



# LIGHTLINE™

## Fiber Optic Sensing Solution Perimeter Intrusion Detection system & Linear Infrastructure Monitoring (PIDS/LIM)



DSIT Solutions Ltd. offers LightLine™ a dual purpose Fiber-Optic sensing solution for both Perimeter Intrusion Detection (PID) and Linear Infrastructure Monitoring (LIM) applications. DSIT's Fiber-Optic sensing solution provides up to 100 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 can be buried underground or attached to a fence. A single shelter 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. DSIT PIDS/LIM LightLine™ 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 DSIT's advanced signal processing algorithms, thus resulting in low false alarm rate.

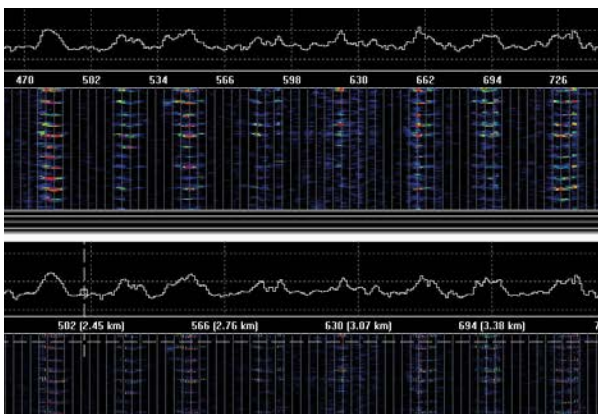
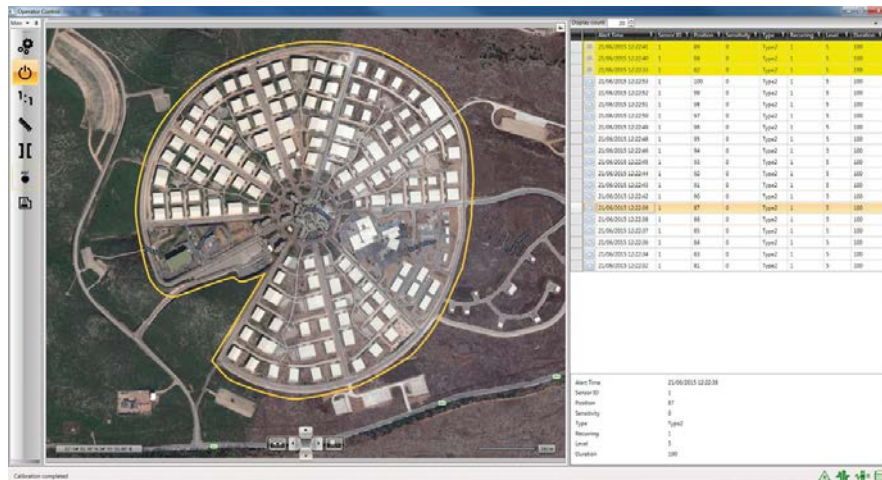
### LIGHTLINE MAIN FEATURES

- Covers up to 100 Km per service point
- Novel frequency domain Distributed Acoustic Sensing (DAS) technology
- Intrusion detection accuracy of 2 meters (software selectable)
- Vibrations, acoustic and seismic noises can be detected
- Low false alarm rate
- Up to tens of meters footstep detection range
- Up to 100 meters car detection range
- Acoustic oil/water leak detection capability
- Dual purpose use of existing communication fiber cables
- Detection, classification and localization capability of human steps, animals, motorized vehicles

### USER INTERFACE

Operators' user interface software enables display, recording, playback and event logging features. A dedicated Technician level user interface provides the necessary tools for system installation and calibration purposes.

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



### Technician's GUI

Variety of real-time data visualizations displays (waterfall, FFT time domain)

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



## SPECIFICATIONS

Sensor length.....Up to 100 Km  
Sensor type.....Single mode, tight-buffer (preferable) or armored 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



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