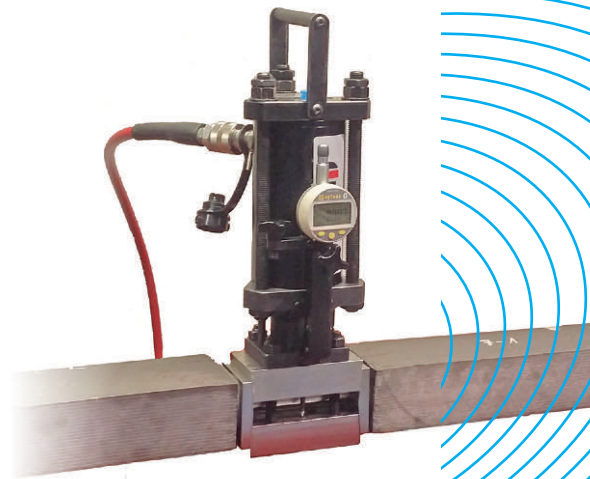
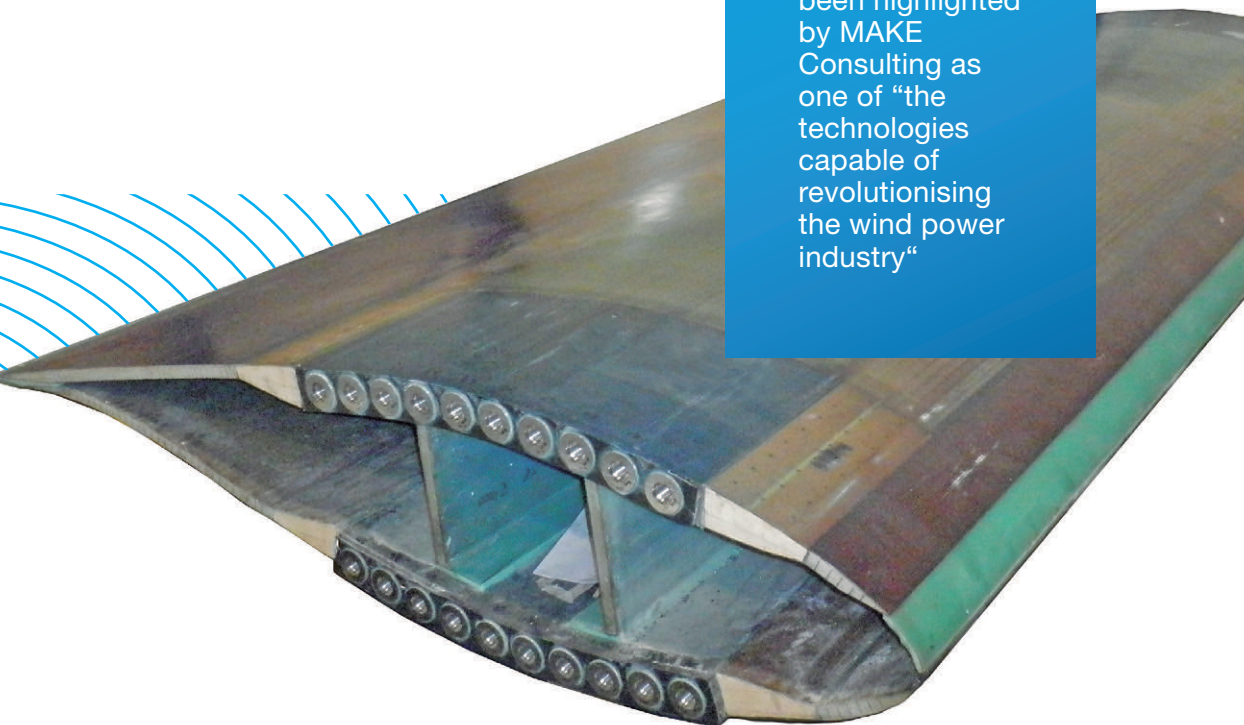


nabrajoint[®]
modular blade system

Nabrawind Modular Blade System (Nabrajoint) is a technology applicable to any wind turbine blade (existing or new) that allows manufacturing blades in two or more parts that are transported separately and assembled on site. **Nabrajoint technology is based on a bolted connection between blade modules with conventional,** controlled and robust assembly methods.



Nabrajoint has been highlighted by MAKE Consulting as one of “the technologies capable of revolutionising the wind power industry”



NABRAWIND
ADVANCED WIND TECHNOLOGIES

Avda. Carlos III 11, 2º Izda. 31002 Pamplona (Spain)
www.nabrawind.com



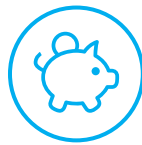
nabrajoint[®]
modular blade system



Features

Nabrajoint **breaks all the blade logistic barriers even for rotor diameters over 70m.** It is a game-changer technology configuration for onshore Wind Farms located in complex terrain and/or with legal restrictions for XXL blades transportation.

Moreover, **it supposes an important competitive advantage in the incipient business of wind farms repowering,** with significant savings in the wind farm site adaptations and accesses modifications.



COST-EFFECTIVE

The extremely high strength of the unitary joint minimizes the number of joint elements.



LIGHT

Metallic parts are minimized to reduce the joint mass.



FAST ASSEMBLY

Simple segments coordination and quick tensioning with automatic tool.



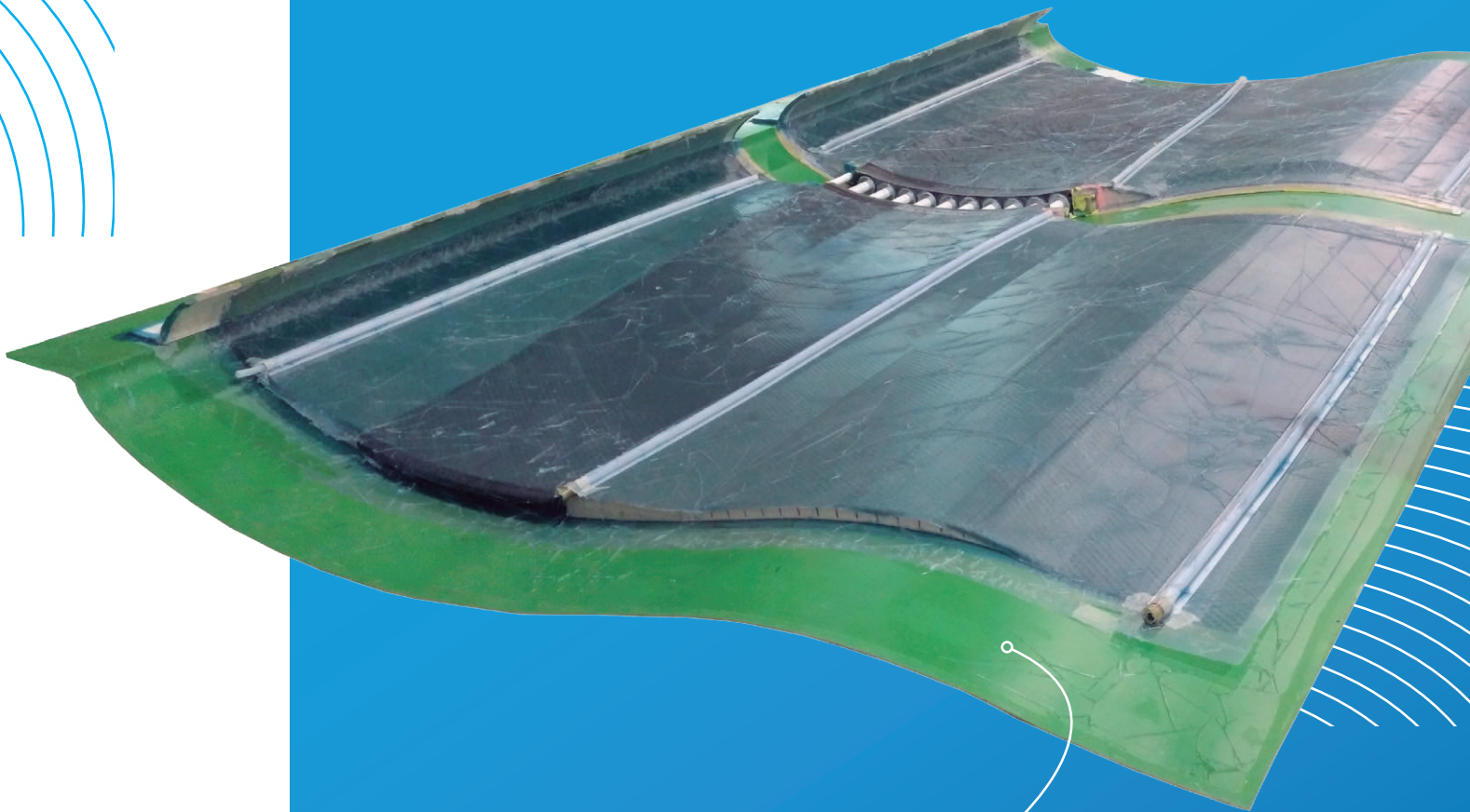
RELIABLE

Our patented bolted joint is extremely simple, robust and maintenance-free.

Effective Solution

Nabrajoint technology is conceived to be **the most reliable, light and cost-effective segmented blade solution in the market.**

Our solution has been submitted to a strict certification process following the highest industry standards, and it has accredited by means of different test campaigns a substantial increase of load carrying capacity with respect to the state-of-the-art joint solutions in the market. This higher load carrying capacity, together with the optimized joint elements design results in the most competitive segmented blade solution in terms of mass and cost.



The prototype

First Nabrajoint prototype, comprising a full-scale joint in a real blade segment, is already manufactured. This prototype will be tested to demonstrate strength under operative loads. For this purpose, a program including the maximum loads expected on service and several millions of load cycles equivalent to the fatigue design loads will be applied in an innovative test bench developed for this purpose.

