

# Shaping a Better World

An Interview with  
**Mahadev Raman, Chairman-Americas Region, Arup**

**EDITORS' NOTE** Mahadev Raman is also a director of Arup Group Limited and an Arup Fellow. He is a mechanical engineer by profession and has been in practice for 35 years. Selected projects include the Austrian Cultural Forum in New York; Simmons Hall at Massachusetts Institute of Technology; the United Nations Capital Master Plan; the European Court of Human Rights in Strasbourg, France; the Kimmel Center for the Performing Arts in Philadelphia; Terminal 4 at JFK International Airport in New York; and Kansai International Airport in Osaka, Japan. Raman serves on the board of British American Business. He is a member of The Partnership for New York City, and is President of the charity American Friends of Cecily's Fund. He is a faculty member at Princeton University School of Architecture and serves on the Advisory Board for WPI's new Architectural Engineering Program.



Mahadev Raman

**COMPANY BRIEF** Arup ([arup.com](http://arup.com)) is an independent firm of designers, planners, engineers, consultants, and technical specialists offering a broad range of professional services. Founded in 1946 with an initial focus on structural engineering, Arup first came to the world's attention with the structural design of the Sydney Opera House, followed by its work on the Centre Pompidou in Paris. Arup has since grown into a truly multidisciplinary organization. Its work for the 2008 Olympics in Beijing reaffirmed its reputation for delivering innovative and sustainable designs that reinvent the built environment. The firm is owned in trust on behalf of its staff.

**What is the secret to this company's success year after year?**

The ownership structure. The initial partners gave up their ownership and vested the ownership of the firm in a couple of trusts. The beneficiaries of those trusts are employees of the firm, past and present.

So as a result, we don't face the same pressures in terms of shareholders and ownership transitions. We have also maintained solvency, so we don't have bankers breathing down our necks.

This enables Arup to focus on the work and put the quality of what we're doing before all other considerations.

**How broad is the range of services the firm provides and how have they evolved?**

They have changed over time. When the firm started, it was a pure structural engineering consultancy. We now offer in excess of 40 distinct disciplines.

You could look at the business as covering three broad areas: the buildings sector, which is about the design of buildings of all types; the infrastructure sector, which is about roads, bridges, rail, highways, airports etc.; and consulting disciplines, where we're providing high-level advice as well as specialist technical advice, as in acoustics, fire engineering and lighting design, applicable to both building and infrastructure projects.

There are other increasingly important disciplines for us like transaction advice, where we assist firms that provide funding for projects to assess the viability of a project and to help set up the funding for it.

**Within the Americas, where will Arup's growth come from?**

Growth in the Americas is strategically important to us, and one of the main reasons for it is that we have a growing cadre of people who joined the firm straight out of college, much like I did 35 years ago. They are all moving up well, and we'd like to see them stay. To provide career opportunities for them, we have to grow in size.

A metric for this could be a comparison to other markets. The U.K. is our most mature market. If you were to extrapolate Arup's level of market penetration there to the Americas, we would need to be around 20,000 people here. We're at 1,200 now, so the potential is there. We think there are enough projects we would be good at doing for us to grow for the foreseeable future.

**How close is the coordination for the firm region to region?**

The ethos of the company is uniform everywhere, and the reason is that we have generally grown organically. When acquisitions take place, they're usually in the context of a small group of people joining a larger office rather than our taking over and putting a new name on the door.

Communication within the firm is very important, and we have many different types of networks. All of our disciplines have a skills network associated with them, and membership is global. This kind of networking keeps the firm unified internally.

Externally, you have to speak to your particular market, and this is not just in reference to geography. The messaging is client-based so we look at

particular client communities and present to them based on their needs and interests.

**What does the phrase "Shaping a Better World" mean for Arup?**

It's an aspiration.

Sustainability is a key part of it, as is resilience. In the beginning, when the new structure of the firm with these trusts was set up, our founder made a speech during which he articulated six aims for the firm. Very high among those aims are quality work and social purpose.

Social purpose can be different things in different places. In South Africa, where we have a large practice, the single most important issue in terms of social development is electric supply. Once you have power, you gain other benefits in areas like sanitation, quality of life, and education.

The problem is that the easiest way to supply power in South Africa is by burning coal which, in an American context, would be terrible because it's adding to an already large carbon dioxide burden. But in South Africa, where the per-capita carbon dioxide emissions are low, the social benefits of coal-fired power would seem to outweigh the impact on climate change.

Because of these nuances, it's hard to completely define what "Shaping a Better World" means.

**How much is technology affecting the way you operate?**

Staying on top of technology has been a key differentiator for us. We try to stay on the cutting-edge of developing new technological tools to bring into the industry and developing new capabilities that perhaps don't currently exist.

There is a great example of something developed in the New York office a decade ago called the Arup SoundLab, which provides the ability, through digital technology, to recreate the acoustic environment within any kind of space. It's used mainly for the design of concert halls and other acoustically sensitive spaces.

**How critical is the public/private partnership to your goal of "Shaping a Better World"?**

I see P3 projects gaining favor and much of this has to do with the diminishing ability of public authorities to fund large projects by themselves.

It's important that those partnerships be set up correctly though; if the funders don't have the ability to mold the projects such that they can generate a return on their investment, then that project won't be attractive. Meanwhile, the procuring authority has to ensure that the asset fulfills the public need and will remain fit for purpose at the end of the funding cycle. It's a delicate balance. ●