

*A History of the Department of Defense
Federally Funded Research and
Development Centers*

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Foreword

The 104th Congress, like its recent predecessors, is grappling with the role of modeling and simulation in defense planning, acquisition, and training, a role that current and contemplated technological developments will intensify. The Department of Defense (DoD) Federally Funded Research and Development Centers (FFRDCs), some closely tied to defense modeling and simulation, are also a topic of recurrent congressional concern owing to their unique institutional status. The 104th's emphasis on private sector solutions suggests that this Congress in particular will seek to address the FFRDCs. This Office of Technology Assessment Background Paper has been prepared to help Congress do so.

The DoD FFRDCs trace their lineage to ad hoc, not-for-profit, university-based organizations created during World War II to address specific technological problems. Some performed studies and analyses on topics such as anti-submarine warfare, but the majority were laboratories engaged in the development of radar, the proximity fuze, and other war-winning weapons including nuclear weapons. These centers proved useful in bridging the organizational, compensation-related, and cultural gaps between science and the military, and more were created during the Cold War. The laboratories continued to predominate in some respects, but centers devoted to study and analysis grew and entered the public consciousness as “think tanks,” and other centers embarked upon a new role—system integration. In all three capacities, the Federal Contract Research Corporations (FCRCs), as they were then known, provided services that the federal government could neither create in-house or buy in the open market, either because of severe concerns regarding conflict of interest, the safekeeping of competition-sensitive information, and other hazards of the open marketplace, or simply because the open market did not offer what was needed.

In the present day, the for-profit world offers a fuller range of intellectual services than it did at the onset of the Cold War, and the centers' federal government sponsors are precluded from assigning to an FFRDC work that could be done as effectively outside. Annual ceilings limit the total amount of Defense department work done in the centers. For these and other reasons there remain only ten DoD FFRDCs, out of over 70 that have existed at one time or another. Yet the FFRDCs, by virtue of their long-term partnership with the federal government and their arm's length relationship to their sponsors and to

other businesses alike, continue to play a unique role in today's rapidly changing national security community. This role includes, but is by no means limited to, the centers' decades long series of contributions to combat modeling and simulation.

This Background Paper is the second of several publications in the OTA's assessment of defense modeling and simulation, requested during the 103rd Congress by Representatives Ronald V. Dellums (Chairman) and Floyd Spence (Ranking Minority Member) of the House Committee on Armed Services, Senators Sam Nunn (Chairman) and Strom Thurmond (Ranking Minority Member) of the Senate Committee on Armed Services, and Senators Jeff Bingaman (Chairman) and Bob Smith (Ranking Minority Member) of its Subcommittee on Defense Technology, Acquisition, and Industrial Base. Much seminal work in defense modeling and simulation has been, and is being, conducted at FFRDCs.

In undertaking this assessment, OTA sought and received the assistance of a broad range of individuals and organizations. We gratefully acknowledge their contributions of time and intellectual effort. OTA also appreciates the cooperation and assistance of the Department of Defense. As with all OTA publications, the content of this background paper is the sole responsibility of the Office of Technology Assessment and does not necessarily represent the views of our advisors or reviewers.



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Note: OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the advisory panel members. The panel does not, however, necessarily approve, disapprove, or endorse this background paper. OTA assumes full responsibility for the background paper and the accuracy of its contents.

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