

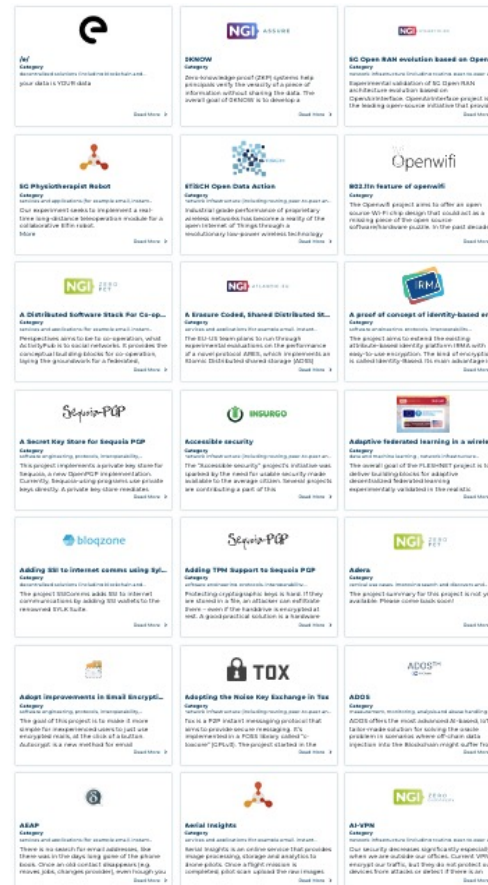
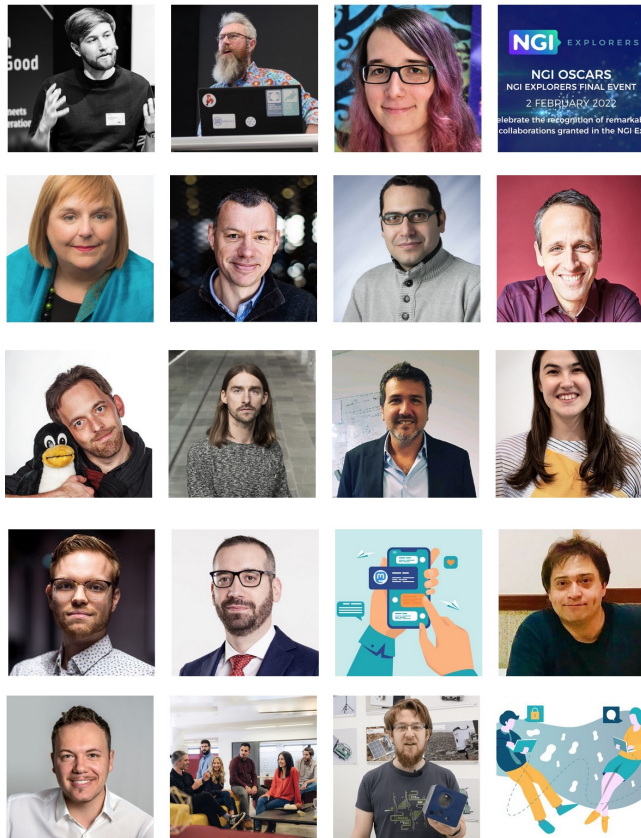
# NGI Search

Nina Dokleštic (FundingBox)

Aurora González Vidal (University of Murcia)

Mirko Presser (University of Aarhus)

# The NGI family (ngi.eu)



<https://pointer.ngi.eu/>





# NGI Search (ngisearch.eu)

- Scout and run **5 Open Calls** to find and select talented researchers, innovators and activists working in search and discovery within a human-centric context.
- Support and mentor the selected candidates over a **12-month custom programme using 10 value-added services**
- Integrate them into the **NGI community**, in particular the sister RIA on infrastructure, as well as communicate and disseminate their results.
- Synergise with **national, regional and international initiatives** to establish a peer-based system of quality and dissemination at the global level.

Total budget: 8.5 MEUR

Duration: Sept. 2022 – Aug. 2025

80% FSTP: 6.8MEUR over 5 open calls (50-150kEUR per OC project)

<https://www.ngisearch.eu/>



Project Name	Description
<b>Search-a-licious</b>	An open, extendable, pluggable search platform for Open Food Facts (and other kinds of open inventories).
<b>TalentLayer</b>	TalentLayer is an open data ecosystem and developer toolkit that enables interoperability of hiring and work platforms via “pooling” job post and user profile data.
<b>BuildSearch</b>	BuildSearch is a privacy & trust enabling search & discovery platform for a sustainable built environment, improving semantic analysis and enabling new ways of discovering/accessing information across a variety of internet resources organized in a decentralized knowledge graph.
<b>HeReFaNMI</b>	The project aims to deliver an automatic system for detecting healthcare-related fake news that users can find on the Internet. The software tool will rely on an Artificial Intelligence approach, namely, Continual Learning.
<b>LabDiscoveryEngine</b>	Open source remote lab management system to allow institutions to publish, share, discover and access, securely, their physical educational labs, thus democratizing and increasing access to equipment and resources regardless of space and time and saving costs.
<b>Ma Dada</b>	This project aims to improve the way citizens search for and request information from public authorities over the Internet through the use of digital commons and language models.
<b>IoT twinning for digital product passports</b>	A search and discovery service to access information about digital devices. We work with digital twins for the circular management of ICT devices. The twins provide identifiers, details & verifiability information (proofs) represented as a digital product passport.
<b>TrustSearch</b>	TrustSearch will be an AI tool that offers a search experience based on critical thinking and show the different approaches of media to a controversial issue
<b>SVP64 Power ISA Vector Optimisation for Search</b>	Take existing search algorithms and optimise a Vector ISA (at the hardware level) to increase energy efficiency
<b>On My Disk: search integration</b>	On My Disk provides personal cloud storage on your private device, with instant sharing through a decentralized delivery network. With integrated PeARS technology, it lets you deploy your very own search engine over your documents, wherever they are.

# Topics

- Power cognitive search by reinforcement learning
- Machine-based data
- AI-based taxonomies
- Network analysis
- AI-based search tools and content generators
- Ethics in search and discovery
- Enabling new ways of discovering and accessing information

Transversal: green technologies

# Power cognitive search by reinforcement learning

- Cognitive search uses AI to understand and interpret human language in order to provide more accurate and relevant search results.
- Development of mechanisms, including but not restricting to self learning, pattern recognition and natural language processing, that contribute to a system able to learn from the interactions how to choose the data and algorithms to make a search more relevant.

# Machine-based data

Enable the search and discovery of information based on historical data and pattern extraction by means of algorithms that can adapt to the characteristics of the IoT sources:

- geospatial information,
- events and time series,
- real-time,
- social media data, etc.

# AI-based taxonomies

Taxonomies are machine-interpretable semantics that provide knowledge for applications such as enhancing query understanding. The existing generic taxonomies cannot satisfy user's specific interests.

We encourage research about the automatic creation and expansion of taxonomies by means of AI techniques that model inter-dependency among new concepts.



# Network analysis

The output of complex network analysis is an interlinked network of distributed resources which can be queried, structures known as knowledge graphs - very related to semantic modelling.

Formal semantics to derive conclusions in a query should be addressed. Scalability, quality of the induced models, diversity on the managed data and dynamicity are also general challenges of knowledge graphs to account for.

# AI-based search tools and content generators

In recent times, several AI-based search and content-generating tools that can assist us in performing different tasks such as chatGPT and GitHub copilot are gaining popularity.

AI-based writing tools and art generators are other examples.

We seek critical projects that work on the evaluation of privacy, research gaps and their performance

# Ethics in search and discovery

An ethical framework for search and discovery so that algorithms do not infringe on fundamental human rights, from privacy and data confidentiality to gender/minority equality, freedom of choice and conscience.

Solutions aligned with the European Commission report "Ethics Guidelines for trustworthy AI" - a clear benchmark to evaluate the responsible development of AI systems, applied to discovery and search.

De-biasing mechanisms such as data augmentation and resampling, promoting minority/gender tagging and bias fine-tuning mechanisms are encouraged towards the development of Responsible and Explainable AI in ethical terms.

# Enabling new ways of discovering and accessing information

Due to the rapid development of the IoT and the variability and volume of data sources, mechanisms for searching and integrating data are essential to leverage all relevant knowledge for improving processes and services.

The integration of data-driven machine learning with human knowledge can effectively lead to explainable AI 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.

# 2nd Open Call basic rules

- **Please, read carefully the Guide for Applicants (GfA) and FAQ on the Open Call site!**
- **Open call benefits:**
  - 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 an organisation.
  - Option to receive Technical, Business and Innovation mentoring provided by the NGI Search project partners
- **Eligibility criteria**
  - **We are calling for** individual or organisations looking to change the way users search and discovery on the internet with the European values of openness, transparency, privacy and trust in mind.
  - Both **natural persons** and **organisations**
  - We also accept **consortia** of natural persons, consortia of organisations or consortia of natural persons and organisations. The **limit is 3 members per team**
- **4 stages of Evaluation Process**
  - Eligibility Check
  - Minimum Quality Criteria
  - External Evaluation
  - Consensus Meeting

...And finally the **Sub-Grant Agreement** signing, when and if you get selected.



# Call submission



## Contributor

There is an option to **add contributors** on the application submission page



## Mind the deadline

Make sure you submit your application **BEFORE** the deadline.



## Fill all the fields

Submitting your application is available only after all the **red star** marked sections are **correctly** filled out.



## The first proposal

Only **the first proposal** which has been submitted in order of time, will be evaluated.



## Edit it

You can always edit all the fields **until the deadline**, even after the submission.

## Help needed?

- Write us at **[ngisearch@fundingbox.com](mailto:ngisearch@fundingbox.com)**
- Official Open Call **Helpdesk** is open  
<https://spaces.fundingbox.com/spaces/the-next-generation-internet-ngi-community-ngi-search>

Feel free to **raise your questions** there, project partners will get back to you in no time.



# NEXT GENERATION INTERNET

**THANK YOU!**

