

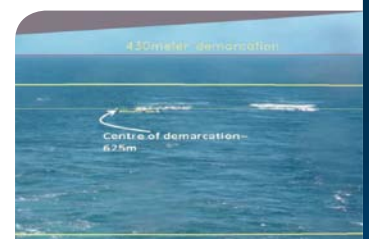
## MINI DUAL CAMERA SYSTEM



The new Seiche compact, marinised and powerful camera system with gyro stabilisation is designed for marine mammal observation and a range of surveillance operations.

### Features:

- 4K Ultra HD visible day and low light camera with 20x optical zoom
- 480p thermal camera with 14-bit high dynamic range and < 30mK sensitivity
- 3-axis stabilisation (gyro and digital image stabilisation)
- Mysticetus software compatibility
- Automated Recognition of Cetaceans (ARC) provides pattern recognition to automatically detect and identify potential cetaceans
- Real-time Automated Distance Estimation at Sea (RADES) image stabilisation and horizon tracking for accurate target positioning
- Detection range of up to 1.0-1.5 km for a group of small cetaceans and up to 2.5-4.0 km for large cetaceans
- Consistent 24-hour marine mammal monitoring



### APPLICATIONS

- Marine mammal mitigation
- Marine mammal surveys
- Marine mammal vessel avoidance
- Surveillance of small craft and vessels
- Detection of debris, ice and marine obstacles/hazards

#### THERMAL IMAGING CAMERA

Sensor type	Uncooled VOx Microbolometer
Spectral band	7.5 - 13.5 $\mu$ m
Sensitivity [NE $\Delta$ T]	<30mK
Dynamic range	14-bit
Resolution	640 x 480
Field of view (FOV)	35mm: 18° x 14°
	7.5mm, 9mm, 13mm, 19mm, 25mm, 50mm lenses on request
Continuous digital zoom	8x
Pixel pitch	17 $\mu$ m
Image enhancement	Yes
Frame rates	25 Hz (7.5 Hz available on request)

#### 4K UHD VISIBLE DAY/LOW LIGHT CAMERA

Resolution	3840 x 2160 (QFHD) @ 30fps
Signal system	2160p/30, 1080p/30, 720p/30
Horizontal FOV	70.2° (wide) to 4.1° (tele)
	4.4mm to 88.4mm, F2.0 to F3.8
Zoom	20x optical zoom
Digital zoom	12x (240x with optical zoom)
Stable zoom	Yes
Signal to noise ration	50 dB
Focus	Auto/manual
Gain	Auto/manual/max gain limit/ high sensitivity (0 to 48dB)
Infrared cutfilter removal	Automated
Defog	Yes (low/mid/high)
Image stabilisation	On/off

#### PAN AND TILT UNIT (PTU)

Pan range	-168° to +168°
Tilt range	-90° to +25°
Pan speed	0.05°/s to 150°/s (adjustable)
Tilt speed	0.05°/s to 150°/s (adjustable)
Resolution	0.05°
Accuracy	0.1°
Acceleration/ deceleration	Programmable
Stabilisation	3-axis (gyro and digital)

#### SENSORS

Inertial Measuring Unit (IMU)	0.3° dynamic heading
	0.1° dynamic pitch/roll
	10-axis MEMS technology
GPS	High sensitivity receiver
	50-channel u-blox GPS L1 C/A
Temperature and pressure	Yes
Filtering	Extended Kalman Filter (EKF)

#### COMMUNICATION INTERFACE

Ethernet	Cat6
Video output	Dual, independent network stream
Video compression	H.265/HEVC, H.264 and MJPEG
Protocols	GigE, Genicam, VISCA™
	RTP, RTSP, MPEG-2 TS, HTTP, HTTPS, MP4, and RTMP2

#### GENERAL

Operating temperature	-20°C to 55°C
Power	60W (maximum)
Voltage	110/240 VAC
Waterproof	IP67
Window Coating	Hydrophobic
Weight	less than 7 Kg
Dimension	380 x 192 x 230 mm