Conference Fee:

- free for participants from mine affected countries
- 400 € for other participants (reduction for companies smaller than 10 persons possible)
- 800 € for exhibitors
- 10 € for Students

for application mail to tanja.bludau@bam.de
and kurt.osterloh@bam.de

Registration-Deadline: November, 21, 2003

The authors are kindly requested to bring their conference presentation and the paper for the proceedings with them on a CD

The registration form can be downloadet from http://www.bam.de/aktuell/veranstaltungen/pdf/itep-regform-02-1.pdf
Updated Flyer: http://www.bam.de/aktuell/veranstaltungen/pdf/demining.pdf

Conference venue:

Bundesanstalt für Materialforschung und –prüfung (BAM), Berlin,
Unter den Eichen 87, 12205 Berlin, Germany, House 5 „Ludwig Erhard Saal“
For hotels see the list at http://www.bam.de/hotels.htm.
How to find BAM see at http://www.bam.de/english/about_bam/how_to_find_bam/headquarters.htm

The Landmine Threat

- There are more than 100 landmine and/or unexploded ordnance (UXO) affected countries in the world. Approximately 20 of these are heavily-affected, including Angola, Afghanistan, Croatia, Egypt, and Cambodia.
- More than a dozen countries produce landmines, including Cuba, Egypt, Singapore, and Vietnam; and almost 20 countries or rebel groups use landmines, including some countries that produce them.
- As estimated 45-50 million landmines infest at least 12 million sq. km of land around the world. These landmines:
  - Kill or maim a reported 10,000 people annually;
  - Create millions of refugees and internally displaced persons (IDPs);
  - Prevent hundreds of thousands of sq. km of agricultural land being used;
  - Deny thousands of km of roads for travel;
  - Create food scarcities, causing malnutrition and starvation;
  - Interrupt health care, increasing sickness and disease;
  - Inflict long-term psychological trauma on landmine survivors;
  - Hinder economic development;
  - Undermine political stability.

(from http://www.state.gov/t/pm/rls/fs/22182.htm)

The land mine clearing process must be faster and at the same time safer for the operators, reliable enough for the end user who might be farmers or even playing children. The false alarm rate needs to be decreased to make it more efficient. Science can help to overcome the mine threat faster and safer.

There exist already twenty different methods for land mine detection but only four of them are actually used in the field: the metal detector, the prodder, the dog and the mechanical clearance machines. And even for these no international valid reliability / test & evaluation standard exist yet. The pioneer document is the CEN BT 126 CWA 14747:2003 for test and evaluation of metal detectors for which final design these ITEP trials are devoted.

The workshop

… is on the one hand very specifically aimed to reveal and evaluate the results of three big ITEP field trials with metal detectors we made based on statistical rules and adapted from traditions in NDT(Performance Demonstration). On the other hand we thought our experiences and new knowledge we gained could be generalized and should be offered to the demining community. Anyway we will propose an addendum to the CEN BT 126 CWA 14747:2003 document "Test & Evaluation of Metal Detectors" which will be transferred to IMAS later on.

Also we encountered some basic problems about metal detector performance, soil influence, ground compensation human factors for which conclusion for research and practical activities would be a natural consequence. That is why we like to discuss the problems in a proper environment of responsible persons.

The workshop is composed of oral sessions where the strategies of contributing organizations will be presented and the conception and results of the trials as well as the mentioned conclusions. In addition - the most important part - will be the "hands on" break out sessions where we will present/discuss the practical procedures with all parties involved and interested in - especially the metal detector manufacturers. You are kindly asked to bring your devices/experiences/opinions to this breakout sessions and a mini exhibition. The summary of the break out sessions will serve us as a red line to formulate the addendum to the CWA 14747:2003.

The program is still open for further ideas and contributions!

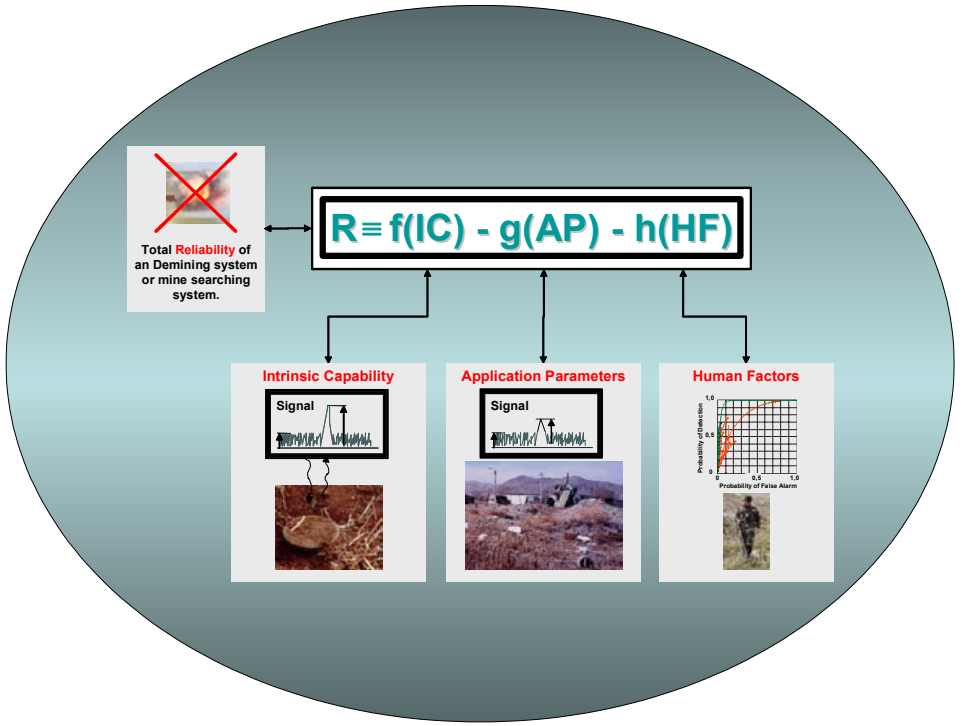
Workshop Committee
Christina Müller, BAM Berlin, Ute Böttger, DLR Berlin, Kurt Osterloh, BAM Berlin
Alois Sieber JRC Ispra, Dieter Guelle ITEP, Uwe Ewert BAM Berlin,
Vjera Krstelj, University of Zagreb
E-mail to: christina.mueller@bam.de for technical content

ITEP – Workshop

(International Test and Evaluation Program for Humanitarian Demining)

Reliability Tests for Demining

December, 16-17, 2003 at the
Federal Institute for Materials Research and Testing (BAM)
Unter den Eichen 87, 12205 Berlin, Germany



Make Demining Safer and More Efficient!

- Discussion of Results of 3 Field Trials within the ITEP Project 2.1.1.2 “Reliability Model for Test and Evaluation of Metal Detectors” in Germany and Croatia
- Conception of Performance Demonstration and Modular Reliability – Transfer from NDT to Demining
- Plan of Experiments and Statistical Evaluation of Reliability Tests for Metal Detectors
- Lessons learned from International MAC’s
- Conclusion for Research and Future Development

ITEP BAM Joint Research Centre European Commission DLR hcr

Preliminary Agenda

Tuesday, DECEMBER 16, 2003, ITEP – Trial – Strategy and Results

from 8:30 Registration
!!! Without registration you are not admitted to participate in the Workshop !!!

9:30 Opening and Welcome
Chairperson: Uwe Ewert

9:30 *Manfred Hennecke, President of BAM*
9:45 *Dieter Guelle, ITEP –Secretary*
10:05 *Manfred Merk, Ministry of Defence/ ITEP Excom*
10:20 *Discussion*

10:30 Coffee-Break

11:00 Plenary Session
Chairpersons: Christina Müller, Manfred Merk

11:00 The Worldwide Landmine Threat and the German Humanitarian Mine Action Contribution
Detlef Schröder, Federal Foreign Office, Berlin, Germany
11:30 The UN Strategy in International Mine Action
Noel Mulliner, United Nations Mine Action Service
12:00 The European Initiative CEN BT 126 for Standardization in Humanitarian Demining
Oberview about Current and Future Activities
Jan-Ole-Robertz, SWDEC, Convener of CEN BT 126
12:30 From IPPCT to CEN
The History of the CEN Workshop Agreement on Test and Evaluation of Metal Detectors
Thomas Bloodworth, JRC Ispra, European Commission

13:00 Lunch

14:00 Session: The ITEP Project
Chairpersons: Thomas Böllinghaus, Russell Gasser

14:00 Introduction: Engagement of BAM in Reliability Tests
Thomas Böllinghaus; BAM Vice-President
14:10 Overview: The Project "Modular Reliability Model for Test and Evaluation of Metal Detectors", Transfer of Reliability Assessment Knowledge from NDT; The Project-Actions
Christina Müller, BAM Berlin, Germany
14:30 Parameter Measurements of Detectors
Adam Lewis, Thomas Bloodworth JRC, Ispra, Italy
14:45 Soil Measurements
Dieter Guelle, ITEP, Adam Lewis JRC Ispra, Italy
15:00 Detailed Investigations of the Statistical Test Results and Correlation to Parameters
Mate Gaal, BAM Berlin / University of Zagreb
15:15 Statistical Design of Demining Experiments and Analysis by Logistic Regression
Peter Wilrich, FU Berlin, Germany
15:30 Lower than expected mine detector trial results? Some possible explanatory variables
Robert Keeley, Imperial College London, UK

15:45 Coffee-Break

16:00 Session: The User Point of View
Chairpersons: Robert Keeley, Alistair Craib

16:00 Lessons learned and Problems to be solved in Test & Evaluation for Mine Action in Croatia
Nikola Pavkovic, CROMAC, Croatia
16:20 Lessons learned and Problems to be solved in Test & Evaluation for Mine Action in Afghanistan
Khair M. Sharif., META, Afghanistan
16:40 Lessons learned and Problems to be solved in Test & Evaluation for Mine Action in Kosovo
Ilmars Danenbergson. UNMIK, Kosovo
17:00 Lessons learned and Problems to be solved in Test & Evaluation for Mine Action in Mozambique
Felisberto Nuvunga, IND, Mozambique
17:20 Council for Scietific & Industrial Research Pretoria, South, Africa – The knowledge from South Africa
Ezra Jele, South Africa
17:40 The position of the Donor Community
Alistair Craib, DFID EOD and Demining Advisor, UK

20:00 Social Event

Wednesday, DECEMBER 17, 2003, Conclusions and Need for Future

9:00 Breakout Sessions

9:00 Outdoor Demonstration
9:30 Breakout Session 1: Setup of Test Lanes; Mines Selection
Ivan Steker, Gerd Henche, Adam Lewis, Mate Gaal
10:00 Breakout Session 2: Soil Influence and Ground Compensation
Yoga Das, Dieter Guelle, Franciska Borry, Adam Lewis
10:30 Breakout Session 3: Human Factor
Christina Müller, Dieter Guelle, Davor Laura
11:00 Breakout Session 4: Rules for Plan of Experiments and Statistical Evaluation
Peter Wilrich, Mate Gaal, Christina Müller

11:30 Coffee-Break

12:00 Conclusions I: Practical Rules
Chairpersons: Jan-Ole Robertz, Christina Müller, Robert Keeley

12:00 Summary of the Breakout Session 1: Mate Gaal
12:10 Summary of the Breakout Session 2: Yoga Das
12:20 Summary of the Breakout Session 3: Christina Müller
12:30 Summary of the Breakout Session 4: Peter Wilrich
12:40 Scope of a proposal for an Addendum to CEN CWA 14747:2003
Jan-Ole Roberts, Christina Müller, Robert Keeley,
Discussion

13:00 Lunch

14:00 Conclusions II: Practical Activities
Chairperson: Dieter Guelle, Noel Mulliner

14:00 Manual Demining – Potential in Improvement. The new program of GICHD for Manual Demining
Tim Lardner, GICHD, Switzerland
14:20 Need for Improvement of the Human Factor
Damir Markucic, University of Zagreb, Croatia
14:40 Need for a Worldwide Accident Data Base
Andy Smith, DIDACTYLOS, UK

15:00 Coffee-Break

15:15 Conclusions III: Need for Resarch
Chairperson: Tim Lardner, Arnold Dean

15:15 Sounding the Development Potential of Data Analysis Methodology for Metal Detectors.
Gerd-Henning Klein, DLR, Projektträger des BMBF, Germany
15:35 Need for a Broad System Competence
Elmar Breitbach, DLR, Germany
15:50 Need for a Systematic Approach in Evaluation and Development Based on Physics and Real Conditions
Ute Böttger, DLR, Germany
16:10 The Need for Investigation of Reproducibility and Repeatability
Damir Markucic, University of Zagreb, Croatia
16:30 The Advantage of High Precision Testfields
Wolfgang Spyra, BTU Cottbus, Germany

16:50 Coffee-Break

17:10 Discussion of Workshop Conclusions

Thursday, DECEMBER 18, 2003, Post-Conference-Program

9:30 – 14:30 (15:00) **Visit to High Precision UXO / Mine Test Fields and Mine Museum in Neu Golm**
BTU-Cottbus/SENSYS