# SMOOTHING BUMPY PROJECTS

## A NEW SOFTWARE TOOL WILL HELP PROJECT MANAGERS STAY ON TARGET. BY BRAD COLLIS

DR KEITH HAMPSON: "A UNIQUE TOOL … TO LIFT CONSTRUCTION INDUSTRY PRODUCTIVITY."

A powerful new software tool is about to give the construction industry the equivalent of a high-tech stethoscope with which to monitor the 'pulse' or general health of major projects, before failing systems cause costly blowouts such as time over-runs or other damaging impacts.

It's akin to having a GP on standby, ready to diagnose any worrying symptoms as a project is progressing; and then suggesting appropriate remedies.

Called Project Diagnostics, the software is a toolkit for project managers or consultants to assess a construction project's condition, identify the areas in which it is not performing up to expectations, and suggest remedial measures.

It has the potential to save the construction industry millions of dollars caused by lost time, cost blowouts, litigation and the effects of bad publicity or loss of reputation.

The software has been developed through the CRC for Construction Innovation by global engineering firm Arup, with Queensland University of Technology (QUT), CSIRO Manufacturing and Infrastructure Technology (CMIT), John Holland Constructions, and the Queensland departments of Public Works and Main Roads.

Project director John Tsoukas, of Arup, says Project Diagnostics serves as an advanced warning system for construction projects: "It gives the client, project manager or other interested parties the ability to reach a sound understanding of the status of a project – through a series of comparisons with recognised industry norms – and then take remedial action if required."

Mr Tsoukas says the toolkit is based on the critical success factors which most influence the success of a project. These are cost, time, safety, quality, environment, stakeholder value and relationships.

"Another advantage is the technology's cost. The fee for using the service is insignificant compared with the potential costs of a failing project," he says.

Project Diagnostics assesses whether the critical success factors are on track, using a series of key performance indicators. Once a critical success factor is found to be under-performing, the root causes are pin-pointed by further assessing a wide range of contributing factors. The software is based on a cyclic mechanism that repeats a particular investigation until the identified problems are remedied.

The project manager for the software's development, Sheldon Sherman, of Arup, says the software tool keeps drilling deeper and deeper through layers of the supply chain until it identifies where performance targets are not being met. It will then analyse this and suggest remedial actions.

"It views success from the supply chain's perspective, not just the ultimate client," he says.

Mr Sherman says Project Diagnostics may become a lifeline for clients and stakeholders who find themselves with a project that is not performing as expected.

The program's methodology was established by a senior researcher in project management at QUT, Daniyal Mian, who worked with CMIT software developer Stephen Egan to assemble the data into a computer program.

The CRC's chief executive officer, Dr Keith Hampson, says it is a powerful and unique tool with the potential to significantly lift construction industry productivity. He says the software can be used as required, or as a procedure for regular check-ups: "It applies to a wide range of procurement methods and all project phases."

Over the coming months, Project Diagnostics will be run through several more case studies to refine the software and to raise its industry awareness before being taken to full commercialisation. □



ROBIN JAREAUX