

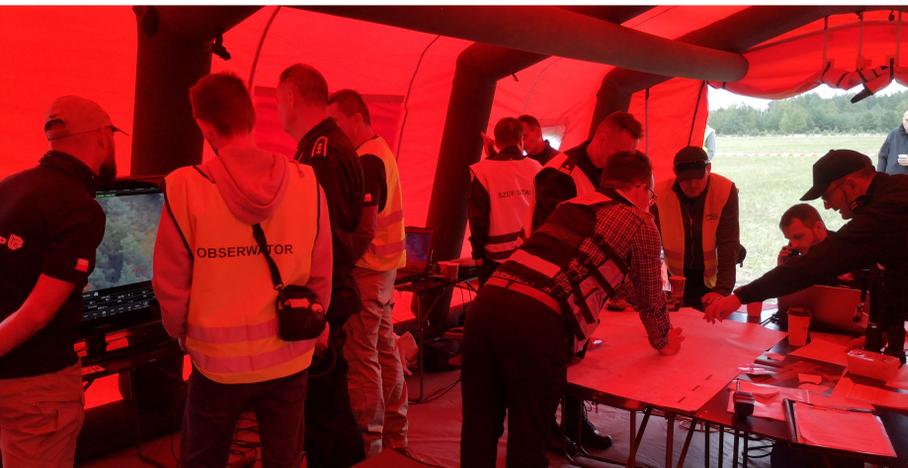
Supporting the coordination of unmanned and manned air operations in emergency management

Experiences from real crisis events in Poland have proven that in crisis situations where air component is involved in the response, ensuring safety and effective coordination of UAV operations as well as between UAV and manned aircraft activities represent a significant challenge.

The currently used standard - temporary airspace segregation for either UAVs or manned aircraft - results in hindering benefits offered by both types of aviation.



In August 2021 during the Polish State Fire Service exercise „Forest2021” **effective coordination of use of UAVs and human-operated aviation was demonstrated** and it was proved that well-designed approach to air traffic management may enable **continuous efficient use of UAVs’ capabilities in crisis situations.**



Coordination of air operations in relatively small airspace volumes around the event location becomes the **next step for increasing the efficiency of drone usage in emergency management** and appears to be one of the most challenging aspects of further development of UAV applications in this field.



Based on „Forest2021” experience Polish Air Navigation Services Agency (PANSNA) and Crisis Information Centre (CIK CBK PAN) have formulated a set of proposals to improve ATS provision and tasking during crisis events.

Those proposals **are implemented as part of the „Search&Help” IT system, currently being developed (launch is planned for 4Q2023):**



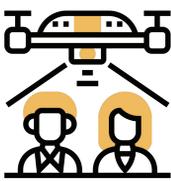
Electronic tools for dynamic airspace segregation



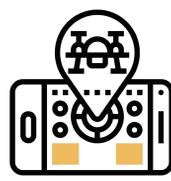
Pre-tactical and tactical management of UAV flights in the crisis event area



Communication regarding air safety, goal planning, tasking of available resources



Basic mission data exchange (mostly static images)



Comprehensive information at every stage of the event



Simultaneous flights of manned a/c and UAVs

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