



PANSA Experience in Counter-UAS Systems: Challenges and Best Practices

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Air Traffic Services provide safe, secure, and efficient management of airspace assigned to particular ANSP

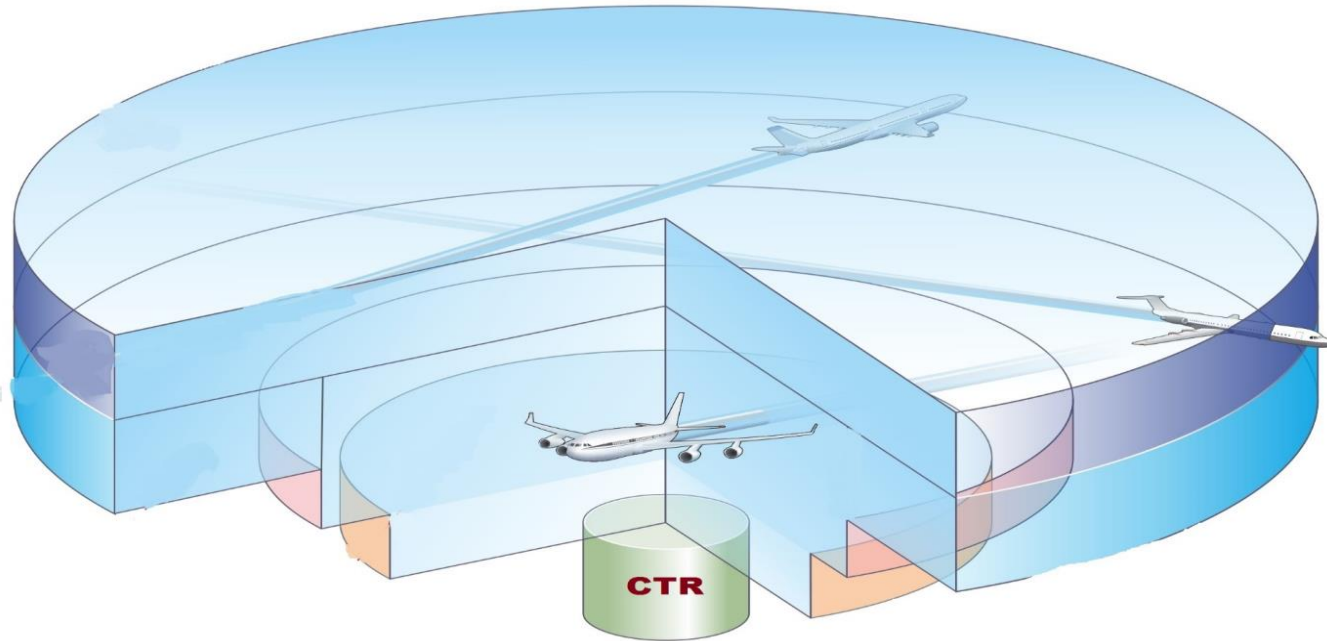
Consequences of Air Traffic disruption caused by a drone near an airport:

- ✈ Flight Operations Halted
- 🕒 Massive Delays and Diversions.
- 💰 High Financial Losses
- ⚠️ Serious Safety Threat
- 🚒 Emergency Response Triggered
- 😡 Passenger Frustration & Reputational Damage
- ⚖️ Legal and Criminal Consequences



 The most critical phase of flight – takeoff and landing

the control zone



- Aircrafts are low enough
- Aircrafts fly the slowest
- Aircrafts have limited manoeuvrability
- Aircrafts always at the same point each time they approach
- which in total is the best recommended position for a potential attack

Challenges in counter-UAS systems based on PANSA's experience

Most important aspects :

- Complexity of solutions – wide variety of technical approaches.
- Multi-sensor architectures – complex sensor fusion and integration.
- Interoperability & standards – vendor lock-in risk.
- Jamming & interference generation – deliberate or accidental.
- Interference with navigation aids - proved
- Jamming or kinetic methods
- False positives & detection accuracy – operational disruption risk
- Urban airport constraints – limited deployment options in cities.





Challenges in counter-UAS systems based on PANSA's experience

Most important aspects :

- Who operates your CUAV solution vs. who is legally authorized to operate
- Who will take responsibility for the neutralized drone
- Human factors & training – operators, controllers and security teams.
- High costs & life-cycle expenses.
- Funding & responsibility – airport vs ANSP vs airlines vs government.
- Cost-sharing challenges – are airlines willing to contribute?

Challenges in counter-UAS systems based on PANSA's experience

Most important aspects :

- Realistic on-site testing – many scenarios and many drone types (expensive and time-consuming but very exciting).
- Human factors & training – operators, controllers and security teams.
- First manage drones to know which ones to take down – in Poland we use PansaUTM system
- Want to jam ? Prepare to suspend operations
- Prepare procedures for ATC during jamming
- And many more.....





Thanks for your attention

Maciej Włodarczyk

**Head of UTM Development and UAV Operations Center at the Polish Air Navigation
Services Agency (PANS)**

maciej.wlodarczyk@pansa.pl

<https://www.linkedin.com/in/maciej--wlodarczyk/>

www.pansa.pl