



# AMable Open Call 5

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# 1 Abstract

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This document collates the rules and conditions to be applied for the Financial Support to Third Parties (FSTP) funding scheme to support Experiments through the competitive calls within the AMable project. The document is addressed to potential applicants and aims at being a practical guideline for successful application.

The aim of AMable project is to accelerate the uptake of additive manufacturing technologies; from design to manufacture for functional parts throughout the European Union. AMable is creating a digital framework to provide impartial access to the best European AM knowledge to support this adoption. This knowledge will be offered as advanced and tailored services to assist SMEs in the adoption of AM and include technological, business and training services.

This call addresses the additive manufacturing (AM) challenge that spans across the production chain from design challenges to logistics challenges that occur during production. To support SMEs appropriately, this call cooperates with the L4MS project, which supports factory logistics. Visit [www.l4ms.eu](http://www.l4ms.eu) for more information about L4MS.

To build a truly pan European initiative, there are several renowned research institutes and best-of-breed consulting companies involved in the AMable project, from Germany, the UK, the Netherlands, Belgium, Spain, Greece, Finland, Italy, Poland, Denmark and Cyprus, among other countries. These partners will provide the technological backbone for guidance and support in transferring ideas to production in a profitable way and will manage the "AMable Service Arena".

Further information about the AMable project is available through project website and Cordis portal. AMable is co-funded from the European Union's Horizon 2020 research and innovation programme under grant agreement No 768775, foresees as an eligible activity the provision of financial support to third parties, as a means to achieve its own objectives. The types of activities to perform that qualify for receiving financial support are detailed in the guide for applicants.

<https://www.amable.eu/>

[http://cordis.europa.eu/project/rcn/211557\\_en.html](http://cordis.europa.eu/project/rcn/211557_en.html)

## 2 Call Aim and Topic

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AMable aims to conduct so called “application experiments” to support European SME’s and mid-caps to develop their idea of an additively manufactured functional product (also called “product idea” in the following sections). The AMable project provides support through services across all development steps from design to finish. These services are meant to teach and guide the applicants under the paradigm of empowerment. They shall enable the applicants to grow, to learn how to tackle future challenges with less support. The initiative runs under the umbrella of European Commission’s initiative “Innovation for manufacturing SMEs (I4MS)”.

The applicants need to provide the following to be selected for support.

- An innovative idea for an additively manufactured functional product (product idea) with a challenge in production logistics where the successful realisation would be economically and technologically viable. The proposal needs to describe the product idea and its challenge to logistics that occurs during production. The description needs to explain its innovation and business case for the European market (revenue, labour, societal impact).
- Challenges connected to the product idea, which the proposing entity intends to resolve with the help of AMable and L4MS. The proposal needs to describe these challenges (additive manufacturing challenge and logistics challenge) and how they are expected to be resolved by the selected AMable services and L4MS technologies ([www.l4ms.eu](http://www.l4ms.eu)).
- List of expected effort to conduct the experiment. These expenses need to be split into cost for labour to execute work and prepare deliverables and cost for external goods and services (consumables, printing, testing).

For this call, AMable foresees the implementation of a so-called Best Practice (BP) Experiment. The criteria for selection are:

- 1) Impact of the experiment and the anticipated result
- 2) Excellence of the idea and approach
- 3) Quality and efficiency of the implementation

### 2.1 Additive Manufacturing Services and Logistics

The additively manufactured product needs to define a challenge that requires an overall 60% of the effort to be spent on additive manufacturing and 40% of the effort to be spent on production chain logistics.

#### 2.1.1 AMable Services Arena

AMable offers AM related services through its Services Arena. These services aim to support the Experimentation Teams to increase their knowledge and competence so that the Experimentation Team is able to come to a state where the product idea has a design that is additively manufacturable.

Each experimentation team needs to describe its lack in knowledge, the selected services and how the selected services are expected to close these knowledge gaps. The proposal template provides the section “Experimentation Plan” for this and the table in section 3.1.3 gives the number of services that is expected to be used. The amount of support from AMable that is available per experiment

amounts to a maximum of 1.5 person months. These resources can be used across different services. The services are explained in more detail on the web site at [www.amable.eu/services](http://www.amable.eu/services).

## 2.1.2 L4MS Logistics Technologies

To appropriately address logistics, proposals must define their challenge on the production chain logistics for the envisioned additively manufactured part. This can be handling of the part between different machines and/or between different factories. Please find some topics that the L4MS project addresses in logistics and describe the challenge accordingly.

### 2.1.2.1 Hybrid (human-robot) and interactive logistics systems:

The intra-logistics systems today are either manual or automated at least with respect to task. The AGVs does not know about the manual performed tasks and can only do their pre-defined tasks. This makes the investment of an AGV system highly risky for SMEs strongly relying on manual workers. By including easy to use graphical interfaces and connected task assignments and monitoring over the "Open Platform for Innovation in Logistics" (OPIL), it becomes possible for manual and automated vehicles to share task information and perform tasks in a collaborative manner. The perception and dynamic planning services of the OPIL also makes it possible for the AGVs (with safety certified sensors) to operate in a workspace shared with human workers and manual transports. The evaluation will not only cover the system functionality but also the usability and productivity compared to a completely manual system.

### 2.1.2.2 Highly configurable (multi-vendor) logistics systems:

The automated intra logistic systems on the market today consist of a fleet of AGVs from one vendor specifically configured for one well defined and very structured operation environment. This leads to a vendor lock, costly reconfigurations and limited scalability. This experiment will focus on developing interfaces for plug & play integration of multi-vendor AGVs into OPIL ("Open Platform for Innovation in Logistics") for creating highly heterogeneous fleets of AGVs. An automatic registration process will make the new AGVs a part of the OPIL ready to perform assigned tasks. Through the plug and play capability, it should be possible to increase the overall logistics capacity by adding AGVs to an already operating fleet. Involvement of system integrators in this topic is highly valuable.

### 2.1.2.3 Fully autonomous logistics systems:

The unloading and loading operations of the logistics chain are mostly performed manually (last mile problem). Due to continuous requirement of manual work, these operations can make the partial logistics automation economically infeasible. The loading/unloading tasks are very complex non-rigid and non-static operations. Their automation demands special context-awareness abilities and capability to interact with a changing environment. Although generic solutions require significant research and advancements in many technologies, specific solutions for a wide range of production tasks can be developed. This experiment requires the implementation of innovative material handling and perception tools to fully automate the logistics chain including the loading and unloading operations.

## 2.2 Guides

AMable uses guides to lead the Experimentation Teams through their experiments and to guide them through the AMable Services Arena. These guides will be assigned after the evaluation and selection process.

Technology Competence Centers that are available to provide a guide for this call are: AIMEN, DTI, Fraunhofer ILT, Frederick, Inspire, LMS, IK4-LORTEK, The MTC, SIRRIS, SUPSI, Politecnico di Torino, TNO, TWI, Politechnika Wroclawska, VTT.

Data Protection and Privacy: Information sent to the mail address [guides@amable.eu](mailto:guides@amable.eu) is forwarded to a mail distribution service which will transfer the content to employees of the above named competence centres. A copy of the mail is stored in the mail box to manage and track the requests.

## 2.3 Business Case

The proposal needs to describe the business case that drives the experiment. The analysis needs to be based on actual market data and needs to cover the product life cycle from idea through development to market penetration with the expected production ramp up scenario. The corresponding economic and technological feasibility needs to be explained and the risk factors need to be identified.

## 2.4 Reporting

The Experimentation Teams need to provide information on the execution and achievements through AMable reporting and controlling tools. The three major reports with a public and a confidential part are

- 1) Initialisation Report – As a result of the first collaboration of the Experiment Team with its guide and the service providers, a report of the initial situation and the actual planning needs to be filed. It includes the business case analysis, implementation plan, risk register and progress indicators.
- 2) Implementation Report – A deliverable that reports on the implementation of the planned service execution. It includes activity reports, achievements descriptions, risk register update and an explanation on the progress indicators. The business case analysis needs to cover most recent changes at that time.
- 3) Validation Report– A deliverable that reports and demonstrates the result of the executed work with respect to the business case and the implemented product. It includes a risk report, exploitable results and a comparison of planned progress against achieved results.

On a regular basis, status updates need to be provided to the guide of the Experimentation Team for monitoring of progress and risks. Periodically, members of the experimentation team will be asked to provide feedback on the usability of the controlling tools and suitability of the services. The result of the questionnaires are part of the above deliverables.

## 2.5 Dissemination

The Experimentation Teams need to provide a publishable story, pictures and video footage about their product idea and their experimentation work. Media files need to be of high resolution but do not need to disclose IP. Story, pictures and video footage are part of the deliverables.

The final result of the experiment needs to be described so that the evolution of the product idea, the achievement and the effort that was invested becomes publically visible while the underlying IP remains confidential.

## 3 Conditions and Eligibility

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### 3.1 Eligibility requirements and financial limitations

Applicable requirements and limitations are in line with Grant Agreement n°768775 signed by the AMable partners and the European Commission. The actual support is provided on the basis of Annex K of the H2020 Model Grant Agreement through Financial Support to Third Parties (FSTP).

#### 3.1.1 Persons or categories of persons which may receive financial support (FSTP)

A legal entity that applies for financial support needs to be legally recognised (have 'legal personality') and needs to have the right legal status to qualify for H2020 funding. Research and technology development organisations are not eligible, nor consortium members.

##### 3.1.1.1 Experimentation teams for Best Practice (BP) Experiments

Each BP-Experimentation Team consists of at least one supplier (third party) and at least one user (third party). The maximum number of third parties in a BP-Experimentation Team is four. It is recommended to have a second supplier with existing logistics knowledge to address the logistics challenge appropriately.

The legal entity in the supplier role is a SME or a mid-cap, which supplies additively manufactured parts or services to other parties such as consumers or industry. Accordingly, the supplier that addresses the logistics challenge should deliver logistics solutions to its customers.

The legal entity in the user role is a company that intends to use the envisioned solution in a market relevant context.

#### 3.1.2 Activities for which a third party may receive financial support

##### 3.1.2.1 Third parties that participate in Best Practice (BP) Experiments in the "USER" role

SMEs, midcaps and large companies which are in the "USER" role may receive funding for personnel resources to define the manufacturing challenge, to discuss the implementation options and to validate the result of the experiment. Expenses for consumables, travel and subsistence are financially supported to enable meetings and validation. The user's overall budget share needs to be less than 20% of the financial support to the experiment.

##### 3.1.2.2 Third parties in the "SUPPLIER" Role

SMEs or mid-caps in the role of the "SUPPLIER" may receive funding for personnel and consumable resources to develop and propose the innovative design approach, to design and construct the prototype and to implement the solution so that the user can validate its fit for purpose. The financial support also covers expenses for consumables, travel and subsistence which are needed to enable the execution of the experiment.

### 3.1.3 Experiment Aims and Type

The experiment needs to have an impact on European business and employment thus achieving an economic benefit. It needs to address at least one societal challenge: Environment, Energy, Mobility, Health and Well-being, Security.

Type or experiment:

- Best Practice Experiment: application experiment towards specific product performance and robust manufacturability (6-10 months)<sup>1</sup> which is conceived for benchmarking, testing, validation and improvement of new AM products, services and standards. At least 60% of the effort needs to address the additive manufacturing challenge and a maximum of 40% needs to address the logistics challenge.

Experiments	3 <sup>rd</sup> Party involved in experiment		Proposal length / pages	TRL	Number of services used per experiment	Duration / months	Cost* / Euro
	Supplier	User					
Best Practice Experiments (BP)	X	X	10	4-8	2-X	6-10	40k-100k

\*Cost for the entire action of third parties including all eligible cost such as personnel, consumables and travel. Subcontracting should be minimal, more than 15% subcontracting of the cost of the entire action is considered to be an inefficient implementation of the action. You may provide reasons why more subcontracting is needed for the conduction of the experiment. Cost for equipment (depreciation) will not be funded.

### 3.1.4 Criteria for calculating the exact amount of the financial support

The exact amount of the maximum financial support will be calculated on the basis of the cost that are specified by the third parties. Each party has to provide personnel direct cost (w/o overhead) and the planned effort. Each party has to specify other cost such as consumables and travel cost. Equipment (depreciation) will not be funded. Based on the appropriateness of the given cost that is judged by the evaluators and the consortium, a lump sum for the support is being calculated from 70% of the direct cost plus 25% flat rate to cover overhead cost. This lump sum will be paid in separate instalments that are connected to the acceptance of deliverables as defined in the guide for applicants.

### 3.1.5 Maximum amount to be granted to each third party

No single party may receive more than 60k€ from the AMable consortium per call unless it is necessary to achieve the objectives of the action.

## 3.2 Criteria for awarding financial support to Experiments

The proposals will be evaluated against four criteria.

#	Name and Explanation	Weight / Threshold

<sup>1</sup> In Version 1.0 of this document, the text mentioned 4-12 months duration. The table below was correct. The expected duration is 6-10 months.



1	Impact of the experiment and the anticipated result: Potential impacts of the proposed products or businesses cases must be based on actual and realistic scenarios. The anticipated solution must address a potential market that leverages the requested financial support. The experiment must provide information for communication to the public so that the community can follow its progress.	Weight 1 Threshold 3/5
2	Excellence of the idea and approach: The objectives of the application experiments must be SMART (specific, measurable, assigned, realistic, time-bound) and must demonstrate a clear vision from the defined start to finish. The use of services needs to suit the objectives and needs to support the path towards the final solution.	Weight 1 Threshold 3/5
3	Quality and efficiency of the implementation: The selected services and the approach must address the AM digital design and manufacturing challenge. The Experimentation Team needs a clear lack of knowledge in the area where support is requested and sufficient basic competence to learn and adopt. The resource allocation needs to be appropriate.	Weight 1 Threshold 3/5

The selection of the open call proposals will be realised in a two-step process. Step one will involve internal evaluation by experts from the AMable consortium and an external evaluation by experts from the L4MS project to assess the proposal according to the criteria. All proposals that receive sufficiently high marks in all of the three criteria will go to the second step. Step two will involve the consortium to prioritise the proposals based on the external evaluation result, the expected impact, the project resources and coverage of the objectives of the project in general.

In step 1, the proposals are evaluated externally according to the criteria set out above. Each criterion will be scored with the following scale:

- 0: The proposal fails to address the criterion under examination or cannot be judged due to missing or incomplete information
- 1 (Poor): The criterion is addressed in an inadequate manner, or there are serious inherent weaknesses
- 2 (Fair): While the proposal broadly addresses the criterion, there are significant weaknesses;
- 3 (Good): The proposal addresses the criterion well, although improvements would be necessary
- 4 (Very good): The proposal addresses the criterion very well, although certain improvements are still possible
- 5 (Excellent): The proposal successfully addresses all relevant aspects of the criterion in question.

Proposals which fail to achieve a score of at least 3 for any of the criteria cannot be funded (score threshold), all other proposals are taken to step 2.

In step 2, the consortium will further prioritise the proposals to balance service resources and to cover call objectives such as European impact and cross border innovation best.

Funding is then awarded to the most highly prioritised proposals, provided that the following condition does not apply to any of the legal entities involved in the proposal or if the cost of that legal entity is excluded from the financial support:

- Funding will not be awarded to legal entities that have already been granted more than 100.000 Euro via open calls (FSTP) in the H2020 ICT programme.

### 3.3 Publication

The call for proposals / open call will be published on the AMable website and on the L4MS website (L4MS.EU). It will be communicated through social media, through the I4MS CSA project and on the web page of the Commission. The primary source for documents remains at the URL of the AMable web site ([www.amable.eu](http://www.amable.eu)).

### 3.4 Reimbursement of proposal preparation

Expenses incurred in the preparation and dispatch of the proposals will not be reimbursed.

## 4 Proposal Submission

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Project Acronym	AMable
Project GA#	768775
Project full name	AdditiveManufacturABLE
Call Identifier	AMable OC5
Call Title	AMable Call 5 for proposals on innovative products that need additive manufacturing and a logistics solution to become alive
Publication Date	01. May 2020
Deadline	01. August 2020 17:00 Brussels Local Time
Expected Duration	6-10 months for best practice (BP) experiments
Total Budget	100.000 Euros
Maximum amount of financial support for a third party	60.000 Euros
Eligibility	see guide for applicants
Proposal language	English (UK or US)
Proposal content	One proposal per experiment with a clearly identified lead partner. Content and structure should be based on the template addressing the topics detailed in this guide for applicants
Proposal length	The cover page and administrative data like partner details and proposal name should not exceed three pages. The maximum length of the proposal is 10 pages. Any additional content may be truncated before evaluation (pages with administrative data or signatures only do not count against the maximum length of the main proposal)
Submission format	PDF file with less than 10Mbyte in size
Submissions & Questions	<a href="mailto:oc5@amable.eu">oc5@amable.eu</a>
Further information	<a href="http://www.amable.eu">www.amable.eu</a>

### 4.1 Communications and Data Processing

The mail account is handled by the project's office team. The identity of the sender and the content of the proposal will be treated confidentially within the consortium. The proposal document will be stored on a collaboration platform where only consortium members have access. The proposals will be evaluated by external experts under confidentiality regulation. The data that is needed for the evaluation will be exchanged with the experts by e-mail. Such data includes the name of the proposing entities per Experimentation Team to achieve a declaration of non-conflict of interest with the evaluator(s). After that, the

proposal is being transferred and the evaluation returned. The result again will be filed on the collaboration platform of the AMable consortium.

Any questions concerning this call shall be submitted in writing not later than 3 days before the closing date to [call-for-proposals@amable.eu](mailto:call-for-proposals@amable.eu). Questions shall make specific reference to the appropriate section(s) of this document. Questions received via [call-for-proposals@amable.eu](mailto:call-for-proposals@amable.eu) may be published on the AMable web site.

## 4.2 Submission and evaluation

In order to apply for this call, applicants need to submit a proposal based on the proposal template (provided separately at [www.amable.eu/calls](http://www.amable.eu/calls) for download), according to the requirements listed in this guide for applicants. The responsibility for a successful and timely reception remains with the applicants. Tenders arriving after the closing date and time will not be taken into consideration. After evaluation, the lead partner of each Experimentation Team will be informed of the result of their proposal's evaluation by e-mail.

## 4.3 Contractual conditions

The Experimentation Teams of each selected proposal consist of multiple legal entities. One of these entities is the lead entity and responsible for communication and reporting. All legal entities will sign one contract per Experimentation Team with the coordinator, Fraunhofer ILT. Legal entities that are selected for funding become a Third Party of the consortium using Cascade Funding (also known as sub-granting).

Subgrantees have to comply with the rules and the principles mentioned in Section I, Article 6 (Eligible and ineligible costs) of the Grant Agreement (for information see H2020 AMGA – Annotated Model Grant Agreement see [http://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/amga/h2020-amga\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf)), in the same way as the beneficiaries of the AMable project. The rules concerning eligibility of costs, identification of direct and indirect costs and upper funding limits can be found in Section I, Article 22 of the H2020 AMGA.

The beneficiary of the EU grant must ensure that the recipients of the financial support allow the Commission, the European Anti-fraud Office (OLAF) and the Court of Auditors to exercise their powers of control on documents, information, even stored on electronic media, or on the final recipient's premises (AMGA Articles 22 and 23).

Beneficiaries need to declare their lack of any conflict of interest with AMable partners. This will ensure to prevent any situation where the impartial and objective of the awarding action is compromised for reasons involving economic interest, political or national affinity, family or emotional ties or any other shared interest ("conflict of interest"). Applicants who cannot declare this will not be awarded.

The IP of the experiment's results generated by the Subgrantee will be owned by it. Subgrantees grant the AMable consortium partners access to the results, for the pursuance of the objectives of the Project and the exploitation of the Project results in accordance with the GA.

Payment scheme for best practice experiments:

- 30% after approval of the initialisation report

- 30% after approval of the implementation report
- 40% after approval of the validation report deliverable and approval of the experiment outcomes by the commission

For a detailed reference consult the template contract.