

LM Glasfiber – Facts

LM Glasfiber – in brief

- The world's leading supplier of wind turbine blades
- Has manufactured more than 120,000 blades corresponding to a capacity of more than 37 GW and each year contributing to saving nature more than 70 million tons of CO₂
- More than 20 global and national customers, including 8 of the world's 10 largest wind turbine manufacturers in 2008
- 11 production facilities on 3 continents
- Number of employees end 2008 7,217
- Turnover in 2008 EUR 885 m
- Sales in 2008 in MW equivalent 7,458

Milestones

- 1940 Lunderskov Møbelfabrik (*Lunderskov furniture factory*) founded with a view to manufacture of wooden furniture
- 1952 The possibilities of commercial exploitation of glass fiber technology are investigated
The name is later changed to LM Glasfiber
- 1978 LM Glasfiber starts manufacturing wind turbine blades in Denmark
- 1993 First manufacturing facility outside Denmark established in India
- 1994 Production established in Spain and Aeroconstruct in Germany acquired
- 1999 Production facility established in North Dakota, USA
- 1999 Rotorline in the Netherlands acquired
- 2001 The LM Glasfiber Group acquired by certain limited partnerships, for which Doughty Hanson & Co Limited acts as general partner
- 2001 Production facility opened in Tianjin, China
- 2004 LM launches the world's largest wind turbine blade, which measures 61.5 meters and generates energy corresponding to 5,000 households' annual power consumption
- 2006 Production plant opened in Québec, Canada
- 2006 LM Glasfiber inaugurates the world's most advanced wind tunnel for testing of blade aerodynamics in Lunderskov, Denmark.
- 2006 Expansion of production facilities in China and USA
- 2006 Establishment of R&D center in Bangalore, India
- 2007 Global Business Center opened in Amsterdam, the Netherlands
- 2007 LM Glasfiber's opens new facility in Spain in the town of Castellón
- 2007 New production facility established in the Xinjiang province, China in Urumqi
- 2007 New production facility opened in Dabaspur, India

- 2008 LM Glasfiber opens new factory in US, Arkansas
- 2009 New production facility established in Goleniów, Poland
- 2009 Consolidation of European organization
- 2009 New production facility established in Qin Huang Dao, China

LM Glasfiber's competitive edge

Leading technology and know how

- LM Glasfiber has manufactured more than 120,000 blades in the course of 30 years
- We have at our disposal both the widest and the most in-depth specialist knowledge within fields ranging from materials and process technology, aerodynamics, calculation and simulation to advanced production and testing of blades
- By means of our calculation, simulation, design and test tools, we are able to offer a short time-to-market and optimization of the blades' aerodynamics and structure
- We have at our disposal a unique process technology, which enables us to make the optimum choice of materials and achieve a high level of utilization of the materials' properties
- LM Glasfiber's FutureBlade technology paves the way for the production of large blades with a very low weight. Our 61.5 meter blade was the first blade to be manufactured using the new technology
- LM Glasfiber is accredited for blade testing and has at its disposal a large internal testing capacity: LM blades are tested both statically and dynamically to ensure the highest durability and quality

Global capacity and supply chain

- Global production and service facilities in the major wind energy markets – 10 locations in 7 countries (Denmark, Spain, USA, Canada, India, China and Poland)
- Through our global presence, we minimize transport and logistics costs, shorten delivery time, reduce cash flow requirements, and offer delivery to our global customers in local currency
- We collaborate with our customers about planning of global capacity and offer them local 'first mover' advantages on new markets

Economies of scale

- As the world's largest blade manufacturer, we employ our high degree of specialization to reap the benefits of economies of scale within R&D, procurement and global production.



LM Glasfiber

Customised product offerings and supply system

- We work closely with our customers in an integrated process to develop new products, and we apply our specialist knowledge to design rotor solutions with a high yield adapted to our customers' wind turbines and different wind and climatic conditions.

Value-adding blade features

LM offers a series of unique features that improve the blades' operational reliability and output:

- High-performance and load-optimized blade profiles that ensure low-cost utilization of wind energy
- Vortex generators that increase annual production
- The safest and best documented lightning protection system on the market – with many optional functions
- Durable and matte blade surface with minimal reflection of sunlight
- Low-noise tip and trailing edge design
- Pre-bending that facilitates weight reduction and increased energy production
- Blade monitoring that facilitates lower service and maintenance costs, increased operational safety and energy production

Wide customer portfolio

- More than 20 customers in 2008, including 8 of the 10 largest wind turbine manufacturers

LM Glasfiber's vision

- *"Together we turn wind into clean power"*. LM Glasfiber's focused business model is based on our unique ability to create value in efficient partnerships where we collaborate with suppliers and customers as well as internally in our own organization to secure clean energy for the world many years into the future.

LM Glasfiber's mission

- *LM Glasfiber creates value to our customers and shareholders by supplying rotor solutions to the wind industry that increase wind energy's competitive edge and provide sustainable energy.*
- We want to be the leading global supplier of advanced rotor solutions for the wind energy market. We become this by achieving the goals outlined in our strategy, *Power Plan 2012*:
 - Take up the position as quality leader.
 - Expand by maximizing output from existing factories, increase production capacity and focus on product development and manufacturing technology
 - Achieve high market share with our customers and offer them optimum service
 - Set the standard for business excellence in the wind industry within processes, organization and systems
 - Be a leader in terms of cost optimization

Our global change program REACH helps us achieve our goals:

- Realize our quality potential
- Excel in growth and innovation
- Accentuate customer relations
- Create world-class people and processes
- Harvest cost leadership potential

LM Glasfiber's values

- We encounter and handle diversity every single day; this is an important part of our company's identity. A multifaceted company needs a common foundation that unites people across continents, regardless of language, education and culture. LM Glasfiber's common foundation is our values. They serve as basic guidelines in our conduct and our contact with business partners. Our five values are:
 - Focus on customer and market
 - Work as one team
 - Trust and respect
 - Take ownership
 - Innovate for excellence

LM Glasfiber's Board of Directors

- Richard P. Hanson, Chairman
- Jan Amethier, Vice-chairman
- Rikard Brattberger, Board Member
- John Leahy, Board Member
- Peter Pedersen, Staff-elected Board Member
- Thomas Lindharth, Staff-elected Board Member
- Flemming Brorsbøl, Staff-elected Board Member

LM Glasfiber's Executive Group Management

- Roland Sundén, CEO
- Dominique Yates, CFO
- Frank V. Nielsen, CTO
- Ian Telford, VP Sales & Marketing
- Richard Bevan, VP Integrated Supply Chain
- Randall Hoeflein, VP Quality, Strategy & Product Development
- Roman Thomassin, VP Service & Logistics
- Michael Hakes, VP Human Resources
- Søren Høffer, General Counsel

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