Company Profile

- Torrey Pines Logic, Inc. ("TPL") provides research, design, development and custom solutions in the areas:
  - Visible, NV and IR sensors
  - Image Processing
  - Optical Communications
  - UAV Payloads and Processing
  - Optical Design and Lasers

- Partial List of Clients:
TPL Projects

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

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
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
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
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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