

WASS

ISA

Innovative Signal Analysis, Inc

- **Small company, founded in 1997**
 - Focused on solving our nation's security challenges
 - Comprehensive product development and engineering services
 - High Performance Computing
 - Analog, Digital, & Optical Signal Processing
 - Supporting National Technical Means

- **Richardson, TX and Denver, CO**
 - Over 24000 sq. ft.
 - 5700 sq. ft. for special programs

- **60 Employees**
 - 40 Richardson / 20 Denver
 - 65% post grad degrees, 18% PhD
 - Average 20 years Experience



Richardson, TX

Denver, CO



Wide Area Surveillance System

**WASS covers a very large scope.
We are going to limit our discussion
to ground-based, panoramic
components.**

- **FOV vs. resolution**
- **Resolution vs. distance**
- **Resolution vs. storage space**
- **Resolution vs. bandwidth**
- **Coverage area vs. infrastructure costs**
- **Standalone monitoring vs. integrated system**
- **Cost vs. performance**

How does trade space relate to requirements?

- **Is the goal to predict, deter, track, detect, recognize, identify, respond, resolve or all the above?**
- **HFOV? VFOV?**
- **High spatial resolution close in? At distance? Both?**
- **Monitor specifics vs. situational awareness?**
- **Visible light, low light, no light (Standard def or HD)?**
- **Persistent?**
- **Revenue generator?**

- **Don't have to determine best port partner camera to view area of interest.**
- **Easy to identify and track numerous small vessels in port.**
- **Able to put a single target view in context.**
- **Avoid the difficulty of incorporating and using hundreds of cameras available from multiple port partners.**
- **Allow all operators access to video of all target views simultaneously.**

- **Open API?**
- **Industry accepted datastream?**
- **SDK \$?**
- **Integration support \$?**
- **Can it correlate the video with AIS, radar and timelines?**
- **Is GIS supported?**
- **Can it mine databases?**
- **Can it apply analytics to the video?**
- **Can it generate revenue?**

Generic Statement of Requirement

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When talking to your vendor, tell him you have \$_____ to purchase a _____° HFOV with:

- 1. A GSD of _____ at _____ distance.**
- 2. The ability to place _____pixels on _____-sized target at _____ distance.**
- 3. An _____% chance of detecting (recognizing or identifying) your target at _____distance.**

Sample Statement of Requirement

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\$125K to purchase a 90° HFOV system with:

- 1. A GSD of 2.3" at 1 mile distance.**
- 2. The ability to place 250+ pixels on a man-sized target at 1 mile.**
- 3. An 80% chance of detecting (recognizing or identifying) a man at 4+ miles distance.**

Rotating head - HGH

Very large camera array –

Persistent Surveillance Systems

Large format - Avigilon

Fisheye lens - Vivotek

Catadioptric optics - RemoteReality

Panoramic + long range STQ

Beam steering - ISA

Innovative Signal Analysis, Inc

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