



ESSENSIUM

LOST™ Software Framework

Location System for Sensor Tracking

Common Platform supporting Multiple Applications

- ❑ LOST™ is a unique **real time positioning** solution for **indoor and outdoor** applications.
- ❑ Based on a **patented radio technique** it combines **sub-meter accuracy** with **long range**.
- ❑ The **software platform** is engineered to provide a **standard interface** to the end-user application.
- ❑ This generic approach supports **rapid development** and deployment of solutions for **multiple use cases**.

Overview

The unique combination of high accuracy and long range, combined with the ability to operate both indoors and out, ensures that the LOST™ position detection solution provides benefits across a broad range of applications. Use cases range from tracking large high value moving assets in locations such as airfields, shipyards and construction sites, to tracking small assets in logistic and retail applications, all the way to live body tracking. Just the live body tracking alone has a myriad of applications including security, emergency responders, healthcare, animal husbandry, staff safety and family applications such as child safety.



Figure 1: Example Applications

The diversity of applications is enabled by a common positioning platform with a standard interface. This allows Essensium and Partner Companies to quickly develop and deploy the software solutions for each specific use case, without modification to the underlying position tracking solution.

Common Platform

Essensium's LOST™ software platform includes node-level firmware and the LOST™ Tracker Server software which handles node network management as well as position calculation and tracking.

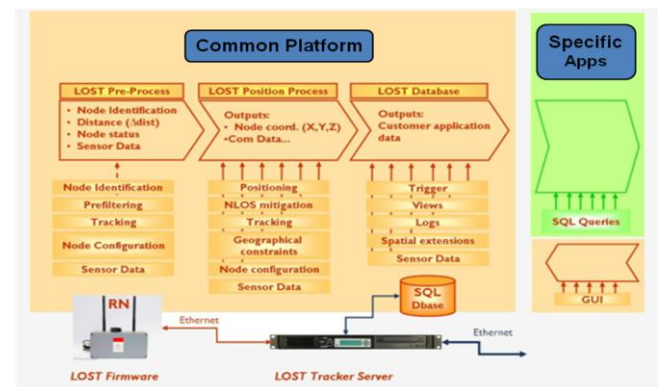


Figure 2: Common Platform and Specific Application

This common platform manages both the patented radio technique and the positioning algorithms which together give the LOST™ system its competitive advantage of combining both high accuracy and long range of operation.

Position and Status

The common platform uses an industry standard database interface to provide position and status information of all tags in the network. Specific software applications developed for different industries and use cases simply query this database interface in order to access the position and status information for selected tags in a fully transparent manner. This mechanism allows the end application development to proceed independently and without detailed awareness of the core position detection and tracking algorithms.





Configuration and Control

The same database interface includes defined fields which allow a non-expert end application to provide control data in order to drive output interfaces on the Mobile Nodes (Tags). This mechanism applies to Mobile Nodes with buzzer, led or text display functions, such as paging capabilities. It is also used for machine control functions, including safety applications such as triggering speed limiter or height restrictions on forklift trucks or other materials handling vehicles.

The use of the standard database interface allows the developer to concentrate on the event or rules-driven capabilities, while the low-level control is handled by the LOST™ common platform.

Quick Deployment

The separation between the core positioning technology in the common platform and the user-facing features in the end application enables rapid development and deployment of software solutions for different market applications. Additionally, it greatly facilitates the retrofitting of existing applications to leverage the capabilities of this leading position detection technology.



Fig 3: Gateway 3D WMS running with LOST™ common platform

The above image shows an example where a Partner Company modified their existing 3D WMS GUI in just a few hours to interface with the LOST™ common platform for live tracking of Mobile Nodes.

Software Simulator

The development of end user applications is further accelerated by the use of Essensium's LOST™ Server Software Simulator. This application, available to key

development partners, provides a full simulation of the common platform's database interface. This simulation tool allows partner companies to concentrate on the development of their end-user applications while the core tracking capability is provided by Essensium through the common platform.

Becoming a Partner for Application Development

Potential Partner Companies interested in developing new software applications or modifying existing applications to leverage the range and accuracy of the LOST™ position tracking solution are invited to contact Essensium at the address below.

Summary LOST™ Technical Specifications

- Accuracy: better than 50cm for ranges up to 500m
- Update rate : Configurable from 1msec per node
- Radio Frequencies
 - Ranging channel: 2.4GHz ISM band 200MHz bandwidth coexistent with 802.11.xx.
 - Data communication channel: 2.4GHz 802.15.4 compliant with proprietary software stack.

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