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Insta's patented Insta Safe EOD™ is an efficient drone solution for the safe clearing of unexploded ordnance

[Insta, a technology company](#) that specializes in defence solutions and cyber security, has developed a safe and cost-efficient patented solution for clearing unexploded ordnance (UXO) in a completely novel way. One drone transports and releases a clearing charge to the unexploded ordnance, which can then be detonated remotely using another drone. This makes clearance operations quick and safe.

It is estimated that there are more than 110 million landmines in the world, and no one knows how many other dangerous explosives there are on the ground. Every day, some 70 people are killed or injured by landmines alone. Today, one of the most heavily mined places in the world is Ukraine. Up to 30% of its land area is contaminated by mines and other explosives*.

Demining operations allow people to resume their normal life: rebuilding, transportation and agriculture. This is an immense humane and financial challenge but also an opportunity.

– Insta has developed a patented new [Insta Safe EOD™](#) (EOD – Explosive Ordnance Disposal) method, which is specially designed for humanitarian demining. Its new two-stage operating concept can also be applied for military purposes. With the new method, the clearance personnel no longer have to enter the immediate danger area. Drones are used for transporting the clearing charge in place, detonating it, and inspecting the results of the clearing, explains **Harri Vuolle**, Insta's Product Lead for unmanned aviation products.

A cost-efficient and versatile invention

The Insta Safe EOD™ demining system is built around a two-stage concept: The clearing charge is first delivered to the unexploded ordnance to be cleared and only then will the clearing charge receive the necessary detonation energy from a different airborne drone.

– Besides being safe, the patented solution is highly cost-efficient and environmentally friendly. The clearing charge that the drone delivers to the unexploded ordnance is integrated into a clearing frame made of weatherproof cardboard. Then, the detonation energy is delivered to the clearing charge with a structurally simple device. Like the clearing charge, the detonation device can be integrated into almost any commercial drone, Mr. Vuolle explains.

Insta has extensive, in-depth know-how on a range of different defence technologies and systems.

– The new concept can be used in the post-conflict humanitarian mine clearance, where safety and cost-efficiency are priorities. We want to contribute to making society and the future safer.

Insta has additional knowledge and products that can support larger mine action operations. [The Insta Blue Aware™ situational awareness system](#) can be used in mapping the unexploded ordnance and presenting their location. The system allows for establishing and maintaining an up-to-date situational picture of the clearance operation. In addition to providing a situational picture on a visual map, Insta Blue Aware™ enables mission control and secure communication (text and voice) at various levels of command. Furthermore, the system receives and stores photos and video recordings from the clearance event.

Decades of experience in defence technologies

For more than 50 years, Insta – a Finnish high-technology company – has been a front runner and a reliable partner in the defence technology market. Insta is a strategic partner of the Finnish Defence Forces. Its [Defence business](#) focuses on air defence command & control systems, network security, the Insta Steel product family and solutions that secure pilots' performance. Insta's Defence services are related to systems integrations in connected defence as well as maintenance and service operations for the avionics and electronic systems of aircraft.

Insta has a strong role in the servicing of the avionics of the upcoming [Finnish F-35 fighter fleet](#). The company has also signed a [contract](#) with Lockheed Martin on the implementation of a military data filtering solution. Moreover, Insta has signed [a collaboration agreement with the NATO Communications and Information Agency \(NCIA\)](#). The agreement enables Insta to offer the NCI Agency commercial off-the-shelf products (COTS) and services, such as situational picture systems, command & control systems and cyber security services, data encryption and gateway solutions as well as software services.

New Insta Safe EOD™ – Decisive efficiency

- Unique, safe, and economic solution for clearing unexploded ordnance with commercially available drones
- Specially suited for humanitarian demining but also applicable for military purposes
- Clearance personnel do not have to enter the immediate danger area
- Uses drones for identifying the unexploded ordnance to be cleared, delivering a clearing charge, detonating the charge, and verifying the clearance event.
- Cost-efficient: Economic purchase cost with simple manufacturing and logistics

Watch a video featuring the patented solution: www.insta.fi/safe-eod

*Related links:

Nato - www.act.nato.int/article/innovation-solutions-landmine-free-future/

Minesweepers - <https://landminefree.org/facts-about-landmines/>

Human Rights Watch - <https://www.hrw.org/news/2023/06/13/landmine-use-ukraine>

Learn more:

[Insta's defence solutions](#)

[The Insta Steel product family](#)



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