

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



13 partners
from 7 European countries

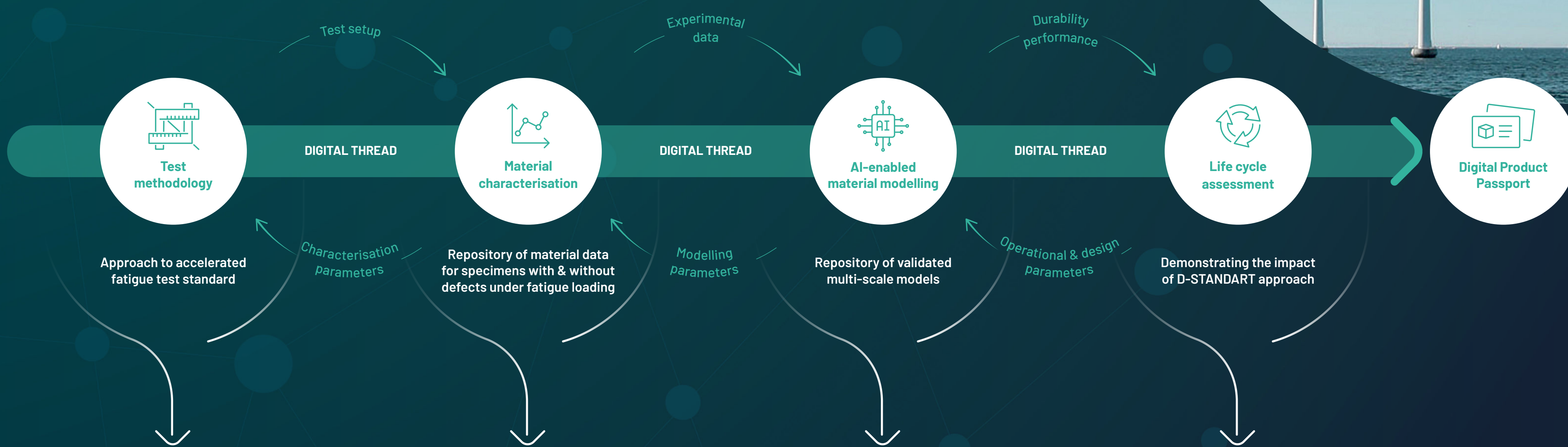
Project Coordination
Marco Nawijn (NLR)
contact@d-standart.eu

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



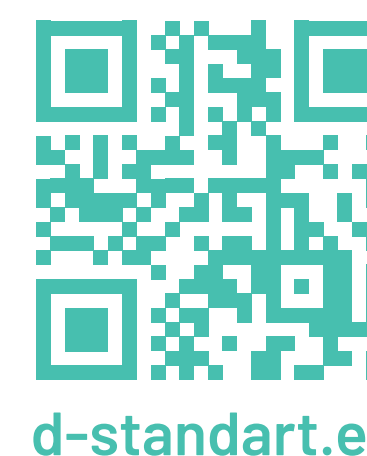
UNIVERSITY
OF TWENTE.



DISCOVER MORE

Email:
contact@d-standart.eu

Coordinator:
Marco Nawijn, NLR



d-standart.eu



LinkedIn