NEXT GENERATION INTERNET
INTERNET OF HUMANS


# GUIDE FOR APPLICANTS

## 3rd Open Call

Submission starts on Tuesday, 1st of August 2023

Deadline is Monday, 2nd of October 2023 at 17:00 (CEST, Brussels time)

Version 1.0


NGI SEARCH is funded by the European Commission, as part of the Horizon Europe Research and Innovation Programme, under Grant Agreement Nº101069364.

# TABLE OF CONTENTS






Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

# 1 BASIC INFO ABOUT THE NGI SEARCH

NGI SEARCH project, funded by the European Commission, aims to change the way we **use and experience**, **search and discover data and resources**, on the internet and web.

NGI SEARCH will distribute up to €6.8 Million among projects looking to develop technologies and solutions enabling new and trustworthy ways of searching and discovering information on the internet across a variety of resources such as personal, scientific, industrial and environmental data, connected devices and smart objects, services, multimedia content, intranets and other ICT resources, both public and private.

NGI SEARCH will fund **up to €150,000 per project**. On top of this financial support, NGI Search will also provide technical and business support in an open and agile environment.

This Guide for Applicants contains relevant information to understand how to successfully take part in the Open Call of NGI SEARCH.

The NGI SEARCH consortium is comprised of:

**Aarhus University (Denmark)** is the project coordinator and has a wide experience in supporting researchers to transfer the results of research into innovative solutions. AU will be responsible for the Business Development Support.

**FundingBox Accelerator (Poland)** manages the open calls and cascade funding. FundingBox is the European leader in managing Financial Support to Third Parties (cascade funding) and provides tools for community creation, to help innovators meet, interact and collaborate to build growth connections. Furthermore, FundingBox Accelerator will offer on demand Pitch Training and Content creation support.

**LINKNOVATE SCIENCE (Spain)** will empower the capacity of the consortium to proactively find and discover those "publicly hidden" outstanding researchers that are out of the traditional channels related with public funding schemes for Research and Innovation. Furthermore, LKN will off market landscaping and research upon request of the Third Party Projects.

**The University of Murcia (Spain)** will provide technical support to the Third Parties as experienced researchers in the domain of data search. UM will also offer links to Standards and Foundations and Open Science advice.




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

**OW2 (France)** will support the project by offering a significant portion of the added value services for the targeted community such as open source licensing, beta testing and links to standardisation bodies and fora.

# 2 WHAT DO WE OFFER?

Selected projects that strongly demonstrate that they contribute towards the scope of NGI SEARCH, that is to change the way we use and experience, search and discover data and resources on the internet and web, will benefit in a number of ways, namely by:

- Joining the NGI SEARCH Support Programme with a duration of up to 12 months;
- Receiving funding of up to €50,000 if the applicant is a natural person applying on their behalf or up to €150,000 if the applicant is applying as a company;
- Option to receive Technical, Business and Innovation services provided by the partners as described in Table 1.1.

| Tech Services | Business Services | Innovation Services |
|---|---|---|
| Technology mentoring | Market Readiness | Open source licensing |
| Beta-testing | Pitch Training | Market landscaping and research |
| Links to Standards and Foundations | Business Modelling and Coaching | Open Science Advice |
| | | Content creation support for showcasing results |

Table 1.1 NGI Search Services

For further details see Section 5 and 6 in this Guide of Applicants.

# 3 ELIGIBILITY CRITERIA

All applicants must comply with the requirements described in sections from 3.1 to 3.3 of this Guide in order to be considered eligible to take part in the NGI SEARCH Support Programme.

## 3.1 WHO ARE WE LOOKING FOR?




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

Open Call applicants can be entrepreneurs, tech-geeks, developers, socially engaged people, SMEs[1] (including newly established entities), research entities, academic research groups, non-profit entities etc.

For the purposes of the application process, applicant types are divided into two main groups:

- **Natural Persons** who are residents of an **EU Member State**[2,3] or in **Horizon Europe Associated Countries**[4] or

- **entities** officially registered in an **EU Member State or in Horizon Europe Associated Countries**.

The project also accepts **consortia** of natural persons, consortia of entities or consortia of natural persons and entities, as long as the eligibility criteria are met. However, if the applicant decides to participate in a consortium, note that there is a **limit of 3 members per consortia (and max** € 150,000 per project)**.**

Also, note that we will not accept multiple submissions by the same team leader. If the applicant chooses to participate across different consortia not led by the same team leader, the applicant will still need to respect the maximum funding limit of €50,000 per natural person, and €150,000 per entity summed up across all projects.

### Example

If a natural person joins one consortia requesting €25,000, that natural person is eligible to join another consortia and request €25,000 maximum. The same applies to an entity that joins more than one consortia. The maximum will still need to be €150,000.

This also applies to participating in other NGI Search Open Calls.

### Example

[1]An SME will be considered as such, if it complies with the Commission Recommendation 2003/361/EC#. As a summary, the criteria which define a SME are:

- Headcount in Annual Work Unit (AWU) less than 250;
- Annual turnover less or equal to €50 million OR annual balance sheet total less or equal to €43 million.

[2]**27 Member States**: Belgium, Bulgaria, Czech Republic, Denmark, Germany, Hungary (see footnote 3 below), Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg,Malta, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland and Sweden.

[3]Following the Council Implementing Decision (EU) 2022/2506, as of 16th December 2022, no legal commitments can be signed with **Hungarian public interest trusts** established under Hungarian Act IX of 2021 or any entity they maintain. Affected entities may continue to apply to calls for proposals. However, in case the Council measures are not lifted, such entities are not eligible to participate in any funded role (beneficiaries, affiliated entities, subcontractors, recipients of financial support to third parties). In this case, co-applicants will be invited to remove or replace that entity and/or to change its status into associated partner. Tasks and budget may be redistributed accordingly.

[4]**Associated Countries**: Albania, Armenia, Bosnia and Herzegovina, Faroe Islands, Georgia, Iceland, Israel, Kosovo, Moldova, Montenegro, North Macedonia, Norway, Serbia,Tunisia, Turkey. Updated information at: Associated Countries. *The UK, as for now, is not eligible for Horizon Europe open calls. The UK's association agreement is still "in progress" and therefore UK applicants can not receive any funds. Entities from the UK can apply in the open call and can be even evaluated but cannot sign the Sub Grant Agreement until all formalities between the UK and European Commission are completed.




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

One entity selected for funding under the NGI Search 1st Open Call received €100,000. This same entity decided to apply for the NGI Search 3rd Open Call. This means that the entities can only request €50,000 as the maximum will still need to be €150,000 for entities.

To conclude, the maximum funding per project of **€150,000** cannot be exceeded, no matter the size and composition of the project nor if the applicant participates in more than one consortium. The upper funding limit of **€50,000** per natural person also remains, no matter if they apply independently, or within a consortium or across several consortia and NGI Search Open Calls.

## 3.2 WHAT TYPES OF ACTIVITIES ARE WE FUNDING?

The **Scope of this Open Call** is to fund and support projects that will develop technologies and solutions centred on internet and web related activities as well as privacy and trust for users who are searching and discovering information and resources on the internet/web.

The following list of topics is a set of problems that the consortium has identified upfront under the topic of Search and Discovery for the second Open Call. For further detail on the Work Programme, please consult Annex I of this document.

- Addressing gaps in Large Language Models
- AI detection tools in cultural products
- Search and discovery technologies for the arts
- Privacy Preserving Technologies in Search and Discovery
- Transfer learning for search and discovery
- The next generation of intelligent voice-based assistants
- Enabling new ways of discovering and accessing information

Project applications must clearly address a specific technology, method, tool or problem related to information retrieval, search, indexing, discovery and exploration of information. Project applications can be new, under development or part of larger ongoing projects; however, the applicants need to identify the specific contribution they are planning to make.

NGI SEARCH will offer webinars and Q&A sessions where you can learn more about the type of projects we are funding.




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

## 3.3 HOW TO APPLY?

When applying to NGI SEARCH Open Call, please note that:

- We will evaluate **only** applications submitted through the online form via https://ngi-search-3rd-open-call.fundingbox.com/ within the **deadline: 2nd of October 2023, 17.00 (CEST, Brussels time).** Upon receipt of each application, the system will send you a confirmation of your submission. Note that you can modify your application after you've submitted and this will be possible only until the deadline and not after the deadline.
- You have to verify the completeness of the form, as it won't be possible to add any further information after the deadline. If a mistake has been made in key administrative data (e.g. contact mail or phone, name of the company, etc.) the applicants have to contact us at ngisearch@fundingbox.com indicating the application ID, their username and the data which is meant to be corrected.
- You can submit **only one application** for the same project (for possibility of multiple submissions see under section 3.1 above) to NGI SEARCH in this Open Call. If more than one application is identified, only the first one that has been created for the same project will be evaluated. Therefore, make sure to delete any old draft versions of your applications to have only one final application.
- Consortium members' composition, that applied for the Open Call can be modified before signing the Sub-Grant Agreement with the NGI Search consortium ONLY if they are NOT affecting the applied for maximum budget amount, nor the project tasks, substantially. Note that the new consortium composition will have to be eligible as described in this Guide for Applicants. NGI Search consortium will decide on accepting the change based on review of cases, on a case by case basis. The change is not possible if it would call into question the decision awarding the grant or it breach the principle of equal treatment of applicants. (e.g. by adding a less experienced entity)
- Your application must be written in **English** in all mandatory parts in order to be eligible. Only parts written in English will be evaluated.
- All mandatory sections of your application must be completed. The data provided should be actual, true, complete and should allow assessment of the application. Additional material, not specifically requested in the online application form, will not be considered for the evaluation. We will check the information provided in your application during the external evaluation phase and Sub-Grant Agreement (SGA) preparation phase.
- We will take into consideration the existence of potential **conflict of interest** among you and one or more Consortium partners. Consortium partners, their affiliated entities, employees cannot take part in the NGI SEARCH Support Programme. All cases of potential conflict of interest will be assessed case by case.




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

- We don't accept entities that are under liquidation or are an enterprise under difficulty according to the Commission Regulation No 651/2014, art. 2.18, or that are excluded from the possibility of obtaining EU funding under the provisions of both national and EU law, or by a decision of both national or EU authority.
- Your project should be based on your original work or your right to use the IPR must be clearly stated. Going forward, any foreseen developments must be free from third party rights, or those third-party rights must be clearly stated.

# 4 HOW WILL WE EVALUATE YOUR APPLICATION?

Our evaluation process is transparent, fair and equal to all our participants. We will evaluate your project in 4 phases as depicted on the Figure 1: Evaluation Process

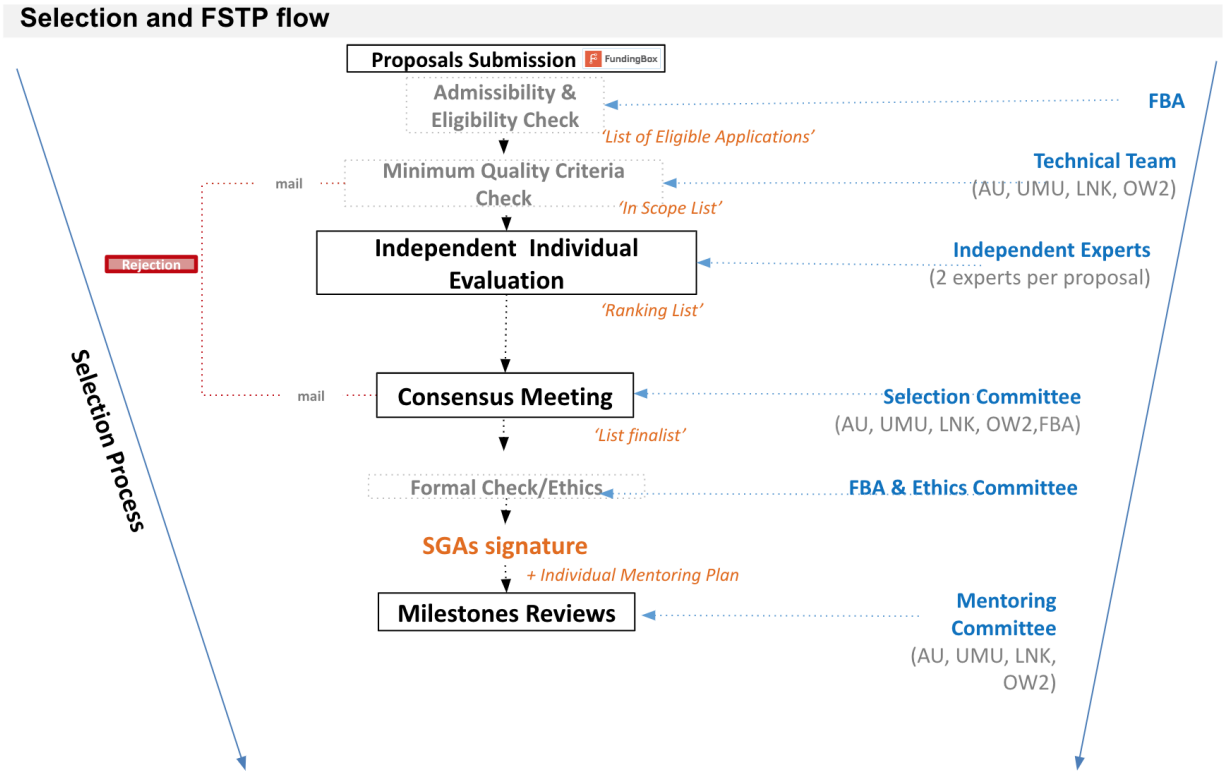


Figure 1: Evaluation Process




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

## 4.1 ELIGIBILITY CHECK

The submitted applications will be checked according to the "eligibility criteria" (Section 3 of this Guide for Applicants) and those applications which do not comply with those criteria will be excluded.

## 4.2 MINIMUM QUALITY CRITERIA

Prior to external evaluation, applications will be also checked for minimum quality criteria by the project technical partners (AU, LNK, UMU & OW2). Applicants need to address point A.1 and at least address one of the points B.1 or B.2.

A requirement to be eligible:

> A.1 The proposed project must be released as an Open Source project in a meaningful and openly accessible repository, meaning that **all work (and not just part) of the NGI project you propose** needs to be released under an open source licence (e.g. reports under creative commons; code under copyleft licences, etc.). Remember that project outcomes developed within the NGI Search should be widely applicable and used by a wider community of stakeholders external to your project team or organisation that proposes the solution.
>
> **You may propose an already existing project. For example:**
>
> | |
> |---|
> | We have been developing the Scion project that has been released under Apache-2.0 licence. You can see its status on https://github.com/scionproto/. |
>
> **You may propose a new project. For example:**
>
> | |
> |---|
> | We plan to release the project on GitLab under the following license (if known).<br><br>**Note:** An empty GitHubpublic repository where you would upload the resources in the future would be enough. Please also describe very carefully the project's open source plans in the project description and provide additional evidence that you have worked with open source projects and communities previously in the project description. |

At least one of these 2 points to be eligible:




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

B.1 Provide real working code or demonstrations either as research demonstrators showcasing novel concepts, minimum viable products showcasing a potential business, and/or community projects that are in a deployable state.

**Example:**

> The https://github.com/scionproto/ repository for working code and demonstrator including documentation of the project we are building on.

B.2 Contributions to internet/web as well as related standards and larger communities that are already working on solutions or have a solid track record in the community.

**Example:**

> We will contribute to the scion community: https://scion- architecture. We have already contributed to the latest book.

Furthermore, the applications must be in the scope of developing technologies and solutions centred on internet and web related activities as well as privacy and trust for users who are searching and discovering information and resources on the internet/web as described in Section 3.2 and the work programme (Annex I). Applications that fail to be in the scope will not proceed to the next phase.

A shortlist of 'Eligible Applicants' will be produced as a result of this phase. We will inform applicants about the results of the eligibility check.

**General clarification on the Minimum Quality Criteria:**

In the case of A.1, we will accept a link to an empty repository. However, you will need to provide evidence that the developments proposed within the project will be fully open source under a meaningful licence.

To pass B.1, it is not sufficient to provide a link to a repository. You will need to provide clear evidence that the repository is active and used by a wider community of contributors/developers. In order to pass B.1, you will need to provide evidence of an active repository (ideally with several internal and external contributors) and with good documentation as well as clear open-source licences. Note that, if you are proposing a new project and have linked an empty repository with a clear open-source strategy, you could pass A.1 but you will not be able to pass B.1. Instead, you need to focus on passing B.2.

To pass B.2, you will need to provide clear evidence that you are involved in activities that target a wider internet/web community of contributors/developers related to the




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

proposed topic. You will want to list examples of your contributions to this wider community and provide clear evidence that your project's components will continue to be directly linked to a wider open-source community or standards other than your own project team.

## 4.3 EXTERNAL EVALUATION

In this phase, all projects will be evaluated by 2 external and independent evaluators related to Search and Discovery on the Internet. Your project will be evaluated within the following awarding criteria:

**Excellence**

1. **Ambition.** The applicants have to demonstrate to what extent the proposed Bottom-up project contributes to the project scope, has an European dimension and is beyond the State of the Art. They will also need to demonstrate the innovative approach behind their solution's ability to enable new and trustworthy ways of searching and discovering information on the internet across a variety of resources such as personal, scientific, industrial and environmental data, connected devices and smart objects, services, multimedia content, intranets and other IT resources, both public and private. (e.g. ground-breaking objectives, novel concepts and approaches, new products, services or business and organisation models).

2. **Innovation:** applicants should provide information about the level of innovation within their market and about the degree of differentiation that this project will bring. The Third-Party Projects will also have to describe how they address the core values of NGI Search (see Section 3.2).

3. **Soundness of the approach** and credibility of the proposed methodology.

**Impact**

1. **Market opportunity:** The applicants have to demonstrate a clear idea of what they want to do and whether the new/improved product has market potential, e.g. because it solves a problem for a specific target customer standardisation activities, as well as an IPR regime ensuring lasting impact and reusability of results.
   **Competition**: The applicants have to provide information about the degree of competition for their particular product/service in future search and discovery systems with a strong focus on serving end-users' needs (including privacy), providing trustworthy and pluralistic recommendations and increasing public trust in search results. The applicant must also demonstrate if the idea is disruptive and breaks the market, i.e. the products/services to be brought to market can be clearly differentiated from the competition.




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

2. **Open-Source based Commercial Strategy and Scalability:** The applicants have to demonstrate new business and sustainability models based on improved access to online data, smart objects and resources and on open source and open hardware design (and open access to data) as well as the level of scalability of the new/improved product meaning by not addressing a specific problem but able to be commercialised to solve a structural problem in a specific sector/process/etc.

3. **Environmental and social impact:** The applicants have to demonstrate how their solutions aim to empower citizens and companies able to search and discover information, data, smart objects, resources and people online, with increased security, accuracy, diversity and transparency in search results while preserving the privacy of the end-users. Furthermore, the applicant must demonstrate how the project contribution towards environmental, social and economic impacts contributes to sustainable development, Green Deal and other European policies.

**Implementation**

1. **Team:** The applicants have to demonstrate their capabilities in understanding search and recommendation systems and how to contribute to a better governance of social networks, management and leadership qualities, their ability to take a concept from ideas to market, their capacity to carry through their ideas and understand the dynamics of the market they are trying to tap into. The team should be a cross-functional team, with a strong background and skills base and taking into account its gender balance.

2. **Resources**: Demonstrate the quality and effectiveness of the resources assigned in order to get the objectives/deliverables proposed.

Each evaluator will rank the application assigning a score from 0 to 5 for each criterion:

0 = Application fails to address the criterion or cannot be assessed due to missing or incomplete information

1 = Poor - criterion is inadequately addressed or there are serious inherent weaknesses

2 = Fair - application broadly addresses the criterion, but there are significant weaknesses

3 = Good - application addresses the criterion well, but a number of shortcomings are present

4 = Very good - application addresses the criterion very well, but a small number of shortcomings are present




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

5 = Excellent - application successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

Each evaluator will produce an Individual Evaluation Report. The final score will be calculated as the average of the individual assessments provided by the Evaluators.

The threshold for individual criteria will be 3. The overall threshold, applying to the sum of the three individual scores, will be 10.

In case the scores of the evaluators differ by (or more than) 3 points in at least one of the award criteria, and the discrepancy cannot be solved by the two involved evaluators, a third evaluator will be involved in the process.

Ties will be solved using the following criteria. The criteria in order of priority are:

- The highest score in the Excellence Section.
- Gender balance among the personnel responsible for carrying out the activities.
- Other factors related to the objectives of the call to be determined by the Selection Committee.

As a result of the Independent Evaluation, a 'Ranking List' will be produced. All applications above the threshold will be passed to the consensus meeting.

## 4.4 CONSENSUS MEETING

The 'Selection Committee' formed by FundingBox, Aarhus University, Linknovate, University of Murcia and OW2, will decide by consensus (⅔ majority votes will be considered consensus too) the 'List of finalists' to pass to the next phase. The discussion will be based on the ranking obtained as a result of the External Evaluation.

Whilst normally the highest ranked applications will be selected for funding, the Selection Committee might have fair reasons for objecting to a specific third party, like the alignment with NGI SEARCH goals and scope, the ability to achieve the highest impact possible, commercial competition, as well as the existence of significant ethical concerns or a potential conflict of interest. In this case, the choice may pass to the next-ranked application.

The exact number of applications approved will be decided based on the overall quality of the applications. Applicants will be notified whether they have been selected or not.

## 4.5 WHAT'S NEXT? SUB-GRANT AGREEMENT SIGNATURE




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

Before the NGI SEARCH Support Programme starts, we will ask you to provide documents regarding your formal status (for the details please check our Frequently Asked Questions Section that can be downloaded via our Open Call webpage here). Please do it within the deadlines that will be communicated to you. If you fail to deliver the requested documents on time, without clear and reasonable justification, we will exclude you from the further formal assessment and you will be replaced with the applicant from the Reserve List. In parallel, we will also run the Ethics Check, whereby an Ethics Committee would review your applications and provide recommendations, if any.

Once these checks have been performed, we will ask you to sign the Sub-Grant Agreement with the NGI SEARCH Consortium. You can download the SGA template via our Open Call webpage here. Please note that the SGA is a template that may be subject to minor changes.

# 5 OUR SUPPORT PROGRAMME

The selected applicants, after signing the Sub-Grant Agreement with the NGI SEARCH Consortium, will participate in NGI SEARCH's Support Programme, which is an up to 12-month programme to help with the execution of selected Projects in order to create highly innovative technologies, potentially turn them into products or services that will contribute in creating a more scalable, resilient and sustainable internet. The Support Programme will provide selected Projects with support for 3 major milestones:

**Stage 1: Onboarding (1 month), up to 20% total budget**

- Milestone 1 — participation in Welcome Event, completing the Individual Attending the Kick Off, Completing the Individual Mentoring Plan and addressing the Ethics requirements produced by the Ethical Review.

**Stage 2: Implementing (8 months), up to 50% total budget**

- Milestone 2 — Development of the MVP and Business Plan

**Stage 3: Adopting (3 months), up to 30% total budget**

- Milestone 3 — Completion of the Technology adoption Plan

At the start of the Support Programme, Mentors will be allocated to each project, the Mentors will define the procedure to coordinate the mentoring process. After this, the Mentors and the Teams will define the Individual Mentoring Plan (IMP) establishing the individual budget, deliverables and KPIs that will be taken into account when evaluating the Teams' performance at the payment's milestones. The IMP, once updated, will be annexed to the Sub-Grant Agreement.

# 6 PAYMENT ARRANGEMENTS




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

The agreed grant is paid as a lump sum against specific Deliverables/ Milestones[5] included in the Individual Mentoring Plans and the Sub-Grant Agreement. Agreed amounts will be paid after successful completion of the specific Deliverables/ Milestones. Once the milestones and payments to each Grantee are approved by the 'Selection Committee' (detailed process provided under Section 7), the Coordinator, Aarhus University, will pay to the 3rd parties on behalf of the Consortium. Each Grantee that completed a given stage will receive the grant corresponding to that stage.

The lump sum is a simplified method of settling expenses in projects financed from Horizon 2020 funds. It means that the grantee is not required to present strictly defined accounting documents to prove the cost incurred (e.g. invoices), but is obliged to demonstrate the implementation of the project in line with the milestones set for it. Simply speaking it means that we will carefully assess your progress and quality of your work during Interim Reviews, not your accountancy. The milestones (deliverables, KPIs and ethical recommendations) will be fixed in the 'Individual Mentoring Plan' elaborated at the beginning of the programme.
The lump sum does not release you from the obligation to collect documentation to confirm the costs under fiscal regulation.

As guidance, consider splitting your budget in your application form in the following way:

- ☐ Split the budget per consortium member. If you are single applicant, no split is required.
- ☐ For each consortium member, split your budget over three milestones (MS1 20%, MS2 50%, MS3 30%) of the requested total budget, following the rules mentioned above.
- ☐ Split each Milestone into personnel costs, sub-contracting, other costs (e.g. travel) and equipment costs.

For example (single organisation only showing MS1):
You are a single organisation and you would like to claim 30,000 EUR for Milestone 1 (maximum amount is 30K, 20% of 150,000 EUR, as indicated in Section 5 above).

Milestone 1: Onboarding (1 month)
- Personnel costs: e.g 4 persons, 1PM each, 28,000 EUR.
- Subcontracting: e.g. 0 EUR
- Other costs (e.g. travel): 1,000 EUR project meeting for 2 persons
- Equipment: e.g 1,000 EUR servers
- Total: 30K EUR

Remember, your budget has to be proportional to the work you are providing, i.e. claiming the maximum amount has to be justified.

[5]The Deliverable can be a DEM (Demonstrator, pilot, prototype, plan designs, MVP); a DEC (Websites, patents filing, press & media actions, videos, etc.) or OTHER (Software, technical diagram, plan, strategy etc.)




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

# 7 PAYMENT CRITERIA

The criteria for calculating the exact amount of the financial support and the specific milestones will be indicated in the "Individual Mentoring Plan" based on the actual selected team's needs and the best value for money indicator included in the individual budget.

This **Individual Mentoring Plan and the final grant will be agreed after the Welcome Event**. Concerning this, the following relevant notes must be taken into account:

- Applicants might have applied to the maximum grant amount but after the **Individual Mentoring Plan different financial support can be agreed**, but never exceeding the maximum grant amount.

- **Natural persons individually considered cannot receive more than €50,000.** This means a variety of situations that have also to be agreed during the Individual Mentoring Plan definition, but a **% distribution and reduction of the grant will be the inspiring principle** i.e.

  - If a **natural person is granted together with another natural person** (i.e. a team of two people), the same principle applies for the same case, but the maximum amount to be distributed is €100,000 between two people (max €50,000 each).
  - If a **natural person is granted together with an registered entity**, the internal distribution of the grant to be paid to the natural person will not exceed €50,000. For these cases, an internal Agreement, stating those internal payments, is highly recommendable although not compulsory to receive the NGI SEARCH funding. Budget of the project stating the tasks and the appropriate payment will be included as a part of the Individual Mentoring Plan annexed to the Sub-Grant Agreement.

At the end of each milestone, the Mentoring Committee will evaluate the performance and quality of deliverables issued by selected team's Projects, proposing their final valuation. Selected Projects performing as expected in the Individual Mentoring Plan, after being validated by the Mentoring Committee and confirmed by the Selection Committee will receive the EU Funds payments as scheduled. Those not reaching the performance requested will be invited to leave the program without receiving the corresponding payments.

For a more detailed payment schedule please check our Frequently Asked Questions Section that can be downloaded via our Open Call webpage here.

Grant provided can not be higher that the grant requested.




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

# 8 CONTACT US

## 8.1 HOW CAN WE HELP YOU?

If you have extra questions regarding our Open Call process you can post your questions at Helpdesk space at https://spaces.fundingbox.com/spaces/the-next-generation-internet-ngi-community-ngi-search or you can send us a message to ngisearch@fundingbox.com.

In case of any technical issues or problems, please include the following information in your message:

- your username, telephone number and your email address;
- details of the specific problem (error messages you encountered, bugs descriptions, i.e. if a drop-down list isn't working, etc.); and
- screenshots of the problem.

## 8.2 COMPLAINTS

If, after receiving the results of one of the evaluation phases (when foreseen), you consider that a mistake has been made, you can send us your complaint. To do so please send us your complaint in English by email to: ngisearch@fundingbox.com, including the following information:

- your contact details (including email address),
- your username
- the subject of the complaint,
- information and evidence regarding the alleged breach.

You have **3 calendar days** to submit your complaint starting from the day of becoming aware of the grounds for the rejection. We will review your complaint within no more than seven calendar days from its reception. If we need more time to assess your complaint, we will inform you by email about the extension.

We will not review anonymous complaints as well as complaints with incomplete information.

Please take into account that the external evaluation is run by experts in the Search and Discovery field, and we do not interfere with their assessment, therefore we will not evaluate complaints related to the results of the evaluation.




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

The Eligibility Criteria and the Minimum Quality Criteria Check is carried out by the partners of the NGI SEARCH project. Should you have any concerns related to this evaluation phase, submit your complaints as described above.

## 8.3 FINAL PROVISIONS

Any matters not covered by this Guide will be governed by the Polish law and rules related to the Horizon Europe and EU grants.

Please take into account that we make our best effort to keep all provided data confidential; however, for the avoidance of doubt, you are solely responsible to indicate your confidential information as such.

Your IPR will remain your property.

The NGI Search Consortium might cancel the call at any time, change its provisions or extend it. In such a case we will inform all applicants about such change. Signature of the Sub Grant Agreement is an initial condition to establish any obligations among applicants and any Consortium partners (with respect to the obligation of confidentiality of the application).

Did not find what you were looking for? You may want to check our Frequently Asked Questions Section that can be downloaded via our Open Call webpage here.




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

# ANNEX I: NGI WORK PROGRAMME

NGI Search looks for proposals to address research-based solutions that address NGI at the core of their developments whilst supporting the outcomes of the NGI Search vision and mission. The following list of topics is a set of problems that the consortium has identified upfront under the topic of Search and Discovery for the third open call, which welcomes researchers, innovators and developers with a focus on technical projects and advances in the tools of search and discovery, socially engaged people, tech geeks and start-up entrepreneurs. All the topics admit the transversal interest of green technologies.

We expect that all developments will be open source and provide real demonstrations either as research demonstrators showcasing novel concepts; minimum viable products showcasing a potential business; and/or community projects that are in a deployable state. We will not only accept Open Source, but also Open Core is a possibility if the developments within the project work on the core. All developments are expected to be well documented and uptake of the open source code is widely encouraged.

## 1. Addressing gaps in Large Language Models

### Description

Large language models are ushering in a revolutionary era in the way we search for and discover information on the internet. These advanced AI-powered models have been trained on massive amounts of text data, allowing them to understand and generate human-like text in a wide range of contexts. By leveraging the power of NLP, these models excel at understanding complex queries, interpreting context, and generating relevant and comprehensive responses. They can process vast amounts of information from diverse sources, making them invaluable tools for search engines, virtual assistants, and other information retrieval systems. With their ability to provide more accurate, context-aware, and personalised responses, large language models are transforming the search and discovery experience.

However, these models still present several gaps that can be addressed. For example, large language models are computationally demanding and resource-intensive, limiting their accessibility and applicability in certain contexts. Knowledge distillation is one technique that can help mitigate this challenge. In knowledge distillation, a large, complex model is trained to transfer its knowledge to a smaller, more efficient model. Another problem that we encounter is hallucination.




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

Hallucination refers to the phenomenon where the model generates information or outputs that are not grounded in reality or supported by factual evidence. Lack of common sense knowledge, biases, ethical concerns and the fact that they do not work well with searches that use multiple languages are other problems to tackle.

Possible approaches include the use of external knowledge bases to augment the training data using knowledge graphs, such as ConceptNet, Freebase, Wikidata or Cyc that contain common-sense knowledge in the form of semantic relationships between concepts. Another approach is to incorporate reasoning capabilities into LLMs, such as probabilistic or logical reasoning. Bayesian networks are one such method that can be used to model the uncertainty and dependencies between variables. Finally, enabling models to continually learn from new data or adapt to evolving knowledge, ensuring their ability to stay up-to-date with changing information is another possible approach.

### NGI Search motivation

We seek ambitious research proposals and developments that are able to push the current limits of the existing Large Language Models, connecting them to search engines and other tools to facilitate search discovery on the internet.

### Keywords

large language models, continual learning, hallucination, knowledge distillation, commonsense reasoning

## 2. AI detection tools in cultural products

### Description

AI-generated texts, images and videos can have a really positive impact in society, they are efficient (quick and at scale - marketing /social media), consistent (they learn from patterns and the content is consistent in terms of style and desired tone), customised towards a specific audience, novel (sometimes offers unique perspectives that come from a racional/machine process) and accessible.

Even though the quality of the content generated by AI has improved significantly in recent years, it is important to note that AI-generated content is still a product of algorithms and lacks the creativity and intuition that humans possess.

In order to make informed decisions towards the content we want to consume, it is necessary to have tools that detect when a piece or a product is created by means of AI. The most important problems of not being able to recognise the authorship of AI-generated images and videos are: misinformation (fake/misleading images used




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

to spread false information and create propaganda), bias (discriminatory content), privacy (individual's privacy rights when images are inspired in particular people), intellectual property and unintended consequences (unexpected effects on individuals and society as a whole)

### NGI Search motivation

The detection of the use of AI in cultural products is of special interest in order to avoid fraud and misinformation. NGI Search motivation is to look for innovative projects whose aim is directed towards the detection of the use of AI

### Keywords

Anomaly detection, AI generated content, cultural products

## 3. Search and discovery technologies for the arts

Supporting collaborations between artists, scientists, and engineers holds significant potential for fostering innovation, creativity, and interdisciplinary advancements. It is the case of the project **S+T+ARTS (**starts.eu**), funded by the European Commission.**

Search and discovery internet technologies provide artists with unprecedented opportunities for exposure, collaboration, learning, and engagement. By leveraging technological tools effectively, new perspectives for solving problems can be explored, promoting innovative problem solving and enhancing artists' practice, expanding their audience and their reach in order to make a greater impact through their art.

We look for technological developments that can increase artists' visibility by optimising online presence, find the audiences to target by leveraging data analytics leading to more meaningful engagement and potential sales, exposing collaboration opportunities in cross-domain artistic ways: video game programmers with musicians and designers for example, crowdfunding and patronage tools to attract funding and build a dedicated community of patrons, preservation, archiving, authenticity and provenance.

Some examples of the technologies that can be leveraged are blockchain (for ownership and transparency) as its application with NFTs. Artificial Intelligence and Machine learning for the personalised recommendations, augmented and virtual reality for interacting with art-work in virtual spaces, Big Data to analyse market trends, content management systems, interactive discovery tools etc.




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

### NGI Search motivation

We look for disruptive ideas about how to revolutionise the way we understand art by means of search and discovery tools that benefit from the internet.

### Keywords

artistic collaborations, target audiences, patronage for artists, big data market trends

## 4. Privacy Preserving Technologies in Search and Discovery

### Description

Privacy in search and discovery refers to the protection of personal information and user data during the process of searching for information and discovering new content online. Privacy-enhancing technologies are tools, techniques, and protocols designed to enhance privacy and protect personal information in online activities. This topic includes but is not limited to Federated Learning (FL), Differential Privacy (DP), Secure Multi-Party Computation (SMPC) and Homomorphic Encryption.

- FL is a machine learning approach that allows training models on decentralised data sources without the need to centralise the data. FL can be particularly useful for search and discovery when dealing with sensitive or personal data that users may not want to share directly.

- DP is a technique that adds noise or random perturbations to query responses or data before releasing them.

- SMPC is a cryptographic technique that allows multiple parties to jointly compute a result without revealing their individual inputs.

- Homomorphic encryption is a cryptographic technique that enables computation on encrypted data without decrypting it. This allows data to remain encrypted throughout the computation process, ensuring privacy.

### NGI Search motivation

Data protection safeguards privacy, prevents cyberattacks and builds trust. NGI searches those characteristics in the applications developed and through Privacy Preserving technologies aims to achieve it.

### Keywords

federated learning, differential privacy, decentralised data, tiny machine learning, privacy preservation, secure multi-party computation, homomorphic encryption




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

## 5. Transfer learning for search and discovery

### Description

Transfer learning involves utilising knowledge gained from one task or domain to improve performance on another related task or domain. Instead of starting the learning process from scratch, transfer learning leverages the prelearned knowledge or representations from a pretrained model and applies it to a new but related problem. Transfer learning can be effectively applied to search and discovery tasks to improve their performance and efficiency:

- Pretrained Models: Using pretrained models that have been trained on a large dataset for a specific task can be leveraged to extract meaningful features from the search queries or documents.

- Feature Extraction: The pretrained models can serve as feature extractors. For example, in a search engine, the query entered by a user can be processed using a pretrained language model to obtain relevant features. Similarly, for document search, the pretrained model can extract features from the documents, enabling better matching and retrieval.

- Representation Learning: Transfer learning aids in learning rich representations from the pretrained models. These representations capture the semantic meaning and context of the search queries or documents, which is valuable for search and discovery tasks. By leveraging pretrained models, the system can benefit from the learned representations and improve the accuracy and effectiveness of the search process.

- Fine-tuning: Fine-tuning of the pretrained models to adapt them to the specific search and discovery domain can be done. The pretrained models provide a solid foundation, but by training them further on a smaller, domain-specific dataset, they can be optimised to better understand the nuances of the search context.

- Improved Performance: Transfer learning can enhance the search and discovery process by leveraging the knowledge acquired from a large dataset. By transferring this knowledge to a specific search task, the system can provide more accurate and relevant results, improving the overall user experience.

- Reduced Data Requirements: One of the advantages of transfer learning is that it can alleviate the need for large amounts of labeled data in the target domain. Since the pretrained models have already learned general patterns and representations from extensive training, they can be used as a starting point, reducing the data requirements for training a search and discovery system from scratch.




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

### NGI Search motivation

NGI searches through transfer learning the improvement of search and discovery results by means of sharing the knowledge extracted between different domains.

### Keywords

transfer learning, fine-tuning models, feature extraction for transfer learning, knowledge transfer, reduced data requirements for models

## 6. The next generation of intelligent voice-based assistants

### Description

Voice assistants have been successfully adopted for simple, routine tasks, such as asking for the weather or making a phone call. They can have a social function since they can decrease depression and simulate interest in physical activity among other positive social influences[1]. However, as familiarity increases, we will start demanding more complex tasks, such as exploratory search. Advice on starting a new hobby, suggestions on books on a certain topic or activities to do abroad are examples of exploratory search queries that cannot be answered with a single-shot answer, and this will require the addition of intelligence to the assistants[2]. Traditional written query formulations are usually simpler than voice-based searches and analysing the word choices and interactions provides more context about the intent of the user. Some challenges relate to situationally induced impairments and security, since the search can be done while performing other activities and in public spaces (the assistant demands private information), to queries that mix languages (multilingual) and to mixed modal interactions, where questions and answers not only have voice content but also images, text etc.

### NGI search motivation

The Search and Discovery that is done through voice assistants is a resource that many people use nowadays, making their life easier by accessing information and services. We seek ambitious projects to overcome the various technical challenges that are associated with NGI values such as privacy and trust in search retrieval, global language support by including and creating open source training data for minority languages, and advancing the field of NLU.

[1]Kachouie, R., Sedighadeli, S., Khosla, R., & Chu, M. T. (2014). Socially assistive robots in elderly care: a mixed-method systematic literature review. *International Journal of Human-Computer Interaction*, *30*(5), 369-393.
[2]Ma, X., & Liu, A. (2020, July). Challenges in Supporting Exploratory Search through Voice Assistants. In Proceedings of the 2nd Conference on Conversational User Interfaces (pp. 1-3).




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364

### Keywords

voice assistants, voice search, security in voice search, contextual search, induced impairments, mixed modal interactions, image search, image query, search query, textual search, NLU in search, cross lingual search, immersive technology (AR/VR) in search, inclusive search.

## 7. Enabling new ways of discovering and accessing information

### Description

Due to the rapid development of the Internet of Things (IoT) and consequently, the variability of more and more data sources, mechanisms for searching and integrating data become essential to leverage all relevant knowledge for improving processes and services[3]. New ways of discovering and accessing information need to be created in the form of platforms and products that deal algorithmically with data. The integration of data-driven machine learning with human knowledge (common priors or implicit intuitions) can effectively lead to explainable AI[4] that would provide us ways to discover and access information where only raw data is present. The Challenge is to develop new algorithms and methodologies to discover and access information by combining Big Data technologies.

### NGI Search motivation

This topic gathers any kind of research developments that cannot be classified in the prior topics but yet it is interesting to create new ways of discovering and accessing information with regard to nowadays challenges associated with data and computing towards open technologies that respond to people's fundamental needs on search and information retrieval.

### Keywords

information visualisation, computer graphics, visualisation, graphs, animated, infographics

[3]Iggena, T., Bin Ilyas, E., Fischer, M., Tönjes, R., Elsaleh, T., Rezvani, R., ... & Holmgård Christophersen, S. (2021). IoTCrawler: Challenges and Solutions for Searching the Internet of Things. *Sensors*, *21*(5), 1559.

[4]Zhuang, Y. T., Wu, F., Chen, C., & Pan, Y. H. (2017). Challenges and opportunities: from big data to knowledge in AI 2.0. Frontiers of Information Technology & Electronic Engineering, 18(1), 3-14.




Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them. Funded within the framework of the NGI SEARCH Project under grant agreement No 101069364