



# 2020 CUTTING THE BOW WAVE



COMBINED JOINT OPERATIONS FROM THE SEA CENTRE OF EXCELLENCE







## TRANSFORMING ALLIED MARITIME POTENTIAL INTO REALITY



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Front Cover: Marine amphibious assault vehicle exits well deck of USS Bataan (LHD 5). Source: MC1 RJ Stratchko  
Back Cover: French troops disembark from landing craft (L-CAT) onboard LHD FS Tonnerre. Source: French Navy



## Publisher's Note

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Source: Cpl. Matthew Manning

Republic of Korea and U.S. Marine assault vehicles deploy smoke grenades during exercise Ssang Yong at Dokseok-ri Beach.





As I hand the reins over to my successor, I cannot help but be both amazed at how the scope of our activities has grown and equally proud of how CJOS COE has adapted. The re-emergence of great power competition and strategic maritime challenges, not only in the North Atlantic, but also in the peripheries, has fueled a renewed sense of urgency within NATO. This is driving the Alliance's nations to align national and Alliance Command and Control, develop and maintain modern warfighting capabilities and capacity and increase readiness across the joint spectrum. CJOS has been at the forefront of these activities and achievements by focusing on three priorities: Firstly, by supporting the requests for support from our stakeholders and the Alliance. Secondly, by identifying gaps and seams in those requests by leveraging the significant experience and expertise of our multi-national staff. Finally, CJOS actively works to expand the maritime community of interest across the Alliance and with our geographically co-located US commands and other institutes. I am even more convinced than ever of the importance and value of our collective efforts to ensure we are best postured to respond to existing multi-domain threats tonight, yet making urgent efforts to adapt now to the new challenges of the security environment of tomorrow.

In this edition of the Bow Wave, we continue where we left off in 2019, and highlight CJOS' ongoing work on addressing the critical issues in the maritime domain. Security in the global maritime commons is not a given; without a comprehensive, shared understanding of our gaps, frictions and overlaps, opportunities to detect and mitigate threats or critical vulnerabilities at the earliest opportunity may be lost. In that vein, our annual Maritime Security Regimes Roundtable will be held in Norfolk on 29-30 April 2020 (details on page 9) and our inaugural Future Maritime Warfare Symposium in October 2020 in Suffolk, VA. With an excellent network across the NATO Alliance, with industry leaders and academia, my international staff of maritime experts continue to provide analysis and advice on critical maritime military matters as we help turn Allied maritime potential into reality. If you have a maritime challenge you think we could help with, we would be delighted to hear from you. 📧



Source: PO(Phot), Jim Gibson, Royal Navy Reserve

USS Iwo Jima sails near Iceland during Exercise Trident Juncture 2018.





Vice Adm. Bruce Lindsey graduated from the U.S. Naval Academy in 1982 with a Bachelor of Science in Mathematics and was designated a naval flight officer in 1983. He is a graduate of the Joint Forces Staff College and the Navy's Nuclear Power Program. Lindsey holds a Master of Arts in National Security and Strategic Studies from the Naval War College in Newport, Rhode Island, and earned a doctorate in public policy from George Mason University in Fairfax, Virginia.

His initial at-sea assignments were with Antisubmarine Squadron (VS) 21 aboard USS Enterprise (CVN 65) and on the staff of commander, Task Force 70/75/77 embarked in USS Midway (CV 41). His aviation department head tour was with VS-21 assigned to Carrier Air Wing (CVW) 5 forward deployed to Atsugi, Japan, operating from USS Independence (CV 62). From 2005 to 2007 he served as the executive officer of USS Theodore Roosevelt (CVN 71).

At sea, Lindsey's first command was VS-29 flying off USS Carl Vinson (CVN 70) during the first 72 days of Operation Enduring Freedom. His first ship command was USS Dubuque (LPD 8) during Operation Enduring Freedom deployment to the Persian Gulf, North Arabian Sea and Red Sea. He commanded Carl Vinson while completing a change of homeport from Norfolk to San Diego, providing humanitarian assistance and disaster relief to the people of Haiti during Operation Unified Response and executing a deployment to the Persian Gulf and North Arabian Sea in support of Operations Enduring Freedom and New Dawn. He commanded the first Optimized Fleet Response Plan Carrier Strike Group (CSG), CSG-10/USS Dwight D. Eisenhower Carrier Strike Group. He additionally served as commander, Carrier Strike Group 4.

Ashore, Lindsey served as aide to the chief of staff, commander in chief, U.S. Naval Forces Europe in London; as the operational test director and analyst at Air and Evaluation Squadron (VX) 1 in Patuxent River, Maryland; and as a senior operations officer at the National Military Command Center on the Joint Staff (J3) in Washington, D.C. His first flag assignment was deputy director for Operations, J3, Joint Staff. He most recently served as commander, Naval Air Force Atlantic.

Lindsey received the 1997 Naval War College President's Award for Academic Achievement and Community Service, and the 2007 Adm. Jeremy Boorda Award for Outstanding Integration of Analysis and Policy.



2019 CJOS COE Executive Steering Committee meeting held at Fleet Forces Headquarters building.





As one of the few NATO Centres of Excellence with a focus on maritime issues, the North Atlantic and its significance is never far away from our thoughts. As Admiral James Stavridis notes in his foreword to Magnus Nordenman's excellent new book: "After nearly three decades of inattention, the North Atlantic is once again gaining recognition as a strategic space that is key to American and allied security." In keeping with our declared mission and vision, we have not spared any effort in ensuring that emergent maritime issues receive the attention they need. The past year has seen some remarkable developments in the Alliance's maritime enterprise; Allied MARCOM's headquarters is growing significantly in order to support its role as the Maritime Theatre Component Commander, and

here in the US, the new Joint Force Command Norfolk is starting to take shape. Although a joint command, the latter will undoubtedly have a profound effect on the way that NATO commands and controls forces across the North Atlantic and into the High North.

Reflecting the increasing prevalence of 'great power competition', in this edition of Cutting the Bow Wave you will see that we have continued our focus on the Alliance's ability to deter, through the ability to win, the 'fourth battle of the Atlantic,' as Admiral Foggo describes it. This year we have taken another step back towards our roots, so clearly outlined in our organisation's descriptive, if lengthy title! I say back to our roots, but that does not mean backwards; we must be forward-looking as well as forward-leaning if the Alliance is to maintain its edge. Our work over the next year, some of which is previewed here, takes its lead from the collective priorities of NATO's maritime leaders, blended with the focus of Allied Command Transformation, in its role as NATO's warfare development command. As ever, the work of our own team is greatly enriched by the addition of contributions from some of our many partners, both military and academic, for which I am, once again, hugely grateful." As always, CJOS COE stands by, ready and able to transform Allied Maritime potential into reality. 🚢



Tom Guy is fortunate to have served in a wide variety of ships, from patrol craft to aircraft carriers, as well as enjoying some rewarding operational, staff and command roles ashore in the UK and abroad. Early appointments included Fishery Protection duties, the initial commission of the Type 23 Frigate HMS IRON DUKE and the role of Navigating Officer in the Hong Kong Squadron and the Type 22 Frigate HMS BATTLEAXE. As a Principal Warfare Officer (Underwater), he was Operations Officer of the Type 23 Frigate HMS MONTROSE and then Group Warfare Officer in the Carrier HMS INVINCIBLE. He commanded the Minehunter HMS SHOREHAM, bringing her out of build and then commanded the Type 23 Frigate HMS NORTHUMBERLAND, fresh out of refit as one of the most advanced ASW frigates in the world.

He has held several Operational Staff appointments, including service in the Headquarters of the Multi National Force Iraq (Baghdad) in 2005. He was Chief of Staff to the UK's Commander Amphibious Task Group, including the formation of the Response Force Task Group and its deployment on Op ELLAMY (Libya) in 2011. Other operational tours have included the Balkans and the Gulf, both ashore and afloat. Shore appointments have included the Strategy area in the MOD, a secondment to the Cabinet Office and Director of the Royal Naval Division of the Joint Services Command and Staff College. Latterly, he had the great privilege of serving as Captain Surface Ships in the Devonport Flotilla followed by the role of DACOS Force Generation in Navy Command Headquarters. In 2016-17 he was the Deputy UK Maritime Component Commander in Bahrain, working alongside the US Fifth Fleet Headquarters. He assumed the role of Deputy Director of the Combined Joint Operations from the Sea Centre of Excellence in September 2017.





The Combined Joint Operations from the Sea Centre of Excellence (CJOS COE) was established in May 2006. Representing 13 nations, CJOS is the only Centre of Excellence in the United States, and one of 25 NATO accredited Centres worldwide, representing a collective wealth of international experience, expertise, and best practices.

Independent of the NATO Command structure, CJOS COE draws on the knowledge and capabilities of sponsoring nations, United States Fleet Forces, and neighboring U.S. commands to promote “best practices” within the Alliance. CJOS COE also plays a key role in aiding NATO’s transformational goals, specifically those focused on maritime-based joint operations. We enjoy close cooperation with Allied Command Transformation (ACT), other NATO commands, maritime COEs, and national commands.

Comprised of 25 permanent staff and 20 U.S. Navy reservists, CJOS COE is highly flexible and responsive to its customers’ needs. The Centre cooperates, whenever possible with industry and academia to ensure a comprehensive approach to the development of concept and doctrine. 🚢

## REQUEST FOR SUPPORT

NATO Organizations should submit Request for Support (RfS) via the TRANSNET website for inclusion into the CJOS program of work. Individual nations or institutional stakeholders who wish to submit a request may contact CJOS COE directly and submit a request to the Directorate Coordinator. The CJOS Program of Work is on an annual cycle. Request for the 2021 Program of work should ideally be submitted by 15 August 2020. If the requests are approved by the Steering Committee, they will be included in the 2021 PoW. We also are available to take emergent request as an Out of Cycle RfS. If submitting an out of cycle request via TRANSNET, there must also be a email directly to CJOS COE for timely acceptance and work to begin on the project.

Our aim is to be a pre-eminent source of innovative military advice on combined joint operations from the sea. Our strength lies in our diverse staff spanning 13 different nations from multiple military branches. We continue to improve our products and services by collaborating with institutions, universities and other organizations that are leaders in their fields of expertise. We take full advantage of our location in Norfolk, VA and the numerous universities, and research facilities in our area. We also have a unique tie to the United States Navy’s Fleet Forces Command, SECOND Fleet and NATO’s Joint Force Command Norfolk.

If you are interested in receiving project support from our staff, simply submit a request to CJOS COE as described above via the following link <https://portal.transnet.act.nato.int/Pages/home.aspx>. TRANSNET accounts can be requested from the TRANSNET website or you can visit our website at [www.cjoscoe.org](http://www.cjoscoe.org). RfS’ can be submitted to any staff member or the Directorate Coordinator at:

Email: [USFF.CJOS.COE@NAVY.MIL](mailto:USFF.CJOS.COE@NAVY.MIL) or Phone: +01-757-836-2611

Hope to hear from you soon!







## WHAT IS CJOS COE?

The Combined Joint Operations from the Sea Centre of Excellence is a preeminent, independent, multinational source of innovative advice and expertise on all aspects of maritime operations, charged with developing and promoting maritime concepts and doctrine in order for NATO, Sponsoring Nations, Allies and other international partners and organizations to optimize the efficient delivery of Maritime Effect.

## CJOS COE MISSION

To provide a focus for the sponsoring nations and NATO to continuously improve the capability to conduct combined and joint operations from the sea. Our aim is to ensure that current and emerging maritime global security challenges can be successfully addressed across the full spectrum of maritime operations.

## CJOS COE VISION

Through a managed network of sponsoring nations, academia and industry, CJOS COE will support the development of maritime concepts and doctrine in a combined and joint environment.



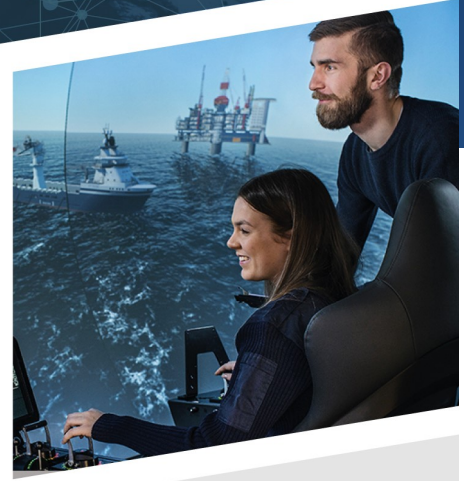
Source: MC2 Anaïd Banuelos Rodriguez

Amphibious Assault Vehicle (AAV) departs USS Green Bay (LPD 20) well deck.

## CJOS COE will accomplish its mission:

- Through development of innovative concepts and doctrine thus supporting transformation of NATO to meet the demands of future operations in the maritime domain.
- By identifying and resolving obstacles to a networked response to maritime security challenges.
- By applying the principles of Smart Defense and pooling subject matter experts.
- Through broad intellectual engagement thereby supporting the Connected Forces Initiative.






2020 Maritime Security Regimes Roundtable

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***“Defence and the navy’s strategic context has changed, and we need to change with it.”***

***ADM Tony Radakin, RN  
First Sea Lord***



**CAPT TODD BONNAR, MSC  
ROYAL CANADIAN NAVY  
WARFARE ANALYSIS BRANCH HEAD  
CJOS COE**



## **MAINTAINING NATO SLOCs**

With its 2015 maritime doctrine (*Morskaya doktrina*) Russian political leadership set forth a key policy document highlighting the role that they envisage for the Russian Federation Navy in supporting the country’s pursuit of wider security, economic and foreign policy objectives. The doctrine does not state global power projection as its core objective; instead, Russian interests are defined as existing much closer to home.<sup>1</sup> The policy document highlights many of the usual threats and dangers to Russia. First on the list of concerns is the “ambition of a range of states, and foremost the United States of America and its allies, to dominate the high seas, including in the Arctic, and to press for overwhelming superiority of their naval forces.”<sup>2</sup> Upon further review following introductory comments about protecting Russia in the event of a conflict and deterring adversaries from initiating hostile actions, there is a definite focus on Russia’s desire to control sea lanes of communication, increasing the effectiveness of maritime border defense both above the surface and underwater, and improvement of naval command and control systems.<sup>3</sup>

The claim to exclusivity of jurisdiction over the exploration, exploitation and conservation of natural resources located on

Russia’s continental shelf is augmented in this *Morskaya doktrina* with references to the “participation of military components” of Russia’s marine capabilities in ensuring this exclusivity of jurisdiction.<sup>4</sup> From this, many Western foreign relations experts assess an inference that policy-makers in the Kremlin see the High North Region as an area for potential military conflict in the future. Reinforcing this belief, the decision to highlight Russia’s Arctic warfare capabilities in the annual Victory Parades in Moscow is a clear signal that policy-makers consider this an important direction of potential military conflict in the future.<sup>5</sup>

In times of crisis or war, Russia’s tools of anti-access in the maritime domain could include the potential to disrupt critical Sea Lines of Communications (SLOCs), including US reinforcements and energy supply routes to Europe as well as communication infrastructure on the seabed. NATO’s ability to conduct operations in the High North is therefore a critical joint requirement.

Russia has pursued a modernization program that focuses on smaller vessels equipped with long-range missiles to augment the larger Soviet-era legacy vessels and should be sufficient to equip the Russian navy for its stated strategic missions.

Russia has increasingly been using A2AD measures to prevent an opponent from



entering into theater (Anti-Access) by means of long-range weapons, and deprive him of freedom of action in this theater (Area-Denial) by means of shorter-range tools. Russia's *Izvestia* newspaper reported in May 2019 that the country's Northern Fleet had established an electronic warfare "shield" along the Arctic coast and that it was capable of jamming satellite and drone communications, GPS signals, and other navigational system at ranges of up to 8,000 kilometers.<sup>6</sup> To further strengthen their A2AD strategy, the entire range of Russian missiles is used including S-400 surface-to-air missiles (SA21 SAM),



Source: Moscow Times

AS 31 Losharik Russian submarine.

Iskander short range ballistic missiles (SS26 SRBM), 3M14 Kalibr cruise missiles, mines or drones. This hardening of the Russian Bastion has contributed to the continuing significant cooling of relations between NATO and Russia and appears to be of significant concern to NATO leadership. In violation of the Intermediate-Range Nuclear Forces Treaty, SSC-8 medium-range rockets would allow Russia to launch a conventional or nuclear attack on Europe at very short notice.<sup>7</sup> This declared defensive structure could be very rapidly re-rolled into an offensive-oriented organization with capabilities tailored for large-scale war.

Combatting this threat will require an ability for scalable high readiness naval forces capable of precision strike to fight and win in a degraded or denied command and control (D2C2) environment in order to ensure continued access and security in the global maritime commons and the littoral regions that border them. Robust NATO maritime and amphibious capabilities are essential to

deterrence, strengthening the Alliance, projecting influence and when called upon, projecting power against increasingly lethal and asymmetric adversaries.

There is nothing fundamentally new in challenging your adversary in the free use of the battle space considered as manoeuvre space. The Cold War was principally an access versus anti-access struggle as NATO and the US in particular emphasized the growing A2AD threats in it Article 5 Area of Responsibility. In a 2016 address to the Washington based Center for Strategic and International Studies, USN CNO, Admiral John Richardson, indicated he wanted to scale down the term A2AD due to its ambiguity and vagueness. "The concept is not anything new – the history of warfare is all about adversaries seeking to one-up each other," he said. Use of the word "denial," he added, "is too often taken as a fait accompli when in fact it really describes an aspiration. The reality is far more complex."<sup>8</sup>

To be sure, A2AD offers little new in the history of naval strategy, but it may effectively represent a particular manifestation of a long-running strategic problem. As Rear Admiral JC Wylie, USN explains in his original exposition of cumulative and sequential strategies of the early 1950s, maritime strategy is "*one in which the world's maritime communications systems are exploited as the main avenues by way of which strength may be applied to establish control over one's enemies*".<sup>9</sup> Normally consisting of two phases, maritime strategy concentrates initially on the establishment of sea control followed by the exploitation of that control in the form of power projection ashore. What is not always apparent is that the establishment of sea control by joint maritime and air forces has two critical conceptual components – ensuring one's own use of the sea and denial to the enemy of their use of the sea.

In this light, we can see how the new threat comes in the form of previously unachievable degree of coordination between different tools of the Russian Federation Navy, geared towards winning freedom of movement in a constrained maritime space through A2AD. Recent and mid-term expected techno-





logical developments hardening the Strategic Bastion Defence concept coupled with proven predilection for hybrid warfare should cause pause for concern as it gives Russia a significant increase both in effectiveness and in the range at which this capability can threaten Alliance nations.

On July 1 2019, a fire onboard a secretive Russian nuclear submarine killed 14 sailors before it was extinguished. President Vladimir Putin revealed that seven of the deceased were Naval Captains “first rank”, and two were previously awarded the distinction “Heroes of Russia”. That is an unusually high concentration of decorated senior officers for a simple “bathymetrical data collection” mission.

The submarine, the *Losharik*, was a small nuclear-powered submarine that is alleged to conduct underwater espionage activities as

part of Russia’s hybrid warfare capability inventory. *Losharik* was designed to operate on

the ocean floor, equipped with front-mounted floodlights, remotely operated arms for manipulated equipment, and retractable ski feet for sitting on the seabed. Despite its designation as a scientific research submarine, she is assigned to the Main Directorate for Deep Sea Research, known by its Russian acronym GUGI. According to *The Barents Observer*, GUGI reports directly to the General Staff of the Armed Forces and GUGI’s fleet of nine submarines frequently depart on “special missions”. “Little is known about the nature of those voyages, except reports of significantly increased activity along subsea cables which carry global electronic communication.”<sup>10</sup> As NATO reacts to a dynamically changing security environment due to activities such as this, it has placed significant effort to improving its maritime capabilities and in particular its amphibious capability.

NATO’s current amphibious capabilities

include those from six European nations—France, Italy, the Netherlands, Spain, Portugal and the United Kingdom—with large L-class amphibious ships and organic landing forces, as well as global manoeuvre forces provided by the U.S. Marine Corps and U.S. Navy. Persistent exercising, co-located training opportunities and the resultant relationships developed over the span of decades have resulted in integral force packages with a level of interoperability approaching that of purely national units such as the French and U.S. task groups. Amphibious Forces from the UK and the Netherlands maintain a habitual relationship and can easily operate as an integrated United Kingdom Netherlands Amphibious Force (UKNLAF). Spain and Italy have a very similar relationship through the Spanish Italian Amphibious Force (SIAF) and Spanish Italian

Landing Force (SILF) construct (SIAF/SILF). Spain is also easily able to embark Portuguese Marines on Spanish ships, making the ATG a trilateral force.

**"The concept is not anything new – the history of warfare is all about adversaries seeking to one-up each other,..."**

Expansion to an organic, integrated NATO amphibious force no longer appears to be an unattainable objective. As a result, NATO force planning and crisis response structures are now looking to take advantage of the full potential of available amphibious capabilities.<sup>11</sup>

Amphibious forces offer a flexible and potent instrument that can enhance deterrence through early deployment and project credible combat power from the maritime domain. Allied ATGs maintain the requisite shipping, connectors, and landing forces to conduct scalable force package operations. U.S. forces, in the form of an expeditionary strike group (ESG) and Marine expeditionary brigade, are the most capable in penetrating anti-access/area denial environments, but European amphibious formations, when enabled by joint forces, could be employed in a range of scenarios including amphibious demonstrations, raids, subsidiary landings, and assaults



Source: CP24.com

Example of NATO Amphibious Interoperability.

against properly prepared objective areas.

CJOS COE has played a key role in the ongoing development of a NATO road map for generating and employing the centralized ATF including planning and sequencing exercises, improving communications and information systems interoperability, specifying the ATF's staff structure, refreshing NATO maritime and amphibious doctrine, and enhancing the role of amphibious forces in current and emerging allied operational plans.

This edition of *Cutting the Bow Wave* from the Combined Joint Operations from the Sea Centre of Excellence highlights some of our completed and ongoing work in support of key Maritime Enterprise stakeholders. Our 2020 Programme of Work will examine this Bastion Defence as part of an A2AD strategy as we assist the Maritime Theater Component Commander, Joint Force Commanders and individual Alliance nations. We aim to contribute to efforts in protecting our combat critical information, conducting maritime operations in a D2C2 environment, increasing our logistical resilience and enhancing the interoperability of our maritime and amphibious forces as we continue to enhance NATO's ability to stay ahead of peer-adversary capabili-

ties under the filter of how the next Battle of the Atlantic could unfold. 🚢

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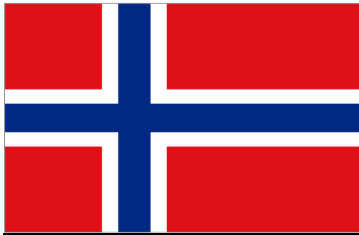




*“A key part of Russia’s strategy is to deny NATO access to land and sea areas around the country. The Northern Fleet and the bastion defense concept present a strategic challenge to the link between North America and Europe.”*

*Professor Rolf Tamnes*

*Norwegian Institute for Defense Studies*



CDR GEIR HESTVIK  
NORWEGIAN NAVY  
WARFARE ANALYSIS BRANCH  
CJOS COE



### **NATO MUST ADDRESS THE INCREASE IN RUSSIAN LITTORAL CAPABILITIES TO AVOID EASY PICKINGS IF RUSSIA ENFORCES THE BASTION DEFENCE**

The redistribution of political, military and economic aspects of geostrategic power is evident in the Arctic. Climate change has paved the way for increased resource exploitation and the opening of new sea routes giving the Arctic new strategic importance. In addition to the eight Arctic nations, other countries for example China, India, Japan, and France have shown increased interest in the Arctic, creating policy documents and boosting activities and investments in the Arctic region. With these recent changes, we see that a resurgent Russia has shown the will and the ability to utilize all means available to protect, ensure and enforce their national goals. This includes cyber-attacks against Estonia in 2007 (The Guardian, 2007), the Russian annexation of Crimea in 2014, Russian interference in US federal elections in 2016 (ICA, 2017), and the Russian poison attacks in Salisbury, England, in 2018 (DW, 2019).<sup>1,2,3</sup> A major conflict between Russia and NATO is not considered likely; nevertheless, NATO countries should not be indiffer-

ent and ignorant to malign Russian activities, precautionary measures able to withstand all threats should be established.

Recent actions have shown the Russian resolve to train, exercise and if needed enforce the Russian Bastion Defence, in order to protect their strategic submarines. In August 2019 around 30 Russian warships from three different fleets conducted the largest Russian Navy exercise since the Cold War, mainly operating off the coast of Norway (Stormark, 2019). On October 30, 2019, the Norwegian newspaper Verdens Gang published an article stating that Russia had initiated the largest submarine operation since the 1980s, involving around 10 submarines.<sup>4</sup> According to the article, two Russian Sierra class submarines with titanium hulls were operating west of the Norwegian Bear Island, and two multi-role submarines and one attack submarine were operating between Bear Island and the Norwegian mainland, evidently closing access to the eastern part of Barents Sea where they had deployed strategic submarines (VG, 2019, p. 20-21).<sup>5</sup> The Russian exercise was later confirmed by the Norwegian National Joint Headquarters.

The Russian concept of protecting their strategic submarines, commonly known as the Bastion Defence, originates most likely



## THE REACH OF RUSSIA'S 'BASTION' DEFENCE CONCEPT



Source: RUSI.org

Map of Russia's "Bastion" defence concept.

from a series of articles published in "Navies in War and Peace" in the 1972-73 issues of *Morskoi Shornik*, the professional journal of the Soviet Navy. They were published by then Admiral of the Fleet of the Soviet Union Sergei G. Gorskov. Based on western studies of these articles, scholars concluded that the Soviet Union had given up on the earlier priorities of fighting the western SSBN fleet in favour of protecting its own strategic submarine force in home waters (Bremer, 1987, p. 40).<sup>6</sup> In literature, the concept includes a Russian ambition to conduct sea denial operations towards the Greenland-Iceland-United Kingdom line (GIUK) and to establish sea control in an area covering parts of mainland Norway, Bear Island and Svalbard.

Related to the Bastion Defence, this article will address one possible shortfall in NATO defence planning, focusing on Russian Navy developments since 2007, discuss possible reasons for this development, and further address possible implications for

some NATO countries bordering Russia.

After the Gulf Wars and NATO operations in Kosovo, Russian military leaders studied the changing characteristics of war (Zysk, 2018, p. 2), and in the last decade, NATO has seen Russian forces go through radical changes and improvements in order to reduce the western countries' technological advantage.<sup>7</sup> Russian forces have become more modern, technologically advanced and more professional. They have increased their mobility and many of their weapon systems are combat proven in conflicts and wars, like Georgia, Crimea and Syria. The large turn-around started around 2007, with a radical and extensive modernization program, where the Russian Navy got its fair share, and the equivalent of 177 billion USD in funding (Ibid). Many scholars would argue that Russian ambition is to establish or re-establish a large blue water navy. That might be the case, but since 2008 the largest increase of naval units has been within





medium and smaller classes of ships, boats and crafts. They are more suitable for so-called brown water or littoral operations rather than blue water operations in the North Atlantic, one of the most challenging and difficult areas for naval operations in the world. From 2008 to 2017, the Russian Navy increased its number of corvettes to around 70 units, and its number of Fast Patrol Boats (FPBs), Fast Attack Crafts (FACs) and armed Patrol Boats (PBs) to around 300 units. In contrast, during the same period the number of cruisers, destroyers, and frigates decreased by 32 units, to a total number of around 25 ships.<sup>8,9</sup>

There may be several possible explanations for this development. Firstly, it is possible that high procurement costs and lack of industrial capability has reduced the ability to sustain and build-up a large blue water navy, especially while the western sanctions against Russia are enforced. Secondly, there might be a deliberate choice to prioritize the procurement of medium and small size units. The Russian Navy has integrated long-range missile systems on a large number of their medium and small size units, increasing their weapon range and weapon load significantly. While larger ships might carry more weapons on each individual unit, a high number of medium and small size units might allow the Russian Navy to deploy more units who could cover a larger area. The overall combined weapon load of many medium and small size units might also be larger than it would be from a smaller number of large units. In addition, it could be more difficult to neutralize many medium and small size units, then a few larger units, especially if these units operate in littoral areas supported by or cooperating with coastal defense systems and under the umbrella of long-range air defense systems. Lastly, many of the medium-size and small-size Russian Navy units may also be difficult or undesirable targets for western

submarines, the only western navies' assets that might be able to operate within the Russian Bastion Defense bubble. Together, these three aspects will most likely increase coverage, flexibility and resilience within the Russian Navy.

The fourth aspect to mention is climate change. The changing Arctic has potentially created a more challenging environment for the Northern Fleet. Climate change has reduced the ice-cover in the Arctic significantly. Because of this, we see increased oil and gas exploration, increased traffic through the Northern Sea Route, and there is an increased access to the Russian Arctic coastline.

Russia has a very long Arctic coastline, and with the climate change impact this coastline suddenly looks very vulnerable and unprotected. For Russia, it may also be more difficult to protect their second strike capability. The Northern Fleet, with its strategic submarines, is the cornerstone of the Russian Navy, and if the protective ice-cover disappears together with increased traffic density and industrial development in their normal operating areas, other protective solutions might be necessary.

Russia has significantly increased the number of naval units, even though the majority are medium or small. They have already received several new and more modern submarines, and more are under construction. These so-called brown water units could be used either defensively or offensively. If used defensively, they will probably protect vital military infrastructure like submarine bases, ports, shipyards and other important logistical and industrial infrastructure, in areas like Kaliningrad, Severomorsk, Murmansk and Vladivostok. In addition, they may be able to better conduct surveillance, control and protection of the long Russian Arctic coastline. If used offensively, brown water units could be used to seize control of littoral areas in Norway,



Estonia, Latvia, Lithuania and Finland. Seizure of littoral areas in Norway should be expected if the Russian Bastion Defence is activated.

This opens up a whole range of Russian opportunities, of which three will be addressed here. Firstly, Norwegian and NATO land forces operating in the northern part of Norway could be flanked, and probably more easily defeated. Secondly, important Norwegian industrial complexes like oil and gas facilities might be occupied or destroyed, reducing or hampering delivery of oil and gas to several NATO countries like England, France, Germany and the Netherlands. Thirdly, some of the littoral areas in Norway might be used as hiding places

for Russian strategic submarines. Norway has many deep fjords,

high mountains, rivers and coastal currents, making anti-submarine operations very difficult and it could be a new way of protecting their second strike capability.

Even though there may not be any clear evidence that offensive naval operations against Norway and other coastal states are planned, the Soviet Whiskey class submarine that went aground approximately 6 miles from the Swedish naval base Karlskrona in 1981 shows both the will and ability to operate within other countries' territorial waters. While this happened during peacetime operations in the Cold War era, it should be expected in time of crisis or war (if the Russian nation's survival was threatened) that the Russian Navy would not hesitate to enforce the Bastion Defence in the best way possible, regardless of cost and implications for neighboring countries.

If Russia were to utilize its brown water

naval forces offensively, in the form of littoral surface raiders, the current NATO naval order of battle might initially prove ineffective. Due to a reduced number of surface warfare units within NATO, especially in case of littoral capabilities, it is highly likely that in the initial stage of an armed conflict between Russia and NATO, Russia would swiftly seize control over large littoral areas in Norway, Estonia, Latvia and Lithuania. Russia might even be able to expand their area of control to German and Danish waters. The reason for this is that these countries do not have many surface vessels specialized for littoral operation, while Russia has more than 300 hundred corvettes, FPBs,

Russia has a very long Arctic coastline, and with the climate change impact, this coastline suddenly looks very vulnerable and unprotected.

FACs and armed PBs. Norway for example, after the removal of the Navy Home Guard (NHG), has

only 6 corvettes and 6 FACs, while Estonia, Latvia and Lithuania together have 4 FPBs, 8 armed PBs and 2 armed Patrol Vessels, a total of 14 units (JFS, 2017). Denmark and Germany removed all of their FPBs after the Cold War, and while Germany has procured a number of corvettes, initially in a conflict the overall number of available surface warfare units will most likely be insufficient to counter a determined Russian surface effort to seize control of adjacent littoral areas. Sweden on the other hand, although a neutral country, has many more littoral capable units with 7 corvettes, 2 FPBs and around 140 FACs (JFS, 2017). Some scholars would argue that the lack of surface warfare assets within the NATO Alliance would be mitigated by more and better air assets. However, in the initial stage of a conflict between Russia and NATO it is highly likely that all western fighter aircraft would be engaged in the battle for air superiority, while





attack helicopters, which could be utilized as anti-surface warfare assets in the littorals, would most likely be supporting land forces in anti-tank operations. In addition, if fighter aircraft and helicopters are used for anti-surface warfare operations against smaller units like FPBs and FACs, in littoral areas like the Norwegian coast, they would normally need “eyes on target” while conducting an attack, especially if the targets are moving. This would make aircraft and helicopters vulnerable to short range air defence systems and more exposed to other threats when navigating and fighting in geographically and topographically challenging areas.

If the Alliance wishes to combat the threat, NATO’s surface warfare capability and resilience should be improved by acquiring more naval units. The fastest, easiest and probably cheapest way of mitigating the Russian littoral surface warfare advantage could be to choose a similar approach as Sweden. A large number of Fast Patrol Boats or Fast Attack Crafts, equipped with capable surface warfare weapons and air defence weapons would make it very difficult for an opponent to gain control of the littoral areas. Medium and small size units cost less than larger ships like destroyers and frigates, require smaller crew and are cheaper to acquire. Manned with dedicated and knowledgeable sailors with local knowledge of the operating area, would in many circumstances be able to utilize the littoral areas as a force multiplier. Detailed knowledge of possible hiding places, suitable attack positions and navigational challenges would provide them with an advantage, which could more easily deny access and control to an opponent.

Norwegian territory and Norwegian waters are by many considered vital for NATO’s ability to project power against the Russian Northern Fleet and their strategic submarines; likewise for Russia to be able to project military power against NATO. From a

Russian point of view, parts of Norwegian territory and Norwegian waters are most likely seen as areas that need to be controlled by Russian armed forces or areas were NATO forces need to be denied access. And if NATO loses control of these areas it would make operations in the North Atlantic much more demanding and difficult. In addition, the loss of access to the natural resources exported from Russia and Norway to Europe, could be devastating, since around 35% of the European demands for natural gas is covered by Russia and around 25% is covered by Norway. With these aspects in mind, NATO should not be indifferent and ignorant of the increased Russian littoral capability and capacity. 🇷🇺

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*“He who controls the sea, controls everything.”*

*Thucydides*



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### **SEA CONTROL - Understanding the dual requirements**

Near peer competitors such as China and Russia, as well as regional influencers such as Iran, are increasingly deploying all elements of their national power to achieve their global ambitions. In many cases, they are gaining a competitive advantage and exploiting our vulnerabilities in order to redefine the norms of the entire international system on terms more favorable to themselves. While rarely rising to the level of conflict, Iranian, Chinese and Russian actions are frequently confrontational as witnessed numerous times in the Straits of Hormuz, as well as in the Black and South China Seas.

It is indisputable that the world’s economy floats on seawater. It is equally indisputable that international maritime transportation is the tool that keeps the global economy moving. The world economy has surged over the last half century, and that growth has been largely driven by globalization and the consequent reduction in barriers to trade. Any operational disruptions in

maritime transportation have wider consequences for society, making the development and implementation of an updated maritime strategy and the management of the trans-Atlantic sea lines of communication a strategic, combined and joint priority for our Alliance.

Sea control does not mean command of all the seas, all the time, certainly not in times of peace. Rather, it is the capability and capacity to impose localized control of the sea when and where it is required to enable other military objectives and to hold it as long as

**Sea control does not mean command of all the seas, all the time, certainly not in times of peace.**

necessary to accomplish those objectives.<sup>1</sup>

On a daily basis, surface naval forces of the Alliance’s nations and partners are conducting peaceful operations

across the globe. Joint forces at sea protect freedom of maneuver, secure the sea-lanes for global trade and economic growth, defend and promote key national interests and prevent competitors and adversaries from leveraging the world’s oceans against us. Naval forces fulfill these crucial roles, which are the necessary preconditions to ensure the free movement of trade and commerce and to safeguard the interests of NATO and partner





Source: MARCOM

Ships of Standing NATO Maritime Group 2 conducting port visit in support of the Alliance's diplomatic initiatives.

nations all the while maintaining a strictly defensive posture. The persistent forward presence of the Alliance's naval forces backed by credible combat capability deters potential aggression and seeks to limit regional frictions from escalating to conflict.

Should this defensive deterrence fail, the potential adversaries NATO forces may be expected to repel or defeat in the future will possess weapons and targeting capabilities designed to effectively delay and reduce the ability of NATO's maritime forces to launch operations. In this "fight tomorrow", it is possible that future amphibious operations become more likely to be conducted to support sea control in littoral areas by degrading or destroying Anti Access Area Denial (A2AD) weapons and sensors. Modern A2AD systems are optimized to engage ships and aircraft, at faster speeds and longer ranges than ever seen in the past. Due to the threat to amphibious ships from anti-ship cruise missiles, torpedoes, and mines, shaping and launching operations will need to be conducted from farther away than those today thus requiring a greater degree and span of sea control in both blue water and the littorals.<sup>2</sup>

A2AD strategy with its technological advances, improved long range targeting and standoff weaponry are driving changes on how we are approaching the conduct of amphibious operations. The long-standing notion that amphibious forces could launch and fight their way ashore from amphibious ships parked dozens of miles offshore has now been challenged and in many parts of the world, a review of the old way of thinking is well overdue. Groups like Russia, China and even Iranian-backed Houthis in Yemen have varying levels of stand-off capabilities that could inflict "mission kill" damage to an amphibious striking group. In fact, almost immediately upon assuming command, the new US Marine Corps Commandant, Gen. David H. Berger, issued a new set of orders to his commanders, calling for a complete re-work of the core amphibious mission of the USMC.

"The ability to project and maneuver from strategic distances will likely be detected and contested from the point of embarkation during a major contingency," "It would be illogical to continue to concentrate our forces on a few large ships. The adversary will quickly



recognize that striking while concentrated (aboard ship) is the preferred option. We need to change this calculus with a new fleet design of smaller, more lethal, and more risk-worthy platforms.”<sup>3</sup> Naval strategists are seeing an ever-increasing level of confluence between the “brown and blue water” thus increasing the complexity and span of control for tactical and operational level commanders. This, in part, is driving iterative changes within the Alliance’s Maritime Strategy.

In the maritime domain the success to this maritime strategy requires an understanding of persistent relationships, time, space, risk, oceanography, the global supply chain,

Naval forces outfitted with robust defensive systems and armed with credible standoff weaponry, survivable in both contested and communications degraded environments, help to secure sea territory and in the event of conflict, would enable forces to flow for follow-on power projection operations. NATO’s ability to launch, conduct and sustain combined and joint operations within its area of interests, far from the shores of the Alliance’s individual nations provides a distinct deterrence message to potential adversaries.

JFC NF will contribute to NATO’s leadership in support of a sea control based maritime strategy. JFC NF will capitalize on



Source: MARCOM

Merlin MK 4 helo from Royal Navy Commando Helicopter Force disembark Royal Marines of 45 via fast rope.

critical infrastructure and the environment, as well as the nature of the risk, and the capabilities, readiness and location of one’s competitors. Designed to secure the linkage between North America and Western Europe, the establishment of Joint Force Command Norfolk (JFC NF) coupled with the reinstatement of the US Navy’s Second Fleet provides NATO and the USN with a significant foundational piece in this maritime strategy and a critical manoeuvre arm capable of exercising sea control in times of potential conflict.

its dual hatted US Second Fleet Commander and staff to maintain situational awareness in the Atlantic, participate in ongoing planning efforts, coordinate with Allied and coalition forces and establish persistent relationships across multiple lines of effort. In times of crisis or conflict, JFC NF will be directing assigned forces to enable power projection, defence of the SLOCs and ensuring the trans-Atlantic reinforcement necessary to the defence of Europe including amphibious operations.<sup>4</sup>

It has been decades since international





Source: Marine Corps Times

MV-22 Osprey lands onboard Dutch naval ship HNLMS Karel Doorman.

relations in the world order dictated competition for sea control, sea lines of communication, access to world markets, and diplomatic partnerships. Nations such as China, Iran and Russia seek to accumulate/consolidate power and re-define international norms, potentially at the peril of diplomatic, economic, and military bonds that link NATO allies and partners. We are seeing other nations such as Japan developing newly formed amphibious brigades and validating TTPs with U.S. and Australian forces during a recent large-scale exercise in Australia as they seek to address China's sea control strategy in the South and East China seas.<sup>5</sup> The future success of NATO and its member nations depends in part on the Alliances' maritime forces and their ability to similarly rise to this challenge and ensure that our force composition and C2 are aligned properly in order to positively influence the pressures that continue to shape our modern security environment.

Potential adversaries will continue to improve their ability to contest the sea and air around their territory, increasing the range at which sea control and follow on amphibious operations must occur and making NATO's ships and amphibious forces more vulnerable. The increasing use of the maritime domain—

the oceans, seas, waterways, and seafloor; the rise of global information systems, especially the role of data in decision making; and the increasing rate of technological creation and adoption of automation are fundamental areas of study for CJOS COE's 2020 Program of Work in support of the Alliance's refinements to its maritime strategy. We contribute to NATO Command organizations and NATO nations with valued insight on the conduct of Allied combined joint operations from the sea and emerging maritime global security challenges across the full spectrum of maritime operations. 🏠

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*“Organized force alone enables the quiet and the weak to go about their business and to sleep securely in their beds, safe from the violent without or within.”*

*Alfred T. Mahan*



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### **JOINTLY NAVIGATING THE BALTIC-ARCTIC STRATEGIC SPACE - The Case of Sweden and Finland**

Small states have always been at risk when great power competition intensifies in a region, those in the Baltic Sea Region (BSR) and the Arctic being no exception. Sweden and Finland are located at a strategic crossroads between Russia and NATO, which “Northern Flank” once again receives serious attention from defence planners. Russia is pursuing a strategy of military dominance in the BSR and the European Arctic, and its perceived assertiveness is a major concern among its neighbours. China, for its part, pursues a multilateral approach as a “near-Arctic state”, seeking to make the BSR a strategic springboard to the Arctic by investing in joint ventures with small states. The U.S. more competitive stance on China globally, and on China and Russia in the Arctic, has implications for the security dynamics in the BSR. In the resulting Baltic-Arctic Strategic Space, Finland and Sweden opts for navigating jointly.

#### **Finland and Sweden: Post-Cold War Defence Cooperation and Integration**

In October 2013, the Chiefs of Navies in Finland and Sweden signed an important restricted armed forces document including

elements of strategy, titled “Vision for the Swedish Finnish Naval Task Group 2023”.<sup>1</sup> From the outset, the task group was launched as a tangible instrument for focusing the efforts of two small navies’ personnel and an operational tool for crisis prevention and crisis management. Their emphasis on interoperability with EU and NATO member states explains the logic behind their decision to direct their forces to operate according to NATO standards and use English language in command and control (C2) procedures. One year later, Russia’s actions in Ukraine altered the calculus and provided strong political impetus for a wider and deeper bilateral cooperation, including all military services. In May 2014, an action plan outlined areas of bilateral cooperation at the military and political levels and set short-, medium- and long-term time frames for the project. In June 2014, an implementation plan set the agenda for making it a reality, while policy decisions were presented in February 2015. The two navies envisaged a two-tiered objective: establishing a bilateral Naval Task Group with initial operational capability to conduct Surveillance and Reconnaissance Operations in 2017; and a standing Swedish-Finnish Naval Task Group (SFNTG) with full operational capability to conduct operations up to and including Protection of Shipping Operations in 2023.





The two navies launched combined exercises in the 1990s, when Finland was no longer bound by the 1948 Soviet-Finland *Friendship, Cooperation, and Mutual Assistance Treaty*.<sup>2</sup> Their cooperation deepened significantly after the turn of the millennium. They launched a combined *Swedish Finnish Amphibious Task Unit*, engaged themselves in joint acquisition projects and established an interface between their autonomous sea surveillance systems for the Baltic Sea – the *Sea Surveillance Cooperation Finland Sweden* (SUCFIS). Since 2015, Finland and Sweden act united within existing multilateral forums, such as the Nordic Defence Cooperation, the EU, NATO and the UN.

The July 2018 Memorandum of Understanding (MoU) extended their defence cooperation beyond peace and crisis situations, but despite the fact that it sets no a priori limits on military cooperation the MoU fails to include formal mutual defence obligations.<sup>3</sup> Notwithstanding, non-aligned Finland and Sweden now jointly plan and prepare for wartime cooperation at “all levels of the Participants defence, the policy and military levels including the strategic, operational and tactical level”. The MoU added strategic communication, Host Nation Support (HNS), as well as protection against WMD and hybrid threats to their defence cooperation. In December 2017, the Swedish Minister for Defence explained the decision rationale, declaring that “Finland is worth defending” and “Swedish and Finnish everyday life and history are since long intimately intertwined, since we were one and the same country for over 650 years”.<sup>4</sup>

In July 2017, Finland enacted a law on the exchange of operational military support with Sweden in a war situation. Alas, the corresponding law in Sweden put forth by a governmental report in April 2018, continues to be delayed with reference to its legal complexity. In May 2019, the Parliamentary Defence Committee stressed the need for implementing the proposed law as soon as possible. Implementing this law is critical to

removing a major restriction imposed on their bilateral cooperation on the basis of sovereignty and allow Swedish forces to engage in combined territorial defence operations with Finland. That would strengthen the effectiveness of their defence cooperation and increase its deterrent effect.

### Weaving a Web of Multilateral Defence Cooperation

The limited military capabilities of Sweden and Finland make them dependent on international defence cooperation to ensure their national security. They define their national security in a regional context and need shelter from the U.S. and NATO, although they are not members of the alliance. In response to Russia’s actions in Ukraine, Finland and Sweden agreed to upgrade their NATO Partnership for Peace member status by jointly signing NATO HNS



U.S. Secretary of Defense Jim Mattis, Swedish Minister for Defence Peter Hultqvist and Finnish Minister of Defence Jussi Niinistö before signing trilateral SOI 2018.

Source: US Defense Department

agreements and becoming NATO *Enhanced Opportunities Partners* in 2014. In 2018, Finland, Sweden and the US upgraded their respective bilateral cooperation to a *tri-lateral* cooperation.<sup>5</sup> Key phrases in their Statement of Intent (SOI) are to “strengthen transatlantic links, increase security in northern Europe, and build interoperability



between the United States and two of its most capable and like-minded partners”. These agreement and the increasingly advanced NATO exercises that involve Sweden and Finland testify to their mutual dependence. The territories and military capabilities of Finland and Sweden are vital to facilitate U.S. and NATO military action in the BSR or in the Arctic.

Since 2010, Finland and Sweden – who still vacillates regarding NATO membership – pursue defence policy discussions in the informal *Northern Group* with key NATO members in the region, including the Baltic and Nordic States, the Netherlands, Poland, the UK and Germany. Following a confidential process, Finland and Sweden joined the UK-led *Joint Expeditionary Force* at a signing ceremony in Stockholm in 2017. Both contributed to the high-readiness *Joint Expeditionary Force-Maritime* (JEF-M) that deployed to the Baltic Sea in May-June 2019, demonstrating collective resolve and exercising multi-domain operations during *Baltic Protector*.<sup>6</sup> Although this maritime-focused force is distinct from NATO, the fact that they are closely related and mutually supporting is well illustrated by the close coordination between the *Baltic Protector* and the *BALTOPS 2019*. As the exercise scenario of *Baltic Protector* escalated, the JEF-M coalition of 9 states smoothly merged into a wider coalition of 18 states under command of Vice Admiral Andrew Lewis and U.S. 2nd Fleet.

The naval strand of the Finnish-Swedish bilateral defence cooperation – the SFNTG; composed of task units for surface warfare, mine countermeasures, amphibious operations and logistics – reached Initial Operational Capability as planned in 2017 and is an operational tool for crisis prevention and crisis management. It sends much needed diplomatic signals of resolve. SUCFIS provides a high level of shared Maritime Domain Awareness by the exchange of information at *secret* level. They presently focus on achieving full C2 interoperability at tactical level by integrating NATO Tactical Data Link Systems 16 and 22 in the Combat

Management Systems of their naval vessels and aircraft. As a step in the process of reaching Full Operational Capability in 2023, SFNTG staff embarked on HSwMS *Carlskrona* successfully exercised command of a multinational Task Group composed of 14 units from Finland, Germany, Lithuania, the Netherlands, Poland and Sweden during the German-led exercise *Northern Coast* in September 2019.<sup>7</sup> The exercise served to demonstrate their tactical interoperability.

As a means of strengthening bilateral security policy relations, Finland and Sweden joined the German-led *Framework Nations Concept* group in 2017 and 2018 respectively. However, they have not yet decided which pillar they will contribute to, while its larger formations are intimately linked to NATO’s deterrence and defence. In 2018, Finland joined the *European Intervention Initiative*. Sweden followed suite in September 2019. It provides yet another platform for security policy dialogue and possible cooperation linked to different types of crisis situations. However, the web of bilateral and multilateral security mechanisms that Finland and Sweden adhere to fails to include defence obligations or guarantees, except for the solidarity clause enshrined as Article 222 of the Treaty of Lisbon. This limits the credibility of their present security policies. Also, the legal mandate to use force on each other’s territory is wanting. While Finland enacted a law that regulates the exchange of operational military support with Sweden in a war situation already in 2017, the implementation of a corresponding law in Sweden – presented by a governmental report in April 2018 – continues to be delayed with reference to its legal complexity.<sup>8</sup>

### **Engaging with China and Russia in the BSR and the European Arctic**

Key drivers for the growing great power competition in the increasingly accessible Arctic are control of oil, gas, minerals, as well as physical and digital lines of communication. Here, the Northern Sea Route (NSR) is of particular importance. In 2010, President Putin declared that Russia





would make it an “international transport artery capable of competing with traditional sea routes”.<sup>9</sup> In 2012 and 2013, Russia strengthened its control over the route by adopting national laws and regulations. Since 2013, Russia has built or upgraded seven military bases on islands and peninsula along chokepoints of the NSR, while deploying advanced radar and missile defence systems.<sup>10</sup> In 2019, plans to introduce foreign sailing restrictions were presented and President Putin offered to connect the NSR to the Chinese *Maritime Silk Road*.<sup>11</sup> The fact that the European Arctic is host to Russia’s Northern Fleet and its nuclear-powered ballistic missile submarines is a concern for all states on the Scandinavian Peninsula. So are Russia’s recent display of its military capabilities, including the launch of a *Kalibr*



Source: Jimmie Adamsson

HSwMS Carlskrona during Exercise Northern Coasts.

cruise missile from K-560 *Severodvinsk* in a berthed position – a capability that drastically shortens the time needed to prepare a missile launch.<sup>12</sup>

At present, the sea lanes of the Baltic Sea are central to Russian container transports and the Baltic Sea is a terminal point for the *Belt and Road Initiative*.<sup>13</sup> However, the BSR might become a Chinese strategic springboard to the Arctic if China and Finland continue their joint investments in digital and physical communication infrastructure. Key projects in the making are the *Rail Baltica Global Project* – aimed at extending the *Silk Road Economic Belt* from Poland to Finland by rail through a 100 km subsea tunnel between Tallinn and Helsinki – and the *Arctic*

*Connect*, a fibre-optic communication cable located on the seabed along the NSR to China – linked to its *Digital Silk Road* initiative. The envisioned *Arctic Railway* between Kirkenes, Norway, and Rovaniemi, Finland, is a project for the long term. These projects have the potential to strengthen economic growth in Finland and enable business development in its largest and northernmost county Lapland.

The April 2019 U.S. Coast Guard (USCG) *Arctic Strategic Outlook* and the June 2019 U.S. Department of Defense *Arctic Strategy* outline a competitive approach towards China and Russia in the Arctic. Both documents identify China and Russia as challengers to the rules-based international order, while the latter also stresses the need for U.S. “investment in capabilities and capacity for polar operations”.<sup>14</sup> The validity of the USCG motto “Semper Paratus - Always Ready” with regards to the Arctic is questionable. Its present capacity shortage to conduct operations in support of freedom of navigation in the European Arctic – and thus execute the new strategy – is obvious, given that its icebreaking capabilities are limited to the USCGC *Polar Star* (1976) and USCGC *Healy* (1999). Here, the USCG missions in Antarctica must also be taken in consideration.

However, U.S. partners Finland and Sweden possess excess icebreaking capacity in summertime, i.e. the period when the NSR is commercially navigable.<sup>15</sup> Extending the geographical coverage of the U.S. trilateral cooperation with Finland and Sweden to the European Arctic would demonstrate strategic thinking outside the box. Yet, the BSR and the European Arctic are geostrategically interconnected and will become increasingly so if the Sino-Finnish investment plans are realised. Also, both regions are arenas for great power competition in which Russia – the named adversary of Finland and Sweden – challenges international maritime law. Finland and Sweden might thus be induced to jointly navigate more saline waters than those of the brackish Baltic Sea with their Arctic capable vessels. That would influence the geostrategic



## calculus in the Arctic and cause reverberations in the BSR. 🌐

*Disclaimer: The views presented in this article are those of the author and not the Swedish Defence University or the Swedish Armed Forces.*

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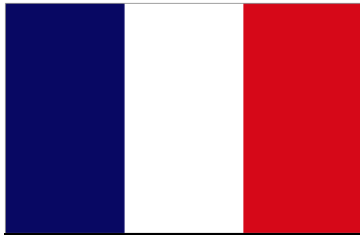
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USFFC





*“the first principle of Arctic sovereignty [is] use it or lose it”*

*Former Canadian Prime Minister Stephen Harper*



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## RUSSIA’S ARCTIC MILITARY PRIORITIES

*The content of this article is the reproduction of the research paper ‘Russia’s Military Posture in the Arctic: Managing Hard Power in a ‘Low Tension’ Environment’ published by Chatham House in June 2019.*

From the North Atlantic to the North Pacific, Russia sees the Arctic Zone of the Russian Federation (AZRF) as a military continuum between theatres of operation. Yet what happens in the Russian Arctic is not necessarily Arctic-specific and is part of a wider, coordinated military strategy.

As elsewhere, the Kremlin’s primary threat perception in relation to the Russian Arctic concerns NATO’s military capabilities and projected intentions. Russia’s approach to the region is therefore not about the Arctic itself, but about mitigating the potential impact of the presence of NATO and US troops beyond the North Atlantic.

Much like elsewhere, Moscow has a militarized threat assessment for the Russian

Arctic. It seeks consistent control over foreign military activity in this region and ensured access for Russian armed forces. Yet contrary to the rest of Russia’s periphery, Moscow feels that it has a position of relative strength in the Arctic, which means that it is clearly seeking to obtain dividends from its perceived military superiority.

From there, two main military priorities can be identified: establishing complete perimeter defence of the Kola Peninsula for the survivability of second-strike nuclear assets and protecting a ‘new border’ in the North through increased perimeter control.

...Moscow feels that it has a position of relative strength in the Arctic...

### The ‘Bastion’ Defence Concept

Russia’s military leadership accords absolute priority to perimeter defence of the Kola Peninsula, to ensure the survivability of second-strike nuclear assets. The Kola Peninsula and its surrounding areas are considered of strategic importance for Russian national security. Perimeter defence around Kola and the extension of the ‘Bastion’ defence concept are designed to give Russia defence in depth.

Derived from Soviet strategy, the concept of a ‘strategic bastion’ was introduced by



the Ministry of Defence in the early 1990s. Its aim was to provide strategic submarine operations with ensured survivability.<sup>1</sup> The concept also entailed concentrating a large part of the sea-based force with the Northern Fleet, as the Arctic was at that time still considered unreachable by foreign military forces and ice coverage was constant.

The Bastion concept still centres today on defending sea-based nuclear assets. It encompasses a region that extends from the Kola Peninsula towards the Barents Sea and the Norwegian Sea and further west to the Greenland–Iceland–United Kingdom (GIUK) gap. Control is ensured through sea denial and interdiction capabilities at sea and in the air, to provide protection for nuclear-powered ballistic-missile submarines (SSBNs) in their area of operation.<sup>2</sup>

The Bastion concept seeks to ensure both the security of the Kola Peninsula and access of the Northern Fleet to the North Atlantic and beyond.<sup>3</sup> It makes the distinction between ‘inner defence’, which relates to ambition of control, and ‘outer defence’, for ambition of denial.<sup>4</sup> It relates to creating space for sea control and sea denial activities.

Air defence forces were revamped in 2016 to serve this purpose, and were deployed throughout the different Arctic bases.<sup>5</sup> Military infrastructure in the Russian Arctic aims to bolster Russia’s air defence and sea denial capabilities onshore and close to the coast, while the Northern Fleet has been fitted with adaptable sea denial platforms along the AZRF and beyond. Liquefied natural gas (LNG) facilities (i.e. the Yamal and Gydan LNG projects) are seen as strategic assets, and their protection increasingly factored into the Bastion defence concept.

To match its sea denial and interdiction remit for protecting the Kola Peninsula, the Northern Fleet has been gradually fitted with powerful and multi-layered air defence and coastal defence capabilities. This is in line with increased sea and air patrols in the Arctic for perimeter defence. The Northern Fleet is now operating a hardened, Arctic-capable, multi-layered air defence and sea denial sys-

tem that includes:

- S-400 (NATO: SA-21 Growler) and S-300 (NATO: SA-10 Grumble) air defence systems for long-range protection;
- P-800 Oniks anti-ship cruise missiles (NATO: SS-N-26 Strobile) and Kalibr-NK land-attack cruise missiles (NATO: SS-N-Sizzler) for medium-range protection;
- Pantsir-SA (NATO: SA-22 Greyhound) and Tor M2-DT (NATO: SA-15 Gauntlet) systems for short-range base defence; and
- 3K60 BAL (NATO: SC-6 Sennight), K-300P Bastion-P (NATO: SSC-5) and 4K51 Rubezh (NATO: SSC-3 Styx) systems for coastal defence.

As the mainstay of the newly established Joint Strategic Command North (‘OSK Sever’), the Northern Fleet accounts for about two-thirds of the Russian navy’s nuclear strike capabilities, the rest residing in the Pacific Fleet.<sup>6,7</sup> The primary function of OSK Sever is to ensure the protection of the Kola Peninsula. OSK Sever’s establishment was announced in late 2013. The facility, which is based around the existing administrative and force structure of the Northern Fleet, became operational on 1 December 2014.

Based in Arkhangelsk, OSK Sever does not yet have the formal status of a military district. Nonetheless, it reports directly to the National Defence Control Centre in Moscow. This will change in late 2019, when OSK Sever will become a full-fledged military district.<sup>8</sup> Like the four other districts, it integrates mili-



Russian S-400 air defense system.

Source: Dmitry Fomin





tary assets across all branches of the armed forces, including air defence units. Parts of the headquarters of the Northern Fleet are co-located in Arkhangelsk, while the actual headquarters of OSK Sever are in Severomorsk. Its area of operation is coordinated with the Central and Eastern military districts, which in turn oversee land-based Arctic territorial defence.

The military leadership is opposed to the idea of starting a conflict in the Arctic. On the contrary, it would aim to push any conflict away from the region towards SLOC in the North Atlantic and towards the Baltic Sea. The goal would be to remove tensions from the Russian Arctic as quickly as possible, and to establish perimeter control for protection of the Kola Peninsula. This is justified by the necessity of ensuring the survivability of Russia's sea-based nuclear deterrent, as well as for ensuring freedom of navigation for the Northern Fleet and strategic submarines.

### **Arctic Patrol and Domain Awareness**

Since 2007, Russia has been expanding the scope of its military activities in the AZRF and beyond. Patrols by long-range strategic bombers resumed over the North Atlantic and the North Pacific in August 2007. It should be noted that such activities represent routine 'background noise', rather than an intensification of activity, and have more to do with the protection of the Bastion than aggressive intent. Nonetheless, long-range aviation patrols illustrate the Russian leadership's general willingness to maintain operational capacity and ensure domain awareness around the Kola Peninsula.<sup>9</sup>

Long-range bombers are not based in the AZRF, but they operate there and use local military installations as transit points.<sup>10</sup> Patrol assets are those of the naval aviation forces of the Northern and Pacific Fleets, which limits their range of operations.<sup>11</sup> Pa-

trols cover the international airspace of the Barents Sea, the Greenland Sea, the Arctic Ocean, the North Atlantic and the Bering Strait.

Nonetheless, intercepts with Western radar are still considered modest (especially when considering numbers in the Baltic Sea or the Black Sea) and at a level far below that recorded during the Cold War.<sup>12</sup> Studies have shown that Russian long-range patrols do not venture close to the joint US–Canada North Warning System.<sup>13</sup>

Regular aviation patrols and manoeuvres resumed in early 2013 along the Northern Sea Route (NSR) and over the Arctic Ocean. According to official sources, the Northern Fleet carried out more than 100 patrols over the Arctic Ocean in 2018.<sup>14</sup> Since 2017, Russia has been routinely simulating mock air wing attacks

on Norwegian military assets – primarily against the coastal radar installations in Vardø, which are funded by the US.<sup>15</sup>

Dangerous manoeuvring close to Norwegian airspace, especially with fighter aircraft simulating a strike in attack formation, is increasing the risk of miscalculation, especially if an interception occurs. Other unacceptable Russian military activity has included GPS jamming in northern Finland and northern Norway during the NATO exercise Trident Juncture in 2018, and the announcement that the armed forces would carry out missile tests in the basin of the Norwegian Sea during Trident Juncture.<sup>16,17</sup>

### **North Atlantic Sea Lines of Communication (SLOC)**

Northern Fleet operations in the North Atlantic depend on unhampered access for vessels crossing Norwegian waters around the Barents Sea and Svalbard and then transiting via the Greenland–Iceland–Norway (GIN) gap.<sup>18</sup> The main chokepoint in the North Atlantic is the GIUK gap between Greenland,

The Bastion concept still centres today on defending sea-based nuclear assets.



Iceland and the UK. Russia's extended ambition of denial with the Bastion defence concept means that ensured operations and security for submarine-launched ballistic missiles (SLBMs) will require force deployment



Source: Wikimedia

contested environment, NATO reinforcements and resupplies in the North Atlantic would have to keep open sea approaches to the Baltic region. In wartime, Russia would seek to disrupt the entire SLOC in the North Atlantic, seize the initiative and control escalation there.

Considering Russian intentions and capabilities in the European Arctic, NATO and its Nordic partners Sweden and Finland (NATO+2) need to keep a watchful eye on the region, while maintaining and exercising capability, and increasing domain awareness. This, however, must be done without overtly 'militarising' the Arctic. NATO and its allies should act now to clear the debate about its role in the Arctic as well as broaden its overall awareness beyond the North Atlantic. Indeed, Russia is increasing the gap of Arctic operations and capabilities. As time passes, this gap will require more effort for the Atlantic Alliance to catch up. A readjustment might be necessary now before the cost of entry to Arctic operations becomes too high. 🏠

Greenland, Iceland and the United Kingdom gap.

through this chokepoint.

Russian operations around the GIUK gap would have a negative impact on North Atlantic sea lines of communication (SLOC), which constitute the main routes for reinforcement and resupplies from North America to theatres of operation in Europe. The extended Bastion defence concept, honed by sea denial and interdiction capabilities at sea, is a credible threat to NATO carrier groups.<sup>19</sup> This would have direct consequences for NATO and its allies in terms of freedom of operation in a contested environment. Russian interdiction capabilities and the presence of naval assets might disrupt NATO reinforcements in the North Atlantic.<sup>20</sup>

The extended Bastion concept puts more pressure on North Atlantic SLOC as well as on the Baltic region. For Russia, linking the Arctic to the Baltic region would have the benefit of establishing a defensive posture in Arctic waters while creating a 'spill-over' of military activity towards the Baltic Sea.<sup>21</sup> In a

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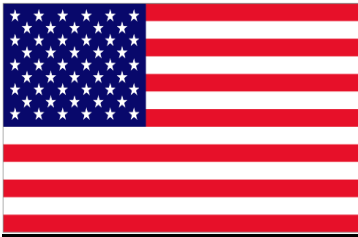
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## SUDOKU



*“Our goal is not victory of might but the vindication of right - not peace at the expense of freedom, but both peace and freedom...”*

*John F. Kennedy, 1962*



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### ASSET OF WAR AND PEACE - Russian Efforts in the Black Sea Security Environment

The Black Sea functions as a corridor body of water strategically positioned between Russia, Europe, the Mediterranean, and the Middle East, and it is increasingly populated by Russian instruments of security. The Istanbul strait to the southwest connects the Black Sea with the Mediterranean Sea and Atlantic Ocean, while the Kerch Strait to the north connects it with the Sea of Azov. Russia is joined by five other states bordering the Black Sea, among which are Turkey, Ukraine, Georgia, Bulgaria, and Romania. Of these countries, Russia has “geopolitically dominated” the Black Sea for centuries and is well-versed in functioning across and within it while refraining from crossing the threshold of direct military conflict.<sup>1</sup> Maneuvers by Russia’s Black Sea Fleet, controlling navigation of the Kerch Strait, and the incorporation of Crimea into Russia mark the attractiveness of the Black Sea as a grey zone for Russian operations, where security mechanisms of the state can engage in confrontation and conflict on the lower threshold on the spectrum of war and peace.

Russian grey activities in the Black Sea



Map of Black Sea and Sea of Azov.

Source: OnTheWorldMap.com

enhance the projection of Russian maritime stability of the region and the security of the Black Sea as a transit waterway. The Kerch and Istanbul straits yield coveted advantages in this respect; the former as a highly trafficked route by transit and naval vessels as well as the location of the Kerch Strait Bridge connecting mainland Russia with annexed Crimea and the former as Russia’s gateway to investing in its enhanced presence in the Mediterranean. The Novem-





ber 2018 confrontation between the Russian Coast Guard and Ukrainian naval vessels over passage through the Kerch Strait, Russian naval mine laying activities, and the Russian Navy's monitoring of Ukrainian vessels conducting drills with US and NATO forces ensure the formidability of Russia's maintenance of the state of the Black Sea. The Istanbul strait enables Russia to maintain a presence in the Mediterranean with the renewed Mediterranean Squadron of the Soviet Union supported by the Black Sea Fleet. Furthermore, a report by RAND Corporation published earlier this year highlights the utility of the Black Sea for the deployment of the Kuznetsov battle group and other submarines and battle ships to Russia's naval base under long-term contract in Tartus, Syria.<sup>2</sup>

Aside from guaranteeing passage for its navy, Russia tends to capitalize on the Black Sea as an asset not simply to dominate for Russia's own sense of security but as a means by which to engage, either positively or negatively, with areas and countries of interest. Among the most significant engagements have been with NATO member Turkey, and the NATO-aspiring states Ukraine and Georgia. The ongoing construction of the Turk Stream II gas pipeline supplying Turkey and the European market through the Black Sea as well as harbor safety and security drills with the Turkish Navy have both relied on Russia's status as a dominant force on the Black Sea.<sup>3</sup> However, this presumed status has incurred negative relations with Ukraine as Russian vessels exercise security and observatory maneuvers. In July of this year, the Russian Navy closely monitored the

military drills between Ukraine and NATO Allies during Sea Breeze 2019, with its guided-missile destroyer, Smetlivy, illegally penetrating a restricted area where the drills were occurring. The Ukrainian government accused the Smetlivy's maneuvers as illegal and disruptive to the drills, which the Russian Navy rejected. A statement later released by the Russian Navy explained that the Smetlivy "monitors the activity of NATO vessels to promptly respond to the possible emergency situations, which pose the threat to the civilian navigation."<sup>4</sup>

Ukraine's sensitivity to Russian naval maneuvers relates to the psychological elements of Russia's grey operations on the

...Russia tends to capitalize on the Black Sea as an asset not simply to dominate for Russia's own sense of security but as a means by which to engage, either positively or negatively, with areas and countries of interest.

Black Sea, which may hold potential to deter and distract from NATO efforts and affect the freedom of movement by

vessels involved in those efforts. The advancement of Anti-Access/Area Denial (A2/AD) capabilities and specialization of the Black Sea Fleet in mine laying operations raise cause for increased vigilance by non-Russian, especially NATO, vessels near strategic areas on the Black Sea. The Black Sea Fleet has been characterized as the Russian Navy's lead force in mine laying operations, an increase in which was observed after the 2014 annexation of Crimea where the Fleet is based at Sevastopol. This skills aids Russia in attaining viable A2/AD options in support of its efforts to control the stability of and operations on the Black Sea. Furthermore, recent improvements incurred as part of Russia's 2011-2020 State Armament Program have transformed the Black Sea Fleet into a multifunctional, flexible, and modernizing force able to conduct blockades, support military insertion, carry out targeted strikes, maintain a visible

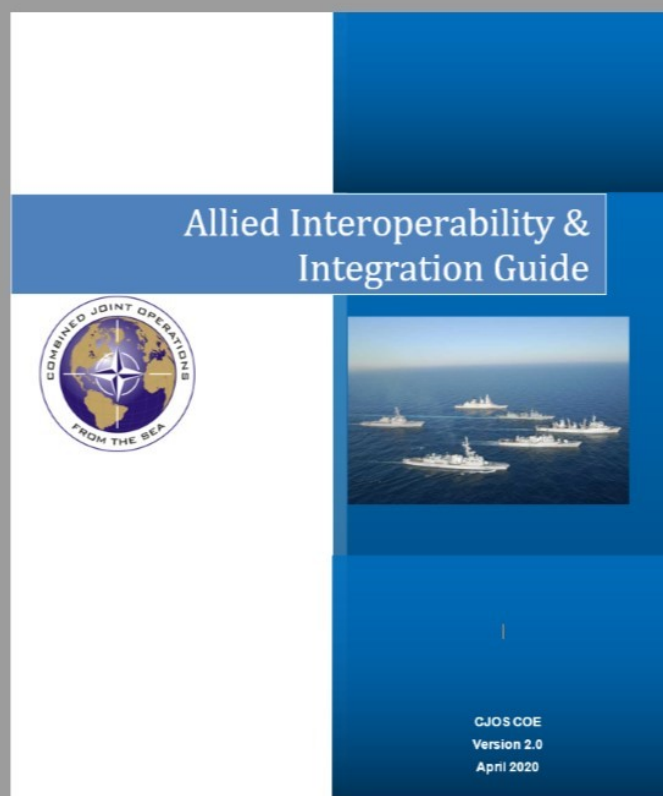


presence in the form of patrols and escorting NATO Allies' vessels, and perform the overall security and stability of the sea.<sup>5</sup>

The Black Sea has been a prime grey zone for Russian naval operations and its attractiveness as such is incapable of deterioration so long as it holds a means by which Russia can exercise visible maintenance of stability and security. The capacity to obstruct passage by other vessels, construct transit pipelines despite international objection, escort and come within hazardous distances of foreign military drills, and facing no force able to prevent the mine laying, blockades, and offensive maneuvers presents a credible challenge for Black Sea security. Dominance as an irreconcilable force on the Black Sea is thus an asset to be acquired, and one that the Russian Navy is doing well in working toward. As a force for security on the Black Sea, NATO Allies present a potential contrast to this endeavor. However, the favorability of the Black Sea as an area for grey operations means that there is room for maneuver in achieving security on the seas and that it is just as much an asset for peace as it is for war. 🇺🇸

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## CJOS ALLIED INTEROPERABILITY AND INTEGRATION GUIDE VERSION 2.0 TO BE RELEASED IN APRIL 2020



### UPDATES INCLUDE:

- NEW IFF PROCEDURES
- LESSONS IDENTIFIED WITH COALITION DEPLOYERS

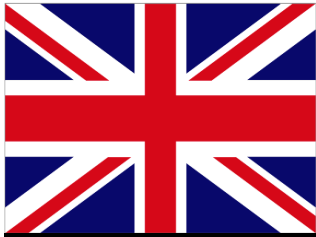
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*“A self-contained and sea based amphibious force is the best kind of fire extinguisher because of its flexibility, reliability, logistic simplicity and relative economy”*

*Sir Basil Liddell Hart*



WO1 JACK CUTHBERT  
ROYAL MARINES  
DOCTRINE DEVELOPMENT BRANCH  
CJOS COE



### **AMPHIBIOUS C2 - Is there sufficient knowledge of C2 for Amphibious Operations in NATO?**

Amphibious forces have been widely utilised by many countries for decades, initially integrated to a state's naval force and subsequently transformed, in most cases, to separate organisations. Multiple nations exercise amphibious operations on a global scale, demonstrating significant capabilities across multiple domains and yet this never incorporated into NATO exercise planning against an Article 5 scenario.

Following the 2018 NATO Summit, NATO agreed to strengthen the Alliance's deterrence and defence posture in all domains, including amphibious operations. Russia's 2014 annexation of Crimea was the catalyst to NATO's reinforcement actions.

Although the Alliance's amphibious forces collectively offer an impressive capacity, NATO has struggled to effectively aggregate multiple national or bi-lateral Amphibious Task Groups (ATGs) into a coherent Amphibious Task Force (ATF). Individual national and bi-lateral ATGs currently form the core of Allied amphibious forces. In the case of United Kingdom and Netherlands Amphibious Force (UKNLAF) and Spanish Italian Amphibious Force/Spanish Italian Landing Force (SIAF/SILF), training and deployments over

the course of decades have resulted in integral force packages with a level of uniformity approaching that of national units such as the French and U.S. task groups. These forces, while capable of conducting battalion or brigade level operations, frequently train and employ below the battalion level. Nevertheless, current NATO force planning and crisis response structures may not take advantage of the full potential of these available amphibious capabilities.

As SACEUR's amphibious and maritime advocate, COMMARCOM in Northwood, UK, has established the NATO Amphibious Leaders Delivery Board (NALES DB) as a Flag and General Officer forum to provide insights and recommendations to SACEUR on how to aggregate NATO amphibious capabilities. MARCOM subsequently formed a staff-level working group of action officers, the Amphibious Task Force WG (ATF WG) to inform and support the DB. This working group captured recommendations and focused its advice on the readiness and scalability of a multinational ATF within the NATO Response Force (NRF), including the generation of a Commander Amphibious Task Force (CATF) and Commander Landing Force (CLF) staff. A scalable solution to its delivery will be the best approach due to the complexity of Command and Control (C2) when deploying multiple ATGs under a NATO ATF. The NALES DB,



under MARCOM, will identify options and provide proposals to SACEUR, allowing NATO to strengthen the Alliances' Maritime Posture including NATO's amphibious capabilities to bolster operational and strategic responsiveness.

Amphibious operations involve all services operating across all environments and is therefore, the most complex of military operations. It directly embraces the maneuver approach methodology, which emphasises understanding and targeting the conceptual and morale components of an adversary's fighting power. Amphibious operations are therefore expected to become more prevalent, especially as mega-cities and resource hubs draw closer to the coastline. The littoral offers the manoeuvre space that can be exploited by amphibious forces. Amphibious operations require a well-planned and integrated C2 framework to achieve unity of effort, increase speed of action, and maximize the application of power projection capabilities; therefore, it must be given considerable thought during the preparation, planning and execution of amphibious operations from a joint perspective.

*“Lying offshore ready to act, the presence of ships and Marines sometimes means much more than just having air power or ships fire, when it comes to deterring a crisis. The ships and Marines may not have to do anything but lie offshore. It's hard to lie offshore with a C-141 or C-130 full of airborne troops.”*

General Colin Powell, Chairman of Joint Chief of Staff during Op DESERT STORM 1991

Effective C2 of amphibious operations is complicated by the nature of the operating environment. The coordination required in optimizing the use of support forces, no matter their makeup or application, is complex and inherently collaborative. The C2 for amphibious operations is detailed in an Initiating Directive, issued to support and complement any directive issued by the Operational Commander when it is clear that an amphibious operation will be part of or the main campaign. It can be in any form of instruction or order to execute a pre-existing plan and will detail the mission, key dates, forces, C2 structures and

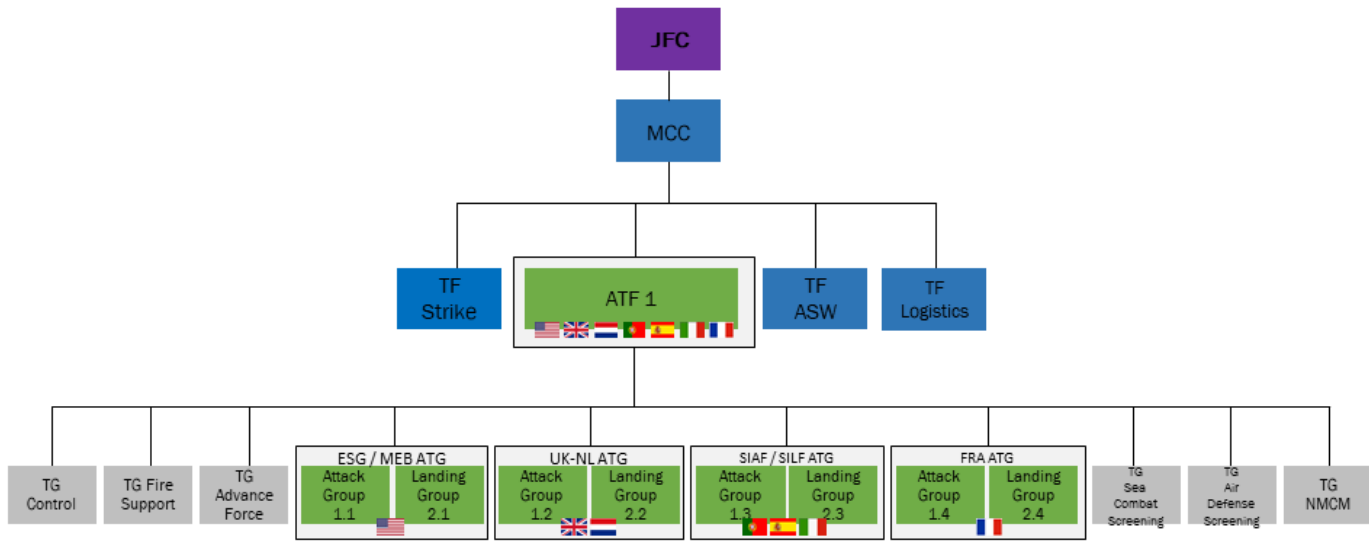
relationships, related supporting operations and constraints.

The designation of CATF/CLF are key elements and engaged during the Initiating Directive drafting. The CATF and CLF relationships are critical; to operate successfully in this complex environment with its competing demands, requires highly integrated and coordinated staffs. Clear guidance and coherent orders must be well rehearsed and validated during regular exercises to ensure C2 is clearly defined and ensures effective cross-component coordination and synchronisation.

The first challenge with amphibious operations is that of C2. Although each nation employs comparable constructs; however there are differences in practical application. During a NATO exercise or operation the CATF/CLF staff would be under Operational Control (OPCON) of the Maritime Component Commander (MCC), currently not configured within NATO to execute C2 of an ATF with multiple ATGs in a large scale Allied military campaign. To aid the process, Marine Corps Forces Europe and Africa (MARFOREUR/AF) facilitated three events with the objective of identifying suitable C2 constructs and associated doctrine and interoperability considerations for largescale maritime and amphibious operations in support of NATO. These scenario-led events recommended to amphibious leaders a list of baseline concepts that would be required in order to establish a centralised ATF along with potential next steps for NATO. Figure 1 depicts a possible C2 construct where the NATO ATF has OPCON of multiple ATGs, each exercising individual CATF/CLF command relationships.

All nations with amphibious capabilities employ national doctrine. This doctrine is generally aligned to US and NATO publications tailored to suit their own requirements, supporting national C2 structures. Whilst recognised that NATO has not yet employed amphibious forces as an ATF, doctrine has nevertheless been developed. The Allied Tactical Publication (ATP-o8), Volume 1, 'Doctrine for Amphibious Operations' has been approved by the NATO Military Committee Standardisation





Source: CJOS COE

Figure 1 : A possible C2 structure for the NATO Amphibious Force.

Board and provides common doctrine for amphibious operations so that those concerned with planning and executing such operations may integrate varying assets from nations and services into a coherent and workable operation of war. ATP-8, in general, provides background information to support amphibious warfare specific doctrine, tactics, techniques, and procedures for the conduct of amphibious operations, and is a reference for the amphibious warfare chapter within ATP-O1, Volume I. Its primary aim is to ensure basic uniformity of amphibious operations while permitting maximum tactical flexibility across the spectrum of military operations.

National command training schools and staff colleges provide several courses covering amphibious warfare and awareness but nothing amphibious within a NATO curriculum. There are several options for delivery of training; however, an incremental approach is paramount and must be adapted to ensure coherence across the amphibious domain. It is CJOS COE's recommendation to develop a NATO Amphibious Warfare Course. Such a course could start with fundamentals for amphibious planners and any staffs involved with planning and conducting of amphibious operations. This course should provide an understanding of Littoral Manoeuvre (LitM) and amphibious warfare, C2 and staff processes, planning process-

es and the conduct of different types of amphibious operations. The curriculum should also cover all aspects of planning an amphibious operation from receipt of the Initiating Directive to the completion of the action, NATO doctrine, C2 (including staff functions, roles and planning techniques), sequencing and enabling capabilities and activities. Sponsored by any or each nation, it must be synchronized and available to NATO and partners.

On a strategic level, staff education and understanding of the planning process, hosting at the command staff and joint service level would be a natural choice. Staff Officers would transit through career development transition courses and finally on to a joint service command and staff college where joint doctrine, including amphibious operations, should be discussed and hypothesized in an intellectually focused environment. Similar to Planning Doctrine course, this course could be sponsored by any or each nation and coherent with national and NATO doctrine. The NATO school at Oberammergau hosts several planning courses to prepare staff to contribute to NATO's operational planning processes, either as an operational-level or functional-area planner, while serving within a joint operational-level headquarters. This proposed course could apply the principles of the Comprehensive Operations Planning Directive (COPD) and could initiate



similar principles to cover amphibious doctrine, however, it would not cover the full spectrum of amphibious planning and would only support awareness through education.

Whilst NATO continues to solidify C2 structures, establish concepts and develop future mission tasks and objectives, there remains opportunities to observe and analyse these initial findings during several national and bi-lateral exercises, either directly or indirectly linked to NATO. An amphibious trained warfare staff could augment MARCOM planners in NATO joint exercises such as TRIDENT JUNCTURE and the US-led BALTOPS series; however, this still requires extensive pre-planning and a clear C2 structure. Only through exercising and the adoption of lessons learned can commanders fully understand the complexity of amphibious operations encompassing the full cycle of warfare through termination and transfer of authority options. Nations continue to exercise and develop relations with amphibious partners; these exercises are helping to rationalise concepts and C2 structures but more importantly are cultivating relationships, interoperability and capabilities as no C2 construct can be successful without sufficiently ready and capable forces.

It is CJOS COE's assessment that the current understanding of C2 in amphibious operations is inadequate throughout NATO command structures. An understanding of its concepts versus an acknowledgement of its existence can be based on an individual's military experience. The need to create NATO amphibious task force commanders and staff officers may not be the only approach; however, amphibious task force training needs to be entwined in the professional development of all joint staffs whom support the CATF/CLF. Properly resourcing amphibious forces and sequencing a collective and progressive exercise schedule to include national and bilateral events are perhaps the most important considerations for NATO in building a potent and flexible amphibious capability for the Alliance. It is recommended that subsequent iterations of SACEUR's Annual Guidance for Exercises include NALES injects and identify both US

and European amphibious exercises to rehearse refined C2 constructs.

There is another consideration. Whilst NATO refines the use of amphibious forces, there are multiple nations outside the Alliance that already have established amphibious capabilities. Some are more mature and capable than others and are resourced to specific national requirements. It would be shrewd to establish these relationships ensuring shared awareness and cooperation across a global audience, especially in the INDOPACOM areas where large exercises such as RIMPAC and TALISMAN SABRE regularly exercise amphibious C2 between US Marines and coalition forces. Lessons must be captured and rectified from all participants; this analysis needs to be transparent and sharable. For now, NATO must continue to develop NATO's maritime C2 structure to address MJO+ scope and road map to operationalize the ATF capability. These need to be exercised against scalable levels of ambition for a range of crisis response scenarios but equally importantly must be synchronized with training and education of staff employed within the yet to be defined C2 structures.

One such possibility, yet to be considered, is the establishment of an Amphibious Warfare Centre of Excellence. Theoretically, this COE could support NATO's amphibious ambitions and form a centralised multinational amphibious staff able to advise, train, educate and develop NATO concepts critical to the delivery and sustaining of a NATO ATF. It could collaborate with existing maritime and amphibious working groups to capture and evaluate doctrine and standards. Using this hypothesis, it could also engage with ACT and inject these concepts into ACT through the TIDE Sprint consortium and through experimentation, aid interoperability and understanding by a cohesive approach to innovation and delivery. 🏠





*“Amphibious Forces oriented for an interventionist approach in the 20th century must transform in order to persistently contest and win in the changed global operating environment of the 21st century”*

*Brigadier Haydn White*

*DCOMDT General of the Royal Marines*



Dr. Lee Willett

Independent Writer

Former Editor of Jane's Navy International



### **SUSTAINED RELEVANCE - New concepts and capabilities in the European amphibious theatre**

Between May and July 2019, the UK Royal Navy's (RN's) landing platform dock (LPD) amphibious assault ship HMS Albion led the inaugural Joint Expeditionary Force (JEF) maritime task group deployment into the North and Baltic seas.

Alongside the RN, eight other navies joined the JEF 'Baltic Protector' deployment. The nine countries included both NATO members (Denmark, Estonia, Latvia, Lithuania, the Netherlands, Norway, and the United Kingdom) and non-NATO members (Finland and Sweden). Overall, these nine participating countries bring what they refer to as a 'like-minded' view on the importance of providing security at and from the sea in Northern Europe.

The JEF construct emerged from NATO's 2014 Wales summit, achieved initial operating capability (IOC) in 2018, and reached full operating capability (FOC) with 'Baltic Protector'. The construct – particularly the fact that it is not a NATO arrangement but is underpinned nonetheless by commonality in NATO capability and equipment integra-

tion, NATO training, and NATO standards – enables any two or more of the participating countries to work together as and when required. The participation of the nine JEF countries for 'Baltic Protector' reflected the importance to them all of both establishing the JEF maritime task group as an operational concept in the current security climate, and of reinforcing deterrence and wider security presence across the Baltic region.

'Baltic Protector' was divided into three phases, with participating navies able to join in where and when they needed. The first phase took place off Denmark, including in and around the strategically critical Skagerrak and Kattegat straits that connect the North and Baltic Seas. The second phase took place in the central and southern Baltic region, and encompassed the US Second Fleet-led, 50-ship strong 'BALTOPS 2019' exercise. The third phase took place off the Baltic States.

What is notable is that all three phases included the practice of major amphibious operations. This was enabled by the presence of three large amphibious ships in the JEF task group – Albion, plus the UK Bay-class landing ship dock (LSD) RFA Lyme Bay and the Royal Netherlands Navy (RNLN) LPD Johan de Witt. Indeed, alongside conducting



Source: EUNAVFOR.EU

HNLMS Johan de Witt.

complex exercises across all three phases and generating presence in what is very much a 'real world' theatre of operations across the Baltic region, the amphibious element was the critical aspect of 'Baltic Protector'.

### **NATO Amphibiosity**

While 'Baltic Protector' was not a NATO deployment and while 'BALTOPS' (for example) was not led by NATO in 2019 (with the newly established US Second Fleet in command), NATO has in recent years been re-emphasising the importance of amphibious capability across its theatre of operations from the High North to the Black Sea – but especially in the Baltic region.

NATO has also been re-emphasising the importance of task group operations. For the JEF, the intent is that the task group will conduct regular deployments or operations – perhaps annually for a smaller event, and something larger on a slower drumbeat. The critical element, however, is that these nine European partners (both NATO and non-NATO) are aiming to work together regularly.

Despite higher-level political debates within and around NATO about the alliance's future, with such debates relating to US commitment and to European member state

burden sharing, at sea the levels of integration appear closer than ever. Following a short period of concern that the US re-balancing towards the Asia-Pacific region (a strategy announced originally under the Obama administration) would see reduced US Euro-Atlantic presence, there is no doubt today that the US is reinforcing its presence across NATO's theatre of operations.

The re-establishment of US Second Fleet is perhaps the classic example of this commitment. The Norfolk-based fleet achieved both IOC and FOC in 2019, and taking command of 'BALTOPS' was an integral part of this operational certification process. US Second Fleet sitting in the 'CO's chair' for 'BALTOPS' was notable for several reasons. First, the fleet was re-established to enable US Navy, US Marine Corps, and other US force elements to deliver presence across the North Atlantic and into the European theatre. Second, 'BALTOPS' saw the US take command of a major exercise in a 'real world' operating environment of the highest current strategic significance in the European theatre. Third, while USN assets have been regularly present in 'BALTOPS', in 2019 the US contributed one of the two full amphibious task groups (ATGs) that were present, in what was a significant overall increase in the exercise's amphibious strength compared to recent years. One ATG was provided by US 2nd Marine Expeditionary Brigade (2 MEB), commanded at two-star level and based around the Whidbey Island-class LSD USS Fort McHenry. The other was based around the JEF and Albion, with two UK one-star commands embarked (Commander ATG [COMATG] and Commander Land Forces [CLF], based around 3 Commando Brigade Royal Marines).

### **A Different Story**

Despite the success of the JEF deployment, things could have been very different for the UK's contribution to NATO amphibious-





ous capability.

Back in 2017 – at just the time when NATO was really starting to reiterate the importance of re-generating amphibious capability across its area of operations – the UK was engaged in significant debate over whether to withdraw its specialist amphibious shipping capability (namely, Albion and sister ship HMS Bulwark) under the Modernising Defence Programme equipment capability review.

However, set against a backdrop of significant national political opposition to the idea and also growing focus (for example, within NATO) on task group operations, the option was not taken up.

Albion’s leadership of the JEF ‘Baltic Protector’ deployment and its role as UK fleet flagship pending the arrival of the aircraft carrier HMS Queen Elizabeth only served to underscore the strategic and operational importance of a platform that can both deliver effect ashore from the sea and enable task group operations as a command-and-control (C2) platform.

While the UK’s specialist amphibious shipping capability has been retained and while the two carriers will provide significant capacity to lift marine forces ashore, in parallel the UK has been reviewing and developing future amphibious operational and force structure concepts under the Future Commando Force (FCF) programme.

### **Force Transformation**

Speaking at the Defence and Security Equipment International (DSEI) exhibition in London in September 2019, First Sea Lord and Chief of the Naval Staff Admiral Tony Radakin – the new head of the naval service – set out five “transformation priorities” for his organisation, set against a shifting strategic context.

“Defence and the navy’s strategic context has changed, and we need to change with it,” said Adm Radakin. Pointing to the

return of state-based rivalry, the continuing economic rise of the Indo-Pacific region, rapid technological change, and the UK’s desire to play a global role in a post-Brexit world, the First Sea Lord said the navy needed “to support the government and play our role in highlighting that we are not withdrawing from the world stage: in fact quite the opposite. We are a global navy, supporting a global Britain.”

Alongside transformation focus on North Atlantic security, delivering Carrier Strike capability, generating greater forward presence, and embracing technology, the First Sea Lord outlined the FCF concept. “We plan to have more Royal Marines deployed forward and ready to respond: whether to deliver humanitarian support, link with our security partners across government, or – in their more traditional warfighting role – [act] as the door-openers for heavier US forces coming in behind,” the First Sea Lord said. Consequently, he continued, the navy will blend the particular capabilities of the Royal Marines Commando force with emerging technology to deliver what he referred to as ‘fifth-generation Commando Warriors’. “We have fifth-generation aircraft carriers. We have fifth-generation aircraft operating from those aircraft carriers. It makes sense to have fifth-generation Commando warriors.”

One of the most recent statements on the development of the FCF concept was made in late November, by the Deputy Commandant General of the Royal Marines.

Speaking at the Royal United Services Institute (RUSI), Brigadier Haydn White said, within what would be “an ongoing process to retain competitive advantage”, “the goal is, by end 2023, for the [FCF] to be a reality.”

Brig White argued that amphibious capability would become more significant in the evolving security environment. “The capacity to succeed in the littoral environment will become increasingly important in the future .... Equally, I consider it to be



evident that we face a future where the distinction between war and peace will become increasingly blurred.”

“Amphibious forces orientated for an interventionist approach in the 20th century must transform in order to persistently contest and win in the changed global operating environment of the 21st century,” the brigadier continued.

Setting the context for future concept and capability developments, Brig White noted that “State and non-state use of both conventional and non-conventional capabilities, with an increasingly significant technological dimension, is designed to counter current capabilities and threaten our national interests and international norms.” “This”, he continued,

“requires transformation of our forces, our capabilities, and our posture to consistently

and persistently counter malign activities and to both protect and promote UK and international interests.”

“I am clear that the real driver for our transformation is to be able to compete and prevail over our adversaries in [this] strategic context ... [,] be that state-on-state competition with the rising importance of the Indo-Asia-Pacific region, Russian threats and sub-threshold ‘grey zone’ activity, or instability in the Middle East and Levant.”

As regards non-state threats, he continued, “it is in our national interest to counter threats from terrorism, criminality and piracy, and broader threats to maritime commerce.”

In this operational context, the Royal Marines provide “an elite, agile, potent, and feared Commando force that can be utilised

in the broad array of threat scenarios, including deterrence, for political choice, strategic competitiveness, and operational advantage,” the brigadier added.

The Royal Marines’ current and future capabilities, Brig White continued, will also make the force “ideally placed” to contribute more fully to special operations at sea, with such tasks being “a driver for our development”.

### Littoral Force Structure

“The prime focus of this transformation is warfighting, with the focus on theatre entry,” Brig White explained. At the high end of the operational spectrum, the central element of this focus is littoral strike.

As a concept, littoral strike capitalises on the Royal Marines’ specialist commando capabilities in the maritime environment while

leveraging enhanced technology to operate in denied environments, Brig White added.

The corps’ transformation will be based around an operational posture that delivers “more persistent forward deployment to serve constant competition (‘active’ not just ‘ready’), as disaggregated Littoral Response Groups [LRGs], on hand to understand, engage, influence, and shape environments from the High North to East of Suez, and able to respond more rapidly to crises”, said Brig White. “These LRGs are scalable and can be aggregated as a Littoral Strike Group for mass effect in support of Carrier Strike Group [CSG] operations when called for, whilst Littoral Strike Ships [LSSs] would support the littoral strike concept in addition to hosting greater cross-government and inter-agency activity.”

“it is in our national interest to counter threats from terrorism, criminality and piracy...”





Brig White was speaking at the launch of a RUSI report titled 'Requirements for the UK's Amphibious Forces in the Future Operating Environment'. The RUSI report was commissioned by the RN as an independent study, within the navy's assessment of its FCF and wider littoral operations requirements; the report surveyed the future operating environment, mission and force structure requirements therein, and where and how amphibious forces can play a role.

The report considered how maturing anti-access/area denial (A2/AD) capabilities, including precision strike and intelligence, surveillance, and reconnaissance systems, "will make traditional amphibious assaults and ship-to-objective manoeuvres ever-more difficult", with joint forces that need to affect the littoral region to prevail in a crisis or conflict encountering approaches to these regions that are "increasingly perilous". The report's central premise was that "amphibious forces find themselves caught between two divergent trends", namely the increasing significance of littoral regions as centres of gravity in future operations, and the ability to project power to affect or control these regions being critical to prevailing in any crisis or conflict. The report argued that the UK is likely to need to conduct amphibious operations in two contexts: "to intervene in a complex security environment in which sub-peer adversaries are bolstered by near-peer sponsorship; and the rapid insertion into territory to pre-empt or secure theatre entry to respond to direct *fait accompli* operations by a near-peer competitor."

Consequently, the report proposed new conceptual and force structure approaches designed to deliver effective littoral strike in expeditionary operations. In these approaches, a new set of capability options – what the report referred to as a "lower visibility forward-engaged force" – would be used to take the first steps in theatre entry and especially to reduce the A2/AD threat.

Higher-value units – such as amphibious assault ships like Albion or Bulwark, and CSGs – provide follow-on forces in subsequent steps.

The force structure set out in the report was based around three operating groups – a littoral strike group (LSG), an amphibious strike group (ASG), and a joint strike group (JSG). These groups would "act in sequence to penetrate and suppress A2/AD systems, to seize critical ground to enable access for larger forces, and to thereby deliver a force package to exploit," the report said.

The LSG would comprise what the report called a littoral operations vessel (LOV), extensive unmanned underwater vehicle (UUV) capabilities, and a Type 23 anti-submarine warfare (ASW) frigate or a Type 31e general purpose future frigate. The ASG would consist of Albion or Bulwark, a magazine ship, and high-end surface ship capabilities provided by Type 45 destroyers (for the air threat) and the RN's new Type 26 ASW frigate. The JSG would consist effectively of a carrier, additional Type 45s and Type 26s, and a roll-on/roll-off (Ro/Ro) ship.

Alongside the traditional capabilities present in this three-tiered force structure, several platforms merit further discussion.

"The LOV would need to have a low signature, both in terms of its radar cross-section and political visibility," the report said. "The vessel would need to operate routinely, with no particular political significance attached to its deployments." The LSG's aim would be to penetrate and suppress or degrade the A2/AD threat. Thus, the LOV would need to operate inside any A2/AD 'bubble', with reconnaissance and other special operations forces embarked to provide covert capacity to conduct tasks ranging from surveillance to regional engagement (such as with local proxies) to reconnaissance and raiding. The LOV would also need to embark fast (40-50 kt) ship-to-shore connectors, plus a range of unmanned air, surface, and



underwater vessels. It would also need to act as a hub for co-ordinating wider strike assets. As regards the deployment of a frigate within this group, the report said “Given that the LSG would likely deploy to regions where the RN retains a sustained presence, it may be assumed that a Type 23 or Type 31e frigate would already be on station and would therefore not excite much comment by appearing near the area of operations.” The frigate would be available to protect the LOV.

The LSG would be followed in by the ASG, with the amphibious assault ship embarking three Commando assault companies delivered ashore by landing craft able to travel at 25 kt. The ASG would carry extensive fire support capability for operations ashore, with its protective layers including the Type 45 and Type 26.

“One of the advantages of the ASG is that [Albion and Bulwark] routinely [conduct] exercises around the world, and so the ASG moving towards the LSG would not automatically signal a major combat operation,” the report argued.

The report noted that the subsequent arrival of the carrier-based JSG “would immediately raise the political stakes and communicate serious intent”. However, the phased deployment “would allow ... escalation to be staggered”. The LSG’s shaping activities would also facilitate the ASG and JSG moving closer in, and could enable the British Army to exploit the access gained through sending in a Ro/Ro ship (although this would require securing a port).

In sum, perhaps the most significant littoral force structure development proposed in the report – and perhaps, thus, recognition of the significant potential A2/AD threat to amphibious forces – is the addition of the low-profile layer designed to break down the A2/AD barrier to enable the insertion of heavier follow-on forces.

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COMBINED JOINT OPERATIONS FROM THE SEA CENTRE OF EXCELLENCE

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**2019**





*“A certain amount of threat based on capabilities is therefore inseparable from the relations of sovereign states.”*

*Henry Kissinger*



LCOL JOS SCHOONEMAN  
ROYAL NETHERLAND MARINES  
DOCTRINE DEVELOPMENT BRANCH  
CJOS COE



### **NATO AMPHIBIOUS TASK FORCE CONCEPT - What are the critical paths to delivering capability?**

Although the title does imply that there is a NATO Amphibious Task Force (ATF) Concept, this is not yet the case. NATO is still in the process of deciding how to bolster NATO’s operational responsiveness, flexibility and agility with the establishment of a multinational Amphibious Task Force. In our previous article (Development of the NATO Amphibious Task force, Bow Wave 2019), we mentioned that the Delivery Board of the NATO Amphibious Leaders (NALES) in 2019 provided a proposal with several

**Why does NATO need amphibious forces and what effects can amphibious forces achieve for NATO?**

scalable options to establish a NATO ATF and improve NATO amphibious readiness and response. To date, NATO Military Authorities (NMAs) have not yet reached consensus on the potential need and have requested further refinement of the operational requirement and sustainability of a NATO ATF before formalizing the decision through the political approval process.

Therefore, the most critical path to delivering amphibious capability might be to convince the NMAs to utilize the essential capabilities of amphibious forces available through NATO’s Force Structure. Apparently, there is still further debate on the utility of amphibious forces. Why does NATO need amphibious forces and what effects can amphibious operations achieve for NATO?<sup>1</sup> This article will try to answer the first part of the question.

Why does NATO need amphibious forces? A first approach could be to look to the past; history tells an interesting and informative tale. The opening scene of Steven Spielberg’s epic cinematic classic *Saving Private Ryan* on the beaches of Normandy during the amphibious landings of

Operation OVERLORD of World War II in June 1944, left an indelible impression on its audience and is perhaps a powerful reminder of large scale amphibious operations. Another example is the successful amphibious assault (Operation CHROMITE led by General Douglas MacArthur) on the strategic port of Inchon during the Korean War in 1950 by UN Forces. It could be argued that these examples give a



Source: US Navy

LSTs unloading at Inchon, 15 SEP 1950.

one-sided and incomplete impression of amphibious operations and that the scale in Normandy and Inchon are unrealistic in the present and in the (near) future. In a future conflict with an environment constrained by anti-access/area denial systems, NATO will not be able to maneuver a large amphibious task force near the coast and execute an amphibious assault with a multi-division landing force. However, this does not imply that NATO does not require amphibious forces within its force structure.

On the contrary, NATO is lacking operational and strategic responsiveness, flexibility and agility. These capabilities are not only relevant in high-end conflicts but even more relevant to deliver powerful deterrent effects to prevent low-end crises, stop conflicts from starting, or to prevent these from escalating into major crises or conflicts. NATO requires ready and credible amphibious forces to conduct rapid and decisive operations in order to create strategic and operational effects in support of the Alliance's three core tasks: Collective Defense (CD), Crisis Management (CM) and Cooperative Security (CS).

An alternate and perhaps a better approach to answering the question could be to analyze recent NATO documents and publications on the utility of amphibious forces and to visualize these in an amphibious operations matrix. Allied Doctrine for Amphibious Opera-

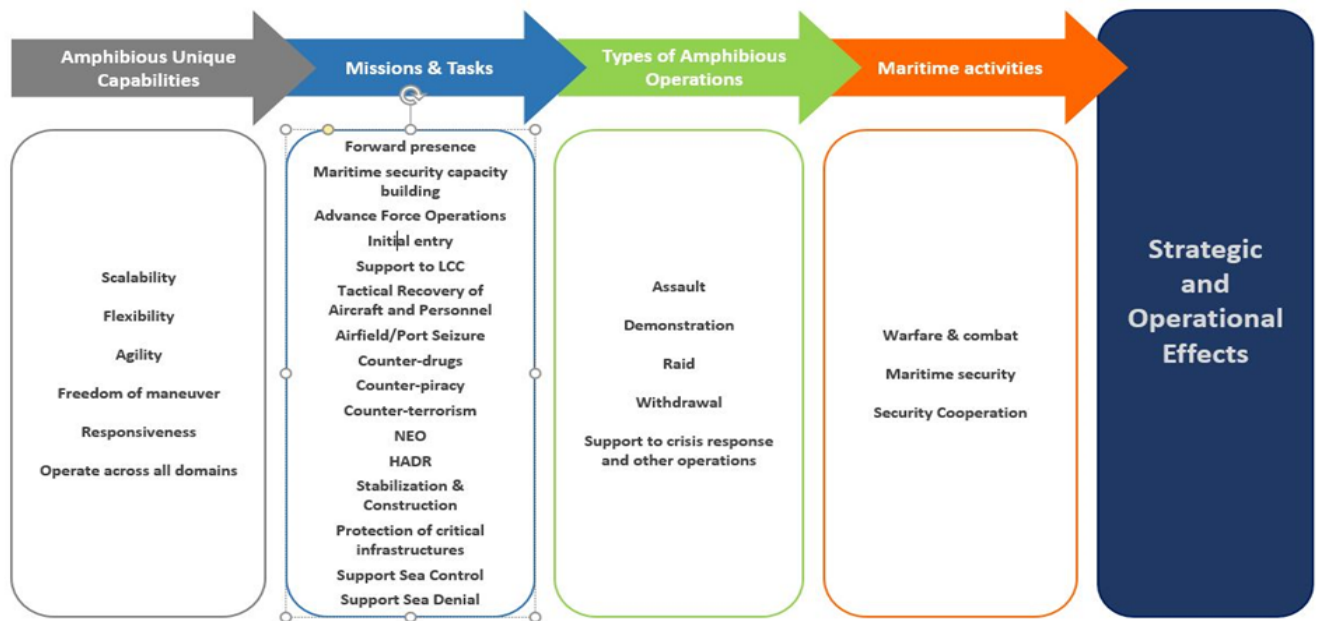
tions (ATP-08) defines an amphibious force as “an organization of naval forces and a landing force, with their organic aviation and other supporting forces, formed for the purpose of conducting an amphibious operation”. An amphibious operation is a military operation launched from the sea by naval and landing forces (LF) embarked in ships or crafts with the principal purpose of projecting the LF ashore tactically into an environment ranging from permissive to hostile.

Amphibious forces provide the following unique set of capabilities: scalability, flexibility, agility, freedom of maneuver, responsiveness and the ability to operate across all domains and the whole range of military operations.

ATP-08 distinguishes the following five different types of amphibious operations:

1. **Assault.** An amphibious assault involves establishing a force on a hostile or potentially hostile shore. Examples are the previous mentioned Operation OVERLORD and Operation CHROMITE.
2. **Demonstration.** An amphibious demonstration is conducted for the purpose of deceiving the enemy by a show of force without landing the LF, with the expectation of deluding the enemy into an unfavourable Course of Action (COA). The US Navy and Marine Corps amphibious demonstration during the 1991 Gulf War committed Iraqi divisions to coastal defense, which enabled a ground assault by the Coalition.
3. **Raid.** An amphibious raid involves swift incursion into or temporary occupation of an objective followed by a planned withdrawal. Initially established for the purpose of conducting amphibious raids in southern Afghanistan in 2001, Task Force 58 (TF-58) ultimately conducted an amphibious raid 350 miles inland to seize a desert air strip south of Kandahar. The air strip was renamed Forward Operating Base (FOB) Rhino. This lodgment facilitated the introduction of additional joint and coalition forces.
4. **Withdrawal.** An amphibious with-





Source: CJOS COE

CJOS Amphibious Effects Matrix.

drawal involves the extraction of forces by sea in naval ships or craft from a hostile or potentially hostile shore. The removal of Allied troops from Dunkerque, France, in World War II is a well-known example of an amphibious withdrawal.

5. **Amphibious Force Support to Crisis Response and other Operations.** The capabilities of amphibious forces may be especially suited to conduct Military Operations Other Than War (MOOTW) such as Non-combatant Evacuation Operation (NEO) and Humanitarian Aid & Disaster Relief (HADR).

Allied Joint Doctrine for Maritime Operations (AJP-3.1) divides maritime roles into the following three distinctive activities:

1. **Warfare and combat.** Warfare and combat are conducted at sea and from the sea. Warfare and combat from the sea (maritime power projection) are conducted by executing Strike Warfare (STW), amphibious operations, special operations, and riverine operations. Maritime power projection is the use of, or threat of the use of, maritime power to directly influence events and create effects on land. It exploits sea control to achieve access to littoral areas and to deliver power ashore in the forms

of amphibious forces, organic aircraft, land attack weapons and SOF. Maritime power projection is a concept that has broad application both during crisis management and in hostilities.

2. **Maritime security.** Maritime security operations (MSO) are conducted to establish the conditions for security and protection of sovereignty in the maritime domain. MSO can be executed by the following activities:
  - support Maritime Situational Awareness (MSA);
  - uphold freedom of navigation;
  - interdiction;
  - fight proliferation of Weapons of Mass Destruction (WMD);
  - protect critical infrastructure;
  - maritime counterterrorism;
  - maritime counterdrugs;
  - maritime counterpiracy;
  - maritime security capacity building.
3. **Security cooperation.** Security cooperation encompasses those military activities involving other nations to shape the peacetime environment in order to encourage local or regional stability. Possible security cooperation



activities are:

- forward presence;
- security sector reform;
- stabilization and construction;
- HADR;
- NEO;
- civil-military cooperation.

The amphibious operations matrix shows how amphibious forces could achieve, or provide support to achieve strategic and operational effects by the execution of amphibious operations with a wide set of possible missions and taskings within all three maritime activities.

Additionally, the matrix provides a possible answer to the question “Why does NATO need amphibious forces”? Fully utilizing its amphibious capabilities, NATO would strengthen the NATO maritime posture and give the Alliance a credible, responsive, flexible, scalable and strong capability for deterrence and response to defend Allies and project stability inside and outside its Area of Responsibility (AoR), when needed.

Operating under the assumption that the NMAs will see the utility of the unique capabilities of amphibious forces and the political approval be ratified; what then are the next critical paths to delivering amphibious capability? This article ends with a brief insight on the following two critical paths. The first step would be to draft a NATO ATF concept paper that articulates the value, purpose, and design of a scalable ATF. This concept paper needs to be aligned with existing and in progress applicable NATO documents and concepts.<sup>2</sup> The utility of a scalable NATO ATF should be implemented in future revisions of the (relevant) Graduated Response Plans (GRPs) or any potential successor to those plans.

The second step would be to develop a roadmap/implementation plan to operationalize this ATF capability. Possible lines of effort of this roadmap are process integration, ATF C2 specification, an amphibious exercise program, tactical and technical interoperability, communication and information systems, and concept development and experimentation.<sup>3,4,5</sup>

In 2020, the decision will be made if NATO will improve its amphibious readiness and response. The development of a NATO ATF concept and the roadmap should then be the next focus and main priorities for the NALES delivery board and its NATO ATF working group. 🏠

1. NATO defines an effect as ‘a change in the state of a system (or system element), that results from one or more actions, or other causes.’ NATO uses effects in the planning for, and conduct of, operations at the military-strategic and operational levels. NATO has defined 8 classified Military Strategic Effects (MSEs), see the classified NATO Military Strategy
2. Examples are adapted NATO Response Force (aNRF) concept, NATO Readiness Initiative (NRI), the initial Concept for Deterrence and defence of the Euro-Atlantic Area (DDA), and the Alliance Maritime Strategy.
3. Incorporate amphibious forces within NATO’s force generation process and force employment constructs.
4. Define a composition for a scalable ATF HQ in order to command and control a multi-brigade or division sized amphibious force.
5. Enhance understanding and realization of emerging operational concepts and innovations by experimentation. Integrate experimentation within amphibious exercise plans.

### SUDOKU

<b>1</b>			<b>3</b>		<b>8</b>	<b>7</b>		<b>6</b>
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							<b>1</b>	<b>8</b>
		<b>2</b>			<b>7</b>			
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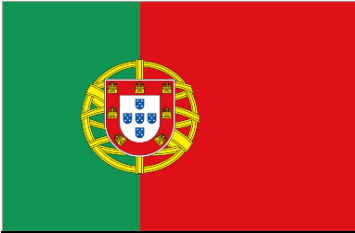
Difficulty: Medium





*“We will fight in defense of our allies and will operate in close alignment with them, from their territories, alongside their ships and aircraft, and in cooperative and even integrated formations on the ground. We must work with them in peace to be ready to partner with them in war.” – “Commandant’s Planning Guidance”*

*General (USMC) David H. Berger  
38th Commandant of the US Marines Corps*



**CDR JOSE CONDE  
PORTUGUESE MARINES  
DOCTRINE DEVELOPMENT BRANCH  
CJOS COE**



### **MARINE INTEGRATION ACROSS COUNTRIES - Barriers to integration for NATO’s Marine Forces**

The building of an integrated combined force is primarily a political decision and as mentioned in AJP 3.1 Allied Joint Doctrine for Maritime Operations, “NATO is, at its heart, an alliance of nations; [.....] integration into multinational forces demand an attitude of mind that is able to understand differing national and cultural perspectives and how they relate to the common purpose”.

In the course of the Amphibious Leaders Expeditionary Symposium (ALES) events, NATO senior amphibious leaders have recognized that NATO faces challenges not only in the planning and in the conduct of combined amphibious operations, but also in the integration and interoperability of amphibious forces.<sup>1</sup> As concluded by RAND Corporation in its ALES final report, “ALES exercises highlighted the operational necessity of scalable interoperability among allied amphibious capabilities.<sup>2</sup> However, [ALES]

participants noted that many of their forces lacked recent exercise or operational experience demonstrating the anticipated degree of integration, with some exceptions for existing habitual bilateral relationships”.

Presently, NATO is discussing the availability and readiness of existing national and multinational amphibious capabilities. At the same time, NATO is deliberating on how to aggregate different amphibious forces under a common Command and Control (C2) structure, a Multinational Amphibious Task

Force (ATF), in order to leverage the Alliance’s amphibious options and strength to conduct

amphibious operations in its AOR.<sup>3</sup>

As in all multinational operations, a key challenge is the effective integration of forces and employment of available assets to achieve the objectives and desired effects. Even nations such as the United States, with significant amphibious capabilities, understand that fighting together in an integrated way will become even more important in the future, as stated in the planning guidance of the new Commandant of the US Marine Corps General Berger. Following his guidance, it is

**...a key challenge is the effective integration of forces...**



expected that US Marines will boost training opportunities to develop amphibious capacity and increase cooperation and integration with allies, either by conducting combined/joint training with high-end partners or improving the development of tactical-level interoperability through the Allied Maritime Basing Initiative (AMBI).

In this article, we will look at force integration and identify some challenges that countries have faced with amphibious forces

(NL), Spain (SP), Italy (IT), France (FR) and the United States (US) can provide these ATGs. However, some of the countries have decided to congregate efforts, acting at the combined ATG level. Those initiatives gave birth to the UK-NL Amphibious Force (UK/NL AF) and to the SP-IT Amphibious Force/Landing Force (SIAF/SILF).

A long-standing relationship and shared security challenges contributed to bringing the UK and the NL together as natural partners and allies. In 1973, together they developed a combined amphibious force structure with the aim of providing a combined, coherent and interoperable littoral maneuver force that can operate at the brigade level. Today, the UK/NL AF can be employed independently or within the wider expeditionary context of a NATO, European or Coalition Force.

With shared operational experiences in the past, the UK/NL AF is an effective and enduring partnership that has at its core two Navies and two Marines Corps, designed to conduct training and operations as a single force under unified command.<sup>5</sup>

An important factor for the success of the UK/NL AF is the level of interoperability between both Marine organizations, the UK Royal Marines (UKRM) and the Royal NL Marine Corps (RNLMC). Good examples of this interoperability include operational procedures, communications and information systems.

Since the beginning of the combined AF, the Dutch Marines adopted the handbooks and TTPs used by the UKRM to facilitate integration and both nations developed and maintain a shared and continuously updated amphibious doctrine, based on NATO doctrine (ATP 8). Complementarily, in order to facilitate integration, many Dutch Marines are trained by and with



UKRM and RNLMC Coat of Arms.

in order to achieve the level of interoperability needed to execute amphibious operations in an integrated way.

JP1 - Doctrine for the Armed Forces of the United States provides us a definition of force integration: “the arrangement of military forces and their actions to create a force that operates by engaging as a whole”.<sup>4</sup> Force integration might be achieved through unity of effort and standard tactics, techniques, and procedures (TTPs), but in the Alliance, some nations have taken a bigger step towards effective integration.

Within the NATO Force Structure (NFS), six national Amphibious Tasks Groups (ATG) could form the core of a NATO multinational Amphibious Task Force (ATF). The United Kingdom (UK), the Netherlands





British Marines in such areas as military mountain leaders, signals officers, landing craft officer, mortar personnel, marksman and commando courses.

Cooperation is also extensive with regards to equipment. For instance, both nations use the same or similar vehicles (the Viking Light Armored All-Terrain Vehicle), landing crafts (the MARK V LCVP) and combat systems. There is an existing MOU that allows Dutch Marines to use the same CIS equipment (BOWMAN radio system, integrated to vehicles, ships and boats) so that both forces have fully integrated C2 systems. RNLMC resource their own training packages but the manuals and standards are the same.

English is mandatory during several basic infantry courses in the Dutch Marines Instruction Center, and in a combined context, English is the working language. Regular dialogue, combined training and liaison via a number of UK and NL exchange officers greatly contribute to the comprehensive integration.

Initial challenges posed by differences in language, communication systems, TTPs, and equipment were overcome by measures that allow UK/NL AF to act as a long lasting example of integration. At a different level, UK/NL AF may face new challenges following HMS Ocean's sale to the Brazilian Navy and the reliance on the limited amphibious capabilities of the new Queen Elizabeth Class aircraft carriers (in terms of troop and military lift transportation), although they will add a big advantage with the employment of the F-35B.

SIAF/SILF was created in 1997 based on a governmental agreement that decided, taking advantage of previous relations, to establish a combined amphibious force that



Spanish Italian Amphibious Battlegroup Coat of Arms.

would be employed in a wide number of tasks and missions.

Characterized by flexibility and scalability, SIAF-SILF is an "on call" force with a permanent command structure. Its concept of employment is wide enough to allow for a "mission tailored" structure and to respond to changing scenarios and strategic demands. According to the assigned mission, the SILF can be tailored with elements of the respective national LF units up to a mechanized brigade (which is the maximum level of scalability).

SIAF-SILF training is based on each country's fleet training plan and the training events considered relevant are offered to the other country. For the landing force, training is conducted at different levels, including platoon or company size units, or even just limited to personnel assigned to staffs as augmentees.

During each nation's command period (SIAF/SILF command normally rotates every two years) there is a permanent exchange of personnel between Spain and Italy to allow force readiness and integration, assuring combined staffs at the LF Brigade level, Naval Amphibious HQ and Air Element HQ.

NATO doctrine and publications are used as the standard for training and force employment, but over the years ITA and SP



have strengthened their links with dedicated SOPs in tactical aspects such as operations, logistic planning, and intelligence. Communications equipment is similar or compatible, but each nation still has its own incompatible C2IS (Spain uses *Sistema Mando Naval* and Italy uses C2PC).

The use of English as the working language and the existing cultural and linguistic touch points provide a major contribution to overcoming occasional barriers and displaced personnel are encouraged to learn the domestic language to facilitate integration.

Although the SIAF/SILF is a bilateral force, participation is open to other countries. For example, during the activation of SIAF/SILF, as part of the European Union Amphibious Battle Group (EUABG), Portuguese and Greek Marines units were members of the task organization (which had the potential to create further integration challenges).

The occasional integration in the SIAF/SILF of Portuguese Marines, incorporated in a Spanish Marines Battalion, represents an opportunity for Portugal to conduct amphibious training from dedicated platforms in order to improve and update amphibious warfare knowledge and TTPs. The close cooperation with the Spanish Marines is realized through the participation in bilateral or multinational exercises and by the integration of Portuguese Marines (company size units, staff officers and supporting personnel) during European and NATO commitments.<sup>6</sup>

Common (NATO) doctrine, cultural and language similarities, strategic alignment in key organizations (NATO, EU), and partnership in several defense and security projects have been identified as the motives for the linkage and the main reasons for the achievements so far. SIAF/SILF faced



Portuguese Marines embarking a Spanish helicopter.

challenges similar to those faced by UK/NL AF in the early years. Nevertheless, the will to overcome them has allowed SIAF/SILF to train and operate for more than twenty years.

Drawing upon the experiences of these two bilateral amphibious forces, we can identify some common factors affecting force integration: national interests and objectives, history and culture (including customs and in some cases even religion), doctrine, organization, training and equipment. The level of alignment of these factors dictates how solid and integrated the force will be. Neglect of these same factors could result in major barriers towards achieving the desired level of integration, undermining the cohesion, effectiveness, and adaptability of the force.

Some coordination mechanisms can be established to facilitate interaction and integration. Such mechanisms should include force agreements and memoranda of understanding, exchange and/or liaison officers, integrated staffing, interoperable communications systems, information sharing and exercises.<sup>7</sup> These mechanisms provide legal support, assured communications and early identification and adjustment of potential issues, facilitate the sharing of knowledge and an accurate operational picture, improved preparation and readiness, and guaranteed improved integration at all levels. In the near

Source: Comando do Corpo de Fuzileiros





future, other allies might improve their amphibious capabilities by the enhancement of landing forces or the procurement of amphibious platforms, increasing NATO's amphibious strength.<sup>8</sup> This means NATO should be prepared for the emergence of additional bi/multi-national structures raising new potential issues concerning integration.



Source: Stojakovic81

Spanish Marine Infantry deploying from an AAV-7.

It is important to remember that amphibious forces provide flexible options to NATO. The establishment of an ATF would bolster NATO's operational and strategic responsiveness and agility, and would be relevant in high-end conflicts as well as in a variety of low-end crises and conflicts, counter-terrorism and disaster relief roles whilst delivering a powerful deterrent effect. The more integrated and interoperable the forces are, the more effective their actions will be when operating under a common C2 structure. Understanding and overcoming differences is essential to achieving effective integration (and desirable interoperability) in routine operations, activities, and war fighting, to accomplish the final goal of Train Together – Fight Together – Win Together.<sup>9</sup>



1. In 2016 Commander, Marine Forces Europe and Africa (COMMARFOREUR/AF) initiated ALES to generate a NATO forum to explore opportunities for improved interoperability and the aggregation and employment of amphibious forces within NATO. Since 2018 this forum is conducted under NATO's umbrella, led by Allied Maritime Command (MARCOM) and changed its designation to NATO Amphibious Leaders (NALES).
2. NATO's Amphibious Forces – Command and Control of a Multibrigade Alliance Task Force.
3. Although frequently kept under high readiness at national level, presently amphibious forces are only planned to be employed by the Alliance under a much lower (3 to 4 times) NTM.
4. NATO adopted a similar phrasing to define Force Interoperability "The ability of the forces of two or more nations to train, exercise and operate effectively together in the execution of assigned missions and tasks" (AAP-06). Although we can find great similarities in both definitions, for this article we focused in force integration as a lower level of interoperability that allows a combined force to operate together without necessarily, for example, share full compatible weapons and communications systems.
5. As an example, before the establishment of the UK/NL AF, a Dutch Marines Infantry Company (Whiskey Infantry Coy) was integrated in the Royal Marines. The company was specialized in mountain and arctic warfare. During training periods and exercises Whiskey Infantry Company was fully integrated into 45 CDO RM, forming this unit's fourth rifle company, and it was earmarked to be deployed as such to northern Norway in wartime. Whiskey Infantry Company was attached to 45 CDO RM for the larger part of the year, and about three months a year were spent on joint exercises.
6. Portuguese Marines integrated SIAF/SILF based EUABG in 2006, 2009 and 2014, and during 2018 as part of the NATO IFFG. They will integrate again the SIAF/SILF based EUABG during 2020.
7. JP1 Doctrine for the Armed Forces of the United States
8. Presently, as examples, German Sea Battalion is developing an amphibious partnership with the NL Marines and the Turkish Navy has under construction an 27k tons LHD that should be commissioned during 2021.
9. CJOS COE's "Interoperability and Coordination Guide"



**April 30 – May 3, 2020**  
**NorfolkNATOFestival.org**



***“I believe the Alliance has to push forward on its adaptation to the shifting global balance of power.”***

***Jens Stoltenberg  
NATO Secretary General***



**CDR JOERG MAIER  
DEUTSCH NAVY  
WARFARE ANALYSIS BRANCH  
CJOS COE**



**IT'S ALL ABOUT RESPONSIVENESS -  
A design for NATO'S Future Maritime  
Command and Control Structure**

No matter what level of command, tactical through strategic, the first question a commander should ask themselves is – Are we ready?

Today, the Alliance is faced with a security environment that is more diverse, complex, fast-moving and uncertain than in the past. Today's NATO must be vigilant against a wider range of new threats than ever before – from purely military to cyber space based in the form of malicious computer code or disinformation. To address these challenges, NATO has to strengthen its deterrence and defenses to further protect its citizens and promote security and stability in the North Atlantic area.<sup>1</sup>

Located in Norfolk, Virginia the Alliance activated its third operational level command, Joint Force Command Norfolk (JFC NF) in July 2019. The activation comes just over a year after the US Navy re-

established its US Second Fleet command, which oversees and operates in the western half of the Atlantic up into the High North. At the same time in Ulm, Germany, a Joint Force Command equivalent entitled the Joint Support and Enabling Command (JSEC) was established and is progressing towards initial operating capability. Both commands are the core of NATO's latest adaptation and are likely to be a game changer in how the Alliance envisions the next Battle of the Atlantic will be fought.

There are many ways to describe

NATO's adaptation to overall military uncertainties since the eye-opening annexation of Crimea in 2014 –

the change from a capability-based to a threat-based world, moving away from low-intensity operations towards all domain readiness or distributed lethality, the demand for a higher operations tempo and maximizing regional force readiness is key. However, with three operational level JFCs and a JSEC to coordinate effects in the rear area, the Alliance has returned to a regional/geographical focus of responsibility to face

**...the first question a commander  
should ask themselves is—Are we  
ready?**





future challenges.

Regional areas and the subsequent geographical responsibility for the JFCs are supposed to enhance cohesion and reduce any uncertainty in coordinating activities.

Moreover, JSEC as SACEUR's new rear area enabler is designed to improve the movement of troops and equipment within Europe. This new operational level command will operate within NATO's western nations' territory, to include territorial waters, not already assigned to another Joint Force Commander's Joint Operation Area (JOA).<sup>2</sup>

The criteria for a geographical division in favor of assigning responsibility to a JFC over another should be based on simple and obvious operational requirements, like mission, proximity to the most likely JOA, regional capability, available forces to command and most importantly, political reassurances to be delegated OPCON over available national forces.

Consequently, this leads to a very obvious geographical division of responsibilities. JFC Brunssum (JFC BS) with its land focus and close proximity to possible ports of debarkation in the west and north would naturally concentrate on the central European mainland and the adjacent seas (e.g. Baltic Sea). JFC Naples (JFC NP) on the other hand, given its maritime focus and natural regional advantage should operate in the Mediterranean

and its vital areas (e.g. Black Sea, Straits of Gibraltar, Suez Canal etc.).

Finally, JFC NF and its hybrid character would cover the strategic lines of communication (SLOC) across the Atlantic and the fight in the High North.

Nevertheless, the challenge remains. How distributed or flexible NATO established command relationships should be, while observing the principles for joint operations, availability and flexibility, underpinned by clarity and simplicity, in developing an efficient command and control structure across the operational commands in order to manage the entire battlespace if required?<sup>3</sup>

The pivotal aspect of availability is readiness, ready to train, ready to commit, ready to deploy, and obviously ready to fight but moreover, ready to command.

Noting NATO's recent Command Structure Adaptation (NCSA) and the reinforced Allied Maritime Posture (RAMP), the aforementioned establishment of JFC NF and JSEC seems quite promising as they are not capability based or politically based but threat based.

Honing in specifically on the maritime domain, JFC NF with its dual hatted Commander, commanding NATO's JFC HQ at the operational level and US Second Fleet at the tactical level along with its hybrid nature as a NATO Force Structure (NFS) HQ with NATO Command Structure (NCS) core, represents a fundamental shift in NATO's concept of operations. In peacetime, JFC NF is staffed by 25 NCS and 103 NFS personnel, including the support of 15 Liaison Officers. This is not even 25% of the size of NATO's existing JFCs – Brunssum or Naples.<sup>4</sup> So, what's the concept of manouvre with JFC NF or specifically the maritime C2 structure in preparing and executing the "all-in" fight?

For any small joint or maritime operation, there is no doubt that NATO is very well prepared to accomplish the mission. There is a very clear plan with SHAPE and its



Source: NATO

Exercise Trident Juncture 2019.



NRF Concept, the assignment of a responsible JFC and the activation of the rotational High Readiness Forces HQ in accordance with NATO's "Long Term Commitment Plan" (LTCP). This operational concept will successfully handle a single major joint operation. Mission accomplishment is obtainable with the existing structures, roles and responsibilities. However, what if an operation demands more than one JFC and multiple maritime component commands?

In order to demonstrate true deterrence NATO is required to demonstrate the ability and willingness to blunt Russian aggression from day one and sustain combat operations over an extended period of time.<sup>5</sup>

Investing in forward deployed, ready and lethal forces with a clear command and control

structure is essential for operational success.

With the existing regional C2 options in the Atlantic, the High North, the Baltic Sea, the Mediterranean Sea and the Black Sea, how would it come naturally, with the newly adapted maritime posture, to implement a ready command and control structure? How would NATO ideally divide the battlespace to avoid unnecessary C2 changes in a progression from crisis to maximum level of effort? How does NATO ensure the minimization of potentially awkward transfers of command authorities? The answers to these challenges can only be found in an analytical understanding of a high-end warfighting situation, rather than a small operation or mission with simplistic command structures.

Imagine a high-end fight in the maritime domain, emphasizing key operations in the High North to defend the Baltic States and Norway, accompanied by a proxy-war in and around the Mediterranean Sea. At

the same time, the SLOC across the Atlantic needs to be protected in order to ensure unimpeded flow of goods to Europe.

Using a sports analogy, in every competition there is a situation where you want a well thought out game plan going in to the final match. This is the Champions League final, for which you have trained your whole life, the Super Bowl where you have your offensive game plan designed up-front, or the Masters for which you have specifically tailored your play based on weather conditions. You must have the best game plan if you want to come out victorious.

In this light, the current maritime C2 concept would now be progressing into a

distributed responsibility between geographic areas and functional domains ( JFC's vs CC's) that will exhibit a rotation-

al readiness level and changing command relationships of High Readiness Forces Headquarters, component commands (National vs NATO) and operational level headquarters.

Picture opening your Champions League final with your B-team and sending your maximum possible substitutions in after your opponent established the lead in the first half or playing the front nine at the Masters with only your driver and using the irons only on the last nine already being way above par. It's easy to see that you wasted your resources and your tactical options. Let's not lose the game before the kick off!

There is no way to simplify war. However in a crisis, the initial response during the first 30 days, especially the first 10 days is critical. Crises that evolve rapidly demand rapid-fire generation and solid command relations. Command and control structures for future potential conflicts need

...what if an operation demands more than one JFC and multiple maritime component commands?





Source: CJOS COE

Figure 1: Maritime C2 Modules.

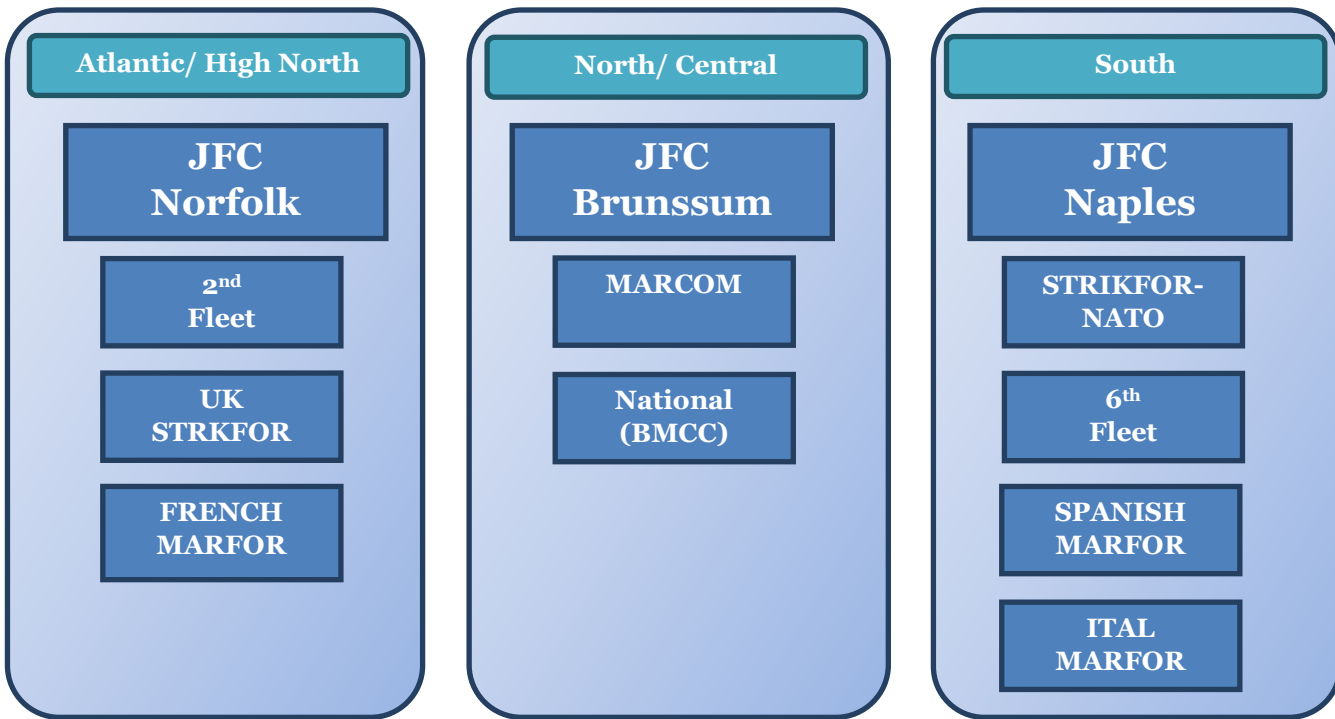
to be pre-designed to the largest extent possible. This includes designated, ready, regionally focused warfighting headquarters, and deployable domain component commands already assigned to a force commander. Any kind of rotation or stand down periods decreases the ability to counter possible aggressions. An affiliation of HQs – JFC’s to Component Command’s - lessens the risk of failure during the initial transfer of command authorities, strengthens interoperability and integration and establishes a trust-based fighting spirit. First and foremost, these relationships, strengthened with continuous small and major large exercises, need to be tailored specifically for a high-end fight.

With the establishment of JFC NF, an encouraging game plan comes into effect. Having additional national command structures in place and most likely a coalition force already deployed within a designated Joint Operation Area (JOA) with the ability, if politically decided, to transfer C2 without delay to the Alliance, is a huge step forward. Paired with JFC NP, US 6th Fleet and Naval Striking and Support Forces NATO (STRIKFORNATO) and its mission to provide a Maritime Battle Staff Operational Command directly to SACEUR to deliver a rapidly deployable and scalable headquarters capable of planning and executing full spectrum joint maritime operations primarily through

integration of U.S. naval and amphibious forces, the maritime battlespace has its major commanders already on the pitch.<sup>6</sup> The question now is, which other maritime components still need to be linked together?

Principally, NATO has only one Standing Maritime Headquarters, Allied Maritime Command (MARCOM) in Northwood, United Kingdom. MARCOM, with its staff of almost 500 people, is the central command of all NATO maritime forces and COM MARCOM is the primary maritime advisor to the Alliance.<sup>7</sup> In peacetime COM MARCOM executes OPCON of the four Standing Naval Forces (SNF) and delivers effects through NATO’s only maritime operation, Operation SEA GUARDIAN.

In addition, NATO nations have agreed on four national, rotationally ready deployable High Readiness Forces (Maritime) Headquarters (HRF(M)HQ): Italian Maritime Forces (ITALMARFOR), French Maritime Forces (FRENCHMARFOR), United Kingdom Strike Forces (UKSTRKFOR), and Spanish Maritime Forces (SPANISHMARFOR). These deployable headquarters will be assigned to one of the Joint Force Commands and are able to command and control assigned forces of varying sizes, dependent upon the task. Each headquarters provides the Maritime Component Command (MCC) for the NATO Response Force on a rotational basis.



Source: CJOS COE

Possible Pre-Designed Future Maritime Command and Control Design.

Supplementing these national MCCs, nations also contribute with regional static headquarters such as Maritime Headquarters with Maritime Operations Centers (MHQ with MOCs) like the multinational Baltic Maritime Component Command (BMCC) in Rostock, Germany or with deployable national MHQ like US 2nd/6th Fleets.

Coming back to the sports analogy, in this concept, the players and substitutions and in particular the golf clubs, are broadly described above. Now the best combinations have to be identified. The team needs to exercise and players need to practice with the clubs they going to use – “Train as you fight” is not just a tactical level phrase.

From a well chosen compilation of maritime C2 modules (Figure 1 on previous page, w/o specific order), admittedly with different stages of readiness, the high-end fight that is pre-designed is way more promising, than the ad-hoc attempt. Flexibility is an agreeable principle of joint operations but also lessens the obligation of ownership of the

area of responsibility.

Improving NATO’s (and other national) dual-use infrastructure (NATO Force and Command Structure) and pre-assigning the right amount of expertise to the right commands (human resource management, e.g. dual hatted personnel from ACT to JFC NF or MARCOM to JFC BS) promotes all NATO partners’ forces to provide ready assets as fast as possible to the fight - not just those already at sea.

Looking back at the most likely division of geographical responsibilities between the JFC and matching C2 modules to the geographical areas, it becomes obvious that JFC NF’s maneuver arm into the High North is represented by US 2nd Fleet supported by one or preferably two of the HRF (M) HQs (i.e. UKSTRKFOR and FRENCH-MARFOR), as single nodes of regional expertise in the Atlantic, English Channel and GIUK gap.<sup>8</sup>

JFC NP on the other hand would rely on US 6th Fleet. ITALMARFOR and SPAN-





ISHMARFOR as nodes of regional expertise are the prescribed/pre-defined maritime headquarters in the Mediterranean Sea. STRIKFORNATO might be assigned from the Supreme Allied Commander Europe (SACEUR) to either one and reflects the flexibility within this multi-node system (but with its specific mission, it may best be suited in the Med).<sup>9</sup> All other nationally contributed regional static MHQs (like the German, Polish or Turkish MCC) with Maritime Operations Centers (MOC) complete the system of systems.

Having defined the offense and defense structures in the game, where does that leave JFC BS and MARCOM on the maritime pitch? MARCOM, as a certified MCC, needs to be more than a maritime advisor. With a staff of almost 500 people, COMMARCOM in his role as Maritime Theatre Component Commander and his three subordinate commanders (in addition to COMSUBNATO and COMMARAIR), Commander Surface Forces NATO (COMSURFNATO) need to step up and commit to a pre-designated AOR, an area which suits their regional proximity and expertise to command.

Again, try to picture a soccer pitch, MARCOM needs to cover the midfield, play the six, and be between the lines – the Baltic Sea. JFC BS as a land focused Joint Force Command, preferably responsible for this Joint Operation Area (JOA) is in need of a MCC. This makes MARCOM a perfect enabler for an effective MCC and provides additional maritime competence. MARCOM, with an increased operational posture, would act to bridge the effects of the North Atlantic efforts and the Baltic Sea challenges to a land focused JFC. This maritime network of single nodes (CCs) and multi-nodes (JFCs) will enable NATO's navies to progress incrementally into the joint battlespace and their ability to command Multi-Domain Opera-

tions.

In summary, NATO is facing times of fast erupting geopolitical developments, global terrorism, multi or cross domain operations, and newly motivated competitors. The idea of stand-by high readiness headquarters and flexible assertion of operational level HQ's paired with major NATO commands like Allied Command Transformation and MARCOM with non or only limited operational tasking during the progression from crisis to MLE needs to be further scrutinized. If NATO urges availability, clarity, simplicity and foremost readiness/responsiveness of future command and control structures there is no way around a discussion of a pre-designated and tailored structure of JFCs and Component Commands respectively high readiness HQ. 🇺🇸

1. NATOs On the Map Webpage, 2019
2. HQ MARCOM, JSEC Visit Report, 01/03/2019
3. MC 0586/2
4. Welcome letter to JFC Norfolk
5. Defense one, On NATO's Eastern Frontier, April 2, 2019
6. <https://sfn.nato.int/missionstatement.aspx>
7. MARCOM Mission, <https://mc.nato.int/about-marcom/mission-.aspx>, 2019
8. The GIUK gap is an area in the northern Atlantic Ocean that forms a naval choke point. Its name is an acronym for Greenland, Iceland, and the United Kingdom, the gap being the open ocean between these three landmasses.
9. Maryann Lawlor, in SIGNAL, A New Role for Maritime Headquarters, November 2007





# FUTURE MARITIME WARFARE SYMPOSIUM 2020



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*“Should deterrence fail, Air Power will be the first response, given its inherent speed, flexibility and range”*

*General (RET) F. Gorenc*



**LCOL ROBERTO PATTI**  
**ITALIAN AIR FORCE**  
**DOCTRINE DEVELOPMENT BRANCH**  
**CJOS COE**



### **NATO AIR POWER, DETERRENCE AND DEFENCE - Is the Alliance ready for the next threat? A C2 challenge**

It is nowadays a commonly acknowledged fact that global warming and an increasingly assertive Russia have produced a stark increase in the competition over resources and access to blue waters in the North Atlantic and Arctic Oceans. Studies show that, especially in the Arctic, the loss of reflective ice and snow produces a change in climate almost twice as fast as elsewhere, by means of the increasingly exposed, more heat-absorbing dark ground and water, thus multiplying the melting effect - the so-called albedo effect.<sup>1</sup>

In this respect, global warming seems to be favoring Russia, as much of the ice is melting in places that fall within Russian territory, allowing it to take advantage of resource exploitation and prime shipping routes.<sup>2</sup> As the ice cap over the Arctic melts at a worrying pace, more untapped resources become available for exploitation, providing oil and natural gas to buffer future recessions and allowing Russia to offer itself as an ener-

gy superpower.<sup>3</sup> Oil brings cash and gas brings geopolitical influence.<sup>4</sup> The criticality of the region for the Russian Federation is evident, so much so, as to drive the submission of a claim to the United Nations for an additional 1.2 million square kilometers of seabed, the creation of a new Northern Fleet Joint Strategic Command, the restoration of cold war-era military bases (plus the construction of new ones), and the establishment of an intricate network of air defence systems.<sup>5,6</sup>

A bolder posture from NATO's major strategic competitor and the deployment of next generation weapons systems closer to its territory have forced the Alliance to reconsider the threat posed to its territorial and airspace integrity and the Strategic Lines Of Communication (SLOCs) between Europe and the U.S. across the Atlantic.<sup>7</sup> In addition to possible conventional strategic strikes and operations against SLOCs and underwater cables, analysts have developed multiple scenarios where Russia could seek territorial gain by use of unconventional, ambiguous attacks and then threaten nuclear strikes should their advantage be reversed.

Although Moscow's forces are quanti-



tatively no longer what they once were, their significant increase in quality raises deep concerns, and Russia's formidable Anti-Access/Area Denial (A2/AD) capabilities have raised alarm amongst top-ranking Allied commanders. Reflecting on comparative modernization efforts between competitors, former NATO SACEUR Gen. Wesley Clark recently observed the faster pace at which Russia and China were moving and noted that Russia's air defence system is changing the "air-ground dominance where the United States could easily get air supremacy in the past".<sup>8</sup>

Moscow's Integrated Air Defence System (IADS) umbrella covers one-third of Poland; ground launched and ship-based cruise missiles have the capability to strike well within Allied territory, as well as short ranged missiles and bombers staging from the Kalinin-grad enclave. Former Commander, US Air Forces in Europe-Air Forces Africa Gen. Gorenc stated, "the proliferation of A2/AD environments in Europe is probably my No. 1 concern", and "the complexities of those systems, the effectiveness of those systems [...] and the way that they've been layering them creates areas that are very tough to get into."<sup>9</sup> In addition to all of this, now that the Intermediate-Range Nuclear Forces (INF) treaty is no longer in effect, another source of concern has come to the picture, with Russia's ability to field land based missiles with max range of 5500 Km, which inevitably increases the concern for the Alliance and for Allied Forces' freedom of movement into the region.<sup>10,11</sup>

After the illegal annexation of Crimea in 2014 and more aggressive actions recently in the sea of Azov, the determination shown by Moscow to use force (either overtly or covertly) to seize any given strategic objective forced



Italian F-35 taking off from Reykjavik, Iceland.

NATO to revise its deterrence policy and goals, shifting the Alliance's focus more noticeably back towards collective defence than in past years. NATO is a defensive partnership and deterrence is its strongest weapon against escalation and conflict. Despite Norway raising serious concerns about the new strategic situation and the Alliance's preparedness and vigilance in the northern theatre, the vast majority of NATO's recent efforts have been focused in strengthening its presence in Central and Eastern Europe.<sup>12,13</sup>

Based on the assumption that a determined adversary could swiftly defeat a relatively small Response Force and pose serious challenges to reinforcement and adequate fire-power deployment, NATO tripled its footprint and established an "Enhanced Forward Presence" (eFP) of forces in Estonia, Latvia, Lithuania and Poland, and a "Tailored Forward Presence" (tFP) in Romania.<sup>14,15</sup> The deterrence factor behind these forces, besides the numbers (approximately 5000 soldiers) and capabilities brought to bear, lies in their multinational character; an adversary willing to engage in conflict with them wouldn't simply face a single defender but rather directly trigger a coalition response (possibly an Article 5 scenario) and the ensuing escalation.

Source: Public Information Office - Rome





The same applies in the Air domain where, since the dissolution of the USSR, NATO has been keeping watch over the Allied airspace with two permanent standing missions: Air Policing (AP) and Ballistic Missile Defence (BMD), both under AIRCOM C2.

Russian actions in Crimea led to the Alliance increasing the level of alert, the reason for which the former is now labeled “Enhanced Air Policing”. Relying on Norway to guard the northern skies, NATO has been operating from airbases in Estonia and Lithuania ever since their joining the Alliance in 2004.<sup>16</sup> Here, squadrons of Quick Reaction Air (QRA) jets from 16 nations regularly rotate contributions in defending the Baltic skies. As is the case for the ground response force, the multinational character of these units adds to the intrinsic deterrence of the single weapon system: a direct action against one of these jets would immediately resonate much deeper within NATO.

Another sensitive area of interest for the Alliance, even more so now that Arctic ice is receding, is Iceland, its airspace and the SLOCs that surround it. As Iceland does not maintain military forces, its airspace used to be guarded uninterruptedly by USAF tactical fighters and ASW assets until 2006, when the U.S. decided to withdraw their presence. The ensuing drastic increase in airspace violations by Russian aircraft pushed Keflavik to request that NATO assume responsibility for protecting its airspace as part of the Alliance.<sup>17</sup> Since July 2007, NATO fighter jets and crews (under CAOC Udem’s C2) are a periodic presence at Keflavik Air Base, with the latest addition of Italy’s F-35 providing for the first time 5th generation capabilities to NATO’s northern flank.<sup>18</sup>

Today, NATO Allied Air Command provides C2 of peacetime standing air missions

(Air Policing and Ballistic Missile Defence) with a permanent structure designed to be highly responsive and quickly adjusted to higher levels of effort and operational tempo, in case of crisis or conflict. It consists of permanent C2 nodes: a theater-wide Ballistic Missile Defence Operations Center in charge of the BMD mission, a Combined Air Operations Center (CAOC) for the north and one for the south in charge of the Air Policing mission (which provide supplementation in case of transition to crisis operations), and a Deployable Air Command and Control Center (DACCC) designed to provide air C2 training, supplementation and deployability.<sup>19,20,21</sup>

In case of tension escalating to a crisis or conflict, following NAC authorization, AIRCOM would assume the role of NATO Joint Forces Air Component (JFAC), relying on its core-JFAC element and on organic staff personnel, plus augmentees from other NCS and NFS commands.<sup>22,23</sup> These nodes are structured and manned to accomplish their peacetime assigned mission; however, it could be argued that such design could not provide (or not in a timely fashion) the full spectrum of capabilities required in case of escalation to crisis or conflict. In an ideal world, a permanent crisis-establishment operations center would probably be the best option for the NATO Air C2 structure, but budget constraints and the undeniable differences between the Allies dictate otherwise.

Despite unanimously committing to the 2014 Wales Summit Defence Investment Pledge (DIP) of meeting the 2% GDP defence expenditure by 2024, many nations are still below that threshold, mostly because not all agree on today’s security environment. It was certainly easier for NATO countries to identify an agreed, common “enemy” during the Cold War, but it is not so clearly the case today with



so many and so varied threats. Norway or a Baltic Republic will not probably agree with Italy or a Mediterranean state on the threat level posed to their general well-being by migration, the Islamic State or Russia.

Collective defense and the deterrence effect it has plays a major role in today's NATO's military strategy against global competitors. Yet, we know that it may not suffice to avoid crisis escalation or conflict and it could be suggested that the range of views of global threats diminishes the overall credibility of NATO deterrence. The matters of collective defence and Article 5 response have been a cornerstone of NATO since its inception, but like often happens in diplomacy, they are intrinsically complex and subject to interpretation; the possibility exists that individual Allies react differently to an aggression to one of the 29 nations.

Air power plays a fundamental role in NATO's strategy, both in a deterrence and in a defence scenario. In the enhanced deterrence

posture of the Alliance of recent years, air power can play a significant role by convincing Moscow that their strategy of attack, pause and sue for peace on their terms would not possibly work. While waiting for the next generation of hypersonic weapons (including air-launched hypersonic missiles), NATO's emphasis on 5th generation platforms, forward presence, Joint Intelligence, Surveillance and Reconnaissance (JISR) and Unmanned Aerial Vehicles (UAV) shows that, in case of conflict, the Alliance will seek to establish air superiority while neutralizing Russia's A2/AD capabilities.<sup>24,25</sup> Should deterrence fail, air power will be the first response, given its inherent speed, flexibility and range. In a crisis scenario, AIRCOM would have to dynamically adapt its structure and posture, switching from the peacetime Air Policing mission to Air Defence operations, possibly encountering unforeseen shortfalls that might hamper its global effectiveness. To counter a wide array of possible threats such as attacks with military aircraft



Two Italian EF-2000's and a Romanian Mig-21 participating in Air Policing missions.

Source: Public Information Office - Rome





(manned or unmanned), cruise and ballistic missiles, or hijacked civilian aircraft, it could be wise to transition from an Air Policing to an Air Defence stance in peacetime, in order to better prepare to execute Air Defence in crisis.<sup>26,27</sup> This transition should probably include the elimination of cross-border and cross-control restrictions for NATO QRA, the increase of their locations and numbers, the implementation of revised ROE for QRA pilots. Such provisions should provide AIRCOM with the tools to face the next challenge and would show strong resolve, helping to prevent possible crises.

In times of social, political and economic unrest, each country has to face their own internal struggles. It could be tempting to look away from the Alliance but NATO still represents the best and strongest form of defence from external threats. Divided, Allies are weak, and weakness invites aggression. NATO needs to stand their ground together and show that the North Atlantic bond is strong as ever.

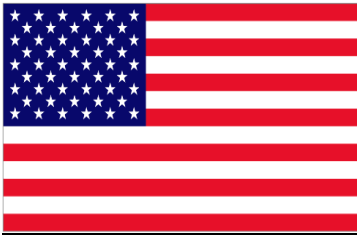


1. Dr. Nancy Fresco, International Arctic Research Center at the University of Alaska Fairbanks – NITEC Issue 1, May 2019
2. Notably the Northern Sea Route – [www.nationaldefensemagazine.org](http://www.nationaldefensemagazine.org)
3. According to NASA's Jet Propulsion Laboratory, the Arctic sea ice in September is declining at a rate of 12.8% per decade – [www.nationaldefensemagazine.org](http://www.nationaldefensemagazine.org)
4. Strategic Foresight Analysis (SFA) Russia from a Euro-Atlantic Perspective workshop, Helsinki, 17-19 June 2019
5. <https://www.nytimes.com/2016/02/10/world/europe/russia-to-present-revised-claim-of-arctic-territory-to-the-united-nations.html>
6. US DoD Arctic Strategy, Jun 2019
7. Studies on Russia's maritime and naval doctrine indicate a more aggressive posture than was the case during the Cold War - Fire and Ice - A New Maritime Strategy for NATO's Northern Flank, Human Security Centre, 2018.
8. Joint Air Power Following the 2016 Warsaw Summit – Urgent Priorities. An Allied Command Transformation Headquarters Study Conducted by the Joint Air Power Competence Centre
9. <https://www.stripes.com/news/usafe-chief-sees-russia-air-defenses-as-top-concern-1.383189>
10. The INF Treaty banned US and Soviet land-based ballistic missiles, cruise missiles, and missile launchers with ranges of 500–1,000 kilometers (310–620 mi) (short medium-range) and 1,000–5,500 km (620–3,420 mi) (intermediate-range). The treaty did not apply to air- or sea-launched missiles. By May 1991, the nations had eliminated 2,692 missiles, followed by 10 years of on-site verification inspections. Amidst continuing growth of China's missile forces, US President Donald Trump announced on 20 October 2018 that he was withdrawing the US from the treaty due to Russian non-compliance. The US formally suspended the treaty on 1 February 2019, and Russia did so on the following day in response. The US formally withdrew from the treaty on 2 August 2019. [https://en.wikipedia.org/wiki/Intermediate-Range\\_Nuclear\\_Forces\\_Treaty](https://en.wikipedia.org/wiki/Intermediate-Range_Nuclear_Forces_Treaty)
11. "Russia continues to develop and deploy an intermediate-range missile known as the 9M729, or SSC-8. These missiles are mobile and hard to detect. They can reach European cities with little warning, carrying conventional or nuclear warheads, and they lower the threshold for the use of nuclear weapons". <https://www.nato.int/cps/en/natohq/115204.htm>
12. "Russia shows both the ability and the will to use military means to achieve political goals [...] We need a NATO that has a good understanding of its regional areas" said Norway's Minister of Defence. <https://www.reuters.com/article/us-norway-defence-russia/wary-of-russia-norway-urges-nato-vigilance-in-arctic-idUSBREA4JOHE20140520>
13. [https://www.nato.int/cps/en/natohq/topics\\_136388.htm#](https://www.nato.int/cps/en/natohq/topics_136388.htm#)
14. Consisting in four multinational, combat-ready battalion-size battle groups
15. Built around the Romanian-led multinational brigade in Craiova, augmented with Air units to reinforce Romania's and Bulgaria's efforts to protect NATO airspace and Turkey's MPA's and support to NATO Airborne Warning & Control System (AWACS) aircraft
16. [https://www.nato.int/cps/en/natohq/topics\\_132685.htm](https://www.nato.int/cps/en/natohq/topics_132685.htm)
17. Riga Summit, November 2006
18. [https://www.defense-aerospace.com/articles-view/release/3/206257/italian-air-force-deploys-f\\_35s-to-protect-icelandic-air-space.html](https://www.defense-aerospace.com/articles-view/release/3/206257/italian-air-force-deploys-f_35s-to-protect-icelandic-air-space.html)
19. BMD/OC based at Ramstein, Germany
20. Based in Uedem (Germany) and in Torrejon (Spain), respectively
21. Based in Poggio Renatico (Italy)
22. JFAC: Joint Forces Air Component. It assists COM JFAC in his role of air and space advisor to the JTF Commander
23. NCS would provide supplementation with personnel from the Air C2 Staff Elements from the two CAOC's and the DACCC; NFS would provide augmentation (if required) from the national JFAC's
24. Industry experts are on pace to attain operational readiness of air-launched, hypersonic cruise missiles within 20 years. <https://www.japcc.org/will-the-aircraft-carrier-survive/>
25. NATO is acquiring the AGS system comprised of five NATO RQ-4D Remotely Piloted Aircrafts (RPA) and the associated European-sourced ground command stations, which will give the Alliance the capability to remotely perform High Altitude, Long Endurance (HALE) intelligence, reconnaissance and surveillance missions in any weather or light condition. The AGS system will operate from Sigonella Airbase, Italy.
26. Referred to as "Renegade". 9/11 is the most common example of such scenario.
27. Joint Air Power Following the 2016 Warsaw Summit – Urgent Priorities. An Allied Command Transformation Headquarters Study Conducted by the Joint Air Power Competence Centre



*“The North Atlantic is, and always has been, a space of strategic importance to both Europe and North America.”*

*Magnus Nordenman*



**MAGNUS NORDENMAN**  
*Author of **The New Battle for the Atlantic:  
Emerging Naval Competition with Russia  
in the Far North***



## THE NORTH ATLANTIC AS A STRATEGIC SPACE

In the jet age it may be lost on the average person, but the North Atlantic is, and always has been, a space of strategic importance to both Europe and North America. The North Atlantic forms part of the world’s second largest ocean, and covers some sixteen million square millions. The North Atlantic also provides access to a wide range of oceans and seas, including the Black Sea, the Baltic, the North Sea, the Barents, the Arctic Ocean, the Mediterranean and, through the Suez canal, the Red Sea.

*...a war in Europe cannot be won in the Atlantic, but it certainly can be lost there.*

Today few people use the North Atlantic for passenger transportation between Europe and North America, but other flows across the North Atlantic have indeed intensified as globalization has thickened the connections between Europe and North America and elsewhere. Trade across the Atlantic is worth well north of a trillion dollars a year, and both sides of the North Atlantic include some of the world’s

busiest megaports, such as Port Newark, Hampton Road, Charleston, Antwerp, Rotterdam, and Hamburg. The digital age has also seen the increasing use of submarine cables to carry the data used by both commercial enterprises and governments across the North Atlantic; a solution that is still far cheaper, faster, and more efficient than satellite communications. The first submarine cables were laid by companies working at the behest of governments. Today, the submarine cable network in the North

Atlantic is further added to by technology giants seeking to serve their customers on both sides of the ocean. Subma-

rine cables do not only carry communications across the North Atlantic, they also help control and monitor a growing array of infrastructure in the far North Atlantic, from oil and gas platforms at sea, to satellite receivers on Svalbard in the Arctic. As the United States looks to export its natural gas to markets in Europe, the North Atlantic will also become a highway for energy supplies.

The connection between North America and Europe enabled by the North





Atlantic has fundamentally shaped both continents in myriad ways, including politically, culturally, socially, and economically. It is indeed central to what is often referred to as the core of the western world and the rules-based world order. It is therefore no accident or happenstance that the political-military alliance between Europe and North America has North Atlantic in its name. And just as the North Atlantic has carried trade, people, and ideas between North America and Europe, that domain has carried military power to distant shores too.

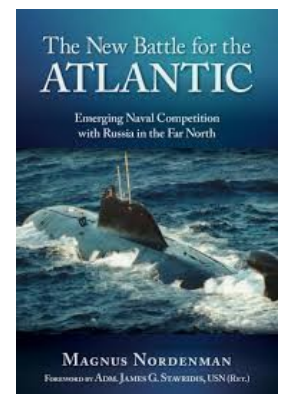
For hundreds of years conflicts in both Europe and North America have been influenced by actions in the North Atlantic. George Washington's victory at Yorktown during the American Revolution was assured by French seapower and its success in breaking the Royal Navy's control of the North Atlantic. Spain's empire in the Americas began to crumble in part because Spain could no longer guarantee assured access to the North Atlantic. During the American Civil War the Union promptly began a campaign to blockade Confederate ports, in order to deny the Confederate states trading opportunities and war supplies from Europe.

The North Atlantic was, however, never as intensively contested as during the 20th century, when the future of Europe, and indeed the world, was being decided in the three great struggles of World War I, World War II, and the Cold War. Each contest generated its own "Battle for the Atlantic," which proved to be enduring, time and resource intensive, frustrating, and, most importantly, pivotal to the final outcome of each contest. While each battle for the Atlantic during the 20th century was unique, open access to the North Atlantic served the same purpose for the western allies: to keep European allies in the fight, and to flow reinforcements from North America to

Europe. During World War II Winston Churchill spent considerable time worrying about the final outcome of the Battle for the Atlantic, as he was well aware that a struggle over the future of Europe could not be won in that maritime domain, but it could very well be lost there.

The North Atlantic as a strategic space receded from view after the end of the Cold War, as NATO and its individual members sought to manage security challenges farther afield. But the Ukraine crisis and Russia's continued aggressiveness and intent to alter the transatlantic security order in its favor has brought the focus back to the North Atlantic, and its vital role as a bridge between North America and Europe. The new battle for the Atlantic promises to be different from the ones that played out during the 20th century, in no small part due to new technologies, great power competition on a global scale, and a more diverse set of security challenges that NATO and its members must respond to. But the fundamentals will likely remain the same: winning the battle for the Atlantic will be a frustrating, resource intensive, and extended undertaking. And the side with the most allies to bring to bear, however tedious that process may be, will likely win the day. The observation made about the role of the North Atlantic during World War II remains true today too: a war in Europe cannot be won in the Atlantic, but it certainly can be lost there. 🏠

*Magnus Nordenman is the author of *The New Battle for the Atlantic: Emerging Naval Competition with Russia in the Far North*, published by the US Naval Institute.*





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Special thanks to the individuals listed below on their contributions to this year's Cutting the Bow Wave magazine. Topics and ideas in these articles give us a different perspective and broadens the conversation. Please accept our sincere gratitude and appreciation for taking time to contribute to our annual magazine.

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CJOS activities are guided by a programme of work (PoW) approved by the sponsoring nations based upon requests received by NATO, CJOS member countries, and other entities. CJOS is open to requests for support by any organization. Requests received will be considered for inclusion in the PoW based upon alignment to CJOS interests and those of the sponsoring nations and NATO. The 2020 CJOS PoW is listed below:

## Programme of Work - 2020

### 1. Integration of Maritime C2 into the Joint/Combined Space

- Fusion of Joint Integration Systems
- Development of Need to Share Culture
- JFCNF Development
- Information Protection during Expeditionary Ops
- Civilian Contributions to MSA Concept
- Dependency on Technology in C2
- Defining the Task Force for MLE
- Maritime Warfare Symposium
- Big Data
- Maritime Security Regimes Round Table
- Maritime Knowledge Portal (MKP)
- Post Exercise Analysis Tool
- Integrated NATO Maritime Logistics

### 2. Support the Alliance's Development of Amphibious Capability

- Marine Integration Across Countries
- Understanding Amphibious C2
- Expeditionary Operations – ATG Concept
- NATO ATF Concept
- US EABO in European Theatre
- Cutting the Bow Wave
- NATO Amphibious Leaders (NALES)
- AMPHIBOPS WG
- Participate in CPAOT
- Joint Combined Sea Basing WG

### 3. Support the Alliance's Development of Unmanned Systems Capability

- Unmanned Surface Vehicles (USV) in sea control activities
- Joint Ops with unmanned systems and their future development
- Cooperative ASW C2
- Cyber threat on C2 of UMS
- Cyber interoperability
- Maritime Unmanned Systems Tactical Doctrine Development
- Critical Infrastructure Protection
- Maritime Domain in the future Multi-Domain Operations

### 4. Deepening Our Understanding of Our Competitors

- A2AD in the Joint Environment
- Russian Maritime Priorities
- NATO's Flanks
- Maritime Strike Operations
- Resource Scarcity & Climate Change
- Maritime Capacity Building
- NATO All dimension ASW Concept
- Long Term Military Transformation PoW – SFA/FFAO

### 5. Contributing to Interoperability and Integration

- Collaborative Resilience
- NATO Warfighting Capstone Concept
- Support to MCDC
- Support to ACT's Program on Autonomy
- NATO Maritime Surveillance Concept
- Maintain Maritime ISR Doctrine
- MAROPS WG
- IAMD Conference
- Lessons Learned Process
- I2AG
- Interoperability and Coordination Guide
- M2I2
- Liaison to NWDC
- Exercise Support
- MEAB WG
- Collaboration with NDU
- Annual Discipline Conference
- Support to MSR RT WGs
- Support to TRITON Implementation Activities
- Support to JFCNF and C2F stand-up





# TRANSFORMING ALLIED MARITIME POTENTIAL INTO REALITY

