

Proposal Evaluation Form



EUROPEAN COMMISSION

Horizon 2020 - Research and Innovation Framework Programme

Fast Track to Innovation (FTI) pilot - Evaluation summary Report

Call: H2020-FTIPilot-2016-1
Funding scheme: IA
Proposal number: 760758
Proposal acronym: Hercules
Duration (months): 36
Proposal title: Ultra-strong, ultra-light fractal structures for aerospace and defence
Activity: EC Ranking

N.	Proposer name	Country	Total Cost	%	Grant Requested	%
1	StructX Ltd	UK	1,700,000	48.18%	1,190,000	41.49%
2	LONDON CENTRE FOR MATHEMATICAL SCIENCES LBG	UK	646,875	18.33%	646,875	22.55%
3	CONSIGLIO NAZIONALE DELLE RICERCHE	IT	431,250	12.22%	431,250	15.04%
4	FUNDACION PRODINTEC	ES	250,000	7.09%	250,000	8.72%
5	RAMEM SA	ES	500,000	14.17%	350,000	12.20%
Total:			3,528,125		2,868,125	

Abstract:

The search for strong but light structures goes hand-in-hand with the history of civil engineering, human exploration and increased mobility. Strong, light structures are essential to tall towers, wide bridges, fast ships, efficient cars, commercial air travel, manned and unmanned air defence, launching satellites, exploring space and visiting Mars. With the persistent growth in air traffic, the rise in unmanned air vehicles, and renewed interest in space, the demand for stronger, lighter structures is greater than ever. Materials science has produced extremely light materials, but manufacturing them with sufficient size or strength looks impractical. We need a radical new approach, and one which integrates the design process with the method of manufacture. In this proposal, we will manufacture, test and bring to market ultra-strong, ultra-light structures for aerospace and defence. By combining our previous research on fractal structures with recent advances in 3D printing and increased demand for efficient structures, we will bring our current product to successful commercialization and generate profit.

Evaluation Summary Report

Evaluation Result

Total score: 9.92 (Threshold: 12)

Form information

SCORING

Scores must be in the range 0-5.

Interpretation of the score:

- 0-** The **proposal fails to address the criterion** or cannot be assessed due to missing or incomplete information.
- 1- Poor.** The criterion is inadequately addressed, or there are serious inherent weaknesses.
- 2- Fair.** The proposal broadly addresses the criterion, but there are significant weaknesses.
- 3- Good.** The proposal addresses the criterion well, but a number of shortcomings are present.
- 4- Very good.** The proposal addresses the criterion very well, but a small number of shortcomings are present.
- 5- Excellent.** The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

Criterion 1 - Impact

Score: **3.21** (Threshold: 4/5.00 , Weight: -)

Comments (relating to main weaknesses identified only)

The business model and exploitation strategy are not detailed enough.
 Inadequate effort has gone into defining growth potential overall and in terms of overall economic impact, the proposal focuses on an impact of €2.8 m during the project's life, with insufficient consideration of the following years.
 Background IP definition is somewhat lacking and potential regulatory requirements are not considered.
 New patent considerations/efforts are most likely quite late.

Criterion 2 - Excellence

Score: **3.56** (Threshold: 3/5.00 , Weight: -)

Comments (relating to main weaknesses identified only)

Specific objective breakdown is not evident, with a lack of direct relation to the work plan as a result.
 Key measures of success relevant to both technically and commercially specific milestones should have also been provided in more detail.

*The project should have included testing with final materials and benchmarking against existing solutions.
More evidence of demonstration should have been provided to support current stage of development statements.
Targeted TRL at the end of the project should have also been defined, including any additional post-project activities and time to market that may be required.*

Criterion 3 - Quality and efficiency of implementation

Score: **3.15** (Threshold: 3/5.00 , Weight: -)

Comments (relating to main weaknesses identified only)

*Specific roles and responsibilities of participants within tasks is lacking. The team is not well balanced, being too focused on the scientific team and with a lack of commercial and management staff.
Less tasks with clear partner responsibilities and contributions could be present. Some aspects could have been quantified.
Work package descriptions lack detail and the work plan should have included an analysis of market, user needs and USP (including benchmarking).*

Scope of the proposal

Status: **Yes**

Comments (in case the proposal is out of scope)

Not provided

Operational Capacity

Status: **Operational Capacity: Yes**

If No, please list the concerned partner(s), the reasons for the rejection, and the requested amount.

Not provided

Exceptional funding of third country participants/international organisations

A third country participant/international organisation not listed in [General Annex A to the Main Work Programme](#) may exceptionally receive funding if their participation is essential for carrying out the project (for instance due to outstanding expertise, access to unique know-how, access to research infrastructure, access to particular geographical environments, possibility to involve key partners in emerging markets, access to data, etc.). (For more information, see the [Online Manual](#))

Based on the information provided in the proposal, we consider that the following participant(s)/international organisation(s) that requested funding should exceptionally be funded:

(Please list the Name and acronym of the applicant, Reasons for exceptional funding and the Requested grant amount.)

Not provided

Based on the information provided in the proposal, we consider that the following participant(s)/international organisation(s) that requested funding should NOT be funded:

(Please list the Name and acronym of the applicant, Reasons for exceptional funding and the Requested grant amount.)

Not provided

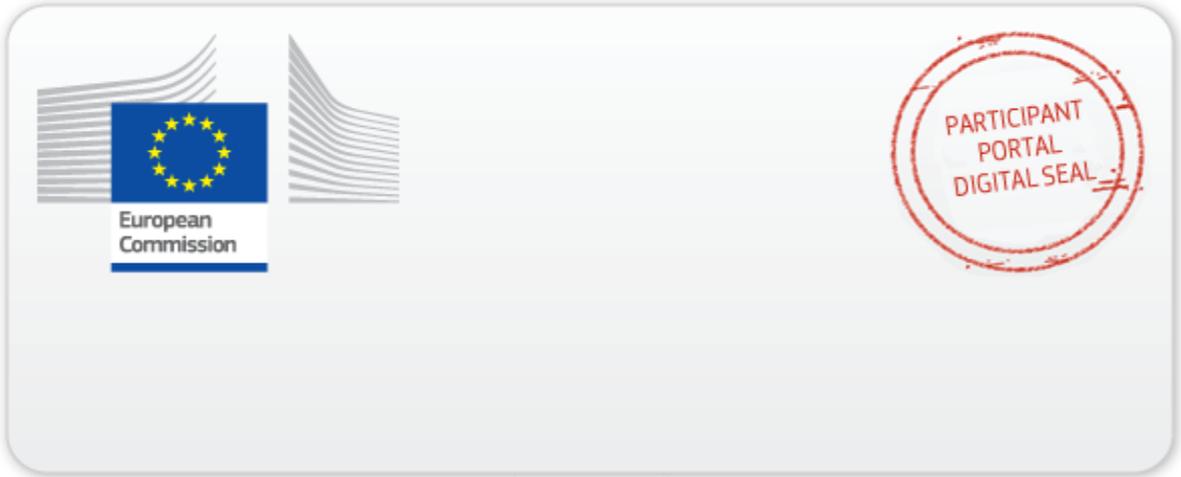
Use of human embryonic stem cells (hESC)

Does this proposal involve the use of hESC?

No

If yes, please state whether the use of hESC is, or is not, in your opinion, necessary to achieve the scientific objectives of the proposal and the reasons why. Alternatively, please also state if it cannot be assessed whether the use of hESC is necessary or not because of a lack of information.

Not provided



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