This article examines implications of the deployment of the US ballistic missile defense (BMD) system in the Baltic and Nordic regions. These implications are to be considered to ensure Russia’s military security. Using the structural-functional method, the authors analyse the internal structure of the US BMD in Europe, stages of its implementation, and its influence on the military equilibrium in the region. Being similar to other regional missile defence systems of the Pentagon, the BMD in Europe increases the offensive capabilities of the US armed forces and its allies and in doing so, it stops performing a purely defensive mission declared by Washington. It is stressed that the deployment of mobile sea- and land-based BMD elements in the Baltic Sea region and Nordic countries will inevitably destabilize the strategic situation and may lead to a new round of arms race in the region. The efficacy of BMD in Europe is evaluated from the perspective of military technology. The system’s potential threats to Russia’s military security and its armed forces are assessed. The article considers measures to enhance national security that could be taken by Russia provided the US plans to deploy BMD in Europe are fully implemented.

Key words: ballistic missile defense, US, Baltic region, Nordic countries, Russia

Introduction:

BMD in the current US strategy

The problem of BMD is not new in international relations. It dates back to the Cold War. However, in recent years, it has gained an increased importance in view of Russia’s deteriorating relations with the US and the West in general. Today, the problem of BMD is playing a key role in security policy at the global, regional, and national levels.

At the global level, missile technology and systems have gained wide
currency. They are available even to non-state actors. The missile non-proliferation regime proved of little efficacy. According to the US, the total number of ballistic missiles in the world is 5,900 units, excluding the arsenals of great powers [34]. In today’s world politics, missile weapons blur the line between weak and strong states, making their relations less predictable.

The situation aggravated after the US unilateral abrogation of the 1972 Anti-Ballistic Missile Treaty in 2002. The treaty and SALT I were the cornerstone of stability during the Cold War, imposing limitations on the development of both offensive and defensive missile systems. Thus, on the US initiative, the BMD problem was withdrawn from the control of international law. It may have led to potential global destabilisation. What are the reasons behind these changes in Washington’s policy?

At the national level, the current US military strategy focuses on the advanced development of BMD systems, which will intercept a missile launched by any potential enemy. It will give the US an opportunity to launch a pre-emptive attack using nuclear or conventional warheads. [13] BMD systems are not only a means of defence, but also an integral part of the US strategic offensive capability. [11; 12] Therefore, it is not surprising that US officials stress that they will not support major restrictions on the development of their BMD.

Laying claims to global leadership, the US strives to create a global BMD system which includes the national BMD and regional BMD subsystems for protecting their own territory. [13] Regional systems set up in collaboration with allies should increase the capabilities of national BMD systems through creating a layered defence architecture. At the same time, the US guarantees the security of regional allies and increases its military and political influence.

At the regional level, the deployment of BMD systems will inevitably provoke other states into increasing their nuclear missile potential. [14; 15] This does not only heighten military and political tensions but also accelerates arms race in missile technology, precision-guided munitions, communication systems, and space weapons.

The US gives the Baltic Sea (BSR) and Nordic (NR) regions an important role in the creation of the BMD system. What military strategic goals does Washington have? What is the structure of the US BMD system in these regions? How does the Pentagon plan to further develop BMD in BSR and NR? What measures should Russia take in view of these plans? This article is an attempt to answer these questions.

**BMD in Europe: An overview**

The official goal of the BMD in Europe is protecting Europe and the US from a missile attack by Iran and Syria. The US opposes any restrictions on the BMD in Europe. At the same time, representatives of the US and NATO stress that the BMD system in Europe is not targeted at Russia and emphasise its limited capability to intercept modern intercontinental ballistic mis-
siles (ICBMs). Western experts and politicians declare that the BMD in Europe does not provide protection against a massive nuclear attack by Russia or China. Therefore, it is not a threat to Russia’s strategic missile force (SMT).

However, prior to solving the problem of Iranian nuclear programme, the US Secretary of State John Kerry and the then Secretary of Defence Chuck Hagel stated that a deal with Teheran did not eliminate the need to further develop BMD in Europe. [24; 32] A. Rasmussen, the Secretary General of NATO, revealed the actual intentions of the US, ‘The purpose of NATO’s missile-defence system is to defend Europe against a real threat. At least 30 countries around the world either have ballistic missiles, or are trying to acquire them. The know-how needed to build them is spreading, and their range is increasing, with some missile systems from outside the Euro-Atlantic region already capable of targeting European cities’. [31] This means that it may be aimed against the Russian SMT.

A general cooling in the Russia-US relations and the Ukraine crisis aggravated the situation. Earlier, BMD focused on threats from Iran and Syria, and Russia was a potential partner in ensuring European security. Today, cooperation with Russia is rarely considered given the deployment of the BMD system in Europe. Moreover, the rhetoric on Russia became tougher. Statements by the Deputy Secretary-General of NATO A. Vershbow [29] and hard-line members of Congress, as well as proposals from neo-conservative ‘think-tanks’ such as the Heritage Foundation [23] more and more often view Russia not as a partner but rather as an adversary that should be contained by the BMD in Europe. Finally, the US National Security Strategy (published in February 2015) named Russia as an aggressor. [28, p. 2, 4, 19, 25]

As to the technological aspects, the BMD in Europe consists of ships carrying the Aegis combat system, radars, SM-3 interceptors, Aegis Ashore equipped with SM-3, THAAD anti-ballistic missile system, Patriot 3 air defence system, and drones and communication satellites. The system is designed to exchange data on missile launch parameters with the US national BMD, thus creating a layered defence system. Early warning radars with a 5,000 km range are deployed on the Aleutian Islands, in California, Massachusetts (US), the UK, Greenland, Norway, and Japan. Moreover, there are special radars for detecting false targets within a range of 2,000 km that can move by sea to the threatened area. The task of detecting launches and ensuring communications between all BMD elements is done by space satellites.

The BMD plans of the Obama’s administration were published in 2009 in a document entitled the European Phased Adaptive Approach (EPAA). President Obama announced that the plan of the previous administration to deploy 10 ground-based interceptors in Poland and a radar installation in the Czech Republic had been abandoned. Instead, a new BMD architecture was proposed. It will use mobile sea- and ground-based anti-ballistic systems. BMD elements deployed on the territory of European states and in the adja-
cent waters will be included into a larger system called BMD in Europe or the NATO missile defence system. The development of the BMD system in Europe is divided into four phases (see table 1).

### Table 1

**Key phases of BMD in Europe**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Deployment date</th>
<th>BDM elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>2011</td>
<td>Deployment of BMD systems against short- and mid-range missiles, AN/TPY-2 radars potentially compatible with radars in Alaska and California; putting in service 23 ships carrying the Aegis system and 111 SM-3 Block IA interceptors. Deployment of Aegis-equipped ships in the Mediterranean.</td>
</tr>
<tr>
<td>Phase 2</td>
<td>2015</td>
<td>Modernisation of BMD systems against short and mid-range missiles; deployment of land-based Aegis components and more advanced SM-3 Block IB interceptors. Providing protection for the South of Europe from potentially possible missile launches from Iran and Syria. Target numbers are 41 Aegis and 341 SM-3 units.</td>
</tr>
<tr>
<td>Phase 3</td>
<td>2018</td>
<td>Modernisation of BMD systems against mid- and intermediate range missiles. Deployment of a land-based Aegis complex in Poland and more advanced SM-3 block IIA interceptors. BMD in Europe provides protection for all European NATO members from missile attacks.</td>
</tr>
<tr>
<td>Phase 4</td>
<td>2020</td>
<td>Modernisation of the BMD against IC missiles through deploying most recent SM-3 Block IIB interceptors. Russian ICBR become potential targets.</td>
</tr>
</tbody>
</table>

However, on March 15, 2013, the then US Secretary of Defence Ch. Hagel announced the restructuring of EPAA. Phase 4 was postponed until after 2020. Instead, it is planned to deploy 14 additional ground-based interceptors in Alaska and an additional AN/TPY-2 radar in Japan. [22] In his statement, Ch. Hagel did not mention abandoning the fourth phase of EPAA — a decision made in view of a reduction in the US military spending and certain technical problems. In the future, the US can return to the project. However, there are other more important reasons to restructure the BMD in Europe, which relate to the inefficiency of the system and the need to redesign it. [27]

### BMD in Europe and the Baltic Sea Region

An important part of the BMD in Europe is being deployed in the Baltic Sea region, and Phase 3 of EPAA is to be positioned in Poland. The adopted changes in Phase 3 concerned only the types of interceptor systems. Slower
**SM-3 Block IIA** interceptors will be deployed in Poland in 2018 instead of **SM-3 Block IIB** interceptors, whose upgrading was suspended by the US Congress. Some Russian experts believe that this will not have a significant effect on the tactical and technical features of the anti-missile system [9], since interceptors can be replaced later.

It is planned to deploy 48 **SM-3** interceptors in the settlement of Redzikowo in northern Poland. Moreover, Poland’s Minister of Defence announced the creation of a national mobile BMD system by 2023. It will complement the BMD system in Europe. If necessary, the Polish BMD system will be placed under the NATO command. Polish experts argue that ‘the investment in a national BMD system is the best protection from Russia’s missile ‘blackmail’. The US expressed its willingness to cooperate with Poland in creating the country’s national BMD. [35]

Moreover, Washington and Warsaw reached an agreement on the deployment of the US Patriot-3 air defence systems at a 100 km distance from the Russian border. An additional protocol to the agreement with Poland transforms an earlier limited interceptor facility into a full missile defence system equipped with a radar, command points, and logistics support (article IV). [10] It is planned to station several hundred US armed forces personnel.

Poland, Estonia, Latvia, and Lithuania are active proponents of local missile defence unions brought together by a pronounced anti-Russian sentiment. In April 2012, presidents of these countries discussed the construction of a unified system of ballistic missile defence in response to the growing asymmetric nuclear missile threats given an increase in Russia’s missile potential in the Kaliningrad region. [8, p.137]

The most radical anti-Russian sentiment relating to the BMD systems are found in Poland and the Baltics. Poland strives to assume the leadership in security not only in the Baltic Sea region, but also in Eastern and Central Europe in general. The Polish leaders view the US and NATO as guarantors of regional security. In August 2014, they asked NATO to retarget the BMD system at Russia. This proposal was justified by the fact that Lithuania, Latvia, Estonia, and Poland felt threatened by Russia after the Ukraine events. At the summit in Wales, the NATO leadership declined this proposal, unwilling to adopt an openly anti-Russia position. Germany did not support the decision and called it ‘an unnecessary provocation’. [19]

The US call for a more active European participation in the BMD programmes. [33] It is trying to convince the allies that the upgraded BMD in Europe project stands out for its flexibility, combining land- and sea-based mobile BMD elements. This makes it possible to respond promptly to all threats coming from different directions.

The US is also interested in placing the emerging European missile defence system under the command of NATO. Firstly, this will allow the US to share financial liabilities with the allies. The ‘old’ NATO members (Germany, France, Italy, etc.) expect that their contribution to the BMD system will be symbolical. However, the US does not intend to pay for the construction of expensive BMD systems on their own. [2]
The US will benefit from placing the BMD system under the control of NATO, since this will ensure greater legitimacy in international law and disguise the actual American control over the BMD systems. Moreover, the US plans to secure their military and political influence on their European partners by using NATO, since it is impossible to do so through the EU.

BMD and the Nordic countries

The US is trying to involve countries outside the military alliance — Finland and Sweden — in the NATO and BMD. Before the Ukraine crises, these states held a rather moderate position, taking into account Russia’s interests and concerns. However, after the Crimea and Donbass events, the ideas of containing Russia and acceding to NATO are becoming increasingly popular in these countries, especially in Sweden. [16]

In 2011, the Netherlands expressed its willingness to join the BMD in Europe and equip four ships with the Smart-L radar systems. [4] In 2014, Denmark purchased Patriot-3 air defence system and stated its intention to join the BMD system. [20] Officially, Copenhagen says that joining the BMD in Europe programmes is not an action targeted against Russia but rather an attempt to ensure protection ‘against rogues states, terrorist organisations and others that can potentially launch missiles at Europe and the US’. After the Ukraine crisis deepened, Denmark officially confirmed that it would contribute to NATO’s attempts to contain Russia. It is planned to re-equip several frigates with newest radars, which will make it possible to include them later into the European missile defence system. [21]

Some Nordic states hold a special position in the context of the BMD programmes, since some of them, namely, Denmark (through Greenland) and Norway, are part of the NORAD, which ensures the aerospace and missile defence of the US and Canada in the North. This infrastructure is traditionally associated with the Russia-US missile containment dating back to the Cold War. A NORAD radar was installed in the town of Qaanaaq (earlier Thule, Greenland). In 2004, with the permission from Denmark, it was modernised to suit the purposes of BMD. A decision was reached to enlarge the military base in Kangerlussuaq in western Greenland. Norway also has the experience of long-term BMD cooperation with the US. Since 1998, the Norwegian town of Vardø has housed the Globus II radar installation associated with a radar operating in the UK. Globus II has a range of 4500 km, which makes it possible to receive data on almost all missile test-launches in Russia and to control the Arctic Ocean.

US military specialists study opportunities for deploying sea-based BMD systems using Aegis-equipped fleets in the waters adjacent to Greenland and Svalbard. Experts from the International Institute for Strategic Studies (UK) believe that, in this case, Russia’s SMT will be in a very vulnerable position in terms of a retaliatory attack against the US, since the ballistic trajectories from Russia to North America is very close to the north Pole. [26, p.93]

Despite an advanced BMD infrastructure, the development of a system for detecting launches from Russian strategic nuclear submarines remains a
major problem for the US. The US plans to integrate a system for surveillance of Russian submarine missile carriers into the BMD systems. The Pentagon’s Defence Advanced Research Projects Agency set up a special programme for creating a surveillance system in the Arctic Ocean. Unlike the earlier surveillance systems, it will include sensors fixed on not only the seafloor but also the ice surface of the Arctic. [17]

**How will Russia respond?**

The deployment of the BMD elements in the Baltic Sea region and Nordic countries presents challenges to Russia’s military security. To estimate them, it is important to take into account the total capabilities of the US BMD after the completion of Phase 3 of the EPAA.

The key problem is the vulnerability of Russia’s SMT. [15] In a short-term perspective, the efficacy of the US BMD at both the global and the theatre of operations levels is insufficient to intercept the latest Russian Topol-M, Bulava, and Yars ballistic missiles. For instance, Yu. Solomonov, a designer of ballistic missiles, believes that, in the best case, the Aegis system is capable of intercepting ‘tactical level objects and even those with some reservations’ but not ICBM. [7, p. 85—86] None of the US BMD subsystems (Aegis, THAAD, GBI, Patriot-3) has the capacity to intercept Russian missiles with separable warheads, capable of manoeuvring, interfering with electronic warfare equipment, and sending false targets. Today, the US systems are capable of intercepting only several ICBM launched by Iran or North Korea. These are single warhead missiles without penetration aids. [6, p. 21]

Russian experts believe that penetration aids, developed in Russia are the key factor reducing the efficacy of the US BMD. These aids are capable of passing through the BMD system and they are more effective than the ones the US is planning to create by 2020. [1; 15] A simple increase in the number of modern US fixed and mobile BMD elements in Poland and the Baltic and the Barents Seas will not provide sufficient protection in case of a massive launch of Russian ICBMs. Moreover, Russian missile launching systems located to the east of the Urals will remain unattainable.

The most serious threat to Russia’s security is the information component of the US BMD — radars, communication and command systems. Considerable danger lies in the advanced development of the US space communication system, which services not only BMD but also other precision-guided munitions. The US already has early warning radars completely covering the northern hemisphere. It means that the information systems supporting BMD will be oriented to intercepting ballistic missiles, whose trajectories pass through the Arctic. The US Globus II radar alone makes it possible to obtain data on ballistic missiles launched on a territory stretching from Plesetsk to Kamchatka. [3]

It seems that the only real threat to Russia’s military security is the interception of Russian ICBMs before the separation of warheads in the boost or ascent phase. In this case, the most probable scenario is a US attempt to carry out a pre-emptive attack against Russia’s SMT and to neutralise them using sea-based BMD elements. [18]
A pre-emptive attack is not very probable due to Russia’s containment capabilities. On the other hand, interceptors launched from Europe will not fulfill the task of ‘finishing off’ the Russian SMT. In practice, this would mean that the US would deploy BMD systems and sea-based radars in the Baltic and Barents Seas in advance, which would not go unnoticed by Russia. Deployed troops and munitions will become an easy target for both Russian cruise missile and land-based missile fire systems. Therefore, it will be almost impossible to prepare such an attack clandestinely. Supporting a large ship group in the Arctic requires adapting the equipment and ships to the severe climate of the Arctic. Moreover, high latitudes are associated with communication problems, and the US satellite groups is not yet capable of ensuring stable communication and target assigning. Additional problems would be caused by the absence of large military bases for maintenance required in case of prolonged presence in the Barents Sea.

The probability of such scenario is low in the current conditions. Moreover, the strategic interests of the US Ministry of Defence are increasingly focused on the Pacific Rim. This is corroborated not only by military doctrines, but also by the actual redeployment of the US overseas troops and munitions. By 2020, 60% of the US troops and munitions will be engaged in controlling the so-called Southern Arc stretching from the Persian Gulf through the Strait of Malacca to North Korea. The number of tactical attack and long-range aircraft in the Pacific Rim region is increasing; 2,500 marines are temporarily stationed in Australia. [30, p. viii, 16—17, 34—35] The regional BMD system created by the EU in collaboration with Japan and Israel is designed to neutralise threats from Iran, China, and North Korea. [5, p. 75—86] In general, the development of the global BMD system will play a destabilising role until Russia and the US pursue the policy of mutual nuclear containment, first of all, in the Arctic. Further development of the BMD system, which will not be abandoned by Washington [25, p. 25—26] and is strengthening the US strategic potential will inevitably result in the balancing behaviour of not only Russia, but also other potential adversaries, which will increase the conflict potential on a global scale.

The BMD problem is aggravated by artificial politicization, the Ukraine crisis as well as by the anti-Russian vector of the Baltics’ security policies. The Nordic countries — Norway, Denmark, and Sweden — are also prone to use the NATO and BMD to exert influence on Russia. Obviously, the US policy aimed at the development of regional BMD systems creates challenges to Russia’s military security today and in the future. The question remains: what is the optimal response to prevent challenges from transforming into a real military threat to Russia. The current situation suggests that, in the near future, the US plans to create an effective national or regional BMD system will not be fulfilled due to financial and technological reasons. [13] This should be taken into account by Russia when developing a relevant strategy. It is important to avoid ‘alarmist’ attitudes, which can lead
to not only high economic costs but also negative political repercussions. Ultimatum-like pressure on the US and demands to withdraw the BMD systems from Europe will not yield any positive results. There is a need for a compromise over limitations of functional capabilities of the BMD systems deployed near Russian borders. There is also a need for confidence-building measures. Without denying the political component, it seems that experts in military technology have to be given a voice when reaching decisions at the national level.

From the military and strategic perspective, special attention should be paid to the Arctic region. It is important to develop the Northern Fleet’s capabilities to respond to the activities of submarine fleets, troops, and BMD elements of potential adversaries, as well as to ensure clandestine patrolling of Russian strategic nuclear submarines. This means fulfilling tasks associated with traditional containment.

The BMD in Europe will require special attention if the US revisits the idea of implementing Phase 4 of the EPAA and increases the velocity performance of interceptors (above 5 km/s). This will be possible provided the suspended SM-3 Block IIB is completed and the number of Aegis-equipped ships in the northern seas is significantly increased. In this case, it will become possible to intercept Russian missiles in the boost phase. However, the recently published recommendations of the Pentagon experts suggest stopping the financing of boost phase interceptors as showing little promise. [27, p.15] Today’s interceptors can be effective only in local operations against such adversaries as Iran and North Korea.

Moreover, when formulating a response, it is important to take into account factors increasing the vulnerability of Russia’s SMT. [15] First of all, it is the infrastructure for detecting, tracking, and analysing Russian ICBM launches developed by the US and its allies. This includes:

— constructing advanced long-range radars and their sea-based mobile variants;
— advanced development of the military satellite group for the BMD purposes;
— improving the regional and global BMD automated process control system, which, in perspective, will make it possible to use offensive power more efficiently for both neutralising strategic objects of a potential enemy through a preventive strike and engaging conventional strategic forces;
— creating and promoting regional BMD elements, which will allow the US to strengthen military and political ties with states in all strategic regions of the world.

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