them. Rather, the new program is designed to create, eventually, about 100 new departmental centers of superior scientific and engineering competence at universities which are, at present, poorly supported. Patterned after the joint services electronics program, from which significant technical advances like the laser evolved, this new effort holds great promise of yielding a similar "payoff" in the future.

We have initiated Project THEMIS this year at a level of $18 million, and have supplied interested colleges and universities with detailed information on our requirements. Additional centers will be started in fiscal year 1968.

EXPLORATORY DEVELOPMENT

Exploratory development is directed toward the expansion of technological knowledge and its exploitation in the form of materials, components, and devices which it is hoped will have some useful application to new military weapons and equipment. Here the emphasis is on invention and on exploring the feasibility of various approaches to the solution of specific problems, up to the point of demonstrating feasibility with a "bread board" device and even, in some cases, prototype components and subsystems. Along with research, exploratory development forms the technological pool from which future equipment will be designed.

The more than 800 individual exploratory development projects represent about 15 percent of the cost of the entire R.D.T. & E. program, with the average project requiring about $1.3 million annually. About 40 percent of exploratory development work in conducted by our in-house laboratories, 50 percent is contracted to industry, and the remaining 10 percent is performed by educational and nonprofit institutions. A recent study of the origin of weapon system performance improvements has shown that almost all have resulted from Defense supported technological advances and very little from other sources.

As shown on the classified table provided to the committee, we are requesting a total of $988 million for exploratory development in fiscal year 1968, $65 million less than the revised estimate for fiscal year 1967.

Army

For the Army's exploratory development program, $216 million is requested for fiscal year 1968, somewhat less than the level planned for fiscal year 1967.

In the areas of electronics and communications, the development effort includes: small rugged field operated digital data processing equipment; communications equipment having increased traffic handling and improved antijamming capabilities; devices for rapid, positive, and automatic recognition and identification among friendly surface units and between them and their supporting air units; new sensors for airborne and ground surveillance and target acquisition of enemy units on the battlefield; communication sets and variable time fuzes; night vision devices; improved solid state, thermionic, and frequency control components common to a variety of equipments; etc. Efforts in the ordnance category include work on weapon systems for Army helicopters, the improvement of missile components,