



ININTERESTING

The ININTERESTING project aims to develop a novel hybrid methodology and breakthrough design tools to assess reliability of larger wind turbine critical components without the need of building larger test benches in the future.



OBJECTIVES

O1. To develop a hybrid testing methodology able to robustly predict the expected reliability and lifetime of large wind turbine components (up to 20 MW) without the need of performing physical tests of full-size prototypes (thus removing the need of large-scale testing infrastructures in the future).

O2. To develop design tools integrating cutting-edge models and technologies supporting the ININTERESTING methodology.

O3. To bring two new ground-breaking designs of real wind turbine components to a TRL-4, proposing much higher load capacities and increased lifetime.

O4. To validate the methodology in the assessment of a novel repair solution (in process of patenting) addressed to increase lifetime extension of already installed pitch bearings.

O5. To reduce environmental and economic impact and to improve social acceptance of the newly developed designs, concepts and testing methods.

O6. Replication of project results to other components and sectors.

MAIN EXPECTED IMPACTS

UP TO
25%
LIFETIME
EXTENSION

UP TO
40%
RELIABILITY
INCREASE

UP TO
70%
PDP* COST
REDUCTION

UP TO
50%
PDP* TIME
SAVINGS



*PDP [Product Development Process]



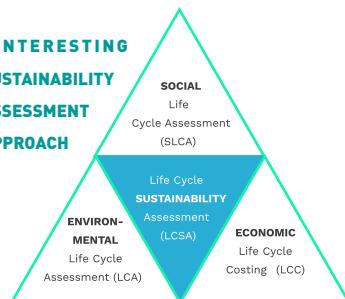
TECHNOLOGICAL APPROACH

The ININTERESTING hybrid testing methodology combines results from simplified physical tests and advanced virtual testing through smart fusion processes and upscaling techniques to robustly predict reliability, lifetime and failures of full-scale wind turbine components. Three Case Studies will be developed:



SOURCE: LAULAGUN

INTERESTING SUSTAINABILITY ASSESSMENT APPROACH

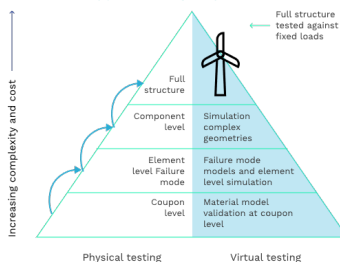


CS1 - Novel pitch bearing design concept

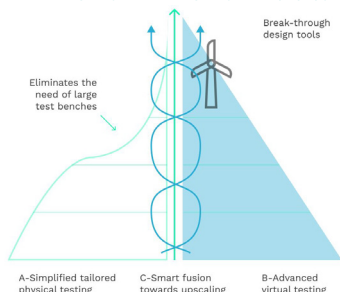
CS2 - Novel gear design concept

CS3 - Novel stiffening concept for lifetime extension of existing pitch bearings

CURRENT TESTING PYRAMID



ININTERESTING HYBRID TESTING METHODOLOGY



PARTNERS

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moventas | GEARED FOR NEW ENERGY

LAULAGUN
bearings

KU LEUVEN

SIEMENS
Ingenuity for life

vito
Energy Ville

VTT

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BASQUE ENERGY CLUSTER



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