



Background

The construction industry is dominant among Hong Kong industries, contributing about 23.5% of Gross Domestic Product (GDP). Therefore, even a small improvement in this industry will significantly benefit the economy of the Hong Kong Special Administrative Region (HKSAR). The Research Centre for Construction Innovation (RCCI) is committed to the research and development in construction innovation. It is operating within the Department of Building and Real Estate (BRE) at The Hong Kong Polytechnic University (HK PolyU). RCCI is enthusiastically supported (in cash and kind) by the HKSAR Government, industry, and other sources.

BRE of HK PolyU has developed research programmes and consultancy capacities in construction innovation. RCCI has recently been established to create and apply new knowledge and advanced understanding of construction innovation, including information technology (IT) systems to provide new solutions that improve construction processes. The mission of RCCI is to act as a focal point for addressing the construction industry's research and consultancy needs as well as providing specialists who will bring about a step change in the industry practice.

We take pride in our very close links with industry and welcome enquiries from all areas of the construction and related industry sectors. The members of RCCI are made up of academics and researchers with practical experience in construction industry. Recently, RCCI has applied the **Virtual Prototyping Technology** to construction process simulation and optimization. Other leading research areas include: **Contractual & Regulatory Innovations**, **Value Management in Construction**, and **Project Management**. The members of RCCI have developed a strong research profile to lead construction innovation.

Mission

The mission of RCCI is to act as a focal point for addressing the construction industry's research and consultancy needs in construction innovation, in order to bring about a step change in the industry practice.

Operations of the Research Centre

Research Focuses and Objectives

Research Focuses Include:

- ▶ Construction I.T.
- ▶ Project Management in Construction
- ▶ Value Management in Construction
- ▶ Construction Contracting and Regulatory Innovations
- ▶ Construction and Real Estate Law and Policy

Research Objectives

The primary objectives of RCCI are to:

1. Solve practical problems related to the time, cost and quality aspects of a project delivery process in the Hong Kong construction industry.
2. Become one of the leading research centres in Construction Management and Construction I.T.

System of Activity Planning, Management and Control

The Centre is composed of several research groups; namely they are Construction IT; Project Management In Construction; Organizational Behavior in Construction; Value Management in Construction, Construction Contracting and Regulatory Innovations, and Strategic Management in Construction. Each of the research concentrations is coordinated by a senior academic staff member who is responsible for the overall operation and development. Specifically, Professor Albert Chan is responsible for the operation of the research focus of project management in Construction; Professor Edwin Chan is responsible for the research focus of construction contracting and regulatory and policy for green building; Professor Q P Shen is responsible for Value Management in Construction; and Dr HQ Fan is responsible for Construction IT. The executive committee, which includes all the coordinators of the research concentrations, oversees the operation of the whole Centre.

Laboratory and Facilities Back Up

The Centre is supported by a Virtual Prototyping Lab, a Digital City Lab, a Multimedia Lab and a Computer Lab. These labs are maintained by two full-time technicians.

In addition, the Department has a Virtual City Lab, and a CARE centre which also facilitate the activities of the Centre.

Resources for Sustaining the Development and Achievement of the Centre

In 2005, members of the Centre have been allocated approximately HK\$300,000 from the Departmental one-line budget to conduct several research projects. The funding was used to support a number of research projects which are aimed to address the innovative application of IT, value management, new procurement methods as well as legal issues in the construction industry. The projects includes the study of PPP which is an innovative procurement method. The research project aims to investigate how this new method can be better applied in the local construction industry. Another project was to develop a better information flow model for local contractors to adopt and adapt IT systems. How value management as a method can help clients understand design briefing is also studied.

Recently, as a new cell of RCCI and an initiative to experiment the use of digital technologies in building projects, the Digital Building Unit (DBU) (http://www.cvptl.com/eng/about_dbu.htm) has been established as a research platform to explore how to use advanced digital technologies in the planning and design of building projects. This new initiative is supported by Layer Group.