**In response to the call by ESA EO AFRICA R&D Facility in collaboration with the African Union Commission (AUC):**

# Research Proposal 2021

Related to the themes: EO for managing water scarcity and safeguarding food security in Africa

***Please read this information before filling in the form.***

*ESA EO AFRICA R&D Facility aims to support research to be conducted in partnership between African and European scientists to address African research challenges related to food security and water scarcity by making full use of cloud computing infrastructure and EO data services. Please refer to the* [*Call for Proposals*](https://www.eoafrica-rd.org/eo-africa-rd-research-proposals/) *for detailed information on the research topics, application and evaluation criteria, funding, and other benefits of the call.*

*Please adhere to the following when filling in the form:*

* *This form should be completed in English. Use the* [*French version*](https://www.eoafrica-rd.org/wp-content/uploads/docs/EO-AFRICA-RD-Project-Proposal-Template-FR.docx) *of the form if you prefer French.*
* *Use Calibri 11 pt. font and do not change the page size and margins (A4 page, 2 cm in all directions).*
* *Remove all text in italics before converting the filled-in form to PDF and submitting it.*

*The form should be filled in, signed, submitted by the applicants by e-mail to* [*proposals@eoafrica-rd.org*](mailto:proposals@eoafrica-rd.org) *together with all required documents* ***not later than 16 January 2022, 23:59 CET****. For any questions regarding submission contact by e-mail to* [*proposals@eoafrica-rd.org*](mailto:proposals@eoafrica-rd.org) *no later than 2 (two) working days before the submission deadline.*

## Project Title

|  |
| --- |
|  |

## Project Acronym

|  |
| --- |
|  |

## Applicants

*One African and one European researcher should lead the project as co-principal investigators (Co-PI), both with a PhD degree or in the process of obtaining it as a PhD candidate relevant to the call topics. Each Co-PI shall be authorized and supported by an institution from his/her continent of origin.*

### African Co-PI

|  |  |
| --- | --- |
| Full Name | Job Title |
| Affiliated African Institution | |
| E-mail Address | Phone Number (including international call code) |
| Address of Residence | |
| Country of Residence | Nationality |
| Academic Degree | Birth Date (DD/MM/YYYY) |

### European Co-PI

|  |  |
| --- | --- |
| Full Name | Job Title |
| Affiliated European Institution | |
| E-mail Address | Phone Number (including international call code) |
| Address of Residence | |
| Country of Residence | Nationality |
| Academic Degree | Birth Date (DD/MM/YYYY) |

## Other Project Members

*The project team may include additional researchers from all nationalities. Teams with more African and European researchers in balance are encouraged.*

|  |
| --- |
| *List the project team members by full name, academic title, affiliated organization, experience in topics related to the call and EO, and intended role in the project* ***(max. 120 words for each member)****.*  Number of other members: ………… Word count: ………… (max. 120 for each member) |

## Research Proposal

*The proposal should focus on one or more* [*topics of the call*](https://www.eoafrica-rd.org/eo-africa-rd-research-proposals/#topics)*. A research plan for the scientific cooperation of the African and European partners should be provided with the goal of developing an innovative EO algorithm or workflow as an open-source interactive notebook (e.g.,* [*Jupyter Notebook*](https://jupyter.org/)*).*

|  |
| --- |
| Abstract  Briefly describe your project in terms that are understandable for readers who are not domain experts. This text will be published on the EO AFRICA R&D website if the proposal is awarded (max. 200 words).  Word count: ………… (max. 200) |
| Problem Statement and Scientific Background  Describe the research problem and relevant scientific background *(max. 400 words including figures and tables, excluding references).*    Word count: ………… (max. 400) |
| Proposed Scientific and Methodological Approach and Workplan  Describe how you intend to achieve your intended activities and methods, and provide the timeline for your project plan, preferably in a table (max. 500 words).    Word count: ………… (max. 500) |
| Innovation and Impact Brought by the Proposed Approach  Briefly indicate the expected advancement vs the state of the art, innovation and scientific impact, especially for fostering the use of EO data and cloud-based EO services in Africa (max. 150 words).    Word count: ………… (max. 150) |
| Relevance to the Objectives of the Call and Specific Needs in Africa  Briefly indicate the relevance of the project to the objectives of the call and specific needs in Africa *(max. 150 words).*    Word count: ………… (max. 150) |
| Beneficiaries  Please indicate the expected beneficiaries of the project and the availability of a letter of support for specific beneficiaries. |
| Planned Publications  Please indicate the preliminary list of expected publications. |

## Data Requirements and Availability

|  |
| --- |
| ESA and 3rd Party Mission Data  Please indicate the missions and data products as well as the required geographical extent and temporal range both for archive data and new acquisitions. |
| Non-ESA EO Data  Please indicate the missions and data products as well as the required geographical extent and temporal range with their availability. |
| In-situ and Ancillary Data  Please indicate the required data and their availability. Specify data collection and ground experiments if relevant. |

## Cloud Computing Requirements

Each project team will be provided with free access to cloud-based Virtual Research Environments (VREs) through the Innovation Lab of the Facility. Please refer to the [Appendix](https://www.eoafrica-rd.org/eo-africa-rd-research-proposals/#appendix) of the Call for Proposals for the features of the VREs.

|  |
| --- |
| Software Applications  Please indicate the software applications and packages (e.g., Python, R, Julia, etc.) required for the project. The use of commercial software is not allowed. |
| Data Storage  Please indicate data that needs to be stored during the project and required storage volume, including raw, pre-processed, intermediate, and final data sets. Data accessible via the DIAS platform (e.g., raw or processed ESA and 3rd party mission data) should be excluded. |
| Special Computing Needs  Please indicate if special computing (e.g., distributed or GPU-enabled) is required for the project and provide an estimate of the special resources (e.g., GPU-enabled VREs) required in terms of processing time in hours. |

## Budget

A budget of up to 25,000 EUR can be requested to cover project costs such as personnel costs, field work, data collection, bilateral visits, participation in scientific meetings, training activities, open-access publication costs, etc. The proposed budget cannot include ICT resources for computing purposes as such resources will be provided by the Innovation Lab. The project budget should be managed by the European partner due to the financial rules of ESA. However, this shall not bring any additional financial benefits, and both partners shall have equal rights on the budget.

|  |
| --- |
| Outline of the Budget Allocation  Summarise the budget requested for the project by indicating types and amounts of the costs, preferably in a table. |
| Budget Clarification  *Clarify your expenditures briefly (max. 200 words).*    Word count: ………… (max. 200) |

## Additional Documents

The following documents should be provided together with the proposal:

* Detailed CV of the African Co-PI.
* Detailed CV of the European Co-PI.
* Short resumes of other researchers of the team.

The following documents are optional:

* Support letter(s) from one or more African regional or national authoritative institution(s) related to the topics of the proposal.

## Signature

* By submitting this application form, we declare that the team members named in the form have read and agreed with the submission of this proposal and have agreed with their role and intended contribution to the project, should this be awarded.
* We agree to make the research code, data, and outputs publicly available.
* We have completed this application form truthfully.

|  |  |
| --- | --- |
| African Co-PI  Name:  Place:  Date:  Signature: | European Co-PI  Name:  Place:  Date:  Signature: |

## Signature of the Authorized Representatives

* We agree to provide necessary institutional support to the submitted proposal.

|  |  |
| --- | --- |
| Authorized Representative of the African Institution  Name:  Place:  Date:  Signature: | Authorized Representative of the European Institution  Name:  Place:  Date:  Signature: |

*Please fill in this form and return it by e-mail to* [*proposals@eoafrica-rd.org*](mailto:proposals@eoafrica-rd.org) *together with all the requested and optional documents as a single PDF file* ***no later than 16 January 2022, 23:59 CET****.*