

Durability Modelling of Composite Structures with arbitrary lay-up using standardized testing and artificial intelligence

OUR PROJECT

Develop **rapid methods to characterise fatigue damage in composites** and **sustainability of composite supply chains** and thereby model the durability and sustainability of large-scale composite structures with arbitrary layups **under realistic conditions** (loads, environment, manufacturing imperfections).

- › Through **minimal and accelerated testing** of generic specimens thereby reducing reliance on feature-based tests.
- › Applying **artificial intelligence and machine learning** to develop methods for analysis of large-scale structures using the results of the experiments and meso-scale models.
- › Integrating **Life-Cycle Assessment (LCA)** in the design process.

OUR AMBITION

- › Enable **reduced time-to-market, material waste, and increased lifespan** of composite products in the **aerospace and wind energy** industries.
- › Align with the objectives of **EMMC and EMCC** councils.



Starting date
01/01/2023



Duration
36 months



13 partners
from 7 European countries

Project Coordination
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Type of action
Research and Innovation Action (RIA)

GA Number
101091409

SHARE YOUR THOUGHTS, SHAPE THE CHANGE:

Get familiar with different business' insight on economy benefits of the D-STANDART value chain. **Gauge the public perception** that influences future strategies and market orientation.

Industry experts insight: Prioritize the key factors for composites manufacturing:

- Development cost
- Composites strength
- Part cost
- Manufacturing rate
- Product weight
- Long-term durability

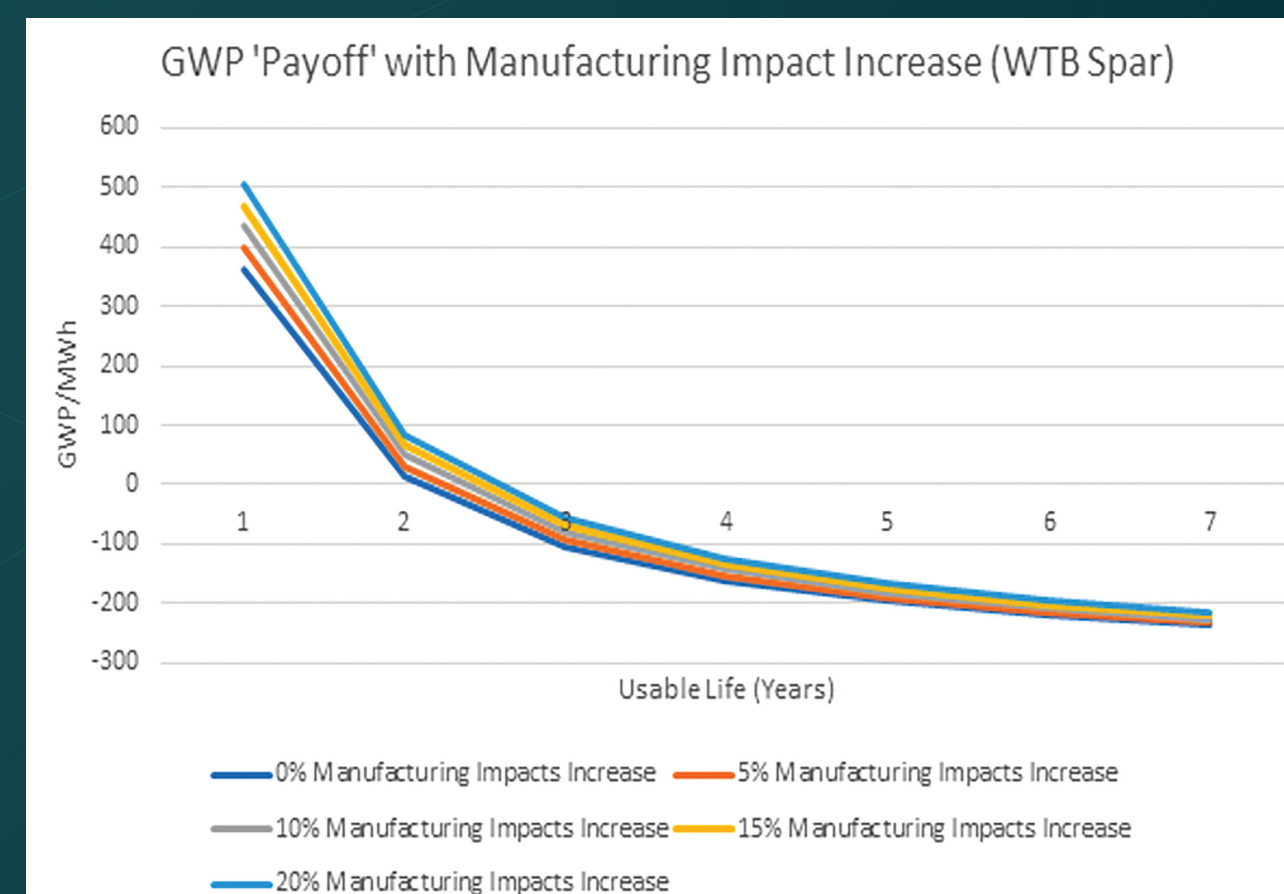
Public opinion: What matters you the most for installing offshores wind turbines?

- Cost of the wind farm
- Environmental benefits of wind power
- Visual impact of wind farm
- Environmental impact of the wind farm
- Effect on cost of electricity

Help us to understand your priorities in tech and industrial decisions. Share your thoughts for a more sustainable future!

ECONOMIC BENEFITS FOR INDUSTRIES:

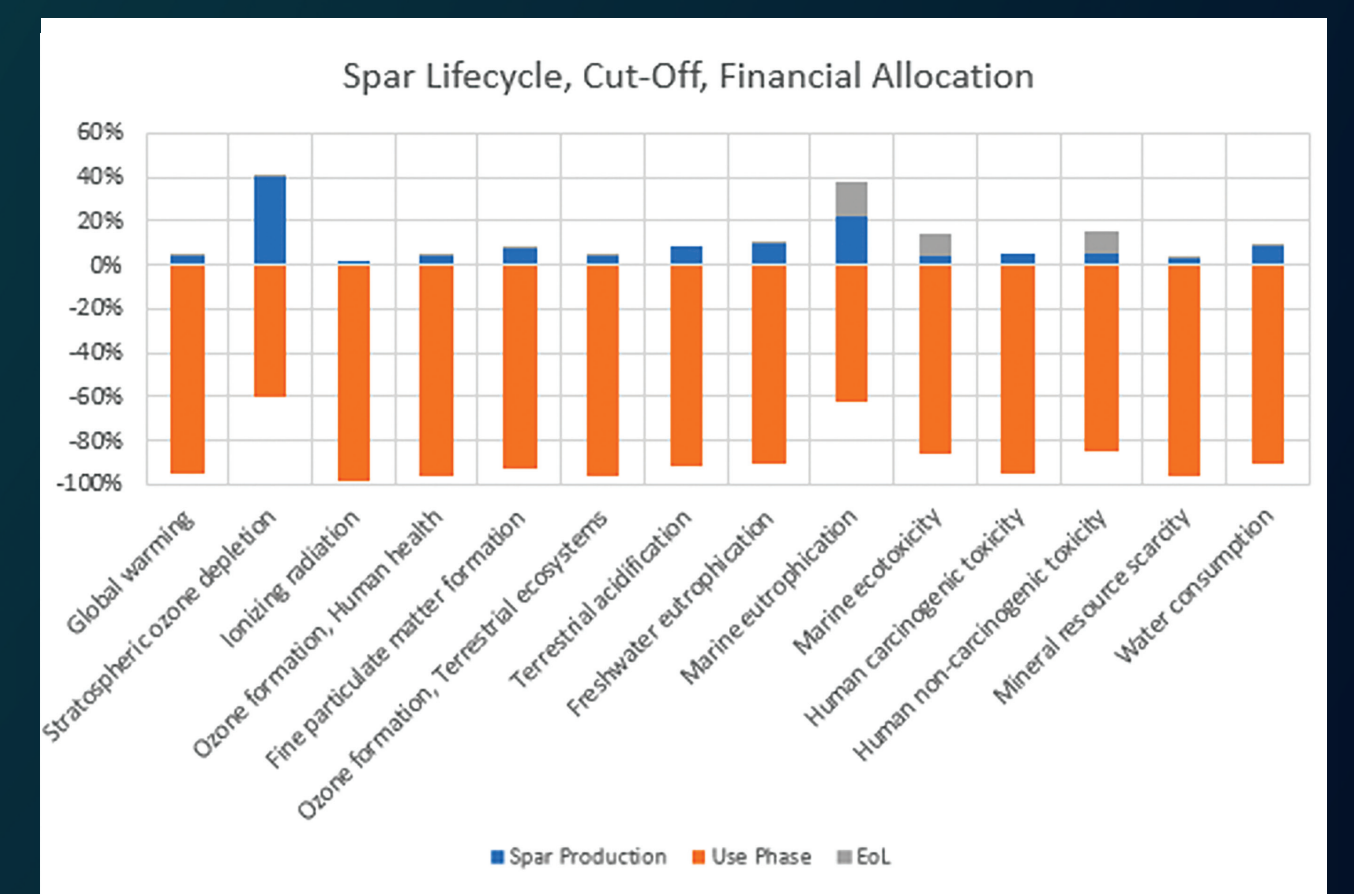
The D-STANDART project **enhances sustainable wind turbine design** through advanced fatigue modelling, reducing material waste and increasing product lifespan.



Functional GWP with Life Extension for the Wind Turbine Blade Spar for its Useable Life, and the Change in the Point of "Pay-Off" as any Manufacturing Increases are Factored in.

ENVIRONMENTAL IMPACT MATTERS:

The D-STANDART project assesses the **environmental impact** across various product cycle phases, offering **insights into Life Cycle Assessment (LCA) for potential improvements**.



Percentage contribution to the environmental impacts from the Wind Turbine Blade, Spar Manufacturing and Use Phase and EoL Phases (Financial Allocation, Cut Off)

CONSORTIUM



UNIVERSITY OF TWENTE



DISCOVER MORE

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