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TROLLEYPONDER/ECOTAG/RADAR RFID Newsletter #98

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

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1. Cellid a new form of global tracking

If you wanted to track a motor vehicle for example, over a large distance, there have been some recent developments in equipment that allow this to be done very cheaply. This new technology uses the cell phone network to identify the location and to transfer the message from the unit back to the requester.

Previously one would use a GPS receiver to determine the position of the vehicle, and then some form of communications system to sent the answer to the requester. The negatives of the GPS solution are the cost, that two systems are needed (namely measuring the position and communicating the result), that the GPS antenna need to be in line of sight of the GPS satellites overhead, and that it does not work in the presence of high rise buildings or when inside a building.

The CellId systems operate where ever a cell phone signal is present, in the open or inside a building. The antennas can be inside the device which does not need to be in line of site, but can for example be built into the bodywork of the vehicle.

The CellId device is a spin off of cellphone technology. It can be packaged in a unit as small as 3cms x 3 cms by 1 cm, of which most of the volume is the battery system. It holds a SIM card which connects it to the cellphone network to read the location and to provide communications. The device is activated by sending an SMS from the requester to which it replies with the current position. Other versions include a vibration sensor which can initiate an SMS whenever the device is moved.

Each cellphone tower, when communicating with a cellphone device, communicates the country code, the service provider code, the local area code and the cellid of the tower.

The format looks like *mcc=655,mnc=001,lac=150,cellid=15262.*

This represents the position of the tower which is communicating with the cellid device and typically

is about 500 to 2000 metres from the cellid device.

Various websites convert the above data back to a *lat lon* position of the tower and plot it on a map.

A weakness of the system is that the database of the cell towers is not freely available in many countries and the individual service providers are not compelled to provide the information to the public. This has resulted in various volunteer organisations creating a public database by their volunteer members finding towers, extracting the cellid data from the communications with their cellphone, and submitting the description and location to the database for others to use.

Trolley Scan DO NOT make the cellid devices, but we have been using them and testing them for the past few months. They are hugely useful for locating vehicles out on delivery or the like, where the exact position is not important but one wants to know approximately where on the delivery route the vehicle is currently.

They are very cheap to operate and are very cheap to buy, and do not need a third party service provider to realise the service. They also can be used to locate stolen vehicles, being built into the bodywork and only activated in the event of a theft.

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.

Trolley Scan have been delivering their RFID solutions for the past 15 years and offer full support for all their equipment.

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/