NGIatlantic.eu - 5th Open Call

NGIatlantic.eu 5th Open Call Duration: 1 February 2021 until 31 March 2021, 17:00 CEST

The main goal of the NGIatlantic.eu Open Calls is to incentivize EU – US NGI teams to carry out experiments using EU and/or US based experimental platforms. This will take the form of funding to be provided through a cascade grant process for the EU counterparts of the teams formed.

5th Open Call Topic Priorities

Priority coverage areas and **expected scope** of the NGIatlantic.eu 5th open call**:**

Topic a: EU-US Experimental Platforms Interconnection – this topic invites established designers and facility providers of experimental infrastructures, testbeds and platforms enabling experimentation in the NGI areas on both sides of the Atlantic to interconnect with each other, to offer their facilities on a continuous basis to its community of experimenters and application developers in other NGI topics

Topic b.1: Strengthening trustworthiness and resilience of internet – experimentation of results on the NGI call topics related to increasing trustworthiness and resilience of the internet.

Topic b.2: Open Internet architecture renovation – this topic will focus on experiments supporting communities of developers in ensuring Internet architecture evolution towards better efficiency, scalability, security, and resilience.

Topic b.3: Greening the Internet: a Sustainable and Climate-friendly NGI – experiments of results related to use case implementations of innovative internet technologies and transparency mechanisms on EU – US experimental platforms shown to: fight against the climate change with significant improvement of energy efficiency; carry out measurements to create awareness of environmental impact of the Internet; and promotion of technologies that help reduce the energy consumption and carbon emissions.

Topic b.4: Internet data sharing and interoperable services – this topic will address the challenge of sharing network data siloed in different internet regions across geographic boundaries and enabling trusted Internet services by composition and orchestration of globally distributed services. Such services also may include network-level, and security and privacy related services that are critical to ensure a trusted and safe internet. Experiments related to such cross-domain data sharing challenges to enable cyber threat identification, risk assessment and incident management, and enabling secure and interoperable internet services are of particular interest.

Topic b.5: Blockchain and Distributed Ledger Technologies for NGI – to create opportunities to enhance services and processes in both the public and private sectors, notably providing better control of data by citizens and organisations, reducing fraud, improving recordkeeping, access, transparency and auditability, within and across borders at multiple levels: technology, infrastructure and application levels.

Please note this open call is open to all, both existing (funded) projects in the NGI RIAs in these areas and new NGI experimenters.

Also note that it is possible for EU – US teams to put in one application that include both elements of a. and b.

EXTENDED TOPICS DESCRIPTION

Topic a: EU-US Experimental Platforms Interconnection - The proposed applications for EU – US infrastructures and platforms, both wired and wireless or combination of both, should be suitable for experimentation and application development in the following NGI priority areas: Privacy and Trust enhancing technologies; Decentralized data governance; Discovery and identification technologies; Strengthening internet trustworthiness with electronic identities; Service and data portability; and Open Internet architecture renovation. The transatlantic experimental platforms must also be relevant with key NGI enabling technologies: 5G (or beyond), IoT, Big Data, AI, ML, Next Generation Media, cybersecurity and resilience, and others.

Successful EU – US infrastructures/platforms will be integrated in the NGIatlantic.eu project and made available for future NGIatlantic.eu experimentations. The EU – US infrastructure/platform facilities will be listed on the NGIatlantic.eu website and promoted as a suitable transatlantic platform for experimentation/implementation to be funded in the subsequent NGIatlantic.eu open calls. The accepted EU – US experimental facilities will also be promoted on the NGIatlantic.eu Twinning Lab for the remainder of the project.

Where the EU – US infrastructure/platforms are utilized in the forthcoming successful projects, the owners/providers will be entitled to receive funding for the support and maintenance required, depending on specific conditions of the open calls and requirements of the proposal. Any costs needed to run/maintain these platforms could be included by the coordinator applicant in the proposal budget, to be agreed between the partners. Note: This funding for experimental platforms will also be subject to the EU – US Implementation arrangement rules

Topic b.1: Strengthening trustworthiness and resilience of internet - this topic will focus on experimentation of results on the NGI call topics related to increasing trustworthiness and resilience of the internet. These may include issues such as: identity (e.g., self-sovereign-identity), authentication and authorization; traceability; privacy and confidentiality related to personal and non-personal interactions or flow of sensitive information over geographic boundaries, including cryptographic solutions; transparency and accountability (e.g., certificate transparency); and federated, collaborative and/or decentralized technologies for supporting internet-wide e-identities with various levels of identification, reputation and trust, to serve as a basis for new business models for verifying and valuating personal and other sensitive data. Resilience issues may include approaches for monitoring, detection and mitigation to counter large-scale disruptions/failures or ongoing/impending cyber-attack/intrusions, and support for crisis situations; these may include techniques for resource redundancy and dynamic reconfiguration; network isolation and virtualization techniques; situational awareness, survivability and self-healing approaches. Proposers should pay special attention to the following dimensions: efficiency, interoperability, scalability, usability, deployability, sustainability, adaptability, standardisation and compatibility with the eIDAS and other national frameworks.

Topic 2: Open Internet architecture renovation – this topic will focus on experiments supporting communities of developers in ensuring Internet architecture evolution towards better efficiency, scalability, security and resilience. Auditing, testing and improving protocols and open-source software and hardware that are used to manage the Internet, with renewed design goals such as isolation of contingencies, redundancy and self-repair, disruption tolerance, transparency, better

real-time behaviour and energy efficiency. Ability to roll-out at Internet scale should be assessed as part of the proposed solutions.

Topic 3: Greening the Internet: a Sustainable and Climate-friendly NGI – this topic will focus on experiments of results related to use case implementations of innovative internet technologies and transparency mechanisms on EU – US experimental platforms shown to: fight against the climate change with significant improvement of energy efficiency, carry out measurements to create awareness of environmental impact of the Internet, and promotion of technologies that help reduce the energy consumption and carbon emission. As background, the NGI Forward project has identified a Sustainable and Climate-friendly Internet as one of eight key topics that will set out a vision for a better, more human-centric future internet and inform the initiative's policy and technology research agenda going forward. The authors of the eight topics at DATALAB, Aarhus University, point out if more priority isn't given immediately towards the greening of the internet, including sustainability and controlling emissions, the carbon footprint of the global internet technologies will double by 2025. It is estimated that the global carbon footprint of the Internet and the supporting systems is already similar to the amount produced by the airline industry globally and that Indeed, optimal resource consumption and minimization of carbon emission is a great challenge for the Next Generation Internet. Data centers and networking devices consume significant amounts of energy. It is imperative to improve energy efficiency, both locally and at the Internet level. Currently, there is a significant lack of transparency of environmental cost, which should be urgently resolved given the vast scale of resource usage. There is a need to make digital infrastructure system not only more energy-efficient but also incorporate new sustainability metrics to reflect unaccounted externalities such as energy source, e-waste and life-cycle cost of equipment. Therefore, NGIatlantic.eu invites EU – US applicants to provide and experiment with transparency mechanisms and sustainability metrics on the environmental cost of the Internet. Identification and tagging of most resource consuming elements are also very important and urgent. On both sides of the Atlantic, there has already been some early research and innovation (R&I) projects and initiatives focussing on alternatives to improving energy efficiency to ensure the greening and sustainability of the Internet and of the economy relying on it. This topic welcomes the results from these EU activities to team up with US teams (or vice versa, with US teams twinning with EU teams) to carry out experiments in this vitally important NGI topic..

Topic 4: Internet data sharing and interoperable services – this topic will address the challenge of sharing network data siloed in different internet regions across geographic boundaries and enabling trusted Internet services by composition and orchestration of globally distributed services. Secure and privacy-preserving data sharing is particularly important to address the rising cyber threats and incidents that are increasingly global in nature with threat actors that may include nation-states and/or be distributed across geographic boundaries. Such cyber threats and incidents include advanced persistent threats (APTs), massive data breaches, internet-scale cyberattacks and disruptions (such as those targeted towards critical infrastructures), Intellectual Property theft, politically motivated misinformation campaigns, etc. Sharing of Internet data to support continuous monitoring and data-driven analysis is critical to identify impending/ongoing attacks, support traceback and attributions, and intelligently respond to Internet events. Geographically distributed Internet-enabled services when composed in privacy-preserving and secure manner provides socio-economic benefits to global population while allowing privacy sensitive or confidential information to flow across geographic boundaries. Such services also may include network-level, and security and privacy related services that are critical to ensure a trusted and safe internet. Experiments related to such cross-domain data sharing challenges to enable cyber threat identification, risk assessment and incident management, and enabling secure and interoperable internet services are of particular interest.

Topic 5: Blockchain and Distributed Ledger Technologies for NGI – blockchain and distributed ledger technologies (DLT) are a key component of NGI initiative as they have the potential to enable more decentralised, trusted, user-centric digital services, and stimulate new business models benefiting society and the economy as stressed by the European Parliament resolution on the topic. These technologies will create opportunities to enhance services and processes in both the public and private sectors, notably providing better control of data by citizens and organisations, reducing fraud, improving recordkeeping, access, transparency and auditability, within and across borders at multiple levels: technology, infrastructure and application levels. A number of key areas in blockchain and DLT where results could be brought into NGIatlantic.eu open call 5 is for EU - US teams to carry out experiments on EU – US platforms in areas involving (but not limited to):
• A new software ecosystem for trusted, traceable and transparent ontological knowledge management.
• Reinforcing the European blockchain ecosystem to develop a more human internet.
• Innovative results to fight misinformation on social media with an emphasis on using blockchain and DLTs.

Type of Proposals

For open call 5, there is one type of proposal being funded, as shown below:

Proposal type	Description	Maximum Contract duration	Monitoring frequency	Funding range*
ST – Short-Term contributions	EU-US NGI experiment project with R&I activities.	5 months (note: this has been decreased from the previous open call duration)	Monthly	€25,000 - €50,000

*It is our expectation this will result in 5-7 projects being funded with the remaining budget of NGIatlantic.eu.

Eligible Costs: Cost of personnel (inclusive of 25% overhead) and travel & subsistence (cost-reimbursement contracts).

Guidance: For projects applying in all topics, there are funding mechanisms provided by the National Science Foundation (NSF) in a similar funding range as provided to ST projects that the US teams can avail of, including the **NSF US-EU DCL 21-048** – a new dedicated supplemental fund for existing US NSF grantees to team up with NGIatlantic.eu partners, if they are in successful NGIatlantic.eu applications. The DCL is open to active NSF-funded researchers within NSF's **Computer and Network Systems Core** and **Secure and Trustworthy Cyberspace** programs. Funding available for NSF grantee of up to $100,000 or 20% of original grant budget for max duration of one year (n.b. the duration must fall within the period of their existing NSF grant period). Please note that the applicants still must explain how their US partners will fund their activities (independently from the DCL) and the proposals will be evaluated and selected based only on this information. US partners must commit to their work even if they finally do not receive their funding through the DCL. All supplemental funding requests subject to NSF's merit review process.

Please read the terms of conditions and requirements of the DCL carefully at
https://www.nsf.gov/pubs/2021/nsf21048/nsf21048.jsp.

5th Call timing:

- Launch: 01 February 2022;
- Submission of Declaration of Honor (DoH) by 31 March 2022, 17:00 CET with the application;
- Deadline: 31 March 2022, 17:00 CET;
- Evaluation: Each proposal will be evaluated by members of an External Pool of Evaluators (EPE);
- Notification of Outcome: Applicants will be notified on the outcome of their proposal within two months of the deadline.

* Additional notes:

A signed Declaration of Honour (DoH) must be submitted by the EU coordinators along with the application.

For US partners, a signed Letter of Support (LoS) must be submitted by the US partners and uploaded along with the application. A template of the Letter of Support and Declaration of Honour can be downloaded from the "Supporting documents" section below.

If your proposal is successful, you will be contacted within 5-10 business days of notification to take the steps necessary to prepare and sign the contract for the funding. Please note that a deadline of 10 business days will be applied to confirm both EU and US coordinator's intention to take up the contract to enable the funds to be re-allocated to other successful applicants.

Evaluation Criteria

Each proposal will be evaluated based on the 4-criterion given below, with a scoring from 1 to 10 and the weighting indicated:

Criteria 1: Soundness of the proposal and foreseen impact on the Open Call topic (30%);

Criteria 2: Technical excellence & adherence to the Open Call topics (30%);

Criteria 3: Experience and qualifications of the applicant (20%);

Criteria 4: Economics of the proposal (20%).

The final scoring and ranking will be automatically determined by averaging the scores provided by the 3 independent evaluators identified from NGIatlantic.eu's EPE.

Who can receive financial support?

Private and public organisations of any size (**but** not individual researchers) located within the EU Member States or Associated Countries and twinned with a US counterpart, as described above to carry out the activities proposed. Please note that the funding is limited to coverage of the work to be carried out by the EU team. For the US teams, please refer to the funding mechanisms of your US partners (e.g. National Science Foundation).

Will there be more open calls?

No. This is the 5th and final Open Call of NGIatlantic.eu.

Supporting Documents

Full Open Call text as PDF file

Proposal template in pdf format (contains brief instructions and its use is mandatory)[1]

Proposal template in word format (contains brief instructions and its use is mandatory)

Template for the Declaration of Honor (DoH) to be signed by both EU coordinator and US coordinator[2]

Standard Contract for successful proposals (Cost-reimbursement contract) [3]

FAQ

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[1] Will be available when call opens.

[2] Will be signed by both EU and US coordinators at application submission stage.

[3] Will be available for signature by the EU coordinator after signatures of the DoH.