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Team 3: Communication Aspects in Urban and Sub-Urban Operations

TEAM 3 MEMBERS

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TEAM PROPOSAL

This research seeks to evaluate the importance of reliability and delay times in a communication network. Voice messages and data transmission in the network have to be considered distinctively. One part is the analysis of legacy sensor/effector and information systems currently used in the German Armed Forces. Due to historical developments information is transmitted non-optimally. Based on this research it is planned to envisage, specify and analyze a future sensor, communication and effector system. The system should be able to provide all information needed fast enough to maximize the soldiers' benefit.

We will perform this investigation mainly with ITSim. Here we can continue our investigations from PAIW12 in Boppard. Based on NATO NEC Scenario B we developed a test scenario called CANCEP (Communication Aspects in Network Centric Operations) with the following aspects:

NATO forces mount a peace-enforcement operation in the city of Khapital. The regular government only controls the city center and the airport. Armed gangs perpetrate organized crime. Intelligence has located one of the warlords in his stronghold. Also present are a number of his lieutenants, a substantial number of gang members as well as hostages. NATO commanders decide to move on the stronghold. Infantry forces including SOF are likely to be the main element of the assault force.

We planned to focus research on the following vignettes.

Vignette 1: Convoy through narrow streets under attack by red militia.

- The route finding is led by a helicopter pilot or by a UAV sensor grid.
- Objective: Ensure the arrival of the convoy at the secure area with minimal loss.

Vignette 2: Convoy moving between the suburban parts of the town and a blue camp outside the town near the airport.

- There are different threats to be regarded compared to the previous vignette.
- The convoy leader has to cope with changing situations in urban, sub-urban, and free terrain.

TEAM 3 EXECUTIVE SUMMARY

RESEARCH QUESTION - What effect does the communication aspect have on operations in urban terrain?

MAIN GOALS IDFW13

This research seeks to evaluate the importance of reliability and delay times in a communication network. Furthermore, the effect of jamming the Red communication for force protection is investigated. Voice messages and data transmission in the network have to be considered distinctively. One part is the analysis of legacy sensor/effector and information systems currently used in the German Armed Forces. Due to historical developments information is transmitted non-optimally. Based on this research it is planned to envisage, specify and analyze a future sensor, communication and effector system. The system should be able to provide all information needed fast enough to maximize the soldiers' benefit.

During the IDFW13 a vignette for the below described scenario was prepared to be further investigated during IDFW14.

CHOSEN SCENARIO

Based on NATO NEC Scenario B we developed a test scenario called CANCEP (Communication Aspects in Network Centric Operations) with the following aspects:

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- NATO forces mount a peace-enforcement operation in the city of Mazar-e Sharif.
- The regular government only controls the city centre and the airport.
- Armed gangs perpetrate organized crime.
- Intelligence has located one of the warlords in his stronghold.
- Also present are a number of his lieutenants, a substantial number of gang members as well as hostages.
- NATO commanders decide to move on the stronghold
- Infantry forces including SOF are likely to be the main element of the assault force.

The following vignette was developed:

- The raid of the stronghold is finished.
- A convoy with the captured warlord and freed hostages has to reach the base-camp at the airport.
- UAVs are patrolling the north-eastern part of the city.
- Blue motorized Infantry patrols the city centre.
- Red forces try to stop the convoy with mobile road-blocks.
- Some civilians sympathize with Red and provide information about the convoy.

CONCLUSION

The vignette was set up and tested within ITSimBw Version 2. Based on the finished vignette data farming experiments will be conducted during IDFW14.