



## News Release

# V&A to present Engineering Season including major exhibition on Ove Arup and installation by Achim Menges with Jan Knippers

V&A Engineering Season

18 May – 6 November 2016

[vam.ac.uk/EngineeringSeason](http://vam.ac.uk/EngineeringSeason) | [#EngineeringTheWorld](https://twitter.com/EngineeringTheWorld)

The first major retrospective of the most influential engineer of the 20th century and a site specific installation inspired by nature and fabricated by robots will be the highlights of the V&A's first ever Engineering Season, complemented by displays, events and digital initiatives dedicated to global engineering design. The V&A Engineering Season will highlight the importance of engineering in our daily lives and consider engineers as the 'unsung heroes' of design, who play a vital and creative role in the creation of our built environment.

A newly-commissioned Garden installation by experimental architect Achim Menges with Moritz Dörstelmann, structural engineer Jan Knippers and climate engineer Thomas Auer will launch the Season. Their first ever public commission in the UK, *Elytra Filament Pavilion* will explore the impact of emerging robotic technologies on architectural design, engineering and making. Inspired by a lightweight construction principle found in nature, the fibrous structures of the forewing shells of flying beetles known as elytra, the Pavilion will be an undulating canopy of tightly-woven carbon fibre cells created using a novel robotic production process. The Pavilion will grow over the course of the V&A Engineering Season in response to data on structural behaviour and patterns of inhabitation of the Garden that will be captured by real-time sensors in its canopy fibres. At select moments, visitors will have the opportunity to witness the Pavilion's construction live throughout the Season as new cells are fabricated in-situ by a Kuka robot. Menges' and Knippers' institutes at Stuttgart University are pioneering the integration of biomimicry, robotic fabrication and new materials research in architecture and have recently completed several innovative projects in Germany.

*Engineering the World: Ove Arup and the Philosophy of Total Design* will explore the work and legacy of Ove Arup (1895-1988), the most significant engineer of the 20th century. Ove pioneered a multidisciplinary approach to design that has defined the way engineering is understood and practiced today. Spanning 100 years of engineering and architectural design, the exhibition will be guided by Ove's writings about design and include his early projects,

such as the Penguin Pool at London Zoo, as well as renowned projects by the firm including Sydney Opera House and the Centre Pompidou in Paris. Arup's collaborations with major architects of the 20th century pioneered new approaches to design and construction that remain influential today, with the firm's legacy visible in many buildings across London and around the world. It will also showcase recent work by Arup, from major infrastructure projects like Crossrail and novel technologies for acoustics and crowd flow analysis, to engineering solutions for open source housing design.

Through previously unseen prototypes, models, archival materials, drawings, film and photography, as well as a host of new immersive digital displays featuring animations, simulations and virtual reality, the exhibition will uncover the untold design stories behind some of the world's most recognisable buildings and the engineering trends shaping the world we live in.

Martin Roth, Director of the V&A said: *"We may not know it, but engineers organise the world we live in. Our lives are reliant on visible and invisible systems conceived, built, run or facilitated by the many disciplines of contemporary engineering. The V&A Engineering Season is a clear statement in our renewed interest in industrial design and the engineer. It builds on our industrial design heritage and reflects the crucial role of engineering in the development of the V&A. Through collaborating with pioneering engineers and architects, such as Achim Menges and progressive consultancies such as Arup, the season will celebrate the wonder and importance of engineering in our lives."*

Achim Menges, said: *"Remember the impact that the first industrial revolution here in England had on architecture, as strikingly expressed in the Victorian Greenhouse? With Elytra: Filament Pavilion, we aim to offer a glimpse of the transformative power of the fourth industrial revolution currently underway, and the way it again challenges established modes of design, engineering and making. Built entirely from robotically produced fibrous systems, the Pavilion will intensify the visitor's experience of the V&A's Garden by providing a differentiated and evolving space. Its intricate, filament canopy is at the same time architectural envelope, load-bearing structure and environmental filter, which will extend and transform over time."*

A series of major cutting-edge engineering projects from around the world by British engineering firms such as AKT II, Atelier One, Buro Happold, Expedition Engineering and Jane Wernick Associates will be showcased in the free display *Mind over Matter* in the V&A + RIBA Architecture Gallery opening on 15 June 2016. These projects reflect London's status as an engineering capital and Britain as a world leader in creativity and design. Other activities in the V&A Engineering Season will include an Exhibition Road Engineering Residency supported by the National Lottery through the Heritage Lottery Fund; a themed Friday Late; a series of

lunchtime and evening lectures; talks and gallery tours, as well as a Symposium about biomimicry, design and engineering with a keynote lecture by Achim Menges.

- ENDS -

### Notes to Editors

- The exhibition *Engineering the World: Ove Arup and the Philosophy of Total Design* runs from 18 June – 6 November 2016. Tickets will go on sale in April 2016. Admission £7 (concessions available). V&A Members go free. Advance booking is advised – this can be done in person at the V&A; online at [vam.ac.uk/EngineeringSeason](http://vam.ac.uk/EngineeringSeason); or by calling 0800 912 6961 (booking fee applies).
- *Elytra Filament Pavilion* is created by Achim Menges with Moritz Dörstelmann (ICD University of Stuttgart / Achim Menges Architect), Jan Knippers (ITKE University of Stuttgart / Knippers Helbig Advanced Engineering) and Thomas Auer (Transsolar Climate Engineering / TUM). Commissioned by the V&A, it will be on display in the John Madejski Garden from 18 May – 6 November 2016. Admission is free.

**This exhibition is made possible with the cooperation of Arup**

### About Achim Menges

Achim Menges is a registered architect and professor at Stuttgart University where he is the founding director of the Institute for Computational Design. He is also currently Visiting Professor in Architecture at Harvard University's Graduate School of Design. His work based on an interdisciplinary approach in collaboration with structural engineers, computer scientists, materials scientists and biologists and demonstrates an innovative alliance between the fields of architectural design, engineering and natural sciences. His practice and research focuses on the development of integrated design processes at the intersection of morphogenetic design computation, biomimetic engineering and computer aided manufacturing that enables a highly articulated, performative built environment. His projects and research have received many international awards and form parts of several renowned museum collections, including that of the Centre Pompidou in Paris. [www.icd.uni-stuttgart.de](http://www.icd.uni-stuttgart.de); [www.achimmenges.net](http://www.achimmenges.net)

**For further PRESS information about the V&A's Engineering Season please contact Laura Mitchell in the V&A press office on +44 (0) 20 7942 2503 or email [l.mitchell@vam.ac.uk](mailto:l.mitchell@vam.ac.uk) (not for publication).**

**A selection of press images are available to download free of charge from [pressimages.vam.ac.uk](http://pressimages.vam.ac.uk)**

