



*Even first outline drawings reveal the futuristic approach*

## FOOTBRIDGE TO THE FUTURE

CONSTRUCTION

New footbridge across Lake Lugano proves prime example for lightweight design and construction

**In the Swiss canton of Ticino, two towns now connect our present with the future: the new footbridge across Lake Lugano between Bissone and Melide is truly a sight to behold. The futuristic project was initiated by a team of visionary people led by an institute of the Department of Innovative Technologies at the University of Applied Sciences and Arts of Southern Switzerland (SUPSI). The construction of this pedestrian bridge is expected to be finished by the end of 2017.**

The 18-metre long bridge features an ultralight skeletal structure modelled on the symmetry of a microorganism and looks like a spaceship gangway from the classic Stanley Kubrick film 'A Space Odyssey'. From further away, the bridge is reminiscent of a circular helix.



*Airy design is a key feature of this stunning bridge project*

### One of a kind

The man connected to this bridge is Adriano Nasciuti, Head of the Mechanical Engineering and Materials Technology Institute at SUPSI. For years he and his team have been developing polymeric materials and ceramic foams, as well as designing and constructing composite building materials. The finished bridge is made from ultralight carbon fibre reinforced polymers (CFRP).

"The footbridge is currently the largest project of its kind worldwide," says Nasciuti proudly. "We are able to develop it this way thanks to the properties of the materials, which also explains the special design," he adds.

### Light heavyweight

The incredibly high roof construction ensures the necessary stability required to make the most of the material properties. The entire bridge weighs just 1,200 kilos or 70 kilos per metre. "Its modularity is another advantage," continues Nasciuti. The bridge consists of twelve separate modular parts, each

of which was vacuum cast using epoxy-resin. The pilot project was made possible with the support of the Swiss Federal Commission for Technology and Innovation (CTI) and the Canton of Ticino. And who knows, maybe it won't be long before there are also lightweight bridges for cars, lorries or trains that can be relocated easily if required.

Further information:

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Project planning partner: Ernst Basler & Partner, Zurich  
Manufacturing: Base Srl., Alserio (Como)  
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