



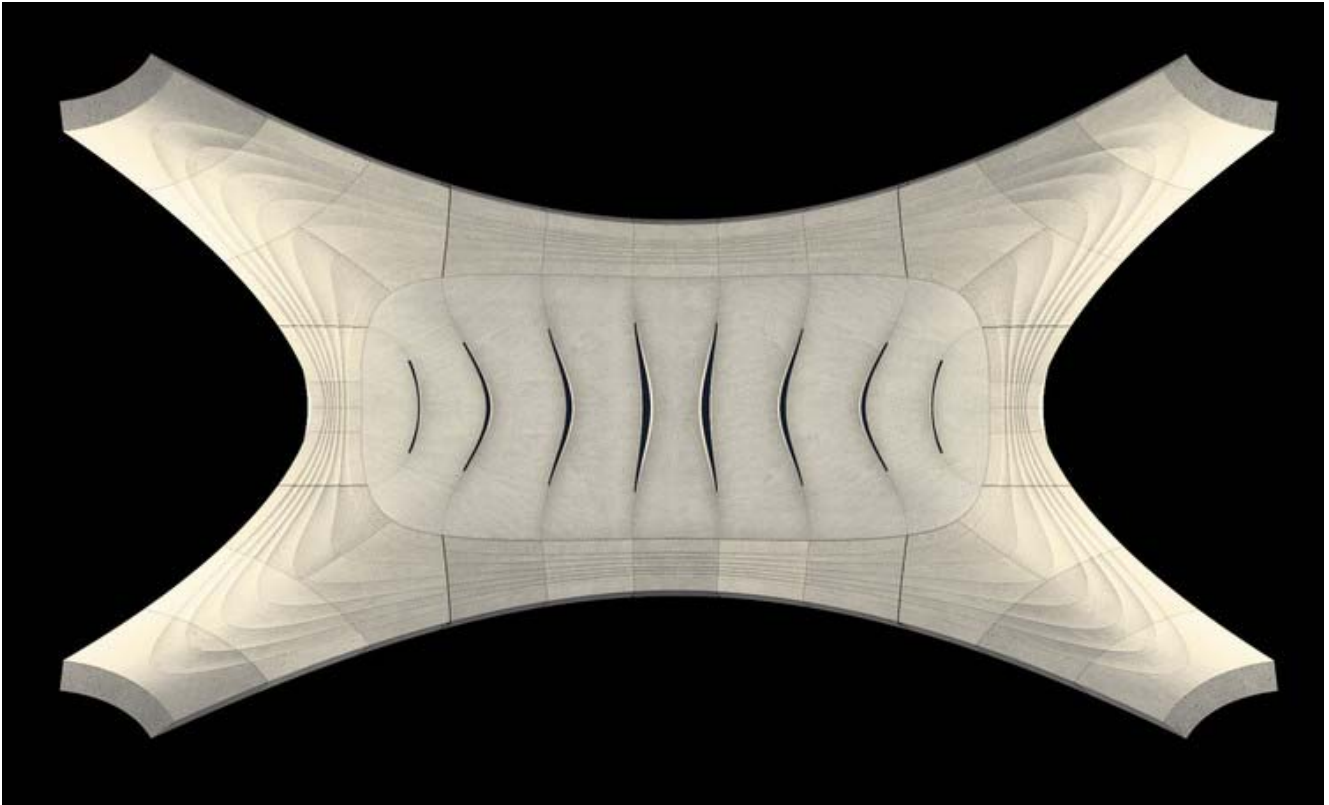
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Stone Pavilion Uses Traditional Form And Technology To Connect Past to Present

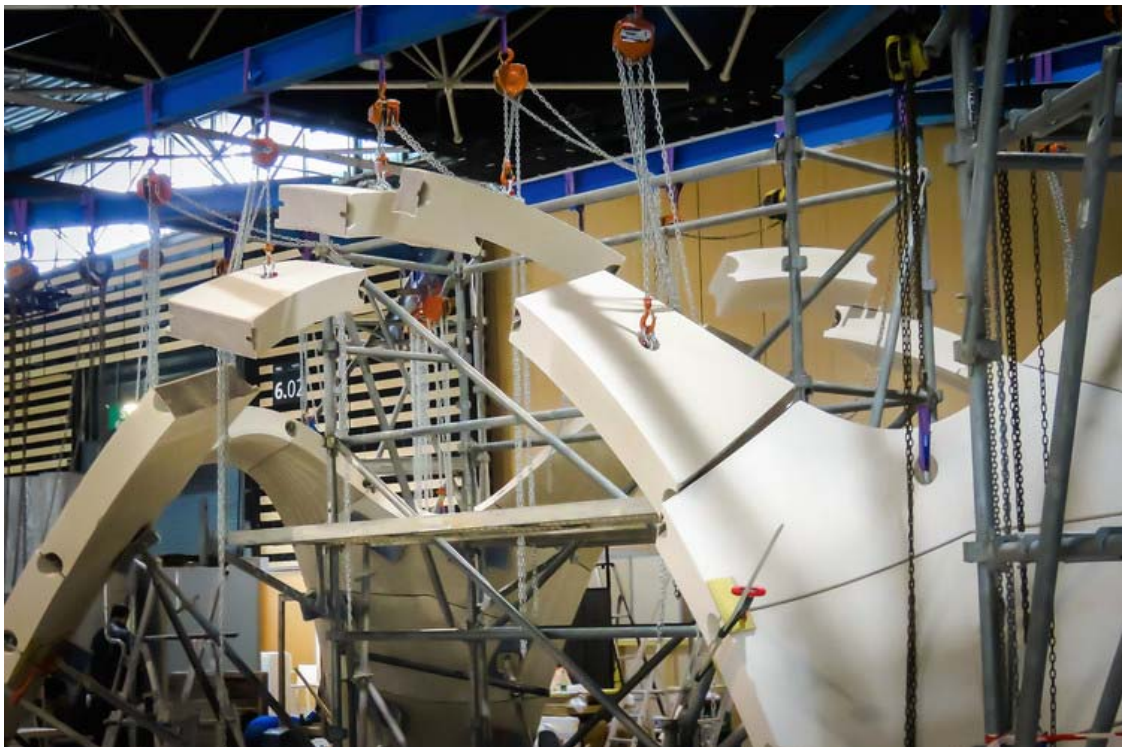
, by [Lindsey Leardi](#)



New Fundamentals Research Group, in partnership with S.N.B.R., designed and fabricated a stone vaulted pavilion for Rocalia, a natural stone (ANSTRUDE) fair held in Lyon last month. At a total area of 36 square meters and 3.20 meters in height, Flux reconnects the past to the present by combining traditional sculptural design with contemporary fabrication processes.



Bottom View

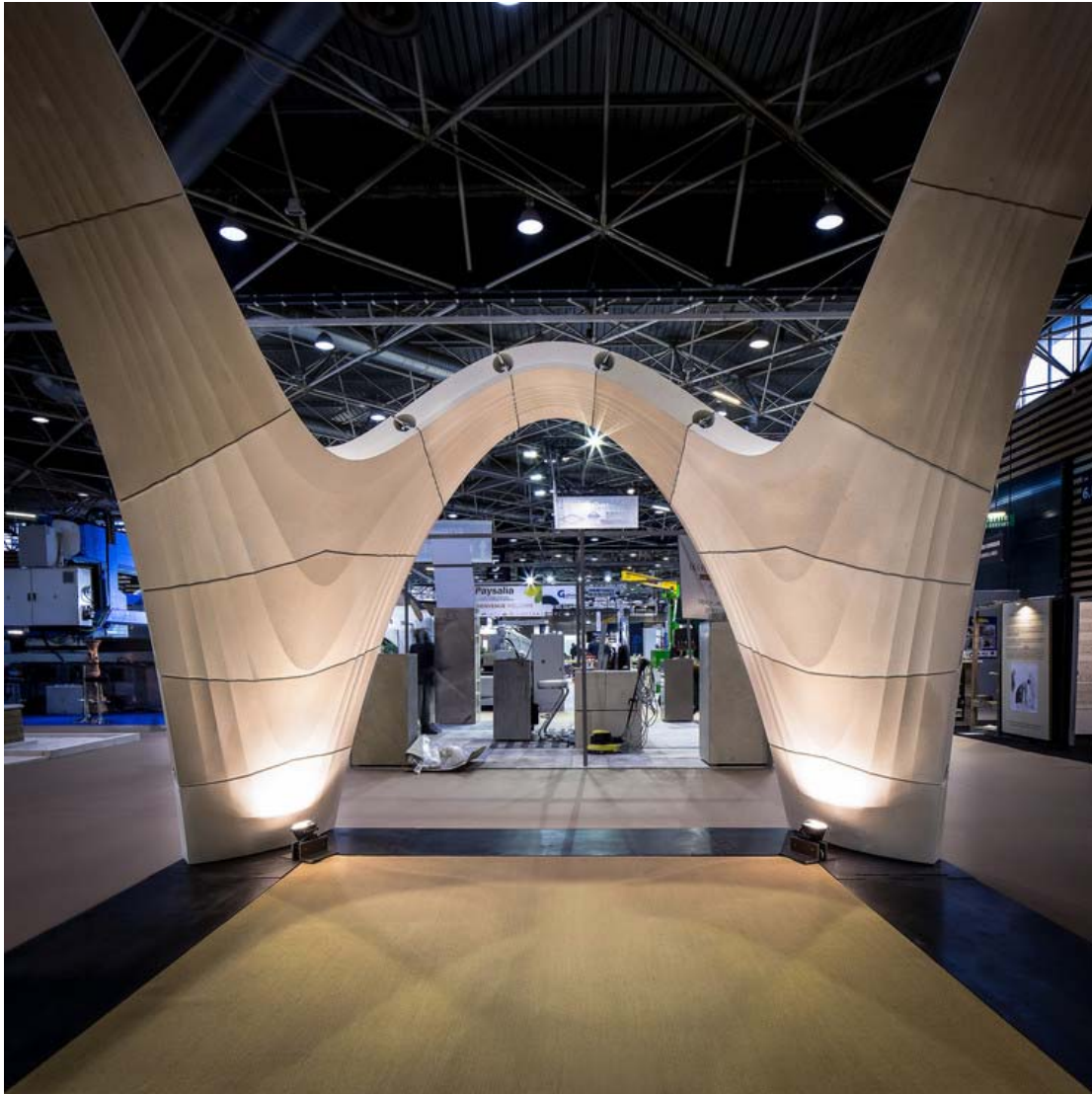




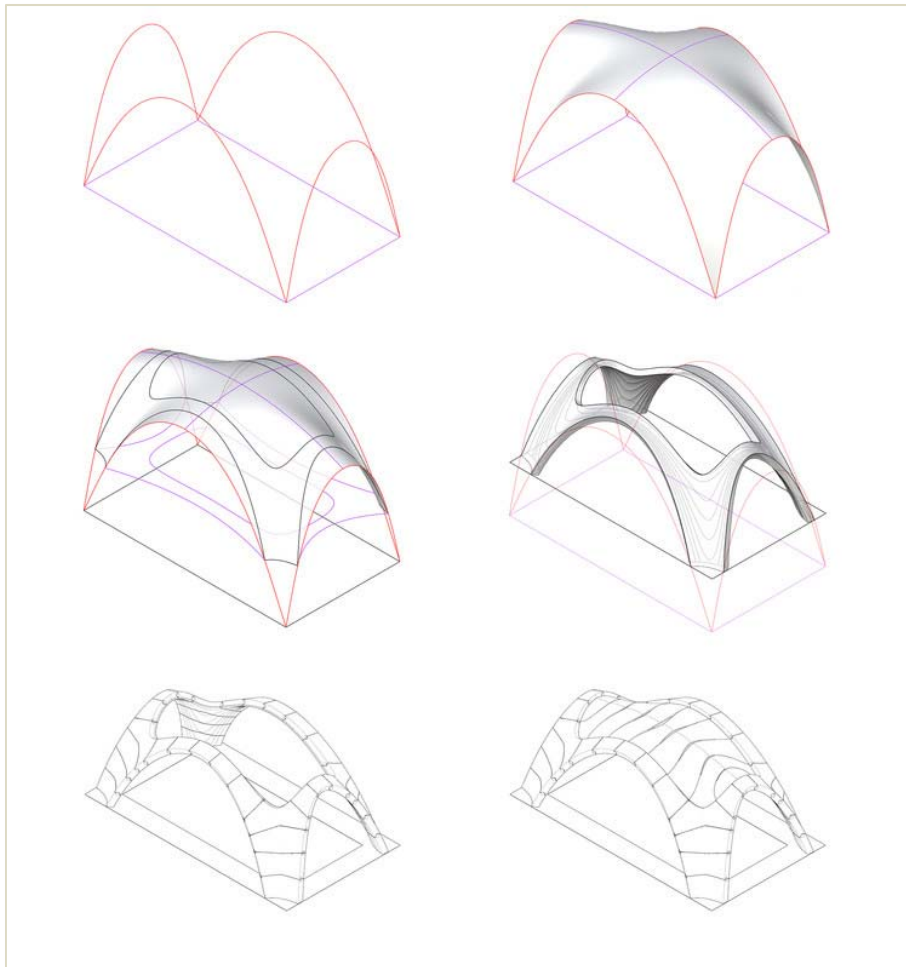
The structure's foundation is a network of catenary curves which inform the vaults. Complex milling forms and joint cutting operations were completed with the assistance of a robotic arm. However, because the blocks are lightweight and there are few support structures, assembly is simple. In order to connect the stone voussoirs to one another, metal plates are glued with epoxy resin to each concave segment and then fastened together using a bolt system. Piece by piece, the digital 3D model successfully came to life.



Rendering with Cap



The catenary curves serve a dual purpose by ensuring the structure is supported by compressive forces while visually creating aesthetic continuity throughout the design. A micro-cement “roof” completes the form. Flux manages to demonstrate the technical ability of modern-day CNC machines with traditional building materials such as this natural stone.



Design Process

Architect or Architecture Firm & lead architects: **New Fundamentals Research Group, Lead architects: Giuseppe Fallacara, Maurizio Barberio**

Location: **Eurexpo, 9 Avenue Louis Blériot, 69680 Chassieu, France**

Scientific Coordinator: **Giuseppe Fallacara**

Digital Design: **Maurizio Barberio**

FEM Analysis: **Daniele Malomo**

3D Printing: **Giuseppe Scaltrito (Apulia Makers 3D)**

Year: **2017**

Area: **36 m2**

Photography: **GaZ Blanco, SNBR**



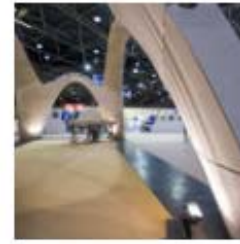
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Bottom View



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Design Process