

# Showing the way to building innovation

A new consortium known as Evergen – a collaboration between industry, government, CSIRO and other R&D providers – is on a mission to encourage innovation in the construction industry. It wants to facilitate cultural change so that innovation, efficiency, sustainability and project excellence become the norm in Australia.

The built environment matters. While our constructed facilities are easily taken for granted, their nature affects not only the health of those using them, but, indirectly, that of our environment as well. What's more, the building, construction and property industry contributes 10.9% to the Australian Gross National Product and employs 5.7% of the total workforce. The industry's performance has a marked impact on the national economy.



Lord Mayor John So with Cr Kate Redwood (Chair of the Commonwealth Games Infrastructure and Major Projects Committee).

Evolution in the industry, however, has been slow. Various initiatives to adapt performance and practices have largely failed, and the uptake of new technologies has proved difficult.

With this, and the growing push for sustainable development, in mind, the Evergen consortium was formed.

'The idea is to enable firms to deliver innovative, people-

friendly, environmentally sensitive and commercially viable buildings,' says Dr Greg Foliente of CSIRO Manufacturing and Infrastructure Technology. 'This will be done by working closely with key industry stakeholders in an approach that we call *research, development and demonstration*.'

Evergen's primary tasks are to:

- develop 'best-of-breed' building concepts and establish a clearing house for best practice and for innovative products and ideas
- recruit, design and implement demonstration projects, called Evergen Lighthouse Projects (ELPs), to show the way
- conduct technology diffusion activities to transfer technology to mainstream industry
- prepare white papers and recommendations for developing better policy, regulations, taxation schemes, education programs and client demand.

'Evergen offers itself as a platform that could positively and permanently transform the industry,' says Foliente. 'It is about being smart and strategic as opposed to just throwing more resources at building projects – and the industry is ripe with opportunities.'

Firstly, there is worldwide interest in sustainable development. Secondly, there have been numerous and varied technological developments, from nano-materials to computing. Thirdly, there is an increasing desire in the construction industry to become more efficient. After all, a recent Australian Construction Industry Forum survey showed that high innovators consistently achieved better financial and non-financial results than low innovators.

Foliente likens Evergen to a



An artist's impression of the CH<sub>2</sub> building, currently under construction. An environmentally sensitive building, it is predicted that CH<sub>2</sub> will save the City of Melbourne up to \$1.2 million a year due to its improved air quality system alone, and through improved staff productivity and reduced sick leave.

'good virus' that could spread throughout the industry – through ELPs and related demonstration projects – causing symptoms of change and innovation.

The first ELP is the ambitious, 'green' City of Melbourne's Council House building. Ten-storeys high and known as CH<sub>2</sub>, it is due to be completed in 2005. CSIRO researchers associated with Evergen are providing ongoing advice on the design and development of Council House. The landmark building was recently awarded a 6-star (world leader) rating by the Green Building Council of Australia.

CH<sub>2</sub> is a remarkable building. It collects rainwater, recycles its waste, and has a natural breathing system which draws air through an external vegetated stair void. It has thermal storage cells, chilled ceilings and

fabric 'shower towers' – 13 m fabric tubes that feed humid, chilled air into its retail spaces. The vegetated facades form a green microclimate and the building design minimises demand for energy hungry cooling and heating.

The CH<sub>2</sub> building will use only 13% of the energy consumed by the existing council house and produce one-fifth the greenhouse gas emissions. Hopefully, its striking office and retail structure will be the first of many outstanding green buildings in Australia benefiting from Evergen involvement.

**More information:** CH<sub>2</sub> website: [www.melbourne.vic.gov.au/index.cfm?categoryid=5&contentfile=infopage.cfm&topicid=121&infopageid=1234](http://www.melbourne.vic.gov.au/index.cfm?categoryid=5&contentfile=infopage.cfm&topicid=121&infopageid=1234)

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