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GeoConnexion International
ISSN: 1476-8941 is published by GeoConnexion Limited ten times a year (with combined November/December and July/August issues) and is fully protected by copyright.

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READY FOR LIFT OFF

UAVS ARE BEING USED IN MORE AND MORE APPLICATIONS. BUT THEY REMAIN JUST ONE PIECE IN THE OVERALL GEOSPATIAL JIGSAW PUZZLE

Unmanned aerial vehicles (UAV) continue to thrill industries around the world. While Amazon's investigations into their potential as a delivery system are getting all the headlines, they're still very much in their infancy and may even amount to nothing.

However, in surveying, real results are being achieved every day and the potential uses of UAVs are only increasing as the technology improves. But being a relatively new addition to the surveyor's age-old arsenal of tools, many are holding back from using them in practice. The reasons can be varied. Many countries around the world have legal restrictions on flying UAVs, for example.

But concerns abound about the actual practicalities of using a UAV to acquire data, when other tools are far more tried and tested. On page 30, Robert Parker hopes to make it easier for those who want to at least dip their toes in the water. He provides an end-to-end checklist of all the things necessary, from acquisition to post-processing, in order to acquire useful imagery from a UAV and build up an image library that you can distribute to others.

For others, there can be simple concerns about accuracy. Almost anyone can stick a camera on a UAV and fly it but will the imagery they acquire be of any use? In the Czech Republic, UAVs are starting to dominate the mapping market, and so agencies are running their own tests to check the accuracy of the data that can be acquired by the professionals. On page 38, Jakub Karas and Václav Safar report on the results of a project that compared traditional methods with data obtained using UAVs.

While optical imagery remains the main concern of UAV surveying, the potential to explore other parts of the electromagnetic spectrum remains. On page 24, David Bannon looks at the growing popularity of hyperspectral imagery in the UAV. He discussed the additional challenges involved and looks ahead to innovations in the developing market.

Nevertheless, despite UAVs being the Next Big Thing in surveying, it's worth remembering that other techniques that are almost as new are still available to surveyors. Very high resolution (VHR) imagery is something that has been with us for years now, but exploiting it hasn't always been easy. A recent EU project attempted to create a forest monitoring application able to exploit VHR imagery, and on page 36, Stratos Stylianidis reports on its results, including the new FORSAT tool.

Laser-scanning also continues to prove its worth. With construction for a new Metro tunnel set to pass just 5m below Copenhagen's famous Magasin du Nord, the engineering companies involved needed as up-to-date and as accurate 3D model of the store as possible in a tight timeframe. On page 27, Andrea Schmitz reports on a delicate night-time laser-scanning operation – in which the surveyors were watched at all times by security guards.

Whatever the method of data acquisition, making it useful and serving it to end users is as important an issue. Sometimes, that can be part of a country-wide project. For example, private and public sector organisations in Romania have worked together to build the country its own National Spatial Data Infrastructure. On page 18, Cristian Vasile and Cristina Oana discuss its creation and some of the projects that have benefitted from the NSDI.

A project may be a little smaller – perhaps catering only to an entire city. When the City of Oslo decided to create a new model, it needed something innovative. On page 34, Rolf Thore Bekkhus explains how it used 3D printing to develop a representation of Oslo that could be updated every day.

Or maybe the project may be restricted to an industry or organisation. On page 40, Claudio Mingrino argues that geospatial technology has the power to drive progress by democratising data across an organisation and enabling everyone to access geospatial information using next generation platforms. And on page 22, Gareth Smith agrees – specifically, in the oil and gas industry, the next phase of GIS evolution will transform many areas. But, he warns, it will need to be used with care.

I hope you enjoy the issue.

If you have a comment or wish to express your views on anything in this issue or in the world of geospatial information, then please email me at robertbuckley@geoconnexion.com with Letter to the Editor in the Subject line. Please start your email with Dear Editor and the chances are your letter will appear in the Letters to the Editor page