



WATCH OUT!

UAVS ARE EXPENSIVE EQUIPMENT THAT CAN GET BROKEN VERY EASILY – UNLESS YOU TAKE PRECAUTIONS

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UAVs are now very much commonplace in surveying and it's a rare application that hasn't yet benefited from their presence. But commonplace doesn't mean ordinary. Not only are they expensive, they require considerable skill to operate and maintain.

Planning a UAV's flight for a survey isn't quite the same as taking out a model plane for a flight round the park either. Want it to fly over something high? How high? Do you know? Are you sure? How accurate is the digital terrain model you're using? Has it been updated recently?

There's a world of threats your UAV may encounter while flying and replacing it if it gets broken is not going to be cheap or easy.

This issue, we look at a project to survey powerlines in the Czech Republic. As well as carefully planning flight paths using DTMs and DSMs, surveyor Jakub Karas outfitted his UAV with a specially fitted radar designed to



stop the vehicle from accidentally colliding with wires. He explains all on page 37.

Meanwhile, on page 40, Alexey Dobrovolskiy offers a workflow designed to stop UAVs from colliding with trees – the most common cause of crashes during magnetic surveys. Think it's easy flying a UAV? Now try it with a magnetometer hanging from the bottom of your vehicle.

I hope you enjoy the issue.



FOREWARNED IS FOREARMED

INTELLIGENCE OFFICIALS AND CONGRESSIONAL LEADERS TOLD THE WALL STREET JOURNAL IN 2014 THAT THE U.S. GOVERNMENT HAD BEEN SURPRISED BY VLADIMIR PUTIN'S SEIZURE OF THE CRIMEA. HAS HISTORY REPEATED ITSELF IN 2022?

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As several hundred NATO specialists took their seats at this year's Defence Geospatial Intelligence (DGI) conference on the outskirts of London, one wonders just how many of them knew of the preparations then underway for the invasion of Ukraine. If so, they were keeping tight-lipped.

Within days, commercial satellite imagery, open source intelligence and rolling newscasts dispelled any lingering uncertainty over the Kremlin's intentions, giving us all a near real-time picture of its "special military operation."

Acronyms and organograms came thick and fast as DGI presenters outlined organisational change, promoted the virtues of collaborative working, and detailed the latest workflows in gathering, processing and assessing

the petabytes of multi-dimensional data at their disposal.

There can be no doubting NATO's Intelligence, Surveillance and Reconnaissance (ISR) capability – the US government alone has invested more than €10 billion in optical earth observation sensors since 2005. And in March 2021, the Commander UK Strategic Command was tasked to devise a strategy that will reset the nation's immediate and longer-term approaches to Defence ISR.

It was Britain's chief of defence intelligence, Lieutenant General Jim Hockenfull, who stressed to his DGI audience the need to work better, faster and deeper to overcome the ever-increasing volume and complexity of data, including GEOINT. Subsequent events in Ukraine will surely have added even greater urgency to that message. After all, forewarned is forearmed.

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