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THE MOTHER OF INVENTION

HUMAN INGENUITY DOESN'T STOP WITH TECHNOLOGY. GEOSPATIAL PROFESSIONALS AROUND THE WORLD ARE THINKING LATERALLY TO GET RESULTS

One of the pleasures of editing *GeoConnexion International* is that every month, I learn about new and great examples of human ingenuity. Technology in all its forms is an example of such ingenuity, with generation after generation of scientists, engineers and inventors building on their forerunners' work to create even better, even more powerful ways to benefit humanity.

It's tempting to think of technology as the zenith of our creativity, particularly as the geospatial industry is so concerned with better resolution, greater accuracy, improved coverage and all the other things that provide us with more and better information for measurement. The fact that more and more of our lives are going online and becoming virtualised also tends to make us think that whatever our problems, surely there's an app for that?

Yet, technology is not the be all and end all of human thought. Sometimes, there are better, simpler and cheaper ways to do things, and in this issue, we can see some great examples of lateral thinking in action.

We start with an archaeological dig in Sweden. Excavations at the ring fort in Sandby Borg discovered a cache of valuable treasures – as well as the remains of 11 people, who had been violently killed. However, other treasures remained below the surface, well within reach of looters. With only limited funding for further digs, archaeologists at Sweden's Kalmar Läns Museum had to decide where to dig for further remains *before* they arrived at the site.

Their solution? Fabel, the archaeology dog. Trained to sniff out ancient human remains, Fabel was the simple solution the archaeologists were looking for – provided they could keep track of where he went. Katherine Lehmuller reveals how they managed to do just that, on page 24.

Another historical project, this time in the US, was the source of a different problem. Built in 1905, the Attucks building in Kansas City played an important role in the educational history of the city's African-American community. Now in need of renovation, it could potentially be part of the city's redevelopment of its 'jazz district'. However, developing and retrofitting such buildings is incredibly difficult, with the school filled with hazards to surveying such as deterioration in the wood floors, collapsing ceilings and asbestos.

Surveyors tasked with created a BIM of the building therefore needed to survey it and leave as quickly as possible, which they did – collecting all the highly accurate data they needed for the model in less than five hours. Stuart Cadge explains how on page 32.

The environment at the South Pole is even more inhospitable than inside the Attucks building. Nevertheless, teams of Czech scientists visit the Johan Gregor Mendel Research Station on James Ross Island every Antarctic summer to study everything from glaciers through to dinosaur fossils. With limited time in which to work, extreme cold to brave and everything from the cooking to the cleaning to do on top of their scientific work, the scientists at the station need techniques that are precise, simple and easy to perform.

In our cover story on page 35, Erik Dahlberg looks at some of the tricks the scientists use to measure position in their research, including the stop-and-go kinematic method, as well as simple networks of bamboo rods inserted into the ice.

Of course, technology does form a part, at least, in many of the solutions people have found to these problems. But on page 30, Philip Church counsels that technology may not be enough to overcome one particular problem: civilians' use of UAVs. Near and actual collisions between UAVs and piloted aircraft are becoming increasingly common, but while plans to develop technological solutions are afoot, important data about the scale and nature of the problem isn't being collected, Church warns.

Yet do we want a 'segregated airspace' with areas only UAVs can enter and areas only piloted aircraft can fly in? If we rely on technology, that may be what we end up with, ending the 'freedom of the skies'. Church suggests that once again, relying on individuals and their ingenuity might be a better course of action.

I hope you enjoy the issue and that it inspires you in your own work.