Atlantic Council BRENT SCOWCROFT CENTER ON INTERNATIONAL SECURITY

ISSUE BRIEF

Enhancing the US-Swedish Defense Relationship

Security and Deterrence in the Baltic Sea Region

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he broader Baltic Sea region has emerged as a key friction point between the United States and its NATO allies and partners on the one hand, and an assertive Russia on the other. Since the beginning of the Ukraine crisis, the Baltic Sea region has been the main arena for a Russian military build-up and snap exercises, along with close encounters between Russian and US and NATO aircraft and ships, and even commercial aviation. For example, recently the USS Donald Cook was repeatedly overflown by Russian Su-34s at close range while deployed in the Baltic Sea.

The overriding US security concern in the Baltic Sea region is to provide deterrence against aggression toward the Baltic States and effective defense if that deterrence fails. The Baltic States are arguably NATO's most vulnerable members, and their small geographical size and limited military resources mean that they cannot, by themselves, offer strategic depth to the United States and NATO during a crisis. However, the region also contains two of NATO's most valuable partners—Sweden and Finland—along with the emerging leader of NATO's east, Poland. Leveraging and building capabilities in concert with these countries would do much to further enhance the defensibility of the Baltic States, and thereby also bolster NATO's ability to provide deterrence in the region.

This issue brief focuses specifically on the US-Swedish defense and security relationship, and the opportunities for closer cooperation around a set of capabilities that would directly contribute to reinforced security, as well as enhanced regional cooperation. Key recommendations include a US role in deepening regional cooperation around sub-surface warfare capabilities, US support and participation in regional efforts to grow electronic warfare and air defense capacities, and US participation in increased regional information sharing and sensor fusion. This is especially timely, as the United States and Sweden recently signed a new and high-profile defense cooperation agreement, which includes commitments by both Stockholm and Washington to concentrate US-

The Brent Scowcroft Center's **Transatlantic Security Initiative** brings together top policymakers, government and military officials, business leaders, and experts from Europe and North America to share insights, strengthen cooperation, and develop common approaches to key transatlantic security challenges. This issue brief continues the Transatlantic Security Initiative's work on Nordic-Baltic security issues in the new European security environment. This effort was conducted in partnership with Actagon AB. Swedish cooperation around a focused set of initiatives including interoperability, capabilities building, and research and development. This agreement provides the political umbrella under which both Sweden and the United States can quickly move forward in a number of areas.

Baltic Sea Regional Security Context

The security situation in the broader Baltic Sea region has rapidly worsened as Russia continues with its assertive behavior against the Baltic States and other nations in the region including Sweden. The main defense concern for NATO and the United States remains a Russian strategic ambush on Estonia, Latvia, or Lithuania, which could potentially break the alliance and the European security order.

To date, the United States has shored up Baltic defenses with a rotational presence, pre-positioning of equipment, and infrastructure upgrades in the region through the European Reassurance Initiative. NATO also decided during the emplace Warsaw Summit to battalion-sized multi-national units in Estonia, Latvia, Lithuania, and Poland. Despite these welcome developments, the fundamental military dynamic of the Baltic Sea region remains: Russia eniovs regional, military numerical а advantage (and in some areas a projected qualitative edge as well)

that will only be off-set by a rapid US and NATO entry and additional reinforcement flows into the Baltic Sea region during a crisis or war.

However, a US and NATO reinforcement effort in the region would be frustrated by the increasingly sophisticated and robust Anti-Access/Area-Denial (A2/AD) network currently being emplaced by Russia in Kaliningrad, which consists of long-range air defense, anti-ship missiles, and land attack systems that can, in combination, range across much of the southern Baltic Sea and into both allied and NATO partner territory to threaten not only deployed US and allied units, but also forward basing and staging areas. The Russian A2/ AD network is not an impenetrable shield and can be degraded and defeated using electronic warfare, longrange strike, precision engagement, and even cyber

A US and NATO reinforcement effort in the Baltic region would be frustrated by Russia's sophisticated and robust A2/ AD network in Kaliningrad.

measures. However, this will likely take time—something that would be in short supply given the widely assumed speed at which a Russian ground advance could cross the almost isolated and geographically small and open Baltic States.

The countries of the region, including Sweden, have taken note of the worsening security climate and are now orienting their defense resources toward territorial defense and managing a potential crisis with Russia. While some additional resources have been made available for capabilities, exercises, and training over the last few years, there is not likely to be a major increase in defense spending in the region, with the exception of Poland and Norway, although the latter country plays

> a relatively minor defense role in the Baltic Sea region. Furthermore, the countries of the region have made several attempts at regional cooperation around exercises. shared training, and capabilities in formats such as Nordic Defense Co-operation (NORDEFCO). To date, however, regional multilateral defense cooperation has not fully delivered on increasing the efficiency and effectiveness of defense in the Baltic Sea region. In particular, attempts at cooperation around major capabilities (such as a common Nordic submarine and a common artillery system for Sweden and Norway) have been met with disappointing results.

More recently, regional cooperation has taken on a bilateral character with, for example, Swedish-Danish, Swedish-Finnish, and Swedish-Polish cooperation. In this context, Swedish-Finnish defense cooperation is especially important and promising, as its future potential includes joint units and operational cooperation in wartime. Sweden and Finland have also separately signed defense cooperation agreements with important non-Baltic Sea nations, such as the United Kingdom.

Given the Russian military advantage in the region (and its expanding A2/AD network), the continued trend of limited defense spending in the Baltic Sea region, and the modest results of current regional multilateral defense cooperation, there is an urgent need for US leadership and engagement to help build

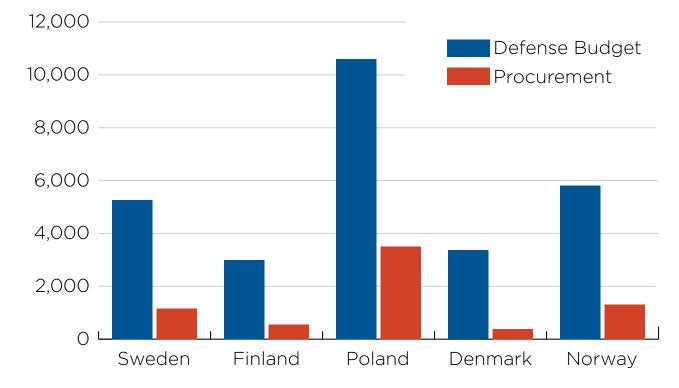


Figure 1. Defense Spending and Procurement (millions of USD)

Sources: NATO and Institute for International and Strategic Studies.

capabilities in the region, to better align the capacities already present in northeast Europe, and to remove the roadblocks to closer regional cooperation. If such an effort were successful, it would add much to provide deterrence in the broader region against an assertive Russia, to speed reinforcements to the region during a crisis, and to quickly break the Russian A2/AD network during a crisis in the Nordic-Baltic region.

Key Current and Future Capabilities in the Region (out to 2025)

This review of capabilities is not intended to provide an account of the full force disposition in the Baltic Sea region. Instead, it is intended to highlight capability and force areas that are especially relevant to the current military challenges in the broader region, or where there are serious capabilities gaps that need to be addressed in the near future by the nations of the region in general, and Sweden in particular.

It is also important to note that while not all Russian systems discussed are currently deployed in Europe's

northeast, nor are future capabilities necessarily intended for the Baltic Sea region, they are inherently re-deployable and can be brought into the region as part of a broader Russian rebalancing given strategic events. This is especially true of Russian air and naval power.

Current and Future Russian Capabilities in Northeast Europe

Air power

Russia's air power is inherently mobile over strategic distances, and this capability has increased over the last few years given Russia's demonstrated ability to conduct and sustain in-air-refueling operations. Still, a substantial number of fighter, attack, and reconnaissance platforms are based, or have been observed rotating through for exercises, near the Nordic-Baltic region. This includes Su-34 fighter-bombers and Tu-22 bombers, as well as Su-27 and MiG-31 fighters, all of which are already in service and will likely remain in the inventory for some time.

Russia also recently introduced the Su-35, which approaches the capabilities and survivability of the US Air Force's stealth tactical fighter, the F-22. In the early 2020s, Russia is also expected to have introduced into active service its new stealth fighter, the T-50 PAK, which is another step forward in terms of, among other things, survivability and sensor sophistication. To Russia's fleet of manned aircraft should be added the increasing attention given to unmanned aviation. Russia has deployed drones to great effect in Ukraine for reconnaissance and artillery spotting, and near-future platforms would be able to cover longer distances and conduct operations into partner and NATO territory in the Baltic Sea region.

Naval power

Russia's surface warfare fleet in the Baltic is of a

coastal character, but capable of operating across the maritime domain in the Baltic Sea region. It currently consists of two destroyers, two frigates, and some nineteen corvettes. Together, they can fulfill the main roles of a surface force, including anti-submarine warfare, air defense, and surface warfare. The Russian Baltic Sea fleet also includes four amphibious ships capable of landing a mechanized force of modest size.

The Baltic Sea fleet's submarine force is indeed small and is not

likely to receive the same attention to modernization as Russia's northern and Black Sea fleets. Still, given the small size of the Baltic sea and the challenging sub-surface conditions, the Kilo boats currently in the Baltic Sea fleet can be effective in denying the sea space to naval forces. In short, the Russian subsurface fleet in the Baltic should be thought of as part of Russia's developing A2/AD network in the region. The improved Kilo class submarine currently being introduced into the Russian navy are also capable of launching land attack missiles, which could threaten regional basing and other key military infrastructure in the Nordic-Baltic region.

A2/AD systems

Russia's evolving A2/AD network in the Baltic Sea region is centered around S-400 air defense systems and Iskander short-range ballistic missiles. The S-400 system is a sophisticated long-range air defense

system that can deny the airspace over a considerable portion of Poland, the Baltic States, and the southern part of the Baltic Sea. Meanwhile, the Iskander system is capable of striking targets out to roughly 310 miles, with a variety of warheads intended to maximize the effectiveness against deployed units or hardened infrastructure. Iskander missiles could therefore be used to attack NATO member forces in the field, or threaten regional basing needed to facilitate US and NATO operations in the Nordic-Baltic region. Finally, recent reports suggest that Russia has moved the Bastion anti-ship missile system to the Baltic Sea region, which has an effective range of roughly 150 nautical miles. This system would threaten NATO naval operations in the Baltic Sea, as well as complicate reinforcement efforts from the sea, such as an amphibious landing. All of the above systems are ground mobile, which

makes effective targeting and engagement by long-range systems such as cruise missiles a challenging proposition.

Current and Future NATO and Partner Country Capabilities in the Baltic Sea Region

The NATO and partner nations' capabilities cupboard in the Baltic Sea region is by no means bare. The countries of the region operate relatively advanced and capable military forces, which in many cases are tailor made for the operational

environment of northeast Europe. Key capabilities include:

Air Power

The region currently includes some two hundred tactical aircraft, in addition to platforms for reconnaissance and tactical airlift. Air Force fighter fleets across the region include both JAS-39 Gripens (Sweden) and F/A-18 Hornets (Finland), along with F-16s (Poland, Denmark, Norway). Many of the air forces in the region have experience from recent multi-national combat deployments, including in Libya, Afghanistan, and Iraq. The fleets of the region are capable of conducting airto-air engagements, ground attack, reconnaissance, and limited electronic warfare.

In coming years, air power in the Baltic Sea region is set to develop further. Sweden is introducing the JAS-39 Gripen E/F, while Denmark recently opted to procure the F-35 fighter from the United States.

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subsurface fleet in the Baltic should be thought of as part of Russia's developing A2/ AD network in the region.

[T]he Russian



US Deputy Defense Secretary Bob Work hosts an honor cordon to welcome Swedish Defense Minister Peter Hultqvist to the Pentagon, May 20, 2015. *Photo credit*: US Air Force/Wikimedia.

Finland is also embarking on an effort to replace its F/A-18 Hornet fleet, while Poland is exploring the future beyond its current F-16 fleet. While the quality of regional airpower is set to grow further, it will also likely come with a further reduction in numbers due to rising procurement costs and continued constrained defense budgets in the region. Denmark, for example, plans to procure twenty-seven F-35s to replace a fleet of F-16s that until very recently stood at forty-four.

Surface Warfare

The navies of the Baltic Sea region operate a modest number of smaller surface warfare platforms (primarily frigates and corvettes) that are capable of conducting anti-submarine warfare, surface warfare, and, to a limited extent, air defense missions. Key weapon systems include SM-6 and Evolved Sea Sparrow (Denmark) and RBS 15 (Sweden, Finland, and Poland). The navies of the region also operate a collection of mine-laying and mine-hunting assets. No major recapitalization of the surface fleets in the Baltic Sea region are expected in the coming years, with the exception of Finland, which is currently underway with its Navy Squadron 2020 program to procure four new multi-role surface platforms. In addition, a particular vulnerability is the limited air defense capacity of the naval forces in the region.

Sub-Surface Warfare

Sweden operates a small but skilled submarine force, which includes some of the most advanced conventional submarines in the world. The Swedish submarine force also has experience from a long series of multi-national exercises, including with US carrier groups off the coast of San Diego, California. However, the force has been reduced to a fleet of four boats, down from a total of twelve in the late 1990s. Meanwhile, Poland operates four German Type 207 boats and one Russian Kilo class submarine. Denmark and Finland do not operate any submarines. The Swedish and Polish submarine forces are capable of conducting sea denial operations, as well

	Norway	Denmark	Poland	Sweden	Finland
Current Aircraft	57 F-16s	44 F-16s	66 F-16s	80 JAS-39 C/D	62 F-18s
Future Aircraft	52 F-35s	27 F-35s	Under consideration	60 JAS-39 E/F	Under consideration
Destroyers	5	-	-	-	-
Frigates	-	4	2	-	-
Corvettes	6	-	-	5	4
Submarines	6	-	5	4	-
Future Submarines	Under consideration	-	3 Orka submarines	2 A26	-

Table 1. Key NATO and Partner Defense Capabilities In the Baltic Sea Region

Source: Institute for International and Strategic Studies.

as reconnaissance, but currently lack the capability to conduct land attack missions with missiles.

Sweden is currently underway with developing a new class of submarines that will further enhance the sophistication of its submarine force, while Poland's military modernization plan also includes a new class of submarines dubbed the Orka.

Air and Missile Defense

In a crisis or during wartime, the region, as well as deployed units from the United States and other NATO countries, would be vulnerable to Russian air and cruise missile attacks. However, regional air and missile defense capacity is currently limited and consists mostly of short-range and relatively old systems. Sweden currently fields a small number of man-portable RBS-70 short-range air defense systems, along with the USmade Hawk, first introduced in the 1960s.

Poland has launched a major effort to increase its air and missile defense capacities, with Warsaw widely expected to acquire the Patriot missile system from the United States. Finland has also embarked on strengthening its air defense capabilities, to complement the advanced surface-to-air missile systems acquired from Norway a few years ago.

Long-Range Strike

The ability to conduct long-range strikes is newly relevant in the Nordic-Baltic region, given the emerging Russian A2/AD networks and the need to increase deterrence against military aggression. The regional ability to conduct long-range precision strike is, however, limited, but has seen some improvement in recent years. Finland recently acquired the AGM-158 Joint Air-to-Surface Standoff Missile (JASSM) system from the United States, which enables a long-range strike capacity for Finland's fleet of F/A-18 Hornets. Poland is also pursuing that capability with a planned purchase of JASSM from the United States.

The US Role in Building Capabilities and Achieving Regional Cooperation

The United States can and must play a unique role as the orchestrator of capabilities building and enhanced defense cooperation in the Baltic Sea region. The United States enjoys close relationships with all of the nations of the region, either as an ally through NATO, or on a bilateral basis as with Sweden and Finland. In the case of Sweden, this relationship was further deepened by the recently signed defense cooperation agreement that opens the door for additional cooperation across the fields of information sharing, interoperability, exercises, procurement, and technology development. Helsinki signed a similar agreement with Washington in October of 2016. There is also a shared understanding in the region about the centrality of the US role in providing defense and deterrence in northeastern Europe, both directly, through its presence and defense guarantees to NATO allies and indirectly, through the building of capabilities and interoperability in the region.

Broadly speaking, the United States brings three key aspects to the effort of bolstering the capabilities sets of the region and achieving closer cooperation:

- The growing high-end Russian capabilities in the Baltic Sea region will require that the nations of the region raise the quality of their forces further, especially in technology-intense capability areas. The United States and its defense industry and research centers bring a range of cutting-edge technologies, among them command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR), precision strike, electronic warfare, and cyber. These could be applied, in concert with regional defense industries, to many of the current military challenges in the Baltic Sea region.
- The United States also brings a confidence building quality to its engagement in the Baltic Sea region. While all of the nations in the region generally cooperate well in a number of fields, a subtle level of distrust, and varying national priorities, remain among the countries in the security and defense realm. This could be overcome with clear and consistent political support for regional defense cooperation from Washington, as well as direct US participation in specific cooperative efforts.
- Sweden and Finland will likely remain outside of NATO for the time being, but their partnerships with NATO remain crucial in terms of interoperability and increasing the level of deterrence in the Nordic-Baltic region more broadly. The United States plays a key role as an advocate for Sweden's and Finland's partnership plans inside the Alliance, and can also help open new areas for cooperation between NATO and its Nordic partners.

Given the unique standing and capabilities of the United States, it must play a central role in providing the building blocks for regional capabilities development and serving as the galvanizer of regional cooperation and alignment. The US-Swedish bilateral relationship is now in a place where it can be leveraged for broader regional effect. This is due to the recently signed defense cooperation agreement that formalizes and elevates US-Swedish defense cooperation, but this is further driven by Sweden's central location in the Baltic Sea region along with its well-developed and relatively broad defense industrial base.

Focus areas for cooperation with the US

The agenda for US-Swedish defense cooperation under the recently signed agreement is broad, and ranges from bolstering interoperability to operational collaboration in expeditionary operations. However, given the urgent security situation and modest availability of resources in Sweden and across the region, the initial focus of US-Swedish cooperation should be dedicated to three main areas, including building key capabilities where the United States or Sweden currently are experiencing a serious capability gap in the regional context, more effective alignment of capabilities across the Baltic Sea region, and increasing situational awareness at the regional level.

Key Initiatives to Enhance Capabilities and Achieve Regional Alignment

Building Capabilities

Sub-surface capabilities for the Baltic Sea

The undersea environment in the Baltic Sea is especially challenging, with its combination of littoral conditions, shallow depth, and complicated oceanography (temperature and salinity), which limit sub-surface detection and tracking ranges. This means that US sub-surface capabilities, along with anti-submarine warfare (ASW) units (whether airborne, on the surface, or sub-surface), will have limited abilities to operate in the Baltic Sea region. It is, therefore, important for the United States to help advance the sub-surface capabilities of the regional actors.

One such opportunity is for the United States to encourage and participate in closer submarine cooperation between Sweden and Poland. As previously noted, Sweden is an able operator of submarines, with more than one hundred years of operational experience in the Baltic Sea's sub-surface environment. Sweden also seeks to acquire a new class of attack submarines, an effort that is in rough alignment with Poland's planned procurement of its new Orka class submarine. Industrial cooperation between Sweden and Poland on the new class of submarines could be further enhanced by the use of particular US technologies, such as the submarine combat system, or the integration of USmade submarine-launched land attack or anti-ship missiles. This industrial partnership could also be coupled with US-Swedish-Polish sub-surface and ASW exercises in the Baltic Sea, which would lend an operational aspect to the effort.

In addition to encouraging US-Polish cooperation around new attack submarines, US-Swedish cooperation in the sub-surface domain could also include a focus on sensors (and networks) and unmanned underwater systems for ASW, mine hunting, and reconnaissance. The ASW Continuous Trail Unmanned Vessel (ACTUV) developed at the Defense Advanced Research Projects Agency (DARPA) would be of special interest in this regard.

Electronic warfare

Strengthened Swedish and regional capacities to conduct and defend against electronic warfare is key to operating in the emerging contested environment

in the Baltic Sea region, due to the deployment of Russian antiaccess systems in the Kaliningrad enclave. Although it is also clear that this will be a capability that the United States will have to bring to bear during a crisis in the Baltic region. The nations of the region have sophisticated but limited electronic warfare and defense capacities, and would benefit from closer integration and technology development with the United States.

For example, the US Growler airborne electronic warfare platform is currently a maturing US capability, first introduced into the operating forces in 2009, with technologies that could be leveraged in airborne platforms that are operated in the region such as the soon-to-be introduced JAS-39 E/F fighter.

Air defense

Sweden's land- and sea-based air defense capabilities are in urgent need of modernization and expansion. This could be done in cooperation with the United States, as US industry has a number of maturing but still evolving systems in its inventory. US-Swedish collaboration around air defense could also include a focus on countering unmanned airborne systems, both kinetically (missiles and guns) and non-kinetically (cyber and electronic warfare).

Cyber operations

The cyber domain, and operations in cyber space, are now a given in modern warfare and has direct relevance to defense and deterrence in the Baltic Sea region, as well as to any campaign to defeat Russia's A2/AD network. In addition, Swedish cyber infrastructure is an important part of the global cyber architecture. US-Swedish cooperation around both defensive and offensive cyber capabilities would therefore not only strengthen defense capacities in the region, but also contribute to the resillience of the domain during a crisis.

Resillient basing

Sweden's land-

and sea-based air

defense capabilities

are in urgent need

of modernization

and expansion.

Swedish basing areas would be under threat from Russian long-range and air attacks in a crisis or during wartime, with direct consequences for Sweden's ability to operate its air and naval power and for US forward basing options in the Baltic Sea region. While Sweden has a tradition of dispersed and hardened basing held over from the Cold War period, it has not been

> a priority since the end of the Cold War, and the ranges and precision of adversary strike systems have increased considerably since that time. The United States and Sweden could therefore collaborate around resillient basing, which could also serve as a valuable template for the other countries of the region and elsewhere. Resillient basing does not only include the physical hardening of basing and support structures, but also active defense

components such as air defense systems, well-placed early-warning radar systems, jammers, and methods for quick recovery after an attack.

Aligning Capabilities and Capacities

Regional air domain capacity

As noted previously, the Nordic region contains significant airpower, with Sweden, Denmark, Norway, and Finland operating F-16s, JAS-39 Gripens, and F-18s. Fifth generation fighters in the form of F-35s will also be introduced into the region in the coming years. Through deeper collaboration, the combined airpower of the region could support almost the full range of air power missions, including air defense, interdiction, close air support, ISR, and deep strike in contested environments. However, this will require planning, greater alignment of roles, and closer networking of the platforms operating in the region. US encouragement, along with continued participation in regional air exercises, will be needed to effect this cooperation.

Regionalized air and missile defense (AMD)

Along with the need to improve Swedish air defenses in collaboration with the United States, the US-Swedish defense relationship can be leveraged to help build a regional air and missile defense architecture together with Poland. Linking improved Swedish air defenses to the emerging Polish AMD network would do much to reduce Russia's long-range strike capacity in northeast Europe and reduce the effectiveness of the Russian A2/AD network in Kaliningrad. In addition, it would add depth to a future Baltic air defense system currently being discussed among Estonia, Latvia, Lithuania, and the United States.

Enhancing Situational Awareness

Sensor capacity, domain picture sharing, data fusion, and targeting

The countries of the Nordic region have developed and put in place advanced ground-based radars that provide substantial coverage of the air domain in the region. However, they are not always networked, and regional cooperation around this capability set is limited. US support for further cooperation, perhaps under the umbrella of Nordic Defense Co-operation, would do much to move an effort along these lines forward.

The region has also come some way in building a system for maritime surveillance and information sharing under the Sea Surveillance Cooperation Baltic Sea (SUCBAS) initiative. This system and cooperation has relevance for defense tasks as well as soft maritime security and could be further enhanced by formal US participation. Indeed, the UK joined the initiative in mid-2015 as the first non-regional nation. Finally, the fusion of sensor data across platforms, networks, and domains is key to modern warfighting, and there is some capacity for this in the modern systems operated by the Nordic countries. The introduction of the F-35 into the region through Norway and Denmark also increases this capacity. This could be further enhanced by regional projects initiated by, and with the participated of, the United States. Data fusion will be central to achieving a broad-based operational picture for operations in the region.

Intelligence sharing

Russia's speed of operations and exercises have repeatedly surprised not only the United States and NATO, but also the nations of the Baltic Sea region. Improved regional intelligence sharing would contribute to better indications and warnings, which would assist in detecting and understanding the purpose of, for example, Russian mobilizations and unit movements. This would also help inform and better calibrate national decision making about mobilizations and deployments that may be neccessary during a security crisis in the Baltic Sea region. US leadership is needed to overcome subtle distrust and bureacratic inertia among the nations in the region. The creation of an open-source intelligence center for the region should also be considered, as much can be gained in terms of situational understanding during a rapidly developing situation from social media and local news sources.

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