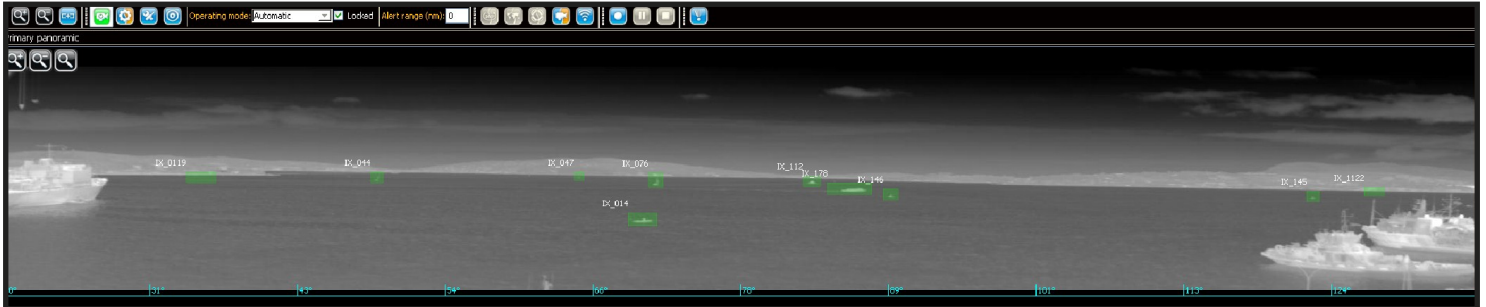# ASV - DET 2.0
Video analytics in marine environment

Automatic detection and tracking of any objects on the water

- The first video analytics software 100% dedicated to marine environments

- Automatic watch, detection and alert with no man in the loop

- Detects very small targets, with no radar signature or AIS signal

- Makes your camera network autonomous and intelligent

- Easy to integrate in any video management system for maritime surveillance, traffic control or ship information management

ASV-DET 2.0 improves the effectiveness of marine, river and aquatic surveillance systems to provide safety for people and goods and security for installations:

- Coastal surveillance, control of maritime or river approaches (trafficking, immigration).
- Protection of ports and critical infrastructures (prohibited areas, intrusion, malicious acts).
- Maritime security (piracy, immigration, …).
- Maritime safety (anti-collision, detection of semi-submerged objects).
- Surveillance of marinas and swimming areas.
- Search and rescue (man overboard, wrecked).

Smart vision at sea

AUTOMATIC
SEA VISION
First smart vision system at sea

ASV - DET 2.0

Features:

- Automatic detection and real-time tracking in each of the images.
- Management of image video feed from 0.5 Hz to 30 Hz.
- Analysis of all types of image: thermal/infrared or visible.
- Compatibility with any type of camera (fixed, scanning, panoramic).
- Detection and tracking of objects:
    - of very small size (from 2 pixels),
    - irrespective of their shape and behaviour,
    - irrespective of their kinematic response (immobile, low or high speed (> 35 knots),
    - up to sea state 5.
- Detection and tracking of up to several dozen objects (depending on the power of the processor) with discrimination among various types of objects detected.
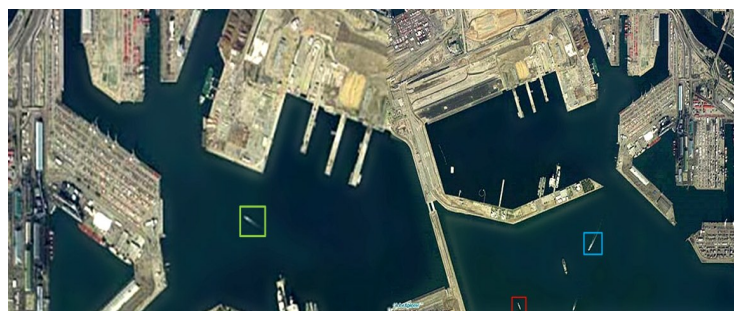
Technical characteristics

- Performance with a camera having the required characteristics and under favourable environmental conditions :
    - probability of detection > 98%
    - false alarm rate < 2%
- Innovative algorithm that takes into consideration the complexity of the marine environment and the multiplicity of targets;
- Modular architecture enabling global image processing (detection of all targets) or processing on the basis of specified criteria (detection of a category of objects);
- Detail parameterisation by camera taking into consideration various detection requirements: distance, size and speed of the targets;
- Initial parameter setting of camera elements and operator settings through a user-friendly web interface;
- Accessible to integrators in OEM form, via a detection server (supplied with its SDK) or a software library (API).

Compatible hardware

Cameras

- All types of infrared camera without chroma key/test pattern.
- 8 bit, MJPEG/http or H264/rtsp images (digital camera).
- Encoders compatible with GigE Vision, H264/rtsp, MJPEG/http (analog cameras – list of compatible encoders available on request).
- Quality of automatic detection by the ASV-DET software based on the vision performance of the camera, its image quality, its resolution, its integration time and its sensitivity.

List of integrated cameras available on request.

Processor

- CPU required: approximately 1 core (Intel) @3 GHz per flow at 15 Hz (detection performed at 15 FPS) plus one core for the ASV applications.
- RAM required: 500 Mb for the ASV software suite and 100 Mb per fixed camera, 500 Mb per PTZ camera, and 1.5 Gb per panoramic camera.
- Hard disk storage: depends on the information recorded.
- Operating System supported: Windows (32 and 64 bits), and Linux (available S2/2014).

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AUTOMATIC SEA VISION
First smart vision system at sea