

## Leeddar tm: 3D Detection Technology for enhanced Mobility

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Transportation accounts for 28% of U.S. energy consumption. Light vehicles account for 63% of transportation energy consumption. 80% of this energy is spent on roads. Better detection lends itself to better traffic management.

Today's available detection technologies include:

- Radar ( Doppler and FMCW frequency modulated continuous wave)
- Video detection
- Magnetometer, loop, piezoelectric, pneumatic
- Ultrasonic
- Lidar (laser scanner)(Light detection and ranging)
- Passive Infra-red (thermal)
- Leeddar™

When choosing, some characteristics of these detection technologies to consider are:

- Whether they are intrusive / non intrusive
- Performance in adverse weather conditions
- Performance in changing environments (day / night, sun / cloud, summer / winter)
- Detection range / coverage
- Ease of installation / configuration
- Infrastructures / Hardware

Leeddar™ is a new technology that achieves LED Detection And Ranging. Its principle is based upon the time of flight of the light; knowing the speed of light, it detects objects and measures and calculates their distance. In the traffic detection application, infrared light is emitted from LEDs into the area of interest and then reflected by the objects back to the Leeddar™ sensor. From this reflected infrared light, Leeddar™ sensors detect the presence of objects, their direction of travel, speed, distance, and various other parameters.

Some advantages of Leeddar™ Technology include:

- Accurate and reliable detection technology in all weather conditions – more accurate than loops – even in fog, snow, rain, and severe sun horizon conditions.
- Detects bicycles with 99% accuracy (metal content is irrelevant)
- Provides 3D data - precise and rapid range information
- Speed, direction of travel, and occupancy calculations possible
- Image sensor on board
- For fine-tuning alignment
- For feedback of video image to TOC (H.264 / mpeg4)
- Compelling value proposition
- Optics mounted on motor-driven actuator for ease of alignment
- Simple installation and configuration
- Detection range up to 180 feet
- Simple user interface
- Processing done in the detector
- Detector software can be upgraded via pc connection
- Single cable from controller to sensor (CAT5 / Ethernet)
- Power Over Ethernet (POE)
- IP Adressable
- Non-intrusive technology