



Optimize transport documentation of **WIND COMPONENTS** with IoT DATA TRACKING

**LEARN ABOUT
DOCUMENTING COMPLIANCE
GLOBAL TRACKING OPERATIONS
REAL-TIME INCIDENT ALARMS**

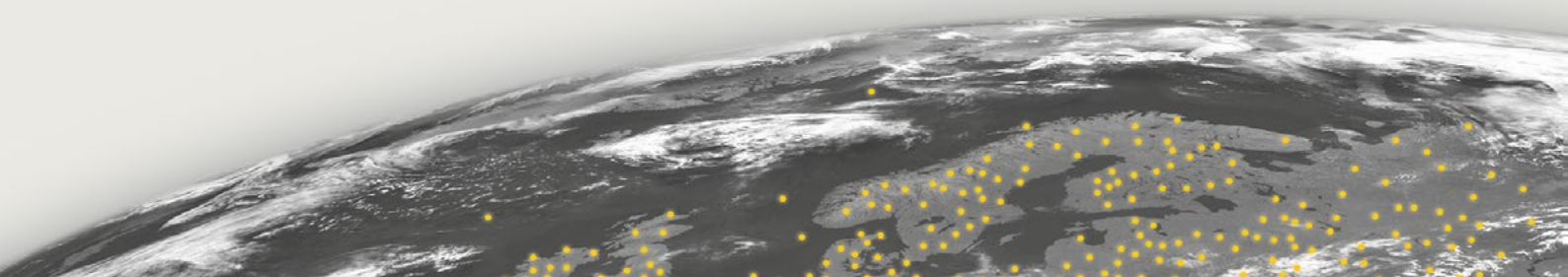
**AND WHY THIS IS
ESSENTIAL, SURPRISINGLY EASY, AND DEFINITELY
THE FUTURE.**

Introduction

This guide offers an introduction to the benefits of a IoT data tracking solution in transportation of wind turbines and other fragile wind components.

It is particularly relevant to logistics managers who want to document that sensitive shipments are handled with care all the way to the end user.

Learn about the benefits of implementing data tracking in logistics operations and improve your quality assurance.



Compliance data

GUARANTEE SAFE TRANSPORT OPERATIONS OF WIND COMPONENTS

Every year, thousands of large, expensive wind components are transported around the world, across countries, continents, and oceans.

They are shipped by truck, in rail wagons, on ships, and handled by cranes and lifts in harbors and on sites.

It is a critical transport operation that requires the greatest of care.

To document that everything goes according to plan, it is highly recommended to implement data tracking on shipments for compliance on data inputs such as impacts, drops, handling etc.

In the case of wind components, this is because even seemingly small drops or impacts to the unit could seriously hurt its life-expectancy.

Furthermore, heightened humidity levels during storage can create condensation which could cause corrosion, fungi, and mold.

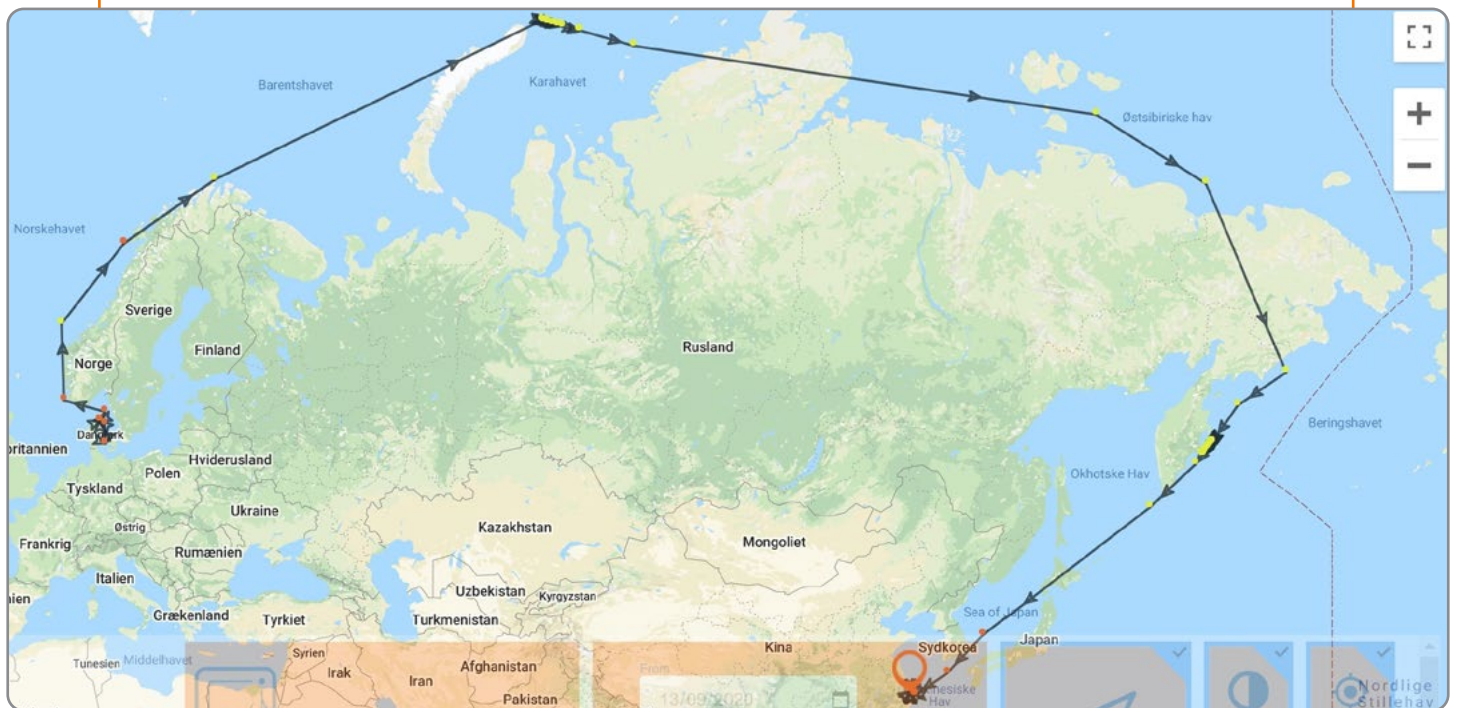
Without this data, there is no way to guarantee that the shipment has arrived in the mint condition it was shipped in.



Especially for the team on the ground preparing for the installation of a wind turbine that they – of course – expect to be intact and well-functioning.

With compliance data, you can guarantee to the end user that the wind components have been handled with care all the way.

If it is not working correctly, the data can show you what happened.



Global data tracking

USEFUL SUPPLY CHAIN MANAGEMENT TOOL

The reasons mentioned above makes data tracking a highly useful and relevant tool.

This is why more and more wind component manufacturers choose to implement data tracking solutions in their supply chain management and quality assurance.

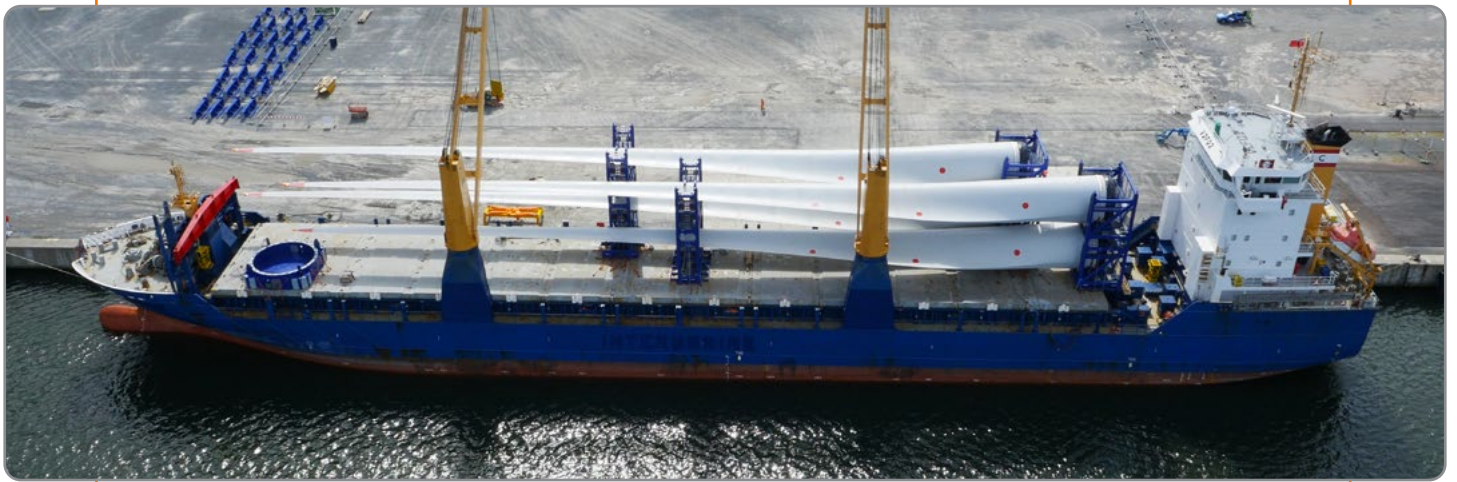
A rising number of end users have also come to expect compliance documentation to ensure that wind components have been handled safely all the way from the factory to its destination.

And in this case, the data speaks for itself.

Thanks to a built-in 3 axis accelerometer, data tracking hardware will show all impacts or tilting that wind components have been exposed to on the road, the railway, and by sea.

It will show the date, time, position and even the orientation (Z, Y, or X) of the device when the shock occurred.

Furthermore, the built-in humidity sensor will constantly monitor if the level exceeds its user-defined limits.



With a built-in eSIM, devices have global coverage on the mobile network which means wherever there is network coverage, data is transmitted at a user-specified time schedule.

In locations where no network coverage is available, the data logging capabilities of the devices will ensure all incidents are registered and logged.

The large log memory in the device means that wind components can cross massive oceans and deserted territories without losing any data.

As soon as the connection is reestablished, the logged data is transmitted to the server and then visualized on the Trusted Data Portal ready to be downloaded as a PDF report.

The data is also available on the Trusted Data App for a quick and easy visualization in the field. Here you can also edit basic settings and more.

When damage is done

INCIDENT ALARMS AND THE BENEFITS OF KNOWING ABOUT THEM IN ADVANCE

Even though most wind components are big, heavy, and solid, they are not designed for a life on the move.

It might take a lot to visibly damage them, but even a relatively small impact of 3.5 g and a few days of 75% humidity could do a lot of harm – even if it does not seem critical at first.

Shocks and humidity levels like these can lead to breakdowns, both instantly and in the future.

In case of these unfortunate incidents, the data tracking solution will notify users by SMS, e-mail, and push notifications on a smartphone.



All relevant data can be made instantly available online.

With this info, logistics and quality assurance managers can react quickly and have someone in the field inspect the incident.

If the wind component is regarded to have suffered too great an impact, they can stop the shipment and have it returned for repair or replacement.

In this way, a company can reduce project delays and avoid wasting precious time by not having the installation team waiting for the damaged shipment to arrive.

Track and trace

ROUTE TRACKING AND GEO FENCE ALARMS

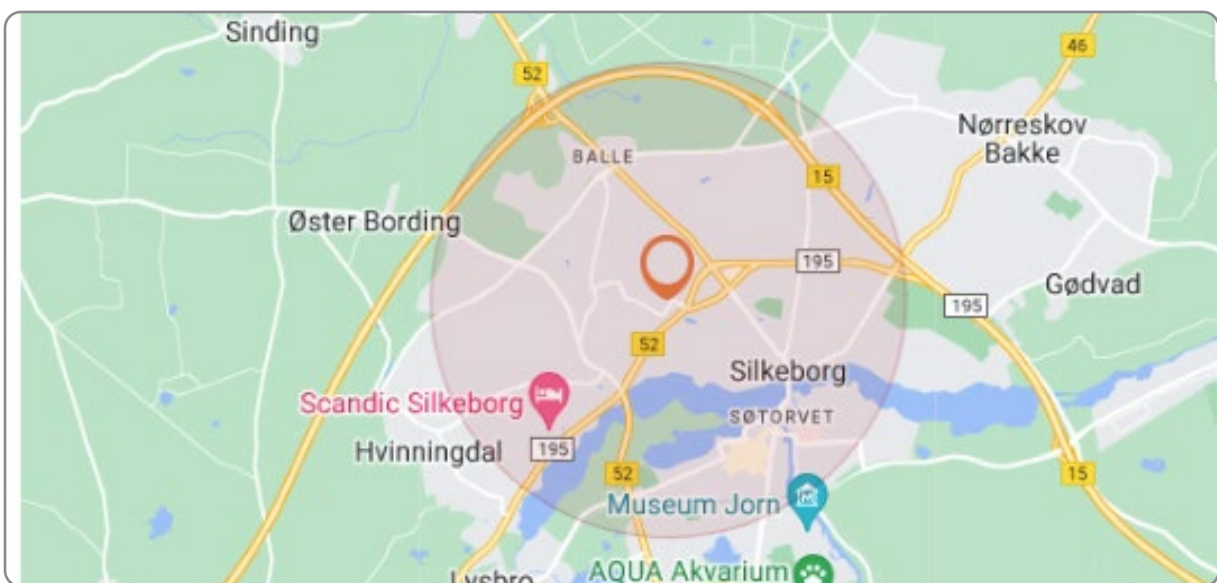
A data tracking solution offers other benefits besides tracking incidents related to shock, drops, and impacts.

One favorite feature for logistics managers is the possibility of tracking locations via GPS on an online map view to see the status of a transport and whether it follows the planned route.

A geo fence alarm sent via SMS, e-mail and push notifications will let you know when a data tracking device departs from or arrives at a certain geographical area.

It could be the factory, a transport hub or the installation site. Or even an address along the route.

In this way, there is no need to spend your time checking up positions on a map – the alarm system will let you know.



Use, reuse, repower

A SUSTAINABLE DATA TRACKING SOLUTION

Many wind component manufacturers choose the sustainable approach to data tracking.

Instead of throwing out the hardware after use, they have it returned to the factory for reuse on another shipment.

Often, when shipped with a wind component, the data tracking device is accompanied by a prepaid, padded envelope.



This makes the device ready to be sent back after reaching its destination. It is as easy and simple as that.

When installed on the outside of the wind component, we recommend our **T7**, an IP69k casing custom-made for extreme weather conditions.

The T7 is resistant to water, mud, dust, and whatever comes along the way.

When installed inside a watertight environment, we recommend our **T1** with replaceable batteries where you extend the use of hardware and limit electronic waste.

It only takes a screw driver and few seconds to change the batteries, and then the T1 device is ready for another two years of operation.

Hardware and software in one

A WIRELESS PLUG-AND-PLAY SOLUTION

The Trusted data tracking solution is battery-powered, has global coverage and is custom-made for global tracking of sensitive cargo.

The hardware is easy to install, implement, and use – even for people in a hurry. The solution includes access to the **Trusted Data Portal** and **App** where you can always edit settings according to your company's needs.

We offer data tracking hardware with or without a built-in RHTP sensor for tracking humidity, temperature, and air pressure.

Both editions comes with an built-in accelerometer, GPS position tracking, temperature and tilt monitoring, and motion and light detection.



Trusted data tracking is available on a subscription-based model – we call it **Trusted as a Service** (TaaS).

TaaS is a transparent service with a low initial investment without any hardware costs where you only pay for the annual subscription. On a TaaS subscription, you get full 24/7 access to all data features and an unlimited number of users. The data tracking experts from Trusted take care of the rest.

How to get started

Work with the data tracking experts – visit trustedglobal.com, book a **meeting**, or contact us by mail or phone today.

We are here to help!

Trusted A/S

+45 7199 7307

hello@trustedglobal.com

trustedglobal.com