

FP7 Integration Project D-Box (“Comprehensive Toolbox for Humanitarian Clearing of Large Civil Areas from Anti-Personal Landmines and Cluster Munitions”)

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Abstract

The FP7 Integration Project D-BOX (“Comprehensive toolbox for humanitarian clearing of large civil areas from anti-personal landmines and cluster munitions”) is tackling the issue of anti-personal landmines and cluster munitions through the development of innovative solutions interfaced and integrated in a comprehensive toolbox to provide stakeholders with tools, methods and procedures to improve the effectiveness of the clearing process. This “smart” toolbox can be applied for the range of demining activities (from preparation through to the elimination of the mines including communication with the public and donors) while providing operators and end users with suitable solutions, (adapted to different scenarios and conditions, cheap and “easy to use”) for specific tasks during different steps of the demining process. The toolbox will encapsulate an accurate, reliable and quick information management system compliant with IMAS standards.

Introduction

The D-Box project started in 2013 in a 3-year FP7 Integration Project (FP7research call SEC-2011.1.3-3 on “comprehensive toolbox for humanitarian clearing of large civil areas from anti-personal landmines and cluster munitions”) with 20 partners from 11 EU Member States, and a budget of ~ 10M Euros. It will integrate existing solutions for the process of clearing landmines and cluster munitions by developing a comprehensive toolbox and a roadmap for its implementation

Background

It is estimated 110 million land mines are scattered in 70 countries since 1960. With current funding corresponding to a clearance of about 500,000 mines per year and assuming no

additional mines are laid, it could take a hundred years to clear them. The mines cause up to 20.000 victims p.a. and delay economic recovery. The cost of removing one antipersonnel landmine is up to €750 leading to costs of between two and eight million Euros for clearing one square kilometre. As the EU Commission and the EU Member States are donors in humanitarian demining, they have an interest to increase the efficiency of the clearing process activity.

Operational Needs and D-BOX Approach

The operational needs and priorities have been expressed by the humanitarian demining community represented by:

- Demining teams in Non-Governmental Organizations (NGO) and commercial demining companies,
- The Mines Action Centre (MAC),
- The United Nations Mine Action Service (UNMAS), and
- The Geneva International Centre for Humanitarian Demining (GICHD).

The two main priorities are:

- (1) The improvement of the mapping of hazardous area, and
- (2) Low cost, “easy to use” and efficient close-in detection equipment.

These priorities are confirmed by end-users involved in the D-BOX project and during discussions with the GICHD.

The D-BOX project will tackle the issue of anti-personal landmines and cluster munitions with an all-encompassing, innovative and simple approach, covering the aspects defined in the text of the call including the integration of innovative solutions, i.e. technologies and methods for (i) Mapping; (ii) Long-range localisation; (iii) Short-distance detection; (iv) Neutralisation in an open civil environment; (v) Development of protective equipment for operators and population and (vi) Training solutions for personnel and tools for mine risk population education.

The requirements will be achieved through the development of innovative, “easy to use” and low cost solutions interfaced and/or integrated in a comprehensive, distributed toolbox to provide demining stakeholders with tools, methods and procedures addressing risk management and human, ethical and legal factors (including procedures and best practices).

This “smart” toolbox will be applicable to the entire range of demining activities (from preparation of the mission until the elimination of the mines including communication to the public and donors) while providing operators and end users

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with the most suitable solutions, (adapted to different scenarios and conditions) for the specific tasks during the different steps of the demining process.

The toolbox will be enveloped by an information management system compliant with the IMAS standards. The IMS will tackle the need to have access to accurate and reliable information in a timely way by creating a link together the different stakeholders of the Demining Life Cycle.

The toolbox will benefit from past and current developments, and will link and eventually complement relevant existing information systems, procedures and databases.

To ease the use of the toolbox, D-BOX will be designed to fit the needs of mine clearing stakeholders and will be implemented via proper levels of education and training.

The D-BOX project started with an assessment of past and on-going-activities, operational needs as well as scenarios.

After the requirements for different tools are identified, a comprehensive toolbox will be established keeping the end-users strongly involved in the process.

The planned contribution includes the establishment of a comprehensive demining toolbox and the development and improvement of existing and novel tools (non exhaustive):

- Close-in detection by biosensors
- Network of sensors,
- Risk assessment tools,
- Innovative dog training methods,
- Information fusion tools.

All these parts will supported by a series of demonstrations to evaluate performances and to the establishment of a roadmap for its development and implementation.

References

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