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Communication is key

The collection, transfer, management and sharing of geoinformation depends more than ever on effective communication. Andy Beckerson takes stock of latest developments

Communication takes many forms, from verbal and non-verbal, to body language, email, semaphore and even Morse code, although we can today probably discount the latter two for most purposes.

While my last column complained about the illusive cellular coverage during my visit to INTERGEO, there are few businesses that don't now rely on mobile data. The huge increase in the volume of data generated by mobile devices is something that can degrade your mobile phone 'voice' service. So if you are suffering from this, try disabling the 4G signal on your phone and reverting to 3G something I should have tried in Germany!

There are many uses for mobile data in a geospatial world; engineers can send new designs for excavators and 'dozers directly to the operators, asset information can be uploaded to the cloud for immediate action, and data from structural monitoring sensors can be collected and analysed, potentially in a 'wireless mesh', to ensure that remedial action is taken in a timely manner. Whatever the application, the objective is to analyse data and make better business decisions.

Wireless working

The limiting factor is the technology currently available. While technology changes are, if anything, accelerating, data transmission speeds, telemetry ranges and security are lagging. For example, how many of us complain about Wi-Fi signals in our home and office? However, there is a solution and I have recently installed a relatively low cost Wi-Fi external antenna. It simply plugs into the router and extends secure Wi-Fi all over the house, garden, and down the street zoom away!

The latest high-speed data radios not only offer operating distances of up to 50km but are also licence-free, secure and operable as 'point to point' or 'point to multi-point' devices or as simple

K-Asset's automated inspection scheduling sends tasks directly to field inspectors via the cloud

repeaters and can include video. These rugged, waterproof radios are ideal for applications in many market sectors including construction, oil and gas, utilities, environmental monitoring and agriculture.

Making waves

On a commercial level, Trimble's latest acquisition is a data company involved specifically in wireless water infrastructure monitoring and management. Using the collect, transfer, manage and share philosophy, this suite of wireless remote monitoring, analytics and data acquisition systems monitor data from remote sites such as reservoirs, rainfall gauges, water pressure meters and water quality sensors. This data is integrated into a base GIS map to add location, analysis performed, and reports automatically generated and shared. Although a specialised application, it highlights the power of efficient communication, in this case helping water utilities make better business decisions and, in turn deliver improved customer services.

On a more generic level, KOREC's low-cost K-Asset management tool has been designed to tackle the challenge of maintaining asset inventories and scheduling inspections. Especially popular with local authorities who need to combine historical and newly-collected data, its automated inspection scheduling allows tasks to be sent, via the cloud, directly to field mobile devices. Once an inspection is completed or an asset history updated, this data, along with a photograph, can be sent wirelessly back to K-Asset where the database is automatically updated and instantly accessible to all permitted users. Information can be communicated and acted upon far more efficiently with all interested parties kept abreast of changes as they happen.

This purposeful exchange of information is something that we can expect to see exploited to great effect within the geospatial industry as technological development continues apace.

