Nabrawind Technologies is dedicated to the **design and development** of advanced **wind technologies** for the main components of the new XXL wind turbines: modular blade joints and self-erecting towers.

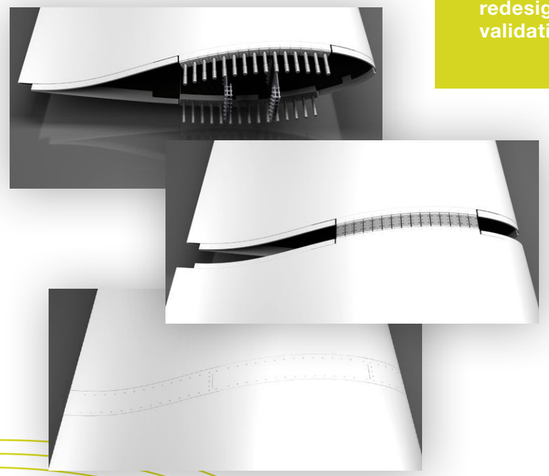
Nabrawind conceives its solutions based on three main drivers:

MODULARITY
Solutions to break logistic barriers that currently restrain the onshore wind turbine growth

COST REDUCTION
Drastic cost of energy reduction

PROVEN TECHNOLOGIES
Use of proven baselines technologies to provide robust and reliable components

> Our technologies are conceived to be easily integrated in existing wind turbines. **Nabrawind provides certified technologies and components that do not require wind turbine redesign and validation.**



NABRAWIND
ADVANCED WIND TECHNOLOGIES

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

NA BRA WIND
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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.

COST-EFFECTIVE
The extremely high stregth 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.

Nabrajoint is conceived to have a simple integration in the blade, without relevant modifications in the global design. The manufacturing process of the blade is not affected either: with no significant investments in the original production line, the process may be adapted to produce modular or standard blades as demanded.

nabralift®

self-erecting tower

Nabralift integrates a Self-Erecting System (SES) that allows the installation of a full WTG (tower, nacelle, rotor) without using large-size cranes regardless of the final hub- height. For this purpose, the SES is able to hoist the WTG in intermediate stages and install tower sections under it.

DRASTIC COST REDUCTION
Tower cost (also including foundation, logistics and installation) is reduced by a 15/30%.

CRANE-LESS INSTALLATION
Self Erecting System avoids using large-size cranes regardless of the final hub-height.

FAST INSTALLATION
A 150-150m tower can be installed in 3 days, even in high wind conditions.

EASY INTEGRATION
Nabralift is a very stiff tower than do not require relevant modifications in the existing WTG design.

Nabralift **reduces the cost of XXL towers by a 30%** and integrates a self-erection system to erect the full wind turbine (including nacelle and rotor) avoiding large and expensive cranes. Nabralift is maintenance-free, and it is conceived to be easily integrated with any wind turbine (existing or new): wind turbine aerodynamics and mechanical/electrical design are not affected and the stiffness of the tower avoid any resonance with rotor turning.

Our Experts

Nabrawind Technologies Team is formed by senior engineers with a large experience in advanced wind technologies development.

WE ARE CREATIVE
We always look for different solutions to face the industry challenges.

WE ARE EFFICIENT
Our senior and compact team is fast and flexible.

WE ARE WIND
We fully understand our clients needs thanks to our long experience in the wind business.

Wind Environment

Nabrawind is located in the North of Spain, where top level agents of the wind sector are concentrated. With an excellent network of suppliers, laboratories, test centers and experimental wind farms, the conditions are optimal for first-class technological development.