

# **Global Reactions to the United States' Deployment of a National Missile Defense System**

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The findings of this study are solely the opinions of the author and panel members and do not reflect official policy or position of the Canadian Forces, United States Air Force, or the University of Manitoba.

## **ABSTRACT**

In 2000, the debate over US National Missile Defense (NMD) was thrust to the forefront because of the US Presidential Election. Many television and radio programs, and newspaper and magazine articles were devoted to the subject. The vast majority of these commentaries concentrated on either the technological challenges of the proposed system, or on whether the US should or should not deploy a NMD system. What was missing from most discussions on NMD is any analysis of what the major powers of the world would actually do if the US goes ahead with its NMD program. Some authors have asserted that NMD will start another Cold War with Russia or possibly China, or an arms race in space could begin. While these outcomes are possible, it is difficult to state that they will occur without conducting a thorough futures analysis. That is what this study attempts to accomplish.

The methodology chosen for this study is the Lockwood Analytical Method for Prediction (LAMP). LAMP was created by Dr. Jonathan Lockwood during his analysis of the newly formed nuclear republics following the collapse of the Soviet Union. LAMP was designed to give an analyst a method for organizing all available information, based on the perceptions of the national actors, and use this information to predict which future is the most likely to occur. However, LAMP does not attempt to predict the future using traditional quantitative methods. Instead, alternate futures are treated as nothing more than the sum total of all possible interactions of the free will of the national actors. LAMP also does not assign a percent chance for any alternate future to occur. Instead it asserts we can only know the probability of a given alternate future relative to the other possible alternate futures being analyzed.

There are 12 formal steps to the LAMP process:

- Step 1)** Determine the issue for which you are trying to predict the most likely future.
- Step 2)** Specify the national actors involved.
- Step 3)** Perform an in-depth study of how each national actor perceives the issue in question.
- Step 4)** Specify all possible courses of action for each actor.
- Step 5)** Determine the major scenarios within which to compare the alternate futures.
- Step 6)** Calculate the total number of permutations for possible alternate futures.
- Step 7)** Perform a pairwise comparison of the alternate futures.
- Step 8)** Rank the alternate futures for each scenario based upon the pairwise comparison.
- Step 9)** Analyze each alternate future in terms of its consequences for the issue in question.
- Step 10)** State the potential of a given alternate future to transpose into another alternate future.
- Step 11)** Determine the focal events that must occur in order for a given alternate future to occur.
- Step 12)** Develop indicators for the focal events.

In order to provide the most accurate and insightful information to the issue at hand and eliminate the possibility of any personal biases or inaccurate research any one individual may have, a group of experts was gathered together for the study. The working group was held at the Canadian Forces School of Aerospace Studies Aerospace Battlelab on the 28th of February and 2nd of March 2001. The working group was comprised of both civilian and military personnel knowledgeable in either the national actors this study looked at, or National Missile Defense. Members of the working group included:

James Fergusson, Ph.D, Centre for Defense & Security Studies – University of Manitoba, Canada

Paul Buteux, Ph.D, Centre for Defense & Security Studies – University of Manitoba, Canada

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## **CRITICAL ASSUMPTIONS**

For the purpose of this study the following assumptions were made. 1) The current geo-political structure of the world's major powers remains the same prior to NMD deployment. 2) There are no major wars between any of the world's major powers. 3) The US has deployed an operational NMD system and has demonstrated that the system can reliably intercept reentry vehicles. (Specifics of what the NMD system entails will be covered later) 4) There has not been a catastrophic collapse of any of the national actor's economies.

## **THE LAMP PROCESS**

**LAMP Step 1. Determine the issue for which you are trying to predict the most likely future.**

The purpose of this study is to determine what the major world powers will do if the US deploys a NMD system. This study does not entertain the notion of whether the US should or should not deploy NMD. The study also does not debate whether the system will or will not work. Instead it attempts to provide an analysis of how deployment of the system will effect the geo-political structure of the world.

**LAMP Step 2. Specify the national “actors” involved.**

Three national actors were looked at during the study. They were chosen because of their ability to affect the global debate on NMD and their ability to respond to NMD deployment. The three national actors are Russia, China, and European NATO countries as a whole.

**LAMP Step 3. Perform an in-depth study of how each national actor perceives the issue in question.**

Each of the national actors were looked at as to how they would perceive the deployment of NMD. Would they consider it a stabilizing, destabilizing, an offensive threat, or defensive system?

## **Russia**

In looking at Russia one of the key considerations was not what Russia would necessarily like to do, but what it was capable of doing. Though they are much less of a power than the US they are still the only other global super power, and Russia wants to maintain this status. So options that preserve Russia's on-par relationship with the US should be strongly desirable. However, the Russian economy may not be able to support a protracted build up of strategic arms, so there is a strong economic incentive to achieve its results with minimum capital investment.

## **China**

One of the major factors concerning China was its long-term approach. China has historically had a much longer-term timeline than the western world. Its decisions would not be governed by the short term affects, but by how its could best position itself in the future. China will most likely not want to move into becoming a global super power. Rather they will remain a regional super power in Asia, specifically Southwest Asia. China approaches the NMD question as to how it affects their sphere of influence in Southwest Asia.

## **European NATO Countries**

The decision for European NATO countries interest in NMD is not purely a defensive one. The US NMD system could have tremendous technology gains to the companies who build its components and sub-components. In a world of shrinking defense budgets, NMD offers defense contractors a powerful incentive to support the system. European companies could apply some pressure to their governments to provide

some support to NMD, or at least limit their objections, so they would not fall behind the US in emerging technologies.

**LAMP Step 4. Specify all possible courses of action for each actor.**

It was determined that Russia and China had five major courses of action:

- 1) Limited response other than current political objections.
- 2) Apply political pressure to the US in an attempt to force a stand down of the NMD system.
- 3) Modernize strategic offensive and defensive forces. This could take the form of normal modernization schedules or a new arms race. An extension of this is to begin the weaponization of space.
- 4) Peruse international partners to boost their offensive and defensive systems to counter NMD.
- 5) Seek new arms control agreements to limit NMD systems.

NATO European countries were determined to have three options:

- 1) NATO as a whole agrees with the US deployment of NMD and ceases its objections.
- 2) NATO countries continues their objections to NMD.
- 3) NATO countries field their own ballistic missile defence (BMD) system.

**LAMP Step 5: Determine the major scenarios within which you will compare the alternate futures.**

Two different scenarios were look at. The first was the deployment of a NMD system only containing ground based interceptors (GBI). The GBI system would match the current configuration proposed by the Ballistic Missile Defense Organization and would consist of 100 interceptors stationed in Alaska along with support radars and



personnel. The GBI system would only have the ability to intercept a limited number of reentry vehicles (RVs) during their terminal flight phase. The second scenario looked at a NMD system containing both GBIs and space-based lasers (SBLs). In this scenario a constellation of 2-6 SBLs are in near-polar orbits. Each SBL would have the capability of intercepting several dozen RVs during several different phases of flight.

### **Scenario 1 – NMD system with GBIs only**

#### **Russian Options:**

**Russia Option 1 “Status Quo”** – Russia continues its objections to NMD but also continues work on arms control. START III or IV is likely to occur. Offensive and defensive systems remain separate classifications for arms control and international treaties. Russia allows modification to the 1972 ABM Treaty to fit NMD under it. Russia maintains the Moscow ABM site, but does not field any new weapons systems or begin major weapon modifications as a result of NMD.

**Russia Option 2 “Bilateral Agreements”** – Russia enters into one or more new agreements with the US concerning strategic forces, BMD, and space control weapons. Offensive and defensive forces are either grouped together or separate sections of the same treaty deal with each. These new treaties essentially free the US from the 1972 ABM treaty and Russia from the START II treaty.

**Russia Option 3 “Political Pressure”** – Russia does not allow modifications to the 1972 ABM treaty and forces the US to withdraw from the treaty. Russia increases its

political pressure on both the US and its allies, and attempts to isolate the US and fracture the NATO alliance. Further work on limiting strategic forces may be done but offensive and defensive forces remain separate. There are no new treaties concerning space control or ABM systems.

**Russia Options 4 “International Partners”** – Similar to option 3, but in addition Russia seeks strategic partners, possible China, to counter the US capability. No formal defense treaties are signed, just alignments and mutual understanding. Russia does not allow modifications to the 1972 ABM treaty and forces the US to withdraw from the treaty. Russia increases its political pressure on both the US and its allies, and attempts to isolate the US and fracture the NATO alliance. Further work on limiting strategic forces may be done but offensive and defensive forces remain separate. There are no new treaties concerning space control or ABM systems.

### **Chinese Options**

**China Option 1 “Increased Modernization”** – China continues to modernize its strategic forces but allocates more resources to speed up the process a little. China fields mobile, solid fueled, MIRVed ICBMs. China publicly opposes the US’s NMD system. China still allows proliferation of strategic technology.

**China Option 2 “Arms Control”** – China seeks to join with Russia and the US in arms control agreements concerning ABM, space control weapons, and strategic forces, coupling offensive and defensive systems together. This new treaty must contain

provisions to ban or limit the deployment of the SBL and other space-to-space/air/ground weapons. China continues to modernize its strategic forces and allocates more resources to speed up the process a little. China fields mobile, solid fueled, MIVRed ICBMs to allow them to enter into arms control discussions. China reduces or eliminates proliferation of strategic technology from its country.

**China Option 3 “Isolate US”** – China attempts to isolate the US and seeks strategic partners, possibly Russia, to counter the US capability, and pressures US allies to oppose NMD. China continues to modernize its strategic forces but does not allocate more resources. China fields mobile, solid fueled, MIVRed ICBMs. China still allows proliferation of strategic technology.

### **European NATO Countries Options**

**European NATO Countries Option 1 “Buy-In”** – The European countries of NATO agree with the US that NMD is purely defensive and not escalatory. Some minor objections from a few member countries continue, but the alliance survives intact.

**European NATO Countries Option 2 “Increased BMD Activities”** – Similar to option 1, but the NATO countries begin active involvement in European Continental BMD. This mission could fall under NATO or may create a new organization, possibly a European-Russia, to act as a BMD “AWACS” for Europe and Western Russia. Europe agrees with the US that NMD is purely defensive and not escalatory and wants the same type/level of protection.

## **Scenario 2 – NMD with GBIs and SBLs**

### **Russian Options**

**Russia Option 1 “Bilateral Agreements”** – Russia enters into one or more new agreements with the US concerning strategic forces, BMD, and space control weapons. Offensive and defensive forces are either grouped together or separate sections of the same treaty deal with each. These new treaties essentially free the US from the 1972 ABM treaty and Russia from the START II treaty. This allows Russia to remain on-par with the US without fielding space weapons themselves. Russia reactivates its co-orbital ASAT program.

**Russia Option 2 “Political Pressure”** – Russia does not allow modifications to the 1972 ABM treaty and forces the US to withdraw from the treaty. Russia increases its political pressure on both the US and its allies. Russia attempts to isolate the US and fracture the NATO alliance. Further work on limiting strategic forces may be done but offensive and defensive forces remain separate. No new treaties concerning space control or ABM systems are agreed to. Russia reactivates its co-orbital ASAT program.

**Russia Option 3 “International Partners”** – Similar to option 2, but in addition Russia seeks strategic partners, possible China, to counter the US. No formal defense treaties are signed, just alignments and mutual understanding. Russia does not allow modifications to the 1972 ABM treaty and forces the US to withdraw from the treaty. Russia increases its political pressure on both the US and its allies and attempts to isolate

the US and fracture the NATO alliance. Further work on limiting strategic forces may be done but offensive and defensive forces remain separate. No new treaties concerning space control or ABM systems. Russia reactivates its co-orbital ASAT program.

**Russia Option 4 “Weaponization”** – Russia does not allow modifications to the 1972 ABM treaty and forces the US to withdraw from the treaty. Russia reactivates its co-orbital ASAT program as well as fielding new space-to-space/air weapons with similar capabilities to the US SBL system, but possibly using different technology. Russia modernizes strategic forces possibly MIRVing new mobile systems. Further work on limiting strategic forces may be done but offensive and defensive forces remain separate. No new treaties concerning space control or ABM systems.

### **Chinese Options**

**China Option 1 “Increased Modernization”** – China continues to modernize its strategic forces but allocates more resources to speed up the process a little. China fields mobile, solid fueled, MIVRed ICBMs. China publicly opposes the US’s NMD system. China still allows proliferation of strategic technology.

**China Option 2 “Isolate US”** – China attempts to isolate the US and seeks strategic partners, possibly Russia, to counter the US capability. China pressures US allies to oppose NMD. China continues to modernize its strategic forces but allocates more resources to speed up the process a little. China fields mobile, solid fueled, MIVRed ICBMs. China still allows proliferation of strategic technology.

**China Option 3 “Arms Control”** – China seeks to limit US SBL program through arms control agreements concerning ABM, space control weapons, and strategic forces. Offensive and defensive systems are coupled together. China continues to modernize its strategic forces but allocates more resources to speed up the process a little. China fields mobile, solid fueled, MIVRed ICBMs and possibly limited space-based weapons capability to allow them to enter into arms control discussions. China reduces or eliminates proliferation of strategic technology from its country.

**China Option 4 “Weaponization”** – China fields a limited space-to-space/air weapon system. China continues to modernize its strategic forces but allocates more resources to the process. China fields mobile, solid fueled, MIVRed ICBMs. China still allows proliferation of strategic technology.

### **European NATO Countries Options**

**European NATO Countries Option 1 “BMD within NATO”** – NATO begins active involvement in European Continental BMD. Possibly creating a NATO organization to act as a BMD “AWACS” for Europe. The European NATO countries agree with the US that NMD is purely defensive and not escalatory and want the same type/level of protection. The European role in this arrangement could be similar to the either the British or French nuclear model within NATO, or some new arrangement. Europe does not control any space-based weapons.

**European NATO Countries Option 2 “BMD outside NATO”** – Similar to European NATO Countries option 1 but European Continental BMD does not fall under NATO. Most European countries agree with the US that NMD is purely defensive and not escalatory and want the same type/level of protection. Europe has an independent BMD capability, possibly creating a new organization to act as a BMD “AWACS” for Europe. This activity weakens NATO. Europe does control independent space-based weapons.

**LAMP Step 6: Calculate the total number of permutations of possible “alternate futures” for each scenario.**

For Scenario 1 there are 3 actors. One actor has four courses of action, one has three courses of action, and the last one has two courses of action. This gives a total of 24 possible alternate futures. For scenario 2 there are again three actors, but the number of options are different for two of the actors. However, there is still a combination of four, three, and two courses of actions so again there are 24 possible alternate futures.

**LAMP Step 7: Perform a “pairwise comparison” of all alternate futures to determine their relative probability.**

A pairwise comparison of each future was accomplished for each scenario.

During this process each future is analyzed against each other future and a determination is made as to which of the two futures is more likely to occur. The more likely future is then given one vote. This process is accomplished so each future is compared against every other future in turn.

**US NMD system with GBIs only**

<b>Future</b>	<b>Russia's Action</b>	<b>China's Action</b>	<b>NATO's Action</b>
1	Status Quo	Increased Modernization	Buy-In
2	Bilateral Agreements	Increased Modernization	Buy-In
3	Political Pressure	Increased Modernization	Buy-In
4	International Partners	Increased Modernization	Buy-In
5	Status Quo	Arms Control	Buy-In
6	Bilateral Agreements	Arms Control	Buy-In
7	Political Pressure	Arms Control	Buy-In
8	International Partners	Arms Control	Buy-In
9	Status Quo	Isolate US	Buy-In
10	Bilateral Agreements	Isolate US	Buy-In
11	Political Pressure	Isolate US	Buy-In
12	International Partners	Isolate US	Buy-In
13	Status Quo	Increased Modernization	Increased BMD activities
14	Bilateral Agreements	Increased Modernization	Increased BMD activities
15	Political Pressure	Increased Modernization	Increased BMD activities
16	International Partners	Increased Modernization	Increased BMD activities
17	Status Quo	Arms Control	Increased BMD activities
18	Bilateral Agreements	Arms Control	Increased BMD activities
19	Political Pressure	Arms Control	Increased BMD activities
20	International Partners	Arms Control	Increased BMD activities
21	Status Quo	Isolate US	Increased BMD activities
22	Bilateral Agreements	Isolate US	Increased BMD activities
23	Political Pressure	Isolate US	Increased BMD activities
24	International Partners	Isolate US	Increased BMD activities



## US NMD system with GBIs and SBLs

<b>Future</b>	<b>Russia's Action</b>	<b>China's Action</b>	<b>NATO's Action</b>
<b>1</b>	Bilateral Agreements	Increased Modernization	BMD with-in NATO
<b>2</b>	Political Offensive	Increased Modernization	BMD with-in NATO
<b>3</b>	Weaponization	Increased Modernization	BMD with-in NATO
<b>4</b>	Bilateral Agreements	Isolate US	BMD with-in NATO
<b>5</b>	Political Offensive	Isolate US	BMD with-in NATO
<b>6</b>	Weaponization	Isolate US	BMD with-in NATO
<b>7</b>	Bilateral Agreements	Arms Control	BMD with-in NATO
<b>8</b>	Political Offensive	Arms Control	BMD with-in NATO
<b>9</b>	Weaponization	Arms Control	BMD with-in NATO
<b>10</b>	Bilateral Agreements	Weaponization	BMD with-in NATO
<b>11</b>	Political Offensive	Weaponization	BMD with-in NATO
<b>12</b>	Weaponization	Weaponization	BMD with-in NATO
<b>13</b>	Bilateral Agreements	Increased Modernization	BMD outside NATO
<b>14</b>	Political Offensive	Increased Modernization	BMD outside NATO
<b>15</b>	Weaponization	Increased Modernization	BMD outside NATO
<b>16</b>	Bilateral Agreements	Isolate US	BMD outside NATO
<b>17</b>	Political Offensive	Isolate US	BMD outside NATO
<b>18</b>	Weaponization	Isolate US	BMD outside NATO
<b>19</b>	Bilateral Agreements	Arms Control	BMD outside NATO
<b>20</b>	Political Offensive	Arms Control	BMD outside NATO
<b>21</b>	Weaponization	Arms Control	BMD outside NATO
<b>22</b>	Bilateral Agreements	Weaponization	BMD outside NATO
<b>23</b>	Political Offensive	Weaponization	BMD outside NATO
<b>24</b>	Weaponization	Weaponization	BMD outside NATO

**LAMP Step 8: Rank the alternate futures for each scenario from highest relative probability to the lowest based on the number of “votes” received.**

## **US NMD system with GBIs only**

<b>Votes</b>	<b>Future</b>	<b>Russia's Action</b>	<b>China's Action</b>	<b>NATO's Action</b>
23	2	Bilateral Agreements	Increased Modernization	Buy-In
21	6	Bilateral Agreements	Arms Control	Buy-In
21	14	Bilateral Agreements	Increased Modernization	Increased BMD activities
20	18	Bilateral Agreements	Arms Control	Increased BMD activities
19	1	Status Quo	Increased Modernization	Buy-In
16	13	Status Quo	Increased Modernization	Increased BMD activities
15	5	Status Quo	Arms Control	Buy-In
15	23	Political Pressure	Isolate US	Increased BMD activities
14	7	Political Pressure	Arms Control	Buy-In
14	9	Status Quo	Isolate US	Buy-In
13	11	Political Pressure	Isolate US	Buy-In
12	15	Political Pressure	Increased Modernization	Increased BMD activities
12	17	Status Quo	Arms Control	Increased BMD activities
11	3	Political Pressure	Increased Modernization	Buy-In
9	19	Political Pressure	Arms Control	Increased BMD activities
8	10	Bilateral Agreements	Isolate US	Buy-In
7	21	Status Quo	Isolate US	Increased BMD activities
7	22	Bilateral Agreements	Isolate US	Increased BMD activities
5	16	International Partners	Increased Modernization	Increased BMD activities
5	24	International Partners	Isolate US	Increased BMD activities
3	4	International Partners	Increased Modernization	Buy-In
3	12	International Partners	Isolate US	Buy-In
3	20	International Partners	Arms Control	Increased BMD activities
0	8	International Partners	Arms Control	Buy-In

## US NMD system with GBIs and SBLs

Votes	Future	Russia's Action	China's Action	NATO's Action
23	7	Bilateral Agreements	Arms Control	BMD with-in NATO
22	1	Bilateral Agreements	Increased Modernization	BMD with-in NATO
19	2	Political Offensive	Increased Modernization	BMD with-in NATO
19	5	Political Offensive	Isolate US	BMD with-in NATO
18	9	Weaponization	Arms Control	BMD with-in NATO
17	4	Bilateral Agreements	Isolate US	BMD with-in NATO
17	21	Weaponization	Arms Control	BMD outside NATO
16	15	Weaponization	Increased Modernization	BMD outside NATO
14	8	Political Offensive	Arms Control	BMD with-in NATO
14	19	Bilateral Agreements	Arms Control	BMD outside NATO
14	24	Weaponization	Weaponization	BMD outside NATO
13	6	Weaponization	Isolate US	BMD with-in NATO
12	3	Weaponization	Increased Modernization	BMD with-in NATO
11	13	Bilateral Agreements	Increased Modernization	BMD outside NATO
9	12	Weaponization	Weaponization	BMD with-in NATO
8	10	Bilateral Agreements	Weaponization	BMD with-in NATO
8	18	Weaponization	Isolate US	BMD outside NATO
6	17	Political Offensive	Isolate US	BMD outside NATO
5	14	Political Offensive	Increased Modernization	BMD outside NATO
4	20	Political Offensive	Arms Control	BMD outside NATO
3	11	Political Offensive	Weaponization	BMD with-in NATO
3	22	Bilateral Agreements	Weaponization	BMD outside NATO
1	16	Bilateral Agreements	Isolate US	BMD outside NATO
0	23	Political Offensive	Weaponization	BMD outside NATO

**LAMP Step 9: Assuming that each future occurs, analyze each alternate future in terms of its consequence for the issue in question.**

The most likely, top five, scenarios were analyzed to determine the consequences of the future actually occurring. In addition, one over-all theme emerged that was not directly tied to any one future and needs to be addressed separately. This is that strategic

arms treaties and negotiations are going to become important again. Recently strategic arms control treaties have not been considered very important by the world as a whole. However, once NMD is operational strategic arms may again be at the forefront of international policy for many different nations.

### **Scenario 1: NMD with GBIs only**

**Alternate Future 2 - Russia attempts Bilateral Agreements, China pursues an increased modernization program, and NATO European countries buy the US's rational for NMD and stop their objections.**

This future is attractive to all parties since it involves minimal capital investment but produces major returns for each country. The US NMD system is limited by Russia's actions. This frees up NATO countries from their objections to NMD and European industry can get the technology return from NMD. China continues with the modernization of their strategic forces which is in-line with their current trend and increases their regional super power status. This future is also consistent with the trend of the last decade of reducing nuclear stockpiles of the US and Russia and allows both countries to get out of bilateral treaties that they feel are no longer in their best interest. Russia is able to still be on-par with the US since they are the only other nation the US has bilateral strategic arms agreements with.

**Alternate Future 6 - Russia attempts Bilateral Agreements, China pursues an arms control agenda, and NATO European countries buy the US's rational for NMD and stop their objections.**

Similar to future 2, but in this case China as well as Russia attempts to limit the US NMD system through arms control. Russia's great power status is preserved in this scenario, but not as much as in future 2 since there would be three actors at the strategic arms table.

**Alternate Future 14 - Russia attempts Bilateral Agreements, China pursues an increased modernization program, and NATO European countries increase their BMD activities.**

Russia's and China's actions are the same as in future 2, but with the elimination of Russia's objections European NATO countries can field their own NMD system to reap even more technology gains without expending political capital.

**Alternate Future 18 - Russia attempts Bilateral Agreements, China pursues an arms control agenda, and NATO European countries increase their BMD activities.**

This future is similar to future 6 except for the action of the European NATO countries. The relationship between this future and future 6 is the same as future 14's to future 2 with similar effects.

**Alternate Future 1 - Russia has a Status Quo response, China pursues an increased modernization program, and NATO European countries buy the US's rational for NMD and stop their objections.**

This future requires the minimal actions by each actor and thus benefits from the inertia of the current situation. The Chinese and NATO European countries actions are the same as in future 2, but in this future Russia does not pursue any strategic arms control agreements other than continuing along the current path of reducing offensive weapons.

## **Scenario 2: NMD with GBIs and SBLs**

**Alternate Future 7 - Russia attempts Bilateral Agreements, China pursues an arms control agenda, and NATO European countries stand up BMD within NATO.**

This future is attractive to all parties since it involves minimal capital investment and still satisfies the national security interests of each country. The US NMD system is limited by Russia's and China's actions. This frees up NATO countries from their objections to NMD and European industry can get the technology return from NMD. By having a BMD mission within NATO, Europe gains the strategic protection of the system and European industry get a technology gain without having to pay for an entire system by themselves.

**Alternate Future 1 - Russia attempts Bilateral Agreements, China pursues an increased modernization program, and NATO European countries stand up BMD within NATO.**

Similar to future 7 but now China continues with the modernization of their strategic forces which is in-line with their current trend and increases their regional super power status.

**Alternate Future 2 - Russia begins a Political Offensive, China pursues an increased modernization program, and NATO European countries stand up BMD within NATO.**

In this future Russia takes a harder stance than in future 1 or 7. In this case both Russia and China have determined they cannot work with the US on limiting NMD. European NATO countries would want a BMD system within NATO in this case less for the technology gains than for the added protection from a more aggressive Russia and China.

**Alternate Future 5 - Russia attempts Bilateral Agreements, China attempts to isolate the US, and NATO European countries stand up BMD within NATO.**

This future is similar to future 2, but it is less US friendly than either 1 or 7. In this case agreements with Russia can be made but not with China who undertakes a political campaign in an attempt to isolate the US.

**Alternate Future 9 - Russia begins to weaponize space, China pursues an arms control agenda, and NATO European countries stand up BMD within NATO.**

This is the most likely future where the weaponization of space would begin. In this future Russia is so threatened by NMD and is unable to come to any agreements that they deploy weapons in space to limit the effectiveness of NMD. China would then be threatened by both US and Russian ABM systems and space weapons and would attempt to limit these weapons through international treaties. European NATO countries again field a BMD system within NATO this time because of the threat of Russian weapons.

**LAMP Step 10: State the potential of a given alternate future to “transpose” into another alternate future.**

Many futures in both scenarios have the possibility to transpose into other futures at a later time.

**Scenario 1: NMD with GBIs only**

The most likely future to transpose future 2, the most likely future, turning into future 14, the fourth most likely future. What is different about the two futures is the level of BMD activity in Europe. After the initial stigma of NMD wears off and Russia has ceased its objections, then Europe may want a self-protection system of their own.

Other possible transpositions include; future 6 into future 18, future 1 into future 2, and future 14 into future 18.

**Scenario 2: NMD with GBIs and SBLs**

The most likely future to transpose in scenario 2 is future 1, the second most likely future, turning into future 7, the most likely future. What is different about the two futures is China’s reaction. After modernizing their strategic forces China may decide to pursue arms control to attempt to limit US space weapons.

Other possible transpositions include; future 5 into future 6, and future 1 into future 42.



**LAMP Step 11: Determine the “focal events” that must occur in our present in order to bring about a given alternate future.**

One major focal event for both scenarios is if Russia and/or China begins negotiations on strategic arms control to include defensive systems. What comes out of these meetings, whether an agreement was signed or not, would significantly effect the issue at hand. If Russia and the US sign an agreement without Chinese participation then futures 2, 6, 10, 14, 18, and 22 are more likely to occur, while futures 3, 4, 7, 8, 11, 12, 15, 16, 19, 20, 23, and 24 are unlikely to occur in scenario one. If the Chinese do participate in an arms control agreements with the US and Russia then futures 6 and 18 are more likely while futures 3, 4, 7, 8, 9, 10, 11, 12, 15, 16, 19, 20, 21, 22, 23, and 24 are less likely for scenario one. For scenario two a Russian only agreement would increase the likelihood of futures 1, 4, 7, 10, 13, 16, 19, 22. If China also signed agreements then futures 7 and 19 would be more likely than they currently are for scenario two. If the negotiations do not produce any agreements any of the alternate futures would still be possible since either nation could return to the enter into new treaties at a later time. However, the futures where Russia or China sign arms control agreements with the US would be less likely than they currently are.

Another focal event would be the development and testing of new space weapon systems. Prior to futures 3, 6, 9, 11, 12, 15, 21, 22, 23, 24 occurring in scenario two, new space weapons would have to be developed by either Russia, China or both.

## **LAMP Step 12: Develop indicators for the focal events.**

Indicators for the futures involving strategic defensive arms control would entail diplomatic actions indicating one of the countries may be willing to enter into negotiations on the issue. These initial feelers may be very subtle since the US has not stated it wants to enter into new arms control agreements dealing with defensive weapon systems other than its objections to the 1972 ABM treaty with Russia. Russia indicating they would consider modifications to the 1972 ABM treaty would one such indicator.

Indicators for the futures involving the weaponization of space or fielding of new ABM systems by any of the actors include the fielding of new weapon systems. Since it generally requires several years to design, test, and field a new weapon system, there should be numerous indications that this process is underway.

## **CONCLUSIONS**

The US NMD plans are controversial to be sure. However, this study determined that after NMD was deployed the world would not be a more dangerous place. A space arms race or new Cold War is not like to occur just because of NMD. If new strategic arms control agreements are signed between the US and Russia, and if China can be brought in for the first time, then the world may become a safer place because of NMD. Another overall observation for scenario 1 was that none of the top futures were particularly disturbing. That is the geo-political structure of the world did not change much as a result of the fielding of NMD.

