ASSOCIATION OF CONSULTING ENGINEERS AUSTRALIA

ACEA: Voice of the Consulting Engineering Industry

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Consulting Engineering

- Consulting engineering comprises of the private sector that provides services to both government and private clients in all fields of engineering, technology and management services.
- A broad and multi-faceted industry encompassing research, planning, design and development of engineering solutions for developing infrastructure, building communities and contributing towards a sustainable environment.
- A least 99 disciplines of engineering offered across the ACEA membership.

Australian Consulting Industry: Quick Stats

- Substantial **contribution** to the **Australian economy**
- **$18 billion** in revenue, equal to **1.9 per cent** to **national GDP** of $909 billion
- **Exports** of the industry's services average **$709 million** per year, nearly **two-thirds** of all construction and related services exports. **1.8 per cent of Australia's total service exports**
- At least **124,000 Australians** are employed in the consulting engineering industry
- Engineering and technology research accounts for just **over half** of the total **expenditure** on **R&D research** in Australia

The Last 10 Years

- Increased government outsourcing to consultants
- Bigger and better projects
- Diverse delivery methods
- Greater emphasis on risk management for contractors and consultants and evolution of risk averse attitude
- Labour shortages

Risk aversion

- Shifting of RISK from the public sector
- Market power
- Onerous terms in public sector contracts leading resulting in the following adverse outcomes:
  - Higher than common law duty of care;
  - Destabilised insurance market;
  - Competition based on risk appetite;
  - Lack of incentive for innovation;
  - Poor project outcomes and increased disputation and cost

Solutions

- Better emphasis on risk analysis and sharing rather than transference
- Retention of the tort and liability reforms: Proportionate Liability and Professional Standards
- Consistency in terms and conditions of contract
- Maintain varied portfolio of project deliver methods
- Early engagement of the project parties, collaboration and communication

Investing in Engineering Skills

- 16+ years of economic growth
- High level government expenditure on infrastructure
- Aging population
- Growing international demand
- Increased regulation/legislative demands (and increased penalties for non-compliance)

Facing the facts

- Domestic engineering graduate numbers have remained relatively stagnant
- 6512 domestic engineering graduates in 1994
- 7984 domestic engineering graduates in 2004
- Many will not practice as engineers
- Children are not inspired to study engineering:
  - Nearly **43% of senior school physics teachers do not have a physics major**
  - **1 in 5 maths teachers had not studied maths beyond the first year**, including 23% of junior school teachers

Solutions

- More funding for better teaching resources and small class sizes
- More teachers qualified in areas of instruction, achieved through incentives
- Mathematics and Science as enabling subjects in the National Curriculum
- More experiments and experiential learning about the built and natural environment
- More information about career paths for mathematics/science students and improved links through education pathways

Other key industry issues

- Infrastructure development and delivery
- Model legislation for uniform Occupational Health and Safety Laws
- Raising awareness and acceptance of Sustainability issues
- National recognition of engineers
- Business taxation
- International trade