An Introduction to China’s High-Mobility Combined Arms Battalion Concept

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In 2013, the Chinese People’s Liberation Army (PLA) Academy of Military Sciences released a new edition of its *Science of Military Strategy*, the first update since 2001. The text revealed how some of the PLA’s top strategists assessed China’s security environment, how military force should be used to secure China’s interests, and what kinds of military capabilities the PLA should develop in the future. Serving to teach PLA officers how to think about strategy and strategic issues, the book was pivotal for Western audiences to understand how the PLA’s various service arms would likely transform to accomplish Beijing’s global ambitions.¹

Released the same year Beijing adopted the Belt Road Initiative global infrastructure project, the *Science of Military Strategy* noted that the PLA Army’s (PLAA’s) new strategic missions included multiple military operations other than war in addition to traditional warfighting and domestic security. These operations required flexible maneuver, rapid response, and seize and control capabilities to defend Chinese interests ranging from humanitarian assistance and disaster relief to international peacekeeping, as well as protecting overseas assets and strategic lines of communication.²

To accomplish these missions, the *Science of Military Strategy* proclaimed the necessity to reduce the number of heavy armored forces and make use of modern light and medium units capable of transitioning the PLAA from area defense to all-area maneuver and three-dimensional attack. The text also proclaimed that these light units should be capable of highway, rail, sea, and air transportation to provide the PLAA a rapid force projection capability that integrates digitized platforms and strong firepower.³

A PLAA CSK131 high-mobility vehicle serves in a support role at the VOSTOK-2018 exercise in Russia. The CSK131 is a six-person chassis that can perform a variety of roles, including assault, command and control, reconnaissance, and troop transport. An extended chassis variant, the CSK141, can transport 10 personnel and is the primary maneuver vehicle in new PLAA HIMOB combined arms battalions. (Photo by Russian Military of Defense, attribution: mil.ru)
Although the 2013 text’s mobility-focused light unit concept appeared novel for a PLAA heavily equipped with armor and motorized infantry, multiple infantry companies started testing new high-mobility (HIMOB) vehicles and tactics as early as 2011. By 2017, fully equipped HIMOB battalion testing was underway as the PLA services restructured to improve joint operations and force projection capabilities.

A Brief History of PLAA Light HIMOB Units

The U.S. military’s effective use of net-centric operations during recent conflicts provided China the push it needed to move from an era of mechanization to developing a new “informationized” capability. Informationized, also known as informatized, is a translation of xinxihua [信息化], a Chinese phrase that is roughly analogous to U.S. network-centric; however, informationization not only includes improvements in electronics and digital communications, but also elements of information operations like electronic warfare, cyber warfare, and the Chinese “Three Warfares” [media warfare, legal warfare, and psychological warfare]. PLA leaders and Chinese weapons developers were determined to add the “ears, eyes, nerves, and brain” of informationized sensors and weapons to the “fist” mechanized equipment provided. Through informationization, PLA commanders could reduce the time between information collection and operational decision making, minimize a unit’s battlefield signature while disrupting the enemy’s use of its own information systems, and improve the accuracy of fires.

Beginning in 2009, the PLAA started upgrading one of its mechanized infantry divisions into a new “digitized” unit consisting of both heavy tracked and medium-wheeled regiments. The introduction of digitized platforms like the Type-99A main battle tank (MBT), Type-04A infantry fighting vehicle (IFV), and the Type-09 8x8 wheeled vehicle chassis into the division, as well as some mechanized infantry brigades, demonstrated PLAA’s commitment to heavy and medium force modernization; however, it appeared little attention was initially paid to modernizing light motorized and mountain infantry units.

Chinese peer-review journal articles from the late 2000s bemoaned the lack of lighter informationized platforms that could support future “globally mobile” actions for dynamic “all-area operations.” These articles recommended the establishment of lightly equipped infantry units that could carry out rapid response ground and air-mobile operations while also delivering effective firepower and ensuring survivability.

In 2009, the PLA approached the Dongfeng Corporation with a request to develop a light armored wheeled vehicle that could equip weapons and perform in frontline combat operations. The vehicle needed to be capable of adapting to complex environments while integrating “high-mobility, protection, information, and firepower.” Specific PLA requirements for the vehicle included sufficient protection from artillery shrapnel in rooftop armor, protection from grenades for the bottom plate armor, side and rear armor-plating equivalent to NATO Level 2, and frontal armor equivalent to NATO Level 3. Dongfeng used its widely fielded Mengshi 4x4 1.5-ton cross-country vehicle, a Chinese copy of the U.S. high-mobility multipurpose wheeled vehicle (HMMWV) as the base platform for this new system.

The PLA selected a pilot unit to field the new systems in 2011, and the first platforms appeared in 2012 at an infantry company and a firepower company subordinate to a brigade of the corps-echelon 65th Group Army, Beijing Military Region. The six-person CSK131 4x4-assault vehicle equipped with a 12.7mm machine gun transported the infantry company’s rifle squads. The PCP001 self-propelled 81mm rapid-fire mortar system mounted on a Mengshi chassis, developed in 2008, provided battalion-echelon fire support. Over the next two years, additional units fielded similar systems in the mountains of Tibet and in northeastern China near the North Korean border, with the latter becoming the first to test a full HIMOB combined arms battalion construct in 2014.

By the time of the major PLAA restructure in 2017, all three of the known PLAA HIMOB units had transitioned beyond single company-level systems development and training. The battalion in northeastern China was the most well equipped, fielding newer platforms like the 10-person CSK141 armored vehicle (an extended chassis variant of the CSK131). Variants of the CSK-series and the MV3-series of armored 5-ton medium HIMOB trucks, called the CTM131, constituted the remainder of the battalion. This unit — 1st Battalion, 48th Combined Arms (CA) Brigade, 78th Group Army, Northern Theater Command — became a focal point for official PLA media throughout 2018 and 2019 as numerous articles and videos detailed the unit’s capabilities as a new-type combat force.

PLAA Light Combined Arms Brigade and HIMOB Battalion Organization

The PLA’s force-wide April 2017 restructure dissolved five of the PLAA’s 18 group armies, transformed most
divisions into brigades, and largely disbanded regiments. The group army, roughly equivalent to a U.S. Army corps, standardized into a 12- to 13-brigade organization to “flatten” the command structure into a corps-brigade-battalion hierarchy that replaced the original corps-division-regiment construct. All infantry and armor brigades reorganized into permanent CA brigades, with each group army commanding six CA brigades and six or seven functional support brigades.

The U.S. Army brigade combat team heavily influenced the new PLAA CA brigades, leading to the establishment of heavy, medium, and light constructs that included four permanent CA battalions, a reconnaissance battalion, an artillery battalion, an air defense battalion, an operational support battalion, and a service support battalion. The CA brigades enabled a modular force that could pull in elements from its parent group army as easily as they could push down their own brigade-echelon assets to CA battalions.

The CA battalion, now the PLAA's basic combat unit for joint operations, benefitted from the force reorganization as modern tanks, IFVs, wheeled assault guns, and self-propelled artillery systems transferred from dissolved divisions and brigades and replaced much of the obsolescent equipment in the newly established heavy and medium CA brigades. The legacy motorized infantry battalions in new light CA brigades, however, continued to transport personnel and tow heavy weapons with 2.5-ton diesel trucks just like their motorized infantry brigade predecessors. (PLAA motorized units refer to conventional light infantry transported in light-skinned trucks. They are not the same as Russian motorized units.) The additional loss of the motorized infantry brigade’s organic tank battalion left the light CA brigades with minimal offensive maneuver capability. The few existing HIMOB CA battalions provide the exception to this rule.

The HIMOB CA battalion organization is similar to the other conventional motorized infantry battalions, but its equipment, level of informationization, and rapid mobility sets them apart. Figure 1 details the assessed organization of a HIMOB CA battalion organic to a PLAA light CA brigade. The PLAA HIMOB CA battalion operates under a shared command structure. A battalion commander and political instructor (PI) perform two different but complementary functions when leading the approximately 500-man battalion. Both have a deputy who can operate in their place in the event of a casualty or absence from the unit. The commander is primarily responsible for training, operational planning, and mission execution, while the PI oversees the mission’s scope based on party instructions, political indoctrination, good order and discipline, and morale maintenance, though he can also lead combat elements as needed. A chief staff officer assists the command leadership, overseeing a small battalion staff responsible for coordinating operations, reconnaissance, fires, and combat support among the unit’s five subordinate companies. A chief NCO assists with several command functions, but primarily focuses on unit training.

![Figure 1 — The Assessed Organization of a PLAA HIMOB Combined Arms Battalion Subordinate to a Light Combined Arms Brigade (Information derived from multiple official PLA media videos and articles.)](image-url)
The Rifle Companies

Three rifle companies make up the maneuver component of the HIMOB CA battalion. Each 120-man company contains three rifle platoons and one firepower platoon. A company commander and PI, along with their respective deputies, lead the company. The rest of the command element likely includes a company chief NCO, supply clerk, secretary and armorer, and two radio operators transported in three CSK141 armored vehicles. One CTM131 5-ton armored truck carries supplies for the company while likely also serving as the rear command post for the deputy commander to oversee combat support. Although not part of the command team, combat medics are task-assigned to the battalion’s service support company.

A platoon leader, radio operator, and three squads constitute the three-vehicle PLAA HIMOB 30-man rifle platoon. There is no PI or deputy platoon leader; however, a senior NCO can serve as an assistant at the platoon level and take over in his absence. An NCO squad leader and eight infantry NCOs and conscripts make up one rifle squad. In the 48th CA Brigade, the squads each ride in one CSK141. The platoon leadership likely uses the spare seat in the 10-person CSK141. In the other two CA brigades with HIMOB CA battalions, squads use two of the smaller CSK131 armored vehicles.

Figure 2 details the makeup of a PLAA HIMOB rifle squad. The composition of the HIMOB rifle squad illustrates how the PLAA is attempting to push maximum combat power down to the lowest echelon. Equipping the squad with a vehicle-mounted 12.7mm heavy machine gun (HMG) or rapid-fire 35mm grenade launcher, a 120mm rocket launcher, and a squad automatic weapon (SAW) enables one PLAA HIMOB squad to combine the capabilities of a U.S. infantry squad with elements of a weapons squad. The PF98 120mm rocket launcher is particularly value-added for use in anti-armor and anti-fortification actions. Although it lacks the range and destructive capacity of the Javelin system, it is much lighter and less costly to fire.

The PLAA rifle company firepower platoon has a mortar section with two three-man 60mm mortar squads, including a squad leader and driver. There is also a similarly organized grenade launcher section with two three-man 35mm automatic grenade launcher squads. The QLZ04 35mm grenade launcher equipped with these squads can accurately fire out to 1,750 meters. The CSK141 that transports the sections can also be equipped with either the 12.7mm HMG or 35mm grenade launcher. These weapon systems provide the PLAA company commander with a unique combination of accurate direct and indirect fires.

The Firepower Company

In the HIMOB CA battalion, the main fire support comes from two three-vehicle platoons of PCP001 82mm rapid-fire mortar systems. The gun, mounted on a HIMOB chassis that does not require outriggers to fire, enables high-speed battlefield maneuver and emplacement. The PCP001s place indirect fires out to 8 kilometers but can also serve in a direct fire mode.
The firepower company also includes the battalion sniper squad equipped with the Type-10 12.7mm anti-materiel sniper rifle, a weapon that can range out to approximately 1,500 meters. The company has additional direct fires capability with a platoon of vehicle-mounted HJ-73C anti-tank guided missiles (ATGMs) that can fire out to 3 kilometers.

To protect against airborne threats, PLAA HIMOB CA battalions have a platoon equipped with at least four QW-2 man-portable air-defense systems (MANPADS). These modern systems provide point air defense up to 6 kilometers and can hit targets at altitudes up to 4,000 meters. Each vehicle-mounted squad with its two MANPADS can maneuver quickly around the battlefield to protect combat elements from enemy airborne threats.

The Service Support Company

Following the 2017 restructure, the PLAA created service support units at all echelons to sustain combat operations. From the group army down to the CA battalion, these new units provide transportation, supply, mess, medical, and other vital support services to PLAA forces. In addition to traditional sustainment elements, the HIMOB CA battalion service support company also incorporates more combat-oriented units that enable the battalion to conduct independent operations, including the transformation of a traditional repair company into a repair and rescue platoon.

The service support company’s reconnaissance platoon contains conventional reconnaissance troops and a squad of unmanned aerial system (UAS) operators. The tactical UAS, similar to the Raven, provides real-time full motion video to the commander. The company includes an organic engineering squad and chemical defense squad to enable maneuver and unit protection. A signal platoon provides communications support for the command team, which includes a satellite communication (SATCOM) capability.

The PLAA HIMOB CA Battalion Missions

The PLAA HIMOB CA battalion provides the PLA with a fully integrated combined arms unit that, in addition to the PLA Navy Marine Corps and PLA Air Force Airborne Corps, gives China another option for securing its national interests abroad. The PLAA claimed these units could perform several future combat missions, including key point raids, maneuver support and rescue, rapid penetration, and anti-enemy airborne operations. However, according to a 2018 journal article from the PLA’s University of Military Transportation, the HIMOB CA battalion is optimally equipped for three tactical missions:

- **Breakthrough maneuvers.** As a component of a larger maneuver unit, the HIMOB CA battalion can perform rapid breakthroughs to take advantage of rapid flanking and encirclement opportunities.
- **Emergency rapid response.** Capable of transportation by air, sea, rail, and highway, the HIMOB CA battalion can quickly deploy as an emergency response force for combat operations and military operations other than war.
- **Key point assault.** The lightweight and informationized characteristics of the HIMOB CA battalion enable the execution of precision coordinated assaults against important enemy targets such as command posts, rear support bases, and principal weapons systems.

The light HIMOB CA battalion equipment enables the units to garrison in or rapidly deploy to mountain regions and small islands. Additionally, the HIMOB battalions frequently train in air assault operations with PLAA aviation brigades, demonstrating a capability to fight without their vehicles. This capability could lead to HIMOB CA battalions serving as small-unit replacements for PLAA special operations forces or permanent air assault units.

Future PLAA Light High-Mobility Battalion and Brigade Developments

The first HIMOB CA battalions appeared five to six years after the pilot HIMOB companies were established, demonstrating a quick but focused timeline for systems development. New HIMOB CA battalions will likely continue to stand up over the next few years. At least one new HIMOB CA battalion was established in July 2020 in the PLA’s Southern Theater Command as part of a CA brigade subordinate to the 75th Group Army. That battalion is equipped with an even newer variant of the armored Mengshi HIMOB chassis. The addition of this new unit means that four of the five PLA joint theater commands now have at least one HIMOB CA battalion (only the Eastern Theater Command appears to not have one). There is also a possibility that others exist that have not been publicly acknowledged in official PLA media.

Currently, the PLAA has only fielded integrated HIMOB CA battalions, not HIMOB CA brigades. Following the PLAA
restructure, new HIMOB chassis variants appeared regularly, both inside HIMOB units and at military trade shows. This suggests the Chinese are capable of expanding the HIMOB concept to create entire HIMOB CA brigades. Additionally, Chinese Communist Party and Central Military Commission Chairman Xi Jinping’s goal to “basically achieve force-wide mechanization by 2020” reinforces the idea that remaining light CA brigades will transition into a similar construct over time.¹⁴

The known HIMOB CSK-series variants already in existence can support a wide variety of roles in PLAA units. HIMOB platforms integrated with battlefield surveillance radars are already in some light CA brigade reconnaissance battalions; various PLAA brigades have organic satellite communications CSK-series variants; and new tactical HIMOB electronic warfare platforms marched in the 1 October 2019 military parade in Beijing.³⁵ Light CA brigade artillery battalions currently field truck-mounted 122mm howitzers and rocket artillery; however, Chinese defense industries market equivalent artillery systems and modern ATGM variants on HIMOB platforms. There are also HIMOB truck-mounted 120mm mortar-howitzer combination guns with a 13-kilometer range that could replace or supplement the PCP001 in HIMOB CA battalions.³⁶

Judging by the methodical development of new unit types in the PLAA over the past decade, fully HIMOB CA brigades would likely stand up around existing HIMOB CA battalions before upgrading other brigades; however, it remains unclear how many brigades the PLAA would transition into fully HIMOB CA brigades. Production costs could limit fielding to one or two HIMOB CA battalions in light CA brigades since it is unlikely that the PLAA will fully eliminate traditional truck-borne “leg infantry.” Cost concerns aside, Xi Jinping, in his 2017 speech to the 19th CCP National Congress, proclaimed the PLA would achieve full modernization by 2035.³⁷ With future force projection a noted necessity for Xi’s aspirations to protect strategic Chinese economic interests, light HIMOB units could likely be one of the major benefactors.

Conclusion

The PLAA HIMOB CA battalion concept provides China with a unit type that does not have an equal in construct. Its modularity and level of informationization enables it to move from being a unit that serves as part of a large formation to a combat unit capable of independent missions.³⁸ The universal CSK- and MV3-series chassis streamline maintenance, repair, and supply issues, while the heavy weapons equipped on those platforms create a powerful opponent for adversaries. Most importantly, their lightweight equipment turns these forces into a highly
deployable, integrated combat team that can make full use of PLA transport aircraft and shipping.

In spite of its maneuverability, there are still multiple factors that will likely affect the HIMOB CA battalion’s combat capability. First is the PLA’s general lack of combat experience. Not having fought in large-scale conventional combat since 1979, the PLA lacks leaders accustomed to making battlefield decisions. China has attempted to reverse this through implementation of a professional opposing force (OPFOR) and the creation of a National Training Center equivalent, in addition to United Nations peacekeeping deployments and complex joint, combined arms exercises. The creation of a CA battalion staff to assist the command team is also an improvement in PLAA unit decision making, but the size of the CA battalion and variety of combat systems will likely encumber the small number of inexperienced staff officers until adequate training and professional military education systems are in place.39

The lack of an empowered NCO corps limits the functional capability of a light infantry force on the battlefield. According on PLA regulations, there is no clear decision-making authority at the squad level.40 Without decentralized command and control, most PLAA tactical actions will likely remain limited to platoon-size. Although the PLAA is pushing combat power down to lower echelons than in previous decades, the lack of mission command experience will hamper tactical unit actions in complex and unfamiliar environments.

Finally, with no change likely in the near future, draftees will continue to fill PLAA ground units. Although the quality of conscripts has greatly improved based on advancements in Chinese education, health, and economic conditions, there will remain a lack of a strong NCO corps to train and lead incoming recruits. This is especially worrisome for China as more of its equipment becomes increasingly sophisticated, requiring lengthy periods of training and high levels of expertise to operate. HIMOB CA battalions, while still light infantry in nature, are not exempt from this. While the PLAA HIMOB CA battalion concept will struggle to overcome the above detractors, it illustrates a new Chinese focus on developing purpose-built units. Eventually these new-type forces will gain the experience they lack. It is just a matter of when and how far the PLA is willing to send them to protect their growing influence and strategic national economic interests.

Notes
3 Ibid, 200-205.
5 S. Gao, Y. Jiang, and L. Wang, Study on Wheeled Vehicle Construction during the Army’s Strategic Transformation [陆军战略转型中轮式车辆建设研究]. ACTA ARMAMENTARII [兵工学报], 28(9), 2007, 1-2.
7 Gao et al., Study on Wheeled Vehicle Construction during the Army’s Strategic Transformation, 2-3.
10 Beijing Military Region Post [北京战邮报], “The Bugle of the Mission Urges People to Forge Ahead” [使命的号角催人奋进], 18 October 2013.


16 Official organization charts of the PLAA light HIMOB CA battalion are not available to the public. This organization chart is based on an aggregation of data from available official PLA media.

17 At present, either a major or lieutenant colonel can serve as CA battalion commander or PI based on a unique PLA grade system. Political officers that share command responsibilities with unit commanders use different titles based on unit type. Company and battalion political leaders are called political instructors, while regiment and above are called political commissars.

18 Previously, the PLAA did not incorporate a staff at battalion headquarters, though they have been experimenting with battalion staff organization for over a decade. PLAA CA battalion staff officers can be both officers and NCOs.


20 Ibid.


22 Multiple official PLA videos and photos of PLAA HIMOB rifle squads provide the basis for the table of organization and equipment.


Xinhua News, Full text of Xi Jinping’s report at 19th CPC National Congress.


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