

# Experiences from an EOD and Mine Clearing Action in Cambodia

Torsten Vikström – Spinator AB

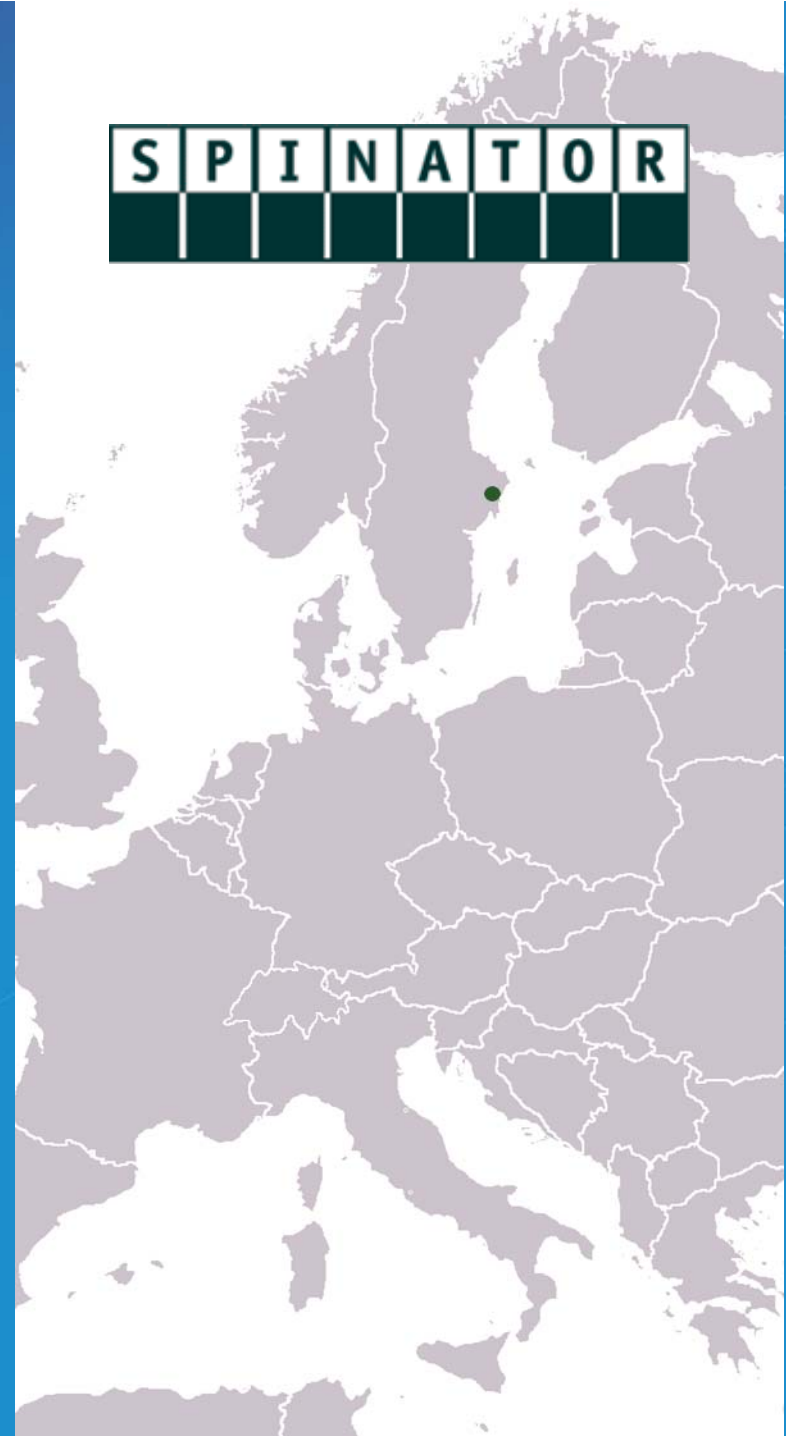
Mikael Bold – GICHD

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# Spinator AB

- Established in 1998
- Located in Stockholm, Sweden
- GIS centric software application used for military and humanitarian demining missions
- Awarded – by the Swedish Defence Materiel Administration – the contract for the development and maintenance of the 4<sup>th</sup> generation of the Swedish Armed Forces' Explosive Ordnance Disposal Information System (EOD IS 4) .  
The EOD IS 4 system is used by military forces in some 15 countries for demining missions all over the world
- Developed the TIRAMISU Information Management System (T-IMS) on behalf of the European Union. (The 7<sup>th</sup> Framework Programme). T-IMS is a GIS-centric field data collection tool for humanitarian demining missions



# Geneva International Centre for Humanitarian Demining

- Expert organisation working to reduce the impact of mines, cluster munitions and other explosive hazards, in close partnership with mine action organisations and other human security actors
- Established in 1998
- Located in Geneva, Switzerland
- More than 50 staff
- Our Vision: We strive for a world in which security and development are not hindered by explosive hazards



**GICHD**



# Torsten Vikström

C/o founder of Spinator

- **Technical Director and EOD Project Manager**
- **The Industry's project leader for the development of the 4th generation of the EOD IS-systems (2011)**
- **Project Manager for the development of TIRAMISU Information Management System (T-IMS) within the EU-project TIRAMISU (2012)**



# Mikael Bold

Advisor at GICHD since 2013

- **SWEDISH ARMY 1991-2003**
- **2003 - MINE ACTION**
- **NGO, COMMERCIAL, OIL&GAS**
- **2013 GICHD, ADVISOR MECHANICAL AND ANIMAL DETECTION SYSTEMS**
- **2016 GICHD, ADVISOR STANDARDS**



# Problem Statement

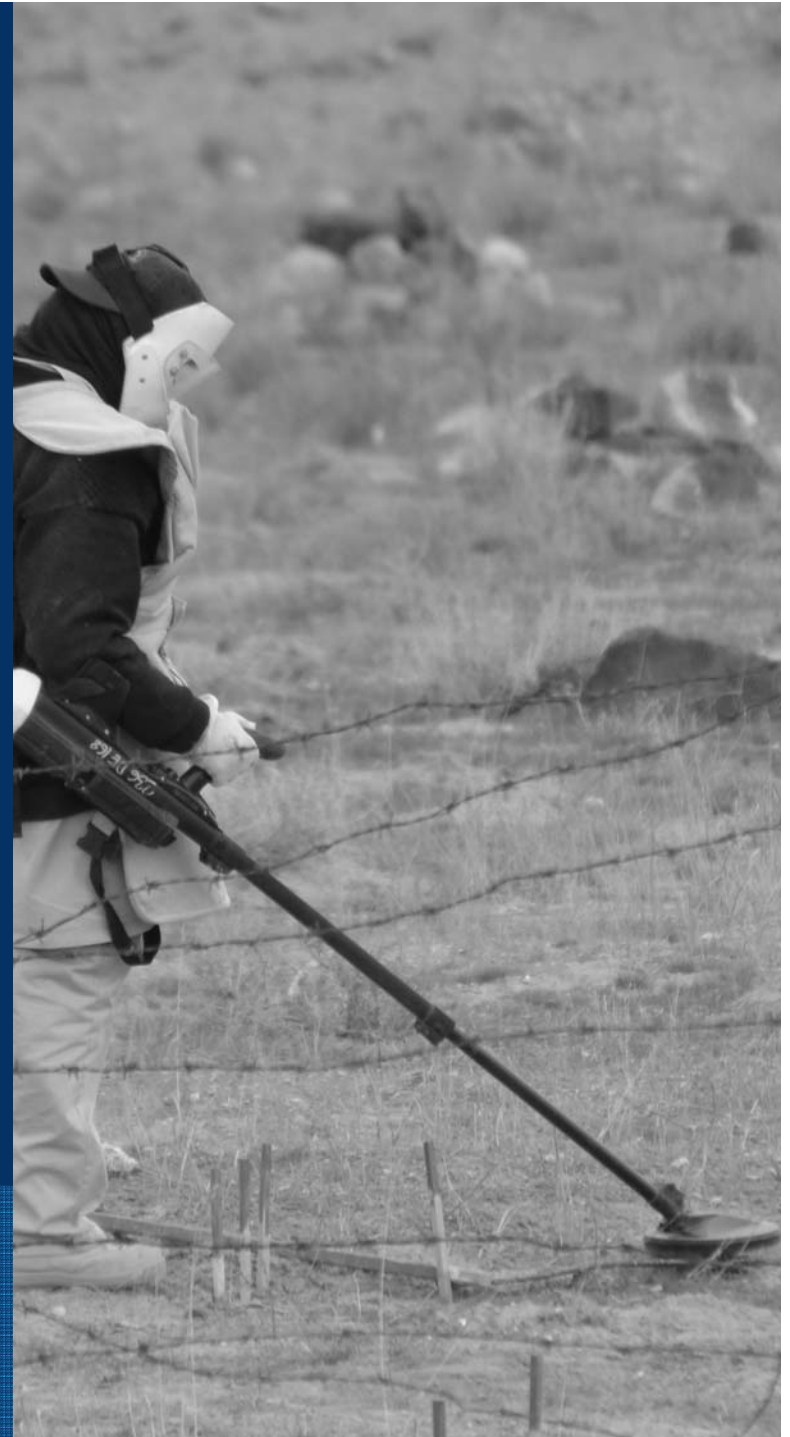
- Excessive use of clearance resources in areas that may not contain landmines and/or ERW
- Many remaining hazardous areas consist of unpredictable patterns
- High proportion of remaining hazardous areas have a lower probability of containing explosive hazards



# Global Data

- Average annual funding 450M \$US
- Average annual area “cleared” 200km<sup>2</sup>
- Average annual landmines destroyed 320'000
- 100M landmines remaining
- Depending on method more than 100 years to comply with conventions
- Accidents increased with 12% in 2014
- Production cost > \$US 3, deactivation/destruction/removal cost > \$US 2 500 per mine

\*Data from Landmine Monitor



# Solution

- Improve the information gap between survey and clearance
- GIS solutions for decision making based on evidence
- Real time IM systems for analysis and planning

**“In God we trust. All others must bring data.”**

W. Edwards Deming, statistician, professor, author, lecturer, and consultant (1900-1993 USA)





# Food For Thought

- Commercial Contract 10M \$US in 2009
- 200 Operational Days
- Mapping efforts “Google Earth” at 2’000 \$US per day in man hours
- Mapping only used for progress reports and not for analysis, decision making and planning
- Modern GIS/ IM systems deemed too “expensive” to purchase

## Clearance and further information path

