Remarks for W. Frank Moore

7th Annual Missile Defence Conference:

International Missile Defence —
Shaping the Future from Policy to Technology

Panel Discussion, Session 1
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Thank you, Mike, and thank you all very much for the warm welcome. It's always a pleasure to be here at RUSI, and especially to be in the company of so many friends here on the panel.

RUSI's annual conferences are always a clear reminder how many partners we all have in the work of building a global, multiple-layered missile defense. The threat of ballistic missiles is a danger to all of us, and overcoming the danger requires all of our efforts.

As much as anything else, the success of the whole missile-defense enterprise now depends on the ability and willingness of allied nations to work together to achieve a new kind of defensive capability.

In recent years, we've seen a measure of progress in multinational cooperation. But given the urgency of the task, I think it's fair to say that all of us would like to see more and faster progress in a multinational network of BMD partners.

A generation after America first committed itself to missile defense, serious challenges continue to stand between us and an operational, global missile-defense system.

And this afternoon, I'd like to touch on what seem to me the five greatest challenges.

First Challenge

The first one is a challenge that only the U.S. government can solve — what will be the future policy on the sharing of US technology.

As our conception of missile defense has evolved over time, it's become apparent that a global approach to countering the ballistic-missile threat is necessary.

For years, and especially since the restrictions of the ABM treaty expired in June of 2003, the U.S. has tried to persuade friends and allies of the borderless dangers arising from rogue states armed with ballistic missiles.

The United States has urged a global, multiple-layered missile defense capability, with allies in Europe and Asia contributing their own unique assets to that defensive capability.

Naturally, achieving international missile-defense cooperation will require the sharing of a wide range of technical data, technology, industrial processes and know-how. The sophistication of the technologies — technical data involved — and the complexity of the systems-integration tasks entailed — make more traditional defense co-development or co-production projects of the past — the F-16, the Tornado — seem primitive.

This poses one of the essential dilemmas for the U.S. missile defense effort, and for our allies with us. Technology sharing is essential to achieve allied cooperation at almost any level you can think of —

industrial, procurement, testing, training, planning, surveillance and warning, tracking and targeting, operational coordination and engagement, you name it. Yet the cutting-edge sensitivity of the technologies involved confronts U.S. authorities with many delicate, touchy questions about authorizing technology transfers. The usual range of considerations obviously impinges on our government's decisions: preserving areas of U.S. technology leadership — our technology "edge"; industrial base and competitive considerations; our partners' need for the information and ability to safeguard it.

Consequently, the U.S. government faces a host of "technology-transfer" questions in the area of missile defense cooperation. These range from questions of principle to hundreds of individual-release decisions. And these are not decisions that can be taken in a vacuum. They only make sense in the context of concrete cooperative efforts contemplated or underway. Which leads us to another of the "chicken-and-egg" dilemmas of missile-defense cooperation: prospective partners may be hesitant to plunge into cooperative programs and commitments without assurance that necessary — and beneficial — technology sharing will be forthcoming. Yet those

decisions can't be taken abstractly, without concrete collaborative programs in view.

Defense industries in America, Europe and Japan are being encouraged to cooperate in developing and fielding the elements of a global missile-defense capability. Yet these ambiguities and unresolved questions of technology transfer constrict our ability to do just that. And even when the US government formally approves of cooperation with BMD partners — such as the UK or Japan — those approvals usually remain cumbersome, constraining us to case-by-case and license-by-license reviews.

In the end, of course, these issues remain the province of the Congress, the President, and the Departments of Defense, State, and Commerce. What we in private industry can do is underscore the importance of addressing these issues, in progressively greater detail and as a matter of extremely high priority. And we can take some encouragement from the signs that Congress and the U.S. Administration show an increasing appreciation of the need for near-term progress and clarification on this front.

Second Challenge

While we await further clarification on the technology-transfer issues, there are practical steps we can take to facilitate international missile defense

collaboration. This leads us to the second challenge — the opportunities presented to incorporate European technology into collaboratively developed missile-defense programs.

Our European allies each have considerable strengths and technological expertise of their own. The main difference between US and European technology is in the scale of government investment in BMD-related technology and infrastructure. In purely technical terms — in booster technology, sensor systems, computer hardware and software — the capabilities of allies like the UK, France, Germany, and Italy are extraordinary.

In this global effort, we must draw upon those strengths. A partnership in spirit is all well and good — but we need to make our BMD efforts more a partnership in practice. Observing all proper constraints, defense industries in America and Europe should seek to work in concert, taking and building on the best ideas and technologies that each has to offer. We should be sharing ideas and looking for opportunities to adapt and incorporate particular excellent technologies developed by our allies into the systems that we will integrate into a global, layered missile defense.

Under its Systems Engineering and Integration program — the SE&I program — NATO is now developing a federated missile defense test bed, linking the Alliance's commonly-owned facilities with national capabilities. SE&I provides a good model for progress toward effective missile defense collaboration, along with some lessons on how to assure further interoperability in technology. As a partner in that effort, we at Northrop Grumman hope to see more efforts like SE&I after that program has been successfully demonstrated — which can be expected soon.

NATO's SE&I program is only one model. What matters most is achieving effectively interoperable, mutually reinforcing missile-defense capabilities, and less the specific model we adopt to get there. We in defense industries, both American and European, need to be ready for the day when our export controls have caught up with the demands of international missile-defense cooperation, and when European governments have matched new commitments to missile defense with new funding. One way to hasten that day is to utilize available European technologies now — or soon — to forge the interoperable systems we will need.

Third Challenge

That leads me to the third challenge, which is to increase industry-to-industry cooperation, — to the full extent now permitted by our governments. Northrop Grumman has taken some large strides in that direction, teaming with key counterparts in both Europe and Asia. Our recent teaming agreement with EADS in a bid to provide new tankers for the U.S. Air Force is an example outside the missile-defense realm. Other companies represented on the panel have done the same, and wisely so: The framework agreements, work statements, and task assignments undertaken now will pave the way for more binding and comprehensive agreements later on, when the official

commitments are made and the funding begins to flow.

Fourth Challenge

A fourth great challenge is clear to all: securing a network of long-term government-to-government agreements on missile defense cooperation.

Our resident authority on that subject is Dave Scearse, who has recently been appointed to head up international affairs for the Missile Defense Agency. Whenever any of us here get to thinking that that we have a hard job, just remember Dave. He has a really tough assignment. But we're all very pleased to see

Dave in this role, and we look forward to supporting his efforts.

In the government-to-government arena, too, we've seen encouraging signs — as for example in US agreements with Britain and Japan, and in those nations' financial commitments to missile defenses. Our framework agreement with Britain and our agreement with Japan — expanding on an earlier pact to provide a BMD capability for Japan's Aegis destroyers — are different in character. But both are products of the post-ABM Treaty era. Both provide models for achieving additional agreements with other allies. And both demonstrate the importance of

governments setting clear, effective frameworks in which industry cooperation can occur.

Milestones though they were, these agreements also raised expectations that haven't quite been met. Most of us a few years ago would have predicted that similar agreements and frameworks with other partners would quickly follow, facilitating the definition of common or collaborative programs and the necessary technology transfers. It hasn't happened. In some cases, governments haven't fully awakened to the growing missile threat and the need to protect their populations. In other cases, the commitment is there but the resources are not.

The result is that the progress of US missile-defense capabilities adds to the urgency of achieving an expanded network of government-to-government agreements. The greater the gap between U.S. missile defense progress and the situation of individual allies whose cooperation we seek, the harder it will be to achieve effective cooperation. Agreements our governments reach in this field in the near-term help bridge that gap and set the stage for effective industry-level cooperation.

Fifth Challenge

The fifth and final challenge I want to discuss is what I'd call "the challenge of getting started." What can

we do right now — before all our allied governments have fully come to grips with the threat and what to do about it or commit to specific systems procurements — to work together concretely? The best answer I know is for our allies to get involved in simulation, war-gaming, and joint concept development.

For governments, simulation and testing can provide answers and insights as to the most cost-effective investments to be made for missile defenses before reaching the point of decision. At the JNIC center, which Northrop Grumman operates for MDA, leaders and commanders from allied and partner

countries can come together to work out shared problems, identify issues of interface and cooperation.

Another advantage of simulation is that technology sharing in this domain can be done more readily. Even when US only war-gaming programs are used, other nations can still participate in JNIC war-games, using the outputs of sensitive programs without compromising the core classified or non-exportable technical data contained in them. They can then interface their national simulations with those of the JNIC and, in this way, "play" their national capabilities with those of the U.S. and other allies in a global, layered defensive scenario.

At a multinational conference in Rome recently, we employed a new international version of simulation and war-gaming technology. We're also proceeding with plans to connect the JNIC in the US with the UK's Missile Defense Center — itself, we hope, a model for others that our other allies will choose to establish.

Only simulation and gaming allow us to see how all these interactions of allied governments and allied capabilities would play out in the event of a real missile attack. JNIC shows how all the various technologies and systems, from sensors to shooters,

would actually operate in a coordinated, international response. Simulation also gives us all a shared technical language, and helps us see the possibilities of global connectivity. In short, if the ultimate goal is interoperability of systems and of command and control, there's no better way to promote that kind of cooperation than with simulation and modeling of real-life scenarios.

By now, after roughly a generation of work on missile defenses since President Reagan's SDI speech, we've come to appreciate the myriad challenges this task involves. Many are technical or technological. Some are budgetary. Some are political. Many that we'll

face eventually are operational. Against that backdrop, the five policy-level and industry challenges that I've outlined today don't seem so formidable. But addressing them aggressively and effectively, I believe, will be critical to achieving the international collaboration that global missile defense architecture requires.

Thank you.

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