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**Strengthening the Deterrence and Defense Posture of the Baltic States:  
The Value of Allied Airpower in Supporting NATO's Reinforcement  
in a Contested Environment**

Master's Thesis

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Tartu 2018

I have written this Master's thesis independently. All viewpoints of other authors, literary sources and data from elsewhere used for writing this paper have been referenced.

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## **Abstract**

NATO's decision to set up the eFP battlegroups in 2016 was a major achievement, however, it is only a tripwire force, and the Alliance relies heavily on rapid reinforcement in times of crisis. Airpower is a potent tool to support rapid reinforcement, but the geography of the Baltic Sea region severely limits NATO's operational depth which is necessary for air operations. NATO's ability for (rapid) reinforcement of its Eastern flank by air, sea, and land, is further challenged by Russia's anti-access and area denial (A2/AD) capability. By implementing its A2/AD capability, Russia actively challenges and mitigates NATO's deterrence posture.

Currently, the Baltic States possess short-range missile air defense capability with a very limited range. While a very important part of NATO's peacetime activities, the Baltic Air Policing Mission has limited rules of engagement (RoE) and does not prepare NATO for providing air defense for some of its most vulnerable Allies on the Eastern flank of the Alliance.

This thesis relies on existing literature and twenty expert interviews to provide a comprehensive and up-to-date account of the complex issue of using airpower to strengthen the deterrence and defense posture of NATO in the Baltic States. The main findings of the research are that (1) the concept of A2/AD and its impact for deterrence is not well understood and this makes it difficult to address it; (2) There is no common understanding among the experts what a transition from Baltic Air Policing to air defense would mean; and (3) the importance of the Baltic States collectively taking the initiative in the air defense realm is currently understated.

Gaining a better understanding of the contested environment presented by Russia, forging a common perception of the range of (airpower) measures that NATO has available, and exercising rapid reinforcement exercises in a joint environment could help the Alliance strengthen its deterrence and defense posture in the Baltic States. It is important that this would be done while preserving NATO's most valuable asset – the unity of the Alliance.

**Keywords:** airpower, deterrence, the Baltic States, the Baltic Sea region, air defense

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## List of Abbreviations

A2/AD	Anti-Access Area-Denial
AD	Air Defense
AWACS	Airborne Early Warning and Control System
BAP	Baltic Air Policing Mission
BMD	Ballistic Missile Defense
C2	Command and Control
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance
CRC	Control and Reporting Center
EW	Electronic Warfare
GBAD	Ground-Based Air Defense
HNS	Host nation support
IADS	Integrated Air Defense System
ISR	Intelligence, Surveillance and Reconnaissance
JAPCC	Joint Air Power Competence Center
MoU	Memorandum of Understanding
NAC	North Atlantic Council
NATINAMDS	NATO Integrated Air and Missile Defense System
NRF	NATO Response Force
RAF	Royal Air Force, United Kingdom
RAP	Recognized Air Picture
RoE	Rules of Engagement
SACEUR	Supreme Allied Commander Europe
SAM	Surface-to-Air Missile
SEAD	Suppression of Enemy Air Defense
SHORAD	Short-Range Air Defenses
UAV	Unmanned Aerial Vehicle
USAF	U.S. Air Force
VJTF	Very High Readiness Joint Task Force
VSHORAD	Very Short-Range Air Defenses
WMD	Western Military District (Russia)

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I was supposed to write my thesis on the EU's public diplomacy. That never happened because I came across the Estonian Ministry of Defense Scholarship Competition for graduate students, and I thought I should give it a try, even though I did not know much about any of the topics I had to choose from.

Nonetheless, I wrote a proposal on the interesting theme of strategic aspects of Allied air/maritime power in the Baltic Sea region, and I was lucky enough to be trusted by the Estonian MoD to take on this project and develop it in the way I saw fit.

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## **Introduction**

The decisions taken at the NATO Warsaw Summit in 2016, particularly the one of establishing Enhanced Forward Presence (eFP), are a significant contribution to the ground forces of the Baltic States, and send an important message about the commitment of the Allies to Article 5 of the North Atlantic Treaty. However, there are several questions to be asked about the strength of NATO's deterrent on the Eastern flank of the Alliance.

Multinational battalion-size battlegroups in each of the Baltic States considerably strengthen the deterrence posture and the first line of defense, but NATO's deterrent in the Baltic States is heavily reliant on rapid reinforcement in the event of a military crisis. This is highly problematic as there are logistical, bureaucratic, and political factors that make transporting heavy military equipment and troops difficult and time-consuming.

In addition to that, reinforcing troops, and the land, air and sea routes, as well as ports through which they arrive, are valuable targets from the air, and it is therefore a major problem that there is limited air defense to protect these critical assets. Currently, the Baltic States possess only short-range ground-based air defense systems, though procurement of a medium-range system is currently ongoing in Lithuania, and Latvia have announced plans to do the same. The Baltic Air Policing Mission is strictly a peacetime mission, and there is no clear plan as to whether or how its resources could be used in the event of a military crisis.

Russia's has set up anti-access, area-denial (A2/AD) zones and the objective of this is to prevent the attacker from bringing its forces into the contested region (A2). If the forces of the opponent do get to the region, to prevent them from freely operating within the area (AD). Russia's A2/AD capabilities present a multi-dimensional challenge, and NATO airpower is the key to addressing this.

The purpose of this research is to examine possibilities for and challenges to the application of NATO airpower in the Baltic Sea region. More specifically, the research seeks to find out how can NATO use its airpower to strengthen its deterrence and defense posture on its Eastern flank and support NATO's reinforcement efforts.

Tackling this issue presupposes a broader discussion on airpower attributes, considerations regarding air superiority and the theory of deterrence theory, as well as an



overview of the security environment of the Baltic Sea region. The core of this thesis is the data collected through twenty expert interviews with respondents from the Baltic States, the U.S, the U.K., Sweden and Finland. Their perspectives are analyzed and compared with the existing literature on the topic which comes mostly in the form of think tank reports and journal and newspaper articles. A synthesis of major works on airpower and deterrence, as well as relevant airpower doctrines provides the theoretical framework for this study.

The added value of this research lies in its original approach in tackling this timely issue and providing a comprehensive and up-to-date account on the topic. This thesis does so by analyzing data that was gathered through personal interviews in order to better engage with various gray areas that appear in the literature on this under-researched topic.

Despite the unavoidable use of specialized vocabulary and terminology, this thesis explores and explains the topic in a way that is understandable not only for airman and airpower experts, but to everyone interested in defense issues. This helps alleviate the problem where it is mostly airman writing about the topic in a way that might not be accessible for defense planners, politicians, and the general public who have limited knowledge of airpower attributes and its importance in the deterrence posture of NATO.

The thesis starts with a synthesis of theoretical literature on the issues of airpower and deterrence (Chapter 1), and goes on to Chapter 2 to explain the context in which airpower will be used, describing the security situation in the Baltic Sea region. Chapter 3 describes the methodological approach chosen for this thesis, and explains the sampling for and structure of the semi-structured expert interviews. As the groundwork is laid in the first three chapters, Chapter 4 draws mostly on the original data to contrast and compare the viewpoints of the interviewees regarding deterrence and application of Allied airpower in the Baltic Sea region.

## **1. Theoretical Framework: Understanding Airpower, Deterrence, and A2/AD**

This chapter explains the theoretical underpinnings of the issue of strengthening the deterrence and defense posture in the Baltic States through Allied airpower. Given the complexity of the topic, there is no single theoretical framework that could be readily used. Instead, this chapter provides a synthesis of issues, starting with airpower in theory and doctrines, continuing on to the deterrence theory, and finally, considering deterrence in a modern context, with particular attention to A2/AD capabilities.

Despite the relatively short time period that aviation has been around, there is a wealth of material on airpower theory, dating all the way back to the first decades of the twentieth century. Airpower advocates and theorists such as Giulio Douhet, William Mitchell, Hugh Trenchard, and Arthur ‘Bomber’ Harris worked with the subject in its formative years, often describing capabilities that did not exist at the time, but that they argued were going to be revolutionary in warfighting (Mueller 2010, 1). As Gray argues, “Airpower arrived on a strategic scene that was already fully occupied institutionally by armies and navies,” thus a lot of effort was put into thinking about capabilities and attributes that distinguished the air domain from that of the land and maritime domains (Gray 2012, 59).

Coercion and targeting were a central part of the debate, and the question arose of how to best utilize airpower to gain the strongest possible influence over the enemy and make them reconsider their goals and actions. Echoing the ideas of Douhet, Mitchell wrote in 1925: “The missions of armies and navies are very greatly changed from what they were. No longer will the tedious and expensive processes of wearing down the enemy's land forces by continuous attacks be resorted to. The air forces will strike immediately at the enemy's manufacturing and food centers, railways, bridges, canals and harbors,” arguing that this would bring a relatively quick end to warfighting (quoted in Fehrmann 1997, 3). Douhet and Harris, for example, argued that the heart of an enemy's resistance was its population, and claimed that airpower the best tool to destroy the psychological will of enemy’s society and hereby achieve victory (Faber 1996).

A contemporary airpower theorist, John Warden III, uses a model of five concentric rings to explain his idea of the coercive might of airpower that can be achieved through targeting. According to Warden, the leadership is in the middle as the most important

target, followed by system essentials/key production, infrastructure, population, and finally, fielded military forces (Olsen 2007, 109). Presenting a very different perspective, another contemporary thinker, Robert Pape argued in his 1996 book *Bombing to Win: Air Power and Coercion in War* that airpower, in fact, is best used exactly against fielded forces through missions such as interdiction and close air support.

While useful in understanding the theoretical debate regarding airpower, the strategies of targeting and strategic bombing are not of the most relevance for this study. Instead, the focus will be on airpower attributes and tasks, discussions on control of the air, integration of airpower with other domains, and the theory of deterrence in a contested environment. Airpower is an extensive subject and it is clear that no one theory can adequately explain the issue. This chapter will provide a synthesis of relevant ideas, many of which originate from airpower theorists and have found their place in modern-day doctrines., The final part of this chapter explores the concept of deterrence and its relation to airpower and thereby concludes the theoretical discussion.

### **1.1 Airpower in Theory and Doctrines: Understanding Airpower's Might**

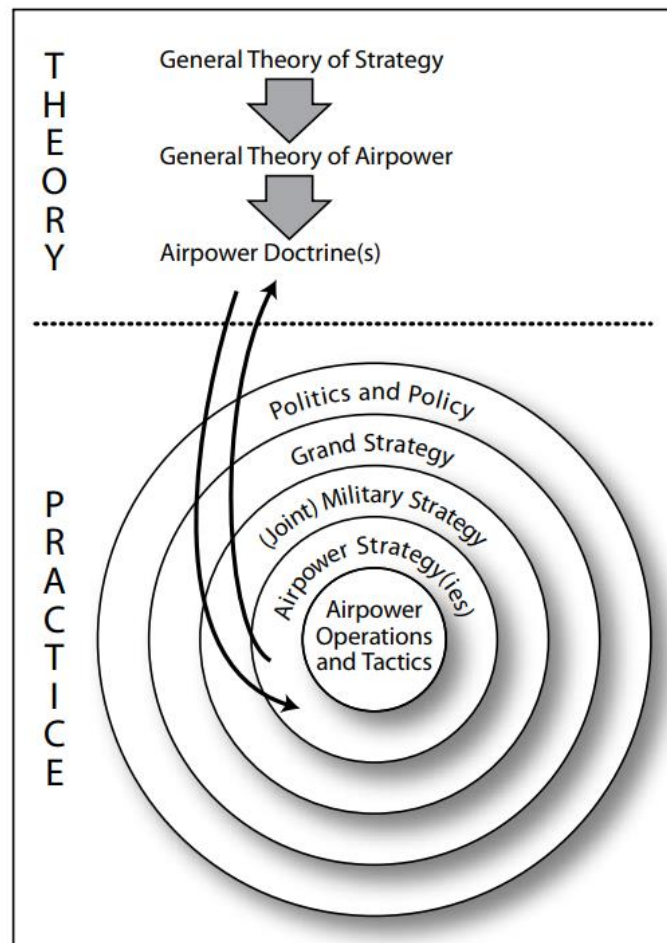
*Official Air Force doctrinal publications often itemize the fundamental "core characteristics" of airpower. This is of little value to air professionals who know it intuitively by education, by osmosis, and by experience, but it is vitally important that the non-air professionals, who constitute a substantial majority in the defense community as well as in society at large, be educated as to the nature of airpower.*

--Colin Gray in *Air Power for Strategic Effect* (2012, 162).

Based on an official NATO definition, doctrine is understood as "Fundamental principles by which the military forces guide their actions in support of objectives. It is authoritative but requires judgement in application" (NATO 2016, LEX-6). Long before having doctrines, armed forces had theories and regulations that outlined fundamental principles relevant to the issue. The problem with this was that they did not take into account the specific conditions for any countries, and they also "did not prescribe anything, and were

not binding on anyone” (van Creveld 2011, 237). As Figure 1 demonstrates, the link between theory of strategy, theory of airpower, and airpower doctrines remains strong.

**Figure 1:** Airpower from theory to practice as outlined by Colin Gray



**Source:** Colin Gray (2012, 32)

A confirmation of the strong link of between airpower theory and doctrines is the fact that many ideas that appear in the writings of early airpower theorists have found their rightful place in the modern-day airpower doctrines of NATO and its allies, particularly those of the Royal Air Force of the United Kingdom (RAF), and the United States Air Force (USAF).

## **1.2 The Air Environment and Airpower Tasks**

The air environment is unique: already the early theorists argued that the true nature of airpower lies in its ability to operate in its own domain. As air fully surrounds the Earth, operating in this environment is a very important geophysical characteristic that gives airpower significant flexibility (Gray 2012, 24). NATO doctrine acknowledges that air capabilities are just one of the many military and non-military tools that the Alliance possesses, but airpower is exceptional for its “flexible and responsive ways to create and exert influence; ranging from direct physical attacks to more nuanced, psychological effects” (NATO 2016, 1-2).

The doctrine further reads, “Airpower is pervasive, as aircraft are rarely physically constrained by national boundaries or terrain, so can potentially obtain access to any point on Earth. The distinctiveness of the environment means that airpower has very different attributes to maritime power and land power” (NATO 2016, 1-2). This gives airpower a unique ability to take actions throughout a very wide area, which might sometimes be deep in hostile territory. Besides being “truly global in nature,” airpower can undertake missions that are fast-paced and continually evolving (United Kingdom Ministry of Defense 2017, 21; Berkland 2011, 393). For these very reasons, it is difficult to pinpoint airpower on a map: a unit that is based somewhere is able to exert influence far beyond the boundaries of the air base (Mueller 2010, 7). As Olsen argues, it is crucial to make a distinction between the enduring aspects of airpower on the one side, and the “ever-shifting technical and tactical elements that express the application of airpower in various contexts of time and place” on the other (2015, 9). The three core airpower attributes that are universal and do not depend on a certain platform or technological solution, are speed, reach and height (NATO 2016, 1-3).

However, airpower also has some limitations, despite airpower theorists as well as airmen sometimes having a tendency to “overstate the extent of freedom of action” that aircraft enjoy (Moeller 2010, 5). For instance, aircraft are vulnerable as operating them successfully depends on weather and basing (unless there is an opportunity for air-to-air refueling). Air assets are also fragile, with limited persistence and payload, and rely on heavy infrastructure requirements (NATO 2016). In addition to that, there are legal factors that restrain the effects of airpower, as the airspace above the territory of any

country is sovereign, and aircraft need to follow certain rules and procedures in order to be able to use it (United Kingdom Ministry of Defense 2017, 12). In the NATO Alliance, the use of airpower is further regulated by the Rules of Engagement (RoE), created by the North Atlantic Council (NAC). In some instances, this can mean serious restrictions to actions that pilots in certain areas or while conducting certain missions are allowed to undertake (NATO 2016, 1-16).

Airpower contributes to a wide variety of tasks, ranging from high-end war fighting, to providing situational awareness in peacetime, engaging in counter-terrorism operations and providing humanitarian assistance (United Kingdom Ministry of Defense 2017, 6). Airpower is often falsely associated only with combat roles. As Turrisi put it, “Airpower does not solely mean dropping bombs and engaging hostile fighter aircraft. It is universally, ubiquitously and strategically useful. There is an air narrative integral to every conflict,” (2013). A common criticism to early airpower theorists is that they devoted disproportionate amount of attention to strategic bombardment, which is actually only one of many different tasks that airpower can undertake (Faber 1996).

NATO Air and Space Doctrine (2016) distinguishes between five airpower roles:

- Counter-air
- Attack
- Air mobility
- Contribution to Joint Intelligence, Surveillance and Reconnaissance (ISR)
- Support to joint personnel recovery

*Counter-air* operations are undertaken to gain and maintain control of the air – a precondition for fulfilling various other airpower tasks. Counter-air operations can be both offensive and defensive, and take into account the fact that the fight for the control of the air is continuous (NATO 2016, 1-8). *Attack* is offensive in nature and can be used to coerce adversaries to change their behavior. *Air mobility* can be understood as “the ability to deploy, sustain and recover personnel and equipment, often over significant distance” (United Kingdom Ministry of Defense 2017, 37). The three main missions of air mobility are airlift, air-to-air refueling, and personnel recovery.

*Intelligence, Surveillance and Reconnaissance* (ISR) is a crucial task both in peacetime and in the event of a crisis, as it provides information and develops situational awareness, therefore contributing heavily to planning different operations and missions. Through its ability to provide information about the vulnerabilities, strengths, and patterns of the adversary, it is an integral part of decision-making (United Kingdom Ministry of Defense 2017, 29).

Based on the attributes of airpower, Colin Gray has made the following observations regarding the tasks that airpower can undertake:

**Figure 2:** Characteristic strengths and weaknesses of airpower by Colin Gray

<b>Characteristic strengths and weaknesses of airpower</b>	
<p><b>What uniquely can airpower do?</b></p> <ul style="list-style-type: none"> <li>• Directly assault physical centers of gravity regardless of their location, attack the enemy inside to outside from his center to his periphery</li> <li>• Project force rapidly and globally</li> <li>• Observe “over the hill” from altitude (admittedly, this is not unique; it is a capability shared with space power)</li> <li>• Transport people, modest levels of equipment, and supplies rapidly and globally</li> <li>• Insert and sustain small isolated expeditions, raids, and even garrisons</li> </ul>	<p><b>What can airpower do well?</b></p> <ul style="list-style-type: none"> <li>• Protect friendly land and sea forces and other assets from enemy airpower</li> <li>• Deter and be the decisive strategic agent for high-level and mid-level regular and conventional conflicts</li> <li>• Compensate effectively for (some) deficiencies in friendly land and sea forces</li> <li>• Deny or seriously impede enemy access to particular land and sea areas</li> <li>• Deny enemy ability to seize, hold, and exploit objectives</li> </ul>
<p><b>What does airpower tend to do poorly?</b></p> <ul style="list-style-type: none"> <li>• “Occupy” to control territory from the air alone</li> <li>• Send clear diplomatic messages</li> <li>• Close with and grip the enemy continuously</li> <li>• Apply heavy and potentially decisive pressure for conclusive strategic effect in (largely) irregular conflicts</li> <li>• Discriminate with thorough reliability between friend and foe, guilty and innocent</li> </ul>	<p><b>What is airpower unable to do?</b></p> <ul style="list-style-type: none"> <li>• Cost-effectively transport very heavy or bulky cargo</li> <li>• Seize and hold contested territorial objectives</li> <li>• Accept, process, and police an enemy’s surrender</li> </ul>

**Source:** Colin Gray (2012, 281).

## Control of the Air

*“He who controls the air controls everything”*

-- Giulio Douhet in *Command of the Air*, 1921

In order to be able to use the useful attributes of airpower and deny the enemy to do the same, there is a broad consensus that an air force needs to achieve control of the air. Control of the air is the fundamental enabler for all of airpower’s contributions to strategic effect (Gray 2015, 164). Douhet in his classic 1921 *Command of the Air* considered this topic in depth. He argued: “A nation which has command of the air is in a position to protect its own territory from enemy aerial attack and even to put a halt to the enemy’s auxiliary actions in support of his land and sea operations, leaving him powerless to do much of anything” (Douhet 2003 (1921), 26).

Though the terms used had changed, later, John Warden argued:

“Air superiority is a necessity. Since the German attack on Poland in 1939, no country has won a war in the face of enemy air superiority, no major offensive has succeeded against an opponent who controlled the air, and no defense has sustained itself against an enemy who had air superiority. Conversely, no state has lost a war while it maintained air superiority, and attainment of air superiority consistently has been a prelude to military victory. It is vital that commanders, air, and surface be aware of these historical facts, and plan accordingly” (1988).

NATO dictionaries distinguish between two degrees of control of the air: air superiority and air supremacy. Air superiority is defined as: “That degree of dominance in the air battle of one force over another which permits the conduct of operations by the former and its related land, sea and air forces at a given time and place without prohibitive interference by the opposing force”. Air supremacy is “That degree of air superiority wherein the opposing air force is incapable of effective interference” (NATO 2016, LEX-5). British (United Kingdom Ministry of Defense) Air and Space Power Doctrine defines control of the air in terms of freedom and denial as, “The freedom, bound by time, to use a volume of airspace for one’s own purposes while, if necessary, denying its use to an opponent” (United Kingdom Ministry of Defense 2017, 28). A related term is Favorable



Air Situation (FAS), sometimes referred to as local air superiority. The premise of FAS is that in some cases, it is not needed or practical to pursue theater-wide air superiority as establishing local air superiority – that might also be limited in time – is sufficient for certain operations and tasks.

For the airpower theorists, “Aviation could perform many functions within this [the air] domain, but the domain itself had to be secured with air superiority” (Berkland 2011, 391). This is true in the modern environment as well, as it is extremely difficult to operate with airborne early warning and control (AWACS) aircraft and undertake airpower operations such as air mobility and combat search and rescue without a certain level of protection against threats from the enemy aircraft. Air superiority, has proved as a potent assurance against losing a war.

Douhet went further in claiming what air superiority could accomplish. In 1921, he wrote: “To achieve command of the air means victory; to be beaten in the air means defeat and acceptance of whatever terms the enemy may be please to impose,” (Douhet 2003, 29). While it is true that the historic evidence supports the idea that succeeding in land operations while being beaten in the air is very difficult, Douhet’s view that “to achieve command of the air means victory” is no longer widely accepted. In fact, there are several examples that prove otherwise. Air superiority by no means assures success in a military operation, rather, it provides considerable protection from failure. An example of this is Operation Allied Force in 1999 that attempted to press Slobodan Milosevic to stop the atrocities against ethnic Albanians in the Serbian province of Kosovo. While the international coalition succeeded in achieving air superiority in the whole region, for some time, this did nothing to stop the massacre and violence on the ground (Lambeth 2001).

#### Airpower and its integration with other domains

Airpower theorists have considered the idea of integration of domains. As Gray argues, “Airpower both supports and is supported by land power and sea power (and space power and cyber power), saying that there can be a “cycle of mutually reinforcing success between land and air” (2015, 169). NATO’s comprehensive approach presupposes “the early integration of the military instrument into a collective strategy encompassing all of the instruments of power” (NATO 2016, 1-1). This idea is also reflected in NATO Air

and Space Doctrine which reads, “However, the synergy of Alliance air forces’ capabilities and surface forces, operating as an integrated joint force, can often be overwhelming in cases where a single component cannot be decisive by itself” (NATO 2016, 1-3).

In the modern context for military operations, it is increasingly unlikely that the mission will be built on the capabilities of a single component. Moreover, the idea of joint action and using complementary capabilities between the maritime, land, air, space and cyber domains is further developed. The full spectrum approach means enhanced synchronization between military forces and government institutions, and can involve making use of diplomatic, military and economic instruments of national power, taking into consideration the importance of information and communication regarding all of them (United Kingdom Ministry of Defense 2017, 49).

### **1.3 Theory of Deterrence**

Finally, for the purposes of this thesis, it is crucial to outline the key ideas of (conventional) deterrence and deterrence theory. NATO’s Allied Joint Doctrine states:

“NATO must have the full range of capabilities necessary to deter and defend against any threat to the safety of Alliance members. To that end, NATO will maintain an appropriate mix of forces. NATO’s goal is to enhance deterrence as a core element of its collective defense and contribute to the indivisible security of the Alliance,” (NATO 2017, 2-11).

Deterrence is defined as: “The prevention of action by the existence of a credible threat of unacceptable counteraction and/or belief that the cost of action outweighs the perceived benefits” (United States Department of Defense 2018, 69). Patrick Morgan in his *Deterrence Now* explains the term as follows: “The conception of deterrence concerns an effort to prevent an attack by threatening unacceptable damage so that in the attacker’s cost-benefit calculations the best choice is not to attack” (2003, 44). However, among other things, this presumes that the both sides are rational and survival is important.

John Mearsheimer, one of the main authors on conventional deterrence, has written about the credibility of promised response as a key factor in deterrence, terming this as the credibility-of-commitment issue (1985, 18). Deterrence is a complex equation, as Veebel argues, “The credibility of deterrence is clearly dependent on specific circumstances, yet, because of its controversial nature it is difficult to assess under which circumstances and at which point of time deterrence becomes credible. In principle, we are studying something which is expected to never occur” (2018, 5).

Notably, in 1960, Glenn Snyder made a distinction between deterrence by punishment and deterrence by denial, which is a useful way of distinguishing between different postures. Denial and punishment are different methodologies, but they support one another. As Kainikara explains, “Deterrence by punishment relies on assured reprisal upon an adversary who attempts to damage national interests by any means. The trigger to initiate such punishment need not always be an attack on the nation, but could also be adversary actions that directly or indirectly impinge on the nation’s broader security interests” (2008, 4).

Deterrence by denial is a step forward from this in a sense that its objective is to make it physically difficult for an adversary to achieve his objective and therefore convince the enemy that any attempt to move on with its objectives will fail. Deterrence by denial also depends on fear, but in this case it is fear “of costs that will be inflicted during the act of aggression, in the place that it occur” (Mitchell 2015).

Against an opportunistic and imprudent leader who thinks it is possible to deny or resist any punishment that the opponent might enforce, deterrence by denial would be a more effective posture. Another advantage of deterrence by denial is that should deterrence fail, having established a deterrence by denial posture leaves the forces in a much stronger position to fight – and prevail – in a military conflict (Gerson 2009, 38). At the same time, establishing this posture requires significant resources that need to be in the right place, at the right time to visibly prove that any attack would be immediately neutralized and retaliated. While the explicit demonstration of some capabilities is a part of creating a deterrence posture, not all plans and competences are communicated publicly. This leads to the strategic dilemma of escalation vs. de-escalation (Veebel 2018, 3).

In conventional deterrence, the idea of fear of protracted, and therefore expensive and distressing, conflict holds an important position. According to Mearsheimer, “The threat of a war of attrition is the bedrock of conventional deterrence,” (1985, 64). Given the host of complications that protracted wars bring, it is clear that “most nations desire and develop military strategies designed for rapid, blitzkrieg-style wars,” (Gerson 2009, 37). In the deterrence by punishment posture, hopes may be placed on achieving a quick victory, *a fait accompli*, before the opponent can even mobilize its conventional forces.

Airpower is well equipped to make a significant contribution to deterrence, both by punishment and denial. The roles and tasks that air forces can undertake, rephrased by Kainikara as “detect, decide, deter and defeat” can have potent deterrent effect as they contribute to understanding and monitoring the situation on both sides, planning the course of action based on the collected data, and potentially attack the centers of gravity of the adversary (2008, 8).

#### **1.4 Deterrence in a Modern Context: Understanding A2/AD**

*“[...] beyond the purely military perspective, A2/AD embraces other dimensions that NATO allies need to acknowledge if the strongest military alliance ever is to be serious in undertaking a profound adaptation to the new strategic reality” -- Guillaume Lasconjarias and Tomáš A. Nagy in “NATO Adaptation and A2/AD: Beyond the Military Implications” 2017.*

While the term anti-access area-denial (A2/AD) has not (yet) found its way into NATO doctrines, the concept, and its underlying consequences, have been regularly mentioned by top NATO officials. Sam Tangredi, a prominent scholar on A2/AD, argues that from a military perspective, the term can be understood as “strategies intended to prevent an attacker from being able to bring forces to bear in a strike at a defender’s center of gravity,” (2013, 2). A2/AD can also be defined by separating the two functions: ‘The objective of an anti-access or area-denial strategy is to prevent the attacker from bringing its forces into the contested region (A2) or to prevent the attacker from freely operating within the region and maximizing its combat power,’ (Lasconjarias and Marrone 2016, 3).

While A2/AD has a very strong connection with the air domain, there is an overwhelming consensus that these threats are far from concerning merely the air component. It is a multi-domain concept (Yalinalp 2016; Grynkewich 2017a; Schmidt 2016). A2/AD is often ensured by an advanced integrated air defense system (IADS) that includes radars, aircraft, and surface-to-air missile (SAM) systems. In addition to that, counter-maritime forces, short- or medium-range ballistic missiles, cruise missiles, electronic jammers, and other precision guided munitions may be used (Schmidt 2016, 71; Williams 2017; Grynkewich 2017a).

The term A2/AD has come under criticism that goes beyond its apparent shortcoming of being very technical. In 2016, U.S. Navy Chief of Naval Operations Admiral John Richardson announced that U.S. Navy was going to avoid using the term. He argued it: “[...] can mean many things to different people or almost anything to anyone,” suggesting some people referred to it as a strategy, a family of technologies, or “an impenetrable ‘keep-out zone’ that forces can enter only at extreme peril to themselves,” (2016).

There is a consensus among experts that there is nothing entirely new about the strategy to keep adversaries away from the contested theaters and limit their ability to maneuver inside of them, while, as Richardson put it, “identifying their foes at longer ranges and attacking them with ever more destructive weapons” (2016). However, what makes A2/AD an increasingly important concept to reckon with, is that “technology has, over the years, developed in such a way, that even states with modest defense budgets can obtain weapons that are precise enough to be used from large distances, deterring the access of any enemy and making A2/AD strategies a real challenge” (Martinez Ordóñez 2017, 39).

This has set new parameters for military competition in regional theaters as well as globally. As Simon put it, “[...] as a general concept, A2/AD can help to both capture and convey the idea that we are entering a new military-technological paradigm — one that will affect the nature of the military-strategic competition in virtually every theater, although admittedly in different ways,” (2017). In terms of deterrence theory, an integral part of this thesis, A2/AD represents deterrence by denial posture, rather than that of punishment (Schmidt 2016, 73).

The overall impact of A2/AD systems in influencing the strength of deterrence posture and deciding the course of conflicts is what makes it a concept to be reckoned with at the theoretical and strategic level. Binnendijk has argued that “the increasingly difficult task of rapidly gaining air superiority in an A2/AD environment” is the second most important task that the forthcoming NATO’s Joint Air Power Strategy should focus on (2016, 36). The only task that Binnendijk considered more important is significantly improving “the readiness, deployability and sustainability of existing air forces,” (2016, 36).

In his recent article, U.S. Navy Captain William Perkins used the term Advanced Layered Defense Systems instead of A2/AD, arguing that it helps “further articulate the joint nature of the problem facing the Nations,” (Perkins 2018, 54). While similar clarifications and efforts to make the term more user-friendly are praiseworthy, for the purposes of comprehensibility, this thesis will use the more widely known term A2/AD.

### Conclusion

There are several ideas developed by early airpower theorists that are included in modern day airpower doctrines – serving as a proof that there are some fundamental characteristics of airpower that remain the same despite substantial changes in technology. However, airpower theory also involves assumptions that are known not to hold true. For instance, strategic bombing campaigns were not able to deliver on the promises of bringing rapid and decisive victories, and air campaigns did not make populations overthrow their governments as Douhet and other theorists had expected (Mueller 2010, 3).

This is a good indication of the progression of the theory and basic understandings, and points to the need of taking into account contemporary strategic developments and updating airpower doctrines accordingly. A2/AD capabilities provide the means to actively challenge and mitigate the strength of the deterrence posture of an enemy, and this makes it a crucial part of explaining the complex interconnection between the airpower and deterrence.

While airpower is an extremely capable tool that can provide often vitally important control of the air and undertake a wide range of other important tasks, it is important to keep in mind that real value of airpower – in fact, any military power – highly depends

on the context and way in which it is applied. Different theaters present very distinctive challenges, and airpower will be able to deliver on the strategic goals it was employed to achieve only when plans of action are crafted with the specific circumstances in mind.

## **2. Airpower in Context: Security Situation in the Baltic Sea Region**

The application of airpower in the Baltic Sea region needs to take into consideration both the doctrines of airpower described in the previous chapter, as well as the broader security context in the region. This chapter starts with a general overview of the security situation, and moves on to consider the military and airpower capabilities of Russia and the Baltic States and NATO. The latter part of the chapter explains Russia's A2/AD capabilities and its role in country's strategy.

In 2016, the Joint Air Power Competence Center (JAPCC), one of the NATO Centers of Excellence, characterized the security situation by the following trends:

- Allied relations with Russia are in a downward spiral.
- Challenges from the South are becoming more dangerous and are difficult to deter.
- NATO deterrence will further erode without strong US support and increased Allied defense spending.
- Europe appears ever more divided and incapable of deterring Russia in the East without strong US Support.
- Potential adversaries will pursue asymmetric means to negate the strength of NATO.
- Expanding Anti-Access/Area Denial (A2/AD) environments in and around Europe can be expected (2017, 237).

The relationship between Russia and NATO is at a low point not seen in decades. While there are no reasons to expect that any kind of military conflict between Russia and NATO is imminent, the security situation remains precarious. Russia's invasion of Georgia in 2008 did not provoke a strong reaction from NATO, and stimulated Russia to improve on its military capabilities, which had proved faulty and substandard in the conflict. In 2014, Russia invaded Ukraine by using hybrid tactics embedded in the doctrine of low-intensity conflict that, among other things, involves manipulating the enemy's society.

Despite the use of covert Special Operation Forces, and conducting large-scale information campaigns to spread deceitful information, Russia's intentions were clear to the West. While some saw this as a completely unexpected event that shattered the notions



of the relatively peaceful post-Cold War era, Russia's invasion, in fact, was another piece of evidence that the country had a very different understanding about the indivisibility of security (Monaghan 2014). Russia's actions in Ukraine did not speak of an intention to use similar strategies against any NATO allies, but it did make it clear that Russia was attempting to restore its great power posture and had the political willingness to use military force to defend its interests that it claimed NATO was encroaching on (Van Bruusgaard 2016, 7-8).

In 2015, Russia entered the conflict in Syria, demonstrating its conventional capabilities by bringing to bear a range of offensive and defensive air capabilities, as well as air- and sea-based precision strike weapons (Van Bruusgaard 2016, 19). In 2009, 2013, and 2017, Russia conducted the Zapad large-scale military exercises, in which, among other things, Russia's armed forces have simulated invasions of the Baltic States.

Russia's invasion of Ukraine in particular made it apparent that Russia under the leadership of Vladimir Putin was a threat to the whole Alliance. However, the potential threat to NATO Allies on the Eastern flank was bigger than to any other countries. The Baltic States are vulnerable to Russian aggression due to their geography, small sizes, Russia's snap exercises, as well as the Russian doctrine that considers the "NATO infrastructure" bordering Russia a threat, and sees the Baltic States as an area that belongs to what Russia conceives as its 'sphere of influence' (Bonds et al. 2017, 92; Chivvis et al. 2017). As Veebel put it, "The Baltic countries clearly constitute Russia's point of contact with NATO and are, therefore, also subject to the interests of Russia to test mutual capabilities and to send strategic messages to the Alliance" (2018, 2).

In 2016, the RAND Corporation published a much-cited report in which the authors David Shlapak and Michael Johnson illuminate the disparity of conventional forces in the Baltic Sea region. The report compared ground forces and air combat forces of NATO in the Baltic States with those of Russia in its Western Military District (WMD), and concluded that with its existing posture, it is not clear that NATO could successfully defend the Baltic States.

The report argued that while NATO should be able to deploy several brigades of light infantry to the Baltics relatively quickly (for instance, airlifting the 82nd Airborne Division in North Carolina to the Baltics would take up to 72 hours), transporting armored

forces to the theater would take several weeks, as they would have to be conveyed from the U.S. (Shlapak and Johnson 2016, 8; Howard 2016). This means that NATO would be in a very difficult position to engage with Russia's force units which are motorized or mechanized, and include tank units, meaning Russia could hope to achieve a swift victory in merely three days (Shlapak and Johnson 2016, 5,7).

As Shlapak and Johnson argue, a *fait accompli* situation in the Baltic States would leave NATO with very difficult choices. Their estimation for a military force to deny Russia's swift victory and therefore deter it from aggression to the Baltic States is "having a force of about seven brigades, including three heavy armored brigades – adequately supported by airpower, land-based fires, and other enablers on the ground and ready to fight at the onset of hostilities," (2016, 1-2). While assessments about the proper size of such force differ, this RAND study played an important role in igniting an active (public) debate on conventional force misbalance in the Baltic Sea region.

## **2.1 Capabilities of Russia, the Baltic States and NATO**

### Russia's Armed Forces and Security Strategy

The strength of Russia's Armed Forces is considerable: according to some estimates, in 2018, Russia's military strength ranked second in the world, boasting more than 1 million active personnel, a total of more than 3.5 million military personnel, supported by 3,914 aircraft, 20,300 combat tanks, 27,400 armored fighting vehicles and much else (Global Firepower 2018). While Russia's capabilities are significant, the Stockholm International Peace Research Institute estimates that in 2017, Russia's military expenditure was \$66 billion, while that of the United States was \$609 billion (SIPRI 2018), indicating a difference of magnitude.

Keir Giles argues that while making solid assessments about Russia's military power is difficult, and it might be the case that Western experts tend to overestimate Russia's military power, it is clear that, "in terms of equipment, experience, attitude, confidence, and more, the Russian military is a radically different force from the one that began the process of transformation in 2008," (2017, 1). Particularly in Ukraine and Syria, Russia has made it clear that it does not hesitate to use military force, and sees these operations

as an opportunity to acquire “priceless combat experience” (Valeriy Gerasimov quoted in Sokolsky 2017, 3).

These developments are in line with Russia’s National Security Strategy, presented by President Vladimir Putin on December 31, 2015. As Olikier put it, the Strategy “presents a Russia focused on increasing its influence and prestige and cementing its national unity; a Russia that believes that it is accomplishing its aims, but which simultaneously feels threatened by the United States and its allies” (2016). International prestige of Russia took a hit when Russia’s unimpressive and defective military capabilities were revealed during the war in Georgia, and this has largely inspired the subsequent military build-up, including several large-scale regular and snap exercises such as Zapad 2009, 2013 and 2017, that often involve all components and services of Russia’s armed forces.

Over the past decade, Russia has considerably improved its command structures, personnel, and hardware, the forces are in a higher readiness and “more effectively organized, better trained and equipped,” (Sokolsky 2017, 7). Nonetheless, considering the significant disparity of the overall capabilities of Russia and NATO, it is clear that Russia is unable to engage with such adversaries in all domains. Russia’s strategic-deterrence concept is designed around this deficiency, and by adopting it, “Russia may be seeking to reduce the likelihood of a war by trying to actively influence the adversary in a number of domains at once,” (Van Bruusgaard 2016, 20). Another facet of Russia’s response to the reality of “overall technological lag” is Russia’s increasing focus on various niche capabilities, particularly ones that have not received much attention by the U.S. and its allies (Sokolsky 2017, 5).

#### Armed Forces of the Baltic States

While it is likely to be an overstatement that the Baltic States “have historically operated on the assumption that they are simply too small to deter aggression on their own—or even collectively,” (Chevvis et al. 2016, 116), it is clear that the armed forces of the three countries are marginal compared to those of Russia. The Baltic States rely on NATO Allies for their defense, but the role of indigenous forces is crucial particularly in the early phases of a conflict, as well as in providing situational awareness and local expertise for any element of Allied forces. As an important symbolic milestone, in 2018, all three

countries are expected to spend more than two percent of GDP on defense. For Estonia and Latvia, this means an annual expenditure of €524 and €576 million, respectively, for Lithuania the number is €873 million (Harper, Lawrence and Sakkov 2018, 4).

As can be judged from the budget sizes, the military capabilities of the Baltic States, both in terms of equipment and personnel, are relatively modest. Figure 3 demonstrates the sizes of the armed forces of the three Baltic States and Poland. The latter is added to provide a comparative perspective and describe the size of the armed forces of one of the biggest country in the region.

**Figure 3:** Comparative Sizes of the Armed Forces of the Baltic States and Poland (2014)

Country	Total Active	Army	Air Force	Navy	Reserve Component
Estonia	5,750	5,300	250	200	30,000
Latvia	5,310	1,250	310	550	7,850
Lithuania	11,800	8,150	950	500	6,700
Poland	99,300	48,200	16,600	7,700	n/a

**Source:** International Institute for Strategic Studies (IISS), quoted in Chivvis et al./RAND Corporation 2017, 1.

The comparative data from Figure 3 shows that the indigenous forces of the Baltic States are small, and for the purposes of this thesis, it is also important to consider the proportion of air force in the overall force structure. As the data suggests, the defense structures of the three Baltic States are heavily focused on the land component, leaving navies and air forces far behind in terms of personnel (and relevant equipment).

#### NATO's response to Russia's invasion of Ukraine in 2014

The security of the Baltic States relies heavily on security guarantees given by NATO. In the aftermath of Russia's invasion of Ukraine, just as important as closely tracking and analyzing the events that followed, was unifying NATO to properly respond to the challenges it faced – particularly on its Eastern flank.

NATO was not well-placed for a fight against a near-peer enemy, and some argue that declining defense budgets of many European countries and the decision of the U.S. to

turn more of its attention to Asia and elsewhere made it possible for Russia to be proactively engage in areas in which NATO had been dominant (Lasconjarias and Nagy 2017). Considering that the Alliance had long been focused mostly on conflicts outside of Europe and seen as a crisis manager, the range of initiatives that NATO took on since 2014 amounted to “re-discovering the lost art of conventional and nuclear deterrence, territorial defense and conventional warfare,” (Osinga 2017).

In April 2014, among NATO’s first reactions to the Ukraine crisis were suspending all practical cooperation with Russia and offering more fighters to take part of the Baltic Air Policing Mission (Euractiv). At the Wales Summit in September 2014, the Readiness Action Plan (RAP) was approved, and this meant the creation of the Very High Readiness Joint Task Force (VJTF) to augment the NATO Response Force (NRF) Concept and to reassure NATO members (Schmidt 2016, 76). The VJTF consisted of 5,000 troops, and provided the initial capability to better prepare NATO to deal with a potential Russia’s invasion of NATO’s Eastern flank.

However, as Lasconjarias and Nagy argue, in addition to amassing capabilities to address Russia’s A2/AD challenge, “producing sufficient political will among NATO members to uphold and, if strategically needed, escalate the mission,” was one of NATO’s tasks (2017; Howard 2016). The small size of the force, and the complicated decision-making to deploy it were also pointed out as limitations to the deterrent effect of VJTF (Allers 2017, 25).

In many ways, the Wales Summit was a landmark for Allies. For one, investing in defense and burden sharing was taken more seriously. In February 2016, NATO Secretary General Jens Stoltenberg said to a reporter “Our deterrence is based on this combination of forward presence combined with a strong ability to reinforce if needed,” indicating that NATO was adopting a new model that was an upgrade from the Cold War era thinking (NATO 2016b; Allers 2017, 23).

However, by July 2016 the condition of NATO-Russia relations had not improved significantly, and at the Warsaw Summit, NATO heads of state and government took the decision to “establish an enhanced forward presence (eFP) in Estonia, Latvia, Lithuania and Poland to unambiguously demonstrate, as part of our overall posture, Allies’

solidarity, determination, and ability to act by triggering an immediate Allied response to any aggression” (NATO 2016a).

The four battalion-sized battlegroups were to become operational in the in early 2017. Led by the framework nations and operated on a “voluntary, sustainable, and rotational basis,” the battlegroups were designed to operate together with national forces of the Baltic States and Poland, and being “underpinned by a viable reinforcement strategy” (NATO 2016a). Figure 4 shows the composition of the eFP Multinational Battlegroups as of February 2018.

**Figure 4:** NATO Enhanced Forward Presence as of February 2018



*Source:* NATO “Boosting NATO’s presence in the east and southeast” 2 March 2018   
[https://www.nato.int/cps/en/natohq/topics\\_136388.htm](https://www.nato.int/cps/en/natohq/topics_136388.htm)

The Warsaw Summit was a success mostly because it showed the ability of the Alliance to come together and reach unity. However, the discussions over the proper deterrence posture of NATO on the Eastern flank of the Alliance continue. Considering Russia’s capabilities in the region, it is clear that the eFP battlegroups will not have much impact on the conventional balance that is still heavily skewed in favor of Russia.

Several experts have expressed hope that the U.S. could take further steps in strengthening the deterrence posture of NATO in the Baltic Sea region. The U.S. played an important role in making possible the creation of the eFP battlegroups, and despite the (initial)

concern of the Baltic States over the rhetoric of Donald Trump on the value of NATO, the country has taken positive steps from the perspective of NATO's European Allies.

Washington's decision to increase its military presence in Europe signifies a major change of policy, especially as the European Reassurance Initiative (ERI) included "the rotational deployment of an armored brigade to Europe and the prepositioning of heavy material for additional forces," (Allers 2017, 23). While an important step forward, Marme and White, among others, argue that the U.S. should consider going beyond that and using the framework of the European Deterrence Initiative (EDI) to pre-position "meaningful military equipment and ammunition in each of the Baltic states," arguing that only then it can be sure that the equipment will be at the right place already in the early phases of conflict (2017, 4).

While the eFP unquestionably strengthens the deterrence and defense posture of the Baltic states (and Poland), there is work to be done to fully integrate battlegroups in NATO's strategy and operational plans in a way that maximizes the strength and the deterrent value of the multinational battalions (Luik and Praks 2017, 11). Former SACEUR Gen. (ret). Philip Breedlove has made a related point, arguing, "While significant, the battlegroups in themselves are insufficient without additional enablers, sufficient forward logistics, robust command and control, reinforcement arrangements, and planning and capabilities for the air and maritime domain," (2018).

The Warsaw Summit Communiqué indicated that the eFP battlegroups are "underpinned by a viable reinforcement strategy," however, there are questions to be asked about the credibility of such (NATO 2016a). Considering the difficulty of rapid reinforcement in a contested environment, it is likely that strategy itself does not suffice – pre-positioned equipment and clear contingency plans that are exercised, are also required.

It is the premise of this thesis is that airpower can help strengthen NATO's deterrence and defense posture in the Baltic States through supporting NATO's reinforcement efforts. The next section of this chapter lays the groundwork for this by comparing and contrasting the airpower capabilities of NATO and the Baltic States, as well as Russia.

## 2.2 The Air Dimension: Capabilities of NATO and Russia

*“Airpower emerged as ‘the Western way of war’ when it became apparent that it was a very potent tool that could be used without entailing massive civilian casualties, and in a way that would allow the Western powers to control the measure of collateral damage to civilian infrastructure.” --- Frans Osinga in “European Security and the Significance of the F-35” (2017)*

### Airpower capabilities of NATO and the Baltic States

NATO has been very successful in conducting different air campaigns during its out-of-area missions during the past several decades. For instance, the Alliance demonstrated its force in the Persian Gulf War, with the precision-guided weapons being featured in televised films, and, as Pape put it, “feeding the perception that a technological revolution has made it possible to win wars with airpower alone,” (1996, 211). For almost forty years, the United States and NATO enjoyed a de facto monopoly on precision-strike weapons, which gave the U.S. and its allies “global freedom of movement and unfettered access to pretty much any theater or region in the world,” in a way making the U.S. and NATO take for granted its dominance in the air domain (Simon 2017).

While the supremacy of NATO in terms of sheer numbers of military aircraft is unquestionable, Europe has disinvested in its air forces and NATO is largely reliant on the capabilities of the United States. For instance, during operation Allied Force in Kosovo in 1999, “US forces catered for 60 percent of all sorties, dropped 80 percent of all expended ordnance, provided 70 percent of all support sorties and 90 percent of all suppression of enemy’s air defense (SEAD) and electronic warfare (EW) missions,” underlining the limitations of European air forces in a broad range of air tasks and capabilities, including the critical control and command capability (Osinga 2017).

These trends have continued into the early 2000s and thereafter. In 2011, NATO’s operation in Libya was a test for European NATO Allies, as the mission was driven by the UK and France, with the U.S. assuming an uncommonly subordinate role. While generally a success, the operation once again revealed the deficiencies in the airpower capabilities of European states. As Erlanger put it, “Only eight of the 28 allies engaged



in combat, and most ran out of ammunition, having to buy, at cost, ammunition stockpiled by the United States. Germany refused to take part, even in setting up a no-fly zone,” (2011).

One of the conclusions of the airpower discussions at the NATO Warsaw Summit in 2016 was that Allies need to “significantly improve the readiness, deployability and sustainability of existing air forces and air bases,” (Binnendijk 2016, 36). Some argue that Europe’s military gap to a large extent is an airpower gap, as “nine out of sixteen NATO capability priority shortfall areas relate to airpower” (Osinga 2017).

The news does not get much better when zooming in and looking at the capabilities of the Baltic States. Considering the small sizes of the countries, the defense budgets of the three Baltic States do not allow for developing almost any air combat capability, and puts limits on various other airpower tasks. All of the three countries possess a very limited number of small transport aircraft and helicopters, Lithuania currently possesses one L-39ZA Albatros, which is used only for training (Chivvis et al. 2017, 176).

#### Air defense of the Baltic States

While precision-strike and air-to-air combat capabilities fulfill a significant function and traditionally receive a lot of attention, airpower roles such as counter air, air mobility, and contribution to ISR – often provided through land-based equipment – are just as important. In September 2017, Estonian Defense Minister Jüri Luik said that air defense, including the development of mid- and long-range capability is “a critical capability gap” in the Baltic Sea region (ERR News 2017).

This point has also been made by the Defense Ministers of Lithuania and Latvia, as well as in various think tank reports and articles (Coffey and Kochis 2017; Conley, Rathke and Melino 2018; Breedlove 2018; Harper, Lawrence and Sakkov 2018). Air defense was among the topics discussed by the Baltic Presidents during their visit to the White House in April 2018. Figure 5 explains the current air defense capabilities of the Baltic States, while distinguishing between different formats in which certain capabilities are provided.

**Figure 5: Current Air Defense Capabilities of the Baltic States**

Format	Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance (C4ISR)	Ground-based air defense (GBAD)	Air
NATO	<ul style="list-style-type: none"> <li>• NATO Integrated Air and Missile Defence System (NATINAMDS)</li> <li>• NATO Air Command and Control System (ACCS)/ ACCS Software Based Element (ASBE)</li> <li>• Airborne Warning and Control System (AWACS)</li> </ul>	<ul style="list-style-type: none"> <li>• Deployments and exercises</li> </ul>	<ul style="list-style-type: none"> <li>• Baltic Air Policing<sup>1</sup></li> <li>• Deployments and exercises</li> </ul>
Baltic tri-national	<ul style="list-style-type: none"> <li>• Baltic Air Surveillance Network (BALTNET)</li> </ul>	---	---
Individual Baltic States	<ul style="list-style-type: none"> <li>• Surveillance radars</li> </ul>	<ul style="list-style-type: none"> <li>• Legacy anti-aircraft guns</li> <li>• Very short-range missile defense systems VSHORAD</li> </ul>	---

Source: Harper, Lawrence and Sakkov 2018, 10.

As Figure 5 suggests, the current air defense capabilities of the Baltic States are rather limited. BALTNET, a co-operation created for the “acquisition, co-ordination, distribution and display of air surveillance data within the three Baltic states,” is currently the only undertaking carried out collectively by the three states (Estonian Defense Forces 2012; MoD of Latvia). An important part of it is the jointly operated Combined Control and Reporting Centre (CRC) which is located in Karmėlava in Lithuania, and “provides a tactical airspace command and control (C2) element,” (Harper, Lawrence and Sakkov 2018, 12; Chivvis et al. 2017, 176-177).

In terms of ground-based assets, at the moment, the Baltic States rely almost entirely on short-range (SHORAD) missile defense systems. The MBDA Mistral and Raytheon Stinger systems in Estonia and Latvia, respectively, provide point defense. Latvia has announced its plan to procure medium-range air defense systems; in Lithuania, the

<sup>1</sup> Baltic Air Policing is strictly a peacetime mission and does not provide air defense

acquisition of Kongsberg Norwegian Advanced Surface-to-Air Missile System (NASAMS) are underway (Harper, Lawrence and Sakkov 2018, 12). Ground-based air defense systems owned by the U.S. have occasionally been deployed to the Baltics, for instance, the Patriot battery was deployed to Lithuania for an exercise, and its launcher brought to Estonia for its centenary celebrations in February 2018 (ERR News 2018a).

Since 2004, NATO has conducted the Baltic Air Policing Mission, a peacetime collective defense mission with the goal to safeguard the integrity of the airspace of the NATO members. The mission is carried out under the NATO Integrated Air and Missile Defense System (NATINAMDS), and there is a system in place that ensures 24/7 air policing, “within SACEUR’s area of responsibility,” for countries that lack the necessary airpower capabilities (NATO Allied Air Command). However, it is important to note that the Baltic Air Policing is strictly a peacetime mission and the tasks that are undertaken in the framework of the mission are limited.

The mission was initially based at Šiauliai Air Base in Lithuania, and considerably upgraded in 2014 and 2015. The number of fighters grew from four to 16, and besides Šiauliai, aircraft were stationed at Ämari air base in Estonia (Chivvis et al. 2017, 132). Since 2015, the mission consists of eight fighters, and is undertaken by Allies on a rotational basis with every detachment being in charge of the mission for three months at a time. The U.S., most notably, has occasionally deployed additional aircraft to the region, including two fifth generation attack aircraft F-35A in April 2017 (US Air Forces in Europe and Air Forces Africa 2017). Latvia renovated its Lielvārde air base in 2014, it does not host the Baltic Air Policing Mission, but is used for trainings on a regular basis (Chivvis et al. 2017, 154).

#### Airpower capabilities of Russia

Russia’s Air Force has recovered from the low-point it hit after the collapse of the Soviet Union in 1990s. Mirroring the transformation of Russia’s armed forces in general, Russia’s air capabilities have undergone significant improvements since 2008. Currently, the country is replacing some of the Soviet-era jets with very capable new aircraft such as the Su-30SMs, Su-35Ss. However, given the sorry state of the Russian economy, the Air Force cannot acquire these capabilities at once, and replacing all of the Soviet-era

planes will take many years. Similarly, while Russia has significantly improved its precision-strike capability, the availability of these weapons is currently quite low (Majumdar 2016).

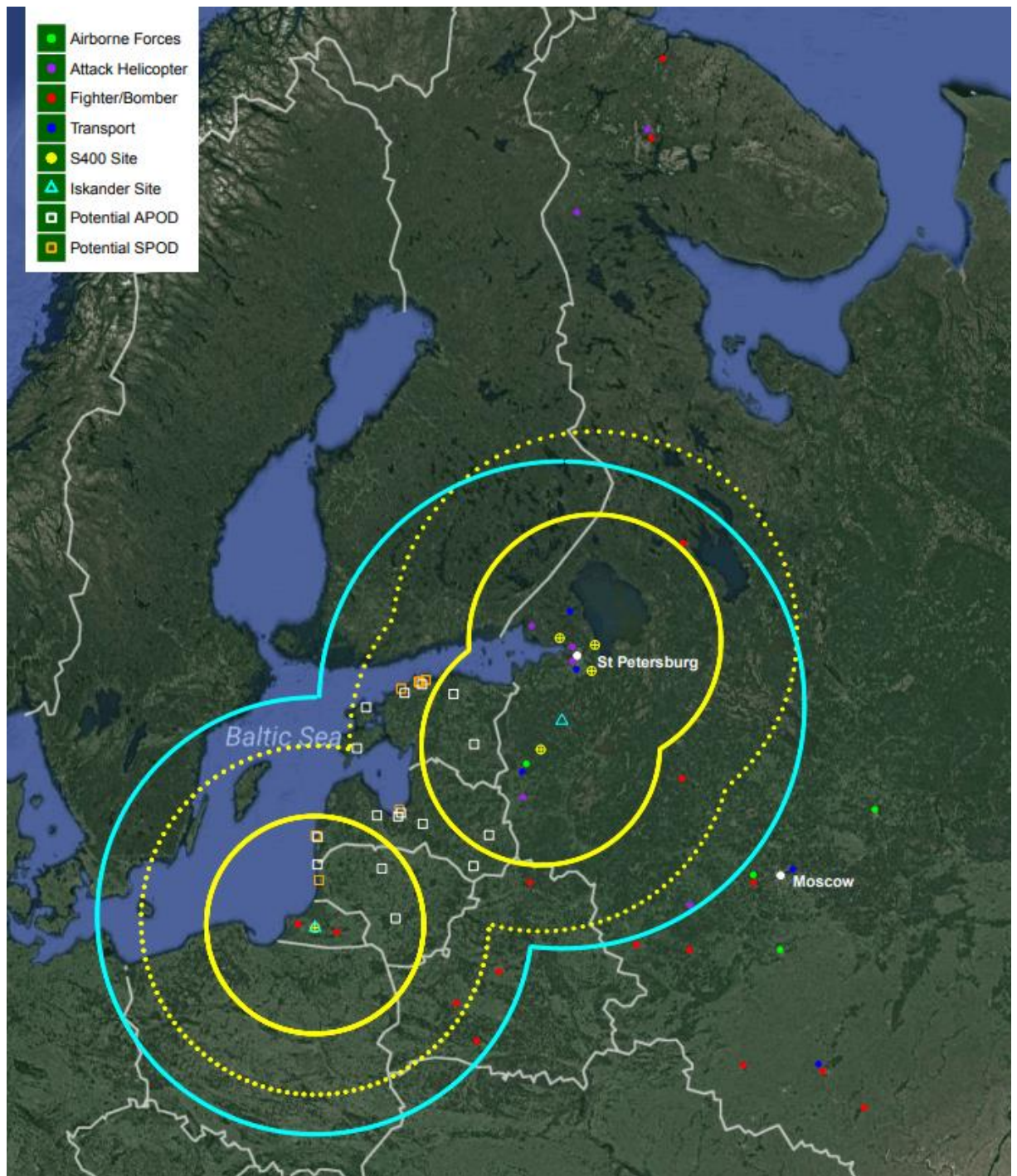
Nonetheless, Russia has used its new aircraft in Syria and elsewhere, and has also learned various lessons in the war in Ukraine. As Giles argues, “analysis of the use and limitations of airpower in Ukraine has led Russia to focus on development of all-weather reconnaissance capabilities with real-time delivery of information, standoff precision weapons systems, and armed heavy UAVs” (2017, 7). Russia is working on its first fifth-generation aircraft Su-57 (previously known as T-50/PAK FA). The lack of an aircraft that could engage with stealth aircraft such as F-35s on an equal footing is currently a capability gap for which Russia is hoping to compensate by a much higher replacement rate (Giles 2017, 8).

The concentration of Russia’s advanced aircraft is particularly high in its Western Military District (WMD) close the Baltic Sea region, which currently boasts 27 combat air squadrons and six battalions of assault helicopters (Sokolsky 2017, 6). In 2016, NATO recorded a total of 780 incidents in which NATO intercepted Russian military aircraft (Dearden 2017). Countries around the Baltic Sea experience Russian aircraft violating their airspace, often flying without transponders or ignoring flight control officials.

#### Russia’s A2/AD capabilities

Following the traditions of the extensive Soviet missile enterprise, Russia continues to invest in and develop a broad range of missiles that can undertake missions ranging from the creating A2/AD in local conflicts to delivering strategic nuclear weapons across the globe (CSIS Missile Defense Project). Russia’s air defense capabilities include long-range Russian anti-air missile systems S-300 and S-400; it deploys short-range offensive ballistic missile systems as the SS-26 or Iskander for a land-based strike; and uses sea-based systems such as SS-N-30A Kalibr-type cruise missiles, and SS-N-27 Sizzler anti-ship missiles (Williams 2017). As Figure 6 demonstrates, the engagement ranges of these capabilities reach far into the territories of the Baltic States.

**Figure 6:** Russia's A2/AD Capabilities in the Baltic Sea Region



Source: Harper, Lawrence, and Sakkov 2018, 3.

Russia's A2/AD capabilities present NATO with a multidimensional challenge that restricts the freedom of movement of air, maritime, and land forces alike. The Iskander ballistic missile system, for example, is capable of carrying both a conventional and

nuclear warhead, and it has an estimated range of 400-500km (Howard 2016). Perhaps even a bigger threat to the states in the countries in the Baltic Sea region is posed by Russia's new and very capable S-400 anti-aircraft systems which comes with associated sensors and command and control (C2), and can target aircraft within a 400km radius. While the systems can reach their full potential in terms of range only in ideal circumstances and therefore the numbers could be much shorter in most situations, a few hundred kilometers is a very long distance considering the small size of the Baltic States. This is true particularly given that Russia has employed several of these systems in Kaliningrad – the Russian territory crammed between Lithuania and the Baltic Sea (Sokolsky 2017, 7; Breedlove 2018, 2).

#### A2/AD in Russia's Military Strategy

*“Non-Western militaries have been continuously observing and adapting to the manner in which Western militaries apply their advantages in technology, weapons, training and doctrine. In time, they have been able to adapt their policies and defences. This adaptation reveals itself in many forms; certainly the most prominent adaptation lies within Anti-Access (A2) and Area Denial (AD) spaces” --- Mehmet Yalinalp in “Air Operations in Contested Environments” (2016).*

Lasconjarias and Nagy explain Russia's aptitude for missiles by arguing “Because ballistic and cruise missiles are relatively easy to acquire and operate, but difficult to defend against, they provide the backbone of any good A2/AD strategy,” (2017). Essentially, Russia is trying to fully exploit the tools it possesses by setting up A2/AD systems aiming at “denying the possibility of an operationally superior adversary maximizing its combat power by keeping him at bay” (Van Bruusgaard 2015, 9; Lasconjarias and Nagy 2017).

Considering the prolonged success of Western force projection enabled by prompt global strike capabilities, high mobility and well-integrated C2 capabilities, it was clear that non-Western powers were finding ways to come up with a worthy response to such domination (Schmidt 2016, 77; Van Bruusgaard 2015, 10; Olikier 2016). Modern ballistic missiles are

GPS guided, very precise, and well-fitted to create highly contested environments, and “rain into forward bases and deny force projection and posturing,” making it much more difficult for NATO to operate in the way it has become accustomed to (Yalinalp 2016; Sokolsky 2016, 6).

This ties into Russia’s national self-confidence, its effort to elevate its standing in the world, be treated as an equal, and demonstrate its capabilities to indicate that the trend of NATO’s Eastward enlargement – which it sometimes blames on its projected weakness and negligence – has been reversed. As a demonstration of this, “Moscow has now developed concentrated zones of defence capabilities that are aligned with the historical vision of Russia – that is the motherland at the core of its buffer zones,” (Lasconjarias and Nagy 2017).

While it is possible that the central idea of Russia’s A2/AD capability is “based predominantly upon authentic defensive philosophical underpinnings,” it is not very likely (Lasconjarias and Nagy 2017). Schmidt argues that due to their nuclear deterrent, countries like Russia and China face quite a low threat of invasion into their territories. In this regard, establishing A2/AD does not make much sense from the standpoint of defense of its own territory. Rather, the rationale behind establishing A2/AD could be related to the idea of securing a ‘fait accompli’ (2016, 73).

For Schmidt, this concept “foresees a military plan executed close to their homeland while timely, third-party intervention is prevented until the mission is complete. Afterwards, when the third party has managed to marshal its conventional intervention force, the nuclear deterrent might serve to discourage further encroachment,” (2016, 73). In this regard, Russia’s A2/AD capabilities have direct implications for security of the Baltic States and Poland, as well as the NATO Alliance as a whole (Lasconjarias and Nagy 2017).

While there is a general consensus among experts and politicians that Russia’s A2/AD capabilities pose a significant challenge for NATO – a point that is increasingly often raised by politicians – there are some who argue that it is wrong to claim that Russia is doing something “strategically brilliant and new” (Raitasalo 2017). The critics make the case that essentially, A2/AD does not mean much more than deploying modern military systems, and that European powers are confusing their inadequacies with Russia’s

capabilities (Raitasalo 2017). While this is likely to be an overstatement, it is clear that if NATO would have focused more on developing capabilities for high-end warfighting and less on expeditionary operations and counterinsurgency, it would be better able to respond to Russia's A2/AD challenge on its own territory (Giles 2017, 5; Lasconjarias and Nagy 2017).

### **2.3 Conclusion: NATO's Current Deterrent Posture in the Baltic States**

*"[T]he 'local' balance of military power—the balance between the conventional forces of the attacker and those of a defender in the area of conflict – often plays a critical role in conventional deterrence, since it is local forces that will impact an aggressor's calculations regarding a quick victory." --- Michael Gerson in "Conventional Deterrence in the Second Nuclear Age" (2009, 38).*

Compared to the Cold War era in which it is generally accepted that NATO possessed qualitative advantages that essentially ensured its dominance over the Warsaw Pact countries even when it was outnumbered, the modern security picture is much more complex (Sokolsky 2017, 6). As Yalinalp put it, "The long-term enjoyed benign environment has swiftly transformed into an unpermissive, contested environment with major challenges and problems, far more problematic than have been seen in recent previous conflicts," (2016). Nonetheless, the overall military capability of NATO continues to be superior compared to any other country or military alliance.

In the air domain, Russia and China are actively challenging the idea that air superiority is a theater-wide condition, as well something that the U.S. and NATO are entitled to (Grynkewich 2017). The modern day presents a complex environment that is much different from the circumstances under which NATO's operations in countries such as Afghanistan and Libya took place. Lasconjarias and Nagy argue that this transition from permissive to contested environments is particularly relevant in terms of airpower, still "the quickest and smartest way to deploy a first response and project [power]," (2017).



The current postures of NATO and Russia in terms of conventional forces in the Baltic Sea region make it clear that the military balance, in the short term, strongly favors Russia. Even after the establishment of NATO eFP multinational battlegroups in the Baltic States and Poland, in an event of a military crisis, NATO is fully reliant on rapid reinforcement. The eFP battlegroups in the Baltic States were never designed to “represent a sufficient military force to oppose Russia’s armed forces in a lasting and escalating conflict,” (Lasconjarias and Nagy 2017). Rather, they constitute a tripwire, a confirmation of the commitment of NATO Allies to Article 5 of the North Atlantic Treaty. NATO’s ability for a rapid reinforcement of its Eastern flank is limited due to geographical realities and Russia’s potent A2/AD capability. These circumstances can potentially severely undermine NATO’s efforts to deliver follow-on forces and equipment either by air, land, or sea. As Gerson put it, “[...] the available evidence suggests that overall superiority may be insufficient to establish deterrence. Despite the apparent advantage of conventional superiority in the macro sense, deterrence may still fail if the opponent believes it has a local advantage,” (2009, 38-39; Veebel 2018, 15).

Through its A2/AD buildup, Russia is challenging the idea that it would be deterred by NATO’s current deterrence by punishment posture – and proactively mitigating its value. From the standpoint of NATO, it is especially concerning “in the absence of prepared and agreed upon contingency plans, backed up by credible and ready forces with sufficient authority already delegated to operational and tactical commanders,” and without considerable efforts by NATO to exercise (rapid) reinforcement in a contested environment (Zapfe 2017; Simon 2017). Russia can use its A2/AD capabilities to try to achieve a quick victory and to avoid a situation in which any “local conflict,” in the Baltic States for instance, would certainly and immediately lead to a “global conflict” between Russia and NATO (Simon 2017).

This signifies a major shortfall of NATO’s current deterrence and defense posture in the Baltic States. A2/AD manifests itself in various ways in different theaters and environments, and in the Baltic States, Russia’s “A2/AD build-up is a decade long and precisely tailored geopolitical endeavor” (Lasconjarias and Nagy 2017). It is a thorny issue, as NATO must take this challenge seriously and respond in an adequate way, while understanding that Russia might use its A2/AD capabilities as “a form of psychological

and political warfare” and share misinformation about its capabilities to try to undermine the confidence of NATO Baltic members in the Alliance (Simon 2017; Schmidt 2016, 71). For this reason, it is crucial that NATO’s actions as well as communication regarding this issue is well thought through and consistent with the strategic aims of the Alliance.

### **3. Methodology**

This thesis employs qualitative content analysis as the research method. Qualitative content analysis is similar to various other qualitative research methods, but it is distinguished by most of them by its “predominant use of newly collected data,” (Drisko and Maschi 2015, 81). Philipp Mayring coined the term in 1983, and defines it as “a set of techniques for the systematic analysis of texts of many kinds addressing not only manifest content but also the themes and core ideas found in texts as primary content,” (quoted in Drisko and Maschi 2015, 86). Importantly, qualitative content analysis considers contextual information and seeks to illuminate latent content that can become an important part of the analysis.

Qualitative analysis, newly collected data, and the importance of contextual information besides the primary content are keywords that accurately describe the research undertaken to better understand the role of airpower in strengthening NATO’s deterrence and defense posture in the Baltic States. This is an under-researched topic, currently, and most of the literature available on the topic comes in the form of think tank reports and issue briefs published by experts. The theoretical framework of this thesis is made up of a synthesis of major works on airpower theory and military and airpower doctrines. In order to lay the groundwork for the analysis regarding the security context of the Baltic Sea region, a variety of secondary sources were studied, mostly books and journal articles. In order to get the most up-to-date data, various newspaper articles and think tanks reports were also used.

In addition to that, twenty expert interviews were conducted. In order to showcase different perspectives, the list of interviewees included active and retired military personnel as well as civilians with various backgrounds. First and foremost, the added value of this thesis lies in its original approach to tackling this timely issue, and providing a comprehensive and up-to-date account of the topic through the analysis of original data. The author’s own contribution is the most evident in Chapter 4 of the thesis as this section draws on the data collected and synthesizes it with existing literature.

Due to the restricted scope of a master’s thesis, this research has several limitations. Firstly, the thesis relies only on unclassified information. Secondly, while airpower is often also associated with the space and cyber dimensions of warfare, this thesis focuses

only on the air dimension, leaving the other two aside. Finally, this thesis does not consider the issue of nuclear power and its role in deterrence, as this is a topic of such complexity and depth that it could make for a master's thesis on its own.

### **3.1 Qualitative Content Analysis and Semi-Structured Interviews**

#### **Research design and sampling in qualitative content analysis**

According to Drisko and Maschi, the model of qualitative content analysis “allows for exploring the complexity of communications in ways that may not be possible through quantitative analyses,” (2015, 87). Sandelowski and Barroso make a similar argument, stating that while qualitative content analysis “clearly describes key meanings within a data set,” this approach is also helpful in exploring and identifying “new ways of looking at events and communications” (quoted in Drisko and Maschi 2015, 94). This is particularly valuable when researching topics that are dynamic and have to do with current events. Such complexity is evidently present in, for example, exploring the different aspects that may influence the credibility of deterrence – a topic that has strong theoretical underpinnings but is also constantly evolving in time.

The most common way of data collection in qualitative content analysis is personal interviews, and this requires decisions about the target group of interviewees. Even though sampling in qualitative content analysis has not been extensively assessed by scholars, it is worth considering, as “the nature of the sample may strongly affect the credibility and applicability of a qualitative content analysis,” (Drisko and Maschi 2015, 97). In this thesis, the guiding principle in terms of sampling was finding interviewees who are knowledgeable about the issue in hand, or as Patton put it, “information rich” (quoted in Drisko and Maschi 2015, 98). Clearly defining the target group of interviewees in terms of their knowledge about security issues in the Baltic Sea region as well airpower was at the basis of the attempt to collect data that would help create new awareness and discuss themes central to this study in detail.

However, considering that defense planning is at the center of this thesis, and this process has various stakeholders and influencers, it was important to involve respondents from various backgrounds. Military and air force personnel, defense planners, researchers, academics and politicians belonged to the target group. It was also important to ensure

geographical dispersion in the Baltic Sea region and beyond, and include interviewees who have been dealing with these issues not only at a national level, but also in influential positions in NATO.

The interviewees selected are from Estonia, Latvia, Lithuania, the United States, the United Kingdom, Sweden and Finland. The two non-NATO members in the list, Finland and Sweden, were included due to the fact that the geography of the Baltic Sea region makes these countries very important from the airpower perspective. While interviewing representatives of the three Baltic States was important to understand the perspective of the locals, it was also crucial to integrate the views of representatives of the U.S. and U.K, as these are among the most influential NATO Allies and both retain strong ties with the Baltic States.

Considering the importance of government politicians and parliamentarians in defining broader security questions and leading the budget process, hearing their perspective was valuable. Due to the quite specific research topic, only politicians who were either members of the defense committees of national parliaments or members of the NATO Parliamentary Assembly were included on the target list. Eventually, interviews were conducted with two out of the five politicians on the target list.

As previously stated, the main criteria for the other interviewees was their expertise on the topic, most often ascertained by their current or previously held positions. The goal was to conduct at least 15 interviews, the target list of interviewees originally consisted of 26 names. It was not possible to schedule an interview with five persons on the list; three persons declined the invitation to be interviewed, but gave suggestions as to people from similar backgrounds with whom the researcher could come into contact with. On all three occasions, the reason for declining the interview was self-identified lack of knowledge on the topic.

### Semi-structured interviews

Drisko and Maschi argue that open-ended questions work best in qualitative content analysis, and remark that semi-structured interviews are often used (2015, 102). A semi-structured interview format was chosen for the research as it is a good way to get readily comparable data, but it also leaves room for unrestricted discussions on the issue. As

Bryman put it, semi-structured interviewing allows the researcher “keep more of an open mind about the contours of what he or she needs to know about, so that concepts and theories can emerge out of the data,” (2012, 12). The interviewees received a list of preliminary interview questions beforehand, but they were informed that the interview was going to be semi-structured, meaning they were welcome to add any additional topics or comments, and that they could be asked follow-up questions during the interview.

The interviewees also received a document with information about the research project and the interview itself. This document explained the purpose of the study, the approximate duration of the interview (30-45 minutes), and the instruction that the interview could be conducted in person, by phone or via Skype. While it was not preferred, an option of submitting the responses in a written form was added. On the topic of confidentiality, this document stated:

“This research relies *only* on unclassified information. All data collected will be secured and kept confidential. No reference will be made that could possibly link any individuals to specific statements made in the study. Upon your approval, your name will appear on the List of Interviewees at the end of the study.”

The twenty interviewees were also asked whether or not the interview could be recorded – only for the use of the researcher. As a result, fifteen of the interviews were recorded. Seventeen interviews were in English, while Estonian was used with three respondents. Twelve interviews took place in-person, six by phone, and two respondents sent their answers in a written form, agreeing to respond to follow-up questions.

In academic social research, face-to-face interviews continue to be more common and preferred over phone interviews; but as phones are a very commonly used tools of communication, and so using them for interviews is widely accepted (Bryman 2012, 213). Conducting the interviews by phone eliminates the possibility of the researcher being able to observe the interviewee. By way of contrast, “in personal interviews, respondents’ replies are sometimes affected by characteristics of the interviewer (for example, class, ethnicity) and indeed by his or her mere presence (implying that the interviewees may reply in ways they feel will be deemed desirable by interviewers).” This potential bias is almost fully removed in phone interviews (Bryman 2012, 214).

In generating the questions, the guiding principle was that they needed to be as clear as possible, in order to obtain “optimally diverse and credible data” (Drisko and Maschi 2015, 102). The interviews were divided into three blocks: (1) airpower in the Baltic Sea region and threats from Russia; (2) defense planning in peacetime; and (3) defense planning for a military crisis.

While the three main topics remained the same, there was a need to distinguish some of the questions based on whether the respondent was from a NATO country or from Finland or Sweden. Another set of slightly modified questions was created for politicians as their schedules are often very tight. However, the general tone of the questions in these three categories was very similar in order to maintain the ability to compare data derived from the various interviews with respondents.

The full list of interviewees can be found in Appendix 1, and the preliminary questions for the semi-structured interviews in Appendix 2.

#### **4. An Analysis of the Central Themes in Strengthening the Deterrence and Defense Posture of the Baltic States through NATO's Airpower**

The aim of this chapter is to discuss and analyze the central themes and defense planning options in trying to respond to the main research question: “How can NATO use its airpower to strengthen its deterrence and defense posture on its Eastern flank and support NATO's reinforcement efforts?” An answer to this question is made up of three main topics that all help to explain different aspects of the application of NATO's airpower in the Baltic States and its deterrent and defense posture in Northeastern Europe.

Airpower has several characteristics that make it suitable for supporting the task of rapid reinforcement, and it therefore emerges as an appealing military instrument for defense planners. However, as explained in the previous chapters, there are various aspects that restrict NATO's ability to make full use of its air capabilities in order to defend the Baltic States. Should Russia undertake the escalatory move of actually using its A2/AD capabilities, the Baltic Sea region would become a highly hostile environment for NATO. Understanding these dynamics is crucial for defense planning.

Any decisions that are taken by NATO to protect its member states on the Eastern flank will impact the Alliance as a whole. Threat perceptions and ideas about how NATO should respond to the A2/AD challenge differ across countries as well as among experts and politicians. Understanding and appreciating this complexity is particularly important given that NATO has to find a way to strengthen its deterrence and defense posture in the Baltic States while protecting its most valuable asset – the unity of the Alliance.

The deterrence and defense posture of NATO on its Eastern flank, including the issue of military mobility and air defense, are currently being discussed at various levels in NATO, as well as in national governments, academia and think tank reports. It is a timely issue, and the situation is constantly evolving. In order to analyze up-to-date defense planning options and possibilities, and better engage with the gray areas that appear in the limited amount of literature written on the topic, twenty expert interviews were conducted. Interviewees included military personnel and civilians from Estonia, Finland, Latvia, Lithuania, Sweden, the United Kingdom, and the United States. Further details about the interviews are explained in the previous chapter on methodology.



This chapter describes, compares and analyzes the viewpoints of the interviewees, and is divided into three main sections:

- The fight for air superiority and degrading Russia's A2/AD capabilities
- Reaching consensus in NATO and the role of bilateral and regional security arrangements
- Choices in further developing NATO airpower in the Baltic Sea region

As per the agreement with the interviewees, none of the statements will be attributed to specific individuals. Each subsection summarizes and analyzes interview responses and integrates ideas from sources from literature in the field to connect the empirical findings with theory, reinforce the opinions of interviewees, and present contrasting viewpoints.

#### **4.1 The Fight for Air Superiority and Degrading Russia's A2/AD Capabilities**

While there are no indications to show that a military conflict between Russia and NATO in the foreseeable future is probable, considering these far-fetched scenarios and possible NATO responses are important from the standpoint of deterrence. This helps explain the heart of the A2/AD challenge, the first part of this section. The section will then consider degrading A2/AD capabilities, finally talk about pre-positioning (additional) forces and equipment to the Baltic States.

##### Russia's A2/AD capabilities

To start with, several interviewees noted that they "do not like the term A2/AD," as it means different things for different people. As explained in the first chapter, this is a shortfall and causes unnecessary confusion for people dealing with this topic. Schmidt, among others has argued that it is important to create new definitions for new technologies, and that the NATO doctrine should be updated to better reflect "the highly integrated joint and combined processes needed in countering A2/AD," (2016, 77).

There was a general agreement among the interviewees that this topic is important and Russia's A2/AD capabilities are potent, and pose a threat to NATO. While a certain amount of Russia's rhetoric about its air (and generally military) capabilities is "smoke and mirrors," as one interviewee put it, several experts noted that Russia has heavily

invested in air defense systems while most other countries have degraded or not developed their corresponding capabilities.

Most assessments by experts of Russia's A2/AD capabilities in the Baltic Sea region included words such as "very real", "capable", and "formidable". The Kaliningrad enclave and Russia's S-400 and Iskander missile systems were often identified as a major problem. There were also some interviewees who saw this as a lesser problem, arguing, "Russia's A2/AD is like a scarecrow on the field – frightening in the beginning, but it actually can be handled." Another interlocutor claimed, "I don't want to accept when people say that Russia has a very strong airpower and A2/AD. It is a problem, but it is something that the air force is trained to deal with." The possibility of neutralizing Russia's A2/AD capabilities came up in almost every interview, with one interviewee putting it bluntly, "One can argue that best anti air-defense asset is an attack which goes and destroys that S-400," admitting that it is not an easy undertaking.

#### The fight for air superiority

The presence of A2/AD capabilities strongly impacts the fight for air superiority – the freedom to use airspace for one's purposes while denying this right to an opponent. There was a consensus that air superiority in the Baltic Sea region for either side would be limited in time and space, and, understandably, depend on the specific scenario.

In broad terms, however, several interviewees argued that in the case of a conventional conflict, Russia would "use all its advantages to gain operational initiative." The equipment it has put in place in areas in the region most likely means Russia would have the initiative. Some interviewees thought that air superiority will not be achievable – at least in the beginning phase – for either side. "Russia can park its assets along the [NATO-Russia] border, but [...] [NATO] can bring in F-35s, which can enter the theater quickly and respond rapidly," one interviewee argued, indicating it is likely to result in an impasse.

Several interviewees were more optimistic, arguing that NATO is likely to achieve air superiority "reasonably quickly". One respondent argued that NATO should have more confidence in its abilities to deal with Russia A2/AD, claiming, "Everybody is so afraid of it [Russia's A2/AD capability], but take out one of the assets that it is composed of,

and you're already degrading it, lessening its strength. When one of these is out, the rest will fall. NATO can do a lot of things in Kaliningrad."

There are, indeed, several ways in which NATO could neutralize Russia's A2/AD capability and achieve air superiority in the region. An interviewee argued, "[...] it doesn't have to be the conventional, Cold War thinking that suppression of enemy air defense (SEAD) is the only option. There has to be some of that, but there is more available," referring, among other things, to electronic warfare (EW) and cyber operations. However, it is crucial to understand the seriousness of any missions that aim to degrade Russia's A2/AD capability, and consider the underlying consequences.

As one respondent put it, "Achieving air superiority [in the Baltic Sea region] would only be possible if you strike targets in Russian territory, and this means full-scale war." Other interviewees agreed that this would be "a bloody battle" and "get nasty". Another interviewee considered the situation equally difficult, arguing, "we [NATO] would need to buy a favorable air situation by offering quite some planes and pilots. This is what it will take to start to degrade Russia's ability to use ground-based assets."

This is in agreement with the conclusions of several experts who have written on this topic. Tangredi argues that counter-anti-access efforts are inherently more difficult than keeping up an anti-access operation, as "ultimately the goal of the counter-anti-access force is to strike at the vital center of the enemy and cause his capitulation," illuminating the magnitude of such fight (2013, 16; 75-76). Some military experts have estimated that when attempting to neutralize the A2/AD set-up in the Kaliningrad Oblast, a potential aircraft attrition rate would be 20-30 percent (Schmidt 2016, 71-72).

Several respondents claimed that NATO has what it takes to undertake these missions. One interviewee argued, "Mr. Putin understands that should Western air power precision long-range precision be brought to bear, that A2AD can be brought down [...]. Western airpower can hold Russia at risk if it chooses to intercede, it can also hold him [President Putin] at risk at his homeland." The respondent claimed that NATO's unquestionable long-term superiority over Russia in air assets is an important part of NATO's deterrent that helps keep the country away from doing anything that could cross the Article 5 threshold.

Some respondents made the case that while, militarily, NATO has the capability to achieve and maintain air superiority in the Baltic Sea region, the central question is about the political will of the Allies. One respondent argued, “If the alliance *wished*, it could deliver all capabilities.” Another interlocutor claimed, “I do believe that *if NATO chose* to establish first local air superiority in a dedicated process, yes, it could do it. It would not be easy, not as easy as it was in Iraq or other places, but the full force of NATO air force brought to bear in defending NATO soil [...]” would attain this goal. The idea of political will is important and will be further explained in section about reaching consensus in NATO.

#### Pre-positioning forces and equipment to the Baltic States

While NATO’s overall military capabilities are very substantial, a majority of interviewees expressed concern over the readiness of NATO forces to undertake high-end airpower missions in the Baltic Sea region. Several interviewees argued that NATO’s current posture in the Baltics is not adequate, and the Alliance is currently “far from organized [enough]” to be able to take on missions to establish air superiority. According to one respondent, NATO’s capability shortfalls are apparent across the spectrum of airpower tasks and includes reconnaissance, targeting, and degrading.

The Warsaw Summit Communique states, “We will not accept to be constrained by any potential adversary as regards the freedom of movement of Allied forces by land, air, or sea to and within any part of Alliance territory” (NATO 2016a), but it is not clear if the Alliance has the capabilities to ensure that. This constitutes a credibility-of-commitment issue, as Mearsheimer defines it, referring to a situation where the promised response is not credible (1985, 18). In this case, the reason for it is the lack of exercised contingency plans and prepositioned equipment.

However, there are very different understandings in the Alliance regarding what NATO should do to solve the credibility-of-commitment issue and lower the risk of conflict with Russia. The respondents were divided into two camps: those arguing that Russia respects strength over weakness and NATO should take bold actions, and those who argued NATO should refrain from any actions that the Kremlin could interpret as escalatory.

As one interviewee argued, “There’s the sentiment that maybe one or other NATO’s step is too much for Russia, but whatever we [NATO] will do, Russia will protest and do

something crazy. So why not do what we want?” Along the same lines, a respondent added that NATO should only worry about its capabilities that help to deter and defend the Baltics, “[NATO] should not play along with Russia’s game.” This view is shared by several other experts, arguing, “Since NATO is a defensive alliance, NATO should reject any criticism of defensive measures as escalatory,” (Gorenc 2016, 96). With its actions in Ukraine and elsewhere, Russia has violated the 1997 NATO-Russia Founding Act (Praks and Stoicescu 2016, 27), which some interpret as giving NATO even more freedom to preposition in the Baltics any number of troops and equipment it deems necessary.

By the way of contrast, some interviewees repeatedly raised the issue of provoking Russia, and argued for making sure that NATO does not undertake actions that could be described by Russia as escalatory and thereby be used for domestic political purposes. For instance, an interviewee argued, “NATO’s response has to be proportionate. Reassurance and deterrence two sides of one coin, but the third side is provocation.” Similarly, a respondent claimed, “NATO is doing a fairly good job of providing deterrence, while not crossing the line of provocation,” making the case that there some NATO’s actions that are meant to bolster its security, could, in fact, play in the hands of Russia and the Putin’s regime.

In summary, both the experts interviewed and preexisting literature on the subject suggest that Russia’s A2/AD capabilities are very real and formidable. Those capabilities strongly influence the fight for the air superiority in the Baltic Sea region, and make it very difficult to achieve for NATO. While the respondents were in agreement that the A2/AD elements can be dealt with, there was a slight divergence regarding their opinions on how difficult and dangerous this would be.

While NATO’s capability gap in terms of readiness and pre-positioned equipment in Baltic States was recognized by most respondents, there were contrasting views on how this credibility-of-commitment issue should be dealt with. For some, the obvious answer was deploying more troops and pre-positing more equipment to the Baltics, while the others considered it prudent not to undertake any actions that Russia could consider provocative.

## **4.2 Reaching Consensus in NATO and the Role of Bilateral and Regional Security Arrangements**

Finding consensus among Allies and going through the NATO decision-making process in a reasonable amount of time were among the main concerns raised by the interviewees with the regard to NATO's ability to degrade Russia's A2/AD capabilities.

There was a consensus among interviewees that in the long-run, NATO's airpower capability far outlasts that of Russia, but it is not clear if the Alliance would achieve a consensus about the proper response in the case of a crisis erupting. This occasional gloominess of how NATO's decision-making processes may weaken the deterrence posture of the Alliance is reflected in literature on the topic. In the line of the arguments of several interviewees, Lasconjarias and Nagy consider "producing sufficient political will among NATO members to uphold and, if strategically needed, escalate the mission," a major task for the Alliance in responding to Russia's challenge (Lasconjarias and Nagy 2017; Howard 2016).

This section will analyze reaching consensus in NATO for its past decisions, consider the importance of bilateral agreements between the Baltic States, and the U.S., most prominently; and finally, look at regional arrangements to analyze the role of Sweden and Finland. These are two non-NATO countries with a geographical location that makes them very important for applying airpower in the Baltic States.

### **Reaching consensus in NATO**

There was a general agreement that NATO's steps in 2014 and onwards have been useful. One interviewee argued, "The situation has improved dramatically since 2014, because of the way NATO has responded, [...] the decisions that were taken were exactly what was needed, especially establishing the eFP." "The Baltic States have never been so secure," one respondent claimed, "[...] while there are differences between some member states, the overall perception of threats is established. It used to be very tricky, [the Baltic States] used to be the only ones saying that Russia needs attention."

Another respondent commented on NATO's compromises and its current posture in the Baltics by saying, "At this stage it is enough. It could always be more, but there are other

aspects why what we [the Baltic States] have is what we have.” Another interlocutor added that from the perspective of the Baltic States, additional measures would be welcome, adding, “However, whether the Alliance is ready, is another question.” While there were exceptions on both sides, there was a tendency according to which the respondents from the Baltic States were more likely than those from outside of the region to argue for a stronger response and further action from NATO. One interviewee argued, “The question is do we have luxury to wait for some other opportunities? Considering the situation, it would be opportunistic to wait for some other developments until making additional adjustments.”

One interviewee claimed that there are currently roughly three camps or philosophies in NATO: states that are bordered by Russia, states in the South, and states that are removed from both of these camps and think more globally. While this runs the risk of being oversimplified, it describes well the circumstances under which NATO will have to find the middle ground. Another respondent commented on achieving consensus among Allies by saying, “It will take a lot of effort to maintain the feel for the threat [...],” revealing the work that is done in the Alliance to advocate for a certain decision.

To be sure, this is nothing new: for example, in 2016, finding a consensus about the eFP battlegroups was not easy either. For instance, while Germany played an important role in reassuring NATO’s Eastern Allies, the country also publicly expressed its concern about reassurance measures that might provoke Russia and thereby escalate the conflict. German Foreign Minister Frank-Walter Steinmeier used the term ‘sabre-rattling’ to describe a NATO exercise in Poland only a few weeks before the Warsaw Summit, revealing a major discrepancy with some NATO allies – especially those bordering Russia – which interpreted the situation very differently (Allers 2017, 26).

#### Using bilateral arrangements to fill the gaps NATO leaves

Past experiences have shown that given the lengthy process of finding consensus between 29 NATO member states, when a precarious situation in the Baltic States emerges, the air forces of the United States and other major NATO Allies are likely to arrive in the theater the quickest. In 2014 when Russia invaded Ukraine, USAF F-15s were the first to arrive in the Baltics. “The decision was made by the leaders of the U.S., and given the speed with which air assets can relocate, on the next day, U.S. fighters were in Estonia, sending

a strong message that Allies will come to the defense of the Baltic States if a crisis hits,” one interviewee recalled.

There was a consensus among interviewees that even though NATO has improved its decision-making ability through giving SACEUR more freedom of decision, it is still practically inevitable that Allies either bilaterally or in coalitions of the willing will be able to take a decision and act faster than NATO. A few respondents said that this not too big of a problem, and while “there is a line that shouldn’t be crossed,” filling NATO’s gaps through bilateral or trilateral agreements and deployment is fine as long as the job gets done.

However, a majority of respondents claimed that the goal should be to do as much through the framework of NATO as possible. As one respondent argued, “[...] it would be better if everything is done under NATO umbrella: it would add stability and predictability. We [the Baltic States] are doing regional stuff here [in the Baltic States], it would be good to see that NATO is also stepping up and putting its umbrella on top of it.” Another respondent claimed that having countries first react bilaterally is “not what we want to happen,” making the case that political agreements for crisis situations should be made ahead of time so that everyone would be prepared when NATO “throw[s] the switch”. He then added, “That’s a real hard political thing, I know that.”

While difficult, several authors suggest that achieving consensus and using NATO as the main format for cooperation instead of relying on bilateral agreements would strengthen NATO’s deterrence posture. It would demonstrate that the Alliance has resources as well as political will to use them, if necessary (Kainikara 2008, 4). This is the core of Morgan’s understanding of credibility, which he defines as “looking like you have the will and capabilities necessary to carry out your threats,” (Morgan 2003, 101).

#### Regional arrangements: the case of Finland and Sweden

Nonetheless, there was agreement among the interviewees that several issues will be worked out through bilateral or regional security arrangements rather than in the framework of the Alliance. In the Baltic Sea region, this is almost inevitable, as the geography of Sweden and Finland makes these two non-NATO countries very relevant in terms of applying airpower in the Baltic States.



Sweden and Finland have been members of NATO's Partnership for Peace Program since 1994, and have bilateral defense agreements with many NATO countries. While both countries have a strong tradition of neutrality, several interviewees argued it is challenged by the fact that the countries are signatories to the Lisbon Treaty, Article 42.7 of which states that EU member states have the obligation to aid a member state that is "the victim of armed aggression on its territory" (EUR Lex 2008). Furthermore, in 2016, the governments of Finland and Sweden adopted the Memorandum of Understanding (MoU) on Host Nation Support (HNS) with NATO to provide effective support for NATO's activities on their territory or in its proximity, both in peacetime and during a crisis (Eriksson 2016; Malmqvist 2018). As one interviewee put it, "If the host nation support agreement is implemented, it will surely neutralize any position of neutrality."

Due to the aforementioned agreements, most interviewees argued that it would not be possible to have a NATO-Russia conflict in which Finland and Sweden would be not pick a side. However, these decisions may not come immediately, and as several interviewees suggested, a MoU is not a treaty, but essentially a policy document that expresses intent rather than gives out guarantees. This means there is room for negotiation and freedom of action in any specific scenario.

The interviewees overwhelmingly accepted the idea that it would be much easier for NATO to defend the Baltic States (from the air) if the Alliance was able to use the air surveillance data, air space and/or air bases of Finland and Sweden. Some respondents argued that defending the Baltics without involving the airspaces of Finland and Sweden would be "extremely hard" and that there is a "huge reliance" on cooperation with these two countries.

Several respondents argued that NATO could, and if needed, will defend the Baltics without access to Finland and Sweden, but that it would take longer and come at a much greater cost. There seemed to be a general agreement that having access to the airspace of Sweden is more instrumental than having access to that of Finland; a few respondents also noted that if Sweden was not an option, NATO would be likely to use air bases in Norway. A few respondents incorporated Russia's A2/AD capabilities in this question in a direct way, claiming, "If NATO cannot use Swedish airspace, then it needs to degrade Russia's [A2/AD] capabilities in Kaliningrad."

Several interviewees noted that at the military and technical level, the integration of Finland and Sweden with NATO is very strong, but that this cooperation is not guaranteed in a crisis situation, and there are limits to the cooperation that partner countries can undertake with members of the Alliance. One interviewee argued, “If the Swedish Ministry of Defense (MoD) is saying that it can do anything short of joint planning, it means we [NATO] cannot rely on their assets.” He continued, “Joint planning means giving up the sovereign right to use your assets – someone else would have command over those,” making the case that “as soon as it gets real,” NATO partners could not be included in planning or discussions about obligations. Other were more positive about the opportunities for cooperation, and the majority of respondents considered it important to mention that Finland and Sweden are free to make their independent decisions.

Particularly after 2014, Finland and Sweden have largely shared the threat perception of the Baltic States and Poland with regard to revisionist Russia. At the same time, some of NATO’s Southern Allies, for example, have had a different perspective, creating the threat of closer cooperation with Sweden and Finland “alienating Allies”, a concern that several interviewees raised. One interviewee argued, “Some NATO allies do not want to do anything more with Sweden and Finland before they decide if they are in or out,” arguing that for them, the partnership seems to have been taken as far as it gets.

A ramification of this is the fact that a few NATO countries have spoken out against increased transparency and intelligence sharing with non-allies. While mentioned by several interviewees, a majority of the respondents reported that they were not aware that any NATO ally would feel alienated because of NATO’s strong partnership with Finland and Sweden. Allers has written on the issue and seems to agree with those who do not consider this a major problem. NATO has tried to solve or pre-empt such problems, for instance by coming up with the 360-degree approach, designed to tackle all challenges both to the East and South of the Alliance. Allers also points out how “Portugal participated in Baltic air policing, Spain committed to lead the VJTF, and Poland also joined crisis management exercises in the South,” making the case that the East-South divide in NATO is overstated (2017, 27).

A few interviewees mentioned that in June 2017, Sweden and Finland joined the UK-led Joint Expeditionary Force (JEF), a high-readiness force tasked with tackling threats and

responding to crises around the world. These respondents argued that this might be a “precursor to taking another step and becoming NATO aligned”. However, the issue of possible membership is intricate. It would have direct ramifications on the relationship between NATO and Russia, as Sokolsky argues, Moscow has threatened to respond militarily if the two countries decided to join (2017, 3). A great majority of interviewees argued that the debate in Sweden and Finland over their possible membership of NATO seems to be changing, but that in the short term, the two countries are likely to stay out.

To underline this, the Swedish daily Aftonbladet performed a survey in January 2018 asking whether Sweden should join NATO. This revealed that 43 percent of respondents thought Sweden should join, while 37 percent were against it, signifying the highest support of NATO that has been recorded in recent polls (Duxbury 2018). In Finland, the numbers are very different. In November 2017, a poll released by the Ministry of Defense of Finland showed that 22 percent of respondents supported NATO membership while 62 percent were against it (Reuters 2017).

Several interviewees highlighted the importance of bilateral agreements between Sweden and Finland with the U.S., contending that a pre-made agreement that would, for example, allow the USAF to use the airspace and air bases of Sweden in the case of military crisis would greatly ease NATO’s ability to defend the Baltic States. The idea of possibly using the JEF framework for air defense solutions also came up. One interviewee declared, “Estonia got much more interested in JEF when it heard that Sweden and Finland were participating,” arguing that from the geographical perspective, this cooperation would make a lot of sense.

This falls in line with the recent study of the CSIS in which the authors call for Northern European air defense that would include all eight Nordic and Baltic countries, making the case that this would be the best arrangement considering the geography of the Baltic Sea region (Conley, Rathke and Melino 2018). Researchers from the U.S. and elsewhere have called upon the U.S. government to work with the non-NATO Nordic countries and fill a leadership role in finding and improving the air defense of the Baltic States and ensure regional cooperation (Coffey and Kochis 2017, 3; Breedlove 2018).

In summary, the interviewees were satisfied with the steps undertaken by NATO after 2014 in response to Russia’s revisionist policies. Building and maintaining a consensus

among NATO members will remain crucial in the future, and there are no reasons to think that this process is about to get much easier. There is unease among experts regarding the use of bilateral and multilateral agreements to plug the gaps that emerge as a result of NATO's lengthy decision-making processes, and the majority of them argues that the goal should be giving the Alliance the tools and processes to stay relevant in situations that require rapid response.

The respondents were in agreement that Sweden and Finland have a very high level of interoperability with NATO, and that purely from the military perspective, it would be much easier to "do good things" if the political decision to join the Alliance was made. However, such decision is not likely to come in the near future, and therefore cooperation bilaterally and in non-NATO multilateral arrangements will continue. Building on the strong bilateral relations of Finland and Sweden with the U.S., the case was made that Washington should encourage and lead cooperation in the Baltic Sea region.

#### **4.3 Choices in Further Developing NATO Airpower in the Baltic Sea Region**

While understanding the broader context for issues and different frameworks for cooperation is important, the interviewees were also asked about more concrete ideas as to how the airpower component of NATO in the Baltic States could be strengthened. In many ways, the discussions were related to the issues of Allied unity, but there were also several new findings that focusing on more concrete ideas helped uncover.

This section is divided into four parts. The first one focuses on improving the ground-based air defense capabilities of the Baltic States, the second considers the possible transition from the BAP to Baltic air defense. The third subsection discusses the option of adding an air dimension to the eFP battlegroups, and the final part talks about exercising rapid reinforcement in a joint environment.

##### **Improving the ground-based air defense capabilities of the Baltic States**

The lack of adequate air defense in the Baltic States is a capability gap most often mentioned, and most passionately described by the interviewees. At the moment, the three Baltic States operate only short-range missile defense systems. While Lithuania is currently procuring medium-range systems, and Latvia has announced plans to do so, the

situation is nonetheless concerning. As one interviewee put it, “Any time you have boots on the ground, several battalions [like now in the Baltic States], the lack of air cover – it just doesn’t paint a very good picture.”

This problem would be even more serious in a crisis scenario in which there is a need for mobilization and bringing in reinforcement. The lack of air defense in this scenario is “potentially devastating” as one interviewee put, arguing that the troops and equipment of the Baltic States “might not even make it to the battleground” before being neutralized, unless there are plans on how to conduct air defense for high-value targets such as mobilization routes and depots, airports and seaports. One respondent claimed, “If there was a surprise need to mobilize, air defense would have to be beefed up. There is no way NATO would let the Baltic States be overrun by an air campaign.”

While the interviewees were in agreement about the need for an integrated ground-based air defense capability in the Baltics, there were diverging opinions as to how this could be accomplished. Several respondents noted that ground-based air defense has been recognized as “a capability gap that has a high priority” in the Baltic States for several years, but despite the efforts, limited resources and other priorities have not made it possible to acquire such new capabilities.

Several interviewees argued that it is important to retain and exercise the current very short-range and short-range air defense capabilities together with passive defense strategies such as decentralizing and using decoys. The Baltic States need to retain and develop their short-range missile defense capability, as this, alongside with medium- and long-range capability would remain an integral part of a layered air defense architecture. This would ensure that they are able to do as much as possible with their indigenous forces – an ability that is particularly critical in the beginning of a conflict. While it can be the case, as one interviewee argued, that the Mistral systems, for example, are fully operable and “a solid investment,” there is now an apparent need for additional capabilities that would have a range far over the 6km scope allowed by short-range systems. Importantly, these have to be integrated into a coherent air defense architecture.

Interviewees had quite different views of the kind of ground-based system that the Baltic States needed, and they also differed in providing solutions as to how to go about acquiring these capabilities. Several interviewees argued that there is an urgent need for

an integrated medium-range system in the Baltic States. The general suggestion was to procure something together to “benefit from the economies of scale, ensure interoperability and lower handling costs.”

Several interviewees noted that there have been aspirations for possible common procurement projects, but these have not panned out due to different preferences with regard to specific conditions and timelines. Consequently, Lithuania ended up procuring a medium-range system only for itself, Latvia has taken the decision to do the same. Commenting on this, several interviewees noted that the Baltic States “could show more political willingness to work together” even on complex issues such as (big) procurement projects, but noted that this is difficult for almost all countries.

One respondent contended, “Lithuania is currently ahead of Estonia and Latvia [in terms of mid-range air defense], but this is not a competition. If they [Lithuanian Armed Forces] are willing to share the information about how the procurement went, based on these lessons we could put together an even better procurement project in the future.”

Several interviewees saw this as a stepping stone to something bigger, arguing, “Commitment to their [the Baltic States] own organic air defense would be great. You can’t get that right away, but the political announcement to invest in some form of integrated air defense or ground-based air defense would be a great message to send.” Another interviewee stated that the Baltic States should invest in their air defense and thereby help NATO with “generating the foundations for a robust enforcement plan,” arguing that, “The Baltic States should deliver together with neighbors, then go back to the alliance and ask them to provide something.” This idea has been remarked upon in several reports (Harper, Lawrence and Sakkov 2018; Breedlove 2018).

#### Possibility of long-range air defense in the Baltics

When it comes to long-range missile systems, a majority of the respondents argued that acquiring these is financially insurmountable for the Baltic States and would require help from the allies. “Long-range missile defense is crazy, out of reach for the Baltic States,” one interviewee stated. Another respondent claimed, “There is no money for Patriot, even when someone gives it as a gift,” referring to the substantial life-cycle costs of these systems. A few respondents were more optimistic, arguing that the Baltic States

“absolutely would have money for Patriot,” adding that what is missing is “an understanding of the air domain and politicians who support it.”

While the price of the Patriot system depends on various factors and the specific configurations of the system, for instance, in late 2017, Poland got an offer to procure four systems for \$10.5 billion (Judson 2017). Converted into euros, this equals €8.9 billion, and is an extremely large number considering that the combined annual defense expenditure of the three Baltic States in 2017 was a little less than €1.7 billion (NATO 2018). Needless to say, this is the price tag for just purchasing the four systems, and (very significant) operating costs would be added to that in the future.

There seemed to be a general agreement that the Baltic States could be covered by a long-range missile system if it was either deployed in the Baltic States by Allies on a (permanent) rotational basis or deployed somewhere outside of the Baltic States. As one respondent argued, “Procedures are most important: there is no need to bring the [air defense] assets here, ships in the North Sea could well keep the Baltic States under cover,” referring to a possible use of the Aegis system to the benefit of the Baltic States.

Several interviewees argued that NATO has already made similar arrangements with the Patriot system, for instance in Turkey and Romania. The deployment could also take place bilaterally, a few respondents hinted at the positive signals from the Trump administration about possibly deploying a Patriot battery in the Baltics. Coffey and Kochis (2017) also expressed some optimism regarding such possibility. There was an agreement that any such decision would “contribute to the deterrent posture of NATO and might change Russia’s thinking,” but most of the interviewees did not consider it very likely to occur, at least in the short- or medium-term.

Several respondents referred to the groundwork that needs to be laid not just before a long-range missile system can be deployed, but also to achieve full functionality. The Baltic States need to produce a Recognized Air Picture (RAP), and in addition to that, as one respondent put it, “provide the middle piece to connect the picture with the effector.” A few respondents remarked that the Baltic States already share their RAP through NATINAMDS, but more work needs to be done to improve the current network of radar systems and sensors. This is largely in agreement with the assessments of Breedlove (2018) as well as Harper, Lawrence and Sakkov (2018).

Notably, as one interviewee explained, in a crisis situation, “up to a certain point, air force command and control (C2) [of the relevant Baltic State] leads the operation, only then NATINAMDS will take over,” stressing the importance of prior exercising to ensure the interoperability of C2. Vulnerabilities in networks that ensure C2 has been identified as a key shortfall in the Baltics (Harper, Lawrence and Sakkov 2018, v), and this is critical as malfunctioning C2 can put the whole mission at risk. To further accentuate this issue, Conley, Rathke and Melino proposed creating a third NATO Joint Command that would lower the risk of related problems during a crisis in the North Atlantic or the Baltic Sea (2017, 30).

#### Transitioning from Baltic Air Policing Mission to Baltic air defense

While ground-based air defense capabilities are important and generally viewed by the interviewees as the first priority, there was also talk about the role of aircraft in providing air defense in the Baltics. As one respondent put it, “[...] air defense is a combination of fixed wing aircraft and ground based air defenses, it is not one or the other, neither can do it alone,” arguing that setting up layered air defense should be the ultimate goal of the Baltic States.

A majority of the interviewees agreed that the Baltic Air Policing Mission (BAP), a strictly peacetime mission with no air defense capacity, has been a success. As one respondent claimed, “Currently, nations are queuing up to send their detachment to do Baltic Air Policing. Germany recently said it would like the rotation to be eight months instead of four,” describing a situation in which not enough space for all Allies who would like to contribute to the mission.

In terms of absolute numbers of air assets, BAP is rather limited. As one respondent put it, “Russia probably looks at these four jets in Ämari<sup>2</sup> as humor,” but it nonetheless forces Russia to change its calculus. As several interviewees noted, the country has repeatedly experienced what it is like to be escorted by NATO fighters when Russia brings its air

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<sup>2</sup> One rotation of BAP normally has eight jets operating from the Siaulai airbase in Lithuania, and four from Ämari airbase in Estonia.



assets very close to or into to the airspace of the Baltic States, often without turning the transponders on and communicating with the flight controllers.

However, another thing that Russia is well aware of, is that the rules of engagement (RoE) for assets deployed for BAP are very restrictive. As many interviewees contended, the RoE allows the pilots to patrol the airspace, “signify that an aircraft is not allowed to enter the airspace,” and protect themselves, but not much more. Several interviewees argued, that the current RoE of BAP puts pilots in a very difficult position, and this should be changed. At the same time, a significant number of respondents claimed that there is no need to change the BAP as it stands. One interviewee argued that, “First and foremost, it would be important to get a confirmation that BAP will stay,” claiming that the Alliance should make this mission permanent.

Already in 2016, several experts argued that the BAP should be transitioned to air defense, or at the minimum, that there needs to be a clear and exercised plan for this transition (Gorenc 2016, 90; Praks and Stoicescu 2016, 29). Besides having diverging opinions about whether or not the transition should happen, the interviewees, remarkably, also had very different understandings as to what this transition would mean. Some were certain that this transition cannot be done in a piecemeal fashion and presupposes “different capabilities, different aircraft, improved C2, and ground-based air defense.” An interviewee argued that all of these systems need to be properly connected and be supplemented by detailed plans, making the case that stockpiles and missiles would also have to be pre-positioned to the region.

However, some other respondents argued that it is not clear to them that the transition would necessarily mean a substantial quantitative and qualitative change in terms of air assets deployed to the region. As one interviewee put it, “Many people think that transitioning from BAP to air defense would right away mean more capabilities, but is it really necessary? I think it would be most important to send a message that [NATO is now] more serious about this.” There were several people supporting this approach and arguing that the transition is mainly about procedures and RoE, and the Alliance could strengthen its deterrent posture even just by changing the name of the mission.

Generally, the literature suggests that while procedures and RoE are important, the transition would have to involve various improved capabilities, particularly in the field of

GBAD (Gorenc 2016, 91; Breedlove 2018, Coffey and Kochis 2017). Some argue that the transition to air defense is not sensible given the inadequacy of C4ISR capabilities of the Baltic States, and claim these capability gaps must be overcome before the transition can happen (Harper, Lawrence, Sakkov 2018, 25).

Another interviewee claimed that transition to air defense posture would be beneficial in the light of Russia's respect of strength over weakness; arguing, "Russia would surely not like when the transition [to air defense] is made, but they would have respect it," he stated, adding that a threat that Russia might lose its air assets over provocations near the Baltic airspace could make the Kremlin reconsider their actions.

The interviewees claimed that currently, the main problem is that there are no pre-existing agreements for such transition, and NATO's decision-making procedure would take days and weeks, but not minutes or hours as it would be needed. One interviewee argued, "NATO needs to get out of its comfort zone and put together a toolbox," claiming that it would be easiest if "NATO bought equipment worth of one squadron, [and own it] just as it owns AWACS," so that the host-nations would be better able to accommodate the flying assets and pilots that would rotate.

Considering the fundamental difference between air policing and air defense, a few respondents claimed that it could be possible to have two separate missions: for instance, retaining BAP as it is an adding an air defense mission. An interviewee stated, "it could be possible to consider creating something like a quick reaction fighter squadron in which appropriate RoE would be in place, that would make it easy to engage quickly, if needed," arguing that these assets will not be based in the Baltics, but in a permissive environment from where they could get to the Baltic theater quickly.

Whether the focus would be on changing procedures and RoE or augmenting the current assets, as one respondent argued, "First and foremost, this transition takes a political decision from the Allies." Commenting on the popularity of BAP, one respondent argued, "The nations are happy to do air policing because this is more of a peacetime, soft power oriented air mission, while air defense is largely a conflict-oriented mission," hinting that Allies that take part in the mission might not be very interested in making the transition.

### Adding an air dimension to the eFP battlegroups

Several interviewees argued that improving Baltic air defense capabilities is all the more important given that the eFP multinational battlegroups are based in these countries. One of the possible components of future Baltic air defense arrangement could be adding an air dimension to the battlegroups, a recommendation made by various experts in the literature (Breedlove 2018; Coffey and Kochis 2017; Harper, Lawrence and Sakkov 2018, 28). As Breedlove put it, “These national [air] capabilities could be leveraged for exercises in the region, and could initially build familiarity and interoperability with the operational environment,” (2018, 6).

Several respondents saw this as a valuable idea, arguing that adding air (and most likely also maritime) capabilities, is “the next natural step” with regard to eFP battlegroups. One interviewee claimed, “NATO agreed in Warsaw that the eFP would be a ‘joint enabled force’, but we are currently not in a position to conduct joint enablement exercises for the eFP battlegroups,” making the case that this is an unfulfilled promise on the part of the Alliance. Several interviewees noted that the UK, for example, has already taken the decision to deploy its Lynx Wildcat helicopters to Estonia in support of its battlegroup.

A number of interviewees interpreted the situation differently, claiming that air-ground exercises are important, but that “it is not necessarily a requirement for some air platforms to be present [at eFP battle groups] all the time.” However, the respondents still emphasized that it is important “to communicate – for the sake of deterrence – that air support is there when needed, and it is relevant speed-wise.” One respondent argued, “It is good that the eFP has variable geometry, it is constantly changing,” making the case that “an occasional surge” is more useful than permanent stationing.

While exercising is important, the air assets do not necessarily have to be connected to the eFP to train with them. As one interviewee explained, “even when fighters are deployed to the Baltic States bilaterally or for the BAP, they almost always train across the battlegroup,” arguing that the situation with joint trainings is quite good. One respondent argued that NATO is “[...] highly unlikely to bolster the eFP in one particular area unless there is something to show that the Baltic States really need it.”

A few interviewees had a different reason to be skeptical about the possibility of adding an air dimension to the eFP. One respondent argued that the eFP as a tripwire force has natural limitations, and there is not much to gain when it is augmented. He continued, “What we [NATO] have established is a quite well balanced deterrence posture which is not triggering security dilemma,” adding that the “air piece is always expensive and hard to build,” and as the eFP units are not designed to fight, their current capabilities are sufficient.

#### Exercising rapid reinforcement in a joint environment

Several interviewees noted that military mobility in Europe and related to that, NATO’s ability for (rapid) reinforcement, are likely to be among the central topics expected to be discussed during NATO’s Brussels Summit in July 2018. This is crucial from the standpoint of airpower and for the purposes of this thesis. As one respondent put it, “Moving lots of equipment and people along a road or rail is something that we [NATO] haven’t done in a long while. We were good at this in the 1970s, we are not good at it now,” once again alluding to the fact that in recent decades, NATO has mostly focused on peace enforcement operations in theaters (far) away from Europe.

A majority of respondents expressed their concern about the lack of medium- or large-scale NATO joint exercises joint military exercises in the Baltic region, claiming that is not enough if capabilities “are just somewhere,” as one respondent put it. Another interviewee explained the importance of exercises, arguing, “What is not presently trained and implemented will become harder to resolve quickly in a crisis situation. [If the contingency plans are not exercised] the crisis may well be over before the reactive measures are viable.”

Several interviewees claimed that exercises are very much a part of the deterrence posture, adding that exercising in a joint setting with the ability to test the interoperability of ground, air and maritime (cyber and EW) components, is crucial. One respondent argued, “For all bits and pieces to work together as one single system – you need to practice, this is the way forward,” claiming that ground-based air defense assets should be brought to the Baltic States to ensure a very high level of interoperability between the different force components.

The literature reaffirms the importance of exercises, for Gorenc, these have to be “realistic, full-spectrum, and deterrence-focused,” (2016, 101). It was decided at the Warsaw Summit that the eFP battlegroups would “underpinned by a viable reinforcement strategy,” (NATO 2016a) but it remains unclear whether the Alliance will take the lead to exercise these reinforcement plans and enhance the credibility of NATO.

If that does not happen soon enough, as several interviewees suggested, one or more capable allies will take the lead and invite others to join. If that were to happen, one respondent claimed that “At some point, NATO would get involved more substantially and potentially take the lead of the exercise,” demonstrating different dynamics that bilateral and multilateral actions may create. Another respondent argued that any such exercises in the Baltic States should begin with “[...] making sure that all infrastructure in Poland would support bringing more assets,” arguing that this should be in place before starting to think about how to move it to the North.

Conducting medium- and large-scale reinforcement in a crisis and even exercising for it is not easy. As one respondent put it, “That’s where the hard work is – in providing that infrastructure, policy, and process. It is doable, but there is a lot of work that needs to go on to provide these policies and processes.” As another respondent claimed, the situation can be made even more difficult by the fact that, “Russia considers the three Baltic States as one unit, if it does something in one place, it is likely that it does it in another as well,” arguing that the Baltic States need to be able to take responsibility for themselves in the beginning of the conflict.

Two interviewees remarked on a different aspect of the rapid reinforcement problem, arguing, “I understand that this is an unpalatable idea, but if NATO’s deterrence fails, it can use its airpower somewhere else, it would not necessarily come to reinforce the Baltic States. Russia has weak points, NATO might hurt Russia where it hurts the most.” Another respondent thought along the same lines, wondering, “[...] maybe we [NATO] do not need to have that good of an infrastructure in the Baltic States, as the first priority [for NATO] would be to deal with problems somewhere else.” Such ideas have not been considered in literature on the topic, and it is therefore difficult to assess their validity, but they are nonetheless a valuable addition to the discussion.

In conclusion, the range of options for strengthening NATO's airpower in the Baltic States is quite broad. The themes of acting through bilateral and multilateral agreements and reaching consensus among the Allies raised on several occasions, pointing to their centrality in the debate. Developing ground-based air defense capabilities of the Baltic States was considered a priority by a majority of respondents. While there were those who suggested that the Alliance should work out an arrangement for the Baltics, several respondents made a convincing case for encouraging the Baltic States to come together and make a commitment to collectively develop integrated medium-range air defense capabilities.

With regard to the transition from BAP to Baltic air defense, it was expected that there would be various opinions about whether and when the transition should take place. However, it also appeared that there were several different interpretations as to what this transition would mean. The understandings ranged from changing essentially only the name of the mission to a complete upgrade of the host of exciting capabilities. The way the respondents construed the eFP battlegroups also differed. Some saw adding further enablers to the tripwire-sized force as an important step, while others argued that augmenting the eFP is not compatible with its purpose.

Finally, conducting medium- to large-scale military exercises with the goal of rapid reinforcement in a joint environment were widely endorsed as being very important to strengthen NATO's defense and deterrence on its Eastern flank. This goes to show the extent to which the military domains are inseparable, particularly considering the multi-dimensional A2/AD challenge. Fundamentally, the reasoning behind preferring or rejecting some of these choices is intricately linked with the perception of what will deter Russia.

## Conclusion

Since 2014, NATO has made considerable progress in strengthening its deterrence and defense posture in the Baltic States. Setting up the eFP battlegroups was a major achievement. However, it is a tripwire force with the aim of ensuring that the whole alliance will be involved once the tripwire is triggered. NATO's current posture in the Baltic States is deterrence by punishment, and the Alliance relies heavily on rapid reinforcement in the times of crisis. Deterrence by punishment relies on reprisal or retaliation against an opponent, and this distinguishes it from deterrence by denial that makes it physically difficult for an adversary to achieve their objective.

Airpower is as a potent tool to support the effort of rapid reinforcement, but the geography of the Baltic Sea region severely limits NATO's operational depth which is necessary for air operations. NATO's ability for (rapid) reinforcement on its Eastern flank by air, sea, and land, is further challenged by Russia's A2/AD capability. By implementing its A2/AD capability, Russia actively challenges and mitigates NATO's posture of deterrence by punishment. NATO has not exercised (rapid) reinforcement on its Eastern flank, and this poses a credibility problem. It might give Russia hope for achieving a quick victory and a *fait accompli* situation before NATO could react and its follow-on forces could arrive.

In order to understand this complex picture of deterrence and the role of airpower in it, this thesis relies on a synthesis of works from authors such as John Warden, Colin Gray, John Mearsheimer, Patrick Morgan and Sanu Kainikara. Importantly, airpower doctrines are also part of the theoretical framework as they are a critical part of theoretical discussions, but also have direct implications for applying airpower in practice. This research considers the works of airpower theorists and deterrence experts in a modern context, with a particular attention on the relationship of A2/AD with deterrence.

In addition to the geographical advantage that Russia possesses over NATO in the Baltic Sea region, the balance of conventional forces is strongly skewed in favor of Russia. In Kaliningrad and along the Russia-NATO border, Russia has set up advanced and

formidable layered air defense systems which reach far into the territories of the Baltic States and therefore have a direct impact on the security of the Alliance. Air assets and ground-based air defense systems have an important role in any reinforcement scenario, as critical infrastructure such as mobilization depots and routes, airports and seaports need to be protected from attacks from the air.

Currently, the Baltic States possess short-range missile air defense capability. While a very important part of NATO's peacetime activities, the Baltic Air Policing Mission has limited rules of engagement (RoE) and does not prepare NATO for protecting some of its most vulnerable Allies on the Eastern flank of the Alliance. The lack of adequate air defense has been established as a shortfall that needs urgent attention starting with discussions in 2014, but NATO has as of yet not been able to come up with a solution.

One of the goals of this thesis is to explain the complexity of the issue and shed light on various reasons for why it has been difficult for the Alliance to address these concerns. Evidently, understanding these issues will help defense planners get closer to solutions in the future. Recently, various research institutions, think tanks and experts have published reports (see, for example, Gorenc 2016; Coffey and Kochis 2017; Conley, Rathke and Melino 2018; Breedlove 2018; Harper, Lawrence and Sakkov 2018) and outlined a host of policy recommendations and ideas as to how to tackle and solve the problem of air defense in the Baltics, and thereby strengthen NATO's deterrent and defense posture. What is almost entirely missing in the literature, is a comprehensive discussion that helps explain the complexity of the issue and sheds light on reasons there is not yet a solution.

In order to fill this gap and provide up-to-date information on the issue, twenty expert interviews with military personnel, defense planners, experts and politicians from the Baltic States, the U.K., the U.S., Sweden and Finland were conducted. This thesis includes an analysis of the interview responses and literature available on the topic. Based on this analysis, three main conclusions were drawn:

- The concept of A2/AD and its impact for deterrence is not well understood and this makes it difficult to tackle this issue;



- There is no common understanding among the experts what a transition from Baltic Air Policing to air defense would mean;
- The importance of the Baltic States collectively taking the initiative in the air defense realm is currently understated.

Firstly, understanding and explaining the nature of the contested environment and Russia's A2/AD capability was at the center of this thesis. Currently, there is a lack of a common understanding about what the A2/AD challenge means, and its multi-domain character is underappreciated. The Alliance could start by including the concept of A2/AD in its doctrines and strategic documents, and present comprehensive and coherent plans as to how it will prevail in contested environments, for instance the one created by Russia in the Baltic Sea region.

Furthermore, it is necessary to either redefine (for instance, William Perkins has suggested using the term 'Advanced Layered Defense Systems') or clarify the meaning of the term A2/AD to make this strategically important concept more universally understandable by NATO Allies. The situation is often even worse in languages other than English, which also use the very technical term of A2/AD.

Better explaining and defining the term A2/AD would help ensure clarity among military personnel, and ensure that defense planners, politicians and the public more broadly would become more familiar with the strategically important concept. In addition to that, it would help ensure that Russia cannot use this in its strategic communication efforts to inflate its capabilities by claiming that its A2/AD zones are impenetrable. This is part of Russia's manipulation tactics aimed at reducing the confidence of the people in the Baltic States in NATO.

Secondly, it appeared that there is no common understanding about what the transition from BAP to Baltic air defense would mean. Importantly, the divergence was not (just) about whether or not the transition is necessary: some respondents argued that the transition would involve a substantive improvement of assets and equipment, while others

saw this as mainly a procedural change that would not necessarily involve any new capabilities.

This is striking given that the interviewees were experts in the field of Baltic Sea security and/or airpower, and the discussions about this transition have been ongoing for the past several years. At the same time, it helps explain the lack of progress that has been made. Defining and agreeing on the main features of this transition would create a much better platform for holding discussions among the Allies about whether or not it is necessary.

Finally, a significant number of interviewees made the point that despite the small sizes, and small defense budgets of the Baltic States, there is a lot that the three countries can do to lay the groundwork for a much-needed layered air defense architecture. The bottom layer, short-range missile defense is already at place, but to improve these capabilities, the Baltic States should show commitment to working together even on complex issues.

Collectively undertaking big procurement projects has proved difficult for most countries, but the Baltic States share the same goal and could greatly benefit from prioritizing cooperation. The decision to collectively proceed with the procurement of medium-range missile defense systems (which is currently underway in Lithuania and about to begin in Latvia) would send a strong message to the Alliance, and it would open the possibility that the Allies would later augment the system put in place.

A common thread that ran through the themes of this research is the importance of allied unity. This remains critical for NATO, and finding a consensus on important matters is all the more important given that the adversary is testing the cohesion of NATO with its manipulation tactics and by setting up increasingly potent A2/AD capabilities.

Gaining a better understanding of the contested environment presented by Russia, and forging a common perception of the range of measures that NATO has available will help the Alliance move closer to solutions that help strengthen its deterrence and defense posture in the Baltic States. Viable and exercised plans for rapid reinforcement, and commitment to medium-range integrated air defense in the Baltics could be a good first

step in moving from the deterrence by punishment posture towards deterrence by denial. This, as Mitchell (2015) put it, would “help to shift the psychological burden of 21st-century conflict back where it belongs: on the shoulders of states that wish to rearrange the international order.”

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## Appendixes

### Appendix 1: List of Interviews

Note: all interviewees were asked to share their *personal opinion* on the issues. Their current and/or previous affiliations are added to this list to give an overview of their background and experience.

All interviews were conducted in March and April 2018.

	Name	Position/Affiliation	Date	Location
1.	Sven Sakkov	Director, International Centre for Defense and Security (ICDS)	13.03	Tallinn
2.	Air Marshal Sir Christopher Harper	Former Director General of the NATO International Military Staff (2013-2016), former UK Military Representative to NATO and the EU (2011-2013)	19.03	Phone interview
3.	<i>Undisclosed</i>	<i>Undisclosed</i>	22.03	Written responses
4.	Lt. Col. Vahur Karus	Estonian Ministry of Defense/Estonian Defense Forces	22.03	Tallinn
5.	Henrik Praks	Non-resident fellow, ICDS	22.03	Tallinn
6.	Dr. Mike Winnerstig	Deputy Director of Research, Swedish Defense Research Agency (FOI); non-resident fellow, ICDS	23.03	Phone interview
7.	Gen. (ret.) Philip Breedlove	Former NATO's Supreme Allied Commander Europe (2013-2016), former U.S. Air Forces in Europe and Africa Commander (2012-2013), Vice Chief of Staff of the U.S. Air Force (2011-2012).	26.03	Phone interview
8.	Sqn. Ldr. Mark Sapsford RAF	United Kingdom Defense Attaché to Latvia, British Embassy in Riga	27.03	Phone interview

9.	Ojārs Ēriks Kalniņš	Head of the Latvian Delegation to NATO Parliamentary Assembly, member of the Seimas	27.03	Phone interview
10.	Bartas Trakymas	Lithuanian Ministry of Defense	29.03	Phone interview
11.	Lt. Col. Antti Hauvala	Finnish Defense attaché to Estonia, Latvia, and Lithuania; Finnish Embassy in Tallinn	29.03	Tallinn
12.	<i>Undisclosed</i>	<i>Undisclosed</i>	2.04	<i>Tallinn</i>
13.	Lt. Col. Harles Kosk	Air Defense Inspector, Estonian Defense Forces	2.04	Tallinn
14.	Col. Riivo Valge	Acting Commander, Estonian Air Force; Chief of Staff, Estonian Air Force.	2.04	Tallinn
15.	Marko Mihkelson	Head of the Estonian delegation to NATO PA, Member of the Riigikogu	3.04	Tallinn
16.	Commander Gary Brooks	United Kingdom defense attaché in Estonia, British Embassy in Tallinn	4.04	Tallinn
17.	Lt. Col. (ret.) Ugis Romanovs	Instructor, Joint Air Operations, Baltic Defense College in Tartu, Estonia; research fellow at Latvian Institute of International Affairs	5.04	Tartu
18.	Lt. Col. Andres Helm-Rosin	Instructor, Joint Air Operations, Baltic Defense College in Tartu, Estonia	5.04	Tartu
19.	Col. Dainius Guzas	Commander, Lithuanian Air Force	6.04	Tartu
20.	Maj. Henrik Lahti	Incoming Commanding Officer of the Gripen Operational Test and Evaluation squadron, Swedish Air Force	9.04	Written responses

## Appendix 2: Questions for the Semi-Structured Interviews

### **(Category: General)**

**Project Name:** Strengthening the Deterrence and Defense Posture of the Baltic States: Allied Air Power and its Value in Alleviating NATO's Reinforcement Problem

**Purpose of the research:** The purpose of this research is to examine possibilities for and challenges to the application of NATO's air power in the Baltic Sea region. More specifically, the research seeks to find out to what extent and in what ways can NATO's Joint Air Power alleviate some of the rapid reinforcement problems that the Alliance is facing in its Eastern flank.

**Semi-structured interview:** The interview will take place in person, via phone or through Skype, and is expected to take approximately 45 minutes. Upon your approval, the interview will be recorded *only* for the use of the researcher.

**Confidentiality:** This research relies *only* on unclassified information. All data collected will be secured and kept confidential. No reference will be made that could possibly link any individuals to specific statements made in the study. Upon your approval, your name will appear in the *List of Interviewees* in the end of the study.

### **Preliminary list of questions for a semi-structured interview**

#### **Air power in the Baltic Sea region and threats from Russia**

- 1) In the Baltic Sea region and beyond, what is the role and capability of air power in deterring and defending against (a) conventional and (b) hybrid threats?
- 2) What is your assessment of Russia's air power assets, including their A2/AD capability? How might the country use them in a potential provocation (in worst-case scenario, military intervention) against the Baltic States?
- 3) Considering NATO assets that (a) are already in the region and (b) could be brought to the region, does NATO have what it takes to achieve air superiority or at least favorable air situation (FAS) in the Baltic Sea region?

#### **Defense planning in peacetime**

- 4) When it comes to strengthening NATO's deterrent, do you think that adding an air dimension to the currently land-based Enhanced Forward Presence in the Baltic States would be (a) beneficial and (b) politically viable?
- 5) What do you think it would take for NATO to agree to transform the Baltic Air Policing Mission into Baltic Air Defense? When, if ever, would be the right time for it?
- 6) As it relates to air power, what are the most important capabilities (including host-nation support) that the Baltic States ought to improve on or develop?



- 7) The CSIS recently published a report [\*Enhanced Deterrence in the North\*](#), in which they make the case that Northern Europe (five Scandinavian countries and the Baltic States) should be seen as one theater of operations, and call for establishing Northern Air Defense. What is your take on this; do you consider the idea of Northern European Air Defense (a) sensible and (b) realistic?

#### **Defense planning for a military crisis**

- 8) In an event of a military crisis, might there be any circumstances under which air power assets that are in the region for the *strictly peacetime* Baltic Air Policing Mission could be used?
- 9) Due to geographical factors and infrastructure deficiencies, NATO's ability for rapid reinforcement of its Eastern flank is limited. In what ways could air power be used to help win precious time (and space) to bring in reinforcement?
- 10) How big of a problem is the lack of air defense during mobilization of the wartime defense structure of the three Baltic States?
- 11) In an event of a military crisis in the Baltic States, how much would NATO's ability to apply air power depend on whether or not the Alliance is allowed to use Swedish and Finnish air surveillance data, air space and/or air bases?

#### **Any additional issues and comments**

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**(Category: Swedish/Finnish experts)**

#### **Preliminary list of questions for a semi-structured interview on Swedish/Finnish perspective on the topic**

##### **Air power in the Baltic Sea region and threats from Russia**

- 1) In the Baltic Sea region and beyond, what is the role and capability of air power in deterring and defending against (a) conventional and (b) hybrid threats?
- 2) How do you assess Russia's air power capabilities (including A2/AD)?
- 3) How might Russia use its air assets in a potential provocation (in worst-case scenario, military intervention) against any of the Baltic Sea states?
- 4) In what ways can NATO and its partners Finland and Sweden use air power to try to minimize the risk of conflict with Russia?

##### **NATO, Finland and Sweden: defense planning in peacetime**

- 5) How do you see potential of PESCO, NORDEFCO, NB8, 8+1 and other security arrangements in facilitating air power cooperation between Finland and Sweden on the one side, and NATO allies on the other?

- 6) General Philip Breedlove (USAF, ret.) argued in a recent [article](#) published by the Atlantic Council that now is the time to transition from Baltic Air Policing Mission to Baltic Air Defense Mission. From your perspective, would that strengthen the security of the Baltic Sea region or risk causing further instability?
- 7) The CSIS recently published a report [Enhanced Deterrence in the North](#), in which they make the case that Northern Europe (five Scandinavian countries and the Baltic States) should be seen as one theater of operations, and call for establishing Northern Air Defense. What is your take on this; do you consider the idea of Northern European Air Defense (a) sensible and (b) realistic?

#### **NATO, Finland and Sweden: defense planning for a military crisis**

- 8) Do you think that it is possible to have a NATO-Russia conflict in which Finland and Sweden would be neutral and not play any role?
- 9) In the event of a military crisis in the Baltic States, NATO's ability to apply air power may depend on whether or not the Alliance will have an agreement to use Swedish and Finnish air surveillance data, air space and/or air bases.
  - i) During the time of crisis, how contentious would you expect making these agreements to be?
  - ii) Is there a possibility for making these (political) agreements for a military crisis scenario before a crisis actually appears?

#### **Any additional issues and comments**

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#### **(Category: Politicians)**

##### **Preliminary list of questions for a semi-structured interview on the perspective of politicians on the topic**

#### **Air power in the Baltic Sea region and threats from Russia**

- 1) How do you see the role and importance of NATO air power in the providing deterrence and defense for the Baltic States?
- 2) What is your assessment of Russia's air power assets, including their A2/AD capability? How might the country use them in a potential provocation (in worst-case scenario, military intervention) against the Baltic States?

#### **Defense planning in peacetime**

- 3) When it comes to strengthening NATO's deterrent, do you think that adding an air dimension to the currently land-based Enhanced Forward Presence in the Baltic States would be (a) beneficial and (b) politically viable?

- 4) What do you think it would take for NATO to agree to transform the Baltic Air Policing Mission into Baltic Air Defense? When, if ever, would be the right time for it?
- 5) As it relates to air power, what are the most important capabilities (including host-nation support) that the Baltic States ought to improve on or develop?
- 6) The CSIS recently published a report [\*Enhanced Deterrence in the North\*](#), in which they call for establishing Northern European Air Defense which would cover all NB8 countries. Do you consider the idea (a) sensible and (b) realistic?

#### **Defense planning for a military crisis**

- 7) Due to geographical factors and infrastructure deficiencies, NATO's ability for rapid reinforcement of its Eastern flank is limited.
  - i) Do you think that there has been enough discussion about how air power could be used to help win precious time (and space) to bring in reinforcement? What do you see as the main challenges in doing so?
- 8) NATO's ability to apply air power will depend on whether or not the Alliance will have agreements to use Swedish and Finnish air surveillance data, air space and/or air bases.
  - i) During the time of crisis, how contentious would you expect making these agreements to be? Can you see a possibility for making these (political) agreements for a military crisis scenario before a crisis actually appears?

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**(Category: politicians in Estonian)**

#### **Preliminary list of questions for a semi-structured interview on the perspective of politicians on the topic**

#### **Õhuvõime Läänemere piirkonnas ja ohud Venemaalt**

- 1) Rääkides Läänemere regioonist ja üldisemalt, kuidas te näete õhuvõime rolli ja suutlikkust tagamaks heidutus ja kaitsmaks Balti riike (a) konventsionaalsete ja (b) hübriidohtude eest?
- 2) Missugune on teie hinnang Venemaa õhuvõimekusele (sh A2/AD) ning kuidas võib Venemaa seda võimekust kasutada potentsiaalses provokatsioonis (halvimal juhul sõjalises sissetungis) Balti riikidesse?
- 3) Pidades silmas NATO õhuvõimekust/õhuvahendeid, mis on (a) juba Balti regioonis ning neid, mida (b) saaks regiooni tuua, kas NATOl on vajalik võimekus, et saavutada õhuülekaal?

### **Kaitseplaneerimine rahu ajal**

- 4) Mõeldes NATO heidutuse tugevdamisest, kas teile tundub, et õhudimensiooni lisamine praegu maavägede lahingugruppidest koosnevale eelpaigutusele oleks (a) kasulik ning (b) poliitilisi olusid arvestades realistlik?
- 5) Mis olukorras võiks NATO liitlased nõustuda Balti õhuturbemissiooni muutmisega Balti õhukaitsemissiooniks? Millal, kui üldse, oleks selle jaoks õige aeg?
- 6) Missugused on õhuvõime kontekstis kõige olulisemad võimekused (sh võime liitlasi vastu võtta), mida Balti riigid peaksid ise arendama või looma?
- 7) Mõttekoda CSIS hiljuti avaldas uuringu [heidutusest Põhja-Euroopas](#), milles nad kutsuvad üles looma Põhja-Euroopa õhukaitset, mis kataks kõik NB8 riigid. Kas te peate seda (a) mõistlikuks ning (b) poliitilisi olusid arvestades realistlikuks?

### **Kaitseplaneerimine sõjalise kriisi korral**

- 8) Geograafiliste ja infrastruktuuriliste puuduste tõttu on NATO võime lühikese aja jooksul Balti riikidesse täiendavaid vägesid tuua piiratud.
  - i) Kas sellest on piisavalt räägitud, kuidas õhuvõime kasutamine saaks aidata seda probleemi leevendada? Mis oleks selle juures kõige suuremad väljakutsed?
- 9) NATO suutlikkus sõjalise konflikti ajal Baltimaades oma õhuvõimet kasutada sõltub muuhulgas sellest, kas Alliansil on olemas lepingud kasutamaks Rootsi ja Soome situatsioonipilti õhuruumist, õhuruumi ja/või lennubaase.
  - i) Kuidas teile tundub, kas nende lepingute sõlmimine kriisi ajal oleks poliitiliselt keerukas?
  - ii) Kas võiks olla võimalus nende (poliitiliste) kokkulepete sõlmimiseks enne kriisi puhkemist?

### **Muud teemad ja kommentaarid**

## Resümee

2016. aastal NATO poolt tehtud otsus vägede eelpaigutamiseks (eFP) Baltimaadesse ning Poola oli oluline saavutus, kuid eFP lahingugrupid ei ole mõeldud sõjalisteks operatsioonideks – nende peamine eesmärk on tagada, et kriisi korral oleks kogu allianss kaasatud. NATO karistusheidutuse tugevus ja tõsiseltvõetavus sõltub väga tugevalt alliansi võimekusest kriisi ajal kiiresti vägesid juurde tuua.

Läänemere regiooni geograafia piirab NATO operatsioonilist sügavust, mis on õhuoperatsioonide puhul väga oluline. Lisaks sellele on NATO tegevus vägede juurde toomisel piiratud Venemaa juurdepääsu ja tegevuse takistamine (A2/AD) võimekuse tõttu. Kaliningradi ning NATO-Venemaa piirile üles seatud võimsad maa-õhk tüüpi raketisüsteemid lubavad Venemaal luua tõkestatud juurdepääsuga tsooni (*anti-access*, A2), isegi kui NATO õhuvahendid sinna sisse pääsevad, on nende opereerimine seal piiratud (*area denial*, AD). Antud raketisüsteemid on eriti ohtlikud seetõttu, et nende võimekus ulatub sügavale NATO territooriumile, ja seeläbi on neil otsene mõju alliansi julgeolekule.

A2/AD kasutamine Venemaa poolt tähendab, et riik sihilikult vähendab NATO (karistus)heidutuse mõju, seades samal ajal üles tugevat tõkestusheidutust. NATO ei ole harjutanud vägede juurde toomist Balti riikidesse ja see vähendab alliansi usutavust ning võib panna Venemaa arvama, et tal on võimalik läbi sissetungi Balti riikidesse saavutada kiire võit ja *fait accompli* situatsioon enne seda, kui täiendavad NATO väed regiooni jõuavad.

Õhuvõimel on mitmeid aspekte, mis teevad selle väeliigi sobivaks vägede juurde toomist toetama ja Venemaa A2/AD võimekust neutraliseerima. Õhuvõimel on samuti keskne koht situatsiooniteadlikkuse loomisel, juhtimise (*command and control*, C2), luure, seire ja rekke (*intelligence, surveillance, reconnaissance*, ISR) tagamisel, ning õhukaitse (kuid mitte õhutõrje, mis kuulub maavägede kompetentsi) pakkumisel. Sõjalise kriisi olukorras, kus vägede juurde toomine on vajalik, on oluliste infrastruktuuri objektide nagu mobilisatsioonidepood, maanteed, õhu- ning merebaasid kaitsmine veelgi olulisem kui rahuajal, ja seda saab teha õhukaitse võimekuse kaudu.

Praegune lühimaa õhutõrjevõimekus, mis suudab pakkuda vaid punkti kaitset, ja piiratud funktsioonide ja jõukasutusreeglitega (*rules of engagement*, RoE) Balti

õhuturbemissioon ei valmista NATOt ette Balti riikides õhukaitset pakkuma. Adekvaatse õhutõrje – ja õhukaitse – puudumine on mitmetes dokumentides välja toodud kui võimelünk, mis vajab kiiret tähelepanu, sellegipoolest ei ole 2014. aastast peale suudetud lahendusega välja tulla. Üks käesoleva uurimustöö eesmärke on seda kompleksset teemat avada ja selgitada erinevaid põhjuseid, miks on alliansil olnud keeruline seda olukorda parandada.

Viimaste aastate jooksul, kuid eriti viimastel kuudel, on mitmed eksperdid, uuringukeskused ja mõttekojad (näiteks Gorenc 2016; Coffey ja Kochis 2017; Conley, Rathke ja Melino 2018; Breedlove 2018; Harper, Lawrence ja Sakkov 2018) tulnud välja ideede ja soovitustega, kuidas õhukaitse probleemi lahendada asuda ja seeläbi NATO heidutus- ja kaitsevõimet parandada. Mis kirjandusest peaaegu täielikult puudub, on põhjalikum analüüs küsimustest ja probleemidest, mis antud teemaga seostuvad – see on lünk, mida käesolev magistr töö proovib täita. Ühtlasi on see, ja kahekümne ekspertintervjuu põhjal tehtud analüüs, ka antud töö suurim lisandväärtus.

Ekspertintervjuude ning saadaoleva kirjanduse põhjal tehtud uurimus näitas, et julgeoleku ning õhuvõime teemadega tegelevatel inimestel Balti riikides, USAs, Suurbritannias, Rootsis ja Soomes on väga erinev arusaam sellest, kuidas NATO heidutust tugevdada kuni selleni, missugune näeks välja üleminek Balti õhuturbemissioonilt õhukaitsele. Alliansi ühtsuse hoidmine on kriitiliselt oluline. See on varasemast keerulisem seetõttu, et oportunistlik Venemaa testib NATO võimekust oma manipulatsioonitaktikate ning A2/AD võimekuse pideva kasvatamisega.

Uuringu tulemustena ilmneseid kolm peamist mõtet:

- Juurdepääsu ja tegevuse takistamise (A2/AD) mõiste täpne defineerimine, ja A2/AD rolli mõtestamine karistus- ja takistusheidutuse tagamisel on ebapiisav;
- Ekspertide seas puudub ühine arusaam, missugune näeks välja üleminek Balti õhuturbemissioonilt õhukaitse missioonile;
- Balti riikide koostöö ja üheselt õhukaitse küsimustes initsiatiivi haaramine on alatahtsustatud

Esimene samm tagamaks mõiste A2/AD laiemat kasutust ja paremat äratundmist nii ekspertide kui laiema avalikkuse seas on nii inglise kui teistes keeltes täpsema ning kasutajasõbralikuma terminiga väljatulek. Selle parem teadvustamine ja NATO

doktriinist osaks tegemine aitaks alliansi sees kaasa parema üksteisemõistmise tekkimisele. Samuti tuleks rohkem avada A2/AD kui strateegiliselt väga olulise termini multidimensionaalset olemust.

Balti õhuturbemissiooni muutmine õhukaitse missiooniks on teemana käsitletud olnud enam kui viimased kolm aastat, ja seetõttu on kahetsusväärne, et jätkuvalt ei ole ka ekspertide seas ühtset arusaama, mida see üleminek endast kujutaks. Ilma olulisi mõisteid defineerimata on väga keeruline millegi otstarbekuses selgust saada, ja seetõttu on oluline, et õhuturbelt õhukaitsele üleminek (või vähemalt konkreetsed variandid selle teostamiseks) oleks arusaadav ja ka liitlastele lihtsalt selgitatav.

Balti riigid ja nende riigikaitse eelarved on väikesed, kuid sellegipoolest on koostööd tehes ning koos suurtel hangetel osaledes võimalik saavutada olulist edasiminekut õhutõrjevõimekuses. Nii Leedu kui Läti on esimesed sammud keskmaa õhutõrje võimekuse loomiseks astunud, kuid kolme Balti riigi seisukohalt võiks kõige parem variant olla koos edasi minemine. See aitaks alliansile tõestada, et Balti riigid võtavad uute võimekuste loomist tõsiselt, ning tulevikus võiks see liitlasi motiveerida panustama, et Balti riikide (keskmaa) õhutõrjet veelgi parandada.

Balti riikide heidutuse ja õhukaitse teemad on hetkel väga aktuaalsed. NATO laiem eesmärk peaks olema oma heidutuse tugevdamine, et allianss saaks hakata astuma samme karistusheidutusest tõkestusheidutuse poole. Kuigi selleni on pikk tee, on oluline, et tõkestusheidutus ei muutuks millekski, mida saavad endale lubada ainult oportunistlikud riigid, kelle peamine eesmärk on Euroopa julgeolekuarhitektuuri lõhkumine.

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