Making Ender

Forging the future Marine leader in the Information Age

by Capt Blake Goodin & Maj Mackenzie Gage

>Capt Goodin is currently commanding 2d Information Maneuver Company, II MEF Information Group. He has previously deployed in support of operations in Europe, the Middle East, and the Eastern Mediterranean.

>>Maj Gage is currently assigned to III MEF G39 focused on Operations in the Information Environment throughout the first island chain. He has previously deployed in support of Operation Enduring Freedom and to the Philippines. He has supported operations across multiple combatant commands.

In an era of rapidly evolving opportunities and threats—from cyberattacks to disinformation campaigns—the Marine Corps faces an urgent challenge: cultivating leaders capable of the radical thinking necessary to integrate the full spectrum of technical and operational capabilities to gain advantage over adversaries in conventional and unconventional ways.[1] The traditional combined arms dilemma has changed radically beyond the fire-team level.[2] This challenge requires more than just equipping Marines with new tools; it demands a fundamental shift in leadership and thinking—one that can adapt to a multi-domain battlefield where information, and the conduits by which it flows, are essential ingredients to success or failure.

To meet these evolving demands, the Marine Corps must develop leaders with a *maneuver and operations focus* who can seamlessly blend the strengths of the information warfighting function with other warfighting functions. *Making Ender* is a concept designed to produce this new breed of leader—one who can integrate the expertise of the information and intelligence communities, using a combination of advanced training, joint certifications, and a professional network of relationships to create decisive advantages across the modern battle space. *Making Ender* is the missing essential element to resolve challenges to multi-domain and all-domain command and control.[3]

Envisioning Ender

At its core, *Making Ender* is about developing a Marine officer who possesses technical proficiency, analytical insight, radical thinking, and multi-domain integration skills necessary to dominate the future battlefield. It is not merely a training program—it is a leadership transformation that enables a Marine to operate across the full spectrum of warfare. Essential to this is the Joint Force and authorities' understanding and access.[4] This leader is someone who can fuse Marine Corps, Navy, theater, and coalition assets to create opportunities and generate advantages that support decisive outcomes in crisis and competition.[5]

***... the Marine Corps must develop leaders with a* maneuver and operations focus ...**

Essential to *Making Ender* is an understanding of joint and coalition authorities. Under USC 10 Title 10 and USC 50 Title 50, Marines are armed with what is necessary to operate forward. The essential key is understanding who in the chain of command may grant *permission* to act. This will be addressed in a later *Making Ender* article.

Leaders trained under *Making Ender* will have a background rooted in the principles laid out in *MCWP 8-10, Information in Marine Corps Operations*. They will understand the fundamental importance of information maneuver,[6] the ability to control, manipulate, and exploit information to contribute to a decisive advantage.[7] But *Making Ender* goes further by combining that understanding with advanced joint military training—specifically, training in joint targeting,[8] network analysis,[9] deception,[10] and Maritime Intelligence Surveillance and Reconnaissance (MISR) Weapons and Tactics Instructor (WTI) certifications.[11]

The goal is to produce leaders who can rapidly assess, understand, and exploit the battlefield using the full range of available assets. They will be

"Information maneuver is the ability to control, manipulate, and exploit information in ways that disrupt an adversary's decision-making cycle, decouple their perception of reality, and outmaneuver them before they can respond."

capable of leading specialized units and integrating information, intelligence, and fires capabilities across a wide range of platforms—whether cyber, space, unmanned, maritime, or airborne. In doing so, these leaders will enable opportunities in the multi-domain battlespace that allow forces to withdraw, reconstitute, or attack objectives with decisive effect. This will manifest in concepts of operation that combine all warfighting functions.

The Importance of Information Maneuver

The modern battlefield is as much digital as it is physical, and in this environment, information maneuver is crucial.[12] Information maneuver is the ability to control, manipulate, and exploit information in ways that disrupt an adversary's decision-making cycle, decouple their perception of reality, and outmaneuver them before they can respond.

For Marine leaders, the ability to integrate information maneuver with conventional and special warfare capabilities is a paradigm shift. By controlling and shaping the information environment, these leaders can create multi-domain advantages that open pathways for Marine, Navy, and allied forces to achieve objectives, otherwise held at risk. This might look like disrupting an adversary's communications with a cyberspace attack while simultaneously employing ISR and electronic warfare capabilities to blind them to the true threat—ultimately allowing a kinetic strike from an F-35 or guided-missile destroyer to achieve decisive effect.[13] Achieving this requires a detailed understanding of authorities and capabilities across the Joint Force not currently resident in the FMF.[14]

Another key element of successful information maneuver is seizing the initiative for the prevailing narrative. As outlined in *MCWP 8-10, Information in Marine Corps Operations*, the projection of information and the narrative it supports is critical to influencing both the adversary's perception and the support of domestic and international audiences. In today's interconnected world, narrative control is not just about shaping what others believe to be true; it is about ensuring that adversaries are led into making mistakes based on flawed perceptions of the situation, and inversely ensuring we do not do the same.[15] The projection of information can deceive, mislead, and confuse the enemy, distorting their understanding of friendly intentions, capabilities, and movements.[16] A *Making Ender* leader will be adept at maintaining this narrative through coordinated information operations, ensuring that the adversary never fully grasps the true nature of the threat while simultaneously controlling the "key terrain" established by our narrative with domestic and international audiences.[17]

At the heart of *Making Ender* is the ability to integrate multi-domain capabilities across the spectrum of warfare. The modern battlefield demands more than just knowing how to use these capabilities; it requires the leadership to coordinate and synchronize them in real-time, in complex and rapidly evolving environments. A *Making Ender* leader must be able to operate at this level, using a combination of advanced tools and tactics to manipulate the battlefield's physical and cognitive elements. The integration of 1702-Cyberspace

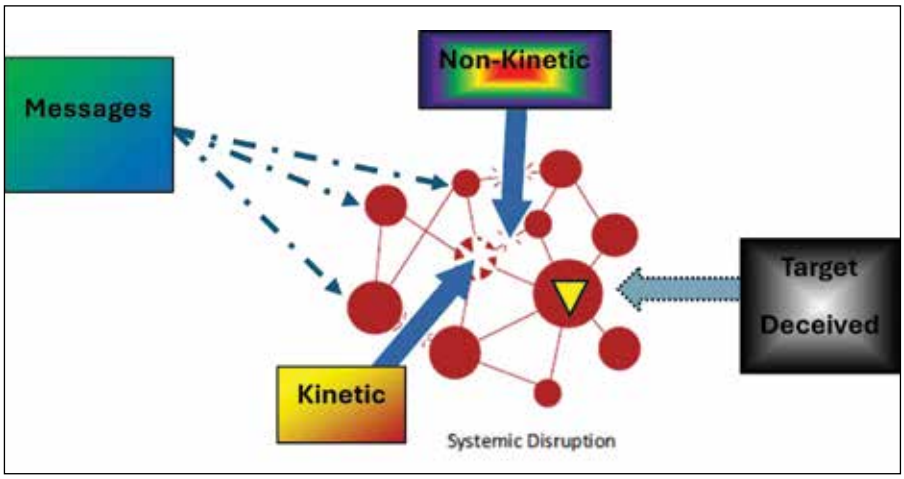

Figure 1. Based on Marinus, "On Defeat Mechanisms Manuverist Paper No. 10,"* Marine Corps Gazette *105, No. 7 (2021).* *(Figure provided by author.)

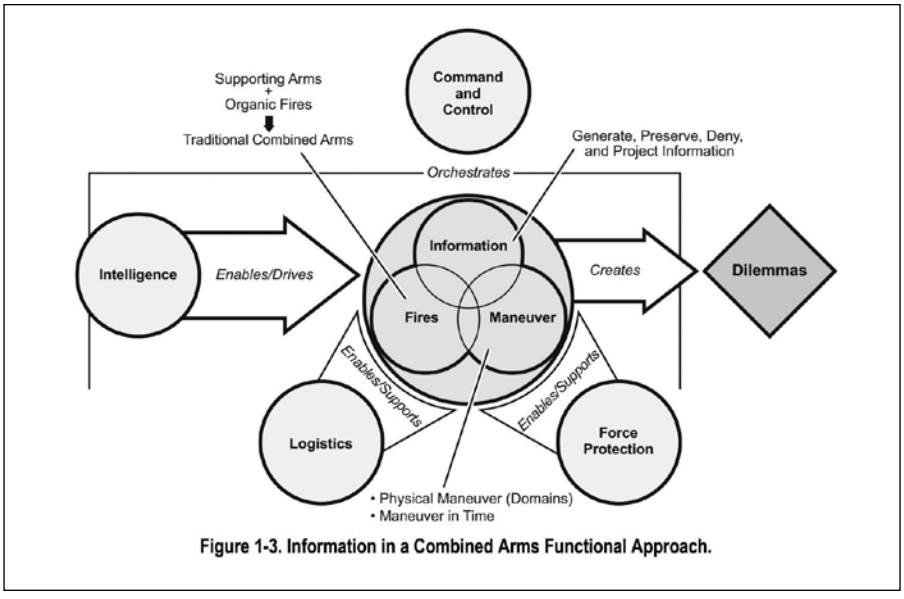

Figure 2. Demonstrating what generating a combined arms approach looks like in a multidomain battlefield.* *(Figure provided by author.)

Warfare Officers, 1706-Maritime Space Officers, and 1707-Influence Officers within the Marine Corps now makes this possible. These officers represent the kinds of specialized expertise that must be woven together in the *Making Ender* program, enabling leaders to synchronize capabilities across the spectrum of information operations, intelligence gathering, and kinetic force applications, ultimately enabling maneuver to an objective, preserved forces and logistics, and assured command and control.

The *Making Ender* leader will have completed rigorous training in joint targeting, joint military deception, and the MISR WTI courses. These advanced certifications will provide the Marine with the tools to design and execute multi-domain operations during cooperation, competition, crisis, and conflict. From large-scale conflict to non-combatant operations to civil-military operations, direct action raids, and special reconnaissance, *Making Ender* leaders will be prepared to execute the required information operational preparation of the environment necessary to set conditions to rapidly gain advantage. The training and experience gained in these courses allow these leaders to make rapid decisions on how to synchronize these capabilities, disrupting the adversary's decision-making process and creating decisive outcomes.

By blending these advanced capabilities with tactical ingenuity, leaders will be prepared to create operational conditions that disrupt the adversary's planning, confuse their perceptions of the battlefield, and set up decisive operations that seize and retain the initiative.

The Role of UAS in Information Maneuver[18]

Unmanned aerial systems (UAS) play a vital role in modern information maneuver. These systems provide realtime intelligence, surveillance, and reconnaissance (ISR), giving commanders the situational awareness needed to make informed decisions. However, UAS assets also serve as powerful tools for applying both cognitive and kinetic effects.

For example, UAS can be employed to conduct surveillance and gather critical targeting data, but they can also serve as decoys—drawing the enemy's attention away from true threats or feeding them false information. This form of misdirection, when combined with joint deception and cyber operations, can disorient and mislead the enemy, creating opportunities for other assets to strike. A *Making Ender* leader will understand how to integrate UAS as part of a broader strategy that influences the enemy's perception of the battlefield.[19]

A* Making Ender *leader will understand how to integrate UAS ...

Incorporating UAS into a larger multi-domain operation will create a feedback loop that allows leaders to continually assess the impact of their actions and adjust accordingly. Unmanned aerial system assets will not simply be eyes in the sky; rather, they will be dynamic elements of an integrated information warfare strategy that shapes the enemy's perception and disrupts their ability to respond effectively.

Building the Next Generation of Leaders

The *Making Ender* program requires a comprehensive approach to leadership development—one that combines advanced technical expertise with joint, operational-level education and extensive practical experience.[20] To prepare Marines for the complex, multi-domain battlefields of the future, the program must include the following core elements:

1. Advanced Technical Training: Marines must be proficient in a broad range of systems and capabilities. Beyond basic tool proficiency, this training must focus on the integration of ISR, cyber warfare, space operations, and information operations. These leaders must understand how to leverage these capabilities and think radically about how they can be coordinated to open pathways for maneuver and supporting larger

***Resolute Hunter* is the DOD's premier intelligence, surveillance, and reconnaissance exercise. Its inherent jointness and connection as the culminating event for MISR WTI make it unmatched in value.** *[Photos by (from top left to right): Lindsey Lauer, Capt Ryan DeBooy; [bottom left to right]: Timothy Klanderud and SSgt Nathanael Carberry.)*

operational objectives. Further, it requires leadership on watch floors, navigating theater common operation picture/common intelligence picture programs, placing sensors in the physical and informational dimensions, and integration through established or informal liaison networks.

2. Joint, Operational-Level Education: Beyond technical knowledge, Marines must understand how to leverage theater-level and multinational assets. Leaders must be able to navigate the complexities of joint, NATO, and coalition environments, coordinating operations that capitalize on both national and allied capabilities.[21] This means advanced education and access to the capabilities and disposition of multi-national, multi-domain capabilities.

3. Joint and Multi-Domain Exercises: Realistic, scenario-based training that simulates future battlefields is essential for developing tactical flexibility and cognitive adaptability. These exercises will push Marines to integrate capabilities across domains, making decisions in realtime and adapting to rapidly evolving circumstances.

4. Professional Networks to Decision-makers: Informal and formal networks with geographic and unified combatant commands will be critical to success.[22] These leaders will need to foster relationships within the larger joint and multinational environment, enabling them to operate seamlessly with partner nations and integrate capabilities at the highest levels of command.[23] Our *Making Ender* leaders will be able to accomplish this through networks established by the Marine Corps MIGs, support from the theater MARFORs, and an understanding of who is and is not a decision maker within their assigned areas of operation.

Merging the Technical with the Cognitive

Making Ender is not merely a program about winning individual battles—it is about transforming how the Marine Corps develops leaders capable of mastering the complexities of future warfare. The Marines who emerge from this initiative will be more than just skilled tacticians; they will be radical operational artists who can harness the full spectrum of technical and operational capabilities to shape outcomes on the battlefield. These leaders will possess not only the creativity and decisiveness to operate in conditions of ambiguity but also the foresight to anticipate and influence the actions of adversaries and allies alike. By integrating information, intelligence, and fires into cohesive strategies, they will ensure that the Marine Corps remains the dominant force across every domain of modern warfare.

... Marines are not just warriors but architects of victory ...

In the words of Ender Wiggin, "In the moment when I truly understand my enemy, understand him well enough to defeat him, then in that very moment I also love him."[24] This quote encapsulates the essence of *Making Ender*—a deep, almost intuitive understanding of both the technical and human elements of conflict. These leaders will not just outmaneuver the enemy—they will outsmart them by understanding not only their capabilities and tactics but their thought processes and decision making. With this level of deep insight, *Making Ender* leaders will create the conditions where adversaries are not just defeated by force but are made to question the very decisions they think they are making, altering the course of conflict before the enemy even knows they have been out-cycled.[25]

Conclusion

The future of warfare is multi-domain, interconnected, and increasingly reliant on technical and operational integration. The Marine Corps must adapt to this new reality by developing leaders who can seamlessly integrate assets from across the competition continuum. *Making Ender* is our roadmap to that future—one where Marines are not just warriors but architects of victory in the information age. The time to forge the leaders who will win the wars of tomorrow is now.

Notes

1. Martijn Kitzen, "Conventional and Unconventional War Are Not Opposites," *War Room,* March 28, 2019, https://warroom.armywarcollege.edu/articles/conventional-and-unconventional-war-are-not-opposites. Martijn Kitzen identified in 2019 that the hybrid approach is here to stay identifying threat actors that blur what we traditionally have considered conventional and unconventional operations into a hybrid approach. Today upon reflection it covers all our adversaries in competition and recent history: ISIS, Taliban, Hamas/Hezbollah/Houthis, Iran, Russia, DPRK, and China. The Marine Corps and broader U.S. Government do not have tactics, techniques, and procedures for a hybrid counter or an asymmetric response, consistently putting our forces at a disadvantage.

2. Headquarters Marine Corps, *MCWP 8-10*, (Washington, DC: February 2024). Figure 1-3 demonstrates what generating a combined arms approach looks like in a multi-domain battlefield. *MCDP 1-3, Tactics*, states that the "MAGTF is the perfect example of a balanced combined arms team. Combined arms tactics are standard practice and second nature to all Marines." This is no longer the case, and the Marine Corps must adapt to restore it.

3. Ibid. *MCWP 8-10* describes challenges for multi-domain and all-domain C2 in detail.

4. From the author's combined experiences at Service-level training exercises and operating in the first island chain (INDOPACOM), EUCOM, and CENTCOM, we believe the Marine Corps is institutionally misinformed on Joint Force capabilities and authorities.

5. *MCDP 8* defines information advantage as: "Information advantage is an exploitable condition resulting from one actor's ability to generate, preserve, deny, and project information more effectively than another." The authors find this definition to be artificially limiting. When we state advantage, we aim more for components of "systemic disruption" as described by Marinus, "On Defeat Mechanisms Manuverist Paper No. 10," *Marine Corps Gazette* 105, No. 7 (2021).

6. Neither *MCDP 8* nor *MCWP 8-10* define information maneuver. Rather than taking the "you know it when you see it approach" these

authors suggest it is seeking to achieve systemic disruption through the human and information dimensions across all domains.

7. Information can contribute to decisive advantage. Deception can favorably increase casualty ratios from 1:1 to 1:5. See Barton Whaley, *Stratagem: Deception and Surprise in War* (Boston: Artech House Publishers, 2007).

8. The Joint Targeting Staff (JTS) Course Syllabus is available at https://www.jcs.mil/Portals/36/Documents/Doctrine/training/jts/2023joint_target_staff_course_syllabus.pdf?ver=DIzsUdmDKXunhp34FzkjfA%3D%3D. This course provides critical detailed training in target development, intelligence support, and includes multiple hours of instruction integrating non-kinetic and kinetic aspects (air-surface, surface-surface, EMS, cyber, space, and OIE). This course is supported by the Joint Staff J7. This course is currently two weeks in duration and available via MTT.

9. Advanced Network Analysis and Targeting details are available at https://oe.tradoc.army.mil/net-network-engagement-team. It is run by Army TRADOC G2 and is supported by the Joint Staff J7. This course provides advanced instruction in the application of social network analysis and network science. As a training and education model, it provides a much more robust capability than the Marine Corps' NET3C train-the-trainer model (CID: M09H325). This course is currently two weeks in duration and available via mobile training team.

10. Joint MILDEC Training Course details are available at https://jfsc.ndu.edu/Academics/Joint-Information-School-JIS/Information-Division/JMTC. The course is focused on the joint operational level. To achieve *Making Ender,* this is the exact level of understanding our leaders need throughout the force.

11. The MISR WTI Course and Exercise Resolute Hunter ran through the Naval Aviation Warfighting Development Center at Naval Air Station Fallon represent a superb resource described by CDRs Dave Bigay and Courtney Herdt in "Make More Maritime ISR Weapons and Tactics Instructors," *Proceedings,* July 2023, https://www.usni.org/magazines/proceedings/2023/july/make-more-maritime-isr-weapons-and-tactics-instructors. More information is available at https://cnrsw.cnic.navy.mil/Installations/NAS-Fallon/About/Tenant-Commands.

12. For examples from Ukraine see: Steven Feldstein, "Disentangling the Digital Battlefield: How the Internet has Changed War," *War on the Rocks,* December 7, 2022, https://warontherocks.com/2022/12/disentangling-the-digital-battlefield-how-the-internet-has-changed-war. For examples over time from Israel-Hezbollah conflicts see: Matthew Levitt, "Episode 5: Hezbollah's Digital Footprint," *The Washington Institute,* October 25, 2023, https://www.washingtoninstitute.org/media/6900. For examples of how this will impact a fight for Taiwan see: Timothy M. Bonds, "Keeping the World Close: How Taiwan Can Maintain Contact with Allies, Supporters, and Its Own People If Attacked," *RAND,* July 6, 2023, https://www.rand.org/pubs/perspectives/PEA2557-1.html.

13. For an additional vignette see Figure 5 in Jeffrey C. Crivellaro, *Combined Arms in the Electro-Magnetic Spectrum: Integrating Non-Kinetic Operations* (Fort Leavenworth: United States Army Command and General Staff College, 2013).

14. *MCWP 8-10.* Appendix E does not adequately capture crucial unclassified details for authorities for space, cyber, EW, deception, MISO, civil affairs, and COMMSTRAT. For technical capabilities (EW, space, cyber) see *Scaling Non-Kinetic Capability Integration in the Information Age* by RAND. For a concise description of deception see FM 3-13.4 Army Support to Military Deception. Civil affairs is more complex with numerous authorities to reference linked to fiscal purposes such as the *DSCA SAMM* Chapter 12 and *DODI 2205.02.* The most complete reference for civil affairs fiscal authorities is the annual *Defense Security Cooperation Agency Security Cooperation Programs Handbook*. Strategic communications authorities for garrison Marine Corps are represented by *MCO 5700.45*, its policy foundation of DODDs and SECNAVINSTs apply to the elements of the Joint Force.

15. *JP 3-13.4* defines this as counter-deception "efforts to negate, neutralize, diminish the effects of, or gain advantage from a foreign deception operation." *FM 3-13.4, Army Support to Military Deception*, Appendix A describes this in further detail.

16. See for example Operation Bolo in Vietnam and many other tactical/operational use cases in: James D. Monroe, *Deception: Theory and Practice* (Monterey: Naval Postgraduate School, 2012); and Jon Latimer, *Deception In War* (Thistle Publishing, 2015).

17. *MCWP 8-10* describes elements of projecting information. *MCDP 8* describes information projection; and James P. Farwell provides an excellent example of what happens when we lose the prevailing narrative through a case study of the Battles of Fallujah in his *Information Warfare: Forging Communication Strategies for Twenty-First Century Operational Environments* (Quantico: Marine Corps University Press, 2020).

18. *MCWP 8-10* covers multiple vignettes of unmanned systems on pages C-9, C-11, and C-12.

19. See for example: Claudia Conte, Sofia Verini Supplizi, Giorgio de Alteriis, Antonio Mele, Giancarlo Rufino, and Domenico Accardo, "Using Drone Swarms as a Countermeasure of Radar Detection," *Journal of Aerospace Information Systems* 20, No. 2 (2023).

20. "Extensive practical experience" does not happen through a formal school. It is gained at the individual's own, professional pace. It relies on exposure to the operational level of war through observations of the joint targeting process, joint effects working groups, and time within joint operations centers during all phases of competition, crisis, and conflict.

21. For an example of integrating interagency and host-nation authorities see: James Q. Roberts, "Need Authorities For The Gray Zone? Stop Whining. Instead, Help Yourself to Title 100. Hell, Take Some Title 200 While You're At It," *Prism* 6, No. 3 (2016).

22. GEN Stanely McChrystal once said, "It takes a network to beat a network." That is even more true today than it was then in Afghanistan.

23. Key elements include command military deception officers, cyber operations integrated planning elements, military information support teams, regional/civil-military support elements, information warfare task forces, cyber protection teams, and cyber mission teams.

24. Orson Scott Card, *Ender's Game* (London: Orbit. 1999).

25. For the real OODA loop that addresses the complexity Boyd envisioned see: F.P.B. Osinga, *Science, Strategy, and War: The Strategic Theory of John Boyd* (New York: Routledge, 2007).