

VISION FOR THE NEXT GENERATION INTERNET

“The overall mission of the Next Generation Internet initiative is to re-imagine and re-engineer the Internet for the third millennium and beyond. **We envision the information age will be an era that brings out the best in all of us.** We want to enable human potential and creativity at the largest possible scale. In order to preserve and expand the European way of life, we shape a value-centric, human and inclusive Internet for all.”

An internet of human values
Resilient. Transparent. Sustainable.

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These ambitions need a solid foundation to build on. The legendary robustness of the Internet must become actual reality in the Next Generation Internet. A massive global fleet of connected devices is on its way to enhance and control our homes, factories, offices and vehicles. Technology is embedded in concrete, circling in space and is increasingly entering the intimacy of our human bodies. The Next Generation Internet has to be highly adaptive and **resilient**. Whatever companies or parts of the network go down by some natural or other disaster, the effects on the rest of us should be close to zero.

There is another important dimension to trust, which lies above physical availability. We need a **transparent** technological environment, that is trustworthy. The architecture, governance and policies structure how entire societies and economies interact. By design it should protect free speech and private enterprise and much more. The Next Generation Internet is to be designed to avoid any bias or systematic abuse of global trust in the Internet. It shall be a true global commons, rising above international politics and competition. It will guarantee the safety of citizens and strengthen the health and autonomy of our markets and societies.

The enduring success of the Internet lies in permission-free innovation, openness and interoperability. The Next Generation Internet is set up to create wider choice. It fosters diversity and decentralisation, and grows the potential for disruptive innovation. This extends far beyond the technical realm. The Next Generation Internet will achieve a **sustainably open** environment for our cultures and economies, celebrating our values and promoting creativity and well-being.

Let's re-invent Internet to reach the full human potential, for all generations.



10 layers of technology in NGI

Decentralised solutions, including blockchain/distributed ledger

Data and Artificial Intelligence

Services and Applications

Vertical use cases, search and community



Open License



Trustworthy hardware and manufacturing

Network infrastructure incl. routing, P2P and VPN

Software engineering, protocols, interoperability, cryptography, algorithms, proofs

Operating Systems, firmware and virtualisation

Measurement, monitoring, analysis and abuse handling

Middleware + identity, incl. DNS, authorisation, authentication, distribution/deployment, operations, reputation systems

WHAT IS IT ABOUT?



The goal of NGI Assure is to support projects that design and engineer **reusable building blocks** for the Next Generation Internet to make distributed collaboration easier, and deliver a complete, strong chain of technical **assurances** for all stakeholders.

This for instance concerns the source and integrity of what you find on the internet:

- data
- people (identities)
- identifiers
- cyberphysical systems
- service components
- processes.



NGI Assure

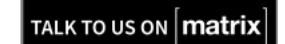
Efforts to make security, trustworthiness and distributed collaboration easier.

28 projects from 13 countries, € 1.05 million allocated. Next deadline: October 1st

Back-to-back bimonthly open calls.

From 5k€ to 50k€ for first project, with scale-up possibility. Open to individuals and organisations of any type. Libre/open source only.

quantum-proof cryptography □ public key infrastructure □ (augmented) authenticated key exchange □ ratchet mechanisms (such as Noise) distributed hash tables □ DAGs □ conflict-free replicated data types mixnets and onion routing mechanisms □ consensus protocols distributed ledgers and (post) blockchain technologies □ a priori usage control □ symbolic and formal proofs □ tamperproof open hardware implementations of core cryptographic primitives □ etcetera



RE



Search, discovery and discoverability

135 ongoing projects involving 222 agents from 29 countries. M€ 4.7 allocated.

Next

deadline: October 1st.



Privacy and Trust Enhancing Technologies

149 ongoing projects involving 264 agents from 37 countries. M€ 5.6 allocated.

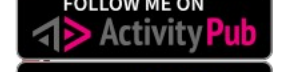
Full.



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RE



These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 825310, 825322 and 957073



NGI WEBINAR SMART USE OF IP PROGRAM

Short introductions from NGI Zero, NGI TETRA and NGI Pointer (internet infrastructure grant program)

- Presentations
 - Onur Emul - NGI TETRA
A brief introduction on the topic of intellectual property (IP) management
 - Armijn Hemel - Tjaldur Software Governance
A presentation on defensive publication approaches
 - Gabriel Ku Wei Bin - Free Software Foundation Europe
Discussing the basics of open source software licensing
 - Keith Bergelt - Open Invention Network
IP management in open hardware projects
 - Michiel Leenaars - Commons Conservancy
- 7** Legal infrastructure for open source projects

