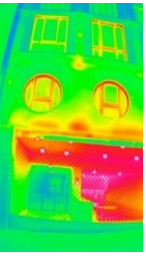














Integrated Geospatial Innovations

IGI®
www.igi-systems.com

IGI mbH - 40 years celebration

www.igi-systems.com

Founded 1978

More than 500 customers in 84 different countries

World-wide technical support

IGI office in Kreuztal, Germany

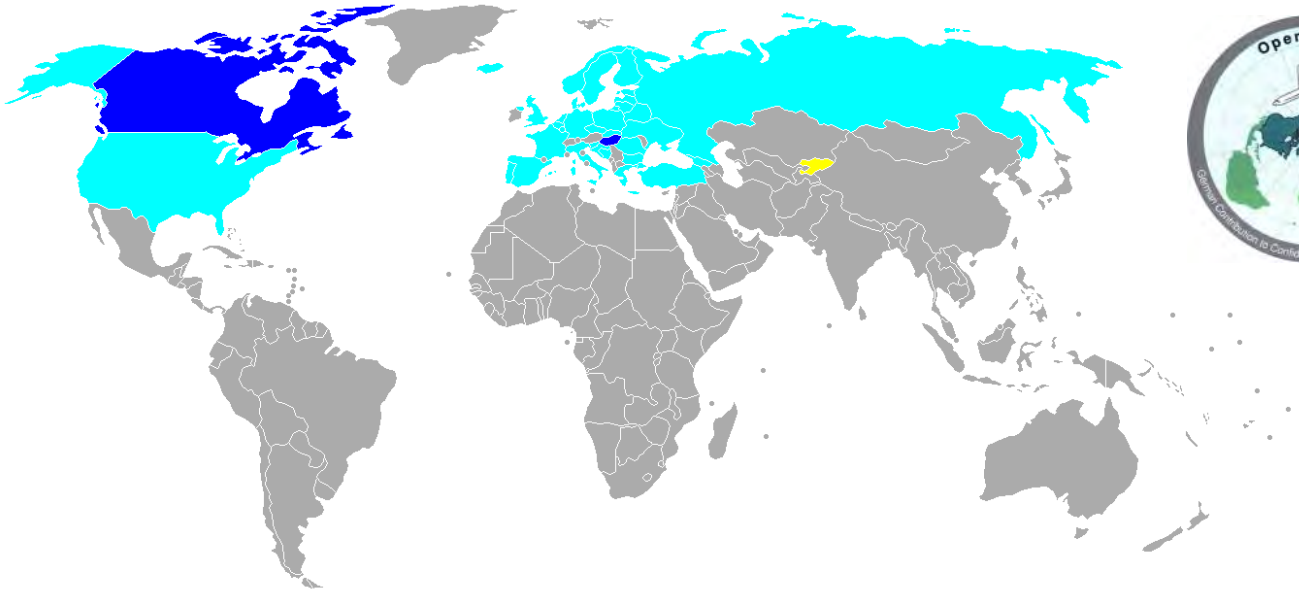
Area of Competence:
Ride the Sky on Rails

Antarktis, Polar 2 & Polar 3

www.igi-systems.com


Coast Patrol with Radar
Protection of a 200nm fishery zone
Canada
C-FIFO
Fisheries
and Oceans

Open Skies – Area of Operation



IGI History: KSZE, Wien & Helsinki; 1990

www.igi-systems.com

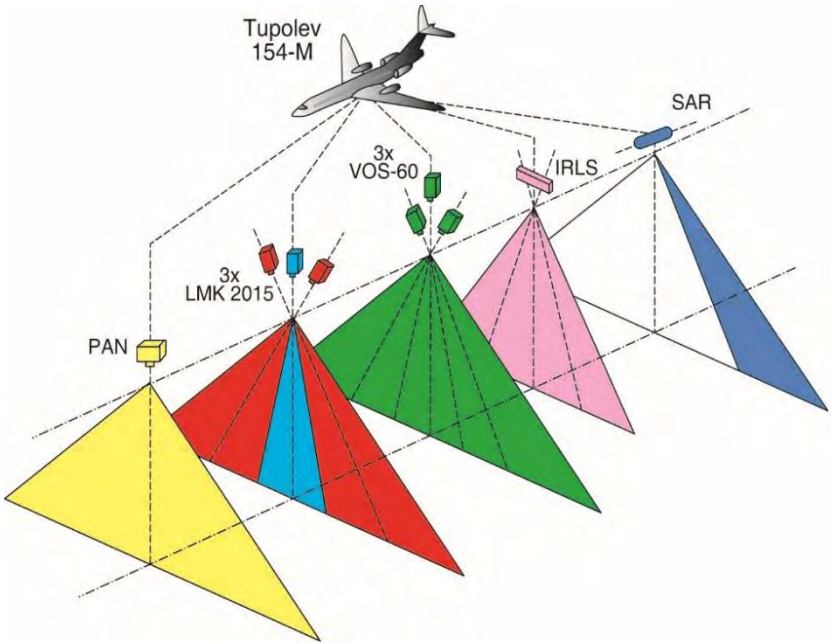
IGI Sensor Management:

SMS-1,
Sensor Management System
11 different Sensors

BD/Z-84,
Operator Interface for
Zenit Z-84 PAN-Camera

German Open Skies Aircraft until 1997: Tupolev 154-M

IGI History: KSZE, Wien & Helsinki; 1990



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Operator Interface for
Zenit Z-84 PAN-Camera

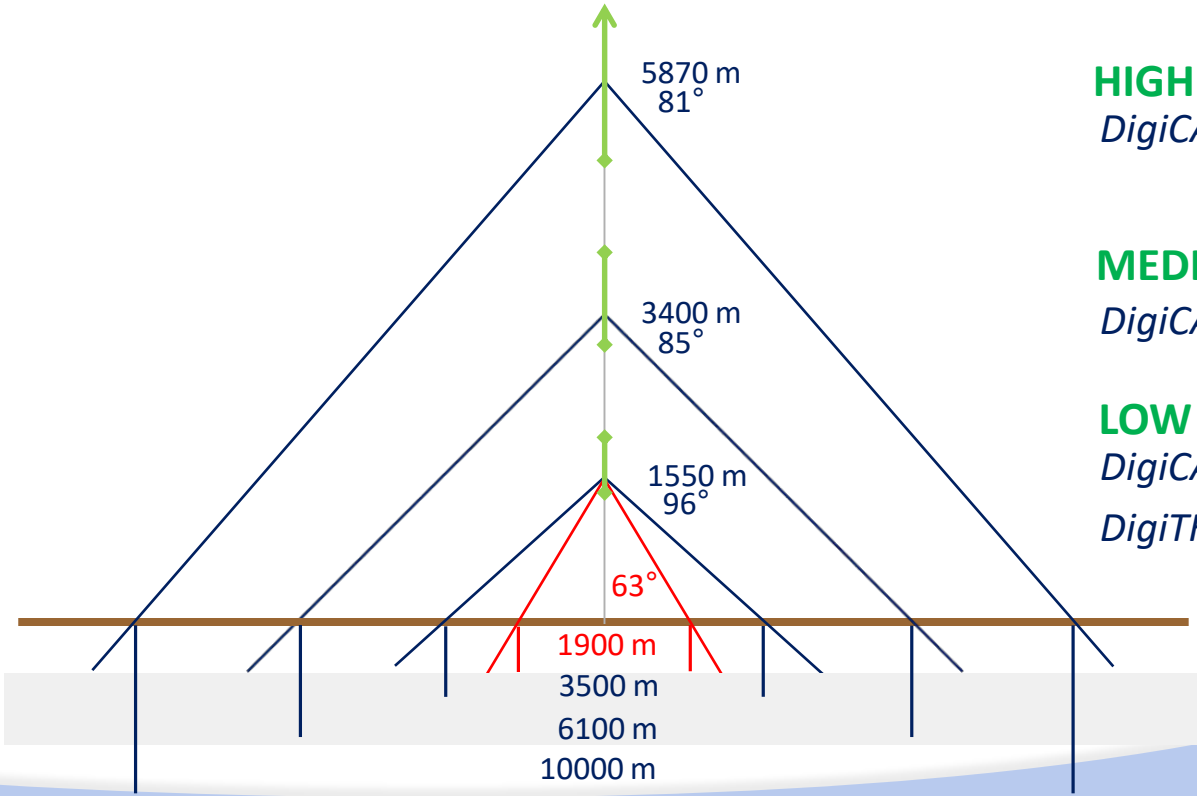
Source:
http://de.wikipedia.org/wiki/Tupolew_Tu-154M,_Deutsches_Open_Skies

Open Skies 2017 Airbus A-319

Ein A319 der Flugbereitschaft. Noch einen Flieger dieses Typs will die Bundeswehr für „Open Skies“ – Foto: Aldo Bidini / CC-Lizenz / Wikipedia

http://www.pivotarea.eu/2015/12/23/neuer-open-skies-flieger-fuer-die-bundeswehr/

Open Skies – Flying Altitudes



HIGH

DigiCAM-OS-h

MEDIUM

DigiCAM-OS-m

LOW

DigiCAM-OS-l

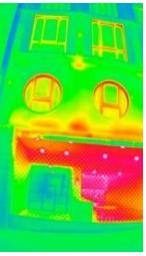
DigiTHERM-OS-l

www.igi-systems.com















- Mission Planning & Flight Guidance
- Sensor Management
- GNSS/IMU Navigation
- Aerial Sensor Systems
- Mobile Mapping Solutions
- Turn-key Solutions

IGI®
www.igi-systems.com

IGI AEROcontrol Compact
– supporting all flight levels

www.igi-systems.com

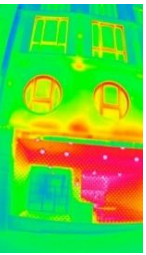
IGI TERRAcontrol Compact
– supporting all platforms

www.igi-systems.com



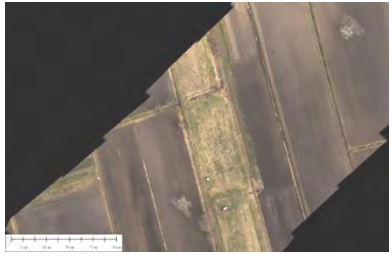











- Mission Planning & Flight Guidance
- Sensor Management
- GNSS/IMU Navigation

- Aerial Sensor Systems
- Mobile Mapping Solutions
- Turn-key Solutions

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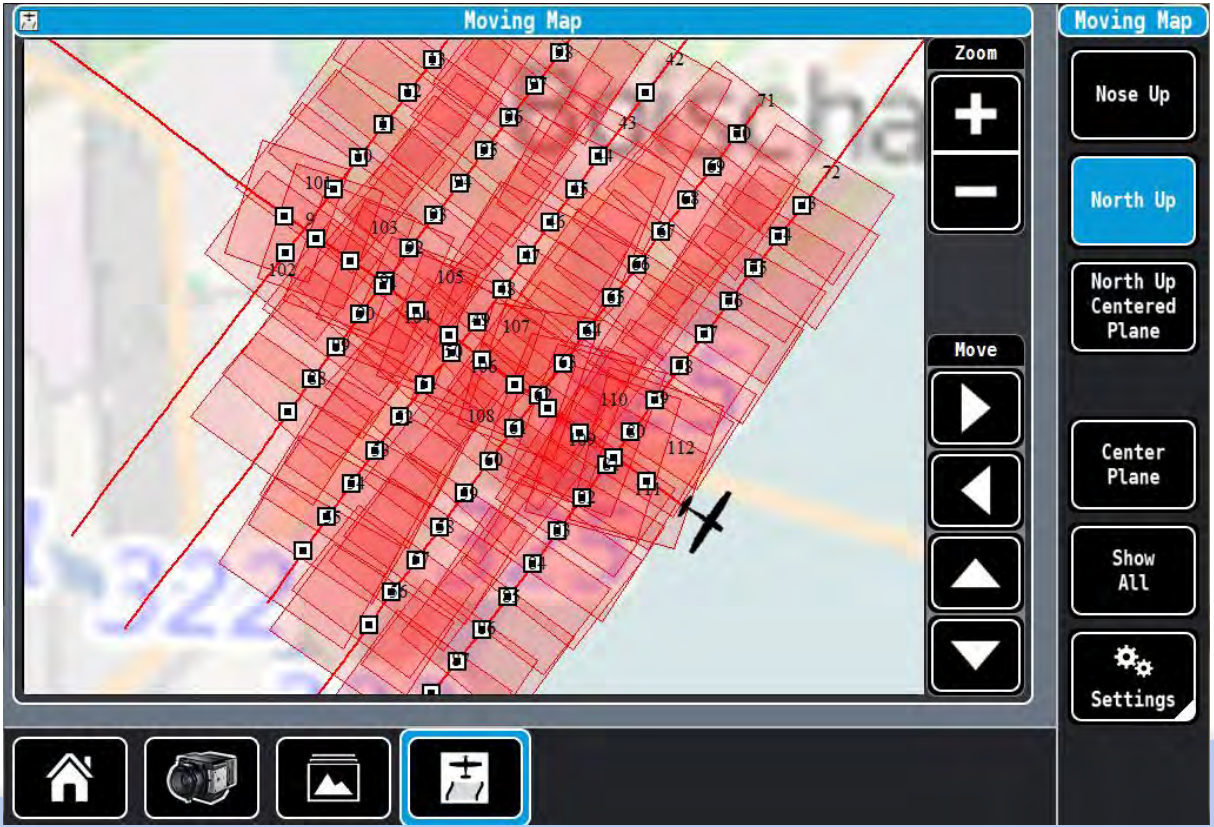
IGIvisu – Integrated Sensor Management (*DigiCAM*)



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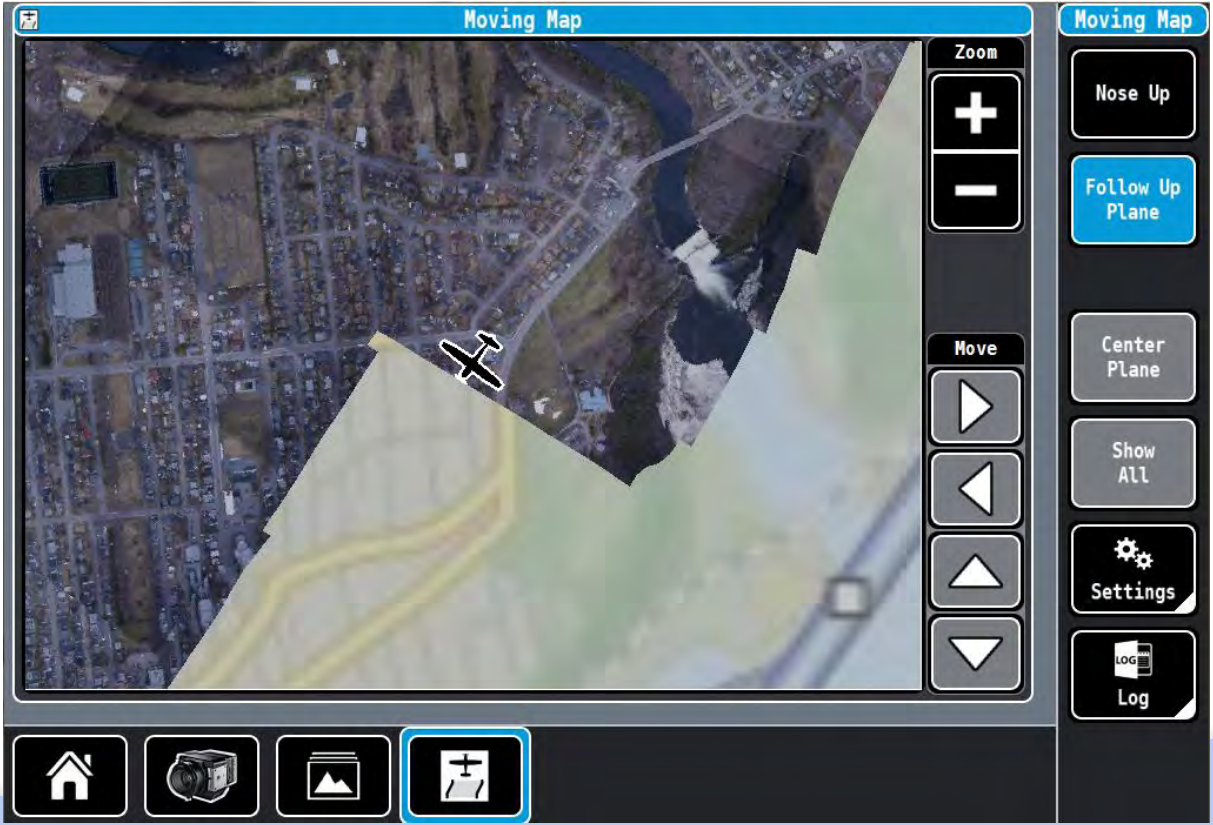

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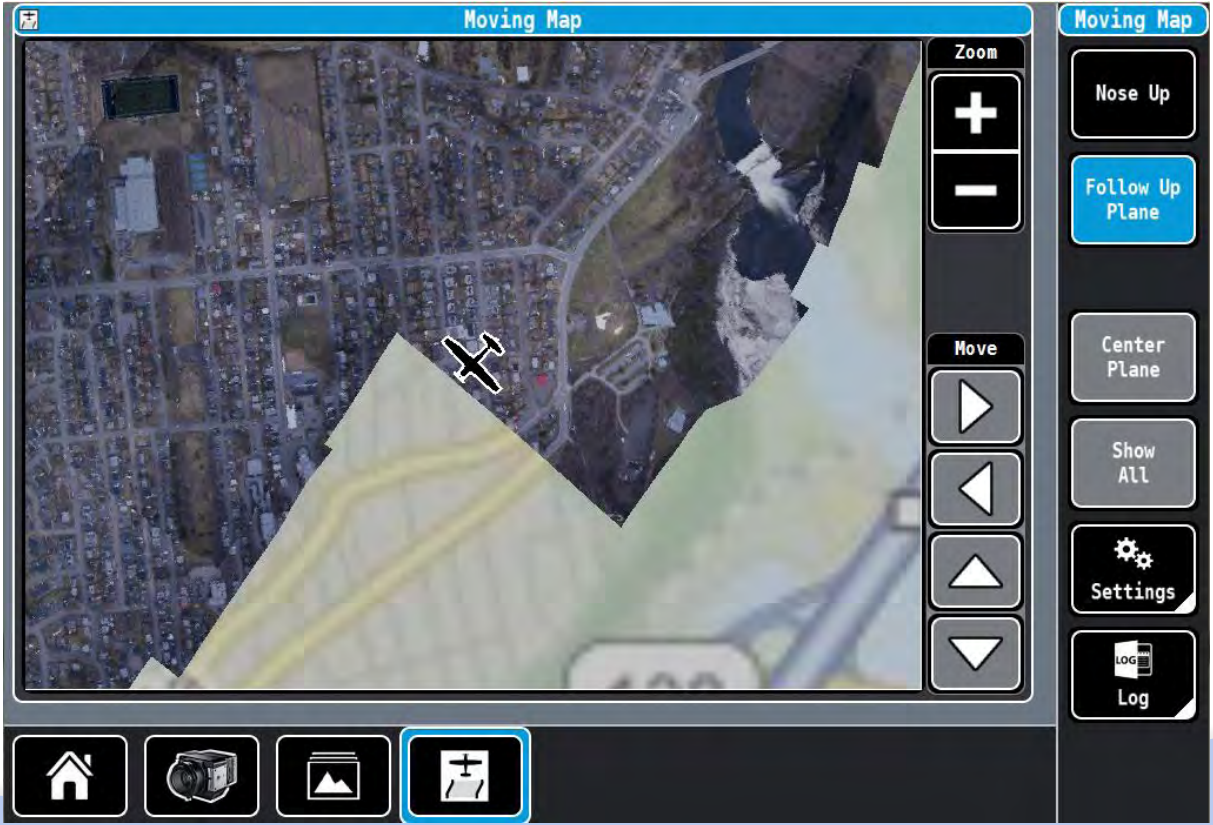

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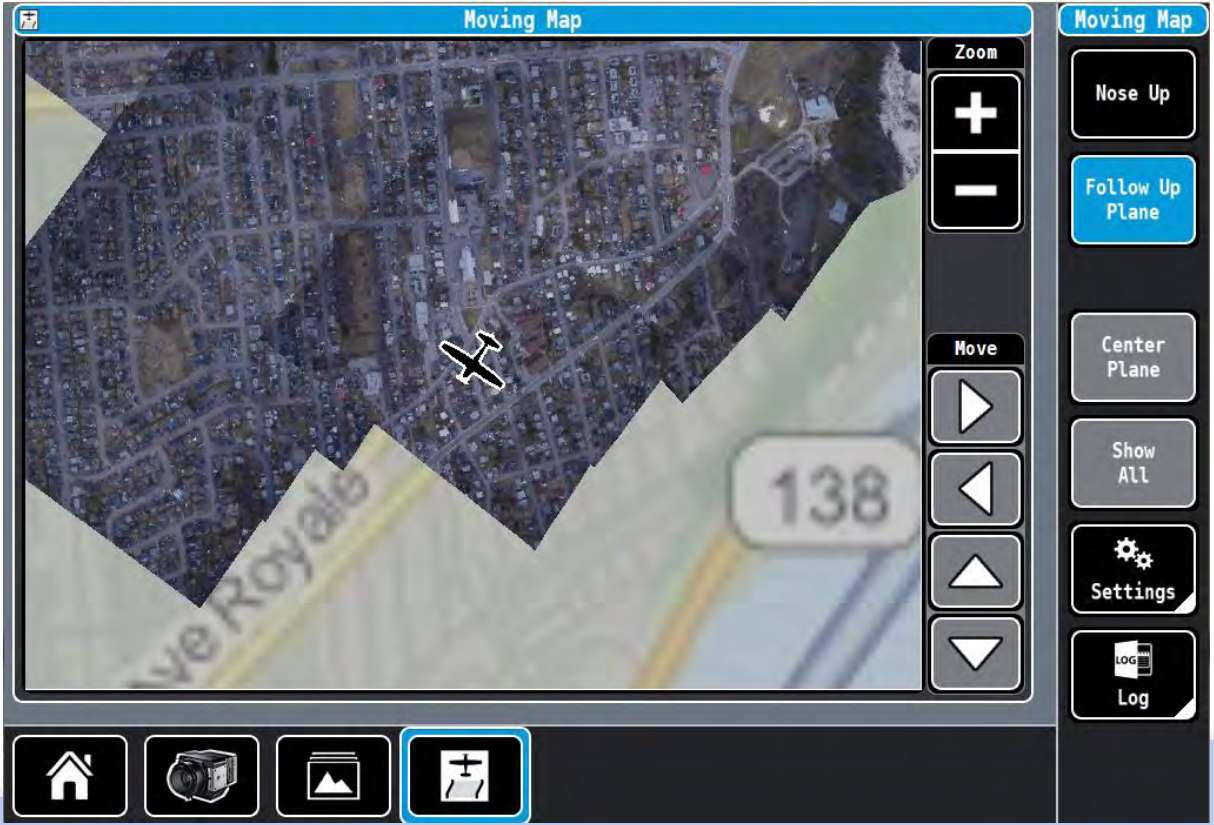
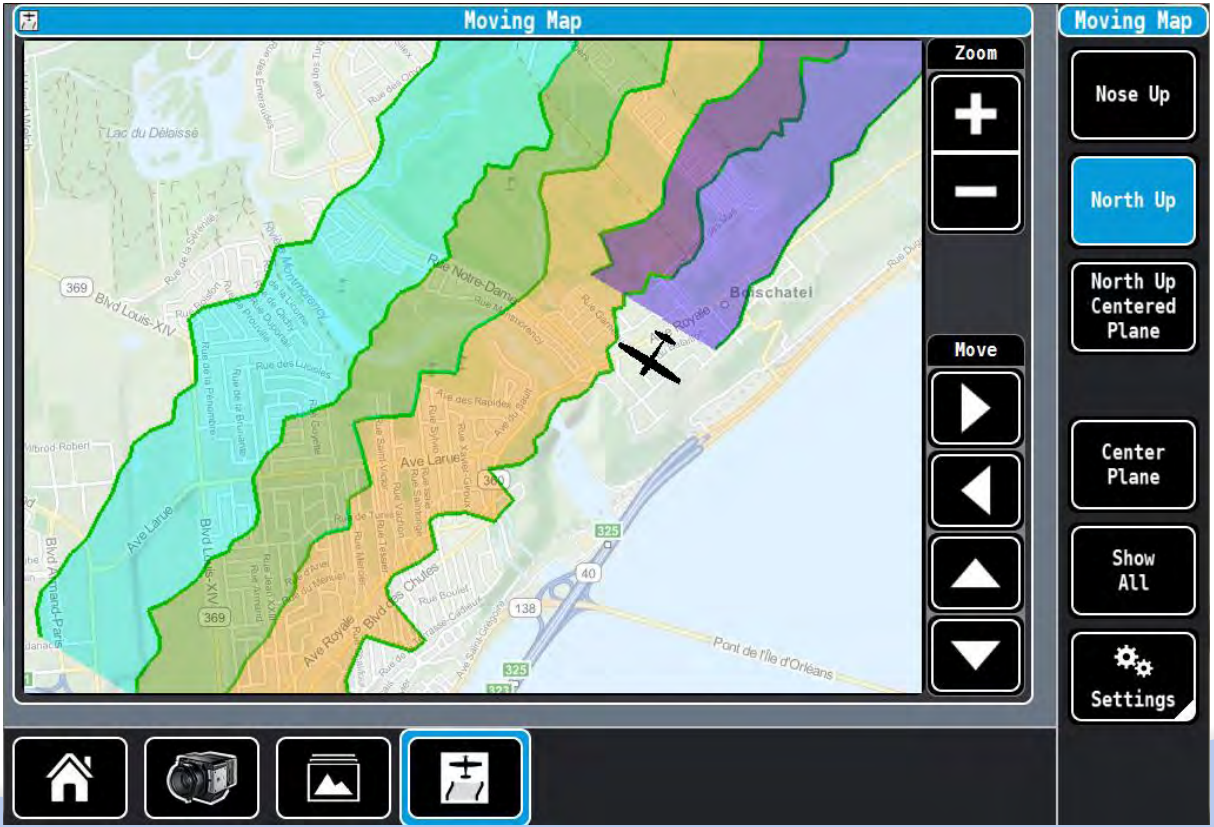


IGIvisu – Integrated Sensor Management (*DigiCAM*)

IGIvisu – Integrated Sensor Management (*LiteMapper*)



Wirbeljäger

Unter Führung des Instituts für Küstenforschung (HZG) erforschen 40 Wissenschaftler in einer groß angelegten Expedition den Einfluss kleiner Meereswirbel auf die Ozeanzirkulation und das Wachstum von Mikroalgen. Im Forschungsgebiet werden zahlreiche Messinstrumente eingesetzt. Erstmalig spielt dabei ein Zeppelin mit Spezialkameras eine zentrale Rolle.

Helmholtz-Zentrum Geesthacht
Zentrum für Material- und Küstenforschung

EXPEDITION UHRWERK OZEAN

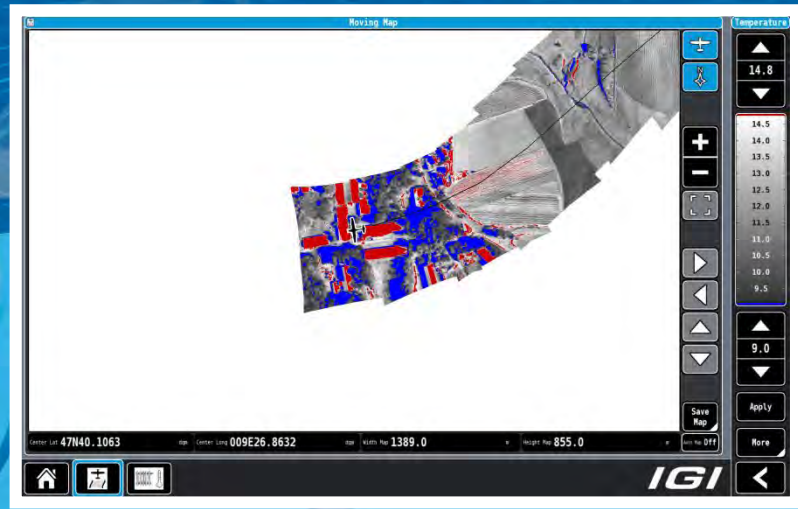
www.

Eine INFRAROTKAMERA erstellt mit 100 Bildern/s Temperaturkarten der Wasseroberfläche. Die Thermalkamera misst Temperaturunterschiede von 0,03 °C.

Eine HYPERSPEKTRALKAMERA zeichnet bis zu 1000 verschiedene Bänder des Lichtspektrums auf, bestimmt so die „Farbe" des Wassers. Sie gibt Erkenntnis über Zustand und Wachstum der Algen.

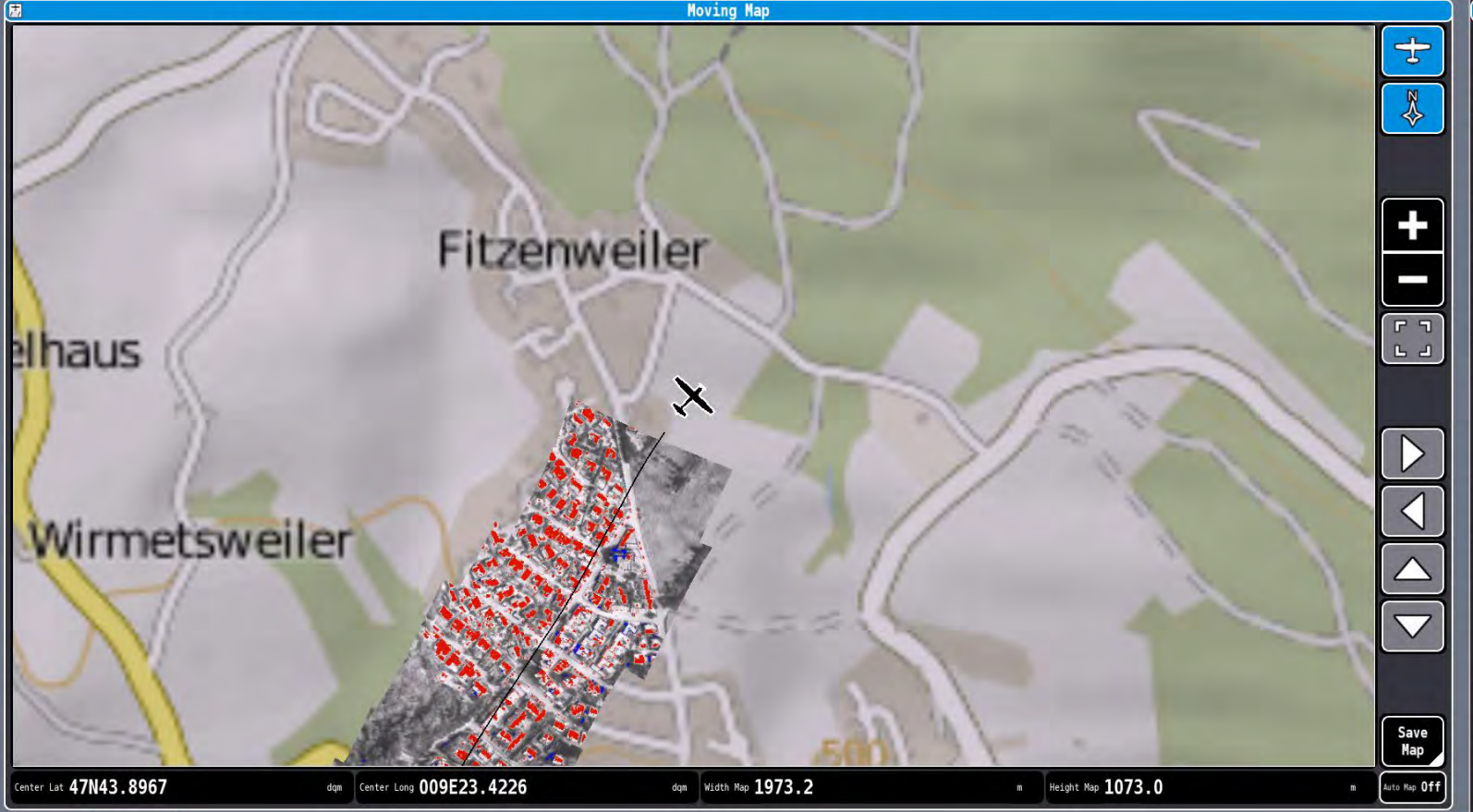
ELISABETH MANN BORGESE – LEIBNIZ-INSTITUT FÜR OSTSEEFORSCHUNG WARNEMÜNDE

Die Wissenschaftler koordinieren von Bord aus den Einsatz der Ozeangleiter und sammeln zusätzliche ozeanografische Daten.



Drei Ozeangleiter sind eingesetzt. Die 1,5 Meter langen Tauchroboter sind mit optischen sowie Turbulenzsensoren ausgestattet. Sie bewegen sich etwa 1 km/h schnell und tauchen bis auf 100 Metern Tiefe.

Der Schleppfisch wird gezogen und bewegt sich dabei auf und ab. Seine Sensoren messen die Dichte des Wassers, den Sauerstoffgehalt und die Algenkonzentration.


Moving Map
Fitzenweiler
elhaus
Wirmetsweiler
Center Lat 47N43.8967 dqm
Center Long 009E23.4226 dqm
Width Map 1973.2 m
Height Map 1073.0 m
Auto Map Off
Save Map
Main
Pause
Time [h:m:s]
8:16:00
Show last [h:m:s]
0:03:00
Temperature
INSTrack
Settings
Log
IGIvisu
IGI

IGI UrbanMapper

2-IN-1 Aerial Camera System

- Large format camera with NIR module
- Oblique camera (4 x 100Mpixel)

Modular Design:

- Upgradeable NIR & Oblique Camera Modules

RGB 28,200 x 11,600 pixels

RGBI 24,900 x 11,600 pixels (option)

84db Dynamic range, CMOS Technology

0.6 sec Image Repetition Rate

www.igi-systems.com

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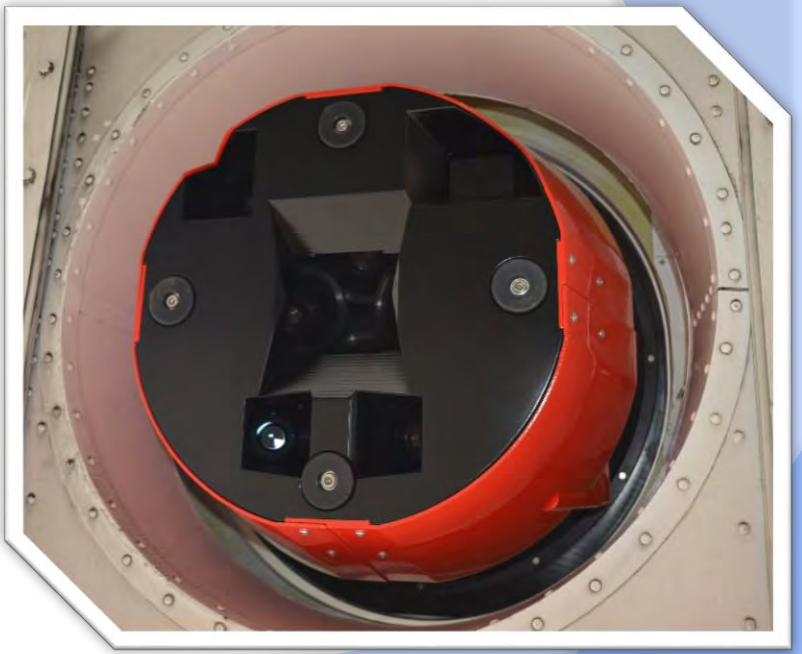
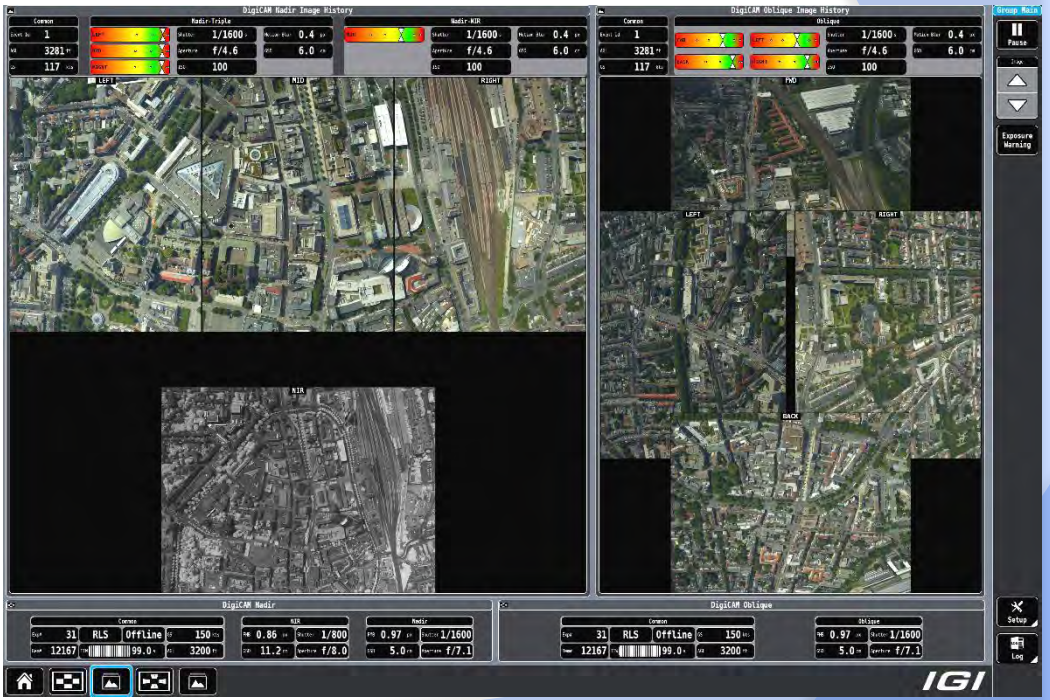


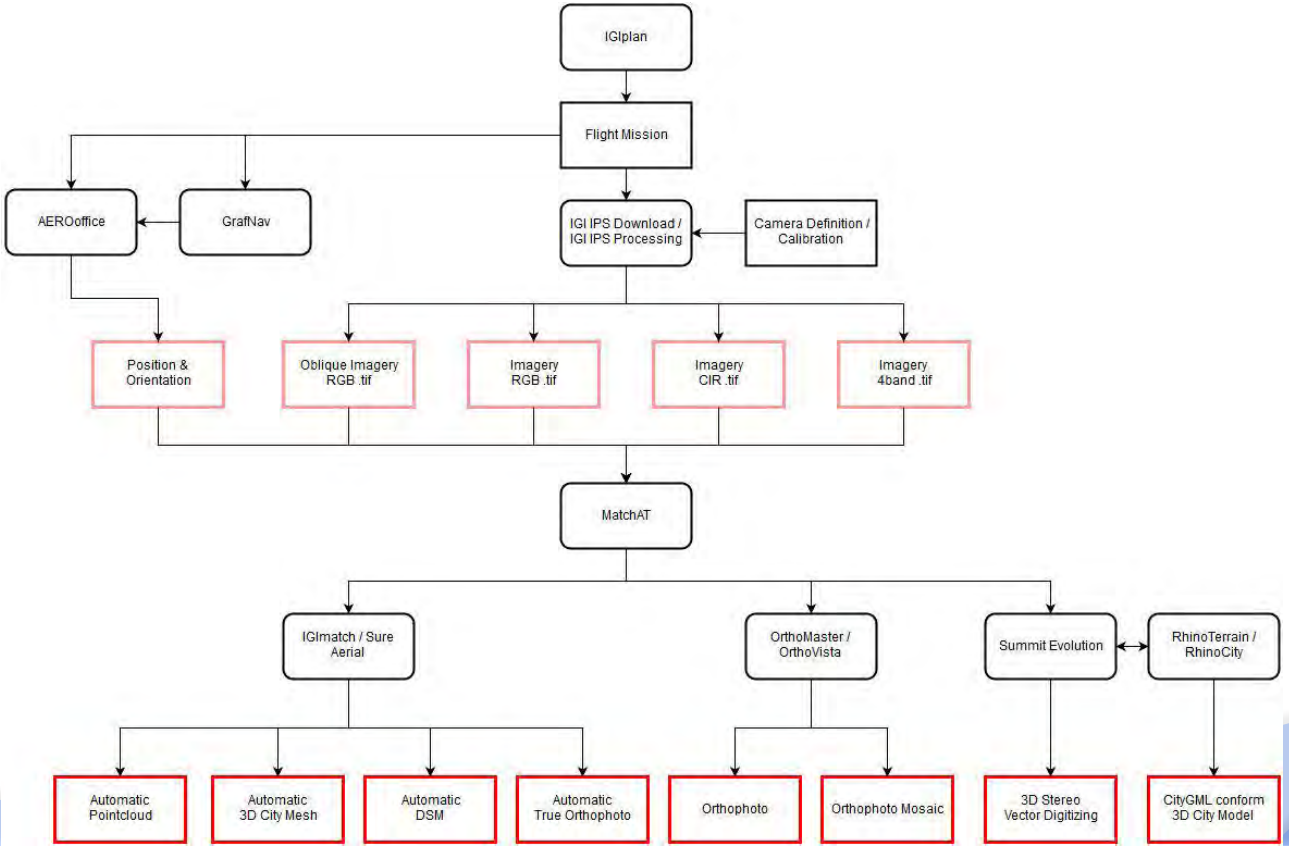
IGI UrbanMapper – IGIvisu, the operator's view

www.igi-systems.com

- 20" / 4K touch screen
- Control of camera groups & single modules
- Tools and indicators for optimal illumination



IGI UM – Image Processing Workflow



IGI UrbanMapper – @ AEROWEST

www.igi-systems.com

Project	Specification TOM (True-Orthomosaic) & MESH (3D Fotomesh)	GSD vertical	GSD oblique	km²	Overlap Vertical Image	Point Cloud from Vertical & Oblique Image	Events	Images vertical & oblique
1	TOM	10	14	**146**	80 / 65		1710	1710
2	TOM	5	7	**52**	80 / 65		1441	1441
3	TOM	8	11	**281**	80 / 65		2286	2286
4	TOM	9	12.5	**273**	80 / **75**		2570	2570
5	TOM	10	14	**312**	80 / 65		3000	3000
6	TOM	7	10	**154**	80 / **70**	YES	4232	21160
7	TOM	5	7	**73**	80 / 65		2440	2440
8	TOM	7.5	10.5	**103**	80 / 65		1312	1312
9	TOM	7.5	10.5	**107**	80 / 65		1274	1274
10	TOM & MESH	5	7	**91**	80 / 65	YES	2378	11890
11	TOM & MESH	5	7	**115**	80 / 65	YES	3286	16430
12	TOM & MESH	7.5	10.5	**52**	80 / 65	YES	1504	7520
13	TOM & MESH	6	8.5	**37**	80 / 65	YES	845	4225
14	TOM & MESH	5	7	**55**	80 / 65	YES	1989	9945
15	TOM & MESH	7.5	10.5	**544**	80 / 65	YES	6316	31580
16	TOM & MESH	10	14	**153**	80 / **70**	YES	1520	7600
17	TOM & MESH	10	14	**15**	80 / 65	YES	250	1250
18	TOM & MESH	5	7	**123**	80 / 65	YES	3107	15535
19	TOM & MESH	10	14	**204**	80 / 65	YES	2188	10940
				2890			**43648**	**154108**

Miranda35

An image-generating radar sensor

Mission Planning: *IGIplan*
Aircraft Guidance: *CCNS-4*
GNSS/IMU: *AEROcontrol*

Miranda94 of FHR, Wachtberg

An image-generating radar sensor

www.igi-systems.com

- Sensor frequency 94 GHz
- Sensor bandwidth 10 GHz
- Resolution 1.5 cm
- Power output 800 mW
- GNSS/IMU System *AEROcontrol*

- Automatically readjust the gimbal to a position

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Multi Sensor System for CTBTO

www.igi-systems.com

CTBTO PREPARATORY COMMISSION | preparatory commission for the comprehensive nuclear-test-ban treaty organization

What is the CTBT?

The Comprehensive Nuclear-Test-Ban Treaty (CTBT) bans nuclear explosions by everyone, everywhere: on the Earth's surface, in the atmosphere, underwater and underground.

183 countries have signed the treaty, of which 166 have also ratified it, including three of the nuclear weapon states. The treaty is not yet in force.

The **Multi Sensor System** is mounted in an external helicopter pod. It can be attached flexibly to different Helicopter platforms.

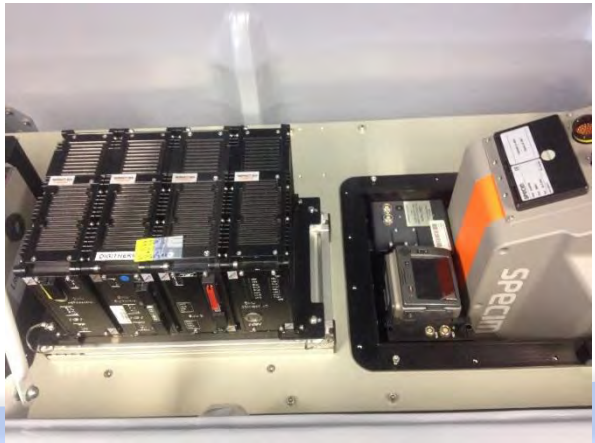
Multi Sensor System for CTBTO

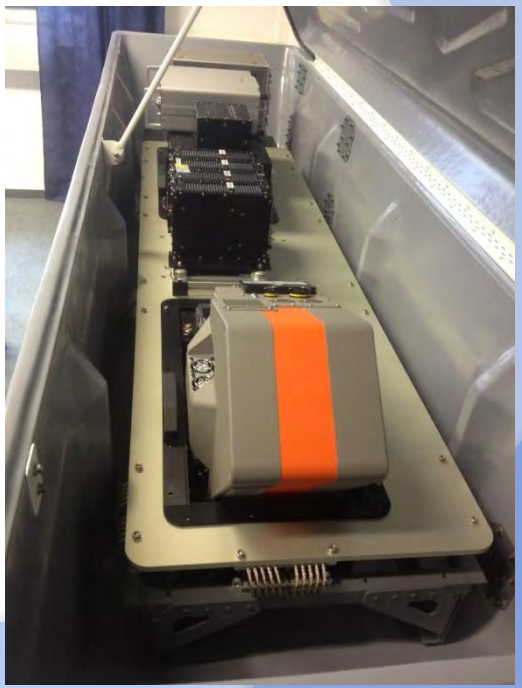
www.igi-systems.com

CTBTO PREPARATORY COMMISSION | preparatory commission for the comprehensive nuclear-test-ban treaty organization

The **Multi Sensor System** includes

- Hyperspectral sensor
- Optical camera
- Thermal camera
- LiDAR system
- *AEROcontrol*
- *CCNS-5*





LM-1560 for Ministry of Mining in Kenya

www.igi-systems.com

The **Multi Sensor System** includes

- VQ-1560 Dual LiDAR sensors
- *DigiCAM-100*
- *AEROcontrol*
- *CCNS-5*

LM-1560 for Ministry of Mining in Kenya

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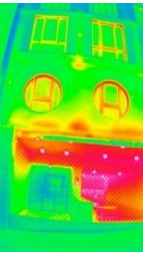



STREETMAPPER



RAIL
STREETMAPPER




Thank you!
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