

# Marine Jedi and Artificial Intelligence

Enabled drone forces enabling drone forces

by Capt Matthew S. Hanks

Innovation is a product of imagination, and science fiction is an excellent source of imagination because it offers an unrestricted view of possibilities. When combined with emerging technology, imagination becomes innovation. *Star Wars*, perhaps one of the most iconic science fiction series, captured the imagination of generations and has direct impacts to current technology. The U.S. Navy created a laser weapon system prototype that is reminiscent of laser turrets on the Death Star.<sup>1</sup> In Australia, Eucideon Holographics produced a hologram table like those often seen in imperial starships.<sup>2</sup> But so far, the American military has failed to capitalize on one of the major themes in *Star Wars*: the Jedi Knight.

The Jedi draw their power through the ability to wield the “force.” Yoda explains, “Through the force, things you will see. Other places. The future ... the past.”<sup>3</sup> With the force, a Jedi can sense incidents before they happen and influence the present to shape the future. Marines already possess the Jedi Knight mindset, they only lack the ability to employ the force.<sup>4</sup> Until we find a way to tap into the galaxy’s midi-chlorians, technical material solutions represent the only realistic avenue for exploration. In twenty years, drones will be prevalent across the globe, and artificial intelligence (AI) as well as semi-autonomous systems will likely be available for military use, not only for U.S. forces but for their opponents as well. These emerging technologies,

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**AI drones would provide information to Marines faster and potentially influence the situation.**  
(Photo by SSgt Donell Bryant.)

combined with the MAGTF, could transform Marines into Jedi. The Marine Corps must employ AI-enabled drone forces (AI-EDF) to harness the immutable power of the force in future warfare if they are to achieve tactical advantages on the battlefield.

Much like the force to a Jedi, the AI-EDF would enable Marines to sense possibilities before they occur and influ-

ence the present to shape the future. The AI-EDF has three core functions: gain and maintain contact, analyze information in a timely manner, and provide the ability to influence the situation. A variety of drones with collection capabilities, such as full motion video and signals intelligence, can provide the first capability to develop and maintain a tactical picture. The AI system could

provide the second function through data analysis, while determining target/no-target within milliseconds. Much like a uniformed human, the AI would automatically conduct actions within its authority based on the current rules of engagement or would present the situation to the appropriate human user for a decision outside the AI's authority.<sup>5</sup> Possible actions to influence situations would range from the low end of voice directing non-combatants to safe locations to the high-end, providing precision fires with swarming high explosive drones. In a visual sense, a combined AI-EDF looks like a series of overlapping spheres or force fields; each ranging in size and capability based on the unit it supports. For example, a battalion AI-EDF would provide capabilities such as anti-ship cruise missiles and anti-air defense with a 200km sphere, while a squad would provide capabilities such as local ground-based security and intelligence, surveillance, and reconnaissance with a 15km sphere.<sup>6</sup> The drone force associated with each unit would vary based on the capabilities required, and in turn, subordinate units would operate under the umbrella of parent unit spheres.

An AI-EDF would exploit the advantages of the Navy's composite warfare commander construct. Marine AI-EDF units would operate under the expeditionary warfare commander within a littoral combat group and act as part of an integrated naval network of sea-based and land-based sensors, shooters, and sustainers. Furthermore, AI-EDF would allow Marine units to operate in a dispersed and often disaggregated manner as the persistent inside force for ex-

peditionary advanced based operations (EABO). Marine AI-EDF units would provide the joint force maritime component commander with strong screening and scouting capabilities that develop and maintain a tactical picture for the fleet. This increased force protection would allow high value strike units such as carrier strike groups and amphibious ready groups to maneuver in the littorals under contested conditions with acceptable risk to the force. The AIs across all units would be in continuous communications, and would instantly coordinate fires based on the capabilities required. Moreover, logistical units will be linked into the AI-EDF network with specially outfitted unmanned vehicles (air, land, and sea variants) to sustain the dispersed AI-EDF units. The high number of drones in AI-EDF units would provide increased camouflage through ambiguity, while scattering signatures over a dispersed area would make it difficult for the enemy to pinpoint critical nodes through electronic means.

Innovative technology is a principle foundation for western warfare.<sup>7</sup> However, in the Information Age technology develops so quickly that it is often irrelevant before fully produced. It is paramount to understand that the advantage goes not to the actor who possesses new technology first, but rather the advantage goes to the actor who *exploits* the technology through effective employment and *adapts* within the conflict. The two emerging technologies of drones and AI will undoubtedly have a place in the future of the MAGTF. The question of "how" is entirely limited to imagination. For the Navy and

Marine Corps, an AI-EDF is critical for the effective execution of concepts such as littoral operations in contested environments and expeditionary advanced based operations. The science fiction of Marine Jedis wielding the force through AI-EDF technologies fails to become the future only if the unimaginative stick to what they know to *be fact* rather than what can *become fact*.

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Notes

1. Information is available at <https://www.boozallen.com>.

2. Information is available at <https://www.euclideanholographics.com>.

3. George Lucas, *Star Wars: Episode V—The Empire Strikes Back*, directed by Irvin Kershner (United States: Lucasfilm, 1980).

4. For the context of this argument, the "force" is defined as the ability to know about something before it happens, combined with the ability to influence the present to shape the future.

5. A "man in the loop" or "man on the loop" may be a legal and/or ethical requirement in the employment of artificial intelligence and other intelligent robotic systems.

6. Distances are arbitrary and only used to make the point of a significant difference between unit sizes.

7. Geoffrey Parker, *The Cambridge Illustrated History of Warfare: The Triumph of the West* (Cambridge, UK: Cambridge University Press, 1995).

