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# LOST<sup>®</sup> Demo Kit

- ❑ LOST is a unique **real time positioning** solution for **indoor and outdoor** applications. It combines **sub-meter accuracy** with **low infrastructure cost**.
- ❑ LOST enables **reliable supply chain management** and **efficient asset and goods tracking**.

## Overview

The LOST Demo Kit is the solution to experience the Real-Time-Location capabilities and accuracy of the LOST technology. The hardware is an assembly of reference nodes and mobile nodes. The reference nodes form a fixed infrastructure that communicates to the LOST Tracker software platform, where the LOST graphical user interface displays live all movements of the mobile devices. The LOST Tracker Software runs from a memory stick delivered with the LOST Demo Kit.

It allows evaluation of the performance for indoor and outdoor environments using an easy to set-up conceptual approach. Looking into the real time behavior, the position accuracy, stability, the robustness to interference, the communication capabilities through Ethernet and wireless communication 802.15.4 becomes very intuitive and natural.

## How does it work?

The LOST demo system operates in any area that is contained by perimeter formed by the 4 reference nodes with typical dimensions up to 200m X 200m. Each mobile node is ranged (distance measurement) by the reference nodes. The ranging data are packaged and sent to the gateway reference node (one reference node connected to the PC via Ethernet) which relays the information to the PC running the LOST Tracker Software platform. The LOST Tracker Software platform provides the translation from ranging data to live position of the mobile nodes in the graphical user interface.

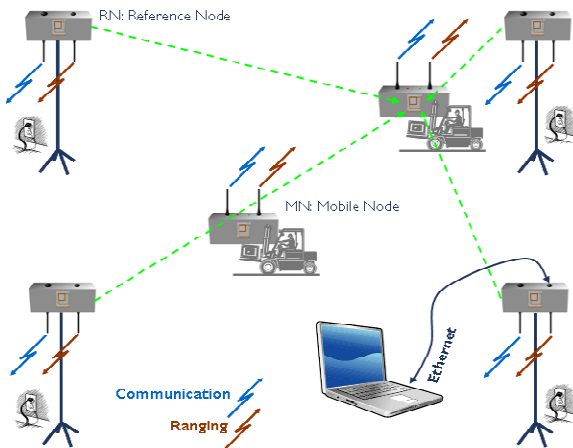


Figure 1: LOST typical setup



## What can you do with it?

The purpose of the demonstration kit is to illustrate:

- The LOST sub-meter accuracy.
- The LOST real time positioning capabilities indoors and/or outdoors.
- The real time tracking of moving targets.
- A simulation of a pick and place procedure in inventory management.
- The ease to set-up a configuration, underlining the “without calibration” process and the ease of the graphical user interface.
- The LOST robustness against interferences and multipath issues.
- The communication capabilities through Ethernet and wireless 802.15.4
- The sophisticated LOST software platform for ranging and positioning.

## Logistics Applications

The LOST system is very well suited for tracking vehicles indoors or outdoors covering wide areas.

As is shown in Figure 2, the reach of LOST is easily extended by adding Reference Nodes on carefully chosen locations, to easily cover several square kilometers.

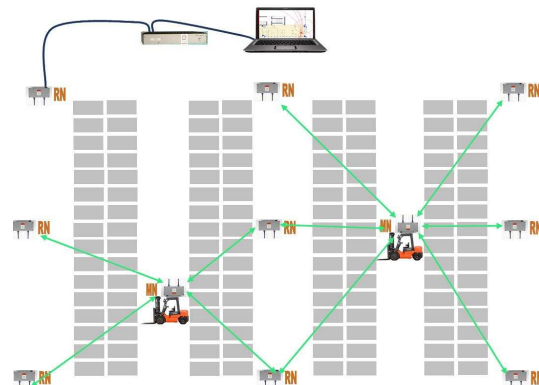


Figure 2: LOST setup for Logistics Applications





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Tracking is done in real-time over the complete area and without having to construct access restrictions such as pass gates, as is the case with typical RFID solutions. Mobile Nodes can be mounted on transport equipment such as trucks, forklifts, trailers and straddle carriers. Also crates, pallets and containers containing valuable goods can be tracked and traced while they are moved or stored.

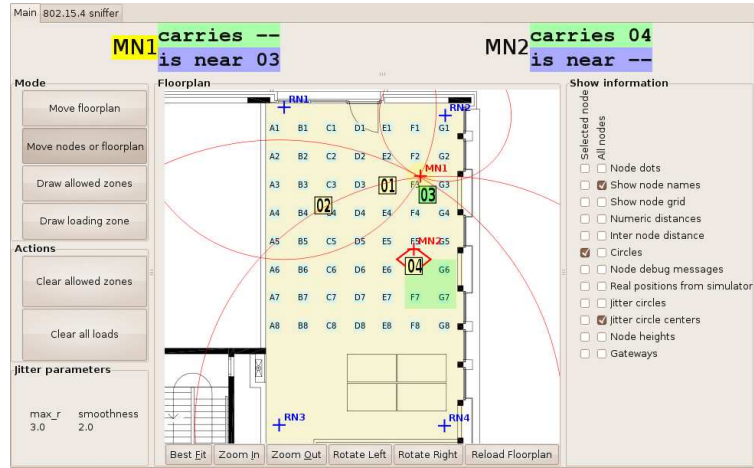
## Demo Kit Contents

- Hardware and software
  - 1 USB memory stick with evaluation version of the LOST Tracker Software Platform
  - 4 reference nodes AC powered
  - 2 mobile nodes battery powered
  - 4 power cords & 1 Ethernet cable
  - 1 mobile node charger set



- Documentation:
  - LOST Reference Node datasheet
  - LOST Mobile Node datasheet
  - LOST DemoKit user guide

- Showing parameters and data: a broad set of data is available about the hardware nodes.
  - Distances from Mobile Nodes to Reference Nodes.
  - Node names for ease of identification.
  - Communication exchanges and their associated contents.
- LOST Tracker Software Platform visualization: displaying the results of the computation of crossing circles during the ranging measurements to positioning conversion, thus showing the real time behavior of the system.



## Tracker Software Graphical User Interface

The Tracker Software GUI provides an easy to use PC interface for the users to manage the sophisticated functions of the LOST Tracker Software platform that is the 2<sup>nd</sup> major part of the core of the LOST Technology beside the LOST hardware nodes.

The main features are:

- The graphical tools to set-up the floorplan:
  - It helps to define the footprint rapidly using a dimensional raster with fixed distances to ease implantation with limited on-site measurements.
  - The floorplan can be moved, zoomed and rotated allowing manipulations for a quick import of the floorplan image to fit the user interface and the acquisition area.
- The definition of the allowed zones: by eliminating unreasonable zones (for instance to avoid ranging a mobile outside of a building at the level of the 10th floor).
- The definition of a loading zone for the simulation of a pick and place process with a visualization of the virtual tagging of dropped goods.

## PC Minimum requirements

To run the LOST software platform with its GUI, the requirements are as follows:

- P4 class Intel Processor
- 512MB of RAM memory
- A PC that can run software from a USB Flash disk (Bios settings)
- About 2GB of HDD free space

Document: 01FD0928.005  
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