

# Surveillance

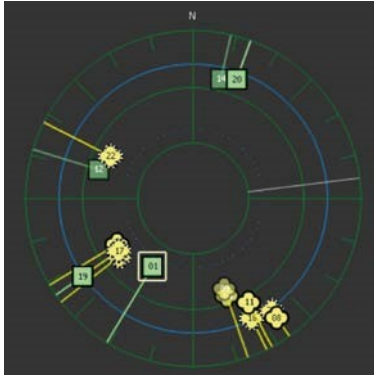
- METOCEAN 
- PASSIVE ACOUSTIC MONITORING 
- SURVEILLANCE 
- MARINE SURVEY 
- WATER QUALITY 
- COMMUNICATIONS GATEWAY 
- MARINE LIFE MONITORING 



**AutoNaut presents an innovative maritime surveillance capability. It enables persistent monitoring at strategic positions in hostile seas with one or more boats able to provide ground-truthing of satellite remote sensing.**

Data from sophisticated detection sensors can be relayed in near real-time to a remote operator. A further response can then be activated whilst AutoNaut remains discreetly on station for evidence collection.

- Countering illegal, unregulated and unreported fishing
- Maritime border patrol
- Intelligence, surveillance and reconnaissance
- Coast guard operations



# Surveillance

## SENSORS

### Radar Electronic Support Measures (RESM)

AutoNaut can carry this cutting edge 360° sensor to detect electronic emissions from radar and radio communications (2GHz - 18GHz). RESM can assess contacts and send regular positioning updates.

### Digital thin line array

This high-sensitivity acoustic array is fully configurable in real-time. Eight digital hydrophone sensors are incorporated within the 25metre long array.

### AN-Cam 360°

Our advanced camera system was developed in house to capture both video and still images with 360-degree coverage and low light capability. Sampling rate is fully configurable to enable high data capacity as required.

- 1080p HD video
- 10MP stills
- Adjustable frame rate

### AN-Cam underwater

Stills cameras mounted through the hull for sub-sea observation.

### In Development: thermal imaging

Recent developments in marine thermal camera systems will upgrade the AN-Cam 360° to 24-hour capability.

# AutoNaut

The AutoNaut is an unmanned surface vessel (USV) propelled forward by the motion of the waves. Patented *Wave Foil Technology* enables long-term mission duration. Powered entirely by renewable energy and with no requirement for offshore personnel the AutoNaut significantly reduces costs and safety risks at sea. Solar energy powers an extensive range of sensors and equipment for 24/7 operation.

- Unmanned operation: no offshore personnel at risk
- Powered by renewable energy: no fuel costs, no emissions
- Mission duration of several months
- Cruising speed of up to 4 knots
- Station keeping within 25 metres
- Storm-proven robustness
- Simple deployment/recovery from vessel or slipway
- Flexible payload and sensor capacity
- Data transfer

## Do you have other sensors to integrate?



<ossi> - AutoNaut's Open Source Sensor Interface provides:

- Easy, cost effective integration of sensors using various data protocols
- Customizable onboard logging and processing options
- Adaptable communications modules including: GSM, WiFi (2.4GHz & 5GHz), Iridium and Inmarsat Sat connectivity, Bluetooth)
- Open source - giving full control to the client