



NATO PARLIAMENTARY ASSEMBLY

DEFENCE AND SECURITY COMMITTEE (DSC)

Sub-Committee on Future Security and
Defence Capabilities (DSCFC)

NATO EXERCISES – EVOLUTION AND LESSONS LEARNED

Draft Report

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076 DSCFC 19 E | Original: English | 9 April 2019

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I. INTRODUCTION

1. NATO-Russia strategic competition continues to expand and is rapidly changing the face of European security. In their respective strategic communications and actions, both NATO and Russia identify each other as posing a distinct security challenge. In this new era of strained relations, military exercising has become a priority for both NATO and Russia to demonstrate capability, readiness, and political will.
2. In the shadow of the deteriorating European security environment, the size and scope of NATO and Russian military exercises have increased significantly – even dramatically when considering the new pace and scale of Russian exercises. As the pitch of Russian aggressive actions continues to heighten across Europe and the globe, NATO is adapting its defence and deterrence posture both in the East and internally to meet the range of hybrid and conventional challenges confronting it.
3. Yet, Russia is not the only challenge to NATO; continued instability in the regions across its southern flank brings a host of asymmetrical challenges, from migration to terrorism. As such, NATO is designing a 360-degree approach to its deterrence and collective defence for better crisis response and cooperative security.
4. Underpinning NATO's strategic posturing to handle the challenges from the East and South is an increased suite of exercises to better position Allied forces to handle any challenge they may face. Designing a range of exercises to test, train, and adapt Allied forces to overcome today's international security environment is a difficult task. Effective exercises, however, are the *sine qua non* of force readiness, and force readiness is essential to the credibility to Alliance defence and deterrence.
5. This draft report will seek to understand the impact expanded exercising is having on Allied readiness and interoperability to deliver on the promise of the 360-degree approach to defence and deterrence. It will also highlight the important political signalling of increased exercising to a range of audiences. In addition to lessons learned, there are a host of benefits to increased exercising among Allies.
6. Strong support for inter-Allied exercising across the spectrum of tasks necessary to promote a capable modern deterrent is needed by Alliance political leaders today. NATO Parliamentarians can and should have an important role in promoting and underwriting a well-designed Alliance exercise programme.

II. THE BENEFITS OF EXERCISING

7. Broadly speaking, military exercises demonstrate two central ideas: first, they indicate a force's potential fighting power in war; second, they can project the force's level of ambition. Core messaging of exercises also includes the deterrence of potential aggressors, as well as the reassurance of Allies.
8. NATO's stated ambition level is to be able to carry out 'concurrent' major joint operations and several smaller joint operations in line with its core tasks (NATO, 2010). Facing a deteriorating European security environment, every NATO summit since 2014 has announced new adaptation initiatives to the Alliance's defence and deterrence posture. In parallel, each summit's declarations have announced regular exercises as part of the means of ensuring the Alliance's political and military responsiveness (NATO, 2018).
9. Military exercises benefit the Alliance in many important ways. Exercises **improve defence abilities**, are **cost-effective**, serve as **important political signals**, and, in the case of NATO, **increase the tensile strength of the transatlantic bond**.

A. IMPROVED DEFENCE CAPABILITY AND COST-EFFECTIVE BURDEN SHARING

10. Military exercises contribute to defence abilities by training forces to engage with a range of hypothetical scenarios at the strategic, theatre, and tactical levels. Engaging in multilateral exercising throughout the year hones Allied forces' ability to interoperate. Effective interoperability is a crucial skillset for all of NATO's major tasks, from defence and deterrence to crisis response and cooperative security outreach. Exercises also supply Alliance commanders and political decision makers with an important set of lessons learned to help them continue to be more effective and efficient in executing their duties.

11. An increased and robust exercising schedule is essential to test and certify NATO's evolving defence and deterrence posture. As this committee has been reporting since 2014, a host of new initiatives, from a revamped and expanded NATO Response Force to the Enhanced Forward Presence and the most recent Readiness Initiative, all require exercises to demonstrate Alliance forces' ability to execute their new missions. Exercises can also highlight deficiencies, both in the structures framing these new efforts and in the resources flowing to support them. As most Allies continue to transition from smaller forces focused on out-of-area light-arms missions to heavy combined-arms force structures so as to be able to concentrate firepower and manoeuvre to face down a challenging conventional force, a suite of tailored exercises is vital.

12. Coordinated movement and deployment of military forces are not easy. Logistical requirements require effective coordination and training. Further, once acquired, these skillsets can atrophy over time if not practised. For example, large-scale transatlantic exercises were commonplace for Allies during the Cold War: *REFORGER* was a recurring Cold War exercise wherein Allies practised moving well over 100,000 of their forces and equipment across the Atlantic and Europe to the West German border with East Germany. The last *REFORGER* exercise took place in 1993, and Allies only renewed their practice of large-scale transatlantic reinforcement this past year during *Trident Juncture 2018*.

13. Multilateral exercises are also cost-effective. Allies exercising together share the burden of training costs. This is important, as personnel costs have become the most expensive consistent recurring cost for modern military forces. All national budgetary officials will welcome finding ways and means of making these expensive elements of Allied armed forces more effective at a reduced cost. As the demand for increased exercising continues, sharing the burden across Allied armed forces is the best way forward.

B. POLITICAL SIGNALLING AND REINFORCING THE TRANSATLANTIC BOND

14. More broadly, exercises, particularly larger ones, are also excellent signalling devices. Done properly, large-scale exercises communicate strong messages to several audiences: to potential foes – *we can do this*; to Allies – *we are doing this together*; and to domestic populations – *we are doing this for you*. Such signalling is important to the credibility of Allied commitment at all these same levels. The demonstration of unified ability and will is a strong and vital message.

15. Finally, and just as important, exercises renew and reinforce an important element of the transatlantic bond. Constant cooperation between Allied military forces creates new as well as future generations of committed *transatlanticists*. As one analyst noted in a recent report, Alliance military exercises and inter-Alliance military exchanges resulting from close cooperation amount to a NATO cultural exchange programme, which only further solidifies Alliance cross-cultural understanding and cohesion (Braw, 2018). This is essential when Alliance credibility depends on unity of purpose and strong intra-Alliance bonds.

16. In addition, many former military service personnel transition from wearing their nation's uniform to civilian government service. As the composition of the Defence and Security Committee at the NATO Parliamentary Assembly attests, many NATO member state parliamentarians once

served in their nation's armed services. The transition from military to civilian political or government policy service creates a cohort of professionals with substantive knowledge about the challenges of training and deploying an effective defence force. All of these benefits translate to stronger defence and deterrence deliverables.

III. RUSSIA'S DANGEROUS EXERCISING

17. Russia's military doctrine labels NATO as a principal danger to the interests of the Russian Federation. Russia's national security strategy views the action of the United States and its Allies as seeking to contain Russia in order to retain dominance in international affairs. NATO military infrastructure and actions east of Germany, for example, are perceived as a threat (Oliker, 2016).

18. Part of Russia's broader strategy to counter NATO and reassert Russia's role in European security affairs has been its ambitious State Armament Programme (SAP). The programme seeks an overhaul of all of Russia's military services, from personnel to platforms across all services, in an effort to compete with and match Allied military forces' technological and organisational superiority. Supporting this programme is a dramatic increase in the size and scope of Russian military exercising.

Annual Training Cycle And The Dilemma Of 'Snap' Exercises

19. Russia instituted its cycle of rotating strategic exercises in 2009 with that year's capstone effort, *Zapad*. In parallel, Russian military districts underwent significant reorganisation. Every year, a military district leads a large-scale exercise in its region – *Zapad*, *Tsentr*, *Kavkaz*, and *Vostok*¹. Over the past decade, these strategic exercises have grown in size and sophistication, and they now include such elements as; strategic mobilisation and deployment, large-scale manoeuvre, national reserve force and civilian defence mobilisation, and industrial engagement (IISS, 2018; Johnson, 2019).

20. The exercises are meant to test Russia's ability to engage in large-scale intense combat with a technologically advanced adversary. In 2013, Russia began the systematic reintroduction of large-scale 'snap' exercises (IISS, 2018). Snap exercises can test force readiness, but they are also a means of testing adversarial reaction, as they may confuse an observer about Russia's real capabilities and intentions. Snap exercises, at least in Russia's case, have also been used to mask Russian aggression, as was the case in 2008 in Georgia and in 2014 in Ukraine.

21. Russia has also been using snap exercises as a part of its broader trend to ignore its international responsibilities and commitments. In the instance of exercises, this specifically means the 2011 guidelines to the 1990 Vienna Document, which require OSCE members to notify other members 42 days in advance if they intend to conduct exercises using a combined total of 9,000 forces; observation is required if that number surpasses 13,000 (NATO, 2019). The Vienna Document guidelines serve as a transparency measure intended to avoid any potential misperceptions and/or alarm from fellow OSCE members the size and scale of military exercises potentially close to their territory (Litzenberger, 2017).

22. The size and scope of Russian exercises has increased significantly over the last decade. The annual strategic exercises have grown from an average of approximately 20,000 troops from 2009-2012 to 150,000 between 2013-2017 (Norberg, 2018). In 2016 and 2017, Russia officially reported participating troop levels of approximately 12,500 for both annual strategic exercises, *Kavkaz* and *Zapad* respectively, while the actual numbers turned out to be 120,000 and 70,000 (Johnson, 2019). Once the exercises were underway, however, both Russian media and defence ministry officials said the exercises involved 100,000 troops (Litzenberger, 2017). Such

¹ Meaning West, Center, Caucasus, and East in Russian.

misrepresentation and subterfuge only further entrench impressions Russia is no longer playing by the rules it helped establish at the end of the Cold War for mutual reassurance and stability.

IV. NATO EXERCISES TODAY – SCOPE AND SCALE

23. In 2019, NATO announced it intended to conduct a total of 102 exercises, 39 of which would be open to partner participation. Allies will conduct a total of 208 national and multinational exercises. The exercises will train Allied forces across all domains and focus on specific skills such as chemical, biological, radiological and nuclear (CBRN) defence and crisis management (NATO, 2019). The following sections will review NATO exercises efforts to certify defence and deterrence initiatives in east, south, and internally.

A. EASTERN EXERCISES

24. Prior to 2014, NATO's principal exercises and training focus centred primarily on crisis response and cooperative security efforts with partners to handle the Alliance's post-9/11 counterinsurgency and counterterrorism imperatives – more often than not involving light footprint, expeditionary scenarios far from the Alliance's neighbourhood and beyond. Russia's annexation of Crimea refocused Allied attention to collective security and defence priorities at home.

25. As such, the Alliance is simultaneously revisiting Cold War political and military deterrence skills as well as working to adapt to counter Russia's modern hybrid warfare tactics. A dynamic and comprehensive exercise schedule is critical to effective credibility signalling. As noted above, exercises communicate capability and cohesion – demonstrating, both internally and externally, the Alliance stands as one ready to defend its members against any external threat.

26. Sustainable reinforcement capability is one of NATO's critical deterrence weaknesses. For example, NATO's rotating presence in the Baltics is insufficient to repel a conventional Russian invasion, and few European Allies would be able to reinforce those forces to return the region to the status quo ante invasion. As such, current exercises seek to train not only Allied force readiness and mobility, but also to ensure reliable supply lines as well as infrastructural compatibility.

1. Closing The Gap

27. In 2014 NATO had a relatively significant exercise gap with Russia, both in numbers and in types of exercises. While Russia ran at least 6 large-scale exercises involving 65,000 to 155,000 personnel in 2013 and 2014 respectively, the largest NATO or Allied exercise in the same period involved 16,000 personnel (Brzezinski and Varangis, 2016). Furthermore, the types of exercises NATO had been focusing on were primarily counterinsurgency, counterterrorism, and crisis response. By contrast, Russia had been increasingly exercising heavy combined-arms manoeuvres and traditional warfare scenarios.

28. NATO has substantially adapted the schedule and types of exercises it conducts in recent years. The Alliance's new enhanced exercise programme has sought to support NATO adaptation efforts. The expanded number and types of exercises and the scale of participants send a clear message internally and externally of NATO's commitment to defending its member nations.

29. Over the same timeframe, Russia has been forced to scale down its exercise programme due to competing demands for personnel and equipment by Russian engagements in Ukraine, Syria, and elsewhere (Hille, 2015). Still, as the late-2018 *Vostok* exercise demonstrated, large-scale exercising remains a priority for Russia.

2. The NRF and the VJTF

30. In response to Russia's illegal annexation of Crimea, NATO established the Readiness Action Plan (RAP) which consists of both assurance and adaptation measures. To support the RAP, the Alliance established an enhanced air, land, and sea exercise and activities programme focused on collective defence and crisis management. The NATO Response Force (NRF) was expanded as a result of the RAP initiative.

31. The NRF is now comprised of up to 40,000 multinational, rotating, air, land, maritime, and Special Operations Forces who have completed the exercise programme. These forces are designed to be deployed at notice wherever needed with a rotating period of 12 months. As part of this initiative, Allies also agreed to establish the Very High Readiness Joint Task Force (VJTF), a multinational, brigade-equivalent force of around 5,000 troops designed to be deployable to any part of NATO's territory in two to five days. The VJTF can be described as a highly mobile deterrent force.

32. As part of NATO's expanded exercise programme, the VJTF is tested along with the NRF as part of larger and more complex exercises, beginning with *Noble Jump* in Poland in early June 2015, with over 2,100 troops from nine nations. The first deployment of the VJTF, *Noble Jump 2015*, focused on the VJTF's ability to respond rapidly to enemy special forces infiltrating Allied territory and counter hybrid warfare techniques (Szary, 2015). Later that June, NATO used *Trident Juncture 2015* to further test the capabilities of the NRF and VJTF. *Trident Juncture 2015* involved more than 30,000 troops from over 30 NATO member and partner countries. In this exercise, it was NATO's mission to protect the states under threat from an invading enemy force and to ensure freedom of navigation in Allied waters (NATO, 2015).

33. *Trident Juncture 2015* and *Noble Jump 2015* were followed by a series of exercises testing the different air, land, and sea capabilities of the VJTF and the expanded NRF. In 2016 *Brilliant Jump* tested and validated VJTF activation and rapid deployment. *Brilliant Jump* was split into two exercises: *Brilliant Jump Alert* and *Brilliant Jump Deploy*. *Brilliant Jump Alert* tested and validated VJTF activation in Albania, Poland, Spain, and the United Kingdom with 2,500 troops participating. *Brilliant Jump Deploy 2016* tested the logistical challenges of the rapid deployment of the VJTF's land elements from Spain to western Poland (Baltic Defence, 2016).

34. In 2017 a four-part series of successive exercises testing the VJTF's air, land, and sea capabilities were designed to validate their respective Component Commands. *Brilliant Arrow 2017* was the first exercise by JFAC-KALKAR, the Air Operations Command under German lead, which tested the air capabilities of the VJTF by bringing together NATO air forces who do not routinely train together and preparing the Allied Air Command Headquarters to assume standby (Before Flight, 2017).

35. With more than 1,000 troops, *Brilliant Ledger 2017* tested land readiness and capabilities with a range of crisis-response scenarios including both state and non-state actors. This exercise validated the NATO Rapid Deployable Corps – Italy (NRDC-ITA) as a Land Component Command for the NRF for its twelve-month rotation (Era, 2017).

36. The Special Operations Component Command (SOCC) in Minorca, Spain, ran *Brilliant Sword 2018*, a command-post exercise testing the interoperability of Special Operation Forces in the NRF and achieving the SOCC Combat Readiness certification through a Special Operations Forces Headquarters and Units Evaluation (SOF EVAL). Finally, *Brilliant Mariner 2017*, run by the French High Readiness Force Maritime Headquarters (FRMARFOR), was designed to support the maritime component of the NRF with ships from 12 nations taking part in a non-Article 5 crisis response operation exercise (Ministry of Defence Italy, 2017).

37. In 2018, the VJTF was put through final certification tests in *Brilliant Jump 2018* and *Trident Juncture 2018*. All units were designated as fully operational.

3. NATO's Enhanced Forward Presence and Tailored Forward Presence

38. At the 2016 Warsaw Summit, Allies agreed to further increase NATO deterrence efforts in the east via the Enhanced Forward Presence (eFP) and the Tailored Forward Presence (tFP) in the southeast.

39. The tFP is built on a multinational brigade in Craiova, Romania. It is supported in the air by several Allies which back up Romania and Bulgaria's protection of NATO airspace. This has resulted in a greater number of NATO exercises and training drills by Romania's Headquarters Multinational Division Southeast.

40. The eFP established a permanently rotating multinational force presence in Poland and the Baltic states. The eFP is comprised of four multinational battalions led by the United States, the United Kingdom, Germany, and Canada respectively. These multinational battalions liaise with and support their host nations and in turn learn the local terrain as they work in coordination with their host forces. While the eFP will not significantly alter the military balance in the region, it does serve as an effective tripwire deterrent.

41. The battalions comprising NATO's Enhanced Forward Presence initiative have been incorporated into NATO's expanded exercise programme. In each host country, the eFP Battlegroup underwent several internal training cycles. For example, in Poland, the eFP multinational battalion participated in the annual *Anakonda 2018* exercise with Polish battalions which simulated an attack on Poland's eastern border by a near-peer adversary. The fictional threats included hybrid warfare tactics, such as adversarial forces sending advanced scouts disguised as civilians, and conventional armoured and infantry units (Egnash, 2018).

42. *Beowulf 2018* prepared the Lithuanian eFP Battlegroup for offensive and defensive combat within Lithuania using river-crossing operations and live-fire exercises (NATO SHAPE, 2018). One month later, exercise *Iron Wolf 2018* evaluated the readiness of military operations planned and conducted by the Lithuanian eFP multinational battalion in coordination with Lithuanian forces. With a focus on readiness and rapid deployment, *Iron Wolf 2018* deployed ten convoys with 350 vehicles and 1,400 troops from their base to the exercise in the span of 24 hours (Ghasem, 2018).

43. In Latvia, the *Namejs 2018* exercises brought the Latvia-based eFP multinational battalion and the eFP Lithuanian multinational battalion together to participate in two weeks of training in mobility, readiness, and interoperability with Latvian national forces. The largest exercise in Latvia since its independence, *Namejs 2018* focused on national defence and countering hybrid warfare tactics. For instance, one of the scenarios of the exercise was the suppression of riots fomented by armed adversaries disguised as civilians in the cities of Jekabpils and Valmiera (Latvian Public Broadcasting, 2018).

44. For many of these host countries, the deployment of eFP troops created a steep learning curve. For example, following the initial deployment the eFP multinational battalion in Estonia, it was reported the host country lacked sufficient barracks, training space, and modern command and control structures to host the multinational forces properly (Mure, 2018). Unlike Poland, Latvia, and Lithuania, Estonia relies heavily on a reserve military system; it has approximately 7,000 active forces but can field as many as 85,000 via the Estonian Defence League and reserve forces. While it was initially unprepared to integrate the multinational battalion, internal restructuring soon solved the problem.

B. TRIDENT JUNCTURE 2018

45. *Trident Juncture 2018 (TJ-18)* was the largest NATO exercise in decades. From 25 October to 7 November 2018, all 29 members states, as well as NATO partner countries Sweden and Finland, took part in the exercise in and around Norway, the North Atlantic, and the Baltic Sea. With around

50,000 troops, 150 aircraft, and 65 ships taking part, the exercise was a key demonstration of both the shift in NATO capability development since 2014 as well as the renewed focus on defence and deterrence at home (Starling, 2018).

46. The exercise scenario centred on a hypothetical invasion of Norway by an adversarial alliance. In response to the invasion, Norway invoked Article 5 of the Washington Treaty. The exercise focused on NATO's ability to reinforce Norway, principally via land and air, in order to restore its full, pre-invasion sovereignty.

47. *TJ-18* highlighted the integration of Allied command and control structures in operations within NATO territory, providing a key test to certify the land, air, and maritime components of the 2019 NRF – therefore testing the reinforcement of an ongoing defensive effort. Further, given the scale of the exercise and the inclusion of large numbers of North American forces, Allies' transatlantic reinforcement abilities were exercised as well in a demonstration of the new "30-30-30-30" Readiness Initiative, which seeks to have 30 combat battalions, 30 naval ships, and 30 air squadrons mobilised in 30 days (Starling, 2018). This was an important test for NATO's new desire to transition significant numbers of personnel and equipment into and across Europe by air and sea. As such, *TJ-18* was the largest test yet for the revamped NRF and its VJTF.

48. Preparations for the exercise began in August 2018, making the exercise highly scripted and not very indicative of the true amount of time needed to mobilise in a true escalation scenario (Watling, 2018). While criticism could be made of such a long preparation time when compared, for example, with Russia's snap exercises, which can take place on a large scale with 'no notice', the longer timeframe for exercise planning and preparation makes it possible for NATO to look at a greater range of scenarios and conduct better training and lessons-learned efforts (Foggo et al., 2018).

1. *TJ-18* Innovations

49. NATO's Allied Command Transformation (ACT) conducted over 20 experiments during *TJ-18*. Working with industry partners, these tests included experiments with 3D printing (also known as in-field additive manufacturing) as commanders had noticed vehicles and equipment breaking down more often under the cold climate stresses. In-field additive manufacturing allows for the real-time production of plastic replacement parts, while the transportation of metal replacements can sometimes take weeks (Baraniuk, 2018).

50. In *Trident Juncture 2018* Allies also conducted experiments with autonomous weapons systems. Increasingly capable autonomous weapons systems operating in all domains will be a critical element in any future potential conflict. Autonomous systems are critical force multipliers for land, air, and sea forces. The increased use of autonomous systems has the added dual benefit of reducing the amount of manpower directly involved, which is not only safer but also more cost-effective. Personnel costs are now the most expensive continually running costs of modern militaries (Baraniuk, 2018).

51. Autonomous system tests in *TJ-18* included a minesweeper boat, *Odin*, which detonated mines via underwater acoustic and magnetic signals. As *Odin* is able to deploy smaller vessels to inspect potential mines, it removes the human element of mine clearing. There were also experiments with autonomous, self-driving land vehicles employing remote-controlled guns.

52. The experiments in *Trident Juncture 2018* also included cooperation with civilian personnel and medics, testing responses to mass-casualty events and a civilian-military medical interface for information sharing (Paxton, 2018). NATO forces also experimented with potential responses to biological warfare.

2. Information Environment And Signalling

53. *TJ-18* also contained an information environment assessment. Allied Joint Force Command Naples (JFC Naples) established an information-fusion cell in Oslo, Norway, for the exercise which tested and validated the methodology, roles, responsibilities, and data analytics of NATO's Information Environment Assessment Concept. This cell provided real-time information analysis from different information channels on how NATO communications were being received internally and externally. The analysts also monitored adversaries' communications for military commanders and senior political leaders (Paxton, 2018).

54. In addition to testing new Allied capabilities and interoperability, *Trident Juncture 2018* was also an important geopolitical signal: Alliance unity remains strong, and NATO's current defence and deterrence posture is credible in the face of new potential Article 5 scenarios. The exercise also worked to reassure NATO member states exposed to Russian aggression along the Alliance's eastern flank. It is no coincidence the exercise was held just weeks after *Vostok 2019*, Russia's largest military exercise since 1981 (Starling, 2018).

55. An additional critical message of *Trident Juncture 2018* was the participation of Sweden and Finland. Neither country contributed a large number of forces to the exercise, however, their participation sent a clear message that neither nation would be considered neutral in the event of a major conventional conflict in the region. It was a strong message to Russia that continuing to escalate hostilities would drive the two countries West rather than deter them from NATO membership.

C. INTERNAL EXERCISES

56. To deal with the increasingly complex and multifaceted security challenges of today's security environment, the Alliance decided to adapt its command structure over the last several years. Command structure changes are supposed to ensure the Alliance's ability to handle simultaneous challenges across the spectrum of potential military missions; from terrorism to an aggressive Russia to complex hybrid and cyber challenges. Internal adaptation measures taken to date include: updating the NATO command structure to streamline decision making and enhance rapid troop movement across the Alliance; the strengthening of cyber defences; and the establishment of mechanisms for closer cooperation with international organisations, particularly the EU in areas of shared interest. NATO's expanded exercise programme is testing and supporting these initiatives.

1. NATO Command Structure

57. At the end of the Cold War, NATO had an extensive 33-command structure. Restructuring and streamlining pared down NATO command and control in the years since. As recently as the 2010 Lisbon Summit, NATO saw fit to streamline and simplify its command structure to just seven NATO commands. In a reversal of the trend in command structure reduction, an additional two new commands were confirmed at the July 2018 summit.

58. There are two international Strategic Commands: Allied Command Operations (ACO) in Mons, Belgium, is responsible for the planning and execution of all military operations, while Allied Command Transformation (ACT) in Norfolk, Virginia, is focused on the Alliance's forward-looking military adaptation, and includes tasks as training, education, and exercises. To assist ACT in its training, education, and exercise tasks are the Joint Analysis and Lessons Learnt Centre (JALLC) in Portugal, the Joint Force Training Centre (JFTC) in Poland, and the Joint Warfare Centre (JWC) in Norway (NATO, February 2018). The Joint Warfare Centre is responsible for the training and exercising of the NATO headquarters and commands (Kucukaksoy, 2016).

59. Brunssum, the Netherlands and Naples, Italy, host two Joint Force Commands in Europe, while the newly created Joint Force Command is based in Norfolk. There are three commands for air, land, and maritime missions: Allied Air Command (AIRCOM), Allied Land Command (LANDCOM), and

Allied Maritime Command (MARCOM) (Atlantic Treaty Association, 2018). The creation of Joint Force Command Norfolk is to further guarantee the ability to transfer Allied forces across the Atlantic, coordinating with Allied forces to secure vital transatlantic Sea Lanes of Communication (SLOCs). The other new structure will be a Joint Support and Enabling Command in Ulm, Germany. The new German command will focus on logistics, reinforcement, and the mobility of troops and equipment across Europe.

60. Command post exercises test, train, and validate the adaptation of NATO's Command Structure. These exercises prepare NATO personnel and test strategic objectives, such as streamlined decision making. The JWC develops complex scenarios and exercises to maintain the quality and readiness of the NATO HQs and Command and Force Structures. Since 2010, the JWC has significantly increased in the number and complexity of its exercises. The new schedule produces four operational level exercises annually. Exercise planning typically takes 15 to 18 months; between October 2014 and May 2016, JWC conducted eight major operational exercises while preparing for the next four.

61. The JWC is responsible for the *Trident* series of exercises. A critical component to *Trident Juncture 2018* was the Computer-Assisted/Command Post Exercise (CAX/CPX). While a command post exercise normally takes 18 months to plan, the planning for the CAX/CPX component of *Trident Juncture 18* took three years as it was combined with the largest live NATO exercise since the Cold War. CAX/CPX spanned 10 days and involved 3,500 military and civilian personnel. *Trident Juncture 2018*'s CAX/CPX component also trained and certified the Joint Force Command Naples to assume operational command of the NATO Response Force in 2019.

2. Cyber Defence

62. Russia's tactical deployments of modern disinformation and influence operations continue to challenge Alliance members' internal security and stability. More broadly, a growing number of sophisticated state-led or sponsored cyber attacks have increasingly focused Allied governments' attention in recent years. It has become clear that critical Alliance functionality in all sectors is dependent upon capable cyber defences and network resiliency. As modern societies, from their economies to militaries, increasingly depend on cyber-enabled communication systems, it stands to reason that any future crisis or conflict will have a cyber dimension. To counter the use of offensive cyber and electronic warfare capabilities, NATO Allies have established several initiatives to support internal defences and strengthen resilience.

63. Recognising the growing vulnerability of vital Allied communication systems to increasingly sophisticated cyber attacks, cyber space was named the fifth official operating domain of the Alliance in 2016². The 2016 Warsaw Summit even witnessed Allies make the Cyber Defence Pledge in order to focus their individual and collective resources on cyber defences and communication-systems resilience. Exercises have been a critical means of testing and honing Allied cyber capabilities.

64. *Locked Shields* is the largest, most sophisticated, international, live-fire cyber defence exercise in the world (Lété, 2017). Stimulating real-time cyber attacks, *Locked Shields* allows cybersecurity experts from Allies, partner countries, and the private sector, to practice defending communication and information networks and infrastructure. The exercise is held annually in Tallinn at the NATO Cooperative Cyber Defence Centre of Excellence (CCDCOE). *Locked Shields 2018* involved approximately 4,000 virtual systems which came under more than 2,500 cyber attacks (Tunnicliffe, 2018). With more than 1,000 cybersecurity experts from 30 countries, *Locked Shields 2018* and other exercises, such as the yearly *Cyber Coalition* Exercise, give cyber experts critical experience in making decisions under pressure and with incomplete information while detecting and mitigating cyber attacks in large, complex, and unfamiliar environments (Lété, 2017).

² Air, land, sea, and space are the other official NATO operational domains.

65. Cyber attacks along with hybrid warfare simulations are now part of NATO's annual Crisis Management Exercise (CMX). Crisis Management Exercises are internal command post exercises operating a level up from CAX/CPX exercises (Ferrier, n.d.). CMX runs political/military exercises on the 'grand strategic' level, focusing on decision making and procedures in potential Article 4 and Article 5 scenarios. By incorporating cyber defence into these exercises, NATO ensures Allies are internally prepared tactically, but also politically and strategically, for cyber attacks.

3. NATO-EU Cooperation

66. As part of an effort to strengthen the Alliance internally, NATO began working more closely with the European Union on mutual interest areas after 2016. To date, seven key areas for shared interest and cooperation have been agreed upon by the two organisations: countering hybrid threats; operational cooperation (especially maritime and migration); cyber security and defence; defence capabilities; defence industry and research; exercises; and support of eastern and southern partners' capacity-building efforts. A particular area of focus has been NATO-EU joint efforts to counter hybrid threats and improve European military mobility via the elimination of both bureaucratic and structural hurdles to force deployment.

67. In March 2018 the European Commission announced an action plan to upgrade the physical, legal, and regulatory barriers that slow military mobility inside Europe (European Commission, 2018). The Action Plan includes streamlining customs procedures for military operations, establishing military requirements tailored to the needs of the EU member states, including the necessary infrastructure for military mobility, and identifying of the areas of the European transport system capable of supporting military transport and the areas where upgrades are needed (European Commission, 2018). These initiatives were developed in cooperation and consultation with NATO. The Alliance's increased exercise programme within Europe will be a necessary test for these initiatives, as troop movement in real time is a clear barometer of changes in mobility and infrastructure. Recent large-scale exercises such as *Saber Strike* are key to identifying critical areas of structural deficiency or bureaucratic impediments.

68. NATO and the EU signed the Technical Arrangement on cyber defence in February 2016 to provide an agreed-upon cooperative framework (NATO, Jul. 2018). As a result, both organisations are strengthening joint efforts in intelligence sharing, technical research and best practices sharing, and exercising. European Union representatives actively contribute to NATO's CMX exercise and attend *Cyber Coalition* exercises (EEAS, 2018). In 2017 the NATO Secretary General was invited to *Cybrid*, an EU strategic table-top cyber defence exercise in Estonia. *Cybrid 2017* focused on the decision-making process at the EU ministerial level during a simulated hybrid attack on EU military structures (EDA, 2017).

69. The NATO EU Parallel and Coordinated Exercise (PACE) programme focuses on improving the coordination of crisis-response activities in a hybrid attack scenario. PACE began in 2017 and is on track to occur annually. This exercise programme sees NATO and the EU conducting independent but coordinated exercises via staff to staff communication to increase synchronisation of hybrid attack responses between NATO and the EU (EEAS, 2017).

D. SOUTHERN EXERCISES

70. NATO employs a broad, cooperative security approach towards challenges on its southern periphery. NATO initiatives include counterterrorism, training and exercises, military interoperability, disaster preparedness, and border security cooperation. This strategy, based on joint partnerships

and capacity building, has grown out of the Mediterranean Dialogue (MD) and the Istanbul Cooperation Initiative (ICI)³.

71. All MD and ICI countries have Individual Partnership and Cooperation Programmes with NATO to enhance cooperation in local and regional security efforts, particularly with regards to counterterrorism. At the 2016 Warsaw Summit, NATO members agreed to expand NATO's already substantial counter-terrorism efforts via the provision of airborne warning and control system (AWACS) to assist with direct aerial reconnaissance in the Global Coalition Against Daesh and the Alliance officially joined the Global Coalition Against Daesh the following year.

72. NATO launched *Operation Sea Guardian* in 2016 to replace *Operation Active Endeavor* in an effort to increase situational awareness in the Mediterranean. The operation has increased authorities for effective counterterrorism measures in the Mediterranean and Aegean Seas. Designed to counter threats from non-state actors and protect sea lines of communication in the Mediterranean, *Operation Sea Guardian* also supports EU efforts to address the southern migration challenges and counterterrorism-related activities, to include the implementation of United Nations Security Council Resolution 2357 (the arms embargo against Libya). As such, the coordination between the NATO and EU operations permits continuous information sharing of daily situation reports, air and sea schedules and journeys, as well as surface and submarine operations (NATO Allied Maritime Command, 2018).

73. In addition to *Sea Guardian*, NATO's Standing Maritime Group 2 (SNMG2) is deployed in the Aegean Sea to counter human trafficking and illegal migration in the region. SNMG2 cooperates at the tactical and operational levels with the EU Border Management Agency, Frontex (NATO, Oct. 2016).

74. Additional efforts to make NATO's counterterrorism efforts more robust led to the establishment of NATO Strategic Direction South Hub (NSD-S Hub) in Naples, Italy. Operational as of September 2017, NSD-S Hub is an information-sharing forum, which connects Allies, Partners, experts, and non-military entities (NATO Strategic Direction South, 2018).

75. As NATO's southern strategy is predicated on cooperation and coordination with partner countries; joint exercises are essential for developing and maintaining interoperability between forces as well as ensuring capable local forces can act as the first responders to local security challenges. In December 2018, the NATO *Operation Sea Guardian* Focused Security Patrol conducted a medical response exercise with Israel's Navy corvette INS Eilat in the Mediterranean Sea. This was the first exercise *Operation Sea Guardian* undertook with a NATO Partner country (NATO Allied Maritime Command, 2018). NATO conducts passing and boarding exercises (*Passex*) with its southern partner countries to ensure that their navies can cooperate during times of crisis. Recently *Passex* has been held with Egypt and Algeria in 2018, Morocco conducted the exercise in 2016.

76. Exercises are also integral to NATO's training missions with its southern partners. For example, in 2015, the Allied Joint Force Command Naples led an exercise-planning process mobile training event with Tunisian Naval Officers, which was followed in 2018 by an exercise-planning course for the African Union Peace and Security Division at the North African Regional Capacity African Standby Force Headquarters in Tunis, Tunisia.

77. Mediterranean Dialogue members also take part in the JFC Naples broader programme known as Regional Exercises (REGEX). REGEX includes a wide swathe of partner countries to practice

³ The Mediterranean Dialogue, first launched in 1994, is a NATO forum for cooperation with seven nations of the Mediterranean: Algeria, Egypt, Israel, Jordan, Mauritania, Morocco, and Tunisia (NATO, 2011). The Istanbul Cooperation Initiative elevated the MD and established a framework for practical security cooperation with states in the Greater Middle East: Bahrain, Qatar, Kuwait, and the United Arab Emirates (NATO, 2015).

the planning and execution of a command and staff exercise (Allied Joint Force Command, 2014). For REGEX 2018, 45 participants from 16 partner countries took part in a five-day computer-simulated command and staff exercise in Belgrade. *Regex 2017* was hosted by Jordan and included the establishment and validation of a Jordanian Armed Forces Core Planning Team by the JFC Naples.

78. Jordan has Enhanced Opportunities Partner Status within the Alliance's partnership network and takes active part in the Operational Capability Concept Evaluation and Feedback programme. With assistance from the United States, Jordan hosts the annual *Eagle Lion* exercise, which is designed to enhance interoperability, crisis management and readiness. Jordan participated in the multilateral exercise *Eagle Resolve 2015* held in Kuwait, the JFC Naples regional exercises REGEX, the *Naples Journey* battle staff training, and the *2015 Trident Joust* command and live exercise (US Mission to NATO, 2016). Jordan also participated in Trident Juncture 16 and hosted the JFC Naples REGEX in 2017. In March 2019 NATO and the UN signed an agreement for the joint Project on "Enhancing Capabilities to prepare for and respond to a terrorist attack in Jordan featuring the use of Chemical, Biological, Radiological, and Nuclear (CBRN) weapons" (NATO, 2019). This UN-NATO effort builds on the existing NATO project with Jordan and will include a field and virtual reality exercise programme regarding chemical, biological, radiological and nuclear threats.

79. Israel was the only southern partner to participate in *Saber Strike 2018*, the largest NATO exercise Israeli troops have joined. The Israeli Defence Force paratroopers also participated in the airborne *Swift Response 2018* exercise, which included equipment drops, forcible entry, air assault operation, and civilian evacuation operations. Israel and NATO carry out joint naval drills and in June 2018, NATO conducted a joint training exercise with the Israeli navy using the Rafael Advanced Defence Systems on unmanned surface vehicles (USV) (Stocker, 2018). The exercise, held off Israel's coast, simulated a swarm attack by hostile sea vessels against a NATO ship. In the exercise, the ship reported back to headquarters and Rafael's Protector USV identified targets and simulated firing Spike missiles to neutralise the attack.

80. It has been suggested national, large-scale, multilateral exercises conducted in NATO's southern periphery be "re-branded" as NATO exercises (Lesser et al., 2018). For example, the annual *Phoenix Express* exercise led by the US Africa Command (Africom) regularly includes European and North American Alliance members, and *Phoenix Express 18* saw Algeria, Canada, Denmark, Greece, Italy, Libya, Malta, Mauritania, Morocco, the Netherlands, Spain, Tunisia, and Turkey taking part in the US-led maritime exercise regarding illicit human and goods trafficking as well as search and rescue operations (US Navy, 2018). Past participants in the annual US Africom SOF and anti-terror exercise, *Flintlock*, include Algeria, Burkina Faso, Canada, Chad, France, Germany, Italy, Mali, Mauritania, Morocco, the Netherlands, Niger, Nigeria, Senegal, South Africa, Spain, Tunisia, and the United Kingdom (US Africom, 2012). Continuing these exercises as part of a NATO programme would fit within the Alliance's expanded strategy for the south and would be both practical as well as symbolic. At a time when the United States is seeking to trim down its commitments in Africa, this could prove especially timely. Another option would be for NATO to hold similarly sized and targeted joint multilateral exercises in the south. However, some argue that "rebranding" would detract from other partnership initiatives within the Alliance that are tailored to the specific objectives of NATO (Lesser et al., 2018).

V. INTERIM CONCLUSIONS AND RECOMMENDATIONS FOR NATO PARLIAMENTARIANS

81. Increasing the quality and quantity of NATO exercising is a win-win goal all Allies should be focused on achieving. Alliance exercising - at small and large scales and across the full spectrum of tasks NATO forces need in order to provide an effective defence and deterrence posture - will go a long way to improve defence capabilities. Increased exercises are more cost-effective than independent national exercises and, as this draft report notes as well, they help foster necessary interoperability skills and are important building blocks of transatlantic solidarity. As noted above, NATO exercises serve as an excellent cross-cultural exchange programme that shapes relationships across all NATO member state sectors over most participants lifetimes.

82. Exercises are also important signalling devices to a range of important audiences: to potential and future enemies, they signal Allied capabilities and unified resolve; among Allies, they foster political goodwill via reassurance; and, to domestic audiences providing the forces and resources funding Alliance militaries, they not only demonstrate investments in armed forces, but also show how this worthwhile investment will keep them safe.

83. As the principal funders of Alliance armed forces and the representatives of their citizens serving in their national forces, NATO parliamentarians can do a lot to support a robust Allied exercise schedule. Parliamentarians can engage with their respective defence committees overseeing the funding, structure, and training of their national armed forces to see how they can find even more avenues for inter-Allied cooperation.

84. NATO parliamentarians can also support new finding initiatives to provide for large-scale, necessary training exercises. Such exercises demonstrate the complexity of manoeuvring modern forces and highlight areas for improvement, such as logistical flow and command and control. While resource-intensive, effective large-scale exercises on such things as transatlantic and trans-European equipment and personnel transfers will likely reduce the need to ever have to put such skills into real practice, as they will demonstrate NATO's resolve and commitment.

85. Finally, NATO parliamentarians can look into the areas in their own territories being used for exercising and identify areas for investment and improvement. Paying attention to military mobility initiatives, for example, may reveal a need to invest in new roads or bridges in critical areas.

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