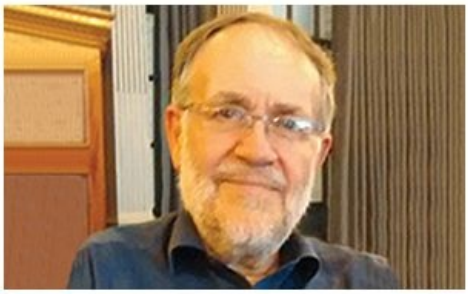
Technology Continues to Surprise



The rate at which technology evolves continues to surprise. Often something emerges in response to genuine human need, even if the need is down to a failure of government. Other times it is because those with oodles of surplus cash decide something is worth investigating – possibly with a view to acquiring yet more surplus cash – things like space tourism, autonomous vehicles or talking to your fridge.

I read the other day that Ford are developing a pothole alert system for their vehicles (www.bbc.co.uk/news/technology-39004805). Image recognition and laser scanning are likely to be key components. Potholes are certainly a problem almost wherever you travel in the world but should ordinary road users need systems to detect them? I was on a Caribbean island recently with a vast road network, some of them as good as any in Europe but many side routes across the island or to country villages are truly appalling. In some cases, as I said to a taxi driver, it's not so much a pothole problem as a complete absence of road problem. The island faces a general election soon and the politicians are busy vying with each other for the best solutions for its crumbling roads. Yet things are often no better here in the UK. Last year in my town one of the main spine roads through a local community was so bad many drivers were taking long detours to avoid it.

The prime reason that's driving solutions for lack of maintenance is of course the endless budget cutting and austerity regimes following the global financial crisis almost a decade ago. In the US the new administration say they're going to fix the country's crumbling infrastructure. There will doubtless be big headline projects but I'll bet no one will budget for adequate maintenance. We are only just beginning to learn that there are votes in filling potholes and painting things.

Intriguing is how technologies that evolved many years ago suddenly get new legs due to developments in other fields. Photogrammetry is an example. All surveyors understand the basics of how to get measurements from stereoscopic photographs. Before the advent of laser scanners plate cameras enabled façades of buildings to be accurately recorded. Now, thanks to rapid processors, clever algorithms and solid-state devices we can attach miniature sensors to a UAV and achieve amazing results as Dr David Green and his colleagues demonstrate in their article Photogrammetry aids River Restoration (page 14).

Another emerging development is smart headsets that enable the user to view the world through enhanced virtual reality. One such device is being trialled on construction sites. Equipped with a high-speed wide-angle camera, it can show how a new building will blend with its existing surroundings or it could superimpose a 3D image of the position of existing or planned underground services. Contractors Skanska are trialling the device. Watch this space.

Giving the 2016 Michael Barrett Award Lecture, Prof Stig Enemark argued that efficient land administration contributes to achieving the UN's Sustainable Development Goals for 2030. He cites the enormous progress in China due partly to land reform. He wants to see the proportion of the world with secure tenure rise from the current 30% to 80% by 2030. Blocking this are countries that don't have enough surveyors or where the political will has not been committed to reform. Read a report of his lecture on page 18. For those who want to understand more about the geopolitics of the world's major countries and regions, I commend Tim Marshall's *Prisoners of Geography*. Read our report of his lecture at RICS and a review of his book on pages 30 and 31.

Finally, I want to alert readers to our sister publication GIS Professional which is planning a major feature on the state of geospatial education and training for the April issue. To make sure you get a copy go to www.gis-professional.com

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