European Lighthouse to Manifest Trustworthy and Green AI

Call Documentation
Deliverable D5.1

Dissemination Level: PU

Topic: HORIZON-CL4-2022-HUMAN-02-02
Project Period: 01.09.2023 to 31.08.2026

Lead Participant: INOVA+

Due Date of Deliverable: 31/12/2023   **Actual Date of Submission:** 31/12/2023

Deliverable Description

Deliverable Title	Call Documentation
Deliverable Number	D5.1
Work Package	WP5
Associated Task	T5.1
Covered Period	M1 – M36
Due Date	31/12/2023
Completion Date	30/12/2023
Submission Date	31/12/2023
Deliverable Lead Partner	INOVA+
Deliverable Author(s)	Ana Solange Leal, Mariana Malta (INOVA+)
Version	1.0

	Dissemination Level	
PU	Public, fully open, e.g., web (Deliverables flagged as public will be automatically published in CORDIS project's page)	**X**
SEN	Sensitive, limited under the conditions of the Grant Agreement	
EU-R	EU RESTRICTED under the Commission Decision No2015/444	
EU-C	EU CONFIDENTIAL under the Commission Decision No2015/444	
EU-S	EU SECRET under the Commission Decision No2015/444	

Document History

Version	Date	Change History	Author(s)	Organisation
0.1	28/12/2023	Initial Version	Ana Solange Leal, Mariana Malta	INOVA+
0.2	29/12/2023	Monitoring & Reporting	Pankaj Pandey	NTNU
1.0	30/12/2023	Final Version	Ana Solange Leal	INOVA+

Distribution List

Date	Issue	Group
31/12/2023	Submission	European Commission

Executive Summary

This document represents the deliverable D5.1 "Call Documentation", which is framed within the ENFIELD's WP5 "Open Calls Management". The objective of this WP is to mobilize researchers and legal entities into the ENFIELD network to foster cross-border and cross-sector innovation within the Artificial Intelligence (AI) sectors. To do so, WP5 is responsible for the organization and management of six open calls, four linked to the Exchange Schemes and two for the Innovation Schemes. These open calls will create conditions to attract and engage stakeholders, and to fund innovative AI research and application-focused projects.

The deliverable D5.1 presents the documentation that formalizes the rules and procedures for researchers and legal entities participating in the open calls under both the Exchange Scheme and Innovation Scheme. First, the document provides a description of the open call's objectives, timeline planned. Then, the initial documentation for each type of Open Call is presented.

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1. Open Calls Objectives

ENFIELD aims to create a unique European Centre of Excellence that excels the fundamental research in the areas of **Adaptive**, **Green**, **Human-Centric**, and **Trustworthy AI**. These pillars are strategic and of paramount importance to successful AI development, deployment, and acceptance in Europe and will further advance the research within verticals of **Healthcare**, **Energy**, **Manufacturing**, and **Space** (Figure 1).

The main objective of the open calls is to engage entrepreneurs, companies (e.g., SMEs, midcaps) and researchers that regularly develop and integrate applied research in the field of AI, to develop new research and applications for AI. The open calls targets two types of schemes:
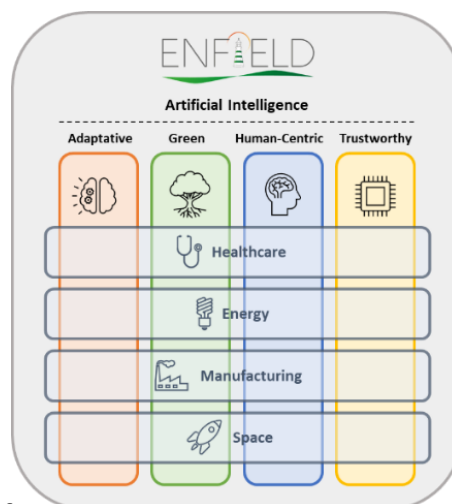
Figure 1- Conceptual view of ENFIELD.

- Exchange: Aims to attract and engage researchers working in the AI field to increase the value of the ENFIELD ecosystem by developing and integrating new research in the domains of Green AI, Adaptative AI, Human-centric AI, and Trustworthy AI. A total of 76 researchers are expected to be funded in four open calls (each researcher will receive a mobility allowance of 2.400€ per month) and will run for a minimum period of 3 months and a maximum of 6 months.

- Innovation: Aims to attract and engage R&D intensive establishments (research institutes, start-ups, SMEs, and large companies) to submit innovative AI applications for the energy, healthcare, manufacturing, and space sectors by building on the research coming out of ENFIELD. A minimum of 18 projects are expected to be funded (each will receive up to €60.000) and will run for a maximum of 6 months.

Additional details on the objectives of the open calls are provided in Annexes in sections 7 (exchange schemes) and 8 (innovation schemes).

2. Timeline of the Open Calls

WP5 is responsible for the organization and management of six open calls, four for the exchange scheme and two for the innovation scheme. Table 1 and Figure 2 present the timeline and important dates for the open calls. Importantly, the presented dates are only indicative and might vary depending on the project needs and outcomes.

Table 1 - Open Calls Deadlines.

	EXCHANGE SCHEME				INNOVATION SCHEMES	
	1st OC	2nd OC	3rd OC	4th OC	1st OC	2nd OC
CHALLENGES DEFINITION	M03 (30.11.2023)	M09 (30.05.2024)	M15 (30.11.2024)	M21 (30.05.2025)	M07 (31.03.2024)	M17 (31.01.2025)
CALL DOCUMENTS SUBMISSION TO EC	M04 (31.12.2023)	M10 (31.06.2024)	M16 (31.12.2024)	M22 (31.06.2025)	M08 (30.04.2024)	M18 (28.02.2025)
CALL OPENING	**M06 (01.02.2024)**	**M12 (01.08.2024)**	**M18 (01.02.2025)**	**M24 (01.08.2025)**	**M10 (01.06.2024)**	**M20 (01.04.2025)**
SUBMISSIONS DEADLINE	M07 (31.03.2024)	M13 (31.09.2024)	M19 (31.03.2025)	M25 (31.09.2025)	M11 (31.07.2024)	M21 (31.09.2025)
SELECTION AND CONTRACT SIGNATURE	M08 (30.04.2024)	M14 (31.10.2024)	M20 (30.04.2025)	M26 (31.10.2025)	M12 (31.08.2024)	M22 (31.10.2025)
DEADLINE FOR PROJECT EXECUTION	M20 (30.04.2025)	M36 (31.10.2025)	M32 (30.04.2026)	M36 (31.08.2026)	M24 (31.08.2025)	M34 (30.06.2026)
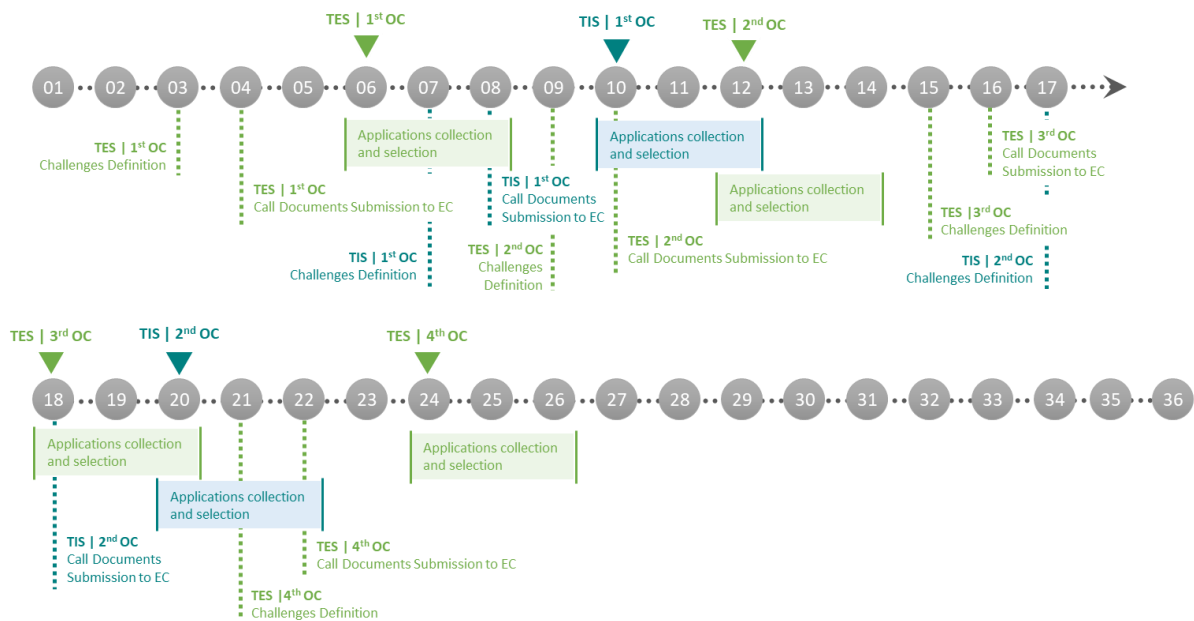
Figure 2 - Open Calls Gantt Chart.

3. Exchange Schemes Open Calls

Four open calls for researchers exchange under the ENFIELD are planned for the project's months 6, 12, 18 and 24 (see Table 1 for details). Through the ENFIELD Exchange Scheme open calls and the Financial Support to Third Parties (FSTP) mechanism, the project aims to attract top-level researchers (PhD students, post-docs, and senior researchers) to conduct foundational research activities related to specific scientific/technological challenges in AI, contributing to ENFIELD network creation and expansion to European AI labs. The four open calls will support 76 researchers (15 for each pillar and 4 for each vertical). Importantly, the proposed challenges for pillars/verticals in each open call are not limited (e.g. pillar Green AI

can propose 8 challenges in 1st open call, 2 challenges in the 2nd open call, 5 challenges in 3rd open call and none in the 4th open call) as long as in total they fund the established number of researchers (15 per pillar and 4 per vertical).

The Exchange Scheme open call is open to submissions from researchers already employed at academic and research organisations, which are not part of the ENFIELD consortium. All applicants must be from an EU Member State, or Horizon Europe associated country.

Submitted proposals will be subject to an initial eligibility check and following that the proposals will be evaluated by three senior researchers from ENFIELD partners scientific organisations. The proposals will be checked against the following four criteria and using a 5-point scale:

- <u>Advanced state of the art:</u> how the proposal is beyond the state-of-the-art and the unique approach behind it.

- <u>Scientific approach:</u> demonstrate the feasibility of the proposed research methodology.

- <u>Dissemination and communication:</u> present a plan for dissemination and communication activities which must include methods and the targeted audiences.

- <u>Technical and creative capacities:</u> competences and skills of the researcher involved in the proposal; capacity to carry out the proposed activities. Track-record in scientific publications and similar projects/domain. In case applications submitted by a group, complementarity of researchers.

The final score will be the average of the three Individual Evaluation Reports. A consensus meeting will be held to prepare a single consensus Evaluation Summary Report for each proposal, representing opinions and scores on which the evaluators agree and which they will sign. All proposals will be ranked, and two lists will be prepared:

- <u>List of the selected projects:</u> identification of the applications selected for funding.

- <u>Reserve list:</u> identification of the applications to be selected for funding, if any of those listed is unable to sign the sub-grant agreement.

All proposals will receive an acceptance or rejection letter together with an anonymized version of their proposal Consensus Evaluation Report. The awarded projects will be implemented over a period of 3 to 6 months. Full details on the procedures and guidelines of the open call are provided in Annex 2.

The first exchange open call, named oc1-2024-TES-01, will run from 1 February 2024 to 31 March 2024 (17h00 CET). All proposals must be submitted exclusively via ENFIELD – Exchange Open Call page (here). Information about the open call and relevant documents (including all annexes) are listed in section 8 Annexes 01-10.

4. Innovation Schemes Open Calls

Two open calls for proposal from legal entities under the ENFIELD are planned for the project's months 10 and 20 (see Table 1 for details). Through the ENFIELD Innovation Scheme open calls and the FSTP mechanism, the project aims to attract R&D entities to conduct applied research in relation with specific sectors, namely energy, healthcare, manufacturing and space, and to network and disseminate the latest knowledge in Europe. The challenges/use cases proposed by the ENFIELD industry partners, would potentially lead to the development

and (future) adoption of AI technologies to boost the business and overall EU competitiveness in these sectors and address societally important challenges, e.g., actively contributing to securing the energy affordability and supply in Europe.

The two open calls will fund 18 small-scale projects (4-5 per vertical). Importantly, the proposed use cases in each open call are not limited (e.g. vertical Space can propose 1 use case in 1st open call, 4 challenges in the 2nd open call) as long as in total they fund the established number of projects (4-5 per vertical).

The Innovation Scheme open call is seeking for submissions from research centres (legal entities) and private-for-profit companies (including start-ups, SMEs, and large companies) which are not part of the ENFIELD consortium. All applicants must be from an EU Member State, or Horizon Europe associated country.

Submitted proposals will be subject to an initial eligibility check and following that the proposals will be evaluated by one senior expert from ENFIELD partners industry organizations and two external senior experts. The proposals will be checked against the following four criteria and using a 5-point scale:

- Advanced state of the art: the extent to which the proposal is beyond the state-of-the-art and presents an innovative approach behind it (e.g., novel concepts and approaches) linked to the industrial use cases in energy, healthcare, manufacturing, or space.

- Soundness of the technical approach: credibility of the proposed methodology for the implementation of the project.

- Dissemination and communication: effectiveness of the proposed measures to exploit and disseminate the project results which must include methods (publications, presentations, workshops and/or webinars) and targeted audiences.

- Technical and creative capacities: demonstration of competences and skills of the project team and its capacity to carry out the activities of the proposal. Quality and effectiveness of the resources assigned to the proposal. Track-record of the team in scientific publications and similar projects. In case of an application submitted by a consortium, complementarity of partners.

The final score will be the average of the three Individual Evaluation Reports. A consensus meeting will be held to prepare a single consensus Evaluation Summary Report for each proposal, representing opinions and scores on which the evaluators agree and which they will sign. All proposals will be ranked, and two lists will be prepared:

- List of the selected projects: identification of the applications selected for funding.

- Reserve list: identification of the applications to be selected for funding, if any of those listed is unable to sign the sub-grant agreement.

All proposals will receive an acceptance or rejection letter together with an anonymized version of their proposal Consensus Evaluation Report. The awarded projects will be implemented over a maximum period of 6 months. Full details on the procedures and guidelines of the open call are provided in Annex 2.

The first innovation open call, named oc1-2024-TIS-01, will run from 1 June 2024 to 31 July 2024 (17h00 CET). All proposals must be submitted exclusively via ENFIELD – Innovation

Open Call page (<u>here</u>). Information about the open call and relevant documents (including all annexes) are listed in section 9 Annexes 11-21.

5. Evaluation Panel

Proposal evaluation will be conducted by:

1. three senior researchers from ENFIELD partners scientific organisations in the Exchange Schemes Open Calls;
2. one senior expert from ENFIELD partners industry organizations and two external senior experts in the Innovation Schemes Open Calls.

Table 2 summarizes the pool of internal experts from ENFIELD partners organizations already identified as potential evaluators. This list will be updated throughout the project.

Table 2 - List of Internal Evaluators for Open Calls

ENFIELD Partner Organization	Evaluator Name		
EXCHANGE SCHEMES			
NTNU	Georgios Spathoulas	Georgios Kavallieratos	Pankaj Pandey
INESC TEC	Ricardo Bessa	Justino Rodrigues	Carla Gonçalves
IMT	Victor Charpenay		
Chalmers	Patrick Eriksson		
UPB	Adina Magda Florea	Irina Mocanu	Alexandru Sorici
KNOW	Bernhard Geiger	Franz Rohrhofer	Neven ElSayed	Jörg Simon
TU/E	Isel Grau		
UON	Steven Furnell	Xavier Carpent	
TUC	Martin Gaedke	Sebastian Heil	
TELENOR	Arne Munch-Ellingsen		
SINTEF	Sagar Sen	Vilija Balionyte-Merle	Arda Goknil
ECoE	Michalis Mavrovouniotis	Marios Tzouvaras	Maria Anastasiadou
INNOVATION SCHEMES			
MAGGIOLI	Kostas Kalaboukas	Gianna Tsakou	Nick Achilleopoulos
LUSIADAS	Sofia Couto da Rocha Maria	Josue Delgado	Eduarda Reis
PREDICT	Flavien Peysson	Benoît Inug	
TELENOR	Arne Munch-Ellingsen		

6. Exchange Scheme Open Calls Documentation

The Exchange Scheme open calls are supported by a set of documents that provide information to the potential applicants or templates that must be provided as part of the application process. These annexes are briefly described below:

Annex 1: Call for Proposals

This annex provides an overview of the ENFIELD project and its objectives, which serves as context for applicant's proposals. Furthermore, the annex includes the list of Exchange Schemes challenges for the 1st open call to which proposals must be submitted to, including a detailed overview of what proposals should address (serves as an example for the subsequent open calls).

Annex 2: Catalogue of Challenges

This annex details each challenge for the 1st Open Call, including the proposed scientific challenges, research activities and expected results (serves as an example and it is expected to be updated for the subsequent open calls).

Annex 3: Guidelines for Applicants

This annex represents the detailed information, rules, and procedures for participation in the Exchange Schemes' open call. It addresses who is eligible to participate, where to submit a proposal and what information must be included, how the evaluation process is carried out, the implementation of awarded sub-projects, and additional responsibilities when participating in the programme.

Annex 4: Application Form

This annex replicates the specific open call proposal form on the ENFIELD page, which can be found at https://ec.europa.eu/eusurvey/runner/oc1-2024-TES-01.

Annex 5: Technical Annex

This annex is a Word template that indicates all the sections that must be completed as part of the technical proposal to be submitted. The sections are: i) Title, ii) Abstract, iii) Novelty of the proposal that contributes for the state-of-the-art advancement, iv) Scientific Approach, v) Dissemination and communication, vi) Research/Group of Researchers Expertise in the Field of Research. The sections are aligned with the evaluation criteria. This is a mandatory annex to the proposal.

Annex 6: Call Text

This annex includes formal announcement and information about the open call to be published at

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/competitive-calls.

Annex 7: Guidelines for Evaluators

This annex includes all the guidelines and instructions for evaluators. Also includes the template for Individual Evaluation Report.

Annex 8: Sub-grant Agreement Template

This annex is a template of the sub-grant agreement (contract) that will be signed by all parties (ENFIELD Project Coordinator, INOVA+ (as Contractor), Host Organization and the beneficiary). It describes all the rights and responsibilities of the signing parties.

Annex 9: Applicant Declaration of Honour

This annex must be signed by applicants submitting as 'individuals', which declare that all conditions of the open call are accepted by the representative. This is a mandatory annex for those applying for Exchange Schemes.

Annex 10: Bank Account Information

This annex is an administrative document that collects information about the bank account to which payments to beneficiaries will be made.

7. Innovation Scheme Open Calls Documentation

The Innovation Scheme open calls are supported by a set of documents that provide information to the potential applicants or are templates that must be provided as part of the application process. These annexes are briefly described below:

Annex 11: Call for Proposals

This annex provides an overview of the ENFIELD project and its objectives, which serves as context for applicant's proposals.

Annex 12: Guidelines for Applicants

This annex represents the detailed information, rules, and procedures for participation in the Innovation Schemes' open call. It addresses who is eligible to participate, where to submit a proposal and what information must be included, how the evaluation process is carried out, the implementation of awarded sub-projects, and additional responsibilities when participating in the programme.

Annex 13: Application Form

This annex replicates the specific open call proposal form on the ENFIELD page, which can be found at https://ec.europa.eu/eusurvey/runner/oc1-2024-TIS-01.

Annex 14: Technical Annex

This annex is a Word template that indicates all the sections that must be completed as part of the technical proposal to be submitted. The sections are: i) Title, ii) Abstract, iii) Novelty of the proposal that contributes for the state-of-the-art advancement, iv) Technical Approach, v) Dissemination and communication, vi) Team Expertise in the Field of Research. The sections are aligned with the evaluation criteria. This is a mandatory annex to the proposal.

Annex 15: Budget template

This annex is a Excel file to present a simplified estimation of costs for the implementation of the proposed project that should be provided as part of the project proposal.

Annex 16: Call Text

This annex includes formal announcement and information about the open call to be published at
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/competitive-calls.

Annex 17: Guidelines for Evaluators

This annex includes all the guidelines and instructions for evaluators. Also includes the template for Individual Evaluation Report.

Annex 18: Sub-grant Agreement Template

This annex is a template of the sub-grant agreement (contract) that will be signed by all parties (ENFIELD Project Coordinator, INOVA+ (as Contractor), Host Organization and the beneficiary). It describes all the rights and responsibilities of the signing parties.

Annex 19: Legal Entity Declaration of Honor

This annex must be signed by legal entities submitting a proposal, which declare that all conditions of the open call are accepted by the entity's legal representative. This is a mandatory annex for those applying for Innovation Schemes.

Annex 20: SME Declaration Form

This annex must be signed by SMEs presenting proposals, stating that all the conditions specified by the European Commission in the definition of SME are fulfilled. This is a mandatory annex for SMEs applying for Innovation Schemes.

Annex 21: Bank Account Information

This annex is an administrative document that collects information about the bank account to which payments to beneficiaries will be made.

ANNEX 1

EXCHANGE SCHEMES OPEN CALL DOCUMENTATION

CALL FOR PROPOSALS

INNOVATION SCHEME ENFIELD FIRST CALL FOR PROPOSAL

EXCHANGE SCHEMES

OC1-2024-TES-01

TABLE OF CONTENTS

1. INTRODUCTION

This is the first out of four open calls for individual researchers exchange under the ENFIELD[1] (European Lighthouse to Manifest Trustworthy and Green AI) project, co-funded by the European Union. Through the ENFIELD Exchange Scheme open calls and the Financial Support to Third Parties (FSTP) mechanism, the project aims to attract top-level researchers to conduct foundational research activities related to specific scientific/technological challenges in artificial intelligence, contributing to ENFIELD network creation and expansion to European AI labs.

2. BACKGROUND

Artificial Intelligence (AI) is transforming every aspect of modern society offering the potential for inclusive economic growth, societal benefits, and innovative solutions to global challenges. Nonetheless, AI tools can be error-prone, giving rise to concerns about legal liability and the preservation of fundamental human rights. Global leaders have discussed the need to address AI challenges and maximize its benefits and as a result, the European Commission launched important initiatives like HUMANE[2], TAYLOR[3], and ELISE[4] to ensure AI becomes more human-centric, safe, transparent, and to reinforce Europe's position in AI and Machine Learning (ML). However, there are certain AI perspectives and application areas that have not been tackled with sufficient attention by the funded Networks of Excellence, despite being of paramount importance to Europe in the present geopolitical and climate change circumstances. Thus, the ENFIELD project is dedicated to developing, maintaining, scaling-up and sustaining a vibrant European network on AI composed of 30 consortium members from 18 countries, including top-level education and research organisations, large scale businesses, SMEs, and public sector representatives jointly addressing critical issues of research and innovation frontiers in this new topic of the European AI Lighthouse.

3. OBJECTIVES AND CHALLENGES

Objectives

ENFIELD aims to create a unique European Centre of Excellence that excels in fundamental research in the areas of **Adaptive, Green, Human-Centric**, and **Trustworthy AI**. These pillars are strategic and of paramount importance to successful AI development, deployment, and acceptance in Europe and will further advance the research within verticals of **Healthcare, Energy, Manufacturing**, and **Space** (Figure 1). By attracting the best talents, technologies, and resources from worldclass research and industry players in Europe, and by carrying out top-level research activities in synchronisation with industry challenges, the ENFIELD project will contribute to reinforce a competitive EU position in AI and create significant socio-economic impact for the benefit of European citizens and businesses.
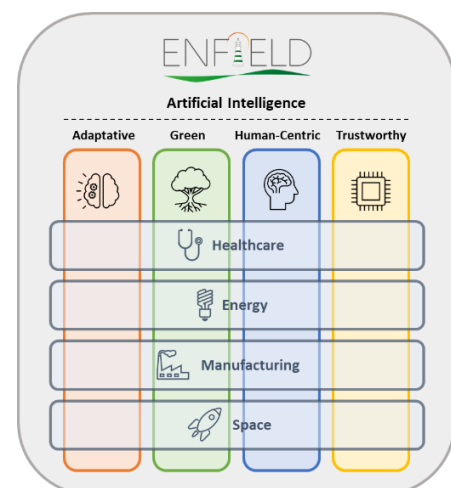

Figure 3 - Conceptual view of ENFIELD.

Challenges

The researchers to be funded under ENFIELD project will need to conduct foundational research activities related to specific scientific/technological challenges in at least one of the following areas:

PILLARS			
Challenge	**Pillar**	**Title**	**Possible Hosting Institutions**
G-AI.1	Green-AI	Advancing Green AI on the Edge: Innovations for Sustainable, Efficient, and Continual Learning in Edge Computing	IMT, KNOW, POLIMI, SINTEF, TU/e
G-AI.2	Green-AI	Optimizing Green AI in the Edge-to-Cloud Continuum	IMT, KNOW, SINTEF
G-AI.3	Green-AI	Green AI Metrics Initiative	IMT, TELENOR, SINTEF
A-AI.1	Adaptative-AI	Approaches to incremental learning robustness and trustworthiness	IMT, UPB, TU/e
A-AI.2	Adaptative-AI	Advancing Adaptive AI on the Edge: Innovations for Sustainable, Efficient, and Continual Learning in Edge Computing	BME, IMT, NRS, SINTEF, TU/e
A-AI.3	Adaptive-AI	Neuroscience Inspired Adaptive AI Methods	IMT, TU/e
HC-AI.1	Human-Centric AI	Evolving symbolic models for decision-making	INESC TEC, TU/e
HC-AI.2	Human-Centric AI	Novel explainable AI methods for decision making	INESC TEC, TU/e, UPB
HC-AI.3	Human-Centric AI	Interpretable data-driven decision support systems	TUC, TU/e, UPB
T-AI.1	Trustworthy AI	Modelling trust in distributed AI system architectures	ICCS, NTNU, TUC
T-AI.2	Trustworthy AI	Detection of AI generated content	BME, NTNU, UoN
T-AI.3	Trustworthy AI	Secure Voice Biometrics with Fake Voice Detection	BME, ICCS, NTNU, UoN
VERTICALS			
Challenge	**Vertical**	**Title**	**Possible Hosting Institutions**
VE.1	Energy	Methods of explainable machine learning applied to LiDAR scan analysis	EDP CNET, EDP LABELEC
VE.2	Energy	Coordinated edge control of electric vehicles charging at low voltage grid (or microgrids)	INESC TEC
VS.1	Space	Fast and accurate atmospheric RT simulations for satellite microwave instruments	CHALMERS
VS.2	Space	Generative models for 3D cloud fields	CHALMERS
VS.3	Space	Cost-effective precipitation retrievals	CHALMERS
VM.1	Manufacturing	Automatic identification of batch production patterns	POLIMI, PREDICT
VM.2	Manufacturing	Self-X Integration in manufacturing domain	POLIMI

Refer to oc1-2024-TES-01_Catalogue_of_Challenges for details about each challenge, including the proposed scientific challenges, research activities and expected results.

4. TIMETABLE

The indicative schedule for the different stages of the selection procedure is as follows:

TIMETABLE	
Call opening	1 February 2024
Deadline for submission	31 March 2024 - 17:00 (CET) – Brussels time
Evaluation	1 April - 19 April 2024
Information on evaluation results	23 April 2024
Contract signature	30 April 2024
Project execution timeframe	1 May 2024 - 23 April 2025

Three other ENFIELD call for proposals are foreseen for summer 2024, spring 2025 and summer 2025.

5. AVAILABLE BUDGET

A total budget of 1.100.000€ is allocated by ENFIELD for funding the participation of at least 76 researchers/groups of researchers in Exchange Schemes. This first call is expected to select 19 researchers/groups of researchers[5].

Successful applicants will receive a **mobility allowance of 2.400€/month**. The maximum grant allocated to a researcher will be 14.400€ (corresponding to 6 month).

All payments will be subject to tax and other reductions according to the laws of all involved countries. **Tax and other reductions are the responsibility of the applicant.**

6. ADMISSIBILITY AND DOCUMENTS

Proposals must be submitted electronically via https://ec.europa.eu/eusurvey/runner/oc1-2024-TES-01 (see section 12. How to submit an application). Paper or email submissions are NOT admissible.

Proposals must include a 2-minute video from the applicant presenting themself (or the group of researchers), submitted in English.

Proposals must be submitted in English using the Application Form provided on the submission page.

Proposals must be complete and contain all the requested information in the Application Form.

Additional supporting documents (e.g., bank account validation, etc) will be requested only from selected applicants.

Multiple applications are possible under this call. In these cases, applicants need to submit one application form per project proposal. However, only one proposal can be awarded per applicant.

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[5] The consortium reserves the right not to award all available funds or to redistribute them between the open calls planned within the project, depending on the applications received and the results of the evaluation.

7. ELIGIBILITY

To be eligible, proposals must be presented by an individual researcher (or a group of researchers) meeting the following criteria:

1. Researchers must be based in EU Member States or Horizon Europe associated countries.
2. Researchers must be employed at academic or research organizations, which are not part of the ENFIELD consortium[6]. Researchers from ENFIELD partner organizations are not eligible.
3. Applications need to be submitted by the deadline of the call. Late applications will not be admitted.
4. Applications must be submitted in English. Applications submitted in any other language will not be eligible.
5. All applications must include a 2-minute video from the applicant presenting themself (or the group of researchers), to be submitted in English. Applications submitted without the video or with a video in any other language will not be eligible.
6. Project duration is limited to a minimum of 3 months and a maximum of 6 months.
7. PhD candidates need to demonstrate their enrolment in a PhD programme.
8. Post-docs or senior researchers need to demonstrate their employment at a university, research centre, or business entity.
9. In case of a group of researchers applying, the team needs to be composed by one senior researcher + one (or two) PhD candidate(s).

8. SELECTION CRITERIA

Eligible applications will be evaluated according to four criteria:

1. **Advanced state of the art:** applicants shall demonstrate to what extent their exchange application is beyond the state-of-the-art and describe the unique approach behind it (e.g., novel concepts and methodologies, development between or across disciplines, novel methods and algorithms addressing societal challenges).
2. **Scientific approach:** applicants must demonstrate the feasibility of the proposed research methodology and working arrangements.
3. **Dissemination and communication:** applicants must present a credible plan for dissemination and communication activities, which must include methods (e.g., publications, presentations, workshops and/or webinars) and the targeted audiences.
4. **Technical and creative capacities:** competences and skills of the researcher involved in the proposal; capacity to carry out the activities for the proposed exchange scheme. Track-record in scientific publications and similar projects/domain. In case of applications submitted by a group, a statement on the complementarity of researchers is required.

Each criterion will be scored from 0 to 5, following the rationale below:

0	Fail	**The proposal fails to address the criterion or cannot be judged due to incomplete or missing information.**
1	Poor	The criterion is inadequately addressed or there are serious inherent weaknesses.
2	Fair	The proposal broadly addresses the criterion, but there are significant weaknesses.
3	Good	The proposal addresses the criterion well, but several shortcomings are present.

| 4 | Very Good | The proposal addresses the criterion very well, but a small number of shortcomings are present. |
| 5 | Excellent | The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor. |

The following thresholds will be considered as criteria:

- Minimum score per criterion: Proposals scoring less than 3 for any criterion will be considered of insufficient quality and rejected.

Proposals that pass the criterion thresholds will be considered for funding. Other proposals will be rejected.

9. FINANCIAL PROVISIONS

Project Timeframe: Three to six months period, varying according to the submitted proposal.

Payment Schedule: One-month advance payment (2.400€) with grant signature and then periodic payments, every month, up to 6 months in total, and according to the duration of the submitted proposal. The maximum grant allocated to a researcher will be 14.400€ (corresponding to 6 month).

Contract: Sub-grant agreement will be signed between the selected researcher/leader of group of researchers and the ENFIELD consortium, represented by its coordinator (NTNU), the Open Call Manager (INOVA+) and the Host Organization (depending on the selected application). A model template for the contract can be found here https://www.enfield-project.eu/open_calls.

10. VISIBILITY

Beneficiaries must clearly acknowledge the European Union's contribution in all publications or activities. In this respect, beneficiaries are required to give prominence to the name and emblem of the European Commission on all their publications and activities realised under the co-financed action. Where appropriate, they should also use the ENFIELD emblem and visuals. Guidelines will be provided to the successful applicants.

11. PROCESSING OF PERSONAL DATA

The reply to any call for proposals involves the recording and processing of personal data (such as name, e-mail, and address). Such data will be processed pursuant to Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons regarding the processing of personal data and on the free movement of such data. Unless indicated otherwise, the questions and any personal data requested that are required to evaluate the application in accordance with the call for proposal will be processed solely for that purpose by the consortium.

12. HOW TO SUBMIT AN APLICATION

Project proposals must be submitted by **31 March 2024 at 17:00 (CET)** by completing the application online, here: https://ec.europa.eu/eusurvey/runner/oc1-2024-TES-01.

Complete the Application Form and Project Proposal. Applicants can find the template for the Project Proposal here https://www.enfield-project.eu/open_calls. The template needs to be downloaded,

completed, and uploaded in PDF format. The application needs to include a 2-minute video from the applicant presenting him/her (or the group of researchers).

Applicants should submit one Application Form per project proposal. Multiple proposals are allowed but only one project can be awarded per beneficiary. If the beneficiary is a group of researchers, the group representative needs to be a senior researcher.

Applicants must rank their preferences from a list of entities available to host grantees in each challenge.

Once the proposal is submitted, you will receive a confirmation e-mail. If you do not receive this confirmation e-mail, it means your proposal has NOT been submitted. If you believe this is due to a fault in the submission system, you should immediately contact enfield.opencall@inova.business, explaining the circumstances and attaching a copy of the proposal (and, if possible, screenshots to show what happened).

Queries about applications can be sent by email to enfield.opencall@inova.business before 25 March 2024. We cannot guarantee that emails will be answered after this date. A FAQ (Frequently Asked Questions) section will be posted on the ENFIELD project website and updated regularly.

All applicants will be notified via email of the results of the evaluation process by 23 April 2024 (indicative date). The results of the funded applications will subsequently be announced via the ENFIELD project's information channels.

ANNEX 2

EXCHANGE SCHEMES OPEN CALL DOCUMENTATION

CATALOGUE OF CHALLENGES

INNOVATION SCHEME ENFIELD FIRST CALL FOR PROPOSAL

EXCHANGE SCHEMES – CATALOGUE OF CHALLENGES

TABLE OF CONTENTS

INTRODUCTION

This is the catalogue of challenges available to the first out of four open calls for individual researchers Exchange Scheme under the ENFIELD[7] (European Lighthouse to Manifest Trustworthy and Green AI) project, co-funded by the European Union. Through the ENFIELD Exchange Scheme open calls and the Financial Support to Third Parties (FSTP) mechanism, the project aims to attract the top-level researchers to conduct foundational research activities related to specific scientific/technological challenges in artificial intelligence, contributing to ENFIELD network creation and expansion to European AI labs.

Pillar Green-AI

G-AI. 1 Advancing Green AI on The Edge: Innovations for Sustainable, Efficient, And Continual Learning In Edge Computing

Keywords: Quantization and Pruning; Hardware Aware Architecture Search; On-Device Learning; Continual Learning (CL)

STATE-OF-THE-ART

The state-of-the-art in Green AI on the edge focuses on minimizing power consumption and maximizing computational efficiency. Techniques like model quantization, pruning, and data distillation are pivotal for deploying lightweight yet powerful AI models on edge devices. Such models are optimized for performance without the traditional energy drain, making use of innovative optimization methods tailored for the edge. Information-theoretic analyses enhance neural network training by identifying and eliminating redundancies, thereby reducing the environmental footprint. Continual learning emerges as a key strategy, adapting to new data with minimal retraining, crucial for applications with limited computational resources. This evolving paradigm requires the reimagining of industrial systems to embed Green AI principles fundamentally, promoting sustainability and resource efficiency from the edge to the cloud. The push towards Green AI integrates cutting-edge research with the urgent need for environmentally conscious technology deployment.

SCIENTIFIC CHALLENGES

1. **Data Efficiency:** Innovating training data reduction techniques while maintaining model accuracy.
2. **Quantization & Pruning:** Creating methods to streamline model size and computational needs, balancing efficiency and effectiveness.
3. **Hardware-aware Differential Neural Architecture Search:** Developing a framework that automatically searches for efficient deep AI model on different hardware types, considering constraints related to computing, energy and memory capacities.
4. **Continual Learning:** Advancing continual learning strategies for energy and resource efficiency on the edge, in particular Continual On-device Learning with limited hardware resources.
5. **Communication Overhead:** Engineering IoT protocols to cut data transfer volume and improve latency, upholding security.
6. **Intermittent Computing:** Probing AI stability on edge devices with irregular power availability.
7. **Model Optimization:** Tailoring neural network optimization for industrial edge applications within operational constraints.
8. **Information-Theoretic Analyses:** Utilizing information theory for efficient neural network pruning and accelerated generalization.
9. **Adaptable CL Methodologies:** Developing versatile continual learning on-device methods that require less memory and processing.
10. **Sparse Architectures:** Researching lean architectures to lower the costs of training and inference.

RESEARCH ACTIVITIES

i) Development of resource-efficient neural networks for edge computing: (1) Implementing advanced quantization, pruning, and compression techniques; (2) Developing a differential architecture research that automatically searches for efficient deep AI model on different hardware types, considering constraints related to computing, energy and memory capacities; (3) Aiming to reduce data and power consumption without compromising AI performance; (4) Addressing the challenge of maintaining model accuracy alongside increased efficiency. **ii) Information-theoretic approaches for enhanced AI learning:** (1) Utilizing information theory and advanced techniques for analysing and improving neural network training; (2) Innovating in the relatively unexplored domain of information-theoretic pruning; (3) Potential to achieve significant reductions in energy usage. **iii) Continual Learning (CL) for dynamic adaptation:** (1) Developing CL systems that learn incrementally and require minimal retraining, in particular, Continual On-device Learning with limited hardware resources; (2) Adapting to new data streams, emphasizing computer science and cognitive science collaboration. **iv) Green AI adoption in industrial systems:** (1) Driving a cultural and technological shift towards sustainable AI practices; (2) Designing new software protocols for energy-efficient AI in edge-to-cloud continuum.

EXPECTED RESULTS

Anticipated scientific advancements include crafting energy-savvy, high-performing AI models suited for intermittent resources and systems that learn continuously to cut down on retraining needs, energy, and computational load. It will test rehearsal and sparse architectures for their adaptability and memory efficiency. Success will be measured by reduced energy use, improved IoT efficiencies, and lowered operation latencies, moving towards industrial robustness compatible with ecological sustainability. Also, the beneficiary is expected to have one peer-reviewed publication (conference, workshop, journal).

POSSIBLE HOST ORGANISATIONS

- IMT, Télécom Paris / Institut Mines-Télécom (https://www.telecom-paris.fr/en/home)
- KNOW Center, Methods & Algorithms for AI Group (https://www.know-center.at/en/research/research-at-the-know-center/methods-algorithms-for-ai/)
- POLIMI, Politecnico di Milano, Department of Management, Economics and Industrial Engineering (https://www.som.polimi.it/en/the-school/about-us/dig/)
- SINTEF, Department of Sustainable Communication Technologies (https://www.sintef.no/en/digital/departments-new/department-of-sustainable-communication-technologies/)
- TU/e, Department of Mathematics and Computer Science (https://www.tue.nl/en/our-university/departments/mathematics-and-computer-science)

Pillar Green-AI

G-AI.2 Optimizing Green AI in The Edge-To-Cloud Continuum

Keywords: Distributed AI; Edge-to-Cloud Orchestration; Lifecycle Assessment (LCA); Hybrid AI Models; Continual Learning Adaptation.

STATE-OF-THE-ART

Green AI research is steering towards sustainability, focusing on energy-efficient protocols for edge-cloud AI tasks to lower carbon emissions. Addressing the key challenges of task distribution and coordination, data transfer optimization, and low-latency model distribution and adaptation are crucial, given the environmental concerns accentuated by the shift from cloud to edge processing. Life cycle assessment (LCA) gains importance to understand the ecological implications of diverse hardware systems. Innovations lie in hybrid AI models that blend symbolic and data-driven approaches for better optimization, and continual learning technologies for self-improving AI systems.

SCIENTIFIC CHALLENGES

1. Balancing energy efficiency with computational performance across the Edge-to-Cloud continuum.
2. Optimizing the allocation of distributed AI tasks between edge and cloud to reduce energy consumption and carbon emissions.
3. Addressing the challenge of lifecycle assessments due to the hardware heterogeneity in Edge-to-Cloud systems.
4. Developing energy-efficient communication protocols suited for AI tasks in these distributed systems.
5. Creating intelligent task orchestration strategies to optimize energy use across the continuum.
6. Innovating hybrid AI models that merge data-driven methods with symbolic AI or prior domain knowledge for better optimization.
7. Implementing continual learning mechanisms for AI systems to adapt to changing conditions while minimizing environmental impact.
8. Investigating the environmental implications of deploying distributed AI on edge-cloud continuum with specific energy consumption behaviours.
9. Guiding architectural decisions in system design to lower the environmental footprint of Edge-to-Cloud systems.
10. Integrating Green AI principles into industrial systems to promote sustainability in practical applications.

RESEARCH ACTIVITIES

- Developing energy-efficient protocols for AI edge-to-cloud operations.
- Optimizing AI task distribution and coordination to reduce energy use in data transfers.
- Adapting distributed AI models for efficiency across diverse network nodes.
- Conducting LCA to gauge environmental impacts of Edge-to-Cloud AI systems.
- Crafting hybrid AI models that merge theoretical and data-driven methods for lower energy consumption.
- Integrating Green AI in industrial practices for sustainable system development.
- Aiming for distributed AI systems that continually learn and self-optimize for environmental efficiency.

EXPECTED RESULTS

The ENFIELD project is poised to gain from Green AI research, with innovations such as energy-efficient protocols and AI-optimized algorithms reducing energy use and emissions. These advancements promise sustainable AI across edge-to-cloud platforms, with distributed intelligent task management and hybrid AI models enhancing problem-solving and lowering environmental impact. Lifecycle assessments will inform greener architectural choices, and continual learning will yield AI systems that improve performance while minimizing carbon footprint, marking ENFIELD's commitment to eco-friendly tech progress.
The beneficiary is expected to have one peer-reviewed publication (conference, workshop, journal).

POSSIBLE HOST ORGANISATIONS

- IMT, Télécom Paris / Institut Mines-Télécom (*https://www.telecom-paris.fr/en/home*)
- KNOW Center, *Methods & Algorithms for AI Group* (*https://www.know-center.at/en/research/research-at-the-know-center/methods-algorithms-for-ai/*)
- SINTEF, Department of Sustainable Communication Technologies (https://www.sintef.no/en/digital/departments-new/department-of-sustainable-communication-technologies/)

Pillar Green-AI

G-AI.3 Green AI Metrics Initiative

Keywords: Standardization of Green-AI Metrics; Energy-Efficient Architectures; Lifecycle Environmental Impact; Computational Efficiency; Cross-Disciplinary Collaboration.

STATE-OF-THE-ART

State of the art in monitoring Green AI metrics is focused on developing standardized, accurate metrics to measure the environmental impact of AI throughout its lifecycle. These metrics aim to evaluate AI architectures not only for performance accuracy but also for energy efficiency and reduced carbon emissions, including hardware manufacturing impacts. Challenges include standardizing these metrics, data scarcity for environmental impact assessment, and the need for collaboration across disciplines. Innovations in this field could lead to new measurement methods, tools, and principles for energy-efficient AI, providing a competitive edge while benefiting the environment. Significant work is also directed at estimating the computational efficiency, like floating-point operations (FLOPs), for various AI models, facilitating comparisons under fixed computational budgets, crucial for SMEs with limited resources. Furthermore, sectors like telecommunications are exploring dynamic management of network capacities using AI to reduce energy consumption. In industry, there's a movement towards integrating Green AI principles into system development to promote efficiency and robustness without relying solely on the latest hardware advances.

SCIENTIFIC CHALLENGES

One of the primary scientific challenges in monitoring Green AI metrics lies in the establishment and standardization of these metrics across varied AI system architectures. This includes not only the computation of the efficiency and accuracy of algorithms but also accounting for the environmental impact throughout the AI lifecycle, from hardware production to operational deployment. Researchers must grapple with the dearth of universally accepted metrics and the limited availability of comprehensive data needed to assess the full environmental footprint of AI technologies. The goal is to create a suite of standardized Green AI metrics that balances performance with energy efficiency, guiding the design of AI systems that are both robust and sustainable. For a comprehensive proposal, researchers would require access to current AI models, energy consumption data, and cross-sectoral environmental impact assessments, alongside the tools for the simulation and evaluation of AI architectures under these new metrics.

RESEARCH ACTIVITIES

1) Crafting universal Green AI metrics for every stage of the AI system lifecycle; 2) Evaluating AI architectures to ensure they are both energy-efficient and performant; 3) Assessing the full environmental impact of AI, from hardware creation to usage; 4) Innovating actionable Green AI metrics tailored for practical application; 5) Optimizing AI systems for high performance with minimal energy consumption; 6) Benchmarking AI embedding models within set computational limits, aiding SMEs; 7) Refining energy metrics for greener telecommunication networks; 8) Designing and validating methods for dynamic network capacity management; 9) Integrating Green AI principles into industrial development processes; 10) Sharing best practices and shifting industrial mindsets toward Green AI; 11) Developing and implementing new tools for measuring and minimizing AI's environmental impact.

EXPECTED RESULTS

The ENFIELD project is poised to benefit significantly from the focused research activities on monitoring green-AI metrics. The expected scientific progress includes the development of standardized, universally applicable green AI metrics. These will facilitate the evaluation of AI architectures not just on accuracy, but also on energy efficiency and carbon emissions, addressing the entire AI lifecycle including hardware manufacturing. Scientific results will encompass actionable recommendations for designing AI systems that balance energy efficiency with high performance. Moreover, the project will yield a suite of new tools and methodologies that enhance the environmental sustainability of AI applications, from edge devices to large-scale networks. Evaluation measures will be grounded in real-world scenarios, such as the energy-efficient operation of communication networks and the integration of green AI principles in industrial systems. By benchmarking AI architectures under standardized green metrics, the ENFIELD project will not only drive innovation but also lead to more sustainable AI practices across various sectors, setting new precedents for responsible and environmentally conscious technology development.

The beneficiary is expected to produce a technical report describing the methodology or tool being developed during the exchange. This technical report may lead to a peer-reviewed publication (conference, workshop, journal).

POSSIBLE HOST ORGANISATIONS

- IMT, Télécom Paris / Institut Mines-Télécom (*https://www.telecom-paris.fr/en/home*)
- TELENOR, Advanced Analytics & AI Department (https://www.telenor.com/innovation/research/analytics-and-ai/)
- SINTEF, Department of Sustainable Communication Technologies (https://www.sintef.no/en/digital/departments-new/department-of-sustainable-communication-technologies/)

Pillar Adaptative-AI

A-AI.1 Approaches to Incremental Learning Robustness and Trustworthiness

Keywords: Incremental learning; Evolving systems; Concept drifts; Change adaptation; Robustness and Trust

STATE-OF-THE-ART

Existing AI systems have difficulty adapting to dynamic environments. Adaptive AI systems are therefore needed in situations where rapid changes in the external environment or evolving corporate objectives demand an optimized response. The state-of-the-art AI systems currently in use have significant shortcomings, such as excessive data requirements, vulnerability to adversarial attacks, lack of robustness in the face of disruption, inability to talk about change, and so on. One of the main shortcomings of the de facto standard for deployed AI systems is that they assume that data is static, whereas it evolves. This requires the development of continual Adaptive AI systems that are versatile and robust to changes in the external environment, with a graceful degradation of consolidated knowledge. This requires both adaptive AI algorithms capable of learning on the fly with data/sample efficiency and streamlined AI infrastructure and engineering that enables on-device learning.

SCIENTIFIC CHALLENGES

1. **Robust and Secure Continuous learning:** Continuously learning from data requires the inclusion of specific constraints to avoid undesirable behaviours such as catastrophic forgetting, incorporating noisy data or inaccurate labels. The multi-faceted boundaries of what is learned can be achieved through incremental procedures with normative control frameworks, which can explicitly encode the boundaries that the adaptive AI system can operate and learn on-line. Limiting continual learning therefore build trust and empowers humans to drive the learning process.
2. **Adaptive** AI characteristics including dependability (reliability), robustness, versatility, and adaptability (graceful degradation).
3. **Realization and identifiability of evolutionary models**, contrastive learning, or regulation-based approaches. Metrics to assess forgetting will also need to be addressed (typically for complexity, memory, accuracy, timeliness.
4. **Hybrid-AI Systems (Event and Continuous dynamics):** Integration of arbitrary Knowledge into AI systems. Adaptive AI model has to handle high variation and volume of (most of the time unknown) objects and defects in recycling, refurbishment, and remanufacturing applications.
5. **Cautious Classification in Dynamic Setting:** handling imprecision taking advantage of prior knowledge, particularly in sequential decision-making.
6. **Adaptive Real-time Voice Conversion and Synthesis**: The primary challenge is to develop a real-time adaptive AI system capable of dynamically adjusting voice conversion techniques while maintaining voice consistency and quality.

RESEARCH ACTIVITIES

i) Development of Hybrid AI Systems: (1) Collection of knowledge bases on the Web, suitable for pretraining.; (2) Development of an approach (e.g. inspired by the transformer architecture) to pretrain knowledge models on large knowledge bases (e.g. following the RDF2Vec method); (3) Application and evaluation of the approach on the knowledge bases previously identified; (4) Adaptive model sensitive to concept drift and able to learn evolving processes; (5) Quantization of stochastic and epistemic uncertainties; (6) Synthetic data generation; **ii) Design of a new framework for Adaptive modelling:** (1) Learn new knowledge on the fly; (2) Interact with users in thrust; (3) Capable of dynamically adjusting signal and image techniques for human-centric AI; (4) Capable of enhancing interactions with humans by anticipation of behaviours and movements changes; **iii) Leveraging multiple modalities to enhance adaptability:** (1) Explore different modalities in deep learning; (2) Explore foundation models and ways to leverage the pre-trained big models; (3) Explore different learning objectives; **iv) Designing Cautious Classification in Dynamic Setting:** (1) Evaluation of existing approaches in different contexts; (2) Proposal and study of new approaches; **v) Implementing Adaptive Real-time Voice Conversion and Synthesis**: (1) Develop real-time adaptive AI models for voice conversation; (2) Collect different voice data for training and testing; (3) Implement a feedback mechanism to capture user preferences; (4) Evaluate system performance through user studies; (5) Refine the model interactivity.

EXPECTED RESULTS

The ENFIELD project aims to foster contributions on data-driven and knowledge-based methods for enabling adaptations in learning and to collaborate around shared frameworks that integrate concept drift, incremental learning, continual learning, uncertainty estimation, stochastic and epistemic model robustness. As examples, Brain-Inspired Adaptive AI model, Hybrid AI Systems, multiple modalities tracking, Adaptive Deep Reinforcement Learning, designing Cautious Classification in Dynamic Setting and implementing Adaptive Human, interaction systems.

The beneficiary is expected to have one scientific publication (ideally in a Q1 journal or A*/A rank conference).

POSSIBLE HOST ORGANISATIONS

- IMT, Télécom Paris / Institut Mines-Télécom, Euromov DHM Lab (https://dhm.euromov.eu/)
- TU/e, Department of Mathematics and Computer Science (https://www.tue.nl/en/our-university/departments/mathematics-and-computer-science)
- UPB, National University of Science and Technology POLITEHNICA Bucharest, Artificial Intelligence and Multi-Agent Systems Laboratory (https://aimas.cs.pub.ro/)

Pillar Adaptative-AI

A-AI.2 Advancing Adaptive AI on The Edge: Innovations for Sustainable, Efficient, and Continual Learning in Edge Computing

Keywords: Continual Learning (CL); On-Device Learning; Hardware-aware AI compression; Adaptive Deep Reinforcement Learning.

STATE-OF-THE-ART

Edge devices deployed in real-world scenarios are faced with constantly changing environments with non-stationary live-streaming data. These devices must therefore be Adaptive learners to cope with the changes around them. This requires the development of continual Adaptive AI systems that are versatile and robust to changes in the external environment, with a graceful degradation of consolidated knowledge. This requires both adaptive AI algorithms capable of learning on the fly with data/sample efficiency and streamlined AI infrastructure and engineering that enables on-device learning.

SCIENTIFIC CHALLENGES

1. **Adaptive Continual On-Device Learning:** Developing adaptive continual on-device learning algorithms with limited hardware resources (memory, computing, energy, etc).
2. **Hardware-aware AI Model Compression:** Developing a framework that optimally compress and accelerate the AI model on different hardware types, considering hardware constraints related to computing, energy and memory capacities.
3. **Hardware-aware Adaptive Differential Neural Architecture Search:** Developing a framework that automatically searches for adaptive AI models on different hardware types, considering hardware constraints related to computing, energy, and memory capacities.
4. **Adaptive Deep Reinforcement Learning (DRL):** Control policies learned using DRL are specific to the learning environment in particular non-stationary environments (e.g. a robot will learn how to walk on a specific virtual terrain but fail to do so on another terrain). Efficient methods for adapting trained policies to new environments could help to use them in more versatile contexts. Strong links with sim2Real, i.e. training policies to be used in real settings, using virtual environments.
5. **Designing sparsification techniques (activation, representation, and gradient sparsity).** At the same time, the artificial backlog of maintaining coding for sparse memories need to be reduced.

RESEARCH ACTIVITIES

Development of Adaptive Continual On-Device Learning for edge computing:
- Implementing adaptive AI model compression techniques for inference on different hardware types, considering hardware constraints related to computing, energy, and memory capacities.
- Developing an energy-aware model selection strategy.
- Developing adaptive differential neural architecture research that automatically searches for efficient deep AI model on different hardware types, considering constraints related to computing, energy and memory capacities.
- Developing acceleration technique for training by reducing the FLOPs and memory usage.
- Developing continual learning technique requirement minimal retraining, in particular Continual On-device Learning with limited hardware resources.

EXPECTED RESULTS

The ENFIELD project aims to revolutionize sustainable industry practices through Adaptive-AI at the edge. Development of Adaptive Continual On-Device Learning for edge computing including hardware-aware adaptive compression techniques, hardware-aware neural architecture research, it seeks to reduce the energy consumption of edge devices. It enables continuous learning in order to reduce retraining requirements and computing load.

The beneficiary is expected to have one scientific publication (ideally in a Q1 journal or A*/A rank conference).

POSSIBLE HOST ORGANISATIONS

- BME, Speech Technology and Smart Interactions Laboratory (https://www.tmit.bme.hu/speechlab?language=en)
- IMT, Télécom Paris / Institut Mines-Télécom (https://www.telecom-paris.fr/en/home)
- NRS, Norsk Regnesentral Norwegian Computing Center, DART department (https://nr.no/en/areas/ict/)
- SINTEF, Department of Sustainable Communication Technologies (https://www.sintef.no/en/digital/departments-new/department-of-sustainable-communication-technologies/)
- TU/e, Department of Mathematics and Computer Science (https://www.tue.nl/en/our-university/departments/mathematics-and-computer-science)

Pillar Adaptative-AI

A-AI.3 Neuroscience Inspired Adaptive AI

Keywords: Continual Learning, Lifelong Learning, Brain Inspired AI, Multimodal Learning, Sparsity

STATE OF THE ART

Most of the existing Continual Learning methods are computationally expensive and ineffective. They fail to mimic the intricacies of the learning mechanisms and the interactions of multiple memory systems in the human brain which might account for the gap in the learning capabilities of existing AI and the human brain. More and more recent methods have drawn inspiration from the brain e.g. experience replay, synaptic consolidation and multiple memory systems which have shown promise and makes a strong case for further work in this promising direction.

SCIENTIFIC CHALLENGES

Identify the gaps between Humans and Existing AI: Our enhanced understanding of the brain from neuroscience studies and the advancement in AI presents a unique opportunity to revisit the design of DNNs to enhance their CL capabilities and generalization. The goal is to identify the key components of the learning machinery of the brain that enables it to excel at lifelong learning which are missing in existing approaches.

Design Brain Inspired CL Methods: Once we have Identified the critical components of the learning machinery and design of the brain that enables efficient CL in the brain, bring these insights to the design of DNNs.

Design Learning Mechanisms: The major challenges lie in faithfully designing the learning mechanisms and error-based learning that can maintain the delicate balance between the stability and plasticity of the model.

Design Multiple Memory Systems based on the Complementary Learning Systems Theory: implement multiple memory systems that aggregate information at different time scales such that information is effectively consolidated, and we can disentangle learning and remembering.

Representation Learning: Explore different representations (e.g. sparse, dense, orthogonal etc), learning objectives in each memory and their interactions.

Leverage Multiple Modalities: A salient feature of the brain that may play a critical role in enhancing its lifelong learning capabilities is that it processes and integrates information from multiple modalities. Hence, we aim to combine information from different modalities which allows the models to develop a more comprehensive understanding of the environment as it receives multiple views of the object, leading to a more accurate and robust representation, which is less sensitive to modality- specific regularities and shift in distributions.

Efficient Continual Learning using Sparse Predictive Coding: Reduce interference through the lens of sparsity. The overarching objective is to lead the charge in developing cutting-edge sparsification techniques—encompassing activation, representation, and gradient sparsity—meticulously crafted to enable efficient continual learning on resource constrained devices.

RESEARCH ACTIVITIES

Brain Inspired Architectures: i) Design Neuroscience inspired Deep Learning architectures that incorporates multiple brain inspired components in a complementary manner; ii) Incorporate components like context dependent processing of information, synaptic consolidation, replay, population coding, multiple memory systems etc.; iii) Explore different learning objectives and cognitive biases to enhance continual learning.

Complementary Learning Systems Theory: i) Explore different approaches to designing the short term and long-term memories inspired by the complementary learning systems theory in the brain; ii) Explore different representations (e.g. sparse, dense, orthogonal, etc.) in each memory and different interactions between the two memories. Inspired by the interactions between Hippocampus and Neocortex

Sparse Coding: Explore different approaches to incorporate sparsity in learning. This includes sparse representations, connections, and gradients. Take inspiration from sparse coding in the brain.

Multimodal Continual Learning: i) Explore different modalities in deep learning and approaches to leverage the complementary information in each modality to learn a more holistic and robust representation of the objects; ii) Explore foundation models and ways to leverage the pre-trained big models.

EXPECTED RESULTS

The ENFIELD project aims to bridge the gap between the capabilities of humans and existing AI. By leveraging insights from our enhanced understanding of the brain, it aims to design the next generation of brain inspired models that enable efficient and effective continual learning in deep neural networks. The goal is to designs AI models that can be deployed in our dynamic environment and meet the ever-changing industrial requirements.

The beneficiary is expected to have one scientific publication (ideally in a Q1 journal or A*/A rank conference).

POSSIBLE HOST ORGANISATIONS

- IMT, Télécom Paris / Institut Mines-Télécom (https://www.telecom-paris.fr/en/home)
- TU/e, Department of Mathematics and Computer Science (https://www.tue.nl/en/our-university/departments/mathematics-and-computer-science)

Pillar Human-Centric-AI

HC-AI.1 Evolving Symbolic Models for Decision-Making

Keywords: Symbolic AI; Reinforcement learning; Learning; Data-driven; Evolving.

STATE-OF-THE-ART

Neuro-symbolic learning uses context-free grammar (from automata theory) as a symbolic representation and learns from an oracle (i.e., artificial neural network trained with reinforcement learning) in a supervised learning setting (imitation learning)[8]. As far as we know, the only publication that does not use an oracle is[9], which conducts a program architecture search on top of a continuous relaxation of the architecture space defined by programming language grammar rules.

Another research direction is iterative machine learning, where humans are part of the learning process and can tune hyperparameters of a meta-heuristic optimiser[10]. Genetic programming for symbolic regression is also an alternative for learning symbolic models from data but uses a tree-based representation for the knowledge that can be ineffective for complex symbolic structures. An interesting work is[11], where evolutionary search with a list of 65 basic mathematical operations is used to automatically discover ML algorithms from scratch with minimal human intervention.

SCIENTIFIC CHALLENGES

Grow symbolic models from data based on the interaction between the AI-decision system and the environment, where reinforcement learning can be used for constructing the model. The human can define a template for the symbolic model and/or participate in the learning phase (e.g., change hyperparameters, modify intermediary solutions).

RESEARCH ACTIVITIES

1. Study different symbolic representations for control/decision problems (e.g., from automata theory). This representation might be domain-specific, which means having a domain-specific language for each use case.
2. Development of symbolic search methods based on well-established search-based algorithms such as simulated annealing or Monte Carlo Tree search.
3. Application of the developed approach in verticals (energy and/or healthcare).

EXPECTED RESULTS

The expected scientific progress includes the development of a new method for symbolic AI that is capable of learning from data within a reinforcement learning framework. The method can be used to augment existing expert systems in different domains, e.g., use the existing expert system as a template or starting point for the learning, or find new structures and symbolic representations for those systems. It should offer higher interpretability to humans since they are part of the learning process in three possible stages: (1) design of the model's template/structure, (2) modify or improve solutions during the learning phase (iterative learning), and (3) analyze and modify the final solution.

The beneficiary is expected to have one peer-reviewed publication (preferably in a top-tier journal or conference) and the code published in open-source (GitHub).

POSSIBLE HOST ORGANISATIONS

- INESC TEC - Institute for Systems and Computer Engineering, Technology and Science, Center for Power and Energy Systems (https://www.inesctec.pt/en/centres/cpes)
- TU/e, Department of Industrial Engineering and Innovation Sciences (https://www.tue.nl/en/research/research-groups/innovation-sciences/human-technology-interaction or https://www.tue.nl/en/research/research-groups/industrial-engineering/information-systems-ieis)

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Pillar Human-Centric-AI

HC-AI.2 Novel Explainable AI Methods for Decision Making

Keywords: Explainability; Spatio-temporal Models; Decision making; Healthcare; AAL

STATE-OF-THE-ART

Models such as spatio-temporal graph neural networks or Visual Transformers are powerful tools for modelling spatio-temporal dependencies in multi-modal and spatio-temporal contextual relationships. Despite the many approaches proposed in the literature, Human Action Recognition (HAR) from video sequences is still a challenging research task, especially when performed in a real-world environment, for example in Healthcare, Ambient Assistive Living applications or Manufacturing. Different DNN architectures, such as GNN, TCN, or Spatial Temporal GCN, have been proposed for solving the HAR problem. Recently, Vision Transformers have emerged as a promising approach for HAR, with models such as Video action Transformer Network, ConvTransformer Network, or Spatio-Temporal Attention Network. However, their black box nature limits their interpretability for trustworthy decision making. There are still few approaches that try to explain how the network arrived at a decision or, most important, why it failed to predict the correct result, and, as far as we know, none such approach for ViT-based HAR.

SCIENTIFIC CHALLENGES

- Understand user's requirements for explainability and interpretability of DNN models for HAR.
- XAI methods for Spatial Temporal GCN predictions.
- XAI methods for Vision Tranformers predictions.
- Design a high-level representation structure to capture the spatial and temporal dimension of human action, as a basis for linking DNN explanations to human decision making.
- Conceive interpretable explanations linked to high level representations that are able to capture changes in the environment of an application.

RESEARCH ACTIVITIES

- Design and implement explainable algorithms for Spatial Temporal based models and validate them on different HAR contexts.
- Explore model specific and model agnostic XAI methods to capture the flow of information and dynamics in spatio-temporal structures.
- Explore different approaches to link explanations to symbolic structures.
- Design a symbolic framework to allow explanation and interpretation of decision-making.
- Evaluate from a qualitative and from a quantitative point of view the quality of explanations.

EXPECTED RESULTS

The expected scientific progress includes the development of high-level XAI models for decision-making applications based on spatio-temporal models. These models may be used in different applications, for example Human Action Recognition in Healthcare, AAL or Manufacturing (Human-AI collaboration). The beneficiary is expected to develop demos for these models in one or more of the above-mentioned application domains and to produce one peer-reviewed publication (preferably in a top-tier journal or conference)

POSSIBLE HOST ORGANISATIONS

- INESC TEC - Institute for Systems and Computer Engineering, Technology and Science, Center for Power and Energy Systems (https://www.inesctec.pt/en/centres/cpes)
- TU/e, Department of Industrial Engineering and Innovation Sciences (https://www.tue.nl/en/research/research-groups/innovation-sciences/human-technology-interaction)
- UPB – National University of Science and Technology POLITEHNICA Bucharest, Artificial Intelligence and Multi-Agent Systems Laboratory (https://aimas.cs.pub.ro/)

Pillar Human-Centric-AI

HC-AI.3 Interpretable Data-Driven Decision Support Systems

Keywords: Interpretable decision making; Automatic decisions; Collaborative human decisions; Integrated collaborated environment; Medical domain

State-of-the-art

Decision making in the medical domain is a challenging task, especially when different specialists and factors must contribute to the decisions. AI based tools for helping the decision are invaluable in this respect. However, collaboration between doctors and such tools is currently difficult because of different reasons. An integrated collaborated environment in which humans and AI tools collaborate is an opportunity to alleviate these difficulties.

Scientific Challenges

- Trustworthy collective human decisions in healthcare supported by AI tools.
- Human-oriented exaplanations of automatic decisions in diagnostic based on medical data.
- Explore different metrics to evaluate explainability and interpretability of medical decisions supported by AI tools.

Research activities

1. Design and implement an explainable decision support system for diagnosis based on medical images (CT or MRI).
2. Develop an approach to support medical decisions performed by different specialists contributing to the decision (based on medical data, human factors, context, history of the patient).
3. Design and implement algorithms to enhance the explainability of automatic decisions based on different medical data to support collaborative human decisions.
4. Evaluate the effectiveness of the approach for different use cases.

Expected results

The expected scientific progress includes the development of a supporting environment in which AI tools and humans (from different specialities) are able to collaborate to make decisions.

The beneficiary is expected to develop a demo for such a decision-making support system environment and to produce one peer-reviewed publication (preferably in a top-tier journal or conference).

Possible Host Organisations

- TUC, Chemnitz University of Technology, Distributed and Self-organizing Systems Group (https://vsr.informatik.tu-chemnitz.de/research/)
- TU/e, Department of Industrial Engineering and Innovation Sciences (https://www.tue.nl/en/research/research-groups/innovation-sciences/human-technology-interaction or https://www.tue.nl/en/research/research-groups/industrial-engineering/information-systems-ieis)
- UPB, National University of Science and Technology POLITEHNICA Bucharest, Artificial Intelligence and Multi-Agent Systems Laboratory (https://aimas.cs.pub.ro/)

Pillar Trustworthy -AI

T-AI.1 Modelling Trust in Distributed AI System Architectures

Keywords: Trustworthy AI; Distributed Systems; Trust Modelling; Software Architecture; Method Engineering

STATE-OF-THE-ART

The rapid adoption of large language models (LLMs) has created a side effect of using AI-generated content in different application domain. The unregulated use of such approaches, however, can potentially lead to malicious consequences such as plagiarism, generating fake news, spamming, identity theft/spoofing, etc. Furthermore, among the major cons of AI-generated content are the lack of trust of the final outcome. Therefore, reliable detection of AI-generated text can be critical to ensure the responsible use of LLMs.

SCIENTIFIC CHALLENGES

AI components are used in different parts of complex distributed or even federated systems. This raises the challenge of modeling trust in distributed AI system architectures due to the additional interaction between AI components communicating with each other and with other non-AI components of the system. Trust modeling in this context needs to balance modeling architectural complexity of distr. AI systems with a representation useful for non-IT stakeholders while supporting automatic analyses. There is no established theoretical foundation of trust aspects in distributed AI system architectures yet, which is required as basis for the creation of a suitable modeling method. To design a method that can be employed by practitioners in industry contexts, not only the analytical algorithmic aspects are important, but also the visual representation and the effort for model creation and management. To address the challenge of modeling trust in distributed AI systems, interdisciplinary collaboration of researchers from different fields such as software architecture, security, or human-computer interaction is required.

RESEARCH ACTIVITIES

Creation of a taxonomy of trust in distributed AI system architectures

Specification of a suitable visual modelling language

Development of infrastructure supporting the modelling

Design of algorithms for automatic analyses

Evaluation of trust modelling in distributed AI systems

EXPECTED RESULTS

We expect the exchange to provide valuable contributions to the long-term goal of designing a method for architectural trust modelling in complex distributed AI systems. The method will facilitate the creation of distributed "trustworthy by design" AI systems by enabling system architects to document and analyse trust in their architectural system blueprints. For researchers, the results will contribute to establishing a common vocabulary and representation of trust in distributed AI systems as a first step to consolidate the body of knowledge in this relatively young field and facilitate the communication and thus collaboration. These results will be published in at least 1 conference publication for discussion with experts in the same area. The exchange also aims at fostering knowledge transfer and networking with other groups working in related fields such as information systems, distributed systems and software engineering.

POSSIBLE HOST ORGANISATIONS

- ICCS, Institute of Communication and Computer Systems, Computer Networks Laboratory (https://www.cn.ntua.gr/)
- NTNU, Norwegian University of Science and Technology, Critical Infrastructure Security and Resilience group (https://www.ntnu.edu/iik/cisar)
- TUC, Chemnitz University of Technology, Distributed and Self-organizing Systems Group (https://vsr.informatik.tu-chemnitz.de/research/)

Pillar Trustworthy -AI

T-AI.2 Detection of AI Generated Content

Keywords: AI content; Generative AI; LLM; Trust; Big data

STATE-OF-THE-ART

The rapid adoption of large language models (LLMs) has created a side effect of using AI-generated content in different application domain. The unregulated use of such approaches, however, can potentially lead to malicious consequences such as plagiarism, generating fake news, spamming, identity theft/spoofing, etc. Furthermore, among the major cons of AI-generated content are the lack of trust of the final outcome. Therefore, reliable detection of AI-generated text can be critical to ensure the responsible use of LLMs.

SCIENTIFIC CHALLENGES

The main research challenges relate to (1) watermarking content, (2) retrieval-based defenses, (3) paraphrasing attacks (4) spoofing attacks, (5) measuring randomness in LLMs, (6) data quality and fairness, (7) computational power when big data sets are used and analyzed, (8) sensitive personally identifiable information, (9) NLP models with complex reasoning abilities and interpretability, (10) transparency of large language models.

RESEARCH ACTIVITIES

Research on the detectability of the output of currently used LLM models. Evaluate the effectiveness of known defence techniques. Test current attack approaches.

Methodology and metrics to evaluate LLM randomness. Report on existing LLMs defences. Novel attack techniques. To ensure the trustworthiness of the generative content, methods and tools need to be investigated able to capture aspects such as intended tone, flow, and context.

EXPECTED RESULTS

The ENFIELD will leverage novel scientific results to increase the trustworthiness AI. By leveraging the results from this topic directions and guidelines towards the development of a trustworthy AI framework for EU will be facilitated. In addition to that, the involved partners and research will collaborate, exchange knowledge, and expertise to further develop their research activities and future collaborations.

The beneficiary is expected to have one peer-reviewed publication (conference, workshop, journal).

POSSIBLE HOST ORGANISATIONS

1. BME, Speech Technology and Smart Interactions Laboratory (https://www.tmit.bme.hu/speechlab?language=en)
2. NTNU, Critical Infrastructure Security and Resilience group, (https://www.ntnu.edu/iik/cisar)
3. UoN, School of Computer Science (https://www.nottingham.ac.uk/computerscience/research/index.aspx)

Pillar Trustworthy -AI

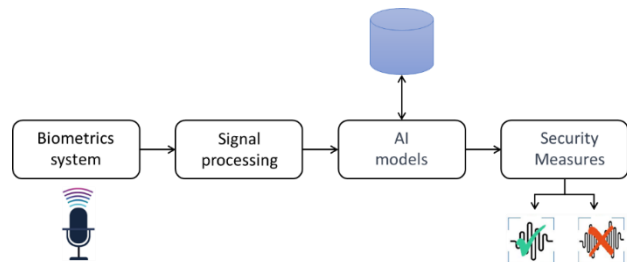### T-AI.3 Secure Voice Biometrics with Fake Voice Detection

Keywords: Voice spoofing; Biometric security; Speech signal processing; Robust authentication; Acoustic analysis.

STATE-OF-THE-ART

Current voice biometric systems are at the central of biometric authentication, but they face increasing concerns related to data privacy and security. The rise of fake voice generation technologies presents a significant challenge to the integrity of voice biometrics. State-of-the-art solutions in this field are actively addressing the need to develop robust defences against not only traditional security risks but also the voice spoofing and deepfake technologies. As the use of voice biometrics continues to expand in applications like access control, financial transactions, and identity verification, it is essential to address these scientific challenges and opportunities to ensure the trustworthiness and reliability of voice-based authentication methods.

SCIENTIFIC CHALLENGES

1. Developing AI models to enhance the security and trustworthiness of voice biometrics is a complicated task. This requires the creation of superior algorithm capable of distinguishing real from synthetic voices. This challenge requires the combination of cutting-edge deep learning techniques with voice recognition to continuously adapt and secure against emerging threats. This involves dealing with various accent and language variations, background noise, and voice quality issues.
2. Protecting sensitive voice data is another crucial aspect. This challenge involves developing mechanisms that safeguard stored and transmitted voice samples. It needs a deep understanding of data encryption and secure communication protocols designed to voice biometrics.
3. Addressing voice spoofing is important because it directly impacts the reliability and security of voice biometric systems. As voice authentication becomes more common in various sectors, including finance, healthcare, and access control, the threat of voice spoofing presents a significant risk. Developing robust anti-spoofing techniques is necessary to ensure the trustworthiness and integrity of voice-based security measures, maintaining user confidence in the technology and safeguarding sensitive information against fraudulent activities. This challenge needs advanced signal processing, machine learning, and behavioural analysis methods.

4. Advancing techniques for the detection of fake voice samples requires exploring speech characteristics and signal analysis. This challenge requires not only identifying synthetic voice attributes but also understanding how these attributes differ from natural human speech. This challenge needs deep learning, feature engineering, and acoustic analysis to design more accurate and reliable fake voice detection methods.

Research activities

- Develop AI models for secure voice biometrics, integrating encryption, privacy-preserving methods, and fake voice detection.
- Investigate methods for detecting and preventing voice spoofing, as well as the generation of fake voice samples.
- Perform accurate testing to ensure the system's trustworthiness, reliability, and fake voice detection capabilities.

Expected results

- At least one scientific publication (conference paper)
- Expected results involve the investigation of novel methods to detect and prevent voice spoofing, ensuring the system's strength against manipulated voice samples. Moreover, accurate testing will be conducted to verify the system's trustworthiness, reliability, and its capabilities in detecting fake voices.

Possible Host Organisations

4. BME, Speech Technology and Smart Interactions Laboratory (https://www.tmit.bme.hu/speechlab?language=en)
5. ICCS, Computer Networks Laboratory (https://www.iccs.gr/)
6. NTNU, Critical Infrastructure Security and Resilience group, (https://www.ntnu.edu/iik/cisar)
7. UoN, School of Computer Science (https://www.nottingham.ac.uk/computerscience/research/index.aspx)

Vertical Energy

VE.1 Methods of Explainable Machine Learning applied to LiDAR Scan Analysis

Keywords: LiDAR (Light Detection And Ranging); Green AI; Explainable AI; overhead lines.

State-of-the-art

Electrical grids' careful inspection an important and challenging problem. Often, it is based on LiDAR large-scale point clouds with high-point density, no sparsity and small object occlusion. The captured point clouds are quite extensive and mostly composed of arboreal areas which make the task of transparently detect objects such as power grid poles a hard task. One plausible way to approach this problem is to employ 3D semantic segmentation methodologies. State-of-the-art represents 3D scenes as volumetric grids (Wu et al. 2015; Maturana and Scherer 2015) and as 3D point clouds (Qi et al. 2017a,b; Thomas et al. 2019). Volumetric methods allow for the use of global feature descriptors, such as 3D convolutions but are restricted in terms of resolution due to the cubic growth of computational complexity and memory footprint. They also introduce challenges to ML models, namely heterogeneous density, lack of structure and permutation invariance. Most proposals are tailored to boost performance in urban settings (e.g., Semantic3D (Hackel et al. 2017), SensatUrban (Hu et al. 2021) and SemanticKITTI (Behley et al. 2019)), where data are sparse, objects are often occluded and may demonstrate anisotropy w.r.t. density – this is not the case of the challenge we propose to overcome.

Scientific Challenges

We propose SCENE-Net, an intrinsically interpretable 3D point cloud semantic segmentation framework identifying signature geometric shapes via group equivariant non-expansive operators (GENEOs) that allow for fast training even with a small amount data, and robustness both to labelling noise and strong imbalance.

We expect to reduce the training time on a regular laptop below 1 and half hour for 40 000 km of overhead linesand inference time to around 20 ms.

We propose to use a SCENE-Net composed of just 11 trainable geometrical parameters (like the radius of a ball or the height of a Cylinder), reaching a Precision gain of 24% against a comparable CNN with more than 2000 uninterpretable parameters.

Research activities

Within the PhD thesis work, between ENFIELD beneficiary CNET and externals: EDP LABELEC, Portugal, Nova-FCT, Portugal and Univ. Milano, Italy, the student plans to work on the following items:

(1) interpretability of the model.

(2) improvement of accuracy and precision of the model.

(3) robustness to noisy labels.

(4) training and inference time improvement.

(5) inference performance to high resolution from train with low resolution voxel-grids.

We will benchmark our model at least against a traditional CNN with similar architecture. Further details about the dataset, the samples used, the training protocol, and ablation studies are expected to be shared, discussed, and presented in public events.

Expected results

- 2 scientific publications, one in conference and another one in scientific journal.
- Software application for object automatic georeferencing and classification for industrial use.
- Green AI benchmark and scale-up impact analysis on energy used for processing and correspondent CO_2 reduction.

Possible Host Organisations

- EDP CNET (https://www.edp.com/en/innovation/NEW)
- EDP LABELEC (https://www.edp.com/pt-pt/inovacao/labelec#sobre-a-labelec)

Vertical Energy

VE.2 Coordinated Edge Control of Electric Vehicles Charging at Low Voltage Grid (or Microgrids)

Keywords: Electric vehicles; Edge intelligence; Optimization; Renewable energy; Microgrid.

STATE-OF-THE-ART

Simultaneous charging of multiple electric vehicles (EVs) poses a potential challenge to the low voltage local grid (microgrid), diminishing its hosting capacity and creating a bottleneck in the pursuit of decarbonizing the mobility sector[12]. This issue necessitates a coordinated approach with other resources tied to the electrical grid, such as local photovoltaic (PV) panels and small-scale storage. Intelligent EV charging strategies become imperative to effectively manage charging rates and schedules, utilizing local data from EV Supply Equipment (EVSE) and taking into account grid operating conditions, electricity tariffs, and the expectations of EV drivers. While commercial EVSEs commonly adhere to standards like ISO 15118, offering features such as secure communication and smart charging[13], the control of smart charging is typically centralized due to high computational demands associated with executing functions at the edge (i.e., at the EVSE). This centralized approach requires a predictive model to accommodate drivers' preferences, namely target state-of-charge and departure hour. Additionally, forecasting the charging requirements of electric vehicles proves challenging due to irregular time series data, requiring the prediction of multiple parameters to accurately quantify flexibility in EV charging[14].

SCIENTIFIC CHALLENGES

The main scientific challenge is to develop frugal (or green) data-driven control solutions (e.g., based on EV forecasting, and grid operating conditions) that enable distributed intelligence and local control at the EVSE level, and coordinated control between multiple EVSE (and other resources like PV and storage). Ensuring data privacy and security is a fundamental requirement, but the coordinated control inteligence should be have low computational requirements to facilitate wide adoption from EVSE manufacturers, e.g., a blend of a rule-based and data-driven approach with capacity to adapt to new operating conditions.

RESEARCH ACTIVITIES

Apply AI techniques (see 'Brief description of the scientific challenge') to smart electric vehicles charging, considering that the functions should run locally at the edge.

At the core of the testing capabilities is the Smart Grids and Electric Vehicles Laboratory (SGEVL) at INESC TEC premises. SGEVL has two configurable physical microgrids with islanding capabilities, which can be extended to the virtual domain using a Power-Hardware-in-the-Loop (PHIL) setup based on an OPAL-RT real-time digital simulator located in SGEVL. Associated with it, there are numerous physical assets such as loads, energy storage, PV generators, and a smart metering infrastructure. These installations integrate an EV charging infrastructure with commercial EV chargers and built-in-house EV charging prototypes with edge computing capabilities. Using the Iskraemeco Edge modules (and their charge controller that hosts the Edge module) for the distributed AI/ML part is also an option to explore in this work.

EXPECTED RESULTS

- Expected impacts are increase network hosting capacity of EVs (postponing network reinforcement) and promotion of the use of renewable energy for EV charging.
- 1 scientific publication (ideally in a journal) .
- 1 new method (in open source) for optimizing the electric vehicle charging considering local grid constraints and driver's requirements.

POSSIBLE HOST ORGANISATIONS

INESC TEC - Institute for Systems and Computer Engineering, Technology and Science, Center for Power and Energy Systems (https://www.inesctec.pt/en/centres/cpes), in collaboration with Iskraemeco (https://iskraemeco.com/) Iskraemeco (https://iskraemeco.com/)

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Vertical Space

VS.1 Fast and Accurate Atmospheric RT Simulations for Satellite Microwave Instruments

Keywords: Physics; Radiative Transfer; Satellites; Weather; Efficiency

STATE-OF-THE-ART

Atmospheric radiative transfer models (RTMs) are necessary for some satellite- and ground-based measurements. The fundamental component of RTMs is a partial integro-differential equation, the radiative transfer equation. Models aimed at time-critical operational applications, such as weather forecasting, use physical simplifications and coarse discretization to obtain solutions efficiently at the expense of accuracy. The use of deep has been suggested as an alternative to the manual simplifications[15]. However, the complexity of the interaction between our atmosphere and the electromagnetic spectrum formulates a significant challenge that requires detailed inspection. In particular, at the microwave region, where several upcoming satellite instruments will measure hydrometeor properties characterized by non-spherical shapes, which are usually neglected to reduce the computational time, machine learning approaches are yet to be explored.

SCIENTIFIC CHALLENGES

Using a reference RTM[16] the challenge is to develop a system through machine learning which is cable to find accurate and fast solutions to the radiative transfer equation for the microwave and submillimetre region under realistic all-sky conditions. This system should be compared to an operational RTM [17,18] to assess any improvement by machine learning. The researcher will be provided with the required RTM simulations. Satellite data or climatological data can be downloaded on the fly.

RESEARCH ACTIVITIES

- Understanding the differences between fast and accurate RTMs, including the implications of the simplified physics from the fast RTMs.
- Selection and compilation of the observational data available online required for assessing or developing the machine learning system.
- Survey of physics-informed machine learning literature and related works.
- Development of the described ML system with either pure supervised learning or more elaborate techniques, such as physics-informed machine learning[19]

Assessment of any advantage of the resulting system over conventional manual simplifications.

EXPECTED RESULTS

The expected scientific progress includes, among others, the development and publication of a prototype of an AI tool, which can be used by researchers and meteorological agencies to improve weather forecasting or climatological studies and, consequently, decision making. The capabilities of this prototype and scientific findings are expected to be disseminated with one conference presentation and one scientific publication.

POSSIBLE HOST ORGANISATIONS

- CHALMERS, Chalmers University of Technology, Department of Space, Earth and Environment, division of Geoscience and Remote Sensing (https://www.chalmers.se/en/departments/see/research/geo/)

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Vertical Space

VS.2 Generative Models for 3D Cloud Fields

Keywords: Generative Modelling; Cloud Properties; Atmosphere; Reconstruction Algorithms; Satellites

STATE-OF-THE-ART

The CloudSat satellite has been the gold standard for obtaining cloud vertical structures on a global scale. However, limitations in the satellite orbit and instrument hinder the use of CloudSat data for satellite data simulators that need 2D or 3D atmospheric input data. Leinonen et al.[20] studied the reconstruction of cloud fields using a conditional GANs trained against CloudSat data and conditioned on MODIS observations and auxiliary data, e.g., forecast data. They highlight limitations of their approach.

GANs catalysed the interest of the scientific community to push the development and application of generative models where, for example, diffusion models have arisen as a popular alternative to GANs. Generative models are yet to be exploited for generating atmospheric cloud fields.

SCIENTIFIC CHALLENGES

Development and evaluation of two generative models: an unconditional generative model and a conditional one. The emphasis would be in investigating diffusion models given its recent success, but any generative model, including GANs, can be considered. The models would be trained using CloudSat as a reference data, and the conditional model should only use public hyperspectral data. The models should, ideally, be able to generate 3D cloud fields, as opposed to the 2D cloud fields observed by CloudSat. The main challenge is, thus, to investigate if advances in the field of generative modelling can offer a better performance than the model presented by Leinonen et al.[9] as well as joint stochastic 3D retrievals of atmospheric cloud fields. Any satellite data to be used is publicly available.

RESEARCH ACTIVITIES

- Survey of generative models for atmospheric applications and development of the two models described above.
- Survey of conventional cloud field reconstruction algorithms to be used for future satellite missions[21].
- Selection of the satellite data to be used, publicly available.
- Ensure physical realism of the machine learning models.
- Comparison of the developed conditional generative model with a discriminative model which offers marginal distributions[22]

EXPECTED RESULTS

The expected scientific progress includes, among others, the development and publication of a prototype of an AI tool, which can be used by researchers to simulate cloud fields, thus mitigating the need for costly and limited real world observations. The capabilities of this prototype and scientific findings are expected to be disseminated with one conference presentation and one scientific publication.

POSSIBLE HOST ORGANISATIONS

- CHALMERS, Chalmers University of Technology, Department of Space, Earth and Environment, division of Geoscience and Remote Sensing (https://www.chalmers.se/en/departments/see/research/geo/)

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VS.3 Cost-Effective Precipitation Retrievals

Keywords: Rain; Uncertainty Quantification; Convnets; Retrieval; Geostationary Satellite.

STATE-OF-THE-ART

ML approaches have several advantages to the retrieval of precipitation, i.e., historical estimation of precipitation rates, over conventional approaches when considering satellite imagery[23]. Pfreundschuh et al. presented a method for atmospheric retrievals, which is an alternative to flexible but expensive statistical approaches[24], that can describe the uncertainty in the retrieval due to data variability, eliminating the need for ensemble predictions. Using this method, Amell et al. presented in a similar approach to but where only the European geostationary satellite was used[11]. In this case, they focused only on the effectivity of the neural-network retrieval but not its efficiency, thus requires non-minimal computational resources to run inference for, e.g., the whole African continent. Furthermore, they solely targeted Africa despite the satellite covers a larger area and did not use any time dimension.

SCIENTIFIC CHALLENGES

The challenge consists of analysing the shortcomings presented by Amell et al.[11] with a focus on exploring an inexpensive neural network architecture that offers at least a similar performance as the CNN used in and which offers a case-specific retrieval error. Africa should be included in the area supported for the retrievals, with the possibility to extend them to the full disc. A training dataset will be assembled consisting of Meteosat infrared observations labelled with the latest precipitation rate estimates from the Global Precipitation Measurement Core Observatory.

RESEARCH ACTIVITIES

• Compilation of neural network architectures that have a small computational footprint.
• Training and comparison of the performance of such neural network models.
• Assessment of the difficulty to incorporate the temporal domain in the retrievals through, e.g., autoregressive models, RNNs or semi-supervised learning, while maintaining a small computational footprint.
• Formal evaluation of the distributions retrieved with the method presented by Pfreundschuh et al.[13] to assess whether alternative methods, e.g., predicting distribution parameters from a family of distributions, offers a more efficient retrieval without degrading performance.
• Validation of the retrievals against independent datasets, coming from other retrieval schemes, accumulated rain, or sub-hourly rain rate estimates. The latter can be difficult to accomplish due to the availability of suitable data.

EXPECTED RESULTS

The expected scientific progress includes the development and publication of a ML-based, open-source retrieval model which can be used as an operational tool, as a benchmark, for example, for approaches that target local areas, or for helping to develop upcoming satellites retrieval schemes. This tool and any scientific findings are expected to be disseminated with one conference presentation and one scientific publication.

POSSIBLE HOST ORGANISATIONS

• CHALMERS, Chalmers University of Technology, Department of Space, Earth and Environment, division of Geoscience and Remote Sensing (https://www.chalmers.se/en/departments/see/research/geo/)

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Vertical Manufacturing

VM.1 Automatic and Efficient Identification of Batch Production Patterns for Tool Machines

Keywords: Condition-based maintenance, tool machines, Health management, time series

STATE-OF-THE-ART

The development of condition-based maintenance practices for tool machines is leading to a better understanding of wear and failure phenomena, and their characterization has been identified as a key factor in optimizing unit shutdowns and improving plant safety. Once the data has been collected and pre-processed, it is necessary to label the time series to identify the different batch production patterns to characterize the "health condition" of the equipment and optimize maintenance processes, considering spatial and temporal distortion and given that only very few patterns are labeled. Methods usually used include expert systems, e.g., rule-based or closed-form control methods, DTW algorithms.

SCIENTIFIC CHALLENGES

IA algorithms for edge to cloud continuum and AI embedded systems. AI based methods to improve data sample efficiency, number of learning parameters through effective regularization schemes. Adaptive IA on the edge exploiting historical data to perform pattern recognition e.g reinforcement learning, brain-inspired algorithms in continual learning, learning under noisy labels, automated transfer training to address the problem of very few or no labelled data.

RESEARCH ACTIVITIES

State-of-the art of technics and methods used for data labelling in the manufacturing field. Using data made available by Predict, development of innovative IA approaches for automatic labelling of batch patterns using historical sets of data. Apply green IA on the edge-to-cloud continuum to perform data pre-processing, data fusion for different sources and AI-big data analytics at the edge of the network and enabling optimization of cloud computing. Cloud platforms then perform further enrichment, aggregation and running complex analytics on the filtered data such as classification.

EXPECTED RESULTS

- 1 scientific publication (conference, workshops).
- An IA-based solution to improve the characterization of the phase's labels and better efficiency of the recognition process.
- IA algorithm embedded to perform all or part of the processing on the edge minimizing hardware power consumption, IoT protocol efficiency, communication overhead, data storage energy usage.

POSSIBLE HOST ORGANISATIONS

- POLIMI, Politecnico di Milano, Department of Management, Economics and Industrial Engineering (https://www.som.polimi.it/en/the-school/about-us/dig/)
- PREDICT R&T department(https://www.predict.fr/)

Vertical Manufacturing

VM.2 Self-X Integration in manufacturing domain

Keywords: manufacturing, self-X, autonomous computing, MAPE-K

STATE-OF-THE-ART

One of the most experienced solutions to these issues is the iteration of the training phases of algorithms, but this mitigation presents either high resource consumption or can lead to catastrophic interferences, which constitute a severe risk for the performances and for addressing responsibilities.

In recent years, the practitioners' community resumed however frameworks and requirements from the Control domain (namely MAPE-K and Self-X) to grant the controlled system, the capability to self-adapt to unpredictable events.

SCIENTIFIC CHALLENGES

The recent advancements in data production and analysis in manufacturing allowed several Machine Learning techniques to be exploited in the production domain in several aspects (maintenance, scheduling, decision making...). One of the limits of these approaches, however, sits in the lack of resilience of the aforementioned techniques towards unpredicted and unpredictable events, which drift the performances of these algorithms far from the region they were trained/designed for (e.g., a new production recipe is introduced, and the algorithms are not able to classify the system status).

RESEARCH ACTIVITIES

Starting from a defined and centralised software architecture, the proposed solution is supposed to be able to make AI pipelines able to deal implement self-X capabilities.

The solution is supposed to be tailored onto a lab-scale production environment and to deal with non-PLC signals (e.g., energy consumption) clustering the production in new defined classes.

Alternatively, real-like industrial datasets are also available.

EXPECTED RESULTS

- At least one journal scientific publication (Scopus-indexed).
- Development of software modules implementing self-X functionalities.

Experimentation in laboratory environment and/or from existing datasets.

POSSIBLE HOST ORGANISATIONS

- POLIMI, Politecnico di Milano, Department of Management, Economics and Industrial Engineering (https://www.som.polimi.it/en/the-school/about-us/dig/)

ANNEX 3

EXCHANGE SCHEMES OPEN CALL DOCUMENTATION

GUIDELINES FOR APPLICANTS

INNOVATION SCHEME
ENFIELD FIRST CALL FOR PROPOSAL
OC1-2024-TES-01

GUIDELINES FOR APPLICANTS

TABLE OF CONTENTS

1. INTRODUCTION

This document provides the relevant information regarding the Exchange Scheme Open Calls for proposals for the ENFIELD project.

The ENFIELD – Exchange Scheme Open Call aims to attract the top-level researchers to conduct fundamental research in the fields of Green AI, Adaptive AI, Humancentric AI, and Trustworthy AI. These research activities are focused on addressing specific scientific and technological challenges within the domains of energy, healthcare, manufacturing, and space. This will contribute to inwards and outwards dissemination and promote to ENFIELD network creation and expansion to European AI labs.

1.1. Background information on ENFIELD project

Artificial Intelligence (AI) is transforming every aspect of modern society offering the potential for inclusive economic growth, societal benefits, and innovative solutions to global challenges. Nonetheless, AI tools can be error-prone, giving rise to concerns about legal liability and the preservation of fundamental human rights. Global leaders have discussed the need to address AI challenges and maximize its benefits and as a result, the European Commission launched important initiatives like HUMANE[25], TAYLOR[26], and ELISE[27] to ensure AI becomes more human-centric, safe, transparent, and to reinforce Europe's position in AI and Machine Learning (ML). However, there are certain AI perspectives and application areas, which have not been tackled with a sufficient attention by the funded Networks of Excellence despite being of paramount importance to Europe in the present geopolitical and climate chance circumstances. Thus, the ENFIELD project is dedicated to develop, maintain, scale-up and sustain a vibrant European network on AI composed of 30 consortium members from 18 countries, including top-level education and research organisations, large scale businesses, SMEs, and public sector representatives jointly addressing critical issues of research and innovation frontiers in this new topic of the European AI Lighthouse.

ENFIELD will create a unique European Centre of Excellence that excels the fundamental research in the pillars of Adaptive, Green, Human-Centric, and Trustworthy AI that are new, strategic and of paramount importance to successful AI development, deployment, and acceptance in Europe and will further advance the research within verticals of healthcare, energy, manufacturing and space (Figure 1) by attracting the best talents, technologies and resources from worldclass research and industry players in Europe and by carrying out top-level research activities in synchronisation with industry challenges to reinforce a competitive EU position in AI and create significant socio-economic impact for the benefit of European citizens and businesses.
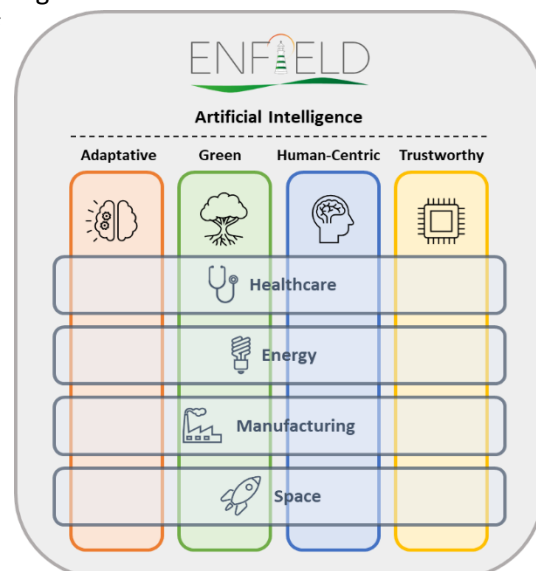

Figure 4 - Conceptual view of ENFIELD.

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[25] https://www.humane-ai.eu/about-project/
[26] https://tailor-network.eu/
[27] https://www.elise-ai.eu/

2. GENERAL INFORMATION

2.1. Terms and definitions

This section describes the relevant terms that are used in the open call documentation. Unless otherwise stated, the definition of a term is the one stated in this section.

2.1.1. Entities and Committees

Table 3 - Definitions of entities and committees

Term	Definition
ENFIELD consortium	Group of legal entities that are cumulatively responsible for implementing the ENFIELD project as defined in the Grant Agreement number 101120657.
Applicant	Individual researchers (or a group of researchers) that intends to submit or has submitted a proposal to the Enfield – Exchange Scheme Open Call.
Beneficiary	Individual researchers (or a group of researchers) that has submitted a proposal to the Enfield – Exchange Scheme Open Call, has been accepted for funding and has signed or is in the process of signing a sub-grant agreement.
External evaluator	An expert who has been invited by ENFIELD to assist in the evaluation of the proposals submitted to the Enfield – Exchange Scheme Open Call. Experts cannot have conflicts of interest and are bounded by their own confidentiality agreement.

2.1.2. Funding Program

Table 4 - Definitions of the funding program

Term	Definition
ENFIELD funding program	Program under which the present Exchange Scheme Open Call is run. It is defined by the documents and templates provided by the ENFIELD consortium as defined in section 4.1.1. The funding program considers several phases: open call for proposals, evaluation, sub-grant agreement (SGA) preparation and signing, and implementation of the project (for selected beneficiaries).
Proposal phase	Period when applicants can submit proposals to the open call. Each open call has a fixed deadline that is automatically enforced.
Evaluation phase	Period when the consortium evaluates and ranks the applications. At the end of the phase, all proposals are notified of the results of the evaluation.
SGA preparation and signing phase	Period when the selected proposals and the consortium complete the administrative procedures to sign the sub-grant agreement and prepare administrative documents.
Implementation phase	Minimum 3 months and maximum of 6 months period, varying according to the submitted proposal. At the end, the project is subject to a formal evaluation made by an internal evaluation team to assess if the project is meeting its objectives.

2.2. Means of submission

The ENFIELD – Exchange Open Call page (here) will be the entry point for the submission of all proposals to this open call *(oc1-2024-TES-01)*. Any proposal submitted through other channels will be automatically rejected.

Any documentation that is required and requested by the ENFIELD consortium should be submitted via a dedicated channel that will be indicated by the consortium during the execution of the sub-granted projects.

2.3. Language

English is the official language for the ENFIELD open calls. Submissions done in any language other than English will not be eligible or evaluated.

English is the only official language during the whole implementation of the ENFIELD funding program. This means that any requested submission of documentation and deliverables will be done in English to be eligible.

2.4. Documentation formats

Any documentation requested in any of the phases of the open call and projects' implementation must be submitted electronically in PDF format without restrictions for printing. For "Exchange Schemes: Technical annex", formatting guidelines must be respected as defined in the document.

2.5. Data protection

The reply to any call for proposals involves the recording and processing of personal data (such as name, e-mail, and address). Such data will be processed pursuant to Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data. Unless indicated otherwise, the questions and any personal data requested that are required to evaluate the application in accordance with the call for proposal will be processed solely for that purpose by the consortium.

It should be noted that ENFIELD requests the minimum information needed to deliver the evaluation procedures or the implementation of the funding program. The "Annex: Bank account information" and "Annex: Sub-grant Agreement template" are provided for reference and will only be requested if the applicant is accepted to the program.

2.6. Origin of the funds

Selected applicants will sign a dedicated sub-grant agreement with the ENFIELD consortium. The funds attached to the sub-grant funding agreement come directly from the funds of the European project ENFIELD and therefore remain property of the EU until the payment of the balance, whose management rights have been transferred to the project partners in ENFIELD via European Commission GA no. 101120657.

As detailed in "Annex: sub-grant agreement template", this relation between the subgrantees and the EC through the ENFIELD project carries a set of obligations to the subgrantees with the EC. It is the task of the sub-grantees to achieve them and of the ENFIELD consortium partners to inform about them.

3. ELIGIBILITY CRITERIA

The following eligibility criteria, related to the applicants, funding, and proposals apply.

3.1 Applicants' eligibility

All applicants must meet the requirements described in this section to be eligible for the ENFIELD - Exchange Scheme Open Call:
- Submissions will **ONLY** be accepted through the page dedicated to the ENFIELD – Exchange Scheme Open Call: https://ec.europa.eu/eusurvey/runner/oc1-2024-TES-01.
- Fit within the target audience as indicated in section 3.1.1.

- Are based in EU Member States or Horizon Europe associated countries as indicated in section 3.1.2.
- The application and all requested documents are provided in English language.
- The proposal description is provided according to the guidelines in the "ENFIELD – Exchange Scheme Open Call Technical Proposal Annex"
- The application must include a 2-minutes Presentation Video from the applicant presenting him/her (or the group of researchers), submitted in English.

The detailed eligibility criteria as described in the sections below apply:

3.1.1. Types of applicants

The ENFIELD – Exchange Scheme Open Call will fund projects implemented by individual researchers (or a group of researchers) from EU Member States or Horizon Europe associated countries. The following researchers are invited to submit their proposals for ENFIELD Exchange Schemes:

- PhD candidates (who demonstrate their enrolment in a PhD programme) in an eligible country, section 3.1.2.
- Post-docs and senior researchers who demonstrate their employment at a university, research centre or business entity in an eligible country, section 3.1.2.

In case of a group of researchers applying the team needs to be composed by a minimum of one senior researcher + one (or two) PhD candidate.

Researchers from ENFIELD partner organisations are not eligible to apply.

3.1.2. Eligible Countries

Researchers working in any of the following countries are eligible to participate in the ENFIELD – Exchange Open Call:
- The Member States (MS) of the European Union (EU), including their outermost regions.
- Horizon Europe associated countries: according to the updated list published by the EC[28].

3.1.3. Conflict of interest

Applications will not be accepted from researchers working in ENFIELD partner organisations.

Applicants must not have any current and/or potential conflict of interest with the ENFIELD – Exchange Scheme Open Call selection process and during the whole program. Applicants must formally and immediately notify the ENFIELD coordinator of any situation constituting or likely to lead to a conflict of interests and take all the necessary steps to rectify this situation.

All cases of conflict of interest will be assessed case by case. Applicants must take all measures to prevent any situation where the impartial and objective evaluation and implementation of the project is compromised for reasons involving economic interest, political or national affinity, family or emotional ties or any other shared interest ('conflict of interests').

If a conflict of interest is discovered and confirmed at the time of the evaluation process, the proposal will be considered as non-eligible and will not be evaluated.

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[28] https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-euratom_en.pdf

3.2. Proposal submissions

The ENFIELD – Exchange Scheme Open Call is a competitive funding programme. Applicants (researchers or groups of researchers) can submit multiple applications, but only one of them can be funded within the open call.

4. OPEN CALL: SUBMISSION AND SELECTION PROCESS

Proposals submitted to the ENFIELD – Exchange Scheme Open Call are submitted in a single stage and evaluated in two steps, as presented in Figure 2.
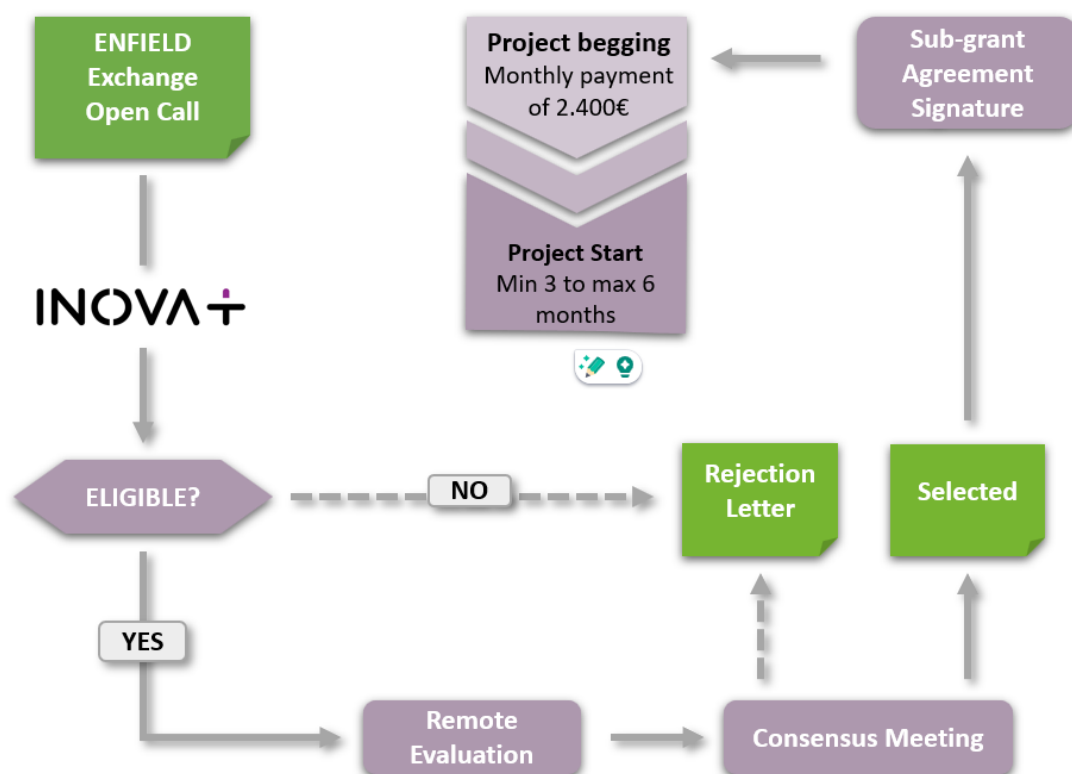

Figure 5 - ENFIELD - Exchange Scheme Open Call submission and evaluation process

4.1 Proposal preparation and submission

The submission of proposals to the ENFIELD – Exchange Scheme Open Call will follow the steps listed in this section.

4.1.1. Open call publication and documentation

The **Open Call oc1-2024-TES-01** is supported by the following documentation, which can be found at https://www.enfield-project.eu/open_calls:

- **Call for Proposals**, which provides a full set of information regarding the Open Call, including the scope, objectives, and challenges to be addressed in the open call (detailed in **Catalogue_of_Challenges**).

- **Guidelines for Applicants**, which provides an overview of the rules and procedures to participate in the open call, the evaluation process, and other general provisions.

- **Application Form**, an online application form, accessible here.

- **Technical annex (template)**, a Word template that indicates all the technical information that should be provided as part of the project proposal.

- **Sub-grant agreement template**, which provides a template of the subgrant agreement that the successful applicants will be requested to sign.

- **Applicant Declaration of Honor**, which declares that all conditions of the open call are accepted by the selected beneficiary/ies.

- **Bank account information**, which collects information about the bank account to which payments will be made.

Applicants are encouraged to read and download all relevant files before proceeding with the submission. The **deadline for submissions to the ENFIELD - Exchange Scheme Open Call is 31 March 2024 (17h00 CET)**.

4.1.2. Proposal preparation

Applicants must consider the following steps when preparing their proposal:

- For the proposal preparation, applicants are required to apply online and answer all mandatory questions (with no exception) here (as exemplified in annex **Exchange Schemes: Application form**)

- Applicants that do not accept the terms and conditions and that do not upload to the submission the following documents will not be eligible:

  - **Exchange Schemes: Technical annex**
  - **Exchange Schemes: 2-minutes Presentation Video**

- Be specific and concise. Questions in the online form have character limitations.

It is strongly recommended that applicants submit their proposal well before the deadline. If the applicant discovers an error in the proposal, and if the call deadline has not passed, the applicant may request the ENFIELD team to re-submit the proposal (for this purpose please contact enfield.opencall@inova.business). **However, ENFIELD does not guarantee that a resubmission will be feasible in due time in case the request for resubmission is not received by the ENFIELD team at least 48 hours before the open call deadline**.

It is strongly recommended that applicants do not wait until the last minute to submit their proposal. The failure to submit a proposal on time, for any reason, including network communications delays or working from multiple browsers or multiple browser windows, is not acceptable as an extenuating circumstance. The time of receipt of the application as recorded by the submission system will be definitive.

4.1.3. Technical Annex

The Technical Annex is composed by the following sections:
- Title (*75 characters*)
- Abstract (*750 characters*)
- Novelty of the proposal that contributes for the state-of-the-art advancement (*3000 characters*)
- Scientific Approach (*3000 characters*)

- Dissemination and Communication (*1750 characters*)
- Researcher/Group of Researchers Expertise (*1750 characters*)

The Technical Annex template is available at https://www.enfield-project.eu/open_calls for download for you to prepare a proposal. Follow the instructions provided and pay particular attention to the following criteria:

- The length each section of the Technical Annex must not **exceed the limit of characters.**
- The first page with the instructions must be deleted when saving the proposal to PDF.
- The template provided must not be modified and the formatting must be kept (ENFIELD standard style: Arial font, size 10, line spacing 1).

4.1.4. Presentation Video

The researcher (or group of researchers) should present themselves and address the motivation for the application to the ENFIELD – Exchange Scheme open call. Please note the following:

- The video should have a maximum of **two (2) minutes**.
- The video must be in **English**.
- The video should be simple. The objective is to show the researcher (or group of researchers) behind the proposal and their motivation.
- The video should not be uploaded during the application. Instead, a link to the video extension should be provided.

4.1.5. Proposal submission

Submissions will be done exclusively via https://ec.europa.eu/eusurvey/runner/oc1-2024-TES-01. Any submission not done via this channel will not be eligible.

A full list of applicants will be prepared containing their basic information for statistical purposes and clarity, which will be also shared with EC for transparency.

The deadline for submission of proposals is **31 March 2024, 17:00 CET** (Brussels time).

4.2. Proposal evaluation and selection
4.2.1. Step 1: Eligibility verification

An initial eligibility verification will be done to filter out and discard non-eligible proposals. Proposals must meet **ALL the following eligibility criteria**, which will check the following:

- The proposing researcher (or group for researchers) are eligible for funding according to the rules expressed in section 3.1 [Y/N].
- All required sections of the proposal have been completed [Y/N].
- The proposal is aligned with the defined open call challenges [Y/N].
- The proposal is written in the **English** Language [Y/N].
- All required documentation is submitted correctly:
  o Exchange Schemes: Application form [Y/N].
  o Exchange Schemes: Technical annex [Y/N].
  o Exchange Schemes: Presentation Video [Y/N].

Proposals marked as non-eligible (for not meeting one or more of the eligibility criteria) will get a rejection letter with a justification. **No additional feedback on the process will be given**.

4.2.2. Step 2: Individual Evaluation Report

Proposals considered eligible will move on to the evaluation phase. The evaluation will be done remotely by three senior researchers from ENFIELD partners' scientific organisations.

The proposals will be scored based on the criteria below (Table 3).

Table 5 - ENFIELD - Exchange Scheme Open Call evaluation criteria

Evaluation Criteria (EC)	Description
EC1. Advanced state of the art	• The extent to which the proposal is beyond the state-of-the-art and presents an innovative approach behind it (e.g., novel concepts and methodologies, development between or across disciplines, novel methods and algorithms addressing societal challenges).
EC2. Scientific approach	• Feasibility of the proposed research methodology and working arrangements.
EC3. Dissemination and communication	• Effectiveness of the proposed measures to exploit and disseminate the project results which must include methods (publications, presentations, workshops and/or webinars) and targeted audiences.
EC4. Technical and creative capacities	• Demonstration of competences and skills of the researcher (or group of researchers) involved in the proposal. • Ability to carry out the activities for the proposed application. • Track-record of the team in scientific publications and similar projects. In case of an application submitted by a consortium, complementarity of researchers.

Each criterion will be scored between 0 and 5 (Table 4)**.** Half point scores are not given. For each criterion under examination, score values will indicate the following rationale:

Table 6 - ENFIELD - Exchange Scheme Open Call scoring rationale

Score	Rationale
0 - FAIL	The proposal fails to address the criterion or cannot be judged due to incomplete or missing information.
1 - POOR	The criterion is inadequately addressed or there are serious inherent weaknesses.
2 - FAIR	The proposal broadly addresses the criterion, but there are significant weaknesses.
3 - GOOD	The proposal addresses the criterion well, but several shortcomings are present.
4 – VERY GOOD	The proposal addresses the criterion very well, but a small number of shortcomings are present.
5 - EXCELLENT	The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

The final score (including for each criterion) is the average of the three evaluations provided by three senior expert from ENFIELD scientific organizations. The threshold for each criterion is three (3), therefore the overall score threshold is 12. This indicates that if a proposal scores less than 3 in any criterion or an overall score less than 12, the proposal is automatically rejected. Any proposal scoring

less than 3 on any criterion will automatically be disqualified. Advanced state of the art criterion is given a weight of 1.5 to determine the final ranking.

Each evaluator will record his/her individual assessment of each proposal using an Individual Evaluation Report (IER).

4.2.3. Step 3: Ranking of proposals

At the end of the remote external evaluation process all proposals will be ranked in lists. The criteria for the ranking of the proposals will be semi-automatic following the rules below:

- **Rule 1:** Proposals will be ranked based on their overall score (sum of scores for criteria 1 to 4).
- **Rule 2:** After applying Rule 1 and if there are proposals in the same position, priority will be given to proposals that have the highest score on **EC1. Advanced state of the art.**
- **Rule 3:** After applying Rule 2 and if there are proposals in the same position, priority will be given to proposals that have the highest score on **EC4. Technical and creative capacities.**
- **Rule 4:** After applying Rule 3 and if there are proposals in the same position, priority will be given to proposals that have **applications with relevant social and environmental impact.**
- **Rule 5:** After applying Rule 4 and if there are proposals in the same position, priority will be given to those **led by women or with a share of women and men in the team that is closer to 50/50**[29].

4.2.4. Step 4: Consensus meeting

Evaluators will carry out a consensus meeting with the objective of gathering their evaluations, defining a common score for the proposals, and preparing evaluation reports.

The evaluators will then hold a consensus meeting to prepare a single Consensus Evaluation Report for each proposal, representing opinions and scores on which the evaluators agree and which they will sign. The decision on the ranking list and on the selected applicants shall be sought by consensus, and whenever not feasible, by majority vote of 2/3.

4.2.5. Step 5: Proposals selection

Within the current ENFIELD – Exchange Scheme Open Call about 18 proposals will be selected. Moreover, ENFIELD will follow these provisional arrangements - 15 proposals per each pillar and 4 proposals per each vertical.

The evaluators during the consensus meeting will prepare two lists:

- <u>List of the selected projects</u>: identification of the applications selected for funding.
- <u>Reserve list</u>: identification of the applications to be selected for funding, if any of those listed is unable to proceed to the implementation.

All applicants will be informed about the result of their evaluation by email by 23 April 2024 (indicative date). The results will then be published on the information channels of the ENFIELD project.

4.3. Redress process

Within three (3) working days of receiving (1) a Rejection Letter informing the proposal as noneligible or (2) an Evaluation Summary Report ranking the proposal below the selection borderline, an applicant may submit a request for redress if they believe the results of the eligibility checks have not been

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[29] In accordance with the Horizon Europe guidelines to encourage gender balance and equal opportunities for women and men, consortia applying to the open call should seek to include both men and women in the teams, with a participation as close as possible to 50/50 women and men. Further information: https://op.europa.eu/en/publication-detail/-/publication/ffcb06c3-200a-11ec-bd8e-01aa75ed71a1

correctly applied, or if they feel that there has been a shortcoming in the way their proposal has been evaluated that may affect the final decision on whether to enter the funding program.

In such a case, an internal review committee from ENFIELD will examine the applicant's request for a redress. The committee's role is to ensure a coherent interpretation of such requests, and equal treatment of applicants. Requests for redress must:

• Be related to the evaluation process or eligibility checks.

• Clearly describe the complaint.

• Received within the time limit (three (3) working days) from the reception of (1) a Rejection Letter considering the proposal as non-eligible or (2) the Evaluation Summary Report.

• Sent by the researcher (or group of researchers) that has submitted the proposal.

The committee will review the complaint and will recommend an appropriate course of action. If there is clear evidence of a shortcoming that could affect the eventual funding decision, it is possible that all or part of the proposal will be re-evaluated. Please note:

• This procedure is concerned only with the general evaluation and/or eligibility checking process. The committee will not question the scientific or technical judgement of the evaluators.

• A re-evaluation will only be carried out if there is evidence of a shortcoming that affects the final decision on whether to fund the proposal or not. This means, for example, that a problem relating to one evaluation criterion will not lead to a re-evaluation if a proposal has failed anyway on other criteria.

• The evaluation score following any re-evaluation will be regarded as definitive. It may be lower than the original score.

All requests for redress will be treated in confidence and must be sent to the ENFIELD team at enfield.opencall@inova.business.

In the case where a proposal under the redress process is re-evaluated and the new evaluation score is higher, it will be compared with the proposal that has entered the funding programme with the lowest ranking. The comparison will use the ranking rules as detailed in Step 4 (section 4.2.3). In case the proposal under the redress process ranks higher then both proposals will be invited to enter the funding programme.

4.4. Subprocess negotiation and onboarding

At the end of the evaluation phase, about 19 proposals will be selected. The other proposals will remain in a reserve list in case a selected proposal fails to sign the sub-grant agreement. All proposals will receive an acceptance or rejection letter together with an anonymized version of their proposal Consensus Evaluation Report.

4.4.1   Step 1: Sub-grant agreement preparation

After the evaluation phase is concluded and the sub-projects are selected, the ENFIELD consortium will start the SGA preparation phase in collaboration with the representatives of the sub-projects that have been awarded.

The objective of the SGA preparation is to fulfil the legal requirements between the ENFIELD consortium and each beneficiary of the open call.

Request of the documentation:
• A copy of the individual's national ID card or passport is required.

• Proof the individual/group of individuals is/are legally established and working in an eligible country.

The request of the documentation by the ENFIELD consortium will be sent to the beneficiary, including deadlines by which information and documentation should be sent. In general, the SGA preparation should be concluded within 2 weeks. An additional week may be provided by the ENFIELD coordinator in case of a relevant reasoning.

In case of the beneficiary not sending the requested documents within the above period, the proposal is automatically rejected and the next proposal in the reserve list is invited to initiate the SGA preparation.

4.4.2   Step 2: SGA signature

At the end of the SGA preparation phase, the SGA will be signed between the ENFIELD consortium represented by its coordinator (NTNU), the Open Call Manager (INOVA+), the Host Organization (depending on the selected applications) and the Beneficiary.

5 RESPONSIBILITIES OF BENEFICIARIES

The selected researchers are indirectly beneficiaries of EC funding. Therefore, selected researchers must comply with obligations under Horizon Europe specific requirements. The obligations that are applicable to the recipients include:

5.1.   Conflict of interest

The beneficiaries must take all measures to prevent any situation where the impartial and objective implementation of the sub-project is compromised for reasons involving economic interest, political or national affinity, family or emotional ties or any other shared interest ('conflict of interests').

They must formally notify the ENFIELD consortium without delay of any situation constituting or likely to lead to a conflict of interests and immediately take all the necessary steps to rectify this situation. The ENFIELD coordinator will verify if the measures taken are appropriate and may require additional measures to be taken by a specific deadline.

If the sub-contract consortium member breaches any of its obligations, the sub-contract may be automatically terminated.

5.2.   Data protection and confidentiality

During implementation of the sub-project and for four years after the end of the sub-project, the parties must keep confidential any data, documents, or other material (in any form) that is identified as confidential at sub-contract signing time ('confidential information').

If a beneficiary requests it, the EC and the ENFIELD consortium may agree to keep selected information confidential for an additional period beyond the initial four years. This will be explicitly stated in the SGA.

If information has been identified as confidential during the sub-project implementation or only verbally, it will be confidential only if this is accepted by the ENFIELD coordinator and confirmed in writing within 15 days of the verbal disclosure. Unless otherwise agreed between the parties, they may use confidential information only to implement the agreement.

The sub-project consortium may disclose confidential information to the ENFIELD consortium and to the selected reviewers, who will be bound by a specific Non-Disclosure Agreement.

5.3. Promoting the action and give visibility to the EU funding

The beneficiary must promote the sub-project, the ENFIELD project and its results, by providing targeted information to multiple audiences in a strategic and effective manner and to highlight the financial support of the EC.

Unless the EC or the ENFIELD coordinator agrees otherwise or unless it is impossible (requiring a valid justification), any promotion activity related to the action (including in electronic form, via social media, etc.), any publicity (including at a conference or seminar) or any type of information or promotional material (brochure, leaflet, poster, presentation etc.), and any infrastructure, equipment and major results funded by the SGA must:

• display the EU emblem.

• display the ENFIELD logo.

• include the following text:

- <u>For communication activities:</u> "The [sub-project acronym] has indirectly received funding from the European Union's Horizon Europe programme, via the ENFIELD – Exchange Scheme Open Call (insert OC code) issued and executed under the ENFIELD project (Grant Agreement no. 101120657)."
- <u>For results publications:</u> "This [insert type of result] is part of a sub-project that has indirectly received funding from the European Union's Horizon Europe programme via an Open Call issued and executed under the ENFIELD project (Grant Agreement no. 101120657)."

When displayed in association with a logo, the European emblem should be given appropriate prominence. This obligation to use the European emblem in respect of projects to which the EC contributes implies no right of exclusive use. It is subject to general third-party use restrictions which do not permit the appropriation of the emblem, or of any similar trademark or logo, whether by registration or by any other means. Under these conditions, the beneficiary is exempted from the obligation to obtain prior permission from the EC to use the emblem. Further detailed information on the EU emblem can be found on the Europa web page[30].

Any publicity made by the beneficiary regarding the sub-project, in whatever form and or by whatever medium, must specify that it reflects only the author's views and that the EC nor the ENFIELD project is not liable for any use that may be made of the information contained therein.

The EC and the ENFIELD consortium shall be authorised to publish, in whatever form and on or by whatever medium, the following information regarding the beneficiary/ies:

• The name of the beneficiary/ies.

• Contact address of the beneficiary/ies.

• The general purpose of the sub-project.

• The geographic location of the activities carried out.

• The list of dissemination activities and/or of patent (applications) relating to foreground.

• The details/references and the abstracts of scientific publications relating to foreground and, if funded within the sub-project, the published version or the final manuscript accepted for publication.

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[30] https://european-union.europa.eu/principles-countries-history/symbols/european-flag_en#eu-emblem

• Any picture or any audio-visual or web material provided to the EC and ENFIELD in the framework of the sub-project.

The beneficiary/ies shall ensure that all necessary authorisations for such publication have been obtained and that the publication of the information by the EC and ENFIELD does not infringe any rights of third parties.

Upon a suitably justified request by the sub-project coordinator on behalf of any sub-project member, the ENFIELD consortium, if permission is granted by the EC, may agree to forego such publicity if disclosure of the information indicated above would risk compromising the beneficiary's security, academic or commercial interests.

6 CONTACT INFORMATION

The ENFIELD consortium will provide information to the applicants via ENFIELD website, so that the information (question and answer), will be visible to all participants. No binding information will be provided via any other mean (e.g., telephone or email).

More info at: https://www.enfield-project.eu/open_calls

Apply via: https://ec.europa.eu/eusurvey/runner/oc1-2024-TES-01

ENFIELD support team: enfield.opencall@inova.business

ANNEX 4

EXCHANGE SCHEMES OPEN CALL DOCUMENTATION

APPLICATION FORM

EXCHANGE SCHEMES

ENFIELD First Call for Proposals - Application Form

Fields marked with * are mandatory.

Project proposals must be submitted by **31 March 2024 at 17:00 (CET)** by completing the application online.

Once the proposal is submitted, you will receive a confirmation e-mail. If you do not receive this confirmation e-mail, it means your proposal has NOT been submitted. If you believe this is due to a fault in the submission system, you should immediately notify via enfield.oc@inova.business, explaining the circumstances and attaching a copy of the proposal (and, if possible, screenshots to show what happened).

Queries about applications can be sent by email before **25 March 2024** to the same email address. A FAQ (Frequently Asked Questions) section will be posted on the ENFIELD project website and updated regularly.

All applicants will be informed of the results of the evaluation process by email by 23 April 2024 (indicative date). The results will then be published on the information channels of the ENFIELD project.

Only proposals that successfully address all the required aspects will be considered for selection.

The proposal must be submitted in **English.**

ENFIELD

EXCHANGE SCHEMES
ENFIELD First Call for Proposals
oc1-2024-TES-01

Through the ENFIELD exchange scheme open calls and the Financial Support to Third Parties (FSTP) mechanism, the project aims to attract the top-level researchers to conduct foundational research activities related to specific scientific/technological challenges in artificial intelligence, contributing to ENFIELD network creation and expansion to European AI labs and countries that are not presented in the consortium.

The survey will take approximately 30 minutes of your time, depending on the level of detail you want to provide.

The deadline is 31 March 2024.

Privacy & Data Protection: All organizations will process all data in accordance with the provisions of the General Data Protection Regulation (GDPR) and data will be held securely and only for as long as is required by the project. The organisations will not make any unauthorized disclosure of this information and will only share it with the other organizations for the purposes of response analysis. Anonymized responses may be used as data for project publications and further academic research, including publications. In the context of this project, 'organisations' refers to the following agencies: ENFIELD Consortium, INOVA+. By submitting this post-event reflection to the ENFIELD Consortium you give your informed consent. If you have further questions, please contact enfield.opencall@inova.business

---

* Type of application
- ⦿ Individual Application
- ◯ Group Application

Personal Details

* First name

[   ]

* Surname

[   ]

* Gender

Your response helps in assessing the inclusiveness and diversity of ENFIELD initiatives.

- ☐ Woman   ☐ Prefer no to say
- ☐ Man   ☐ Other
- ☐ Non-binary

* Date of Birth

[📅] [DD/MM/YYYY]

* Position

◯ PhD   ◯ Postdoc   ◯ Senior Researcher

ORCID iD

[   ]

Professional Web Page (LinkedIn, ReserachGate, Mendeley, Pubmed)

[   ]

INDIVIDUAL APPLICATION

Contact Information

* Institutional Address

* Postal Code

* City

* Country

* Phone Number (with international code, e.g. +32)

* Email

@

* Curriculum Vitae

Select file(s) to upload

Project Details

* Challenge

⌄

* To which host organization are you applying to? Rank the top 3 in order of preference. ❓
Use drag&drop or the up/down buttons to change the order or accept the initial order.

⁙ ⬆ ⬇   TU/E

⁙ ⬆ ⬇   INESC TEC

⁙ ⬆ ⬇   UPB

* Proposal Title

Please download the word file below and, after completing it, please upload it in PDF in the respective field.
_1Exchange_Technical_Annex.docx

* Technical Annex
❓ Only files of the type pdf are allowed

Select file(s) to upload

* 2-Minute Presentation Video
Please indicate the URL where your presentation video can be viewed.

Declarations

* I confirm that the information contained in this proposal is correct and complete and that none of the project activities have started before the proposal was submitted.

☐ Yes ☐ No

* I declare to be fully compliant with the eligibility criteria set out in the call.

☐ Yes ☐ No

* I have read, understood, and accepted the Privacy Policy.

☐ Yes ☐ No

* I am aware that if the proposal is retained for EU funding, I will be required to sign a declaration of honour and provide other supporting documents for an additional check on the eligibility and preparation of the contract.

☐ Yes ☐ No

Submit

ENFIELD

EXCHANGE SCHEMES
ENFIELD First Call for Proposals
oc1-2024-TES-01

Through the ENFIELD exchange scheme open calls and the Financial Support to Third Parties (FSTP) mechanism, the project aims to attract the top-level researchers to conduct foundational research activities related to specific scientific/technological challenges in artificial intelligence, contributing to ENFIELD network creation and expansion to European AI labs and countries that are not presented in the consortium.

The survey will take approximately 30 minutes of your time, depending on the level of detail you want to provide.

The deadline is 31 March 2024.

* Type of application
  ○ Individual Application
  ● Group Application

Group Leader | Personal Details

* First name

* Surname

* Gender
Your response helps in assessing the inclusiveness and diversity of ENFIELD initiatives.
☐ Woman   ☐ Prefer no to say
☐ Man   ☐ Other
☐ Non-binary

* Date of Birth
📅 DD/MM/YYYY

* Position
○ PhD   ○ Postdoc   ○ Senior Researcher

ORCID iD

Professional Web Page (LinkedIn, ReserachGate, Mendeley, Pubmed)

GROUP APPLICATION | 2 MEMBERS

Group Leader | Contact Information

* Institutional Address

* Postal Code

* City

* Country

* Phone Number (with international code, e.g. +32)

---

* Number of additional researchers in the Group Application
- ● 1
- ○ 2

Team Member | Personal Details

* First name

* Surname

* Gender

Your response helps in assessing the inclusiveness and diversity of ENFIELD initiatives.

- ☐ Woman
- ☐ Prefer no to say
- ☐ Man
- ☐ Other
- ☐ Non-binary

* Date of Birth

📅 DD/MM/YYYY

* Position
- ○ PhD   ○ Postdoc   ○ Senior Researcher

ORCID iD

Professional Web Page (LinkedIn, ReserachGate, Mendeley, Pubmed)

GROUP APPLICATION | 2 MEMBERS

ENF‌ELD

* Email

@ [   ]

* Curriculum Vitae

Select file(s) to upload

Project Details

* Challenge

[⌄]

* To which host organization are you applying to? Rank the top 3 in order of preference. ❓
Use drag&drop or the up/down buttons to change the order or accept the initial order.

⠿ ⬆ ⬇ TU/E

⠿ ⬆ ⬇ INESC TEC

⠿ ⬆ ⬇ UPB

* Proposal Title

[   ]

Please download the word file below and, after completing it, please upload it in PDF in the respective field.
_1Exchange_Technical_Annex.docx

* Technical Annex
❓ Only files of the type pdf are allowed

Select file(s) to upload

* 2-Minute Presentation Video
Please indicate the URL where your presentation video can be viewed.

[   ]

Declarations

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☐ Yes ☐ No

* I declare to be fully compliant with the eligibility criteria set out in the call.
☐ Yes ☐ No

* I have read, understood, and accepted the Privacy Policy.
☐ Yes ☐ No

* I am aware that if the proposal is retained for EU funding, I will be required to sign a declaration of honour and provide other supporting documents for an additional check on the eligibility and preparation of the contract.
☐ Yes ☐ No

Submit

![ENFIELD logo]

EXCHANGE SCHEMES
ENFIELD First Call for Proposals
oc1-2024-TES-01

Through the ENFIELD exchange scheme open calls and the Financial Support to Third Parties (FSTP) mechanism, the project aims to attract the top-level researchers to conduct foundational research activities related to specific scientific/technological challenges in artificial intelligence, contributing to ENFIELD network creation and expansion to European AI labs and countries that are not presented in the consortium.

The survey will take approximately 30 minutes of your time, depending on the level of detail you want to provide.

The deadline is 31 March 2024.

---

* Type of application
- ○ Individual Application
- ● Group Application

Group Leader | Personal Details

* First name

[   ]

* Surname

[   ]

* Gender

Your response helps in assessing the inclusiveness and diversity of ENFIELD initiatives.

- ☐ Woman   ☐ Prefer no to say
- ☐ Man   ☐ Other
- ☐ Non-binary

* Date of Birth

[📅 DD/MM/YYYY]

* Position
- ○ PhD   ○ Postdoc   ○ Senior Researcher

ORCID iD

[   ]

Professional Web Page (LinkedIn, ReserachGate, Mendeley, Pubmed)

[   ]

* Email

@

* Curriculum Vitae

Select file(s) to upload

Team Member 2 | Personal Details

* First name

* Surname

* Gender

Your response helps in assessing the inclusiveness and diversity of ENFIELD initiatives.

☐ Woman   ☐ Prefer no to say
☐ Man   ☐ Other
☐ Non-binary

* Date of Birth

📅 DD/MM/YYYY

* Position

○ PhD   ○ Postdoc   ○ Senior Researcher

* Email

@

* Curriculum Vitae

Select file(s) to upload

Project Details

* Challenge

▼

* To which host organization are you applying to? Rank the top 3 in order of preference. ❓
  Use drag&drop or the up/down buttons to change the order or accept the initial order.

⠿ ⬆ ⬇ TU/E

⠿ ⬆ ⬇ INESC TEC

⠿ ⬆ ⬇ UPB

* Proposal Title

Please download the word file below and, after completing it, please upload it in PDF in the respective field.
  _1Exchange_Technical_Annex.docx

* Technical Annex
❷ Only files of the type pdf are allowed

[Select file(s) to upload]

* 2-Minute Presentation Video
Please indicate the URL where your presentation video can be viewed.

[   ]

Declarations

* I confirm that the information contained in this proposal is correct and complete and that none of the project activities have started before the proposal was submitted.
☐ Yes ☐ No

* I declare to be fully compliant with the eligibility criteria set out in the call.
☐ Yes ☐ No

* I have read, understood, and accepted the Privacy Policy.
☐ Yes ☐ No

* I am aware that if the proposal is retained for EU funding, I will be required to sign a declaration of honour and provide other supporting documents for an additional check on the eligibility and preparation of the contract.
☐ Yes ☐ No

[Submit]

ANNEX 5

EXCHANGE SCHEMES OPEN CALL DOCUMENTATION

TECHNICAL ANNEX

INSTRUCTIONS FOR THE TECHNICAL ANNEX

Use this template to prepare the Technical Annex of your proposal. After completing all the sections in this Word document, convert it to a single PDF document (maximum size 10MB) and upload it to the ENFIELD Submission Form.

The template provided **must not be modified and the formatting must be kept** (ENFIELD standard font style: **Arial font, size 10, line spacing 1**. To select this style, choose "Normal, Text" style option from the ribbon styles gallery). If you wish to add images, figures or tables to your proposal, these should be readable and added as an appendix to this template (limited to 2 pages).

Disclaimer on Intellectual Property Rights and Copyright. ENFIELD strives to avoid the deliberate replication of ideas, data, results or other scientific work without due permission and acknowledgement. Make sure that the ideas developed in the proposal are yours (no plagiarism will be tolerated) and that you own or have received the necessary authorisations from the intellectual property rights holders to validly use, all intellectual property rights on the photographs, slides, graphs, digital images, or other material that you include in the Technical Annex.

EXCHANGE SCHEMES: TECHNICAL ANNEX

Challenge Identification
(please insert the code and the title of the challenge to which you are applying as it is mentioned in the Catalogue of Challenges)

Proposal Title
(Max 75 characters)

Proposal Abstract
(please indicate the main objectives, activities to be performed, expected results, European added value. Max. 750 characters)

Novelty of the proposal that contributes for the state-of-the-art advancement.
(please explain how your project goes beyond the state-of-the-art, is innovative, new, or experimental and/or how it can be exemplary for others. Max. 3000 characters)

Scientific Approach

(please describe the methods and methodology you will implement. Describe the planned activities, outlining the timeline. Max. 3000 characters)

Dissemination and communication

(please detail your communication and dissemination strategy (e.g. public presentations, publications, events, etc). Indicate how the results of your project will be used beyond the end of the project. Max. 1750 characters))

Research/Group of Researchers Expertise in the Field of Research

(please detail your competences and skills, including experience in the proposed research area of e.g., publications, training, lectures. Max 1750 characters)

ANNEX 6

EXCHANGE SCHEMES OPEN CALL DOCUMENTATION

CALL TEXT

EUROPEAN LIGHTHOUSE TO MANIFEST TRUSTWORTHY AND GREEN AI (ENFIELD)

OPEN CALL FOR PROPOSALS - EXCHANGE oc1-2024-TES-01

ENFIELD invites proposals from European researchers or groups of researchers for mobility grants to conduct foundational research activities related to specific scientific/technological challenges in artificial intelligence. These challenges shall be addressed by promoting and spreading excellence, fostering interdisciplinary research for breakthrough science and empowering and retaining young researchers. ENFIELD brings together the best talents, technologies, and resources from worldclass research and industry players in Europe to jointly develop top-level research activities in synchronisation with industry challenges. ENFIELD encourages and fosters interdisciplinary approaches by integrating researchers from different fields and organisations such as universities, research centres, or companies.

ENFIELD Exchange Scheme Open Calls does not fund research itself but promotes interactions and strengthen research collaboration among researchers across Europe by granting employed researchers (PhDs, postdocs, senior researchers) a mobility allowance for them to carry research activities in ENFIELD partner organizations. Proposals must address the ENFIELD research topics of adaptive, green, human-centric, or trustworthy artificial intelligence to contribute to the research advance in healthcare, energy, manufacturing, and space.

Proposals are evaluated against criteria of advancement beyond state of the art, scientific approach, dissemination and communication, and technical and creative capacities of researchers.

The deadline of EXCHANGE Scheme Open call [oc1-2024-TES-01] is **31 March 2024 at 17:00 (CET)**. About 19 proposals are to be approved.

The Proposal Template (Technical Annex) and the Applicant's Guidelines for submitting proposals for the first Exchange Scheme Open Call are available here. Applicants have the advantage of a single-stage submission process. The 2-minute Presentation Video gives the applicants the possibility to reinforce their motivation to be involved in the ENFIELD Exchange Schemes.

ENFIELD is committed to give power to diverse voices and ideas to enhance innovation and strongly encourages and welcomes applications from women and individuals representing diverse backgrounds.

Proposals to the ENFIELD – Exchange Scheme Open Call must be submitted electronically via https://ec.europa.eu/eusurvey/runner/oc1-2024-TES-01.

Applicants are encouraged to contact ENFIELD support team for additional information and guidance - enfield.opencall@inova.business.

ANNEX 7

EXCHANGE SCHEMES OPEN CALL DOCUMENTATION

GUIDELINES FOR EVALUATORS

INSTRUCTIONS - Individual Evaluation Report

The evaluation of Exchange Scheme Open Calls - Technical Annex will be done remotely by three independent senior researchers from ENFIELD partners scientific organizations.

The proposals will be scored by each evaluator based on the criteria below:

Evaluation Criteria (EC)	Description
EC1. Advanced state of the art	• The extent to which the <u>proposal is beyond the state-of-the-art</u> and <u>presents an innovative approach</u> behind it (e.g., novel concepts and methodologies, development between or across disciplines, novel methods and algorithms addressing societal challenges).
EC2. Scientific approach	• <u>Feasibility of the proposed research methodology</u> and working arrangements.
EC3. Dissemination and communication	• Effectiveness of the proposed <u>measures to exploit and disseminate the project results</u> which must include methods (publications, presentations, workshops and/or webinars) and targeted audiences.
EC4. Technical and creative capacities	• Demonstration of <u>competences and skills of the researcher</u> (or group of researchers) involved in the proposal. • Ability to carry out the activities for the proposed application. • Track-record of the team in scientific publications and similar projects. In case of an application submitted by a consortium, complementarity of researchers.

Each criterion will be scored between 0 and 5. Half point scores are not given. For each criterion under examination, score values will indicate the following rationale:

Score	Rationale
0 - FAIL	The proposal fails to address the criterion or cannot be judged due to incomplete or missing information.
1 - POOR	The criterion is inadequately addressed or there are serious inherent weaknesses.
2 - FAIR	The proposal broadly addresses the criterion, but there are significant weaknesses.
3 - GOOD	The proposal addresses the criterion well, but several shortcomings are present.
4 – VERY GOOD	The proposal addresses the criterion very well, but a small number of shortcomings are present.
5 - EXCELLENT	The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

Individual Evaluation Report

Evaluator Name

Evaluation Date

Challenge   Identification

Proposal Title

Evaluation

	Fail (0)	Poor (1)	Fair (2)	Good (3)	Very Good (4)	Excellent (5)
Advanced state-of-the-art						
Scientific approach						
Dissemination/Communication						
Technical/Creative capacities						
Final Evaluation						
Observations						

Evaluator Signature

ANNEX 8

EXCHANGE SCHEMES OPEN CALL DOCUMENTATION

SUB-GRANT AGREEMENT TEMPLATE

INNOVATION SCHEME ENFIELD FIRST CALL FOR PROPOSAL

SUB-GRANT AGREEMENT

TABLE OF CONTENTS

Subject: Sub-Grant Agreement (SGA)

Call: *[insert code of the call]*

Sub-Grant Agreement nº: *internal reference of the project approved.*

Title of the Action: *name of the project approved.*

The following Parties:

NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET [NTNU] - Project Coordinator

and

INESC TEC - INSTITUTO DE ENGENHARIADE SISTEMAS E COMPUTADORES, TECNOLOGIA E CIENCIA [INESC TEC], INSTITUT MINES-TELECOM [IMT], CHALMERS TEKNISKA HOGSKOLA AB [CHALMERS], UNIVERSITATEA POLITEHNICA DIN BUCURESTI [UPB], BUDAPESTI MUSZAKI ES GAZDASAGTUDOMANYI EGYETEM [BME], KNOW-CENTER GMBH RESEARCH CENTER FOR DATA-DRIVEN BUSINESS & BIG DATA ANALYTICS [KNOW], TEKNOLOGISK INSTITUT [DTI], NORSK REGNESENTRAL [NRS], TECHNISCHE UNIVERSITEIT EINDHOVEN [TU/e], INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS [ICCS], INOVA+ - INNOVATION SERVICES, SA [INOVA+], MAGGIOLI SPA [MAGGIOLI], THE UNIVERSITY OF NOTTINGHAM [UON], TECHNISCHE UNIVERSITAET CHEMNITZ [TUC], TALLINNA TEHNIKAÜLIKOOL [TALTECH], ISKRAEMECO, MERJENJE IN UPRAVLJANJEENERGIJE, D.D. [ISK], ENGINEERING - INGEGNERIA INFORMATICA SPA [ENG], LUSIADAS ACE [LUSIADAS], CNET CENTRE FOR NEW ENERGY TECHNOLOGIES SA [EDP CNET], UNIVERSIDAD COMPLUTENSE DE MADRID [UCM], POLITECNICO DI MILANO [POLIMI], PREDICT SAS [PREDICT], TELENOR ASA [TELENOR], FONDATION EUROPEENNE DE LA SCIENCE [ESF], SINTEF AS [SINTEF], TEKNOLOGIAN TUTKIMUSKESKUS VTT OY [VTT], ERATOSTHENES CENTRE OF EXCELLENCE [ECoE], BOEING AEROSPACE SPAIN [BAS], ARATOS SYSTEMS BV [ARATOS] - Consortium partners all hereinafter jointly referred as Consortium/Consortium partners.

The Consortium of the ENFIELD (European Lighthouse to Manifest Trustworthy and Green AI)[31] project is represented for the purposes of signing this SGA by **NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET [NTNU],** established in Hogskoleringen 1, 7491 TRONDHEIM, Norway, VAT number: [……………………], - Project Coordinator, represented for the purposes of signing the Agreement by [name, surname and position] (**hereinafter referred to as the PROJECT COORDINATOR**), **INOVA+ - INNOVATION SERVICES, SA [INOVA+]**, established in Rua Dr. Afonso Cordeiro 567, 4450-305 Matosinhos, Portugal, VAT number: PT504041266, - Consortium Partner, represented for the purposes of signing the Agreement by Miguel Sousa, CEO **(hereinafter referred to as the CONTRACTOR)** and by *[Partner Organisation]*, with its registered office at [……………………], [Country], with VAT number [………………], represented by [name, surname and position] (**hereinafter referred to as HOST ORGANISATION)**

and

[Name and surname], citizen of *[country]*, living at *[address], [ID number]*, selected in the ENFIELD 1st Open Call and described in the Application form submitted by the Beneficiary in the above-mentioned Open Call, **hereinafter referred to as the BENEFICIARY.**

---

[31] Grant agreement nº 101120657, funded by the European Union through the European Commission programme Horizon Europe.

[if group of researchers, information about each of the researchers should be included]

Hereinafter PROJECT COORDINATOR, CONTRACTOR, HOST ORGANISATION and BENEFICIARY each individually referred to as a PARTY and collectively as Parties,

have agreed to enter into Agreement (referred to as SGA) with the terms and conditions below, including those in the following annexes, which form an integral part of this Sub-Grant Agreement.

TERMS AND CONDITIONS

Article 1. Subject of the Sub-Grant Agreement

This Sub-Grant Agreement (SGA) sets out the rights and obligations and the terms and conditions applicable to the grant awarded to the Beneficiary for implementing the action set out in Article 2. By signing the SGA, the Beneficiary accepts the grant and agrees to implement the action, acting on his/her/their responsibility.

The present SGA does not create a joint-venture company and under no circumstances be considered as a holding between the parties. The responsibility of each Party is strictly limited to the conditions mentioned in this SGA, particularly the conditions of take by each Party to any other third party.

Article 2. Entry into force, implementation period and termination of the Sub-Grant Agreement

The grant is awarded for the action entitled *"name of the project selected"*, as described in Annex 1 – Description of the Action.

The action runs for **## months** starting on a fixed date, **DD/MONTH/YYYY**, when the Agreement enters into force.

The Beneficiary may apply for an extension (up to a maximum of six months as the total duration) of the Action Period if there are objective conditions which prevent its implementation in time. The Beneficiary's request should indicate the circumstances justifying the extension and the period for which the project should be extended. The circumstances of extension will be assessed by the Selection Committee.

The SGA will end upon one of the following conditions:

- after delivery of all expected outcomes specified in the Annex 1 – Description of the Action and final payment by the Contractor. The foreseen date of completion is [XXX].
- in case of termination initiated by the Contractor in the conditions specified in Article 4. In this case, no other payment will be due by the Contractor to the Beneficiary and all Parties give up any pursuit exercised against one or several other Parties for a direct or indirect damage incurred by the partial or total non-fulfillment of the measures of the present SGA.

Article 3. Obligations and Responsibilities of the Beneficiary

The obligations and responsibilities of the Beneficiary are defined in detail in the Annex 1 – Description of the Action, and the Annex 2 - Guidelines for Applicants.

By signing this SGA, the Beneficiary declares he/she meets the eligibility conditions for participation in EXCHANGE SCHEME as defined in the ENFIELD 1st Open Call Guidelines for Applicants.

The Beneficiary shall take every necessary precaution to avoid any risk of conflict of interest relating to economic interests, political or national affinities, personal or any other interests liable to influence the impartial and objective performance of the Action. In case the Beneficiary is involved in a conflict of interest or in a risk of conflict of interest, the Beneficiary must formally notify this situation to the Project Coordinator and to the Contractor without delay and immediately take all the necessary steps to rectify this situation.

The Beneficiary is responsible for any act or omission that causes damage to the Project Coordinator, the Contractor, other partner of ENFIELD consortium members, and/or the EC in relation to this SGA. The Beneficiary shall bear sole responsibility for ensuring that their acts within the framework of this SGA do not infringe on third parties' rights. Neither the Project Coordinator, the Contractor, nor the EC can be held liable for any acts or omissions of the Beneficiary in relation to this SGA.

There is no joint liability between the Parties.

Article 4. Breach of Contractual Obligations

In the event of the breach of the contractual obligations by the Beneficiary, the Contractor reserves the right to claim the Beneficiary the full refund of all payments made to the Beneficiary up to date.

The breach of the contractual obligations by the Beneficiary shall be determined by the ENFIELD Project Coordinator. Not participation in the activities foreseen for the implementation of the Action (unless in the case of Force Majeure) or participating in them in a manner which intentionally disrupts the expected outcomes, shall be deemed as breach of the contractual obligations by the Beneficiary.

The provision of false or misleading declarations by the Beneficiary or any unsolved situation of conflict of interest also constitute examples of breach of contractual obligations by the Beneficiary.

Article 5. Grant and Financial Provisions

5.1 Maximum grant
The maximum grant amount provided by the Contractor to the Beneficiary is EUR xxxxxx (xxxxxx Euros) paid as lump sum following the conditions set out in this SGA and its Annexes.

5.2 Payment of the grant
Payment of the grant amount will be as a monthly **mobility allowance**, intended to support the Beneficiary's mobility-related costs, e.g. travel and accommodation costs.

Payment Schedule: One-month advance payment (2.400€) with grant signature and then periodic payments, every month, up to xx months in total and according to the duration of the Action as described in the Annex 1.

The Beneficiary is responsible for complying with any tax and legal obligations that might be attached to this financial contribution.

All payments shall be made to the Beneficiary's bank account, denominated in euro, as indicated in the Annex 4.

The cost of payment transfers will be borne as follows:

- the Contractor bears the cost of transfers charged by its bank;
- the Beneficiary bears the cost of transfers charged by its bank;

- the party causing a repetition of a transfer bears all costs of the repeated transfer.

5.3 Suspension of payment of the grant

The Contractor may at any moment suspend, in whole or in part, the pre-financing payment or the payment of the balance for the Beneficiary:

- if the Contractor has evidence that the Beneficiary has committed irregularities, fraud or breach of obligations in the award procedure or while implementing the Agreement;
- if the Contractor has evidence that the Beneficiary has committed systemic or recurrent irregularities, fraud or serious breach of obligations in other grants funded by the Union or the European Atomic Energy Community ('Euratom') awarded to the beneficiary under similar conditions and such irregularities, fraud or breach of obligations have a material impact on this grant; or
- if the Contractor suspects irregularities, fraud or breach of obligations committed by the Beneficiary in the award procedure or while implementing the SGA and needs to verify whether they have actually occurred.

Before suspending payments, the Contractor must send a formal notification to the Beneficiary informing he/she/they of its intention to suspend payments; the reasons for suspension; and, when applicable, the conditions that need to be met for payments to resume; inviting he/she/they to submit observations within 30 calendar days of receiving the formal notification.

If the Contractor does not receive observations or decides to pursue the procedure despite the observations it has received, it must send a formal notification to the Beneficiary informing he/she/they of the suspension of payments; the reasons for suspension; the final conditions under which payments may resume; and, when applicable, the indicative date of completion of the necessary verification.

The suspension takes effect on the day the Contractor sends formal notification of suspension.

Otherwise, the Contractor must send a formal notification to the Beneficiary informing he/she/they that it is not continuing with the suspension procedure.

During the period of suspension of payments, the Beneficiary is not entitled to submit any request for payments nor supporting documents. The corresponding request for payments and supporting documents may be submitted as soon as possible after the resumption of payments or may be included in the first request for payment due following the resumption of payments.

The suspension of payments does not affect the right of the Contractor to suspend the implementation of the action or to terminate the SGA.

In order for the Contractor to resume payments, the Beneficiary must meet the notified conditions as soon as possible and must inform the Contractor of any progress made. If the conditions for resuming payments are met, the suspension will be lifted. The Contractor will send a formal notification to the Beneficiary informing he/she/they of this.

5.4 Use of the grant amount and recovery

The Beneficiary commits to the proper use of the funding, for the purposes of carrying out the Exchange Scheme in compliance with its description reflected in Annex 1, and in accordance with Annex 2 – Guidelines for Applicants.

If, on the basis of an audit, the EC seeks to recover contributions from the Contractor of financial contributions made to the Beneficiary under this SGA, due to a misuse of the funding received, the Beneficiary agrees to repay such amounts to the Contractor.

Article 6. Insurances

All Parties shall take out adequate insurance of all risks associated with the travels to and from the Host Organisation, and for any piece of equipment they will bring respectively into the implementation of the activities within the Exchange Scheme.

Article 7. Confidentiality and Ethics

During the implementation of the action and for five years after the final payment, the parties must treat with confidentiality any confidential information and documents. The parties must handle classified information in accordance with the applicable EU, international or national law on classified information (in particular, Decision 2015/444 and its implementing rules).

The parties may only use confidential information and documents for a reason other than to fulfil their obligations under the SGA if they have first obtained the prior written agreement of the other party.

The Beneficiary may disclose sensitive information to their personnel or other participants involved in the action only if he/she/they need to know it in order to implement the SGA and are bound by an obligation of confidentiality.

The confidentiality obligations no longer apply if:

- the disclosing party agrees to release the other party;
- the information becomes publicly available, without breaching any confidentiality obligation;
- the disclosure of sensitive information is required by EU, international or national law.

The action must be carried out in line with the highest ethical standards and the applicable EU, international and national law on ethical principles.

Article 8. Intellectual Property Rights

8.1 General principles

The Beneficiary must inform the Contractor and the Host Organisation about background data, know-how or information — whatever its form or nature (tangible or intangible), including any rights such as intellectual property rights — that is held by the Beneficiary before they acceded to the SGA and needed to implement the action or exploit the results. If the background is subject to the rights of a third party, the Beneficiary must ensure that it is able to comply with its obligations under the SGA.

The Project Coordinator and the Contractor has the right to use non-sensitive information relating to the action and materials and documents received from the beneficiaries (notable summaries for publication, deliverables, as well as any other material, such as pictures or audio-visual material, in paper or electronic form) for information, communication, dissemination and publicity purposes during the action or afterwards.

8.2 Ownership of the data

The ownership of the data provided by the Host Organisation or any other data source or provider will be always from the Party providing the data.

The Project Coordinator and the Contractor do not obtain ownership of the results produced under the action. 'Results' means any tangible or intangible effect of the action, such as data, know-how or information, whatever its form or nature, whether or not it can be protected, as well as any rights attached to it, including intellectual property rights.

If the experiment results in the generation of data, the ownership of the generated data will be always from the Party generating the data, unless the Parties agree any particular specification.

Article 9. Data Protection

Any personal data under the SGA will be processed under the responsibility of the data controller of the Contractor in accordance with the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons concerning the processing of personal data and on the free movement of such data.

The Beneficiary must process personal data under the SGA in compliance with the applicable EU, international and national law on data protection (in particular, Regulation 2016/67919). He/She/They must ensure that personal data is:

- processed lawfully, fairly and in a transparent manner in relation to the data subjects;
- collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes;
- adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed;
- accurate and, where necessary, kept up to date;
- kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the data is processed and;
- processed in a manner that ensures appropriate security of the data.

The Beneficiary may grant her/his/their personnel access to personal data only if it is strictly necessary for implementing, managing and monitoring the SGA, but must ensure that the personnel is under a confidentiality obligation.

Article 10. Dissemination, Visibility and Compulsory Credits

The Beneficiary must promote the action and its results by providing targeted information to multiple audiences, in accordance with the Description of the Action (Annex 1) and in a strategic, coherent and effective manner.

All Parties shall include, if possible, on each publication or communication (print and/or multimedia) related to the public presentation of the results of the Exchange Scheme, the following mention:

"The NAME_of_ACTION has received funding from the European Union, via the [insert code of the call] issued and implemented by the ENFIELD project, under the grant agreement No 101120657."

Communication activities of the Beneficiary related to the action (including media relations, conferences, seminars, information material, such as brochures, leaflets, posters, presentations, etc., in electronic form, via traditional or social media, etc.), dissemination activities and any equipment, supplies or major result funded by the grant must acknowledge the EU support and display the European flag (emblem), funding statement (translated into local languages, where appropriate) and must indicate that it reflects only the author's view; and that the Project Coordinator, the Contractor or the European Commission are not responsible for any use that may be made of the information it contains.

Where appropriate, they should also use the ENFIELD project visuals, in line with the Guidelines provided by the Project Coordinator.

When displayed in association with another logo, the European Union emblem must have appropriate prominence.

The obligation to display the European Union emblem does not confer on the beneficiaries a right of exclusive use. The beneficiaries may not appropriate the European Union emblem or any similar trademark or logo, either by registration or by any other means.

The Project Coordinator, the Contractor and the EC shall be authorized to publish, in whatever form and on or by whatever medium, the following information:

- the name of the Beneficiary;
- contact address of the Beneficiary;
- the general purpose of the action;
- the amount of the financial contribution of the EC.

Article 11. Amendments

Any amendment to the SGA must be made in writing. An amendment may not have the purpose or the effect of making changes to the SGA which would call into question the decision awarding the grant or be contrary to the equal treatment of applicants.

Any request for amendment must be duly justified, be accompanied by appropriate supporting documents; be made in writing and signed by the duly authorized representative of the Contracting Parties.

In the event the European Commission modifies the conditions on which the Open Call has been issued, the Contractor will amend the SGA accordingly.

Article 12. Force Majeure

This SGA will be revoked as right and without compensation of any kind in all cases of *force majeure* recognized by the law and case law (natural disaster, strike, national mourning, riots, terrorism acts, war, epidemic, etc.).

A party faced with *force majeure* must send a formal notification to the other party without delay, stating the nature of the situation or of the event, its likely duration and foreseeable effects.

The parties must take the necessary measures to limit any damage due to *force majeure*. They must do their best to resume the implementation of the action as soon as possible.

Article 13. Language

This Agreement is drawn in English, language that shall govern all documents, notices, meetings and processes relative thereto.

Article 14. Attribution of Jurisdiction

In case of any dispute concerning the execution of this contract, the partners agree to submit to the Court of Matosinhos, Portugal

Article 15. Governing Law

The SGA is governed by its terms, the Union law applicable, and, on a subsidiary basis, by the law of Belgium and Portugal.

SIGNATURES

The Parties have caused this SGA to be duly signed by the undersigned authorized representatives in four (4) copies:

For ENFIELD Project - Coordinator

[Insert forename, surname, position]

For ENFIELD Project - Contractor

[Insert forename, surname, position]

For ENFIELD Project - Host Institution

[Insert forename, surname, position]

For the Beneficiary

[Insert forename, surname]

Done at [insert date DD/MM//YYYY] on [insert city and country]

Annex 1 – Description of Action

[This refers to the proposal submitted and selected after introducing the changes, if any, during the negotiation of the SGA].

Annex 2 – Guidelines for Applicants

[This refers to the Guidelines for Applicants published by the time the open call is open].

Annex 3 – Declaration of Honour

[This refers to the declaration of honour submitted with the proposal in the application phase].

Annex 4 – Bank Account Information

[This refers to the Bank Account Information template filled in and duly signed by the Beneficiary and the Bank representative].

ANNEX 9

EXCHANGE SCHEMES OPEN CALL DOCUMENTATION

APPLICANT DECLARATION OF HONOUR

Declaration on honour on exclusion criteria and selection criteria

The undersigned [*insert name of the signatory of this form*], representing:

(*only for natural persons*) himself or herself	(*only for legal persons*) the following legal person:
ID or passport number: ('the person')	Full official name: Official legal form: Statutory registration number**:** Full official address: VAT registration number: ('the person')

I – SITUATION OF EXCLUSION CONCERNING THE PERSON

(1) declares that the above-mentioned person is in one of the following situations:	YES	NO
(a) it is bankrupt, subject to insolvency or winding-up procedures, its assets are being administered by a liquidator or by a court, it is in an arrangement with creditors, its business activities are suspended or it is in any analogous situation arising from a similar procedure provided for under Union or national law;	☐	☐
(b) it has been established by a final judgement or a final administrative decision that the person is in breach of its obligations relating to the payment of taxes or social security contributions in accordance with the applicable law;	☐	☐
(c) it has been established by a final judgement or a final administrative decision that the person is guilty of grave professional misconduct by having violated applicable laws or regulations or ethical standards of the profession to which the person belongs, or by having engaged in any wrongful conduct which has an impact on its professional credibity where such conduct denotes wrongful intent or gross negligence, including, in particular, any of the following:		
(i) fraudulently or negligently misrepresenting information required for the verification of the absence of grounds for exclusion or the fulfilment of eligibility or selection criteria or in the performance of a contract or an agreement;	☐	☐
(ii) entering into agreement with other persons with the aim of distorting competition;	☐	☐
(iii) violating intellectual property rights;	☐	☐

(iv) attempting to influence the decision-making process of the during the award procedure;	☐	☐
(v) attempting to obtain confidential information that may confer upon it undue advantages in the award procedure*;*	☐	☐
(d) it has been established by a final judgement that the person is guilty of any of the following:		
(i) fraud, within the meaning of Article 3 of Directive (EU) 2017/1371 and Article 1 of the Convention on the protection of the European Communities' financial interests, drawn up by the Council Act of 26 July 1995;	☐	☐
(ii) corruption, as defined in Article 4(2) of Directive (EU) 2017/1371 or active corruption within the meaning of Article 3 of the Convention on the fight against corruption involving officials of the European Communities or officials of Member States of the European Union, drawn up by the Council Act of 26 May 1997, or conduct referred to in Article 2(1) of Council Framework Decision 2003/568/JHA, as well as corruption as defined in other applicable laws;	☐	☐
(iii) conduct related to a criminal organisation, as referred to in Article 2 of Council Framework Decision 2008/841/JHA;	☐	☐
(iv) money laundering or terrorist financing, within the meaning of Article 1(3), (4) and (5) of Directive (EU) 2015/849 of the European Parliament and of the Council;	☐	☐
(v) terrorist offences or offences linked to terrorist activities, as defined in Articles 1 and 3 of Council Framework Decision 2002/475/JHA, respectively, or inciting, aiding, abetting or attempting to commit such offences, as referred to in Article 4 of that Decision;	☐	☐
(vi) child labour or other offences concerning trafficking in human beings as referred to in Article 2 of Directive 2011/36/EU of the European Parliament and of the Council;	☐	☐
(e) it has shown significant deficiencies in complying with the main obligations in the performance of a contract or an agreement financed by the Union's budget, which has led to its early termination or to the application of liquidated damages or other contractual penalties, or which has been discovered following checks, audits or investigations by a contracting authority, the European Anti-Fraud Office (OLAF) or the Court of Auditors;	☐	☐
(f) it has been established by a final judgment or final administrative decision that the person has committed an irregularity within the meaning of Article 1(2) of Council Regulation (EC, Euratom) No 2988/95;	☐	☐
(g) it has been established by a final judgment or final administrative decision that the person has created an entity under a different jurisdiction with the intent to circumvent fiscal, social or any other legal	☐	☐

obligations in the jurisdiction of its registered office, central administration or principal place of business.		
(h) it has been established by a final judgment or final administrative decision that the person has been created with the intent provided for in point (g).	☐	☐

(i) for the situations referred to in points (c) to (h) above the person is subject to:
 	
  i.   facts established in the context of audits or investigations carried out by the European Public Prosecutor's Office after its establishment, the Court of Auditors, the European Anti-Fraud Office (OLAF) or the internal auditor, or any other check, audit or control performed under the responsibility of an authorising officer of an EU institution, of a European office or of an EU agency or body;
 	
  ii. non-final judgments or non-final administrative decisions which may include disciplinary measures taken by the competent supervisory body responsible for the verification of the application of standards of professional ethics;
 	
  iii. facts referred to in decisions of entities or persons being entrusted with EU budget implementation tasks;
 	
  iv. information transmitted by Member States implementing Union funds;
 	
  v. decisions of the Commission relating to the infringement of Union competition law or of a national competent authority relating to the infringement of Union or national competition law; or
 	
  vi. decisions of exclusion by an authorising officer of an EU institution, of a European office or of an EU agency or body.
	☐	☐

II – SITUATIONS OF EXCLUSION CONCERNING NATURAL OR LEGAL PERSONS WITH POWER OF REPRESENTATION, DECISION-MAKING OR CONTROL OVER THE LEGAL PERSON AND BENEFICIAL OWNERS

Not applicable to natural persons, Member States and local authorities

	YES	NO	N/A
(2) declares that a natural or legal person who is a member of the administrative, management or supervisory body of the above-mentioned legal person, or who has powers of representation, decision or control with regard to the above-mentioned legal person (this covers e.g. company directors, members of management or supervisory bodies, and cases where one natural or legal person holds a majority of shares), or a beneficial owner of the person (as referred to in point 6 of article 3 of Directive (EU) No 2015/849) is in one of the following situations:			
Situation (c) above (grave professional misconduct)	☐	☐	☐
Situation (d) above (fraud, corruption or other criminal offence)	☐	☐	☐

	YES	NO	N/A
Situation (e) above (significant deficiencies in performance of a contract)	☐	☐	☐
Situation (f) above (irregularity)	☐	☐	☐
Situation (g) above (creation of an entity with the intent to circumvent legal obligations)	☐	☐	☐
Situation (h) above (person created with the intent to circumvent legal obligations)	☐	☐	☐
Situation (i) above	☐	☐	☐

III – SITUATIONS OF EXCLUSION CONCERNING NATURAL OR LEGAL PERSONS ASSUMING UNLIMITED LIABILITY FOR THE DEBTS OF THE LEGAL PERSON

(3) declares that a natural or legal person that assumes unlimited liability for the debts of the above-mentioned legal person is in one of the following situations:	YES	NO	N/A
Situation (a) above (bankruptcy)	☐	☐	☐
Situation (b) above (breach in payment of taxes or social security contributions)	☐	☐	☐

IV – GROUNDS FOR REJECTION FROM THIS PROCEDURE

(4) declares that the above-mentioned person:	YES	NO
Was previously involved in the preparation of the call documents used in this award procedure, where this entailed a breach of the principle of equality of treatment including distortion of competition that cannot be remedied otherwise.	☐	☐

V – REMEDIAL MEASURES

If the person declares one of the situations of exclusion listed above, it must indicate measures it has taken to remedy the exclusion situation, thus demonstrating its reliability. This may include e.g. technical, organisational and personnel measures to prevent further occurrence, compensation of damage or payment of fines or of any taxes or social security contributions. The relevant documentary evidence which illustrates the remedial measures taken must be provided in annex to this declaration. This does not apply for situations referred in point (d) of this declaration.

VI – EVIDENCE UPON REQUEST

Upon request and within the time limit set by the contracting authority the person must provide information on natural or legal persons that are members of the administrative, management or

supervisory body or that have powers of representation, decision or control, including legal and natural persons within the ownership and control structure and beneficial owners.

It must also provide the following evidence concerning the person itself and the natural or legal persons on whose capacity the person intends to rely, or a subcontractor and concerning the natural or legal persons which assume unlimited liability for the debts of the person:

−   For situations described in (a), (c), (d), (f), (g) and (h), production of a recent extract from the judicial record is required or, failing that, an equivalent document recently issued by a judicial or administrative authority in the country of establishment of the person showing that those requirements are satisfied.
−   For the situation described in point (b), production of recent certificates issued by the competent authorities of the State concerned are required. These documents must provide evidence covering all taxes and social security contributions for which the person is liable, including for example, VAT, income tax (natural persons only), company tax (legal persons only) and social security contributions. Where any document described above is not issued in the country concerned, it may be replaced by a sworn statement made before a judicial authority or notary or, failing that, a solemn statement made before an administrative authority or a qualified professional body in its country of establishment.

VII – SELECTION CRITERIA

(1) declares that the above-mentioned person complies with the selection criteria applicable to it individually as provided in the call specifications:	YES	NO	N/A

The above-mentioned person must immediately inform the ENFIELD consortium of any changes in the situations as declared.

The above-mentioned person may be subject to rejection from this procedure and to administrative sanctions (exclusion or financial penalty) if any of the declarations or information provided as a condition for participating in this procedure prove to be false.

Full name   Date   Signature

ANNEX 10

EXCHANGE SCHEMES OPEN CALL DOCUMENTATION

BANK ACCOUNT INFORMATION

Bank Account Information

ACCOUNT HOLDER INFORMATION

Account Name Holder *The name or title under which the account has been opened and NOT the name of the authorized agent*	
Holder's Address	
Postcode	
Town/City	
Country	

Contact Person **It does not need to be an authorised agent.**	
Telephone	

BANK ACCOUNT INFORMATION

Bank Name	
Branch Address	
Postcode	
Town/City	
Country	
IBAN number / Account number *Format example: ES76 2077 0024 0031 0257 5766*	
SWIFT code *8 to 11 characters*	

Bank Stamp + Signature of Bank Representative *Can be substituted by the attachment of a recent bank statement (less than 2 months).*	**Date + Signature of Account Holder** *(Mandatory)*

ANNEX 11

INNOVATION SCHEMES OPEN CALL DOCUMENTATION

CALL FOR PROPOSALS

INNOVATION SCHEME ENFIELD FIRST CALL FOR PROPOSAL
INNOVATION SCHEMES
oc1-2024-TIS-01

TABLE OF CONTENTS

1. INTRODUCTION

This is the first out of two open calls for innovation proposal from legal entities under the ENFIELD[32] (European Lighthouse to Manifest Trustworthy and Green AI) project, co-funded by the European Union. Through the ENFIELD Innovation Scheme open calls and the Financial Support to Third Parties (FSTP) mechanism, the project aims to attract the research/industry partners to conduct applied research related to specific scientific/technological challenges within the sectors of energy, healthcare, manufacturing, and space, contributing to the creation of ENFIELD network and the adoption of AI technologies to boost overall EU.

2. BACKGROUND

Artificial Intelligence (AI) is transforming every aspect of modern society offering the potential for inclusive economic growth, societal benefits, and innovative solutions to global challenges. Nonetheless, AI tools can be error-prone, giving rise to concerns about legal liability and the preservation of fundamental human rights. Global leaders have discussed the need to address AI challenges and maximize its benefits and as a result, the European Commission launched important initiatives like HUMANE[33], TAYLOR[34], and ELISE[35] to ensure AI becomes more human-centric, safe, transparent, and to reinforce Europe's position in AI and Machine Learning (ML). However, there are certain AI perspectives and application areas, which have not been tackled with a sufficient attention by the funded Networks of Excellence despite being of paramount importance to Europe in the present geopolitical and climate chance circumstances. Thus, the ENFIELD project is dedicated to develop, maintain, scale-up and sustain a vibrant European network on AI composed of 30 consortium members from 18 countries, including top-level education and research organisations, large scale businesses, SMEs, and public sector representatives jointly addressing critical issues of research and innovation frontiers in this new topic of the European AI Lighthouse.

3. OBJECTIVES AND CHALLENGES

Objectives

ENFIELD aims to create a unique European Centre of Excellence that excels the fundamental research in the areas of **Adaptive, Green, Human-Centric**, and **Trustworthy AI**. These pillars are strategic and of paramount importance to successful AI development, deployment, and acceptance in Europe and will further advance the research within verticals of **Healthcare, Energy, Manufacturing**, and **Space** (Figure 1). By attracting the best talents, technologies, and resources from worldclass research and industry players in Europe and by carrying out top-level research activities in synchronisation with industry challenges, ENFIELD project will contribute to reinforce a competitive EU position in AI and create significant socio-
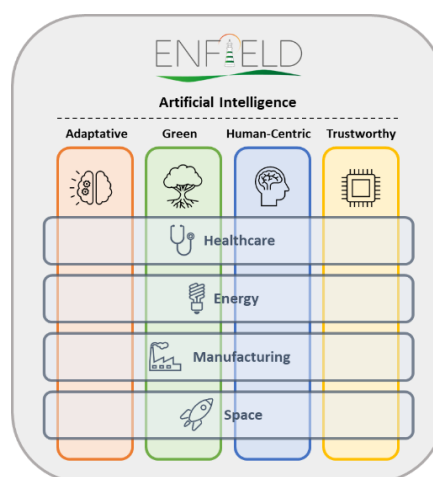
Figure 6 - Conceptual view of ENFIELD.

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economic impact for the benefit of European citizens and businesses.

Challenges

The applicants to be funded under ENFIELD project will need to conduct applied research activities related to specific scientific/technological challenges proposed by industry, in at least one of the following sectors healthcare, energy, space and manufacturing.

4. TIMETABLE

The indicative schedule for the different stages of the selection procedure is as follows:

TIMETABLE	
Call opening	1 June 2024
Deadline for submission	31 July 2024 - 17:00 (CET) – Brussels time
Evaluation	1 August - 16 August 2024
Information on evaluation results	19 August 2024
Sub-grant Agreement signature	31 August 2024
Project execution timeframe	1 September 2024 - 31 August 2025

A second ENFIELD Innovation Scheme call for proposals is foreseen for spring 2025.

5. AVAILABLE BUDGET

A total budget of 1.100.000 € is allocated by ENFIELD for funding the participation of at least 16 beneficiaries in Innovation Schemes. This first call is expected to select 8 beneficiaries[36].

Successful applicants will receive a grant that **cannot surpass 60.000€.** The grant will be paid as follows: 50% with grant signature + 50% with expected outcome/deliverable.

When the beneficiaries are **private-for-profit organisations**, once determined the total estimated cost for the proposal, the exact amount of financial support to be granted as a lump sum will be calculated as **70% of the eligible cost**, following the rules of the Horizon Europe programme.

Applicants will have to submit a budget overview for the implementation of their proposal, including the expected costs concerning Staff Costs; Travel Costs; Equipment/Tech Consumables Costs (depreciation) and, whenever required, Subcontracting Costs. Following the standard flat rate applicable in the Horizon Europe programme, a flat rate of 25% for overheads will be applied.

All payments will be subject to tax and other reductions according to the laws of all involved countries. Tax and other reductions are the responsibility of the applicant.

Multiple applications are possible under this call. In these cases, applicants need to submit one application form per project proposal. However, only one proposal can be awarded per applicant.

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[36] The consortium reserves the right not to award all available funds or to redistribute them between the open calls planned within the project, depending on the applications received and the results of the evaluation.

6. ADMISSIBILITY AND DOCUMENTS

Proposals must be submitted electronically via https://ec.europa.eu/eusurvey/runner/oc1-2024-TIS-01 (see section 12. How to submit an application). Paper or email submissions are NOT admissible.

Proposals must be submitted in English using the Application Form provided on the submission page.

Proposals must be complete and contain all the requested information in the Application Form.

Additional supporting documents (e.g., bank account validation, etc) will be requested only from selected applicants.

7. ELIGIBILITY

To be eligible, proposals must be presented by one legal entity (or a group of a minimum of 2 legal entities) meeting the following criteria:

- Must be a research center (legal entity) or private-for-profit company (including start-ups, SMEs, and large company) with no conflicts of interest with any of the ENFIELD partners.
- Must be based in EU Member States or Horizon Europe associated countries.
- Applications need to be submitted by the deadline of the call. Late applications will not be admitted.
- Applications must be submitted in English. Applications submitted in any other language will not be eligible.
- Project duration is limited to a maximum of six (6) months.
- Applicants can submit multiple applications, but only one of them can be funded.

8. SELECTION CRITERIA

Eligible applications will be evaluated according to four criteria:

- **Advanced state of the art:** applicants shall demonstrate to what extent their innovation application is beyond the state-of-the-art and describe the unique approach behind it (e.g., novel concepts and approaches) linked to the industrial use cases in energy, healthcare, manufacturing, or space.
- **Soundness of the technical approach:** applicants must demonstrate the feasibility of the proposed research methodology and working arrangements.
- **Dissemination and communication:** applicants must present a credible plan for dissemination and communication activities which must include methods (publications, presentations, workshops and/or webinars) and the targeted audiences.
- **Technical, creative and business capacities:** competences and skills of the applicant involved in the proposal; capacity to carry out the activities for the proposed innovation scheme. Track-record in scientific publications and similar projects/domain. In case applications submitted by a group, complementarity of partners.

Each criterion will be scored from 0 to 5, following the rationale below:

0	Fail	**The proposal fails to address the criterion or cannot be judged due to incomplete or missing information.**
1	Poor	The criterion is inadequately addressed or there are serious inherent weaknesses.
2	Fair	The proposal broadly addresses the criterion, but there are significant weaknesses.
3	Good	The proposal addresses the criterion well, but several shortcomings are present.

| 4 | Very Good | The proposal addresses the criterion very well, but a small number of shortcomings are present. |
| 5 | Excellent | The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor. |

The following thresholds will be considered as criteria:

- Minimum score per criterion: Proposals scoring less than 3 for any criterion will be considered of insufficient quality and rejected.

Proposals that pass the criterion thresholds will be considered for funding. Other proposals will be rejected.

9. FINANCIAL PROVISIONS

Project Timeframe: Maximum six months period, varying according to the submitted proposal.

Payment Schedule: 50% payment with grant signature and 50% at the end of the project, with expected outcome/deliverable. The grant cannot surpass 60.000€.

Contract: Sub-grant agreement will be signed between the beneficiary and the ENFIELD consortium, represented by its coordinator (NTNU), the budget holder (INOVA+) and the Host Organization (to be determined according to the selected projects). A model template for the contract can be found here https://www.enfield-project.eu/open_calls.

10. VISIBILITY

Beneficiaries must clearly acknowledge the European Union's contribution in all publications or activities. In this respect, beneficiaries are required to give prominence to the name and emblem of the European Commission on all their publications and activities realised under the co-financed action. Where appropriate, they should also use the ENFIELD emblem and visuals. Guidelines will be provided to the successful applicants.

11. PROCESSING OF PERSONAL DATA

The reply to any call for proposals involves the recording and processing of personal data (such as name, e-mail, and address). Such data will be processed pursuant to Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons regarding the processing of personal data and on the free movement of such data. Unless indicated otherwise, the questions and any personal data requested that are required to evaluate the application in accordance with the call for proposal will be processed solely for that purpose by the consortium.

12. HOW TO SUMIT AN APLICATION

Project proposals must be submitted by 31 July 2024 at 17:00 (CET) by completing the application online, here: https://ec.europa.eu/eusurvey/runner/oc1-2024-TIS-01.

Complete the Application Form and Project Proposal. Applicants can find the template for the Project Proposal here. The template needs to be downloaded, completed, and uploaded in PDF format.

Applicants should submit one Application Form per project proposal. Multiple proposals are allowed but only one project can be awarded per beneficiary.

Once the proposal is submitted, you will receive a confirmation e-mail. If you do not receive this confirmation e-mail, it means your proposal has NOT been submitted. If you believe this is due to a fault in the submission system, you should immediately file a complaint via enfield.opencall@inova.business, explaining the circumstances and attaching a copy of the proposal (and, if possible, screenshots to show what happened).

Queries about applications can be sent by email to enfield.opencall@inova.business before 25 July 2024. We cannot guarantee that emails will be answered after this date. A FAQ (Frequently Asked Questions) section will be posted on the ENFIELD project website and updated regularly.

All applicants will be notified via email of the results of the evaluation process by 19 August 2024 (indicative date). The results will then be published on the information channels of the ENFIELD project.

ANNEX 12

INNOVATION SCHEMES OPEN CALL DOCUMENTATION

GUIDELINES FOR APPLICANTS

INNOVATION SCHEME
ENFIELD FIRST CALL FOR PROPOSAL
OC1-2024-TIS-01

GUIDELINES FOR APPLICANTS

INDEX OF CONTENTS

1. INTRODUCTION

This document provides the relevant information regarding the Innovation Scheme Open Calls for proposals for the ENFIELD project.

The ENFIELD – Innovation Scheme Open Call aims to attract R&D entities to conduct applied research in relation with specific sectors, namely **energy, healthcare, manufacturing** and **space**, and to network and disseminate the latest knowledge in Europe. The challenges/use cases proposed by the ENFIELD industry partners, would potentially lead to the development and (future) adoption of AI technologies to boost the business and overall EU competitiveness in these sectors and address societally important challenges, e.g., actively contributing to securing the energy affordability and supply in Europe.

1.1. Background information on ENFIELD project

Artificial Intelligence (AI) is transforming every aspect of modern society offering the potential for inclusive economic growth, societal benefits, and innovative solutions to global challenges. Nonetheless, AI tools can be error-prone, giving rise to concerns about legal liability and the preservation of fundamental human rights. Global leaders have discussed the need to address AI challenges and maximize its benefits and as a result, the European Commission launched important initiatives like HUMANE[37], TAYLOR[38], and ELISE[39] to ensure AI becomes more human-centric, safe, transparent, and to reinforce Europe's position in AI and Machine Learning (ML). However, there are certain AI perspectives and application areas, which have not been tackled with a sufficient attention by the funded Networks of Excellence despite being of paramount importance to Europe in the present geopolitical and climate chance circumstances. Thus, the ENFIELD project is dedicated to develop, maintain, scale-up and sustain a vibrant European network on AI composed of 30 consortium members from 18 countries, including top-level education and research organisations, large scale businesses, SMEs, and public sector representatives jointly addressing critical issues of research and innovation frontiers in this new topic of the European AI Lighthouse.

ENFIELD will create a unique European Centre of Excellence that excels the fundamental research in the pillars of Adaptive, Green, Human-Centric, and Trustworthy AI that are new, strategic and of paramount importance to successful AI development, deployment, and acceptance in Europe and will further advance the research within verticals of healthcare, energy, manufacturing and space (Figure 1) by attracting the best talents, technologies and resources from worldclass research and industry players in Europe and by carrying out top-level research activities in synchronisation with industry challenges to reinforce a competitive EU position in AI and create significant socio-economic impact for the benefit of European citizens and businesses.
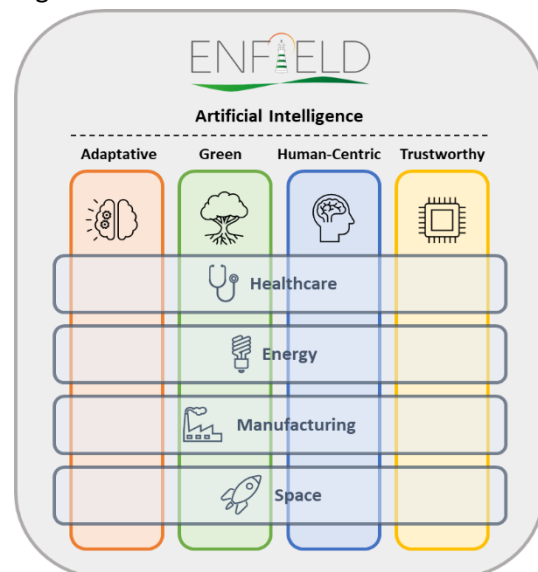

Figure 7 - Conceptual view of ENFIELD.

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2. GENERAL INFORMATION

2.1. Terms and definitions

This section describes the relevant terms that are used in the open call documentation. Unless otherwise stated, the definition of a term is the one stated in this section.

2.1.1. Entities and Committees

Table 7 - Definitions of entities and committees

Term	Definition
ENFIELD consortium	Group of legal entities that are cumulatively responsible for implementing the ENFIELD project as defined in the Grant Agreement number 101120657.
Applicant	Entity (or group of entities) that intends to submit or has submitted a proposal to the funding program.
Beneficiary	An entity (or group of entities) that has submitted a proposal to the funding program, has been accepted for funding and has signed or is in the process of signing a sub-grant agreement.
External evaluator	An expert that has been invited by ENFIELD to assist in the evaluation of the proposal submitted to the funding program. Experts cannot have conflicts of interest and are bounded by their own confidentiality agreement.

2.1.2. Funding Program

Table 8 - Definitions of the funding program

Term	Definition
ENFIELD funding program	Program under which the present open call is run. It is defined by the documents and templates provided by the ENFIELD consortium as defined in section 4.1.1. The funding program considers several phases: open call for proposals, evaluation, sub-grant agreement (SGA) preparation and signing, and implementation with 3 sprints (for selected beneficiaries).
Proposal phase	Period when applicants can submit proposals to the open call. Each open call has a fixed deadline that is automatically enforced.
Evaluation phase	Period when the consortium evaluates and ranks the applications. At the end of the phase, all proposals are notified of the results of the evaluation.
SGA preparation and signing phase	Period when the selected proposals and the consortium complete the administrative procedures to sign the sub-grant agreement and prepare administrative documents.
Implementation phase	Maximum of 6 months period, varying according to the submitted proposal, when the work is performed by the beneficiary. At the end, the project is subject to a formal evaluation made by an internal evaluation team to assess if the project is meeting its objectives.

2.2. Means of submission

The ENFIELD – Innovation Scheme Open Call page (here) will be the entry point for the submission of all proposals to this open call *(oc1-2024-TIS-01)*. Any proposal submitted through other channels will be automatically rejected.

Any documentation that is required and requested by the ENFIELD consortium should be submitted via a dedicated channel that will be indicated by the consortium during the execution of the sub-granted projects.

2.3. Language

English is the official language for the ENFIELD open calls. Submissions done in any language other than English will not be eligible or evaluated.

English is the only official language during the whole implementation of the ENFIELD funding program. This means that any requested submission of documentation and deliverables will be done in English to be eligible.

2.4. Documentation formats

Any documentation requested in any of the phases of the open call and projects' implementation must be submitted electronically in PDF format without restrictions for printing. For "Innovation Schemes: Technical annex", formatting guidelines must be respected as defined in the document.

2.5. Data protection

The reply to any call for proposals involves the recording and processing of personal data (such as name, e-mail, and address). Such data will be processed pursuant to Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data. Unless indicated otherwise, the questions and any personal data requested that are required to evaluate the application in accordance with the call for proposal will be processed solely for that purpose by the consortium.

It should be noted that ENFIELD requests the minimum information needed to deliver the evaluation procedures or the implementation of the funding program. The "Annex: Bank account information" and "Annex: Sub-grant Agreement template" are provided for reference and will only be requested if the applicant is accepted to the program.

2.6. Origin of the funds

Selected applicants will sign a dedicated sub-grant funding agreement with the ENFIELD consortium. The funds attached to the sub-grant agreement come directly from the funds of the European project ENFIELD and therefore remain property of the EU until the payment of the balance, whose management rights have been transferred to the project partners in ENFIELD via European Commission GA no. 101120657.

As detailed in "Annex: sub-grant agreement template", this relation between the subgrantees and the European Commission (EC) through the ENFIELD project carries a set of obligations to the subgrantees with the EC. It is the task of the sub-grantees to achieve them and of the ENFIELD consortium partners to inform about them.

3. ELIGIBILITY CRITERIA

The following eligibility criteria, related to the applicants, funding, and proposals apply.

3.1. Applicants' eligibility

All applicants must meet the requirements described in this section to be eligible for the ENFIELD - Innovation Scheme Open Call:
1. Submissions will **ONLY** be accepted through the page dedicated to the ENFIELD – Innovation Scheme Open Call: https://ec.europa.eu/eusurvey/runner/oc1-2024-TIS-01.
2. Fit within the target audience as indicated in section 3.1.1.

3. Are based in EU Member States or Horizon Europe associated countries as indicated in section 3.1.2.
4. The application and all requested documents are provided only in English language.
5. The proposal description is provided according to the guidelines in the "ENFIELD – Innovation Scheme Open Call - oc1-2024-TIS-01_Technical Annex"
6. Th The application must include a budget overview for the implementation of their proposal (to be submitted using the oc1-2024-TIS-01_ApplicationForm_Budget Template).

The detailed eligibility criteria as described in the sections below apply:

3.1.1. Types of applicants

The ENFIELD – Innovation Scheme Open Call will fund projects implemented by one (1) legal entity or groups of a minimum of 2 legal entities that are considered eligible under Horizon Europe rules. The following type of entities are invited to submit their innovative research or application ideas:

- Research Centres (legal entities) established in an eligible country, section 3.1.2.
- Private-for-profit companies (including start-ups, SMEs, and large companies) established in an eligible country, section 3.1.2. A beneficiary is qualified as an SME as defined in the EU recommendation 2003/361[40].

The following additional conditions apply:

- The participating organisations should not have been declared bankrupt or have initiated bankruptcy procedures.
- The organisations applying should not have convictions for fraudulent behaviour, other financial irregularities, and unethical or illegal business practices.
- There should not be any conflict of interest with any of the ENFIELD partners (beneficiaries), as detailed in Section 3.1.3.

Note: Third parties receiving Financial Support from ENFIELD through the open call will not become part to the ENFIELD Grant Agreement. The ENFIELD Grant Agreement will not need to be amended to include the selected beneficiaries.

3.1.2. Eligible Countries

Entities established in any of the following countries are eligible to participate in the ENFIELD – Innovation Scheme Open Call:
- The Member States (MS) of the European Union (EU), including their outermost regions.
- Horizon Europe associated countries: according to the updated list published by the EC[41].

3.1.3. Conflict of interest

Applications will not be accepted from entities who are partners (beneficiaries) or linked-third parties in the ENFIELD consortium or who are formally linked in any way to the partners/linked-third parties of the consortium. This excludes, for example, entities that have already engaged with and/ or contributed to the project through specific activities/ initiatives (e.g., AI Doctoral Academy, Associate Members) who remain independent from the project. Any entity with a previous link to an ENFIELD

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[40] EC recommendation for Small and Medium- sized Enterprises (SMEs) 2003/361/: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM%3An26026.
[41] https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-euratom_en.pdf

beneficiary (e.g., spin-off), will not be accepted, unless a minimum of 2 years (as of the 1 September 2023) has passed since the termination of the link.

Applicants must not have any current and/or potential conflict of interest with the ENFIELD – Innovation Scheme Open Call selection process and during the whole program. Applicants must formally and immediately notify the ENFIELD coordinator of any situation constituting or likely to lead to a conflict of interests and take all the necessary steps to rectify this situation.

All cases of conflict of interest will be assessed case by case. Applicants must take all measures to prevent any situation where the impartial and objective evaluation and implementation of the project is compromised for reasons involving economic interest, political or national affinity, family or emotional ties or any other shared interest ('conflict of interests').

If a conflict of interest is discovered and confirmed at the time of the evaluation process, the proposal will be considered as non-eligible and will not be evaluated.

3.2. Proposal submissions

The ENFIELD – Innovation Scheme Open Call is a competitive funding programme. Applicants (legal entity or group of legal entities) can submit multiple applications, but only one of them can be funded within the open call.

3.3. Financial eligibility

The following financial conditions apply for proposals to be eligible:

- The total budget per proposal may not exceed €60.000.
- The total amount requested must represent 100% of the total project costs.
- When the beneficiaries are private-for-profit organizations, once determined the total estimated cost for the proposal, the exact amount of financial support to be granted as a lump sum will be calculated as 70% of the eligible cost, following the rules of the Horizon Europe program.
- All proposals must provide a budget overview for the implementation of their proposal, including the expected costs concerning Staff Costs; Travel Costs; Equipment/Tech Consumables Costs (depreciation) and, whenever required, Subcontracting Costs.

For approved projects, the funds will be disbursed in two lump sums: one at the beginning of the project (50% with grant signature) and at the end of the project pending the achievement of agreed milestones and deliverables (50% with expected outcome).

3.4. Other Conditions

Each applicant must confirm:

- It is not under liquidation or is not an enterprise under difficulty accordingly to the Commission Regulation No 651/2014, art. 2.18.
- The proposed project is based on original research/ ideas and, going forward, any foreseen developments are not limited by third party rights, or are clearly stated if they are limited.
- The project is based on work that has not been developed and offered as a commercial product or solution.
- It is not excluded from the possibility of obtaining EU funding under the provisions of both national and EU law, or by a decision of both national and EU authority.

4. OPEN CALL: SUBMISSION AND SELECTION PROCESS

Proposals submitted to the ENFIELD – Innovation Scheme Open Call are submitted in a single stage and evaluated in two steps, as presented in Figure 2.
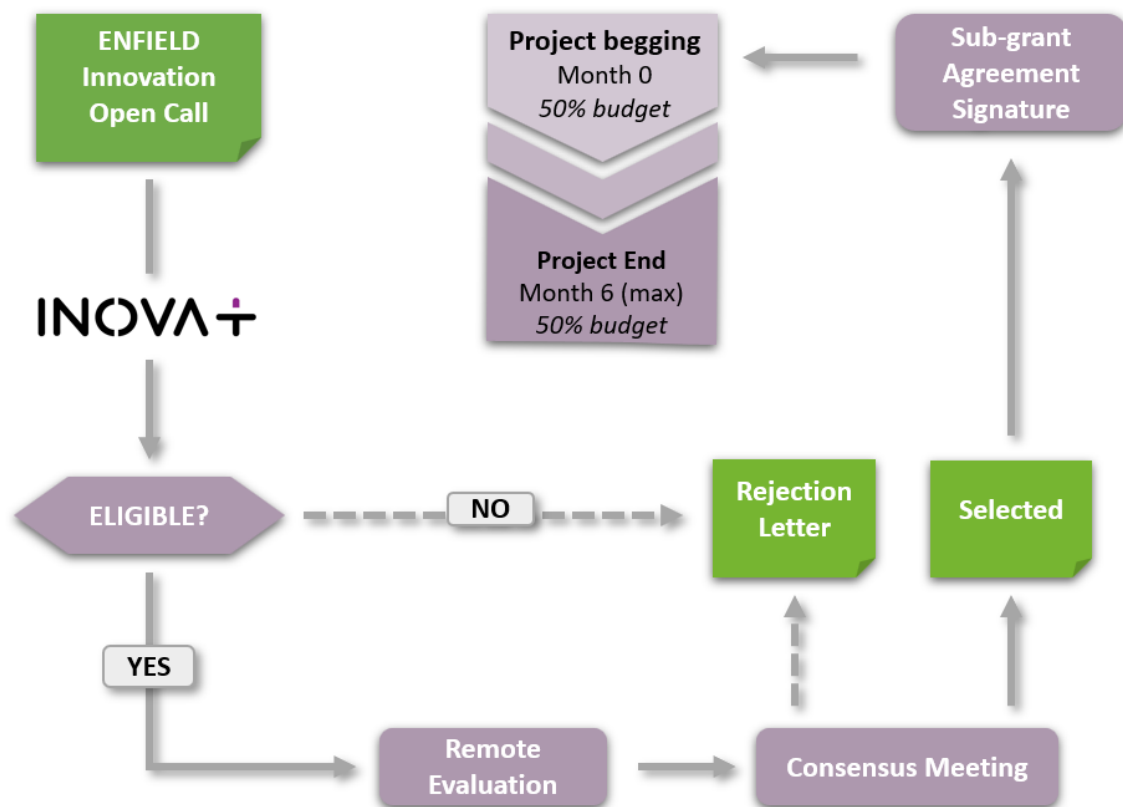

Figure 8 - ENFIELD - Innovation Scheme Open Call submission and evaluation process

4.1. Proposal preparation and submission

The submission of proposals to the ENFIELD – Innovation Scheme Open Call will follow the steps listed in this section.

4.1.1. Open call publication and documentation

The open call is supported by the following documentation, which can be found at https://www.enfield-project.eu/open_calls:

- **Innovation Schemes: Open Call #1**, which provides a full set of information regarding the Open Call, including the scope, objectives, and challenges to be addressed in the open call.

- **Innovation Schemes: Guidelines for Applicants**, which provides an overview of the rules and procedures to participate in the open call, the evaluation process, and other general provisions.

- **Innovation Schemes: Application Form**, an online application form, available here.

- **Innovation Schemes: Technical annex (template)**, a Word template that indicates all the technical information that should be provided as part of the project proposal.

- **Innovation Schemes: Budget template (template)**, a Excel file to present a simplified estimation of costs for the implementation of the proposed project that should be provided as part of the project proposal.

- **Innovation Schemes: Sub-grant agreement template**, which provides a template of the subgrant agreement that the successful applicants will be requested to sign.

- **Innovation Schemes: Applicant Declaration of Honour**, which declares that all conditions of the open call are accepted by the legal representative of the entity/ies

- **Innovation Schemes: Legal Entity Declaration Form**, which evaluates the status of the legal entities participating in the open call.

- **Innovation Schemes: Bank account information**, which collects information about the bank account to which payments will be made.

Applicants are encouraged to read and download all relevant files before proceeding with the submission. The **deadline for submissions to the ENFIELD - Innovation Scheme Open Call is 31 July 2024 (17h00 CET)**.

4.1.2. Proposal preparation

Applicants must consider the following steps when preparing their proposal:

1. For the proposal preparation, applicants are required to apply online and answer all mandatory questions (with no exception) here (as exemplified in annex **Innovation Schemes: Proposal form**)

2. Applicants that do not accept the terms and conditions and that do not upload to the submission platform the following documents will not be eligible:

   - **Innovation Schemes: Technical annex**
   - **Innovation Schemes: Budget template**

3. Be specific and concise. Questions in the online form have character limitations.

It is strongly recommended that applicants submit their proposal well before the deadline. If the applicant discovers an error in the proposal, and if the call deadline has not passed, the applicant may request the ENFIELD team to re-submit the proposal (for this purpose please contact enfield.opencall@inova.business). **However, ENFIELD does not guarantee that a resubmission will be feasible in due time in case the request for resubmission is not received by the ENFIELD team at least 48 hours before the open call deadline.**

It is strongly recommended that applicants do not wait until the last minute to submit their proposal. The failure to submit a proposal on time, for any reason, including network communications delays or working from multiple browsers or multiple browser windows, is not acceptable as an extenuating circumstance. The time of receipt of the application as recorded by the submission system will be definitive.

4.1.3. Technical Annex

The Technical Annex is composed by the following sections:

- Title (*75 characters*)
- Abstract (*750 characters*)
- State-of-the-art (*1750 characters*)
- Novelty of the proposal that contributes for the state-of-the-art advancement (*2500 characters*)

- Technical Approach (*3000 characters*)
- Dissemination and Communication (*1750 characters*)
- Team Expertise in the Field of Research (*1750 characters*)

The Technical Annex template is available at https://www.enfield-project.eu/open_calls to prepare a proposal. Follow the instructions provided and pay particular attention to the following criteria:

- The length each section of the Technical Annex must not **exceed the limit of characters.**
- The first page with the instructions must be deleted when saving the proposal to PDF.
- The template provided must not be modified and the formatting must be kept (ENFIELD standard style: Arial font, size 10, line spacing 1).

4.1.4. Budget template

The Application Form - Budget Template is available at https://www.enfield-project.eu/open_calls. Applicants should use it to prepare the proposal and upload it (in PDF format) in the corresponding field in the online application.

4.1.5. Proposal submission

Submissions will be done exclusively via https://ec.europa.eu/eusurvey/runner/oc1-2024-TIS-01. Any submission not done via this channel will not be eligible.

A full list of applicants will be prepared containing their basic information for statistical purposes and clarity, which will be also shared with EC for transparency.

The deadline for submission of proposals is 31 July 2024, 17h00 CET (Brussels time).

4.2. Proposal evaluation and selection

4.2.1. Step 1: Eligibility verification

An initial eligibility verification will be done to filter out and discard non-eligible proposals. Proposals must meet **ALL the following eligibility criteria**, which will check the following:

a. The proposing entity (or group for entities) are eligible for funding according to the rules expressed in section 3.1 [Y/N].
b. All required sections of the proposal have been completed [Y/N].
c. The proposal is aligned with the defined open call challenges [Y/N].
d. The proposal is written in the **English** Language [Y/N].
e. All required documentation is submitted correctly [Y/N]:
   - Innovation Schemes: Application form [Y/N].
   - Innovation Schemes: Technical annex [Y/N].
   - Innovation Schemes: Budget template [Y/N].

Proposals marked as non-eligible (for not meeting one or more of the eligibility criteria) will get a rejection letter with a justification. **No additional feedback on the process will be given**.

4.2.2. Step 2: Individual Evaluation Report

Proposals considered eligible will move on to the evaluation phase. The evaluation will be done remotely by one senior expert from ENFIELD partners industry organizations and two external senior experts.

The proposals will be scored based on the criteria below (Table 3).

Table 9 - ENFIELD - Innovation Open Call evaluation criteria

Evaluation Criteria (EC)	Description
EC1. Advanced state of the art	• The extent to which the proposal is beyond the state-of-the- art and presents an innovative approach behind it (e.g., novel concepts and approaches) linked to the industrial use cases in energy, healthcare, manufacturing, or space.
EC2. Soundness of the technical approach	• Credibility of the proposed methodology for the implementation of the project.
EC3. Dissemination and communication	• Effectiveness of the proposed measures to exploit and disseminate the project results which must include methods (publications, presentations, workshops and/or webinars) and targeted audiences.
EC4. Technical, creative, and business capacities	• Demonstration of competences and skills of the project team and its capacity to carry out the activities of the proposal. • Quality and effectiveness of the resources assigned to the proposal. • Track-record of the team in scientific publications and similar projects. In case of an application submitted by a consortium, complementarity of partners.

Each criterion will be scored between 0 and 5. Half point scores are not given. For each criterion under examination, score values will indicate the following rationale:

Table 10 - ENFIELD - Innovation Open Call scoring rationale

Score	Rationale
0 - FAIL	The proposal fails to address the criterion or cannot be judged due to incomplete or missing information.
1 - POOR	The criterion is inadequately addressed or there are serious inherent weaknesses.
2 - FAIR	The proposal broadly addresses the criterion, but there are significant weaknesses.
3 - GOOD	The proposal addresses the criterion well, but several shortcomings are present.
4 – VERY GOOD	The proposal addresses the criterion very well, but a small number of shortcomings are present.
5 - EXCELLENT	The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

The final score (including for each criterion) is the average of the three evaluations provided by three senior experts from ENFIELD scientific organizations. The threshold for each criterion is three (3), therefore the overall score threshold is 12. This indicates that if a proposal scores less than 3 in any criterion or an overall score less than 12, the proposal is automatically rejected. Advanced state of the art criterion is given a weight of 1.5 to determine the final ranking.

Each evaluator will record his/her individual assessment of each proposal using an Individual Evaluation Report (IER).

4.2.3. Step 3: Ranking of proposals

At the end of the remote external evaluation process all proposals will be ranked in lists. The criteria for the ranking of the proposals will be semi-automatic following the rules below:

- **Rule 1:** Proposals will be ranked based on their overall score (sum of scores for criteria 1 to 4).

- **Rule 2:** After applying Rule 1 and if there are proposals in the same position, priority will be given to proposals that have the highest score on **EC1. Advanced state of the art.**

- **Rule 3:** After applying Rule 2 and if there are proposals in the same position, priority will be given to proposals that have the highest score on **EC4. Technical, creative, and business capacities.**

- **Rule 4:** After applying Rule 3 and if there are proposals in the same position, priority will be given to proposals that have **applications with relevant social and environmental impact.**

- **Rule 5:** After applying Rule 4 and if there are proposals in the same position, priority will be given to those led by women or with a share of women and men in the team that is closer to 50/50[42].

4.2.4. Step 4: Consensus meeting

Evaluators will carry out a consensus meeting with the objective of gathering their evaluations, defining a common score for the proposals, and preparing evaluation reports.

The evaluators will then hold a consensus meeting to prepare a single consensus Evaluation Summary Report (ESR) for each proposal, representing opinions and scores on which the evaluators agree and which they will sign. The decision on the ranking list and on the selected applicants shall be sought by consensus, and whenever not feasible, by majority vote of 2/3.

4.2.5. Step 5: Proposals selection

Within the current ENFIELD – Innovation Scheme Open Call about 8 proposals (2 per vertical) will be selected.

The evaluators during the consensus meeting will prepare two lists:

- <u>List of the selected projects</u>: identification of the applications selected for funding.
- <u>Reserve list</u>: identification of the applications to be selected for funding, if any of those listed is unable to proceed to the implementation.

All applicants will be informed about the result of their evaluation by email by 19 August 2024 (indicative date). The results will then be published on the information channels of the ENFIELD project.

4.3. Redress process

Within three (3) working days of receiving (1) a Rejection Letter informing the proposal as noneligible or (2) an Evaluation Summary Report ranking the proposal below the selection borderline, an applicant may submit a request for redress if they believe the results of the eligibility checks have not been correctly applied, or if they feel that there has been a shortcoming in the way their proposal has been evaluated that may affect the final decision on whether to enter the funding program.

In such a case, an internal review committee from ENFIELD will examine the applicant's request for a redress. The committee's role is to ensure a coherent interpretation of such requests, and equal treatment of applicants. Requests for redress must:

- Be related to the evaluation process or eligibility checks.

- Clearly describe the complaint.

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[42] In accordance with the Horizon Europe guidelines to encourage gender balance and equal opportunities for women and men, consortia applying to the open call should seek to include both men and women in the teams, with a participation as close as possible to 50/50 women and men. Further information: https://op.europa.eu/en/publication-detail/-/publication/ffcb06c3-200a-11ec-bd8e-01aa75ed71a1

- Received within the time limit (three (3) working days) from the reception of (1) a Rejection Letter considering the proposal as non-eligible or (2) the Evaluation Summary Report.
- Sent by the entity's legal representative that has also submitted the proposal.

The committee will review the complaint and will recommend an appropriate course of action. If there is clear evidence of a shortcoming that could affect the eventual funding decision, it is possible that all or part of the proposal will be re-evaluated. Please note:

- This procedure is concerned only with the general evaluation and/or eligibility checking process. The committee will not question the scientific or technical judgement of the evaluators.

- A re-evaluation will only be carried out if there is evidence of a shortcoming that affects the final decision on whether to fund the proposal or not. This means, for example, that a problem relating to one evaluation criterion will not lead to a re-evaluation if a proposal has failed anyway on other criteria.

- The evaluation score following any re-evaluation will be regarded as definitive. It may be lower than the original score.

All requests for redress will be treated in confidence and must be sent to the ENFIELD team at enfield.opencall@inova.business.

In the case where a proposal under the redress process is re-evaluated and the new evaluation score is higher, it will be compared with the proposal that has entered the funding programme with the lowest ranking. The comparison will use the ranking rules as detailed in Step 4 (section 4.2.3). In case the proposal under the redress process ranks higher then both proposals will be invited to enter the funding programme.

4.4. Subprocess negotiation and onboarding

At the end of the evaluation phase, about 8 proposals will be selected. The other proposals will remain in a reserve list in case a selected proposal fails to sign the sub-grant agreement. All proposals will receive an acceptance or rejection letter together with an anonymized version of their proposal Consensus Evaluation Report.

4.4.1. Step 1: Sub-grant agreement preparation

After the evaluation phase is concluded and the sub-projects are selected, the ENFIELD consortium will start the SGA preparation phase in collaboration with the representatives of the sub-projects that have been awarded.

The objective of the SGA preparation is to fulfil the legal requirements between the ENFIELD consortium and each beneficiary of the open call.

Request of the documentation:

• Proof of legal existence: Company(ies) register, official journal or other official document per country showing the name of the organisation(s), the legal address and registration number and a copy of a document proving VAT registration (in case the VAT number does not show on the registration extract or its equivalent).

Specific to SMEs
• Proof of the SME condition is required:
   • If the applicant has been fully validated as an SME on the Beneficiary Register of the EC Participant Portal, the PIC number must be provided.
   • If the applicant has not been fully validated as an SME on the EC Participant Portal, the following documents will be required to prove the status as an SME:

a. SME declaration signed and stamped: If the beneficiary declares to be non-autonomous, the balance sheet and profit and loss account (with annexes) for the last period for upstream and downstream organizations is required.

b. Status Information Form, which includes the headcount (AWU), balance, profit & loss accounts of the latest closed financial year and the relation, upstream and downstream, of any linked or partner company.

The request of the documentation by the ENFIELD consortium will be sent to the beneficiary, including deadlines by which information and documentation should be sent. In general, the SGA preparation should be concluded within 2 weeks. An additional week may be provided by the ENFIELD coordinator in case of a relevant reasoning.

In case of the beneficiary not sending the requested documents within the above period, the proposal is automatically rejected and the next proposal in the reserve list is invited to initiate the contract preparation.

4.4.2. Step 2: SGA signature

At the end of the SGA preparation phase, the SGA will be signed between the ENFIELD consortium represented by its coordinator (NTNU), the Open Call Manager (INOVA+), the Host Organization and the Beneficiary.

5. RESPONSIBILITIES OF BENEFICIARIES

The selected researchers are indirectly beneficiaries of EC funding. Therefore, selected researchers must comply with obligations under Horizon Europe specific requirements. The obligations that are applicable to the recipients include:

5.1. Conflict of interest

The beneficiaries must take all measures to prevent any situation where the impartial and objective implementation of the sub-project is compromised for reasons involving economic interest, political or national affinity, family or emotional ties or any other shared interest ('conflict of interests').

They must formally notify the ENFIELD consortium without delay of any situation constituting or likely to lead to a conflict of interests and immediately take all the necessary steps to rectify this situation. The ENFIELD coordinator will verify if the measures taken are appropriate and may require additional measures to be taken by a specific deadline.

If the sub-contract consortium member breaches any of its obligations, the sub-contract may be automatically terminated.

5.2. Data protection and confidentiality

During implementation of the sub-project and for four years after the end of the sub-project, the parties must keep confidential any data, documents, or other material (in any form) that is identified as confidential at sub-contract signing time ('confidential information').

If a beneficiary requests it, the EC and the ENFIELD consortium may agree to keep selected information confidential for an additional period beyond the initial four years. This will be explicitly stated in the sub-contract.

If information has been identified as confidential during the sub-project implementation or only verbally, it will be confidential only if this is accepted by the ENFIELD coordinator and confirmed in

writing within 15 days of the verbal disclosure. Unless otherwise agreed between the parties, they may use confidential information only to implement the agreement.

The sub-project consortium may disclose confidential information to the ENFIELD consortium and to the selected reviewers, who will be bounded by a specific Non-Disclosure Agreement.

5.3. Promoting the action and give visibility to the EU funding

The beneficiary must promote the sub-project, the ENFIELD project and its results, by providing targeted information to multiple audiences in a strategic and effective manner and to highlight the financial support of the EC.

Unless the EC or the ENFIELD coordinator agrees otherwise or unless it is impossible (requiring a valid justification), any promotion activity related to the action (including in electronic form, via social media, etc.), any publicity (including at a conference or seminar) or any type of information or promotional material (brochure, leaflet, poster, presentation etc.), and any infrastructure, equipment and major results funded by the sub-grant must:

• display the EU emblem.

• display the ENFIELD logo.

• include the following text:

- For communication activities: "The [sub-project acronym] has received funding from the European Union's Horizon Europe programme, via the ENFIELD – Innovation Scheme Open Call (insert OC code) issued and executed under the ENFIELD project (Grant Agreement no. 101120657)."
- For results publications: "This [insert type of result] is part of a sub-project that has received funding from the European Union's Horizon Europe programme via an Open Call issued and executed under the ENFIELD project (Grant Agreement no. 101120657)."

When displayed in association with a logo, the European emblem should be given appropriate prominence. This obligation to use the European emblem in respect of projects to which the EC contributes implies no right of exclusive use. It is subject to general third-party use restrictions which do not permit the appropriation of the emblem, or of any similar trademark or logo, whether by registration or by any other means. Under these conditions, the beneficiary is exempted from the obligation to obtain prior permission from the EC to use the emblem. Further detailed information on the EU emblem can be found on the Europa web page[43].

Any publicity made by the beneficiary regarding the sub-project, in whatever form and or by whatever medium, must specify that it reflects only the author's views and that the EC or the ENFIELD project is not liable for any use that may be made of the information contained therein.

The EC and the ENFIELD consortium shall be authorised to publish, in whatever form and on or by whatever medium, the following information regarding the beneficiary/ies:

• The name of the beneficiary/ies.

• Contact address of the beneficiary/ies.

• The general purpose of the sub-project.

• The geographic location of the activities carried out.

- The list of dissemination activities and/or of patent (applications) relating to foreground.
- The details/references and the abstracts of scientific publications relating to foreground and, if funded within the sub-project, the published version or the final manuscript accepted for publication.

- Any picture or any audio-visual or web material provided to the EC and ENFIELD in the framework of the sub-project.

The beneficiary/ies shall ensure that all necessary authorisations for such publication have been obtained and that the publication of the information by the EC and ENFIELD does not infringe any rights of third parties.

Upon a suitably justified request by the sub-project coordinator on behalf of any sub-project member, the ENFIELD consortium, if permission is granted by the EC, may agree to forego such publicity if disclosure of the information indicated above would risk compromising the beneficiary's security, academic or commercial interests.

6. CONTACT INFORMATION

The ENFIELD consortium will provide information to the applicants via ENFIELD website, so that the information (question and answer), will be visible to all participants. No binding information will be provided via any other mean (e.g., telephone or email).

More info at: https://www.enfield-project.eu/open_calls

Apply via: https://ec.europa.eu/eusurvey/runner/oc1-2024-TIS-01

ENFIELD support team: enfield.opencall@inova.business

ANNEX 13

INNOVATION SCHEMES OPEN CALL DOCUMENTATION

APPLICATION FORM

INNOVATION SCHEMES

ENFIELD First Call for Proposals - Application Form

Fields marked with * are mandatory.

Project proposals must be submitted by **31 July 2024 at 17:00 (CET)** by completing the application online.

Once the proposal is submitted, you will receive a confirmation e-mail. If you do not receive this confirmation e-mail, it means your proposal has NOT been submitted. If you believe this is due to a fault in the submission system, you should immediately notify via enfield.opencall@inova.business, explaining the circumstances and attaching a copy of the proposal (and, if possible, screenshots to show what happened).

Queries about applications can be sent by email before **25 July 2024** to the same email address. A FAQ (Frequently Asked Questions) section will be posted on the ENFIELD project website and updated regularly.

All applicants will be informed of the results of the evaluation process by email by 19 August 2024 (indicative date). The results will then be published on the information channels of the ENFIELD project.

Only proposals that successfully address all the required aspects will be considered for selection.

The proposal must be submitted in **English.**

INNOVATION SCHEMES
ENFIELD First Call for Proposals

oc1-2024-TIS-01

Through the ENFIELD innovation scheme open calls and the Financial Support to Third Parties (FSTP) mechanism, the project aims to attract R&D intensive establishments to conduct research activities related to specific technological challenges in artificial intelligence, for application in the areas of energy, healthcare, manufacturing and space.

The survey will take approximately 30 minutes of your time, depending on the level of detail you want to provide.

The deadline is 31 July 2024.

Privacy & Data Protection: All organisations will process all data in accordance with the provisions of the General Data Protection Regulation (GDPR) and data will be held securely and only for as long as is required by the project. The organisations will not make any unauthorized disclosure of this information and will only share it with the other organisations for the purposes of response analysis. Anonymized responses may be used as data for project publications and further academic research, including publications. In the context of this project, 'organizations' refers to the following agencies: ENFIELD Consortium, INOVA+. By submitting this post-event reflection to the ENFIELD Consortium you give your informed consent. If you have further questions, please contact enfield.opencall@inova.business

* Type of application
- ● Individual Application
- ○ Group Application

Organization Details

* Legal name

* Short Name

* Address (street, town, postcode, and country)

* Website

* Specific Legal Status
- ○ Research Center ○ Start-up ○ SME ○ Large Company

Main Contact Person Information

* First name

INDIVIDUAL APPLICATION

* Surname

* Gender
Your response helps in assessing the inclusiveness and diversity of ENFIELD initiatives.
- ☐ Woman ☐ Prefer not to say
- ☐ Man ☐ Other
- ☐ Non-binary

* Email
@

* Phone Number (with international code, e.g. +32)

* Position in the Organization

Project Details

* Challenge

Please download the word file below and, after completing it, please upload it in PDF in the respective field.

* Technical Annex
❸ Only files of the type pdf are allowed

Select file(s) to upload

* Proposal Title

Estimation Costs

Please download the excel file below and, after completing it, please upload it in the respective field.

* Simplified Estimation Costs
❸ Only files of the type pdf are allowed

Select file(s) to upload

Declarations

* We confirm that the information contained in this proposal is correct and complete and that none of the project activities have started before the proposal was submitted.

☐ Yes ☐ No

* We declare:
- to be fully compliant with the eligibility criteria set out in the call
- not to be subject to any exclusion grounds under the EU Financial Regulation 2018/1046
- to have the financial and operational capacity to carry out the proposed project.

☐ Yes ☐ No

* We have read, understood, and accepted the Privacy Policy.

☐ Yes ☐ No

* We are aware that if the proposal is retained for EU funding, we will be required to sign a declaration of honour and provide other supporting documents for an additional check on the eligibility and preparation of the contract.

☐ Yes ☐ No

* We confirm that to our best knowledge neither the project as a whole nor any parts of it have benefitted from any other EU grant. Please note that there is a strict prohibition of double funding from the EU budget.

☐ Yes ☐ No

Submit

ENFIELD

INNOVATION SCHEMES
ENFIELD First Call for Proposals
oc1-2024-TIS-01

Through the ENFIELD innovation scheme open calls and the Financial Support to Third Parties (FSTP) mechanism, the project aims to attract R&D intensive establishments to conduct research activities related to specific technological challenges in artificial intelligence, for application in the areas of energy, healthcare, manufacturing and space.

The survey will take approximately 30 minutes of your time, depending on the level of detail you want to provide.

The deadline is 31 July 2024.

* Type of application
  ○ Individual Application
  ● Group Application

Team Leader | Organization Details

* Legal name

* Short Name

* Address (street, town, postcode, and country)

* Website

* Specific Legal Status
  ○ Research Center   ○ Start-up   ○ SME   ○ Large Company

GROUP APPLICATION | 2 MEMBERS

Team Leader | Main Contact Information

* First name

* Surname

* Gender

Your response helps in assessing the inclusiveness and diversity of ENFIELD initiatives.

☐ Woman ☐ Prefer not to say
☐ Man ☐ Other
☐ Non-binary

* Email

[@]

* Phone Number (with international code, e.g. +32)

* Position in the Organization

---

* Number of additional legal entities in the Group Application
◉ 1
○ 2

Team Member | Organization Details

* Legal name

* Address (street, town, postcode, and country)

* Website

* Specific Legal Status
○ Research Center ○ Start-up ○ SME ○ Large Company

* Main Contact Name

* Gender

Your response helps in assessing the inclusiveness and diversity of ENFIELD initiatives.

☐ Woman ☐ Prefer not to say
☐ Man ☐ Other
☐ Non-binary

* Main Contact Email

@

Project Details

* Challenge

Please download the word file below and, after completing it, please upload it in PDF in the respective field.

* Technical Annex
  ❓ Only files of the type pdf are allowed

  Select file(s) to upload

* Proposal Title

Estimation Costs

Please download the excel file below and, after completing it, please upload it in the respective field.

* Simplified Estimation Costs
  ❓ Only files of the type pdf are allowed

  Select file(s) to upload

Declarations

* We confirm that the information contained in this proposal is correct and complete and that none of the project activities have started before the proposal was submitted.
  ☐ Yes ☐ No

* We declare:
  - to be fully compliant with the eligibility criteria set out in the call
  - not to be subject to any exclusion grounds under the EU Financial Regulation 2018/1046
  - to have the financial and operational capacity to carry out the proposed project.

  ☐ Yes ☐ No

* We have read, understood, and accepted the Privacy Policy.
  ☐ Yes ☐ No

* We are aware that if the proposal is retained for EU funding, we will be required to sign a declaration of honour and provide other supporting documents for an additional check on the eligibility and preparation of the contract.

☐ Yes ☐ No

* We confirm that to our best knowledge neither the project as a whole nor any parts of it have benefitted from any other EU grant. Please note that there is a strict prohibition of double funding from the EU budget.

☐ Yes ☐ No

Submit

INNOVATION SCHEMES
ENFIELD First Call for Proposals
oc1-2024-TIS-01

Through the ENFIELD innovation scheme open calls and the Financial Support to Third Parties (FSTP) mechanism, the project aims to attract R&D intensive establishments to conduct research activities related to specific technological challenges in artificial intelligence, for application in the areas of energy, healthcare, manufacturing and space.

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* Type of application
○ Individual Application
◉ Group Application

Team Leader | Organization Details

* Legal name

* Short Name

* Address (street, town, postcode, and country)

* Website

* Specific Legal Status
○ Research Center   ○ Start-up   ○ SME   ○ Large Company

Team Member 1 | Organization Details

* Legal name

* Address (street, town, postcode, and country)

* Website

* Specific Legal Status
○ Research Center　○ Start-up　○ SME　○ Large Company

* Main Contact Name

* Gender
Your response helps in assessing the inclusiveness and diversity of ENFIELD initiatives.

☐ Woman　　☐ Prefer not to say
☐ Man　　　☐ Other
☐ Non-binary

* Main Contact Email
@

Team Member 2 | Organization Details

* Legal name

* Address (street, town, postcode, and country)

* Website

* Specific Legal Status
○ Research Center　○ Start-up　○ SME　○ Large Company

* Main Contact Name

* Gender
Your response helps in assessing the inclusiveness and diversity of ENFIELD initiatives.

☐ Woman　　☐ Prefer not to say
☐ Man　　　☐ Other
☐ Non-binary

GROUP APPLICATION | 3 MEMBERS

* Main Contact Email

@ [   ]

Project Details

* Challenge

[▼]

Please download the word file below and, after completing it, please upload it in PDF in the respective field.

* Technical Annex
❓ Only files of the type pdf are allowed

[Select file(s) to upload]

* Proposal Title

[   ]

Estimation Costs

Please download the excel file below and, after completing it, please upload it in the respective field.

* Simplified Estimation Costs
❓ Only files of the type pdf are allowed

[Select file(s) to upload]

Declarations

* We confirm that the information contained in this proposal is correct and complete and that none of the project activities have started before the proposal was submitted.
☐ Yes   ☐ No

* We declare:
- to be fully compliant with the eligibility criteria set out in the call
- not to be subject to any exclusion grounds under the EU Financial Regulation 2018/1046
- to have the financial and operational capacity to carry out the proposed project.

☐ Yes   ☐ No

* We have read, understood, and accepted the Privacy Policy.
☐ Yes   ☐ No

* We are aware that if the proposal is retained for EU funding, we will be required to sign a declaration of honour and provide other supporting documents for an additional check on the eligibility and preparation of the contract.

☐ Yes ☐ No

* We confirm that to our best knowledge neither the project as a whole nor any parts of it have benefitted from any other EU grant. Please note that there is a strict prohibition of double funding from the EU budget.

☐ Yes ☐ No

Submit

ANNEX 14

INNOVATION SCHEMES OPEN CALL DOCUMENTATION

TECHNICAL ANNEX

INSTRUCTIONS FOR THE TECHNICAL ANNEX

Use this template to prepare the Technical Annex of your proposal. After completing all the sections in this Word document, convert it to a single PDF document (maximum size 10MB) and upload it to the ENFIELD Submission Form.

The template provided **must not be modified and the formatting must be kept** (ENFIELD standard font style: **Arial font, size 10, line spacing 1**. To select this style, choose "Normal, Text" style option from the ribbon styles gallery). If you wish to add images, figures or tables to your proposal, these should be readable and added as an appendix to this template (limited to 2 pages).

Disclaimer on Intellectual Property Rights and Copyright. ENFIELD strives to avoid the deliberate replication of ideas, data, results or other scientific work without due permission and acknowledgement. Make sure that the ideas developed in the proposal are yours (no plagiarism will be tolerated) and that you own or have received the necessary authorisations from the intellectual property rights holders to validly use, all intellectual property rights on the photographs, slides, graphs, digital images, or other material that you include in the Technical Annex.

EXCHANGE SCHEMES: TECHNICAL ANNEX

Challenge Identification

(please insert the code and the title of the challenge to which you are applying as it is mentioned in the Catalogue of Challenges)

Proposal Title

(Max 75 characters)

Proposal Abstract

(please indicate the main objectives, activities to be performed, expected results, European added value. Max. 750 characters)

Novelty of the proposal that contributes for the state-of-the-art advancement.

(please explain how your project goes beyond the state-of-the-art, is innovative, new, or experimental and/or how it can be exemplary for others. Max. 3000 characters)

Technical Approach

(please describe the methods and methodology you will implement. Describe the planned activities, outlining the timeline. Max. 3000 characters)

Dissemination and communication
(please detail your communication and dissemination strategy (e.g. public presentations, publications, events, etc). Indicate how the results of your project will be used beyond the end of the project. Max. 1750 characters))

Team Expertise in the Field of Research

(please detail your competences and skills, including experience in the proposed research area of e.g., publications, training, lectures. Max 1750 characters)

ANNEX 15

INNOVATION SCHEMES OPEN CALL DOCUMENTATION

BUDGET TEMPLATE

Proposal Title *(please use the same title as the one inserted in the technical annex)*		
BUDGET ESTIMATION		
Estimated eligible costs of the action and expected contribution		
Cost Category	**Estimated Eligible Cost**	**Justification**
Personnel Costs		
Travel, accommodation and subsistence		
Equipment/Tech Consumables		
Other goods, works and services		
Subcontracting		
Indirect Costs *(flat rate of 25% on direct costs)*		
Total estimated costs	**- €**	
Total estimated contribution (max. 70%)	- €	
Estimated sources of financing of the action (revenue)		
Requested contribution		
Own contribution		
Other sources		
Total estimated costs	**- €**	
If applicable, please describe other sources:		

INNOVATION SCHEME - ENFIELD FIRST CALL FOR PROPOSALS [OC1-2024-TIS-01]
Version 1.0, December 2023

ANNEX 16

INNOVATION SCHEMES OPEN CALL DOCUMENTATION

CALL TEXT

EUROPEAN LIGHTHOUSE TO MANIFEST TRUSTWORTHY AND GREEN AI (ENFIELD)

OPEN CALL FOR PROPOSALS - INNOVATION oc1-2024-TIS-01

ENFIELD invites proposals from European R&D intensive entities (research institutes, start-ups, SMEs and large companies) for innovation grants to conduct applied research activities in specific technological challenges in artificial intelligence proposed by the consortium industry players. These challenges, focus in the areas of healthcare, energy, manufacturing, and space, will involve networking and dissemination activities and contribute to the overall ENFIELD outreach. ENFIELD brings together the best talents, technologies, and resources from worldclass research and industry players in Europe to jointly develop top-level research activities in synchronisation with industry challenges. ENFIELD encourages and fosters interdisciplinary approaches by integrating researchers from different fields and organisations such as universities, research centres, or companies.

Proposals must address ENFIELD research challenges in the areas of healthcare, energy, manufacturing, and space.

Proposals are evaluated against criteria of i) advancement beyond state of the art; ii) scientific/technical approach; iii) dissemination and communication; and iv) technical, creative and business capacities of the applicant.

The deadline of INNOVATION Scheme Open Call [oc1-2024-1-TIS-01] is **31 July 2024 at 17:00 (CET)**. About 8 proposals are to be approved.

The Proposal Template (Technical Annex), Budget Template and Applicant's Guidelines for submitting proposals for the first Innovation Scheme Open Call are available in the ENFIELD website here. Applicants have the advantage of a single-stage submission process.

Proposals to the ENFIELD – Innovation Scheme Open Call must be submitted electronically via https://ec.europa.eu/eusurvey/runner/oc1-2024-TIS-01.

Applicants are encouraged to contact ENFIELD support team for additional information and guidance - enfield.opencall@inova.business.

ANNEX 17

INNOVATION SCHEMES OPEN CALL DOCUMENTATION

GUIDELINES FOR EVALUATORS

INSTRUCTIONS - Individual Evaluation Report

The evaluation of Innovation Scheme Open Calls - Technical Annex will be done remotely by one senior expert from ENFIELD partners industry organizations and two external senior experts.

The proposals will be scored by each evaluator based on the criteria below:

Evaluation Criteria (EC)	Description
EC1. Advanced state of the art	• The extent to which the <u>proposal is beyond the state-of-the-art</u> and <u>presents an innovative approach</u> behind it (e.g., novel concepts and methodologies, development between or across disciplines, novel methods and algorithms addressing societal challenges).
EC2. Soundness of the technical approach	• <u>Credibility of the proposed methodology</u> for the implementation of the project.
EC3. Dissemination and communication	• Effectiveness of the proposed <u>measures to exploit and disseminate the project results</u> which must include methods (publications, presentations, workshops and/or webinars) and targeted audiences.
EC4. Technical, creative, and business capacities	• Demonstration of <u>competences and skills of the project team</u> and its capacity to carry out the activities of the proposal. • Quality and effectiveness of the resources assigned to the proposal. • Track-record of the team in scientific publications and similar projects. In case of an application submitted by a consortium, complementarity of partners.

Each criterion will be scored between 0 and 5. Half point scores are not given. For each criterion under examination, score values will indicate the following rationale:

Score	Rationale
0 - FAIL	The proposal fails to address the criterion or cannot be judged due to incomplete or missing information.
1 - POOR	The criterion is inadequately addressed or there are serious inherent weaknesses.
2 - FAIR	The proposal broadly addresses the criterion, but there are significant weaknesses.
3 - GOOD	The proposal addresses the criterion well, but several shortcomings are present.
4 – VERY GOOD	The proposal addresses the criterion very well, but a small number of shortcomings are present.
5 - EXCELLENT	The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

Individual Evaluation Report

Evaluator Name

Evaluation Date

Challenge   Identification

Proposed Title

Evaluation

	Fail (0)	Poor (1)	Fair (2)	Good (3)	Very Good (4)	Excellent (5)
Advanced state-of-the-art						
Scientific and Technical approach						
Dissemination/Communication						
Technical, Creative and Business Capacities						
Final Evaluation						
Observations						

Evaluator Signature

ANNEX 18

INNOVATION SCHEMES OPEN CALL DOCUMENTATION

SUB-GRANT AGREEMENT TEMPLATE

INNOVATION SCHEME ENFIELD FIRST CALL FOR PROPOSAL

SUB-GRANT AGREEMENT

TABLE OF CONTENTS

Subject: Sub-Grant Agreement (SGA)

Call: *[insert code of the call]*

Sub-Grant Agreement nº: *internal reference of the project approved.*

Title of the Action: *name of the project approved.*

The following Parties:

NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET [NTNU] - Project Coordinator

and

INESC TEC - INSTITUTO DE ENGENHARIADE SISTEMAS E COMPUTADORES, TECNOLOGIA E CIENCIA [INESC TEC], INSTITUT MINES-TELECOM [IMT], CHALMERS TEKNISKA HOGSKOLA AB [CHALMERS], UNIVERSITATEA POLITEHNICA DIN BUCURESTI [UPB], BUDAPESTI MUSZAKI ES GAZDASAGTUDOMANYI EGYETEM [BME], KNOW-CENTER GMBH RESEARCH CENTER FOR DATA-DRIVEN BUSINESS & BIG DATA ANALYTICS [KNOW], TEKNOLOGISK INSTITUT [DTI], NORSK REGNESENTRAL [NRS], TECHNISCHE UNIVERSITEIT EINDHOVEN [TU/e], INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS [ICCS], INOVA+ - INNOVATION SERVICES, SA [INOVA+], MAGGIOLI SPA [MAGGIOLI], THE UNIVERSITY OF NOTTINGHAM [UON], TECHNISCHE UNIVERSITAET CHEMNITZ [TUC], TALLINNA TEHNIKAÜLIKOOL [TALTECH], ISKRAEMECO, MERJENJE IN UPRAVLJANJEENERGIJE, D.D. [ISK], ENGINEERING - INGEGNERIA INFORMATICA SPA [ENG], LUSIADAS ACE [LUSIADAS], CNET CENTRE FOR NEW ENERGY TECHNOLOGIES SA [EDP CNET], UNIVERSIDAD COMPLUTENSE DE MADRID [UCM], POLITECNICO DI MILANO [POLIMI], PREDICT SAS [PREDICT], TELENOR ASA [TELENOR], FONDATION EUROPEENNE DE LA SCIENCE [ESF], SINTEF AS [SINTEF], TEKNOLOGIAN TUTKIMUSKESKUS VTT OY [VTT], ERATOSTHENES CENTRE OF EXCELLENCE [ECoE], BOEING AEROSPACE SPAIN [BAS], ARATOS SYSTEMS BV [ARATOS] - Consortium partners all hereinafter jointly referred as Consortium/Consortium partners.

The Consortium of the ENFIELD (European Lighthouse to Manifest Trustworthy and Green AI)[44] project is represented for the purposes of signing this SGA **NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET [NTNU],** established in Hogskoleringen 1, 7491 TRONDHEIM, Norway, VAT number: [……………………], - Project Coordinator, represented for the purposes of signing the Agreement by [name, surname and position] (**hereinafter referred to as the PROJECT COORDINATOR**), **INOVA+ - INNOVATION SERVICES, SA [INOVA+]**, established in Rua Dr. Afonso Cordeiro 567, 4450-305 Matosinhos, Portugal, VAT number: PT504041266, - Consortium Partner, represented for the purposes of signing the Agreement by Miguel Sousa, CEO **(hereinafter referred to as the CONTRACTOR)** and by *[Partner Organisation]*, with its registered office at [……………………], [Country], with VAT number [……………….], represented by [name, surname and position] (**hereinafter referred to as HOST ORGANISATION)**

and

[Name of the Entity], legal entity organized under the laws of *[country]*, with its registered office at [……………….], [Country], with VAT number [……………….], represented by [name, surname and

---

[44] Grant agreement nº 101120657, funded by the European Union through the European Commission programme Horizon Europe.

position], selected in the ENFIELD Open Call and described in the Application form submitted by the Beneficiary in the above-mentioned Open Call, **hereinafter referred to as the BENEFICIARY.**

[if a consortium, information about each of the participating entities should be included]

Hereinafter PROJECT COORDINATOR, CONTRACTOR, HOST ORGANISATION and BENEFICIARY each individually referred to as a PARTY and collectively as Parties,

have agreed to enter into Agreement (referred to as SGA) with the terms and conditions below, including those in the following annexes, which form an integral part of this Sub-Grant Agreement.

TERMS AND CONDITIONS

Article 1. Subject of the Sub-Grant Agreement

This Sub-Grant Agreement (SGA) sets out the rights and obligations and the terms and conditions applicable to the grant awarded to the Beneficiary for implementing the action set out in Article 2. By signing the SGA, the Beneficiary accepts the grant and agrees to implement the action, acting on his/her/their responsibility.

The present SGA does not create a joint-venture company and under no circumstances be considered as a holding between the parties. The responsibility of each Party is strictly limited to the conditions mentioned in this SGA, particularly the conditions of take by each Party to any other third party.

Article 2. Entry into force, implementation period and termination of the Sub-Grant Agreement

The grant is awarded for the action entitled *"name of the project selected"*, as described in Annex 1 – Description of the Action.

The action runs for **## months** starting on a fixed date, **DD/MONTH/YYYY**, when the Agreement enters into force.

The Beneficiary may apply for an extension (up to a maximum of six months as the total duration) of the Action Period if there are objective conditions which prevent its implementation in time. The Beneficiary's request should indicate the circumstances justifying the extension and the period for which the project should be extended. The circumstances of extension will be assessed by the Selection Committee.

The SGA will end upon one of the following conditions:

-   after delivery of all expected outcomes specified in the Annex 1 – Description of the Action and final payment by the Contractor. The foreseen date of completion is [XXX].
-   in case of termination initiated by the Contractor in the conditions specified in Article 4. In this case, no other payment will be due by the Contractor to the Beneficiary and all Parties give up any pursuit exercised against one or several other Parties for a direct or indirect damage incurred by the partial or total non-fulfillment of the measures of the present SGA.

Article 3. Obligations and Responsibilities of the Beneficiary

The obligations and responsibilities of the Beneficiary are defined in detail in the Annex 1 – Description of the Action, and the Annex 2 - Guidelines for Applicants.

By signing this SGA, the Beneficiary declares it meets the eligibility conditions for participation in INNOVATION SCHEME as defined in the ENFIELD Open Call Guidelines for Applicants.

The Beneficiary shall take every necessary precaution to avoid any risk of conflict of interest relating to economic interests, political or national affinities, personal or any other interests liable to influence the impartial and objective performance of the Action. In case the Beneficiary is involved in a conflict of interest or in a risk of conflict of interest, the Beneficiary must formally notify this situation to the Project Coordinator and to the Contractor without delay and immediately take all the necessary steps to rectify this situation.

The Beneficiary is responsible for any act or omission that causes damage to the Project Coordinator, the Contractor, other partner of ENFIELD consortium members, and/or the EC in relation to this SGA. The Beneficiary shall bear sole responsibility for ensuring that their acts within the framework of this SGA do not infringe on third parties' rights. Neither the Project Coordinator, the Contractor, nor the EC can be held liable for any acts or omissions of the Beneficiary in relation to this SGA.

There is no joint liability between the Parties.

Article 4. Breach of Contractual Obligations

In the event of the breach of the contractual obligations by the Beneficiary, the Contractor reserves the right to claim the Beneficiary the full refund of all payments made to the Beneficiary up to date.

The breach of the contractual obligations by the Beneficiary shall be determined by the ENFIELD Project Coordinator. Not participation in the activities foreseen for the implementation of the Action (unless in the case of Force Majeure) or participating in them in a manner which intentionally disrupts the expected outcomes, shall be deemed as breach of the contractual obligations by the Beneficiary.

The provision of false or misleading declarations by the Beneficiary or any unsolved situation of conflict of interest also constitute examples of breach of contractual obligations by the Beneficiary.

Article 5. Grant and Financial Provisions

5.1 Maximum grant

The maximum grant amount provided by the Contractor to the Beneficiary is EUR 60.000 (sixty thousand Euros) paid as a lump sum following the conditions set out in this SGA and its Annexes. The grant reimburses a maximum of 70% of the action's incurred eligible costs.

5.2 Payment of the grant

The payment is scheduled in two periods, subject to the level of execution of the action, the submission of deliverables and the accomplishments of the expected outcomes as reflected in the Annex 1 – Description of the Action.

The final grant amount depends on the proper implementation of the action in accordance with the SGA's terms and conditions (beneficiaries must be able to show, with records and supporting evidence, that the action tasks have been carried out as described in Annex 1 – Description of the Action). This

amount is calculated by the Contractor, when the payment of the balance is made, in the following steps:

a) Application of the lump sum: Upon prior verification and acceptance by the Contractor of the project activities and deliverables and in accordance with the estimated budget. In case of underperformance, the lump sum will be adjusted not to exceed 70% of the action eligible costs, without prejudice of eventual recovery measures.

b) Reduction due to substantial errors, irregularities or fraud or serious breach of obligations: Calculated in proportion to the seriousness thereof, without prejudice of eventual recovery measures. Should it be the case, the final grant amount will be the lower of the two above.

The lump-sum payment will be transferred in two equal instalments:

- 50% of the eligible contribution as an pre-financing payment within 30 days of the signature of the SGA. The aim of the pre-financing is to provide the Beneficiary with a float; it remains the property of the Contractor until the payment of the balance;
- The remaining 50% subject to validation of the completion of the action and the delivery of expected deliverables/outcomes within two calendar months after successful delivery of the final report by the Beneficiary.

The Beneficiary is responsible for complying with any tax and legal obligations that might be attached to this financial contribution.

All payments shall be made to the Beneficiary's bank account, denominated in euro, as indicated in the Annex 4.

The cost of payment transfers will be borne as follows:

- the Contractor bears the cost of transfers charged by its bank;
- the Beneficiary bears the cost of transfers charged by its bank;
- the party causing a repetition of a transfer bears all costs of the repeated transfer.

5.3 Suspension of payment of the grant

The Contractor may at any moment suspend, in whole or in part, the pre-financing payment or the payment of the balance for the Beneficiary:

- if the Contractor has evidence that the Beneficiary has committed irregularities, fraud or breach of obligations in the award procedure or while implementing the Agreement;
- if the Contractor has evidence that the Beneficiary has committed systemic or recurrent irregularities, fraud or serious breach of obligations in other grants funded by the Union or the European Atomic Energy Community ('Euratom') awarded to the beneficiary under similar conditions and such irregularities, fraud or breach of obligations have a material impact on this grant; or
- if the Contractor suspects irregularities, fraud or breach of obligations committed by the Beneficiary in the award procedure or while implementing the SGA and needs to verify whether they have actually occurred.

Before suspending payments, the Contractor must send a formal notification to the Beneficiary informing it of its intention to suspend payments; the reasons for suspension; and, when applicable, the conditions that need to be met for payments to resume; inviting it to submit observations within 30 calendar days of receiving the formal notification.

If the Contractor does not receive observations or decides to pursue the procedure despite the observations it has received, it must send a formal notification to the Beneficiary informing it of the

suspension of payments; the reasons for suspension; the final conditions under which payments may resume; and, when applicable, the indicative date of completion of the necessary verification.

The suspension takes effect on the day the Contractor sends formal notification of suspension.

Otherwise, the Contractor must send a formal notification to the Beneficiary informing he/she/they that it is not continuing with the suspension procedure.

During the period of suspension of payments, the Beneficiary is not entitled to submit any request for payments nor supporting documents. The corresponding request for payments and supporting documents may be submitted as soon as possible after the resumption of payments or may be included in the first request for payment due following the resumption of payments.

The suspension of payments does not affect the right of the Contractor to suspend the implementation of the action or to terminate the SGA.

In order for the Contractor to resume payments, the Beneficiary must meet the notified conditions as soon as possible and must inform the Contractor of any progress made. If the conditions for resuming payments are met, the suspension will be lifted. The Contractor will send a formal notification to the Beneficiary informing it of this.

5.4 Use of the grant amount and recovery

The Beneficiary commits to the proper use of the funding, for the purposes of carrying out the Innovation Scheme in compliance with its description reflected in Annex 1, and in accordance with Annex 2 – Guidelines for Applicants.

If, on the basis of an audit, the EC seeks to recover contributions from the Contractor of financial contributions made to the Beneficiary under this SGA, due to a misuse of the funding received, the Beneficiary agrees to repay such amounts to the Contractor.

Article 6. Insurances

All Parties shall take out adequate insurance of all risks associated with the activities to be performed, travels to and from the Host Organisation and for any piece of equipment they will bring respectively into the implementation of the activities within the Innovation Scheme.

Article 7. Confidentiality and Ethics

During the implementation of the action and for five years after the final payment, the parties must treat with confidentiality any confidential information and documents. The parties must handle classified information in accordance with the applicable EU, international or national law on classified information (in particular, Decision 2015/444 and its implementing rules).

The parties may only use confidential information and documents for a reason other than to fulfil their obligations under the SGA if they have first obtained the prior written agreement of the other party.

The Beneficiary may disclose sensitive information to their personnel or other participants involved in the action only if he/she/they need to know it in order to implement the SGA and are bound by an obligation of confidentiality.

The confidentiality obligations no longer apply if:

- the disclosing party agrees to release the other party;
- the information becomes publicly available, without breaching any confidentiality obligation;
- the disclosure of sensitive information is required by EU, international or national law.

The action must be carried out in line with the highest ethical standards and the applicable EU, international and national law on ethical principles.

Article 8. Intellectual Property Rights

8.1 General principles

The Beneficiary must inform the Contractor and the Host Organisation about background data, know-how or information — whatever its form or nature (tangible or intangible), including any rights such as intellectual property rights — that is held by the Beneficiary before they acceded to the SGA and needed to implement the action or exploit the results. If the background is subject to the rights of a third party, the Beneficiary must ensure that it is able to comply with its obligations under the SGA.

The Project Coordinator and the Contractor has the right to use non-sensitive information relating to the action and materials and documents received from the beneficiaries (notable summaries for publication, deliverables, as well as any other material, such as pictures or audio-visual material, in paper or electronic form) for information, communication, dissemination and publicity purposes during the action or afterwards.

8.2 Ownership of the data

The ownership of the data provided by the Host Organisation or any other data source or provider will be always from the Party providing the data.

The Project Coordinator and the Contractor do not obtain ownership of the results produced under the action. 'Results' means any tangible or intangible effect of the action, such as data, know-how or information, whatever its form or nature, whether or not it can be protected, as well as any rights attached to it, including intellectual property rights.

If the experiment results in the generation of data, the ownership of the generated data will be always from the Party generating the data, unless the Parties agree any particular specification.

Article 9. Data Protection

Any personal data under the SGA will be processed under the responsibility of the data controller of the Contractor in accordance with the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons concerning the processing of personal data and on the free movement of such data.

The Beneficiary must process personal data under the SGA in compliance with the applicable EU, international and national law on data protection (in particular, Regulation 2016/67919). He/She/They must ensure that personal data is:

- processed lawfully, fairly and in a transparent manner in relation to the data subjects;
- collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes;
- adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed;
- accurate and, where necessary, kept up to date;

- kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the data is processed and;
- processed in a manner that ensures appropriate security of the data.

The Beneficiary may grant its personnel access to personal data only if it is strictly necessary for implementing, managing and monitoring the SGA, but must ensure that the personnel is under a confidentiality obligation.

Article 10. Dissemination, Visibility and Compulsory Credits

The Beneficiary must promote the action and its results by providing targeted information to multiple audiences, in accordance with the Description of the Action (Annex 1) and in a strategic, coherent and effective manner.

All Parties shall include, if possible, on each publication or communication (print and/or multimedia) related to the public presentation of the results of the Innovation Scheme, the following mention:

> *"The NAME_of_ACTION has received funding from the European Union, via the [insert code of the call] issued and implemented by the ENFIELD project, under the grant agreement No 101120657."*

Communication activities of the Beneficiary related to the action (including media relations, conferences, seminars, information material, such as brochures, leaflets, posters, presentations, etc., in electronic form, via traditional or social media, etc.), dissemination activities and any equipment, supplies or major result funded by the grant must acknowledge the EU support and display the European flag (emblem), funding statement (translated into local languages, where appropriate) and must indicate that it reflects only the author's view; and that the Project Coordinator, the Contractor or the European Commission are not responsible for any use that may be made of the information it contains.

Where appropriate, they should also use the ENFIELD project visuals, in line with the Guidelines provided by the Project Coordinator.

When displayed in association with another logo, the European Union emblem must have appropriate prominence.

The obligation to display the European Union emblem does not confer on the beneficiaries a right of exclusive use. The beneficiaries may not appropriate the European Union emblem or any similar trademark or logo, either by registration or by any other means.

The Project Coordinator, the Contractor and the EC shall be authorized to publish, in whatever form and on or by whatever medium, the following information:

- the name of the Beneficiary;
- contact address of the Beneficiary;
- the general purpose of the action;
- the amount of the financial contribution of the EC.

Article 11. Amendments

Any amendment to the SGA must be made in writing. An amendment may not have the purpose or the effect of making changes to the SGA which would call into question the decision awarding the grant or be contrary to the equal treatment of applicants.

Any request for amendment must be duly justified, be accompanied by appropriate supporting documents; be made in writing and signed by the duly authorized representative of the Contracting Parties.

In the event the European Commission modifies the conditions on which the Open Call has been issued, the Contractor will amend the SGA accordingly.

Article 12. Force Majeure

This SGA will be revoked as right and without compensation of any kind in all cases of *force majeure* recognized by the law and case law (natural disaster, strike, national mourning, riots, terrorism acts, war, epidemic, etc.).

A party faced with *force majeure* must send a formal notification to the other party without delay, stating the nature of the situation or of the event, its likely duration and foreseeable effects.

The parties must take the necessary measures to limit any damage due to *force majeure*. They must do their best to resume the implementation of the action as soon as possible.

Article 13. Language

This Agreement is drawn in English, language that shall govern all documents, notices, meetings and processes relative thereto.

Article 14. Attribution of Jurisdiction

In case of any dispute concerning the execution of this contract, the partners agree to submit to the Court of Matosinhos, Portugal.

Article 15. Governing Law

The SGA is governed by its terms, the Union law applicable, and, on a subsidiary basis, by the law of Belgium and Portugal.

SIGNATURES

The Parties have caused this SGA to be duly signed by the undersigned authorized representatives in four (4) copies:

For ENFIELD Project - Coordinator

[Insert forename, surname, position]

For ENFIELD Project - Contractor

[Insert forename, surname, position]

For ENFIELD Project - Host Institution

[Insert forename, surname, position]

For the Beneficiary

[Insert forename, surname]

Done at [insert date DD/MM//YYYY] on [insert city and country]

Annex 1 – Description of Action

[This refers to the proposal submitted, including both the technical annex and the budget template, and selected after introducing the changes, if any, during the negotiation of the SGA].

Annex 2 – Guidelines for Applicants

[This refers to the Guidelines for Applicants published by the time the open call is open].

Annex 3 – Declaration of Honour

[This refers to the declaration of honour submitted with the proposal in the application phase].

Annex 4 – Bank Account Information

[This refers to the Bank Account Information template filled in and duly signed by the Beneficiary and the Bank representative].

ANNEX 19

INNOVATION SCHEMES OPEN CALL DOCUMENTATION

LEGAL ENTITY DECLARATION OF HONOUR

Declaration of Honour

By signing this document, I declare that:

1) I am authorised to legally bind the legal entity named below, to the conditions stated in this form.

2) I and the entity that I legally represent are fully aware and duly accept all rules and conditions as expressed in the documents related to ENFIELD First Innovation Open Call (oc1-2024-TIS-01) and all Annexes and will fully respect any evaluation decision and application selection.

3) All information provided in this declaration is true and legally binding.

Applying Entity Legal Representative Contact Information:

Title (Mr., Mrs., Dr.)	
Name	
Surname	
Position in the entity	
Full address	
Country	
Email address	
(Mobile) Telephone	
Signature and stamp (if applicable)	

Declaration of Honour on exclusion criteria and absence of conflict of   **interest**

By signing this declaration of honour, I declare that all provided information below is true and legally binding both for me and for the entity that I legally represent:

1. I declare that the mentioned entity is not in one of the following situations:
   a) it is bankrupt or being wound up, is having its affairs administered by the courts, has entered into an arrangement with creditors, has suspended activities, is the subject of proceedings concerning those matters, or is in any analogous situation arising from a similar procedure provided for in national legislation or regulations;
   b) it or persons having powers of representation, decision making or control over it have been convicted of an offence concerning their professional conduct by a judgment which has the force of res judicata;
   c) it has been guilty of grave professional misconduct proven by any means which the contracting authority can justify including by decisions of the European Investment Bank and international organizations;
   d) it is not in compliance with its obligations relating to the payment of social security contributions or the payment of taxes in accordance with the legal provisions of the country in which it is established or with those of the country of the contracting authority or those of the country where the contract is to be performed, to be proved by the deliverance of official documents issued by the local authorities, according to the local applicable rules;
   e) it or persons having powers of representation, decision making or control over it have been the subject of a judgment which has the force of res judicata for fraud, corruption, involvement in a criminal organization or any other illegal activity, where such illegal activity is detrimental to the Union's financial interests;
   f) is subject to an administrative penalty for being guilty of misrepresenting the information required by the contracting authority as a condition of participation in a grant award procedure or another procurement procedure or failing to supply this information or having been declared to be in serious breach of its obligations under contracts or grants covered by the Union's budget.

2. I declare that the natural persons with power of representation, decision-making or control over the above-mentioned entity are not in the situations referred to in a) to f) above;

3. I declare that:
   a) Neither any person nor I that I know is subject to ENFIELD conflict of interest;
   b) I have not made false declarations in supplying the information required by participation in the Open Call of ENFIELD Project or have failed to supply the information required;
   c) I am not in one of the situations of exclusion, referred to in the abovementioned sub-points a) to f) within the point 1.

4. I am aware and fully accept all ENFIELD conditions and rules as expressed in ENFIELD Innovation Open Call documents.

5. I certify that the entity that I represent:

   - is committed to participating in the ENFIELD Innovation Open Call sub-project, should my application get selected for funding;
   - has stable and sufficient sources of funding to maintain its activity throughout its participation in the ENFIELD Innovation Open Call sub-project and to provide any counterpart funding necessary;
   - has or will have the necessary resources as and when needed to carry out its involvement in the ENFIELD Innovation Open Call sub-project.

6. I confirm that all proposed services, including the means of their delivery and upkeep, have been reviewed to ensure compliance with all relevant legislation on data protection, privacy, and fundamental rights.

7. I declare that the solution I am presenting in my application for the ENFIELD Innovation Open Call is not being funded by any other source from the budget of the European Union and that should my application be selected for funding in this Open Call, it will not be used to apply for other EU grants.

Full name: _____ **On behalf of Entity:** _____	**Signature and stamp (if applicable)**
Done at (place) _____ **the (date)** _____	

ANNEX 20

INNOVATION SCHEMES OPEN CALL DOCUMENTATION

SME DECLARATION FORM

Small and Medium Enterprise (SME) Declaration Form

IDENTIFICATION OF THE APPLICANT ENTERPRISE

Name or Business Name

Address (of registered office)

Registration / VAT Number

The European Commission definition states that "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 annual balance sheet total not exceeding EUR 43 million. Within the SME category, a small enterprise is defined as an enterprise which employs fewer than 50 persons and whose annual turnover and/or balance sheet total does not exceed EUR 10 million and a micro enterprise is defined as an enterprise which employs fewer than 10 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 2 million".

Data used to determine the type of company

Calculated according to Article 6 of the Annex to the Commission Recommendation 2003/361/EC on the SME definition.

Autonomous Enterprise [45]	Headcount (AWU)	Reference period [46]	Annual Turnover million €
☐ Yes ☐ No			

I declare on my honour the accuracy of this declaration and I, hereby, certify that my enterprise fulfils the criteria as stipulated in the European Commission definition.

Signature

Name and position of the signatory, being authorised to represent the enterprise

Place and Date

Signature   _____

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[45] An 'autonomous enterprise' is any enterprise which it is not owned as to 25 % or more by one enterprise or jointly by enterprises linked to one another. For more details and specific cases, refer to the European Commission recommendation (2003/361/EC).

[46] Data are those relating to the latest approved accounting period and calculated on an annual basis. They are considered from the date of closure of the accounts. The amount selected for the turnover is calculated excluding value added tax (VAT). In the case of newly established enterprises whose accounts have not yet been approved, the data to apply is to be derived from a bona fide estimate made over the financial year.

ANNEX 21

INNOVATION SCHEMES OPEN CALL DOCUMENTATION

BANK ACCOUNT INFORMATION

Bank Account Information

ACCOUNT HOLDER INFORMATION

Account Name Holder *The name or title under which the account has been opened and NOT the name of the authorized agent*	
Holder's Address	
Postcode	
Town/City	
Country	

Contact Person **It does not need to be an authorised agent.**	
Telephone	

BANK ACCOUNT INFORMATION

Bank Name	
Branch Address	
Postcode	
Town/City	
Country	
IBAN number / Account number *Format example: ES76 2077 0024 0031 0257 5766*	
SWIFT code *8 to 11 characters*	

Bank Stamp + Signature of Bank Representative *Can be substituted by the attachment of a recent bank statement (less than 2 months).*	**Date + Signature of Account Holder** *(Mandatory)*

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