

Application of Remote Piloted Air Services to Humanitarian Interventions

Valeria Fabbroni, 04.02.2015

About FSD



FSD Applications of RPAS to Demining Operations

Tobruk, 2011 – stitched




Tobruk, 2011, - Details of ASA





SAFEDEM Project - Objectives

- To bring satellite technologies in the Mine Action context, where up to now they are only partially exploited
- To deliver to the Mine Action users innovative data processing techniques and effective Decision Support tools
- To offer RPAS technologies for high-resolution data acquisition



SAFEDEM aims at providing a service platform addressing the needs of the Mine Action community to improve and optimize planning and preparation, and to reduce the impact of demining activities.

SAFEDEM Project - USERS



- Mine action Operators (Humanitarian and Commercial)
- National Authorities (Mine Action Centers) and Decision Makers

SAFEDEM service platform

- SAFEDEM service platform integrates data from Earth Observation satellites with high-resolution data acquired through RPAS to offer a comprehensive set of products and services in support to land release process in mine action at its various levels.
- SAFEDEM includes the following system and service components (SSCs): SatImage, MiniUAS, Thematic-maps, Mine Action (MA)-maps and GeoPortal.



SAFEDEM Project – Activities

- Definition of requirements in coordination with the users
- System design, implementation and testing activities
- SAFEDEM services demonstration through pilot activities (Analysis of Earth Observation images, Verification of Information with RPAS ,Crosschecking with Historical Data)

SAFEDEM products

- **SatImage.** Provision for historical and updated ready-to-use satellite images. It provides a “one-stop-shop” to request for specific satellite images.
- **MiniUAS.** Mini-Unmanned Aerial Systems for acquiring high-resolution imagery over suspected environments.

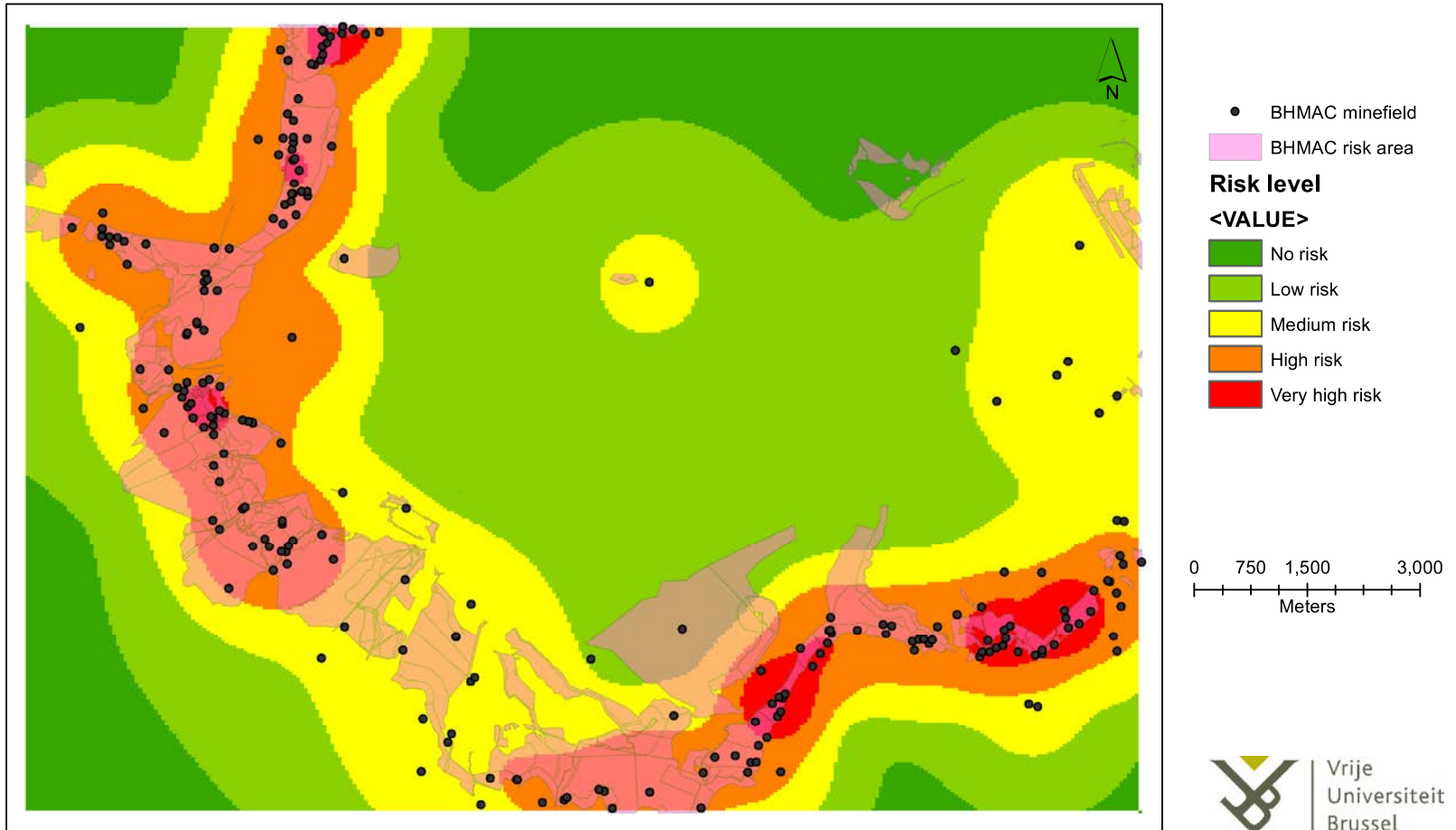
SAFEDEM products

- **Thematic maps.** Provision of general purpose background maps and land use maps for planning and decision, including land use maps, change maps (in particular pre-/post-conflict, pre-/post-clearance), disturbed terrain analysis, human activity maps.

SAFEDEM products

MA-Risk maps. A set of geo-processing and image analysis tools for the production of hazard maps supporting risk assessment at all levels of the decision-making process: Suspected Hazard Areas definition, Technical Survey, Post-land-release assessment.

SAFEDEM product – Risk Map

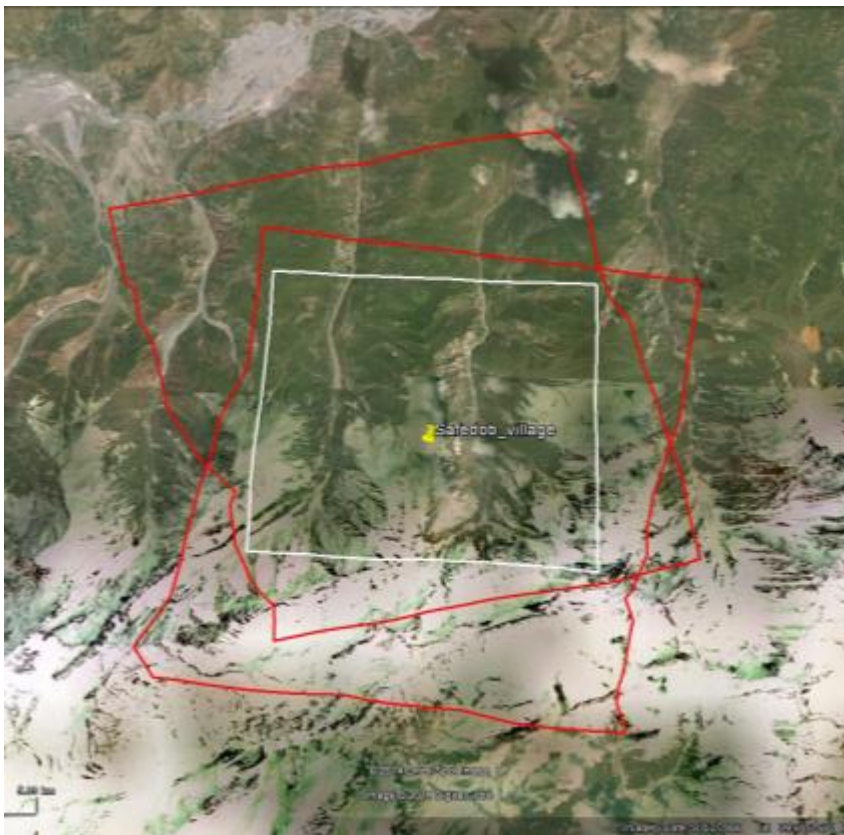


FSD Role in SAFEDEM

- Technical Support for Mine Action Specific questions
- Testing RPAS Capacity in Armenia and Tajikistan
- SAFEDEM services assessment in Armenia and Tajikistan

RPAS Capacity for different use

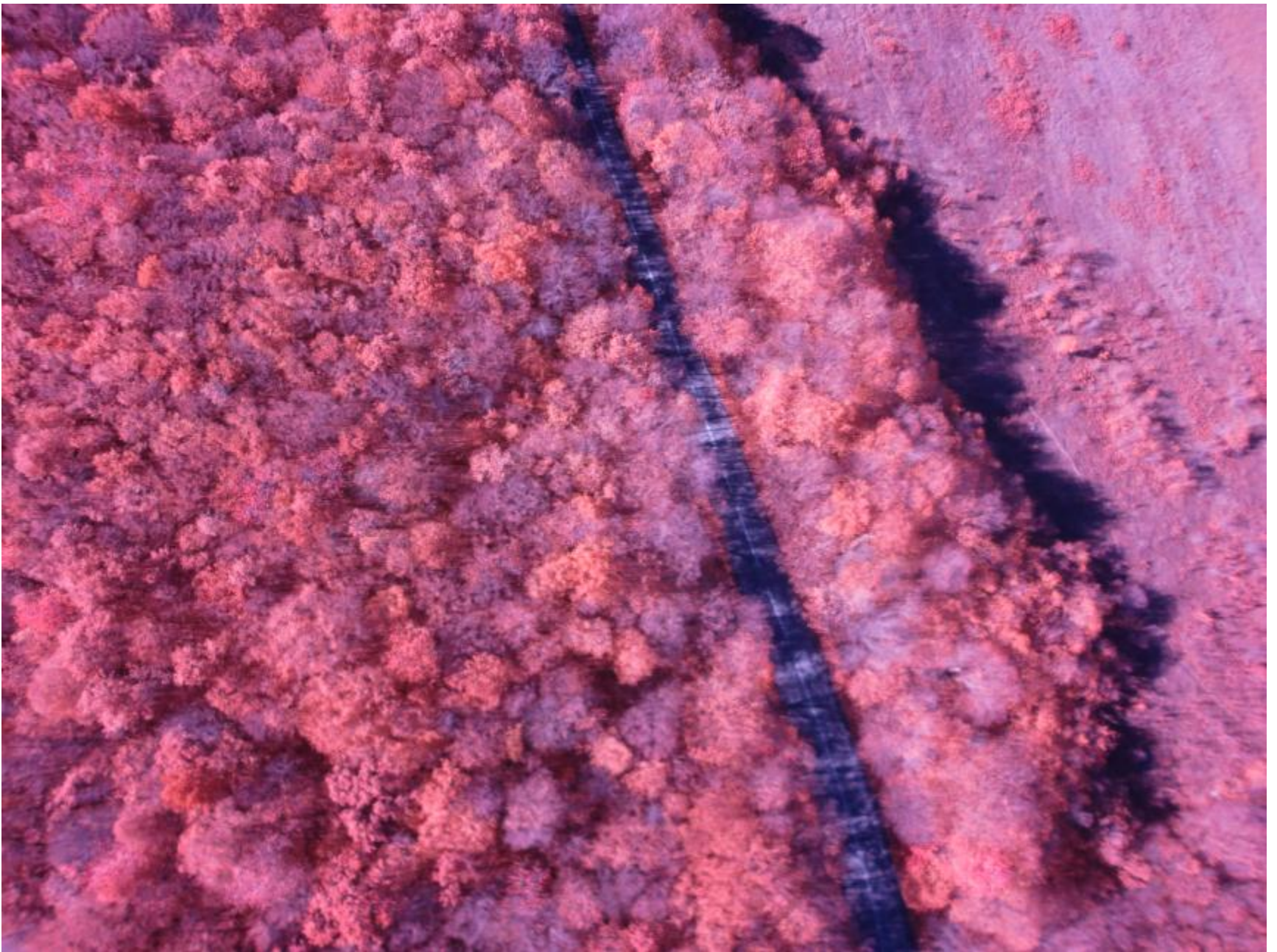
Tajikistan, Technical Survey



Armenia, Non technical Survey









Outcome of the project – Operator Prospective

- Faster and cheaper way to conduct Non Technical and Technical Survey
- Reliable tool for Planning resources and tasks
- Reliable tool for Post Clearance Assessment and Reporting