Defense Intel Chief Worried About Chinese 'Integration of Human and Machines'



By Patrick Tucker,
Defense One

| October 11, 2018 11:44 AM ET

The future of human performance is a research race, and the U.S. shouldn't take its lead for granted, the DIA director says.

The U.S. military's top intelligence officer is increasingly worried about China's research into "human performance enhancement," including efforts to merge human and machine intelligence.

It's a "key area" of disruptive technology that will affect national security, Lt. Gen. Robert Ashley, the director of the Defense Intelligence Agency, or DIA, told an audience at the Association of the U.S. Army's annual conference this week.

Chinese efforts to teach machines to think — through emerging technologies like neural nets, a form of artificial intelligence — represent phases of a process that concludes with "the next step, the integration of human and machines," Ashley said. This, he said, could result in "cognitive advances not just in how we think, but [also] think about the stamina of the individual soldier; think about the ethical impacts of those kind of technologies and how they would be applied? And how does a democracy view those type of technologies? How will Russia and China leverage those?"

This, he said, would lead to "hard decisions" for the U.S.

The Chinese government is funding academic research into brain-computer interfaces, according to Elsa Kania, a fellow with the Technology and National Security Program at the Center for a New American Security (and occasional Defense Onecontributor). "The PLA [the Chinese military] seeks to integrate and leverage the respective advantages of human and machine intelligence in future military decision-making," she wrote in an email. "The PLA's Academy of Military Science has focused on advancing military-civil fusion (or civil-military integration, 军民融合) in brain science research, including to explore options to enhance human capabilities for battlefield perception and decision-making."

That includes everything from implants that enable human "wetware" (brains) to interact with and share digital information with hardware (computers), to gene-editing through tools like CRISPR. Such

work may one day allow China to grow superior troops, or turn regular soldiers into super ones. It's a highly controversial and largely scientifically unproven field of research, replete with risks and ethical pitfalls. But, as Kania points out: "China has been the first nation to progress towards trials of CRISPR in humans, including a recent study of embryo base editing."

She noted that China is partly chasing U.S. work in brain-computer interfaces: "The PLA has been influenced by its concerns over U.S. efforts to explore the military applications of cognitive neuroscience, and Chinese military experts appear to be concerned with keeping pace in developing such future capabilities."

Kania presented on the subject at a conference organized by the Army's Training and Doctrine Command in March.