

# OECD Programme on Educational Building

## Information and Communications Technology and Educational Property Management

### *An international seminar*

Montreal, Canada, 31 October – 3 November 2004

Organised by the OECD Programme on Educational Building (PEB) and the Association of Institutional Property Managers (AGPI – Quebec, Canada), with the participation of the Quebec Ministry of Education and the Quebec Energy Efficiency Agency (AEE)

#### **Introduction**

Planners, educational property managers, policy makers and educators all agree that the physical environment has a direct influence on learning. How can information and communications technology (ICT) make educational facilities more **functional**, more **comfortable and energy efficient**, and **safer**, and how it can improve their technical and administrative management?

Faced with a situation in which most school buildings are reaching the end of their initial life cycle and financial and human resources have been reduced, educational property managers in OECD countries now more than ever before have to optimise their operating and investment strategies. Making ICT an integral part of these strategies in response to changing “modes of knowledge and flexible delivery”<sup>1</sup> and changing modes of educational property management is a major challenge.

#### **Purpose**

The aim of the seminar is to see how ICT can be made an integral part of managing educational property in the following four areas:

- the design or refitting of functional spaces;
- energy efficiency, user comfort and sustainable development;
- the security and protection of facilities;
- the optimisation of educational building management.

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<sup>1</sup> *PEB Exchange*, n° 50, October 2003 (Feature – “Bricks, clicks and spondulicks”)

In each of these fields, participants will first examine how various countries have incorporated ICT into educational property management at the national and local levels over the past ten years. These background reports will then be followed by a review of the solutions that these tools can provide today. Participants will be asked to consider practices that have a positive impact on the educational environment as well as the drawbacks, failures, constraints and limitations that they have encountered. Lastly, there will be a prospective review of how ICT might be developed to anticipate needs in the light of on-going research, current developments, trends and the emergence of new harmonisation standards.

The seminar will focus on practical examples in innovative institutions in various countries and will seek to define certain concepts that will have a decisive impact on integrating ICT in learning environments. Participants will have an opportunity to identify recent and future trends at the international level, share their experiences and draw conclusions relevant to their own work. They will also have a chance to meet their peers from other OECD countries and examine different approaches to the future design of learning environments. The main speakers will identify and analyse current trends. Case studies from various OECD countries will also be presented. Trips to educational facilities in Montreal and the surrounding area will be arranged.

## **Issues for discussion**

### **1. The design or refitting of functional spaces**

“Technology changes quickly, but buildings are built to last over longer periods. Additionally, technology can be relatively quickly put in or taken out, whereas buildings have much longer planning, approval and build times. This difference in response times can set up challenges requiring careful management of expectations among stakeholders. [...] The physical environment needs to be designed to invite the *acquisition and support of the necessary ICT skills and applications* by teachers and learners.”<sup>2</sup>

The seminar will reaffirm the often contradictory aspects of reconciling the rapid obsolescence of ICT with the design of property that is meant to last. Only commitment, sometimes over a long period, built on consultation and discussion can bring about a consensus on the choices to be made. Computer-assisted design tools that can now be used to optimise design by running simulation loads, heat loss and gain, costs, etc. will also be addressed. The seminar will demonstrate that the best solutions are multi-purpose, versatile spaces and show how to integrate multi-media functions, Internet network connections, etc. Lastly, it will look at the future of wireless communications, their advantages and drawbacks, and at virtual access to knowledge for students, who would not need to attend class. Leading-edge schemes will be presented, among them the wireless fidelity (WI-FI) system at Concordia University in Montreal, one of the most technologically advanced universities in Canada, which uses wireless network access. As will be seen, this new technology requires stringent security checks for the university’s computer system.

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<sup>2</sup> J. L. Whitaker, “Impact of Clicks on Bricks: VET Facilities Planning in an Information Age”, J.L. Whitaker Associates, March 2002.

## **2. Energy efficiency, user comfort and sustainable development**

In the past, sometimes simplistic attempts to make savings in building management turned out to have harmful effects, particularly on air quality. Now that access to information technology is easier and less expensive, buildings are becoming “intelligent”. Furthermore, the use of ICT in managing educational property can maximise energy savings and ensure optimal comfort while meeting all the sustainable development criteria advocated in education.

Optimising energy use and making energy efficiency a priority are increasingly becoming the prerequisites for the sound management of buildings used for educational purposes. They are often the starting point of an institutional approach towards sustainable development. The part played by information and communications technology is crucial to this approach that applies to the whole of the building’s life cycle.

The seminar will also set out to evaluate ICT’s contribution to innovative approaches and tools that improve both the energy efficiency of educational buildings and the comfort of building occupants. One cannot talk about energy efficiency without addressing sustainable development. The seminar will therefore take a holistic approach to this theme, highlighting the contribution of information technology through practical examples, mainly taken from the field of educational property.

## **3. Optimising the management and security of educational buildings**

A great many educational buildings were built between the 1950s and 1970s. Many component parts of the educational infrastructure have reached or exceeded their normal life expectancy and the need for continuing investment in asset maintenance is increasing every year. For the majority of governments the budgets for asset maintenance are not enough to prevent a maintenance backlog from building up, much less reduce it to zero.

The situation is serious and it is more likely than not that major reinvestment in asset maintenance will soon be unavoidable. To be ready for this, property managers are increasingly urged to optimise spending and to do so, a strategy that can make the most of latest generation tools is necessary. Information systems that facilitate decisions on renovation and repair, tracking the maintenance backlog or, indeed, measuring performance against indicators should be among the tools available to the 21<sup>st</sup> century manager.

The seminar will endeavour to identify the various types of tools available and to examine in greater detail those that seem to be the most promising.

The seminar will also review both how ICT can improve the protection and safety of educational buildings and ways of integrating ICT with other building automation systems. Experiences with practical applications will be presented. One of the aims of the Seminar is to define recommendations on the use of promising technologies to make educational buildings still more secure.

## Participants

Participation is open to those in OECD countries who have a professional interest in the themes of the seminar, and may include elected representatives, officials of national, regional or local administrations, facility managers, planners, architects, head teachers and researchers.

If there are too many requests for registration, priority will be given to representatives of countries participating in the OECD Programme on Educational Building (PEB), that is Australia, Austria, France, Greece, Hungary, Iceland, Ireland, Korea, Mexico, New Zealand, Portugal, Slovak Republic, Spain, Switzerland, Turkey and the United Kingdom, and of PEB associate members (Chile; CISEM (Research Institute of the Province of Milan and Italian Provinces Union); *Communauté française de Belgique*, Belgium; *Dienst voor Infrastructuurwerken van het Gesubsidieerd Onderwijs* (DIGO – Belgium); *Het Gemeenschapsonderwijs*, Belgium; *Province du Québec*, Canada; *Provincia di Rovigo*, Italy; *Regione Emilia-Romagna*, Italy; *Regione Toscana*, Italy; Republic of Slovenia; *Service général de garantie des infrastructures scolaires subventionnées*, Belgium; Tokyo Institute of Technology, Japan) provided registrations are received by **18 October 2004**.

## Working languages

The working languages for the seminar are English and French. Simultaneous interpretation will be provided during plenary sessions and visits.

## Documentation

Background documents and practical information about the seminar will be sent to registered participants approximately one month before the seminar. Other documents will be available at the seminar itself.

Participants who wish to contribute a paper to the seminar are requested to contact the PEB Secretariat as soon as possible, indicating which issues their paper will address and why it will be of interest to an international audience. Abstracts of presentations will be required by **Monday, 2 August 2004**, and those selected for presentation must be available in their final form by **Friday, 24 September 2004**. This is to allow time for them to be translated and reproduced.

## Registration

The attached registration form is to be completed and returned to the AGPI Secretariat as soon as possible, and in any event before **Monday, 18 October 2004**. Confirmation of registration and invoices will be sent out during the month of October.

## Seminar fees

The cost of the seminar is:

<i>For representatives of OECD countries participating in PEB, and of associate members:</i>	<i>For participants from countries or organisations which are <u>not</u> members or associate members of PEB:</i>
CAD 1 050	CAD 1 250

**Please note that these prices include accommodation.** They also include all seminar documentation, interpretation service, lunches, dinners and site visits. The prices **do not** include personal expenses (for example telephone and bar bills) and applicable taxes.

## Accommodation

Participants at the seminar will be accommodated for the nights of Sunday, 31 October, Monday 1 November and Tuesday 2 November at the Hotel Gouverneur, Place Dupuis, 1415 rue Saint-Hubert ([www.gouverneur.com](http://www.gouverneur.com)), Montreal, Quebec, Canada H2L 3Y9; telephone +1 888 910 1111; fax +1 514 845 8518.

To reserve accommodation for **before** and/or **after** the seminar, **please contact the Hotel Gouverneur directly and specify that you will be attending the seminar.**

The hotel accepts credit cards. The National Bank of Canada, accessible from the hotel lobby, offers currency exchange facilities.

## Accompanying persons

Accompanying persons will be welcome to join participants for dinners and for the school visits provided space is available. A charge will be made for meals and transportation. Participants are requested to notify the organisers if they plan to be accompanied on any of these occasions so that appropriate provision can be made.

## Payment

Payment of **seminar fees** is due by **18 OCTOBER 2004**. **Instructions about the payment of seminar fees are detailed in the registration form. Please note that payments are to be made in Canadian dollars.**

## Extended stays

Staying over one Saturday night may significantly reduce the cost of air travel, and participants are advised to check with their travel agents. The Hotel Gouverneur welcomes participants during the day immediately before the seminar at a discount price subject to rooms being available.

## **Getting to Montreal**

The cost of travel to and from the seminar venue is borne by participants, who are responsible for making their own travel arrangements.

Montreal's international airport is served by regularly scheduled flights from most OECD countries. Information about welcome arrangements and transport between the airport and the seminar venue will be sent to participants after registration.

**Important: please note that flights to Montreal are in great demand at that time of the year and that it is advisable to make your reservations as soon as possible.**

### **REMINDER:**

**DEADLINE FOR ABSTRACTS: 2 AUGUST 2004**

**DEADLINE FOR REGISTRATION: 18 OCTOBER 2004**

**DEADLINE FOR COMPLETED PAPERS: 24 SEPTEMBER 2004**

**DEADLINE FOR PAYMENT: 18 OCTOBER 2004**

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Educational Building (PEB) and the Association of Institutional Property Managers  
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### **Provisional programme**

#### Sunday, 31 October

17.00 – 18.00	Registration	<i>Hotel Gouverneur 4<sup>th</sup> floor</i>
18.00	Transfer to the <i>Écomusée du fier monde</i>	<i>By coach</i>
18.15 – 21.00	Welcome <b>Gilles Marchand</b> , Director of School Facilities, Ministry of Education, Quebec, Canada	<i>Écomusée du fier monde</i>
	Visit of the exhibition “The school’s walls”	
	Reception and buffet	

Monday, 1 November

**Theme: The design or refitting of functional spaces**

8.00 – 8.30	Registration (breakfast)	<i>Hotel Gouverneur 4<sup>th</sup> floor</i>
8.30 – 8.45	Opening of the conference <b>Bernard Hugonnier</b> , Deputy Director for Education, Directorate for Education, OECD	<i>Hotel Gouverneur Ground floor</i>
8.45 – 9.15	Welcome <b>Louis Gendreau</b> , Deputy Minister assistant, Ministry of Education, Québec, Canada <b>Roch Denis</b> , Rector, Université du Québec à Montréal, Canada	
9.15 – 9.45	Keynote presentation <b>Pierre Gastaldy</b> , Director of Physical Resources, Commission scolaire des Grandes Seigneuries, Québec, Canada	
9.45 – 10.15	The information and communications technology revolution and its impact on facilities management <b>Hugues Rivard</b> , Professor, Department of Construction Engineering, École de technologie supérieure, Université du Québec, Canada	
10.15 – 11.00	Coffee break and visit of the exhibition	<i>Hotel Gouverneur 4<sup>th</sup> floor</i>
11.00 – 11.30	Managing your infrastructure as a utility <b>Byron K. Hill</b> , Director, Systems Technology, Johnson Controls Inc., United States	<i>Hotel Gouverneur Ground floor</i>
11.30 – 12.00	Presentation – to be decided	
12.00 – 12.30	Panel discussion Moderator: <b>Gilles Daoust</b> , Director of the Facilities Unit, Université Laval, Québec, Canada	
12.30 – 14.00	Lunch Speaker: <b>Claude Rousseau</b> , First Vice President, Bell Canada, Québec, Canada	<i>Hotel Gouverneur 4<sup>th</sup> floor</i>

14.00 – 17.00	Visits to school sites	<i>Transfer by coach</i>
	Group A: <i>Université du Québec à Montréal</i> (tertiary level institution in Montréal)	
	Group B: <i>École de technologie supérieure</i> (tertiary level institution in Montréal)	
17.30	Arrival at hotel Gouverneur	
19.00 – 22.00	Opening dinner	<i>Transfer by coach</i>

Tuesday, 2 November

**Theme: Energy efficiency, user comfort and sustainable development**

8.00 – 9.00	Welcome of participants (breakfast)	<i>Hotel Gouverneur 4<sup>th</sup> floor</i>
9.00 – 9.30	Making ICT in educational buildings energy efficient <b>Alan Meier</b> , Analyst, Energy Efficiency and Environment Division, International Energy Agency, France	<i>Hotel Gouverneur Ground floor</i>
9.30 – 10.00	When mice marry squirrels or computer science for energy savings <b>Pascal Ons</b> , Team leader, Institute for Studies and Advice in Sustainable Development, Belgium	
10.00 – 10.30	Using “artificial intelligence” to optimise building operations <b>Gilles Jean</b> , Director, Centre de la technologie de l’énergie du CANMET, Varennes, Canada	
10.30 - 11.15	Coffee break and visit of the exhibition	<i>Hotel Gouverneur 4<sup>th</sup> floor</i>
11.15 – 11.45	ICT in energy efficiency to promote sustainable development <b>James Hartzfeld</b> , Vice President, Sustainable Development Strategy, Interface Americas, United States	<i>Hotel Gouverneur Ground floor</i>
11.45 - 12.30	Panel discussion Moderator: <b>Gilles Daoust</b> , Director of the Facilities Unit, Université Laval, Québec, Canada	

12.30 - 14.00	Lunch Speaker: <b>Réjean Carrier</b> , Director, Energy Efficiency Agency, Québec, Canada	<i>Hotel Gouverneur 4<sup>th</sup> floor</i>
14.00 – 17.00	Visits to school sites  Group A: <i>Centre de la technologie de l'énergie du CANMET</i> (research centre in Varennes)  Group B: <i>École du Tournant</i> (secondary school in Saint-Constant)  Group C: <i>Centre de formation des nouvelles Technologies</i> (Sainte-Thérèse)	<i>Transfer by coach</i>
17.30	Arrival at hotel Gouverneur	
19.00 – 22.00	Reception at the <i>Commission scolaire Pointe de l'Île</i>  <i>Followed by</i> Gala dinner	<i>Transfer by coach</i>

Wednesday, 3 November      **Themes: Optimising the management and security of educational buildings**

8.00 – 9.00	Welcome of participants (breakfast)	<i>Hotel Gouverneur 4<sup>th</sup> floor</i>
9.00 – 9.30	ESOPE database – Security Study by the National Agency for the Security of Schools and Universities <b>Jean-Marie Schléret</b> , President, National Agency for the Security of Schools and Universities, France	<i>Hotel Gouverneur Ground floor</i>
9.30 – 10.00	An integrated system for decision making in building major upkeep <b>Dino Gerbasi</b> , Vice President, Research and Development Department, GES Technologies, Québec, Canada <b>Gilles Marchand</b> , Director of School Facilities, Ministry of Education, Québec, Canada	
10.00 – 10.30	Measuring the economic and technical performance of facilities management <b>Jean-Pascal Foucault</b> , Researcher in Facilities Technical Management, Université de technologie de Compiègne, France	
10.30 – 11.00	Coffee break	<i>Hotel Gouverneur 4<sup>th</sup> floor</i>

11.00 – 12.00	Panel discussion Moderator: <b>Gilles Daoust</b> , Director of the Facilities Unit, Université Laval, Québec, Canada	
12.00 – 12.30	Closing remarks <b>Pierre Gastaldy</b> , Director of Physical Resources, Commission scolaire des Grandes Seigneuries, Québec, Canada <b>Richard Yelland</b> , Head, Programme on Educational Building, OECD	<i>Hotel Gouverneur Ground floor</i>
12.30 – 14.00	Lunch	<i>Hotel Gouverneur 4<sup>th</sup> floor</i>
14.00 – 17.00	Visits to school sites  Group A: <i>École des hautes études commerciales de Montréal</i> (tertiary level institution)  Group B: <b>Université Concordia</b> (tertiary level institution, Montréal)	<i>Transfer by coach</i>
17.30	Arrival at hotel Gouverneur	
From 18.30	Dinner or a choice of cultural activities will be offered	