Shield East: NATO's Digital Shield Against Drones

Published on 29/04/2026

While land borders are once again protected by trenches and anti-tank ditches, the true battlefield of the 21st century is played out a few meters above the ground. Poland's **Shield East** plan is not just a physical fortification project, but represents NATO's most advanced technological response to the threat of Russian and Belarusian drones.

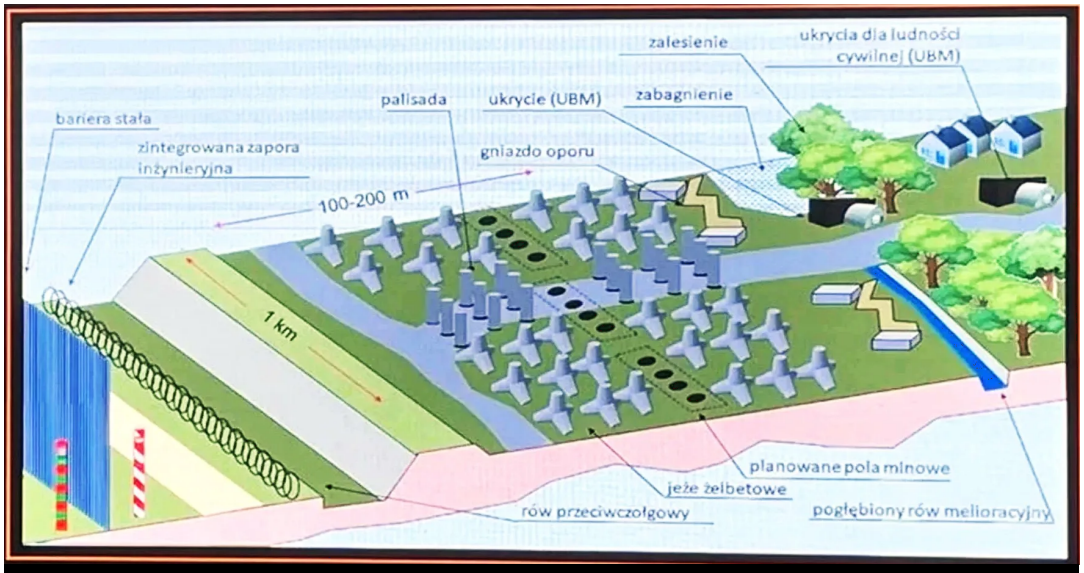
A Multi-Level Architecture: Beyond Simple Radar

The limitation of traditional radars is the difficulty in detecting small, slow, low-flying objects, often confused with environmental "noise" (like flocks of birds). To overcome this, Warsaw has developed a **multi-level** approach:

1. The Return of Listening: Acoustic Sensors

At the **Ustka** range, Poland is testing networks of highly precise microphones. These systems do not "see" the drone, but they "hear" it.

- **AI Identification:** Advanced algorithms analyze the sound signature of the propellers to distinguish between a commercial drone, a suicide drone (like *Shahed*), and environmental noises.
- **Advantage:** They work in any weather condition and do not emit signals, making them invisible to enemy detection systems (passive defense).



Shield East: NATO's Digital Shield Against Drones

2. Electronic Warfare (EW): The Invisible "Wall"

Once detected, the drone must be neutralized. The Polish goal is to do so without firing a single shot (soft-kill):

- **Selective Jamming:** Eight different electronic jamming systems are being tested to disrupt the GPS signal or the radio link between the pilot and the aircraft.
- **Spoofing:** Techniques to "trick" the drone into believing it is in a different location or forcing an emergency landing.

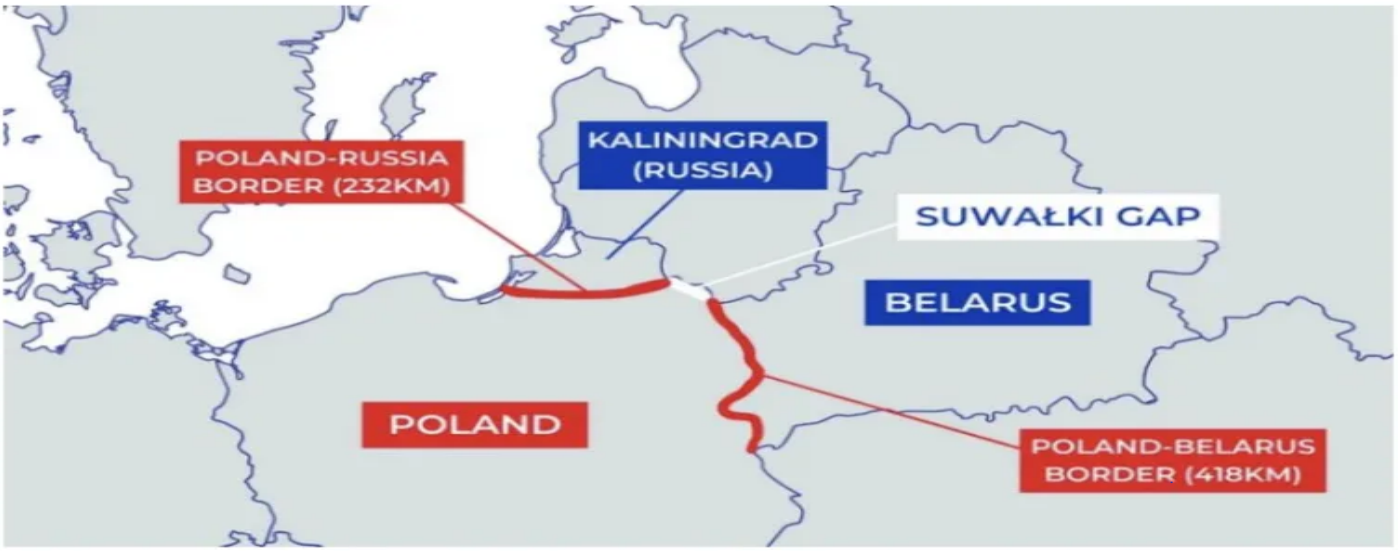
The Project Numbers (2025-2026)

Here are the data related to the development of the **Shield East** program, reworked in textual format:

The massive industrial and strategic effort of the Polish plan is clearly reflected in its key numbers. The program has already analyzed over **700 technological proposals**, born from collaboration between universities, research centers, and international companies. Of these, **36**

technologies have been selected for the crucial phase of operational field testing.

From an economic standpoint, the project foresees a massive investment of about **2.5 billion dollars** by 2028, covering the entire infrastructure. As for immediate milestones, the goal set for **2026** is the complete integration of detection systems and sensors with NATO's central command structure, making the defense of the eastern flank a cohesive and automated system.



Shield East: NATO's Digital Shield Against Drones

Why Poland is NATO's Laboratory

The lessons learned from the conflict in Ukraine have shown that saturating the airspace with cheap drones can paralyze a modern army. Poland, sharing hundreds of kilometers of border with the Kaliningrad exclave and Belarus, has become the ideal testing ground for the **Anti-UAV** doctrine.

> "*Shield East is not just about Poland; it is the prototype of how the entire Atlantic Alliance will protect its borders in the next decade,*" *comment analysts from Defence Blog.*

The Challenge of Artificial Intelligence

The beating heart of the system is the **reduction of reaction time**. Thanks to the integration of optical, acoustic, and electronic sensors into a single AI-managed platform, the Shield East system aims to reduce the time between detection and neutralization to a few seconds, eliminating human error and managing "swarm" attacks (*swarms*) that would saturate

traditional defenses.

By the end of the year, Poland plans to extend the Ustka tests to large-scale exercises involving other NATO partners (such as the Baltic States). The goal is to create a **continuous line of defense** from the Baltic Sea to the Carpathians, making NATO's eastern flank impenetrable to unauthorized air incursions.

News link: https://www.armyrecognition.com/focus-analysis-conflicts/army/conflicts-in-the-world/ukraine-russia-conflict/poland-tests-its-eastern-shield-aimed-at-protecting-against-a-possible-russian-invasion