

## **F. Independent Research And Development (IR&D)**

In FY 97, the DoD continued to make progress in improving the management of IR&D and improving technical communications with industry. Communications with industry was done in conformity with Section 2372(c)(3) of Title 10 USC. This Section allows for the reasonable and timely communications of (1) DoD's planned or expected future needs to contractors, and (2) contractor's progress on IR&D programs to the DoD.

### Policy and Management

The Military Departments have always had vigorous IR&D programs. To provide coordinated leadership for IR&D activities, in 1996, DoD established a senior executive Technical Coordination Group (TCG) consisting of representatives from OSD and the Military Departments. In 1997 the TCG has continued to provide the leadership required to maintain an effective IR&D program. For example, defense technology planning and requirements information is used by industry for IR&D planning to support defense needs. The leadership provided by the senior management team continues to enhance DoD's responsiveness in meeting industry's need for such timely information. The TCG meets periodically (sometimes including industry representatives) to find ways to foster improvements in communications both within DoD and between DoD and industry.

DoD IR&D policy is promulgated in DoD Instruction 3204.1, "Independent Research and Development (IR&D) and Bid and Proposal (B&P) Program." In 1997, DoD staffed a proposed revision to the DoDI to bring its policy guidance in line with current law and program administration. Once approved, the new document will update DoD policy and practices regarding management of IR&D, providing guidance to the Military Departments. In addition, the DoDI will also formally charter the TCG. Target date for promulgation is the spring of 1998.

During 1997, OSD completed an evaluation of the IR&D program. The evaluation was conducted to see what impact changes in regulations and policy have had on the IR&D program. Results from this evaluation are being used to further improve both oversight of the program and to improve communications with industry. For example industry IR&D projects are reported to the Defense Technical Information Center (DTIC) using technical codes that identify the pertinent areas of research. Currently an effort is underway to cross link these codes with DoD's technology areas to be able to have a better understanding of how industry research supports DoD priorities. In addition, a disturbing trend away from long term research by industry was identified. A follow-up study is underway to both verify this initial observation and to identify opportunities to reverse this trend if necessary. These actions, to be completed in 1998, will result in improvements in the administration of DoD's IR&D program.

### Technical Communications from Industry

Until FY 93, IR&D project descriptions from contractors were available only in hard copy with summary descriptions in an on-line database maintained on a mainframe computer at the DTIC. In FY 93, DTIC began to distribute a streamlined electronic version of the IR&D project descriptions on CD-ROM media for the Microsoft Windows platform. Each year, the process has been further streamlined and contractors now prepare the project descriptions on personal computers. As a result, costs to contractors have been significantly reduced as the project descriptions are easier to prepare and are no longer needed in hard copy.

In 1997, the CD-ROM contained more than 4,000 technical project summaries representing incurred costs of approximately \$2.4 Billion. Company submissions to the DTIC data base are voluntary. Efforts to increase the number of companies that submit data continued in Fiscal Year 1997. Nine letters were sent out to the larger companies that were not submitting data and of those companies five have now agreed to submit the results of their IR&D to DTIC. Approximately 250 copies of the proprietary CD-ROM are distributed each year within DoD to Defense laboratories, systems commands and program offices. To foster communications between DoD and industry engineers, DTIC provides the distribution list to industry. Enhancements to the CD-ROM in 1997 continue to make the IR&D data easier for DoD specialists to access and use. DTIC has begun to investigate to use of the World Wide Web to distribute the industry data. Industry concerns over the security of priority data is the primary hurdle that has to be overcome. Once these concerns can be alleviated use of the Web will greatly enhance the distribution of industry data to interested DoD components.

#### Defense Planning Documentation for Industry

The Department makes many technology planning documents available to Defense contractors. The information is valuable to contractors both for business decisions and for planning contractor IR&D programs. The Air Force and DTIC, in a joint venture, developed electronic home page libraries for access to documents through the world wide web. The home pages contain unclassified documents which can be searched, viewed and downloaded. Key OSD and Air Force technology planning documents and Air Force requirements information are available through the home pages. The use of electronic home pages continue to expand to include unclassified but controlled information to be encrypted and password protected, available to Government activities and DoD contractors only. Registered users, both DoD staff and contractors, are accessing the controlled files at a rate of more than 14,000 times per month. DTIC is maintaining an umbrella home page which provides a means to access OSD and Service home pages, giving central access for easy use.

The Navy continues to expand its electronic home page to include unclassified documents currently available at the Navy Acquisition Research Information Center (NARDIC). Navy is incorporating state-of-the-art encryption technology for its home page which became operational in FY 1997.

## Matching Defense Requirements to IR&D Technologies

Technologies developed through industry's IR&D efforts represent a part of the future health of U.S. industry. In addition, emerging IR&D technologies may satisfy current and near term defense requirements. To that end, various DoD organizations continuously foster personal communications in an effort to match their requirements to industry's IR&D efforts.

As an example, the Air Force documents infrastructure requirements that need to be solved, and personnel at the Air Force Material Command actively search the IR&D CD-ROM database to match industry research efforts against those infrastructure requirements. Each manager for each industry research effort identified by the search is contacted and notified of the Air Force requirement their research effort potentially supports. The identities of the Air Force need submitter and an Air Force technical point of contact are provided to the manager. The Air Force need submitter and Air Force technical point of contact are similarly informed of the industry research effort that might solve their requirement.

In 1996, the Air Force reviewed 103 requirements and found potential matches for 99 of those requirements. Costs incurred by industry for the matching research totaled \$523 million. This effort has been very well received in both industry and government and is being continued in 1997.

The Army's strategy for matching its requirements to emerging IR&D technologies includes extensive use of executive conferences and technical interchange meetings with industry. In addition, the Army widely distributes the CD-ROM database to its scientists and engineers, and Army Research Laboratory managers who support acquisition systematically compare their technology needs to the CD-ROM.

The Navy seeks to leverage IR&D investments by a process in which acquisition program managers are directly involved in searches of the IR&D CD-ROM to match industry research efforts against their S&T requirements. The Navy believes these program managers are in the best position to determine relevance of the reported IR&D to their needs.