

EUDEM Research Survey

EUDEM2 Questionnaire1 (Industrial Companies/Equipment Manufacturers)

Interviewer: Claudio Bruschini

PART I: Relationship with military/humanitarian demining. Problem knowledge.	DATE: 07/01/2004
Organisation (name + web address) ERA Technology Ltd. Contact Person (name + e-mail): David Daniels, David.Daniels@era.co.uk	
How would you rate your level of knowledge/understanding in military demining: (1:none, 5: in depth) 4 Level of knowledge/understanding in humanitarian demining: (1:none, 5: in depth) 4 No. of years involved in HD: Military applications: 22 (since work for application in the Falklands scenario). HD: ~10. Details (type of involvement) in HD: Sensors development (detection of buried mines), esp. GPR. Recently: NQR (last 5-6 years), ElectroOptics and Metal Detection (last 3 years).	
Main sources of information on humanitarian demining: X direct contacts with deminers, (1:little, 5: mostly used) 4 (BACTEC, NPA) X field visits, (1:little, 5: mostly used) 3 X literature, (1:little, 5: mostly used), which literature source is used on a frequent basis 4 Journals: Journal of Mine Action (JMU-MAIC), SPIE Conference literature, IEEE Geoscience and Remote Sensing, GICHD publications, SSTA [ranked in order of importance] X Internet, (1:little, 5: mostly used), which site is used on a frequent basis 3 Web page(s): NGOs dealing with mine types (NPA/Angola, to be checked), MineFacts&Ordata from JMU-MAIC, EUDEM2	
Frequency of field visits: 2 1: none; 2: sporadically (once a year) 3: regularly (several times a year) [will likely move to this level in the near future] Where: indicate geographical zones or countries: Balkans and Middle East at present.	
Frequency of contacts with deminers: 3 1: none; 2: sporadically (once a year) 3: regularly (several times a year) Who (names + contact details): Guy Lucas (BACTEC).	
Knowledge of demining operations: (1:none, 5: in depth) 3 (ex. SOPs (Standard Operating Procedures)) Details: Mostly from UN procedures (GICHD publications such as "Mine Action Equipment: Study of Global Operational Needs", "Metal Detectors Catalogue") plus conversations with deminers.	
Knowledge of deminers' requirements: (1:none, 5: in depth) 4 (ex. SORs (Statements Of Requests), "wish lists") Details: From all contacts with NGOs, commercial demining operators, etc.	
Would you like to know more on humanitarian demining (yes/no/yes and already planned): YES What and at which frequency:	

ad hoc courses,
 field visits;
 weekly
 monthly updates

Knowledge of the UXO problem (Unexploded Ordnance): (1:none, 5: in depth) **2**
 UXO problem taken into account in your work: (1:no, 5: fully) **2**
 How has it been taken into account? (describe)

Activities focused on a specific country or area: **Cambodia and Southern Africa (planned).**
 (ex. Cambodia)

Equipment developed (list which ones) :
 Name product/equipment **MINETECT (combined MD+GPR)**

General description:
 GPR
 MD
 Combined multi sensor detection systems (details, which sensors):
 mechanical equipment
 remotely operated detection systems (in discussion)
 remotely operated area reduction systems
 chemical systems (e.g. Biosensor)

For which application areas:
 hand held
 vehicle based
 air borne

Aimed at
 AP
 AT
 UXO

Overlaps between equipment developed for other application domains (e.g. medical/geoscience): which ones and how?
Security and NonDestructive Testing.

PART II: Knowledge of other (R&D) activities, esp. EC.

Knowledge of ongoing EC R&D projects related to humanitarian demining: (1:none, 5: in depth) **3**
 Which ones: **General update on running R&D projects.**

Knowledge of other R&D projects related to humanitarian demining: (1:none, 5: in depth) **3**
 Details/Which ones: **Mostly European ones (e.g. Sweden, Netherlands, ...).**

Would you like to know more on current research activities
 yes
 no
 yes and already planned:

What and at which frequency:
 newsletter,
 workshop,
 conference,
 e-mail;

- weekly updates
 monthly updates

Preference for “push” or “pull” technique: **BOTH**
(ex. receiving possibly unsorted e-mail, or looking up oneself and selecting the information)

PART III: Product/System testing, characteristics and pricing.

Have you already carried out a “**proof of principle**” concerning the equipment you propose:
(yes, ongoing, no)

Details:

How has equipment **testing** already been executed:

- none;
 in the lab,
 under internal controlled conditions,
 under external controlled conditions,
 in the field

What kind of tests has been carried out? **See SPIE papers, EUDEM2-SCOT papers. See also:**

http://www.era.co.uk/docs/electronics/mine_detect_info.pdf

http://www.itep.ws/pdf/minitect_3.pdf

http://www.eudem.vub.ac.be/files/minitect_spie.pdf

The market for advanced humanitarian mine detectors P Newnham, D J Daniels** SPIE Orlando Florida 16-21 April 2001

Where have these tests been carried out? **UK, USA, Bosnia, Lebanon, Sweden (SWEDEC)**

Details: where and how was it tested, which guidelines were followed ITEP, Others?

USA: ITEP, others: own test protocol. ERA used own SOPs (based on MD SOP but reconfigured for GPR).

How is **further equipment testing** being planned:

- none;
 in the lab,
 under internal controlled conditions,
 under external controlled conditions,
 in the field

Details:

Type of product/system at which you are aiming (if several products, use different forms for each type of product):

Hand held mine detector

Have you carried out any market studies?

- yes
 no

Which ones, and if this information available? **SPIE paper**

What type(s) of product(s) are you producing + exact name of product (**ask brochure**)?

Hand held mine detector

If you have to summarize What lessons have been learned by you for HD, which you could share with others:

Willing to share information subject to constraints of commercial confidentiality

PART IV: General Comments:

Comments on the EUDEM2 initiative in general:

EUDEM2 Website needs to include all information on current project outputs and project technology readiness levels.

Questionnaire interview:

Comments on the concept of an Open, Detailed Web based Database (ex. EUDEM2):

Needs to be kept very up to date to be of value to developers

Output from EU programmes needs to be clear

All projects should be ranked in terms of technology readiness level

Comments on the way EC projects are financed, suggestions:

Current EU financing arrangements for HD are likely to result in a failure to support field implementation of new equipment.

No procurement policy...

GENERAL NOTE: All answers strictly related to sensing equipment.

Disclaimer: personal views, not necessarily representing those of the employing organization.

**Please send us a copy of your reference material together with the fully approved complete questionnaire by separate mail to the following address:*

Karin De Bruyn

EUDEM2 Survey Project

Vrije Universiteit Brussels

ETRO Dept., Fac. of Applied Sciences

Pleinlaan 2, B-1050 Brussels, BELGIUM

Fax: +322 6292883 or via mail kdebruyne@vub.ac.be