

How to mitigate risk and limit down time by improving lightning protection of new and existing wind turbines

Global Lightning Protection Services A/S

18-01-2018



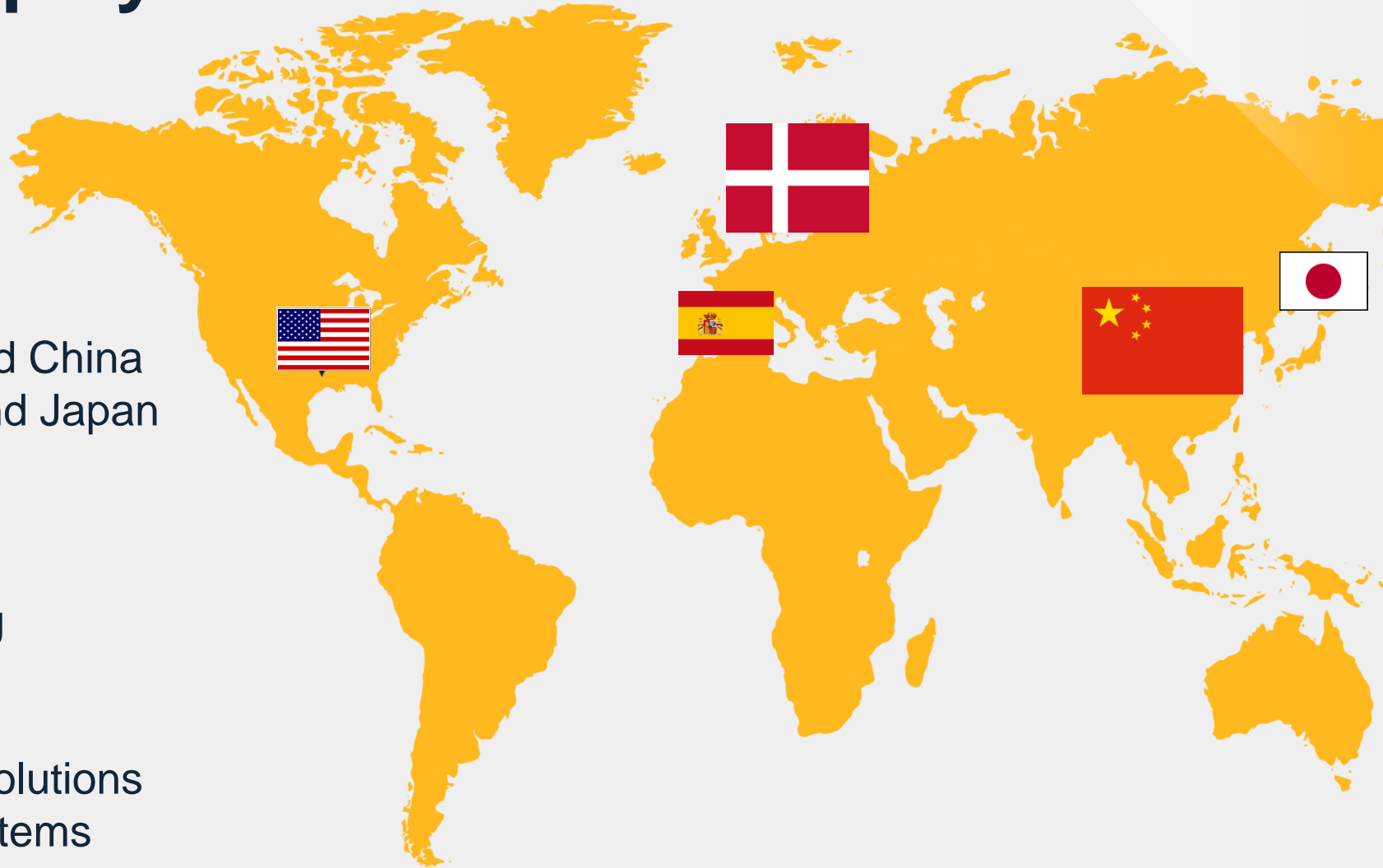
GLPS – a global player

Company data:

- Privately owned
- Established in 2007
- +50 employees
- GLPS-offices in Denmark and China
- Sales reps. in USA, Spain and Japan

Global offerings:

- Professional Services
 - Consultancy Engineering
 - Testing Laboratory
- Manufacturing:
 - Wind Blade Protection Solutions
 - Lightning Monitoring Systems
- Installation Services



GLPS area of competence

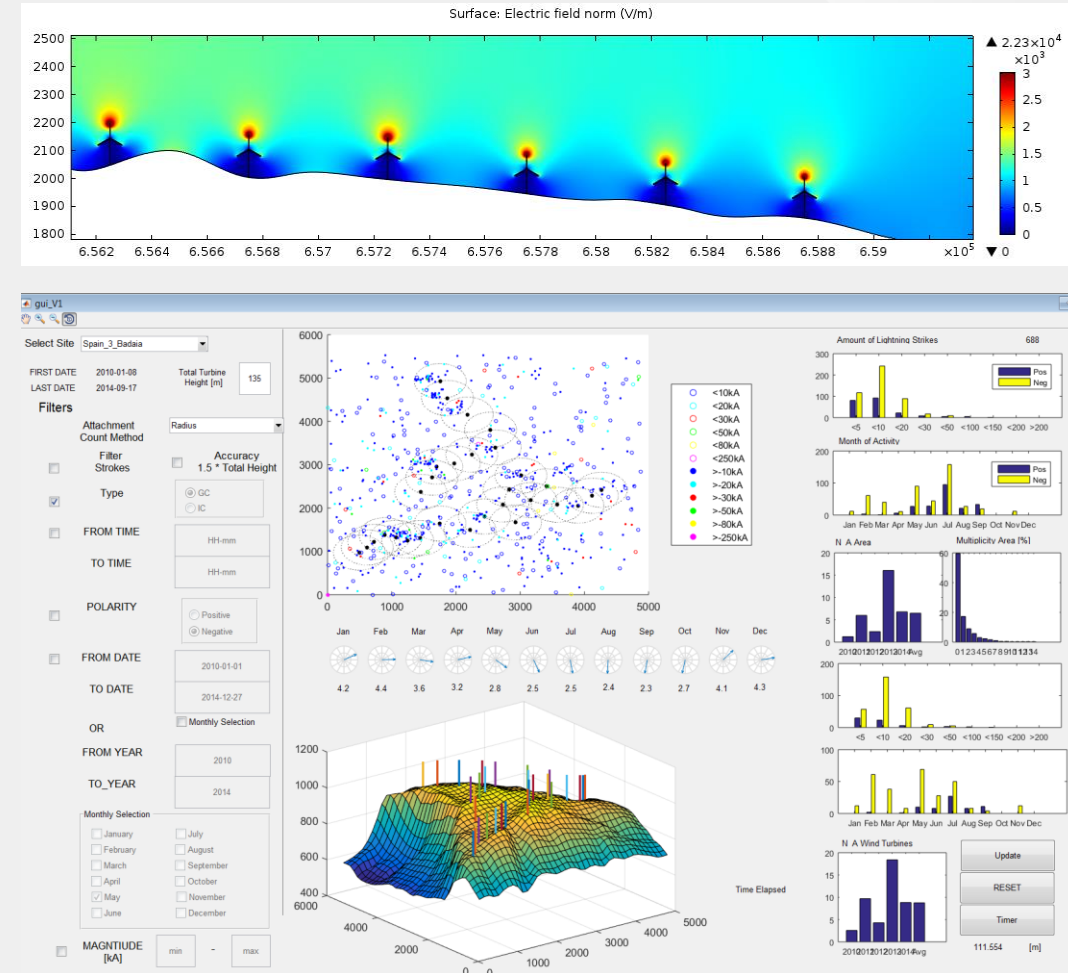


Professional Services



GLPS is supporting the wind turbine industry with the following engineering services:

- Site exposure risk assessment
- Design and development of lightning protection improvement solutions – including risk and business case studies
- Testing and verification of performance and lifetime
- On-site testing and inspection
- Management and technical support on OEM- and ISP-inspections and maintenance of lightning protection solutions
- Lightning Monitoring Reporting



High Quality Solutions

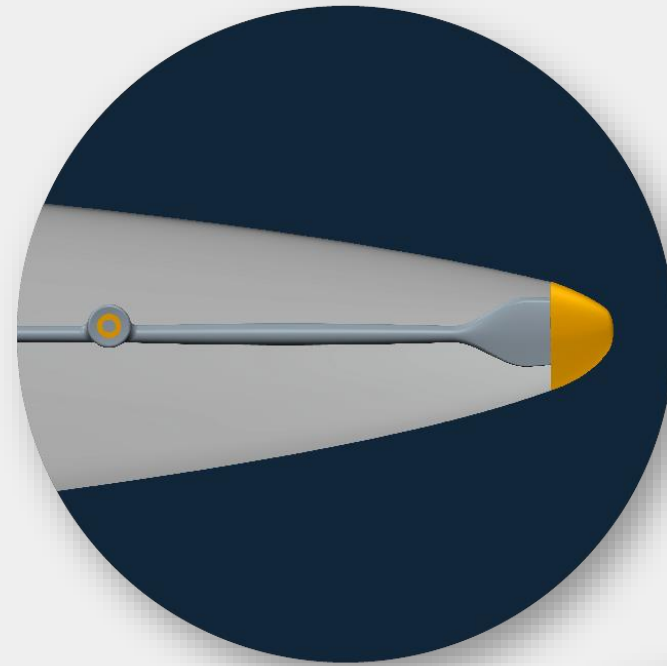
GLPS has developed two standard solutions for wind blade applications:

- LIBI – Lightning Interception Blade Implant
- LKDS – Lightning Key Data® System

LIBI will efficiently protect blades against any lightning damages and reduce cost of repair and down time.

LKDS is capturing key data from all lightning strikes to the blades and are used in determining which blades to inspect and maintain.

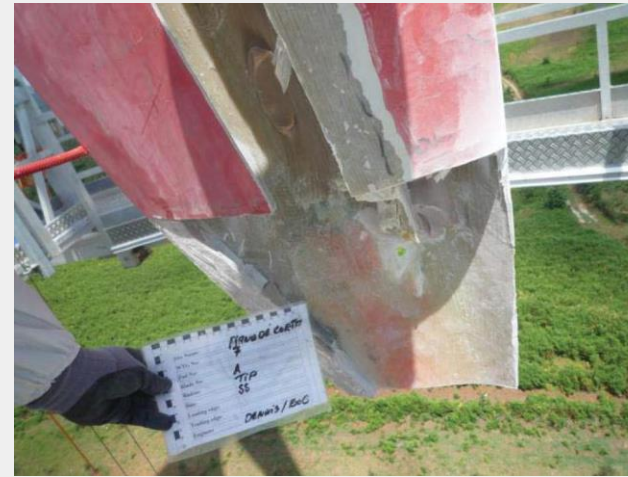
Both solutions are certified by DNV/GL.



Improving existing blades uptower

The GLPS LIBI solution has been tailored to installation in existing blades, improving older blades with 'state-of-the-art' lightning protection.

- Certified by DNV/GL as a retrofit
- Process:
 - Removing existing lightning protection hardware in the tip
 - Installing LIBI module
 - Restoring and painting shell geometry
 - Down time up to 2 days per blade depending on blade type

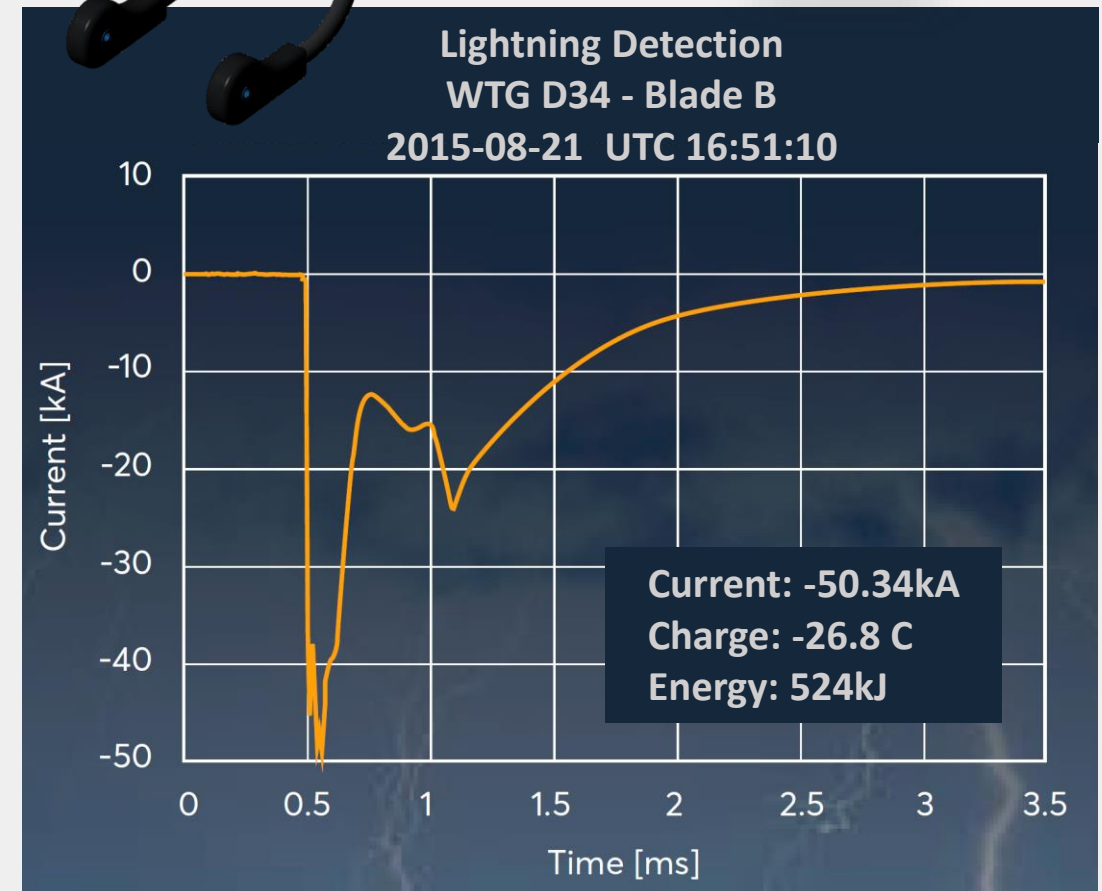


Lightning Tracking

GLPS is providing a Lightning Key Data[®] System collecting real lightning data – to avoid unnecessary inspections and expensive downtime

With the lightning monitoring system, you are able to detect, analyze and report any lightning events through the turbine control or SCADA system.

By collecting real-time lightning data, the operator are able to react immediately on lightning incidents and accumulate data for intelligent maintenance.



A landscape photograph featuring a row of white wind turbines in a green field. The sky is filled with dark, heavy clouds, but a bright sunburst is visible on the left side, casting a golden glow. A diagonal gold-colored overlay covers the bottom right portion of the image, partially obscuring the turbines and the sky.

THANK YOU

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