



TIRAMISU

Toolbox Implementation for Removal
of Anti-personnel Mines, Submunitions and Uxo

EXPLOITATION

Visit to Jordan

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www.fp7-tiramisu.eu



- Ensure uptake of TIRAMISU tools by HD community
- Contribute to safety impact and livelihood

→ Analysis: Factors influencing innovation uptake in humanitarian demining

Based on:

- Experience of actors with drivers and barriers for take up in humanitarian demining
- Models and theories in innovation management and technology marketing

Findings:

- Good match between experience and theory
- Four groups of factors influencing uptake

FOUR GROUPS OF FACTORS

Technology-specific
factors

Country-specific
factors

Supplier-specific
factors

Stakeholder-
specific factors

TECHNOLOGY-SPECIFIC FACTORS

Technology-specific factors

Technology maturity / TRL

Stage(s) in the demining process addressed

Type of tool (Software, Sensor, Equipment)

Proven Performance in KPA

Relative advantage over existing solution

Cost / benefit and impact

Degree of innovation

Compatibility / Customisation

Complexity / Training requirements

Robustness / Maintainability

Trialability, Observability

Development must be completed.

Most users cannot be expected to perform changes or even slight modifications.

Safety and cost effectiveness must be proven

Parameters such as equipment robustness, ease of use and operator training level have not always been considered from the start

Country-specific factors

Task

- **Mine affectedness**
- Number of fatalities
- Relevant tasks in the MA process

Organisations

- **Contact to stakeholders**

Environment

- Geographical situation
- Technological situation and available infrastructure
- Political situation
- Economic situation
- Legal/regulatory (SOP) situation
- Social situation and capacities

End users should clearly define their needs, talk about parameters and give explicit problem descriptions

Sometimes countries stick to old technologies due to socio-economic reasons

More innovative concepts might require new (national) SOP – reluctance to implement

Supplier-specific factors

Good understanding of needs and application scenarios.

Contacts to the right level in the buyer organisation's hierarchy

Financial continuity / Cost of product development from R&D / Capable of providing sufficient quantities of product

Addressable commercial market / sustainable business model

Complete value chain / provide maintenance and repair

Access and experience in the market or country / Partnering

End users should define their needs more clearly, talk about parameters and give explicit problem descriptions

There are „forgotten products“ – that were developed, worked well, but did not make it to implementation (market too small/process takes too long /SMEs did not survive)

Effectively respond to equipment failure and repair requirements. Excessive downtime will kill a program

STAKEHOLDER-SPECIFIC FACTORS

Stakeholder-specific factors

Perceived Usefulness

Perceived Ease of Use

Role in the buying center

Resources for interaction with potential suppliers available

Trust / Confidence in the technology and in the supplier

Donor involvement

Implementing innovation is a matter of time and resources for clearance teams

Projects need the participation of an experienced manufacturer right from the start

Donors, researchers and end users are not well connected in terms of knowledge about R&D needs and ongoing projects

SELECTION OF CASES (COUNTRIES/REGIONS)



BASED ON COUNTRY-SPECIFIC FACTORS

	Tasks		Organisations		Environment			
	Mine affected-ness	Types of hazard	Existing contacts	Participation in EUB	Geographical situation	Political situation	Economic situation	
					Climate	Accessibility	National funds for MA MioUS \$ (% total)	GDP/capita
Afghanistan	+++	APM, AVM, ERW, IED	yes	no	Arid to semiarid	--- / --	4 (4%)	1,399
Angola	+++	APM, AVM, ERW	yes	no	Tropical, semiarid	- / +	60 (82%)	6,105
BiH	+++	APM, AVM, ERW	yes	EUB	Moderate sea climate / Medit.	+++	14 (49%)	9,235
Cambodia	+++	APM, AVM, ERW	yes	EUB	Tropical	++	3 (7%)	2,494
Chad	+++	APM, AVM, (ERW?)	no	no	Arid north, tropical south	--- / --	3 (62%)	1,493
Croatia	+++	APM, AVM, (ERW)	yes	EUB	Continental / mediterranean	+++	46 (95%)	20,532
Iran	+++	APM, AVM	no	no	Arid or semiarid,	--- / --	? (?%)	11,395
Iraq	+++	APM; AVM, ERW, IED	yes	no	Semi-arid	-- / +	? (?%)	4,246
Thailand	+++	APM; AVM, ERW	no	no	Tropical	++	? (?%)	9,821
Turkey	+++	APM. AVM. IED	no	no	Temperate, Mediteranean	++	? (?%)	18,384
Western Sahara (lib.)	+++	APM, AVM, ERW	yes	EUB	Arid	--- / --	0 (0%)	n.a.
Algeria	++	APM, AVM, (ERW?), IED	no	no	Mediterranean, subtropical ,	+ / --	? (100%)	8,515
Jordan	+	APM, ATM, ERW	yes	EUB	Arid	++	4 (44%)	6,148
Serbia	+	(APM),(AVM), ERW	yes	EUB	Moderate sea climate /	+++	0,2 (7%)	11,544

JORDAN: TASK- TECHNOLOGY FIT?

IMPACT EXPECTATIONS?

Relevant tasks in the MA process

1. Validation
2. Training center for the Arabic speaking world
3. MRE for refugees

TIRAMISU technologies and tools

1. Metal detector array (TRL at end of project: 9)
GPR array (TRL at end of project: 6)
2. Training: 3-D tracking system for detectors, Feedback prodder, E-tutors: disposal of ERW, protective equipment, mine action management, tele-operated and semiautonomous vehicles
3. MRE: Radio serial drama (TRL at end of project: 7)



THANK YOU

ANY QUESTIONS?

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