

NORDTECO



At Nordteco we are dedicated to delivering specialized hi-tech goods and services with high added value to the Latin American wind energy industry.

Founded in 1993, during 20 years we have served the needs of utilities, developers, and wind farm operators across the continent with excellence and dedication.

Throughout this period our company has continually evolved in experience, expertise, human resources, and technology, while increasing the depth and breadth of our scope across the entire wind energy value chain.



The Company



Core Business

Nordteco participates in the entire wind energy industry value chain, from greenfield site prospecting and preparation for pre-investment through financial closure, wind farm construction and commissioning to subsequent phases of operation, maintenance, and asset management.

One of our main strengths and particular competencies encompasses supply, erection and commissioning of anemometry stations for wind assessment, and related specialized services.

During this period of growth in experience and mastering due application of industry standards and best practices in anemometry we have also specialized in wind and site assessment related engineering and analysis. Nordteco can assess the characteristics and merits of a specific location and determine its suitability as a commercial wind power project, and perform potential energy yield estimates – even in absence of local observed (measured) wind data.

Regional leadership

The diverse mix of specialized goods and services offered, along with our proven track record through 20 years delivering project development assets, engineering and studies with excellence; as well as a remarkable level of customer satisfaction, all afford us a privileged regional positioning while making us the competitive choice for cost-effectively adding value to your wind energy project.



Anemometry and wind resource assessment

In the field of wind measurement Nordteco enjoys a clear position of regional leadership. Our track record includes supply and installation of more than 250 met stations and related goods and services throughout Latin America and the Caribbean, having supplied equipment and performed works in 16 countries to date. In the Central American region we deem our market share in this particular segment to be upwards of 80%.

Our scope of services start with a desk review and subsequent initial site reconnaissance, and include:

- Preliminary site assessment and wind resource characterization
- Preliminary assessment – potential installed capacity and energy yield
- Fatal flaw analysis
- Expert advice on met instruments, design of measurement campaign – per applicable standards and best practices
- Met mast supply, installation, commissioning
- Comprehensive met mast installation reports, and campaign documentation
- O&M – met mast and wind measurement assets
- Campaign monitoring, quality assurance, data analysis and reporting.



Wind Energy Technology

With Nordteco's advice and services you benefit from the assurance that your anemometry campaign will be on par with requirements of the professional resource evaluation and bankability due diligence that your project shall undergo during later pre-investment phase.

Cutting Edge Technology

At Nordteco we have cooperated over two decades with selected suppliers of specialized technology for different wind energy value chain segments. Some of our main alliances, representations and marketing partnerships are listed below.

Anemometry

During 20 years Nordteco has been the authorized distributor of NRG Systems for Central America and the Caribbean. NRG Systems is market leader of the wind resource measurement segment, within the wind power industry.

The NRG product range includes tubular masts, data loggers, and all sensors and hardware which may be required to configure stations for any application.

In the event of particular requirements Nordteco can also provide a full range of application-specific sensors by different manufacturers including "First Class" category by NRG, Thies Clima and others; as well as data loggers with certain specific features.

We provide conventional, Ultrasonic, and LIDAR (Iris Wind Lidar) sensors for turbine control, as well as equipment and services for prior site calibration, and power curve verification campaigns.

Remote Sensing

We can assist you in determining if your measurement campaign may benefit from the use of remote sensing (LIDAR, SODAR) technology. Remote sensing is a valuable complement in measuring campaigns where it may be necessary to reach and measure larger area expanses and different measuring heights; in order to understand with greater accuracy the particular dynamic of the flow at hub height, across complex terrain.

We provide remote sensing devices such as NRG Systems / Leosphere LIDAR WINDCUBE v2, whether under sale, lease, or integrated service modality.

Ancillary Equipment

Among equipment that stand out in our product line are, on one hand, the technology of solar and aviation obstruction lighting navigation manufactured by Carmanah. Carmanah specializes in self-contained solar LED lighting and solar power solutions within the markets of: Outdoor Lighting, Aviation and Obstruction, Marine, Traffic, and Grid-Tie.

We also supply access platform technology by SkyMan, for maintenance, inspection and repair tasks on blades and on the outside of wind turbines, tailor designed to the needs of our customers.





Wind & Site engineering

We have the most sophisticated Mesoscale digital products at disposal for input, such as:

- digital wind maps
- virtual met masts
- reference time series, long term resource variability data sets
- preliminary wind farm simulation report
- short-term wind resource forecasting (week, day, hour - ahead forecasting) for optimum dispatch planning
- joint portfolio asset analysis
- "forensic" analysis – operational plant performance

Wind & Site Engineering

Software Tools

We employ the full range of traditional linear tools for modeling wind performance at a given site, as well as the latest state-of-the-art technology in this specialty, currently represented by the new generation of CFD (Computational Fluid Dynamics) software, WindSim. With the advanced technologies available we are able to use detailed micro scale CFD models, which allow us to perform highly reliable site simulations. The results are improved and optimized layouts with minimized loads and maximum energy production.

Cutting Edge Technology – Wind Engineering

WindSim is a modern wind farm design tool (WFDT). It is a powerful, world-class software solution based on computational fluid dynamics (CFD) that combines advanced numeric processing with compelling 3D visualization in a user-friendly interface.

WindSim fuses advanced technologies with unrivaled wind energy domain expertise—so you can design more profitable wind farms. WindSim is currently recognized as the model of choice to accurately simulate and assess the resource behavior, in complex as well as in simple terrain.

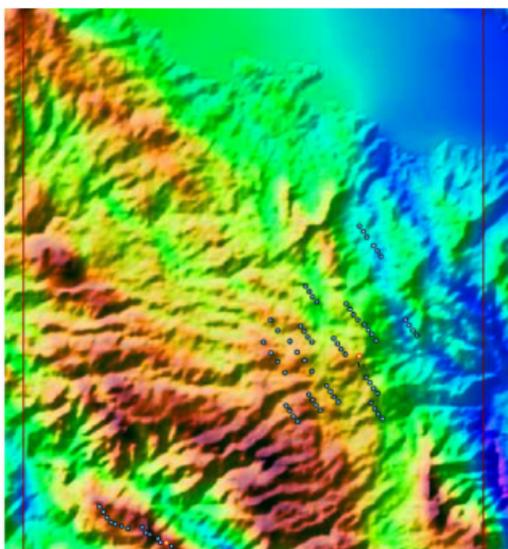
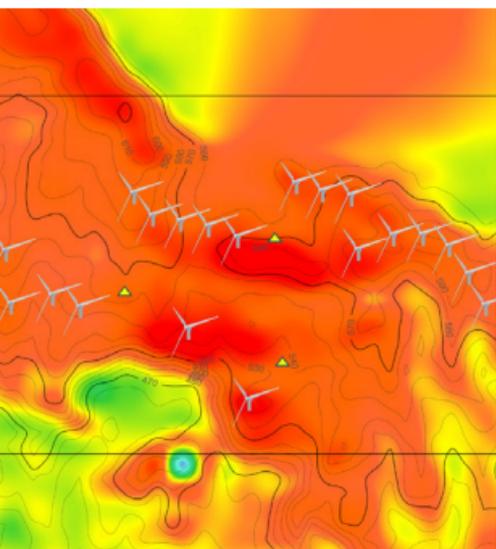
In addition to acting as WindSim's Central America & Caribbean Reseller Partner for provision of software licensing, training and other services; Nordteco and WindSim jointly perform highly specialized consulting services in wind farm assessment and design.

Benefits

Chief among the main benefits derived from the ready availability of sophisticated software and meso scale products for any imaginable site location, are aspects such as the possibility of effectively modeling early on in the prospecting phase the characteristics and performance of preliminary wind farm layouts. Secondly, the opportunity to perform, with a high degree of reliability, the project MCP analysis (Measure – Correlate – Predict) after shorter on-site measurement periods. Pre-investment timelines may thereby be substantially streamlined, since upon just one complete year of on-site measurements we are able to leverage meso scale technology in order to reliably characterize the long term wind resource at the site.

MAXIMIZE PRODUCTION. MINIMIZE LOADS.





Poised for Growth

Due Diligence Support | Owner / Investor / Lender Engineer

Projects in the region will increasingly require support services for performance of due diligence processes. This is something that takes place during different life cycle stages, though perhaps most commonly during conclusion of pre-investment.

Such services were traditionally performed by European and North American consulting and engineering firms.

However, and with the advent of a local home-grown knowledge base available through companies such as Nordteco it has become increasingly advantageous for developers, investors, and financial institutions to retain us for this type of services.

Nordteco is in a unique position to provide such services, since we are able to carry out project review and in a short time generate the necessary understanding, not only about project components per se, but also of their local circumstances and stakeholders.

Nordteco is uniquely positioned to fully tap into this promising new market, by exploiting our resources and internal expertise to provide the required technology and services during prospecting, pre-investment, implementation, and operation of commercial and self-consumption PV projects.

NOW

Solar Energy



PROUD MARKETING PARTNERS OF:

windsim



carmanah®
we put solar to work

info@nordteco.com
Tel: +506 2231-0600
San José, Costa Rica

www.nordteco.com