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## **FORCE DESIGN 2030**

*Designing, Developing, Experimenting, Obligation to win.  
Aviation Mobility, Robotics & more.*

*Adapting, Equipping, Organising, Able, Willing, Ready, First to fight*

"Send in the Marines" has often been the phrase with which American Presidents have addressed crises and so-called "small wars" in every part of the globe. The US Marine Corps has been a sort of ready-to-use team to deal with all kinds of emergencies. During the Second World War the Corps had demonstrated the importance of the ability to conduct landings, developing the doctrine of amphibious warfare, which later became a reference for the whole world. In reality, while always maintaining this ability both in terms of means and training, during most of the following years, the Marines were instead operationally employed as a "normal" land combat force in addition to the US Army. Major amphibious assault operations were limited to the Inchon landings in 1950 at the start of the Korean War. During the long conflicts in Korea, Vietnam, Iraq, Afghanistan, the Marines fought on the land front, without making further significant landings.

As a consequence it was asserted and experienced the inadequacy of amphibious tracked vehicles for land operations. In WWII, during the landings on small Pacific islands, amphibious tracked vehicles (Amtrack) had a very limited role in the small outback. The AAV-7s that came into service during the Vietnam War, and are still active today, have good nautical capabilities and are valid in the landing phase, but have instead proved to be extremely vulnerable in the land phase. The AAV-7s are currently being replaced with an Italian-designed amphibious wheeled combat vehicle (ACV), which offers better land-based capabilities in terms of mobility and

protection, while retaining adequate capabilities in the nautical phase and in that of the earth socket.

In the meantime, doubts have gradually emerged as to the very feasibility of a large amphibious assault against a technologically capable adversary deployed in defensive positions.

It was initially thought to be able to carry out over-the-horizon amphibious assault operations, using instead of the traditional (and slow) landing craft, a set of transport helicopters, tiltrotors and hovercrafts. However, the evolution of technology also available to adversaries soon led to a reconsideration of this scenario: the losses in such a situation would be too high, due to the presence of long-range coastal defense missile systems, and above all the increased global surveillance offered by satellites.

The US faculties to rapidly and effectively project its power from the sea have in fact symmetrically led some adversaries such as Russia, China and Iran to develop a real Anti Access/Area Denial (A2/AD) strategy, aimed at delaying or preventing the carrying out of air and naval operations in areas close to its territory.

While the ability to perform a "forcible entry" from the sea remains important for crisis management, in the context of what is defined as the "Great Power Competition" the possibility of re-producing large amphibious operations against a capable adversary is no longer considered conceivable .

Moreover, the shift of the center of gravity of US strategic interests from the Atlantic to the Pacific has also led to a deep redesign of military capabilities.

It was therefore decided to assign a new role to the Marines: the traditional ability of the Navy-Marines combination to carry out Power Projection operations from the sea will be combined with the ability to carry out multi-domain operations in close cooperation with the other Armed Forces, with the goal of not allowing the Chinese fleet to leave the so-called First Island Chain.

This has led to the need for a transformation of the Marine Corps and the amphibious naval component (the so-called "Gator Navy"). Both in training and in equipping, the Corps had therefore to reconfigure along two directions: on the one hand, it returned to being an agile force with true "Expeditionary" characteristics by removing the heavy mechanized components (tanks, self-propelled artillery, tracked vehicles) and adapting logistics and command and control function; on the other, the Marines had to start the acquisition of new vessels and the creation of new and different departments, in order to be able to operate with a new role in the coastal environment of the South China Sea.

This process is called Force Design 2030 and represents a real revolution that was started in 2020 and is periodically updated.

### The naval component

In 2016, the US Navy declared a target of 38 large ships for amphibious operations, which was soon reduced to 31 (10 LHA-LHD aircraft carriers and 21 LSD-LPD landing ships). The force currently comprises 29 units (9 LHA-LHD and 20 LSD-LPD). In reality, current orders and planned decommissioning will bring this number to just 26 ships in 2035, unless new solutions are urgently adopted.

Usually the amphibious ships are employed in groups of 3 (one LHA-LHD and two LSD-LPD) called ARG (Amphibious Ready Group) with on board one of the 7 MEU (Marine Expeditionary Unit) of 2,200 men, equal to a reinforced battalion of Marines, with the necessary logistics, command and control

and air component to conduct limited operations at very short notice in response to the emergence of a crisis, both for combat missions and for disaster relief operations, for the evacuation of civilians from areas at risk, or to create a security framework for the deployment of a peacekeeping force.

There are usually 2-3 ARGs in operation at all times: one in the Mediterranean-Persian Gulf-Indian Ocean area, and one-two in the Western Pacific area. The combination of an ARG and some escort vessels forms an ESG (Expeditionary Strike Group).

Much larger amphibious naval groups are occasionally activated in order to be able to employ a MEB (Marine Expeditionary Brigade) with about 14,500 men of the landing force, including the related command, combat, logistics and aviation components.

In 2023, the federal budget assigns the Commander of the Marine Corps responsibility for establishing requirements for the acquisition of amphibious vessels, within the budget that will be assigned to the Secretary of the Navy. In the field of ship development for amphibious operations there are three main areas of specific attention, all attributable to the concept of Distributed Maritime Operations, i.e. the possibility of acting simultaneously in several areas, with more agile forces, smaller in size, but overall no less capable.

During an experimentation campaign that began in April 2022, the ability to use the LHAs as real mini-aircraft carriers was demonstrated ("mini" according to the US perspective, compared to the nuclear-powered super-carriers, being in any case ships of 45,000 t, 260 m long and 36 m wide). In this configuration, the flight department would be made up almost exclusively of F-35B aircrafts (as occurs on Italian, British and Japanese aircraft carriers), instead of mainly transport and combat helicopters as when LHAs operate in an amphibious context. In the case of some scenarios, the LHAs thus configured could therefore replace or increase the capacity of traditional aircraft carriers, too few to be deployed anywhere in the required numbers.

In addition to the ships for amphibious operations, United States has a large fleet of

pre-positioned units, i.e. the current suitably modified large merchant ships (LMSR, Large Medium-Speed Roll-on/Roll-off Ships) loaded with equipment aimed at allowing prolonged operations, which are located in some areas not far from possible crisis areas. Equipment landed in a port is then assigned to units of Marines flown into the area, further reinforcing units landed in a traditional amphibious assault operation. However, these large ships are vulnerable and, due to their size, still need deep-water ports and adequate docks. In order to be able to operate even in environments characterized by much more spartan infrastructures, especially in the South China Sea, the Marines are therefore taking steps to issue the requirements for the new generation of pre-positioned ships (MPS-X) to support future operations in areas where large equipped ports are not available. It will therefore be a question of creating the Global Positioning Network, a combination of materials available on land, on board large ships and small ships, to support the concept of Distributed Maritime Operations. with the aim of having the first MPS-X units in service as early as 2030.

In addition to the large amphibious ships (LHA-LHD and LSD-LPD), plans are being made to create a fleet of smaller units, capable of transporting small units of Marines to land them on the coasts of the numerous islands in the South China Sea, where they could contribute to operations in many ways, including attacking Chinese ships that come within range of their missiles. Initially this concept was called LAW (Light Amphibious Warfare Ship), a name changed in early 2023 to a more traditional LSM (Landing Ship Medium). The LSM program has 18 to 35 units. The number 18 was indicated as an "initial requirement" in 2022 in a document from the Chief of Staff of the US Navy (CNO), while 35 is the final number indicated by the Marines and takes into account 9 operational LSMs for each of the three future Navies Littoral Regiments (see below) plus 8 units permanently unavailable for maintenance. These are decidedly smaller and cheaper ships than those currently employed (displacement less than 4,000 t, length 80-120 m, draft not exceeding 4 m, speed 14-15 knots, range 3500 miles, capacity to carry 75

Marines, with a loading surface of 350-700 m<sup>2</sup>, and a ramp to disembark on the beach or on the quay). Pre-contractual activities are currently underway, and construction of the first unit is expected to start in 2025.

### Emerging concepts

The Marines have developed two operational concepts central to this paradigm shift. The first is called Littoral Operations in a Contested Environment (LOCE), and the second, closely related to the previous one, is called Expeditionary Advanced Base Operations (EABO). It is therefore a question of having small units of Marines of the size of a reinforced platoon which, instead of carrying out massive invasions from the sea, carry out operations by moving in a coastal area, moving quickly, and as covertly as possible through the Operations Theatre, moving from island hopping in the South China Sea. These operations are aimed at countering/preventing the control of the sea by the Chinese forces. In other words, the Marines will have to establish a large number of very austere and mobile small forward bases, from where to carry out different types of missions including, among others, the launch of long-range anti-ship missiles, the refueling/re-arming of aircraft and helicopters allies, carrying out intelligence, surveillance and reconnaissance activities, air defense.

The aforementioned LSMs will be fundamental in this scenario, allowing Marine platoons to be embarked, transported, disembarked, resupplied and subsequently re-embarked.

In the meantime, the Marine departments destined to operate in this mode so different from the traditional one will also have to be created. The goal is to have three Marine Littoral Regiments (MLRs), the first of which is currently undergoing training in Hawaii. Each MLR will have three operational sections: a Littoral Combat Team composed of an infantry battalion with associated long-range anti-ship missile batteries (see below), a Littoral Air Defense battalion, and a Logistics Support battalion. The anti-aircraft defense battalion will also have to provide collateral functions, such as aerial surveillance with information transmitted to

the other units in the theater, control of allied aircraft and, finally, the ability to refuel and rearm aircraft and helicopters. An MLR will have approximately 1,800-2,000 men, compared to 3,400 in a traditional Marine infantry regiment (Command, 3 infantry battalions and one amphibious vehicle company).

Another important element described in Force Design 2030 concerns the reconnaissance capability. The current Light Armored Reconnaissance (LAR) battalions will need to be able to ensure a multi-domain capability, transitioning to the future Mobile Reconnaissance Battalions (MRB), which will include a maritime reconnaissance company (with its own vessels), a highly mobile light company, and an armored company. The department must be able to conduct reconnaissance and counter-reconnaissance (RXR) operations to counter the surveillance, reconnaissance and target acquisition activities carried out by enemy units.

The anti-ship capability of the Marines is an absolute novelty. It will be based on the NMESIS (Navy Marine Expeditionary Ship Interdiction System), i.e. a remote-controlled

light tactical vehicle armed with two NSM anti-ship missiles (range 180 km) like those of the new American frigates under construction derived from FREMMs. The NMESIS will be able to be transported to the action scene by LSM vessels, LCAC hovercrafts, KC-130J aircrafts, and CH-53K helicopters.

Other long-range weapons assigned to Marine anti-ship batteries are the HIMARS multiple rocket launchers (up to 300 miles) and modular Tomahawk missile batteries. The program provides for the acquisition of 244 Tomahawk Block-V Tactical missiles (of which the first 13 in the current year 2023), capable of hitting naval and land targets with great precision, at a distance of over 2,000 km. In addition there are the HERO-120 circuit munitions (60 km range, 60 minutes of autonomy) launched from wheeled vehicles and 11m remotely guided boats, as part of the Organic Precision Fire-Mounted (OPF-M) program.

The Marine Corps that will emerge following the completion of Force Design 2030 will be a very different entity from what it used to be, but then innovation is a key element in military activities.

Massimo Annati

Admiral (Res.) Chemical Engineer. He attended the Naval Academy from 1972 to 1976. He served on board of various Italian and US surface naval units. He attended the Advanced Staff Course at the Maritime War Institute in Livorno. He was C° of International Cooperation Office at the 3rd Rep. of Joint Military Industrial Secretariat and C° International Affairs Division of the 1st Rep. at Naval Headquarter. He then worked at the naval territorial technical offices. Lecturer at the course for Defense Legal Advisors and at some Italian universities, he is the author of numerous essays and books.

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Edited by: Roberto DOMINI

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