Demining services in Ukraine

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Demining is one of the most pressing issues that Ukraine is facing today. About 174,000 square kilometres of the country's territory are potentially mined. This poses an unprecedented risk to the population and hinders the economic recovery of Ukrainian regions.

The World Bank estimates that the cost of the necessary demining work will exceed $37 billion. A task of this magnitude cannot be performed by government agencies alone. That is why Ukraine is actively developing an open market for demining services, driving private initiatives through deregulation and digitalisation.

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Government support is also growing: in 2024, it is planned to allocate UAH 2 billion (USD55,840,000) for humanitarian demining. These funds will be allocated through tenders on the Prozorro platform. The platform's reform also changes the rules of the game in the market (for instance, the quality of demining services will be considered as the priority rather than the price).

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Under these conditions, the demining market in Ukraine has unique development prospects.

1. Components of mine action in Ukraine

It is important to understand that demining in Ukraine is part of mine action in general. In terms of service delivery in this field, all services related to reducing the risks from mines and explosive remnants of war (ERWs) should be viewed from this standpoint.

Mine action in Ukraine consists of the following components:

- mine risk education;
- demining;
- dissemination of information on the prevention of the use of mines and ERWs;
- assisting victims;
- destruction and storage of ammunition.

2. Mine action legislation in Ukraine

The legal framework for mine action is enshrined in the Law of Ukraine "On Mine Action in Ukraine". The disposal of ammunition and explosives, emergency training for the population, and the marking of mine hazards are regulated by the Resolutions of the Ukrainian government.

In addition, specific aspects of mine action (e.g., operator registers, certification, coordination of different centres and offices) are regulated by a number of orders issued by the relevant ministries.

A special role is played by the standards for mine action. In particular, the standard DSTU 8820:2023 "National Standard of Ukraine. Mine action. Management Processes. Main Provisions" and others define the requirements for mine action and related processes.

3. Certification of mine action operators

Certification of mine action operators and processes is carried out by accredited conformity assessment bodies. Currently, these are:

- The Mine Action Centre of the State Service of Ukraine for Civilian Mine Action (Chernihiv);
- Interregional Centre for Humanitarian Demining of the State Emergency Service of Ukraine (Merefa);
- Demining Centre of the Armed Forces of Ukraine (Kamianets-Podilskyi).

Certification is required for the following mine action processes:

- non-technical survey;
- technical survey;
- manual demining;
- clearing combat areas;
- neutralisation (destruction) of mines/ERWs;
- informing the public about risks associated with mines and ERWs.

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Organisations or companies acquire the status of mine action operators from the moment they receive a conformity certificate for mine action processes. Such a certificate is the basis for registration of a mine action operator and its authorisation to provide mine action services. An operator will be able to provide services only in the processes covered by its certificate.

In order to obtain conformity certificates for mine action processes, a potential operator must demonstrate its ability to meet the requirements of the Law of Ukraine "On Mine Action in Ukraine" and the national standard on mine action DSTU-P 8820:2018 "Mine Action. Management processes. Main provisions".

4. Typical mine action processes

Demining services are typically provided as part of the standard mine action processes: non-technical survey, technical survey, and combat area clearance.

Non-technical survey

All elements of the non-technical survey process are related in one way or another to the identification, access, collection, reporting and application of information on the possible presence of mines and ERWs.

The main purpose of a non-technical survey is to provide recommendations for further technical survey and demining operations or the removal of areas from the list of suspected hazardous areas or potentially hazardous areas. Non-technical surveys are conducted without the practical use of demining equipment or entry into hazardous areas.

Technical survey

Technical survey is carried out using, in particular, the following methods:

- manual demining, which involves detection and neutralisation of all threats related to mines and ERWs without mechanisation means and mine-sniffing dogs;
- demining with the help of machines and mechanisms, which involves the use of mechanisation in demining operations – demining machines and mechanical tools. Mine clearance machines are divided into machines for detonating hazardous sources, machines for preparing the ground, and machines for detecting hazardous sources. Mechanical tools include the working components attached to the demining machine, such as chains, cultivators, rollers, ploughs, magnets, etc. A single demining machine can use a number of different tools, either fixed or interchangeable;
- dog-assisted demining, where dogs (officially, groups that use dogs to find mines are called "cynological units of the mine detection service") can be used to search for, detect, and mark mines and ERWs, explosive charges, and improvised explosive devices. They are most commonly used in areas with a low density of mines;
- combined demining – a combination of the methods described above.

Combat area clearance

Battle area clearance is the systematic and controlled clearance of hazardous areas that are known to be free of mines. This includes the identification and clearance of ERWs. It may involve clearing the surface of the ground or clearing the soil to a predetermined depth. However, clearance of a combat area does not include the disposal of stockpiled ammunition in warehouses and storage facilities.

5. Requirements to work with personnel

Qualification of specialists

The qualification characteristics of demining specialists should be on par with the qualifications of personnel in the profession of Deminer

(demining) and ensure their ability to carry out demining at several levels.

The level is determined based on:

- the range of explosive items that the specialist must be able to neutralise;
- methods of destruction (individual or multiple explosive items);
- the characteristics of the ammunition, etc.

For example, the first (basic) level requires the ability to find, retrieve and destroy individual mines and certain types of ERWs on the spot, whenever possible. The fourth level allows for the destruction of mines and ERWs, which requires specialised skills and may include the destruction of liquid rocket propellant systems, depleted uranium ammunition and the disposal of improvised explosive devices.

Equipment

Demining specialists and teams must be equipped with special personal protective equipment. This equipment should not restrict the use of demining equipment and methods and should not increase the risk of uncontrolled detonation.

The degree of protection provided by personal protective equipment is selected to reflect special operating procedures and local weather conditions.

A demining company must provide training on the proper use, maintenance, and storage of all available personal protective equipment. A separate room should be allocated for proper storage, donning, cleaning, and maintenance.

Medical support during demining

A demining company is required to adequately prepare personnel and equipment to respond to accidents during demining.

Ensuring a response to demining accidents requires proper planning, effective training of personnel and the ability of medical services to provide effective emergency medical care. All of this should be planned by demining companies, taking into account the existing medical infrastructure.

6. Inspection of demined areas

The purpose of inspecting demined areas is to ensure that all requirements and procedures have been followed, all mines and ERWs have been removed or destroyed, and the demined area and infrastructure are safe and usable.

Inspection of demined areas is carried out after the demining company has declared the demining of an area to be complete.

Any critical non-compliance revealed during inspection will have significant financial and reputational consequences for the demining company. Such a situation may lead to repeated demining of the land or be reflected in the certification status of the demining company.

7. Insurance

Compulsory insurance covers the life and health of demining specialists for the period of their participation in humanitarian demining. The minimum insured amount under the life and health insurance contract for mine action specialists in Ukraine for 2023 is UAH 1,675,000 (approx. USD 46,800). The amount of compensation for damage is determined by mutual consent of the parties or in court.

In order to ensure compensation for damage caused as a result of humanitarian demining, the mine action operator is obliged to conclude a civil liability insurance agreement for the period of mine action in a clearly defined territory prior to commencing mine action. In Ukraine, the minimum insured amount under such an agreement in 2023 is also UAH 1,675,000 (approx. USD 46,800).

In both cases, the amount of compensation for damage is determined by mutual consent of the parties or in court. The insured amount under the insurance agreement may be subject to change depending on the minimum wage in Ukraine.

8. Market development prospects

The prospects for the demining market development in Ukraine are shaped not only by the scale of work, but also by the need to apply new technologies. These include technologies for mapping, identification of explosive ordnance, mechanical demining of large areas, environmentally friendly disposal of explosives and hazardous substances, etc.

Such technologies need to be developed or imported. Furthermore, it is necessary to establish production and disposal facilities to implement these technologies. Given these conditions, the demining market consists not only and not so much of neutralising mines and shells, it also includes a wide range of works, services, and supplies.

Ukrainian demining standards currently do not fully account for these technologies. There is also no mechanism for flexible adaptation of standards and safety requirements to new technologies. E.g., the standards regulate the use of dogs for mine detection, but do not specify

the use of robotic systems and drones for remote demining or thermal imaging equipment and artificial intelligence for mine detection and identification.

This is not a problem with Ukrainian legislation. Despite the fact that more than 60 countries around the world are contaminated with landmines, there is very little relevant experience that Ukraine could draw on. For example, in addition to the vast areas of mine contamination, Ukrainian mine contamination is characterised by the intensive use of new munitions that have not been used on such a scale anywhere else in the world.

Under such circumstances, companies intending to engage in mine action in Ukraine should constantly be in contact with the regulatory authorities. Ongoing legal support and protection of the interests of demining companies is not only about business security, but also about the introduction of new technologies.