



# Media Release

Saturday 20 September 2008

## Beijing Water Cube and Freedom Wheelchair take top awards for engineering excellence

The National Aquatics Centre (Water Cube) in Beijing and the Freedom Wheelchair were declared two of the most outstanding engineering achievements at the Engineers Australia's Sydney Division Engineering Excellence Awards gala presentation dinner last night, Friday 19 September.

Arup's National Aquatic Centre project won an Engineering Excellence Award in the Building & Structure category and was also declared the overall winner of the prestigious Bradfield Award.

The Freedom Wheelchair, by Lu Papi & Associates, won Engineering Excellence Awards in the categories of Innovations & Inventions as well as Welfare, Health & Safety, and was then further recognised through the President's Choice Award.

**The National Aquatics Centre** (Water Cube) in Beijing is an exceptional feat of engineering and architecture that has taken its place as one of the world's most iconic and popular structures. It is essentially a structure made from an organic network of steel tubular members, based on the design using the geometry of foam, and clad with translucent ETFE pillows.

The Chair of the judging panel, Norm Himsley, said that Arup's Beijing project is highly innovative, particularly in the selection of the building geometry, development of a highly repetitive structural system, analysis of that system, and selection of the cladding material.

"The design required originality and advanced engineering analysis both in its structural form, variable climate control, energy efficiency, fire management, and external cladding.

"Each of these aspects of the structure required engineering initiative and innovation in many ways extending the boundaries of established practice.

"This landmark project displays the skills of Australian engineering to the world in a high profile environment, and should lead to further export of these services in the future."

**The Freedom Wheelchair**, by Lu Papi & Associates, has been designed to meet the end user's needs and this required innovative thinking incorporating input from wheelchair users, doctors specialising in spinal cord injuries, bio-mechanical engineers, and professional specifiers. The chair has been designed for simplicity of manufacture, for assembly by disabled people, to be sold at a reasonable price, and is ultra light, multifunctional and elegant.

The President of Engineers Australia's Sydney Division, Richard Barnes, highlighted that the Freedom Wheelchair has the capability to revolutionise the lives of wheelchair users.

"It will not only make everyday life simpler for users and carers, but will also open up the prospect of travel that many may only have dreamed of.

"The chair comes in a few versions and the lighter one can be fitted in an aircraft overhead baggage compartment."

The other 2008 EA Sydney Division Engineering Excellence Awards winners were:

*Building and Structures*

- Wembley Stadium, Arch and Roof - Connell Wagner Pty Ltd

*Control Systems and Communications*

- PC3 Series Programmable Controller - OEM Technology Solutions Pty Ltd
- Platform for Intelligent Network Communications (Pinc) - EnergyAustralia

*Education and Training*

- Re-Engineering Australia - Re-Engineering Australia Forum Ltd

*Engineering for Regional Communities*

- Central Tablelands Livestock Exchange - Geolyse Pty Ltd, Brice Engineers Pty Ltd and Regional Infrastructure

*Environment and Heritage*

- Dux Airoheat® - Heat Pump Water Heater - Dux Hot Water

*Infrastructure Projects*

- Chatswood Transport Interchange - Taylor Thompson Whitting

*Products, Manufacturing Facilities and Processes*

- Elektron Quattro Computer Controlled Automated Cutter - Aeronaut Automation Pty Ltd
- UltraCMOS™ Manufacturing - Peregrine Semiconductor Australia Pty Ltd

*Project Management*

- North Mall Development Zone – University of NSW - McLachlan Lister Pty Ltd

*Research and Development*

- The Interfit - Interflow Pty Ltd

*Small Business Ventures*

- QuietWave® The Worlds Highest Rating Environmental Sound Barrier - Acoustic Space Pty Ltd

*Software & Embedded Systems*

- Altium Designer – Altium Limited

Personal awards also presented to individuals were:

*Professional Engineer of the Year* – Professor Hugh Durrant-Whyte

*Young Professional Engineer of the Year* – Scott Powell

*Engineering Student of the Year* – Susan Graham

*Entrepreneur of the Year* – Chris Vonwiller

Winners of these Engineers Australia's Sydney Division awards are eligible for nomination to the 2008 Australian Engineering Excellence Awards to be announced at Parliament House in Canberra on Wednesday 19 November.

Media Contact: John Bright – 0407 234 490 / [jbright@engineersaustralia.org.au](mailto:jbright@engineersaustralia.org.au)

Engineers Australia is the common name of the Institution of Engineers, Australia, with over 86,000 members