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FROM A POETIC VISION TOWARDS A PROGRAMMED REALITY

Construction of a 6 meter large Light-Test Model of Jean Nouvel's Louvre Abu Dhabi

Jean Nouvel has a subtle and ingenious vision for the planned branch of the Louvre museum in Abu Dhabi: a gigantic dome, 180 meters in diameter, perforated by layers of superimposed cladding patterns, will filter the blazing desert sun onto the white museum gallery buildings below. The architect calls this virtuoso effect his „rain of light“.

Realizing an aesthetic vision such as this one necessitates a targeted approach, requiring to test the lighting conditions on a large-scale, architectural model beforehand. Building a replica of this seemingly clear, primary geometric shape of a spherical segment at scale 1:33 has an intrinsic complexity which is not apparent from the outset: 15000 precisely manufactured aluminum and stainless steel parts had to be planned, produced and assembled at the highest quality, all within a time-frame of less than 6 month. Achieving such a feat necessitates a rational approach, and the development of efficient geometric optimization algorithms are indispensable, which is why the German company One-to-One GmbH, Frankfurt/Main, which specialized in the development and deployment of custom-made software-tools in design-related fields, had thus been entrusted.

Working closely with Ateliers Jean Nouvel and their guidelines, the company One-to-One coordinated the construction of the model within an interdisciplinary collaboration: In symbiosis with the company Georg Ackermann GmbH, Wiesenbronn, whose competence in fabrication consists of an outstanding mixture between technical innovation and traditional craftsmanship, as well as with the experienced model-makers of honkahe interior+furniture, Nuremberg, the model was planned, assembled and brought to completion. The three companies have collaborated on similar projects before, building, for example, large-scale acoustical models for Herzog & de Meuron's Elbphilharmonic and Ateliers Jean Nouvel's Philharmonie de Paris.

The model was manufactured and constructed in Wiesenbronn, Germany (near Würzburg) and transported by air to the United Arab Emirates. In mid-November of 2009, Jean Nouvel, in the presence of the press, was first able to successfully test the subtle interplay of light in Abu Dhabi, at the same location on Saadiyat Island which will celebrate the opening of the museum in approximately three years from now.

Press information

- For high resolution images, press releases and further information please contact Benjamin S. Koren: koren@1-to-one.com.
- For further information on 1:One | Computational Geometry, please visit www.1-to-one.com

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NOTES TO EDITORS

Company Profile

1:One | Computational Geometry specializes in delivering custom computational solutions for complex design projects at all scales. With the aid of advanced computational techniques, custom algorithms and software programs, 1:One | Computational Geometry offers consultancy services during design stage, as well as programming and modeling services during the realization of projects. By utilizing parametric techniques for non-standard geometries, and developing automation and optimization algorithms that are fully integrated into the computer aided manufacturing process - projects can be realized faster, more reliable, with greater precision and at a reduced cost.

1:One | Computational Geometry's main office is centrally located in Frankfurt/Main, Germany, wherefrom it can draw on an ever increasing network of specialized, high-tech manufacturing firms within the heart of Europe. 1:One's London office maintains close relationships with leading architectural offices.

Biography

Benjamin S. Koren was born in Frankfurt/Main and grew up in Miami, Florida. An avid, autodidactic programmer since learning how to code in BASIC at age 5 on his Commodore 64, he studied architecture, film and jazz piano at the University of Miami and the Architectural Association in London, at which he was awarded a Bronze Medal commendation, an SOM fellowship and the iGuzzini Award at the 2005 RIBA President's medals for his project entitled "Harmonic Proportion in Amorphic Form". He went on to work as a programmer for the Advanced Geometry Unit at Arup in London and for Herzog & de Meuron in Basel and Hamburg. He is the founder and Managing Director 1:One | Computational Geometry.

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