

Bridging the User and Developer Gap

The DTIF Workshop, Vancouver, June 4-5, 2001

While attempting to find common ground, both users and developers candidly discussed mine action technology issues at the DTIF workshop.

by Margaret S. Busé, Editor

The Demining Technology Information (DTIF) workshop was designed for the users and developers of mine action technologies. The workshop's goal was to provide a forum for users and developers to declare their issues and hopefully suggest possible solutions. After the first session of the DTIF workshop, it was apparent that there is an ever-widening gap between users and developers concerning ap-

propriate technology that satisfies both parties. It might be said that users are from Mars and developers are from Venus—and the goal of the conference was to narrow that gap. The positive

from finding common ground. In the end, the DTIF workshop may have pointed the way for such organizations as The United Nations Mine Action Service (UNMAS), the Canadian

"The industry of mine clearance has not advanced because developers have not gone into the field to talk to deminers. There are too many vested opinions. There are Ministries trying to get brownie points with no regard as to how the equipment actually operates. Bureaucrats do the testing of equipment. I want to leave here with a name and phone number of a person who I can actually call. I don't want to be tasked with a 30 page proposal in triplicate." Lionel Dyck, Mine Tech

side of this story is that both groups need each other, and everyone benefits

Center for Mine Action Technologies (CCMAT), the European Commission Joint Research Center (EC/JRC), and James Madison University's Mine Action Information Center (JMU/MAIC) developing a technology forum for users and developers.

Three main issues were debated candidly throughout the conference: user input, developers' use of that input, and the production of viable equipment based on user and developer input and communication. User input into research and development and how to get that input is an issue that may be solved in the foreseeable future. CCMAT is currently developing the DTIF Website and Journal with its current partners, JMU and JRC. It will provide an online arena

for showcasing articles on current technology as well as the DTIF conference proceedings, an International Test and Evaluation Program (ITEP) link, and other pertinent R&D features. The website/journal is also expected to provide an interactive discussion area for users and developers.

Many users feel that current technology is developed in isolation, that developers are designing and testing equipment in sterile environments without actual knowledge of what is usable in the field. Opinion on the user end is that technology developers operate without a clue as to what users need, let alone what they want. The developers too often feel that the

both sides. Steps were laid to possibly bridge the user/developer chasm. As this issue of the Journal of Mine Action goes to press, all sides involved are exchanging information and ironing out administrative details for making the DTIF Website and Journal happen. Alois Sieber of the EC/JRC pledged to provide tangible support to DTIF. Jim Prudhomme of UNMAS also offered his organization's help in managing a database of technology information. JMU and CCMAT have currently contracted to put out the first issue of the DTIF Journal and its supporting website.

The First Day: Users and Developers Discover They Have Nothing in Common

The users of personal protective equipment (PPE), the people in the field, often feel that they demine in a technological void. They do not want to work with the sellers of the R & D industry; often they want to work with the developers in the design phase. "I don't want general PPE that is all things to all deminers. I don't need 360 degrees of coverage. Do I need PPE designed for bullets? Not all users need the same thing. We work in different climates and situations. The primary requirement for PPE is that it reduces injury—it is not going to prevent injury," stated Willie Lawrence, Senior Technical Advisor for the Mine Action Center (MAC) of Eritrea and conference presenter. Many users echoed the sentiment that they want equipment that is as practical and as easy as putting on a sports coat.

Andy Smith could not attend, but he provided a paper on the database he has been building on demining incidents. He challenged developers to

look at the facts. The statistics conclusively show that the risk to deminers is primarily from blast mines and that current PPE on the market has been "over-designed" to meet a fragmentation threat. "What we need is comfortable, light, effective and low-cost blast protection to protect the deminer at a time when most incidents occur. That is when he is exposing a mine that he has already located." Smith went on to state that what he wanted from the DTIF conference was a means of testing armor for its suitability to blast protection.

Cost was another issue that users discussed. "We need stout working boots that are designed in the first world and manufactured in the third world. \$300 (U.S.) for a pair of boots? When deminers are wearing stout boots they don't lose their foot," stated Lawrence. Paul Heslop of HALO Trust agreed that cost is a major problem, especially when you have a 4000-person staff. "Last year we had four incidents, that is \$1.4 million [spent on PPE] vs. one deminer's leg. Money is better spent on clearing mines." The lack of durability of this expensive equipment should also be considered. Developers have to be concerned with making a PPE investment more long-lasting.



■ Liu Center for the study of Global Issues at the University of British Columbia. c/o MAIC



■ Users urged developers to increase the durability of expensive demining equipment. c/o ATC



■ The paper Andy Smith submitted focused on blast and fragmentation injuries. c/o Andy Smith

users cannot or do not articulate their needs.

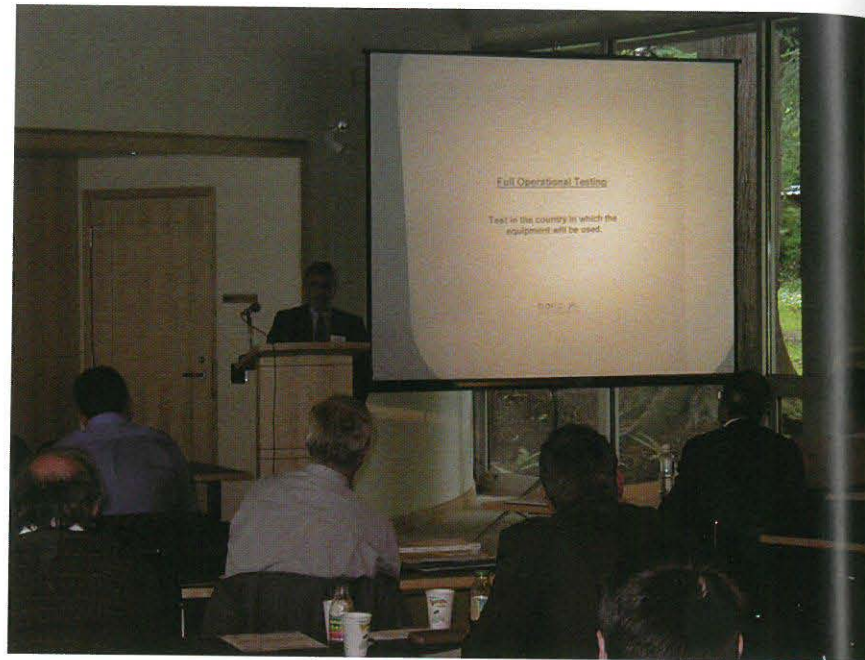
The final goal of DTIF is to coordinate technology from start to finish—in developing, testing, selling and deploying—so that both user and developer are satisfied. This was the crux of the whole conference, and it stimulated lively and informative debate on



■ Participants listened to both users and developers of the mine action community debate current R&D development issues. c/o MAIC

Responses from the developers were varied, though it was not easy to define what would motivate the technology industry to close the gap. Both users and developers feel that the user community is fragmented, operating in isolation even from each other, let alone the developers of the R&D community. Joe Lokey of JMU/MAIC challenged the user community to clearly define its needs to the developers.

Mechanical equipment developers were also summoned to design equipment that was already on the shelf that balances and compliments the entire demining program and does not try to reinvent the wheel. James Trevelyan of the University of Western Australia brought up an important point: "What is developed in the laboratory is based on one mine field test. Then companies put pressure on their governments to use and promote the machines. Machinery also pays economic dividends because the work is done quickly." Trevelyan also mentioned what other developers echoed: users should not be the only guidance in technology development because they only describe needs by what they know. "They must be able to define the problem, which is sometimes 50 percent of the solution." Users were



■ Alistair Craib discussed the importance of testing and evaluation. c/o MAIC

quick to retort with defining many of the problems, including the waiting game for technology to be developed.

Users want technology that can be used today, and they often cannot wait for research and technology to devise a prototype, let alone field-ready equipment, 10 years down the road. This is especially true when the equipment developed is not what they want or need, or worse yet it is not even usable in their demining environments. Phil Paterson of the Mine Action Center for Afghanistan (MACA) made a valid point when he concluded the day's debate: "Users may not be the best people for describing requirements, but they should be the starting point. We don't need to be talking machine, dog or deminer, we need to be talking about user requirements."

Day 2: A Determination on Both Sides to Make it Work

Bob Stuart of CCMAT preceded the day's presenters by recognizing and validating the users' need for an information clearinghouse on equip-

ment. He stated that some of the problem lies in the "over-the-wall" syndrome, in which developers fail to introduce new technology. "They throw it [a new concept] over the wall to marketing. They don't know what to do with it or how to market the equipment to users." By validating the need for an information clearinghouse, he was able to challenge those at the conference to question how they would like it developed and organized.

"How important is this piece of equipment?" suggested Lionel Dyck of Mine Tech. "Is this going to save a deminer's life or encumber it?" Dyck stated that one way to bridge the user and developer gap is for developers to "talk to us [users] instead of at us." He directly challenged the developers and called them to task. "My company is operating in five countries. Any of you who want to come to the areas I am working in to test your equipment can come as my guest."

Dyck continued by pointing out that very few designers evaluate their machines or equipment by its ability to actually work in-country. He went

on to describe a recent scenario in Kosovo. Tests in the field in Kosovo failed. When the users told developers their machines were not any good, there were threats of lawsuits. "Dry your eyes and go home and redesign it. We are not politicians; we are deminers and if we say it is no good, it is no good. It is the designer's job to redesign it based on that." Alois Sieber responded by challenging the users to look to ITEP and DTIF as forums for verification and validation of equipment. Alistair Craib reiterated the need for full operational field testing in the country in which the machine is actually going to be used, as well as using ITEP: "ITEP strengthens demining efforts by providing independent research and distribution of equipment, scientifically-based testing and evaluation, and information on demining equipment, systems and methods. It is the best game in town at the moment."

The users brought a sense of urgency and pragmatism to the discussions. Dave McCracken of the Thailand Mine Action Center (TMAC) told the developers, "You are beating around the bush [by discussing SOP's, ITEP, Test and Evaluation]. It's just part of the commercial puzzle." Lionel Dyck reiterated the need for haste in the development and testing phase by stating, "Tomorrow morning people will be pulling mines out of the ground. There is no time left. I am not knocking the requirement for testing, but we are cynical. We would love to be part of the reality check of new equipment, but please remember the urgency as well."

George Foscananu of International Demining Consultants Canada, responded to the seriousness of the issue: "Go and do whatever you want to do—dream it up and when you are ready for me to use it, call me in, but remember the guys that are out in the field—they are not an R&D test ground! Commercial companies have a respon-

sibility. Go to the MACs, and then the user won't have to tell you anything. What do we mean by a clearinghouse? Users are looking for valuable applicable experience of R&D technology."

Common Ground

By the afternoon of the last day of the DTIF conference, discussion turned to the agreed-upon denominator. There is a need and desire by both users and developers for a technology information clearinghouse. Users can give valuable input to developers as to their needs, as well as provide instrumental information and feedback on technology that is currently out in the field—what works, what doesn't work and why. Developers can use this tool to query the users on technology they are developing, and they can start modifying it in-house before making a prototype and before it is field tested, so that its success rate increases before it is actually deployed in the field. Constructive questions were debated. Dennis Barlow of JMU/MAIC asked the users, "What components need to be in it?" Bob Stuart asked, "What do people want to be able to find on this?" Dave Partridge of the Mineseker Foundation wants to be able to find out what has been done historically with a piece of equipment. George Foscananu summoned all to keep it simple: "It will be quite an accomplishment if we can just be able to track what is currently in the field and the technology that is currently being developed globally." Bob Stuart concluded: "Let's agree to put that together. How? We will work on it."

How can we provide an interactive technology forum? What will the DTIF Website and Journal contain? Who will or can maintain it all? Where will the funding come from? These questions are the ones that are left hanging in the air like so many lightening bugs on a summer night. I believe that the issues mentioned and

debated at this conference were taken seriously by the organizers. I hope for the sake of both users and developers that these issues will not burn out, leaving the users and developers back in operational darkness. The present plan of action for concrete steps toward improving collaboration between users and developers is currently being discussed between CCMAT, UNMAS, the Geneva International Center for Humanitarian Demining (GICHD), JRC and JMU/MAIC. Meetings have been scheduled, phone calls and emails are being sent and mines are still being lifted out of the ground by one man, one mine at a time. ■

Contact information

Margaret Busé
Editor, The Journal of Mine Action
Mine Action Information Center
James Madison University
One Court Square, MSC 8504
Harrisonburg, VA 22807
Tel: 540-568-2503
E-mail: busems@jmu.edu



■ Debate continued between conference sessions. c/o MAIC



■ c/o MAIC