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Adam Fireš

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Náměstí Winstona Churchilla 4, 130 67 Praha 3
+420 224 095 270, +420 224 095 248, +420 224 095 230
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Missile Defence and its Role in Global Security: Connecting or Dividing the World?

Adam Fireš (adam.fires@vse.cz)

Summary:
Missile defence is one of the most important security issues of the 21st century and one of the key problems in contemporary U.S.-Russia relations. This paper explains the functioning principles of the intercontinental ballistic missiles (ICBMs), analyzes the current situation in the area of missile defence, the current approach of the United States and the position of the Russian Federation, changes in U.S. policy recently announced by president Obama, reasons for the reassessment, as well as the technical principles of an effective missile defence system, its layered architecture, and expected configuration and characteristics of the newly planned missile defence system in Europe, based on the deployment, and further development, of the AEGIS system and SM-3 interceptors.

Keywords: missile defence, intercontinental ballistic missiles, anti-ballistic missile systems, AEGIS, SM-3, nuclear weapons, weapons of mass destruction

Protiraketová obrana a její role v globální bezpečnosti: spojující nebo rozdělující svět?

Adam Fireš (adam.fires@vse.cz)

Abstrakt:
Protiraketová obrana je jednou z nejdůležitějších bezpečnostních otázek ve 21. století a zároveň významným problémem současných americko-ruských vztahů. Tento příspěvek vysvětluje principy fungování mezikontinentálních balistických střel, analyzuje současnou mezinárodní situaci v oblasti protiraketové obrany, plány Spojených států amerických a pozici Ruské federace, nedávné změny v americké politice, tak jak byly deklarovány prezidentem Obamou, důvody pro přehodnocení původních plánů, a zároveň i technické principy efektivní protiraketové obrany, její vrstvenou architekturu, a očekávanou konfiguraci plánovaného nového systému protiraketové obrany v Evropě, založené na systému AEGIS a antiraketách SM-3.

Klíčová slova: protiraketová obrana, mezikontinentální balistické střely, protiraketové systémy, AEGIS, SM-3, jaderné zbraně, zbraně hromadného ničení

JEL: F50, F51, F52

Content

Introduction

Missile defence is one of the most important elements of global security in the 21st century world. The proliferation of ballistic missile technology and weapons of mass destruction poses a permanent and rapidly growing threat. The EU identifies the threat posed by the proliferation of weapons of mass destruction (WMD) as "potentially the greatest threat" to its security. Many states are now able to get access to ballistic missile technologies because of the general diffusion of aero and space technology, and its dual-use nature in civil and military industry. The recent missile launches in North Korea and Iran demonstrate the need for an effective missile defence in the 21st century, and also the need for stronger international cooperation in this issue. The aim of this study is to analyze the global threat of ballistic missiles which can be equipped with nuclear, chemical or biological warheads, and which don't respect any lines on the map. Furthermore, we shall examine and analyze the capabilities of missile defence systems as countermeasures against the ballistic missile threat. The aim is also to examine the recent changes in this issue concerning the reconfiguration of U.S plans for missile defence in Europe, and the different approaches of the U.S., NATO and Russian Federation to this issue.

1. Current Situation and Recent Change in the U.S. Approach

At the meeting of NATO defence ministers in Bratislava on 22–23 October, 2009, missile defence was one of the key issues discussed during the meeting. In the words of the NATO Secretary General, Anders Fogh Rasmussen*:* "...ministers welcomed the fact that the new US approach puts European missile defence more in a NATO context. That is good for the Alliance. It is good for solidarity. And to my mind, it is important for the defence of Europe" (NATO 2009).

One of the most important pieces of news from September 2009 was the change of U.S. strategy on ballistic missile defence in Europe. In September 2009, President Obama, on the recommendation and advice of his national security team, and the senior military leadership, decided to change the architecture of ballistic missile defence in Europe. This change shall enhance the ability to respond to the most immediate threats to the continent, as well as future threats, as declared by the U.S. Secretary of Defence, Robert Gates (US DoD2009).

The previous strategy, consisting of the radar in the Czech Republic, and 10 ground-based interceptors in Poland, which was at the time considered the best way to protect the United States and Europe from the threat of long-range ballistic missiles, was significantly revised. According to Gates, U.S. intelligence now estimates that the threat from Iran's short- and medium-range ballistic

missiles, such as the Shahab-3, is developing more rapidly than previously expected. On the other hand, the progress in Iran's long range missile capabilities is slower than was estimated in the past few years.

The second reason is related to the missile defence technology. The U.S. Secretary of Defence declared significant progress in missile defence, especially in the ability to intercept short- and medium- range missiles with the new land- and sea-based systems, supported by improved sensors. The new systems shall be network-based, instead of the one single fixed site planned for the Czech Republic, with interceptors in Poland, therefore enabling better adaptability and survivability.

In his speech from September 17, 2009, President Obama declared: "This new approach will provide the capabilities sooner, build upon proven systems, and offer greater defences against the threat of a missile attack than the 2007 European missile defence program." Next, he mentioned the fact that the new systems will be more cost-effective, and stressed the NATO dimension, as well as close relations to the allies: "This approach is also consistent with NATO's missile defence efforts, and provides opportunities for enhanced international collaboration going forward. We will continue to work cooperatively with our close friends and allies, the Czech Republic and Poland, who had agreed to host elements of the previous program. I've spoken to the Prime Ministers of both the Czech Republic and Poland about this decision, and reaffirmed our deep and close ties. Together we are committed to a broad range of cooperative efforts to strengthen our collective defence, and we are bound by the solemn commitment contained in NATO's Article V that an attack on one is an attack on all" (The White House 2009).

Obama also mentioned Russia's concerns about the previous missile defence programs, and declared that the main U.S. focus is the threat posed by Iran's ballistic missile program. He stated that "we welcome the Russians' cooperation to bring their missile defence capabilities into the broader defence of our common strategic interests".

2. Reasons for the Reassessment

Although Obama's decision can be viewed as a concession to Russia, the U.S. administrations declares this reassessment as a pragmatic decision taken after receiving the recommendations of both the U.S. Secretary of Defence and the Joint Chiefs of Staff. There are two main arguments for the reconfiguration: it lowers the costs of the protection against a threat that is not considered immediate; and that the new plan provides much better and more immediate protection for U.S. troops located in Europe and the Middle East, as well as the allies in the region.

According to many comments, the decision brought potential for an improvement in relations with Russia, which can be seen as a useful side benefit. It was even acknowledged by Obama himself in his recent comment that: "if the by-product of this is that the Russians feel a little less paranoid, then that's a bonus" (BBC 2009). But as expected, the new Obama strategy has many opponents; criticism has come especially from those who supported the previous, more ambitious plan. Senator John McCain, the Republican presidential candidate in 2008, commented that this move as "seriously misguided", and said it would fray ties with Eastern European nations that "are increasingly wary of renewed Russian adventurism". House Minority Leader John Boehner claimed that "scrapping the U.S. missile defence system in Poland and the Czech Republic does little more than empower Russia and Iran". John Bolton, one of the "hawks" during the Bush administration, as U.S. ambassador to the United Nations, said that it was "just unambiguously bad decision. Russia and Iran are the big winners. I just think it's a bad day for American national security" (MSNBC 2009).

3. The Russian Position

The Russian response to President Obama's announcement was positive; both President Medvedev and Prime Minister Putin expressed optimism and the will for increased bilateral cooperation. Medvedev said that: "We value the U.S president's responsible approach towards implementing our agreements (...) I am ready to continue the dialogue" (Daily Telegraph 2009). However, there is still concern among the conservative elements in Russia that, in fact, nothing has changed, and that the new plans continue to present a strategic threat. The fact is that the U.S. interceptors SM-3 and their continued significant technological development are still unacceptable for most of the conservative elements within the Russian armed forces. Russia's Chief of the General Staff, General Nikolai Makarov, stated that to everything which is related to missile defence our attitude is negative, and the Russian military view reflects the fact that the previous plan wasn't abandoned, but only "shelved" and modified.

For the new U.S. missile defence system plans, the Black Sea region is very important for the new missile defence architecture, but there is still Russian concern about U. S. expansion in South-Eastern Europe. If U.S. bases will appear in Bulgaria and Romania, it can develop into a serious problem in U.S.-Russian relations. According to the Russian newspaper, Pravda, the Pentagon plans to spend about $ 50 million to build a military base in Romania, and $ 60 million more for the same purpose in Bulgaria. The Romanian base is expected to be put into operation in 2010, and the Bulgarian one probably in 2011, or 2012. Over 4,000 US military personnel is expected to be stationed at the two bases – 1,600 in Romania and 2,500 in Bulgaria. Alexander Khramchikhin, deputy director of the Institute for Political and Military

Analysis, has recently said in an interview with Pravda.ru: "Indeed, the Americans need more bases for their actions in the Middle East. They have bases in Bahrain, Qatar and Saudi Arabia, but they are not enough to satisfy all of Washington's needs. The Pentagon needs new bases in Eastern Europe to maintain its troops in the Middle East." According to other voices from Russia, "the appearance of NATO bases on the Black Sea coast will come in addition to the other US military objectives in the Baltic region. As a result, Russia will find itself trapped" (Pravda 2009).

On the other hand, Russia's envoy to NATO, Dmitry Rogozin, declared that Moscow believes it would be possible to establish a missile-defence system jointly with NATO (RIA Novosti 2009). Rogozin also stated that Russia was closely studying the Western initiatives, but "it is too soon to say how this will pan out".

4. Ballistic Missiles and the Threat of Weapons of Mass Destruction

Despite the differing attitudes of the U.S and Russia to the issue of missile defence, the recent missile launches in North Korea and Iran demonstrated the importance of effective missile defence in the 21st century and the need for stronger international cooperation in this field. A ballistic missile equipped with nuclear, chemical or biological warheads doesn't respect any lines on the map, and can have catastrophic consequences for any country. Here are the following types of weapons of mass destruction and related threats:

4.1 Nuclear Weapons

A nuclear weapon is a device with high explosive energy, which is usually stated in kilotons or megatons of TNT – a commonly used industrial explosive. The basis of the TNT equivalence is that the explosion of 1 ton of TNT is assumed to release 10^9 calories of energy. The released energy is derived from a fission process, or a combination of fission and fusion processes. Explosions of nuclear weapons cause catastrophic damage due to a combination of effects – high temperature, radiation, shockwave and persistent residual radiation.

Nuclear fission weapons produce the energy by splitting the nucleus of an atom – usually plutonium or enriched uranium. Each nucleus releases energy and additional neutrons which initiate a chain reaction. Nuclear fission weapons, such as those used against Hiroshima and Nagasaki, are not terribly difficult to make from the technical point of view, but the key condition for the construction of this type of weapon is the possession of a sufficient quantity of plutonium, or weapons-grade enriched uranium.

The more sophisticated thermonuclear weapons use the nuclear fission as a catalyst to create the extremely high temperatures necessary for a fusion

reaction of light isotopes of hydrogen (usually deuterium and tritium). The thermonuclear reaction releases extremely high energy with incredibly devastating effects.

4.2 The Threat of Electromagnetic Pulse (EMP)

A very serious threat related to nuclear weapons is the electro-magnetic pulse (EMP). This pulse can be caused by a detonation of any single nuclear warhead, and can have disastrous consequences for any developed country. EMP is generated by a nuclear detonation at any altitude above approximately 40 kilometres, with the height of the explosion being significant in determining the area exposed to EMP.

To generate an EMP, it is only necessary to launch one relatively unsophisticated missile with a nuclear warhead designed to detonate at altitudes from 40 to 400 kilometres above the Earth's surface. Such action would result in great devastation, and any EMP attack would represent a highly successful asymmetric strategy against any country dependent on computers, electronics, and telecommunications networks, modern transportation systems etc.

The tests of nuclear explosions in space conducted by both the U.S. and Soviet Union revealed the vulnerability of any modern society. For example, during the Starfish nuclear weapons tests above Johnston Island in the Central Pacific in 1962, the EMP was an unintended result of a nuclear detonation at an altitude of about 400 kilometres. The effects which were felt approximately 1,400 kilometres away in Hawaii included "the failure of street lighting systems, the tripping of circuit breakers, triggering burglar alarms, and damage to a telecommunications relay facility." Nuclear tests conducted by the Soviet Union, also in 1962, produced damage to overhead and underground buried cables at distances as far away as 600 kilometres, together with surge arrester burnout, spark-gap breakdown, blown fuses, and power supply breakdowns. Today, in societies dependent on modern electronics, the destruction caused by an EMP explosion would be, of course, even far more catastrophic than it was in the 1960's (US NS Forum 2007).

Because of the long-range effect caused by the EMP, the nuclear device need not be detonated directly over the target area itself to cause major damage to all the modern infrastructures, such as computer networks, telecommunications, banking and finance, fuel, energy and transportation systems, government institutions etc. Therefore, for a terrorist group, or rogue state, there is no need to smuggle a nuclear weapon over borders, or to launch a missile to hit a selected city. Such a group or state can just launch an unsophisticated and 'cheap' missile from a ship in international waters and have it fly to just about 40 kilometres in the air and then detonate it by remote control. This possibility

can give any potential attacker the capability to destroy the critical electronic and technological infrastructures of any developed state.

4.3 Radiological Weapons

Radiological weapons are designed to use conventional explosives to disperse radioactive materials. The most common method of using them is to have some explosives surrounded by radioactive material in the form of pellets, powder etc. The area of dispersal depends on the energy of the explosion and other conditions. The radiation can contaminate large areas, expose the victims to high levels of radiation, and require very expensive decontamination. A source of radioactive material, such as nuclear reactor or spent-fuel storage depot, could be targeted to disperse high amount of radioactive materials into the atmosphere and the surrounding area.

4.4 Chemical Weapons

Chemical weapons use toxic chemical substances to cause physical or physiological harm to an enemy. Classic chemical weapons were widely used during the World War I, and some of these weapons, because of their low-cost and ability to inflict resource-debilitating casualties, were also used during the Iraq-Iran war, causing serious casualties.

Nerve gases, such as sarin, tabun, soman or VX, are far more efficient and lethal. These nerve agents attack the nervous system of the human body, and are lethal in far smaller quantities than the classic substances. The nerve gases are effective both when inhaled and when absorbed into the body through the skin. The effects of these substances are very long lasting and cumulative, and even those who survive an attack almost always suffer chronic neurological damage afterwards.

4.5 Biological Weapons

Biological weapons have the very dangerous potential to cause mass casualties. The ideal characteristics of biological weapons for terrorist or military use lie in their high effectiveness, high potency and deadliness, if delivered efficiently. The infection can also spread and cause serious secondary infections in other areas.

The main kinds of biological warfare agents are bacteria, viruses, rickettsiae and fungi. The biological agents can often be manufactured easily and quickly, but the effective delivery to a target is more complicated. The most effective and dangerous form of delivery is as an aerosol. But this form of distribution has several technical difficulties connected with it.

The most dangerous biological agents that can be used for weaponization are: anthrax, smallpox, plague, hemorrhagic fevers (especially Ebola and Marburg

virus), cholera, tularemia, typhus, brucellosis, yellow fever and Rift Valley fever. Some of the diseases, like some strains of Ebola and Marburg virus, have a fatality rate of 90% (Prymula 2002). Many countries have the capability to produce sufficient quantities of biological agents, including Iran, China, North Korea or Syria. Even the civilian biotechnological infrastructure can be easily used for an offensive biological weapons program because of the general diffusion and availability of the related technology and its regular use in medical, pharmaceutical, agricultural or food industry.

5. The Global Need for an Effective Missile Defence System

With the proliferation of the weapons of mass destruction, and missile technology, and the problem of its dual-use nature in civil and military industry; missile defence is one of the most important elements of global security in the 21st century. In today's world, the development and proliferation of ballistic missiles and weapons of mass destruction poses a permanent and rapidly growing threat. Ballistic missiles with nuclear, chemical or biological warheads can reach any place on Earth in less than an hour. The typical flight time of a ballistic missile is only 31 to 33 minutes to cover a distance of 10,000 kilometres. The EU identifies the threat of proliferation of weapons of mass destruction (WMD) as "potentially the greatest threat" to its security (Council of the European Union 2003). The recent North Korean and Iranian missile launches demonstrated more than ever before the need for a strong, effective, and layered missile defence system.

Firstly, it is necessary to determine the nature of the problem. An intercontinental ballistic missile (ICBM) is a long-range (usually defined as having a greater than 5,500 km range) missile. It is usually designed to carry one or more nuclear warheads, or warheads with chemical, biological or conventional payloads. In the mid-course phase of their flight in space, ICBMs travel at speeds of up to more than 7 kilometres per second. Therefore, missile defence systems have to deal with the key problem – the principle of hitting "a bullet with a bullet".

Ballistic missiles are rockets consisting of one or more rocket stages (typically up to 3) which provide propulsion in the first phase of flight. The trajectory of the missile can be divided into a boost phase, a mid-course phase in space and a very short terminal phase of atmospheric re-entry.

The most important characteristics of a ballistic missile are its range, accuracy, and payload. The payload required for one nuclear warhead is typically a few hundred kilograms; therefore, for a ballistic missile with multiple warheads, the payload is up to tons, and the number of the warheads carried by one missile can be more than ten.

The missiles designed for ranges greater than 5,500 km or 3,500 miles are defined as intercontinental ballistic missiles. The typical flight time of an ICBM is 30–35 minutes for covering a range of 10,000 km, depending on the trajectory. The accuracy of the ICBMs can be as precise as tens of meters, but it is not so important due to their high firepower and large destructive radius. Therefore, an accuracy of hundreds of meters is sufficient for most ICBMs.

6. The Flight Phases of ICBMS

To understand the nature of missile defence and the interception opportunities, it is necessary to define the flight phases of the intercontinental ballistic missiles:

6.1 Boost phase

The missile is launched and quickly gains acceleration. The rocket engines produce extremely hot gases with a strong infrared track that is relatively easy to detect, especially from space. The boost phase is relatively short, typically 3–5 minutes. The altitude of the missile at the end of this phase is approximately 150 to 400 km depending on the trajectory, and its typical speed is approximately 7 km/s. Interception at this phase has the advantage of destroying the missile before it disperses its warheads and potential decoys. The phase between the fuel burn-out and the separation of the warheads is sometimes separately defined as the post-boost or ascent phase.

6.2 Midcourse Phase

The midcourse phase in space above the earth's atmosphere lasts typically 15–25 minutes; approximately 80 percent of the ICBM's total flight time. This phase offers more intercept opportunities, but the missile defence systems may have to deal with multiple independent warheads and decoys, designed as false targets and released in order to confuse sensors, and disperse the incoming interceptors. The midcourse phase is basically a free flight in the space – a sub-orbital space flight in an elliptic orbit, with maximum altitude of approximately 600–1,200 km, depending on the trajectory.

6.3 Terminal Phase

The terminal phase (also re-entry phase), is the last phase of the ICBM's flight. During this phase, the warhead(s) re-enter the Earth's atmosphere at an altitude of approximately 100 kilometres. This phase is very short, typically up to 60 to 120 seconds, offering the last-shot opportunity for the defence systems. However, the systems may have to face more problems, including last-moment trajectory changes of the incoming warheads, making them more difficult targets to hit.

7. The Principles of Effective Missile Defence

The incoming ballistic missiles can be destroyed during their flight using land, sea, air or space based systems. Each of the systems has its particular strengths, weaknesses and limits: therefore, a comprehensive, robust and multi-layered defence is necessary to provide an effective defence against this threat. The effective defence system must be capable of both global monitoring and global defence against any ballistic missile attack, be on 24 hour alert and consist of all the main elements – land, sea, and space systems. The main functions are as follows:

- Detection of the launch of an enemy ballistic missile and tracking its trajectory, using primarily space based infrared sensors and radars, as well as land-based radars and other systems.
- Accurate tracking of the ballistic missile using high-performance ground based radars with a long range and high resolution.
- Destruction of the ballistic missile, or the missile warhead, above the Earth's atmosphere by direct impact.

Each of the missile flight phases – the boost, midcourse, and terminal phase, provides multiple intercept opportunities, but also limitations that must be taken into account in the design and deployment of any effective missile defence system. The ideal situation is the destruction of the missile as soon as possible after its launch, while having as many opportunities as possible for multiple shots as the missile and the warhead(s) proceed on their full trajectory from launch to target (IFPA 2009).

In order to provide a global, long-range, strong and effective missile defence, the system must have a layered architecture. According to the original plans, the land–based systems were supposed to include the planned mid-course interceptors in Poland, and the X-band radar in the Czech Republic. The importance of the planned radar lies in its high performance and long effective range. On the other hand, the new systems can provide better mobility and adaptability, but with shorter range.

They layered architecture is the best option for building an effective, robust and adaptable system. The sea-based systems, such as the *Aegis* system cruisers equipped with the SM-3 missiles, can provide very good regional protection. Air-based systems, like the airborne laser, can also be used in some cases, but their range is limited. The space-based systems with sensors provide very important early-warning and tracking data. A very good option would be to develop and deploy a comprehensive system consisting of interceptors in space – such a system would be able to destroy missiles of all ranges and at all phases of their flight. The satellite interceptors could cover the entire surface of the Earth, see across a 360-degree space-earth horizon to detect any missile

launches globally, and strike the enemy ballistic missile very quickly, even while still in its boost or early-midcourse phase. However, the high cost is the main weakness of this project; and the Obama administration, therefore, reassessed the plans in favor of the limited system in Europe.

8. The Characteristics of the New Missile Defence Systems in Europe

As the U.S. Secretary of Defence stated, the new system will be based on the Standard Missile 3 (SM-3) interceptors, which have been improved and has had eight successful flight tests since 2007. In the initial stage of the program, the Aegis system ships equipped with SM-3 interceptors will be deployed, providing the flexibility to move interceptors from one region to another if needed. According to Secretary Gates, the second phase, in about 2015, will involve upgraded, land-based missiles SM-3. These missiles can be deployed in Poland and the Czech Republic, as well as in any other allied country, and consultations with allies already have begun, starting with Poland and the Czech Republic (US DoD 2009).

The RIM – 161 Standard Missile 3 (SM-3) is the key element of the planned missile defence system. It is originally a ship-based anti-ballistic missile used by the Aegis ballistic missile defence system, but can be modified for a land-based system. The missile doesn't have to carry any explosive – the "Hit-to-Kill" principle relies on the kinetic energy released in a high-speed collision, resulting in a high energy release and destruction of the target. The SM-3 missile has shown some of the best results of any anti-missile system used by the U.S. military, and is also used by the Japanese navy. There are more variants of this missile, and it was even used as an anti-satellite weapon in February 2008, when the U.S. ship Lake Erie fired a SM-3 against a failed American satellite and successfully destroyed it at the height of 247 kilometres above the Pacific Ocean (Space.com). The flexibility and high velocity of this missile provide multiple engagement opportunities, with the capability of intercepting threats in their ascent, midcourse and descent phases. The mobility of the ships, or a sufficient number of land-based launch sites can provide high flexibility to respond to changing threat scenarios (Raytheon 2009). If deployed appropriately, and with tactically positioned launch sites, such a system would provide a high level of ability to defend an entire geographic region against short- and medium-range missile threats, as well as having a certain level of limited capability against longer range missiles, depending on the particular trajectory and speed of the incoming enemy missile. The upgraded SM-3/IB (Block IB) missiles, are expected to be available in the 2015 timeframe, will further extend the defended area. In the next few years [probably in the 2018 timeframe] the Block IB type will be followed by an even more advanced, Block IIA variant which will include a larger, full calibre 21-inch propulsion stack, combined with a bigger and more capable kinetic warhead (KW). The larger KW, as well as the propulsion system will provide additional range and efficiency, as well as having the capability to engage the various types of threat.

Conclusion

The missile defence systems geographically situated in Europe are essential to defend both Europe and the United States against the threat of intercontinental ballistic missiles. The new U.S. plans are based on deployment of improved Standard Missiles 3, which have shown some of the best results of any anti-missile system of the U.S. military. In the initial stage, the Aegis ships with SM-3 interceptors will be deployed, which brings the flexibility to move the interceptors from one region to another if need be. The second phase, beginning in about 2015, will involve the deployment of upgraded, land-based SM-3 Block IB interceptors that can be based in the Czech Republic, Poland, and potentially, in Romania, Bulgaria or any other allied state. Such a system has the capability to provide good protection for most of Europe and potentially defend a significant amount of additional area. Over time, the architecture of the system is designed to continually incorporate new technologies and more components. More interceptors can be included, the range of coverage can expand, giving the system the capability to have enough flexibility to adapt to all developing threats.

Although the Iranian long-range missile threat seems not to be as immediate as the U.S. administration previously expected, the planned system shall be capable of incorporating future defensive capabilities against such threats, as they develop. In the entire missile defence issue, it is crucial to develop new technologies, promote the continued improvement of the missile defence capabilities, and eliminate performance gaps. Interconnection and information sharing within the NATO systems is also a very important element of an effective missile defence.

One of the best solutions for the future would be the further development of space-based systems, including a sufficient number of space interceptors with the capability to destroy incoming ballistic missiles in their boost-, midcourse- and terminal- phases of flight. The key problem is that the budget for an effective space-based system is very high, and therefore very probably unacceptable for the new plans of the Obama administration. The new U.S. approach significantly lowers the expenditures, which is probably one of the key reasons for Obama's new missile defence policy. The Obama administration itself declared the decision to be a pragmatic one, bringing lower costs and at the same time better protection for the U.S. troops in Europe and the Middle East.

There is a possibility that the new U.S. plan will create better conditions for wider cooperation on missile defence, both bilateral and multilateral. It may help to establish a new relationship between the United States and Russia; even leading to a stronger non-proliferation regime. Although there is still strong Russian opposition to the U.S. plans and its expansion in Europe. However, the future may bring a new climate, new cooperation, and maybe even the victory of "common sense" on this issue, and in other fields of international relations.

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University of Economics, Prague
Faculty of International Relations
Náměstí Winstona Churchilla 4
130 67 Prague 3
http://vz.fmv.vse.cz/

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