

## 2007 Research Highlights

**Research solutions for the property, design,  
construction and facilities management industry**



**CRC** Construction Innovation  
BUILDING OUR FUTURE

# About *Construction Innovation*

## Impact

The Cooperative Research Centre (CRC) for *Construction Innovation* is Australia's only national research body for the property, design and construction industry. *Construction Innovation* brings together industry, government and researchers in teams to work on key projects developed for industry by industry.

## Leaders

*Construction Innovation* brings together 21 industry, government and research partners. Our research is directed by a Board of leading industry practitioners. We promote networking and learning through our research program, education activities and major international conference.

## Excellence

*Construction Innovation* delivers rigour and excellence in industry-focused research. We provide information on future trends and support development of the industry by training scholars to undertake research projects in collaboration with industry.

CRC for *Construction Innovation*

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## Participants in *Construction Innovation*

### Industry



dem



Rider Hunt

WOODS  
BAGOT

### Government



### Research



[www.construction-innovation.info](http://www.construction-innovation.info)

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## Participants in *Construction Innovation*

### Industry

ARUP

Bovis  
Lend Lease

BROOKWATER

dem

John  
Holland

Rider Hunt

WOODS  
BAGOT

### Government



Building Commission

Queensland Government  
Department of Main Roads

Queensland Government  
Department of Public Works

Queensland Government  
State Development, Trade and Innovation

Department of  
Housing and Works



### Research



Curtin  
University of Technology

QUT

RMIT  
UNIVERSITY

The UNIVERSITY  
of NEWCASTLE  
AUSTRALIA

The University of Sydney

[www.construction-innovation.info](http://www.construction-innovation.info)

# A. Business & Industry Development Program

## Safety

On average, one person a week dies on construction sites in Australia, a fatality rate five times higher than the mining industry. *Construction Innovation* safety research includes:

### Construction Safety Competency Framework

In 2006 a *Construction Innovation* project team led by John Holland launched a new workplace safety framework. The framework identifies standardised safety management tasks and details the knowledge, skills and behaviour required to complete the task. The framework has been endorsed by the Office of the Federal Safety Commissioner and launched nationally. Implementation kits for industry are now in development.

### Voluntary Code of Practice

The project aims to deliver a Voluntary Code of Practice (VCOP) designed to integrate occupational health and safety (OHS) and improve safety levels in the Australian construction industry. The code will help guide the specification, design and construction of safer projects in the future. The project will also develop a practical toolkit to support industry's implementation of the VCOP.



## The BRITE project

Providing practical information on how to become more innovative is the goal of *Construction Innovation's Building Research Innovation Technology and Environment (BRITE)* project.

The BRITE project has produced a series of 12 case studies focusing on the adoption of innovation and innovations new to industry, Australia or the world. The case studies describe the dynamics of industry innovation, highlight the benefits of innovation and how particular companies have successfully implemented those selected innovations.

The BRITE project also undertook a national industry survey to identify rates of innovation, types, impacts, drivers, obstacles and strategies. A national database of innovative contractors has been established and is available on the web. Current work focuses on interviews with 20 of Australia's most innovative construction contractors. Management behaviours that contribute to successful innovation outcomes have been identified.

[www.brite.crcci.info](http://www.brite.crcci.info)



## B. Sustainable Built Assets Program

This research program aims to optimise the environmental impact of built facilities. Research areas include:

- Virtual Prototyping of Built Assets
- Sustainable Commercial Buildings
- Sustainable urban environments
- Indoor environments
- Developing knowledge-based frameworks for sustainable development



## Your Building

Due for launch in 2007, **Your Building** will be a web-based informational portal operating as an actively updated knowledge bank, that answers questions about how to finance, design, occupy and manage a sustainable commercial building.

[www.yourbuilding.org](http://www.yourbuilding.org)



## C. Delivery and Management of Built Assets Program

### The Sydney Opera House FM Exemplar Project

*Construction Innovation* has just published outcomes of its Sydney Opera House FM Exemplar research project.

The *FM as a business enabler: Solutions for managing the built environment* publication was the result of a two-year *Construction Innovation* project that showcases the Sydney Opera House, Australia's most iconic building and one of the world's busiest performing arts centres, as a case study in developing FM as a business enabler.

The project focused on three main research streams: digital modelling, services procurement and performance benchmarking. These have been combined into an integrated FM solution intended to have applications for the broader FM industry.

The project also has an international flavour with iconic facilities from around the globe being invited to participate, providing an opportunity to learn from others and showcase Australia's FM applied research expertise on the world stage.

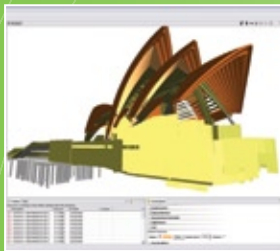


## Digital Solutions — ICT Platform

*Construction Innovation* promotes the uptake of advanced digital solutions in the property and construction industry. We support the vision of an integrated open systems approach and actively contribute to the development of common standards for information exchange.

*Construction Innovation* has developed a number of digital tools now being trialled in the field. These include:

- *Automated Estimator*: This tool automatically produces trade quantities for projects and can save up to 35% of the labour required to prepare an estimate using traditional methods.
- *LCADesign*: The Life Cycle Analysis of Design (LCADesign) tool enables designers to evaluate the environmental impact of commercial buildings from 3D CAD drawings by providing detailed environmental measures for different materials – for example, water, energy and CO<sub>2</sub> – of construction materials and methods.
- *Project Diagnostics*: Winner of the Professional Excellence award for Research and Development at the 2006 Australian Institute of Building national awards, this innovative software, now being marketed throughout the world by Arup Australasia, identifies specific areas of poor project processes, pinpoints the root causes and suggests remedies.



## Research Library

Visit our online Research Library for a comprehensive overview of all *Construction Innovation's* research activities. [www.construction-innovation.info](http://www.construction-innovation.info)



### PROGRAM A

Business and Industry  
Development

More Effective Interaction between Industry  
and Clients

Greater Innovation in Business Practices

Strengthened Human Relations and Ethical  
Practices

### PROGRAM B

Sustainable  
Built Assets

Virtual Prototyping of Built Assets

Sustainable Commercial Buildings

Sustainable Urban Environments

Indoor Environments

Sustainability Frameworks

### PROGRAM C

Delivery and Management  
of Built Assets

Procurement Processes

Improved Communication and Use of  
Information

Infrastructure Delivery and Management of  
Built Assets

### ICT PLATFORM





In association with:



The Cooperative Research Centre (CRC) for *Construction Innovation*'s Third International Conference will be sub-themed ***Benefiting from Innovation*** and will continue with the overarching theme of *Clients Driving Innovation*. This Conference will demonstrate how applied research is making a difference in delivering social, environmental and economic benefits to property, design, construction and facility management firms, the industry and the community.

***Benefiting from Innovation*** will report on the practical implementation of innovative technologies and practices, and will stimulate new perspectives on innovation in this industry.

[www.2008conference.crcci.info](http://www.2008conference.crcci.info)

# Date Claimer!

Third International Conference of the  
Cooperative Research Centre for  
Construction Innovation

## Clients Driving Innovation: Benefiting from Innovation

Demonstrating the social, environmental and  
economic benefits of applied research and  
innovation in the construction industry

**12-14 March 2008**

**Surfers Paradise Marriott Resort and Spa,  
Gold Coast, Australia**



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