Drons in emergency management – first responders perspective

High Level Conference on Drones
„Drones as a leverage for jobs and new business opportunities”

High potential of drones in emergency management

- HV Event Coverage
- Hazmat
- Disaster Assessment
- (Urban) Search & Rescue
- Fire Surveillance
- many others ...
Benefits of drones use for emergency services

- lower costs of operations
- higher safety - first responders better protected and safer than ever before
- useful in all incident stages: pre-incident, during incident and post-incident
- decision making support
  - better perspective (situational awareness) - „eye on the sky”
  - quicker data collection
  - higher data accuracy - from flying device to data collection device

Drones = very useful tool for many purposes
Drones ≠ antidote for all operational problems & challenges
Use of drones by emergency services – situational picture

- **Growing interest** but still „**beginner” stage** in emergency services
  - new technology fear and dilemma - toy or tool?
  - doubts typical for new solutions (responsibility, procedures, training, logistics)

- **Market offer vs. emergency services needs**
  - design & designed for many purposes, not for emergency operations
  - key requirement - full & reliable access 24/7
  - reliability deficiencies (e.g. all-weather missions, lift capability, redundancy)

- **Regulations needs**
  - regulations vs. barriers
  - needs of special exemptions for emergency services (e.g. time for flight permission vs. emergency deployment time requirements, flights at night and dynamic change of mission status)
Safety – key aspect for further development of drone sector

Safety and security as a **sine qua non condition** for **sustainable development**

Consequences of improper provision of safety level for drone usage

- **Growing number of incidents with drones**
- **Decrease of social acceptance for drones**

  - Tightening up of regulations and increase of administrative obstacles for further development
  - Higher development costs
  - Longer implementation time or even ban on drones for certain application

Safety and security as a **sine qua non condition** for **sustainable development**
### Main aspects of safety (1)

#### Dynamic safety
- for the other members of the air traffic
- for people and objects on the ground

#### Static safety
- related to the quality of UAV components and structures
- related to user identification possibilities

- **external systems** (obligation for DroneRadar App, systems for real time identification and location of UAV based on GSM network, fixed and dynamic range of airspace for UAV, as well ad-hoc non fly zones for UAV - based on the separation of height)

- **internal systems** (anti-collision sensors, automatic collision avoiding systems, dynamic presentation of the participants of the airspace in the Ground Control Systems)

- **UAV registration** taking into account the installed flight controllers
- **certification** (approval) of the key components (flight controllers) and the entire UAV structures
- "**black box**" installation requirement for the flight data records
- implementation of possibilities for remote stopping/ taking control of non-military UAV
Main aspects of safety (2)

Safety related to the training and liability of UAV operators

- private person
- first responders

• greater emphasis during training on proper emergency situation behavior
• greater division of permissions to fly based on UAV take-off weight, equipment, the experience of the operator
• enforcement and penalization - including the confiscation of property
• unification and standardization of rules and regulations for commercial and non-commercial flights
• legal protection for UAV emergency service operators

Safety of data collection

- image and sound
- recordings, transmissions and storage

• determine the rights and duties of UAV operators recording images and sound in relation to the Personal Data Protection Legislation
Conclusions

• For the effective and sustainable implementation of drones it is vital to **maintain a high level of safety** in every single aspect of their performance when drafting drone regulations it is always necessary to **remember about the safety aspects**

• Safety aspects in drone regulations should always include **exemptions** for emergency services (e.g. safe procedures for a **quick** flight permission)

• Obligatory **registration** and **certification** of drones should increase safety of their use
Thank you