

# Spaces

Sea (Water), Land, Air, Space interwoven with Cyber. Critical infrastructure areas (Swiss definition) and urban and city context. Map is used as a threat reference.

The following paper is a strategic and tactical risk assessment about the specific risk of drones (UAV's Unmanned Aerial Vehicle and Remotely Piloted Aircraft Systems – RPAS)

This presentation not be shared, need to know only.



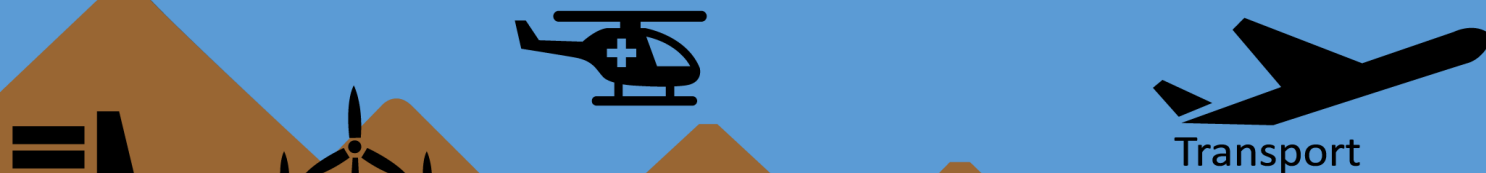
# Space



100km to 00

Cyber

# Air



-423m to 100km

Cyber

# Land

## Urban

## Critical Infrastructure

## City



Com



Industry



Waste



Health



Finance



Transport



Food



Energy



Gov



Public Safety



-423m to 8'850m

Cyber

# Sea(Water)

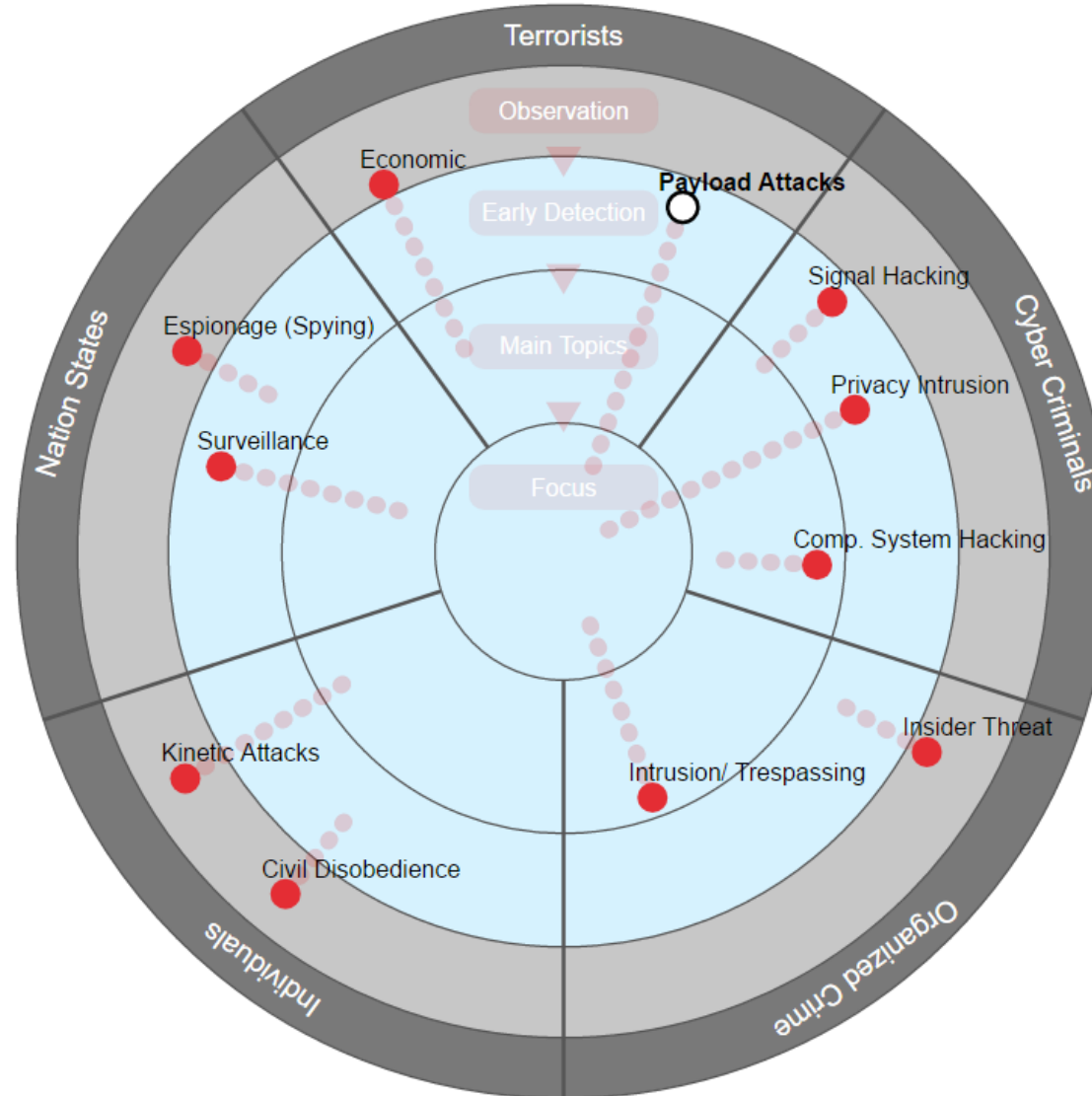


Cyber

# Drone Guard Threat Radar

The Drone Guard drone threat radar is a management tool for assessing specific risks. The radar presents a current view on the specific risks and the expected future development of the specified risks if no actions are taken. It helps to prioritise and agree on the development of risks. The sectors are actors from where the specified risk will most likely arise. Each threat on the radar is explained in detail.

- Drone Guard Threat Radar 07-2017
- 11 Identified threat groups (detailed description available)
- 5 defined sectors (actors)
- Presentation for selected groups possible
- Strictly internal



**Threat** [Icons]

Payload Attacks

- 1.) CBRNNe
  - Chemical
  - Biological
  - Radilogical
  - Nuclear
  - Narcotics
  - Explosives
  - CBRNNe Paylodas must not be Military Grade, Commercial Grade is enough!
- 2.) Dangerous Items
  - Guns, Chainsaw, Knifes, Steel, Flamethrowers etc.
- 3.) Items
  - Copper Cables for Shortening Powerlines or Train Tracks out (Multilocation or Swarm Attack)
  - Net for Catching Drones, Birds, Fish and other Items
  - Net with Shielding Properties (Faraday Cage) for Communication Infrastructure

**Ring** Early Detection

**Segment** Terrorists

**Trend** - - - - = + + + +

| Impact | Cust. Site | eHealth | Physical |
|--------|------------|---------|----------|
|        | None       | None    | None     |



### 2.4.3 Theft: Tangible Items i.e Plans, Maps, Jewellery, Art Objects (Statues), Laptops, Mobile Phones etc.

### 2.4.4 Abductions: Children or Pets

### 2.4.5 Drone Stalking

Following VIP's and Public Officials

### 2.4.6 Destruction of Property

Outdoor/ Indoor Arts, Furniture, Collectibles, Cars and other Valuables

Personal Medical Equipment

Oxygen Tank

Breathing Apparatus

Fresh Air and an Open Window is Healthy...

Power Cords and Battery Connections

Feeding Automatism

Oxygen to Fishtank

Cat/ Dog Feeder

Fuel, Water and Gas Tanks

Wood Storage

Large Indoor Farming, Irrigation and Sunlight

Weather Sensors, Light Sensors etc.

### 2.4.7 Manipulate Important Communications Points

Network Ports

Fiber Optic Ports

Koax Ports

Attack Dongles/ Stubs/ Parabols

Serial Ports

Machine Communication Ports

Radar Ports

Radio Antenna

- Sämtliche Bedrohungen sind detailliert ausformuliert (Katalog).

- Dies ist ein Auszug aus dem Katalog.



### 1 Cyber (Data as a Result)

#### 1.1 Signal Hacking & Disruption (WiFi, GSM, Bluetooth, RFID, etc.)

##### 1.1.1 Building Management Systems (BMS)

HVAC Systems

Heating Systems

Ventilation Systems

Aircon Systems

Power Systems

Triggering Power Outages/ Blackouts

Fire Mgmt Systems

Triggering False Alarms

Disrupting Alarming

Alarming Mgmt Systems

Damage Notification Systems (Sirens etc.)

Triggering False Alarms

Light Systems

Trigger Light System On/ Off

Environmental Sensors

Isolate Sensors

Impose Heat or Cold to Sensors

# Drone Threats



Payload Attacks



Signal Hacking



Privacy Intrusion



Comp. Sys. Hacking



Insider Threat



Intrusion/ Tresp.



Civil Disobedience



Kinetic Attacks



Surveillance



Espionage (Spying)



Economic

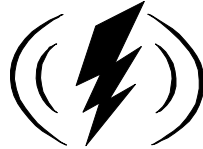
# Drone Threats Countermeasures



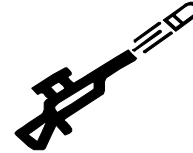
Missile



Predator Bird



EMP



Projectiles



Payload



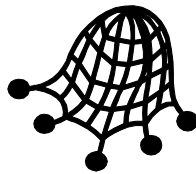
Cyber



Jamming



Geofencing



Catching



No-fly zones



Shutters



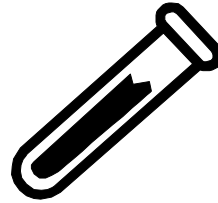
Collision



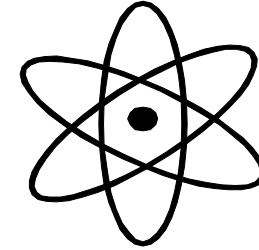
# CBRNNE Threats



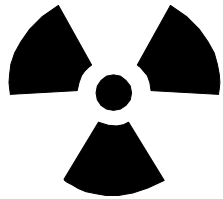
Chemical



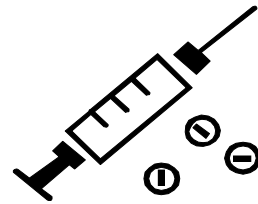
Biological



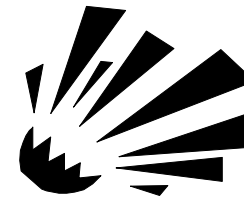
Radiological



Nuclear



Narcotics



Explosives