

- develop world-class researchers in areas essential to Canada's productivity and economic growth;
- create national multidisciplinary and development priorities of all participants; and
- accelerate the exchange of research results within the networks and the use of this knowledge for Canadian social and economic development.

Formally inaugurated in 1988, a handful of networks has grown to more than 20 (a complete listing is available on the NCE Web site), in the areas of health and biotechnology, information technology, natural resources, infrastructure and human resources. In 1999–2000, 563 companies, 138 federal and provincial agencies, 46 hospitals, 98 universities and more than 266 other organizations from Canada and elsewhere were involved with NCE programs. At present, the networks are active in every province and territory and have more than 200 partnerships in 20 countries.

Industry's active participation makes the NCEs a magnet for students, who enjoy both training and employment opportunities. With a federal investment of \$77.4 million per year, the networks stimulate outside R&D investments of over \$80 million annually. **Web site:** www.nce.gc.ca

Technology Partnerships Canada (TPC)

A program of Industry Canada, TPC provides contributions toward research conducted in Canadian companies in areas of strategic economic importance. These contributions are repayable, usually on the basis of royalties tied to product sales. By partnering with research-active companies, TPC shares in the risks as well as the rewards of Canadian innovation, fostering competitiveness and commercialization of novel ideas. The primary focus of the program is on environmental technologies, aerospace, defence and enabling technologies such as advanced manufacturing, resource technologies, life sciences, and information and communication technologies. **Web site:** <http://tpc.ic.gc.ca>

Canadian Foundation for Climate and Atmospheric Sciences (CFCAS)

With \$60 million to be disbursed over six years, the federal government established the CFCAS in 2000, along with other key initiatives in the climate change research area. The Foundation's objectives are to foster scientific research on the climate system, climate change, extreme weather, air quality and marine environmental prediction. This research will strengthen Canada's scientific capacity, improve scientific understanding of processes and predictions, provide relevant science to policy makers, improve understanding of how these challenges affect human health and the natural environment, foster collaboration and interdisciplinary approaches, and encourage participation and support of others, including the private sector. **Web site:** www.cfcas.org

Canadian S&T programs dedicated to international collaboration

While most of Canada's support for international research comes from our flexible domestic funding programs, a few funds are specifically dedicated to promoting international collaboration.

Canada Foundation for Innovation (CFI) International Funds

In 2001, the CFI is launching a major new funding initiative to support the participation of Canadian universities, colleges, hospitals and not-for-profit research institutions in international research projects. Investments will go toward innovative research opportunities that require international partnership to fully achieve their objectives and that increase international collaboration on S&T in Canada. The initiative includes two international funds, each with a budget of \$100 million. Funding under both of these programs is available for up to 100% of Canadian costs:

- The **International Joint Ventures Fund** supports the establishment of a maximum of four high-profile research infrastructure projects in Canada. These projects are aimed at taking advantage of unique research opportunities with leading facilities in other countries.
- The **International Access Fund** helps Canadian institutions and researchers access major collaborative programs where multinational facilities are required to pursue innovative research projects in other countries.

The **Natural Sciences and Engineering Research Council** operates two programs specifically targeted at international research projects: the **International Opportunity Fund** and the **Collaborative Research Opportunity**.

National Research Council Canada (NRC) administers the Technology Inflow Program as part of the Industrial Research Assistance Program to help Canadian small- and medium-sized enterprises acquire foreign technology and establish international R&D partnerships.

Various post-doctoral fellowships are also accessible to non-Canadian researchers through the granting councils and NRC.

The **Department of Foreign Affairs and International Trade** manages the Going Global S&T program, which provides funding to assist Canadian researchers to identify and establish new international collaborative R&D initiatives.

The Canada Foundation for Innovation supports "big science" in Canada

One of the largest scientific projects ever undertaken in Canada—the Canadian Light Source—is under construction at the University of Saskatchewan. Slated for completion in 2003, this massive particle accelerator will produce intense radiation that can be controlled so precisely it can pick apart minute details of matter. Similar facilities in other countries have demonstrated the capability to dramatically increase the rate at which materials can be analyzed, allowing work that previously took months or years to be completed in days or even hours. This potential for speedy discoveries opens up research in a wide range of fields, including pharmaceuticals, protein structure and analysis of materials for industry. Total project costs are \$173 million, of which the CFI is contributing \$56 million. This national project is an outstanding example of collaboration that brings together a wide range of partners, including the federal government; the provinces of Saskatchewan, Ontario and Alberta; the city of Saskatoon; SaskPower; GlaxoSmithKline; Boehringer Ingelheim; 18 universities across Canada; and the Canada Foundation for Innovation.