

**Patryk Reśkiewicz**

Wojskowa Akademia Techniczna, Warszawa

## **RUSSIAN ANTI-ACCESS POTENTIAL (A2 / AD) ON THE CRIMEAN PENINSULA**

### **ABSTRACT**

The purpose of the following article is to present the military capabilities of the Russian Federation located on the Crimean peninsula, and to define in this context Russian A2/AD anti-access capabilities and their impact on the security architecture of the Black Sea region, in particular NATO's south-eastern flank.

#### Key words:

Russian Federation, A2/AD, NATO

### **INTRODUCTION**

The development of Russia's A2/AD anti-access capabilities is a huge challenge for the Euro-Atlantic security architecture. The Russian Federation, aware of the conventional superiority of NATO forces, is seeking to develop certain A2/AD capabilities on its western limits (a corridor allowing Russia to influence the security architecture of the countries lying on the Baltic-Black Sea platform). These extensive actions are aimed at neutralising NATO's military superiorities and creating a regional advantage for the Armed Forces of the Russian Federation. The implementation of these objectives may hinder the effective defence of countries on NATO's eastern outskirts, thereby undermining the credibility of the North Atlantic Alliance, particularly in terms of carrying out the tasks of Article 5 of the Washington Treaty.

In the Black Sea region, the Russian bastion A2/AD is played by the Crimean Peninsula, which in recent years has become an area of comprehensive and broad militarization. Numerous units have been deployed in the region, armed with modern means of destruction, which allow the Russian armed forces to project force in multiple domains. The scope and scale of the projects in this

area have radically changed the power structure in the Black Sea region and opened up new prospects, limited to 2014, for Moscow's strategic objectives in the Black Sea region and NATO's south-eastern flank, and even the Mediterranean.

The aim of the article is to show Russia's A2/AD capabilities in the Black Sea region, and to present the complications arising from them for NATO and the countries on the alliance's south-eastern flank. The publication consists of three parts. The first part of the article conceptualises issues related to the definition of A2/AD anti-access capabilities. The second part focuses on defining the geostrategic role of the Crimean peninsula in the context of the implementation of the Strategy for Political and Military Action of the Russian Federation in the Black Sea region. This section also analyses the military capabilities of the Russian Federation in Crimea. The last part of the publication outlines the scope of key Russian A2/AD capabilities in the Black Sea region and their direct impact on the security architecture of NATO's south-eastern flank.

### **ANTI-ACCESS DOCTRINE A2-AD - DEFINITION**

Anti-access capabilities include operating in two areas – "Anti-Access" and "Area-Denial". The "Anti-Access" sphere (A2) refers to actions and abilities, usually long-range, designed to prevent enemy forces from entering the operational area. Counter-access measures are aimed at eliminating enemy forces approaching by air, sea, and land. "Area-Denial" (AD) refers to actions and capabilities, usually of shorter range, designed to restrict the freedom of action of enemy forces already in the operational area. In addition, activities in both areas can be supported by a multidimensional operation in cyberspace<sup>381</sup>.

Depending on the perception of the subject's challenges and threats, anti-access capabilities can be developed and shaped to conduct both defensive and offensive operations. In the first case, the expansion of these abilities is closely related to the fear of armed aggression of the enemy. The construction of A2/AD systems is designed to de-indue the enemy from a possible attack. The potential aggressor must reckon with the fact that a possible attack will involve large losses. In the case of offensive operations, projects in this area are determined by the ambition of the entity to create a new, own security architecture, most

---

<sup>381</sup> A. Erdogan, *Russian A2AD Strategy and Its Implications for NATO*, <https://www.behorizon.org/russian-a2ad-strategy-and-its-implications-for-nato/>, (access 7.03.20).

often along its limits (border areas). Capabilities in this area limit the possibility of intervention by external forces (support forces). The catalogue of resources used to build the A2/AD makes defensive capabilities also available for offensive operations and vice versa<sup>382</sup>.

Tabela 1 Anti-access doctrine A2/AD

<b>A2/AD Anti-Access/Area Denial</b>	
<b>A2 Anti-Access</b>	<b>AD Area Denial</b>
Prevent, or de-prevent an enemy from entering the operational area	restriction of freedom of manoeuvre in the operational area

Source: own research.

Actions in two areas - 'Anti-Access' and 'Area-denial' - require the development of adequate weapons systems to ensure effective operations both in closer (AD), and long-range (AA). In the area of "Anti-Access", key capabilities include<sup>383</sup>:

- multi-layered integrated air defence systems (IADS) consisting of modern combat aircraft, ground, and mobile ground-to-air systems;
- long-range artillery systems and mlrs multi-propelled rocket launchers; Multi-platform ballistic missiles (air, sea, and land) against land and sea targets;
- submarines armed with supersonic cruise missiles;

The "Area-Denial" sphere includes actions, shorter range, designed to make it difficult for the enemy to conduct operations in the immediate area of a potential crisis, or armed conflict. As part of the AD actions, key capabilities can be<sup>384</sup>:

- short-range air defence systems;
- armored combat vehicles;

<sup>382</sup> T. Kelly, D.C. Gompert, D. Long, *Smarter Power, Stronger Partners, Volume I*, RAND Corporation 2016, p. 38.

<sup>383</sup> A. Erdogan, *Russian A2AD Strategy and Its Implications for NATO*, <https://www.behorizon.org/russian-a2ad-strategy-and-its-implications-for-nato/>, (access 8.02.20).

<sup>384</sup> J. Gordon, J. Matsumura, *The Army's Role in Overcoming Anti-Access and Area Denial Challenges*, RAND Corporation 2013, p. 28.

- attack helicopters armed with m.in precision ammunition;
- large number of short-range guns (heavy mortars, rocket launchers) armed with precision-guided missiles;
- extensive minefields. unmanned aerial vehicles.

### **CRIMEA – MILITARY ROLE AND POTENTIAL**

The annexation of Crimea in 2014 demolished the security architecture of the Black Sea region at the time. Russia currently controls the second most important strategic point on the Black Sea map, right across the Turkish Bosphorus and Dardanelles – Crimean Peninsula. Russian control of this key area is changing the existing arrangement of forces in the Black Sea. The inclusion of the peninsula in the structure of the Russian Federation has increased its military capabilities in the region, and Crimea itself has undergone deep and comprehensive militarisation – by the end of 2025, a large troop component is planned to be deployed (around 43 000)<sup>385386</sup>. The militarisation of Crimea serves two complementary sets of objectives, implemented in two dimensions – in the Black Sea region and in the Mediterranean. In the Black Sea region, these include: <sup>387</sup>

- building an anti-access zone (A2/AD);
- counterbalance NATO's anti-ballistic missile (ABM) activities in The Romanian Deveselu;
- creating a threat to US troops stationed at the Romanian Kogalnicean Air Base; the creation of a pressure platform and future operations in southern Ukraine and Georgia;
- strengthening Russia's position as the most important actor in the South Caucasus.

In a broader perspective, the militarization of the Crimean peninsula is intended to enable the Russian Federation to project multidimensional forces, including the Mediterranean sea and even part of the northern Levee. These

---

<sup>385</sup> P. Mickiewicz, *Strategiczne znaczenie aneksji Krymu dla rosyjskiej polityki bezpieczeństwa*, [at:] *Rosyjska myśl strategiczna i potencjał militarny w XXI wieku*, P. Mickiewicz (edit.), Warszawa 2018, p. 283.

<sup>386</sup>R. Minich, *Russia Shows its Military Might in the Black Sea and Beyond*, [www.atlanticcouncil.org/blogs/ukrainealert/russia-shows-its-military-might-in-the-black-sea-and-beyond](http://www.atlanticcouncil.org/blogs/ukrainealert/russia-shows-its-military-might-in-the-black-sea-and-beyond), (access 6.02.20).

<sup>387</sup> G. Visan, O. Manea, *Crimea's transformation into an access-denial base*, <http://bsad.roec.biz/portfolio-item/crimeas-transformation-into-an-access-denial-base/>, (access 14.02.20).

assumptions determine the further development of military capabilities to ensure:<sup>388</sup>

- the possibility of exerting political and military pressure on Turkey in order to enforce the expected formula for the use of the Bosphorus and the Dardanelles;
- the permanent presence of the Russian navy in the eastern Mediterranean; military authority in Syria (A2/AD capability building);
- integration with other military resources in the Caspian Sea, Iran, and the Mediterranean the possibility of exerting political and military pressure on Turkey in order to enforce the expected formula for the use of the Bosphorus and the Dardanelles; the permanent presence of the Russian navy in the eastern Mediterranean; military authority in Syria (A2/AD capability building); integration with other military resources in the Caspian Sea, Iran, and the Mediterranean.

The potential of the Russian armed forces in the Crimean peninsula continues to increase. The authorities in Moscow almost immediately, after the annexation of Crimea, took steps to locate new military units in the region. In the nine months since Crimea was seized, 40 new units have appeared there<sup>389</sup>. It is currently estimated that around 30,000 people are stationed on the peninsula<sup>390</sup>. The troops of the Russian Federation, which are largely subject to the Ministry of Defence of the FR, in the operational subordination of the Headquarters of the Black Sea Fleet. In addition, the capabilities located in the region are strengthened units by other force ministries, e.g. fsb border troops, or 112. The Brigade of Internal Troops of the so-called Rosgwardia<sup>391</sup>.

## GROUND COMPONENT OF GROUPING IN CRIMEA

The main binder of land assets in Crimea is the command of the 22nd Army Corps with its headquarters in Simferopol, established in February 2017. The

---

<sup>388</sup> J. Sherr, *Ukraine and the Black Sea Region: The Russian military perspective*, [at:] *The Russian Military in Contemporary Perspective*, S J. Blank (edit.), The Strategic Studies Institute (SSI) 2019, pp.802-803.

<sup>389</sup>K. Czerniewicz, *Obwód Kaliningradzki i Krym czyli ufortyfikowane twierdze Rosji*, [oaspl.org/2016/01/28/obwod-kaliningradzki-i-krym-czyli-ufortyfikowane-twierdze-rosji/](https://oaspl.org/2016/01/28/obwod-kaliningradzki-i-krym-czyli-ufortyfikowane-twierdze-rosji/), (access 15.02.20).

<sup>390</sup> *International security and Estonia 2019*, Estonian Foreign Intelligence Service, Tallin 2019, p. 30.

<sup>391</sup> M. Gawenda, *Twierdza Krym. 5 lat po aneksji [ANALIZA]*, <https://www.defence24.pl/twierdza-krym-5-lat-po-aneksji-analiza>, (access 17.02.20).

Army Corps itself is the basis for commanding land forces, incl. for the defense of the coast of the Crimean peninsula. The 22nd Army Corps consists of:<sup>392</sup>

- **810th Independent Marine Brigade of the Black Sea Fleet (Sevastopol)** – consisting of three battalions of marines, a reconnaissance company and sharpshooters. The brigade also includes an artillery squadron and other subdivisions;
- **501st Independent Marine Battalion (Theodosia)** – consists of three Marine companies, and a mortar battery. This battalion was created on the basis of two battalions of the Ukrainian marines.
- **475. Radioelectronic Warfare Center (Sevastopol)** – a key center of electronic struggle in the Black Sea region. Units included in the structure of this unit are equipped with new means of radio-electronic combat, e.g. Murmansk-BN, R-330Ž disturbance station, R-934BMW disturbance station, WRE RB-531B mobile system;
- **126th Independent Coastal Protection Brigade (Perevalne)** – consists of three battalions (mountain battalion, mechanized battalion, and marine infantry), and support units (armored battalion (T-72B3), and squadrons of barrel, rocket, and anti-aircraft artillery. The brigade was created on the basis of Ukrainian 36. Coastal Army Brigades;
- **15th Independent Coastal Artillery and Missile Brigade (Sevastopol)** – consists of three anti-ship missile squadrons, armed, among others, with in K 300P Bastion-P mobile coastal defense systems and 3K60 Bal mobile anti-ship systems;
- **854th Independent Coastal Missile Regiment (Sevastopol)** – armed with a mobile anti-ship coastal defense system 4K51 Granitsa;
- **127th Reconnaissance Brigade (Pargolovo)** – a tactical compound intended for reconnaissance activities. It consists of a command battalion, a special-purpose battalion, a radio-electronic reconnaissance battalion, and a company of unmanned aerial vehicles;
- **1096. Independent Missile Anti-Aircraft Regiment (Sevastopol)** – a tactical compound designed to protect, inter alia, infrastructure essential for security and ships of the Black Sea Fleet. The regiment is equipped with Buk-M2 ground-air missile systems;
- **8. Independent Coastal Artillery Regiment (Simferopol / Perevalne)** – the regiment consists of three squadrons: barrel (2S19 Msta-S - 152 mm self-propelled howitzer), missile (BM-21 and 2B26 Grad, 9P140 Uragan) and anti-tank (MT- 12 Rapira, 9K123 Krizantiema-S);

---

<sup>392</sup> M. Gawenda, *Twierdza Krym. 5 lat po aneksji [ANALIZA]*, <https://www.defence24.pl/twierdza-krym-5-lat-po-aneksji-analiza>, (access 17.02.20).

- **388. Sea Reconnaissance Point (Sevastopol)** – reconnaissance unit of the nature of naval special-purpose forces. It consists of two companies of the special forces, and an underwater mining company;
- **68th Independent Marine Engineering Regiment (Yevpatoria)** – consists of three battalions: engineering, engineering and sapper, engineering and technical;
- **4th Radiation, Chemical and Biological Defense Regiment (Sevastopol)** – consists of three battalions equipped with, among others: thermobaric rockets (flamethrowers) type TOS-1 and TOS-1A, and subunits of flamethrowers on BMO-T transporters;
- **133. Material and Technical Security Brigade (Bakhchisaray)** – a unit intended to carry out tasks resulting from ensuring the combat readiness of the Armed Forces of the Russian Federation in the area of the Crimean Peninsula;
- **171st Independent Battalion of the 7th Division of VDV, Jankoj;**
- **47th Territorial Defense Division, Sevastopol.**

When analyzing the military potential of the land forces in Crimea, one should also take into account the prospects of rearming the region with Iskander-M ballistic missiles. Although the Russian Federation has not yet confirmed the information about the deployment of such systems in Crimea, according to numerous reports and analyzes, the Iskander-M systems are already installed in the region (in the strength of one squadron)<sup>393</sup>.

### WKS ANTI-AIRCRAFT DEFENSE

The anti-aircraft and anti-missile defense over the Crimea is provided by the 31st Anti-Aircraft Defense Division, which consists of two regiments armed with S-400 systems and a radio engineering regiment. Elements of the division are located in Sevastopol, Feodosia and Yevpatoria<sup>394</sup>.

- **3. Radiotechnical Regiment (Sevastopol);**
- **12. Anti-Aircraft Regiment (Sevastopol / Yevpatoria)** – equipped with two squadrons of S-400 systems (24 launchers in total);

---

<sup>393</sup>Russia amasses 32,000 troops, Iskander and S400 systems in Crimea – Ukraine  
<https://www.unian.info/politics/10093373-russia-amasses-32-000-troops-iskander-and-s400-systems-in-crimea-ukraine.html>, (access 17.03.20).

<sup>394</sup>M. Dura, *Twierdza Krym. Rosja cementuje wojskową architekturę półwyspu*,  
<https://www.defence24.pl/twierdza-krym-rosja-cementuje-wojskowa-architekture-polwyspu>, (access 17.03.20).

- **18th Guard Anti-Aircraft Regiment (Teodosia / Jankoy)** – armed with two squadrons equipped with S-400 systems – in Feodosia and Jankoy (8 launchers per squadron). Additionally, the regiment has a Pancyr-S1 anti-aircraft systems squadron in stock.

### AVIATION OF THE BLACK SEA FLEET

The aviation of the Black Sea Fleet is based on the recently appointed 2nd Air Force Division of the Naval Fleet – VMF (Voyenno-Morskoy Flot), whose command is stationed on a daily basis at the Novofiodorovka base. The structures of the division on the Crimean Peninsula include: the 43rd Naval Assault Regiment, and the 318th Mixed Aviation Regiment<sup>395</sup>.

- **43rd Naval Assault Aviation Regiment (Sevastopol, Saki)** – the main strike component of the Black Sea Fleet Aviation. The equipment includes Su-30SM, Su-24M and Su-24MR combat aircraft. In 2015, the regiment began to be equipped with multi-role Su-30SM fighters.
- **318th Mixed Aviation Regiment (Sevastopol, Kacha)** – the regiment has, among others, Mi-8 and Ka-27 helicopters, An-26 transport aircraft and Be-12 flying amphibians.

### AIR-SPACE FORCE (*VOZDUSHNO-KOSMICHESKAYA SILA, VKS*)

At the end of 2014, the Ministry of National Defense of the Russian Federation officially announced the formation of the 27th Mixed Air Division with staff at Belbek Airport near Sevastopol. Currently, this division is made up of three regiments<sup>396</sup>.

- **37th Mixed Air Regiment (Gwardejskoje)** – consists of two squadrons, bomb, and assault, 12 aircraft each. Equipped with the Su-24M, and Su-25SM regiments.
- **38th Hunting Regiment (Sevastopol/Belbek)** – consists of two squadrons. The regiment is equipped with Su-27P, Su-27UB, Su-27SM,

---

<sup>395</sup>M. Dąbrowski, *Nowe dywizje lotnicze w Obwodzie Kaliningradzkim i na Krymie*, <https://www.defence24.pl/nowe-dywizje-lotnicze-w-obwodzie-kaliningradzkim-i-na-krymie>, (access 17.02.20).

<sup>396</sup>M. Dura, *Twierdza Krym. Rosja cementuje wojskową architekturę półwyspu*, <https://www.defence24.pl/twierdza-krym-rosja-cementuje-wojskowa-architekture-polwyspu>, (access 17.02.2020).



- Su-30M2 aircraft. The unit is gradually reused for new Su-30SM aircraft (one squadron). The regiment is scheduled to have about 30 machines.
- 39th Helicopter Regiment (Jankoj) – **consists of three squadrons: a transport and combat squadron (Mi-8) and two strike squadrons (Mi-35M and Ka-52).**

### NAVAL COMPONENT OF THE BLACK SEA FLEET IN CRIMEA

The annexation of Crimea has also increased the operational capabilities, and capabilities of the Russian Black Sea Fleet. The previous Russian-Ukrainian agreements of 1997 governed the rules for the stationing of the Black Sea Fleet on Ukrainian territory. As a result of the events of 2014, Russia has been given full freedom to build its capacity and location on the peninsula<sup>397</sup>. More importantly, Russia, with its annexation of Crimea, has regained the strategic port of Sevastopol, which is home to about 80 percent of the Black Sea Fleet's total capabilities. This port is the only year-round, non-frozen, and deep-water Russian port in the region where large warships are able to moor<sup>398</sup>. Today, the Black Sea Fleet consists of about 21 main naval battleships and 7 submarines and about 200 auxiliary ships, located mainly in Sevastopol, as well as in smaller bases in Feodosia (also in Crimea) and Novorossiysk<sup>399</sup>.

- **The 30th Naval Division** – is a key impact component of the Black Sea Fleet, which brings together the largest naval vessels in its resources. This division is regularly rearmed. In 2016, admiral Grigorowicz and Admiral Essen were commissioned, and admiral Makarov in 2017. It is worth adding that with offensive potential 30. The Black Sea Fleet Division is not only determined by water-based ships armed with Calibr-class cruise missiles, but also by submarines, which can also target targets with such missiles.
- **41st Small Rocket Ship Brigade** – equipped with several small missile ships, project 1239 and 12341, and several rocket cutters, project 12411/M.
- **68. District Water Protection Ship Brigade** – having smaller ships and mines trawl, auxiliary, security, rescue, hydrographic, etc.

---

<sup>397</sup>A. Wilk, *Militarne konsekwencje aneksji Krymu*, [www.osw.waw.pl/pl/publikacje/analizy/2014-03-19/militarne-konsekwencje-aneksji-krymu](http://www.osw.waw.pl/pl/publikacje/analizy/2014-03-19/militarne-konsekwencje-aneksji-krymu), (access 7.03.20).

<sup>398</sup> A. Schneider, *Russia's Black Sea Fleet Buildup*, <https://www.maritime-executive.com/editorials/russias-black-sea-fleet-buildup>, (access 14.02.20).

<sup>399</sup> S. Wezeman, A. Kuimova, *Russia and Black Sea security*, „SIPRI Background Paper”, December 2018, p. 9.

- **102. Special Purpose Division for the fight against underwater diversion** – the branch consists of the special forces scuba divers, and anti-diversionary cutters of the project 21980 Graczonok. The task of the detachment is to protect the infrastructure and ships of the Black Sea Fleet
- 197th Amphibious Ship Brigade – **consists of several amphibious vehicles, project 775/775M and 1171.**

### AIR-SPACE DEFENSE

There are also space control, and reconnaissance measures on the Crimean peninsula. The main units of this type of armed forces in the region include 40. Command and Measurement Centre in Eupatoria, Composed of 40 The centre also enters 808. Radiotechnical Node in Sevastopol. Part of the Air and Space Defence forces is also an outpost near Sevastopol with long-range radar type 5N86 Dnepr<sup>400</sup>.

### CRIMEA – RUSSIAN STRONGHOLD A2/AD

The annexation of Crimea has increased the military capabilities of the Russian Federation in the Black Sea region. A key element in this dimension, enabling the implementation of the Kremlin's strategic interests in the region, has been the development of instruments for isolating the battlefield, defined by the Western nomenclature with A2/AD anti-access capabilities. An analysis of the military capabilities located in Crimea shows that the Russian Federation has many instruments that can interact in many domains (air, sea, land, and cyberspace) in terms of A2/AD capabilities. Key ones include:

- **S-400 air defence systems** – mobile anti-aircraft and anti-missile system, which can simultaneously target multiple targets. Its maximum range is 400 kilometers <sup>401</sup>.
- **Calibr maneuvering missiles** – all versions of the Calibr range of maneuvering missiles (3M-54, 3M-14) can be fired from submarines, and water-based ships from a vertical launch pad. In addition, this system can be operated from ground and air platforms. Depending on their configuration, they are able to destroy enemy ships (water and

---

<sup>400</sup> M. Gawenda, *Twierdza Krym. 5 lat po aneksji [ANALIZA]*,

<https://www.defence24.pl/twierdza-krym-5-lat-po-aneksji-analiza>, (access 17.02.20).

<sup>401</sup> T. Smura, *Rosyjskie zdolności w zakresie środków izolowania pola walki (A2AD) – wnioski dla NATO*, Fundacja Pułaskiego, Warszawa 2017, p. 4.

underwater) with 3M54 maneuvering missiles (NATO: SS-N-27 Sizzler) with a range of up to 250 km (155 miles), or target land targets with 3M-14 maneuvering missiles (NATO: SS-N-30A Calibr) within 2,500 km<sup>402</sup>.

- **Oniks-class missiles (from the "Bastion" system)** – mobile coastal defence system, designed mainly for tasks in the field of combating water ships. The system is armed with P-800 Oniks missiles, the range of which varies, depending on the flight altitude, from 120 km to 300 km. Bastion-P also has the ability to destroy land targets<sup>403</sup>.
- **Missile anti-ship complexes "Bal"**– mobile coastal missile systems, designed primarily for the defence of naval bases, land facilities, and coastline. Rockets have a maximum range of up to 120 km<sup>404</sup>.
- **mobile launcher system "Iskander-M"** – mobile system, designed to destroy, using ballistic missiles, targets in the operational depth of the formation of enemy forces (range up to 500 km). It is a dual-use system designed to carry out both conventional, and tactical nuclear strikes (range up to 700 km)<sup>405</sup>.
- **Murmansk-BN Krasucha-4** – reconnaissance systems interfering with great power. A system that provides for "access" to the area, and its effective mirroring. They provide the possibility of jamming radiolocation signals (interception, interfering with signals emitted by reconnaissance satellites, early warning aircraft, unmanned aircraft, and ground stations) within a radius of 150 to 300 km<sup>406</sup>.

In the land domain, mobile Iskander – M ground-based missile systems play a key role, which are designed to prevent, or significantly impede enemy forces' access to territories controlled by the Russian Federation, or allied countries. These systems are capable of destroying the key infrastructure, bases, and concentration of NATO countries Bulgaria and Romania (located on the outskirts of the Black Sea). Although in the current configuration, the range of Iskander-M systems does not directly threaten the Romanian Deveselu air base,

---

<sup>402</sup> B. Hodges, J. Bugajski, P. B. Doran, *"Securing the Suwalki Corridor. Strategy, Statecraft, Deterrence and Defense"*, Center for European Policy Analysis CEPA, Washington 2018, p. 20.

<sup>403</sup> P-800 Oniks, [http://www.military-today.com/missiles/p800\\_oniks.htm](http://www.military-today.com/missiles/p800_oniks.htm), access 18.02.20.

<sup>404</sup> M. Dura, *Rosjanie testują „nowe” nadbrzeżne wyrzutnie rakietowe Bał*, [www.defence24.pl/rosjanie-testuja-nowe-nadbrzezne-wyrzutnie-rakietowe-bal](http://www.defence24.pl/rosjanie-testuja-nowe-nadbrzezne-wyrzutnie-rakietowe-bal), (access 6.03.20).

<sup>405</sup> R. McDermott, T. Bukkvoll, *Russia in the Precision-Strike regime– military theory, procurement and operational impact*, Norwegian Defence Research Establishment (FFI) 2017, p. 11.

<sup>406</sup> T. Smura, *Rosyjskie zdolności w zakresie...*, *op. cit.*, p. 4

where NATO missile defence assets are installed, as part of the European Phased Adaptive Approach programme (EPAA)<sup>407</sup> it should be noted, that the same system may pose an imminent threat to the key Romanian air base Mihail Kogălniceanu. This base is located in eastern Romania. It was used by American troops as a logistical base during the wars in Afghanistan and Iraq. Following the annexation of Crimea, the base hosts US and NATO troops on a daily basis, and accepts air assets as part of NATO's "Air Policing" mission in the Black Sea region<sup>408</sup>. The situation is similar for the Bulgarian logistics base in Aitos, where both Bulgarian, and American soldiers are stationed. It should be noted, however, that key military bases in both Bulgaria and Romania are beyond the range of Russian Iskander-M missile systems. The possible location of these systems, e.g. in Sevastopol, will result in the Russian Federation being able to destroy critical transport hubs (ports, airports), and the infrastructure necessary for the adoption of North Atlantic Alliance troops located exclusively in the eastern areas of Romania and Bulgaria (near the Black Sea). Iskander-M systems pose a much greater threat to Ukrainian positions. Within the scope of such systems at, among others, the third largest city in Ukraine - Odessa<sup>409</sup>. It should be stressed that Iskander-M systems can be armed with a nuclear warhead. This fact enables Russia to use these systems as a tool of psychological pressure, or intimidation.

While ground forces can capture, control and maintain the area, it should be taken into account, that air strikes are the main challenge, and threat to the assets of air landing landers. In view of the devastating effects that an effective air operation may have on land targets, it is necessary to provide comprehensive air defences within the A2/AD network. The capabilities in this area are intended to help repel the aggression of the enemy air force, and to ensure the defence of objects and troops deployed in the area against air strikes. With regard to Russia's A2/AD capabilities in this area in Crimea, it should be noted that the Integrated Air Defence System (IADS) involves functioning particularly in two

---

<sup>407</sup> EPAA (more: Phased Adaptive Approach, which EPAA i san European part) is the flagship program in the field of missile defense of European NATO members, based on the technical solutions of the American anti-ballistic system Aegis Ashore. M. Maciejewski, *Druga faza EPAA wykonana*, <http://zbiam.pl/artyku%C5%82y/druga-faza-epaa-wykonana/>, (access 8.03.20).

<sup>408</sup> *Romania plans to spend EUR 2.5 bln to rebuild military base at NATO standards*, <https://www.romania-insider.com/romania-rebuild-mihail-kogalniceanu-military-base>, access 18.02.20.

<sup>409</sup> O. Manea, G. Visan, A. Gosu, E. Gusilov, *Black Sea in access denial age. Special report*, Romania Energy Center (ROEC) 2016, p. 13.

dimensions. In the first main role play fighter aircraft and bombers. The second dimension focuses on land-based ground-to-air missile systems (Surface To Air Missile). IADS measures are intended to prevent all aircraft, including aircraft, manoeuvring missiles, and other systems, from operating freely<sup>410</sup>.

The first layer of airspace protection under the Russian A2/AD is provided by aircraft with the ability to conduct operations over long distances with the ability to attack both air, and land targets of the enemy. The key in this respect is the assets held by: 43. Naval Assault Air Regiment, 37. Mixed Air Regiment and 38. Hunting Regiment. The Su-27SM Flanker and four Su-30 Flanker-C aircraft are fourth-generation fighters, and some of the best aircraft in the State of the Russian Air Force. Their effective range is more than 3,500 km, and both aircraft can carry up to ten air-to-air missiles (firing range up to 80 km). However, this potential will be increased. According to official information, the Russian Federation has been consistently seeking to re-image these resources with Su-30SM aircraft, which are a slightly modified version of the Su-30 aircraft since 2015. The Su-30SM multirole has the capability to both fighter, and attack ground, and water targets with a wide range of means of destruction<sup>411</sup>. Along with fighter aircraft, the Russian Federation also deployed a squadron of Tu-22M3, Tu-95, and Su-34 bombers (fighter-bombers) to Crimea. US and NATO bases, and command centres in the Black Sea region will be one of the main targets of potential bombing. From a political point of view, the presence of a strategic bomber fleet will be used by Moscow to try to intimidate, and blackmail weaker NATO members in the region<sup>412</sup>.

The last, and perhaps most important part of the Russian A2/AD in the area of integrated air defence, focuses on the S-400 ground air defence systems, which are equipped with 12. Anti-Aircraft Regiment, and the 18th The Guard Anti-Aircraft Regiment. The S-400 systems provide a multi-layered, comprehensive air defence network capable of protecting important targets from attacks by enemy aircraft and combating ballistic, and maneuvering missiles. The S-400 covers much of Ukraine, including the territory of the

---

<sup>410</sup> Francis, T., & Manea, O, *The Black Sea and NATO in the Age of Access-Denial, The Black Sea and NATO in the Age of Access-Denial*. „Studia Politica: Romanian Political Science Review”, Vol. 18, No. 3, 2018. p. 492-494.

<sup>411</sup> *Squadron of Russia's newest Su-30SM fighters formed in Crimea*, <https://tass.com/defense/860398>, (access 20.02.20).

<sup>412</sup> G.Visan, O.Manea, *Crimea's transformation into an access-denial base*, <http://bsad.roec.biz/portfolio-item/crimeas-transformation-into-an-access-denial-base/>, (access 14.02.20).

separatist self-proclaimed Donetian People's Republic, as well as much of the Black Sea, as far as the northernmost promontory of Turkey and the east coast of Bulgaria, and much of Moldova and Romania. All these countries, with the exception of Ukraine, are members of NATO <sup>413</sup>. Given the importance of air superiority in any conventional conflict, Russia's A2/AD assets in this regard represent a very serious obstacle to strengthening, and defending NATO's south-eastern flank countries. Capabilities in this area may result in countries in the Black Sea region being deprived of NATO air support in the first phase of a possible conflict, or crisis.

However, the most valuable area for Russian A2/AD operations in the Black Sea and the Eastern Mediterranean is probably the maritime area. After the annexation of Crimea, there was a significant expansion of the Russian military presence in the Black Sea region. Most ships in the Black Sea Fleet have been armed with Calibr missiles, which, depending on their configuration, are capable of destroying enemy water, and submarine ships with 3M54 maneuvering missiles, with a range of up to 250 km (155 miles), or destroying land targets with 3M-14 cruise missiles within a range of 2,500 km. Adding to this the capabilities of the submarine fleet also armed with such missiles, one gets a picture in which Russia has developed a huge A2/AD "bubble" for land and sea forces, covering the whole of Eastern Europe, and much of the Mediterranean.

Capabilities in the maritime domain are also strengthened by bastion-P coastal defence systems, and "Bal" anti-ship missile complexes. The "Bal" systems themselves are primarily designed to defend naval bases, land facilities, and the coast. From the point of view of A2/AD, the Russian capabilities acquired under the Bastion – P coast defence systems are particularly important. In addition, it should be noted that these systems are also capable of destroying land targets. In this configuration, the missile range also includes ground-based targets off the coasts of NATO countries Romania and Turkey<sup>414</sup>.

---

<sup>413</sup> *Russian Forces Strengthen their Defences in Crimea; State of the Art Weapons Systems Deployed to Protect Newest Province*, <https://militarywatchmagazine.com/article/russian-forces-strengthen-their-defences-in-crimea-state-of-the-art-weapons-systems-deployed-to-protect-newest-province>, (access 20.02.20).

<sup>414</sup> M. Zaniewicz, *Znaczenie i konsekwencje militaryzacji Krymu przez Rosję*, [https://pism.pl/publikacje/Znaczenie\\_i\\_konsekwencje\\_militaryzacji\\_Krymu\\_przez\\_Rosje](https://pism.pl/publikacje/Znaczenie_i_konsekwencje_militaryzacji_Krymu_przez_Rosje), (access 7.03.2020).

An integral part of the A2/AD doctrine is the action taken in cyberspace to paralyse, among others, of reconnaissance and counter-command systems. According to previous information, Russia has reconnaissance systems in Sevastopol that interfere with the great power of Murmansk-BN, which can affect, among others, all NATO ships within range of even the Mediterranean region<sup>415</sup>.

Table 2. Key Russian A2 / AD capabilities in Crimea

MILITARY COMPONENT	RANGE AND EFFECTIVENESS	POTENCIAL
<b>FORCES OF THE BLACK SEA FLEET</b>	<ul style="list-style-type: none"> <li>• CAPABILITY TO SHOOT THE WHOLE BLACK SEA WATER</li> <li>• LOCKING CAPACITY, INCLUDING, BOSFOR AND DARDANEL STRAINS, AND KERCHIN STRAINS</li> </ul>	DEFENSIVE OFFENSIVE
<b>"ISKANDER - M" ROCKET SYSTEM</b>	<ul style="list-style-type: none"> <li>• ABILITY TO DAMAGE TERRESTRIAL AND COASTAL TARGETS: UKRAINE, ROMANIA, BULGARIA</li> </ul>	OFFENSIVE
<b>MARINE AND LAND "CALIBR" ROCKET SYSTEMS</b>	<ul style="list-style-type: none"> <li>• CAPABILITY TO HIT SEA (250KM) AND LAND TARGETS AT 2,500 KM</li> </ul>	OFFENSIVE
<b>K-300 BASTION COAST PROTECTION SYSTEM</b>	<ul style="list-style-type: none"> <li>• BLOCKADE OF NATO MARITIME FORCES IN BLACK SEA PORTS</li> <li>• CAPABILITY TO HIT SEA UNITS IN THE BLACK SEA WATER</li> <li>• DESTROYING TERRESTRIAL TARGETS ON THE COAST OF TURKEY AND ROMANIA</li> </ul>	DEFENSIVE OFFENSIVE
<b>ANTI-DRIVE ROCKET COMPLEX "BAL"</b>	<ul style="list-style-type: none"> <li>• DEFENSE OF MARINE BASES, LAND, AND COASTAL FACILITIES</li> </ul>	DEFENSIVE

<sup>415</sup> R. Minich, *Russia Shows its Military Might in the Black Sea and Beyond*, [www.atlanticcouncil.org/blogs/ukrainealert/russia-shows-its-military-might-in-the-black-sea-and-beyond](http://www.atlanticcouncil.org/blogs/ukrainealert/russia-shows-its-military-might-in-the-black-sea-and-beyond), (access 6.03.2020).

<p><b>S-400 ROCKET SYSTEMS</b></p>	<ul style="list-style-type: none"> <li>• POSSIBLE TO DESTROY THE AIR TARGETS WITHIN 400 KM</li> </ul>	<p>DEFENSIVE OFFENSIVE</p>
<p><b>MURMANSK-BN RADIOELECTRONIC WARFARE SYSTEMS</b></p>	<ul style="list-style-type: none"> <li>• JAMMING OF RADIOLOCATION SIGNALS WITHIN 300 KM.</li> </ul>	<p>DEFENSIVE OFFENSIVE</p>

*Source: own research*

## CONCLUSIONS

The analysis of capabilities located on the Crimean peninsula, presented in the article shows, that Russia has a wide range of armaments, which is part of the assumptions of the anti-access concept A2/AD. The capability characteristics in this area have shown that the Russian Federation in the Black Sea region is building a universal Model A2/AD, which can be used for both offensive, and defensive purposes. However, it can be seen that most of A2/AD's key assets have the ability to conduct offensive operations. This fact is crucial in the perception of the challenges to modern security architecture in the Black Sea region. The development of Russian A2/AD capabilities determines the immediate threat to countries on the south eastern flank of the North Atlantic Alliance. The armed forces of the Russian Federation have acquired the ability to project a multidimensional force, including the use of precision-destroying means, within reach of most strategic positions in the Black Sea region. These factors may condition NATO's potential operations in the Black Sea. In the event of a potential conflict, or crisis, Russia's A2/AD capabilities may hinder, or even prevent the free access of NATO support forces to the area of operations on the North Atlantic Alliance's south-east flank.

## REFERENCES

### The book written under the editorship:

- [1] Mickiewicz. P (red.), *Rosyjska myśl strategiczna i potencjał militarny w XXI wieku*, Warszawa 2018.



**Chapter in collective work:**

- [2] Sherr, J, *Ukraine and the Black Sea Region: The Russian military perspective*, [at:] *The Russian Military in Contemporary Perspective*, S J. Blank (red.), The Strategic Studies Institute (SSI) 2019, pp. 779 – 882.

**Journal article:**

- [3] Francis, T., & Manea, O, *The Black Sea and NATO in the Age of Access-Denial*. „Studia Politica: Romanian Political Science Review”, Vol. 18, No. 3, 2018.
- [4] S. Wezeman, A. Kuimova, *Russia and Black Sea security*, „SIPRI Background Paper”, December 2018.

**Raports:**

- [5] Gordon, J, Matsumura, J, *The Army's Role in Overcoming Anti-Access and Area Denial Challenges*, RAND Corporation 2013.
- [6] Hodges, B, Bugajski, J, Doran, P. B, “*Securing the Suwalki Corridor. Strategy, Statecraft, Deterrence and Defense*”, Center for European Policy Analysis CEPA, Washington 2018.
- [7] *International security and Estonia 2019*, Estonian Foreign Intelligence Service, Tallin 2019.
- [8] Kelly, T, Gompert, D. C, Long, D, *Smarter Power, Stronger Partners, Volume I*, RAND Corporation 2016.
- [9] Manea, O, Visan, G, Gosu, A, Gusilov, E, *Black Sea in access denial age. Special report*, Romania Energy Center (ROEC) 2016
- [10] McDermott, R, Bukkvoll, T, *Russia in the Precision-Strike regime– military theory, procurement and operational impact*, Norwegian Defence Research Establishment (FFI) 2017.
- [11] Smura, T, *Rosyjskie zdolności w zakresie środków izolowania pola walki (A2AD) – wnioski dla NATO*, Fundacja Pułaskiego, Warszawa 2017

**On-line sources:**

- [12] Czerniewicz, K, *Obwód Kaliningradzki i Krym czyli ufortyfikowane twierdze Rosji*, oaspl.org/2016/01/28/obwod-kaliningradzki-i-krym-czyli-ufortyfikowane-twierdze-rosji/, (access 15.02.20).
- [13] Dąbrowski, M, *Nowe dywizje lotnicze w Obwodzie Kaliningradzkim i na Krymie*, <https://www.defence24.pl/nowe-dywizje-lotnicze-w-obwodzie-kaliningradzkim-i-na-krymie>, (access 17.02.20).
- [14] Dura, M, *Rosjanie testują „nowe” nadbrzeżne wyrzutnie raketowe Bał*, [www.defence24.pl/rosjanie-testuja-nowe-nadbrzezne-wyrzutnie-raketowe-bal](http://www.defence24.pl/rosjanie-testuja-nowe-nadbrzezne-wyrzutnie-raketowe-bal), (access 6.03.20).

- [15] Dura. M, *Twierdza Krym. Rosja cementuje wojskową architekturę półwyspu*, <https://www.defence24.pl/twierdza-krym-rosja-cementuje-wojskowa-architekture-polwyspu>, (access 17.02.20)
- [16] Erdogan. E, *Russian A2AD Strategy and Its Implications for NATO*, <https://www.behorizon.org/russian-a2ad-strategy-and-its-implications-for-nato/> (access 7.03.20).
- [17] Gawenda. M, *Twierdza Krym. 5 lat po aneksji [ANALIZA]*, <https://www.defence24.pl/twierdza-krym-5-lat-po-aneksji-analiza>, (access 17.02.20).
- [18] Minich. R, *Russia Shows its Military Might in the Black Sea and Beyond*, [www.atlanticcouncil.org/blogs/ukrainealert/russia-shows-its-military-might-in-the-black-sea-and-beyond](http://www.atlanticcouncil.org/blogs/ukrainealert/russia-shows-its-military-might-in-the-black-sea-and-beyond), (access 6.02.20).
- [19] *Russia amasses 32,000 troops, Iskander and S400 systems in Crimea – Ukraine* <https://www.unian.info/politics/10093373-russia-amasses-32-000-troops-iskander-and-s400-systems-in-crimea-ukraine.html>, (access 17.03.20).
- [20] *Romania plans to spend EUR 2.5 bln to rebuild military base at NATO standards*, <https://www.romania-insider.com/romania-rebuild-mihail-kogalniceanu-military-base>, access (18.02.20).
- [21] *Russian Forces Strengthen their Defences in Crimea; State of the Art Weapons Systems Deployed to Protect Newest Province*, <https://militarywatchmagazine.com/article/russian-forces-strengthen-their-defences-in-crimea-state-of-the-art-weapons-systems-deployed-to-protect-newest-province>, (access 20.02.20).
- [22] Schneider. A, *Russia's Black Sea Fleet Buildup*, <https://www.maritime-executive.com/editorials/russias-black-sea-fleet-buildup>, (access 14.02.20).
- [23] *Squadron of Russia's newest Su-30SM fighters formed in Crimea*, <https://tass.com/defense/860398>, (access 20.02.20).
- [24] Visan. G, Manea. O, *Crimea's transformation into an access-denial base*, <http://bsad.roec.biz/portfolio-item/crimeas-transformation-into-an-access-denial-base/>, (access 14.02.20).
- [25] Wilk. A, *Militarne konsekwencje aneksji Krymu*, [www.osw.waw.pl/pl/publikacje/analizy/2014-03-19/militarne-konsekwencje-aneksji-krymu](http://www.osw.waw.pl/pl/publikacje/analizy/2014-03-19/militarne-konsekwencje-aneksji-krymu), (access 7.03.20).
- [26] Zaniewicz. M, *Znaczenie i konsekwencje militaryzacji Krymu przez Rosję*, [https://pism.pl/publikacje/Znaczenie\\_i\\_konsekwencje\\_militaryzacji\\_Krymu\\_przez\\_Rosje](https://pism.pl/publikacje/Znaczenie_i_konsekwencje_militaryzacji_Krymu_przez_Rosje), (access 7.03.2020)..