Onwards and upwards:
the evolution of integrated UAV solutions

by Jean-Christophe Zufferey

As the geospatial industry looks for increasingly innovative solutions to improve operational efficiencies, Jean-Christophe Zufferey, CEO at senseFly, examines the impact of drone technology and outlines key predictions for 2018.

The unmanned aerial vehicles (UAV) industry has transformed in recent years. From increased awareness of commercial drone applications to regulations becoming more accommodating, the prevalence of, and advances in, the technology have been significant and rapid. The result of users becoming more knowledgeable about the benefits drones can offer has led to a growing need for tools that don't simply perform a single function well, but are integrated, end-to-end solutions that address businesses' problems and deliver a strong return-on-investment.

Market dynamics

With the market for drone technology moving so quickly, manufacturers have needed to adapt accordingly to meet demand and provide the right solutions. Across multiple industries, including surveying, construction and agriculture, UAVs have become more mainstream and with increasing numbers of commercial businesses using drones in everyday operations, ease of use has never been more important. Features such as simple set-up and automated flight and landing are just a few examples of how processes are being simplified.

Revolutionary reality

Reality capture has played a major role in helping to both expand the reach of UAVs and increase the appetite for an integrated approach. Highly accurate data is gathered and used to provide professionals with actionable insights that support decision-making and streamline ways of working. For example, aiding smarter workflows, as well as achieving cost and efficiency savings, all remain high on the agenda, and there is a consistent trend between the use of complete solutions and improved performance, both financially and operationally. For instance, on average, senseFly customers that have switched from terrestrial work methods to using UAV solutions see between a five- and ten-fold improvement in

cost and efficiency gains. Such results are indicative of the change in perception regarding drones, building trust in the safety, reliability and performance of the technology on a commercial scale.

Looking ahead to 2018

In 2018, we expect to see a number of existing trends evolve further, as businesses demand more from their solutions:

Decision-making tools

The application of UAVs has changed, both in relation to the industries that are using the technology and the way in which it works. Businesses don't simply want a drone to fly; if they are going to invest, they want to know that they're buying a robust tool that will provide highly accurate data and inform decisions at an operational and board level. To do so, it's crucial that drone technology complements other software packages, such as data management and image processing programmes. At senseFly, we've formed strategic partnerships with other organisations to simplify and enhance our data-based approach. For example, our eBee Plus drone works in sync with Airware, a platform that creates georeferenced orthomosaics, point clouds and surface models. The result is a smarter, safer workflow through which users can process, analyse and act upon data insights.

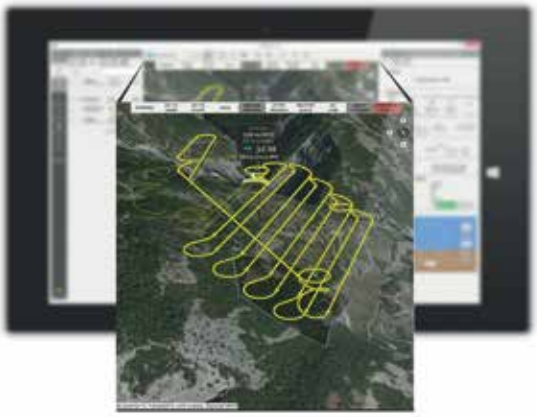
End-to-end and integrated

Over the next twelve months, we expect such partnerships, alongside investment in R&D programmes, to play a crucial role in enhancing and expanding the reach of end-to-end solutions. This drive for innovation will benefit professionals working across multiple sectors, enabling them to navigate what we would term the fourth industrial revolution by improving the efficiency, accuracy and sustainability of data processing and analysis. The integration of UAV technology into every day, existing workflows will also help validate the growing reputation of drones as essential, reliable mapping tools. For example, we recently launched our 360 solutions to improve workflow integration in the surveying, mining and quarries, agriculture and inspection industries, bringing together senseFly drone hardware and expertise, and flight planning and image processing softwares.

Safety focus

With drone adoption set to continue its upward trajectory in 2018—commercially and in the prosumer space—we anticipate that safety will be at the forefront of regulatory developments. Following the first European UAV Traffic Management (UTM) Day in Geneva, the attention on UTM has gained more traction

globally. While NASA is leading the way on this in the US through its drone-testing programmes and collaboration with the NUAIR Alliance, Italy has been pioneering the development of drone regulations in Europe. Since 2015, the Italian Body for Civil Aviation has regularly revised its UAV regulations, to remain abreast of the unmanned aviation industry and target specific safety measures, such as introducing training requirements for pilots, who can also be subject to obtaining flight authorisations. Our team at senseFly is working to support greater and safer access to airspace by continuing to engage with key stakeholders globally. For example, our partnership with airspace management platform, AirMap, has allowed us to access situational awareness data to maximise operational efficiencies. In doing so, we can provide our customers with airspace intelligence such as the locations of critical infrastructure and real-time alerts, while also submitting digital flight notices to more than 125 airports from senseFly drones.



Meeting market needs

Moving into 2018, actionable data, better integration and safety will all have a key part to play. Our role in this will be to continue listening to our customers and optimise our solutions accordingly, to ensure the technology we develop is tailored to the concerns and needs of individual industries. Not only has this approach already proved instrumental to our existing offer, but it's given us the insights required to begin creating even more advanced systems. For instance, we know that our customers want to see greater interoperability with state-of-the-art software and graphical user interfaces, and we are evolving our offer to continue to meet these demands. Ultimately, the focus for those working in the UAV industry in 2018 will be to invest in R&D and collaborate more closely, to enable professionals using the solutions to navigate the skies safely, efficiently and with complete peace of mind.

KEYWORDS

Unmanned aerial vehicles (UAVs); drones; end-to-end solutions; integrated workflows; UAV regulations

ABSTRACT

The unmanned aerial vehicles (UAV) market has advanced significantly over the last 12 months. With professionals more aware than ever of the benefits of drone technology, there has been a growing need within the industry to innovate and invest in R&D programmes. Tools need to be integrated, complete solutions, marking a move away from users seeing drones in isolation. Throughout 2018, this investment in end-to-end is set to address businesses' key operational challenges, deliver a strong return-on-investment and streamline adherence to emerging regulations.

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