

COMPUTERS

Enlarged Data Center

A huge new technical data center that uses giant computers to store information about Government-sponsored technical developments is being established—By Nancy Lawson

► **THE TAXPAYER** by late summer will have a direct new return on the nearly \$15 billion he puts into Government-sponsored research and development.

A new information clearinghouse being set up in Washington by the Department of Commerce will make available to the public all Government-generated developments in science and technology.

Suppose an engineer working for a cannery wants to develop new and more effective methods of sterilizing cans and machines. He would contact the clearinghouse.

Bibliography and research analysts order their computer to search its files. It will have indexed all the technical developments of all the Government agencies. It will also know what research is in progress, where, and with what funds.

The engineer will receive a list of the technical documents and published papers dealing with sterilization. Since spacecraft are sterilized to prevent contamination of the planets, he will be put in touch with the U.S. Atomic Energy Commission and the National Aeronautics and Space Administration where this research is going on. Their developments in efficiency and miniaturization of parts, so important in space, can save his company thousands of dollars.

Space research on new materials that can withstand the extreme heat of sterilization means more durable machinery and safer foods for the canner.

The engineer will receive translated data

from research going on in Russia and other foreign countries. He will not waste time in repeating their work.

The cannery will pay for these services only the cost of handling and reproduction of material. It can, in addition, request regularly published bibliographies of research developments.

The clearinghouse, tentatively called the Technical Documentation Center, will be linked with the Smithsonian Institution's science information exchange, and the national referral center for science and technology at the Library of Congress.

Bernard Fry, director of the Technical Documentation Center in the Department of Commerce hopes eventually to include much of the research done in private industry.

The Technical Documentation Center will cooperate with the National Library of Medicine and the National Agricultural Library which make available biological and agricultural information.

Made possible by the huge computers, this system of indexing all scientific information could lead to worldwide information pools where any new development would be immediately accessible to other researchers.

This system will save the cannery thousands of dollars in man-hours spent on duplicating research already done or in searching the literature for published work on technological developments.

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GENERAL SCIENCE

More for Basic Research

► **SINCE WORLD WAR II** the United States has become increasingly aware of the need for Federal support of research in basic science.

The National Academy of Sciences, the major body of American science, has issued a committee report analyzing the problem of satisfactorily using and accounting for the taxpayer's money, and at the same time giving the scientist freedom to do basic research.

In 1964 \$14.9 billion will be spent by the Government for research and development, slightly more than the amount spent in 1962 by the public for cigarettes. Of this, \$1.5 billion will be spent for basic research.

Half of the \$1.5 billion will be in the form of grants to scientists in universities. Government financing makes possible long term research to guard against workers running out of money on the brink of a big discovery.

The Government makes possible the pub-

lication of their work, furthering the dissemination of knowledge and making it available to other workers.

The National Academy of Sciences committee of 15, with two consultants, prepared the report, titled "Federal Support of Basic Research in Institutions of Higher Learning."

This 100-page report (\$2.00) points out that, although some problems arise in the triangle of Government, university and researcher, Government grants to individuals working in universities and grants to build research plants at universities have provided for much of the research in recent years. Such support has made this country a leader in scientific advancement.

Dr. George B. Kistiakowsky of Harvard University, science adviser to President Dwight D. Eisenhower, is chairman of the Academy's Committee on Science and Public Policy.

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METEOROLOGY

Floating Forecaster Atomic-Powered

► **FLOATING** in the middle of the Gulf of Mexico is the nation's newest weather forecaster, atomic-powered U.S. Navy Nomad weather station. Forerunner of a worldwide network of remote, unmanned weather stations, the Nomad radios temperature, barometric pressure, wind speed and direction and sea temperature.

Its 60-watt nuclear generator, SNAP-7D, turns heat from decaying strontium-90 radioisotopes, a waste product of nuclear reactors, directly into electricity while a three-inch shield of depleted uranium prevents radiation from escaping. The generator, about the size of a trash can, was developed by Martin Company's nuclear division, Baltimore, Md., under a U.S. Atomic Energy Commission contract.

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Martin Company

NOMAD ON DUTY—The U.S. Navy weather boat on duty in the Gulf of Mexico uses instruments powered by a small atomic generator to provide weather information.

TECHNOLOGY

Troop Rocket Circles World in 45 Minutes

► **A GIANT ROCKET**, 210 feet tall, capable of reaching any point on earth within 45 minutes, is seen as a means of transporting "instant infantry" to brush fire war zones.

Named the ICARUS (Inter-Continental Aerospacecraft-Range Unlimited System), by its designers, Douglas Aircraft Company, Santa Monica, Calif., the rocket would take off and land vertically anywhere on land or sea. In landing, the ICARUS would use its propulsion system, capable of generating 18 million pounds of thrust at liftoff, to cancel the vertical velocity and thus to hover while selecting a landing site.

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