ISA is often asked two questions:

1. **"What are the WAVcam's capabilities?"**
2. **"How does the WAVcam stack up in a market crowded with panoramic cameras?"**

WAVCam Markets

The WAVcam System provides wide area persistent coverage, high resolution imagery and video change detection, using visible light and infrared sensors. The System may include a day sensor, night sensor, video processor, video archive and viewing software. In general, the WAVcam is suitable for use in monitoring outdoor venues of up to 75+ square miles with a single sensor. This system is optimized for the maritime industry, especially sea ports. However, it is suitable for use in/on:

- Airports
- Offshore Platforms
- Borders
- Force Protection

WAVcam vs. Others

WAVcam is not:

- A rotating head
- A very large camera array
- A combination of panoramic and long range slew to queue cameras

WAVcam does not employ the use of:

- A fisheye lens
- A mirror lens

The biggest differentiator between the WAVcam and other wide angle cameras is the fact that we have **a high spatial resolution at medium – long ranges PLUS we have a 90˚ HFOV.**

WAVcam uses beam steering technology developed by ISA. The WAVcam assembles a WAV (wide area view) by placing up to 57 images side-by-side.
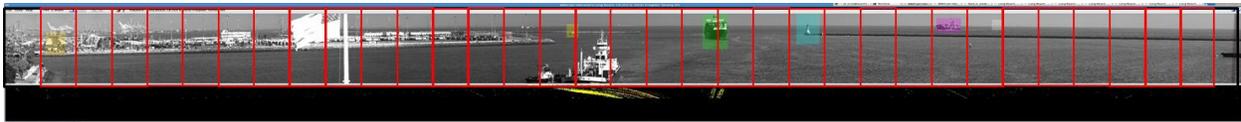
The visible light WAVcam has a GSD of 2.3" which means that one pixel (of which the sensor has 77 million) covers 2.3". This gives the WAVcam an 80% probability of detecting a 20' vessel 9+ miles away.
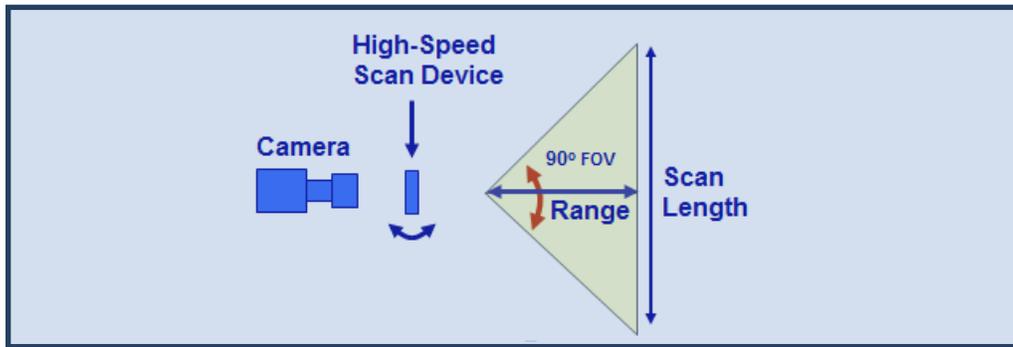
WAVcam Sensors
- VIS = Visible light
- MWIR = Midwave IR
- LWIR – Longwave IR

The visible light (VIS) WAVcam provides real time, black and white video surveillance over a 90˚ HFOV. The VIS WAVcam is enclosed in a weatherproof housing.

There are two thermal sensors
- midwave IR (MWIR) and
- longwave IR (LWIR).

Both sensors provide real time video surveillance over a 90˚ HFOV. The midwave sensor is cryogenically cooled, the longwave sensor is not. Both sensors are enclosed in weatherproof housings. The thermal sensors require no external light source.

All three of the sensors may be operated during the day or night. Most CONOPs make use of the ability to schedule the VIS sensor to operate during the daylight hours and MWIR or LWIR to operate during the nighttime hours.

WAVcam Systems
The WAVcam is sold as a System. There are 5 primary Systems, with numerous variations.
1. VIS-200: visible light only
2. MWIR-250: midwave IR only
3. LWIR-66: longwave IR only
4. VIS/MWIR: combination visible light and midwave IR
5. VIS/LWIR: combination visible light and longwave IR

Other System components are the video processor(s), archive unit(s), power supply(s) and mounting bracket(s).

The entire wide area view, at full resolution, is archived for a user-specified period of time or a user-specified amount of data storage.

Domain Awareness and Augmented Reality

Three companies have integrated the WAVcam into their Domain Awareness Applications.

1. Raytheon
2. SSR Engineering
3. The Mariner Group

> This **augmented reality** gives the end user the ability to correlate WAVcam targets with radar tracks, AIS information, physical security sensors and other security/surveillance subsystems. The resulting domain awareness is highly useful when trying to compile multiple, disparate pieces of information into **actionable intelligence.**

WAVcam viewer

Every WAVcam System comes with an unlimited number of Viewer licenses.

- Playback may be controlled by the user via the Viewer's graphical user interface.
- The user may select multiple targets within the wide angle view.
- Each target may be displayed in its own non-modal window at the full, native resolution.
- Each target window is color coded to a bounding box in the wide area view showing the relationship of target window's FOV to the entire WAV.
- The user may make "clips" of the complete dataset collected by the system over a user designated period of time.
- The user may make a "movie" in real time or post-incident of any portion of the recorded data at its full, native resolution.