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UKRAINE IS CHANGING THE FUTURE OF MINE ACTION AND THE WORLD SHOULD PAY ATTENTION

By Paul Heslop, RCO Ukraine Senior Mine Action Advisor

When people think about mine action in Ukraine, they usually focus on danger.

They think about contaminated farmland, damaged roads, unexploded ordnance, and the long shadow that war leaves behind.

All of this is true. But Ukraine is also becoming something else: one of the world's most important innovation hubs for detecting, managing, and clearing landmine contamination.

What is happening here may not only shape Ukraine's recovery, it could transform mine action globally.

According to estimates cited by international mine action organizations, contamination is likely to affect tens of thousands of square kilometres, with some assessments suggesting that up to **around 30% of the country's territory** may be impacted or suspected.

A PROBLEM OF HISTORIC SCALE

Ukraine faces one of the largest contamination challenges seen in decades.

After years of frontline fighting across vast territories, large areas of land are suspected to contain landmines, unexploded shells, cluster munitions, and other explosive hazards. The problem is very large. But the numbers do not always show the full reality.

Not every area marked as dangerous is actually contaminated. There is an important difference between: land that is potentially contaminated, land that is suspected, land that is confirmed and land that truly requires clearance.

That distinction matters because if every square kilometre is treated the same way, recovery becomes slower, more expensive, and less efficient.



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The real challenge is not only clearing land. It is identifying where the real risks are quickly and accurately.

UKRAINE AS A GLOBAL TURNING POINT

Mine action has changed several times over the last decades.

First, it moved from being a purely military task to a humanitarian one. Later, international standards improved how operations were managed.

Then new conflicts involving improvised explosive devices forced another transformation.

Ukraine may now represent the next major turning point.

But why? Because technology has finally reached a level where it can dramatically improve how mine action is done.

Artificial intelligence, drones, robotics, digital mapping, combined sensors, and precision GPS are no longer future concepts. They are tools available now.

And Ukraine has the urgency, talent, and scale to test them in real conditions.

TECHNOLOGY CAN MAKE MINE ACTION FASTER AND SAFER

Traditional clearance methods are slow, labour-intensive, and dangerous.

In many cases, deminers must investigate every signal in the ground manually. That takes time and puts lives at risk.

Today, new tools can change that; a drone can map terrain in minutes. Sensors can detect different signals below the surface.

AI can combine thousands of data points and identify areas with high probability of contamination.

Robotic platforms can inspect dangerous zones remotely.

Precision GPS can mark hazardous points within centimetres rather than metres.

This means fewer people exposed to danger, faster decisions, and more land returned safely.

Ukraine is not inventing every technology from zero. But it is becoming a place where existing tools are being combined in new ways that could redefine the sector.



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MINE ACTION IS NOT ONLY ABOUT MINES

Too often, mine action is measured by outputs:

- Number of devices removed
- Square metres cleared
- Teams deployed

These indicators matter. But they do not tell the full story. The real question is what mine action makes possible.

Can farmers return to work? Can children reach school safely? Can roads be repaired? Can investors build factories or warehouses? Can families come home?

Mine action should be seen as an enabler of recovery, because you cannot build homes, hospitals, schools, or power infrastructure on unsafe land.

Without clearance, reconstruction slows down. Without reconstruction, recovery stalls.

WHY THE WHOLE WORLD SHOULD CARE

Ukraine's contamination crisis is not only a national issue.

Before the full-scale war, Ukraine was one of the world's most important agricultural producers.

When farmland is damaged or inaccessible, global food supply is affected.

That can increase food prices far beyond Europe. For wealthier households, higher food prices are frustrating, but for poorer families in countries already facing hunger, they can be devastating.

The same logic applies to energy markets, transport routes, and trade.

What happens in Ukrainian fields can affect households thousands of kilometres away.

This is why supporting mine action in Ukraine is not charity, it is an investment in global stability.

SMARTER FINANCING IS NEEDED

Mine action is expensive. But not every dollar creates the same impact.

Sometimes, clearing highly contaminated land may cost more than the economic value of that land.

That does not mean it should never be cleared. It means decisions must be smarter, based on evidence and long-term outcomes.

Ukraine also offers an opportunity to think differently about financing.

With strong banking systems, insurance markets, and international support, innovative models could unlock more capital blending public money, private guarantees, and development finance.

This could help scale solutions faster than relying only on grants.

MEASURING WHAT REALLY MATTERS

One of the biggest lessons from decades of mine action worldwide is that we often measure the wrong things. Success is jobs created, tax revenue restored, also displaced families returning home or women entering sectors where they were once excluded.

In Ukraine, more women are already joining mine action teams and leadership roles. That matters not only for the sector itself, but for wider economic participation and social change.

THE MOMENT TO LEAD

Ukraine did not choose this contamination challenge, but it can choose how the world responds to it.

The country now has an opportunity to lead a new generation of mine action: faster, smarter, safer, and more connected to economic recovery.

That requires continued donor support, smarter regulation, stronger partnerships, and openness to innovation.

But it also requires a shift in mindset, because mine action is not the end goal; it is the foundation that makes every other recovery goal possible.

If Ukraine gets this right, it will not only clear land, it will help clear the path for how the world responds to contamination crises in the future. ■

ABOUT THE AUTHOR

Paul Heslop is an RCO Senior Mine Action Advisor and leads UNMAS operations in Ukraine, where he focuses on addressing the country's severe contamination from mines and unexploded ordnance (UXO) caused by the ongoing war.

He advises the UN Resident Coordinator and the UN Country Team in Ukraine, helping coordinate large-scale clearance efforts across one of the most heavily mined countries in the world. Heslop has highlighted the presence of around 6 million UXO items affecting roughly 20% of Ukraine's territory and over 6 million people, with an estimated economic impact of \$11 billion annually.

A strong advocate for innovation, he promotes the use of drones, satellite imagery, AI, robotics, and sensors to improve detection and clearance of explosive hazards, especially as new types of advanced mines and remotely deployed devices continue to emerge.

In 2026, Heslop has been a key speaker at International Mine Awareness Day (IMAD2026) events, where he has addressed global challenges in mine action, including both land and sea mines, and stressed the need for sustained investment and technological innovation to support recovery and reconstruction in conflict-affected regions.