Wind Turbine Shearography Robotic Inspection On-blade System (SheaRIOS)

Fact Sheet

Project Information

SheaRIOS
Grant agreement ID: 780662

DOI
10.3030/780662

Funded under
INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies - Information and Communication Technologies (ICT)

Total cost
€ 3 242 788,61

EU contribution
€ 2 716 906,62

Coordinated by
TWI LIMITED
United Kingdom

Objective

SheaRIOS is a solution for the Wind Turbine Blade (WTB) inspection industry that enables easier, faster and more accurate inspection utilising robotics and shearography, a high-quality method that is applied outside of the laboratory for the first time. A deployment platform will ascend on the wind turbine tower and deploy a work climber on the base of the blade. The climber will move on the blade by means of air-suction and carry out inspection with a shearography kit on a cantilever. The deployment platform will also act as the power and data link.

Operational modelling is done by EDF, the end-user that drives this Innovation Action. Preliminary testing and validation of the market-readiness of the SheaRIOS robotic application will take place at their on-shore wind turbine facilities. Three
competitive small and mid-scale technology companies from three European countries will contribute so Europe will (1) integrate more wind power, (2) reduce operational costs, (3) keep the technology lead, and (4) remain a major export. As per Wind Europe, these are the targets for enabling wind to become the backbone of our electricity generation system.

Based on our analysis, the non-destructive testing service provider would save 1,055€ per wind turbine inspection and payback of SheaRIOS investment will be achieved after 152 inspections, or the first 2 years. The wind farm operator will save more than 1 full day per wind turbine inspection, because of the reduced inspection time, which directly translates to less revenue lost due to idle wind turbines. Finally, the cumulative savings for a period of the first 5 years will translate to €92.74m assuming SheaRIOS will be successful in averting just 20% of the unforeseen WTB failures and contributing to increased health and safety for the rope access workers that are involved in hundreds of accidents each year.


Fields of science

engineering and technology ▶ electrical engineering, electronic engineering, information engineering ▶ electronic engineering ▶ control systems
engineering and technology ▶ electrical engineering, electronic engineering, information engineering ▶ electrical engineering ▶ power engineering ▶ electric power generation
engineering and technology ▶ environmental engineering ▶ energy and fuels ▶ renewable energy ▶ wind power
engineering and technology ▶ electrical engineering, electronic engineering, information engineering ▶ electronic engineering ▶ robotics
engineering and technology ▶ mechanical engineering ▶ vehicle engineering ▶ naval engineering ▶ sea vessels

Programme(s)

H2020-EU.2.1.1. - INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies - Information and Communication Technologies (ICT)  MAIN PROGRAMME

Topic(s)

ICT-25-2016-2017 - Advanced robot capabilities research and take-up
Call for proposal

H2020-ICT-2016-2017

See other projects for this call

Sub call

H2020-ICT-2017-1

Funding Scheme

IA - Innovation action

Coordinator

TWI LIMITED

Net EU contribution

€ 908 058,61

Address

Granta Park Great Abington
CB21 6AL Cambridge
United Kingdom

Region

East of England > East Anglia > Cambridgeshire CC

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation  Website
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution

€ 0,00

Participants (10)
VISATEC GESELLSCHAFT FUR VISUELLE INSPEKTIONSANLAGEN MBH

Germany
Net EU contribution
€ 308 641,38

Address
Gewerbepark 7
87477 Sulzberg

Region
Bayern > Schwaben > Oberallgäu

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links
Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
€ 132 274,87

EDF ENERGY RENEWABLES LIMITED

United Kingdom
Net EU contribution
€ 29 571,50

Address
Grosvenor Place 40
SW1X 7EN London

Region
London > Inner London — West > Westminster

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links
Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
EDF ENERGY LIMITED

United Kingdom

Net EU contribution

€ 42 379,75

Address

90 Whitfield Street
W1T 4EZ London

Region

London > Inner London — West > Camden and City of London

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution

€ 18 162,75

EDF ENERGY R&D UK CENTRE LIMITED

United Kingdom

Net EU contribution

€ 89 066,25

Address

90 Whitfield Street
W1T 4EZ London

Region

London > Inner London — West > Camden and City of London

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links


THIRD-PARTY

ELECTRICITE DE FRANCE

France

Net EU contribution
€ 28 875,00

Address
Avenue De Wagram 22
75008 Paris 08

Region
Ile-de-France

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links
Contact the organisation
Website
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution
€ 12 375,00

IKNOWHOW SA

Greece

Net EU contribution
€ 517 758,50

Address
Leoforos Kifisias 340
15 451 Athina

SME
Yes
ACONDICIONAMIENTO TARRASENSE ASSOCIACION

Spain
Net EU contribution
€ 462 500,00

Address
Carrer De La Innovacio 2
08225 Terrassa

Region
Este > Cataluña > Barcelona

Activity type
Research Organisations

Links
Contact the organisation  Website  Participation in EU R&I programmes  H2020 collaboration network

Non-EU contribution
€ 0,00
WRS CATHODIC PROTECTION BV
Netherlands
Net EU contribution
€ 210 765,63
Address
Edisonweg 12
3291CK Strijen
Region
West-Nederland > Zuid-Holland > Groot-Rijnmond
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)
Links
Contact the organisation
Participation in EU R&I programmes
H2020 collaboration network
Non-EU contribution
€ 90 328,12
CENTRE FOR RENEWABLE ENERGY SOURCES AND SAVING FOUNDATION

Greece

Net EU contribution

€ 119 290,00

Address

Marathonos 19th Km
19009 Pikermi

Region

Ανατολική Αττική > Αττική > Αττική

Activity type

Research Organisations

Links

Contact the organisation Website
Participation in EU R&I programmes
H2020 collaboration network

Non-EU contribution

€ 0,00

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