
Contents

Independent Working Group	vii
Foreword	ix
Executive Summary	x
Recommendations	xii
General Recommendations	xii
Specific Recommendations	xii
1. Twenty-First-Century Threats & the Role of Missile Defense	1
The Threat	1
<i>Rogue States</i>	1
<i>Strategic Competitors</i>	6
<i>Asymmetric Threats</i>	9
<i>The Response</i>	13
<i>The Dynamics of Comprehensive Defense</i>	14
<i>First Steps</i>	16
Panel 1 Report	18
2. Requirements, Feasibility, & Timelines for Missile Defense R&D and Deployment	21
Beyond the “Initial Deployment”	21
Summary of Existing Programs	21
<i>Ground-based Missile Defense</i>	23
<i>Sea-based Missile Defense</i>	24
<i>Space-based Missile Defense</i>	26
<i>Air-based Directed-energy Defenses</i>	31
Addressing the Ship-borne <i>Scud</i> Threat	32
Bottom Line	33
Panel 2 Report	34
3. Missile Defense & Space Relationships	37
American Security and the Geopolitics of Space	37
Present U.S. Space Strengths	37
The Security Environment in Outer Space	37
Commercial Activity in Space	44
International Law and Space Geopolitics	45
Next Steps toward Space-based Defense	46
Conclusion	47
Panel 3 Report	48

4. The Politics Against Missile Defense: <i>Historical Analysis</i>	52
Proposition A – The Lunar Landing Program	52
Proposition B – <i>Brilliant Pebbles</i>	53
The Consequences	60
Government Failure	67
Panel 4 Report	70
5. The Politics Against Missile Defense: <i>Current Opponents</i>	73
Missile Defense Is Wasteful and Ineffective	77
Missile Defense Is Provocative and Destabilizing	78
Missile Defense Will Weaponize Space	81
Missile Defense Will Give America Too Much Unilateral Power	88
Missile Defense Is Morally Wrong	89
Summary Conclusions	92
Panel 5 Report	96
6. Missile Defense: International Dimensions	99
Russia	101
China	103
Europe	104
Middle East	106
<i>Israel</i>	106
<i>Gulf Cooperation Council</i>	108
Asia-Pacific Area	108
<i>Japan</i>	108
<i>South Korea</i>	109
<i>Taiwan</i>	109
<i>India</i>	109
<i>Australia</i>	110
The Limits of, and Potential for, Cooperation	110
Panel 6 Report	112
7. Requirements to Revitalize Science and Technology	115
On the Rise and Fall of Innovative Science and Technology	115
A General Deterioration of Defense S&T Programs	116
Innovation Needs for Future Missile Defenses	118
Needed: A New Effort for Innovative Missile Defense Technology	120
Providing the Scientists and Engineers for the Future	121
Summary Conclusions and Recommendations	123
Panel 7 Report	124

8. Conclusions & Recommendations	127
The Problem: An Existing and Escalating Threat	127
The Technical Solution: A Global Layered Missile Defense with Sea- and Space-based Elements	128
<i>Going Back to the Future</i>	129
<i>Enhancing Existing Sea-based Defenses</i>	129
<i>Augmenting U.S. Missile Defenses to Address the Ship-borne Scud Threat</i>	130
<i>Limiting Deployment of the Ground-based Missile Defense System</i>	130
<i>Committing to Space</i>	131
<i>Creating a Science and Technology Workforce for the Future</i>	131
<i>Broadening Missile Defense Collaboration with U.S. Allies</i>	132
The Political Solution: Rectifying Outdated Mindsets, Misconceptions, and Mistaken Beliefs	133
<i>Empowering the American Public</i>	133
Appendix A: State Missile Defense Resolutions	A:1
Appendix B: Surrey and Space Technology Proliferation	B:7
Appendix C: Letter from Ambassador Henry F. Cooper to Senator John Warner	C:12
Appendix D: The Rise and Fall of <i>Brilliant Pebbles</i>	D:16
Appendix E: The Campaign to “De-weaponize” Space	E:37
Appendix F: Greatest Space Events of the 20th Century: The 60s	F:47
Appendix G: Maldon Institute Memorandum on the World Peace Council	G:51
Appendix H: Summary Statement on East Coast Missile Defense	H:55
Appendix I: The Legacy of <i>Brilliant Pebbles</i>, <i>Clementine</i>, and <i>Iridium</i> for Future Space-Based Missile Defenses	I:60
Appendix J: Proceedings of the <i>Missile Defense Challenges for the Twenty-first Century</i> Conference	J:69
Appendix K: Executive Summary of <i>Space and U.S. Security Net Assessment</i>	K:84