

A large, blurred image of a wind turbine dominates the center of the page. The turbine is white with three blades, and the background is a clear blue sky. The image is intentionally out of focus, creating a sense of motion and depth. A thin orange line runs horizontally across the page, separating the turbine image from the text below.

BLADE REVOLUTION

ABOUT EUROS

- 20 years of experience in rotor blades for wind turbines
- Extraordinarily innovative
- Fully vertically integrated
- Privately owned

We construct reliable rotor blades that generate a high output of energy with respect to used resources. Our structure as well as the areas of our knowledge and expertise enable us to satisfy our clients' requests on a high level of quality within a short period of time and at attractive prices.



OUR COMPETENCE

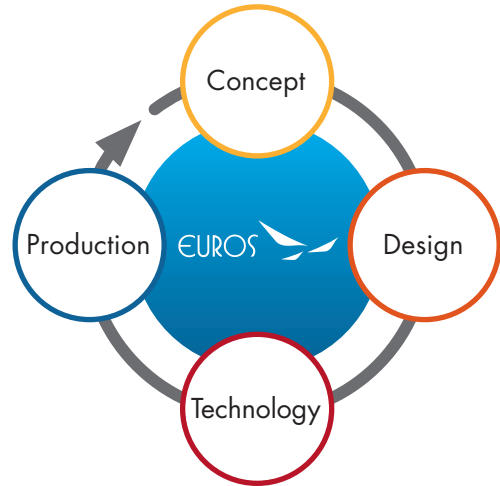
We cover all aspects of rotor blade design and production by a wide range of experience and know-how. Wind turbines equipped with our blades remain in persistent revolution. Furthermore, it is revolutionary in itself to apply methods for verification of the rotor blade that are extraordinary. Thereby we enable the game-changing step towards quantified durability.

	EUROS GmbH	EUROS Polska
Blade development	■	
Material qualification	■	
Production technology	■	■
Quality management	■	■
Material sourcing	■	■
Blade production		■
Plug & mould production		■
Sales	■	
After Sales Service	■	

OUR APPROACH

We offer a complete portfolio for rotor blades for wind turbines – from concept to design and technology up to production. These four vertically and fully integrated fields form a toolbox that allows us to offer various products and services:

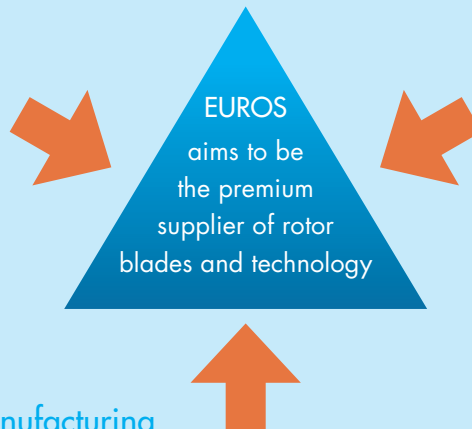
- System supplier for development and delivery of tailor-made rotor blades
- Design, licenses and technology transfer for the customer's own blade production
- Engineering support with regard to evaluation, benchmarking, optimization, assessment and certification
- Building rotor blades according to the customer's design (B2P)



OUR GOAL

Robust Characteristics

are the focus of EUROS rotor blade technology. This is the only opportunity to generate reliability for the complete design-life-time.



Design Expertise

EUROS possesses an immense in-depth knowledge of the design and manufacturing of rotor blades. An integrated in-house development environment for rotor blades enables objective assessment of rotor blade reliability.

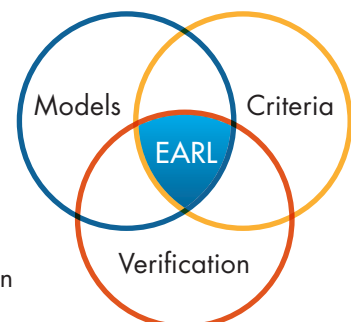
Professional Manufacturing

Extensive understanding of the thermal and chemical deformation procedures of master plugs, moulds and composite parts is the basis for innovative mould design tools. Consideration of these effects enables enhanced quality and reliability of EUROS rotor blades.

OUR PROMISE

The composition of:

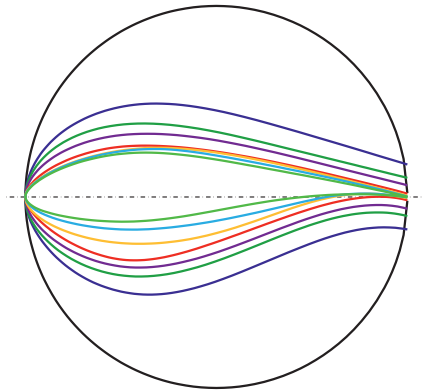
1. representative MODELS for loads, structure and materials,
2. adequate CRITERIA for strength, fatigue and aeroelasticity and
3. VERIFICATION towards real life is the basis for the new EUROS Advanced Reliability and longer Lifetime (EARL) seal. Based thereon EUROS is planning to offer increased warranty for all future blades.



OUR EXPERTISE

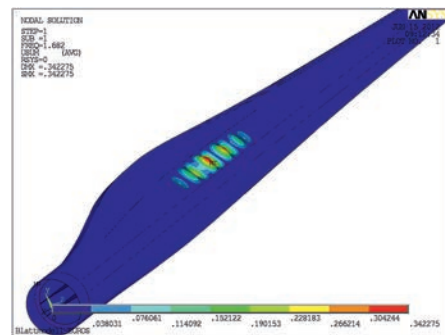
Aerodynamics & Loads

- Aerodynamic design of rotor blades
- Load calculation according to established standards (IEC/DNV GL)
- Optimisation of energy yield with respect to turbine load limits
- Performance simulation considering soiled surfaces
- Noise simulation and prediction
- Highly integrated software toolkit for rapid design iterations



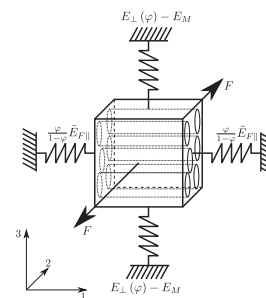
Design & Analysis

- Structural design of rotor blades for on- and offshore application
- Experienced with carbon fibre and R-glass design
- Structural optimization
- Assessment for structural details and aero elasticity
- Certification support
- Tailored solutions
- Full scale testing and support



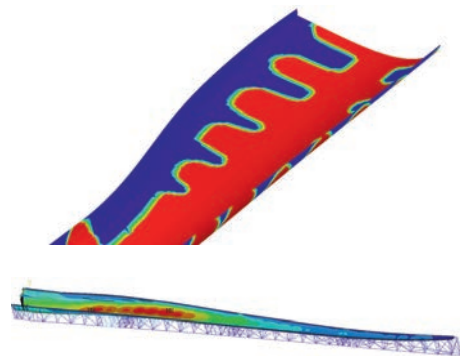
Material

- Advanced composite materials engineering
- Modeling of fibre reinforced plastics, core materials, adhesives and coating
- Consideration of tolerances in design allowables e. g. waves and undulations



Production Technology

- Vacuum infusion (VARI): Design & Strategy, Process simulation, Implementation
- Hand lamination (Inhouse Prepeg)
- Direct Roving in-house TowPreg (DRiTP) for Spar Cap
- Surface finishing
- Master-Plugs and Moulds: Design and construction
- Facility Layout and Planning



PRODUCTION

Production facilities in Zory-Warszowice (PL):

- 44600 m² base area
- 10800 m² production area
- Up to four production lines for 3–4 MW blades
- Capacity 500 MW / year

Production facilities in Ustron (PL):

- 2800 m² production area
- Up to three production lines for 0.5 to 2.1 MW blades
- Capacity 120 MW / year
- Static blade test bench with 25 MNm loading capacity



RANGE OF PRODUCTS

Since 2000, EUROS has been delivering rotor blades to various turbine manufacturers worldwide. We have developed and manufactured more than 30 different rotor blade types. New designs or modifications of already available blades can be created according to customer requirements. EUROS' products range from 9.5 m blade length to 81.6 m, from 100 kW rated power to 7 MW. The recent main products for the onshore wind turbine market are for 3–4 MW with blade length from 54 m to 68 m. For the offshore wind turbine market we are prepared to reach up to 90 m blade length and beyond.

REFERENCES

EUROS has an exceptional position in the world's wind energy market because of our unique product range. We have delivered rotor blades and provided license and technology transfer worldwide. Since 2000 to date (2015), almost 500 wind turbines with an installed capacity of more than 650MW have been equipped with premium rotor blades from EUROS. The accumulated operating time already exceeds 2000 years.



● ROTORBLADES

EU 19	USA
EU 20	Korea
EU 25	Korea
EU 50	USA · Germany
EU 51	France · Germany · Italy · Korea · Spain · USA
EU 54	India · France · Korea
EU 55	Finland · Germany
EU 56	Croatia · India · Italy
EU 60	China · Finland · France · India · Portugal
EU 64	Argentina · Finland · France · Sweden
EU 70	Argentina
EU 80	Czech Republic · Japan · Venezuela
EU 90	China · Croatia · Finland · Norway · Sweden
EU 100	Estonia · Finland · Germany · Sweden
EU 116	Germany · Estonia
EU 120	Germany
M 5000	Germany

● LICENSES AND TECHNOLOGY TRANSFER

EU 20	Korea
EU 51	Canada · Netherlands · USA
EU 53 56	Italy
EU 54	India
EU 56 60 64	India
EU 60	China
EU 64	Argentina
EU 70 77	Canada · China
EU 80 84	China · India
EU 90 100	China

CERTIFICATES

- Our production workshops are certified according to the quality standard ISO9001:2008
- Most of our blade designs are certified for the Design Assessment according to GL and/or IEC guideline.



AWARDS

The leading wind branch magazine Windpower Monthly awarded EUROS' Offshore Wind Turbine Blade: M-EU167 is the „Best Rotor Blade 2014“ due to being the first blade of its class which passed the entire test program successfully and received Design Assessment Certificate from GL.



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