From NGI to Open Internet Stack: Powering Europe's Digital Sovereignty

Building on Success: From NGI to the Future Open Internet Stack

Back in 2018, the Next Generation Internet (NGI) initiative took a bold step forward, setting the stage for strong contribution from European communities of developers to an open, inclusive, and trustworthy digital landscape in Europe. With roughly €140 million invested across more than 1,400 diverse projects, NGI sparked innovation and energized open-source communities—from hardware and middleware all the way to user-centric applications. But here's the catch: to truly amplify these successes and stand tall against proprietary tech giants, Europe needs more structured, easy-to-deploy solutions that embody true digital sovereignty.

Why the Next Step is Essential

You might be wondering—why shift gears now? While NGI has promoted experimentation and creativity, scaling these innovations to benefit the broader European public is the next crucial leap. Right now, Europe spends billions annually on software, yet only a tiny slice supports homegrown open-source projects. Internationally, frameworks such as India Stack and GovStack provide structured and interoperable components supporting digital identity, payments, and government services, each with distinct operational approaches and governance models. If Europe wants genuine digital autonomy, it needs to target solutions that are ready-made, secure, reliable, providing timely support to users and aligned with our shared values and regulations. Imagine European countries, industries, and everyday people effortlessly deploying trusted digital tools that don't just match proprietary offerings but surpass them facilitating regulatory compliance and guaranteeing sovereign EU solutions.

Introducing the Open Internet Stack (OIS)

One such opportunity is the upcoming Open Internet Stack (OIS) —which aims to deliver a curated set of interoperable, open-source digital building blocks designed explicitly for ease of use and rapid deployment. These building blocks will cover critical areas like secure digital identities, cybersecurity, decentralized platforms, and interoperability. Simply put, the OIS will provide practical tools that public administrations, SMEs, and individual users can confidently adopt and adapt to their specific needs, thereby boosting Europe's global digital competitiveness.

How Will We Prioritize and Achieve This?

Great ideas are only as good as their execution. That is why the European Commission is investing €10 million through the Horizon Europe Work Programme 2025 (HORIZON-CL4-2025-03-DATA-11) to kickstart the development of OIS building blocks with a strong focus on the telco-edge-cloud continuum. Another €14.5 million will be available via the Pilot Virtual Worlds and Web 4.0 initiative (RIA) under HORIZON-CL4-2025-03-HUMAN-16, specifically aimed at integrating open-source solutions into future web experiences.

To ensure these solutions do not just sound good on paper, projects will undergo rigorous validation in real-world scenarios. Collaboration with industries, policymakers, and local communities will be central, guiding the development process from concept to deployment. Think of it as building a bridge—not only connecting ideas but ensuring they stand firm under real-world pressures.

Making Applications Easy to Deploy

The OIS will feature comprehensive, user-friendly documentation, standardized APIs, and plug-and-play components designed specifically with ease-of-use in mind. Developers will have access to reliable, scalable tools, while policymakers and SMEs can confidently integrate these tools without steep learning curves or hidden surprises. Validation mechanisms will also play a key role, verifying that each component aligns perfectly with European regulatory standards on security, privacy, and interoperability. This robust validation process won't just build trust—it will streamline deployment and adoption.

Open Source as a Strategic European Asset

Europe's strength lies in its vibrant open-source communities. Leveraging success stories from NGI projects like Nextcloud for secure data storage, Mastodon for decentralized social networking, and PeerTube for independent video streaming, the OIS initiative will significantly boost Europe's global competitive edge. Strategic backing from European initiatives such as the European Tech Hub for Open Source European Digital Infrastructure Consortium (ETHOS EDIC) will amplify these success stories, fostering an environment where innovative open-source projects thrive, scale effortlessly, and become integral to Europe's digital infrastructure. This approach does not just encourage local innovation—it positions Europe as a pioneer and leader in open-source digital solutions on a global scale.

Ensuring Quality, Trust, and Competitive Advantage

Trust matters immensely, especially when adopting new technologies. To build confidence, in a second phase the OIS initiative will deploy comprehensive validation and testing frameworks, ensuring every digital building block meets Europe's strict standards for security, privacy, and interoperability. Beyond mere compliance, these frameworks will actively support developers and businesses in creating robust, trustworthy applications. This proactive approach empowers European public institutions, SMEs, and individual users to confidently transition from proprietary software to secure, transparent open-source solutions.

Driving European Competitiveness and Sovereignty

Harnessing Europe's substantial pool of open-source talent and innovation, the OIS will ignite sustained economic growth and nurture an environment where creativity and collaboration flourish. It is a strategic leap towards a future where European digital solutions do not just compete—they lead. Europe faces a pivotal choice: to rely on external tech providers or to invest decidedly in homegrown innovation.

Engaging with the Community

We are eager to engage actively with the open-source community during and after the NGI Forum. Your perspectives, insights, and experiences are invaluable to us. We warmly invite your feedback and look forward to continued dialogue to refine and enhance the OIS initiative.