FP 5 - IST Research effort for Humanitarian Demining

2001/2003 Activities

Geneva, May 9, 2001

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European Commission, DG Information Society

INFSO RTD Projects’ Focus

Focus

¤ Involve the industrial community in cost shared actions
¤ Minimize the “time to market”
¤ To integrate multi-sensor solutions, strengthened by data fusion and machine learning techniques
¤ To improve circulation and clarity of information on new developments
¤ To validate prototypes, thus pushing for a common methodological framework and supporting the definition of test procedures
Faster and Safer APL Detection

**Approach**
- Focus on the specific needs of the Stability Pact Region (SEE) and Middle-East for APL clearance
- Improve awareness + dissemination of new RTD areas

**Areas of RTD**
- Area/minefield reduction
- APL detection for clearance

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9 projects launched, ~16.5 M€ funding over 3 years

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Technical Dimension

**RTD Sensor Categories**
- Single-sensor hand-held detectors
- Multi-sensor portable detectors
- Multi-sensor vehicle-based detection systems
  - Area reduction systems (mine field detection)
  - Mine detection systems for APL clearance
Technical Dimension cont’

Support Measures Activities

- Technology watch helping: gathering, analysing and disseminating new areas of research
- Studies analysing new technologic trends & new market segments
- Network of Excellence to improve communications and exchanges amongst HD stakeholders

Cluster Meeting in September 2001

Technological Innovation

Areas covered by IST newly awarded RTD projects

<table>
<thead>
<tr>
<th>Projects</th>
<th>Multi or Single sensor</th>
<th>Types of sensor</th>
<th>Aerial platform</th>
<th>Area Reduction</th>
<th>Mine location</th>
<th>Special purpose</th>
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<tbody>
<tr>
<td>ARC</td>
<td>M</td>
<td>IR, multi-spectral</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>Underwater</td>
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<tr>
<td>BIOSENS</td>
<td>S</td>
<td>Vapor/electronic nose</td>
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<td></td>
<td>v</td>
<td></td>
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<tr>
<td>BULRUSH</td>
<td></td>
<td>Acoustic</td>
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<tr>
<td>CLEARFAST</td>
<td>M</td>
<td>GPR, IR, MD</td>
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<td>Underwater</td>
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<tr>
<td>DEMAND</td>
<td>M</td>
<td>Elect-nose, GPR, MD</td>
<td>v</td>
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<tr>
<td>DIAMINE</td>
<td>M</td>
<td>Neutron-backscatter, MD</td>
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<td>SMART</td>
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<td>Network of Excellence</td>
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* Still under negotiation
**Projects’ Description**

**Area Reduction: ARC**

**INNOVATION & TECHNOLOGY:**
- Use of unmanned lightweight helicopter drone for capture of remotely sensed data
- User interpretation of data through GIS map-base interface
- Data Fusion: multi-spectral, IR, Spatial & temporal data

**OUTCOME:**
- Increase in speed for scanning suspected areas
- Definition of an Operational procedure for Level 2 Airborne Minefield Survey
- Assistance in planning of pre- and post-demining activities

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**Projects’ Description cont’’**

**ALP Location: BULRUSH**

**INNOVATION & TECHNOLOGY:**
- Use of unmanned underwater vehicle
- Development of an array of sonar sensors to very accurately locate APLs
- Development of a near-real time data processing system

**OUTCOME:**
- Highly accurate mapping of APL location, detection and classification of APLs and other buried objects
- Development of a testing procedure for underwater demining sensors
### FP4 Projects still on-going

<table>
<thead>
<tr>
<th>Projects</th>
<th>Multi/single sensor</th>
<th>Type of sensor</th>
<th>Mine Location</th>
<th>Special purpose</th>
<th>EC Funding</th>
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<td>MD+Neutron backscatter</td>
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### Contacts

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