Phelps 20/20

Edge-AI Solution
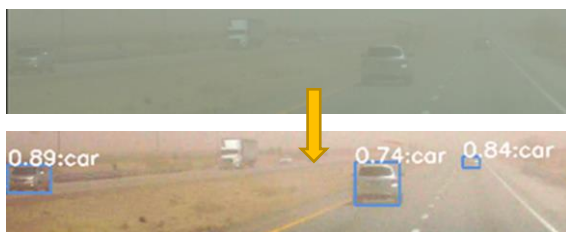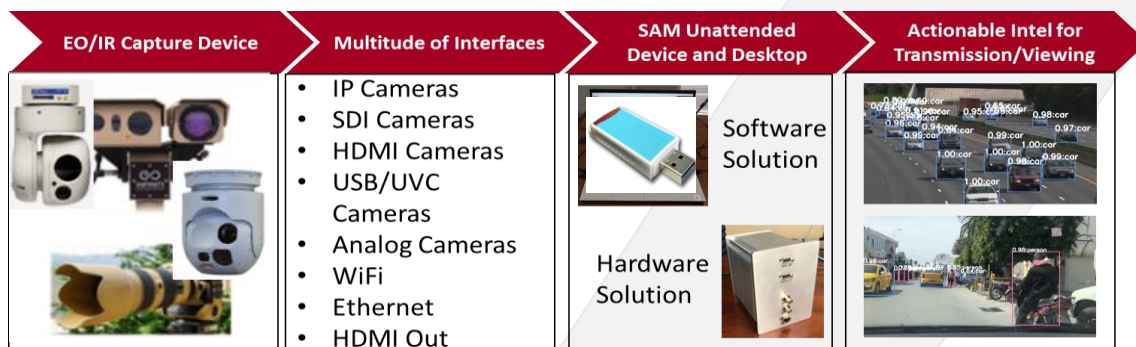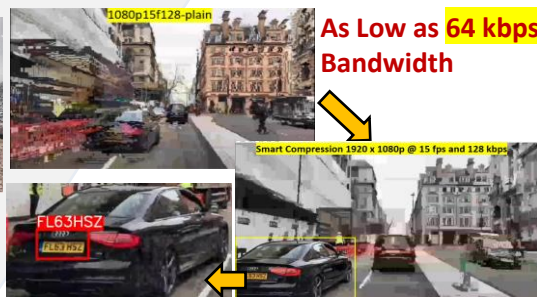## Artificial Intelligence Enabled Situational Awareness

Plug-and-play processor integrated between the sensor and the analyst to provide *__real-time__*, enhanced, tagged and lowered bandwidth actionable intelligence from *__4k60fps EO/IR video__*. The solution increases an analyst's ability to *__interpret and react__* to overwhelming data amounts.

EO/IR Capture Device → **Multitude of Interfaces** → **SAM Unattended Device and Desktop** → **Actionable Intel for Transmission/Viewing**

Multitude of Interfaces
- IP Cameras
- SDI Cameras
- HDMI Cameras
- USB/UVC Cameras
- Analog Cameras
- WiFi
- Ethernet
- HDMI Out

SAM Unattended Device and Desktop
Software Solution
Hardware Solution

Secure-AI Car Detection in Fog

Face Recognition with Backlighting

As Low as 64 kbps Bandwidth
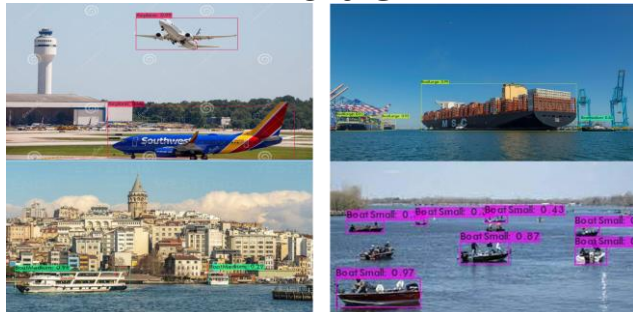
AI-Driven Compression

Core Features: *EO/IR Enhancement, Atmospheric Turbulence and Jitter Mitigation, Automatic Object Detection, Face Recognition, License Plate Recognition, Hull and Tail Number Matching, Intelligent Video Compression, and Streaming. Edge-AI also includes Smart Recording, Systematic FTP/SFTP Uploading, and a Web-GUI.*

- Multi-input sensor-agnostic
- 0.25k, 1k, 2K, 4K, 8K size videos
- 30, 60, 120, 240, 480 fps
- Short and long-range

- AI for custom, unlimited, object classes
- Transfer learning
- Computer Vision
- Sensor fusion

- Sub-frame latency
- >10x more efficient dissemination
- Orders of magnitude lower SWaP
- Modular scalable reconfigurable

Phelps2020's Family of Edge Devices

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Edge-AI Solutions
Artificial Intelligence Enabled Situational Awareness

AI for More Classes and More Spectral Bands

Visible

Thermal

Solutions Configurations

Windows or Linux-based Processing

Fully Autonomous Edge Processing Automatically Uploading to FTP and streams out to users in any protocol

Remotely-Controlled Edge Processing Via Web-based Application

On-site Accelerator via Tethered Monitor and Keyboard

AI Decision Support Solutions via **Web and On-Premise GUIs**

- *Provides Revolutionary Insights into Near-peer Threats in a Multi-Domain Operations Environment*
- Automatic Vehicle, People, Boat, and Airplane Detection in Degraded Environments
- License Plate, Face, Hull, and Tail Number Recognition
- Connects to Almost Any EO/IR Device in the Field Hassle-Free
- Intelligently Conserves Critical Information in Constrained Bandwidth
- Real-Time, up to 4K60fps
- **Menu-based, Application-Driven Customization Available**

Specifications

Edge-AI's configurations are made to be suitable for air, ground and sea operations. Phelps2020 can provide **custom configurations** to meet client specific technical requirements.

Category	Parameter	Value
Size & Weight	Dimensions (enclosure)	From 3 to 200 in^3
	Weight (enclosure and board)	From 2 oz to 8 lbs
Power	Voltage	9-18 VDC
	Power Consumption	From 9 to 75 Watt
Video	Connectors	Ethernet/WiFi, HD-SDI, BNC Analog, HDMI, USB/UVC
	Resolutions/Frame Rates	Ingests up to 4K60FPS
Environmental	Operating Temperatures	Approx. -20C to 49C

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