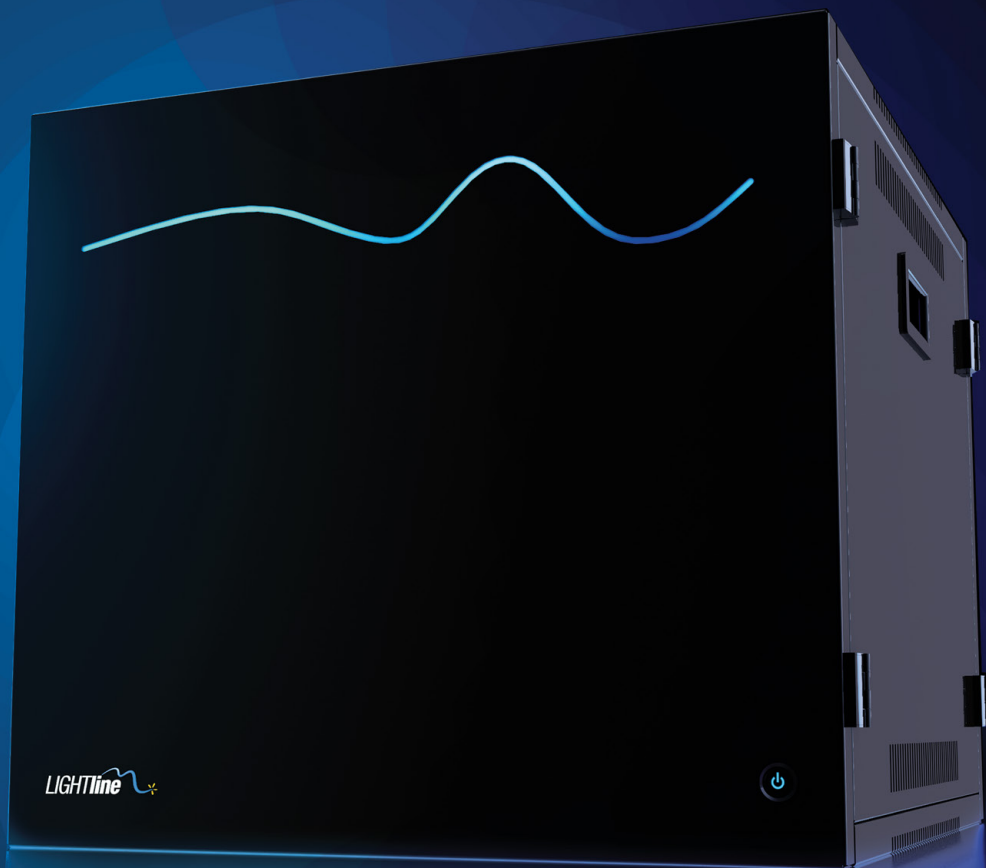


# ***LIGHTline***

*Fiber-optic Sensing*



# FIBER-OPTIC SENSING SOLUTION

## Perimeter Intrusion Detection system & Linear Infrastructure Monitoring (PIDS/LIM)

The system is a dual-purpose Fiber-Optic sensing solution for both Perimeter Intrusion Detection (PID) and Linear Infrastructure Monitoring (LIM) applications.

The Fiber-Optic sensing solution provides up to 50 km of continuous surveillance per fiber optic processing unit through its advanced DAS (Distributed Acoustic Sensing) technology. No power infrastructure is required along the fiber optic cable which is buried underground. A single service point houses the necessary equipment to provide up to 100 Km detection and processing capability.

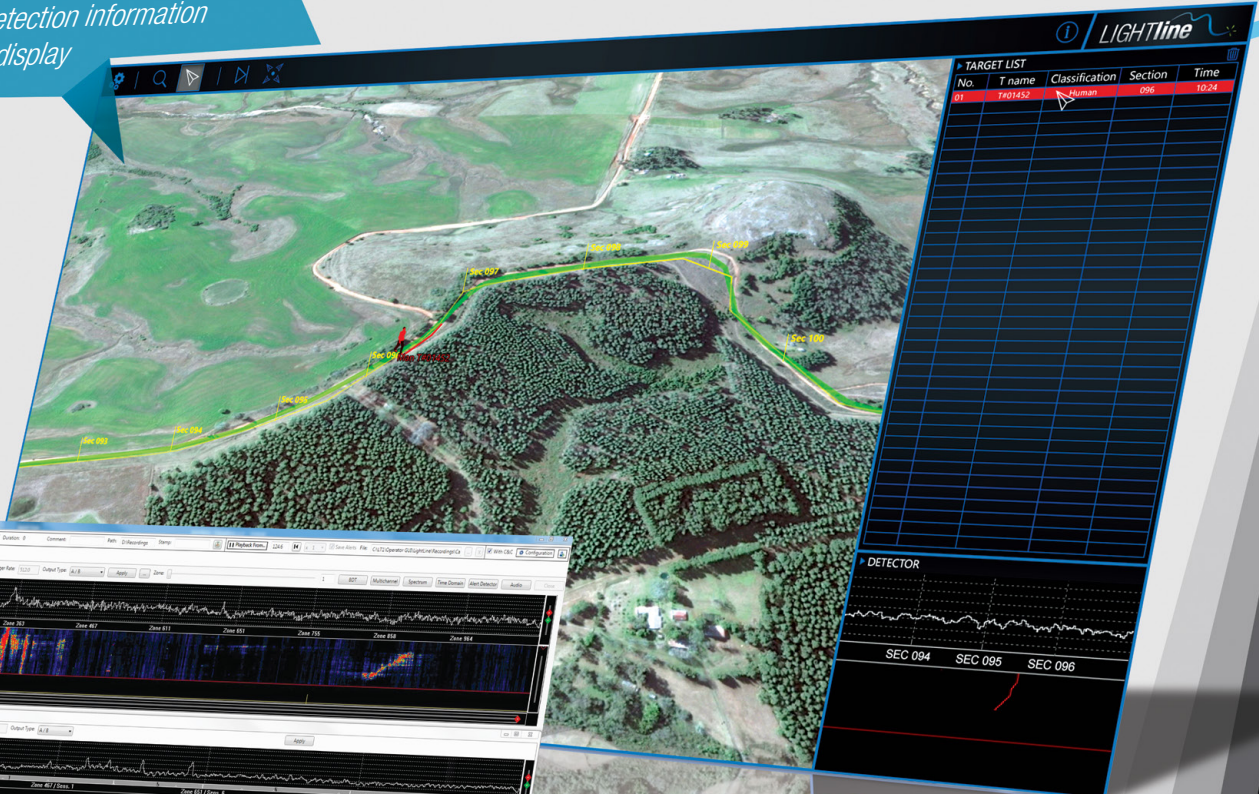
The fiber optic cable is inherently immune to EMI/RFI or lightning and is safe in the presence of explosive atmosphere. A single standard, single-mode communication fiber in a directly-buried cable configuration, effectively provides the means for detecting surrounding signals. Existing, standard communication grade, fiber optic cable can also be used.

The solution is capable of accurately locating multiple simultaneous intrusions along the fiber, in real-time. Natural environment or non-relevant man-made noises are automatically filtered in real-time by an advanced signal processing software, thus resulting in low false alarm rate.

## USER INTERFACE

Operator's application enables display, recording, playback and event logging features. A dedicated Technician's application provides the necessary tools for system installation and calibration purposes.

**Operator's Application**  
Event detection information  
over GIS display



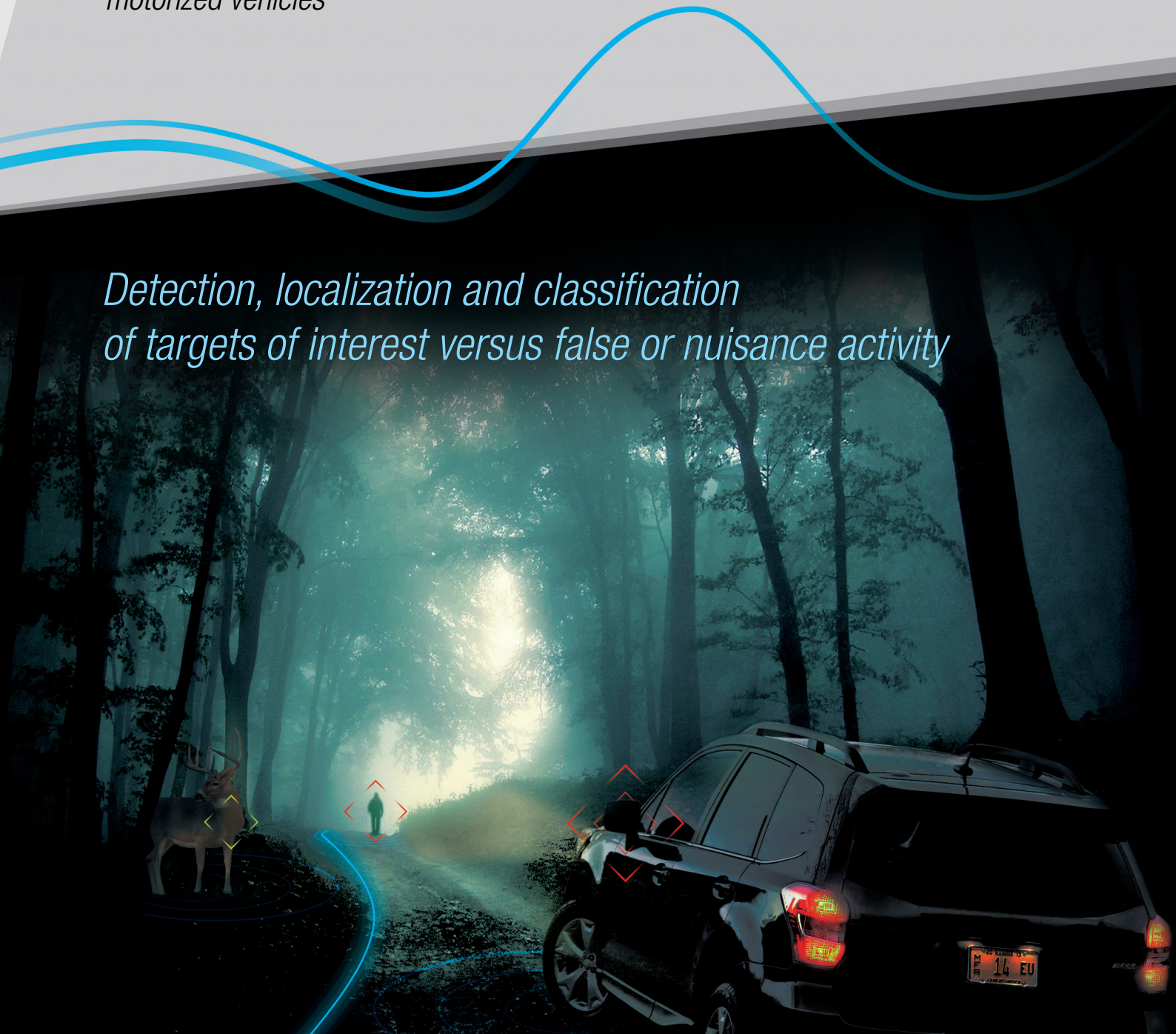
**Technician's Application**  
Variety of real-time data visualizations displays  
(waterfall, FFT time domain)



## LIGHTLINE MAIN FEATURES

- ▶ *Covers up to 50 Km per system*
- ▶ *Novel frequency domain Distributed Acoustic Sensing (DAS) technology*
- ▶ *Intrusion detection accuracy of 2 meters (software selectable)*
- ▶ *Vibrations, acoustic and seismic events can be detected*
- ▶ *Low false alarm rate*
- ▶ *Footstep detection and classification range, up to tens of meters from fiber optic cable*
- ▶ *Vehicle detection and classification range, up to 50 meters from fiber optic cable*
- ▶ *Acoustic oil/water leak detection capability*
- ▶ *Usage of a single free fiber in existing communication cables*
- ▶ *Detection, classification and localization capability of human steps, animals, motorized vehicles*

*Detection, localization and classification  
of targets of interest versus false or nuisance activity*



## SPECIFICATIONS

Sensor length.....	Up to 50 Km
Sensor type.....	Single-mode fiber optic cable
Detection zones size.....	Software adjustable (min. 2 m)
Number of detection zones.....	Limited by detection zone size and resolution
Sensitivity.....	Pico Strain Level
Cut cable detection capability.....	Enabled

## ABOUT DSIT

DSIT Solutions Ltd. specializing in advanced fiber optic sensing and sonar technologies for defense, commercial, energy and homeland security markets.

The company employs a world-class multi-disciplinary team of professionals highly skilled in signal processing and Real-Time technologies.



**LIGHTline** 



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