Spireon’s new sensor is designed to resolve ultrasonic detection issues by combining multiple sensors within a single device, and adding sophisticated processing power to the sensors themselves.

Image courtesy of Spireon

Spireon introduced a new FleetLocate Cargo Sensor with IntelliScan sensing technology, providing accuracy in visualizing cargo load status. The patent-pending IntelliScan technology uses a unique combination of sensing methods, including optical imaging and laser time of flight, to provide trailer fleet managers with a more precise picture of what is inside every trailer.

Ultrasonic detection — the current industry standard in cargo sensors — is heavily impacted by conditions inside the trailer, such as temperature, humidity, cargo type, and the distance between the sensor and cargo, according to Spireon. Cargo that includes soft materials, such as foam or cotton, absorbs sonic waves, affecting the accuracy of readings. Any material that is placed directly against an ultrasonic sensor blocks sonic waves, potentially indicating a full cargo load by mistake.

Spireon’s new FleetLocate Cargo Sensor with IntelliScan technology is designed to resolve these sonic issues by combining multiple sensors within a single device and adding sophisticated processing power to the sensors themselves. IntelliScan uses lasers for time of flight measurement, eliminating problems associated with cargo type and proximity.
Laser technology is highly reliable and widely used in other industries, such as for pre-crash sensors in automobiles where it detects pedestrians or other objects in the way of the vehicle. But, lasers alone have range limitations, so Spireon also incorporated a camera in the device, making the new cargo sensor the first to combine time of flight and optical imaging with advanced algorithms to accurately detect cargo load. As a result, the Spireon solution will capture the entire 53-foot trailer, regardless of environmental conditions or varying cargo types.

With IntelliScan technology and FleetLocate’s advanced reporting and alerts, trailer operators will be able to better monitor cargo, manage detention and improve service to shippers, maximizing trailer utilization and accelerating turns. Even carriers that operate in humid climates or carry soft goods will have a reliable sensor that can accurately monitor cargo loads. Further, the use of optical imaging paves the way for potential future enhancements that support photo capture or real-time visualization of trailer contents.