

# EUDEM Research Survey

## EUDEM2 Group Interviews: DEMAND, 17/02/2003

Interviewer: Hichem Sahli

Present members of the consortium: Giovanni Alli (IDS), Robert Medek (Schiebel), Peter Peyerl (MEODAT GmbH), Juergen Sachs (TU Ilmenau), representatives from GTD and BIOSENS.

**Background:** The basic idea is to interview the projects, this means, the complete consortium all together, about the project itself in a group interview. The group interview or the project interview if you like, is different from the individual interview, which is focused on the organization and its activities, not on the activities in this specific project only. The group interview is related to the state of the art of the project, difficulties encountered, lessons learned and future exploitation plans. The interview or group discussion would last only for +/- 45 minutes. The texts of this group-interview will be made available for approval by the consortium before it is released to any other readers; all interviews will be confidential until approval to release them is given.

### Introduction:

The project's goal is to develop an MD, GPR and biosensor demonstrator. The initial ideas on its use were as follows:

- § MD+GPR system used to pinpoint a target, with the biosensor employed for a final test (confirmation).
- § Biosensor system for area reduction tasks.

### 1. What difficulties have been encountered so far (list and explain)

Tests have been carried out in Nov. 2002 at the JRC with a combined MD and GPR system. Strong interference of the GPR on the MD, solved since then, affected the results, as well as bad weather.

*Open questions* at present (should be tested experimentally in the future):

- § False Alarm rate, and the probability of detection  $P_D$ .
- § Intrinsic resolution of the biosensor (TNT migration due to lateral spreading).

### 2. What do you consider as a key result that has been obtained so far?

- § *Integrated sensor array* (ready to acquire data in the field), including corresponding software tools.
- § *Biosensor platform*.
- § *Data fusion*: an adaptive system exists (it can learn from the data), which can also work with other sensors.  
[Data fusion has been developed up to now on simulated data.]
- § *Fully integrated GIS system*.

### 3. What other key results do you still expect?

*Testing:*

Final integration tests will take place in April and May 2003 at the JRC (GPR+MD and data fusion) to have full coverage, or in alternative at TNO. These will be followed by tests in September 2003 with the biosensor.

4. How will the key results be exploited?

5. How will your system/concept be used in HD, taking into account the current HD practises?

- § The *end user* (SRSA) has defined an *operational concept*, which has been refined during the project.
- § The project is not targeted at Unexploded Ordnance (UXO), due to the initial emphasis by the Commission on the detection of AP mines.
- § It is planned to *demonstrate the system's performances* by:
  - Tests on real mines containing TNT, with parallel tests on the GPR+MD system.
  - Overall evaluation of data fusion, which has been built to deal with uncertainties.
- § It will be clearer how the sensor will be exploited and used operationally after the testing phase (limitations, possibilities, achievable cost reduction factor).  
A vehicle based system is envisaged for clearance tasks on agricultural fields and roads.

Note: Area reduction depends also (heavily?) on the air collection speed, which in turn depends on the actual operational procedures. It has therefore been suggested (Vernon Joynt, CSIR) to concentrate on the confirmation sensors.

6. How was the collaboration amongst the partners involved?

7. What would you like to share with other consortia as global lessons learned?

8. What is the state of maturity of the equipment developed?

At this stage of development, *much more testing is required*. It is however not clear who will put forward the necessary resources (unrealistic expectation on the EC side?).

9. Other points.

*Requested information:* more transparency from other projects/players -> suggestion: EUEM2 could play lobbying role for technology developers.