

CUSTOM SOLUTIONS

IGI's Custom Solution mission is to provide our customers with a unique and leading system. We offer an array of solutions including stabilized mount support, LiDAR, hyperspectral and thermal camera integrations as well as custom solutions for fixed-wing aircrafts, helicopters, gyrocopters and UAV/RPAS platforms.



IGI UrbanMapper installed in stabilized mount GSM-3000



IGI UrbanMapper installed in fixed-wing aircraft



IGI Penta-DigiCAM together with IGI LiteMapper (fitting in aerial hole)

SMART SOLUTIONS

Please contact us or your local partner for your custom sensor configuration and installation.

Your local contact is:

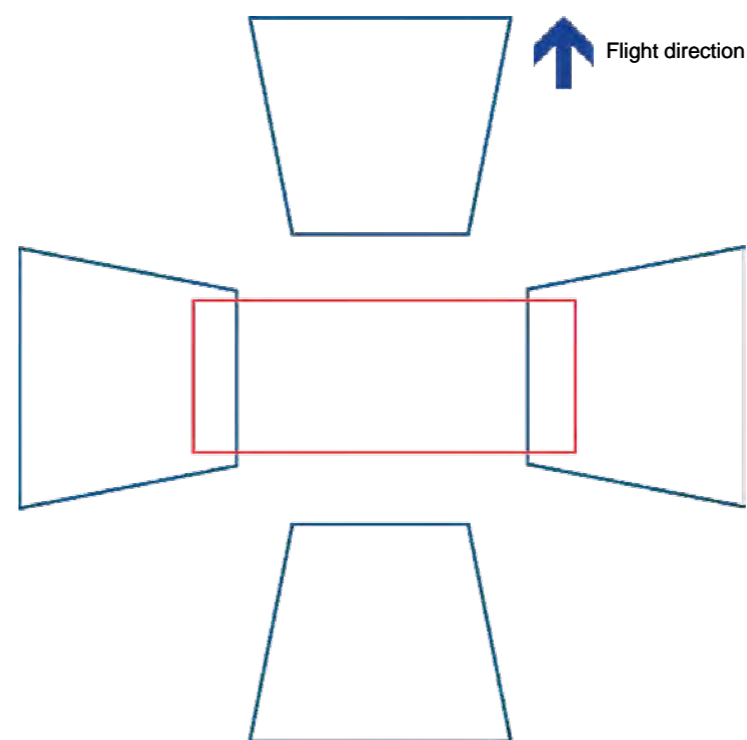
IGI mbH

Langenauer Str. 46
57223 Kreuztal
Germany

Phone: +49 (0) 2732 5525-0
Fax: +49 (0) 2732 5525-25
Email: info@igi-systems.com
Web: www.igi-systems.com



IGI UrbanMapper



**2-IN-1
Large Format
+ Oblique**



The all new IGI UrbanMapper is a large format digital aerial camera. Simultaneously it is also an oblique aerial camera system, providing four views to all sides. It is the next generation of digital aerial camera systems for the production of large-format nadir and oblique aerial imagery within one single flight.

The IGI UrbanMapper offers outstanding performance with 0.6 sec image repetition time. With shutter speeds of up to 1/2000 sec and a high dynamic range of 84dB, the camera produces brilliant imagery even under challenging light conditions.

SPECIFICATIONS IGI UrbanMapper	
Nadir Sensor Size, RGB*	28,200 x 11,500 pixels
Nadir Sensor Size, RGBI*	24,900 x 11,500 pixels
Oblique Sensor Size, RGB*	11,608 x 8,708 pixels
Channels	RGBI, RGB, CIR, NIR (nadir), 4x RGB (oblique)
Sensor Technology	CMOS
Pixel Size	4.6 µm
Maximum Frame Rate	0.6 sec
Dynamic Range	> 84 dB
Compensation	FMC by BCM
SSD Hot-plug Storage Units with RAID technology	Storage Units for >10,000 images (4 / 8 / 16 TB)
*Customized solutions based on 60 or 80 Mpixel digital backs are available on request	

SPECIFICATIONS IGI UrbanMapper		
Shutter	Electronically controlled leaf shutter	
Shutter Speed Options	Up to 1/2000 sec	
Analog to Digital Conversion	16 bit	
Lenses	90 mm for nadir & oblique RGB, 40 mm for NIR	
Maximum Operating Altitude	No limit	
Integrated Sensor Management (IGIvisu) Integrated GNSS/IMU System (AEROcontrol) Integrated Mission Planning & Flight Guidance (CCNS-5 with IGIplan)		
Physical Dimensions	IGI UrbanMapper suitable for GSM4000/3000, PAV100/80/30 or similar	
	IGI UrbanMapper Sensor Part ø402 - 430 x 565 mm ø15.83 - 16.93 x 22.25 inches	
	IGI UrbanMapper SMU Part 340 x 370 x 364 mm 13.4 x 14.6 x 14.33 inches	
	IGI UrbanMapper Operator Screen: 4K (3840 X 2560) ultra-high resolution multi-touch-screen as operator interface (20")	475 mm x 334 mm x 12.5 mm 18.7 x 13.15 x 0.5 inches
	IGI CCNS-5 for Pilot / Operator	175 mm x 125 mm x 35 mm 6.89 x 4.92 x 1.38 inches
System Weight	IGI UrbanMapper Sensor Part	55 kg (121 lbs)
	IGI UrbanMapper SMU Part	15 kg (33 lbs)
	IGI UrbanMapper Operator Screen	2.4 kg (5.3 lbs)
	IGI CCNS-5 for Pilot / Operator	0.8 kg (1.7 lbs) each
	Cabeling, antenna, etc.	3.5 kg (7.7 lbs)
Power Consumption	IGI UrbanMapper	380W @ 28 VDC
	IGI UrbanMapper Operator Screen	80W @ 28 VDC
	IGI CCNS-5 for Pilot / Operator	14W @ 28 VDC each
Total System Weight / Power Consumption	77.5 kg (170.4 lbs) / 488 W @ 28 VDC	

Turn-key Solution with proven workflow

Together with several industrial partners, IGI provides an integrated workflow for the generation of orthophotos, 3D stereo vector digitizing and a full automatic workflow for the production of 3D city models.



3D Stereo Plotting
Easy 3D Stereo vector digitizing
e.g. with Summit Evolution™



True Orthofoto
Automatic generation of true orthos



3D City Model
Automatic generation of 3D city models with IGImatch or RhinoCity

IGI UrbanMapper Image Motion

The camera modules in the IGI UrbanMapper are designed to operate at an exposure time of 1/2000 second. Due to the high sensitivity of the CMOS sensor and the wide dynamic range, this fast exposure time is possible under all relevant light conditions and blur free imagery is assured even with high flying speeds.

IGI UrbanMapper Footprint / Image Motion at different GSD						
GSD	Flying Height	Width of image across RGBI / RGB	Length of image along	Image Motion 70kn(130km/h)	Image Motion 120kn(220km/h)	Image Motion 185kn(340km/h)
5 cm	978 m	1,245 m / 1,439 m	575 m	0.5 px	0.8 px	1.2 px
10 cm	1,957 m	2,491 m / 2,821 m	1150 m	0.2 px	0.4 px	0.6 px
15 cm	2,935 m	3,735 m / 4,230 m	1725 m	0.2 px	0.3 px	0.4 px
20 cm	3,913 m	4,980 m / 5,640 m	2304 m	0.1 px	0.2 px	0.3 px
25 cm	4,891 m	6,226 m / 7,059 m	2875 m	0.1 px	0.2 px	0.2 px

IGI UrbanMapper Stereo Coverage

The following table shows the possible forward overlap and the related frame rate. A 80% forward overlap or more is recommended for the automatic production of dense point clouds, DSMs, true orthophotos and 3D city models.

IGI UrbanMapper Stereo Coverage at different GSD @120kn (220km/h)			
GSD	Frame Rate at 60% forward overlap	Frame Rate at 80% forward overlap	Forward overlap at 0.85 sec frame rate
5 cm	3.7 sec	1.9 sec	90.1 %
10 cm	7.5 sec	3.7 sec	95.4 %
15 cm	11.2 sec	5.6 sec	97 %
20 cm	14.9 sec	7.5 sec	97.7 %
25 cm	18.6 sec	9.3 sec	98.2 %

IGI UrbanMapper Stereo Coverage at different GSD @150kn (280km/h)			
GSD	Frame Rate at 60% forward overlap	Frame Rate at 80% forward overlap	Forward overlap at 0.85 sec frame rate
3 cm	1.8 sec	0.89 sec	81 %
5 cm	3.0 sec	1.5 sec	88.6 %