



Information Society Technology

FP 5 - IST Research effort for Humanitarian Demining

2001/2003 Activities

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INFISO 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**

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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

**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

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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 IIR

Cluster Meeting in September 2001

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Technological Innovation

Areas covered by IST newly awarded RTD projects

| Projects | Multi or Single sensor | Types of sensor | Aerial platform | Area Reduction | Mine location | Special purpose |
|-----------|------------------------|-------------------------|-----------------|----------------|---------------|---------------------------------------------|
| ARC | M | IR, multi-spectral | v | v | v | Underwater |
| BIOSENS | S | Vapor/electronic nose | | | v | |
| BULRUSH | S | Acoustic | | v | v | |
| CLEARFAST | M | GPR, IR, MD | | v | | |
| DEMAND | M | Elect-nose, GPR, MD | | | v | |
| DIAMINE | M | Neutron-backscatter, MD | | | v | |
| SMART | M | SAR, IR, multi-spectral | v | v | | Technology watch Connecting stakeholders |
| EUDEM II* | N/A | Accompanying Measure | | | | |
| ARIS 2* | N/A | Network of Excellence | | | | |

* Still under negotiation

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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

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FP4 Technological Innovation

FP4 Projects still on-going

| Projects | Multi/ single sensor | Type of sensor | Mine Location | Special purpose | EC Funding |
|----------|----------------------------|---------------------------|------------------|------------------------|---------------|
| LOTUS | M | GPR + MD | Yes | Vehicle based | 1.650 M |
| DEMINE | S | GPR Array | Yes | | 1.027 M |
| HOPE | M | GPR+MD+rad iowave | Yes | | 2.874 M |
| MINESEYE | M | MD+Neutron backscatter | Yes | Autonomo us vehicle | 1.703 M |

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Contacts

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