

# IOT INDUSTRY

**CALL FOR  
COLLABORATIVE  
PROJECTS**

# GUIDE FOR APPLICANTS

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# 1 Guide for applicants

## 1.1 Background and general objectives

The European manufacturing industry is constantly undergoing a modernization process. The Internet of Things (IoT) technologies have already entered into manufacturing and this trend will increase, towards a so-called “Industry 4.0”. Europe’s manufacturing industry is investing continuously in its modernization, which includes the massive introduction of new ICT technologies and in particular IoT, Big Data, Artificial Intelligence and Cybersecurity. In the future, all forms of advanced industry will have to become more data-driven and more “intelligent” in order to compete effectively. This intelligence will also rely on advances through IoT, since data and intelligence will come from advanced connected objects that provide sensing, measurement, control, power management and communication, both wired and wireless. This process has already started in large companies which have the potential to fully involve ICT and research departments but requires facilitations in smaller companies in order to keep them competitive and exploit their full potential, creativity and flexibility.

The general objective of this call is to enhance the productivity, profitability and innovation capacities of European manufacturing SMEs by enabling their access to IoT technologies.

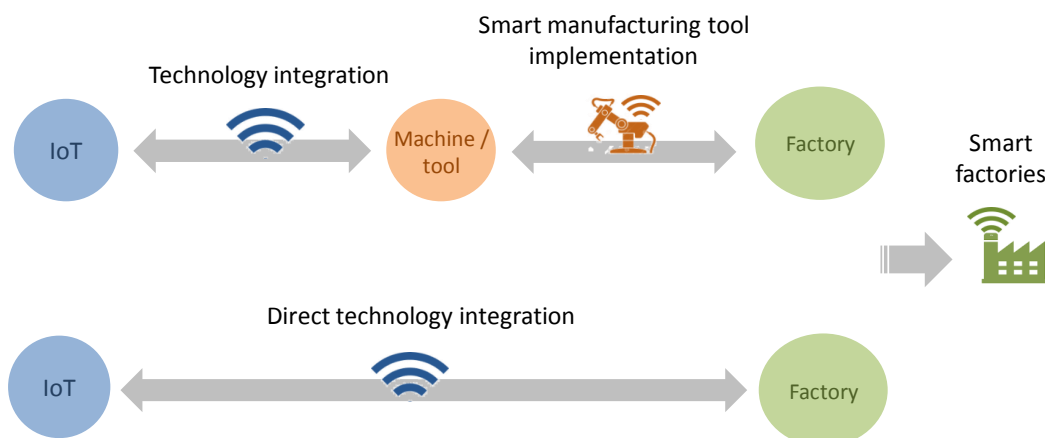
It also seeks to accelerate the access to the market to new products and services provided by technology SMEs, strengthening innovation and growth in Europe.

This is the first of two calls foreseen by IoT4Industry project and will open on September 20<sup>th</sup> and close on December 20<sup>th</sup> at 17 CET. A second call will open on March 10<sup>th</sup>, 2019 with a Deadline on June 10<sup>th</sup> 2019 at 17 CET.

## 1.2 Scope and expectations

The call is focused on the application of IoT technologies in the manufacturing environment. It will finance small and market-oriented projects involving SMEs, consisting of the integration and the use of IoT technologies (including Big Data, Artificial Intelligence and Digital Security) into machines, robots, manufacturing tools, industrial processes, and factories environments.

Projects shall gather at least one entity representing the “IoT” side (technology offer) AND another entity representing the **industry side** (demand) which could be a machine or tool manufacturer or a factory, as shown in the figure below. At least one of these entities shall be a European SME (see 1.5 Eligibility conditions for more detail).



Projects shall have a strong **international dimension**, involving entities from at least two different NUTS 1 regions of Europe (see 1.5 Eligibility conditions for more detail).

Projects are expected to be **innovative**, i.e. going beyond the state-of-the art in terms of technologies used and use cases addressed.

A clear **industrial application** is expected involving a final customer/end user.

If the final user (industry/factory) is not involved in the consortium, applicants are invited to insert a letter of support of the final user telling that he/she is interested in implementing the solution in its factory.

### 1.2.1 Technologies

The expected technologies addressed in this call are sensors and data acquisition (including big data and analytics), cybersecurity, robotics and automation (including communication technology), simulation and modelling (including virtual reality and augmented reality), batteries and energy harvesting, chips and electronic components, smart systems, embedded software, low-energy, RFID, communication protocols & networks, gateways, cloud/fog/edge computing, High Performance Computing, Artificial Intelligence (machine learning, deep learning, neural networks ...), biometry, human-machine interaction, cognitive computing, mobility and wearables.

### 1.2.2 Industrial applications

The expected industrial **applications** addressed in this call are predictive maintenance, logistics & supply chain, track and trace, monitoring applications, process analysis, data analysis and management, assets management, re-configuration, quality control, safety & security, energy saving and sustainability smart advice, decision support, smart elaboration, process/product improvement, ergonomic, product life cycle management, smart packaging, additive manufacturing.

### 1.2.3 Vertical sectors

The targeted **vertical sectors** include – electronics, nanotechnologies, automotive, mechanicals, aerospace, defence, medical & pharmaceutical, construction, energy & utilities, marine (naval industries), metal working, chemicals, food & beverage, logistics, print, textile, luxury, cosmetics, wood, paper, furniture, consumer products, etc.

## 1.3 Impact

Projects shall demonstrate that the integration and application of IoT technologies can improve the market competitiveness of the involved SMEs. In particular, projects must demonstrate:

- the increase in efficiency of the production means of the manufacturing company, improving its competitiveness on the international market;
- the growth opportunity for technology providers of the implementation of their technology into a machine or a factory and the replicability and scalability of the same solutions in other industries and use cases;
- by means of KPI (employment, turnover, market share, environmental impact ...) the sustainability and scalability of the approach and the business perspective for both technology providers and manufacturing actors

## 1.4 Type of proposals and maximum financial contribution

This call shall provide support to three types of actions, namely:

- **Feasibility studies** will target companies having an idea of the intended project a purpose but with needs for further analysing the technical aspects, the intellectual property issues, the design study, etc. Actions of this type target Technology Readiness Levels (TRL) 4–5.
- **Prototyping instrument** will target companies having already carried out a feasibility study, and having the need to develop a prototype, spend efforts in miniaturisation, testing, etc. (TRL 6).
- **Demonstration/pilot instrument** will target companies having already developed and tested a prototype, with the need to demonstrate its efficiency on a larger scale (TRL 7–8).

The table below shows the corresponding TRL, timing, maximum amount per SME and maximum amount per project, according to these three instruments:

	Feasibility study	Prototyping	Demonstration/pilot
<b>TRL of envisaged project</b>	4–5	6	7–8
<b>Maximum financial contribution per beneficiary (SME)</b>	EUR 25,000	EUR 45,000	EUR 60,000
<b>Maximum financial contribution per project</b>	EUR 50,000	EUR 90,000	EUR 120,000
<b>Funding rate</b>		Lump Sum <sup>1</sup>	
<b>Project duration</b>	Up to 6 months	Up to 12 months	Up to 12 months

## 1.5 Eligibility conditions

Proposals will be eligible if and only if all the following conditions are met:

- Applicants are legal entities located in an EU Member State (list here: [https://europa.eu/european-union/about-eu/countries\\_en](https://europa.eu/european-union/about-eu/countries_en)) or an Horizon 2020 associated country (list here: [http://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/hi/3cpart/h2020-hi-list-ac\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/3cpart/h2020-hi-list-ac_en.pdf))
- The consortium is composed of at least two legal entities based in two different NUTS 1 regions of European member states and Horizon 2020 associated countries (definition here: <http://ec.europa.eu/eurostat/web/nuts/nuts-maps-.pdf>);
- At least one of these entities is a for-profit SME. “For-profit SMEs” means micro-, small- and medium-sized enterprises, as defined in Commission Recommendation 2003/361/EC. Definition here: [http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition\\_en](http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en)
- At least one legal entity of the consortium must be based in a country of one the consortium partners, i.e. France, Italy, Germany, Belgium or United Kingdom;
- Proposals respect the conditions described in section 1.4 Type of proposals and maximum financial contribution of this call; namely the type of action is indicated, the TRL envisaged, the maximum financial contributions per beneficiary and per project and the project maximum duration.
- Proposals must be submitted through the FundingBox platform (<https://iot4industry-innovation-vouchers.fundingbox.com/>) before 17:00 CET of the deadline indicated in section 1.7 Calendar of the present call.
- Proposals must be written in English, in scope and complete in all the parts indicated in the template section;
- The SME Viability Self-Check must be provided in the table in Section 5: Financial capacity table of the template of the proposal to prove the SME financial capacity (<https://ec.europa.eu/research/participants/lfv/lfvSimulation.do>).
  - For companies asking for demonstrator projects, none of the criteria should be “weak”.
  - For companies applying for feasibility or prototypes, none of the criteria should be “weak”, except those reflecting the profitability of the company.

<sup>1</sup> A lump sum is a fixed amount of money which can be used by beneficiaries for several purposes related to the achievement of the project objectives. It is necessary to provide an explanation in the proposal on how the lump sum will be used (personnel, subcontracting, travels, equipment) but detailed reporting of the spending, cost statements and time sheets are not requested after the end of the project. Since the granting of a lump-sum doesn't foresee the delivering of a cost statement, the use of the project budget will be controlled considering the technical advancements by the technical reviewers. We discourage any use of subcontracting higher than 1/3 of the budget. The final technical evaluation will assess the coherence of the spent money with the achieved results.

## 1.6 Funding conditions

Reminder: only for-profit SMEs are eligible to receive funding. The maximum contribution that individual SMEs can receive is applicable to the whole duration of the IoT4Industry project. The cumulative contributions received by individual SMEs taking part in the two calls of the IoT4Industry project cannot be higher than EUR 60,000.

Successful proposals shall receive the requested financial contribution in the form of a lump sum according to the following timeline:

- A pre-funding payment of 20% of the requested financial contribution will be provided at the beginning of the project.
- A final payment of 80% of the requested contribution will be provided after the approval of the final technical report by the IoT4Industry consortium. The approval process will check that all the technical<sup>2</sup> KPIs (defined by the applicants in section 1) are 100% met and demonstrators and deliverables are satisfactory. Furthermore a physical or virtual meeting with an interactive session will be organised to better verify the quality of the technical results. Should the technical check be unsatisfactory, IoT4Industry Steering Committee can decide to revoke part or all the funding.

## 1.7 Calendar

- 20<sup>th</sup> September 2018: Opening of the call
- 20<sup>th</sup> December 2018: Deadline of the call at 17:00 CET
- 21<sup>st</sup> December 2018–14<sup>th</sup> January 2019: Eligibility assessment (administrative check)
- 18<sup>th</sup>–22<sup>nd</sup> February 2019: Evaluation Summary Reports sent to the project proponents
- 22<sup>nd</sup> February 2019–1<sup>st</sup> March 2019: Grant Agreement signature
- 1<sup>st</sup> March 2019–29<sup>th</sup> February 2020 Projects Execution

## 1.8 Application process

FundingBox, an online tool, is used for the submission of applications. FundingBox is a tool created especially for publishing, managing and evaluation of projects calls.

Proposals shall be submitted to the following web address <https://iot4industry-innovation-vouchers.fundingbox.com/>

The published link leads to the call front page which lists all information and application conditions with respect to the call.

Guide for applicants and the template for proposal preparation can be downloaded from IoT4Industry website: <https://www.IoT4Industry.eu>

Clicking the “Apply” button leads to a questionnaire where all the required information is entered as text box or drop down menu or similar.

The proposal text, inserted on the template, must be uploaded in pdf format, as well as other pdf attachments if available (letter of interest or similar)

The last step in the application process is clicking the final submission button. Until that very last step, applicants are able to modify their proposal data. Once, applicants have finally submitted their proposal, they receive an automated e-mail stating that the submission has been entered successfully.

## 1.9 Template for proposal preparation

Proposals will be submitted in a document of maximum **10 pages** according to a pre-defined template (in Annexes section 2.2 Exploitation Strategy).

The proposal will be structured in 5 sections whose expected content is explained in detail in Annex.

The sections will be completed filling the template and uploaded on FundingBox in PDF format.

## 1.10 Evaluation and selection process

Two independent experts will evaluate independently each proposal according to the following criteria:

<sup>2</sup> Business KPIs defined in Section 2: Impact of the proposal will not be considered for project results approval

## 1. Excellence:

- Soundness and pertinence of Objectives with the scope of the call
- Credibility of the technological KPIs to measure the results
- Concreteness of the technical approach
- Coherence of the TRLs and scope with the type of proposal applied for (feasibility, prototype or demonstrator)
- Innovativeness of the proposed solution

## 2. Impact:

- Industrial and individual relevance
- Credibility of targets for business KPIs
- Quality of the exploitation, IPR and knowledge protection strategy

## 3. Implementation

- Soundness of the workplan, including relevance of the tasks described, and the timing of the activities
- Appropriateness of the consortium: evaluate completeness (IoT Technology providers and industrial users are present) and complementarity (the provided solutions match with the needs of the final users)
- European dimension (in terms of transnational dimension of the consortium and exploitation intentions towards European countries)
- Cost-effectiveness of the workplan
- Operational capacity (evaluate the technical capacity of the proposers related to the proposed work, see also Section 4)

A score from 1 to 5 **including half scores** will be assigned to each the 3 criteria.

The meaning of the marks is as follows:

- 0: The proposal fails to address the criterion under examination or cannot be judged due to missing or incomplete information.
- 1: Very Poor – The criterion is addressed in an inadequate manner, or there are serious inherent weaknesses.
- 2: Poor – While the proposal broadly addresses the criterion, there are significant weaknesses.
- 3: Acceptable – The proposal addresses the criterion, although significant improvements are possible.
- 4: Good – The proposal addresses the criterion well, although certain improvements are still possible.
- 5: Very Good – The proposal successfully addresses all relevant aspects of the criterion in question. Any short-comings are minor.

The final mark given to each criterion will be the average of the scores given by the two evaluators.

In order to be successful, proposals shall score at least 3 in each criterion and have an overall score of at least 10 points.

Successful proposals (i.e. above threshold) are funded in descending order until the available sum for the call is totally assigned.

A Selection Committee composed of one representative of each IoT4Industry project's partner will be reserved the rights of modifying the ranking of successful proposals (in case of equal scores) in order to balance the list of selected projects according to geographical coverage and vertical sectors represented, to better reflect diversity of industrial sectors and countries covered in Europe.

An Evaluation Summary Report containing the scores and both evaluators justifications for each score as well as the Selection Committee ranking justifications will be provided to proposal coordinators.



## 1.11 Grant signature

Coordinators of proposals selected for funding (*IoT4Industry beneficiaries*) will be invited to sign a grant agreement with SCS cluster, coordinator of the IoT4Industry project. This grant agreement contains the obligations of the SME funded in the framework of IoT4Industry call and payment process to be proceeded by SCS.

A draft model of the foreseen Grant Agreement is available in Annex 2.

## 1.12 Reporting

A final report is foreseen at the end of the project after 6 months for feasibility study and after 12 months for prototypes and demonstrators.

An intermediate report is foreseen after 6 months for prototypes and demonstrators.

The reports will have the following structure:

1. Executive summary ready for dissemination
2. Description of the achieved results
3. Description of the implemented activities
4. Status of technical KPIs (defined in the proposal to measure the achieved technical results)
5. Description of dissemination material and exploitation actions
6. Plan for remaining activities (only for intermediate report)
7. Evaluation of the following impact KPIs (only for final report) in feasibility study they should provide a forecast after the implementation end:
  - Employment created/safeguarded due to the Project (stating also the number of IoT4Industry Beneficiary employees before the Project as well as forecasts for 2020 and 2021)
  - Impact on turnover due to the Project (stating also forecasts for 2020 and 2021)
  - Market share acquired due to the Project (stating also forecasts for 2020 and 2021)
  - Environmental impact (if applicable), (water consumption, energy ...) generated by the Project (stating also forecasts for 2020 and 2021)
  - Contribution of the Project to new or significantly improved products launched (stating also forecasts for 2020 and 2021)
  - Contribution of the Project to new or significantly improved methods and processes (stating also forecasts for 2020 and 2021)
  - Contribution of the Project to introduction of patents
  - Contribution of the Project to changes in the innovation practices
  - Advancement of TRL due to the Project
  - Other forms of finance, such as risk capital or public funds, raised by the Project

A final meeting (physical or virtual) will be organised after the end of the project to better check in an interactive session the quality of the final results.

## 1.13 Helpdesk and FAQ

The helpdesk is provided by the contact page of the project's website:

<https://www.iot4industry.eu/contact-2367>

A FAQ section is also available on the FundingBox website:

<https://iot4industry-innovation-vouchers.fundingbox.com/pages/FAQ>



## 2 Annexes

### 2.1 Template for proposal preparation

The applicant will find the template on line on the FundingBox tools and need to fill it in all its parts.

**Here we report in bold the template chapters or paragraphs that need to be kept in the proposal, in italic the explanations on how to fill the chapters, to be removed in the proposal text.**

**Acronym**

**Title of Proposal**

**Type of Proposal** (*Feasibility Study, Prototyping or Demonstration/Pilot*)

**List of participants**

Participant No	Participant organisation name	Country	Region NUTS1 (if applicable)	SME/Large Enterprise/RTO
1 (Coordinator)				
2				
3				

#### Section 1: Excellence (max 5 pages)

##### 1.1 Objectives

- Describe the specific objectives for the project, which should be clear, measurable, realistic and achievable within the duration of the project.
- Explain the industrial/economic/social problem to overcome, or the business opportunity to be taken advantage of, that has not yet been solved/offered and can be solved/offered through your project; Explain how your solution solves the stated problem or avails of the business opportunity;
- Indicate how your project addresses the scope of the call, in particular the application of IoT technology.
- Describe the expected results of your project and provide a set of (technical) KPIs to measure them. **These KPIs are very important because they will be checked in the end of project execution (if funded) to approve the project results.**

##### 1.2 Technical Approach

- Explain the current stage of development of the project and the key milestones that have led to it (e.g. proof of concept completed, early field trials under way), or similar indications of results and describe the positioning of the business innovation project, e.g. where it is situated in the spectrum from 'idea to application', or from 'lab to market'. Refer to Technology Readiness Levels where relevant.  
<https://ec.europa.eu/research/participants/portal/desktop/en/support/faqs/faq-2890.html>
- Describe and explain the concept and the activities that you will implement during this project (e.g. feasibility study, demonstration, testing, prototyping, pilot lines, scale-up studies, miniaturisation, design, performance verification, market replication encouraging the involvement of end users and potential clients, research etc.). Pay attention to the coherence with the type of proposal you are applying for.
- Describe which technologies, architectures, processes and methodologies you will use to obtain the results and how you will use them according to the objectives.



### 1.3 Innovation

- Explain the innovations of your project compared to the current situation in the considered vertical sector (e.g. automotive) at SME level.
- Describe the expected key market application(s) of the results of your project, which differentiates it from competitors and provides the highest added value for potential customers.

## Section 2: Impact (max 3 pages)

### 2.1 Industrial and Individual relevance

#### a) Industrial relevance

- Explain which industrial needs have been identified and will be met upon completion of the project.
- Describe the main economic benefits for manufacturing SMEs and for technology providers.
- Describe the type of market (e.g. a niche market or high volume market) addressed by the proposed solution. What is the estimation of total available market size and growth rate? What are the market trends? Describe if and how your project addresses European and/or global markets.
- Describe the targeted users of the final solution. In which market segment/geographical areas do you see these potential users, and how do you intend to reach them?

#### b) Individual relevance

- Describe the relevance, rationale and alignment of the innovation business project with regard to the business strategy of the participating SME(s).
- Estimate the potential funding requirements to reach the commercialisation stage. Envisaged financial mix: percentage or relevance of own funds, other external funding.

#### c) KPIs for impact measurement

- Identify a set of (economic/social) KPI to measure your impact and potential targets.

### 2.2 Exploitation Strategy

- Describe the dissemination material you will provide to the IoT4Industry partners for promoting the product or service during the period of the grant (pictures, presentations, not confidential descriptions of the project and its results).
- Provide exploitation intentions for the project results by each partner.

### 2.3 Intellectual Property, knowledge protection and regulatory issues

- Outline the strategy for knowledge management and protection as well as current IP status.
- Explain the regulatory and/or standard requirements to be fulfilled for the exploitation of the technology/product/solution or concept: how they are to be met.

### Section 3: Implementation (maximum 2 pages)

#### 3.1 Work plan – Work packages, deliverables and milestones

*In order to keep the project with a lean structure, a single workpackage will be described in several tasks according to the following table:*

##### 1) Timing of the different tasks (Gantt chart or similar)

<b>Work Plan</b>
------------------

<b>Objectives:</b> Describe the objectives that will be achieved from the following activities
--

<b>Description of work</b> ( <i>where appropriate, broken down into tasks</i> ), lead partner and role of participants
--

**Task 1.1 Management -Duration: - Lead Participant: - Other participants:**

**Description:**

**Role of participants:**

**Task 1.2...x Technical/Demonstration/Feasibility Study/Validation tasks -Duration: - Lead Participant: -**

**Other participants:**

**Description:**

**Role of participants:**

**Task 1.y Dissemination/exploitation -Duration -Lead Participant: -Other participants:**

**Description:**

**Role of participants:**

<b>Deliverables</b> ( <i>brief description and month of delivery</i> )
--

**1.1 Intermediate report**

**1.2 Final report**

**1.3 Feasibility study/Prototype/Demonstrator**

*1.4 Additional deliverables can be added if necessary*

#### 3.2 Consortium as a whole and international dimension

**⚠** *The individual members of the consortium are described in a separate Section 4: Description of the Consortium. There is no need to repeat that information here.*

- *Describe the consortium. How will it match the project's objectives and bring together the necessary expertise? How do the members complement one another (and cover the value chain, where appropriate)? In what way does each of them contribute to the project? Show that each has a valid role and adequate resources in the project to fulfil that role. Indicate also how subcontractors will be used*
- *Describe how the consortium has an international approach to the development or exploitation of the results*

### 3.3 Budget Allocation

Participant No <sup>3</sup>	Participant organisation name	Type of organisation (SME, Large Enterprise, RTO)	Personnel	Subcontracting	Budget (in EUR)			Total Lump Sum
					Equipment	Travels	Other	
1								

#### Section 4: Description of the Consortium (maximum 1 page per partner)

Provide for each partner of the Consortium:

- A description of the proposing organisations (no more than 1 page)
- A CV or description of the profile of the persons who will be primarily responsible for carrying out the proposed activities. (no more than 10 lines per CV)
- A brief description of relevant products, services (including widely used datasets or software) or other achievements (which may also include previous projects or activities connected to the subject of the proposal).
- A description of any significant infrastructure and/or any major items of technical equipment relevant to the proposed work.

#### Section 5: Financial capacity table

The requesting SMEs have to run the H2020 Financial Viability Self- Check through the Online Simulation Tool:

<https://ec.europa.eu/research/participants/lfv/lfvSimulation.do>

Results must be provided in this section by copying/pasting a screenshot of the result in the word template.

Indicators	Ratio's Results			Analysis	
	Value	Qualification	Quote	Concise	More-in-depth
Quick Ratio	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
G.O. Profit Ratio	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Profitability (1)	<input type="text"/>	<input type="text"/>	<input type="text"/>		
Profitability (2)	<input type="text"/>	<input type="text"/>	<input type="text"/>		
Solvency	<input type="text"/>	<input type="text"/>	<input type="text"/>		
	Noteworthy value's Results				
Equity Flags	<input type="text"/>	<input type="text"/>			

<sup>3</sup> Only SMEs can claim for a Lump Sum, Large Enterprises and RTOs should write N.A..

