



ICCECIP 2023

*Protection against drones
in industrial facilities*

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Content

- **The threats posed by drones**
- **Passive drone detection**
- **Active countermeasures**
- **Protection against drones in industrial facilities**
- **Risk analysis and protection design**



Source: <https://store.dji.com/>



The threats posed by drones

- Observation, industrial espionage
 - “Best spy drone” (Google 9 million hits in 0.27 seconds)
- Armed assault, Terrorist attack
- Carelessness, accident
- Unauthorised use of airspace





Passive drone detection

- Acoustic perception
- Radar detection
- Radio frequency detection



source: <https://www.droneshield.com/rfone>



Source: <https://usdgs.com/drone-detection-system/>



Source: <https://www.dronedj.com>



Active countermeasures

- Signal interference
- Hijacking
- Kinetic countermeasures



source: <https://www.droneshield.com/>



Source: <https://www.blighter.com>



Protection against drones in industrial facilities

- Incident prevention strategies and the importance of preparedness
 - Activity based risk assessment
- The criticality of incident management and timing of response
 - Operational response
- Post-incident actions and lessons learned
 - Review and update the security concept (personnel and equipment)



Risk analysis and protection design

- Activity-based risk analysis and level setting
 - Probability scale
 - Consequence scale
 - Risk matrix
- Specific design of the protection strategy against drones
 - Preparation of a response plan
 - Principle of gradualness
 - Developing a toolbox for protection



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Thank you for the kind
attention!

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