

Although the SPO-industry team arrangement is the management mechanism by which most of the costly and sophisticated weapon systems are acquired, a good percentage of R&D for subsystems and components is handled directly by the laboratories. Most of these systems developments involve contracts with industry, although some of them are actually carried out by in-house laboratory engineers. Also, some of these developments—fuzes, air-to-surface missiles, munitions, etc.—result in working models that are subsequently turned over to industry for production. Of the three Services, the Army and the Navy do a substantial amount of in-house development, whereas the Air Force does considerably less. Virtually all production is accomplished by industry.

The tremendous variation in the percentage of in-house development efforts of the various Service laboratories is quite understandable because of fundamental differences in their management approaches. For example, the Air Force has decided to rely almost exclusively on the SPO-industry team, whereas both the Navy and the Army consider a hybrid arrangement, which includes some laboratory developments, to be effective.

All the Services' technical organizations, however, do have prime responsibility in one area—they establish projects and provide contractual support for a large university and industrial base to advance technology for future weapon-system developments. The funding requested in FY 1967 for these efforts was \$407 million for R&D category 6.1, research, and \$1.063 billion for 6.2, exploratory development.

The funds expended in these areas are divided among a multitude of small contracts or projects covering a number of technical disciplines. The Task Force concluded that the relevancy of the 6.1 and 6.2 laboratory programs could be increased substantially if the laboratories were given an opportunity to define and work on significant military systems problems. This could be done by increasing the participation of the in-house technical specialists in systems analyses, systems syntheses, establishment of requirements, SPO management, and other important functions relating to weapon-system research and development—particularly if high-level planners would depend more on the laboratories' specialists for technical judgments in significant RDT&E matters.