

NEXT GENERATION INTERNET

– NGI –
THE PEOPLE BUILDING
THE INTERNET OF
TOMORROW

April 2020

The Next Generation Internet community is an incredibly talented group of people whose combined efforts are creating a human-centric Internet.

With NGI, researchers and innovators run projects throughout Europe in a diverse array of subject areas from cryptography to federated identity and from search technology to secure operating systems.



NGI comprises an ambitious research and innovation programme with more than €250 million EC funding between 2018-2020. Too often top Internet innovators are not associated with European funding because of perceived high barriers to entry. NGI has put in place the mechanisms to ensure that it attracts top talent by offering funding opportunities for accessible, small, focused and agile projects.

€75 million directly support top Internet researchers and innovators through 'cascade funding' with simplified administrative procedures and a light, start-up and SME friendly application scheme. Read more about [NGI's expertise to select, fund mentor and coordinate next generation Internet projects.](#)

NGI equity-free funding offers innovators such as SMEs and start-ups a buffering opportunity, with vital resources to develop their innovative solutions. Each project receives an NGI grant, typically €50,000 – 200,000, which can significantly shorten the research cycle and time to market. Moreover, the NGI initiative bestows bridging opportunities facilitating inter-organizational networks, collaborations and the flow of knowledge and resources across organisations.

BLOCKCHAIN

NGI funds projects on blockchain, peer-to-peer technology and decentralised ledger technology (DLT) through a Research and Innovation Action named LEDGER. Focus is on a variety of areas including health, economy, mobility, public services, energy and sustainability and open innovation.

DLTs and blockchain-based architectures in particular have the potential to increase trust, transparency and traceability of transactions on the Internet, without the need for a centralised third-party. With these technologies, the goal is that individuals are fully in charge of their personal data and they can choose to contribute to social good by sharing their data in areas as diverse as health, democracy, or environment.

FUNDING

The total amount of grants through two calls is €5.6m and a total of 32 projects each receive €150,000. After an initial nine-month stage to develop and test a *most viable product*, the 16 best projects enter a second three-month business focus phase providing business modelling, fundraising and access to market services, with an additional €50,000. LEDGER has had one open call for [16 projects](#) and a second call has an additional 16 projects ready to come on board.

Who's NGI?



Jaya Klara Brekke describes how CoBox uses peer-to-peer technology to securely back-up data, without losing out on data sovereignty. The following is an excerpt, read the full blog [here](#).

“We felt the time is ripe to develop [CoBox](#), building blocks for a peer-to-peer distributed cloud and secure back up system.

“Thanks to the [NGI Ledger](#) award, we began development on [CoBox](#), contributing to and customising the [Dat peer-to-peer stack](#), building new tech towards the needs that we have since identified.

“CoBox is a network technology, and for us, building a network is more than just making devices, it means building a community like the Next Generation Internet community that we're excited to be part of. Our business model is to grow value with a community rather than trapping people and then extracting value from a community.”

SAFER SEARCH

NGI grants are made to projects for Internet search, peer-to-peer, distributed ledger, browser and routing through a Research and Innovation Action named NGI Zero Discovery.

Search and discovery are basic human needs for humans of all ages, and NGI Zero wants to put powerful new technology in the hands of future generations as building blocks for a fair and democratic society and an open economy that benefits all.

The key objective is to deliver potential break-through contributions to the open Internet. All scientific outcomes must be published as open access, and software must be published under a recognised open source license in its entirety.

FUNDING

A total of €5.6m is awarded in grants ranging between €5,000-50,000. NGI Zero Discovery has held seven calls, with [57 projects ongoing](#). In 2020, there will be three more bi-monthly calls.

Who's NGI?



Adam Tauber introduces Searx, a privacy-respecting meta-search engine. The following is an excerpt, read the full blog [here](#).

“As far as I know, Searx was the first meta-search engine targeting the protection of its users’ privacy. Searx may not offer you as personalized results as, for example, Google, but it doesn’t generate a profile about you, it doesn’t care about, or monetize what you search for, it never shares anything with a third party and it can’t be used to compromise you. I designed Searx for people who care about privacy, want to be a conscious user, or believe in digital freedom. You can make Searx your default search engine or run it on your own server.”

“Searx is a fairly mature, free software, with more than 50 contributors. We’ve worked on it in our free time, so the development was unpredictable and fluctuating. We are now receiving support from NGI in multiple areas, including security, accessibility and licensing issues. The advantage of being part of NGI is that it connects experts with various backgrounds to solve problems too big for one person to tackle. Searx development will continue after the support of NGI. We have a relatively big open source community and tons of [ideas to enhance Searx](#).”

OPEN SOURCE PRIVACY

NGI grants are made to open-source privacy projects through a Research and Innovation Action named NGI Zero PET. It supports Privacy and trust Enhancing Technologies to fix Internet weaknesses. Selected innovators devise new ways to manage passwords, encrypt email or improve Internet traffic protocols.

Topics include Domain Name System (DNSSEC, DoH DoT) hardware, firmware, browsers, cryptography, videoconferencing, operating systems, instant messaging and routing protocols.

FUNDING

A total of €5.6m is awarded in grants typically ranging between €5,000-50,000. NGIO PET has held seven calls with [104 projects ongoing](#). In 2020, there are three more bi-monthly calls.

WHO'S NGI

Alyssa Ross talks security of operating systems with Spectrum. The following is an excerpt, read the full blog [here](#).



“With current systems, [balancing security and usability] is a trade-off. A lot of things we take for granted today only work because programs can communicate with each other on our behalves, but there’s nothing to stop them communicating maliciously, or even in some way that we just don’t intend. This communication can be done in a better way, with the consent of the user being required,

but this is a problem we have to solve individually for every different communication method.

“To use [Spectrum](#), people are going to have to learn some new things about how to interact with their computer. There’s just no way right now to deliver a computing experience that is secure, but exactly like what people are used to, while still allowing them to install and run whatever programs they like. It’s early days, but my hope is that once you understand the fundamental principle of Spectrum – that different tasks should happen in isolation from each other except where absolutely necessary – it should be easy to understand how to apply that and understand how to actually use the system.

“To get to a point where secure computing is the norm, we will have to make some sacrifices along the way. Maybe necessity will lead us to find better ways of communicating with computers that are even nicer to use than what we have now, and are secure by design.”

COMMERCIAL REALISATION OF PRIVACY INNOVATION

NGI grants are made to scalable privacy-related projects through a Research and Innovation Action named NGI Trust. Projects are user-centric, and invoke trust, privacy, data protection and harness self-sovereign identity.

NGI Trust finances projects which move beyond passwords, to identify a better way for users to manage the complexity of shared private data and technical trust. This includes the sharing of relevant information, without disclosing other more personal information.

FUNDING

A total of €5.6m is awarded to three types of projects: to assess technical feasibility; to fund research and development; and the transition to commercialization. Projects are awarded a maximum of €200,000 and in some cases must provide matching funds.

A total of three open calls are conducted. The [first and second open calls launched 32 ongoing projects](#); a third open call had a deadline for proposals of 1 April and the launch of projects is expected in July 2020.

Who's NGI?

Alina Khayretdinova introduces DECIDE a project for user-friendly and privacy respecting digital identities. The following is an excerpt, read the full blog [here](#).



“Our team at the [Identity Management division of the University of Stuttgart](#) (Stuttgart, Germany), is addressing the idea of a universally recognized identity. A Decentralized Identity (DID) is one of the latest approaches here: you have to verify your identity once to a third company and the related credentials will be stored in your digital wallet for your future use.”

“The Open Call of NGI-Trust gave us an opportunity to challenge this issue and work towards decentralized identity solutions that are both privacy and user-friendly by launching the project. We believe that project results will help the actual diffusion of privacy enhancing technologies in the context of identity management that enable trusted interactions in the digital sphere.”

DATA PORTABILITY

The EU is a global leader on legislation on Data Protection (GDPR) for better transparency on citizens' data, as well as improved data compatibility and interoperability to facilitate switches between service providers. NGI's new Data Portability and Services Incubator ([DAPSI](#)) will fund projects that help facilitate these standards.

DAPSI has had one open call to select 15 projects to support through a nine-month programme with up to €150,000 equity-free funding. In addition, experts will guide successful working methodologies, access to top infrastructures, training in business and data-related topics, coaching, mentoring and a vibrant ecosystem.

DAPSI will support up to 50 third parties through three open calls in the coming three years, distributing a total amount of €5,6m.

SELF SOVEREIGN IDENTITY

NGI supports Self-sovereign identity (SSI) through NGI's [eSSIF-Lab](#), which promises to empower European citizens with new means to manage privacy, to eliminate logins, and to enjoy much faster and safer electronic transactions via the internet as well as in real life.

ESSIF-Lab has two open calls from 1 April with a total of €5,6m. One supports Business-oriented projects to support SSI solutions such as apps for digital wallets or protocols such as those verifying credentials. The other is for Infrastructure-oriented projects for novel scalable and interoperable applications/components on eSSIF-Lab infrastructure. Applications may comprise HealthTech, e-Government, Education or by proposals in the generic track of Open Disruptive Innovation.

ARCHITECTS TO CHANGE THE FABRIC OF THE INTERNET

Internet architecture is addressed through the NGI Program for Open Internet Renovation ([POINTER](#)) for an efficient, scalable, secure and resilient Internet.

The first open call from 1 April seeks projects to build on research with scalable protocols and tools to assist in the practical transition or migration to new or updated technologies, keeping European values at the core. A total of €5,6m are available for two open calls.

POLICY-IN-PRACTICE

The NGI [Policy-in-Practice Fund](#) from [NGI Forward](#) offers grants of up to €25,000 to ideas for an experimental policy intervention or practical tool that could help empower governments to build a better Internet. The Fund will support projects to trial bold new solutions at a local level.

Recipients of the grants can also benefit from guidance on effective project design, pathways to impact and communication of final results, as well as the sharing or scaling of insights among the wider NGI community.

A total of €100,000 is available in 2020 in an open call which closes on 3 June, 2020.

EU-US COLLABORATION

EU-US collaboration is supported through [NGI Atlantic.eu](#), which funds EU-based researchers and innovators to carry out NGI related experiments with US research teams.

NGI Atlantic.eu's open call from 1 April is the first of five with total funding of €2.8m. Project funding ranges from €50,000 to €150,000, for up to 3 or 6 months. A Twinning Lab is established as a webspace for researchers, innovators and start-ups to partner with transatlantic peers.

A related programme, [NGI Explorers](#), sponsors top European Researchers and Innovators to join a unique technology mission to the United States. Participants enjoy a three-month immersive experience to work with a US partner, with all travel and subsistence costs covered, complemented by a free mentorship plan.

The first open call for NGI Explorer has [14 individuals](#), focusing on Health, Smart cities & buildings, Network security & connectivity, Cryptocurrency, Robotics, Smart transport and infrastructure. The second open call is being assessed and the third will launch in July. The total amount for all calls is €950,000.

APPLICANTS TO NGI

A total of 1,062 proposals were received in 2019 for all the open calls launched by the five ongoing Research and Innovation Actions.

NGI received proposals for the open calls so far from 35 different countries. All EU countries are represented apart from Czechia, Slovakia and Malta – and several extra-EU territories made use of the eligibility criteria to apply including Ghana, Tunisia, Turkey, Serbia, Switzerland, Ukraine, Montenegro, North Macedonia, Argentina, Singapore and Hong Kong. A high percentage of submissions came from Spain, Germany, France, the Netherlands, the UK and Italy, reflecting strong local networks, NGI activity in the area and the strong presence of innovation hubs.

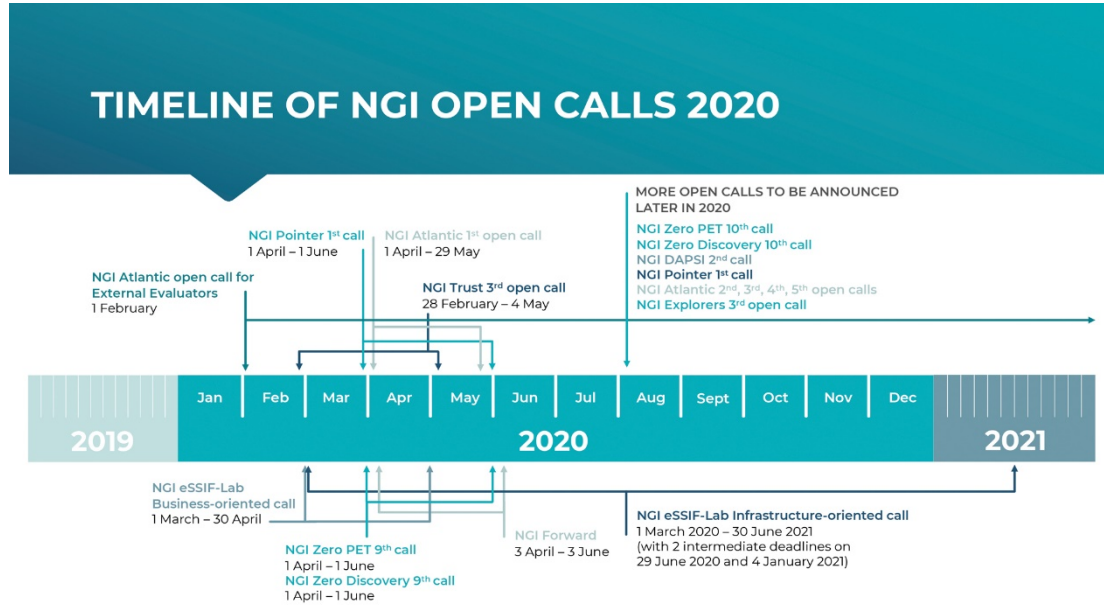
The type of applicant across all open calls is as follows: 45 percent from SMEs and start-ups; 20 percent from individuals; 30 percent from research centers and universities; and 5 percent from non-for-profit organisations. NGI strives for gender balance and is taking action to increase the number of women who apply.

The NGI initiative, through tailored funding and adapted policy measures, aims to shape the development of the Internet to respond to people’s fundamental needs, including trust, security and inclusion, and reflect the values and the norms that we enjoy in Europe. Join us to build the Internet of Humans!



JOIN US!

In 2020 and 2021 further calls will be launched, see ngi.eu/opencalls/.



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