

Industries in motion



Claudia Bacco and Thomas Neubauer, CEO of Dimetor consider the opportunity for telecoms and aviation to work together

Will telecoms take the lead in ensuring safe drone flight?

The telecom and aviation industries are coming closer together, enabling scalable, automated and safe beyond-visual-line-of-sight (BVLOS) operations of drones. But what is the role of the telecoms, and why are they doing it?

Why drones need telecoms networks?

A drone can really only deliver 3 things: data, parcels/goods and people. Focusing on data, the drone in essence is a remotely controlled sensor collecting data, processing some on board, and/or delivering the results to mission control, databases, etc. This includes flying the sensor in a safe/controlled manner and transferring the application data.

Both require a scalable, secure, trusted, proven, low cost, low energy, low weight/size technology and digital infrastructure that is widely available in the lower airspace. Such infrastructure exists, it is called 4G and 5G cellular networks. Drones are running like “application layers” (for critical and non-critical requirements) on top. But telecoms can also deliver data that is critical for safe drone telecom operations!

Aviation requires a pilot in command. For remote operation that means there is a need to know where in the airspace sufficient connectivity for “command and control (C2)” exists and where it does not. Telcos can provide this “dynamic airspace connectivity data”, to satisfy so called OSO#13 requirements in SORA, the specific operations risk assessment.

Also, any given drone is only allowed to fly over a certain number of people on the ground. Cellular networks know how many people are present and where they are, so that the dynamic ground risk can be assessed, as required in drone regulation. Similarly, alternative and GPS independent positioning information can be determined by the 4G/5G networks.

Why telecoms need drones?

As mentioned above, delivering data in a wireless manner from A to B is clearly a core business for telecoms. Therefore, mobile network operators are not just providing the “infrastructure as a service” to enable safe drone operations at scale, they are already moving up the value chain seeing drones as a business opportunity, a new industry segment they want to address. Some already deliver “platform as a service” solutions, some provide “end-to-end drone as a service” offerings including the entire drone operation. End customers just order the inspection service, and the telecoms are taking care of everything else.

Thus, telecoms ensuring safe drone flights is not only a necessity for scalable operations, it is a huge business opportunity for the telecom themselves.



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“2025 is a key year for the use of drones”
TELEFÓNICA, MWC 2025

Telecoms and drones aren't a question of if or when, it's already happening

Drones represent a new source of revenue for telecom operators. There's a great deal of investment in their 4G/5G networks and the ability to further monetise those networks is always a priority when considering new business ventures. Hence, the outlook for 2025 to be a “key year for the use of drones” as stated by Telefónica at this year's Mobile World Congress event (MWC).

Drone Nests

During the 2025 MWC event, Telefónica presented a new service to provide management of automated drone bases for the operation of autonomous drones. Drone bases (or nests) are automated stations designed to house, recharge and deploy drones autonomously, functioning as operational bases for the drones, allowing them to carry out both routine and on-demand operations without the need for direct human intervention. Think beyond-visual-line-of-sight (BVLOS).

In addition to Telefónica providing a network of drones and their nests, the maintenance, management of flight permits to ensure compliance with all safety regulations and standards, and flight piloting and operation. Yes, you

read this correctly - the Spanish telecom is now also a drone operator, working in partnership with Nokia Drone Networks and Dimetor for the end-to-end solution.

Maybe you wonder, what's in it for them? The use of the 5G network is key to providing a greater flight range, a higher data capacity for possibly real-time transmission of videos during a drone mission, and low latency, which allows the drone to be controlled in real-time to quickly adapt to changes in its environment.

Swisscom is already on board

Swisscom, the telecommunications provider in Switzerland, is also partnering with Nokia Drone Networks and Dimetor to offer Swisscom Broadcast Drones-As-A-Service. The result is an infrastructure that is in development that includes up to 300 automated drone-in-a-box units. These can be used for industrial inspections and time-critical first responder operations by organisations who don't have the need nor desire to own and manage their own drone fleet. All data gathered by the drones can be stored in Swisscom's secure data storage facilities in Switzerland. Again leveraging the telecoms network infrastructure.

Not only Europe

On the other side of the world, you've got telecom giant KDDI investing in Skydio to create a disaster response network with 1,000 drones deployed around Japan, that can be on stand-by for disaster recovery efforts. Transmission of data gathered by the drones will occur over KDDI's satellite and 5G networks.

This article only touches on a small sample of telecom activities in the drone space. You will definitely see this topic recurring in *Global Airspace Radar's* coverage of drone innovation. One parting thought - artificial intelligence (AI) is integral in enabling these drones to function autonomously. Another topic to come.

BELOW: Dimetor Data Exchange - bridging the gap between telecommunications and drones DIMETOR

