TIRAMISU Information Management Tool – T-IMS

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Abstract

The Mine Action Community Needs Integrated Tools and Standards

Mines and unexploded ordnance all over the world are still taking its toll as lifelong suffering or death. It strikes blindly and effects innocent civilians.

The European Union has, by the Project TIRAMISU, taken on the task to boost clearing of the deadly legacy left in countries plagued by war. One (cost-) effective and safe solution is the TIRAMISU Information Management System (T-IMS).

T-IMS is a GIS centric stand-alone software application supporting all Field Data Collection within the scope of Humanitarian Demining, following the steps of Non-technical survey, Technical survey, Clearance operations to Quality assurance and Reporting.

T-IMS combines easy-to-use computer software with the use of standards for information storage, data exchange and increased interoperability. By following and adapting to widely accepted and used standards, for instance standards developed and maintained by the Open Geospatial Consortium (OGC) and the Geneva International Centre for Humanitarian Demining (GICHD), organizations using T-IMS have the ability to connect, integrate and exchange information and reports with other systems and tools commonly used by the Mine Action Community, such as IMSMA.

T-IMS integrates with the TIRAMISU Repository Service (TRS). This integration will be demonstrated hands-on during the conference.

T-IMS is fully operational late 2015.

T-IMS, a brief description

T-IMS is a stand-alone very user-friendly Field Data Collection tool (FDC) primary for the deminer's use out in the field. T-IMS is for use in the early stages of non-technical surveys through the phases of technical survey and mine clearance as well as the following quality assurance and reporting. Data caption with T-IMS is extremely easy. With T-IMS, hazard areas, mine fields and -lines, GPS-trackings, danger zones etc. can easily be defined and positioned in the GIS map module. Any type of attachment - such as georeferenced photos, images and documents – can be attached to any activity during a mine clearing operation. UXOs and other findings will easily be identified in T-IMS' ordnance database (CORD) with its intuitive search engine, and likewise be positioned with high accuracy in the map.

T-IMS is built for use under rough conditions as well as in extreme environments. The overall concept, design and usability have evolved by deminers with many years of use and great experience from earlier generations of like applications. It is built for use "out in the field" and its user interface is completely adapted to touch technology, meaning that it is fully usable without a touchpad or a mouse.
A clear indication of its ease-of-use is that test training indicates that after just half a day of training – or even less, a deminer in the field is fully operational with the application.

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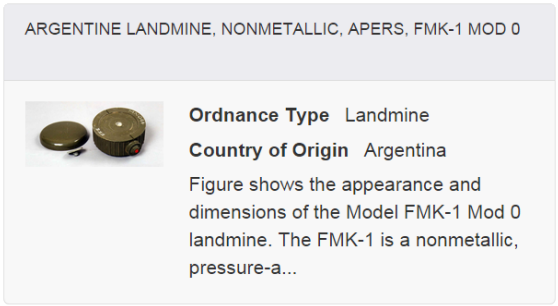
T-IMS handles…

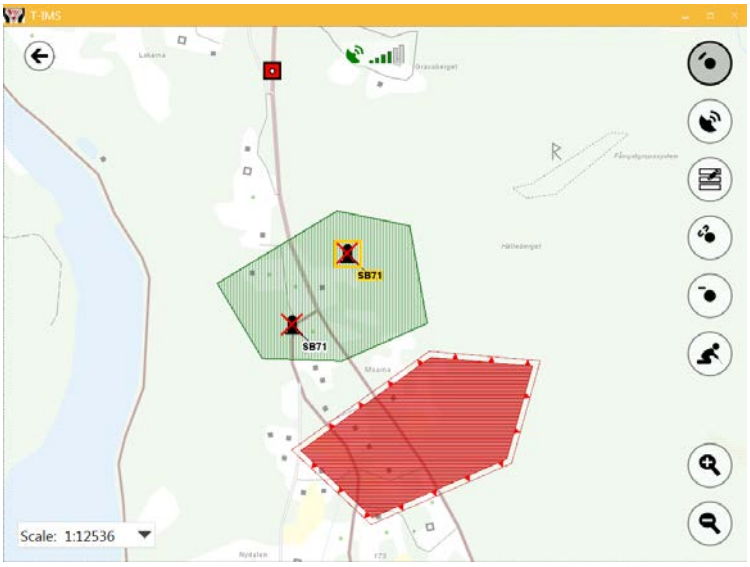
- The whole scope of Humanitarian Demining, following the steps of data collection through Non-technical survey, Technical survey, Clearance operations to Quality assurance and Reporting.
- Collaborative Ordnance Data – CORD.
  Ordnance database by James Madison University – JMU & GICHD
- Standardized interface for use of various map engines.
  Carmenta and Esri ArcGIS Runtime .NET, supported as of today
- Map Symbols for Humanitarian Demining
- maXML, for internal and external communication
  Communication and information standard by GICHD.
- Two way communication with Information Management System for Mine Action – IMSMA
  GICHD's IMSMA is currently in use in more than 80 % of all mine action programs around the world
- Reporting and communication with TRSD and using to the TCP-Box for high accuracy in positioning.
  WP526

Collaborative Ordnance Data – CORD



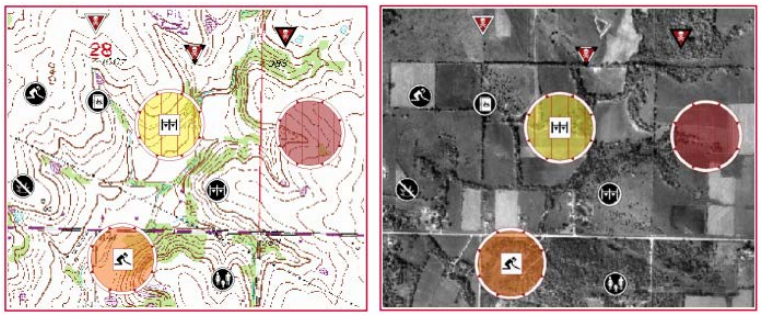
T-IMS contains off-line CORD ordnance data. This allows the deminer in the field to easily identify UXOs and other findings from the ordnance database with T-IMS built in intuitive search engine.

GIS centric



The user interface and interaction with T-IMS is very GIS centric for convenience and ease of use. When in the map view, you have access to all the information you need to know and all the actions you need to perform at that specific moment. For instance, identified (or unidentified/unknown) UXOs and other findings can easily be positioned on the map. This can be done either by "pointing them out" manually, or by letting the GPS position them at the place of your current position.
T-IMS can also communicate with the TCP-Box for higher accuracy in positioning.
In the map view you also have easy access to all the tools you need to draw and define objects, lines and areas, tools for zooming, panning, position photos, initiate a GPS tracking etc. etc.

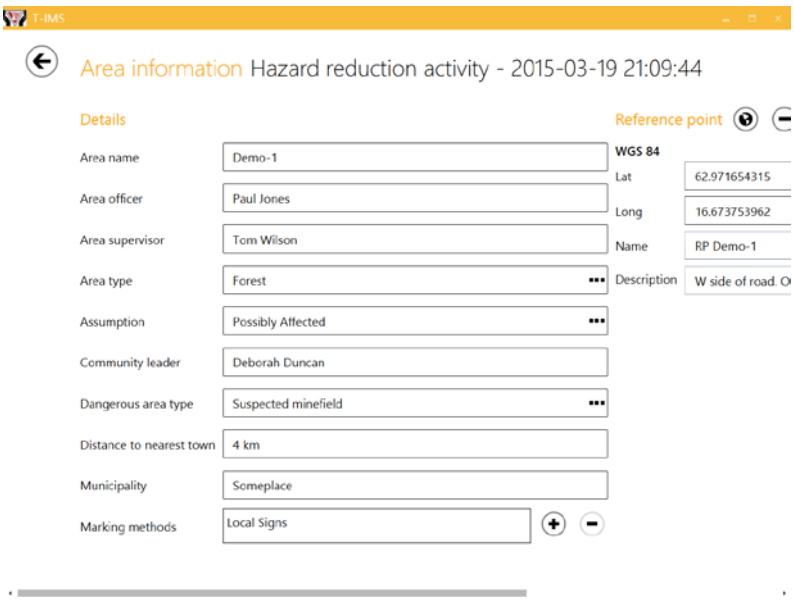
Map Symbols for Humanitarian Demining



"Maps and Geographic Information Systems (GIS) serve a valuable role in humanitarian demining for the management of geospatial information that is critical to safe and efficient operations. Symbols are necessary for representing the many categories of landmine hazards and mine action processes in graphic form on maps and in GIS. It is critical that these map symbols not be ambiguous, confusing, or otherwise unclear to demining personnel or civilians." [ref 1]

T-IMS follows *Recommendations for Humanitarian Demining Map symbols [ref 1]*, established by GICHD, and used in IMSMA [ref 2].

Mine Action XML – maXML



T-IMS uses maXML as a communication protocol, internally and externally, and for the definition of information elements as well as user input. All communication to and from T-IMS is done based on maXML. *As a result of this T-IMS also communicates with TRSD according to maXML.*

Information Management System for Mine Action – IMSMA

T-IMS is fully compliant in common parts with IMSMA. Thus this has enabled T-IMS to exchange information, both ways, with IMSMA [ref 2].

Demonstrations and more information

During the conference, outdoor presentations of T-IMS will take place as a part of the demonstration of the TRSD. During these demonstrations T-IMS will connect and upload data and reports to the "Field TRSD" and also connect to the TCP-Box for high accuracy in map positioning during data caption in the field.

Times for standalone T-IMS demonstrations will be announced during our common oral presentation with the TRSD.

More information about T-IMS is available at the TIRMISU booth.

References

1. Cartographic Recommendations for Humanitarian Demining Map Symbols in the Information Management System for Mine Action (IMSMA) http://www.gichd.org/fileadmin/GICHD-resources/rec-documents/IMSMA-Symbology-FinalReport.pdf
2. IMSMA Wiki http://mwiki.gichd.org/IM/Main_Page

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