



**NDIA Brief**

# Company Profile

- Torrey Pines Logic, Inc. (“TPL”) provides research, design, development and custom solutions the areas:

*Visible, NV and IR sensors*  
*Image Processing*  
*Optical Communications*  
*UAV Payloads and Processing*  
*Optical Design and Lasers*



## • Partial List of Clients:



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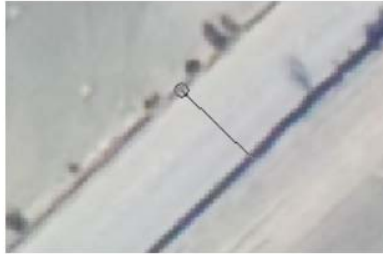
# TPL Projects

- Gigapixel Mosaic System
- Sensor Fusion and Target Tracking
- Sniper Detection
- Optical Communications

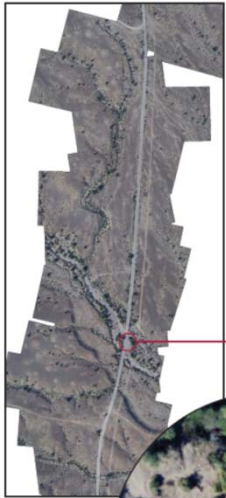
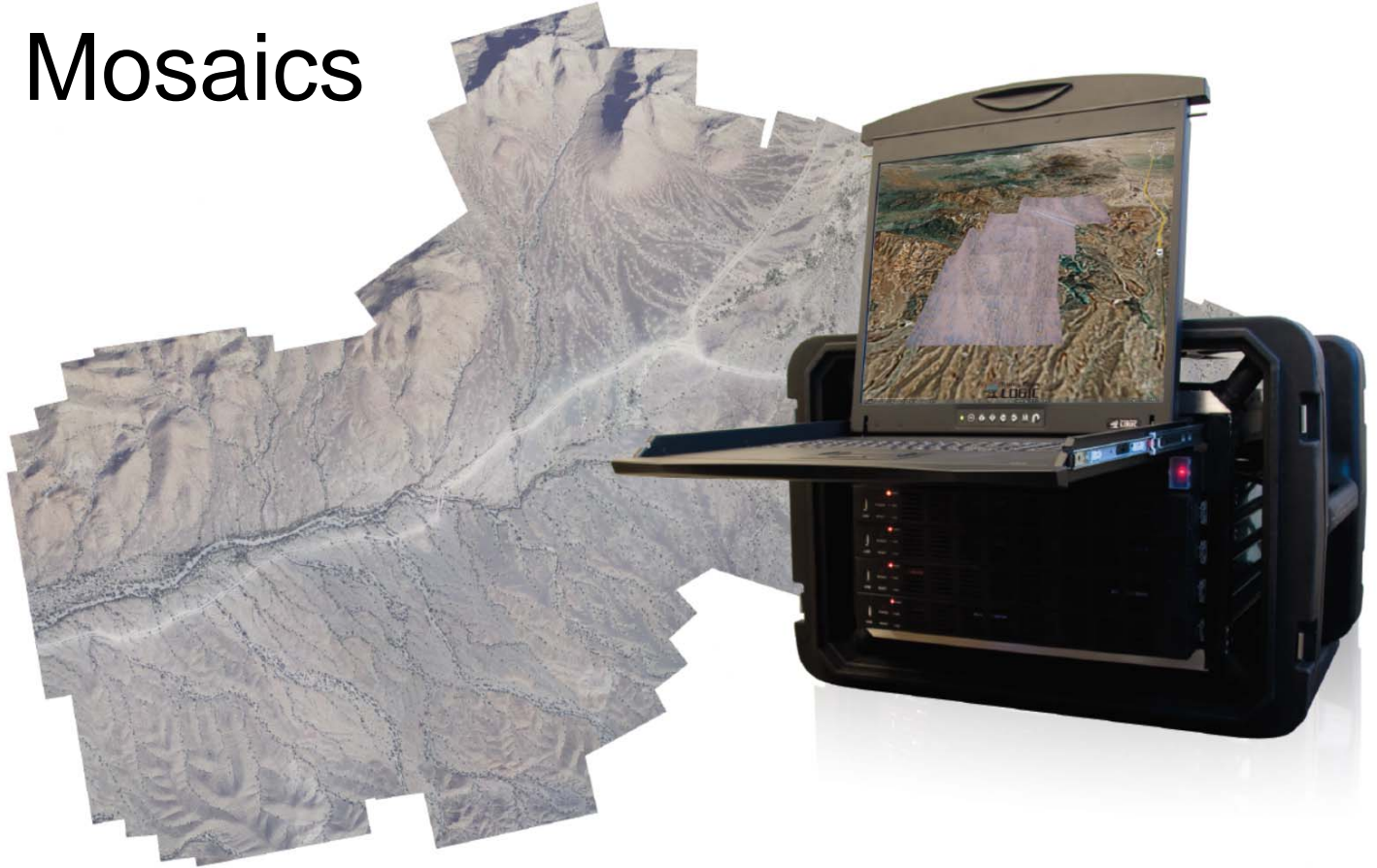




# Gigapixel Mosaics



749849.58 : 3693513.41 (E/N) 7.33 m

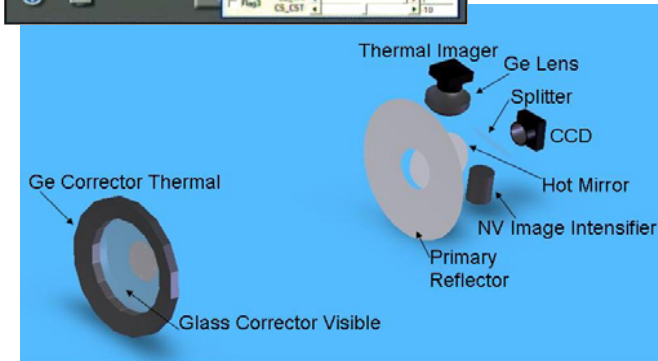


Completely automated open system software capable of building geo-registered Gigapixel mosaics in real-time from video or high resolution imagery. And perform change detection!

# Sensor Fusion and Target Tracking



Multi-spectral instruments with image enhancement, sensor fusion and target tracking in maritime environment



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# Sniper Detection

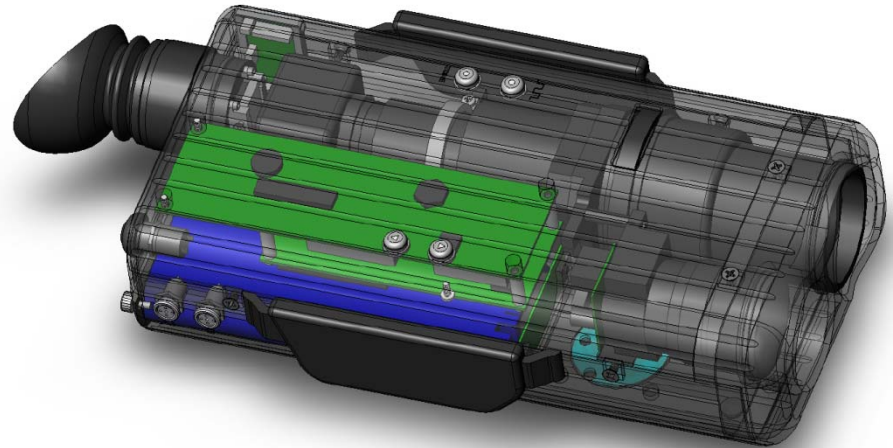
## Mirage-1200:

- Sniper detection
- Camera and Camcorder detection
- Border protection



## Next Mirage:

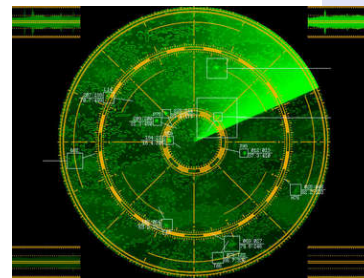
- Water-proof, hardened
- Fast Scanning ability
- Full remote control
- Automatic alerts
- Synchronized triggers



# Sniper Detection - Advanced Development

## Beam

- OEM Module
- 360° Fast Scanning ability
- Detection up to 1km, precision 5m
- Automatic alerts
- Synchronized triggers
- Size – 3.5" x 3.5" x 2"
- Weight <1lb – module only
- Weight <10lb – complete system





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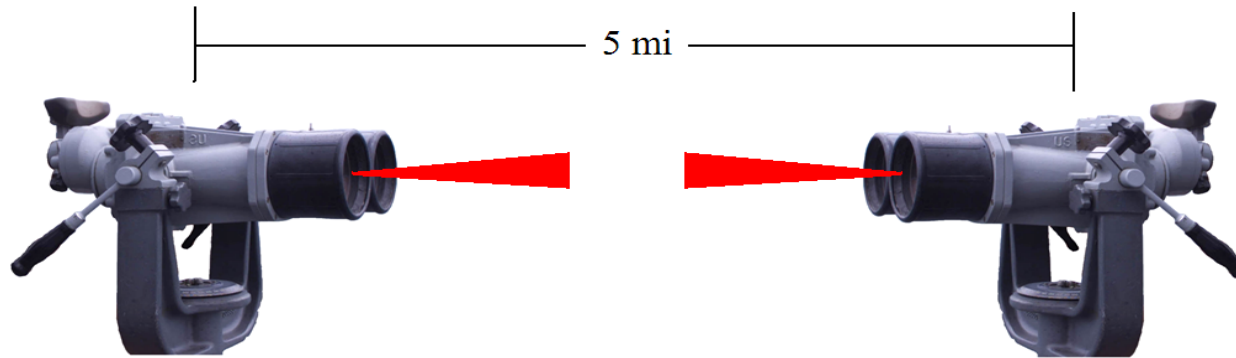
# Sniper Detection - Video Demo





# Optical Communications - Overview

Secure voice and data communication between ships & individuals using US Navy Big Eyes or other binoculars

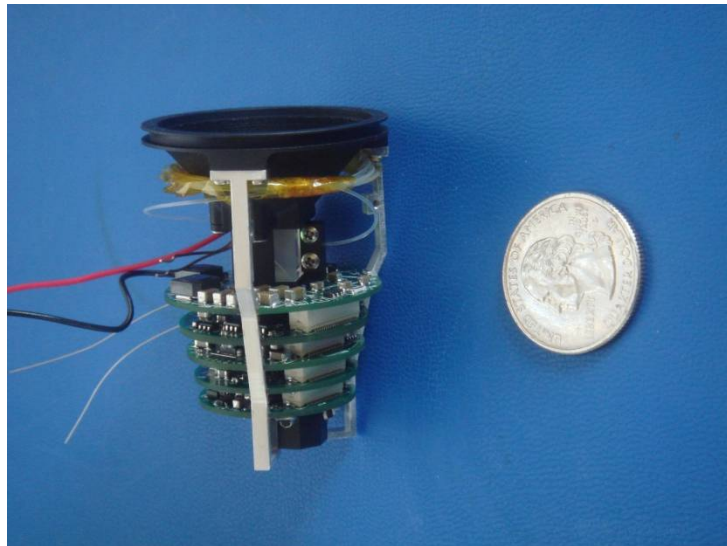


- Attachment easily connects to any optical device – binoculars, scopes
- System supports voice and data eye-safe transmission simultaneously
- Ethernet data connection between binoculars with cable modem speed
- Video output (color or b/w) from the binoculars is available for recording
- Distance between binoculars can be up to 12 miles
- Technology will be adapted to small hand-held binoculars



# Optical Communications - Operational Use

LightSpeed system can be built into small packages like this SUREFIRE light for operational use up to 2 km



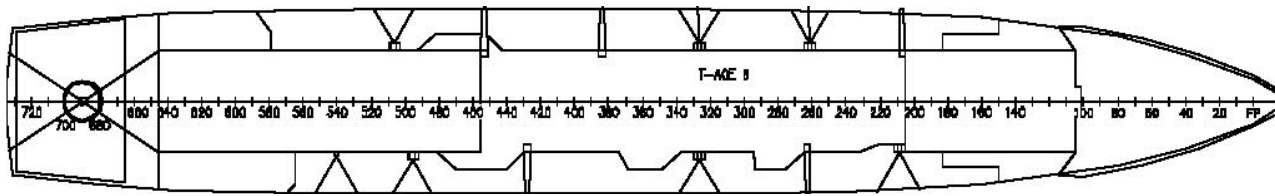
Complete LightSpeed transceiver



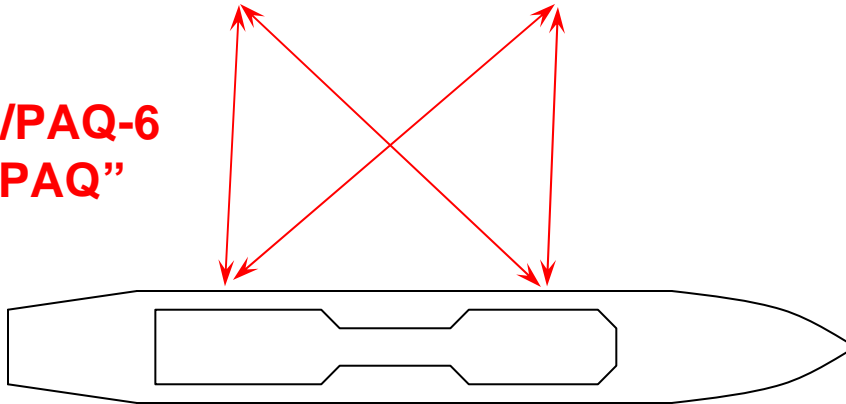
Operational LightSpeed  
SUREFIRE voice  
communication system

# Underway Replenishment (*LightSpeed* UNREP)

System provides multiple voice, data lines and real-time distance measurement via optical comms



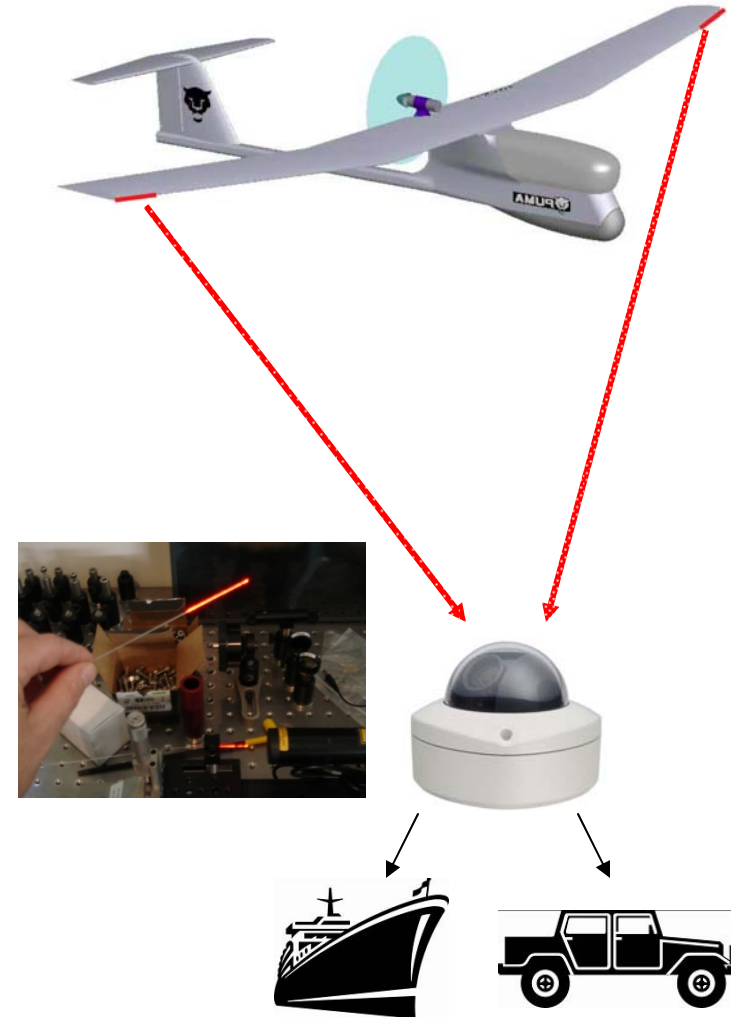
**AN/PAQ-6**  
**"6-PAQ"**





# Advanced *LightSpeed* Development

Not limited to binocular implementation. Special purpose LightSpeed systems can be built into UAVs, gun scopes, Blue Force Tracking devices, etc.



# *LightSpeed* - Fifth Generation

- Binocular & Attachment
  - Evolutionary Enhancement
  - Not detectable by NVG
  - Longer Range
  - Smaller, lighter, less power
- *RapidFire*
  - New Data interface
  - Small size – 5" long, 2.5" diameter
  - Long range – 3km +



# *LightSpeed* on tactical vehicles?

- Connected convoy
- Uses existing IR NV illuminator on MRAP
- Allows all connected cars to talk / send data



- Collect vehicle logistics
- **Secure, Non-RF Comms**





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