Geospatial Intelligence Support *to* Targeting

by Chief Warrant Officer 4 John R. Livesey III

Introduction

The Global War on Terrorism led to a changed operational environment, forcing the Army to adapt. The lessons learned over time and differences in threat circumstances created a new targeting paradigm. This targeting process was slow, reactive in nature, and required a steady back-and-forth exchange between the various elements of the intelligence and fires sections.

Khost, Afghanistan, 2005

Forward Operating Base 12 was responsible for operations in the Khost province of Afghanistan. Intelligence reports began filtering in indicating that insurgents had begun massing across the Pakistan border for an attack on a checkpoint manned by a joint garrison of United States and Afghani forces. The garrison commander immediately prioritized the potential threat and tasked the intelligence section with confirming the reports and pinpointing locations of insurgent elements. The commander also ordered the operations and intelligence sections to develop a targeting plan with the intent of protecting the checkpoint.

Over the course of the next 2 days, geospatial intelligence (GEOINT) personnel confirmed multiple insurgent staging areas, each with a sizable number of fighters. They passed the information to the fires section for target development, who in turn generated a request for information to the GEOINT section for additional data necessary to conduct mensuration and a collateral damage estimation. The GEOINT section provided the required intelligence and target development continued.

Twenty-four hours later the target working group briefed the commander. The commander approved the operation, and the insurgent staging areas were struck with multiple volleys from 155mm howitzers. The intelligence section was then tasked with providing post-strike battle damage assessment to confirm that the commander's intent had been met. The entire process took close to a week, and the mission was declared an overwhelming success.

A process like the one in the vignette was repeated hundreds of times during counterinsurgency operations in Iraq and Afghanistan with each unit adding their own unique variations based on their command's preferences. While effective, this system is poorly suited to meet the Army's targeting needs of today in multidomain operations against a peer or near-peer threat.

The Army's Force Modernization Effort

As U.S. forces spent more time focusing on counterinsurgency operations, Army doctrine also adapted to the insurgent threat. Then, in 2017, FM 3-0, *Operations*, changed the Army's operational focus from counterinsurgency to large-scale combat operations. The Army further solidified this focus on large-scale combat operations against a peer threat with the multidomain operations strategy found in the latest version of FM 3-0 published in October 2022. Multidomain operations are the combined arms employment of joint and Army capabilities to create and exploit relative advantages that achieve objectives, defeat enemy forces, and consolidate gains on behalf of joint force commanders.[1] These operations exist along a continuum that include competition, crisis, and armed conflict. Multidomain operations provide a means to exploit opportunities presented when the threat is destroyed, dislocated, isolated, and disintegrated.[2]

The Army is currently emersed in a massive modernization effort designed to ensure the Army is appropriately investing its time and money to build a force capable of shaping the deep maneuver and fires areas with long-range precision fires and other lethal and nonlethal effects. Changes to align with the tenets of operations (agility, convergence, endurance, depth) are occurring across the Army's DOTMLPF–P[3] spectrum. Some of these changes require innovative solutions, such as changing the unit of action from the brigade combat team to the division, or new long-range precision fires equipment, such as the Army's midrange precision strike missile system; however, not all solutions to the Army's multidomain operations challenges require innovative technology or tactics, techniques, and procedures. For some, more effectively using capabilities we already have is the answer. Targeting is one process that if employed properly (and more specifically, GEOINT support to targeting) can make solving challenges presented by multidomain operations less difficult.

GEOINT, through its support to targeting, can provide a crucial component for success as a defeat mechanism in multidomain operations. However, Army GEOINT has seen little to no change in its current training methodologies that would support multidomain operations. Army GEOINT can immediately affect all four tenets of operations while addressing gaps related to long-range precision fires and Soldier lethality by incorporating joint-level targeting training into the Army's GEOINT training pipeline.

The Tenets of Multidomain Operations[4]

- ✦ **Agility** – The ability to move forces and adjust their dispositions and activities more rapidly than the enemy.
- ✦ **Convergence** – The concerted employment of capabilities from multiple domains and echelons against combination of decisive points in any domain to create effects against a system, formation, decision maker, or in a specific geographic area.
- ✦ **Endurance** – The ability to persevere over time throughout the depth of an operational environment.
- ✦ **Depth** – The extension of operations in time, space, or purpose to achieve definitive results.

As one of the seven single-source intelligence disciplines, GEOINT provides exploitation and analysis of imagery and geospatial information to describe, assess, and visually depict physical features and geographically referenced activities on the Earth.[5] GEOINT directly supports the tenets of multidomain operations. When collected and analyzed in a timely manner, GEOINT gives the commander at a minimum locations of adversary personnel, equipment, and logistics pathways. This valuable information provides insight into the operational environment and supports the *agility* to strike and maneuver with a *convergence* of coordinated capabilities across multiple domains. Accurate and timely GEOINT enhances force *endurance* and *depth* by fostering the preservation of combat resources and protection of forces through its support to target development and to battle damage assessments. GEOINT contributes to the commander's overall situational understanding and understanding of the threat's strengths, weaknesses, and disposition.

The Intelligence Support to Targeting Mission

Targeting provides a key for success in multidomain operations. It creates advantages and opportunities to counter our enemies' capabilities, create depth, and protect friendly formations. Appendix B of FM 2-0, *Intelligence*, outlines tactical tasks for the intelligence warfighting function. One of those tasks is Army Tactical Task (ART) 2.4, "Provide Intelligence Support to Targeting and Information Operations." This task further divides with two targeting specific sub-tasks:

- ✦ ART 2.4.1, "Provide Intelligence Support to Targeting." In this task the intelligence warfighting function has the responsibility for target development and target detection.
- ✦ ART 2.4.3, "Provide Intelligence Support to Combat Assessment." This task requires the intelligence warfighting function to perform physical and functional damage assessments.[6]

These tasks comprise the core of intelligence support to targeting. GEOINT performs a vital function in each of these sub-tasks.

Geospatial Intelligence Support to Targeting

Unfortunately, over the last 20 years, the Army has become increasingly deficient at providing GEOINT support to the targeting process. In counterinsurgency, this type of support was often not necessary because the conflict environment was very reactive, and U.S. forces had dominance across all domains. GEOINT support to targeting primarily consisted of following targets with unmanned aircraft systems and conducting drone strikes. The Army, and joint forces, will require revitalized and refined GEOINT to support future multidomain operations. To increase the Army's chance of success in large-scale combat operations in the multidomain operational environment, GEOINT analysts will need to be fully engaged in the targeting process to counter the threat's antiaccess and area denial capabilities such as integrated air defenses, antisatellite technology, and electromagnetic warfare equipment.

No better set of personnel exists within our formation to perform target development and assessment tasks than the Army's GEOINT professionals—military occupational specialty (MOS) 35G, GEOINT Imagery Analyst, and MOS 350G, GEOINT Imagery Technician. The training these specialists receive embed skills that prepare them to fulfill many of the requirements for intelligence support to targeting and combat assessment. To prepare for future operations, Army GEOINT targeting and combat assessment training must expand to encompass joint targeting standards. An emphasis on joint targeting standards prepares Army GEOINT Soldiers to enable the joint force during armed conflict.

GEOINT analysts that have joint targeting training give commanders, at all echelons, the direct ability to identify and exploit relative advantages in real time. GEOINT analysts assigned to a military intelligence brigade-theater (MIB-T) can supply deep area targeting data to the tactical echelon while simultaneously supporting joint fires. This allows them to support deliberate targeting to shape the deep fight. It also enables GEOINT personnel at division and below to provide dynamic targeting support to the close fight. The MIB-T becomes an effective anchor point, directly influencing operations across the entire operational environment.

This level of targeting coordination is only possible when the GEOINT analysts and technicians have a common baseline of targeting training. The analysts would be using the same techniques and reporting systems that feed targeting data into both Army and joint fires systems, generating attack orders that provide mensurated coordinates, collateral damage estimates, and combat assessments in support of a commander's objectives.
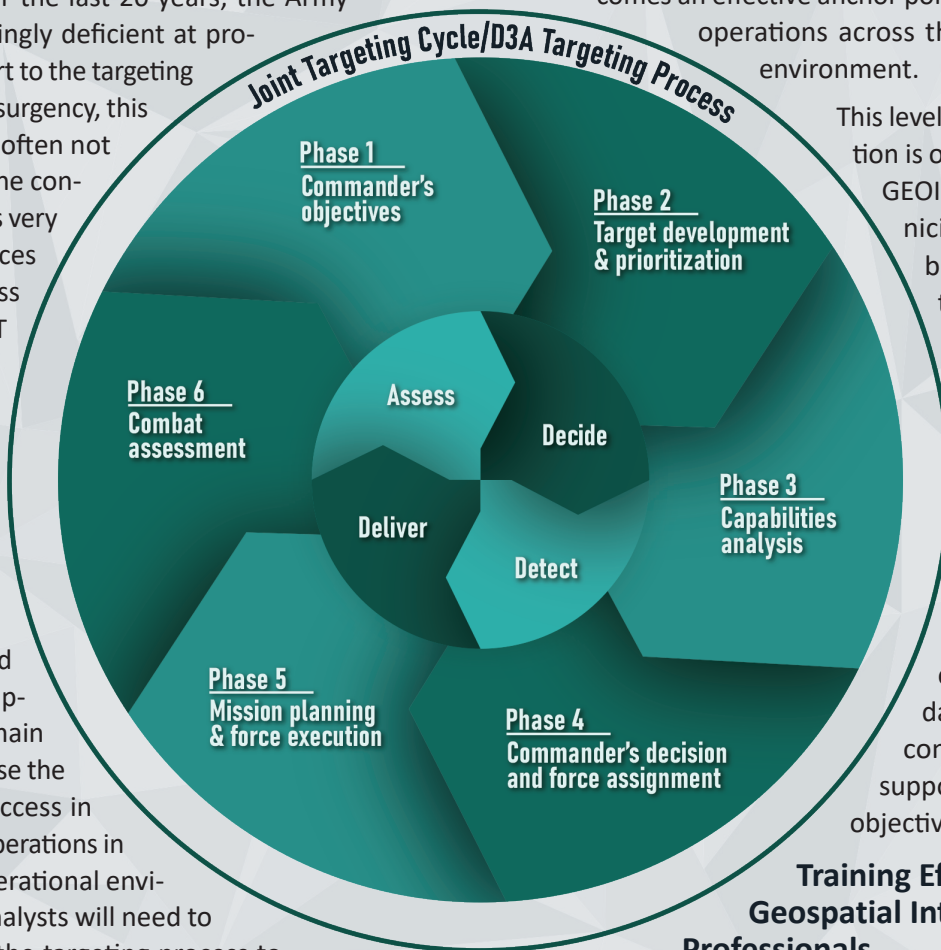
Training Effective Geospatial Intelligence Professionals

For GEOINT professionals to meet the requirements of multidomain operations, the Army should implement changes to all three of its training domains: institutional, operational, and self-development.

Institutional Training. Institutional training—from initial training and subsequent functional training to professional military education for noncommissioned officers (NCOs) and warrant officers—can prepare GEOINT professionals to perform the critical tasks that are common to both the joint targeting cycle and the Army targeting methodology of decide, detect, deliver, and assess, also known as D3A.

Entry level training: The GEOINT Imagery Analyst advanced individual training (enlisted skill level 10) course is implementing the following Army Multi-Domain Targeting Center and Joint Targeting School courses:

✦ Target Mensuration Only: Teaches and certifies analysts on multiple mensuration techniques that produce a targetable coordinate for precision-guided weapon systems in support of both dynamic and deliberate targeting.

✦ Collateral Damage Estimate: Teaches and qualifies analysts to perform imagery analysis in accordance with the body of joint standards, methods, techniques, and

Joint Targeting Cycle/D3A Targeting Process

Phase 1
Commander's objectives

Phase 2
Target development & prioritization

Phase 6
Combat assessment

Assess

Decide

Deliver

Detect

Phase 3
Capabilities analysis

Phase 5
Mission planning & force execution

Phase 4
Commander's decision and force assignment

processes used to conduct collateral damage analysis and produce collateral damage estimates, informing the commander about potential unintended damage and casualties resulting from a weapon strike to the areas surrounding a target.

✦ Combat Assessment: Teaches and certifies analysts to determine the overall effectiveness of force employment during military operations by performing physical and functional damage assessments, collateral damage assessments, munitions effectiveness assessments, and restrike recommendations using imagery.

These courses are taught over three weeks and will create baseline knowledge for skill level 10 imagery analysts. These Soldiers will be capable of serving across all three Army components and at all echelons supporting the employment of long-range precision fires through GEOINT support to targeting. This will significantly shorten the sensor to shooter time and increase Soldier lethality by enabling one individual to perform multiple steps in the targeting process. The training also creates a common baseline, ensuring the targeting products imagery analysts create are fully interoperable with Army and joint fires systems.

Noncommissioned officer training: The Advanced Leader's Course (enlisted skill level 30) should add the Joint Targeting School's Intermediate Target Development course, which teaches NCOs the basic skills needed to develop and database targets to the point where they can supply target significance, description, functional characterization, expectation, critical target elements, and collateral damage considerations. The course builds upon the entry-level imagery work by providing a deeper understanding of how target development and intelligence can support the targeting process while strengthening the typical NCO role of quality control.

Warrant officer professional military education: The Warrant Officer Basic Course and Warrant Officer Advanced Course should implement the Joint Targeting Staff Course from the Joint Targeting School, which teaches the integration of operations and intelligence functions through the joint targeting process to provide targeting functions in support of the commander's objectives, to include the various roles within the targeting working group. The course builds upon the base of enlisted levels of training to elevate and better align with the warrant officer's role as the subject matter expert by creating warrant officers who can immediately operate in a joint environment or leverage joint capabilities at their operational echelon.

Operational Training. Development of operational GEOINT training needs to occur across all echelons to maintain

currency of skills developed in institutional training while further building skillsets to meet the specific mission requirements of the unit. Operational training should include periodic training events that require GEOINT personnel to perform all aspects of unit targeting requirements using realistic scenarios. Unit warrant officers, NCOs, and enlisted targeting personnel, working in tandem with their counterparts in the fires section, would fulfill their designated duties as defined by their unit's mission essential task list. The training should require the section to perform tasks and create products in an environment that closely emulates what they would experience during real-world targeting operations, exercising all steps in the joint targeting cycle or the D3A methodology.

The events would enable the maintenance and development of GEOINT skills, such as:

✦ Basic tactical identification.

✦ Specialized targeting skills in a realistic environment.

✦ Annual currency skill requirements for targeting personnel.

Additionally, commanders can use these events to evaluate their unit's readiness and to develop additional training that addresses any identified deficiencies.

A final consideration is the Military Intelligence Training Strategy (MITS) outlined in the TC 2-19.400 series of publications. MITS provides guidance on how to plan, prepare, and execute certification for the military intelligence personnel assigned to the brigade engineer battalion of the brigade combat team. It can, however, be adapted for training and certification at other echelons.

Self-Development. Opportunities for GEOINT personnel to conduct geospatial or imagery related self-development training are limited. Creative thinking is necessary to continue training outside of formal venues.

GEOINT professionals at all levels who support targeting can continue their self-development by attending targeting training through online programs like the Advanced Global Intelligence Learning Environment or by contacting their local Target Coordinate Mensuration program manager and requesting practical exercises from the various targeting courses. Both options facilitate maintenance of critical targeting skills between institutional and operational training events.
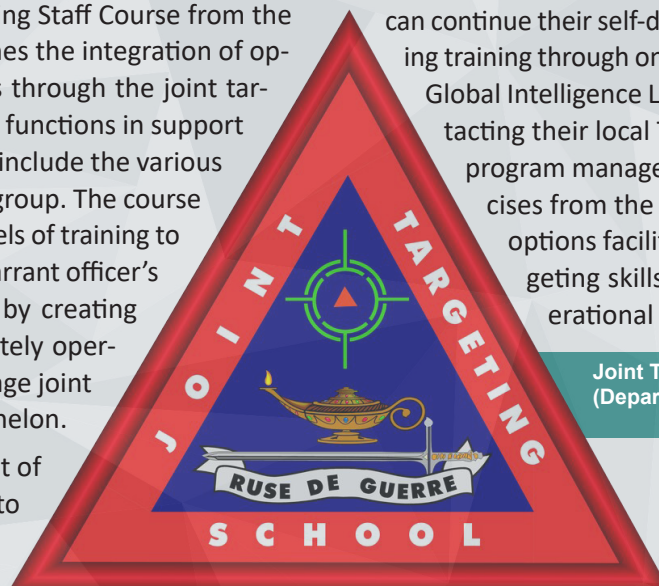
**Joint Targeting School Logo.
(Department of Defense Graphic)**

Conclusion

The Army will always fight as a member of a joint force. Revitalizing GEOINT training across the training domains will better facilitate intelligence support to targeting. A coordinated, reinforced approach using joint targeting training will ensure that the Army has the capabilities to fulfill the tenets of multidomain operations, to execute long-range precision fires, and to offer increased Soldier lethality. These initiatives are attainable at minimal cost because the courses already exist. The Army only needs to certify instructors and incorporate the training. ✴

Endnotes

1. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: U.S. Government Publishing Office [GPO], 1 October 2022), 1-2.

2. Ibid.

3. DOTMLPF–P: doctrine, organization, training, material, leadership and education, personnel, facilities, and policy.

4. Department of the Army, FM 3-0, *Operations*, 3-2–3-7.

5. Department of the Army, Army Doctrine Publication 2-0, *Intelligence* (Washington, DC: GPO, 31 July 2019), 4-4.

6. Department of the Army, FM 2-0, *Intelligence* (Washington, DC: GPO, 6 July 2018), B-16–B-19.

References

1. Department of the Army. Army Techniques Publication 3-60, *Targeting*. Washington, DC: U.S. Government Publishing Office, May 7, 2015.

2. Office of the Chairman of the Joint Chiefs of Staff. Joint Publication 3-60, *Joint Targeting*. Washington, DC: The Joint Staff, 28 September 2018.

CW4 John Livesey is the 35G10 Geospatial Intelligence (GEOINT) Imagery Analyst course manager, Alpha Company, 309th Military Intelligence Battalion, 111th Military Intelligence Brigade, U.S. Army Intelligence Center of Excellence, Fort Huachuca, AZ.

Contributors

SSG Alana N. Marcum is a 35G, GEOINT Imagery Analyst, targeting instructor at the GEOINT Imagery Analyst Advanced Individual Training course, Alpha Company, 309th Military Intelligence Battalion, 111th Military Intelligence Brigade, U.S. Army Intelligence Center of Excellence, Fort Huachuca, AZ.

Mr. David M. Haney is the 35G, GEOINT Imagery Analyst, targeting program manager and course developer, 309th Military Intelligence Battalion, 111th Military Intelligence Brigade, U.S. Army Intelligence Center of Excellence, Fort Huachuca, AZ.