= natural colors

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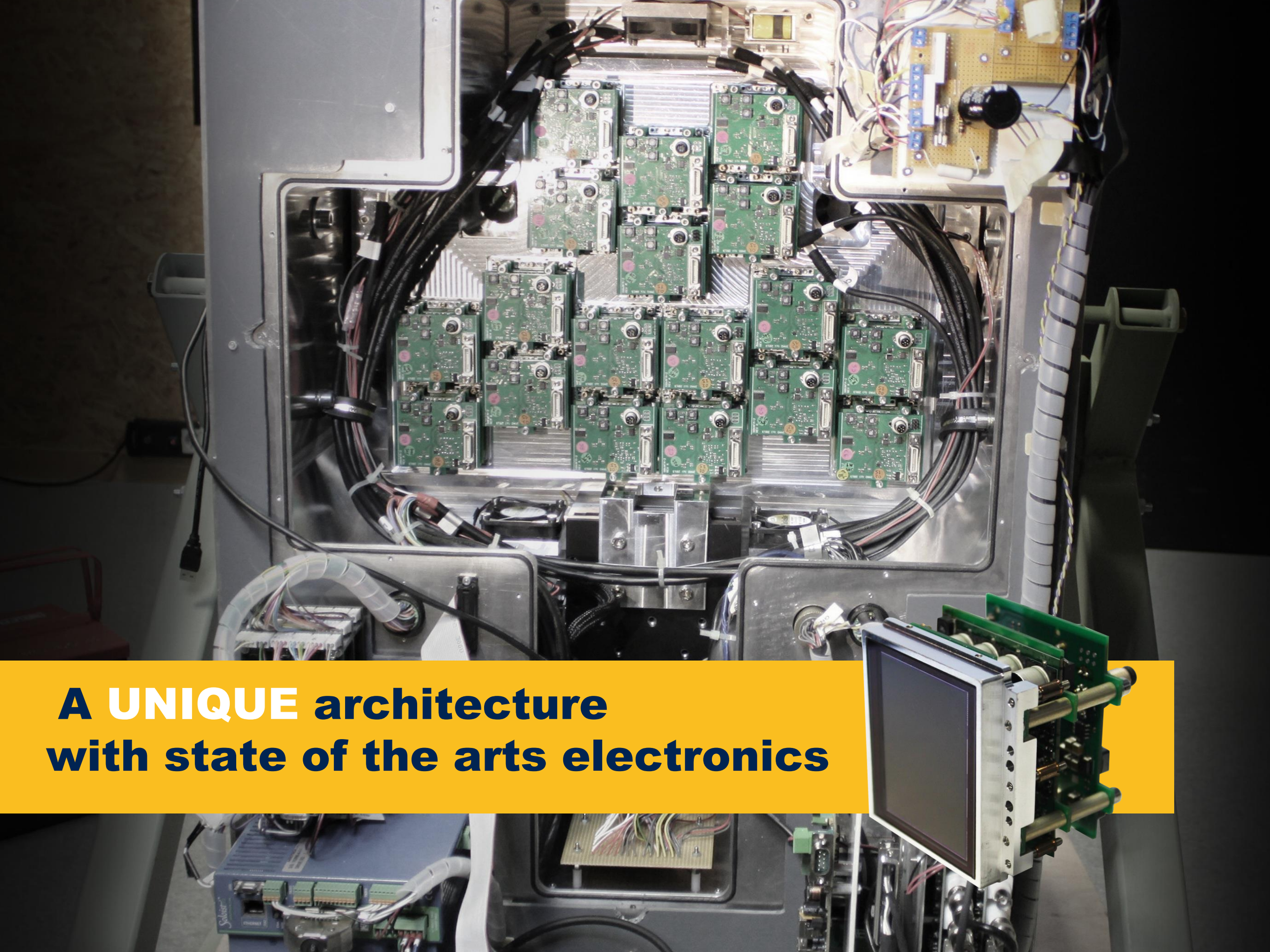
General features

1500 pictures
Flight time: 6h
GSD: 15 cm
Speed: 140kts

Image Size	30000 x 22000 pixels (660 Mpixels)
Image Channels	RGB &NIR
File Size	2 Go at 8 bits per pixel
Pixels Size	6 microns
Focal Length	185 mm
Field of view across	52°
Field of view along	40°
Forward Movement Compensation	Mechanical with sub-micron accuracy
Analog to Digital Conversion	8,12 or 16 bits
CIR pan sharpening ratio	1:4
Image number storage	1500
Frame rate	2,5s
CCD technology	Bayer pattern
Image reconstruction	Auto calibrated
B/H ratio	1
Shutter	Leaf type COPAL1 electomechanical
Apertures	1/6 to 1/22
Exposure speed	1/400s to 1/32s
Physical dimension	50x60x80cm
Weight	80kg
Power consumption (full)	850W

- IMU integrated
- Suitable with GNSS/INS recording
- Exchangeable shutter without recalibration
- On board image preview

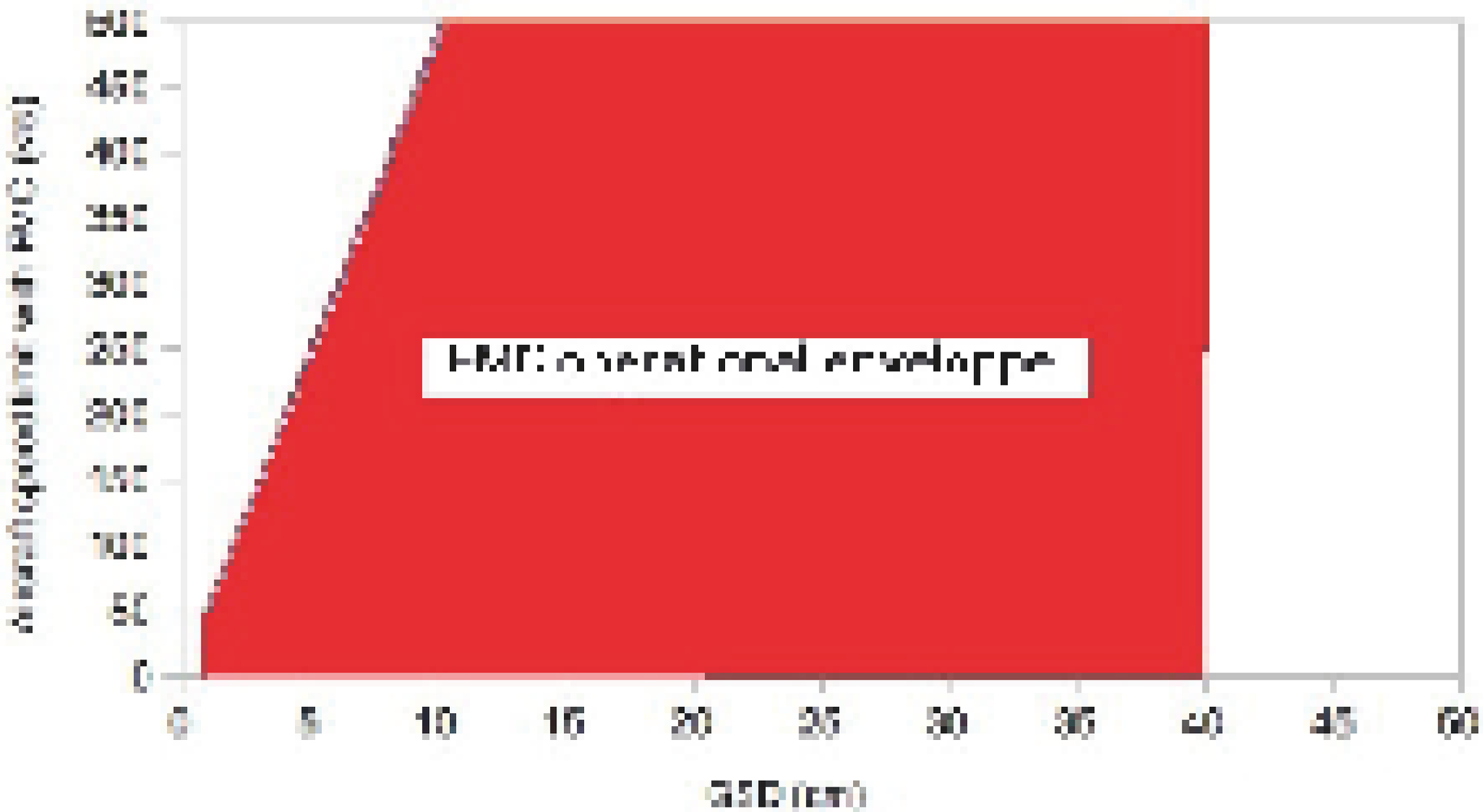


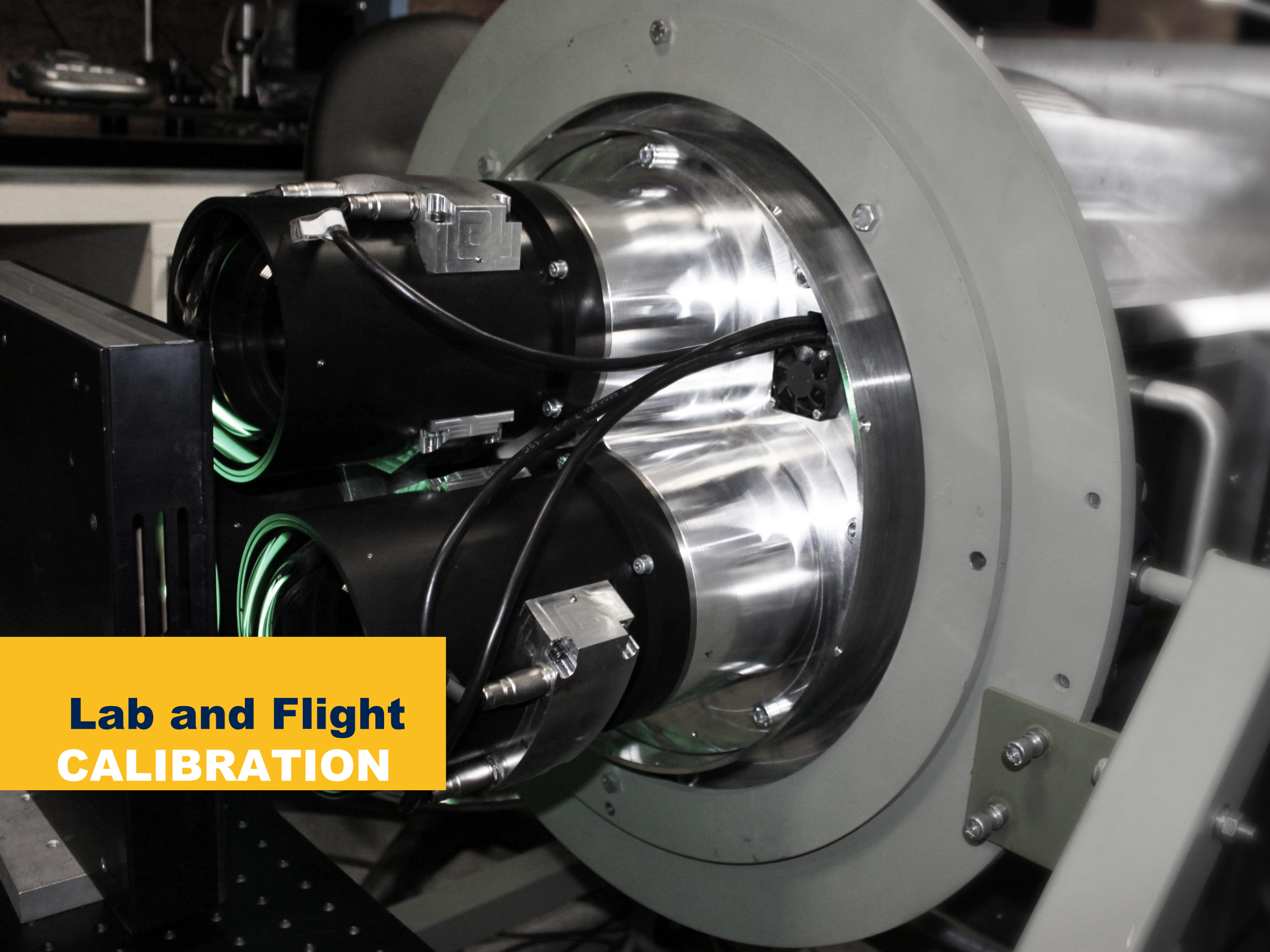
A UNIQUE architecture with state of the arts electronics

Special OPTICS DESIGN with removable shutters

FMC Performances

Forward Movement Compensation with sub-micrometer accuracy, up to 170 pixels (1mm)





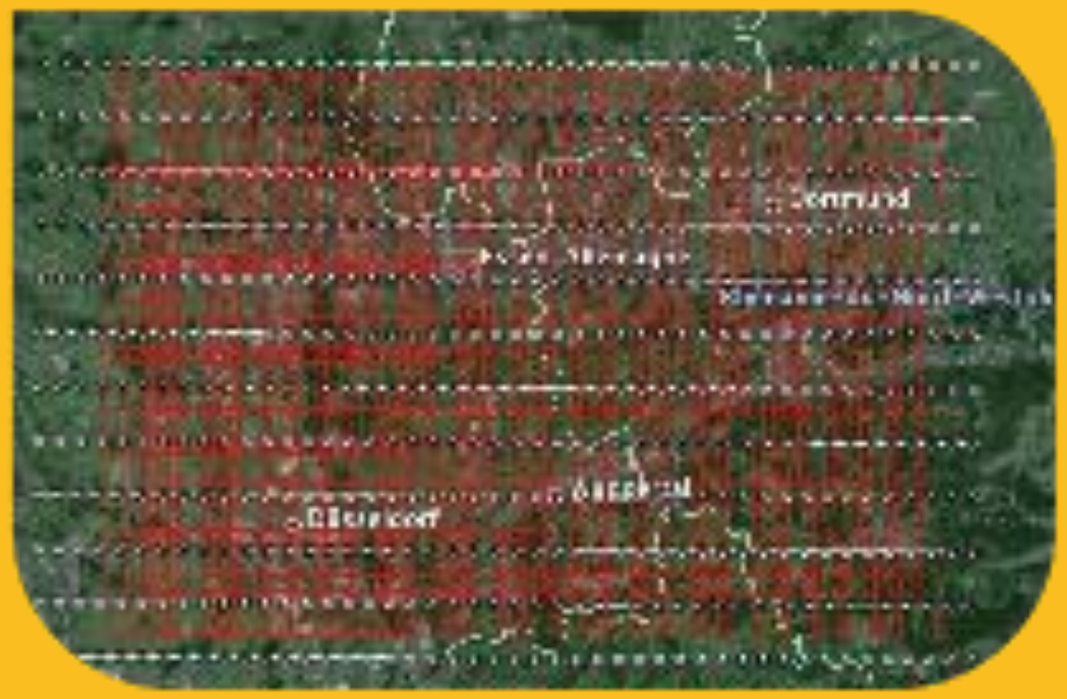
Lab and Flight CALIBRATION

BIG ADVANTAGES:

- Suitable with any mount / aerial survey aircraft
- Flight time efficiency (weather and costs)
- Flight time reduced by a factor of 1,5 to 2
- Less images decrease processing costs
- Delivers standard undistorded TIF images
- Long focal length ease overflights of majors cities and reduce lean effect

CASE STUDY

A 80x50 km - 4000km² project over Essen
20 cm GSD with 60/25 overlap



Resolution (cm)	20	10	5
Sidelap (%)	20	30	80
Forward overlap (%)	60	60	80
Aircraft speed (kts)	220	220	180
Project width (km)	100,0	50,0	10,0
Project length (km)	100,0	50,0	10,0
Project surface (km²)	10000	2500	100
Flight height (ft)	20232	10116	5058
Flight height (m)	6167	3083	1542
Number of flight lines	21	24	31
Number of photos	1239	1416	1488
Flight time in hours (5 mn per turn)	6,90	4,94	3,51
Maximum lean effect (%)	41,45	36,92	12,07
Time between shots (s)	15,55	7,78	2,38

Flight log summary

Name	Value	Unit
Num Segs	12	
Segm. length	950.400	km
Operation time	3.135	h
Time per turn	300.000	s
Mean speed	231.317	kts
Num Exposures	552	

See it BIG with B66

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Thank you

visit our website:
www.imao-fr.com