

**APPENDIX F:**

**The Institute for Defense Analyses Report**

**Technology, Competitiveness & Security:  
Summary of Findings and Recommendations**

**By: R. H. Van Atta and R. White**

Institute for Defense Analyses  
1801 N. Beauregard Street  
Alexandria, VA 22311-1772  
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# TECHNOLOGY, COMPETITIVENESS & SECURITY

## SUMMARY OF FINDINGS AND RECOMMENDATIONS

**Richard H. Van Atta**

**Richard White**

**Institute for Defense Analyses**

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*Note: The views stated in this presentation are those of the presenter and do not necessarily represent those of IDA.*

**KEY ISSUES OF EMERGING ENVIRONMENT  
FOR DOD'S TECHNOLOGY STRATEGY**

- **COMPETITIVENESS AND LINK TO COMMERCIAL INDUSTRY**
- **CHANGED INTERNATIONAL EQUATION -- COOPERATION, COMPETITIVENESS, AND NATIONAL SECURITY INTERESTS**

**POLICY DILEMMAS**

- **DOD POLICY IS TO RELY MORE ON COMMERCIAL COMPONENTS AND TECHNOLOGIES, BUT U.S. COMMERCIAL INDUSTRY IS LESS COMPETITIVE.**
- **INTERNATIONAL COOPERATION PUSHED AS MEANS OF BETTER LEVERAGING DOD R&D DOLLARS, BUT THIS RAISES CONCERNS OVER DEPENDENCY, INDUSTRIAL BASE, AND COMPETITIVENESS.**

Today, there are different views on what DoD's technology policies and strategies should be. In our view the technological competitiveness of the US economy overall has become the major challenge for Defense R&D. Some tough issues must be addressed that will not just go away. Two of these are: [1] DoD's link to a commercial technology base that is decreasingly competitive and [2] the impact of the changed world balance of technology leadership on DoD's technology strategy.

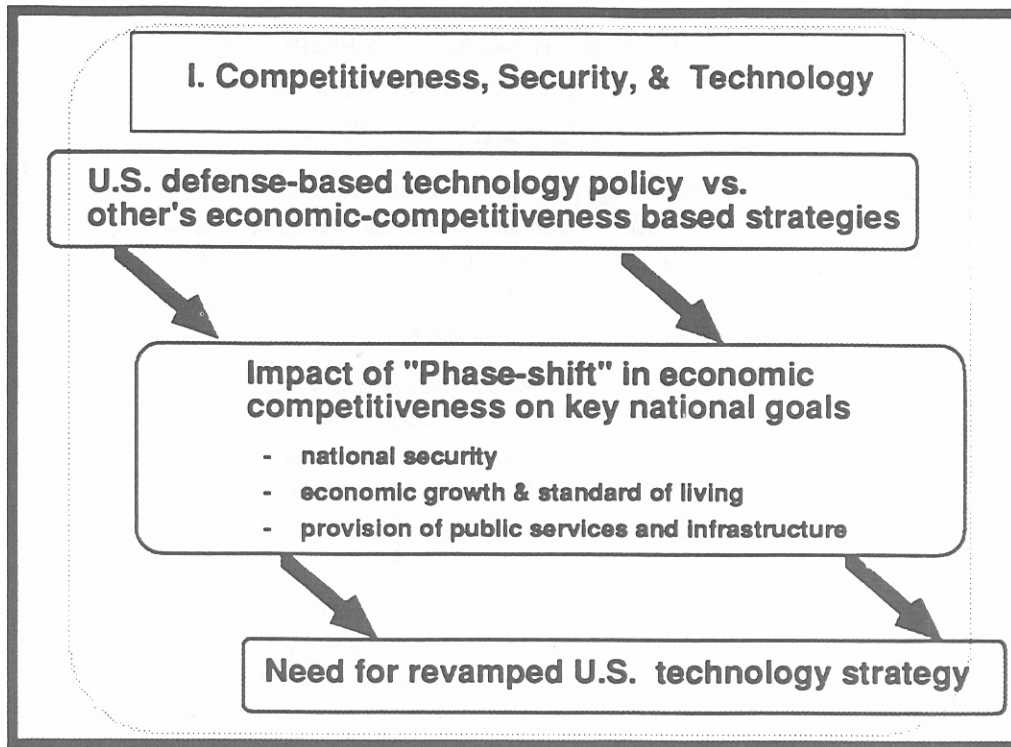
These issues of commercial technology and international competition reflect realities that, in our view, must be addressed through a coherent national technology strategy.

Recently much has been said about the need to appreciate that the country can afford only one industrial and technology base – a national technology base unifying defense and commercial industry. DoD must for economic and efficiency reasons rely more on commercial components and technologies, but at the same time U.S. COMMERCIAL INDUSTRY IS DECREASINGLY COMPETITIVE. This raises some major policy concerns.

The implications are stark. The more we seek efficiency, the greater we become dependent upon foreign components and technologies, unless, the competitiveness of U.S. high-tech industry is turned around. Does DoD have a role in this, or does it rely on others or just hope for the best?

International cooperation has been touted as a "mature" way of better leveraging DoD R&D dollars, BUT THIS RAISES CONCERNS OVER DEPENDENCY, INDUSTRIAL BASE, AND COMPETITIVENESS. Cooperating with industrial economies that target our most advanced commercial (dual-use) sectors such as advanced computing and aerospace is at best a risky business. International cooperation without a clear and integrated approach that links and develops that cooperation with U.S. technology goals and objectives puts us in real jeopardy.

# I. Competitiveness, Security, & Technology



This paper summarizes the results of a research project supported by IDA Central Research Funding, on *TECHNOLOGY, COMPETITIVENESS, AND SECURITY: U.S. TECHNOLOGY STRATEGY FOR A CHANGING WORLD*. This study examines the issues linking "competitiveness" with security and technology. Competitiveness is a key aspect of, indeed a central element of both economics and geopolitics—as well as technology development itself. The study focuses on [1] defense technology as the primary driver of U.S. technology policy and strategy; [2] technology strategies and policies of other countries and how they impinge upon our competitive posture; and [3] concepts for national technology policies and strategies as these relate to rapidly changing national security concerns.

## I. Competitiveness, Security, & Technology

### TECHNOLOGY HAS BEEN THE HEART OF U.S. NATIONAL SECURITY POLICY AND THE BASIS OF OTHERS' NATIONAL ECONOMIC POLICIES

- U.S. technology policies have been divorced from direct consideration of their impact and relationship to commercial industries, while other countries have developed and implemented technology strategies with the direct purpose of improving their economic competitiveness.
- The changed economic competitiveness situation, due in large measure to other countries' transformed economic and technological capabilities, has substantially altered the key economic and industrial relationships that underpinned U.S. national security technology development and production.
- The United States needs a national technology strategy that addresses the fundamental shift in the economic environment and integrates DoD concerns within this overall context.

In the first part of our study, we observe that since the end of WW II the United States has pursued a technology policy focused on national security objectives, while Europe and Japan have pursued technology policies mainly emphasizing industrial technology as the basis for economic competitiveness and well-being. The United States explicitly supported these policies and saw them as contributing to a larger secure order that helped achieve U.S. national security and economic objectives. When these policies were first formulated they were seen as responsive to the world conditions that prevailed at the time—they were correct strategic concepts for their era. But these policies have succeeded. Now a new set of political, economic and technological relationships has emerged that foreshadows a new era. These new relationships are so intrinsic to DoD's technology goals, strategy and approach, that we have focused effort in our study at trying to define them and assess their implications.

How the U.S. sees its security in relationship to other countries, how it sees itself developing, acquiring, and using technology to provide for its security, and in what relationship it sees itself to others in being able to develop, produce, and access these technologies, cannot be treated as static. If we are to develop appropriate strategies and policies about technology, it is important to understand the dynamics that underlie the changing context of security and competitiveness.