

Strengthening the Resilience of critical energy infrastructure



Lithuanian energy system objects and facilities important for national security:

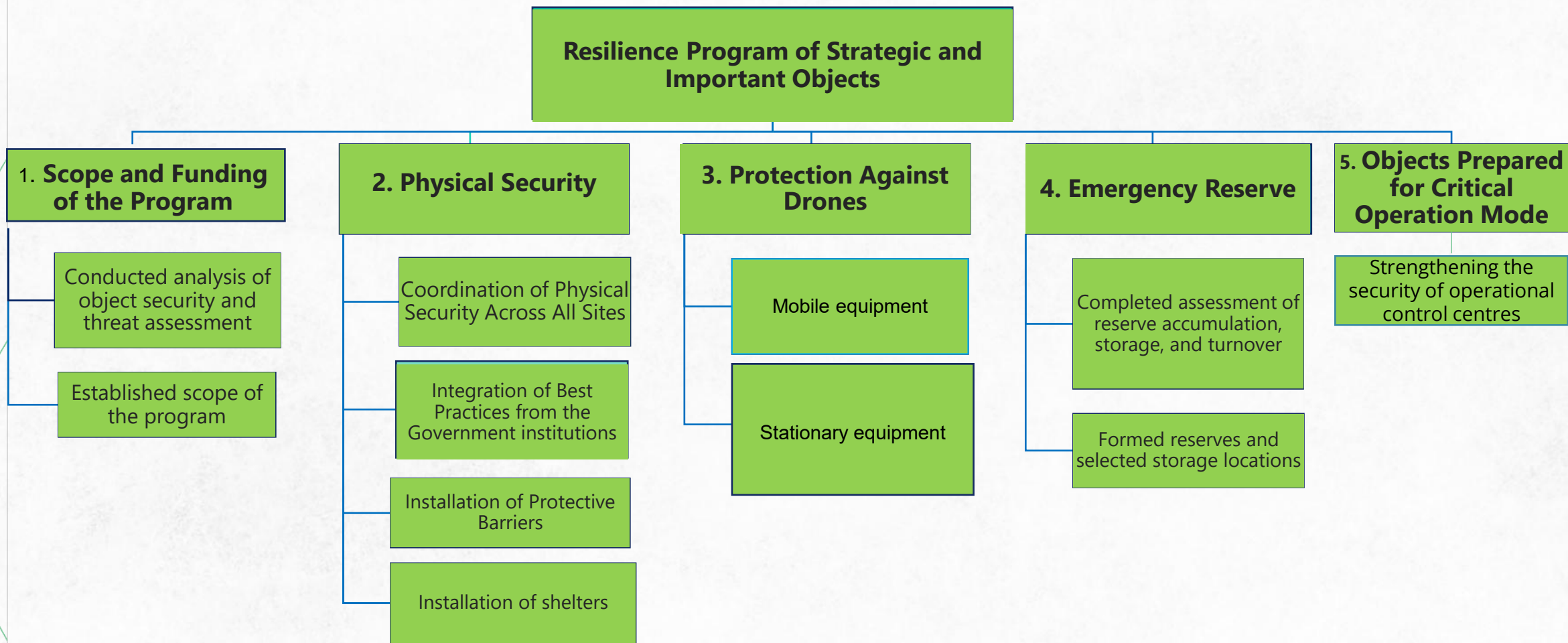
- Electricity infrastructure (High-voltage power lines, substations, interconnections, power plants, hydropower plants).
- Gas transmission system (pipelines and compressor stations).
- LNG terminal (a liquefied natural gas terminal).
- Energy storage facilities (battery storage).
- Renewable energy facilities (wind and solar parks).
- Hydrogen development.



From Peacetime Conditions to Hybrid Threats

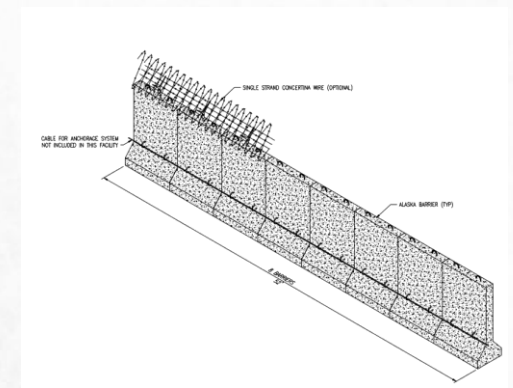
- Ensuring physical security in peacetime conditions (Unintentional actions, criminal offenses, negligence, natural disasters, and the like).
- Ensuring physical security in the face of hybrid threats. (Direct external actions, disinformation, diversions, sabotage, employees recruited by hostile intelligence and security services aiming to damage infrastructure and gather information about the vulnerability of the facility).
- Ensuring physical security in the face of conventional threats. (Direct military threats to personnel and critical infrastructure facilities).





Security (resistance) levels:

First security level – designed to protect objects from isolated indirect drone and missile strikes.



Second security level – designed to protect objects from isolated direct drone strikes and isolated indirect missile strikes.

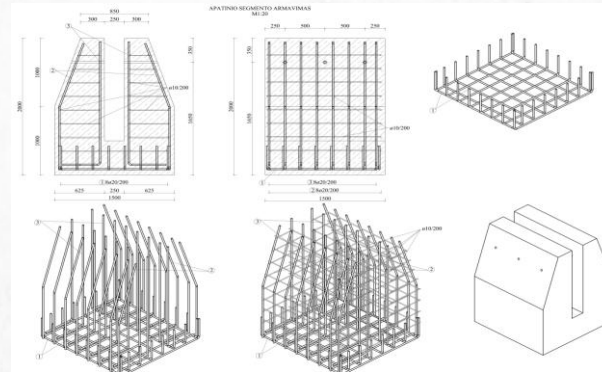


Third security level – designed to protect against direct drone and missile strikes on critical facilities.



Physical Security Measures

Prototypes of security measures



Completed measures



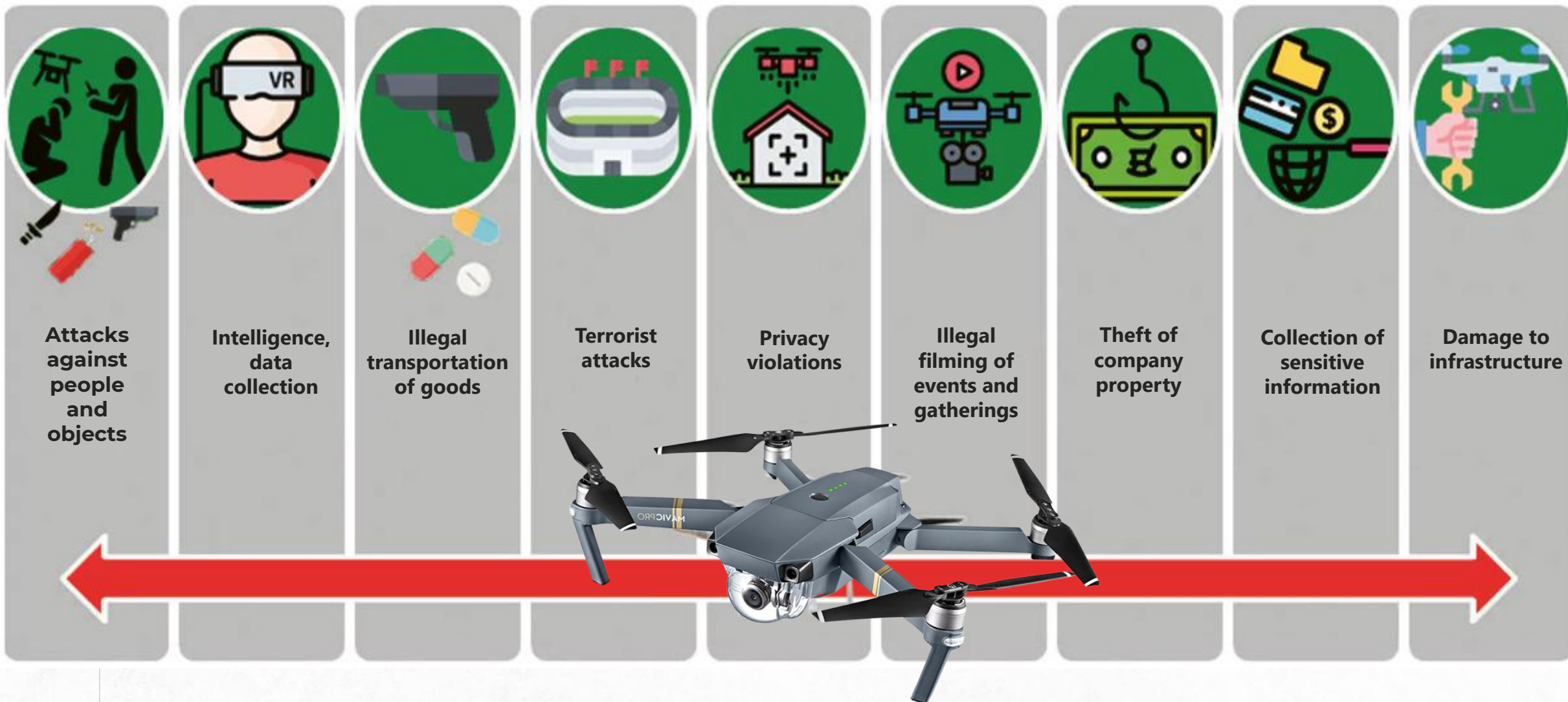
Physical Security Measures/ Shelters

**For testing at the military
proving ground.**

Shelters



Threats posed by drones



Drone detection and neutralization systems

- **Passive measures against drones**

- Stationary security measures.
- Warning signs.
- Sirens, loudspeakers, flashlights.

- **Mobile (hand) anti – drone system**

- Neutralisation of individual drones.
- Used in activities of special forces.
- Additional measure for the protection of strategic objects.

- **Stationary anti - drone system**

- A single system can detect multiple drones simultaneously.
- Capable of distinguishing between friendly and foreign aircraft (whitelist/blacklist).
- Automatically detects, intercepts, and safely lands unauthorized commercial drones in a pre-designated area.



Ukraine's best practice

Professional (non-amateur) solutions

- **Practical visit to Ukraine.**
- **Central Design Institute under the Ministry of Defense of Ukraine:**
 - Design of security measures for energy facilities.
 - Precise calculations.
 - Extensive practical experience.
- **Physical/ passive protection measures**
 - Hesco gabions.
 - „Lego blocks.
 - Reinforced concrete constructions.
- **Electrical physical security measures.**
 - Frequency blocking, switching devices.
 - Drone vs drone systems.
- **Interinstitutional division of functions.**



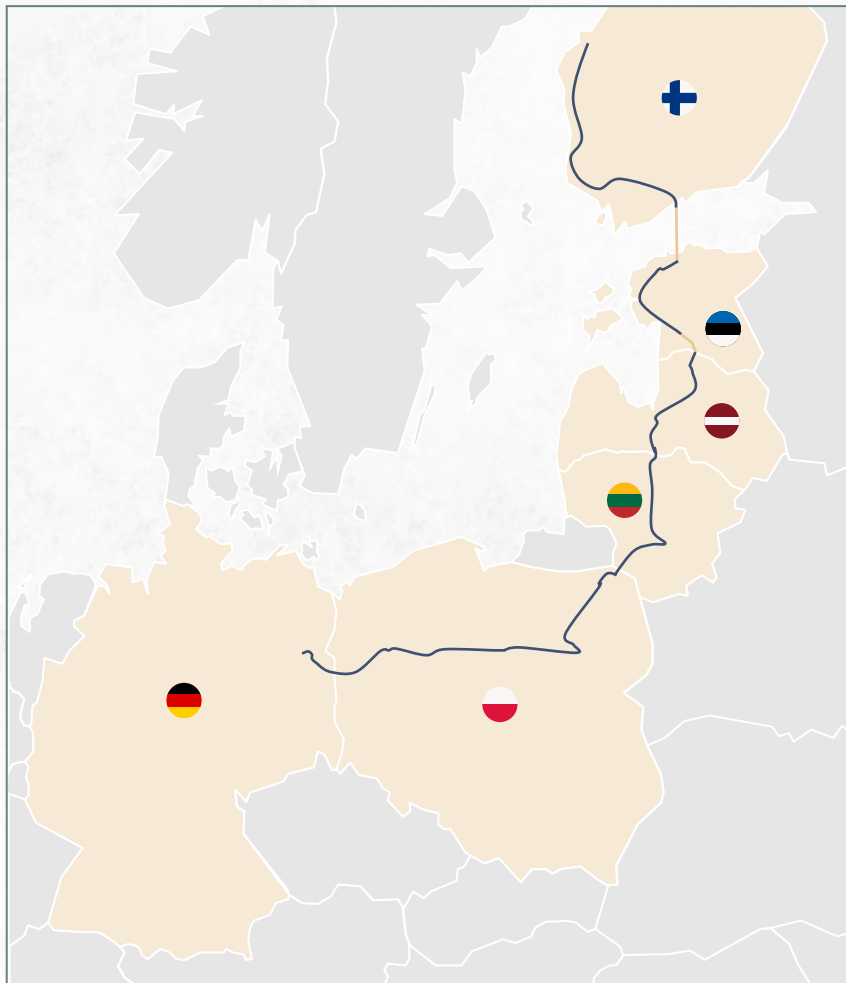
Resilience enhancement

- **Cyber security** measures development.
- Cooperation in National, European level.
- Strong Business Resilience departments.
- Ensuring information security.
- **Mobilization** plans and procedures.
- Alternative communication channels.
- Personal security.
- **Stress tests.**
- Legal basis.
- Implementation of physical security culture.



Nordic Baltic Hydrogen Corridor (NBHC)

A New Project – New Opportunities to Build a Reliable Resilience System



- The NBHC project will establish a robust hydrogen infrastructure that strengthens energy security, enables an interconnected European market.
- Common project for strengthening the resilience of critical infrastructure.
- Sustainable Technologies for Resilient Operations of Next-Generation hydrogen infrastructures.
- Expansion of Fiber optic network.
- Concept for the hydrogen network coordination center.



Thank you for your attention

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