EXTREME Dynamic Loading - Pushing the Boundaries of Aerospace Composite Material Structures

Fact Sheet

Project Information

EXTREME
Grant agreement ID: 636549

Project website

Status
Closed project

Start date
1 September 2015

End date
31 August 2019

Overall budget
€ 5,277,597,50

EU contribution
€ 5,277,597,50

Funded under
H2020-EU.3.4.

Coordinated by
UNIVERSITY OF BATH
United Kingdom

Objective

The European industry is currently a world leader in aviation and to maintain its leading position and competitiveness in the dynamic global market, Europe’s industry must develop quickly and efficiently high quality products by meeting time-critical market demands and customers’ needs. Industrial competition is becoming fiercer not only from established regions, such as the USA, but from new emerging challengers, such as Brazil, Canada, etc. Technological leadership and innovation is becoming the major competitive differentiator, most notably in terms of costs, and environmental performance. The market demands shorter cycles of new technology integration and, on the other hand, competitors enter the market with aggressive prices. It is forecasted that in 2050, innovative products and services demanded by the market will be based on state of the art design, manufacturing and certification processes with a significant reduction of the environmental impact. Recent studies have shown that the development and deployment of new structural technologies will
have shown that the development and deployment of new structural technologies will have the greatest impact in the reduction of weight and operational costs compared to other technologies. Against this background, composite materials technology is of fundamental importance to current and future aircraft structures where high specific properties and integration of multiple functionalities are essential to improve weight, fuel efficiency, reduce CO2 emissions, and certification costs. The vulnerability of composite structures to localised, dynamic, sudden, and unexpected loads, may result in unpredictable complex localized damage and a loss of post-impact residual strength.

The aim of the EXTREME project is to develop novel material characterisation methods and in-situ measurement techniques, material models and simulation methods for the design and manufacture aerospace composite structures under EXTREME dynamic loadings leading to a significant reduction of weight, design and certification cost.

Field of science

/social sciences/economics and business/business and management/commerce
/social sciences/sociology/governance/public services
/engineering and technology/mechanical engineering/vehicle engineering/aerospace engineering/aircraft

Programme(s)

Topic(s)

Call for proposal

H2020-MG-2014_TwoStages

Funding Scheme

RIA - Research and Innovation action

Coordinator

UNIVERSITY OF BATH

Address

Claverton Down
BA2 7AY Bath
United Kingdom

Activity type
Higher or Secondary Education Establishments

EU contribution
€ 984 000

Website
Contact the organisation
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€ 337 000

Address
University Campus Rio Patras
265 04 Rio Patras

Activity type
Higher or Secondary Education Establishments

Website [link]

Contact the organisation [link]

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ISRAEL AEROSPACE INDUSTRIES LTD.

Israel

EU contribution
€ 225 790

Address
Ben Gurion International Airport
70100 Lod

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

Website [link]

Contact the organisation [link]

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Last update: 2 April 2020
Record number: 193408

Permalink: https://cordis.europa.eu/project/id/636549/

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