

Economic, Societal and technological impact Of large scale research facilities: a view from Canada

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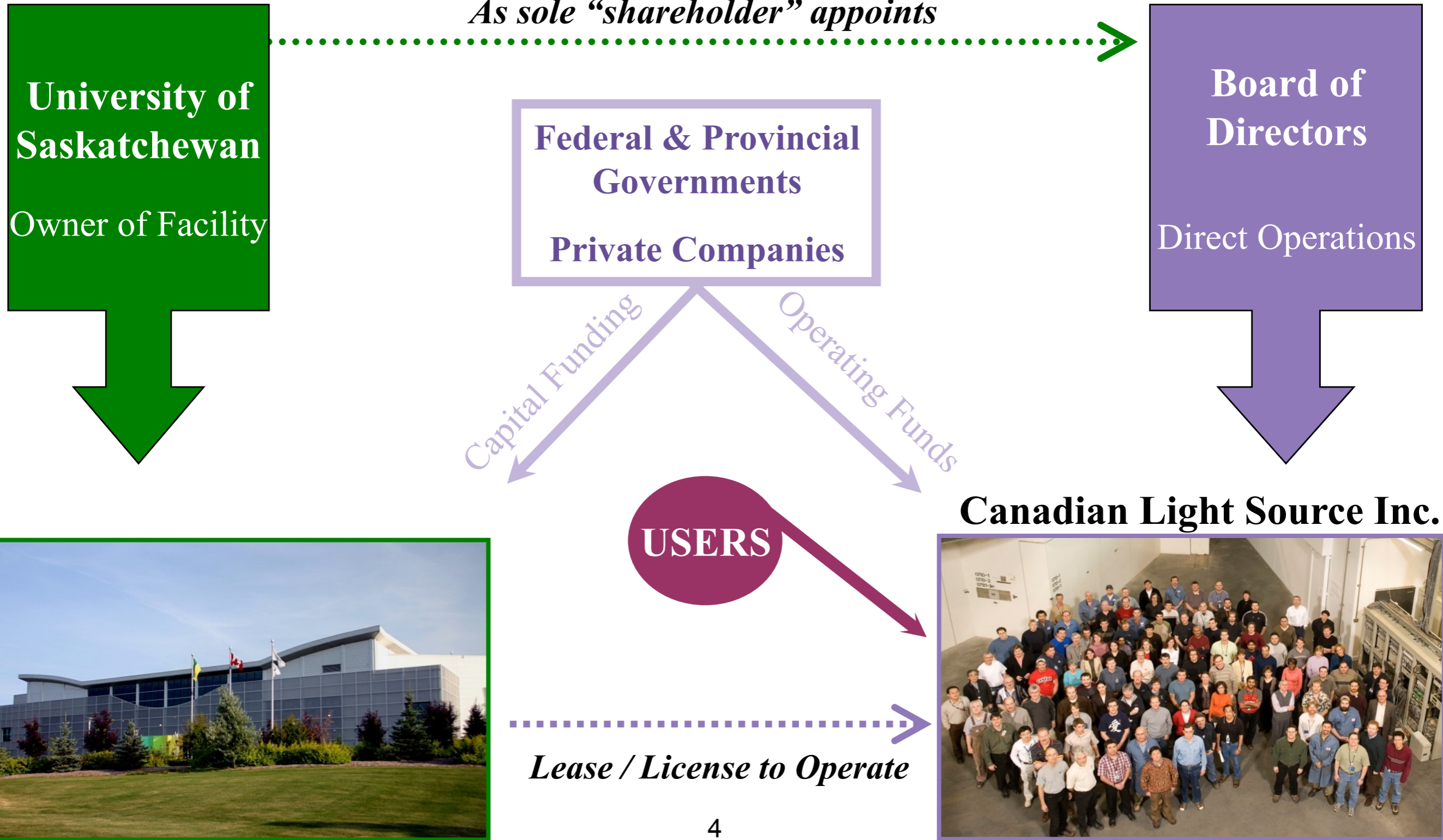
Old model for big science:

- Funded primarily by government with no direct ties to outcome (peer review only)
- Impacts on society, technology and economy were indirect (HP, Apple, etc.)
- Science responded to grand challenges (putting a human on the moon, for example) with the scientific method, focused on science impact

New model for big science:

- Funded primarily by government with direct ties to outcome
- Impacts on society, technology and economy are expected to be direct and intended
- Science shall respond to grand challenges (human health, green resource extraction, information technology, societal issues) with at least an equal emphasis on impact outside of the purely scientific realm

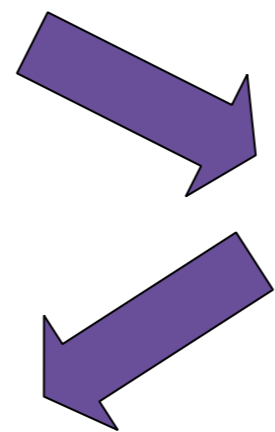
Corporate Structure



2004

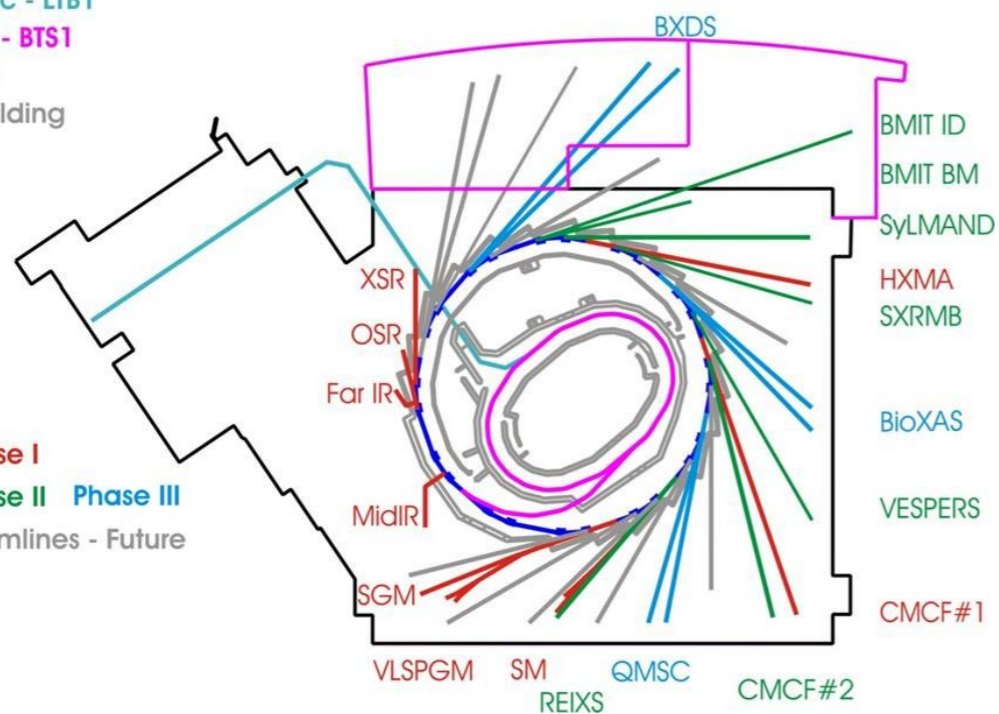


First Expansion



Building
Linac - LTB1
BR1 - BTS1
SR1
Shielding

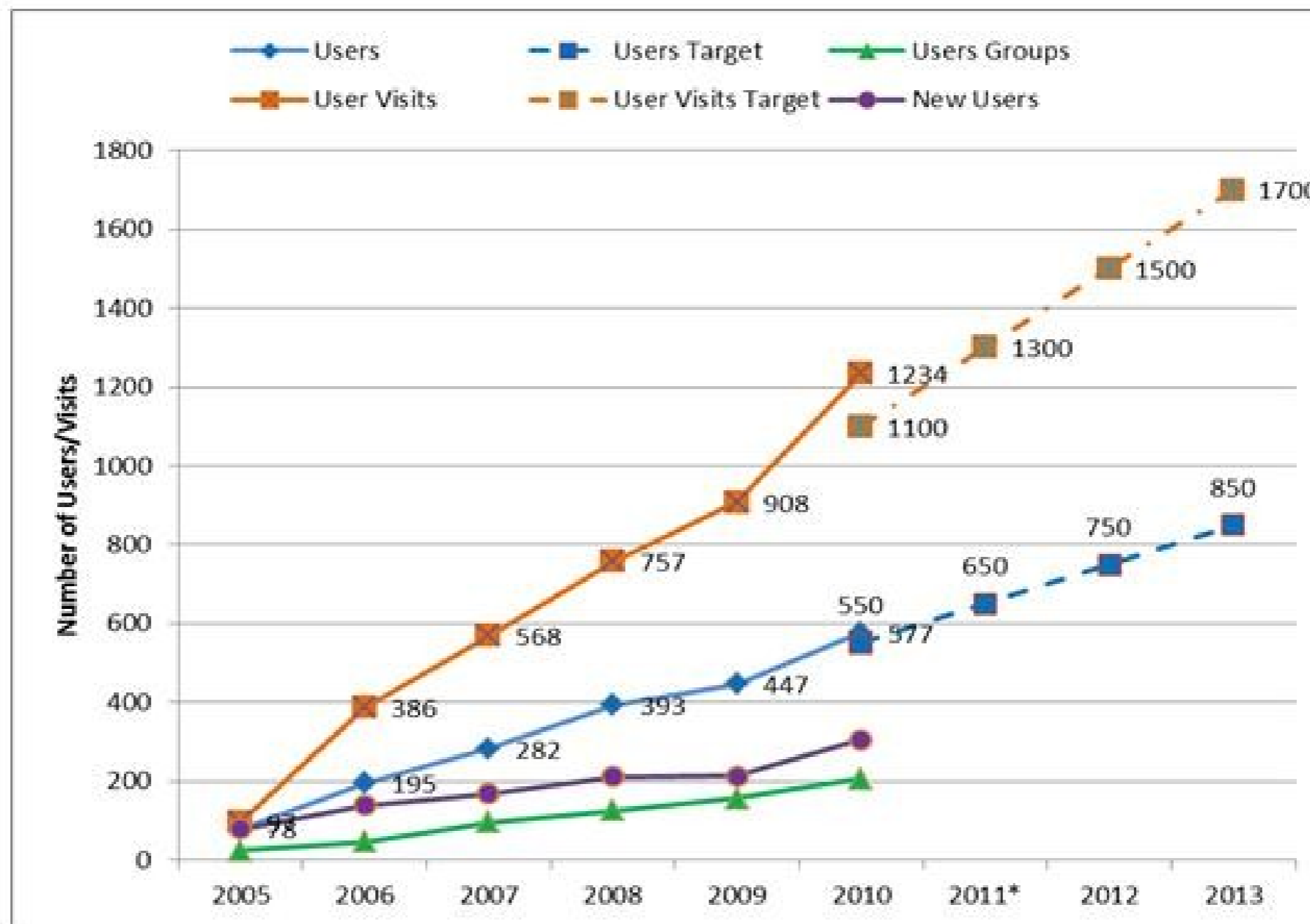
Phase I
Phase II Phase III
Beamlines - Future



Impact "outside" science:

- Planning to make an impact
 - How to measure?
 - What to do?
 - Why do it?
- Implementing
 - Address key challenges
- Measuring
 - Tool and driver for innovation

The CLS as a national user facility

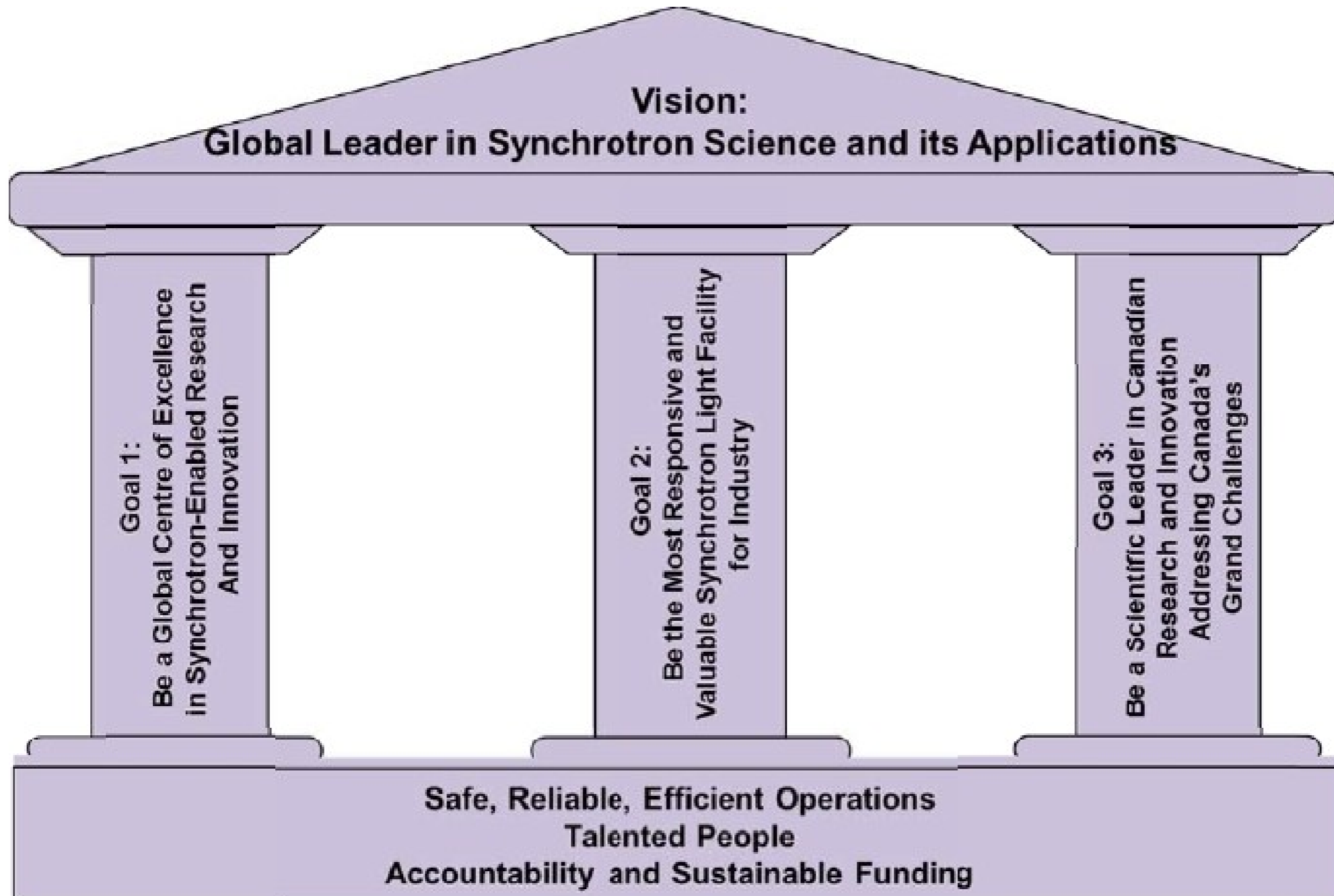


Users from 10 Provinces and Territories and 18 countries around the world

Planning an impact at CLS:

- Economic
 - Relevant and responsive to industry and government
- Societal
 - Address key challenges (education, health, environment)
- Technological
 - Remain both a tool of and a driver for innovation

Building on Success



The foundational objectives and strategic pillars (goals) that uphold our vision for the CLS

The Strategic Goals for 2013 – 2017

- 1. Being a Global Centre of Excellence in Synchrotron – Enabled Research & Innovation**
- 2. Being the Most Responsive & Valuable Synchrotron Light Facility for industrial research**
- 3. Being a Scientific Leader in Canadian Research and Innovation and Addressing Canada's Grand Challenges in Science and Technology**

Canadian Grand Challenges

- Healing the world
- Feeding the world
- Supporting our economy



Healing the world

- disease and an aging population
- resource extraction and environmental impact
- better energy solutions (storage and extraction)



Feeding the world

- understanding “phytofactories” through better imaging, both structural and elemental
- more efficient and targeted nutrient delivery
- food delivery infrastructure



Supporting our economy

- create commercial compact light source
- innovate in health care delivery
- innovate in “green mining”



Economic Impact

- industry friendly intellectual property policy
- timely reports focused on the client
- mandate to spend 25% of our time on industrial engagement (more than any other light source we know of)
- have a core group of scientists hired **only** for industrial work
- have a core business development group hired to get work for the above group

Societal Impact

- Students on the beamline project
- CLS Summer School
- Synchrotron in Saskatchewan curriculum for science
- in a city of 250,000 people, 5000 or so visit the CLS every year
- Queen, Prime Ministers have visited CLS
- GEMS program developed from social origin
- at a May 15 reception in Ottawa, 56 Members of Parliament, including 10 cabinet ministers, attended!