

A research division provides a service using mathematical techniques of systems analysis. Divisions on engineering physics and ocean technology emphasize ocean-oriented electronic and mechanical engineering. Another division provides technical information on materials, equipment and processes and engineering assistance to manufacturing industries. The biology group researches distribution, growth, conservation and utilization of commercial seaweed. It also does microbiological research related to water pollution and treatment of industrial waste waters.

New Brunswick set up a council on research and productivity in 1962. It is governed by an independent group of citizens from management, labour and the professions, appointed for three-year terms. Capital investment was provided by the federal government. Most council operations are carried out on a cost-recovery basis under contract with industry, trade associations and national and international agencies. The council maintains a centre for engineering and problem-solving, industrial research and development.

A **Quebec** industrial research centre was created in 1969. Its primary mission is to contribute to economic development of Quebec through encouragement of innovation in manufacturing enterprises, in particular those of small and medium size. It collaborates closely with such industries in research and development covering various fields of applied science and directed toward creation of new processes and products. In addition to laboratory activities, it provides an industrial and technological information service available to all Quebec enterprises.

Ontario's research foundation was established in 1928 as an independent corporation. Its board of governors is drawn from the industrial, commercial and scientific communities. The organization was financed initially by an endowment fund provided by industrial and commercial corporations through the Canadian Manufacturers Association and a matching grant from the provincial government. Most income is derived from contract research undertaken mainly for industry. Total income in 1977 was about \$11 million. Since 1967 the Ontario government has provided an annual grant, with the amount related directly to foundation income from Canadian industry. The foundation is concerned primarily with the development of industry through application of science and technology. At the request of the various levels of government, it undertakes work relative to federal and provincial needs. Foundation activities are not restricted to Ontario; work is undertaken for any organization in Canada on an equal basis.

The foundation, with a staff of about 320, has provided large and small companies with a variety of services ranging from short-term investigations, market research and feasibility studies through product and process development to long-range scientific investigations. All projects are conducted confidentially, including business, technical or proprietary information revealed by clients or prospective clients. Patents resulting from contract research and development studies are assigned to the client.

Manitoba's research council consists of seven members and three advisory committees whose members represent natural-resource-based industry, manufacturing, labour, the universities and government. Its main purpose is to assist Manitoba industry to improve its market position by developing a more scientifically based production capability. The council maintains an office in Winnipeg and is establishing a small laboratory at Portage la Prairie. Permanent staff members are provided by the provincial government or hired by the council. The work is financed by provincial government appropriations and by contracts with the provincial and federal governments, and fees and service charges may be levied. The council promotes or carries out research and development related to natural resources and industrial operations. Much research sponsored by the council is aimed at establishing Manitoba as a centre of excellence in food products, electronics, materials research and health care products.

Through a technical assistance centre, industries are encouraged to use new technological developments. The centre is staffed by engineers and scientists with extensive industrial experience. During 1976-77 the centre received more than 150 inquiries for assistance and provided technical data on material selection and properties.