

PROJECT

RESURGAM

ROBOTIC SURVEY, REPAIR & AGILE MANUFACTURE

Funding: European (Horizon 2020)

Duration: Feb 2021 - Jan 2024

Status: Ongoing

Total project cost: €6,123,140

EU contribution: €5,012,586



Call for proposal: H2020-MG-2020-SingleStage-INEA

[CORDIS RCN : 231876](#)

Objectives:

Many of the challenges faced by small and medium sized EU shipyards can be addressed by improving their productivity for fabricating new, high technology vessels and increasing their access to the specialist repair and maintenance market. Friction Stir Welding (FSW) is a high integrity, low distortion, environmentally benign, welding technique, which was previously investigated in FP7 project HILDA (High Integrity Low Distortion Assembly) and recommended for shipbuilding due to its high quality and suitability for automation.

A recent break-through in the tooling material available for FSW now shows potential to enable this process for welding of steel structures (traditionally it has only been possible to use FSW in aluminium) - this represents a huge opportunity to improve the productivity of European shipyards.

In RESURGAM, will combine FSW with the new tool material to deliver:

- The introduction of low cost friction stir welding (FSW) systems for steel that can be retrofitted to their existing CNC machines;
- The introduction of AI enabled, robotic FSW systems capable of making underwater weld repairs.

These fabrication and repair capabilities, backed by the secure, digital Industry 4.0 infrastructure and techniques already in widespread use in the automotive and aerospace industries, will facilitate the rapid, coordinated but distributed modular manufacture of ships and watercraft throughout Europe.

Practically, this will allow ships damaged anywhere in the world will have the option of being repaired in place without the need to travel to the nearest dry dock. This will allow ship owners to choose the most suitable yards to conduct their repairs rather than the nearest, and the repairs may be undertaken by yards with no dry dock of their own thus significantly increasing the number of yards able to undertake such work. All of this will be implemented by the European shipyards and Naval architects in Europe.

Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Other programmes: MG-3-7-2020 Improved Production and Maintenance Processes in Shipyards

Lead Organisation:

European Federation For Welding Joining And Cutting

Address:

AV ANTOON VAN OSS 1 4
1120 BRUXELLES

Belgium

Organisation Website:

<http://www.ewf.be>

EU Contribution: €311,250

Partner Organisations:

Turkiye Gemi Insa Sanayicileri Birliđi Derneđi

Address:

POSTANE MAH CINARLI SK 34 PK MERCAN TUZLA
34940 ISTANBUL
Turkey

EU Contribution: €97,500

Ned-Project Sp Z Oo

Address:

ABRAHAMA 1A
80 307 GDANSK
Poland

EU Contribution: €573,125

Asociacion Cluster Del Naval Gallego

Address:

Rue De Paris 9 Portal A PI 5
15700 Santiago De Compostela
Spain

EU Contribution: €127,000

University Of Limerick

Address:

NATIONAL TECHNOLOGICAL PARK, PLASSEY
-
LIMERICK
Ireland

Organisation Website:

<http://www.ul.ie>

EU Contribution: €422,210

Stirweld

Address:

1 RUE JEAN DE THEVENOT - ZAC CHAMP DAGUET
35760 SAINT GREGOIRE
France

EU Contribution: €204,750

Engitec Systems International Limited

Address:

143 SPYROU KYPRIANOU AVENUE CHRYSANTHOU BUSINESS C
3083 LIMASSOL

Cyprus

EU Contribution: €389,813

University Of Lancaster

Address:

BAILRIGG
LANCASTER
LA1 4YW
United Kingdom

Organisation Website:

<http://www.lancaster.ac.uk>

EU Contribution: €360,521

Element Six (Uk) Limited

Address:

GLOBAL INNOVATION CENTRE FERMI AVENUE
HARWELL OXFORDSHIRE DIDCOT
OX11 0QR
United Kingdom

EU Contribution: €578,375

Aislamientos Termicos De Galicia Sa

Address:

C/ BAIXADA DO COCHO A GUIA MEIRA 228
36955 MOANA
Spain

EU Contribution: €135,840

Forth Engineering (Cumbria) Ltd

Address:

RISEHOW HYDRAULICS CENTRE, RISEHOW,
CUMBRIA
CA15 8PA
United Kingdom

EU Contribution: €709,390

Technische Universiteit Delft

Address:

STEVINWEG 1
2628 CN DELFT
Netherlands

Organisation Website:

<http://www.tudelft.nl>

EU Contribution: €400,000

Twi Limited

Address:

Granta Park Great Abington
Cambridge

CBI 6AL
United Kingdom

EU Contribution: €702,813

Technologies:

Infrastructure management
Low distortion welding process for EU shipyards

Development phase: Implementation

STRIA Roadmaps: Vehicle design and manufacturing
Water transport (sea &

Transport mode: inland)

Transport sectors: Passenger transport, Freight transport

Transport policies:

Societal/Economic issues, Safety/Security, Deployment planning/Financing/Market roll-out

Geo-spatial type: Other