

Drons in emergency management – first responders perspective

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

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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

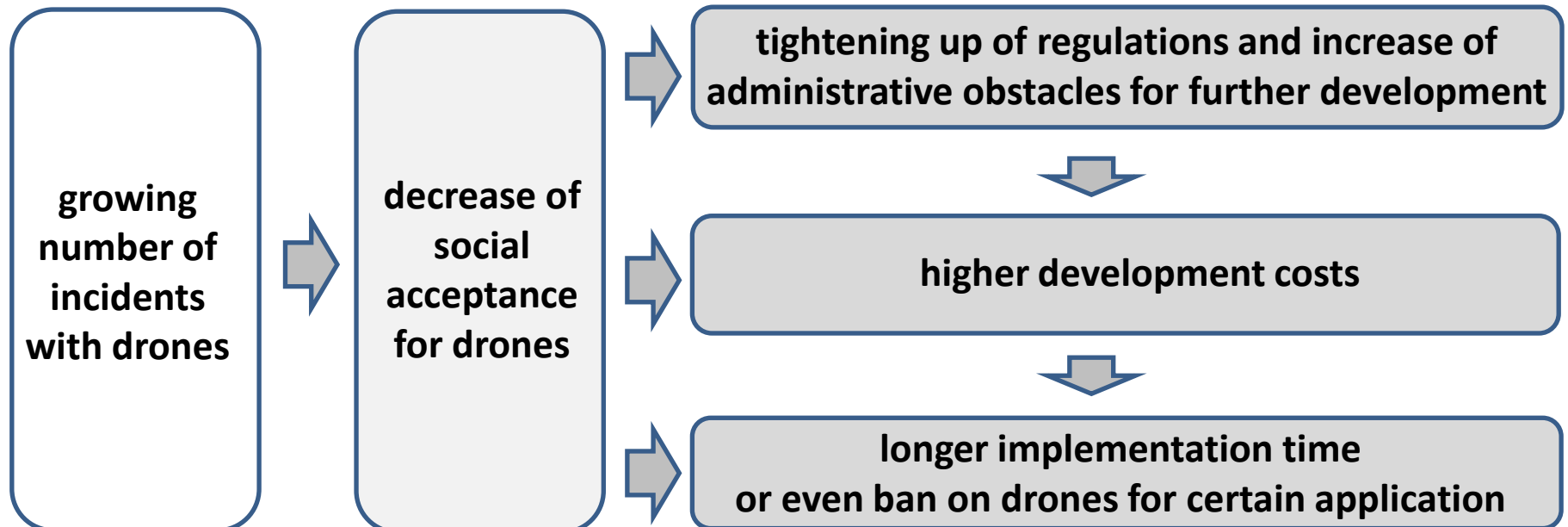
- **Growing interest** but still „**beginner**” stage in emergency services
 - new technology fear and dilemma - toy or tool?
 - doubts typical for new solutions (responsibility, procedures, training, logistics)
- **Market offer vs. emergency services needs**
 - design & designed for many purposes, not 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



Main aspects of safety (1)

Dynamic safety

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

REMEDY

- **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)

Static safety

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

REMEDY

- 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

REMEDY

- 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

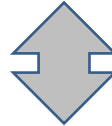
- image and sound
- recordings, transmissions and storage

REMEDY

- 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