

Enhancing Force Protection with C3I technology

All armed forces have a single overarching concern when engaged in armed conflict today: Force Protection. In this feature, Christian Nørkjær, former Mechanised Infantry Company Commander and now Product Manager for Battle Management Systems at Systematic, explains how C3I technologies can help commanders on the front line.



Knowledge of the exact location of your troops and any coalition troops in your area of operational interest is the key factor in Force Protection. Victory in today's conflicts is partly dependent on the ability to outmanoeuvre enemy forces by providing and receiving information on them more quickly and with more accuracy than they are able to do on you, so providing a solid basis for making the right decision at the right time – the so-called OODA loop (Observe, Orient, Decide, Act).

Today's defence operations are highly complex. Frontline commanders have to control an increasing number of technological assets which, though designed to assist them, often increase 'troop burden'. C3I (Command, Control, Communications and Intelligence) technology, however, has the potential to be an invaluable tool for the commander when it comes to Force Protection, as it should provide a clear operational view with rapid updates of friendly force tracking (FFT).

Following consultation with commanders returning from Afghanistan, it is evident that currently deployed battle management systems tend to be overly complex, loaded with functions that are rarely used and have disturbingly slow refresh rates. Therefore, while C3I technology can support commanders at the sharp end, in reality a lot of work remains to be done. The most evident needs of infantry, tank, squad and platoon commanders should be in focus: no more, no less.

Many factors need to be taken into consideration when deciding on functionality and the way the C3I system is designed, and manufacturers will always have to balance on a knife's edge when deciding on which functionality to put into the product. The last thing a commander needs is yet another complex and difficult-to-use gadget; they already have a lot of technological appliances that they need to be trained on before the mission.

Secondly, when engaged in a high-tempo operation a lot of stressful factors can interfere with their ability to act rationally. A C3I system adding frustration to decision-making will simply not be used. During the engagement, the commander will not be focused on a C3I product, will not have the time to study complex information and will seek to avoid information overload.

Commanders tell us a C3I system should hold only the functionality that benefits them and nothing else. It must focus on the absolute essentials of battle management, being simple to use, intuitive and easy to learn and providing operational meaning and value. If a C3I system supports the procedures and standards commanders are trained to operate under, and if its functionality is limited to that which fits the command management situation on the battlefield, then that system will be appreciated.

At Systematic, we are working with commanders who have experience of operations in Afghanistan to develop a new battle management system that addresses real-world C2 challenges. Through our discussions with them, it has become clear that the user interface must be easy to understand and simple to operate, even in physically cramped conditions.

Other important points raised have been that the system should be flexible enough to be used in mounted and dismounted versions (providing exactly the same interfaces and functions with no need for additional training); and that the system should support a wide variety of existing IP and non-IP radios – even within the same vehicle.

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With the knowledge that industry must be flexible enough to adapt to these kinds of operational requirements, a new system is being developed for use on touch screen devices; the interface has so far been successfully tested on screens down to eight inches. It is being designed for use in tough environments, where a clear operational view with rapid updates of friendly force tracking is absolutely essential, and is being built with deployment and management in mind.

In recent tests involving officers and NCOs from the Danish Army, one Special Operations Forces officer commented: "If we had this system in Afghanistan, our task would have been so much easier and much more secure."

Development of the new battle management system continues and we hope to launch the product at DSEi in September 2011.

Further information

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