



GEFÖRDERT VOM



Bundesministerium
für Bildung
und Forschung

Anti-UAS Defense by Police and Security Agencies (AMBOS)



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Ethical and Legal Aspects**

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Topics

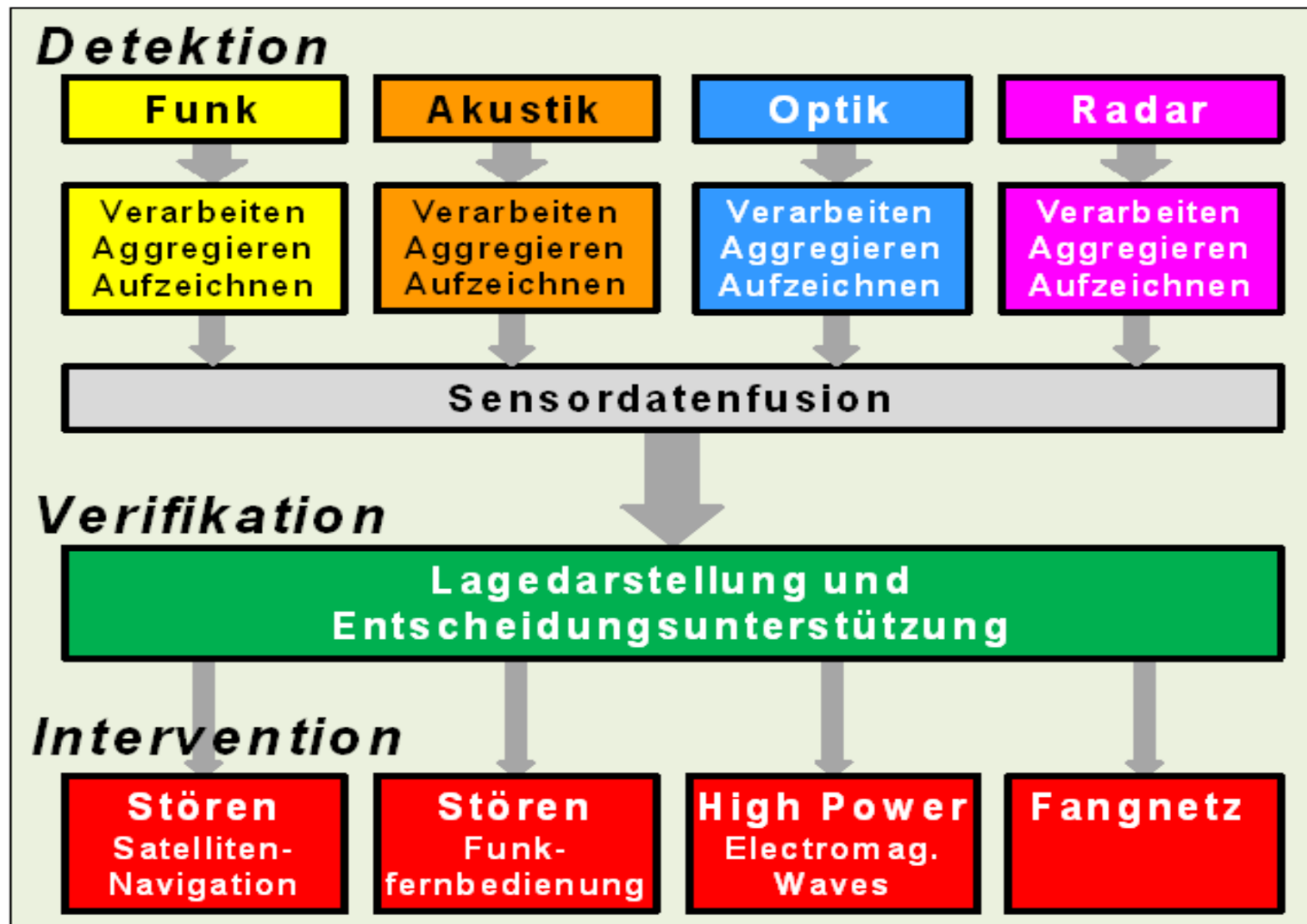
- I. New Risks and New Responses
- II. Anti-UAS Defense and Fundamental Rights
- III. Constitutional Requirements
- IV. Legislative Response necessary

New Risks and New Responses



- ❑ **New potential risks for civil security (Terrorist Attacks)**
 - IS and other groups
 - **September 2013** – Angela Merkel (Dresden)
 - **April 2015** – Residence of PM Japan
 - **January 2015** – US White House

- ❑ **AMBOS** – Anti-UAS defense system
 - **Detection** (radio, acoustic, electro-optics/infrared, radar)
 - **Verification / Threat analysis**
 - **Intervention** (Jamming, HPEM-Waves, net launcher)





Anti-UAS Defense and Fundamental Rights



Relevant Fundamental Rights in a Nutshell

Detection, Multi-sensor Data Fusion, Verification

- Right to informational self-determination/ **Right to data protection** / Privacy
- Freedom of assembly
- Freedom of telecommunications

Intervention

- Protection of life and limb
- Freedom of assembly
- Property
- Freedom of expression and information
- Professional freedom (telecommunications service providers)



Detection and Verification



1. Fundamental Right to Data Protection

- Freedom to choose which personal data to disclose and use
- Protection of unlimited collection, recording, storage and use of personal data by government
- Any** data collection by government = **possible intrusion upon fundamental rights**
 - Radio-sensor
 - Acoustic-sensor / microphones
 - Electro-optic-/infrared-sensor - video-live-stream
 - Radar-sensor – if similar to video or photo

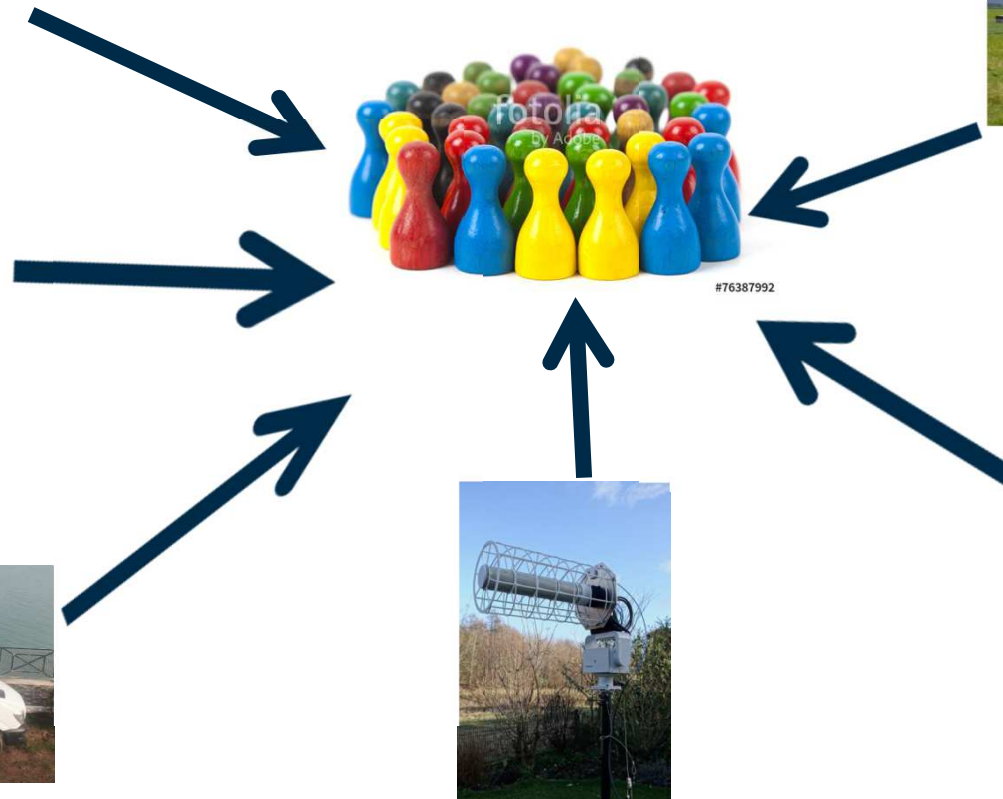
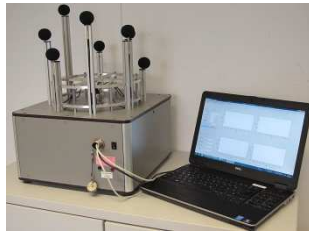


2. Freedom of Assembly

- Acoustical und visual data of participants
- Who has reason to be afraid that participation could be registered and assessed – could possibly adjust behavior or be discouraged to take part
- Police surveillance = **potential intimidation**



AMBOS = Intimidation ?





Intervention



1. Life and Physical Integrity

- Crash of UAS caused by means of defense – **bodily harm** for bystanders

Problems:

- Government's **duty to protect** human beings against illegal attacks vs. Government's **duty not to harm** them while executing state powers
- Situation / threat cannot be fully assessed completely due to **lack of time**
- Uncertainty regarding real existence of a "danger" (in a legal sense)
- Stigma of false assessment by police
- Decision-making under **high time constraints** for police officers



2. Freedom of Expression and Information

Jamming / HPEM-Waves

- Interrupting use of mobile internet / Wi-Fi
- Possible damage to communication devices
- Length of interruption relevant from legal point of view
- Demarcation to Freedom of Assembly to be discussed



3. Property

- Damage to UAS owner
(who also might be harmless or uninformed of problem or legal limitations)
- Damage to third party's property



Constitutional Requirements on Anti-UAS defense by Police



Anti-UAS Defense by Police in Germany

- Any (technical) means of police is intrusion upon **constitutional freedom**
- Any such intrusion needs specific precise, clear **statutory basis**
- Any **statutory provision** has to adhere to **principles of proportionality**
- Any **use of statutory provision** by police also has to adhere to **principles of proportionality**



Anti-UAS-Defense and Principles of Police Law in Germany

- Detection needs to take place before “danger” (in a legal) sense is manifest / evident
- Technical surveillance has massive impact on **constitutional freedoms**, especially in field of freedom of assembly
- The **more intense the intrusion** upon constitutional freedoms – the ‘higher’ the **legal threshold** for police intervention is
- Negative effects on **life and limb of bystanders** are a **major legal problem**



Abwehr von unbemannten Flugobjekten für Behörden
und Organisationen mit Sicherheitsaufgaben



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