



# TIRAMISU

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

**TIRAMISU INFORMATION MANAGEMENT TOOL  
T-IMS OPERATIONALLY VALIDATED IN CROATIA**

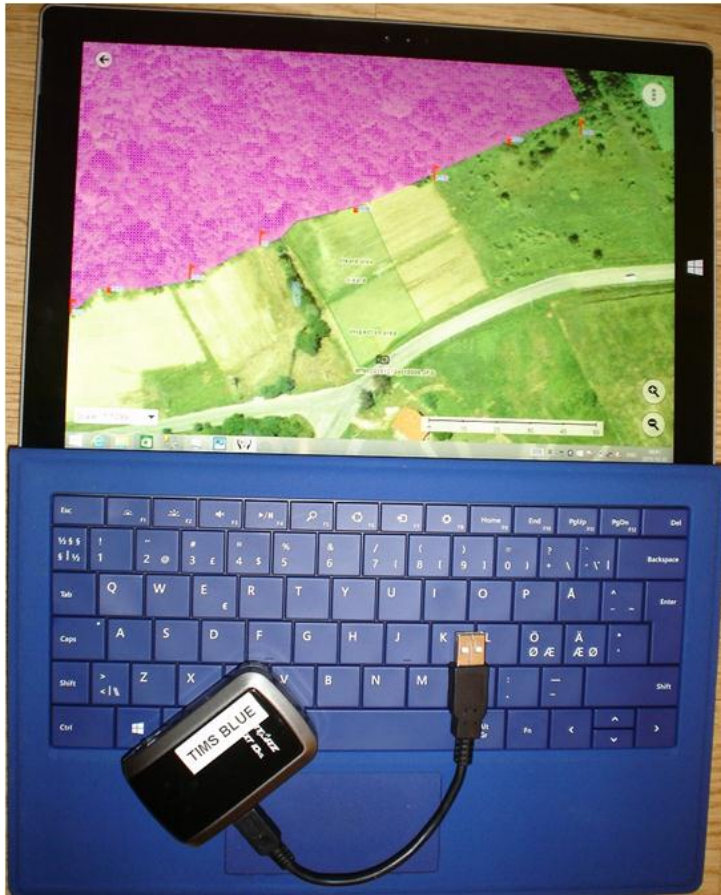
**Miljenko Vahtarić**, Croatian Mine Action Centre

The Information Management System for Mine Action: vision, strategy and implementation examples from various countries, Geneva, 18 February 2016, GICHD meeting side event



# TIRAMISU INFORMATION MANAGEMENT

## Tool T-IMS



- A user friendly and intuitive field data collection tool, built on touch technology. Can be fully operated without a keyboard or a mouse.
- Does not require an internet connection. Runs with full functionality (100%) when off-line.
- Required hardware: Windows tablet (or PC/Laptop) with true Windows 7 – 10, 64 bit, 8GB of RAM, 256 GB HDD. Internal or external GPS.

<http://www.spinator.se>

contact: [info@spinator.se](mailto:info@spinator.se)

# TIRAMISU INFORMATION MANAGEMENT

## Tool T-IMS



- Supports well documented MA and GIS standards.
- Runs with Esri or Carmenta map engine and supports all well-established map formats.
- 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.
- Any type of attachment - such as georeferenced photos, images, documents and voice recordings – can be attached to any activity



- The Operational Validation of T-IMS has been done by CROMAC team authorised for operational validation of TIRAMISU tools.
- T-IMS was tested in several months of 2015. in field survey operations by CROMAC's deminers – surveyors with very positive results.
- Between developer (SPINATOR) and CROMAC was established tight and efficient cooperation from May 2015. The feedback from surveyors and ICT expert of CROMAC resulted by SPINATOR advancements (basic hardware, software).
- CROMAC survey experts participated in validation team and they provided basis for validation procedure.

## TEAM ABOUT T-IMS

1. The T-IMS system for field data collection enables precise registering of geospatial data in the field and their storage in the Mine Information System (MIS).
2. The T-IMS tool improves the general survey processes – SHA analysis, with significantly increased finalization of activities directly through field work – without additional office work.
3. The recording of the path of the surveyors and geospatial positioning significantly improves safety of field activities.
4. Minor restrictions of the tool, which were perceived, i.e. a need for certain improvements (expand the memory for data input, improve the precision of drawing the polygons, enable the work of the tool in lower temperatures), are not critical for its direct use with existing parameters.

## T-IMS

## Activity

Active activity:  
QA activity - 2015-12-13 10:13:17



## Map

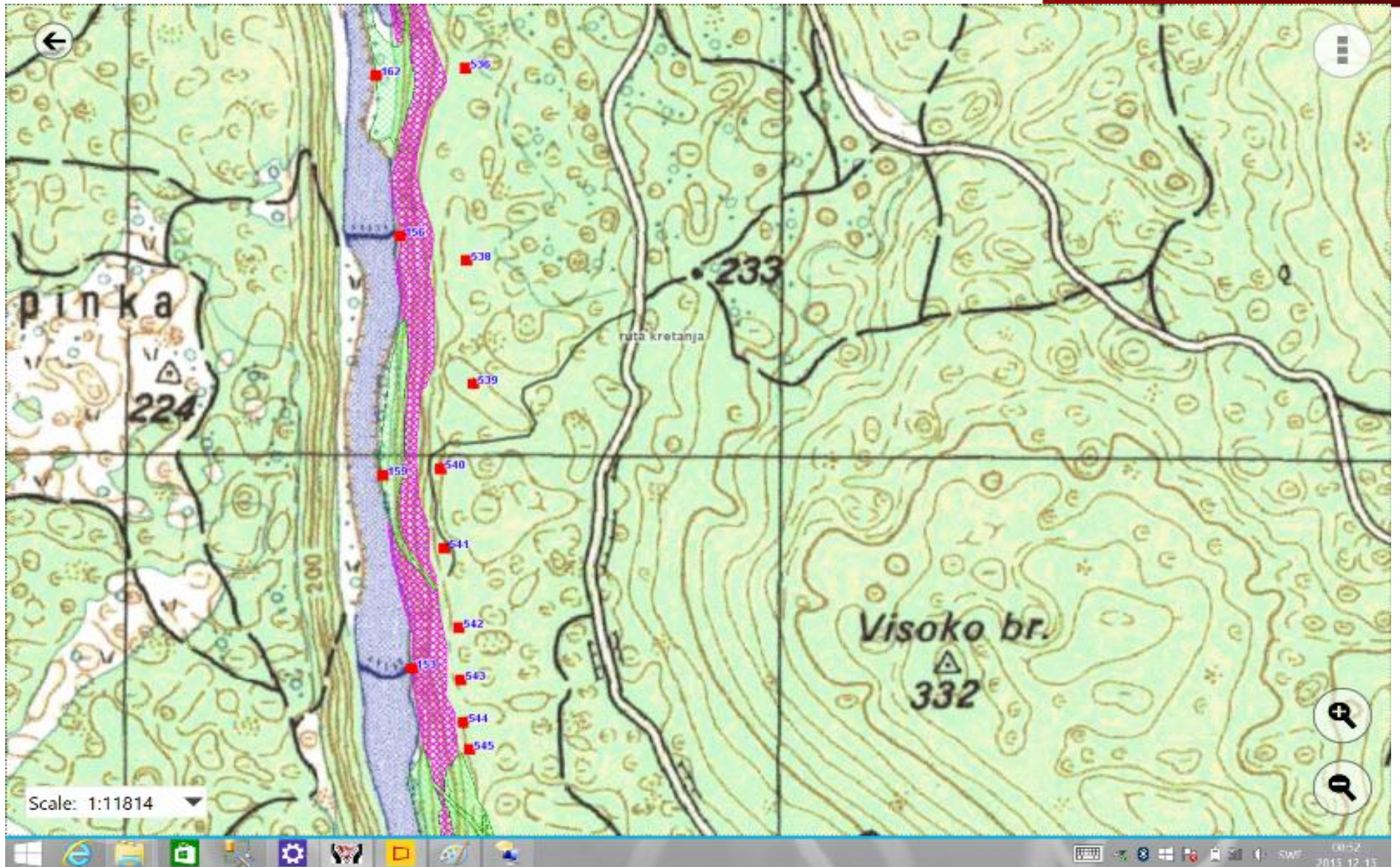
Loaded configuration:  
Croatia map HCRF



## Ordnance

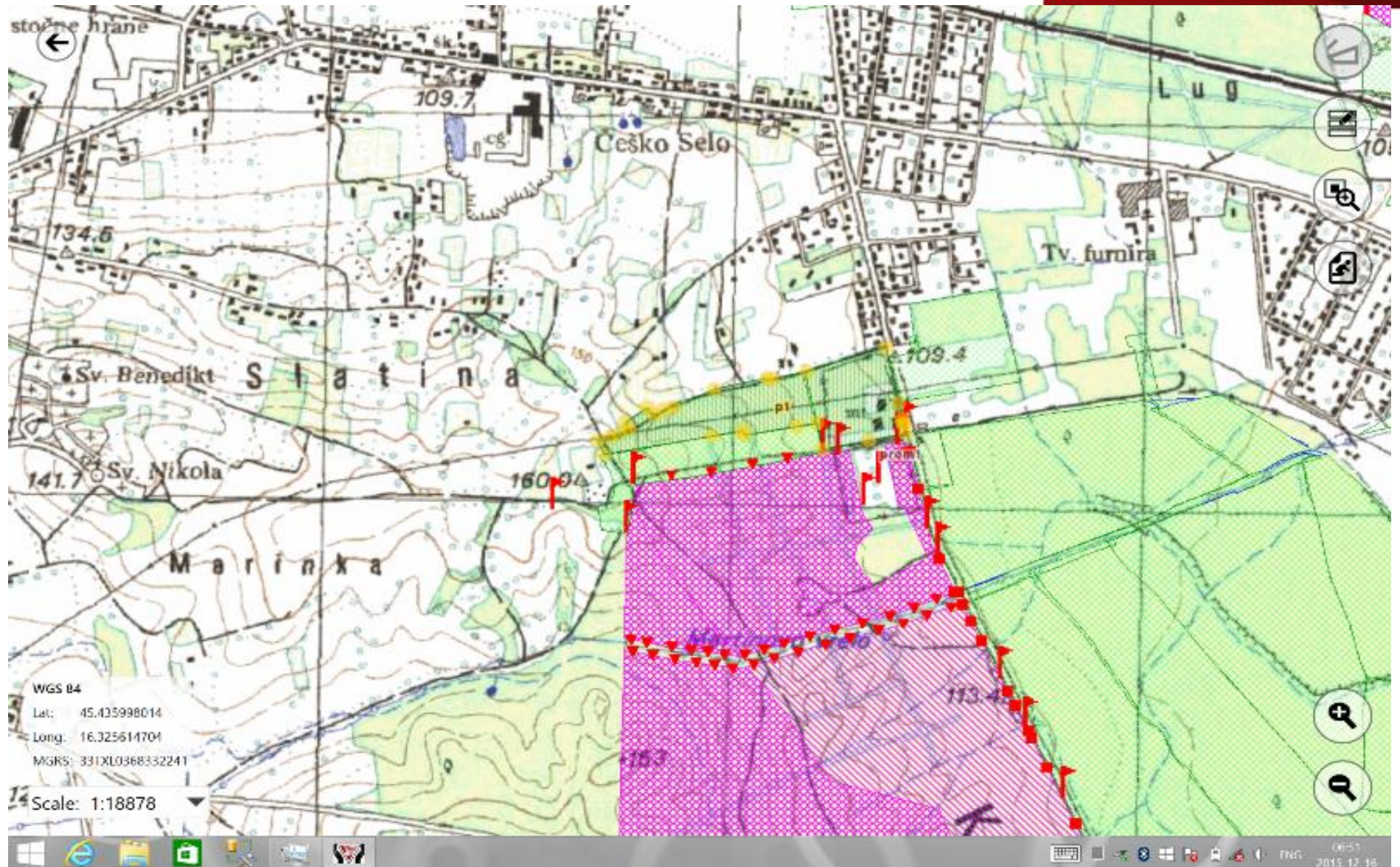
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Cord version:  
1.0

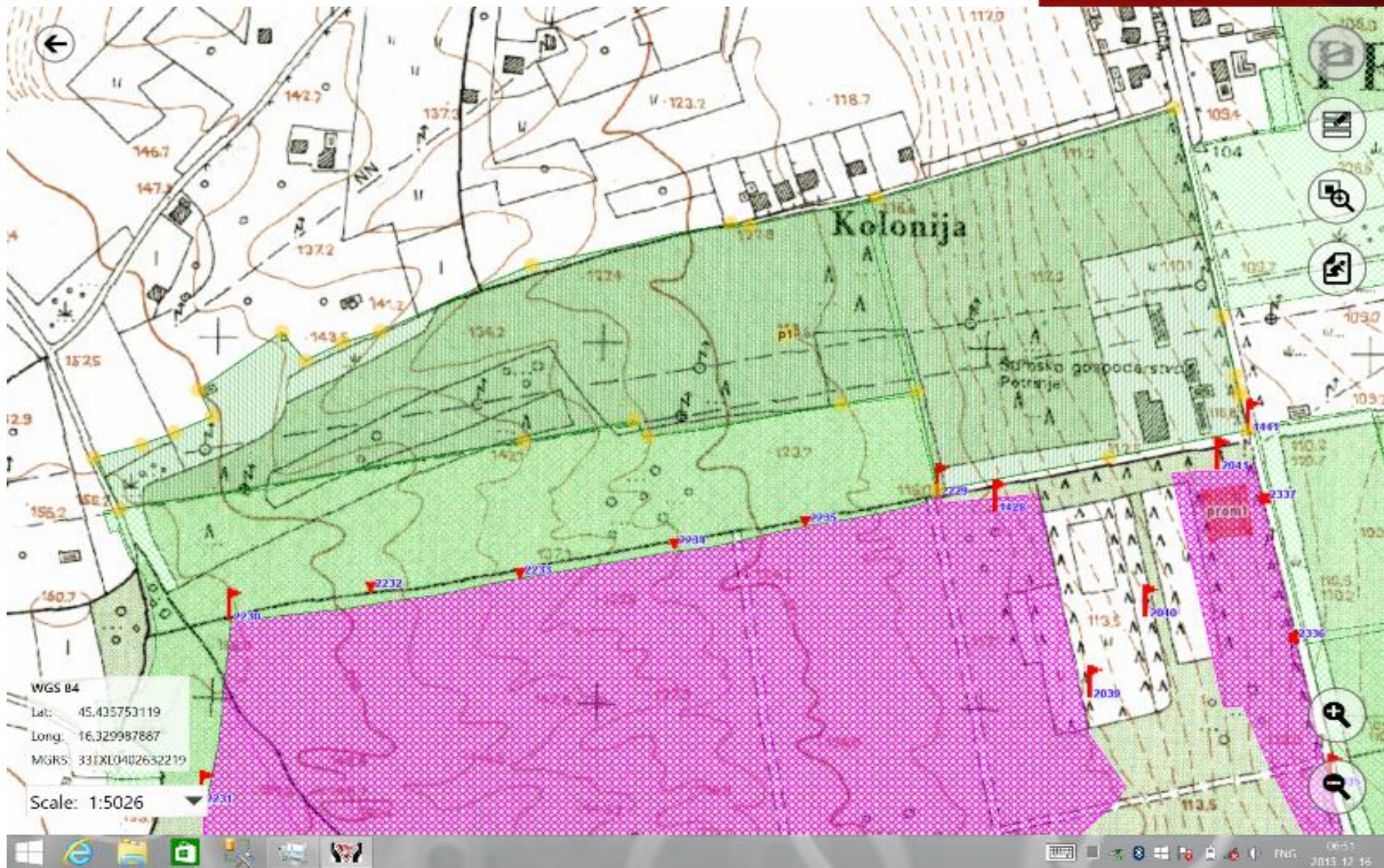


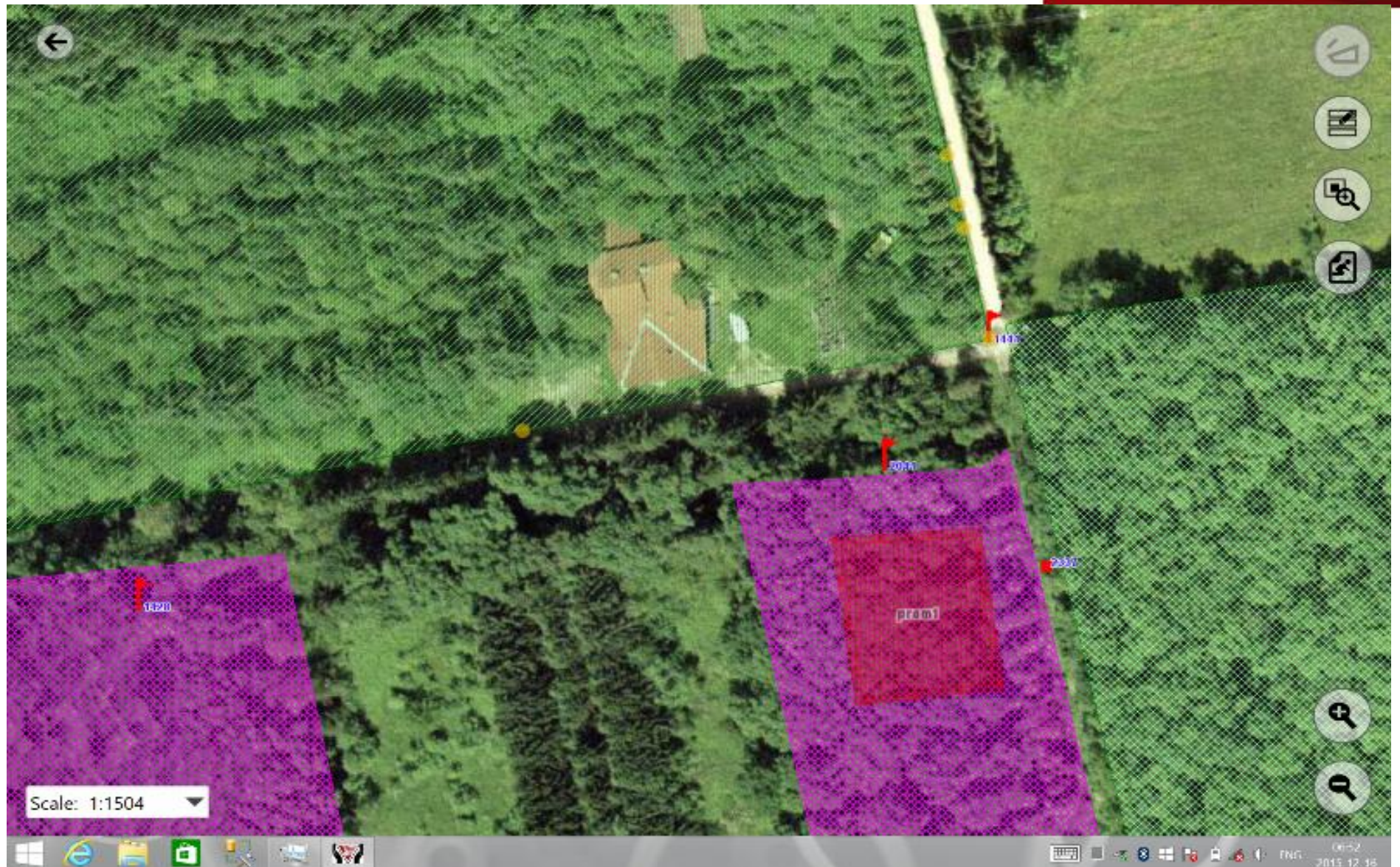




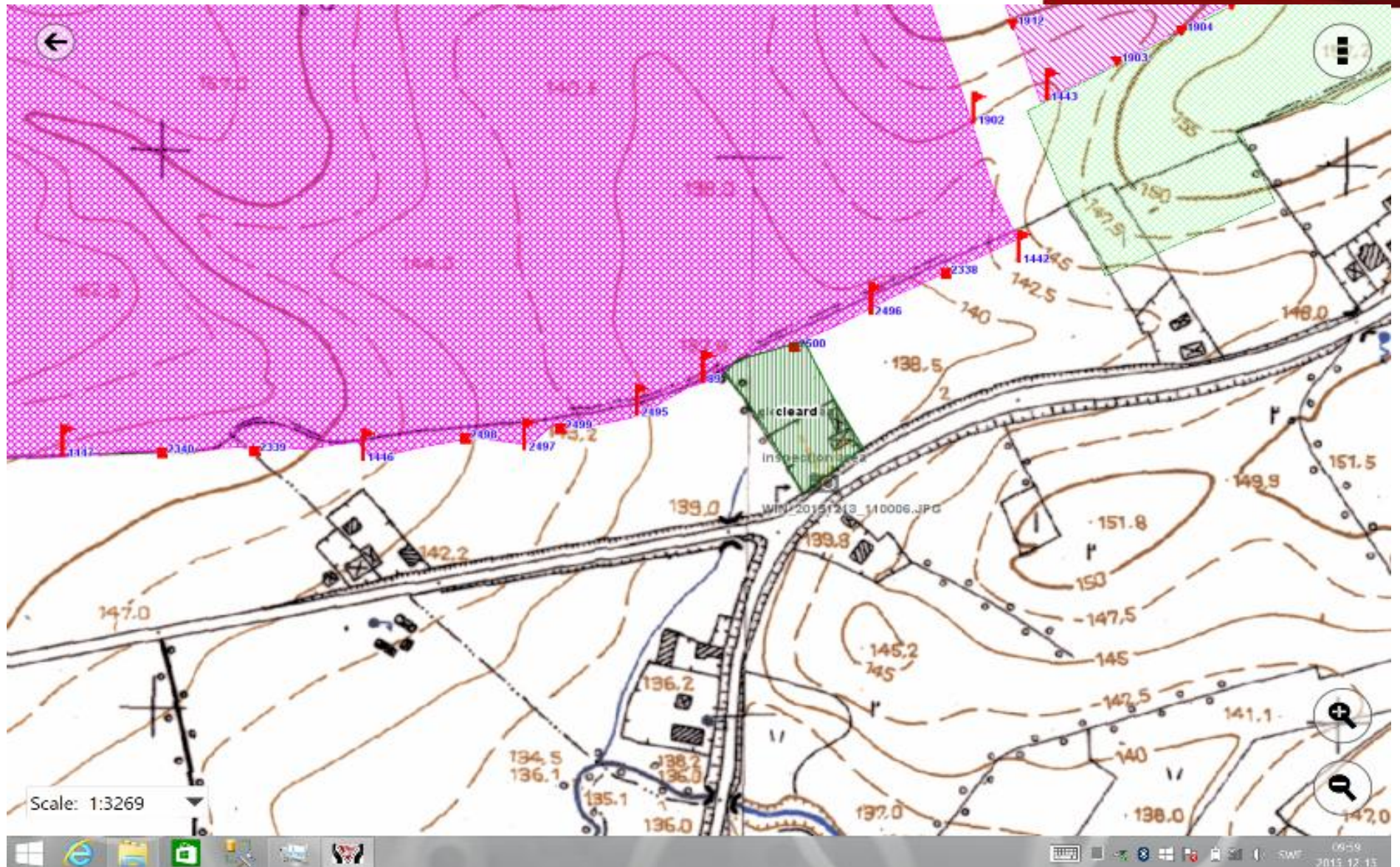
















## Ordnance search

Name

Ordnance type 

Country of origin

Countries used in

Measurements 

Width/Diameter (mm)

Height/Length (mm)

Deviation (%)

20 

### BRAZILIAN LANDMINE, AT, MODEL MIN AC AP NM AE T-AB-1



Ordnance type Landmine  
Country of origin Brazil  
Figure shows the appearance and dimensions of the Model MIN AC AP NM AE T-AB-1 landmine.

### U.S. LANDMINE, APERS, HE, M18A1 CLAYMORE & PRACTICE, M68



Ordnance type Landmine  
Country of origin United States  
The figure shows the appearance and dimensions of the M18A1 and M68 landmines and accessories. The M68 practice mine is similar to the M18A1 mine except that the inert loaded M33 mine body replaces the high explosive loaded M18A1 mine body, and the empty practice blasting cap M10 replaces the...

### VIETNAMESE LANDMINE, ANTI-PERSONEL, ANTI-MATERIAL, SHEETMETAL, TURTLE-SHAPED



Ordnance type Landmine  
Country of origin Vietnam  
This is an antimaterial, antipersonnel landmine.

### U.S.S.R. LANDMINE, APERS, MON-100



Ordnance type Landmine  
Country of origin U.S.S.R.  
The MON-100 is a cylindrical directional fragmentation mine designed by the former Soviet Union. It consists of a metallic case containing an explosive charge, steel fragments, and a metal stand. The 400 cylindrical steel fragments (10 mm x 10mm) are embedded in a plastic matrix in front of the explosive. The mine can be attached to any...

### SINGAPORE LANDMINE, AT, VS 1.6



Ordnance type Landmine  
Country of origin Singapore  
The figure shows the appearance and dimensions of the VS 1.6 landmine. When buried, the mine is non-detectable to electromagnetic detectors. It contains an anti-shock device and is waterproof to a depth of 1.00 meter (3.28 feet). The mine contains 1.85 kilograms (4.08 pounds) of an unknown explosive. It takes 150 to 220 kilograms (331...

### GERMAN LANDMINE, APERS, PMP-71



Ordnance type Landmine  
Country of origin Germany  
The PMP-71 is a large antipersonnel mine designed by the former East German Army with two nearly identical variants, the PMP 71 (PMP 71/1) and the slightly modified PMP 71/2. They both weigh approximately 1.25 kg and contain 0.1 kg of TNT. Both are plastic AP blast mines. The PMP 71/1, the first developed, was subject to trials at the frontier forces...

25 objects found

# TIRAMISU INFORMATION MANAGEMENT TOOL T-IMS FINAL CONCLUSION

1. Evaluated tool is very useful. There are several possibilities of its applications and its introduction into mine action operations is recommended.
2. Results of the operational testing during field activities and evaluation of results of T-IMS, conducted by the CROMAC team, have shown that this tool is a very important result of the TIRAMISU Project and that it will have important impact on mine action, and it was **operationally validated**.



### CROMAC team authorised for Operational Validation TIRAMISU tools

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