



Daedalus Pavilion

Project Type: Pavilion / Experimental
Amsterdam, 2016

Design: Ai Build
Structural Design and Lighting: Arup
Materials: Form Futura
Robotics: KUKA
Primary Sponsor: NVIDIA



Ai Build presented "Daedalus Pavilion", a 3D printed architectural installation built by robots, as part NVIDIA's GPU Technology Conference in Amsterdam (28-29 September 2016).

Ai Build teamed up with ARUP Engineers for this project to showcase how the future of construction will be transformed by robotics and artificial intelligence.

Daedalus Pavilion measures 5m wide x 5m deep x 4.5m high, and it consists of 48 pieces that are 3D printed using a KUKA industrial robot. All pieces were 3D printed within 3 weeks, using 160 kg of biodegradable filament material supplied by the Dutch manufacturer, Formfutura.

Ai Build made use of NVIDIA GPUs for running a combination of computer vision and deep learning algorithms to increase the speed and accuracy of large scale 3D printing. Jack Watts, NVIDIA's Deep Learning Start-up Business Manager for Northern Europe, said: "We're tremendously excited to premiere "Daedalus Pavilion" at our first GTC in Europe. This collaboration between Ai Build and Arup is a strikingly tangible taste of how even established industries like construction will be transformed by artificial intelligence."

James Griffith and Henry Unterreiner of ARUP commented on their collaboration with Ai Build: "The Daedalus Pavilion has been an incredible opportunity for Arup to collaborate with a promising start-up, Ai Build. Our structural engineering expertise, combined with the latest large scale 3D printing technology, have enabled us to create an elegant and structurally efficient form with an optimized distribution of material."

Following the conference in Amsterdam, the pavilion is exhibited at Digital Construction Week 2017 and at Zaha Hadid Gallery in London.

