Armies need to build more trust in AI, experts say

A newly published paper suggests that to fully harness the potential of AI, militaries need to change the way they think about trust and machine-human collaboration.

In response to the UK government's 'Defence Artificial Strategy', QinetiQ and RUSI recently launched a new paper called 'Trust in AI: Rethinking Future Command'. The paper considers the broader issues when it comes to adopting AI, namely the necessary cultural and organisational changes required within UK defence to build the necessary trust in AI and benefit from what it offers.

The paper draws on an earlier report published by QinetiQ, which was concerned with trust as a vital component of military capability and as a prerequisite for military adaptability in the 2020s.

The newly published paper argues that if AI were to become an integral part of military decision-making, it is critical for commanders to have faith in the information with which they are being presented by the machine.

'If you're going to have people making decisions, which could be life or death decisions, there needs to be some element of trust associated with the collective that delivers the information to them,' Paul O'Neill, co-author of the paper and director of military science at RUSI, told *Shephard*.

To a large extent, the military decision-making process is directly linked to the way armed forces have been structured, and the way military staff are set up operations. This ultimately paves the way for conducting C2 operations.

'If you don't challenge that [structure] and don't look at how you have to adapt it to make room for more effective cooperation with artificial agents, you will both miss the potential of AI.'— QinetiQ campaign director for training and mission rehearsal Christina Balis.

QinetiQ campaign director for training and mission rehearsal Christina Balis — the other author of 'Trust in AI' — said that the focus is mainly on technology when it comes to AI, which often results in attempts to draw a correlation between understanding and trusting the technology.

It is more helpful, she said, to appreciate that no technology will be effective or trustworthy without overcoming the two largest challenges: the human element and the institutional aspect.

'If you don't challenge that [structure] and don't look at how you have to adapt it to make room for more effective cooperation with artificial agents, you will both miss the potential of AI and will potentially be led to undesirable situations where there might be too much or too little trust in AI,' Balis said.

Although there are multiple definitions as to what trust in AI means, at an enterprise level it can be looked at as a sufficient level of confidence for commanders in making a decision with input support from a computer.

Experts believe militaries will need to adapt to prepare for closer collaboration with machines. (Photo: UK MoD Crown Copyright)

In their paper, Balis and O'Neill suggest five points to determine the level of trust. These are deployment trust: the purpose for which AI is used; data trust: the data inputs being used; process trust: how the data is processed; output trust: the outputs generated by the AI; and organisational system trust: the overall ecosystem for optimising the use of AI.

Based on this system, the trust points define an overall level of trust collectively and are multiplicative: if trust in one is zero, the whole will be zero. The trust level for each can vary if the overall trust is positive.

Balis said, however, that trust is 'rarely absolute and expecting that trust will be 100% at any point is unrealistic', and we simply need to accept that.

*'We need to be growing commanders who are much more technologically- and data-aware.'— **Paul O'Neill, RUSI director of military science***

In seeking to answer how trust affects the evolving relationship between humans and AI in military decision-making, the paper identifies a number of key issues requiring further research. One of those is to investigate how to adapt military education and training to better prepare commanders for the age of AI.

While they stopped short of suggesting a complete overhaul of the military education system, the authors believe militaries will have to adapt to prepare for closer collaboration with machines.

'There is a sense that we need to be growing commanders who are much more technologically- and data-aware,' O'Neill said. 'There needs to be a much greater focus on technology and data so that

military commanders can understand the systems that they are interacting with and the data they're being asked to interpret.'

The paper also points out the importance to investigate how collective training across all domains could be optimised and transformed to improve command involving greater collaboration with artificial agents.

Failing to adapt and change how organisations access, train and grow people in leadership positions, the paper claimed, can fundamentally risk balancing the trust between humans and machines that will result in militaries missing out on the potential AI can offer.