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# Wind Manufacturing

**Wind manufacturing services are essential to the long-term success of wind energy projects for both onshore and offshore technologies.**

**Applus+ specialized quality analysts offer wind farm owners and operators a wide range of customized technical inspection and quality control services while remaining independent from any wind turbine manufacturer.**

THE Applus+ SOLUTION

Applus+ quality analysts support its clients by offering tailored solutions to ensure that the highest quality standards are met in wind turbine manufacturing with the goal of achieving risk and cost reduction, as well as completing production optimization.

At Applus+, we have many years of experience performing different types of manufacturing inspections within the wind industry, in particular, steel wind tower sections and offshore wind structures, as transition pieces, monopiles, jackets, blades, gearboxes, drive trains, transformers, etc.

The main services in this area are:

- **Quality audits and third-party inspections**
- **Level 3 Technical Advice EN ISO9712**
- **Vendor inspection and expediting for all wind farm components**
- **Quality assurance and quality control**
- **Technical engineering assistance,** including scan plan, Non-Destructive Test (NDT) procedures or process line optimization
- **Advanced and Conventional NDT:** Visual Testing (VT), Magnetic Particle Test (MT), Penetrant Testing (PT), or Ultrasonic Testing (UT) (Phased Array –PA- and Time of flight diffraction –TOFD-), and also advanced IWEX technology.
- **Digital Dimensional Control:** 3D Scanning (LiDAR technology), Leica Total Station

- **Painting Test Verification**
- **Packing and Loading Supervision**
- **Electrical Testing**
- **Capacity building and ad-hoc training**

We are experts in NDT methods such as visual inspection (VT), ultrasonic testing (UT, PA and ToFD), magnetic particle inspection (MPI), liquid penetrant testing (LPT), radiographic testing (RT), or IWEX, a high advance UT technique developed by Applus+ that improves the ability to image flaws to determine if they are defects or benign.

Applus+ is an independent entity, not linked to any wind turbine generator manufacturer or major equipment manufacturers (blades, gearbox, etc.) The company also has its own quality control laboratories and certified inspection procedures (ENAC, CBTL/IECEE, ISO / IEC 17025, and IEC 17020).

## Target customers

We provide comprehensive services in wind turbine manufacturing to wind utilities and operators.

## Key customer benefits

With more than 40 years in the power market and more than 20 years in renewable energy services, we are qualified to provide our customers with trustworthy quality control and NDT services in the manufacturing process of the main equipment of their wind energy projects, both onshore and offshore.

Timely identification and correction of quality defects, as well as adequate implementation of the quality control program, are necessary for adequate risk management. This will avoid loss of profit or extra cost of replacement and allow the wind farm owner to achieve the expected return on investment.