Department of the Air Force
Scientific Advisory Board

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE
WASHINGTON DC

Protecting Critical Technology Study

Abstract

The Department of the Air Force is facing unprecedented worldwide technological advancements as it develops and deploys highly advanced technologies across our DAF Forces. Our competitors and potential adversaries also recognize the importance of technology dominance on the battlefield, and their increased pace of advanced technology development and deployment are challenging the DAF's long-held technology dominance. Despite decades of tight information security procedures and policy attempts to withhold sensitive and classified technical data from the public domain, our competitors and potential adversaries have become adept at extracting and exploiting critical technology breeches to their advantage, regularly acquiring DAF technical details of sensitive technology development efforts. Failures to protect these critical technologies allow competitors and potential adversaries to duplicate our capabilities and/or negate their advantages on the battlefield. Protecting critical technology information across the DAF enterprise throughout the Research, Development, Test, and Evaluation (RDT&E) process performed under budget authority 6.2 through 6.8 is crucial to assuring long term Air and Space Force dominance.

The study conducting their fact-finding trips using the following terms of reference

1) Review NSDD 189 (21 Sep 1985) and USD(A) memo of 24 May 2010 on current US policy for exempting Budget Authority 6.1 ("Basic Research") from publication limits to assure PCT recommendations are de-conflicted with current DoD BA 6.1 policy guidance.

2) Review case studies of adversaries obtaining RDT&E data covered under Budget Authority6.2-6.8, then preemptively fielding capabilities that mimic or counter DoD capabilities. Case studies should include critical DAF RDT&E test ranges and infrastructures that are observable during use from commercial and/or adversarial intelligence, surveillance, and reconnaissance (ISR) platforms.

3) Identify root causes for failures to identify and protect critical information involved in RDT&E technology research (BA 6.2-6.8).

4) Assess current methods used by the collateral, SCI and SAP communities to provide appropriate security guidance to unclassified RDT&E activities to prevent unintended disclosures of classified information through uninformed unclassified RDT&E programs.

5) Review the relative cost and collaboration/innovation impacts of controlling DAF information (CUI, collateral, SCI, and SAP) on the ability of DoD, industry, and academic organizations to effectively and efficiently execute DAF programs.

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6) Recommend innovative reforms to protect critical RDT&E data and methods, while minimizing negative impacts on DoD, industry, and academic organizations. Consider residual risks which may be exploited by adversaries if PCT protection is left unmitigated.