

sciences and humanities. Most of these payments (72%) were for R&D grants made by the three university granting councils: the Natural Sciences and Engineering Research Council (NSERC), the Medical Research Council, and the Social Sciences and Humanities Research Council (SSHRC).

NSERC was the largest of these councils with a 1988-89 budget of almost \$356 million. Since 1983-84 NSERC's budget has grown by 26%.

The Medical Research Council budget was \$183 million for 1988-89 and the SSHRC budget was \$73 million. The Department of National Health and Welfare provided funds for a \$11 million program for health research in universities.

The bulk of the funding in the natural sciences and engineering went to universities in Ontario (36%) and Quebec (23%).

## 12.6 Provincial research organizations

Eight provincial governments have established research councils or foundations; primary objectives are to provide technical support to local firms and to assist in the development of provincial natural resources. In 1987 total expenditures were estimated at approximately \$141 million with about 1,970 people employed. Although relatively small in comparison with other organizations, their impact on industries in their respective provinces is substantial. In aggregate these organizations receive about 40% of their funds as a grant from their own provincial governments. About 27% of their expenditures is derived from contract research on behalf of industry.

**The Nova Scotia Research Foundation Corp.** is a Crown provincial agency with control vested in a board of directors. Its 1987 expenditures were about \$6.7 million. The foundation performs research in fermentation and microbial technology; in chemical engineering including research on arsenic removal, methane removal, food, coal and corrosives; in ocean technology; and in marine and ground geophysics.

**The New Brunswick Research and Productivity Council**, created in 1962, had a 1987 budget of \$8.8 million. The Council's research includes: pest control and pesticide residue, fuel oil and coal, ore processes, mineral smelting, bed combustion of fossil fuels, nuclear reactors, oil rigs, and effects of chemical additives in the food industry.

**The Centre de Recherche Industrielle du Québec**, created in 1969, had a 1987 budget of \$28.6 million. The centre operates research laboratories

in both Quebec City and Montreal. It works closely with small- and medium-sized businesses covering various aspects of applied sciences in the creation of new processes and products. It stresses advanced manufacturing techniques and is studying the applications of computer-aided design and manufacturing (CAD/CAM) and robotics.

**The Ontario Research Foundation**, established in 1928 as an independent Crown corporation, had a 1987 budget of \$26.0 million. It performs research in energy conservation and solar systems, on long-range transport of pollutants, waste treatment, building materials including fire and flammability studies, pulp and paper, microelectronics, mineral processing, hydrometallurgy, and waste utilization. It operates a centre for alternate fuel utilization and a centre for powder metallurgy.

**The Manitoba Research Council** had a budget of \$5.5 million for 1987. The Council operates a technical information service for industry, an industrial technology centre and the Canadian Food Products Development Centre. It performs research in the areas of plastics extrusion, fibreglass, atomic absorption spectroscopy, solid waste, wood stove testing, meat processing, and bacteria in milk products.

**The Saskatchewan Research Council** had a 1987 budget of \$16.4 million. The Council performs research in biomass production and refining, farm energy use, sediments, ceramics, geochemistry, computer systems, computer-aided design and computer-aided manufacturing, and applied climatology. It operates a Canadian centre to design and develop innovative instruments.

**The Alberta Research Council**, created in 1921, had a 1987 budget of \$40.5 million, making it by far the largest of the eight organizations. The Council performs research on the geology of Alberta oil-bearing sands, bitumen recovery, steam separation of hydrocarbons from sand, coal conversion, groundwater, soil salinization, microbiology, and solar and wind energy. The Council also operates an oil sands information branch.

**BC Research** is a non-profit industrial research society with offices and laboratories in Vancouver, BC. Its activities enable even the smallest firms to improve their competitive position in Canadian and world markets by the use of up-to-date scientific knowledge. It is active in applied biology, chemistry, engineering — physics, ocean engineering, operations research, industrial engineering — and social impact and economic studies. In 1987, it had a budget of \$8.6 million.