

# The Swedish RPAS Challenge

Bert Solberg, advisor National Resources,  
Logistics and support Section,  
Coordination & Operations Department

## The MSB in brief

The MSB's task is to work for strong civil protection and emergency preparedness with everyone taking responsibility. We work with all threats and risks, and have tasks to fulfil before, during and after emergencies and crises.

- We have about 900 employees
- We are located in Karlstad, Kristinehamn, Revinge, Rosersberg, Sandö and Stockholm
- We run training courses in Revinge, Rosersberg and Sandö
- The MSB is a government authority under the Ministry of Justice
- Our director-general is Helena Lindberg



Swedish Civil  
Contingencies  
Agency

## Prevent

- The MSB supports actors on all societal levels to increase their capacities for preventive work.
- By evaluating and analysing the events around us we establish a foundation for decisions and direction of focus

## Prepare

- The MSB trains people, organisations, and authorities nationally and internationally to increase their capacity to limit and deal with various events.

## Manage

- A crisis often requires extensive cooperation between municipalities, businesses and authorities. The task of the MSB is to ensure that those responsible actually coordinate their areas of responsibility. We also offer expertise. We have a response organisation ready to assist during emergencies and disasters both for national and international use

# The Challenge of RPAS - Opportunities and Threats

- Rapid technology development
- Many new business opportunities
- Facilitating for first responders and law enforcement
  
- Demand for airspace integration
- Regulatory and legislative backlog – not updated
- Integrity issues
- Public safety concerns
- Antagonistic and non-antagonistic use – from nuisance to terrorism

# Building a national baseline

- First step: Establish a common Swedish baseline
- MSB gathered representatives from many government authorities
  - First responders, Law enforcement, Defence, Board of transportation, Coast guard, Post and telecom authority
- Sharing views on RPAS use and RPAS related threats
- Foundation for bilateral discussions with DHS

# Some results from the national gathering

- Use of own RPAS and view on the RPAS threat
- Broad view of RPAS experience and preparatory work in the field
  - From concrete experiences in shutting down airports, to
  - No threat perception at all
- Regulatory and legislative work
- Public outreach
- Network building

# UAS-project



# Pilot Study Report for UAS

## Target groups with needs of UAS:

SWAT & National Counter Terrorism Unit  
Investigation Operations (forensics, crimescene documentation)  
National Bomb Squad  
Surveillance Units  
Emergency Service / Fire dep.  
National Coast Guard



# Technical platform

- Aerovironment
- Cube (3 systems)
- Quadrocopter
- EO/IR
- Approx 40 min
- Range 3 km +
- CBRN-sensor (gas, chlorine and ammonia)



# Airspace

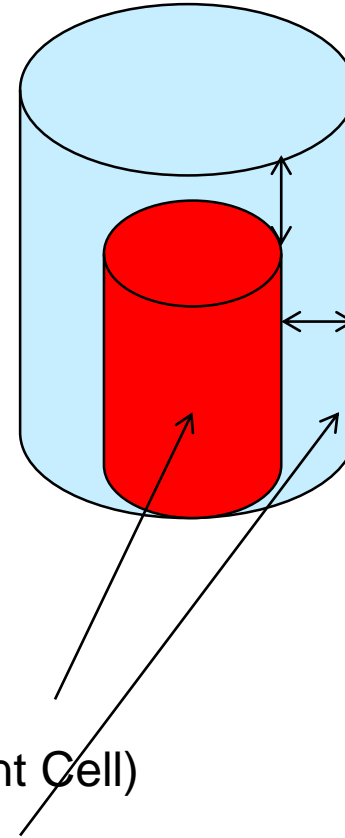
## G - Uncontrolled airspace

*VLOS – Visual line of sight*

- up to 1000 feet AGL, day & night
- Requires separate observer, day & night

*BVLOS - Beyond visual line of sight*

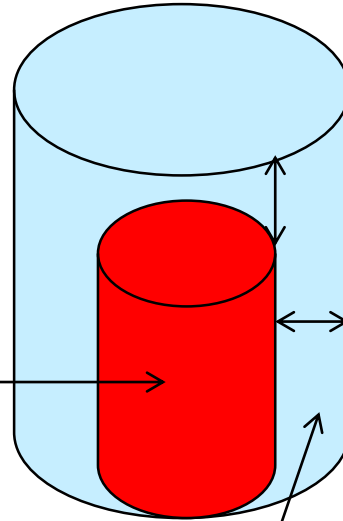
- Restriction area (30 min, Airspace Management Cell)
- Max altitude 1000 feet
- Buffer 1 km radius and 500 feet above, day & night
- Two UAV can fly at the same time with 300 feet separation in altitude, 100 meter separation lateral
- Requires use of swedish armed forces independent air monitoring



# Airspace

## C - Controlled airspace

Requires a sector established by ATC  
Requires two way radiocommunication with ATC



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# MSB and RPAS

- Developing a joint understanding and direction within the MSB how to use RPAS in our area of responsibility
- Supporting the management of big emergencies
  - Case study

# Legislation and Regulation

- Board of Transportation efforts
- Harmonising EU legislation
- Public outreach

# Civilian efforts

- Search and Rescue
- RPAS operator training
- Camera surveillance - privacy

# Bilateral Agreement SE-US

Initiating collaboration:

- Sharing Best Practices for First Responders and Law enforcement
- Sharing Best Practices for Legislation and Regulation
- Sharing Test and Evaluation Information Related To Counter UAS Technology