

This high-speed optical transport technology has the potential to support sustainable development decision making by applying the power of advanced grids and networks to the management of large volumes of data. For example, Natural Resources Canada's Pacific Forestry Research Centre uses CANARIE's high-speed network to acquire and quickly deliver large data sets, including remote sensing imagery and the national forestry grid. This grid will be used to help manage data from Canadian forests, including satellite data. The network will make data available to government decision makers, as well as individual citizens and special interest groups. Innovations delivered by CA*net 3 are expected to fuel the development of new technologies and applications and eventually reduce the cost of access to Internet capacity. CANARIE is now advising countries around the world on how they can design and build networks similar to CA*net 3.

Supporting such technological advances, Canada is working to ensure favourable tax regimes for information technology research and development. Information technology companies such as Nortel Networks, JDS Uniphase, Ericsson, and Motorola are investing heavily in Canadian enterprise.

Another technology being examined and promoted by the Government of Canada is sustainable development enabling software. Such software can improve the eco-efficiency of an enterprise, providing a management framework that can assist in operationalizing the firm's sustainable development goals. In an evaluation of various enabling software, Industry Canada concluded that many companies are not aware of the potential for their software to promote eco-efficiency. More work is needed to expand industry awareness of this enabling function and to capitalize on it while providing support programs and services to improve the cross-sectoral uptake of these technologies.

Eco-efficiency Enabling Software

Trihedral Engineering of Bedford, Nova Scotia, has produced a software called VTS that can support users in all five of the decision-making stages of managing for eco-efficiency. VTS is an off-the-shelf package that users can tailor to handle the monitoring and control requirements of their projects. In line with the eco-efficiency principles of reduction in the material intensity and the energy intensity of goods and services, VTS initially identifies current use for Stage 1 decision making, generates feasible options for greater efficiency (Stage 2), can be configured to model or simulate options for reduced use (Stage 3), implements and monitors changes relevant in facility processes (Stage 4), and then returns to Stage 1. More than four thousand copies of VTS are now being used in a variety of mission-critical applications, from sub-sea oil and gas production control, through massive telemetry systems, to supervisory control at a 2+ GW hydroelectric complex.

STRIKING PARTNERSHIPS TO FINANCE AND SHARE INFORMATION FOR SUSTAINABLE DEVELOPMENT

Domestic Partnerships

Government of Canada investments in information initiatives and technology are often matched or exceeded by private investment. For example, in 1998, contributions from the Bell Consortium (which included Nortel Networks, JDS Uniphase, Newbridge