**Current Research – Science in Focus** Production
Script

**Speaker**
hosts the program

**Translator**
for Klaudia Klonowska

**Translator**for Finnish event attendee, promotional video, drone operator, frontline soldier Jury, Duncan Falconer, Nitin Sawhney

**Announcement and Cancellation**

**Studio**Red 3 a/b February 23, 8:40-16:30 plus February 19 in advance: Voice recording Lisa Bihl

**Sounds**WIB East Flank - Public Release - Nextcloud - ARD-ZDF Box
**Broadcast Length:**22:45 on air, online anytime

**Interviewee**
Frontline Soldier Jury

Duncan Falconer, Arx Robotics

Dr. Klaudia Klonowską, Postdoctoral Researcher at Sciences Po Paris

Prof. Nitin Sawhney, University of Arts Helsinki

Klaus Decker, Airbus Defense & Space

# Deutschlandfunk

# The intelligence of the eastern flank

# Can AI defend NATO territory?

**By Andrea Rehmsmeier**

Directed by: Anna Panknin

Edited by: Christiane Knoll

Airdate:

**Atmosphere 1: Drone, background conversations**

## Speaker

A drone testing range in Finland. Drones fly at targets. Defense companies present their latest systems. Soldiers discuss defense issues. Several frontline soldiers from Ukraine have also accepted NATO's invitation to Finland. They are the most sought-after interview partners

**Sound 2: Reporter's Question**

How many drones would it take to protect Finland from a Russian attack, a reporter asks, glancing anxiously eastward. There, on the horizon, stretches a 1,000-kilometer land border that shares the sparsely populated country with Russia

**Atmosphere 3: Soldier's response**

"You mean kamikaze drones?" the Ukrainian asks back. "Millions!"

That's precisely the plan. Not soldiers, but a highly technological defensive wall consisting of AI-supported surveillance, drones, and autonomous weapons is intended to protect NATO's eastern border. Many Finns find this sensible.

**Soundbite 1: Finn**

## Translator:

*AI recognizes targets, it can lock into target... Artificial intelligence can identify and target objects. That's math: There are more Russians than Finns. That's why we need unmanned technology. Sorry, that sounds terrible. But that's how it is*

## Speaker

NATO is under pressure. The defensive wall must be in place before Russia has fully equipped its armed forces for an attack. But there's a problem: AI-driven technology, which transforms data and algorithms into deadly weapons, is still in its infancy. It remains a military gamble. And as great as the hopes are, the terrifying prospects are equally gruesome. This is especially true if AI fails to deliver on its promises.

The intelligence of the eastern flank

# Can AI defend NATO territory?

By Andrea Rehmsmeier

## Speaker

"Eastern Flank Deterrence Line": That's the name NATO has given to the high-tech security belt that is planned to stretch from Finland to the Black Sea in the near future – everywhere NATO territory borders Russia and Belarus. The catchy phrase coined by the German press is "drone wall." But it's about more than just drones. It's about replacing soldiers, who are needed for border security, with unmanned systems and artificial intelligence. The concept was developed by the European member states, who fear Putin's tanks. They were supported by the US military. But the US is already thinking ahead.

**Soundbite 2: US Army promotional video (English)**

## Translator

*The Eastern Flank Deterrence Line is a use case for army transformation. Innovation for next-generation national defense*

## Speaker

The threat from Russia as a use case and driver of innovation: Technologies that prove their worth on NATO's eastern flank are thus recommended for the broader defense market. The tendering processes are still underway. Which manufacturers will protect NATO territory with which systems in the future is still unknown. Officially, it's about unmanned weapons, AI-supported target acquisition, and multi-layered defense measures. And about coordinating everything effectively

**Soundbite 3: US Army promotional video (English)**

**Translator**

*To create a next-generation combat management system that uses real-time data to outsmart and outmaneuver the enemy*

**Speaker**

'Data-centric warfare' is the concept applicable to border security as well as national defense. It involves a network of surveillance and weapons systems with significant computing power, in which information plays a central role. Sensors, radars, and satellites, intelligence agencies, and armed forces collect data. Artificial intelligence uses this data to create situational awareness models, military strategies, and tools for all command levels, from drone pilots to the commander-in-chief.

Many AI-driven surveillance tools, weapons, and military platforms are still in the experimental stage. Whether any of them are realistic, effective, and ethically justifiable is another question.

**Atmosphere 4: Drone airfield neutral**

**Speaker**

In December 2025, NATO invited its allies to the southern Finnish city of Riihimäki. Military strategists, weapons developers, and experienced Ukrainian frontline soldiers were to jointly evaluate prototypes and explore new applications for military AI. Journalists were also invited to the site visit to the drone testing ground.

## Scene 5: Drone Airfield

**Speaker**

The drone takes off and flies in a zigzag course over the test site. Two young entrepreneurs from Lithuania hold the control unit aloft. The display shows the flight from the drone's perspective

**Soundbite 4: Operator (English)**

**Translator**

"*The pilot locks... The pilot locks onto the target and locks it in. More*

*The drone doesn't need any input from the pilot.*

**Speaker**

Now artificial intelligence has taken over control. "Loitering munition" is the name given to the type of weapon widely used by both sides in the Ukrainian war. Many of these drones fly "semi-autonomously"—meaning they can be controlled by humans as well as by algorithms. Using AI-assisted object recognition, they search the air for target objects to dive onto

**Atmosphere 6**

A crosshair appears on the display. The onboard operating system analyzes the live video stream data flowing in through the drone's camera lens. It dives towards the target on the lawn

**Soundbite 5: Operator (English)**

**Translator**

"*With the right switch... With the right switch, the pilot could*

*Adjust target coordinates... but it's not doing that right now... Oh... missed!... Overshot... ."*

**Atmosphere 7**

**Speaker**

Failure: The drone overshoots the target. The bystanders watch it go, somewhat embarrassed. Other drone tests go better that day

No one knows better than the Ukrainian frontline soldiers who are testing the prototypes in the war zone whether the hopes that NATO states place in artificially intelligent weapons are justified. Their reports are of interest to tech companies like Palantir, Google, and Microsoft, as well as to arms manufacturers from Germany. Quite a few of these companies are actively involved in frontline operations with their own testing programs for AI-supported systems.

However, soldier Jury, who prefers not to give his full name, refuses to divulge any information on the matter: Western-funded weapons tests are subject to secrecy. But he is happy to discuss how the Ukrainian army uses artificial intelligence in its drone warfare.

**Soundbite 6: Jury Ukr. Soldier (Ukrainian)**

**Translator**

*"Now, this is an automatic drone. We have used deep strike drones. They are supposed to hit targets 200 to 300 kilometers away. A remote control operated by a human could not cover such distances. This works best autonomously. .. "This is my car's prayer to the world.""*

**Speaker**

Deep Strike operations destroy command centers, weapons, or logistics hubs deep within enemy territory. Over the past four years of war, they have brought Ukraine several notable successes. But are AI-controlled drones also effective in urban combat – where they could spare soldiers life-threatening missions? Jury shakes his head.

**Soundbite 7: Jury, Ukrainian soldier (Ukrainian/English)**

**Translator**

*"Mabutyom все таки напів автоматично ... For complete autonomy, a great many tests are required – even if the drone is only supposed to fly very short distances. A change in the weather is enough. Then it changes its strategy and attacks its own soldiers. That could be dangerous... it could be dangerous."*

**Speaker**

The brain of the Ukrainian drone army is the AI-supported military platform Delta, which Ukraine developed itself. Using the computing power of a cloud environment, it analyzes vast amounts of continuously incoming data. The US company Palantir also supplies Ukraine with data and software for algorithmic front-line analysis

Military platforms and software tools like these are considered the all-purpose weapons of modern warfare. They will likely play a crucial role in protecting NATO's eastern territories as well: their object recognition systems are designed to detect enemy tanks illegally entering the border area. Their algorithms are intended to assess risks, create operational plans, and calculate various scenarios. They are meant to coordinate armed forces and suggest targets to commanders. Moreover, they are intended to link autonomous weapon systems – "from sensor to shooter," as it's known in military jargon: sensor data from drones or satellites are to be transmitted to the weapon systems in near real-time to engage targets with lightning speed. That is the hope.

**Atmo 8:30:30 ATMO Engine starts, drive away**

**Speaker**

Back at the drone test site in Finland. The soldiers are gathered around a compact little vehicle on tank tracks. It's about the size of a chest of drawers. Its roof forms a wide wing and is suitable for transporting everything soldiers need to carry in a combat zone: luggage, machine guns, grenade launchers, wounded comrades. In technical jargon, the vehicle is called an "UGV" (pronounced in English), an "unmanned ground vehicle." The German manufacturer Arx Robotics developed it together with a Ukrainian partner. The series is called "Gereon."

**Atmosphere 9**

The Gereon is to demonstrate its capabilities to the military and journalists by autonomously driving a lap around the grounds. The operator, holding the control unit, enters the waypoints

**Soundbite 8: Operator (untranslated)**

*"So now my hands off the device, the logical drive by on turf, and goes to the waypoint again."*

**Speaker**

The vehicle speeds off from a standstill – first across the smooth lawn, then nimbly climbs an earthen mound several meters high. It can independently perceive its surroundings: vehicle-integrated sensors make this possible.

**Soundbite 9: Operator (untranslated)**

*"He drives his waypoints, he navigates the direction and then he goes further."*

**Atmosphere 10: Arx Robotics Representative**

**Speaker**

Adapting routes, avoiding obstacles, following people – no problem for the unmanned ground vehicle, explains company representative Duncan Falconer. But these are just the basic functions. The AI-driven operating system can connect to platforms, networks, and clouds. This gives the vehicle access to all military services that the AI era has to offer.

Falconer then recounts a military exercise that took place in Kenya in November 2025. The British Army wanted to test an AI-supported attack chain – "from sensor to shooter." Reconnaissance and weapons systems, linked via a military platform, were to detect, correctly identify, and destroy a target hidden on the test site. Two German drone manufacturers and Arx Robotics participated. The Gereon was used to explore the test area.

**Soundbite 10: Falconer, Arx Robotics: Forestry vehicles for NATO**

*"Identifying an arm piece of armor... He identified an armored vehicle, sent the target data to the Lattice combat management system, and from there to the disposable effectors of the drone manufacturers Stark and Helsing... from Stark and Helsing."*

**Speaker:**

"Recce-Strike"(pronounced: ra-kee, first syllable short but stressed)This type of attack chain is called an AI-supported attack chain in technical jargon. The commanders, who monitored the military exercise from headquarters, had access via displays. However, in an AI-supported attack chain, the human role is limited. Their main task is to authorize the target to be fired upon.

**Soundbite 11: Falconer, Arx Robotics: (English)**

**Translator**

*"So it's essentially extending the range of the brigade... The vehicle extends the brigade's range in this way. In the test, Gereon operated at a distance of twelve kilometers from the troops; the tank it detected was even further away. That's far more than any light brigade can reach... far further for a light row brigade."*

**Speaker**

"A scalable model for improving European land forces while simultaneously increasing the safety of soldiers," Arx Robotics announced after the military exercise. However, insiders leaked to the press that the drones' accuracy was not particularly high

**Atmosphere 11: Congress Algorithmic Warfare**

**Speaker**

In mid-February 2026, the scientific congress "The Promises of Algorithmic Warfare" will take place at the University of Hamburg. This event will bring together all those researching AI in military applications outside of state-funded arms programs and private venture capital. Legal scholar Klaudia Klonowska, at the Paris Institute for Political Studies, is researching whether AI-supported military platforms that identify targets through object recognition comply with the provisions of international law. If war crimes are committed, the people involved should not be able to shift criminal responsibility onto a misguided AI agent.

**Soundbite 12: Klaudia Klonowska AI driven support - speed (English)**

**Translator**

*We do not have specific regulations... We don't have a specific legal framework for AI-supported systems, but we do have the extensive international humanitarian law. If there is uncertainty about a target that the AI  has identified, then this set of rules requires the people involved to use their judgment and take precautions. Before they issue an order to engage, they must assess the consequences of their actions. However, what we are currently seeing is worrying... from current conflicts are worrisome*

**Speaker**

Klonowska fears that the military platforms being developed in tech industry labs might not adequately consider this existing law. If a commander is to independently verify objects before a lethal strike, then he needs alternative means and methods to gain an overview of the situation on the ground. Only then can he be sure that it is indeed an enemy tank and not a lumberjack's machine. Is this taken into account in the design of military platforms? For her doctoral thesis, the international law expert interviewed platform engineers in the US and the Netherlands

**Soundbite 13: Klaudia Klonowska Experimenting (in English)**

**Translator**

*These are quite complex questions. In my research in the two countries, I found different approaches to them. But what was striking was that there was no best practice. Everyone was experimenting.*

**Speaker**

While operations continued, processes were modified, algorithms retrained, and AI models fine-tuned: Under pressure from time constraints and the need for success, the engineers struggled from one problem solution to the next. They improved details but overlooked the major, inherent flaws in the system. Now, the international law expert fears that such military platforms could gradually erode the boundaries of permissible military conduct

**Soundbite 14: Klaudia Klonowska (English)**

**Translator**

*The speed at which military operations are carried out today is worrying. As a human being, it's impossible to assess the front line situation quickly enough to intervene in a critical situation. And unfortunately, speed leads to even more speed... speed invites more speed...*

**Speaker**

Perhaps the biggest inherent flaw of AI-based military platforms: They are what computer scientists call a "black box." Data is fed into a system at the beginning, and results are produced at the end. But how these results were obtained is not transparent. Computer scientist Nitin Sawhney

(pronounced: Nítin Sahóni, short, open "o")finds: Decisions that affect human lives Potential costs should not be generated in a black box. Because, as Sawhney says, the more complex the system, the more unpredictable the outcome.

**Soundbite 15: Nitin Sawhney: Introducing inexplicable systems (in English)**

**Translator**

*But now these systems... But currently, these systems are increasingly being used for military purposes – without guardrails, oversight, explainability, transparency, and accountability. I consider this extremely problematic... to me, this is extremely problematic*

**Speaker**

Sawhney traveled from Helsinki. In Finland, the professor researches AI – how to use it responsibly and what societal impacts it has. And he fears: The 1,000-kilometer-long belt of high-tech surveillance and weapons systems intended to seal off Finland to the east could profoundly shape society. For since time immemorial, Finns and Russians have lived in close proximity in the border region. Their families have intermingled, and until a few years ago, the border barriers were open for mutual visits. But in military logic, this hardly matters

**Soundbite 16: Nitin Sawhney Datized Landscape (English)**

**Translator**

*Yes, we should have a lot more information... Yes, we need more information: ground reconnaissance, satellites, human sources. This has always been part of military intelligence. The goal is to improve security and avoid civilian casualties. But digital military platforms are far removed from the operational areas they are supposed to protect. Their situational analyses are created in a cloud. Those involved are in control centers instead of on the battlefield. When you operate in a data landscape far removed from any population, the likelihood of quick decisions increases. Without accountability and understanding...*

**Speaker**

Data can be flawed: inaccurately selected, algorithmically distorted, altered by adversary hackers. Yet, warnings are currently only faintly audible. Since tensions with Russia have escalated, spending on military research and development has reached record highs. And data-centric warfare is a driving force behind the arms boom in NATO countries. Venture capital investments in deep tech startups in the defense and security sector have increased fivefold since 2019. In 2024, they reached an all-time high of over $5 billion, according to data provider Dealroom. This is in addition to the soaring defense spending of individual countries.

Germany, which currently has a Bundeswehr brigade stationed in Lithuania, is also investing in AI. The prospect that artificially intelligent systems could spare soldiers life-threatening missions on the eastern flank is compelling. "Uranos AI" is the name of a €25 million procurement project for monitoring large areas on NATO's eastern flank, which the Budget Committee approved at the end of 2025. The tender is considered security-relevant and is not being commented on by the government or participating companies. One thing is clear: the defense sector in Germany is also hoping for a technological leap

## Atmo 13: Air Force Tech Summit

November 2025. The Air Force Tech Summit in Berlin is a specialist conference for the military, industry, and research. Startups present their latest systems, and the technical presentations cover networked operations, AI-driven assistance systems, intelligent fighter jets, and drone swarms.

**Atmosphere 14**

A Ukrainian drone manufacturer is connected via video stream from Kyiv. Sergei Sumlenni, CEO of United Unmanned Systems LLC, reports on the daily reality of war in the Ukrainian front-line area. He describes a death zone up to 30 kilometers wide, where anyone entering it is killed by a drone within minutes. And then, almost as an aside, Sumlenni mentions: These drones are all remotely piloted. Artificial intelligence plays no role in the Ukrainian drone war

**Soundbite 17: Sumlenni (German)**

*I believe there's a lot of wishful thinking rather than reality when it comes to AI. I'm not aware of a single drone that uses AI. Not one.… For a perfectly understandable reason: The objectives in this war look very similar. The soldiers look similar, they use the same equipment, … they cannot distinguish between friend and foe*

**Speaker**

Market-ready AI technologies with self-learning systems that offer real advantages to Ukrainian soldiers on the front lines—Ukrainians haven't heard of these. Irritated questions from the audience

**Soundbite 18: Question to Sumlenni**

*We don't need to prepare for the current war, but for the next one. What is your view on the potential of AI and automation?*

**Soundbite 19: Sumlenni**

*The only plausible application of AI technology I can imagine is a terrorist attack. Imagine flying drones over Potsdamer Platz with a terrorist purpose; then every moving person becomes a target. AI would then select the targets based on size and distance.*

**Atmosphere 15: Congress**

**Speaker**

Klaus Decker also listened attentively to the Ukrainian's presentation. He is a senior engineer at Airbus Defence and Space, one of the largest defense manufacturers in Europe. Airbus is considered a strong candidate for the German procurement project Uranos AI. Decker is responsible for a defense project considered groundbreaking in Germany: the "Multi Dimension Combat Cloud." It is still in the testing phase. But behind it lies a grand plan: The combat cloud is intended to connect everything with everything else. Surveillance and weapons systems with platforms. Sensors, satellites, and radars with the computing power of a cloud environment. Army, navy, and air force with the forces of the cyber and information domain. Human intelligence with artificial intelligence

But the Ukrainian drone manufacturer has given artificial intelligence a poor review – not when it comes to real combat operations, where the drone cannot distinguish between friendly and enemy soldiers. How does Airbus intend to make its cloud suitable for defense purposes?

**Soundbite 20: Klaus Decker**

*Humans face the same problem. A pilot pilots the drone and has the same situational awareness. He has a picture of three soldiers who all look similar. What we want to achieve is for ourselves to be more reliable and better than the human who has to make the decision in that moment. We mustn't trivialize this and then say that AI solves everything. Responsible use is essential, and that begins with development and training*

**Speaker**

To this end, Airbus, together with the Fraunhofer Society, established the "Working Group on Technical Responsibility," an expert panel tasked with setting guidelines for research and development. However, algorithms can be unpredictable – private users experience this daily. AI chatbots like ChatGPT invent facts and sources. How can those in charge be sure that their AI assistants aren't hallucinating in the same way?

**Soundbite 21: Klaus Decker**

*ChatGPT partially relies on its own data. This means you're creating a circular argument: I said something yesterday, and now I'm reading it tomorrow and the day after and drawing my conclusions from that. With military data, on the other hand, you aim to have a fixed, reliable data set. And you can train AI models on this reliable data set. That's precisely what you avoid.*
*this "data incest".*

**Speaker**

Of course, questionable results still need to be validated, for example, if the autonomously flying fighter jet suddenly wants to land on a body of water. For such cases, there will be a control system, says Decker, that encloses the algorithms in a kind of security box.

**Soundbite 22: Klaus Decker**

*If we have determined in the long term that we can trust the technology and that it generates corresponding results in our favor, then it could be given a certain degree of decision-making authority. And where an operator still has to make a decision, we involve them as well*

## Speaker

That's precisely the core question: Who will be given how much decision-making power in the data-driven wars of the future, where military teams consist of human operators and their artificially intelligent assistants. Will humans or machines then decide whether to attack or not, whether to live or let die, whether to surrender or escalate? This fundamental question resonates even now, as NATO's eastern countries feverishly fortify their borders into high-security zones, and engineers, operating without a firm legal framework, constantly seek new applications for their military AI. The hope for an artificially intelligent automation that solves military problems faster, more precisely, and more intelligently is immense. And it is fueled by the capital flowing into research and development. However, computer scientist Nitin Sahwney believes that artificial intelligence cannot replace human intelligence. Not even on the eastern flank

**Soundbite 23: Nitin Sawhney (English)**

## Translator

*There is a false fetishization of data platforms. … Fetishing these data platforms is unfounded. Because their capabilities are limited. They can collect and visualize data. This can be helpful, even if this information is sometimes faulty or otherwise problematic. … Of course, we can experiment with AI-powered military platforms. But never in high-risk situations. In operations, they should be used very cautiously. As an additional source of information. But not as the primary source. … Not as primary sources*

*Rejection*

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Sound and Technology

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