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TROLLEYPONDER/ECOTAG/RADAR RFID Newsletter #94

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Your latest copy of our regular newsletter keeping you up to date with developments.

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1. Development of Real Time Locating System based on video rather than radio

As regular readers will be aware, Trolley Scan design and manufacture leading edge RFID (radio identification) systems and RFID-radar systems (RTLS- real time locating systems) which are supplied to users in 52 countries. Trolley Scan have been delivering equipment and solutions for the past 15 years.

The radio locating systems can offer millimeter accuracy but are limited in operating range practically at present to 40 meters. Because the radio locating systems share limited bandwidth for communication between all the transponders and the reader, the speed of movement at which all transponders will be tracked is limited in situations where many transponders are present.

Based on work done in the past with video solutions, Trolley Scan have been developing a video based real time locating system that can track over longer distances than the radio based systems and can provide accurate position measurements for all targets in the zone. As it is a video solution, it needs the targets to be in the view of the cameras when measurements are being made.

The system is able to accurately determine the range and bearing from the camera for multiple targets providing position and tracking data for all the targets.

The next challenge is to extract identity information from each target so that it can follow many targets at the same time. Identity information is important so as not to confuse one target with another.

Realtime video analysis of images from cameras is a computer processing intensive application. Any item appearing in an image is a collection of adjacent pixels and the computer needs to analyse all the relevant pixels to make a decision about the item.

Colour is also a challenge as the camera detects the levels of energy of red, green and blue spectrum that are reflected off the target. The actual amounts collected depend on many factors including the brightness of the illuminator (e.g the sun) at that time. The colour the camera sees is the ratio between these three values rather than the absolute values, meaning an item with a purple colour (for example) in shade will have very different values than the same item when it is in sunlight.

At present the systems are under development but we see uses for this technology in the tracking of trolleys in superstores, airports and parking lots in malls, as well as players on a sports field. In some cases it should also address the problem of detecting trolleys being removed from the parking lots.

The system is aimed at supplementing the radio based offerings from Trolley Scan, solutions that are already in use in more than 500 locations worldwide.

2. Product range

Trolley Scan are a manufacturer of UHF RFID systems. Trolley Scan manufacture fixed readers, portable readers and RFID-radar systems (Real Time Locating systems that give accurate position information) as well as a variety of transponders for different applications. Transponders come in the form of passive transponders with operating ranges up to 20 metres and battery assisted transponders with an operating range up to 40 metres. Trolley Scan also combine some of these components into packages for end users which are supplied with the appropriate software. Typical applications are asset management, notebook tracking, equipment barriers, store control, sheep and cattle tracking, event logging and sports timing systems.

3. Getting your own complete RFID/radar system

You can order RFID systems or RFID-radar systems from Trolleyscan.com

Trolley Scan provide small RFID reader systems which give new users the ability to evaluate UHF RFID and their applications without needing specialised skills.

Trolley Scan provide a variety of easy starter systems for first time users who have an application that needs a solution. Typical packages are :

- ? Standard UHF long range readers with antennas and 100 transponders
- ? RFID-radar system comprising long range reader, antennas and a variety of different transponders.
- ? RFID-asset tracking systems comprising portable reader, antenna and a variety of transponders with software.
- ? RFID-notebook/laptop tracking system comprising reader, antennas, transponders and software

In addition components such as readers and transponders are available

These systems are already operating in 52 countries.

To find out details of the systems and to order see <http://trolleyscan.com/>