

Transport Track & Protect





As wind turbines grow in size transporting them from factories to their final destinations around the world becomes a bigger challenge.

So, let us help optimize your transportation and reduce your costs.

Fully tested transport and storage solutions



At Polytech, we decided to take a holistic approach to transportation and storage. We work closely with wind turbine manufacturers and asset owners to design and produce solutions that perfectly match the geometry of each individual structure.

With 30+ years of experience in materials, we can provide wind turbine generator (WTG) component interfaces in exactly the right material for every single part – meeting your requirements on friction, compression, shear loads, UV resistance, and thermal properties.

We test all our solutions extensively according to international standards at our accredited testing laboratory. And to prove their durability and reliability in action, we have also extensively tested our solutions in the field.

Safe transport and storage is essential – but we also need to look at the overall picture. That is why we consider the whole supply chain and deliver a solution, that provides you with complete control and overview of all your transport equipment globally.

Your strategic partner in wind turbine transportation

As a full-scope supplier, we have all the expertise and processes in-house. From idea generation to full

delivery. Together with your team, we form a strategic partnership that ensures a safe, reliable, cost-efficient, and sustainable solution for your wind turbine transportation project.

All the transport solutions you need – under one roof

We offer four main types of transport solutions for the wind sector:

- WTG component interfaces in polyurethane (PUR)
- Universal storage frames with replaceable interfaces
- Global repair and refurbishment services of your transport equipment
- Polytech Insight™ – Logistics Monitoring System

The WTG component interfaces, and storage frames give you complete protection and preservation of your turbine components during transport and storage.

Our global repair and refurbishment services ensure that your transport frames are always in perfect working condition when they are returning to your site. And our Polytech Insight™ – Logistics Monitoring System gives you all the information you need to manage your transport equipment assets, wherever they are.

30+ years of material know-how

We have 30+ years of in-house material expertise in working with PUR and other relevant materials used in the wind industry. Using the right material can significantly cut your costs. It will not only protect your turbine components much better before, during, and after transportation, but it will also last much longer than cheaper, low-quality materials that are not fit for the purpose. So, your overall costs in the long term will be much lower – and so will your CO₂ footprint.

Rapid prototyping. Fast delivery. Perfectly matched geometry

As a full-scope supplier, we have all the specialists and processes in-house. This also means we move from idea generation to prototyping in a few weeks. And from there, full delivery is just a stone's throw away.

By understanding your challenges, we work – often closely with your own experts – to provide you custom-made solutions that meet your requirements. Once we establish the perfect material and design for your needs, we use a variety of molding technologies to develop the interfaces and frames that will perfectly match your components' structures.



Polytech storage frames can be adjusted to fit any geometry up to Ø6.5 meters.

Tested and validated to ensure complete protection

All our solutions are tested extensively at our accredited testing laboratory to ensure optimal friction, compression and shear loads. All these tests are conducted according to the latest ISO and ASTM standards.

WTG component interfaces and storage frames for full protection and traceability

Our PUR interfaces are UV-resistant, have a high thermal resistance, and can be made with built-in fire retardancy to give your components extra protection.

They can be supplied with built-in RFID (radio-frequency identification) chips that allow unique ID numbers for each pad with 100% traceability.

Our storage frames are adjustable to accommodate various sizes, and you can use them for storing towers and blades. They come with exchangeable PUR interfaces and are easy to store and transport.



Our stacking blocks are designed so you can easily place and level components safely.





Repair and refurbishment service

Making sure your equipment is always ready

Inspection and servicing of transport equipment are essential to ensure that it continues to protect your turbine components during transport and storage. You need a transparent inspection process where you can follow the whole process and see the inspection results directly.

Combine that with an integrated repair and refurbishment service, and you have a complete overview and control of all your assets and budget.

This is what you get with our repair and refurbishment service.

We offer a digital inspection framework, where our team records the observations and pictures of your transport equipment in an online inspection form. These inspection forms are linked to the individual equipment units with a unique ID.

The digital framework allows you to directly see the inspection results and follow the whole process. And if your equipment needs repair or refurbishment, we take care of everything, including replacement parts and paintwork.

There will be no unforeseen delays or expenses during transport. You can trust that the equipment you receive at your factory is in a ready-to-use state – and ready to protect your components.

Circularity and recyclability

All our PUR interfaces are 100% recyclable at Polytech. We have invested heavily in ensuring minimum harm to the environment and full circularity across our polyurethane products through mechanical grinding and chemical recycling (solvolysis) of PUR. Therefore, all our WTG interfaces are 100% recyclable upon being returned to a Polytech facility. And if you add the global repair and refurbishment services to your package, we will automatically recycle the PUR interfaces when we replace them during service.

All interfaces can be made with a mix of virgin, recycled and reused material to ensure a lower CO₂ emission – while still meeting your material requirements and specifications.

Your added value at a glance

- Safe, reliable, long-lasting, and cost-effective solutions
- Designed to match the geometry of the individual structure perfectly
- 100% recyclability ensuring minimum harm to the environment and a lower CO₂ emission
- Global repair and refurbishment services to ensure operational equipment
- Short time-to-market



Samples of:

- 1 virgin polyurethane
- 2 chemically-recycled polyurethane
- 3 mechanically-ground polyurethane

Polytech Insight™

– Logistics Monitoring System



A Polytech Insight™ – Logistics Monitoring System device.

A milestone in wind turbine transportation

We developed Polytech Insight™ – Logistics Monitoring System specifically for the wind industry – and as such, it is the first of its kind. We focused on solving all your major logistical challenges in the wind sector, such as your overspend on transport equipment, low utilization of equipment or a lack of global asset overview.

You can leave these challenges behind. The Polytech Insight™ – Logistics Monitoring System gives you crucial (and real-time) data on your equipment transport, and a platform for detailed asset management.

Humidity – Track humidity levels during transport or storage

The system can also monitor humidity levels in your turbine components and will send you an alarm if the thresholds are exceeded. This way you can ensure that the moisture levels never exceed the specifications of the critical main components, during transport, storage, or operation.

Easy to install and start monitoring

Installation and rollout of a new system have never been simpler or easier. All you need is the Logistics Monitoring Hub (this is the hub that records all the data), glue, a measuring tape, and a mobile phone.

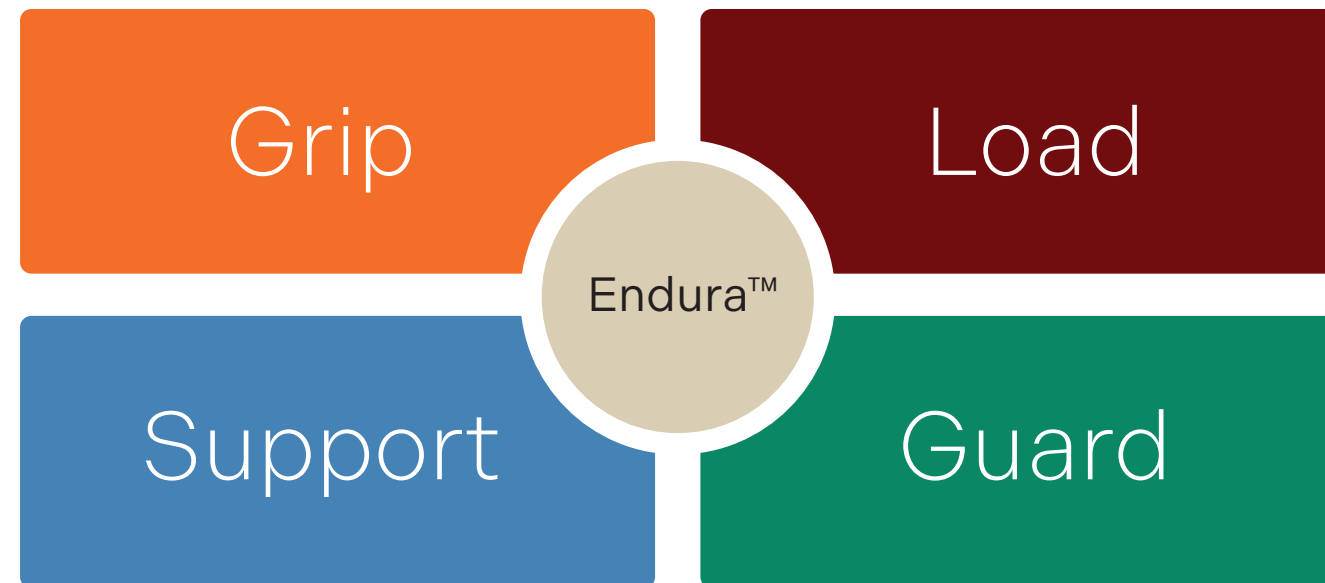
The Logistics Monitoring Hub is very easy to install as it has a built-in magnet. For other applications, attach the hub to the transport equipment using adhesive.



Explore our product line Endura™

Blade clamps where
friction is key

Transport and storage pads
for main components

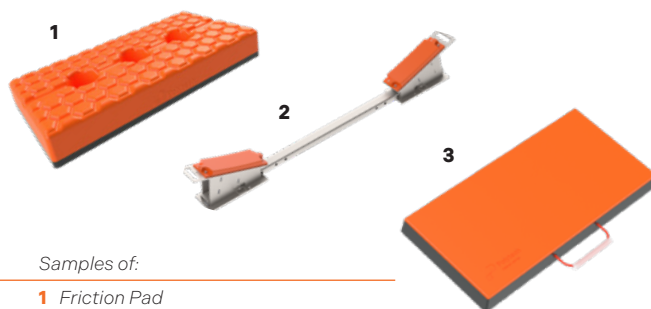


Stacking blocks and
storage frames

Protection, bumpers,
low friction (hybrid)

With 30+ years of experience we have utilized our market knowledge to develop PUR products and design with enhanced durability and performance.

Endura™ offers solutions in standard geometries or customer-specific with high surface friction, especially in wet conditions. Endura™ comes in a 100% recyclable PUR version, as there is no steel frame inside, providing a more CO₂-friendly solution.



Samples of:

- 1 Friction Pad
- 2 Multi Diameter Storage Frame (MDSF)
- 3 Stacking Block

Endura™ is inspired by Antarctic explorer Ernest Shackleton and his ship Endurance. Built to last, never give up, and leave no one behind.

Endura™ pads are available within the following product categories:

Endura™ Grip – blade clamps where friction is key

Endura™ Load – transport and storage pads for main components

Endura™ Support – stacking blocks and storage frames

Endura™ Guard – protection, bumpers, low friction (hybrid)

Polytech Insight™ – Logistics Monitoring System

Polytech Insight™ – access all the data you need. Anytime. Anywhere.

The Logistics Monitoring System gathers all the crucial data you need: location, date and time, utilization and status. It even records special events, such as shocks (g-force) and low battery levels, and measures the humidity in critical parts of your transported turbine components.

You can easily access all this data through the Polytech Insight™ platform, where you can track the location of all your equipment and its logistics history. The platform also generates automated notifications and alarms, so you will always know what is going on with your assets and can save time on monitoring.

Asset management at its best

By using our Polytech Insight™ platform, the data quickly becomes key information. You can minimize the quantity of transport equipment needed to be manufactured, moved, and serviced. You can better control your repairs and project allocation using the utilization feature. Traceability improves the prediction of transport dates, through which you can optimize your temporary import fees. And the incident notifications allow you to take early measures. Also, if you use our global repair and refurbishment services, you can see whether the transport equipment has already been inspected and is ready for use.

And the result of all this? Significant reductions in your logistical and operational costs.

Sustainability across the whole value chain

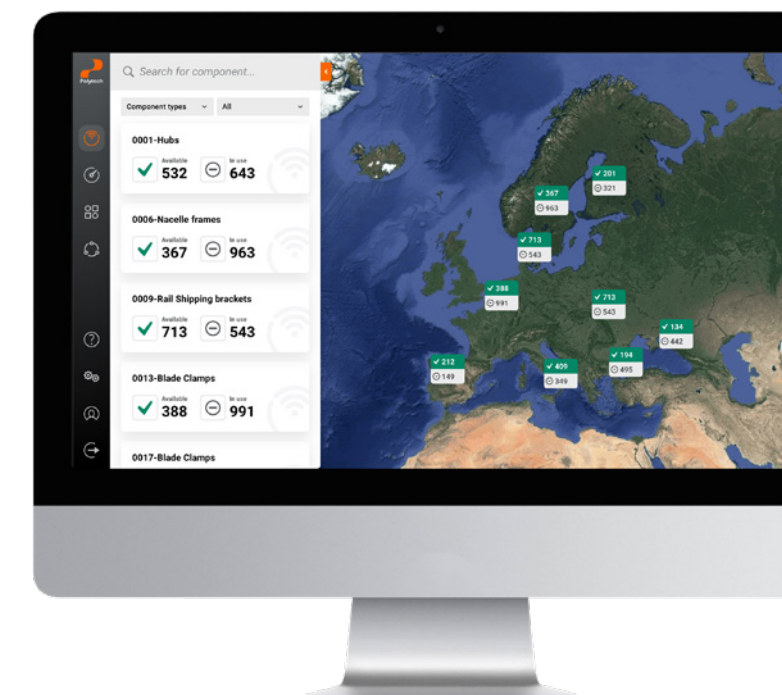
When you have an overview of all your assets and equipment usage, you no longer need to waste your resources on (re)ordering unnecessary transport equipment. And as such, you will instantly reduce your CO₂-footprint by generating less material waste and using less steel.

With better utilization of equipment, you also optimize your logistics and can plan better.

No more wasted kilometers on the road. And the fact that you can replace the batteries in the monitoring hub (a feature that is patent pending) ensures that you can reuse the solution repeatedly. Now this is what we call Wind for life™.

Your added value at a glance

- Up to 20% better utilization of your transport equipment, resulting in a 20% reduction in your capital expenditures
- Considerable savings on your overall logistics costs from optimized asset management, customs fees, and planning
- Significant reduction of your CO₂-footprint



Polytech Insight™ data can also be integrated with your ERP system.

Contact

Are you interested in learning more about our Transport, Track and Protect solutions or need a more tailored transport solutions for your project? Then contact our sales team at polytech.com/contact

