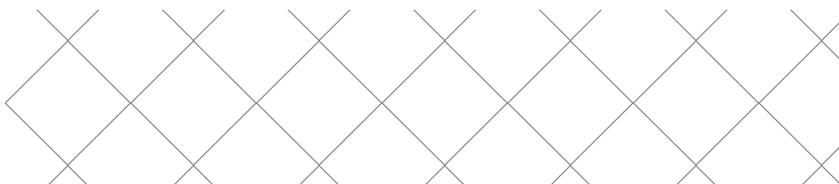
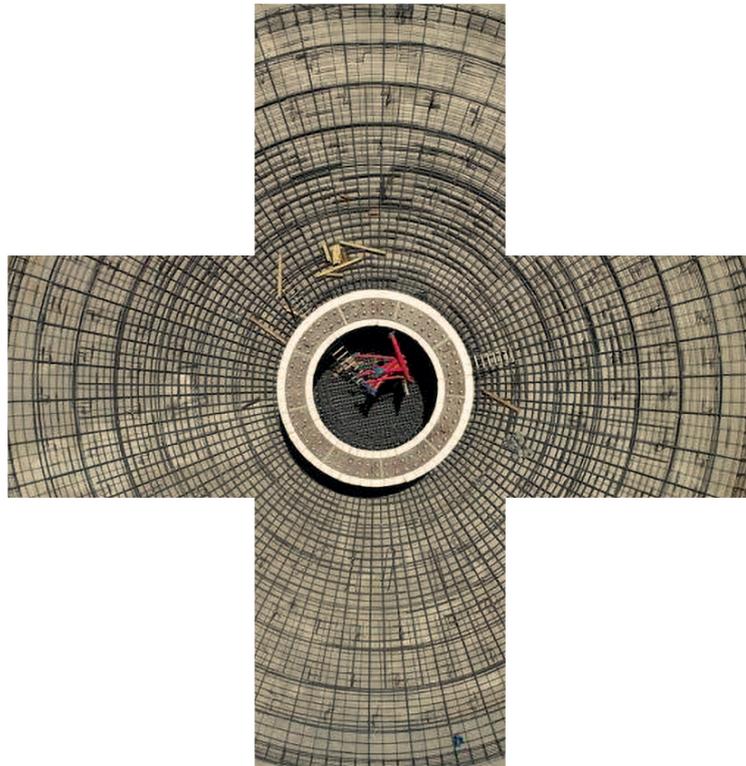


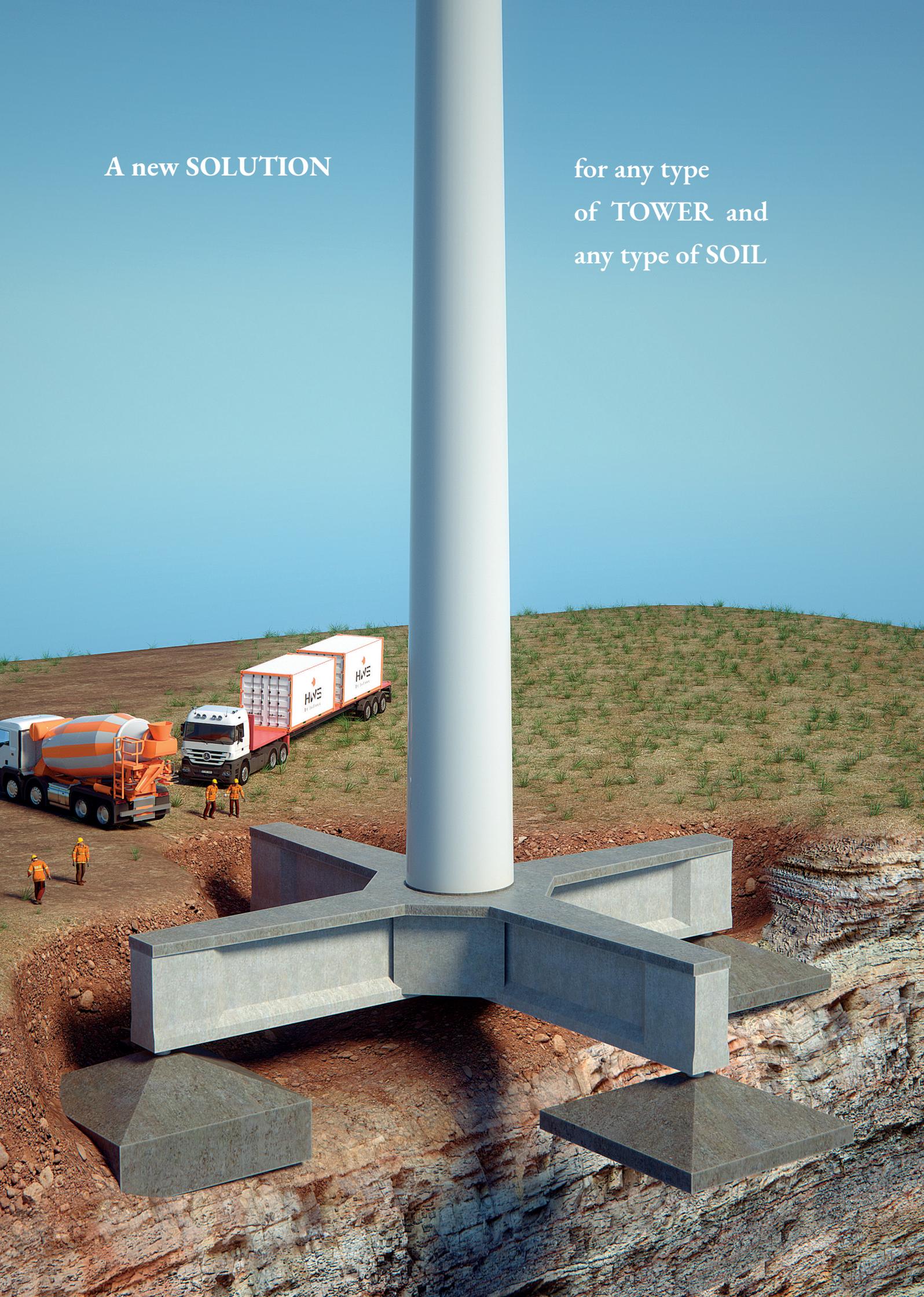
airbase⁺



 **HWS** Let's
Build Smarter

A new SOLUTION

for any type
of TOWER and
any type of SOIL



A PRECAST FOUNDATION for Wind Turbines

Simplified to 4 legs. Why more?

PATENTED

INDUSTRIALIZATION

QUICK ASSEMBLY

HWS CONCRETE TOWERS S.L. (HWS) has **Developed and Patented** a new **PRECAST FOUNDATION** for the WIND ENERGY SECTOR, as well as the associated construction methodology.

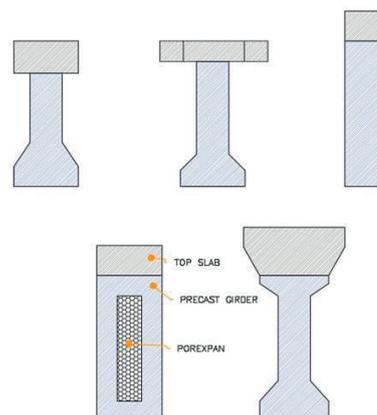
The **AirBASE** introduces a new structural scheme that profits from serial manufacturing processes as well as simple transportation and easy on-site assembly.

The **AirBase** consists of four isolated supports built on-site connected to two precast/prestressed girders placed in a cross-shape.

With this innovation the foundation can be divided in **two** parts:

- 1 first part are the four isolated supports build "on-site", shallow or deep foundations (piles), which are mainly dependent on the soil conditions.
- 2 second part are two precast girders - therefore industrialized- which are **wind turbine dependent**. The precast girders are conected to the isolated footings using pinhole or fixed joints. While the first girder could be transported in one piece, the second girder has to be divided in two halves and connected to the first one forming a cross shape.

The **AirBase** resists the high loads introduced by the new generation of +4.X MW wind turbines thanks to its structural scheme: the precast girders work as lever arms. These girders could present different cross-shapes:



INDUSTRIALIZATION

This is the best strategy to **REDUCE COST** and construction **TIME**, while offering **HIGH QUALITY CONTROL**.

More than half of the foundation could be pre-cast and as a result industrialized.

COST-EFFECTIVENESS

The estimated savings could reach up to **35%**, a percentage that will mainly depend on the soil properties, turbine size and tower height. The bigger and higher, the better.

APPLICABILITY

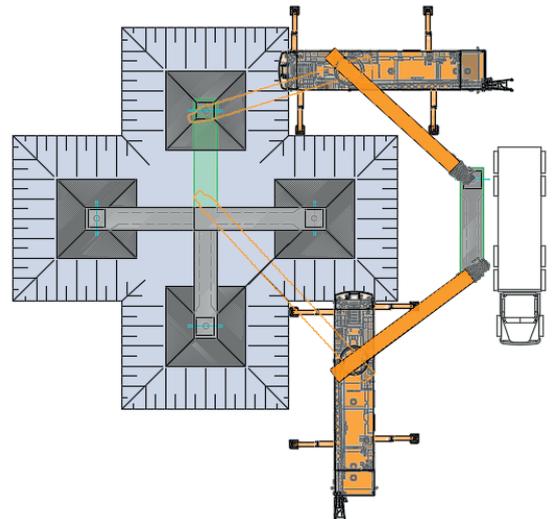
The advantages of the **AirBase** solution are significant in countries and wind farms with bad weather conditions, when working outdoors is limited to only some months of the year, where the quality or regularity of the concrete is variable, when reducing construction times is critical, when the depth of the four supports is different, where there is a lack of human resources, and so on.

Optimized Structural Scheme: Isolated support points and lever arm mechanism

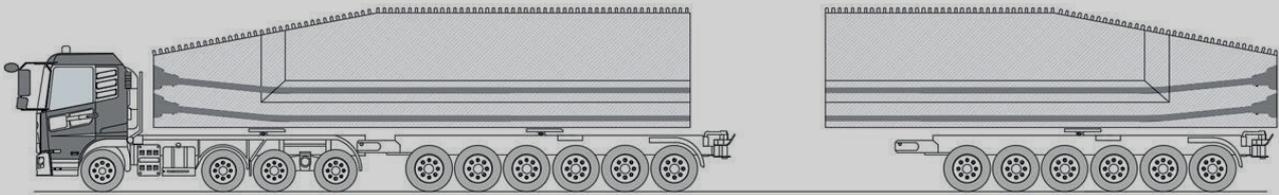
For any type of
TOWER and SOIL

REDUCING COSTS,
saving up to **35%**

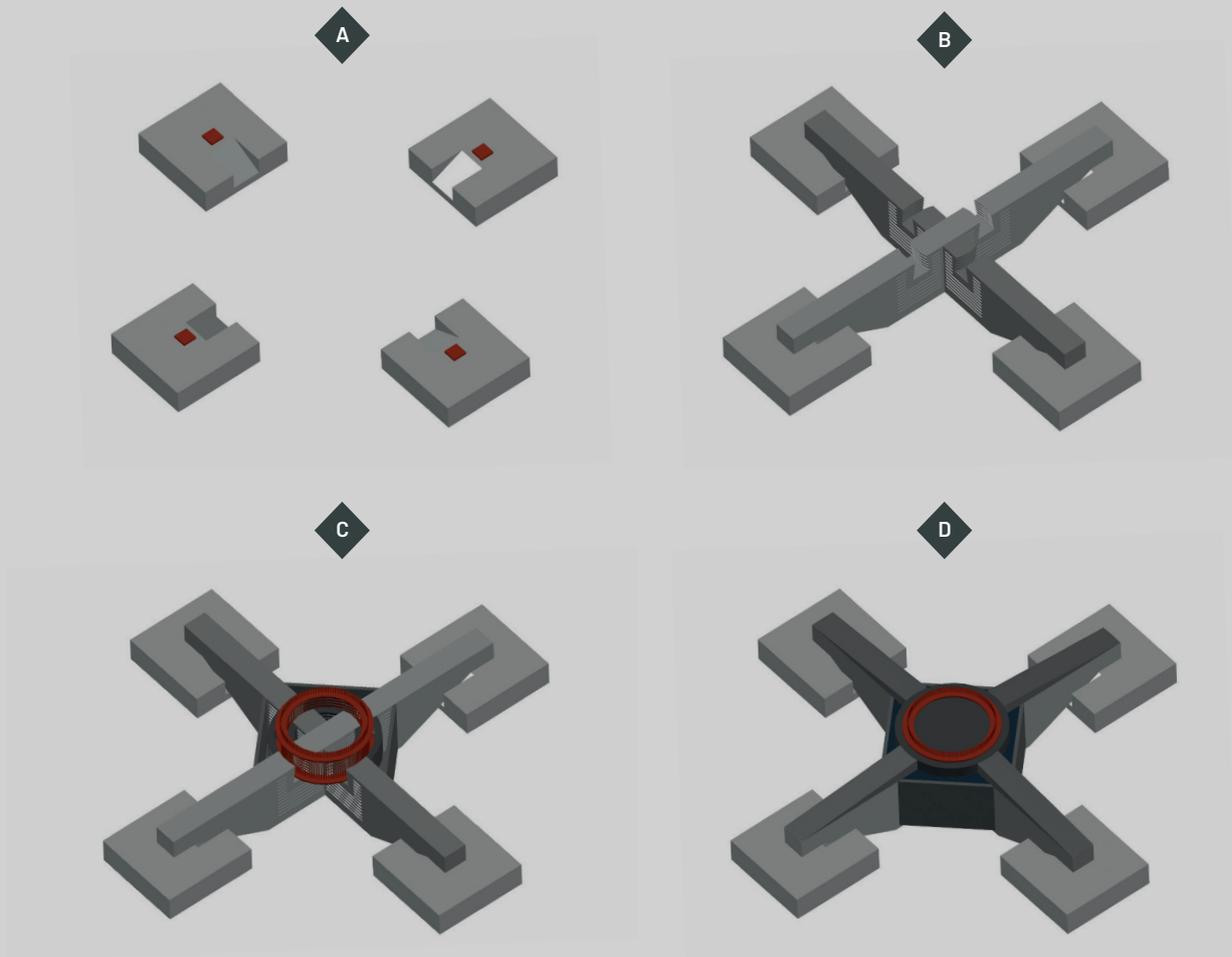
DE-RISKING Projects by
reducing on-site works



SCHEME OF POST-TENSIONED PRECAST GIRDERS



ASSEMBLY PROCESS, WHICH IS RELATED TO AIRJOINTS B1, B2



ABOUT HWS CONCRETE TOWERS S.L.

HWS is a company specialized in **innovative precast solutions for the renewable energy market**, especially for wind energy.

Our founders have **more than 40 years of experience** in precast concrete for large-scale construction projects, like bridges. We have perfected this technology to fit and enhance various aspects of the construction and maintenance of wind turbines.

This extensive experience also allows us to offer our clients a **complete service during construction**- from design, manufacturing, transport and erection, through materials and technology, up to specialized tools and solutions to ensure a successful project.

The Experts in Precast Concrete



Let's Build Smarter

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