

Demining Initiative In Ukraine

International Charitable Fund “BIG UA”
“Operation Sunflower”
Ukraine
2023



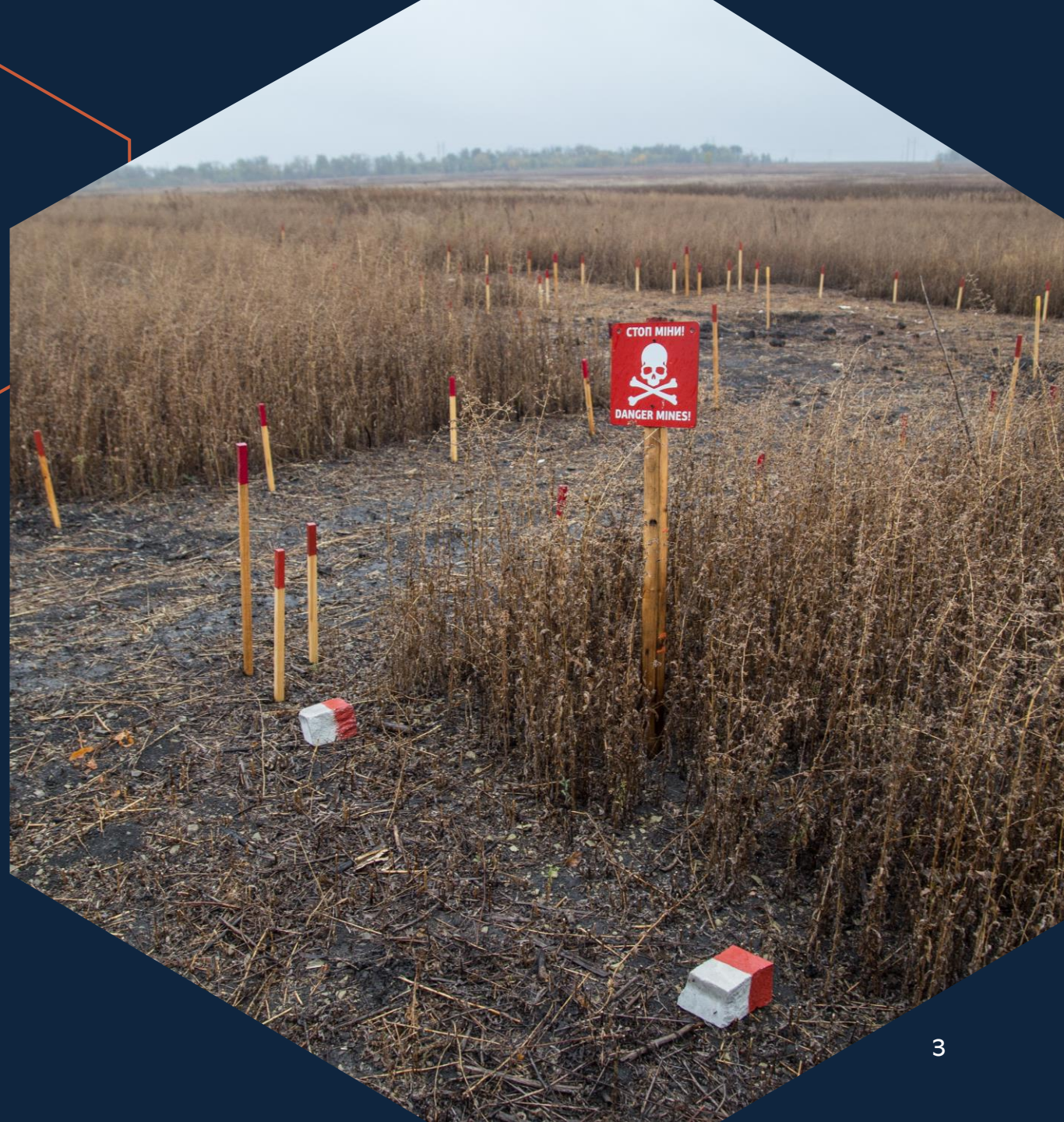


Agenda



Introduction

More than a fifth of Ukraine's territory has been polluted by landmines and unexploded ordnances (UXO) left behind by Russia's occupying forces, including regions in the Donbas that have been mined since 2014. Demining for humanitarian purposes will be essential to Ukraine's recovery and reconstruction operations. International Charitable Fund “Big UA” in coordination with Operation Sunflower coalition is a member of an alliance of businesses with similar goals that offer comprehensive solutions to the military community. This covers the numerous fronts of explosive ordnance disposal.



Our Demining Classification



Mechanical Clearance

- Ground Preparation
- Tripwire Removal
- Verification & Clearance



Battle Area Clearance (BAC)

- Systematic Search & Detection
- Multiple Areas



Explosive Ordnance Disposal (EOD)

- Grenades
- Cluster Ammo
- Mortars
- Land Service Ammo



Weapons & Ammo Management

- Stockpile Security
- Storage
- Transportation
- Handling
- Disposal



Maritime Demining

- Manned & Unmanned Systems
- Emergency Response
- Counter mine patrols

Mechanical Clearance

The employment of mechanical assets is a crucial part of clearing operations in the right setting, with the machines handling activities like ground preparation, tripwire removal, verification, and clearance over huge regions. Employees and management of the company have extensive expertise using these driver-operated and remote assets. We also recognize that any mechanical methodology serves only as a preliminary step in the development of precise mine and BAC clearing techniques.

Having constructed more than 200 Casspir Mk2 armored personnel carriers exclusively for mine clearance for the South African mine clearing firm, Mechem, the group has the technological ability to manufacture specialized mine clearing vehicles.



Battle Area Clearance (BAC)

Our activities are not limited to mine fields. Our crews are capable of conducting a systematic search, detection, and removal of all items of explosively hazardous material in regions affected by ordnance and munitions, whether as a result of local warfare or use as training ranges.



Explosive Ordnance Disposal (EOD)

Single pieces of ordnance like grenades, cluster munitions, land service ammunition, and mortars constitute a persistent threat in many post and continuing war zones, such as Libya, Syria, and Ukraine.

The company's EOD operators will support you through detection, identification, evaluation, and render a safe recovery and disposal operations.



Weapons & Ammunition Management

The threat presented to local residents living close to these stocks as well as the spread of weapons and ammunition are both factors that make poor or inadequate stockpile security a developing problem. Our staff can help you with your storage, transportation, handling processes, operating procedures, and disposal needs because we have a lot of real-world expertise with these issues.

Additionally, we may modify the current facilities to meet international safety and security standards. We will not only retrieve the ordnance but also assure its secure holding until destruction, deactivation, and/or handover to the appropriate authorities. Our highly experienced staff has in-depth knowledge of military explosives and their safe storage and security.



Maritime Demining

Our organization has assembled a strong team for working in contested and uncertain maritime environments. Utilizing a three-phase strategy, demining operations around critical areas will be established to assure operator comfort and security in the commercial space.

With these efforts, we will proceed to continuously identify, evaluate and test new technologies and methods to ensure the best and safest outcome. We are prepared to integrate additional best in-class teams and products into our efforts to build a strong and lasting maritime demining program for Ukraine.



Maritime Demining Continued

Phase 1

- Evaluate Order of Battle
- Identify current resources, capabilities and options
- Engage with current technicians and efforts
- Identify additional products and services needed for success
- Initial testing with manned and unmanned systems in key areas

Phase 2

- Clear the Q-routes to key ports and inland
- Build offensive options for guaranteed security
- Establish emergency response capabilities for loose mines
- Conduct counter mine patrols
- Determine enemy response and build countermeasures
- Map designated areas for mine disposition.
- Confirm partnerships with appropriate Ukrainian forces

Phase 3

- Maintain clear and secure waterways
- Continue regular patrols for monitoring
- Train Ukrainian forces to conduct demining operations with appropriate platforms, techniques, and procedures
- Acquire additional platforms as needed
- Continue to identify additional products and services helpful to effort

Our Methods of Identification



**Multi-purpose
Salvage Vessel**

Specialty in surveying,
mine removal, and
emergency response



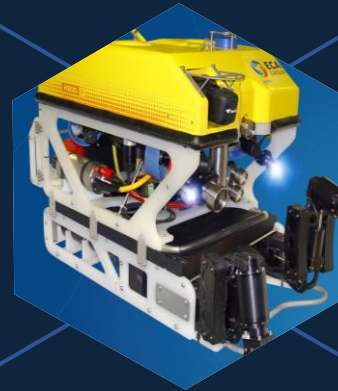
**Patrol & Survey
Support Vessel**

Specialty in long
endurance operations for
patrol, and survey support



**Rigid Hull
Inflatable Boat
(RHIB)**

Specialty in close in
operations, and
shallow waters



**ROV
(Observation
Class)**

- VideoRay Defender
- Video/Imaging
Sonar
- USBL System



**ROV (Light
Working Class)**

- Seaeye Cougar
- 2000m depth
rating
- Running multiple
payloads

Our Methods of Identification Continued



Autonomous Underwater & Surface Vessels (AUV & ASV)

- Side scan sonar
- Multibeam Profiler
- USBL, INS, DVL aided navigation



Interferometric Synthetic Aperture Sonar (InSAS)

- KATFISH 180 SAS
- Range independent
- 3cm x 3cm resolution



Conventional Survey

- Years of defense and commercial survey work
- Commercial clearance techniques

Team Leader

General Major Lukashyk Yurii Petrovich

- Chief of engineering forces of the Armed Forces of Ukraine (2015-2020). Reconnaissance of the enemy and the area;
- installation of engineering (non-explosive, explosive, water...) barriers;
- development of passages in the engineering facilities of the enemy;
- guidance and maintenance of crossings through water obstacles;
- ensuring the deployment of troops, (direct and immediate subordination: up to 10 thousand).
- performed tasks in the b/d zone from (2014-2019)



Team Members

Steve Link

- Former US EOD PLT CDR and OPS officer
- Led Counter Mining operations throughout Europe
- Adviser to NATO
- Builds, maintains, and operates manned & unmanned systems
- Leads commercial subsea survey operations for top tier US survey company (Thayer Mahan)

Captain Willie

- Worked at sea for 45 years
- Worked demining operations since the 80's
- Dredging ordnance and mines in multiple locations
- Top 5 dredging operator in US
- Top 5 salvage operator in US
- Built leading maritime security company in Med & Africa (DGR)

Frank Morneau

- Former Commander of the US Navy Expeditionary Combat Forces
- Retired as the Senior EOD and deep sea diving officer
- Developed US Navy's Expeditionary Mine counter measures
- Senior advisor to maritime start-up and currently assisting in UXO/MEC clearance

Roadmap



Provide full demining and explosive ordnance disposal solutions in all Ukrainian territories, and the rest of the globe.

The design and execution of more than 150 EHM projects globally for a range of high-profile clients, which in turn will help our organization build a solid reputation for quick, effective, safe, and economical support.



Full compliance with the

- International Mine Action Standards (IMAS)
- International Ammunition Technical Guidelines (IATG)
- International Small Arms Control Standards (ISACS)



Continue partnering with companies that are producing the latest detection and removal technologies available on the market. Included but not limited too

- EOD robotics
- Aerial Geo-Survey equipment

Roadmap Continued



- ✓ According to the Ukrainian legislation, commercial and private companies are only allowed to search, identify, and flag ordnances while the Ukrainian military overtakes this initiative to proceed with storing, transporting, and disposing of ordnances.
- ✓ The Ukrainian Government has amended its legislation recently to allow the integration of all private companies into all stages of the demining process.
- ✓ Our organization has all the necessary expertise and capabilities in locating, containing, transporting, and disposing of any ordnances, regardless of its type or location.

Summary

Our coalition of organizations “Operation Sunflower” is aimed to assist Ukraine with demining all of its ordnances as well as any threatening land and/or naval mines. We have specialized vehicle manufacturing solutions, canine explosive ordnance disposal operators, and 30 years of experience in this industry within the associate group of businesses with which we are honored to be affiliated.

LET'S MAKE A CHANGE

