Advanced turbine blade designs have the potential to transform wind energy production. To better enable the wind industry to optimize and protect their blades, PolyTech acquires fos4X, a Munich-based innovator of fiber optic sensor technology and data analytics.

Wind turbine rotor blades play a key role in the pursuit of a lower cost of wind energy. In recent years, wind turbine producers have achieved immense progress in innovative blade design, crafting blades that are longer, stronger and able to harvest more wind energy than ever before.

Enhancing the blades through digital technology and smart data analytics will enable wind turbine operators to optimize operations and maintenance through intelligent use of real-time data. That is the vision for the advanced blade technology the Danish wind technology company PolyTech aims to deliver to their customers.

- The turbine rotor blade design and control is main element for maximizing wind energy capture, and it is also the most vulnerable to the harsh environmental conditions. In order to optimize the efficiency of the wind turbine, you need advanced blade sensor technology and smart data analytics. These systems must be integrated with the blade structure and lightning protection system and be durable enough to survive extreme environmental exposure for over 25 years, says Mads Kirkegaard, CEO of PolyTech.

Acquisition strengthens PolyTech’s blade technology expertise

To further strengthen the company’s ability to serve as a blade technology specialist, PolyTech has acquired the German company fos4X, a Munich-based innovator of fiber optic sensor technology and data analytics.

- Complex technology, advanced structural carbon composite materials and the quest for greater efficiency demands robust integrated blade subsystems such as lightning protection and condition monitoring sensors. These systems need to co-exist and have complete intra-system compatibility, which demands that they need to be co-designed and developed, says Mads Kirkegaard and continues:

- We must master many different technologies so we can act as true system integrators, combining an array of technology offerings. This enables our customers to benefit from real synergies and push wind energy even further.

The addition of fos4X strengthens PolyTech’s global organization with 100 dedicated and experienced individuals and a wide range of reliable proven technology to supplement PolyTech’s existing foundation.

- With the additional resources from fos4X, we are better prepared than ever before to co-design new turbine blade optimization and protection solutions with our customers to fit their specific needs - all the way from design to production and installation. It allows us to join forces with our customers as an experienced, trustworthy and reliable partner to push the boundaries of wind energy production even further, ultimately accelerating the world’s transition to sustainable energy, says Mads Kirkegaard.

The fos4X name and brand will be discontinued, and the current fos4X activities and offices in Germany and China will continue to operate as part of PolyTech. This further increases PolyTech’s global reach from ongoing operations in China, Denmark, Mexico, and USA.

- As a founder, I could not wish for a better match. As part of PolyTech, our intelligent sensor and software solutions will be further developed and the fos4X vision of abundant clean energy will be driven even more strongly than before, says Lars Hoffman, CEO of fos4X.
ABOUT POLYTECH

- PolyTech develops and manufactures products and systems for OEMs and owners in the wind industry.
- PolyTech specializes in solutions that improve the performance and protection of wind turbine blades for newbuild and retrofitting to reduce the overall Levelized Cost of Energy (LCOE). The products include lightning protection systems, leading edge protection, blade add-ons and transport solutions.
- Product development at PolyTech is based on a holistic approach. The company has a DANAK-accredited test facility in Bramming and a world-class DANAK accredited lightning test facility in Herning.
- PolyTech is growing rapidly and since 2013, the number of employees has gone from 35 to 700 employees in Denmark, China, Mexico and the United States. The acquisition of fos4X will bring the global number of employees close to 800.
- Since 2016, PolyTech has been owned by Verdane Capital.

ABOUT FOS4X

- Fos4X GmbH is a Munich-based innovator in fiber optic sensor technology and data analytics for the wind industry.
- The technology developed by fos4X utilize data-driven approaches such as machine learning to digitize and optimize existing and new wind turbines. The intelligent solutions are based on robust fiber optic rotor blade sensor technology.
- Founded in 2010, fos4X has benefited from the innovative startup environment and high availability of skilled engineering talent in Munich to grow to a size of 100 employees.