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 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 wind aircraft

IGI Penta-DigiCAM

SMART SOLUTIONS

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

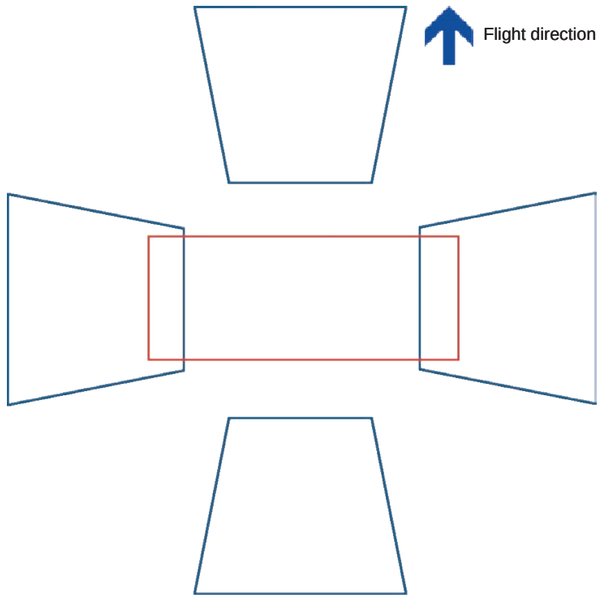
Your local contact is:

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 *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 of a second 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*	11,664 x 8,750 pixels
Channels	RGBI, RGB, CIR, NIR (nadir), 4x RGB (oblique)
Sensor Technology	BSI-CMOS
Pixel Size	4.6 µm
Maximum Frame Rate	up to 0.6 sec
Dynamic Range	84 dB
Compensation	FMC by BCM
SSD Hot-plug Storage Units with *IGI Redundant Storage Technology*	Storage Units for >19,000 events (4 / 8 / 16 TB)
*Customized solutions based on 50 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, 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

IGI UrbanMapper 2-IN-1 Aerial Camera System

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 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 0.6 sec frame rate**
5 cm	3.7 sec	1.9 sec	92 %
10 cm	7.5 sec	3.7 sec	97 %
15 cm	11.2 sec	5.6 sec	98 %
20 cm	14.9 sec	7.5 sec	98 %
25 cm	18.6 sec	9.3 sec	99 %

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 0.6 sec frame rate**
3 cm	1.8 sec	0.89 sec	90 %
5 cm	3.0 sec	1.5 sec	93 %