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The Mine Action Technology Newsletter lets you know where to find more information and who to contact, where to go and what is going on in support of your work.

Introduction

This is the fourth issue of the Mine Action Technology Newsletter, produced by UNMAS and GICHD, dedicated to the promotion and development of related mine action technology.

We welcome new ideas, and suggested articles, and would happily share them with others if sent for inclusion in the Newsletter. Feedback from the field, NGOs, manufacturers, donors or headquarter organizations helps to make the Newsletter more effective.

This issue includes six feature articles; the UNMAS/GICHD Technical Workshop, the MINEHOUND™ Detector System, Handheld Standoff Mine Detection System (HSTAMIDS), Japanese technologies and two updates on ITEP activities. Also included is one page with snippets of general information and news.

The newsletter is also available on the UN Mine Action Service website, **E-Mine** (www.mineaction.org) and on the GICHD website at www.gichd.ch/15.0.html. Readers are once again invited to provide their own comment and to make constructive suggestions to the Editors, Noel Mulliner, Technology Coordinator at UNMAS, or Al Carruthers, Technology Officer in GICHD.

Mine Action
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Feature Article 3

HSTAMIDS operational with deminers in Cambodia, Afghanistan, and Thailand

Following the comprehensive, worldwide field evaluations and demonstrations (FEDs) of the Handheld Standoff Mine Detection System (HSTAMIDS) in humanitarian demining areas and scenarios from September, 2004 through December, 2005, the US DoD HD R&D Team launched the operational phase of the HD-HSTAMIDS program in the spring of this year. The HSTAMIDS now in HD operations is the production version that is standard issue with the US Armed Forces, and which was tested with five different demining teams from Afghanistan, Angola, Cambodia, and Thailand during the FEDs. It is a dual sensor system that integrates an electromagnetic induction (EMI) metal detector and a wideband ground penetrating radar (GPR). The system incorporates ground compensation and sensor data fusion software which provides the capability to discriminate mines from clutter. To date 2,000 systems are fielded and within a year, the number delivered will reach 3,000. The US has placed purchase orders for a total of 15,000 systems.

The US has rigorously evaluated this system with developmental, operational, and production testing. During this testing, the system has encountered more than 10,000 mine targets and over 50,000 pieces of clutter in widely varied environmental conditions in nine test arenas.

For the Humanitarian Demining FEDs in Southeast Asia and Africa, ITEP partners Canada, the Netherlands, Sweden, and the United Kingdom joined the US in testing the HSTAMIDS with humanitarian deminers. During the FEDs, the HSTAMIDS encountered over 2,000 mine targets and 4,600 pieces of clutter. Although the FEDs were extremely challenging -- 15 different mine types, two-thirds of which were low metal content mines -- the newly trained HSTAMIDS operators significantly outperformed the experienced operators using metal detectors.

Based on HSTAMIDS performance and feedback from the newly trained operators following the worldwide FEDs, the U.S. cooperating partners; the HALO Trust, Thailand Mine Action Center (TMAC) and MgM of Angola, urged the HD R&D Program to accelerate the operational employment of the system into ongoing mine clearance programs. In response to these requests, the U.S. constructed permanent training facilities in Cambodia, Afghanistan, and Thailand to establish bases of operations that would provide direct operational experience in widely varying environmental and threat conditions. The U.S. then provided training to the HALO Trust and MAG in Cambodia at the new HSTAMIDS training facility at HALO Trust's headquarters in Siem Reap in March and April 2006.

Following the training, the HALO Trust employed HSTAMIDS as its primary sensor at Bueng Trakoun West 4 in the K-5 mine belt within Banteay Menchey Province on 27 April 2006. On June 11, the Halo Trust identified Bueng Trakoun West 4 as clear and shifted HSTAMIDS operations to two other minefields. As of June 24, HSTAMIDS has demonstrated a 100 % probability of detection and has correctly identified 94 % of all clutter. In three separate minefields, HSTAMIDS has found 288 mines (7 different mine types), while rejecting over 37,400 pieces of clutter. Individual HSTAMIDS operator clearance rates are

approaching 200 square meters per day, which would provide more than a six-fold increase. Current plans call for expanding HSTAMIDS operations to other areas of operation within Cambodia.

Additionally, the U.S. conducted HSTAMIDS training with the HALO Trust operators in Afghanistan, and began operations there on 30 May 2006. The environmental conditions, the mine threat, and mine density in Afghanistan are markedly different than in Cambodia. After three weeks of operations in the rolling fields near Karizi Mir, the HSTAMIDS has demonstrated a 100 % probability of detection and has correctly identified 97 % of all clutter. In these areas, HSTAMIDS has found four mines (2 different types) and has rejected over 17,300 pieces of clutter.

Finally, the U.S. has completed HSTAMIDS training to deminers within the Thailand Mine Action Center at the training facilities in Sakaew Province Thailand. TMAC operations are scheduled to begin at the end of June in a densely vegetated area in conjunction with mechanical ground preparation technologies.

After 231 man-days of manual demining operations, operators employing seven HSTAMIDS have cleared more than 67,000 square meters, including data collection and verification. In addition, the HALO Trust HSTAMIDS operators have accurately discriminated more than 54,800 pieces of clutter in four different minefields without missing a single landmine. The results in this initial phase of HSTAMIDS employment as the first production dual sensor in demining operations are truly outstanding, but not unexpected. Indeed, they were achieved by a program with a systematic approach that before fielding: selected and thoroughly tested a mature system, conducted a comprehensive field introduction and extensive evaluations with demining teams, partnered with highly competent organizations, and employed dedicated, well trained deminers.

Current US fielding plans call for continuing the ongoing operations, working with its cooperating partners to optimize standard operating procedures, and determining the long term, steady state performance of HSTAMIDS in manual demining operations. The U.S. is also exploring opportunities to introduce the HSTAMIDS in other, varied demining operations throughout the world.