Demining Management Tool: DMT Mobile

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• Building on work done for IMAS 09.50, the GICHID conceived of a software tool for assisting with the management of mechanical demining operations.
• The goal was a user friendly tool that enhanced the productivity and cost-effectiveness of mechanical demining operations.
• The tool would focus on performance and downtime
• The first versions of the tool were excel based and have been used in the field since 2011.
Purpose:
• enhance operational efficiency (i.e. increase productivity and cost-effectiveness of mechanical, animal detection, and manual demining operations)

Key Considerations:
• Simple, accessible tool that requires small time commitment
• Augment, do not replace existing recording and reporting procedures

How:
• Record performance and downtime data daily
• Generate intuitive charts and graphs that show this data over time and relative to operational conditions and expected results
Achieving maximum productivity with minimum wasted effort and/or expense.

Achieve **Maximum Output** when operating and **Minimize Downtime**
The initial excel tool was focused on mechanical operations, but based on feedback from the field the software was expanded to cover mechanical, animal detection, and manual operations.

The most recent excel version of the tool also includes a machine GPS tracking module.
Why Mobile?

• Mobile devices can be extremely useful tools for demining operations.
• They offer many benefits (internet connectivity, geolocation, cameras, intuitive user interface, etc.)
• As they become more ubiquitous they will also become more accessible to the mine action community.
• **Setup (one time):**
  - Task and organizational information
  - Description/identification of project assets (machines, manual deminers, animals)

• **Inputs (daily):**
  - Environmental and weather conditions
  - Operational information (hours worked, area processed, mines/ERW found)
  - Non-operational information (downtime hours and causes)

• **Outputs (user selected time span):**
  - In depth reports that show downtime and performance versus conditions
  - Reports are viewable in tool and can be exported as pdfs
Mobile DMT Walk Through
Add a new task and enter task and organizational info or select an existing task to edit.
Add a new mechanical, animal, or manual asset or edit an existing one.
Select a task, go to data entry, then select a date and an asset to begin.
Downtime categories vary between asset types
Additional environmental properties can be recorded for animal detection assets.
There are three reports for each mechanical asset.
There are two reports for each manual assets.
There are three reports for each Animal assets
• Incorporate **photos and video** into data recording
• Include **additional reports** and support for **spot tasks**
• **Sync data with cloud** server
• Develop **web portal** as additional access point
• **Integrate with IMSMA**
• Enable **user defined daily reporting forms**
• Develop **NTS reporting module** utilizing GPS
QUESTIONS?
DMT – Potential Future Developments

- **Media**: incorporate photos and video (tasks, assets, and daily data)
- **Cloud Sync**: users can upload and access data from any device and access permissions can be set by organization
- **Web**: DMT web portal (web version of app)
- **GPS**: enable geo-location and GPS tracking
- **Spot Tasks**: support for "spot tasks" (new spot task report)
- **Individual Deminers**: support for individual deminers not just teams
- **Timeline Report**: new timeline report that shows all assets and usage over time
- **IMSMA Integration**: export data in mine action xml format
- **Mapping**: Integrate/interface with ArcGIS or other mapping tool
- **NTS App**: develop module or separate app in a similar style
- **Flexible Data Input**: allow data input customization
- **Other new developments also in the works**