

## Terry Hill

**T**erry Hill is Chair of Arup, a global design and business consultancy involved with such projects as the MG Rover sale, the Channel Tunnel Rail Link and the award winning Swiss Re building. His role is to ensure the delivery of the best in building, infrastructure and technology consulting to clients throughout the world, and he has made a successful career in Arup guiding the strategic direction of large, complex and challenging projects.

In November 2005, Terry was appointed as founding Chairman of the Construction Sector Advisory Group (SAG), created by UK Trade & Investment (UKTI) to increase the prominence of UK construction in established and emerging markets across the world.

Terry has a background in civil engineering and economics, and previously led Arup's Infrastructure Division, where his role centred on consulting, infrastructure and managing major schemes.

**ISO Focus:** As a world-leading consultancy, how do you see the role of International Standards versus national, regional or industry standards as a key to competing in global markets?

**Terry Hill:** Given the broad scope of work Arup undertakes, we have an intense interest in standards, whether national, regional or international. From an operational point of view, we apply ISO 9001 and ISO 14001 across our entire business, in 32 different countries. These Inter-



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national Standards have enabled us to devise a framework for our management systems and their environmental impact measurements that allows us to operate to the same high level, consistently throughout the company. They make it possible for us to create seamless working groups throughout our group and support the holistic approach for which Arup is renowned – health and safety should be brought within the same scope.

As consultants, we collaborate with clients throughout the world in vastly different markets, each with their

own set of national or regional standards that meet local requirements – guidelines for snow-loading on buildings, for example, are crucial to Germany, yet have little relevance to Hong Kong, China. Therefore on individual projects, national standards are often more appropriate to our needs than regional or International Standards.

Where our relationship to standards becomes more complicated is that fundamentally, we strive to bring excellence, technical competence and strength of skill to all they do, which frequently involves challenging the accepted consensus either at a national or international level. Because of this, we do

not have a policy within Arup insisting people conform to standards, aside from ISO 9001 and ISO 14001, although some of our services, such as Vehicle Design, benefit from doing so. As a rule, our rep-



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utation has been earned through rigorous self-regulation.

International Standards can create a level playing field from a safety, environmental and working practices point of view and provide a useful benchmark when operating in the global marketplace. However, in order to operate effectively alongside clients, suppliers and partners from across the world, it is often more useful to refer to a set of localized working standards. Rather than creating a case for International Standards versus local standards, I would argue that any global company should have an understanding of both international and regional standards and where the benchmark is too low to be of practical use, exceed them.

**ISO Focus:** According to the study published by the UK Department of Trade and Industry and the British Standards Institution (BSI), standards contribute GBP 2.5 billion per annum to the country's economy. What are, in your view, the benefits of adopting International Standards and participating in their development?

*The Millenium Bridge in London, England.*

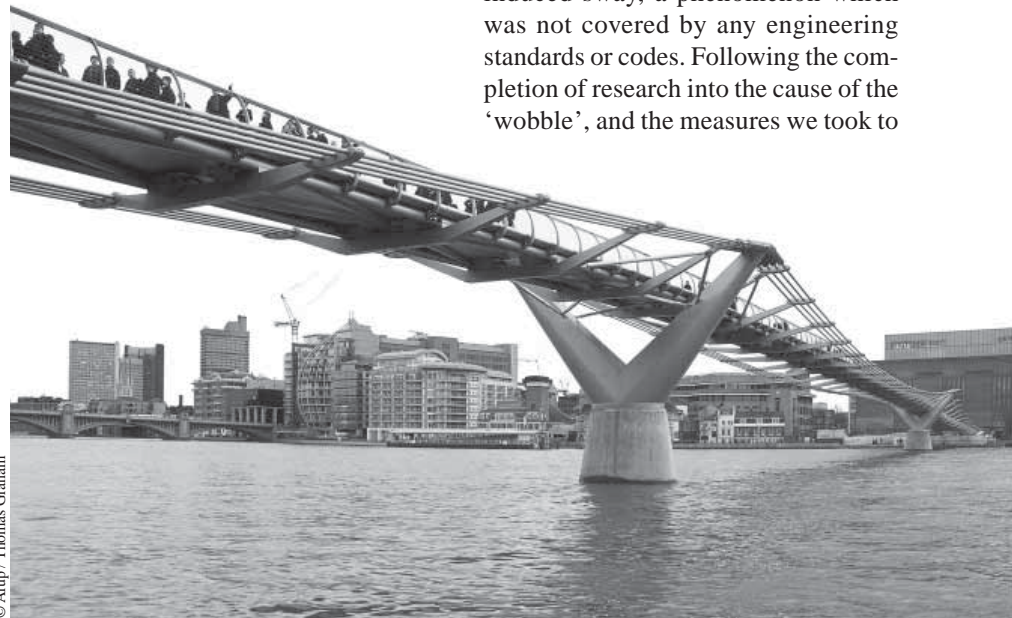
*Computer generation of how the Marina at Dongtan Eco-City, Shanghai, might look.*

**Terry Hill:** Although it is not always appropriate for us to apply them directly to our work, we support the progressive harmonization of standards because they make it much easier to operate globally. The greater the base-level consensus on International Standards, the easier it is to cite examples and offer clients a measure of the degree to which we are trying to exceed them.

We are proud to be world experts in a broad range of engineering, planning and consulting disciplines, and Arup has constantly pushed these boundaries.

Our founder, Ove Arup, instilled in the firm an ethos of helping shape a better world, and participating in the development of standards is a practical way in which we can deliver real value to this, while continuing to grow our own design and technical base by adding new skills and capabilities.

Our engineering work on London's ground-breaking Millennium Bridge is a good example of how we participate in the development of standards. On completion, the bridge was found to have excessive pedestrian-induced sway, a phenomenon which was not covered by any engineering standards or codes. Following the completion of research into the cause of the 'wobble', and the measures we took to



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Central Television Tower in Beijing, China.

solve the problem. The team responsible authored a report setting out for the first time the theoretical and practical methodology by which designers can check their designs for this effect, thus leading to safer and better footbridge designs worldwide. We submitted this research to be written into British and European standards and, in turn, it will make its way into the ISO system.

My experience to date indicates that this outlook is unique to Arup and it will not suit every company to share its research in this way; however, it is shortsighted for any company with an eye on becoming a global player, to ignore and fail to participate in International Standards and their development. We must take collective responsibility for ensuring standards evolve at an appropriate pace and that outdated regulations are reviewed. If we don't do this, we will find ourselves in the situation where innovation and progress are stifled.

**“If devised and worded appropriately, International Standards should serve to foster and harness innovation.”**

*ISO Focus: Global markets offer many opportunities, but require innovation to be successfully delivered. What is the role of standards for the successful dissemination of innovation? How does Arup promote the use of International Standards to anticipate and conquer markets for products and services?*

**Terry Hill:** If set high enough, standards associated with performance and use can drive innovation, by setting the challenge of meeting new requirements without affecting other aspects of a product or project – providing an opportunity to raise the game. This is certainly the case with our Vehicle Design team who often work on single products that have to satisfy multiple markets. Our clients

in this sector look to us to help them achieve the required levels and gain the edge over their competitors, as the bar is pushed ever-higher.

One of the challenges that ISO faces is the speed at which consensus is achieved between its member bodies when agreeing new standards. The speed with which companies are able to innovate must be matched by the evolution of standards; if it takes ten years to adopt a worldwide standard, there is a danger that it will lag behind the innovation as with the Millennium Bridge example, rather than spur the use of new techniques and development of fresh solutions.

Arup promotes International Standards almost as a by-product of being an international organization that complies with, and exceeds, global and local standards.

*ISO Focus: How can the use of ISO standards allow the UK construction industry sector to survive, innovate and grow in an ever changing world?*

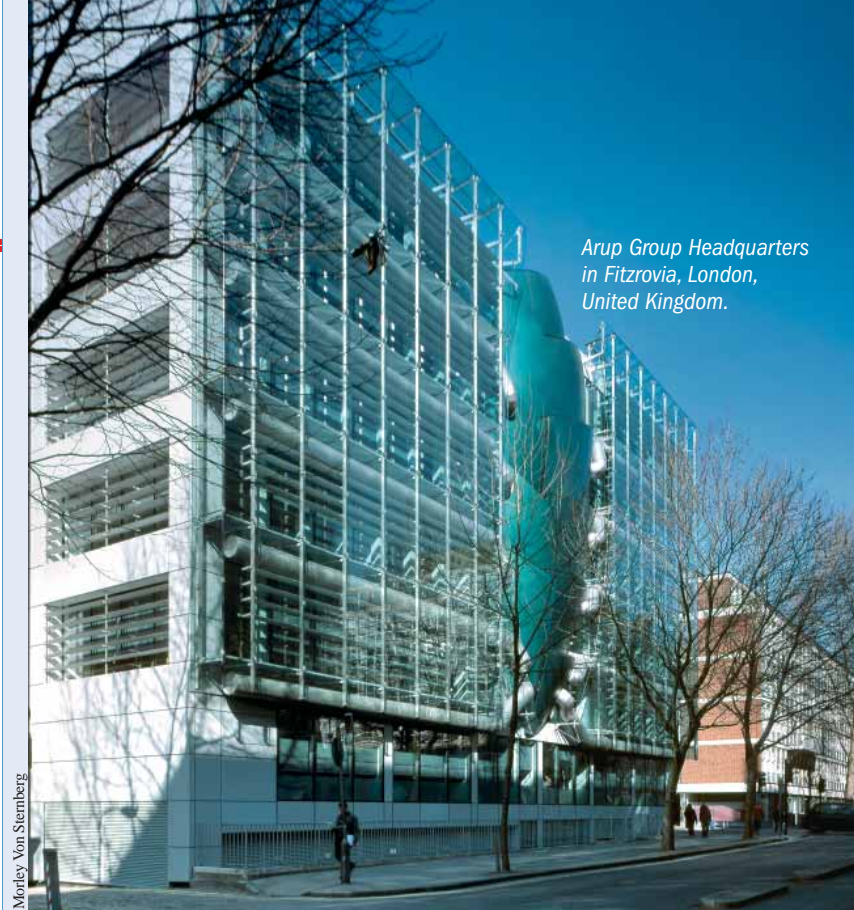
**Terry Hill:** This comes back to the issue of global markets and regional requirements. If the UK wants to effect change and have a positive impact on global developments, then the country's construction industry must play an active role in using and contributing to ISO standards. The creativity that we have in the UK – and particularly in the construction industry – is a great breeding ground for pushing forward new and improved standards. The UK engineering sector has truly worldwide capabilities for design and innovation, qualities which are important elements to any global standard.

**“International Standards provide a useful benchmark for when operating in the global marketplace.”**

International Standards provide us with the tools to meet the important changes happening in the world. There are several aspects to this: standards enable us to help our customers raise their own standards, which in turn can help to improve those International Standards; standards also enable us to move forward with innovation in design. As the market becomes ever more global, it is important that standards are harmonized. Yet it is also important that the standards process doesn't become too clinical and sterile. However, if devised and worded appropriately, International Standards should serve to foster and harness innovation.

**ISO Focus:** *Arup is a partner with the Global Reporting Initiative – an official collaborating centre of the United Nations Environment Programme (UNEP) working in cooperation with UN Global Compact. What added value would you see in the International Standard giving guidelines on social responsibility being developed by ISO (cf. ISO 26000)?*

**Terry Hill:** As both the Global Reporting Initiative and the UN Global Compact are based on voluntary use by organizations, there are few means of independ-



Arup Group Headquarters in Fitzrovia, London, United Kingdom.

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### About Arup

With its origins as consulting structural engineers working on flagship buildings such as the Sydney Opera House and the Pompidou Centre in Paris, Arup has evolved in the last 60 years to become a global firm of designers, engineers and business consultants. 2006 is Arup's 60<sup>th</sup> year, with the firm now employing over 7 000 staff worldwide, in more than 70 offices in over 30 countries.

Arup is a truly global firm, with a design portfolio that ranges from concert halls to galleries, automobiles to infrastructure, and structural to environmental engineering. Arup is recognized as a creative force in the market, a position it holds by constantly evolving its skill base to reflect the diversity of both its clients and staff.

This holistic approach is one of Arup's greatest assets and enables the firm to provide sustainable solutions for its clients. Example projects include the master planning and design of Dongtan, the world's first sustainable city in Shanghai, the redesign of the route taken by Channel Tunnel Rail Link to encourage the regeneration of south east England, and the groundbreaking engineering work Arup is undertaking on landmark buildings for the Beijing Olympics in 2008, including the Stadium, National Swimming Centre and the Chinese Center Television (CCTV) tower.

ently assessing how these initiatives are actually complied with in practice. The same applies to a number of national initiatives in this area, which are also self-assessed, with little validation.

There is a need for a common set of agreed indicators for social responsibility which are transparent and independently verifiable. While I welcome the intent of ISO 26000 to give harmonized, internationally agreed guidance for social responsibility implementation, my understanding is that the standard will

not be used for certification. We already have a proliferation of guidelines in this area and I would like to see the industry taking the next step forward with the introduction of validation and compliance checking for social responsibility. This would bring real added-value to the consulting sector. ■

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