

Australian invention to revolutionise building design

An Australian 'green calculator' is poised to transform the building and construction industry.

The world-first LCADesign, developed in the Cooperative Research Centre for Construction Innovation (CRC CI), provides property professionals with an instant cost and environmental assessment of any commercial building - straight from its 3D computer graphics.

With future development, the calculator will do the same for the family home, for roads, sewage networks or any major construction project, says the leader of the development team, Dr Peter Newton of CSIRO.

"Working from the 3-dimensional CAD design for a building, the calculator provides an instant display of the volume and cost of all the materials involved in its construction - at the push of a button," Dr Newton explained.

"At the same time, it can calculate the environmental impact of all those materials: how many tonnes of clay were used to make them, how much water, how much energy, and how

cost of alternatives.

At the same time, it helps the builder to select those materials which have the least environmental impact over their lifetime.

"You can see the 'environmental footprint' for the whole building over the lifetime of the materials it embodies. This allows the builder to choose materials which are most effective over their service life, both economically and environmentally.

"It's a genuine world-first - and we're seeing real interest in it from the North American construction industry where there is currently nothing equivalent," Dr Newton said.

"It is also likely to revolutionise the profession of quantity surveying," he added.

Behind the LCADesign tool is an extremely powerful Australian-designed software engine, which searches a constantly-updated register of materials prices and a database of their environmental impact.

The calculator will be trialled by leading construction industry and building design firms, including



Dr Peter Newton, CSIRO

likely to put us at the world's leading edge of sustainable construction."

Construction Innovation envisages commercially releasing the first version of LCADesign following completion of the prototype development in mid-2004.

Chief Executive Officer of Construction Innovation, Dr Keith Hampson, said that the calculator will meet an urgent need in the commercial building industry.

"Our industry is likely to remain a major source of environmental degradation if major steps aren't taken now," Dr Hampson explained.

"Commercial buildings have a substantial and multi-level impact on the environment which is predicted to increase in the next few years. On