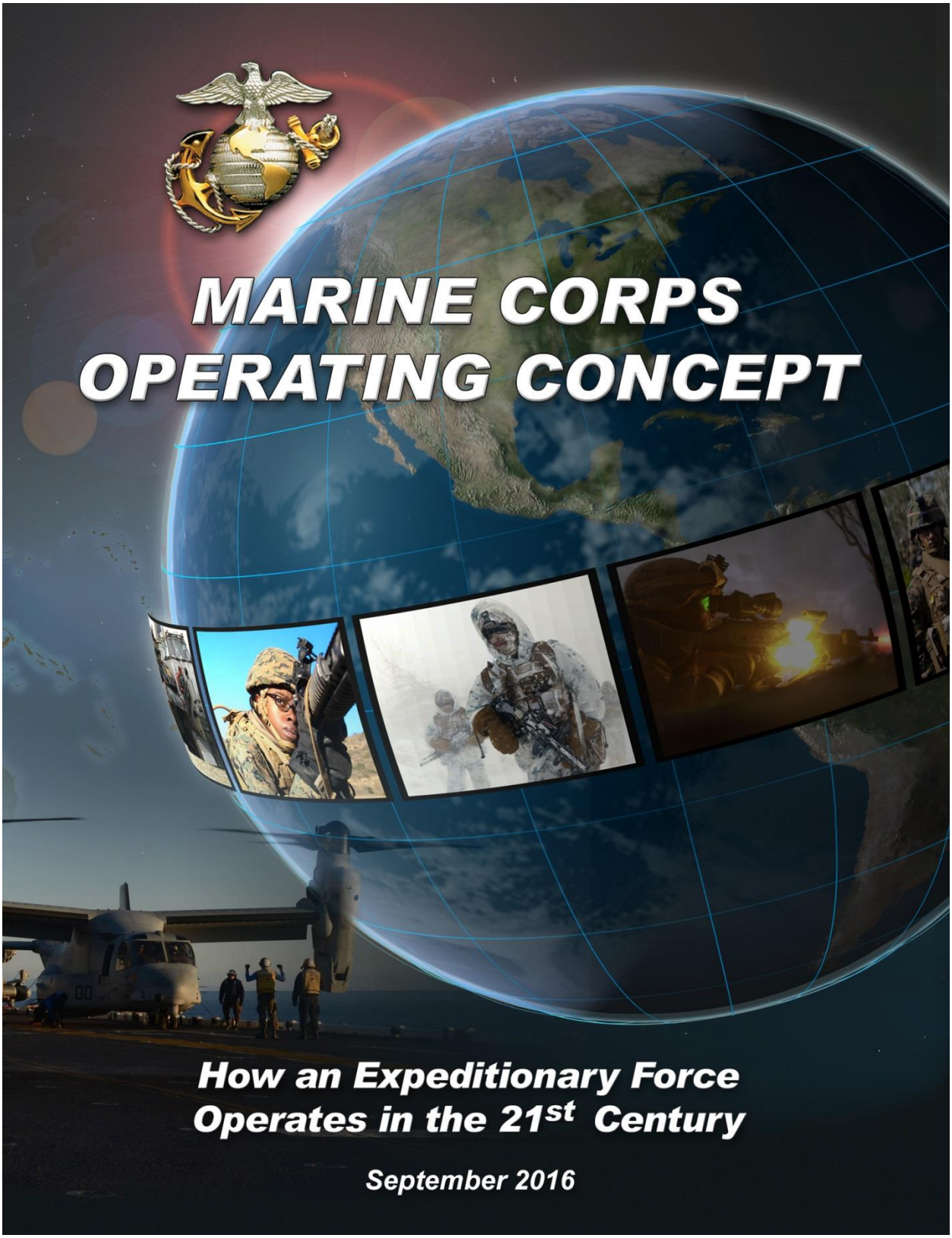

MARINE CORPS
OPERATING CONCEPT
How an Expeditionary Force
Operates in the 21st Century
September 2016

The Marine Corps Operating Concept

How an Expeditionary Force Operates in the 21st Century

The Marine Corps Operating Concept (MOC) describes, in broad terms, how Marine Corps forces will conduct the range of military operations in accordance with our Title 10 responsibilities. The MOC provides the foundation and context for subordinate operating and functional concepts, guides analysis, wargaming and experimentation and informs capability development and budget programming decisions. Concepts in their simplest forms are ideas that are matured and refined through exploration, debate and discussion.

The Marine Corps Operating Concept

How an Expeditionary Force Operates in the 21st Century

DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380-1775

September 2016

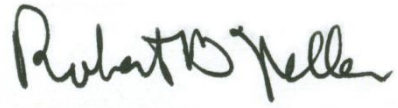
FOREWORD

As a warfighting organization, we must recognize the challenges of the future and develop an operational approach to fight and win. The MOC embraces our naval character, expeditionary mindset, and professional approach to constantly improve and build on our foundations of maneuver warfare and fighting as a combined arms force. The challenges of the future will impact how we organize our Corps and ultimately fight our Nation's battles. The MOC describes the steps we will take to design, develop, and field a future force for the 21st century. The success of this concept depends on our Marines and Sailors. Our people have always been the Marine Corps center of gravity and the key to our success as warfighters. Their ability to think critically, innovate smartly, and adapt to complex environments and adaptive enemies has always been the key factor we rely on to win *in any clime and place*.

The profession of arms is unforgiving; mistakes are paid for in blood and incompetence can lead to catastrophic defeat. When we fight, we must win. There is no alternative. The American people expect and deserve nothing less from their Marine Corps. Our preparation for the inevitable conflicts of the future begins with this operating concept. It charts how we will transform ourselves to deter and defeat the threats of tomorrow. Yet the MOC also acknowledges the timeless, violent nature of war and reaffirms our primary purpose. *The Marine Corps exists to defeat our Nation's enemies*. Even in a world of ever-increasing technology, we must continue to provide combat formations capable of closing with and destroying the enemy. This imperative drives us to demand physical toughness and resilience in our Marines and Sailors, and expect their brilliance in the fundamentals of warfighting. While the means and methods we use to wage war will evolve, we must always be prepared for the violence of combat.

The MOC does not provide an answer to every problem. Rather, it is intended to generate professional debate and discussion about our future challenges. We need every Marine and Sailor to seek creative solutions to today's and tomorrow's complex problems. We need your ideas and your critical thinking. We need to change where it makes sense, adapt as quickly as possible, and constantly innovate to stay ahead of our adversaries. Our ability to adapt more quickly than our enemies will be vital to our future success. We need all Marines to read, discuss, and challenge the ideas in the MOC. As steel sharpens steel, your review and professional recommendations will sharpen our concept of how we will fight in the future. Your proactive involvement in validating our operating concept is critical to ensuring we can *Innovate, Adapt, and Win!*

Semper Fidelis,



Robert B. Neller
General, United States Marine Corps
Commandant of the Marine Corps

The Marine Corps Operating Concept

How an Expeditionary Force Operates in the 21st Century

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The Marine Corps Operating Concept

How an Expeditionary Force Operates in the 21st Century

1. Looking Ahead – How We Will Operate and Fight in 2025

1 May 2026 – Warner Center for Advanced Military Studies, MCB Quantico. Good afternoon and welcome to the last warfighting session of Command and Staff Class 2026. Over the last week, we've formally studied *OLR – Operation Littoral Resolve* – the largest integrated Naval force operation since Inchon. As you know, in *OLR* we deployed a MEF – a Marine Expeditionary Force – as part of a Combined/Joint force to assist one of our key allies in repelling an aggressive neighbor and quelling a proxy-force insurgency. Today we're going to hear from veterans of that operation and have a frank, Marine-to-Marine discussion of lessons learned. Let's get started.

Moderator: Capt Pierce, you were a company commander on the MEU. How did *OLR* start for you? *Well, up to the point that the enemy started crossing the border, we were on the ground training the locals. Teaching them basic tactics, but also gathering current info on the culture, politics and situation, 'who's doing what to whom,' and doing some messaging so that if we had to come back, the populace would understand why. When things started deteriorating, we were pulled back to the ships and re-tasked to set up an EAB – an Expeditionary Advanced Base – on an island at the fringes of the enemy keep-out zone. The idea was to establish a sensor line to get a better read on enemy signatures and movements. It helped that the island had a decent patch of paved road to use to arm and refuel aircraft.*

So, it was a good target, but now we had to take it. With the new moon and zero illum, we came in fast from long range on small boats. Worst beaches you've ever seen. Windward side, rocks everywhere, shoving boats in between the breakers. Really high-risk in the dark – probably impossible without recon and unmanned systems confirming the landing sites. Fortunately, recon swimmers were there to greet us. We infiltrated by platoon towards the objective area. GPS access wasn't so hot, but we had maps and compasses and knew how to get where we were going. Our unit humped through some really rough ground to the assault position. In a few hours, we were right on top of the enemy and they didn't have a clue. Working from our F-35 feeds, we sent up our UAS killers to take out their crew-served positions and command posts. The mortar section got fire capped and was able to drop precision rounds right where the squad leaders told us to put 'em. They tapped the app and had rounds on target. The fight lasted about 45 minutes before we had things under control and the EAB was ready to take the first aircraft.

Moderator: LtCol Winchester, you commanded one of the BLTs during the amphibious assault. How did you put that force ashore, particularly given the enemy's capabilities? *Our battalion was one of two that went in vertically. Two others came in via surface. Units coming across the beach had to worry about mines and hasty obstacles, which they had a good set of unmanned capabilities to help them breach, and massed fires, which could have been catastrophic. While the landing force didn't get ashore unscathed, they mitigated the damage by using numerous small landing sites and emphasizing speed and dispersion. For our force, the key was ensuring that we could get in without being shot to pieces by the IADS. We were supporting and supported by MARSOC/SOF raids to give us secure movement corridors. We went into multiple LZs vice a single big one, inserting a good ways away from the actual objectives to disguise our intent and present a tougher targeting problem for massed enemy fires. To deal with the extra distance and additional weight from our organic precision fires – from our 120s – we utilized a mix of ultralight vehicles and robotic cargo systems. During the actual vertical assault, information coming in from manned recon elements, unmanned ground sensors and overhead ISR feeds let me understand the state of the LZs and gave me near real-time targeting data. By L+2 hours, the entire battalion was moving out to our objectives. Despite the fact that the enemy was jamming us pretty hard and we were sensitive to the risk of coming up on the net too often, we were able to maintain comms and supported one another as we moved to contact.*

Moderator: Why so dispersed? Weren't you worried about being too small to be effective?
No – our smaller units not only have more organic combined arms capabilities – like Group 1 UAS munitions, EW, and ISR – they also have the connectivity to reach out for almost every capability in the Joint force; plus they have trained with it. The squad leaders and platoon commanders employed assets and capabilities that, when I was a lieutenant, resided only at battalion, regiment, and brigade levels. It is all about relative combat power at the point of attack – not writ large across a theater. Plus our integrated C2 really boosted our operational tempo and gave us the fluidity to concentrate, disperse, and re-concentrate when necessary. We were able to make sense of what was going on and act quickly. This is KEY. All the information in the world is useless if you can't act on it. In OLR, we could and did.

While the battalion was maneuvering south towards the capital to deal with the proxy forces in there, the rest of the assault force pushed north to cut off the enemy's ground forces that had crossed the border. The battalions landing over the beach came in heavy enough to block the advancing enemy mechanized force. They had a mix of armor, artillery, air defense and precision weapons – more than enough firepower to deal with anybody ready to make a run at them. They also had significant aviation – on-line 24/7 – coming from their own organic unmanned assets as well as ACE and Joint platforms.

Moderator: You said that your battalion pushed south to deal with proxy forces in the city. Give us some insights on the urban fight. *In OLR, we were invited into a densely populated friendly area to support local security forces and police in rooting out proxy forces intermingled with the locals. We used all of our tools, just slightly differently. It was Gen Krulak's classic "three-block war"– fighting enemies, helping friendlies, and enforcing peace – all compressed into one block. And there wasn't a single block in that town where we weren't doing information warfare all day every day. Real-time ISR and precision fires are the only way to engage the enemy in this environment without turning the population against you. On the non-kinetic side, we were sensing and making sense of social media patterns and fighting the constant battle of the narrative. Our non-lethal capabilities were critical for certain situations, for example, controlling and moving crowds without escalating.*

Moderator: To get a higher command perspective, let's turn to some folks who were in the Maritime Operations Center. CAPT O'Reilly, what is your view having been the Chief of Staff? *Well, it seems clear that fighting as an integrated Naval force against a peer validated 10 years of experiments and exercises. A decade ago, we were still trying to integrate the Naval Services and struggling for training opportunities. I think the effort we put into learning how to conduct littoral ops made us appreciate the linkages between sea control and power projection.*

Once we really committed to operating with integrated Naval capabilities, things began falling into place. Lots of things – putting more Marines aboard different types of ships, studying Naval warfighting, integrating our operational staffs, merging our component staffs, and manning the Maritime Operations Center – with permanent staffing – eliminated the seams that had plagued us for so long. We made a Marine the Expeditionary Warfare Commander – certainly a big change. This resulted from the evolution of the Navy's Composite Warfare Doctrine for decentralized command to meet the requirements for 21st century maneuver warfare in the littorals. Having a Marine in this command position ensured we could composite MAGTFs that would fully mesh with the Naval force. With integrated staffs at the component and Maritime Operations Center level, the JFMCC was better able to bring the entire weight of the Department of the Navy to bear on the fight.

Moderator: Col Griffith – you were the G-3. What about *OLR* stands out in your mind? *Creating littoral combat groups really accelerated our ability to establish local sea control in blue/green/brown water. In OLR, groups combined the ARG/MEU, a Surface Action Group, and a Coastal Riverine Force with Marines aboard. The ARG/MEU's Maritime Raid Force and SOF conducted raids and reconnaissance to set conditions for Naval littoral maneuver. When the Carrier Strike Group came into position, the Maritime Operations Center established the Sea-Air-Ground Task Force. This was really important for compositing and unifying the Naval force.*

Moderator: Col Lawton, you were the MAW OPSO. Talk us through how the ACE's mission evolved as *OLR* progressed. *As things began to escalate, the integrated Naval plan folded in Marine aviation. The idea of having Marine air involved in fleet air defense and sea control took years to work out but proved its value. We started out supporting Navy aircraft in those missions before transitioning to degrading enemy A2AD capabilities. We knew that even with significant kinetic shaping we couldn't zero out the entire IADS and coastal defense systems, but we could create 'bubbles' for small periods. We had our birds emit so we could stimulate and collect on their early warning systems and the F-35s could hammer them. Ashore, the EABs were essential to Naval maneuver – there simply isn't enough deck space to handle the number of airframes for these types of ops. The EABs sped up deck cycles and increased sortie rates. Once we started shaping for the landings, the F-35's sense-and-strike capabilities let them act as quarterbacks on manned-unmanned hunter-killer teams with UAS providing persistent ISR and ordnance. As the landings commenced, the years of focus on digital interoperability between our aviation and ground assets paid off. Passing immediate messages, graphics, and threat overlays between our platforms kept our awareness high en route. Even so, it was hard to keep up with an adaptable enemy, and doing CAS in that urban sprawl was a huge challenge. Here again, digital interop was a big help, but even more so were the air-ground integration experts – talking JTACs and JFOs here – down at company and platoon. Especially in a contested EM environment where GPS couldn't be relied on 100% and our comms were periodically disrupted, having seasoned and experienced Marines understanding intent and working targeting and fires problems let us maneuver and engage the enemy with a lot more confidence.*

Moderator: Col Ramirez, you commanded the Combat Logistics Regiment. How did you support the *OLR* scheme of maneuver? *We recognized the complexity of sustaining lots of small units, getting them the things they need at the right time and in sizes they can use. The way not to do it is adding logistics structure ashore and building the inevitable 'iron mountain' that always follows, which is just a big high-value target. Our expeditionary logistics concept let us tailor "right-sized" packages for the supported command – company, platoon, squad – and deliver them by cargo-capable UAS. In OLR, we kept the Combat Operations Center and the bulk of the logistics afloat. That helped us do two key things. Obviously, it reduced the logistics footprint ashore and lowered the associated risk. Second, and maybe even more importantly, it gave us actual integrated C2 with the Navy. Planning together, we synchronized logistics across the entire Naval force, not for just one Service or the other.*

***Moderator:* Great stuff, gentlemen. Before we leave, does anyone want to make some closing comments? How about you, Col Griffith?** *Sure. You have to understand that the Marine Corps you see now is radically different from a decade earlier because we fully embrace 'Naval.' Back in 2016, the MOC – the Marine Corps Operating Concept – helped us to understand how an expeditionary force operates in the 21st century. It really pushed the boundaries of the future force, and it's not clear we could have pulled off something as challenging and complex as OLR under our old constructs. The MOC established a conceptual vision for the future, exposed it to debate, and then through a Campaign of Learning drove towards the capabilities that would bring that vision into being. The MOC defined an objective – posing questions and pointing towards possible answers – and Marines, being Marines, took that objective.*

2. Purpose and Context

The purpose of the Marine Corps Operating Concept (MOC): *How an Expeditionary Force Operates in the 21st Century* is twofold:

- describe in broad terms how the Marine Corps will operate, fight, and win in 2025 and beyond; and
- shape our actions as we design and develop the capabilities and capacity of the future force.

The MOC guides our collective efforts to ensure the Marine Corps' future readiness and relevancy. The Marine Corps, as an integral part of both the Naval force and the Combined/Joint force, must be a tailorable, flexible, and versatile force capable of responding to any crisis across the full range of military operations (ROMO). We must be a coherent and fully integrated *Naval Force* that can contribute to deterrence, provide maritime security, perform sea control, and project power ashore to impose our will upon adversaries. We must be an *Expeditionary Force* that is trained and equipped and able to operate in austere conditions and hostile environments. We must be an *Agile Force* that can navigate the physical and cognitive dimensions of complex situations and seize the initiative. We must be a *Lethal Force* with a 21st century approach to combined arms that integrates information warfare and seeks to destroy and defeat our enemies across five domains– air, land, sea, space, and cyberspace. Ultimately, we must continue to be a *Winning Force.* As Marines have always done, when our Nation calls upon us, we must fight and win regardless of the dimension or domain. *Victory is our legacy — in the past, now, and in the future.*

The MOC builds on proven concepts and practices such as Operational Maneuver from the Sea, Ship-to-Objective Maneuver, Seabasing, and Expeditionary Force 21 (EF 21). In 2014, EF 21 provided an initial heading to move the Marine Corps forward as a Naval expeditionary force in the 21st century. It offered waypoints to stimulate further creative discussion, formal analysis, and focused experimentation and brought about improvements and enhancements in how we organize, train and equip our Marine Air-Ground Task Forces (MAGTFs). Two years later, in the face of emerging threats and adaptive adversaries, the MOC supersedes EF 21. The MOC reflects the Commandant's guidance to leverage the full capabilities of the MEF to support Naval maneuver and Combined/Joint operations, reinvigorate our emphasis on maneuver warfare, and integrate information warfare into our combined arms approach. The MOC will drive capability and capacity decisions to produce the future force.

The MOC was developed through a design approach that:

- distills key drivers of change from the future environment;
- identifies the central problem confronting the Marine Corps as it prepares for the future;
- reinforces our enduring commitment to the principles of maneuver warfare in describing our concept for how we will operate and fight in 2025 and beyond; and
- sets critical tasks to inform how we will develop the future force to execute the concept.

3. The Future Security Environment: Key Drivers of Change

The MOC proceeds from the assessment published in June 2015 by the Marine Corps Intelligence Activity (MCIA): *Future Operating Environment (FOE) 2015-2025: Implications for Marines.* Looking out to 2025 through the lens of the *FOE*, the MOC focuses on key drivers of change in how we organize, train, and equip the Marine Corps to execute its assigned functions, roles, and responsibilities. The five key drivers are:

- Complex terrain;
- Technology proliferation;
- Information as a weapon;
- Battle of signatures; and
- Increasingly contested maritime domain.

Complex Terrain. The growth of crowded, poorly governed, or lawless areas, particularly in and around the world's littorals, will confront future commanders with the need to consider complex terrain. Complex terrain adds informational and human aspects of the battlespace to the traditional geo-physical factors. Our opponents have learned that fighting in complex terrain offers opportunities to undercut our advantages in technology, mounted maneuver, and firepower. Collateral damage in highly urbanized areas will be difficult to avoid. Densely populated areas with constricting topography and poor infrastructure will make vehicular and aerial movement readily observable and easily disrupted. Urban areas will also challenge our ability to find cover and concealment and achieve surprise.

Mission demands in complex terrain will place a greater requirement to conduct sustained, foot-mobile operations in and among populations. We must also be prepared to simultaneously fight, keep the peace, and provide humanitarian assistance – the familiar "*three-block* war" – and on *every* block conduct information warfare to protect friendly forces and networks, deceive the enemy, and create a cognitive advantage.

Technology Proliferation. Peer and near-peer state adversaries have and will continue to refine sophisticated anti-access/area denial (A2AD) capabilities that threaten our strategic reach and operational freedom of maneuver. Technology proliferation will ensure numerous non-state adversaries and individuals gain at least some capability at the tactical level. Many will be able to gain access to engineering knowledge for specialized weapons, commercially available unmanned systems, chemical and biological weapons, and new "*intelligent* explosive devices" that can hunt down their targets. Stand-off weapons such as anti-ship cruise missiles, precision-guided munitions, armed and persistent unmanned aerial systems (UAS), networked ISR and targeting systems, and surface-to-air missiles – all once the province of only the most modern militaries – are becoming commonplace. Increasingly lethal counter-air weapons and their growing availability even to non-state actors will further challenge our use of low-altitude airspace for maneuver, supply, and fire support.

Any monopoly we might have on "breakthrough" systems will likely be short-lived. Designs can be stolen from compromised information environments and cutting-edge equipment can be captured or illicitly acquired and reverse-engineered. Advances in computer controlled machining and the maturation of 3D-printing/additive manufacturing will enable competitors to quickly transition designs into production and introduce systems into operation at a pace far faster than our current acquisition process allows. We need to streamline our ability to evaluate and acquire advanced technologies to ensure we gain advantages from innovations faster than our competitors and adversaries.

It is critical to emphasize, however, that technology will never override the human dimensions of war. Like conflicts of the past, wars of the future will be characterized by their destruction, bloodshed, and suffering. No level of automation or use of robotics will replace the fact that war will always center on violence directed by humans against other humans. Killing is inherent to fighting, and war's violent essence will never change. Hence, war will continue to be an extreme trial that will test our strength, stamina, and endurance. On the battlefields of tomorrow, our Marines and Sailors will still have to contend with danger, fear, exhaustion, and privation. While new technologies and scientific advancements may grant us advantages, ultimately, it will be our hardened resolve and will to win that will prove decisive in future combat.

Information as a Weapon. An ever-increasing part of people's lives is taking place in the information space, adding informational and human dimensions to the battlespace. Globally networked and information-enabled populations now react to viral versions of events and ideas moving at the speed of the internet, complicating our ability to gain and maintain an accurate, up-to-date, intelligence-driven understanding of conflicts. Today's adversaries already leverage every type of information as an arm of both "hard" and "soft" power to mask their actions, mislead unwitting publics, and undermine the legitimacy of their opponents. Threat organizations routinely exploit intentional violence and collateral damage and disseminate their narrative through a wide range of outlets. With greater connectivity, competing arguments fueled by identity politics, economic grievances, and extremist causes will continue to produce turbulence and confusion.

Marines must understand that controlling physical terrain is no longer a sufficient condition for battlefield success; we must also navigate the landscape of knowledge and perception. Operating in the information domain will not only require us to protect our networks but take actions that *inform, promote, persuade, coerce, dissuade, convince, compel, deceive, mask*, and *intimidate*.

Battle of Signatures. Tomorrow's fights will involve conditions in which "to be detected is to be targeted is to be killed." Adversaries will routinely net together sensors, spies, UAS, and space imagery to form sophisticated "ISR-strike systems" that are able to locate, track, target, and attack an opposing force. In complex terrain, adversaries will collect targeting information through eyes and ears and spread it through social media. No matter the means of detection, unmanaged signatures will increasingly become a critical vulnerability.

We must acquire the offensive capabilities to raise and detect enemy signatures across the spectrum, quickly and accurately assign meaning to what we observe, and rapidly take action to exploit any opportunity. Defensively, our units will need to adapt how they fight, emphasizing emissions control and other means of signature management to increase their survivability. We will also need deception capabilities that cause an adversary to form inaccurate impressions about our actions and intentions. Further, we will need to improve our counter-intelligence capabilities and social media discipline.

Increasingly Contested Maritime Domain. We no longer enjoy presumptive sea control. Although the U.S. Navy-Marine Corps Team remains powerful, its ability to control the seas and project power is increasingly in question. Near-peer competitors are now openly challenging previously unmatched U.S. Naval air, surface, and subsurface capabilities. Potential adversaries are currently striving to contest our ability to gain access to specific regions of the global commons. We should expect future adversaries to pursue military objectives without crossing the threshold of open conflict, applying pressure across multiple domains of competition to produce a *fait accompli* contrary to our interests. We will face more challenging combinations of cyberspace warfare, economic influence, political shaping, and legalistic "lawfare" to control the escalation and de-escalation of crises in ways that undermine our influence and

increase our reaction times. The deep-water ports and high-throughput airfields we once relied upon are also increasingly vulnerable to attacks with long-range fires. These challenges will only grow as competitors pursue concepts for holding our forces at bay at greater distances and denying our ability to maneuver in both littoral and landward areas.

We must develop capabilities and training that reflect the mutually reinforcing relationship between sea control and power projection. The Naval Services' maritime strategy, *A Cooperative Strategy for 21st Century Seapower*, states that establishing sea control may require projecting power ashore to neutralize threats or control terrain in the littorals. Similarly, projecting and sustaining power ashore requires establishing sea control in the adjoining seas and airspace. The Marine Corps must enhance its power projection capabilities and contributions to sea control as part of a Naval campaign.

4. Statement of the Central Problem

Over the past 15 years, we have been continuously involved in both major combat and crisis response missions. All that time, our competitors have observed and learned much from how we operate. As a result, our future enemies will use that knowledge to oppose us in the physical and cognitive dimensions of conflict. In contrast, we have not been able to adapt at the rate of change required to ensure our success in future conflict. Restoring our advantage requires to us address our central problem:

The Marine Corps is currently not organized, trained, and equipped to meet the demands of a future operating environment characterized by complex terrain, technology proliferation, information warfare, the need to shield and exploit signatures, and an increasingly non-permissive maritime domain.

The MOC is the starting point to address this problem by reaffirming the primacy of maneuver warfare and combined arms for the 21st century and identifying the critical tasks to develop the future force.

5. Our Operating Concept: Maneuver Warfare in Every Dimension; Combined Arms in All Domains

Our doctrine defines maneuver warfare as *"a warfighting philosophy that seeks to shatter the enemy's cohesion through a variety of rapid, focused and unexpected actions which create a turbulent and rapidly deteriorating situation with which the enemy cannot cope."*[1] This warfighting philosophy was, is, and will remain our foundation. In the past, we successfully conducted maneuver warfare primarily in the physical dimension and employed combined arms in the air, land, and sea domains. Now, changes in the operating environment and adversary capabilities drive us to increase emphasis on maneuver in the cognitive dimension and expand our employment of combined arms to the domains of space and cyberspace. This expansion and enhancement of our warfighting approach is necessary to ensure that we maintain our ability to defeat our enemies and win our Nation's battles.

To address our central problem and reaffirm the primacy of maneuver warfare and combined arms, our operating concept is:

The 21st century MAGTF conducts maneuver warfare in the physical and cognitive dimensions of conflict to generate and exploit psychological, technological, temporal, and spatial advantages over the adversary. The 21st century MAGTF executes maneuver warfare through a combined arms approach that embraces information warfare as indispensable for achieving complementary effects across five domains – air, land, sea, space, and cyberspace. The 21st century MAGTF avoids linear, sequential, and phased approaches to operations and blends maneuver warfare and combined arms to generate the combat power needed for simultaneity of action in its full range of missions. The 21st century MAGTF operates and fights at sea, from the sea, and ashore as an integrated part of the Naval force and the larger Combined/Joint force.

[1] Marine Corps Doctrinal Publication (MCDP) 1, *Warfighting*, June 1997.

5.1 Executing the Concept

Our ability to successfully execute the concept will depend greatly on the extent to which we have:

- Integrated as a full partner with the Navy, Special Operations Forces (SOF), and the Joint force – *because Marines both contribute and benefit from unique and complementary capabilities across the ROMO and across all five domains*.
- Devised and refined an approach to operate from more diverse platforms and expeditionary advanced bases as part of a Naval campaign – *because fighting at and from the sea was, is, and will remain a core competency that the Nation requires*.
- Exploited the ability of our largest MAGTF, the Marine Expeditionary Force, to serve as a reservoir of capability from which to tailor the force at every level – *because the Marine Corps is unique in its ability to task-organize for any situation.*
- Mastered the implementation of 21st century combined arms as our means to conduct maneuver warfare across all domains – *because we will exploit every opportunity to gain an advantage.*
- Organized, trained, and equipped all echelons to integrate information warfare as a combination of creative thinking and advanced technology – *because conducting information warfare is what we all do, every day.*
- Designed and protected our C2 and ISR networks as a multi-source information sharing architecture that reliably serves disparate MAGTF elements – *because distributing actionable information keeps operations in chaotic environments from becoming chaotic operations.*
- Configured the MAGTF to fight and win when it fluidly distributes and concentrates elements – *because maneuver warfare and combined arms create combat power at any scale.*
- Enabled small units to achieve greater effects – *because they can leverage the full combat power of the MAGTF and Naval/Joint forces*
- Redesigned our logistics to support distributable forces across a dynamic and fully contested battlespace – *because iron mountains of supply and lakes of liquid fuel are liabilities and not supportive of maneuver warfare.*
- Learned how to use unmanned systems and automation at all echelons and in every domain – *because mastering the man-machine interface offers a revolution in military operations.*
- Set the mental and physical standards for Marine infantry through a mission-driven perspective that fully recognizes the demands on foot-mobile forces conducting operations in austere environments – *because superior infantry is a Marine Corps asymmetric advantage.*
- Developed leaders at all echelons who know how to fight in the complex terrain of densely populated urban environments and understand the power of information and information warfare – *because "fighting hard" and "fighting smart" are not mutually exclusive.*
- Designed and implemented manpower systems, policies, and processes to attract, develop, retain, and support highly qualified Marines and civilian employees prepared for the rigors of 21st century expeditionary operations – *because we are in a fight for the best and brightest talent.*
- Overcome the enduring obstacles to leveraging and sustaining "commercial-off-the-shelf systems" – *because affordable "70%" solutions now are better than outdated solutions 10 years from now.*

5.2 Pursuing Change: Priorities and Risk

The Nation requires a Marine Corps that can fight and win in the future operating environment. To meet that requirement, the MOC outlines a force capable of conducting maneuver warfare with a 21st century approach to combined arms that leverages the additive and complementary effects of information warfare. This force cannot be realized in part – forgoing one element to focus on another will compromise the whole. It must be created as a coherent solution, comprising to some degree all of the requisite capabilities and capacities.

Our greatest risk is that we become unbalanced in our development of a future Marine Corps that is at once Naval, expeditionary, agile and lethal. Nevertheless, we will have to contend with the limiting effect of budgetary constraints, account for technological hurdles, and promote a shared sense of urgency to fend off any argument that "business as usual" is a viable option going forward. We will consider the timelines, resources and effectiveness associated with competing ideas and alternative methods for realizing the necessary capabilities and capacities. We will look for the intersection of the highest levels of military utility, technical feasibility and institutional affordability to establish priorities for bringing this future force into being as a coherent whole.

6. Creating the Future Force: Critical Tasks and Issue Areas

The MOC identifies five critical tasks and associated issue areas to guide our effort to change how we organize, train, equip, and sustain the Marine Corps to operate, fight, and win in the 21st century. The five critical tasks are:

- Integrate the Naval force to fight at and from the sea;
- Evolve the MAGTF;
- Operate with resilience in a contested-network environment;
- Enhance our ability to maneuver; and
- Exploit the competence of the individual Marine.

The scope and scale of the implied changes are not trivial; they cut across the Marine Corps as an institution. The tasks associated with these changes require us to come to terms with new missions, acquire and master new capabilities, and evolve or create organizations. As a warfighting organization, we must continue to innovate and adapt to ensure that we restore and then maintain our competitive edge across the spectrum of conflict over all adversaries.

6.1 Critical Task: Integrate the Naval Force to Fight At and From the Sea

As described in *A Cooperative Strategy for 21st Century Seapower,* Naval forces perform these essential functions: all-domain access, deterrence, sea control, power projection, and maritime security. The Marine Corps, as an expeditionary force in readiness, provides the Naval force with both unique and complementary capabilities to perform those functions. MAGTFs give the Naval force the ability to rapidly deploy, employ, and sustain versatile combat power to accomplish a wide range of missions. As we prepare for future operations as a more integrated Naval force, we must understand the implications of the Naval functions for organizing, training, and equipping MAGTFs to operate and fight.

6.1.1 Role of Forward and Ready Naval Forces

The Marine Corps and Navy provide a credible and capable forward presence that gives national authorities immediate response options while buying time for distant elements of the Joint force to mobilize and deploy. There is a strategic relationship between forward presence and access, and the extent to which we maintain and enhance the former improves our options and ability to ensure the latter. Operating with partners forward builds and develops access to protect and promote our national interests. The Naval force's investment in forward presence reduces the challenges we will face if we have to create access in crisis and force access in hostilities. To preserve the credibility and capability of our forward presence, we must:

- Structure exercises to provide actionable feedback on the effectiveness of our integrated command relationships, including under realistic conditions where our use of space, cyberspace, and communications is degraded or denied.
- Explore alternative approaches to power projection given the limited capacity of the Naval force to deploy Marines in a standard ARG/MEU formation, which results from the fixed inventory of L-class amphibious warfare ships.
- Integrate MAGTFs operating from amphibious warfare ships, expeditionary land bases, and auxiliary ships with other forward-postured Navy and SOF elements.
- Ensure the ARG/MEU operating distributed or disaggregated retains its capabilities and its ability and authority to operate as a cohesive Naval force.

6.1.2 MAGTF Role in Sea Control and Power Projection

The Naval force can draw on the combat power of afloat Marine forces to support maritime security by contributing force protection, ISR, fires, and maneuver forces to execute visit, board, search, and seizure (VBSS) missions or counter-piracy operations. Marine forces can also support sea control through anti-surface warfare missions and counter-fast attack craft/fast inshore attack craft missions. Establishing sea control may also require projecting power ashore to neutralize threats or control terrain in the landward portion of the littorals. Navy and Marine Corps units can be task-organized to provide scalable and distributed options to defeat land-based threats with the forcible entry capability provided by up to two MEBs, deny enemy use of key maritime areas or terrain, or establish EABs. To improve our ability to support an integrated approach to sea control and power projection, we must:

- Develop integrated ISR packages with the Navy to produce a comprehensive and shared understanding of the littoral environment.
- Integrate our fifth-generation aviation capability into the MAGTF and forward-deploy this capability in sea- and shore-based roles, including from EABs.
- Coordinate the development of USMC TTPs for integrated sea control missions.
- Examine ways to increase the use of Marines on Naval warships such as DDGs, ESBs, and LCS/FFs as well as HSVs, T-AKEs, and MPS to support sea control and power projection operations.
- Develop a CONOPS for the distributed MAGTF in support of Naval operations.

6.1.3 Integrating Command Structures

The objective of command integration is to ensure the Naval force can rapidly and flexibly engage threats whether they are based on land, air, surface, subsurface, or originate in the cyberspace and space domains. This will require our amphibious, ground, and aviation platforms to have the requisite C2 capacity and interoperability within the Naval force and Combined/Joint force. To provide the unity of command that is necessary to operate most effectively as an integrated Naval force, we must:

- Enhance our contributions to the forward-postured force by strengthening our partnership with the Navy, Coast Guard, and SOF in both the seaward and landward portions of the littorals.
- Examine the Composite Warfare Construct or alternative C2 arrangements with the Navy to promote unity of effort in littoral warfare.
- Focus on strengthened Naval habitual relationships at the tactical and operational level.
- Explore and exercise with Joint and regional partners in support of building partner capacity and promoting interoperability in forcible entry and sustained major combat operations ashore.
- Increase the number of Marines assigned to staffs supporting the Combined/Joint Force Maritime Component Commander (C/JFMCC) or fleet commander.
- Explore the effectiveness of creating a single Naval component for the Combatant Commands (CCMDs), tempered by the recognition that each Service has independent requirements.

6.1.4 Creating Lodgments

The Marine Corps will continue to organize, train, and equip the force with a focus on capabilities required to achieve lodgment conditions and/or seize and secure advanced Naval bases. To enhance our understanding of what these operations entail, we must:

- Coordinate closely with follow-on forces to identify the necessary conditions for establishing future lodgments and the equipment and capabilities required to safeguard and hold them.
- Explore when and how the Combined/Joint force and the Marine Corps could maximize efficiencies in seabasing and lodgment operations.
- Refine our concepts for using the Maritime Prepositioning Ships squadrons as a “seabased lodgment” to force an adversary to confront both the possibility and the reality of multiple avenues of approach.

6.1.5 Littoral Operations in a Contested Environment

The developing Navy and Marine Corps concept for *Littoral Operations in a Contested Environment* will describe how an integrated Naval force operating from dispersed locations both ashore and afloat will achieve local sea control and power projection into contested littoral areas. The concept will address the differences between “rolling back” an A2AD threat versus creating gaps/seams by location and/or time that can be exploited through a maneuver warfare approach. From this conceptual baseline, we must:

- Experiment as a littoral maneuver force that embraces the full power of Naval, Joint, and Combined forces to provide a greater capability than an amphibious force alone.
- Embrace a holistic approach to protecting the Naval force in a contested environment, striking a balance between point/area defense and offensive action.
- Conduct pre-deployment training with all forces in the littoral fight to cultivate mission command, integrate warfighting skills, create agility, and foster operational cohesion and confidence.

6.1.6 Expeditionary Advanced Base (EAB) Operations

MAGTFs may be task-organized for missions to seize, establish, and operate multiple EABs. We must improve our ability to:

- Employ EABs for offensive actions in support of sea control.
- Reinforce and defend EABs with manned and unmanned long-range strike, anti-ship, anti-air, and C2-extending systems to transform a site into a sea-denial outpost.
- Use EABs as hubs supporting the integrated Naval logistics network, providing temporary forward and intermediate staging areas for MAGTF follow-on echelons and sustainment operations.
- Leverage the NECC, Naval Beach Groups, and Joint capabilities to complement the MAGTF.

6.2 Critical Task: Evolve the MAGTF

The MAGTF will remain our "first principle" for force organization. Given the diversity of potential missions and adversaries we will likely face in the future, we must retain the essential advantages conferred by the inherent flexibility and adaptability of the MAGTF. The MAGTF of the future will most likely be composed of some combination of forward-deployed forces, rapidly deployable forces, and land and maritime prepositioning forces. The specific combination of forces used will depend upon, among other things, the factors of time, distance, and strategic mobility of resources available. While the idea of the MAGTF is enduring, we cannot afford to allow our thinking about MAGTF constructs to be static. We must examine how we organize and employ MAGTFs as units capable of meeting the challenges across the ROMO, including how to structure a MAGTF to fight as an integrated partner with the Navy in sea control and maritime superiority missions.

6.2.1 MEF-level Operations

The MEF remains our most capable MAGTF and is and will remain capable of conducting major operations in the littorals, ashore, and inland. These may include exploiting success in amphibious landings, turning an adversary's flank, or creating opportunities for future Joint force actions. The Marine Corps' ability to fight and win in major engagements is essential for our Nation – and required by law. The MEF's structure is required to form other MAGTFs, especially the MEF (Fwd) and the MEB. [2] Essentially, it takes a MEF to deploy a MEB. Accordingly, we must:

- Remain ready to simultaneously employ a MEF in sustained operations and up to two MEBs.
- Be prepared to perform large-scale, forcible entry operations.
- Continue to wargame challenging scenarios to draw out and understand the implications of the future operating environment for MEF-level operations.
- Employ tailored MAGTF Command Elements (CEs) in addition to our standing MAGTF CEs for specific missions.
- Configure the MEF CE to serve as a Combined or Joint Task Force HQ.

[2] A MEF (Fwd) is normally the lead echelon of a MEF or, for some contingencies, it can be a stand-alone MAGTF capable of sustained expeditionary operations. A MEF (Fwd) is normally smaller than a MEF and larger than a MEB.

6.2.2 Integrating Command, Control and Informational Tools

Mission success more than ever depends on the ability of commanders and forces to act quickly and effectively based on the most accurate and timely data available. The challenge is to resolve barriers to trusted information sharing and collaboration; the goal is to provide more convenient, assured, and ready access to information on a wider range of devices, under diverse conditions. To improve our C2 and information integration, we must:

- Evolve our approach to information sharing and information availability to ensure units large and small, operating dispersed or concentrated, have the awareness to employ the full range of combined arms at a tempo enabled by the distribution of timely and actionable information.
- Drive innovation by combining a mission perspective with commercial developments that allow information providers to collaborate on a situationally dependent architecture that lets information users opt-in to access or create tailored data streams.
- Better integrate all forward-deployed and garrison MAGTF elements into the globally netted ISR architecture to increase awareness, preparedness, responsiveness, and effectiveness.
- Balance the need to move information across and within a more diverse base of users and producers with the need to reduce vulnerabilities induced by electronic signatures.
- Explore ways to preserve data integrity when and as hierarchical constraints on collection, production, and dissemination are loosened.
- Be prepared to make effective decisions in a degraded or denied C2 environment.
- Take advantage of commercial-off-the-shelf (COTS) network and data solutions.

6.2.3 Unified Action

The Marine Corps will continue to train and experiment with the other Services, nations, governmental agencies, and non-governmental organizations to develop and sustain Combined/Joint capabilities. We will focus on command information, intelligence, reconnaissance, and networked information architectures to achieve a more unified approach for operations. We will align our efforts with the Joint Information Environment concept as well as the Mission Partner Environment[3] framework for sharing information between U.S., non-U.S., military, government and non-government organizations responding to missions across the ROMO. Expanding on recent experience, we must:

- Examine the combat-multiplier effect of integrating more Marines into key nodes of the Joint force and global SOF enterprise.
- Ensure all MAGTF operations have information warfare capabilities.
- Provide MEUs and Special Purpose MAGTFs (SPMAGTFs) secure networks capable of extending to/integrating with the Joint, Inter-agency, Intergovernmental, and Multinational (JIIM) force.
- Continue to emphasize task-organized, general-purpose forces for security cooperation activities to facilitate access, improve regional understanding, liaison with the regional Marine Forces Components (MARFORs), and enhance integration with theater special operations commands.
- Pursue wargaming and experimentation at the Service, MARFOR, and MAGTF levels, to help develop common processes essential to effective Combined/Joint operations.
- Determine the requirement for standing Liaison Officers at key agencies and organizations in the JIIM force that would produce a significant impact on MAGTF operations globally.
- Effectively employ the Joint Logistics Enterprise (JLEnt) to expand on capabilities already enhanced with Naval Logistics Integration.

[3] DoDI 8110.01, *Mission Partner Environment (MPE) Information Sharing Capability Implementation for the DoD*, November 25, 2014.

6.2.4 Integrating MAGTF-SOF Capabilities

Marines and SOF are naturally aligned in terms of mission approach and execution. Forward-deployed in similar geographical areas, both are actively engaged in shaping operations and able to respond immediately to crises as well as perform operations in a sustained campaign. In addition to U.S. SOF, to generate sufficient scale for some contingencies, Marine forces might also need to operate closely with Coalition SOF as well as U.S. Army elements (regionally aligned brigades; Airborne, Ranger, and Air Assault). To enhance MAGTF-SOF integration, interoperability and interdependence (I-3), we will continue to work with the U.S. Special Operations Command (USSOCOM) to solve common challenges. To achieve these ends, both parties have agreed to:

- Determine the requirements to enhance MAGTF-SOF I-3 capability in support of CCMDs.
- Produce a framework concept describing the USMC-USSOCOM I-3 vision to achieve greater synergy in support of CCMD priorities.
- Examine opportunities to synchronize existing MAGTF-SOF experimentation and wargaming.
- Emphasize pre-deployment training that promotes understanding of MAGTF-SOF capabilities.
- Ensure MAGTF-SOF digital systems interoperability and operations/intelligence fusion.
- Ensure USMC-SOF equities are represented in concept and doctrine development including integrated campaigning, human aspects of military operations, and operating in the information environment.

6.2.5 Challenges of Compositing

MAGTFs are formed either through deliberate planning or adaptive planning. A deliberately planned MAGTF is formed to address an expected assignment. In this case, every MAGTF element comes with a baseline of training on its core mission-essential tasks, which then allows the unit to focus on the particulars of its regional- or mission-specific requirements. The ratio of enabling capabilities is balanced against mission requirements and there is a scheduled opportunity for the MAGTF elements to conduct direct coordination, planning, mission rehearsals, and SOP refinement prior to deployment. Additionally, this schedule allows the MAGTF CE an opportunity to work as a coherent element to create unity of effort, focus, and command. All of this is absent when a MAGTF is "composited" through adaptive planning to deploy a credible force to address an unexpected crisis. A composited MAGTF is challenged by the requirement to establish new MAGTF command arrangements and functional processes (e.g., fires, intelligence, etc.) while integrating into a Naval and/or Combined/Joint force. To improve the effectiveness of composited MAGTFs, we must:

- Ensure MAGTF CEs understand regional differences affecting organizational integration.
- Develop common, consistent practices to enable rapid compositing of forces into a single MAGTF or multiple MAGTFs under a single CE.
- Develop a notional MAGTF architecture to ensure composited MAGTFs are functional across all warfighting functions.
- Develop a formal training, planning and rehearsal mechanism as an adaptable baseline approach to minimize challenges associated with the compositing of MAGTFs.
- Prioritize our exercise program to drive appropriate Service component and force provider participation in testing potential compositing approaches and solutions.

6.2.6 Train and Fight as Distributable Forces

The ability of virtually every adversary to leverage surveillance, information warfare, and lethal fires exposes our forces to detection, targeting, and attack, especially if our forces are massed. MCDP 1 *Warfighting states, "Military forces will mass to concentrate combat power against the enemy. However, this massing will also make them vulnerable to the effects of enemy fires, and they will find it*

necessary to disperse." To conduct maneuver warfare in the 21st century, we must have forces that can avoid the disadvantages of mass when required and employ the benefits of mass when operationally favorable. This requires a MAGTF with the agility and mobility to distribute and concentrate as opportunities arise or circumstances dictate. Training and fighting as distributable forces does not imply a collection of small teams and should not be confused with the SPMAGTF-Crisis Response (CR) units we have in AFRICOM and CENTCOM. While valid for their current role, they are the product of focused, deliberate force planning and designed to certain mission sets. To create MAGTFs that are effective in the future operating environment, we must:

- Develop a blend of 21st century warfighting capabilities to enable the MAGTF at any scale to conduct maneuver warfare.
- Develop the capabilities across all warfighting functions that enable the MAGTF to operate in a distributed posture in a complex non-permissive environment.
- Explore the extent to which distributed MAGTF elements will require situational awareness, fires, logistics, communications, and maneuver assets to secure landing sites or maneuver to objectives deep inland.
- Employ units with a smaller size and footprint when appropriate.
- Leverage the Navy's Capabilities-Based Medical Treatment Facility concept to deliver rapidly deployable, task-organized and scalable expeditionary health service support in the afloat or ashore environments.
- Examine the additional medical and casualty evacuation/medical evacuation assets required to treat, stabilize, and move affected personnel to the requisite level of medical care in a fluid maneuver environment.

6.2.7 Exploiting Automation

MCDP 1 points out that a significant advantage can be gained by being first to exploit a development in the art and science of war. A military that is slow to exploit technological advances and adapt new ways of fighting opens itself to catastrophic defeat. As we continue to reap the benefits of technological progress in many warfighting areas, we must capture the full potential inherent in automation. Automation can mitigate risk, reducing the exposure of humans to harm, and reduce the workload on personnel. As machines advance from performing repetitive tasks to dynamic workloads, it will free people to focus on the things they do uniquely or best. The challenge, as machines become more capable and autonomous, is how to put people and things together in the most effective pairings for the mission at hand. To fully exploit the power of automation, we must:

- Refine the concept of manned-unmanned teaming (MUM-T) to integrate robotic autonomous systems (RAS) with manned platforms and Marines.
- Develop CONOPs that support and embrace RAS as a critical enabler.
- Develop unmanned reconnaissance and surveillance systems to investigate littoral environments and complex terrain features (sewers; tunnels; subways; buildings; caves; etc.).

6.2.8 Total Force Approach to Readiness

Our ability to meet future force commitments requires a total force approach to readiness. In the past, our reserve forces provided an institutional shock absorber to meet expanding requirements, particularly in sustained major operations. Looking forward, our reserves may play more of a complementary role in specific areas. To gain the full benefit of a total force approach, we must:

- Develop a total force (reserve and active forces) approach to supporting and sourcing steady-state operations, security cooperation activities, and contingency response missions.
- Maintain one third of the Marine Corps operating forces forward.

- Develop additional opportunities for regional rotational training bases in order to improve interaction with partner militaries, increase regional knowledge, and enhance our ability to keep Marines forward deployed without putting undue burden on partner nations.
- Improve our manpower and training systems to increase the number of deployable Marines available to the operating forces.
- Capitalize on the capabilities our reserves can adequately support by better aligning civilian skills with force requirements.

6.3 Critical Task: Operate with Resilience in a Contested-Network Environment

The future operating environment compels us to protect C2 and information networks. C2 is a function of a commander's ability to sense, make sense of, and act upon information. As a modern force, we must continue to put ourselves into position to gain all the possible advantages of networking. Yet even as we pursue those advantages, we must recognize and act on two realities that will challenge our ability to realize the full potential of networking. First, the high bandwidth requirements of dense networks place real restrictions on the scale of the information flow. To the extent that throughput limitations continue to exist even when factoring in advances in networking technology, we have to be prepared to operate with a ruthless prioritization of information sharing between the various command echelons. Second, no matter how much connectivity we achieve in peacetime, "information ubiquity" is likely to be the first casualty in the next war. We have to be prepared – meaning trained and ready – to operate with resilience in a contested-network environment. Our resilience will come from routine practice throughout the MAGTF of decentralized decision-making by leaders who work from commander's intent to rapidly envision and execute maneuver warfare. We must practice the devolution of authority and the prioritization of C2 applications under contested conditions in order to ensure our resilience.

6.3.1 Role of Signature in Offense and Defense

We will seek to exploit all the advantages conferred by richly networked communications and attempt to deny those same advantages to the enemy. A key factor will be our ability to control and minimize our signatures and raise and identify adversary signatures. All echelons must understand and manage signatures through a combination of emission control and the use of decoys, cover, concealment, camouflage, and deception. Redundancy, hardening, and other defensive measures are necessary to protect our ability to gain and distribute intelligence in the face of sophisticated jamming, hacking, and other threats. Nevertheless, we have to be ready to operate in full expectation that our space-based capabilities and networks will be attacked, compromised, degraded, or denied. The point is to make our networks resilient even as we learn to operate with disruptions and latency. To do this, we must:

- Protect our networks and nodes as the friendly center of gravity.
- Explore advances in commercial encryption technologies to harden our networks.
- Ensure the MAGTF is able to establish low-signature operating sites.

- Develop and train to sustain a viable mission command framework when communications are degraded or denied and positive control is not feasible.
- Ensure Marines at every echelon are capable of executing their missions working from an understanding of commander's intent and gaining situational awareness through basic military reconnaissance and scouting techniques.
- Explore the value of redundant communications systems or commercial networks to overcome jammed or compromised systems.
- Practice network foraging, finding and exploiting existing communications resources, to reduce signature and provide alternative C2 avenues.
- Approach security cooperation activities in a manner that gives us insights into the local signature norm such that we can better detect and accurately interpret threat activity and raise an adversary's signature.

6.3.2 Networking for Rapid/Precise Fires

In future conflicts we will operate against adversaries with effective ISR and the ability to place long-ranged fires both with precision and for massed effects. In such environments we must have the ability to sense, make sense, and act first to detect and target whether conducting rapid counter-battery and defensive fires or engaging in quick-response offensive fires missions. To do this we must:

- Shorten the kill chain at the tactical edge by linking distributed forces to sensors and fires with the agility to rapidly provide precision and massed effects.
- Develop the appropriate combination of precision and saturation fires to counter threats operating within and outside complex terrain, including urban areas.
- Employ rapidly mobile fires systems that engage immediately while networked.
- Develop layers of persistent, armed, multi-spectral, and beyond line of sight (BLOS) UAS above our units to produce responsive intelligence and targeting information, extend our C2 across a shifting battlespace, and deliver non-kinetic and kinetic fires in support of MAGTF operations.
- Develop sea-based fires alternatives including from conventional guns with extended-range guided munitions, rail guns, missiles, and HIMARS or similar rocket launching system afloat.
- Develop and employ persistent sensors above, on the flanks, and, at times, below our forces – perhaps even at the individual level – to provide early warning and targeting information.
- Develop expeditionary counter-fire systems to achieve fires advantage.
- Employ both passive and active defense against enemy long-range precise fires.

6.3.3 Pushing Processing Power to the Tactical Edge

In a hierarchical C2 architecture, information flows predominately from higher headquarters to the lowest tactical units. This top-down flow made sense when computers, sensors and communications systems were large components or aggregations of bulky hardware and were essentially high-demand/low-density assets. The exponential increase in miniaturization makes greater processing power more available in compact or portable devices. To the extent we can benefit from continuing to push processing power to the lowest echelons possible, we must:

- Embrace a different way of thinking about how and when information should be pushed and pulled between higher and lower echelons.
- Balance empowering the lowest tactical elements with the need to preserve unity of command.
- Recognize and accommodate the complications that expanded connectivity between higher and lower echelons may pose to our efforts to improve signature management.
- Streamline information entry, processing, and access to enable temporal advantage and layered understanding.

6.3.4 Enhanced Concept of Intelligence

Current and future forces will increasingly rely on sensors, networks, architectures, and tradecraft to establish and maintain battlespace awareness, influence the operating environment, and support decision-making at higher headquarters and on down to the point of action. The MAGTF must draw on the full portfolio of U.S. intelligence systems, including space-based assets, to build and maintain an accurate, current, and actionable operational knowledge base. Further, the MAGTF must complement this with information harvested from commercial and social information sources as well as a deeper understanding of the environment developed from the collected observations, information, and experiences of Marines up and down the echelons of the force. While we have gained some clarity/understanding from efforts to create and refine the Common Operational Picture (COP) at higher command levels, we must seek to capture the value of pushing networked intelligence down to tactical units (for example, to the rifle platoon or squad levels) throughout the MAGTF. To do this, we must:

- Empower the Marine Corps ISR Enterprise (MCISRE) to evolve at the pace of information technology development, for example, folding open-source intelligence (OSINT) into every aspect of situational understanding to expand the scope of our knowledge base and greatly ease the challenges of sharing information with allies and coalition partners.
- Explore ways the MCISRE could invert its reliance on highly classified information, expanding the role of OSINT and augmenting it with classified intelligence only where it adds value.
- Explore data strategies and information sharing architectures that would let us reap benefits from machine-aided tipping, machine-aided relational visualization and display of battlefield threats, and opportunities that help commanders and other decision-makers quickly and intuitively understand complex situations.
- Continue to pursue unmanned ISR systems that can provide actionable information – letting the small-unit leader know what's around the corner and what's in, on, and below the building – in ways that support distributed units with highly compressed timelines for situational awareness, intelligence, decision-making, and action.
- See the opportunities inherent in having every aircraft and every vehicle, potentially even every individual Marine, capable as a battlefield sensor.
- Task-organize MAGTFs to include mission-appropriate intelligence capabilities through a consistent approach to develop Marines qualified to staff mutually supporting intelligence nodes across all MAGTF organizations.
- Develop a tailorable COP that can be distributed based on mission and user needs.

6.4 Critical Task: Enhance Our Ability to Maneuver

Maneuver warfare was, is, and will remain our doctrine. Maneuver warfare requires action in the physical and cognitive dimensions of conflict. To increase our ability to distribute and concentrate forces and effects throughout the battlespace, the 21st century MAGTF must be able to maneuver equally well in both dimensions to achieve psychological, technological, temporal, and spatial advantages.

6.4.1 Naval and Littoral Maneuver

Naval maneuver involves fighting on and from the sea and projecting and sustaining ready-to-fight combat forces. It can also involve strikes on a hostile or potentially hostile shore. Littoral maneuver is a critical subset of Naval maneuver. Littoral maneuver is the ability to transition ready-to-fight combat forces from the sea to the shore in order to achieve a position of advantage over the enemy. At the outset of a campaign, Marines use the sea and EABs as maneuver space to apply power at a time and place of our choosing and, if follow-on power projection operations are required, to begin to build up and stage expeditionary combat power for subsequent operations. Amphibious capabilities provide the means to conduct littoral maneuver. While designed primarily for combat, such capabilities have wide applicability across the ROMO. Amphibious warfare ships are high-demand/low-density platforms that provide the optimal means of employing Marines from the sea. That said, we will likely continue to fall short of the number of amphibious warfare ships to meet CCMD operational demands. To improve our ability to fight at and from the sea, we must:

- Expand the capability for littoral maneuver beyond existing connectors, amphibious vehicles, and assault support aviation by examining manned and unmanned systems that reduce our signatures, allow us to overcome obstacles, extend our reach with boats and surface connectors that operate throughout the depth (rivers, estuaries, bays, extended coastlines) and breadth of the littorals, and increase options for sustained operations in the littorals.
- Collaborate with Navy counterparts to establish austere, scalable, and agile EABs.
- Provide active protection systems for platforms and ensure amphibious warfare ships are employed within Naval and Joint architectures.
- Develop alternative employment methods and augment amphibious warfare ships by modifying other vessels for sea-based littoral operations.
- Refine existing Maritime Prepositioning Force (MPF) capabilities to support afloat forces and a range of crisis operations.

6.4.2 Broader Concept of Combined Arms/Information Warfare

The 21st century concept of combined arms includes complementary effects from actions in and across the space and cyberspace domains. In future conflicts, the Marine Corps will have to fight *for* information and *with* information. We will confront adversaries who seek to disrupt, degrade, or destroy our information capabilities and systems. We will counter them with an information warfare approach integrated with C2, ISR, and precision fires from the MEF to the small-unit level. Our portfolio will include information operations (IO) that encompass the integration of: military information support operations (MISO); military deception (MILDEC); operations security (OPSEC); electronic warfare (EW); physical attack; special technical operations (STO); information assurance (IA); computer network operations (CNO); public affairs (PA); and civil-military operations (CMO). To enhance our ability to conduct information warfare in the future, we must:

- Develop an organizational and employment construct for information warfare efforts to ensure the MAGTF has a cohesive, organic capability to operate equally well across the five domains.
- Provide all MAGTFs with an information warfare capability and generate the capacity to task-organize it in subordinate echelons.
- Integrate a 21st century combined arms approach into our education, training, exercises, and organizations.
- Create enduring, professional organizations that can consistently provide the MAGTF with combined arms effects across all domains.
- Keep pace with ever-changing technologies to succeed on a battlefield where the ability to conduct cyberspace operations is as important as the ability to perform C2, maneuver, or fires.

- Develop tools and methods to identify strengths, weaknesses, threats, and opportunities in the information environment.
- Continue to mature our global cyberspace operations capabilities to include employment of Cyberspace Protection Teams as maneuver elements.
- Develop processes and authorities for releasing information and participating in the social media spaces in order to inform and influence audiences.
- Develop tools and equipment that detect and attack adversary use of the electromagnetic spectrum.
- Understand the relevant information environment in pre-crisis and during expeditionary operations through integrated and continuous monitoring of social media and use of open source intelligence.
- Enhance our ability to identify and oppose adversary narratives through methods for counter-narrative, competing narratives, and reducing voices contributing to those narratives.
- Deliver cyberspace and electronic warfare fires via a wide variety of MAGTF ground and air platforms.
- Create capabilities that deny the enemy access to critical information and associated systems/capabilities, and constrain the effectiveness of adversary decision-making processes.
- Maintain access and control of cyberspace, the electromagnetic spectrum, and space at decisive times and places to achieve MAGTF objectives.

6.4.3 Urban Operations/Complex Terrain

Marine forces will be trained and configured to operate effectively in mountainous, jungle, arctic, desert, and urban areas where spatial maneuver is influenced by geographic and topographic features that impose compartmentalization and affect lines of visibility. We recognize that operations in urban areas are the most likely to occur and the most dangerous. Urban areas are complex terrain, which emphasizes the need to maneuver in the human dimension of conflict. This requires a thorough understanding of the relationships, culture, politics and objectives of the people and organizations that populate the battlespace. Conducting operations in very large urban areas poses especially challenging conditions that can soak up personnel resources in labor-intensive ground actions. Where our capacity is limited, our capability to effectively conduct maneuver warfare in every dimension will be critical to success. To improve our ability to operate in a manner that accounts for complex terrain including urban environments, we must:

- Train to address the full degree and extent of compartmentalization (block; street; building; sewer; tunnel; cave; jungle; mountains).
- Exploit man-machine interface and manned-unmanned teaming to overcome challenges in urban terrain.
- Refine our ability to use open sources of information and human sources of intelligence to create accurate, mission-informed course of action analysis that reflects a nuanced sense of the conflict from the perspective of all parties and how that changes as the adversary adapts.
- Improve our ability to find cover and concealment and retain the element of surprise while maneuvering in and among a dense population.
- Develop fires solutions that enable precise effects in compartmentalized terrain.
- Continue to explore non-lethal weapons and munitions specifically designed to disable, inhibit or degrade personnel or materiel while minimizing civilian casualties and collateral damage.

6.4.4 Infantry and Mobility

Marine infantry units in the MAGTF's Ground Combat Element (GCE) utilize vehicles, when available, as transports, force protection/fires assets, or logistics platforms. Marines are capable of deploying mounted from air, land, or sea but often conduct dismounted actions to destroy the enemy on the objective. Marine Corps infantry is intentionally "platform agnostic" in order to provide a standard, modular organization with the dexterity to deploy rapidly, the flexibility to task-organize resources to suit each mission, and – in partnership with the Navy – the ability to operate at and from the sea. The ability of Marine infantry to close with the enemy in every type of terrain and environment is an asymmetric advantage. This places a premium on the GCE's ability to conduct sustained, foot-mobile operations while bearing mission-essential equipment and personal protective gear. To enable infantry units to maneuver more rapidly and deeply throughout the battlespace, we must:

- Continue to organize and train our maneuver forces as infantry-centric elements that are supported by air and ground mobility and fires systems.
- Further analyze and enhance the mission-driven mental and physical standards for Marine Corps infantry.
- Enhance individual and unit performance through focused training and resiliency programs.
- Incorporate as quickly as possible unmanned sub-surface, ground and air vehicles across the MAGTF to enhance survivability, increase lethality and reduce manpower requirements.
- Exploit man-machine and artificial intelligence interface to enhance performance.

6.4.5 Light and Heavy Forces

To perform the full range of our statutory and directed roles and responsibilities, we must be able to tailor MAGTFs to achieve a mission-specific emphasis without compromising the balance of the organization across the warfighting functions. For example, a MAGTF composited for an HA/DR mission might have a larger, more capable Logistics Combat Element (LCE), whereas a MAGTF composited to defeat an A2AD threat could see greater emphasis on its Aviation Combat Element (ACE). A MEF-level force, division reinforced, requires certain systems that are appropriate for sustained, large-scale combat operations but are not required in a crisis response or security cooperation mission. To ensure we have both "light" and "heavy" capabilities, we must:

- Maintain sufficient protected mobility to support division reinforced and MEF requirements.
- Provide armored reconnaissance and armored firepower to meet requirements for both crisis response and major sustained operations.
- Develop fire support systems providing the range, precision, and agility to survive against peer fires systems.
- Ensure our materiel decisions take into account the highest-risk challenge against peer or near-peer competitors in urban littoral environments.
- Through a deployment, employment, and sustainment lens, tailor current and develop future forces and equipment that can readily deploy (to include at-sea arrival and assembly and at-sea reconstitution) aboard amphibious warfare ships, Military Sealift Command vessels, strategic airlift, and organic MAGTF aviation assets.
- Continue to exploit large-scale MEF and MEF (Fwd) exercises, MPF exercises and MEB amphibious exercises such as BOLD ALLIGATOR, DAWN BLITZ, and SSANG YONG, to refine the appropriate light-heavy equipment mix.

6.4.6 Expeditionary Logistics

Changes in how our forces operate and fight must be accompanied by corresponding changes in how we will support and sustain those forces. We cannot meet the demands of an agile, distributed 21st century MAGTF with a 20th century approach to logistics. Our logistics enterprise has to provide expeditionary support and sustainment from the greater distances imposed by A2AD threats. It must accommodate the threat from increasingly capable ISR-strike capabilities to the viability of large, fixed-site support facilities. It must be capable of supporting distributed units on a widely dispersed battlefield and reduce the burden that must be carried by the individual Marine. Our forward-deployed amphibious warfare ships and Maritime Prepositioning Ships squadrons support MAGTFs with their initial logistics needs for both aviation and ground elements, but challenges remain to meet requirements for sustaining larger forces and expeditionary operations. Expeditionary Logistics (EXLOG) will require a maneuver warfare mindset. EXLOG must be responsive, agile, and resilient to support and sustain operations on the move in austere environments and frequently on short notice. To increase the proficiency, system interoperability, and strategic theater flexibility of our tactical logistics chain, we must:

- Continue leveraging efforts such as Naval Logistics Integration (NLI), MAGTF Logistics Integration (MLI), Seabased Logistics, and the Navy's Distributed Agile Logistics (DiAL).
- Explore more fully the use of Defense Logistics Agency (DLA) support to deployed MAGTFs.
- Encourage logisticians to increase their consideration of "outside the MAGTF" (e.g. Naval, Joint, multi-national, and industry partners) and coordination through the JLEnt when developing concepts of support.
- Rebalance our logistics capabilities between the wholesale/bulk level and the retail/individual level, reducing the traditional logistics stockpile ashore and relying on a transportation/distribution system that delivers sea-based supplies, particularly Class III and V, to smaller, dispersed units.
- Exploit Naval total asset visibility linked to the operational (theater) and strategic levels as well as the capability to selectively offload at sea support a fast and changing tempo of Naval operations.
- Develop the capability to rapidly establish and disestablish EABs and support distribution of logistics across a large geographic area.
- Continue to explore MUM-T and advanced manufacturing technologies for logistics applications.
- Maximize the use of CCMD and Joint sustainment and support capabilities by MARFORs.

6.4.7 Operational Energy

Energy is a critical enabler of warfighting capabilities and directly affects the operational reach of the MAGTF. The future force and operating environment will be more energy-intensive with increasing risk to energy security. Shifting geo-political conditions and the proliferation of adversary A2AD and information warfare capabilities will increasingly threaten the Naval force's access to theater energy supplies and its ability to distribute energy throughout the battlespace. We have to continue to seek improvements in systems for distribution of fuel at-sea, from-the-sea, and on land. To gain a comprehensive approach to force development that considers operational energy throughout the entire process, we must:

- Improve our understanding of energy-based risk in operations and associated capability gaps.
- Approach capability development from a system-of-systems perspective, managing the MAGTF's growing demand for energy by seeking bottom-up and top-down efficiencies.
- Continue to experiment with concepts and emerging technologies to enhance energy stowage, distribution, and throughput capabilities to support 21st century maneuver warfare.
- Train and educate Marines to incorporate energy-based risk in the planning and execution of all types of operations and missions.

6.5 Critical Task: Exploit the Competence of the Individual Marine

Organizations are only as good as the people that fill them. As we refine the MAGTF organizational construct to succeed in the future operating environment, we must pay close attention to the types and skills of personnel those refinements will demand. An essential ingredient of mission success is the competence of the individual Marine to think and act effectively under chaotic, uncertain, and adverse conditions. These qualities are also essential to the conduct of maneuver warfare, ensuring we are able to seize the initiative, keep the enemy off balance, and dictate the terms of engagement. This puts a premium on attracting and recruiting individuals with high levels of intelligence and aptitude and cultivating their skills and knowledge through specific training, dedicated professional military education and a command culture that expects creativity and rewards initiative. Even as we pursue greater networking of the force, we must resist the temptation to use the connectivity to centralize decision-making, and in so doing undercut our ability to take full advantage of the qualified, trained, experienced, and capable Marine.

6.5.1 Seeking High-Quality Human Capital

We always screen for individuals that can demonstrate the physical strength, intestinal fortitude, temperament, and maturity required to lead Marines in combat. Given the advances in technology and complexity of the future environment, the qualities of critical thinking and mental dexterity are just as important. Especially as we consider focusing on pushing powerful capabilities down to the tactical echelons, we must:

- Continuously examine and refine our recruiting, employing our institutional values to gain advantage in the competition for military talent.
- Develop intuitive tacticians through significant repetition in realistic training environments.
- Continue to encourage a warfighting ethos and high degrees of initiative and professionalism.

6.5.2 Training and Educating Marines for the Integrated Naval Force

The renewed focus on our maritime roots makes it imperative that all Marines learn what it means to operate as an integrated Naval force capable of fighting on, at, and from the sea. To this end, we must:

- Ensure a baseline Naval experience and education for Marines.
- Develop integrated Naval education that includes littoral operations, intelligence preparation, and environmental/pattern of life studies.
- Exploit advanced analytic tools for more comprehensive wargaming that tests our capabilities against different adversaries and challenges.
- Leverage increased computing power and more powerful simulation tools to increase the number of turns, repetitions, and scenarios in training.

6.5.3 Developing Marines for Complexity

In complex terrain crowded with multiple adversaries and disparate threats intermixed with populations of various loyalties and motivations, Marines must be able to understand the battlespace with sufficient clarity to identify the points of advantage and disadvantage. Just as standard training teaches Marines how to read the ground and use the physical domain to their tactical advantage, it should teach them how to read the human terrain and navigate the social domain. Cognitive capabilities, especially critical thinking-based approaches such as negotiating skills and problem-solving methods, are highly valuable in certain situations where the use of lethal force might be counterproductive to the larger mission. We need Marines with mental acuity and resilience no less than physical fitness if we are to remain a professional, disciplined and moral force that can be effective in chaotic environments and complex terrain. To develop Marines for complexity, we must:

- Review our education and training curricula to ensure we are developing Marines with the agility and perspectives to manage uncertainty, think critically, and solve complex problems.
- Continue to refine and exploit the use of a Live, Virtual, and Constructive (LVC) Training Environment to enhance training vertically and horizontally across the MAGTF.
- Expand collective training opportunities at all levels, incorporate greater complexity in training constructs and leverage Combined/Joint opportunities to increase warfighting effectiveness.
- Revitalize programs such as Combat Hunter to emphasize specific skills to better prepare Marines to operate in the human terrain.

6.5.4 Developing Leaders at Every Echelon

The multitude and diversity of Information Age technologies with combat applications will challenge, and may exceed, the span of control of any leader. All leaders – from junior NCOs to senior officers – will need critical thinking skills to continually assess and navigate complex engagements characterized by blurred boundaries between military and civilian concerns, differing objectives between allies and partners, and the frustrating effects of adaptive adversaries. To overcome these challenges, we must:

- Emphasize mission-type orders and commander's intent.
- Develop unit structures that rely on skilled enlisted operators to offload some of the decisional burden so that leaders can focus on employing their force to defeat an adaptive enemy.
- Fully leverage ISR and lethality advancements in the MAGTF ACE that enhance the small-unit leader's ability to employ kinetic and non-kinetic effects.
- Train and educate Marines in decision-making skills to help them avoid information overload in a rich situational awareness environment or compensate for the lack of information when C2 and ISR systems are degraded or denied.
- Ensure technology does not undermine a Marine's "brilliance in the basics" of orienting, navigating, communicating, fighting, and commanding, by emphasizing fieldcraft such as map reading, operating to commander's intent, and voice calls for fire.
- Recognize that seizing and maintaining the initiative in the face of uncertainty and risk will sometimes lead to imperfect results, and accept mistakes as a cost of exercising initiative and a bias towards action, just as is described in our most basic document, MCDP 1, *Warfighting*.[4]
- Renew our focus on the idea that just as every Marine is a rifleman, every Marine officer must be mentally prepared and professionally fit to command a provisional rifle platoon should the need

[4] MCDP 1: *"…errors by junior leaders stemming from over-boldness are a necessary part of learning. We should deal with such errors leniently; there must be no 'zero defects' mentality. Abolishing 'zero defects' means that we do not stifle boldness or initiative through the threat of punishment."*

arise. These common threads in our force are essential to performance and competence of the individual Marine to respond effectively under chaotic, uncertain and adverse conditions.

- Ensure commanders establish a garrison environment that assigns levels of authority, accountability, priorities, processes, and access to resources similar to those that subordinates are expected to encounter in combat.
- Adjust how we identify and instill leadership skills and capabilities at the small-unit level.
- Improve our professional development (training, education, standards, and assignment patterns) to account for technological advances.

6.5.5 Cultural Learning

Our forward-deployed units play a key role in building partner capacity to promote security and stability. Units operating in complex terrain must understand the human dynamics of the battlespace. In both instances, our forces must be adept at interacting with and influencing allied and coalition militaries and foreign populations. To improve our ability to maneuver in the human dimension of conflict, we must:

- Establish training and education venues that are capable of preparing our forces for both the most likely and the most dangerous employments.
- Ensure Marines gain and maintain their language, regional expertise and culture (LREC) capabilities, with a particular emphasis on learning to consider cultural factors in planning and decision-making processes at all levels of operations, especially in complex terrain where understanding the cultural landscape is as important as understanding enemy capabilities.
- Consider developing reachback to universities and organizations to enhance cultural expertise.

6.5.6 Emphasizing Quality in Leadership Positions

Leaders with the grade, experience, and technical/tactical qualifications associated with their billets are essential to the Marine Corps as a "fight tonight" force. Qualified leadership is critical to unit proficiency training and maintaining discipline, and ultimately ensures our readiness and potential combat effectiveness. To emphasize quality in leadership positions, we must:

- Examine and refine our manpower management and readiness reporting models and policies to more efficiently and effectively align personnel assignments with billet qualifications.

6.5.7 Managing Talent to Improve Return on Training/Education Investment

We have and will continue to devote significant amounts of time, resources, and funding to train and educate Marines to meet the demands of their intended operating environment. Marines with perishable and unique qualifications and experiences are a precious resource. To the extent we maintain visibility over time into an individual's training and experiences and make well-considered assignments, we can extract the most value they offer to the institution. To improve our ability to do this, we must:

- Develop a system or process that better tracks and manages individual talent across the Total Force, regardless of MOS.
- Explore approaches to retention that ensure we gain enduring return on investment from a competent, confident, and mature workforce.

7. Conclusion

The Marine Corps Operating Concept (MOC): *How an Expeditionary Force Operates in the 21st Century* has a twofold purpose. It describes in broad terms how the Marine Corps will operate and fight in 2025 and beyond, and it shapes our actions as we design and develop the necessary capabilities and capacities within the force to defeat our enemies in the future operating environment.

The MOC bounds the central problem facing the Marine Corps as we prepare for a challenging future operating environment. It defines our concept for how to fight and win in that environment, reaffirming the primacy of maneuver warfare and recognizing the potential of an expanded approach to combined arms. It identifies the critical tasks that we must undertake if we are to develop the Marine Corps that can execute the concept.

The MOC is a start-point for change, not the end-point. It does not provide an answer to every problem. It is intended to generate professional debate and discussion about our future challenges. If we are to produce the force we need, it is essential that all Marines and Sailors read, understand and discuss the ideas in the MOC. I also ask that all of our partners and supporting organizations review the concept and its critical tasks to develop an appreciation for our future course and determine how they can improve their relationships with the Marine Corps. Working collaboratively together, we can refine our understanding of the challenges and the opportunities before us. We can develop a practical plan of attack to identify and realize solutions, and ensure the Marine Corps of the future is prepared to advance to contact, fight, and win where and when our Nation requires. Your proactive involvement in validating our operating concept is critical to ensuring we can *Innovate,* ***Adapt, and Win! I challenge all of you to help build the future force that will prove its mettle once again in combat and contribute to our legacy of victory.***

The Marine Corps Operating Concept

How an Expeditionary Force Operates in the 21st Century