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Description automatically generated

A Meta Operating System for Brokering Hyper-Distributed Applications on Cloud Computing Continuums

**Annex 2.1**

**NebulOuS - Open Call #1 Proposal (template)**

**INSTRUCTIONS**

**NebulOuS Open Call #1**

**The structure of this template MUST be followed when preparing your proposal.** Applicants using other kind of template/ document structure will be automatically considered ineligible.

**Disclaimer:** *Please be aware that the proposal will be evaluated as it was submitted, with no additional documents or links to add information beyond the defined hereby.* The proposal is a self-contained document. Evaluators will be instructed to ignore hyperlinks to information that is specifically designed to expand the proposal, thus circumventing the page limit.

Before submitting your application,you **MUST read Annex 1 Guidelines for Applicants** to clearly understand the rules applying to the call. All documents are available at: <https://nebulouscloud.eu/open-calls/>.

This template has been organised to ensure that the important aspects of your planned work are clearly measurable with respect to the evaluation criteria, which are:

* C1 - Novelty, adequateness of the proposed use-case to be implemented with NebulOuS
* C2 - Economic, social and environmental impact of the planned use-case
* C3 - Expertise and excellence of the proposed team
* C4 - Project planning and value for money

**Rules:**

* The page limit for the full proposal is **10 pages** (cover page, table of content page and the Ethical/Security Checklist are not included within the 10-page limit). All tables, figures, references, and any other element pertaining to these sections must be included as an integral part of the proposal.
* The allowed font type is “**Calibri** “and the minimum **font size is 11** points.
* It is mandatory to upload the document in PDF format.
* If you attempt to upload a proposal longer than the specified limit, your proposal may not be taken into consideration by the evaluators.
* **ENGLISH is the only eligible language of the proposal.**

*!!!! Delete this page and guidance text in highlighted blue in each section when submitting the proposal!!!*

**Basic information about applicant**

|  |  |  |
| --- | --- | --- |
|  | **Organisation (1)** | **Organisation (2)[[1]](#footnote-2) \***  **(if applicable)** |
| **Name of Organisation** |  |  |
| **Organisation representative Name, Last name, position in the organisation** |  |  |
| **E-mail** |  |  |
| **Logo, if applicable** |  |  |
| **Website** |  |  |

**Mark the challenge you are applying to with an “x”.**

|  |  |  |
| --- | --- | --- |
| **#** | **Challenge name** |  |
| 1 | Workflow application |  |
| 2 | IoT application with variability |  |
| 3 | Serverless application |  |
| 4 | Open challenge |  |

*Page count starts here (remove this sentence)*

# OVERVIEW OF THE PROPOSAL (MAXIMUM 1 PAGE)

* 1. **Executive Summary**

Describe an overview of your intended proposed work. What will be developed, why is it important, who will be involved, how the challenge will be addressed, expected outcome and potential impact.

*Add text here.*

* 1. **Objectives**

Please state a clear objective/ a set of objectives of your intended work for the 7-month NebulOuS programme. Are they measurable and verifiable. Are they realistically achievable?

*Add text here.*

# TECHNICAL EXCELLENCE AND NOVELTY (MAXIMUM 3 PAGES)

* 1. **Envisioned scenario**
* How will your proposal approach the selected challenge? Describe what is scenario to solve chosen challenge and how you will reach the envisioned scenario.
* Describe the objectives of proposed work to address the selected challenge. Explain the adopted technology for the application of the use - case and comparison with state-of-the-art.
* Briefly explain your project’s alignment with NebulOuS objectives.
* Identify the technical challenges and barriers and how your project will address this/these. Describe the positive advancement based on your activity and how your project goes beyond the state-of-the-art. Whenever possible quantify the aspects involved.

*Add text here.*

* 1. **Technical approach**
* Describe your technical approach including the identification of the platforms/technologies required to be integrated/developed, the applicable standards to be used and/or updated, data to be captured for decision support systems, validation methodologies.
* Identify the NebulOuS technical components/framework to be used. Please refer to Guidelines for applicants.
* Applicants are expected to demonstrate and validate their use-cases. Describe your anticipated validation plan, including the context, testing scenario and number of users.

*Add text here.*

* 1. **Visual description**
* Include a scheme(s)/image(s)/figure(s) supporting the description of your anticipated work to be performed.

*Add visuals here.*

# AMBITION & IMPACT (2 PAGES)

* 1. **Expected outcomes.**
* Please describe your ambitions and expectation for solving chosen challenge.
* Describe the expected impact, benefits for your organisation(s), NebulOuS, and market.
* Describe how the result of implemented projects will be exploited and disseminated,
* Define the potential socio-economic impact of your solution.

*Add text here.*

* 1. **Milestones**

NebulOuS has identified a set of milestones for each challenge which should be achieved during implementation of project. Please fill in the table accordingly and remove those not related to selected challenge. If you're applying to the open challenge or wish to introduce additional Milestones, you can include an additional row in Table below.

|  |  |
| --- | --- |
| **Challenge #1 – Workflow application** | |
| **Milestone** | **Envisaged time the MS could be achieved** |
| MS1: A workflow model of the application's task that can be scheduled by NebulOuS. The workflow should have at least 3 steps. In normal operation conditions, the need for executing at least 3 instances of the same workflow should be accredited | *Add here* |
| MS2: A successful execution of a single workflow run on relevant and realistic user data. | *Add here* |
| MS3: Successful execution of multiple instances of the workflow submitted at various time points running on real user data | *Add here* |
| MS4: An evaluation of running multiple interfering workflow instances simultaneously on a set of NebulOuS managed resources. | *Add here* |

|  |  |
| --- | --- |
| **Challenge #2 – IoT application with variability** | |
| **Milestone** | **Envisaged time the MS could be achieved** |
| MS1: An application modelled using NebulOuS definition language that requires frequent re-adaptation of the deployment graph due to the fluctuation of the workload both in terms of volume and geographical distribution. | *Add here* |
| MS2: A data transformation pipeline that can be scheduled by NebulOuS. The pipeline should have at least 3 steps and allow parallel execution on, at least, one of these steps. | *Add here* |
| **Challenge #3 – Serverless application** | |
| **Milestone** | **Envisaged time the MS could be achieved** |
| MS1:An application modelled using NebulOuS definition language that requires the frequent use of at least 3 Functions as a Service. | *Add here* |

|  |  |
| --- | --- |
| **Challenge #4 – Open challenge** | |
| **Milestone** | **Envisaged time the MS could be achieved** |
| *Add text here* | *Add here* |

* 1. **Deliverables**

*Table - List of deliverables*

|  |  |
| --- | --- |
| **NebulOuS Mandatory Deliverable** | **Month (M) of delivery** |
| Deliverables: D1 - Application description and initial software architecture | M1 |
| Deliverables: D2 - Deployment of the application using NebulOuS | M7 |

# TEAM SKILLS & EXPERTISE (1 PAGE)

Describe the team involved in the project in the table below. Please enter the details of the persons who are expected to be involved in the execution. In case of a single entity application remove the section for entity #2 below.

*Table - Proposed Team*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Entity** | **Name of the person** | **Role in the project** | **Link to LinkedIn profile or equivalent** | **Gender** |
| *Add lines as required* |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Below please provide a short summary of the relevant experience of each team member. When appropriate include previous project references pertinent to the proposal, products, publications, participation in conferences, collaborations, community projects, etc.

**Entity #1 (Leader)**

Please describe the competences of the organization and in particular the team which will be involved in project.

Include:

* Company profile and main expertise/products/services if relevant
* Business and technical competences and
* Competences adequate to the expected role
* Participating team members competences/ skills

**Entity #2**

Please describe the competences of the organization and in particular the team which will be involved in project.

Include:

* organisation profile and main expertise/products/services if relevant
* Business and technical competences and
* Competences adequate to the expected role
* Participating team members competences/ skills

Additionally, explain the value of the overall consortium (when applicable) and how you will be structured as a sole team.

Identify synergies, trans-disciplinary competences, cross-border dimension if exists.

# PROJECT PLANNING & VALUE FOR MONEY (3 PAGES)

* 1. **Planning**

Describe the activities that will take place in your project from the technical point of view. Break down your work into each of the 3 phases (1-IMPLEMENTATION; 2-DEVELOPMENT; 3-DEMONSTRATION), list tasks and provide timing of the different activities. This section should answer the question “how are we going to implement the project to reach the defined objectives?”

*Table - Project Plan*

|  |
| --- |
| **Phase 1 – IMPLEMENTATION (2 WEEKS) (M1)** |
| Task 1.1 IMPLEMENTATION PLAN  Clear objective of the task  Clear description of the task  Clear contribution to the task of the entities(s)  Expected outcome(s) |
| **Impact and Outputs of Phase 1** |
| Milestones and their timing:  Proposed KPIs and their value: |
| **Phase 2 – DEVELOPMENT (3,5 months) (M1- M4)** |
| Task 2.1 name & period of execution (Mx-Mx)  Clear objective of the task  Clear description of the task  Clear contribution to the task of the entities(s)  Expected outcome(s)  Task 2.2 name & period of execution (Mx-Mx)  Clear objective of the task  Clear description of the task  Clear contribution to the task of the entities(s)  Expected outcome(s)  Add more tasks as needed. |
| **Impact and Outputs of Phase 2** |
| Milestones and their timing:  Proposed KPIs and their value: |
| **Phase 3 – DEMONSTRATION (3 months) (M5 - M7)** |
| Task 3.1 name & period of execution (Mx-Mx)  Clear objective of the task  Clear description of the task  Clear contribution to the task of the entities(s)  Expected outcome(s)  Task 3.2 name & period of execution (Mx-Mx)  Clear objective of the task  Clear description of the task  Clear contribution to the task of the entities(s)  Expected outcome(s)  Add more tasks as needed. |
| **Impact and Outputs of Phase 2** |
| Milestones and their timing:  Proposed KPIs and their value: |

* 1. **Budget**

Please indicate the number of person-months (full-time equivalent) of people involved in the project in the table below for the 7-months of project:

*Table - Person-months & Personnel costs*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Entity name** | **Name of the person** | **Person-month**  **(PM)** | **Monthly rate in Euros**  **(MR)**  **(Actual cost only)** | **Direct personnel costs**  **(PMxMR)** |
| *Add lines as needed.* |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| **Total** | |  |  |  |

Notice that a PM is a metric for expressing the effort of a person dedicated full time in one month.

Provide a description of expected costs and the requested total contribution using the table below. In case of a single entity application, leave the rows concerning entity #2 empty.

*Table - Total budget*

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Amount (€)** | | |
| **Entity 1** | **Entity 2**  **(if applicable)** | **Total** |
| **Direct personnel costs (a)** |  |  |  |
| **Other direct cost (Equipment) (b)**  **(Depreciation cost only)** |  |  |  |
| **Other direct cost (Software licenses) (c)** |  |  |  |
| **Other direct cost (Travel expenses) (d)** |  |  |  |
| **Other direct cost (Others) (e)** |  |  |  |
| **Indirect costs (0,25 x (a +b +c +d+e))** |  |  |  |
| **Total** |  |  |  |

The maximum amount of funding that the project (single entity or consortium of maximum of two entities) may receive from NebulOuSis up to 150.000 EUR via any mean.

# ANNEX: Ethics Self-Assessment

**6.1. ETHICAL ISSUES TABLE - CHECKLIST to be completed.**

*Table - Ethical Issue Table*

|  |  |
| --- | --- |
|  | **YES/NO** |
| **Informed Consent** |  |
| * Does the proposal involve children? |  |
| * Does the proposal involve patients or persons not able to give consent? |  |
| * Does the proposal involve adult healthy volunteers? |  |
| * Does the proposal involve Human Genetic Material? |  |
| * Does the proposal involve Human biological samples? |  |
| * Does the proposal involve Human data collection? |  |
| **Research on Human embryo/foetus** |  |
| * Does the proposal involve Human Embryos? |  |
| * Does the proposal involve Human Foetal Tissue / Cells? |  |
| * Does the proposal involve Human Embryonic Stem Cells? |  |
| **Privacy** |  |
| * Does the proposal involve processing of genetic information or personal data (e.g. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction) |  |
| * Does the proposal involve tracking the location or observation of people? |  |
| **Research on Animals** |  |
| * Does the proposal involve research on animals? |  |
| * Are those animals’ transgenic small laboratory animals? |  |
| * Are those animals transgenic farm animals? |  |
| * Are those animals cloned farm animals? |  |
| * Are those animals’ nonhuman primates? |  |
| **Research Involving Developing Countries** |  |
| * Use of local resources (genetic, animal, plant etc) |  |
| Benefit to local community (capacity building i.e. access to healthcare, education etc) |  |
| **Dual Use** |  |
| Research having direct military application |  |
| Research having the potential for terrorist abuse |  |
| **ICT Implants** |  |
| * Does the proposal involve clinical trials of ICT implants? |  |
| **I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL** |  |

* 1. **Ethics**

If you have entered any ethics issues in the ethics self-assessment table, you must, once selected submit:

how the proposal meets the national legal and ethical requirements of the country or countries where the tasks raising ethical issues are to be carried out;

explain in detail how you intend to address the issues in the ethics self-assessment table, in particular as regards:

* + research objectives (e.g. study of vulnerable populations, dual use, etc.)
  + research methodology (e.g. clinical trials, involvement of children and related consent procedures, protection of any data collected, etc.)
  + the potential impact of the research (e.g. dual use issues, environmental damage, stigmatization of particular social groups, political or financial retaliation, benefit-sharing, malevolent use, etc.).
* provide the documents that you need under national law (if you already have them), e.g.:
  + an ethics committee opinion;
  + the document notifying activities raising ethical issues or authorizing such activities

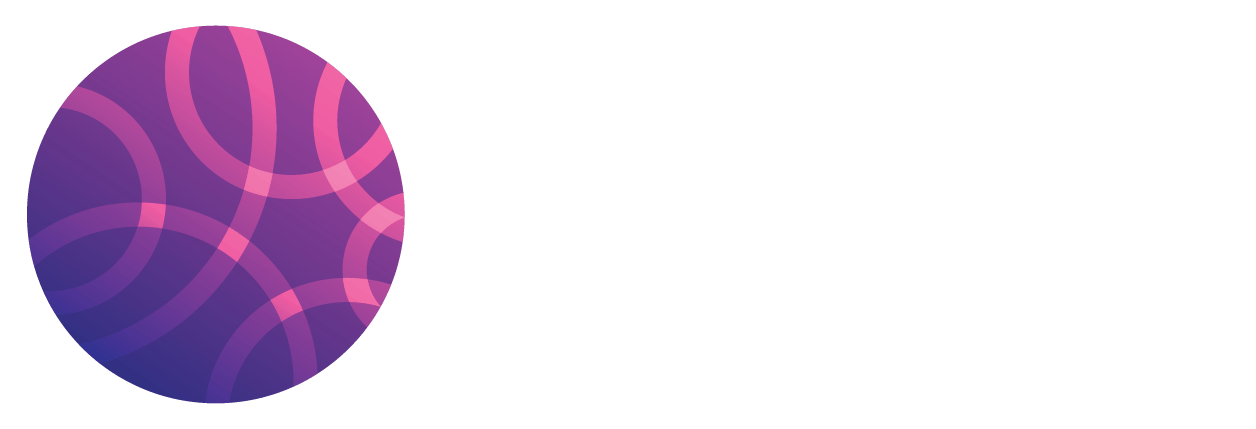
If these documents are not in English, you must also submit an English summary of them (containing, if available, the conclusions of the committee or authority concerned).

If you plan to request these documents specifically for the project you are proposing, your request must contain an explicit reference to the project title.

* 1. **Security**

**Please indicate if your project will involve:**

* Activities or results raising security issues: (YES/NO)
* 'EU-classified information' as background or results: (YES/NO)
* Any potential “dual use” of results: (YES/NO)



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1. only fill in the column related to organisation 2 if you apply as a consortium [↑](#footnote-ref-2)