The challenges for safe and reliable integration of drones

Technology is constantly evolving, and existing technology is applied in new ways. Digitalisation, Artificial Intelligence, increasing bandwidth and predictable connectivity are key enablers in many different domains and environments. These factors allow for higher levels of automation in well-established processes and procedures, and drive research into the safe and secure integration of autonomous systems into workflows.

A good example of such a domain workflow would be a dispatch process in a public safety organisation. Just in this one domain, public safety, there are already a significant number of components and systems supporting humans in their mission.

Public safety agencies are under pressure to decrease reaction times and are early adopters of drones to support their operations. Of course, drones are a potential threat as well as a useful tool, and they introduce significant additional complexity into the dispatcher workflow.

The safe integration of drones into public safety operations demands enablement tools that are capable of providing drone data and exchanging information with other internal and external agencies.

Here, MosaiX SWIM enables the safe and efficient interconnection of stakeholders, ensuring seamless data exchange of relevant information transported via common B2B interfaces. But does this mean that police officers need to be fully trained aviation experts to make use of drones in a safe, secure and reliable way?
Frequentis provides the solution for this challenge, removing the operational barriers to introducing drones.

We are experts in applying next-level automation and autonomous components. To successfully support dispatchers, we integrate a system of systems in a highly automated way.

Translating requests and responses between two domains based on autonomous decision-making components – yet keeping the human in the loop in a supervisory role – is key in managing complexity. The supervisor will control the system based on their knowledge of several underlying systems: understanding the specifics, looking for viable options, taking decisions.

In our public-safety example, a firefighter can issue a command – for example, “provide an overview” – and a drone equipped with the necessary sensors will automatically be allocated, dispatched, and be positioned to meet the firefighter’s needs.

This is just one illustrative example. Frequentis has expertise in connecting all the domains we support, for any unmanned vehicles.