About Arup

- Established in 1946 by Ove Arup
- 90 offices in 35 countries
- 10,000 staff globally
- 7 offices in Australia
Beijing Aquatic Centre, China
Design informed by bubbles

1. Cube shape needed to fit programme
2. What structural topography would fill 3D space uniformly?
3. Steel protected from corrosion
4. Largest ETFE structure in the world
1. Insulated greenhouse
2. 90% of incident solar energy trapped in structural zone
3. Energy costs reduced by 30%
Al Bahar Towers, Abu Dhabi
Design for daylight first, consider electric lighting later…
BIQ house Hamburg
Bioreactive facade

1. Controlled algae growth
2. Dynamic shading
3. Heat used for building heating
4. Algae biomass transformed to methane
Sky – Believe in Better Building, London
Timber construction

1. Structure = glulam frame with CLT slabs
2. The net negative carbon sink in the frame = around 5 years of operational carbon
3. 10% saving in span = 20% saving in structural costs
4. Up to 30% programme reductions with dry construction
5. Offsite pre-fabrication ensures quality
One Central Park Sydney

Heliostat – a system of fixed and motorised mirrors and panels to redirect light.
Rokko Observatory, Japan
Passive design

1. Seasonal ice storage
2. Wind driven ventilation
3. Ice crystal formation
The CAVE, Monash University
Advanced visualisation
How does Arup foster innovation?
Founded in 1946 with an enduring set of values, our unique trust ownership fosters a distinctive culture and an intellectual independence that encourages collaborative working.

- Owned by trusts
- Can’t be bought
- No shareholders
The Key Speech

• Google “key speech” to get it!
• Core values and priorities
  • quality of work
  • holistic approach - total architecture
  • humane organisation
  • straight and honourable dealings
  • social usefulness
  • reasonable prosperity
Arup University

Has been established for the creative development of the people, knowledge and skills of the firm.

- Research roadmap
- Invest in Arup
- Skills networks
- Drivers of change
- Technical training
- Doctoral and Masters modules
The one-stop shop for internal funding for development projects. This site also acts as a reporting tool for the current financial year and hosts information on previous years' projects.
• The Future of Aviation
• The Future of Retail
• Campus of the Future
• Living Workplace
• Museums in the Digital Age
“What you have created is unique; I have never seen anything like it! It does reflect the quality of thinking at Arup.”

Edward Will Judge, Senior Manager at TFL

http://www.driversofchange.com/
Approach to design:
1. everything that we do can be done better: do it deliberately
2. start with the widest possible view: what are we trying to achieve
3. look at functionality from a human perspective
4. consider efficiency
5. generate delight

“Design includes creativity, innovation and lateral thinking in addition to more accepted characteristics like reliability, robustness, functionality, on-time, in-budget and profitability”
Design Schools

Developing creative skills and interdisciplinary dialogue

2014 Design School in Sydney
What about mistakes?

“Mistakes are valuable guides: they should not be forgotten or concealed. Rocks and reefs are charted on maps as a warning to sailors – shouldn't we do the same with our mistakes and failures?” – Ove Arup
Thank you

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