

CUSTOM SOLUTIONS

At IGI, we provide our customers a unique and leading system. While maintaining the *IGI Modular Concept*, IGI's customers can choose of 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.

For the *IGI UrbanMapper-2* different camera modules with 150 or 100 Mpixel and lens options are possible on request.



IGI UrbanMapper
installed in stabilized mount
GSM-3000



IGI UrbanMapper installed in
fixed wing aircraft



IGI Penta-DigiCAM

SMART SOLUTIONS

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

Your local contact is:

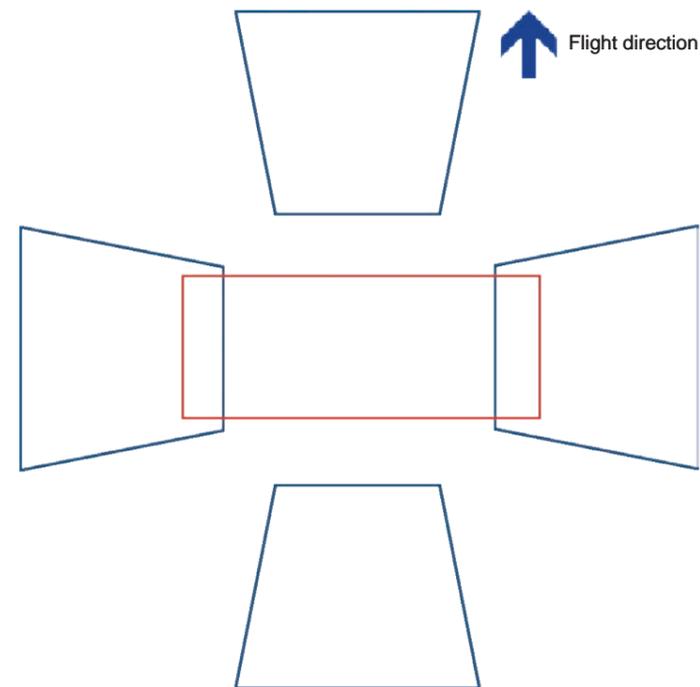
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IGI UrbanMapper-2



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



Based on the *IGI UrbanMapper*, IGI introduces the all-new *IGI UrbanMapper-2*. The *IGI UrbanMapper-2* utilizes the new 150 MP Back Side Illuminated, BSI-CMOS technology to provide ultra-high resolution imagery.

With the latest BSI-CMOS technology, a shutter speed up to 1/2000 of a second and the high dynamic range of 83dB, the *IGI UrbanMapper-2* is designed to produce brilliant imagery even under challenging light conditions. The system offers outstanding performance for dense image matching with up to 0.6 sec image repetition time.

SPECIFICATIONS IGI UrbanMapper-2	
Nadir Sensor Size, RGB'	34,500 x 14,100 pixels
Nadir Sensor Size, RGBI'	30,460 x 14,100 pixels
Oblique Sensor Size, RGB'	14,204 x 10,652 pixels
Channels	RGBI, RGB, CIR, NIR (nadir), 4x RGB (oblique)
Sensor Technology	BSI-CMOS
Pixel Size	3.76 µm
Maximum Frame Rate	up to 0.6 sec
Dynamic Range	83 dB
Compensation	FMC by BCM
SSD Hot-plug Storage Units with IGI Redundant Storage Technology	Storage Units for >13,500 events (16, 8, 4 TB)
*Customized solutions based on 100 Mpixel digital backs are available on request	

SPECIFICATIONS IGI UrbanMapper-2		
Shutter	Electronically controlled leaf shutter	
Shutter Speed Options	Up to 1/2000 sec	
Analog to Digital Conversion	16 bit	
Lenses	90, 110, 150 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 automatical 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-2 Image Motion

The camera modules in the IGI UrbanMapper-2 are designed to operate at an exposure time of 1/2000 second. Due to the high sensitivity of the BSI-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-2 Footprint / Image Motion at different GSD						
GSD nadir	GSD oblique	Flying Height	Width of image across RGB / RGBI	Length of image along	Image Motion 70kn(130km/h)	Image Motion 150kn(280km/h)
2 cm	2.7 cm	474 m / 1,555 ft	690 m / 609 m	282 m	0.9 px	1.9 px
2.5 cm	3.4 cm	592 m / 1,944 ft	862.5 m / 761.5 m	352.5 m	0.7 px	1.6 px
5 cm	6.7 cm	1,185 m / 3,887 ft	1,725 m / 1,523 m	705 m	0.4 px	0.8 px
8 cm	10.8 cm	1,896 m / 6,220 ft	2,760 m / 2,437 m	1,128 m	0.2 px	0.5 px
10 cm	13.5 cm	2,370 m / 7,775 ft	3,450 m / 3,046 m	1,410 m	0.2 px	0.4 px
15 cm	20.2 cm	3,555 m / 11,662 ft	5,175 m / 4,569 m	2,115 m	0.1 px	0.3 px
20 cm	26.9 cm	4,739 m / 15,549 ft	6,900 m / 6,092 m	2,820 m	0.1 px	0.2 px

IGI UrbanMapper-2 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-2 Stereo Coverage at different GSD @150kn (280km/h)				
GSD nadir	GSD oblique	Frame Rate at 60% forward overlap	Frame Rate at 80% forward overlap	Forward overlap at 0.5 sec frame rate
2 cm	2.7 cm	1.5 sec	0.7 sec	86 %
2.5 cm	3.4 cm	1.8 sec	0.9 sec	89 %
5 cm	6.7 cm	3.6 sec	1.8 sec	94 %
8 cm	10.8 cm	5.8 sec	2.9 sec	97 %
10 cm	13.5 cm	7.3 sec	3.6 sec	97 %
15 cm	20.2 cm	10.9 sec	5.4 sec	98 %
20 cm	26.9 cm	14.5 sec	7.3 sec	99 %