D-standart

for Durability Modelling of Composites

Durability Modelling of Composite Structures with arbitrary lay-up using standardised 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.
- Transferring the results of small-scale experiments to large-scale structures using **artificial intelligence and machine learning.**

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

9 partners
from 4 European countries

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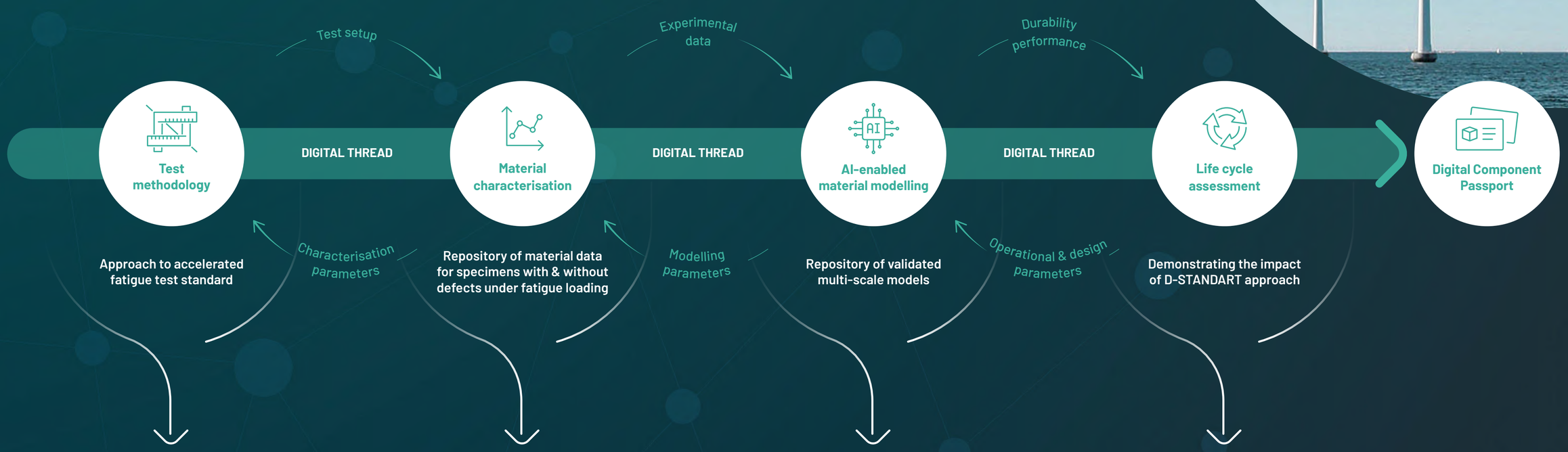
Type of action
Research and Innovation Action (RIA)

GA Number
101091409

OVERALL APPROACH

The D-STANDART project **contributes to the development of sustainable lightweight composite products** by designing fast and accurate testing methods that build a repository of material data. This characterisation data is **used to train and advance multi-scale models** which demonstrate the prediction **capability of the durability performance** and **hence improved assessment of the product life cycle.** Meanwhile the interfaces of these activities are supported by the digital thread, forming the foundation for a Digital Component Passport.



IMPACT Reduced design & testing times, more reliable fatigue modelling, higher fatigue performance, reduced time-to-market, sustainable-by-design products

CONSORTIUM

NLR · University of Twente. · TU Delft · Hexagon · UP Loughborough · Suzlon · University of Bristol · National Composites Centre · iCOMAT

DISCOVER MORE

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UK Research and Innovation