



Can a scientist
be in two places
at the same time?

A scientist can work at two synchrotrons at the same time, thanks to CANARIE.

Project Name: Active Network Interchange for Scientific Experimentation (ANISE)

Project Lead: University of Western Ontario

CANARIE Contribution: \$1.2 M

Participants:

- Canadian Light Source, Saskatoon, SK
- IBM Canada
- Advanced Light Source, Lawrence Berkeley Laboratories, Berkeley, CA

What is ANISE?

Massive investments have been made in physical hardware such as synchrotrons and other specialized lab equipment for the advancement of science. However, the software and networked solutions for delivering that science to users is still in its infancy.

The CANARIE-funded Science Studio project was major Canadian software advance which for the first time, used web-based software to enable remote experiment management at the Canadian Light Source. This means users no longer have to be physically present for the experiments or to access the data collected.

ANISE builds on the success of Science Studio to create a high speed network platform accessible by users worldwide and capable of processing in near real time, the results from more than one synchrotron experiment simultaneously.

Value to Research and to Canada:

- Enables timely scientific research in fields such as metallurgy, materials science and geochemistry, permitting new insight into effects of chemical and mechanical stresses on materials.
- Enables rapid bio-and-geochemical assessment of chemical elements and crystal structures in mine wastes, contaminated soils, and deposits in waterways to understand how our biosphere is changing over time.
- Enables more effective experimentation that results in greatly improved productivity, reduced travel costs, and much more industrial relevance for data generated at synchrotrons

Did you know?

Results of synchrotron experiments are used in the development of drugs and therapies for the treatments of diseases, including cancer.

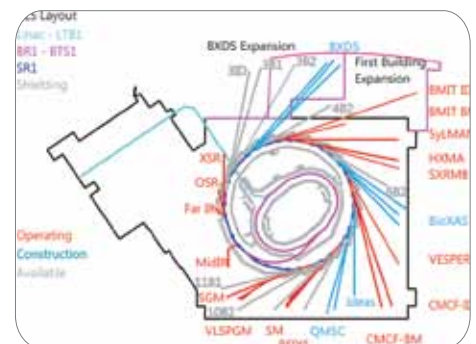


Diagram of the "beamlines" at the Canadian Light Source at the University of Saskatchewan, Saskatoon, SK

Synchrotron (n.) – A particle accelerator in which the magnetic field strength increases with the energy of the particles to keep their orbital radius constant