

# ***Demonstration and Applications of IGI Multisource 3D Data in SuperMap Platform with the IGI UrbanMapper***

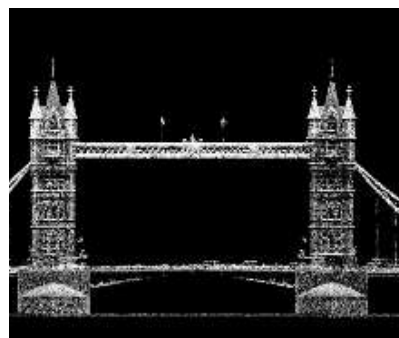
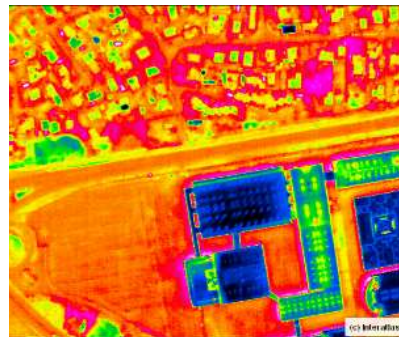
***Philipp Grimm***

**GIS International Forum, 28. June 2023**

Family Business since 1978  
More than 1000 customers in  
100 different countries  
World-wide Technical Support  
World-wide Sales Partner  
30 employees, 13 of them in R&D

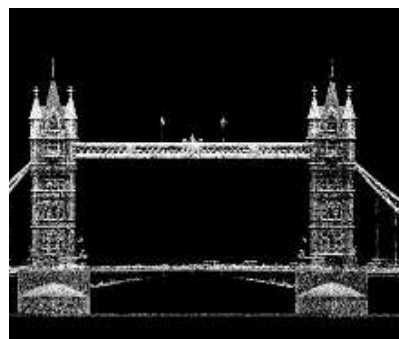


Headquarter in Kreuztal



- 45 years in the geospatial market
- Mission Planning & Flight Guidance
- Sensor Management
- GNSS/IMU Navigation

- Airborne Sensor Systems
- Mobile Mapping Solutions
- Turn-key Solutions
- Defense Solutions



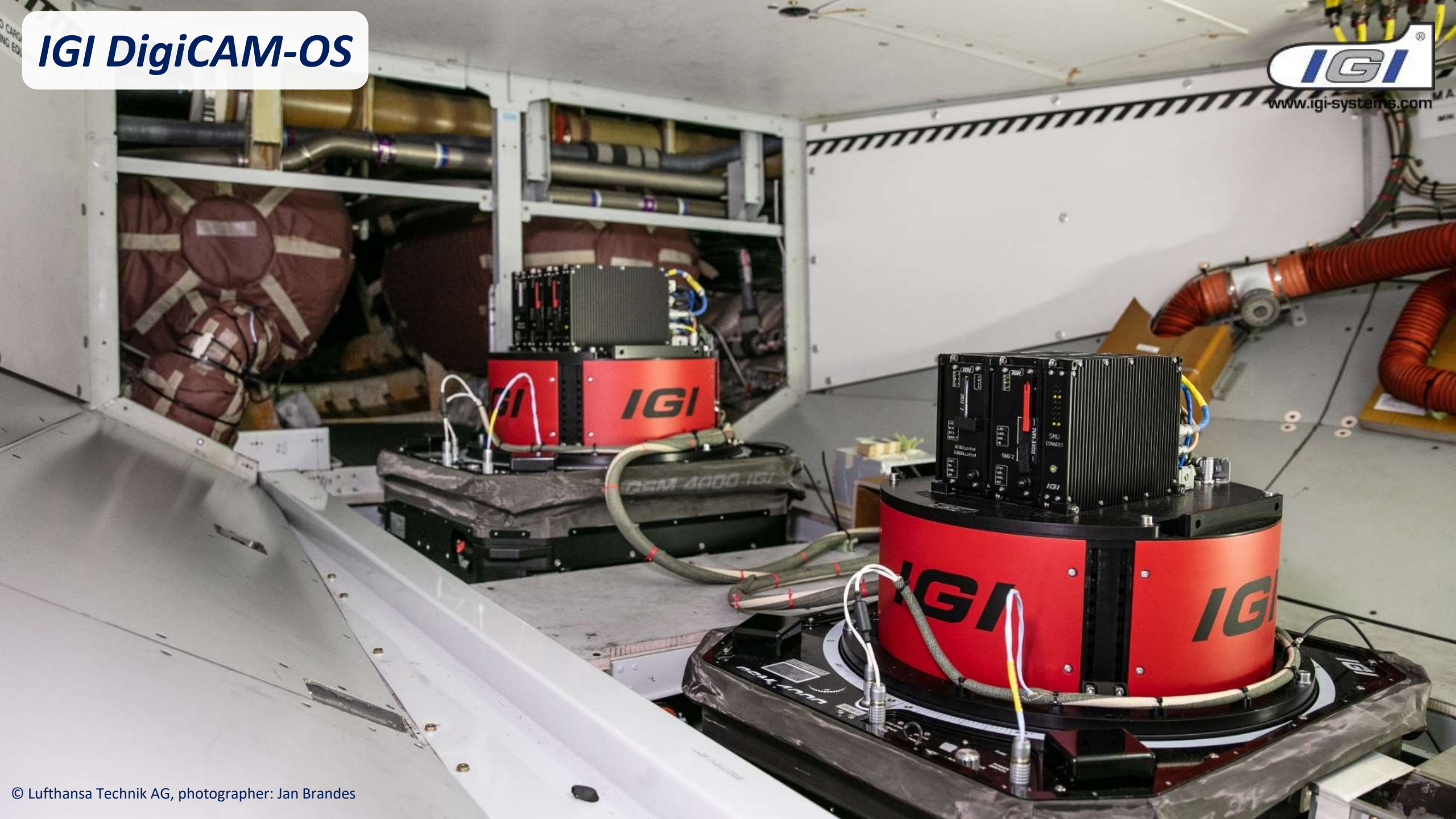
- 45 years in the geospatial market
- Mission Planning & Flight Guidance
- Sensor Management
- GNSS/IMU Navigation

- Airborne Sensor Systems
- Mobile Mapping Solutions
- Turn-key Solutions
- **Defense Solutions**

# Open Skies 2019 Airbus A319-OH



# IGI DigiCAM-OS





# IGI DigiCAM-OS

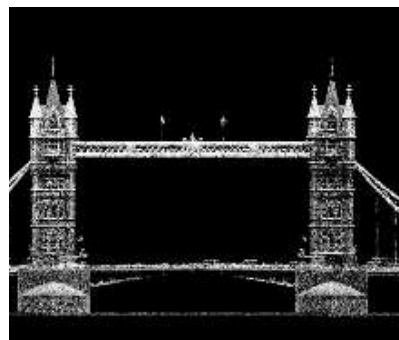
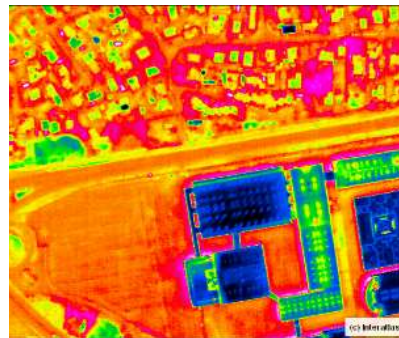


## **SOLUTION -> IGI Modular Camera Systems, DigiCAM-OS**

- Four independent camera assemblies operated in separate camera-holes
- Technology:
  - Shift and tilt camera modules to increase field of view (FOV)
  - Special 23mm lenses to increase field of view (FOV)
- Fully tested against EASA EUROCAE ED-14E / FAA DO-160 specification





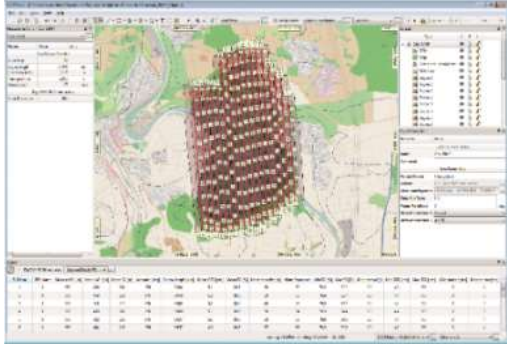


- 45 years in the geospatial market
- Mission Planning & Flight Guidance
- Sensor Management
- GNSS/IMU Navigation

- **Airborne Sensor Systems**
- Mobile Mapping Solutions
- Turn-key Solutions
- Defense Solutions

# IGI's State Of The Art Aerial Camera & LiDAR Systems

Modular Design Lower Operating Costs + Endurance!



**IGIplan**



**AEROoffice, IPS, 3rd party**



**CCNS-5**



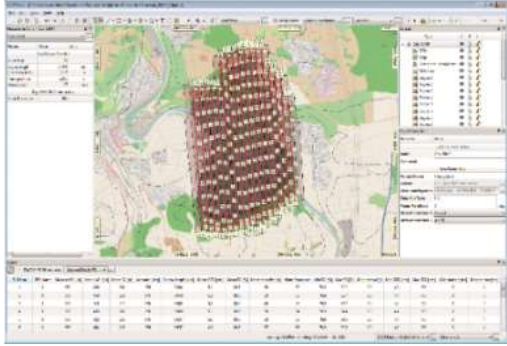
**AEROcontrol**



**SMU / IGIvisu**

# IGI's State Of The Art Aerial Camera & LiDAR Systems

Modular Design Lower Operating Costs + Endurance!



**IGIplan**



**AEROoffice, IPS, 3rd party**



**CCNS-5**



**AEROcontrol**



**SMU / IGIvisu**

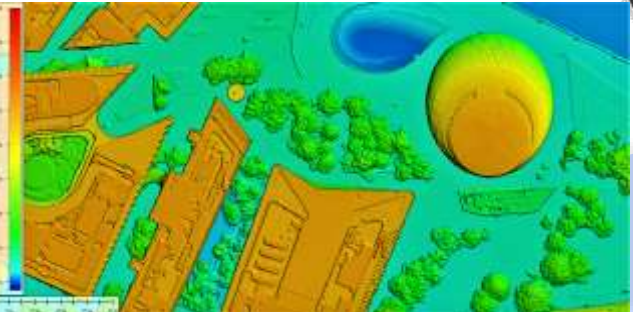
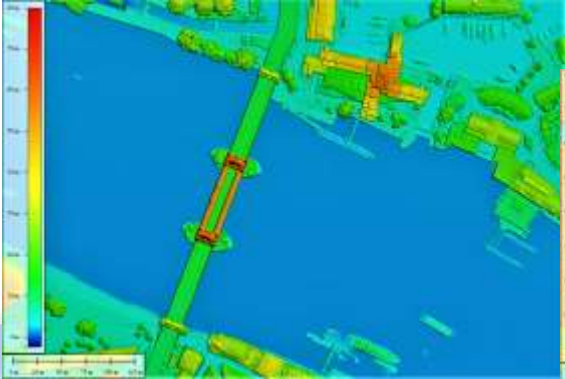
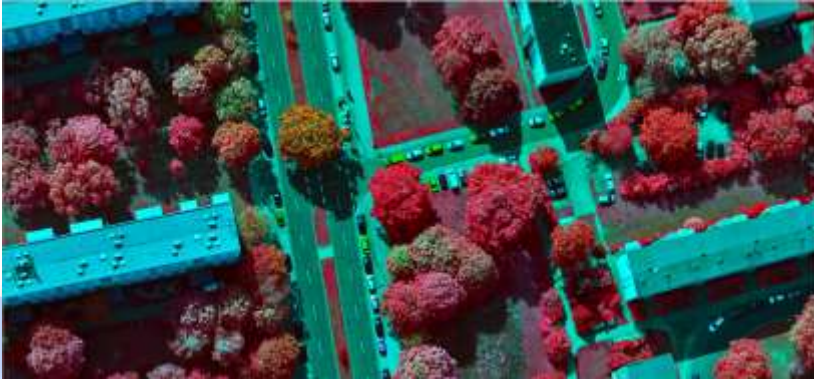
# IGI Aerial Camera Systems: Medium to Large-format + 2-IN-1

Medium-Format

Large-Format

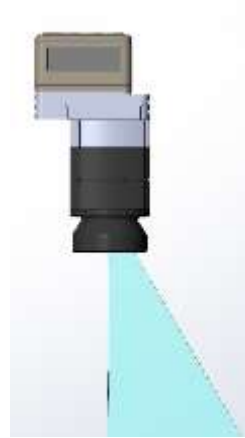
2-IN-1 Systems

Integrated Systems



# Increase Pixel Count: Shift vs. Tilt

Shift



- Homogeneous resolution
- Rectangular footprint
- Large circle of illumination necessary
- Special camera construction / reduced versatility

Tilt



- Inhomogeneous resolution
- Distorted footprint
- Smaller circle of illumination possible
- No special camera construction needed / optimal versatility

# IGI Large Format Aerial Camera System

*IGI Dual-DigiCAM-200*

## ***IGI Dual-DigiCAM-300***

*IGI DigiCAM-450*

**RGBI 22,400 x 13,500 pixels (Tilt Technology)**

**Lens Options: 70, 90mm**

**Upgrade to *IGI DigiCAM-450, IGI UrbanMapper-2***

Mount Support DSM-400 or larger



# IGI 2-IN-1 Aerial Camera System

## IGI Penta-DigiCAM-280

IGI UrbanMapper

IGI UrbanMapper-2P

Nadir: RGBI **20,150** x **14,118** pixels (Shift Technology)

Oblique: RGB 14,204 x 10,652 pixels

**Lens Options Nadir: 90mm**

**Lens Options Oblique: 110mm**

Mount Support GSM-3000/4000 or PAV80/100



**New  
2022**

# IGI 2-IN-1 Aerial Camera System

*IGI UrbanMapper*

*IGI UrbanMapper-2*

## **IGI UrbanMapper-2P 180mm**

Nadir: RGBI **31,000** x **14,000** pixels (Tilt Technology)

Oblique: RGB 14,204 x 10,652 pixels

Lens Options Nadir: 90, 150, **180mm**

Lens Options Oblique: 90, 110, 150, **180mm**

Mount Support GSM-3000/4000 or PAV80/100

**New  
2022**





# IGI 2-IN-1 Aerial Camera System

*IGI UrbanMapper*

*IGI UrbanMapper-2*

## ***IGI UrbanMapper-2P***

Nadir: RGBI **34,500** x **14,100** pixels (Tilt Technology)

Oblique: RGB 14,204 x 10,652 pixels

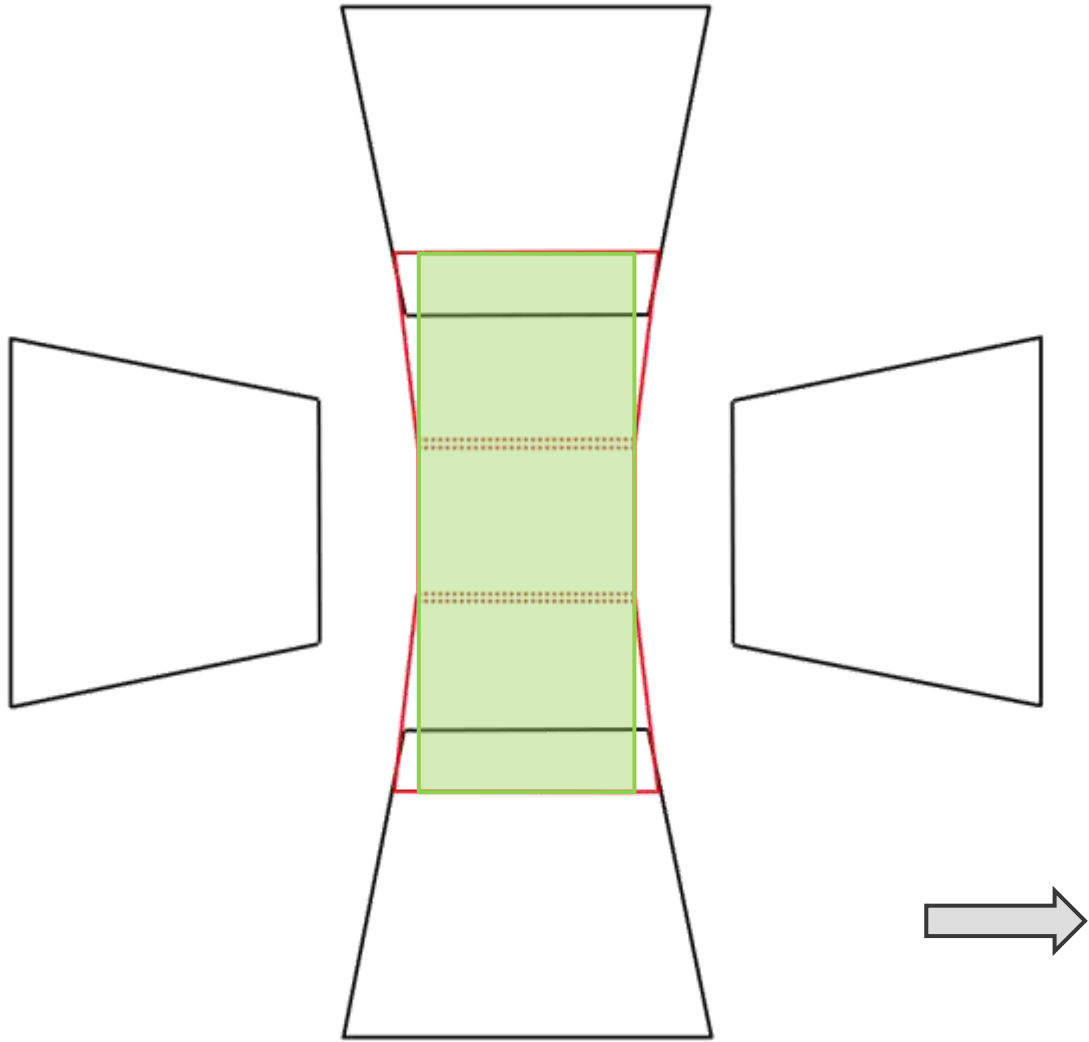
Lens Options Nadir: **90**, 150, 180mm

Lens Options Oblique: 90, **110**, 150, 180mm

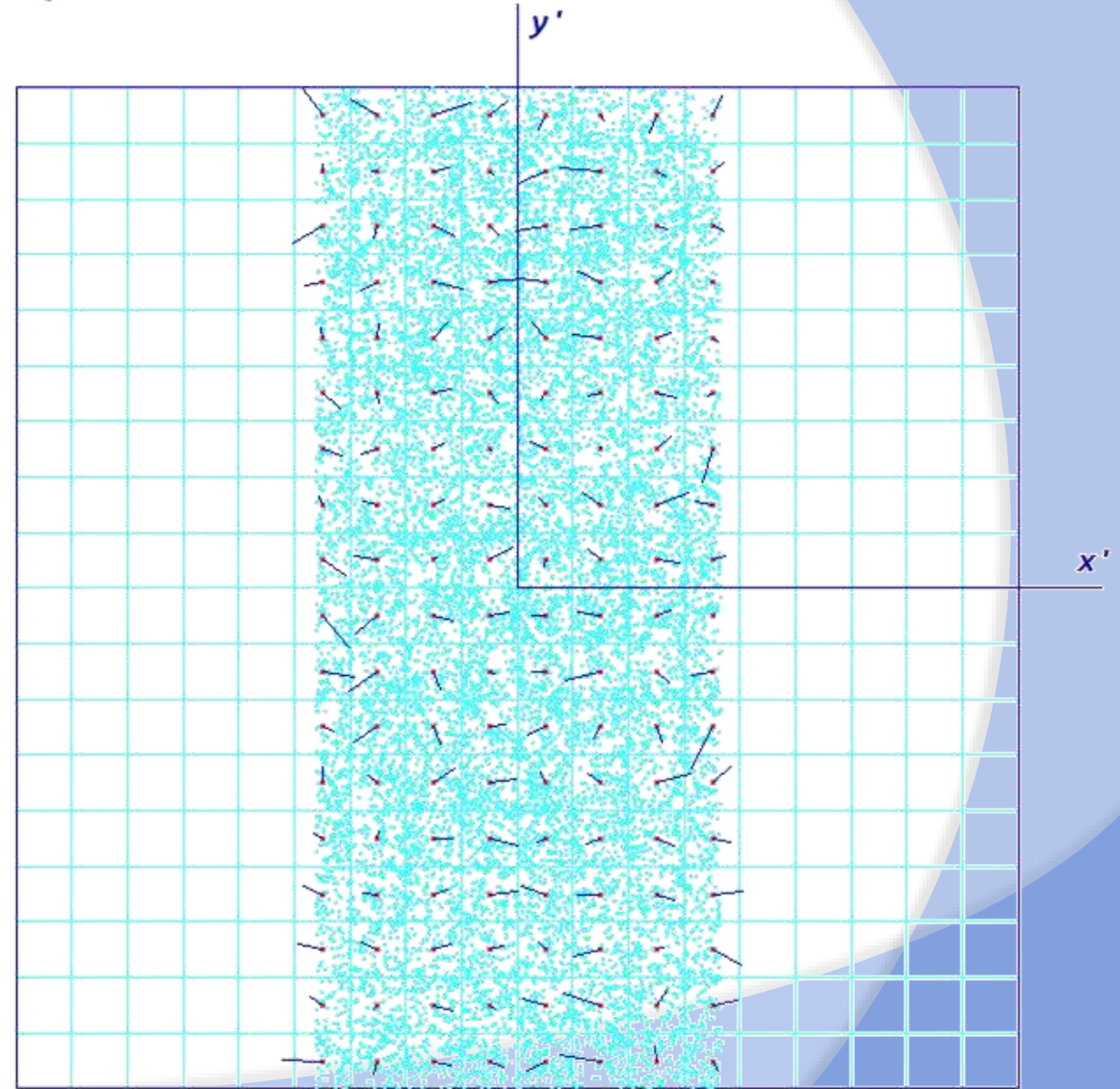
Mount Support GSM-3000/4000 or PAV80/100



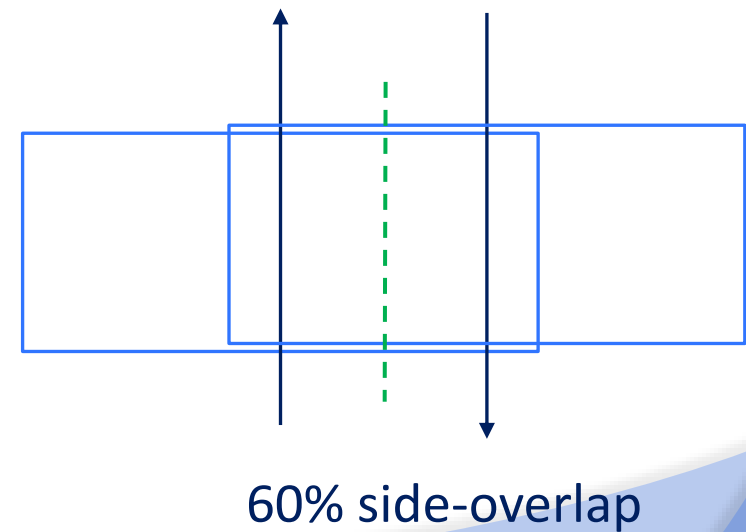
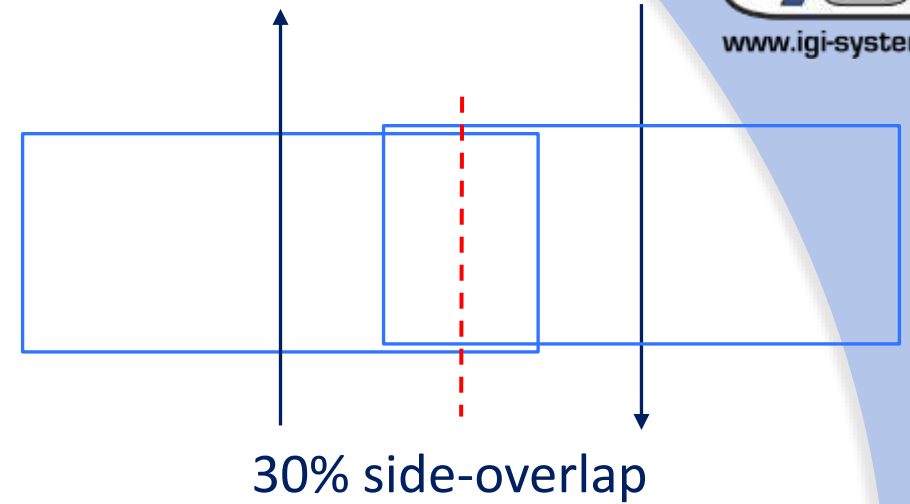
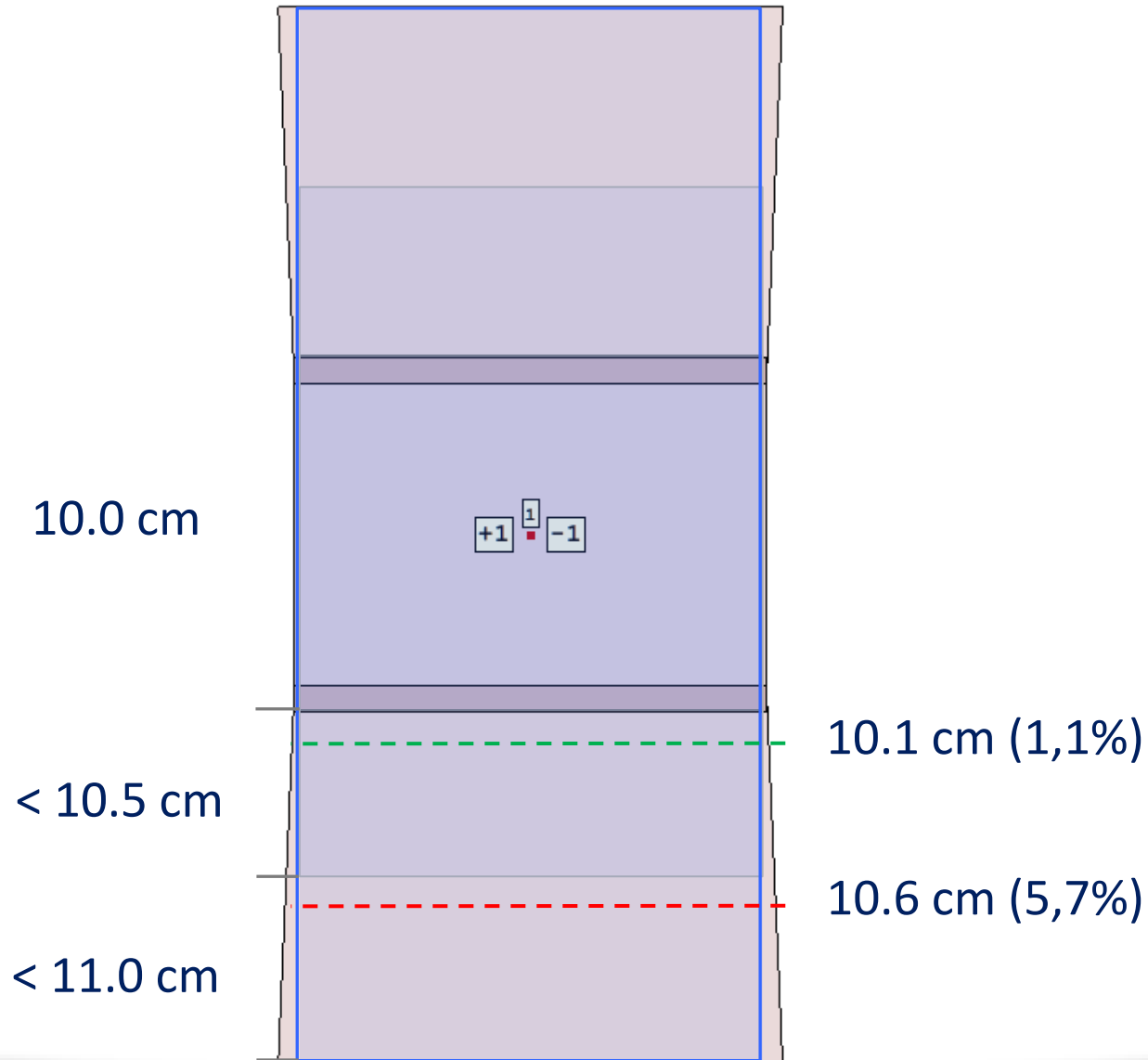
# IGI UrbanMapper – Stitching Process



Grid size: 130 \* 130



# Effective GSD – IGI UM-2 150mm



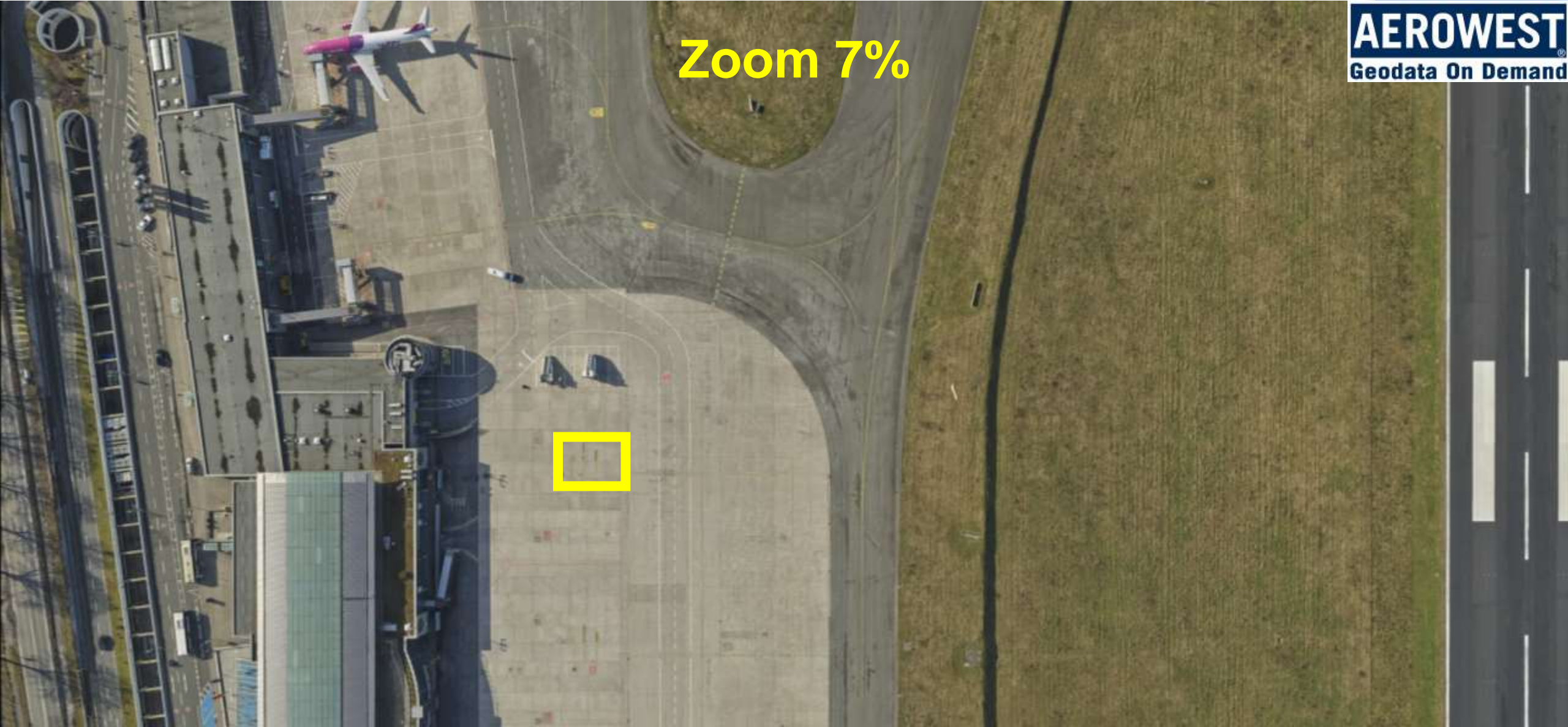
→ GSD down to 1.5 cm from manned aircraft!

→ Reduce your mission time by 40%! *IGI UrbanMapper-2P*

**Zoom 7%**



- GSD down to 1.5 cm from manned aircraft!
- Reduce your mission time by 40%! *IGI UrbanMapper-2P*

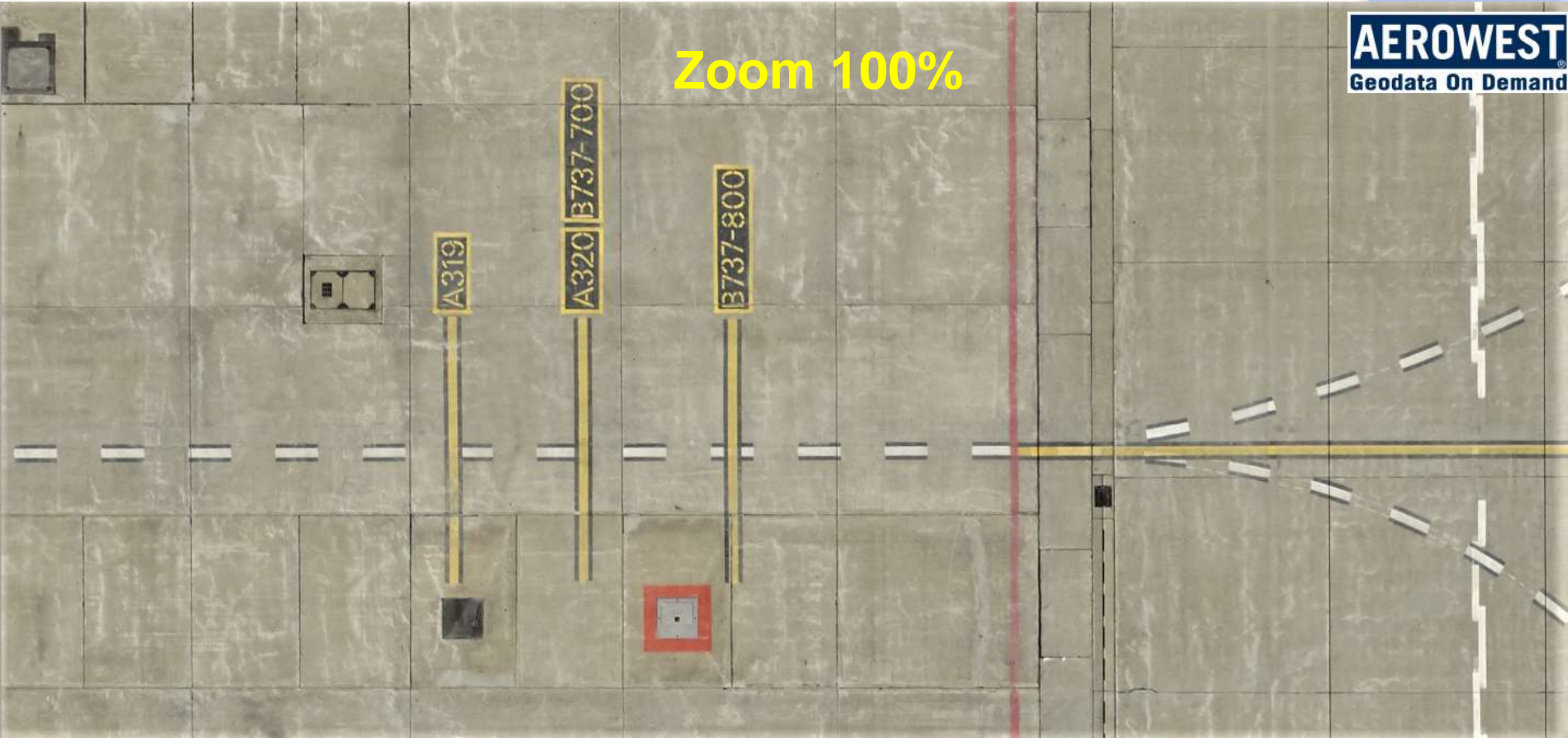


- GSD down to 1.5 cm from manned aircraft!
- Reduce your mission time by 40%! *IGI UrbanMapper-2P*



→ GSD down to 1.5 cm from manned aircraft!

→ Reduce your mission time by 40%! *IGI UrbanMapper-2P*



→ GSD down to 1.5 cm from manned aircraft!

→ Reduce your mission time by 40%! *IGI UrbanMapper-2P*

**Zoom 18%**





→ GSD down to 1.5 cm from manned aircraft!

→ Reduce your mission time by 40%! *IGI UrbanMapper-2P*

**Zoom 50%**



→ GSD down to 1.5 cm from manned aircraft!

→ Reduce your mission time by 40%! *IGI UrbanMapper-2P*

**Zoom 100%**



# Tecnam P2006T-SMP



***IGI UrbanMapper  
+ LiteMapper-5802***



GISTC 2023



# *IGI UrbanMapper Technology*

**Checked and approved by German authorities (AdV)**

**Cleared for land surveys in Germany, The Netherlands, South Korea**

**In use in North America, Europe, Asia and Australia**




# *IGI UrbanMapper Technology*

**Checked by German authorities (AdV)**

**Cleared for land surveys in Germany, The Netherlands, South Korea**

**In use in North America, Europe, Asia and Australia**



**Thank you !  
Any Questions ?**