



# online only

# UK Situation Awareness

With the Surveillance Target Acquisition aspect of FIST well underway, the UK continues to move toward enhancing dismounted Situational Awareness

***“If it's too complex, it isn't going to get used”, commented Col. Bill Pointing Dismounted Soldier Systems Team Leader at DE&S, outlining his approach to equipping British soldiers, marines and airmen, whether it be Surveillance Target Acquisition (STA), Situational Awareness (SA) or other capabilities. “Keep it simple, then the soldier has got a fighting chance of getting his head around how to use the equipment. Equally importantly, if troops haven't trained with it, they won't use the system on operations; you have to introduce equipment capabilities at the correct time in the training cycle to ensure the users are prepared to employ them on operations. So I think quantity has a quality all of its own so that we can support the Front Line training cycle - I would rather buy 25,000 things that are good enough than 50 really excellent things that we can't train on properly before deployment.”***

While the UK's approach to equipping soldiers strives to be straightforward, the challenges remain complex, no more and no less so than other analogous programmes around the world.

“The elements of the FIST programme have been occasionally misconstrued,” said Col. Pointing. “When we started off, it was going to be an all embracing programme. We had some trials in 2005 in which we learned a lot, perhaps some things that we wished we hadn't had to learn. The ‘big bang’ approach for which we tried to gain central MoD approval proved to be too difficult to manage effectively. We nonetheless knew we had a capability gap and we knew that we needed a system rather than a series of components. The bottom line is that, in a very large programme, you have to prove the effectiveness and efficacy of every single component. The technology readiness [of components can be] an issue. So my message to industry is that if you can't

deliver them to Salisbury Plain on a rainy September day then I am, with the greatest respect, not interested: if it doesn't exist, I can't buy it.”

There are some areas where the UK requirement differs significantly from some or many of its partners. One of those is its strong dismounted focus. Col. Pointing said, “We have over 20 sub-units on operations [in Afghanistan] almost all of which routinely operate dismounted: the power, the weight, the recharging of batteries and how the network works, is all driven by that.”

## Networking

“When you connect devices to the wider network, it starts to bring additional cost into the programme,” said Col. Pointing, outlining the practicalities of implementing a SA network. “We really need to understand what the information exchange requirements are and only hooking it up to the wider network when absolutely necessary because I don't have funding to do deliver full connectivity early in the programme. There needs to be a sensible debate about NEC ambitions against the benefits accrued by dismounted commanders.”

Col. Pointing prefers the term Situational Awareness (SA) to C4I, in describing the soldier's ability to understand the key issues: ‘where am I, where are my friends, where is the enemy’. He puts this view down to the C4I's association with complexity and the cost associated with connecting the soldier to the wider network. He commented, “What we want to do is connect the rifleman to his section and platoon. It is not about connecting the rifleman to the Prime Minister.”

## ELSA

The UK's dismounted SA solution in place today is ELSA a UOR designed to support troops in Afghanistan. Col. Pointing said, “[ELSA] was a good thing. However, we bumped into whole heap of problems which had nothing

to do with the kit in many ways but rather the way we attempted to deploy it.”

“Managing the cultural factors needs constant and close attention. Introducing equipment late in the operational training cycle and in contact in Helmand province only increases the challenge. User acceptance is command led: if we don't engage and enthuse the leadership at brigade and battlegroup level then we have an uphill battle enthusing soldiers who have a lot to do in pre deployment training and a great deal to carry on operations. If the Regimental Serjeant Major doesn't enthuse the Serjeants' Mess then, kit doesn't get used.”

It's not just about what a unit's leadership thinks. Col. Pointing cites the issue of ‘parasitic mass’ in the acceptance of equipment, “If you give something to rifleman and he doesn't get immediate benefit from it, he doesn't carry it. You have to be really clear about providing benefit.” Other lessons learned have arisen notably an inverse relationship between the acceptance of the systems with the number of cables required by that system which is part of the complex human factors issues associated with soldier modernisation. Other factors are less design oriented and more about training. Col. Pointing said, “[ELSA] wasn't helped by people not setting up the equipment correctly. You can't blame the user, he has a great deal to do and little time to do it in. You have to ask yourself how you handle the introduction process better.”

Aspects of the solution were noted for their success including ELSA's use of the EZPRR for secure voice communications. The issues identified in delivering ELSA will be enduring, “we have an issue about troops getting time away from operations to do the trials, and to do the experimentation to get operational usage right. Units are committed to a taut training and deployment cycle and there isn't the time to get doctrine and development done. We have got to get this right.”

### Future SA

ELSA will be replaced under the FIST programme which will have to overcome similar challenges to ELSA. There are broader issues including the difficulty of articulating the precise levels of improvements to military capability. Col. Pointing noted, "It is curiously hard to 'sell' SA because stakeholders can't pick it up and play with it."

Outlining the FIST SA challenge, Col. Pointing emphasised that the focus is right the way down at the platoon and the company level, "I am not really interested in moving 600 icons out of the company up to the battlegroup and brigade; I don't think it provides the a great deal of benefit to the dismounted commander. In parallel we are working hard to get the Information Exchange Requirements right. We have done a lot of work on the research side, to help us to understand precisely what information we are trying to move to where and what decisions the information will help us make."

"Our objective is help commanders at the platoon and company level. We therefore need to engage with and persuade some stakeholders who see connectivity to the wider network as being a goal that drives the totality of a dismounted SA system. Perhaps by having tagged FIST as being C4I we have caused some individuals to focus on Network connectivity rather than delivering appropriate information to the dismounted commander."

Moving to the relative importance of the term, "seamless connectivity" in delivering the SA capability, he added, "The question is what will you do with, why did you need seamless connectivity and what will you do with it when you have it. It costs money and every pound I spend on seamless connectivity is another rifle sight that I can't buy."

Spectrum allocation is also problem. "The electromagnetic spectrum (EMS) is congested, so there are issues about spectrum allocation and management for dismounted communications systems. I think that some people would prefer that we were somewhere else which is uncongested but then we don't get the range we need and are faced with size, weight and power issues. There will be an enduring need to balance spectrum allocation across Defence capabilities to ensure that we deliver usable communications to the dismounted soldier."

Col. Pointing sees system security as another area that will need to be 'traded' by Defence in order to deliver

an affordable and usable communications architecture to the dismounted commander. There are a number of areas, including the utilisation of military specification GPS, that will need detailed investigation and 'trading' to deliver a system that is acceptable and useful to the dismounted user. There are nonetheless some clear emerging operational incentives for SA, "We need to

get a lighter voice command capability down to the section level quickly and we need to get a developmental spiral underway for SA so that we can improve the user interface thereby achieving early User acceptance of the capability." ■



caption? © Thales