Hold Your Fire! Preventing fratricide in the dismounted soldier domain

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Presentation overview

• Background: Innovation game
• Relevance
• Current approaches
• Building on existing technology
• Demonstrator
• Interfacing
• Current / future steps
"What can AI do to help preventing fratricide?"

- It should be a *support system*
- Ground to Ground
- (dism.) Soldier to Soldier
- Build upon current technology
Relevance

- Since WWI: about 15% of casualties are fratricide.
- Practice situations: high rates of would-be fratricide.
- Night of 12 to 13 January, 2008: 2 Dutch and 2 ANA soldiers killed in the province of Uruzgan, Afghanistan in fratricide incidents.
Alpha & Charlie company, making themselves ready for the night, were 800 meters apart.

- 20.30: Alpha company mistook Charlie company personnel for enemy fighters. 1 Corporal was killed. A soldier offering first aid was killed a little later.
- 21.00: Charlie company mistook Alpha company personnel for enemy fighters: 1 soldier shot in legs, which had to be amputated.
- Shortly afterwards: Two ANA soldiers, warming themselves in cloths, were mistaken for enemy forces and killed.

The 3 incidents exemplify the 2 general causes for fratricide: position error and identification error.
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Current approaches

- Identification Friend-or-Foe: primarily air-to-air.
- BTID (Battlefield Target Identification): Only between vehicles (too heavy to carry).
- Soldier-soldier: mostly absent; a lot of procedural measures.
Building upon existing technology...

Dutch Soldier Modernization Programme (SMP):

- Soldier has a GPS sensor
- Digital uplink with Battlefield Management System (BMS)
- CIM (Communication and Information Module)

COTS products:

- Inertial Navigation Systems
Problem description

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Interfacing

High priority

Auditive feedback

Medium priority

Visual feedback

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• Currently, SMP is implemented as VOSS (Verbeterd Operationeel Soldaat Systeem – Enhanced Operational Soldier System), a 250M€ project.

• Field studies & implementation issues will likely be part of this effort.

• Research proposals have been issued to other sources of funding.
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