About Arup

Established in 1946
Today we have over 10,000 people operating in more than 90 offices
Hong Kong office opened in 1976 having about 1,500 staff
Totally 2,200 staff in East Asia

Xicui Entertainment Complex, Beijing, China

Day-time
Night-time
Combining Solar Cells and LEDs
We are a global firm of engineers, designers, planners and business consultants providing total design, planning, engineering and business solutions.
We shape a better world

We foster a strong culture built on the values and ethos of our founder

- To enhance prosperity and quality of life
- To deliver real value
- To have the freedom to be creative and learn

Sir Ove Arup (1895-1988)
Our unique organisation is owned in Trust by our people
We have been delivering iconic design for over 60 years

Beijing National Stadium & National Aquatics Centre
We are able to tackle the most challenging projects

Stonecutters Bridge, Hong Kong
Hundreds of landmark structures and remarkable consultancy projects
• Collaboration with external partners
• Multi-disciplinary skills

Collaboration Parties
• Arup
• PTW Architects
• China State Construction Engineering Corporation (CSCEC)
• China State Construction International Shenzhen Design Consulting Co
• Collaboration with external partners
• Multi-disciplinary skills

Sustainability

Fire Engineering

Construction Management
Need of Knowledge Management

Demand of High-end Technology

Arup position ourselves at top 10% in the market

Multi-disciplinary Skills

Structural
Geotechnical
Mechanical
Environmental
Transport
Electrical
Civil …

Skills mapping diagram

Drive Innovative Design
Arup Knowledge Culture

Knowledge Creation

Knowledge Sharing

Knowledge Empowerment

Knowledge Culture
Proactive knowledge creation in parallel with knowledge harvesting on client projects

N³: Now, New, Next

- Emerging trends – Drivers of Change
- Thought leadership
- Delivering the agenda

- Needs interpretation
- Knowledge generation
- Delivering IP

- Community
- Operational excellence
- Delivery to projects

‘Now’

‘New’

‘Next’

Foresight

Research

Skills Networks

Commercialisation

Concept

Time
Research & Skills Development

- Roadmapping
  - Drivers, Business Opportunities & Research Elements

Strategic and Proactive Knowledge Creation
Application by related leaders – to ensure meeting business needs (top-down)

Allowing for blue-sky research from all colleagues (bottom-up)

Capture global research findings to avoid reinvent the wheel
Research & Skills Development

- More than 450 research projects per year

Slope Monitoring using Optic Fiber

Fire test for Quake Resistance Facade

Strategic and Proactive Knowledge Creation
Intellectual Property

- Intellectual Property Executive to oversee the development of our IP globally
- Patents (incl. all in patent families): 40
  - Damping systems for high-rise
  - Pocket habitat for green roof
  - Balustrade systems
- Trademarks: 49
  - SPeAR
Foresight – Knowledge of the Future?

**Shaping (Y)our strategy**

*Is your business climate ready?*

2005 was a record year for investment in the renewable energy sector at US$38bn, 27% up on the previous year.

www.ren21.net/globalstatusreport/g2006.asp

**Threat or Opportunity?**
Foresight
Arctic Passages - Implications

- Fuel efficiency and CO₂ emissions
- Panama Canal Expansion
- Untapped resources in Northern Canada

Northwest Passage, Late August 2009
(http://earthobservatory.nasa.gov/IO/ld/view.php?id=40046)

Current world shipping lanes

Threat or Opportunity?

Thought Leadership

ARUP
Drivers of Change
World-leading research disseminated to every employee

Industrial symbiosis

Thought Leadership
Thought Leadership

- Drivers of Change
Thought Leadership

- E.g. SlimCity Knowledge Cards (C40 Partnership)

Smart Energy

Foresight Research
Arup Knowledge Culture

Knowledge Sharing

Knowledge Creation

Knowledge Empowerment

Knowledge Culture
Knowledge Brands

Increasing Value

Insight

Networks

People

Projects

Essentials

Help manage information overload
Contact Details
Expertise
Community
Project Knowledge

Project / Close-out Review

Internal Newsletter

Dinghe Tower: Shenzhen’s Newest Green High-rise
Jiao Zhang and Zeng Chen, Shenzhen

After 10 years intensive construction, the $3.3 billion Shenzhen Central Business District will open. The complex will function as a “green” business hub, providing commercial, retail and residential space for the city. The project is the result of a collaboration between ARUP and our local partner, R&A. The project is one of the best to be built in the district and attracts the attention of developers, which emerged from the economic downturn. The project is a new model for mixed-use development. It is expected to become the catalyst for the development of the district, attracting a variety of businesses and a vibrant community.

Dinghe Tower is located near the Shenzhen Central Business District. The design team, led by ARUP, brought the latest international design into the project. The tower is designed to be a landmark building in the city, symbolizing the growth and development of Shenzhen.

Respecting the urban context and improving urban intensity
With respect to the existing urban context, the tower has a square footprint and its first five floors align with the streets at ground level. An intimate landscape garden has been placed at the southwest of the site, serving as a buffer between the tower and the existing urban environment. The building is designed to have a green roof and solar panels, providing energy efficiency and reduced carbon emissions.

Designing for Shenzhen climate
The design team worked closely with local experts to create a building that is sustainable and energy-efficient. The building is designed to have natural ventilation and shading devices, reducing the need for artificial lighting and cooling. The facade is designed to provide natural light and views, enhancing the quality of the working environment.

Dinghe Tower: Shenzhen’s Newest Green High-rise
Jiao Zhang and Zeng Chen, Shenzhen
Best practice guidance verified and approved by Experts
Platform for colleagues sharing knowledge and experience of a specific skill
Skills
Network
Website
Technical knowledge
Info for marketing
Design tools – spreadsheet, software
Training materials
Skills network forum
What will happen?
Reference links
What is going on?
People involved
Best practice guides
More than a web site......
Forum allows instant response from offices around the world
Using Network Forum for Work

Study on Measures to Reduce Excessive Packaging of Consumer Products in Hong Kong

- During the initial stage of the Study, forum was used to collect overseas views in respect of the excessive packaging.
- Fruitful findings in terms of environmental, economic and social perspectives were obtained.
Networks

- Coordinated by Network Leaders

- Global Networking
- Mentoring
- Best Practice
- Lessons Learnt
- Discussion Forum
- Businesses
- Career Development
- Training
- Collaboration

ARUP
Network Activities

Tall Building Education Workshop: CCTV - a multi-disciplinary workshop

More than 200 skills training activities in 09/10

Structure

Fire

MEP
Which learning activities facilitated by your network do you find most beneficial?
Technical Publications

ARUP Technical News

Annual Design Year Book

Quarterly Arup Journal

Arup Technical News
Design & Technical Excellence Awards 2010

- To commend creative solutions
- To share the best knowledge
Arup University

- Cross-discipline training
- Course accreditation process
- Meeting business and personal development needs

Build upon our years of experience in organizing

- Continuous Professional Development
- Management and Leadership Training
The Arup Fellows Lecture series are an opportunity for the Arup Fellows to give their unique perspectives on their work at Arup and their many and varied influences. These lectures represent personal journeys, and are very much a celebration of what it is like to be an Arup Fellow.
Innovation

Design School
- Annual 3-day event in a hotel focusing on design & innovation

Design Competition
- Invite wild but feasible engineering solutions

Rethinking Design - Antiquity versus Modernity
The 2008 East-Asia Design School will focus on rethinking the concept of a scale model, as well as the traditional design and building materials. Two challenges to design and build structures from rapidly renewable materials that can be grown in under a year.
Industry/Community Network

ARUP

Community
- Poverty Action Network (PAN)
- Forums/Workshops

Universities
- colleagues as part-time lecturers
- colleagues served as members of industrial advisory boards
- colleagues collaborating with professors in various research projects

Professional Associations

Chairmen /Committee members of
- various sub-divisions of HK Institute of Engineers
- The Institution of Highways and Transportation (HK Branch)
- HK Green Building Council
- HK Accreditation Service
- HK Construction Industry Council, etc……

Forum at HK-Shenzhen Bi-city Biennale of Urbanism/Architecture
Using Knowledge for Corporate Social Responsibility

Wu Zhi Qiao Design
Competition Winning Design
Arup Knowledge Centre

- Full-time librarians
- Technical paper
- Publication
- Design codes
- Bidding support
- News Clipping
- Knowledge coaching
Knowledge Handbook

- Telling colleagues how to use Arup Knowledge Tools
Knowledge Strategy & Executives

Design & Technical Executive
Knowledge Team
East Asia Knowledge Activist
East Asia Knowledge Enthusiast

Arup Fellow
Network Leader
Arupian

Together, We develop the Arup Knowledge Culture
Selection of Knowledge Management Award

- Asian Most Admired Knowledge Enterprise (MAKE) Award Winner (2010)
- Hong Kong MAKE Award Winner (2010) - Top Winner
- Short listed Management Consulting Association Award (2009)
- Innovation in Knowledge Management Award Winner (2006)
- Best Business Partner in Using Communities of Practice to Drive Organisational Performance & Innovation Award (2005)
- Innovation in Knowledge Management Award Winner (2003)
- Knowledge Management Project of the Year Runner Up (2002)
MTRC Knowledge Management

Arup helped MTRC’s Projects Division:

- Align Knowledge & Information Management (K&IM) with corporate strategy
- Connect people, enhancing explicit and tacit knowledge sharing
- Capture lessons learnt and avoid reinventing the wheel
- Enable a collaborative working culture across a multi-project organization
- Develop a communications programme to promote engagement
- Ensure K&IM became part of normal activities

“Overall the project has delivered more than I had hoped for.”
Malcolm Gibson, Head of Project Engineering, MTRC
Thank You