ABPmer supports Environment Agency flood protection decisions on the Humber

ABPmer has been commissioned by the **Environment Agency** to provide a detailed understanding of past, present and likely future changes around **Read's Island** on the **Humber Estuary**. The study will help the Environment Agency determine what action they need to take to maintain current flood protection levels in the area. ABPmer are reviewing survey data, historical charts and previous studies undertaken during the last two decades, and develop a conceptual understanding of the changes that have occurred and the controls on the processes at work around Read's Island. The results will be used to focus on understanding what impacts are likely on the local defences in the future. **www.abpmer.co.uk**

One in four business drivers fear being replaced by driverless cars

One in four business drivers are concerned that they will be replaced by autonomous vehicles in their working lifetime, according to research from Masternaut, fleet telematics solutions provider. Driverless cars are currently being trialed on UK roads in Greenwich, Milton Keynes and Coventry, as ministers consider changes to the Highway Code to allow driverless cars to be used by the general public; although there is still uncertainty over regulatory and legislative implications. Masternaut surveyed 2,000 UK employees who drive as part of their job, to find out their attitudes towards driverless cars and the effect this will have on their job in the future. **www.masternaut.com**.

World's first Garden City looks to the future with GIS software from Cadcorp

North Hertfordshire District Council (NHDC) is migrating from a bespoke web mapping application to an off-the-shelf application from British software developer, **Cadcorp**. The upgrade will make interactive web mapping available to more than 300 council employees. **NHDC's GIS Manager, John Barnacle**, said, "We will be replacing a bespoke 32-bit web mapping application with a 64-bit version of Cadcorp's off-the-shelf product - **Web Map Layers 8.0.** It will bring us new functionality, a modern and responsive user interface, and we will have future-proofed our investment in GIS." Web Map Layers will be managed from the Council offices in **Letchworth**, a town of 33,000 people and the world's first Garden City. **www.cadcorp.com**

Quartix Named as one of Britain's Top Inspirational Companies

Leading vehicle tracking supplier **Quartix** is celebrating a fantastic month after announcing its maiden results as a public company on 3rd March, being named as one of the **1,000 Companies to Inspire Britain**, and last night winning the coveted **Business of the Year** accolade in the **Cambridge Business Excellence Awards**. Quartix saw continued growth in demand for its vehicle tracking systems, software and services last year, in both the insurance sector and its core fleet business. Total sales grew by 15.9% to £15.3M, with nearly 50,000 new tracking systems installed, and revenues from the fleet sector increased by 20%. **Quartix** had a strong year in the USA where the company opened an office in Chicago in April 2014. **www.quartix.net**

Peter Fitzgibbon, Editor

Getting in a fix

Do you use a cash till? Have a smart meter? Employ a satnav for guidance? All rely on the positioning and timing functions of navigation satellites to do their job, as do many other technologies in daily use. And while we have become accustomed to 24/7 availability of their signals from 22,000 miles above us, their susceptibility to interference, intended or not, has far-reaching consequences – an issue explored in this issue

A perhaps lesser known vulnerability lies in the use of Global Navigation Satellite Systems such as GPS for what is termed social navigation, i.e., influencing people towards common objects or spaces based on the actions or findings of others.

Community-based networks such as Waze, use crowdsourcing to good effect in delivering what it describes as "a socially-informed GPS app for drivers." But what makes Waze's "live map" traffic reporting so attractive to its 50 million users also makes it a prime target for hackers.

The potential for spoofing (deliberately misleading) Waze users is highlighted in recent research conducted by four researchers at the Technion University in Haifa, Israel.[1]

They revealed the ease with which Waze controls can be bypassed by peer-to-peer Sybil botnets to cause financial damage, compromise security, breach privacy and influence traffic flows and routing decisions, e.g., by creating non-existent traffic jams or diverting users away from phantom roadworks. While ways of mitigating attacks that balance simplicity, effectiveness and cost are proposed, the use of stronger registration and validation mechanisms would prove equally effective. However, this poses a dilemma for Waze which, like most social networks, needs a critical mass of users to be effective, As such, it requires a bare minimum of information for registration purposes.

With similar community-based apps from the likes of Moovit and Navmii, the cyber security aspect of satellite navigation is likely to join signal jamming as a key concern among the GNSS community.

1. *Exploiting Social Navigation*. Meital Ben Sinai, Nimrod Partush, Shir Yadid & Eran Yahav. Oct 2014.

(downloadable from www.slideshare. net/TopSecretSpyFiles/exploiting-social-navigation). See also https://www.youtube.com/watch?v=c0BloPU6EQI