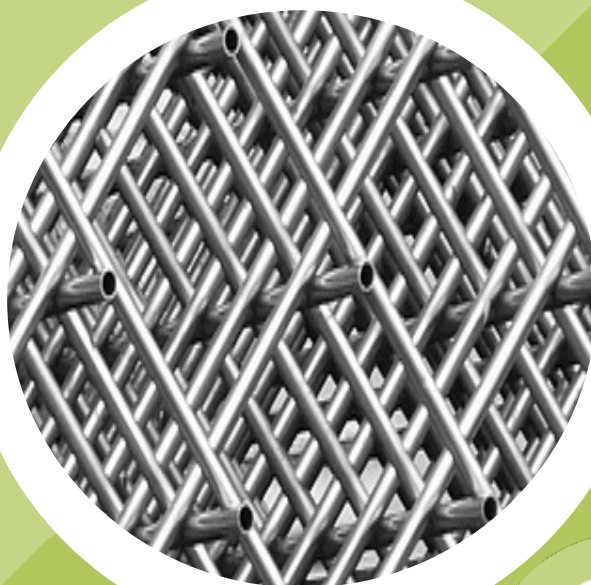


# Lightme



## Open Call Guide for Applicants



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# 1 Introduction to the LightMe Open Call

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Lightweight materials have become increasingly critical for producing components for aircrafts, cars, trains, ships, defense equipment and consumer goods. Especially, lightweight metals and alloys possess high strength-to-weight ratios and low density. Common applications are met in the automotive, aerospace, manufacturing, railway and other large niche applications.

LightMe project is part of the Open Innovation Test Beds for Lightweight, nano-enabled multifunctional composite materials and components funded under Horizon 2020 and aspires to be a point of reference for boosting innovation in the field of lightweight metal matrix nanocomposites (MMnC).

More details about the LightMe project can be found in the project's website: <http://www.lightme-ecosystem.eu/>

## **Aim of the LightMe open call**

The LightMe open call targets to attract and engage SMEs and other stakeholders around Europe operating in the field of lightweight metal alloys eager to develop novel concepts within the lightweight metal matrix nanocomposites value chain. In this framework, the LightMe ecosystem (LightMe OITB) offers an open access innovation environment, in which SMEs will be able to proceed in technological innovation in a fast and low-cost way. SMEs can enter free of charge the ecosystem and develop novel business ideas benefitting from the 6 Building Blocks (6BBs) containing the analytical transversal services of the ecosystem. These services include:

1. Access to existing Pilot Lines sites around Europe – Upscaling
2. Monitoring & Controlling
3. Modelling & Testing
4. Regulatory / Standardization
5. Market Uptake and
6. Innovation Management

Selected applicants will:

- have free of charge access to all services of the ecosystem
- have the opportunity to innovate and develop their business idea in a one-stop shop
- receive mentoring and support of industry experts for their concept
- be part of a wide network establishing long-term relationships with key industry players

## 2 Application Procedure

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Proposals must be submitted online using the application form available on the LightMe Open Call platform at:

[https://www.lightme-oie.eu/en/normal/Open\\_Call](https://www.lightme-oie.eu/en/normal/Open_Call)

Proposals submitted by any other means will not be considered eligible for financial support. Each applicant may only fill out and submit one application form.

Please register in the platform, fill in the online Application Form, download and fill in the Proposal, save it as a pdf document, and submit it through the LightMe system within deadline. A draft proposal can be edited and updated as often as needed until the closing deadline of the open call or submitting it. Please note that any further modification of the Application form and Proposal will not be possible once you click on Submit. It is the applicant's responsibility to ensure the timely submission of the proposals.

Only the documentation included in the application form and in the attachments to the form will be considered by Evaluators. The attachments can be in the following formats: PDF, PNG, JPG. Please note - the information from the attachments will not be scored by evaluators (this is additional information to support the proposal). It is the applicant's responsibility to include all the necessary information in the form.

The information provided should be actual, true and complete and should allow the assessment of the proposal.

English is the official language of the LightMe Open Call. All proposals must be in English in all their mandatory parts in order to be eligible. Proposals submitted in any other language will not be evaluated.

The reference font for the body text of the proposal is Times New Roman. The minimum font size allowed is 11 points. Standard character spacing and a minimum of single line spacing has to be used. The page size is A4, and all margins (top, bottom, left and right) should be at least 25 mm. In addition, figures, schemes and photos are encouraged to be provided to make clearer the aim of the proposal taking into account its final length (max. 10 pages).

Applications must be submitted by the closing time and date published in the open call. Only proposals submitted before the deadline will be accepted. After the call closure no additions or changes to received proposals may be done.

The deadlines for this call are **March 31<sup>st</sup> 2021 (first cut-off date) and August 31<sup>st</sup> 2021 (second cut-off date) at 17:00 CEST.**

## 3 Eligibility Criteria

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The following types of entities are eligible to participate in the call<sup>1</sup>:

- SMEs (Small and medium-sized enterprises) as defined in the [EU recommendation 2003/361](#)
- LEs (Large enterprises)
- Research & Development organizations

The entity must be:

- legally established in an EU Member state or a third country
- operating in the field of advanced lightweight metal alloys and
- interested in the concept of open innovation

In order to be eligible for this Call, your institution has to be established in one of the eligible countries listed in the attached [document](#).

By submitting a proposal to the LightMe Open Call platform you declare that to your knowledge there are no conflicts of interest which might affect the objectivity of your proposal's evaluation. The list of LightMe partners can be found [here](#).

Each applicant must confirm that:

- It is not under liquidation or is not an enterprise under difficulty accordingly to the Commission Regulation No 651/2014, art. 2.18 [Commission Regulation No 651/2014, art. 2.18](#)
- The project is based on original works and going forward any foreseen developments are free from third party rights, or they are clearly stated.
- All statements embodied in the Information and Consent Forms, included as annexes, considering the ethical issues that might arise concerning the gathering of personal data, during the application process.
- The Project is not excluded under the provisions of [article 19 of Regulation \(EU\) No 1291/2013 of the European Parliament and of the Council of 11 December 2013 \(ethics\)](#).

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<sup>1</sup> For British applicants: Please note that during the Brexit transition (until 31/12/2020), EU law continues to apply to and within the UK, when it comes to rights and obligations; this includes the eligibility of UK legal entities to fully participate and receive funding in Horizon 2020 actions. Please be aware however that the eligibility criteria must be complied with for the entire duration of the grant. If the United Kingdom withdraws from the H2020 programme during the grant, you will cease to be eligible to receive EU funding (while continuing, where possible, to participate) or be required to leave the project.

## 4 Proposal guidelines

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At a first stage the applicant should make a registration in the OITB-Platform. The registration will need just an email and the creation of a password. An automatic email will be sent to the email-address in order to be approved by the applicant (activation of the account). After this, the applicant can login to the OITB-Platform.

The applicant will be able to see a START button. By pressing it the applicant will start filling the application that includes two steps:

1. Filling of the Application Form including admin data, basic aspects of the concept and selection of OITB services.
2. Submission of a 10 pages proposal application in which both technical aspects and market approach and innovation will be presented.

Having started filling the application form the applicant may save the work and continue afterwards. As soon all the necessary information is filled in and the 10 pages proposal is submitted the applicant may press the submission button. After that, no other changes can be done.

*The information provided in this questionnaire will be shared with the members of the Selection Board (evaluators) of the LighthMe project for the purpose of evaluating your application as well as for statistical reasons. You will be asked to confirm that you agree with these terms at the end of the application form.*

### 4.1 Application Form

#### **A. Legal Entity's General information**

*In this part the applicant should provide the administrative data of the entity.*

1. Legal entity's official name: .....
2. Legal entity's short name: .....
3. Legal entity's Registration number: .....
4. Country of Establishment: .....
5. Website: .....
6. Official Address (address, post code, city, country: .....
7. Type of Organization (in the case of small consortia to be completed by the leading organization)
  - a. SME\*
  - b. Large Enterprise
  - c. Research organization

\* The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million.' Extract of Article 2 of the annex to Recommendation 2003/361/EC

8. Please tick the box if your legal entity is also a start up

9. Only for the case of small consortia: provide in the text box the data for the question 1-8 for the other members.

### **B. Official representative of the legal entity**

The name and contact details of the representative of the company should be filled in.

Name:

Position in the organization:

Email address:

Telephone:

### **C. Interest in OITB services**

In this section the applicant should select which services would like to receive in the framework of the Open Call. Please note that at least one service out of each group should be selected.

The screenshot shows the 'Open Call Application Form' interface for LightMe. The main content area is titled 'C. Interest in OITB Services' and contains several sections for selecting services:

- C1. Pilot Lines:** The LightMe project provides access to 6 pilot lines. For more information about the Pilot Lines you may click here: [LIGHTME \(lightme-ecosystem.eu\)](https://lightme-project.eu). Services include: High Pressure Die Casting, Low Pressure Die Casting, Metal Wire Additive Manufacturing, Powder Deposition Additive Manufacturing, Green Sand Casting, and Powder Metallurgy - Spark Plasma Sintering.
- C2. Monitoring and process control services:** This group of services provides support in the pilot lines and many concerns activities related to the ensurance of products' quality and process control. (LIGHTME (lightme-ecosystem.eu))  
Process Monitoring services include: Scanning electron microscopy, Atomic force microscopy, White light Interferometry, Scatteredometry, Diffractometry, Confocal microscopy, Process Control, and Machine learning.
- C3. Testing and Environmental:** The services of this group consists the characterization of the produced materials as well as the environmental assessment of the new materials (LIGHTME (lightme-ecosystem.eu)). Services include: Structural Characterization, Functional properties testing, DNV inspection for additive manufacturing, and LCA/LCC.
- C4. Modeling:** The services of this group support the development phase via process modeling and simulation. Based on the production method you have selected in the Pilot Line you will follow the corresponding modeling service. (LIGHTME (lightme-ecosystem.eu)). Services include: Casting processes modelling, Additive Manufacturing processes modelling, and SPS processes modelling.
- C5. Market Uptake:** These services are important for the compliance of the new materials and products with existing regulatory framework (LIGHTME (lightme-ecosystem.eu)). Services include: Standardization and Regulatory compliance, Environment and worker's safety services, and Consulting services on nanosafety.
- C6. Innovation Management:** In this last group a series of services dedicated to innovation management and IPR are offered (LIGHTME (lightme-ecosystem.eu)). Services include: Business plan development, Market assessment, and Patent search and technology landscape assessment.

On the left side of the form, there is a sidebar with 'Open Call Application Form', 'Help Desk', and 'For any support issue please contact: [lightme@ioc.gr](mailto:lightme@ioc.gr)'.

### **C1 Pilot Lines:**

The LightMe project provides access to 6 pilot lines. More information about the Pilot Lines can be found here: [LIGHTME \(lightme-ecosystem.eu\)](https://lightme-project.eu)

- High Pressure Die Casting
- Low Pressure Die Casting
- Green Sand Casting
- Metal Wire Additive Manufacturing
- Powder Deposition Additive Manufacturing
- Powder Metallurgy – Spark Plasma Sintering

## **C2. Monitoring and process control services**

This group of services provides support in the pilot lines and mainly concerns activities related to the ensurance of products' quality and process control. ([LIGHTME \(lightme-ecosystem.eu\)](http://LIGHTME (lightme-ecosystem.eu)))

### *Process Monitoring*

- Scanning electron microscopy
- Atomic force microscopy
- White light Interferometry
- Scatterometry
- Diffractometry
- Confocal microscopy
- Process Control
- Machine learning

## **C3. Testing and Environmental**

The services of this group concerns the characterization of the produced materials as well as the environmental assessment of the new materials ([LIGHTME \(lightme-ecosystem.eu\)](http://LIGHTME (lightme-ecosystem.eu)))

- Structural Characterization
- Functional properties testing
- DNT inspection for additive manufacturing
- LCA/LCC

## **C4. Modelling**

The services of this group support the development phase via process modelling and simulation. Based on the production method you have selected in the Pilot Line you will follow the corresponding modelling service. ([LIGHTME \(lightme-ecosystem.eu\)](http://LIGHTME (lightme-ecosystem.eu)))

- Casting processes modelling
- Additive Manufacturing processes modelling
- SPS processes modelling



### **C5. Market uptake**

These services are important for the compliance of the new materials and products with existing regulatory framework ([LIGHTME \(lightme-ecosystem.eu\)](http://LIGHTME (lightme-ecosystem.eu)))

- Standardization and Regulatory compliance
- Environment and worker's safety services
- Consulting services on nanosafety

### **C6. Innovation management**

In this last group a series of services dedicated to innovation management and IPR are offered ([LIGHTME \(lightme-ecosystem.eu\)](http://LIGHTME (lightme-ecosystem.eu)))

- Business plan development
- Market assessment
- Patent search and technology landscape assessment

### **D. Test case general features**

In this part the applicant is asked to provide some details concerning the new material/product that would like to develop in the framework of the LightMe Open Call. These details should be in accordance with the proposal application that will be submitted

<b>Questions</b>	<b>Notes on questions</b>
<i>Product owner:</i>	<i>Who is the owner(s) of the product/novel material</i>
<i>Type of material to be used</i>	<i>Please provide the main materials used so far (both metal matrix: Al, Mg, Ti) as well as reinforced particles, if any</i>
<i>Current state of the product</i>	<i>Please indicate the maturity of the technology in the Technology Readiness Level (<a href="#"><u>Link</u></a>)</i>
<i>Intended purpose of the product</i>	<i>What are the main applications in which the new material/product will be used</i>
<i>Basic functionalities of the product.</i>	<i>Please mention the desired functionalities of the product in a quantifiable way if possible</i>
<i>Know limitation and barriers</i>	<i>Please not any known limitations and barriers including health and safety issues.</i>

## 4.2 Application Form

In the submission platform the applicant may download the proposal application in editable format (.docx). The proposal consists of three sections and in total it should not be more than 10 pages. The structure of the proposal application is the following:

### **A. Excellence**

- a. Industrial need and challenges to overcome: Describe the motivation for developing the new product/material and the main challenges that need to be overcome for achieving the scale up. (~1 page)
- b. Objectives: Provide the objectives of the project in a quantifiable manner. (~half page)
- c. Background of the concept – technological insight: Provide details on the maturity of the technology and the main milestones that have been achieved so far. Please note the technology should be already in TRL 4-5. (~1,5 page)
- d. Role of LightMe OITB service: Describe the main services of the LightMe OITB that needs to be received for the upscale of the technology as well the desired output. Please note that at least one service from each group of services should be selected. (~1 page)

### **B. Implementation**

- a. Technical Workplan: Describe the main steps for the technical upscaling of the product/material in reference to the available services of the OITB. Moreover, describe the necessary tests for the validation of the product/materials (~1,5 pages).
- b. Expertise and resources to be utilized: Mention the main expertise and background knowledge required for the development of the project as well as briefly the resources (e.g. materials, equipment etc). (~1 page)
- c. Risk management: Provide the main risks for the proper implementation of the project (~half page).

### **C. Impact**

- a. Key Exploitable Results: Describe the main expected results of the projects that can be exploited (~half page).
- b. Market positioning: Briefly provide the unique selling points of the new products/materials, the addressed markets and the market expectations. (~1,5 page)
- c. Other expected impacts: Describe other social, environmental, and technological impact of the new product/material. (~half page).

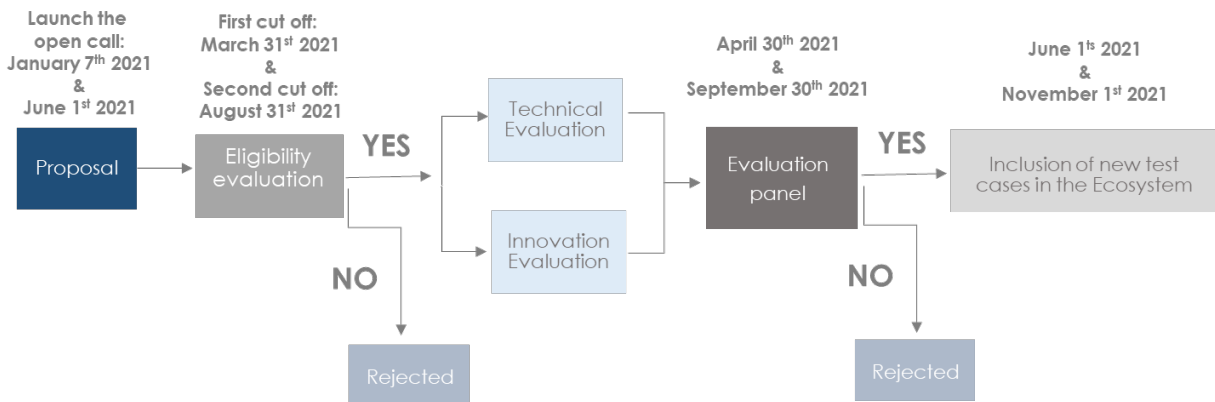
## 4.3 Attachment of the Form Uploaded

The applicants may upload various supporting documents concerning their application such as product information (e.g. drawings, photos), certificates or authorizations. These supporting documents will not be imposed to evaluation, however they may provide additional information for a better clarification of the concept.

## 5 Evaluation Process

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The evaluation process is as follows:



A proposal will be considered eligible for evaluation if it meets the following conditions:

- the online proposal template has been completed as required,
- the proposal was submitted by the closing date as stated in the open call text, and
- the eligibility criteria set out in section 1.3 were met.

Proposals that do not fulfil all conditions will not be considered for evaluation.

It is expected that at least 4 test cases will be selected at each cut off.

Evaluation of each application submitted will be carried out by a Selection Board consisting of 3 experts from the LightMe consortium partners. To evaluate each application, the following factors will be taken into account:

- Technical advance
- Relevance on the call objectives
- Feasibility of the project to progress in the TRL scale from 4-5 to TRL 6-7

- Feasibility to be carried out by the LightMe Ecosystem alone or with external contribution from other Ecosystems clustered under Lightweight, nano-enabled multifunctional composite materials and components
- Feasibility in regards to research and development and innovation (R&D&I)
- Business viability
- Expertise and resources

The application will be evaluated following three main criteria as described below. Experts score each award criterion on a scale from 0 to 5 (half point scores may be given):

0 – Application 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 application broadly addresses the criterion, but there are significant weaknesses.

3 – Good. The application addresses the criterion well, but a number of shortcomings are present.

4 – Very good. The application addresses the criterion very well, but a small number of shortcomings are present.

5 – Excellent. The application successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

The threshold for individual criteria is 3 (out of 5) and the overall threshold is 10 (out of 15). In order to be considered for support, the application must score above both individual and overall thresholds.

## 6 Intellectual Property Rights (IPR) – Confidentiality

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All parties (including both the LightMe OITB partners and the Open Call applicants) will exhaustively identify their background knowledge assets that will bring to the project and will provide access rights background for the cooperative implementation of the project. Ownership of project results (including joint results generated by two or more partners) will belong to the parties having generated them.

The successful applicants will sign an NDA with the LightMe OITB partners covering all aspects of confidentiality.

All personal data and information included in the application submitted via the online submission system will be processed by the Selection Board on behalf of the LightMe project with the purpose of your participation in the LightMe Open Call and achievement of LightMe objectives. Your data and content of the application will be kept confidential and will be shared internally with LightMe partners, evaluators and European Commission. General data (e.g. type of company or country of origin) will be used to create statistics and reports which will be exploited through the project in terms of communication activities. In addition, the names of the selected organizations and their countries of origin will be published on LightMe website as part of public evaluation reports.

## 7 Applicant Support

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For more information about the LightMe Open Call, please check the Frequently Asked Questions (FAQs) section that can be found in the internal area of the submission platform. The applicants may find the FAQs section after signing up in the platform.

Additionally, in case of technical support regarding the submission platform or the Open Call in general the applicants may also contact the LightMe Helpdesk [lightme@rdc.gr](mailto:lightme@rdc.gr)

When contacting the LightMe Technical Helpdesk, please include the following information in your email message: your username, telephone number and your email address; details of the specific problem (error messages you encountered, bugs descriptions, i.e. if a dropdown list is not working, etc.); and screenshot of the problem.