TECH OFFER

Asset Tracking Device With Customisable Sensors

KEY INFORMATION

TECHNOLOGY CATEGORY:

Electronics - Embedded Systems

Electronics - Sensors & Instrumentation

Infocomm - Geoinformatics & Location

TECHNOLOGY READINESS LEVEL (TRL): **TRL8**

COUNTRY: **SINGAPORE**

ID NUMBER: **TO174804**

OVERVIEW

Traditionally, companies which deploy various assets in the field have to manually locate them to either service them, or just to find out where they are to collect them. Examples of these assets could be movable types like supermarket trolleys, delivery vehicles, hospital wheelchairs, etc., or non-movable types like machinery and equipment. By attaching small, IoT-based tracking devices to these assets, the asset owner will be able to track and locate them automatically. In addition, the operating status and physical parameters of the asset can be measured by additional sensors embedded into the tracking device. These location and condition data gathered by the asset tracking device can enable further downstream decisions to be made. For example, process enhancement such as predictive maintenance, real-time inventory management, or a simple track and trace operation, etc. Human-based errors can be minimised, increasing operational efficiency.

This technology offer is an IoT-based asset tracking device that is fully customisable to perform various additional sensing functions. The device is also capable of monitoring its own operating conditions and associated environmental parameters.

The technology owner is keen to do R&D collaboration with application developers from industries such as asset management, equipment management, logistics and the hospitality industry.

TECHNOLOGY FEATURES & SPECIFICATIONS

The main features of the asset tracker device are:

- Communications range up to 10 km (within cellular coverage)
- Temperature range between -40 to 80 deg Celsius
- Battery life of 5 years
- Communication using NB-IoT or LTE-M
- Cloud-based data storage
- Web-based dashboard
- Miniature, compact size
- Adaptable for all kinds of sensors
- Automatic alerts using email and other messaging services if the location is out of range, exceeds the boundary conditions, and weak battery power

POTENTIAL APPLICATIONS

This technology offer can be deployed in the following applications.

- Logistics, Last-mile delivery
- Fleet management
- Equipment management
- Industrial automation

This technology offer can be customised further to include other sensors and different communication protocols.

UNIQUE VALUE PROPOSITION

The asset tracking device offers:

- Ultra low power operation; long battery life of more than 5 years for certain deployments
- Fully customisable with various sensors and different communication protocols

The technology owner is keen to do R&D collaboration with application developers from industries such as asset management, equipment management, logistics and the hospitality industry.