## Modernizing Canadian Laboratories

The 22nd Annual Real Property National Workshop "Real Property in Real Time," held November 24-26 in Gatineau, Quebec, gave us the opportunity to discuss the management of government laboratories relative to the expectation that the Canadian government will continue in its leadership in scientific, health and environmental endeavors. There can be no mistake that the physical and operational integrity of Canada's laboratories enable this leadership. Like our neighbors to the south, the Canadian government must recognize its laboratory assets as vital and instrumental to this objective.

We must also recognize that our scientific abilities are central to this nation's intention to remain competitive in an ever-increasing high-technology global market. Whether in scientific discovery, academia, advances in healthcare, or product development, Canadian laboratories serve as the focal point for the government's support and direction. Through this support and direction, government laboratories themselves must demonstrate the nation's commitment to strong stewardship of property and leadership in energy and environmental sustainability.

In keeping with RPIC's goals and mandate in support of the Real Property Community, a concurrent "Laboratory" session was coordinated at the 2009 Gatineau Workshop, focusing on *Housing World-Class Science: Modernizing Federal Laboratories.* Further, a Professional Development session on "Labs21® Introductory Course: High Performance, Low-Energy Design" was developed and sponsored through a partnership with Labs21® (and implemented through a developing partnership with the International Institute for Sustainable Laboratories ($I^2SL$) and RPIC.

One might ask, "What is Labs21® and what does it bring to the laboratory stakeholder community within the Federal Government and the industry at large in Canada?"
Labs21® is a voluntary partnership program created over 10 years ago initially through the leadership of the U.S. Environmental Protection Agency and the U.S. Department of Energy. The mission is dedicated to improving the environmental performance of laboratories. The primary guiding principle of the *Labs21 approach* is that improving the energy efficiency and environmental performance of these facilities requires examining the entire facility from a "whole building" perspective. Adopting this perspective allows owners to improve the efficiency of the entire facility, rather than focusing on specific building components. As Labs21® participants understand, improving the efficiency of individual components without examining their relation to the entire system can eliminate opportunities to make other more significant efficiency improvements.

Since it's inception, Labs21® has grown to become a truly international network of laboratory interest for sharing best practices and technical expertise among the numerous stakeholders and partners. Most recently, Public Works and Government

Services Canada (PWGSC) signed a formal Memorandum of Understanding with the EPA. This MOU provides for a collaborative relationship to:

1) Focus on investigating broad areas of reduced energy consumption and increased environmental performance in laboratories, including developing appropriate strategies, identifying future trends and challenges, and seeking cost effective solutions for improving laboratory performance,
2) Enhance knowledge sharing as a hallmark of the way each partner interacts, including conducting joint research initiatives and sharing and publishing information as it becomes available,
3) Implement sustainable solutions across all laboratory types and industries, benefiting current and future generations, and
4) Identify solutions that are flexible in meeting the future needs of the international laboratory community.

The MOU builds on the success of the Labs21® program in the U.S. and embraces the pursuit of sustainable, high-performance, and low-energy laboratories that:

a) Minimize overall environmental impacts
b) Protect occupant safety
c) Optimize whole building efficiency on a life cycle basis, and
d) Establish goals, track performance, and share the results to build an increasingly strong foundation of knowledge.

Signing the MOU was the natural outcome of PWGSC's long-standing active participation in Labs21 since it was launched in 1999. During this period, PWGSC and other Canadian Federal laboratory staff, including engineers, architects, planners and operators provided many presentations about their work at the Labs21® Annual Conferences and workshops.

These steps of cooperation and collaboration will serve as a foundation in promoting awareness for and participation in PWGSC's efforts with Labs21®. PWGSC will engage the various ministries through their laboratory facilities in recognizing the value of the nation's laboratory assets, the researchers and scientists working in them, and the contributions being made through them. This will clearly demonstrate the country's commitment to energy and environmental sustainability as well as to its desire to maintain a high level of scientific and technical capability.

RPIC intends to build on these efforts to grow and expand the Canadian body of laboratory knowledge and expertise created by Labs21® across the industry. As a next step RPIC is organizing a Regional Laboratory Workshop in Calgary in June of 2010. Further, PWGSC and other Federal Laboratory Stakeholders are continuing to collaborate and apply the principles of Labs21® which will assure high performance, energy-efficient, sustainable laboratories in Canada and Canada's commitment to its scientific leadership.

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