

THE PLAN



Peter Marino  
Architect

Rùn Atelier

Menos é Mais  
Arquitectos +

João Mendes Ribeiro  
Arquitecto

Weiss  
Manfredi

PCA  
Architecture

Gianni Arnaudo

TEN  
Arquitectos

NAPOLI  
MAPPING



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TAMassociati



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MACTAN-CEBU INTERNATIONAL AIRPORT

**GLULAM**

FOR SUSTAINABLE INFRASTRUCTURE

Mactan, Philippines

INTEGRATED DESIGN ASSOCIATES

Mactan-Cebu international airport is located on the island of Mactan and is the second in the country. At present, it is being extended through the creation of a new terminal so that annual passenger figures can practically triple, from 4.5 million to 12.5 million.

Work should be completed in 2018 and it is the brainchild of IDA (Integrated Design Associates) in Hong Kong. The project fits in perfectly with the government's strategy to promote inclusive and sustainable development in the country through the creation of new infrastructure. The silhouette of the new terminal draws inspiration from a "bangka" canoe and it stands out as having a structure of glulam made by Rubner Holzbau, a company in the Rubner Group specializing in large infrastructure in wood. The extensive curved spans supporting the roof will eventually cover the 65,000 sq m of the terminal. They are made using 23 m long beams, manufactured in Europe (meaning a total of 4,500 c m of glulam) and then transported and assembled on site, in Lapu-Lapu City.

The decision to use glulam for such major infrastructure work was largely

based on the performance of this composite material, which is made using a pressurized gluing process that cuts the defects of the solid wood pieces, but maintains the most desirable aspects of such wood, like the excellent ratio between mechanical resistance and weight and its fire resistance.

The load-bearing capacity of these beams is greater than that of solid wood beams (and they can be bigger) and they perform better, making it possible to cover enormous spans. This is just one of the reasons why glulam beams are fast becoming one of the most desirable alternatives in the building industry. Glulam also has anti-seismic properties that can be up to four times better than other materials like concrete and steel. Wood is also the only material that, over its life cycle, guarantees a negative balance for carbon emissions. Finally, Rubner Holzbau uses a melamine-based adhesive that contains an exceptionally low percentage of free formaldehyde, such that its glulam has emissions levels 20 times below the EU limit set for "low emissions" products.



**RUBNER HOLZBAU**

Via A. Ammon, 12 - I - 39042 Bressanone (BZ)

Tel. +39 0472 822666 - Fax +39 0472 822600

E-mail: [holzbau.brixen@rubner.com](mailto:holzbau.brixen@rubner.com) - [www.holzbau.rubner.com](http://www.holzbau.rubner.com)

