EXPLOITATION

Visit to Jordan
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www.fp7-tiramisu.eu
EXPLOITATION

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

Analysis: Factors influencing innovation uptake in humanitarian demining
EXTRACTING THE FACTORS

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**

**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**

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

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