Digital commons @ the EC

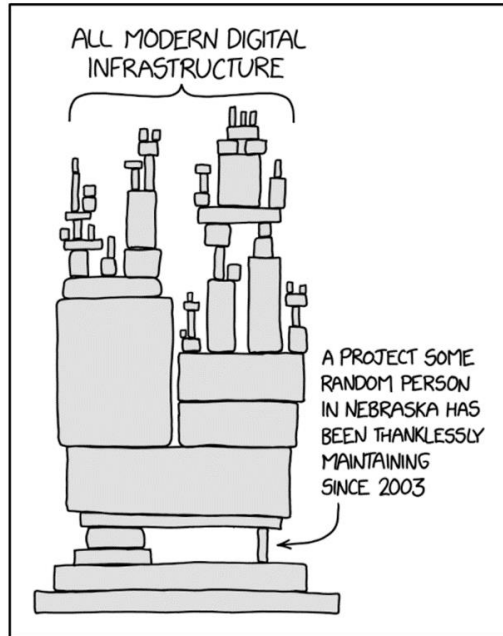State of play and future prospects

What are digital commons?

"*Digital commons are **non-rivalrous and non-exclusive digital resources** defined by shared production, maintenance and governance. Under the right conditions, digital commons contribute to the preservation of the collective control and valuation of data, and consequently to improve the security of digital tools and innovations*"

Declaration by the Presidency of the Council of the European Union
calling for a European Initiative for Digital Commons

Examples include open source software, open hardware, open design, open standards (**internet commons**), open data.

European Commission

Strategic perspective

ALL MODERN DIGITAL INFRASTRUCTURE

A PROJECT SOME RANDOM PERSON IN NEBRASKA HAS BEEN THANKLESSLY MAINTAINING SINCE 2003

Pervasive

Critical

JANUARY 13, 2022 • STATEMENTS AND RELEASES

Today, the White House convened government and private sector stakeholders to discuss initiatives to improve the security of open source software and ways new collaboration could rapidly drive improvements. Software is ubiquitous across every sector of our economy and foundational to the products and services Americans use every day. Most

10-Point Open Source and Software Supply Chain Security Mobilization Plan Released with Initial Pledges Surpassing $30M

WASHINGTON, DC – May 12, 2022 – The Linux Foundation and the Open Source Software Security Foundation (OpenSSF) brought together over 90 executives from 37 companies and government leaders from the NSC, ONCD, CISA, NIST, DOE, and OMB to reach a consensus on key actions to take to improve the resiliency and security of open source software.

European Commission

Economic perspective

The study predicts that an **increase of 10% in contributions** to Open Source Software code would annually generate an **additional 0.4% - 0.6% GDP** and more than 600 additional ICT start-ups in the EU

https://digital-strategy.ec.europa.eu/en/library/study-about-impact-open-source-software-and-hardware-technological-independence-competitiveness-and

The impact of Open Source Software and Hardware on technological independence, competitiveness and innovation in the EU economy

FINAL STUDY REPORT

Fraunhofer ISI

ofe OpenForum Europe

European Commission

Geopolitical perspective

ÉTUDES DE L'IFRI

GEOPOLITICS OF TECHNOLOGY PROGRAM

DECEMBER 2022

Software Power
The Economic and Geopolitical Implications of Open Source Software

Alice PANNIER

- An analysis of the United States, Chinese and European cases show that government involvement in open source is not only pragmatic; it is increasingly politicised, and serves to uphold governments' ambitions for national security, international influence, or digital sovereignty.

- The study highlights the dilemmas that emerge for public authorities from the tensions between the desire to secure universally used, critical open source components, the desire to develop "sovereign" technologies, and the risk of encroaching on the horizontal and decentralised functioning of open source.
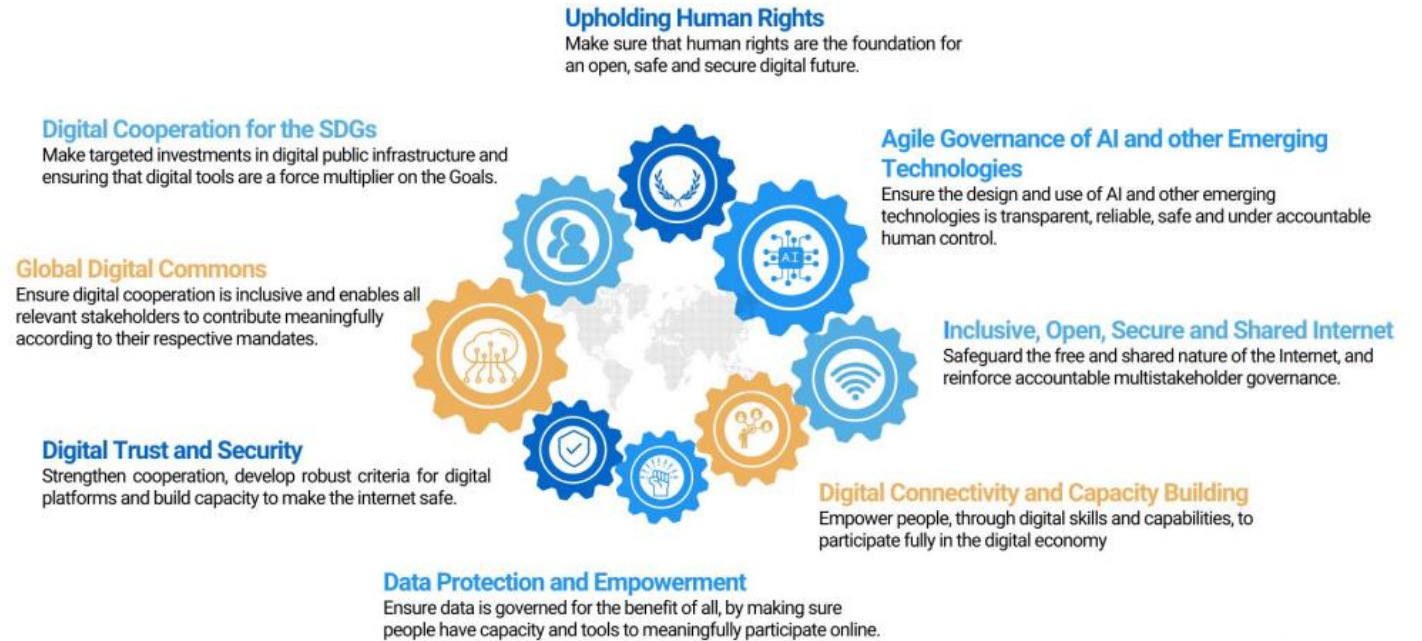
Digital Commons: A momentum

SOVEREIGN TECH FUND

THE LINUX FOUNDATION | Europe

EC Open Source Programme Office

Digital Public Goods Alliance

The UN Secretary-General's Objectives and Actions

Upholding Human Rights
Make sure that human rights are the foundation for an open, safe and secure digital future.

Digital Cooperation for the SDGs
Make targeted investments in digital public infrastructure and ensuring that digital tools are a force multiplier on the Goals.

Agile Governance of AI and other Emerging Technologies
Ensure the design and use of AI and other emerging technologies is transparent, reliable, safe and under accountable human control.

Global Digital Commons
Ensure digital cooperation is inclusive and enables all relevant stakeholders to contribute meaningfully according to their respective mandates.

Inclusive, Open, Secure and Shared Internet
Safeguard the free and shared nature of the Internet, and reinforce accountable multistakeholder governance.

Digital Trust and Security
Strengthen cooperation, develop robust criteria for digital platforms and build capacity to make the internet safe.

Digital Connectivity and Capacity Building
Empower people, through digital skills and capabilities, to participate fully in the digital economy

Data Protection and Empowerment
Ensure data is governed for the benefit of all, by making sure people have capacity and tools to meaningfully participate online.

United Nations
Office of the Secretary-General's
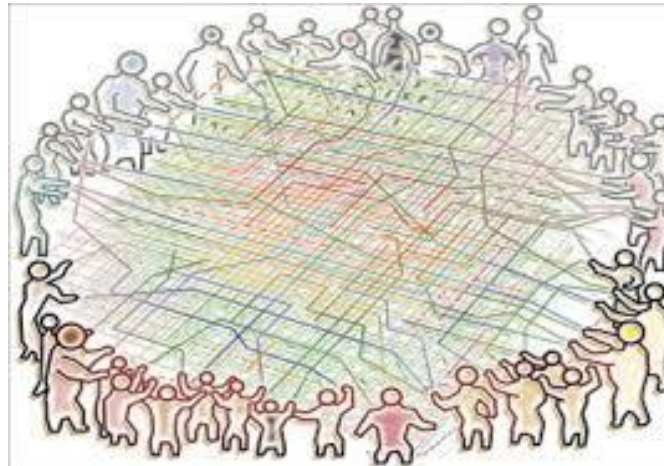Envoy on Technology

Common Agenda

European Commission

Why Digital Commons are important to Europe?

Sovereignty narrative

- Permission-less innovation
- Autonomous use and operations
- No lock-in

Trust narrative

- Transparency
- No central control

European Declaration on Digital Rights and Principles

- Privacy protection
- User control and choice
- Portability
- Inclusion
- Decentralisation

Collaboration & Development

- Interoperability
- Affordable technology

European Commission

NGI Contributions: State of Play

Over **4.5 years in operations**, we have built a **unique eco-system** of highly talented innovators driven by meaning and values who change the course of the Internet

1000
projects awarded mobilising **€80M**

15%
success rate in open calls

1000+
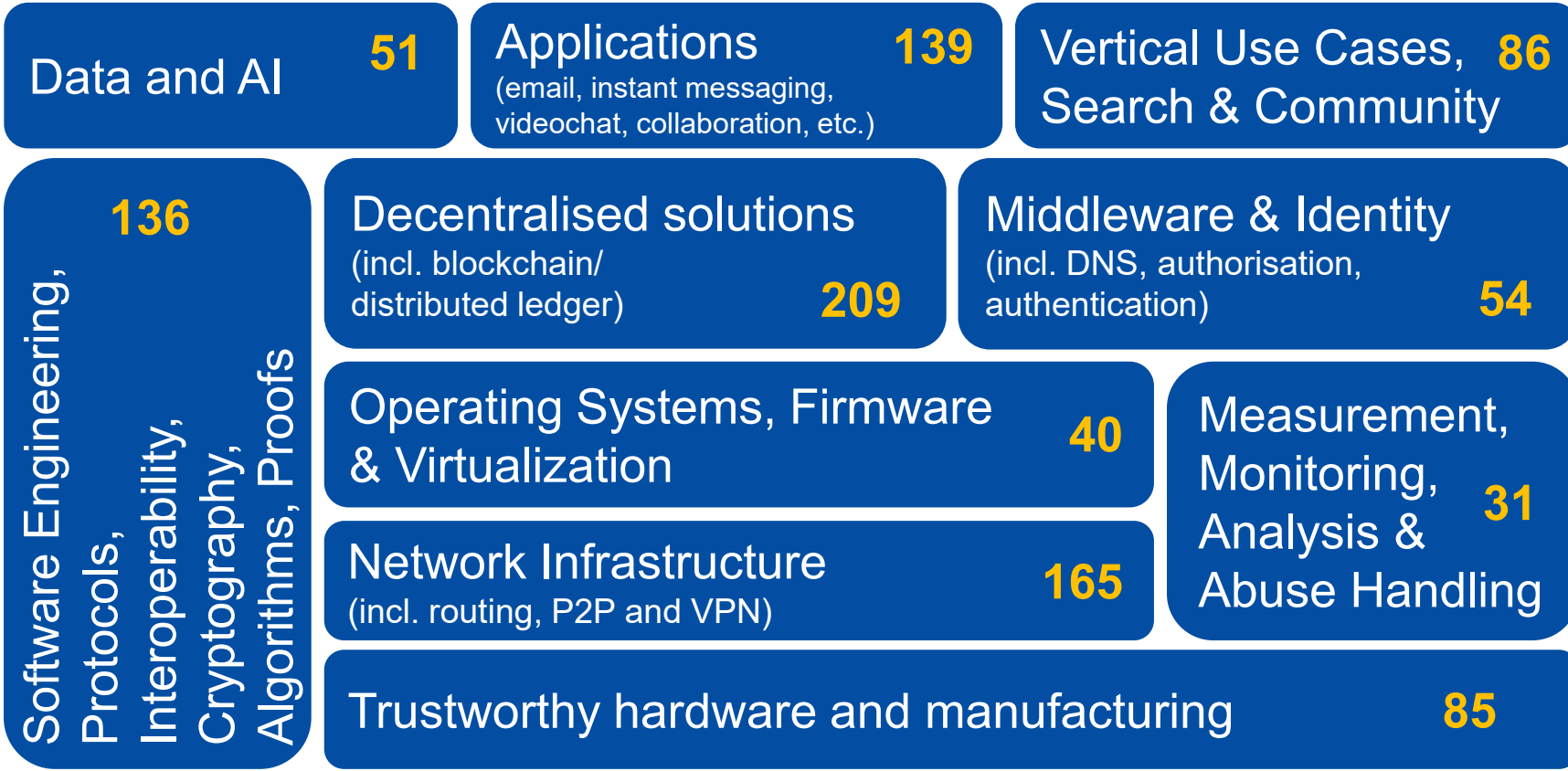innovators engaged, out of which **83%** have never received EU funding before

Today
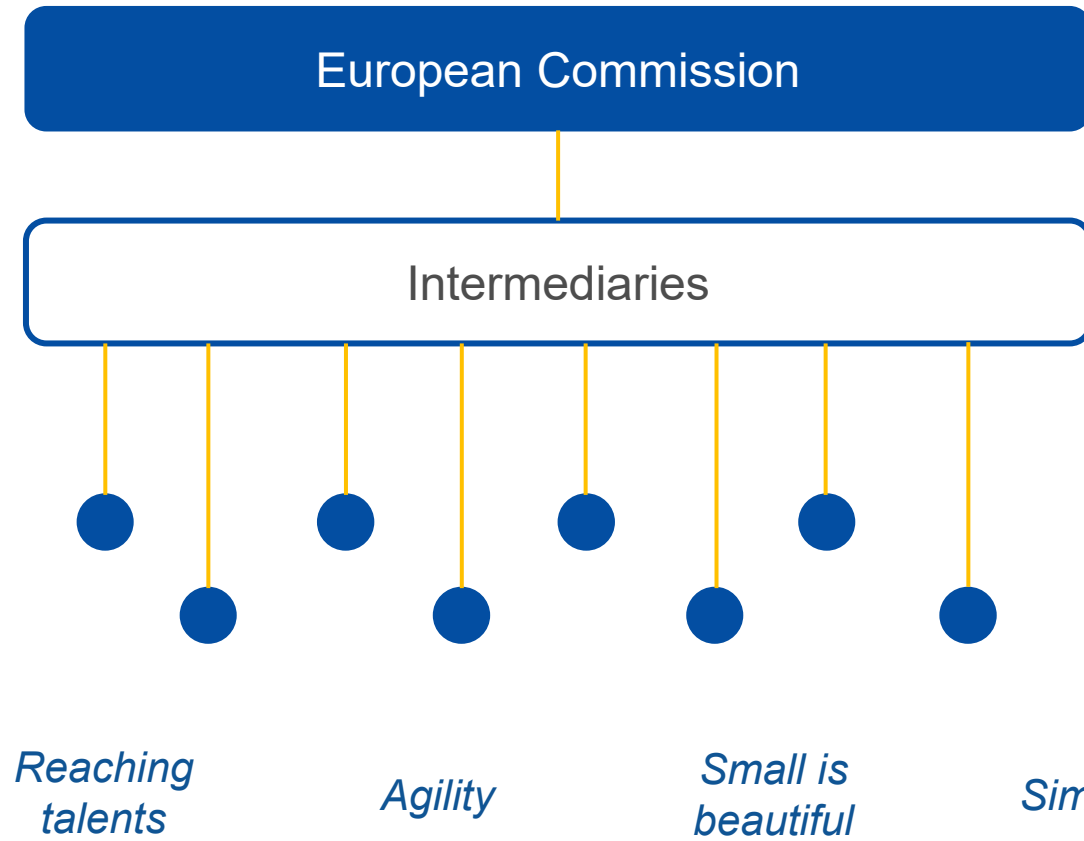**100%**
open source

European Commission

Technology Building Blocks: Internet Commons

SSI
DID
IRMA
IPFS
F-droid
Qubes OS
Replicant OS
Maemo Leste
Scion
Nixos
PowerDNS
OpenPGP
Tor
Let's connect
Wireguard
Nitrokey
Libre SOC
Balthazar
RISC V Phone

Data and AI — 51

Applications (email, instant messaging, videochat, collaboration, etc.) — 139

Vertical Use Cases, Search & Community — 86

Software Engineering, Protocols, Interoperability, Cryptography, Algorithms, Proofs — 136

Decentralised solutions (incl. blockchain/ distributed ledger) — 209

Middleware & Identity (incl. DNS, authorisation, authentication) — 54

Operating Systems, Firmware & Virtualization — 40

Measurement, Monitoring, Analysis & Abuse Handling — 31

Network Infrastructure (incl. routing, P2P and VPN) — 165

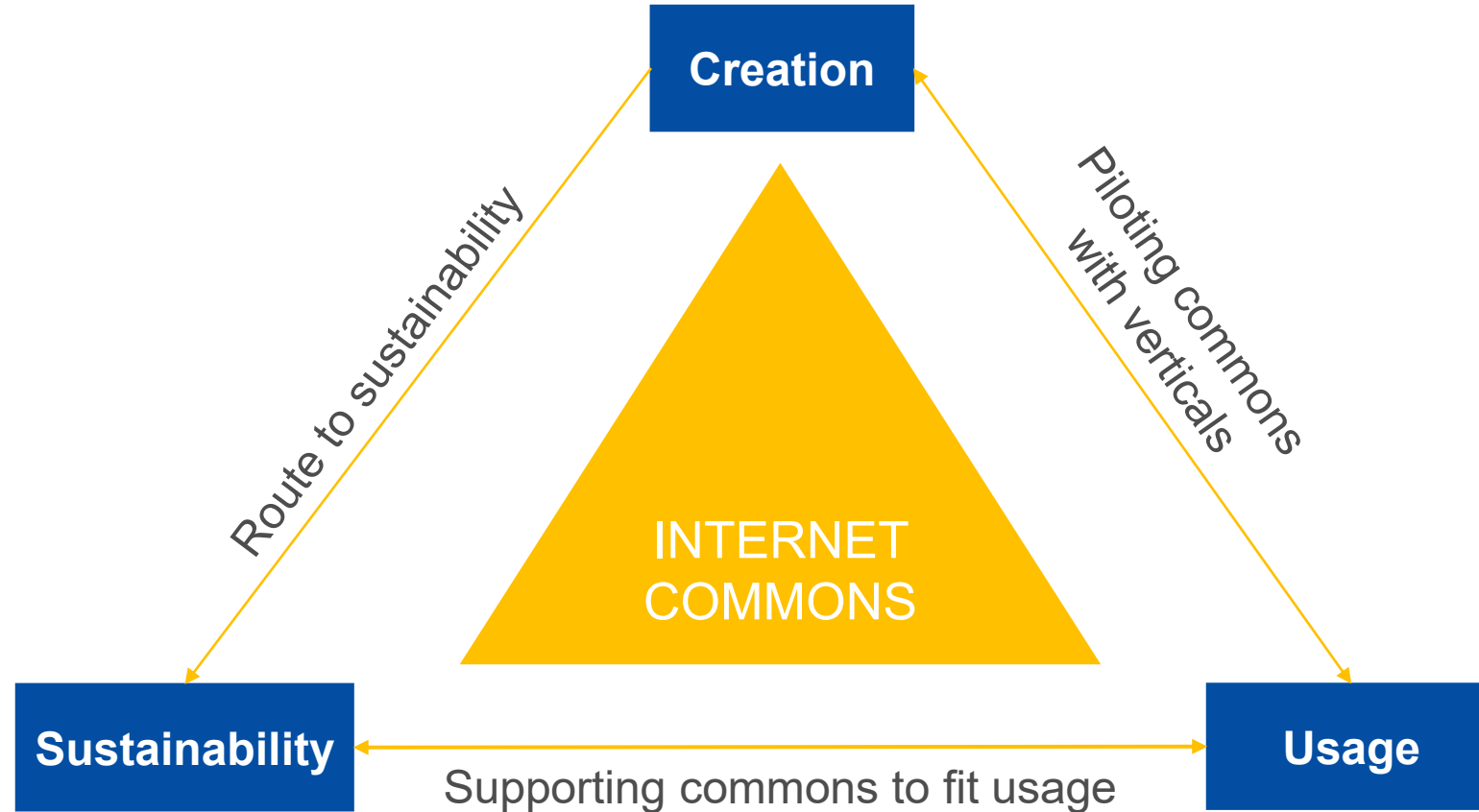**Trustworthy hardware and manufacturing** — 85

BigBlueButton
Jisti
Sylk
Deltachat
Matrix
Thunderbird
Xwiki
Cryptpad
Fediverse
ActivityPub
Peertube
Wordpress
LibreOffice
Nextcloud
Solid
OpenFoodFacts
OpenStreetMap
Software Heritage
Searx

Why cascading?

European Commission

Intermediaries

Reaching talents

Agility

Small is beautiful

Simplicity

Scale

Mentoring

Complementary

How NGI contributes to internet commons ?

The route to sustainability

The importance of **foundations** for taking care of commons
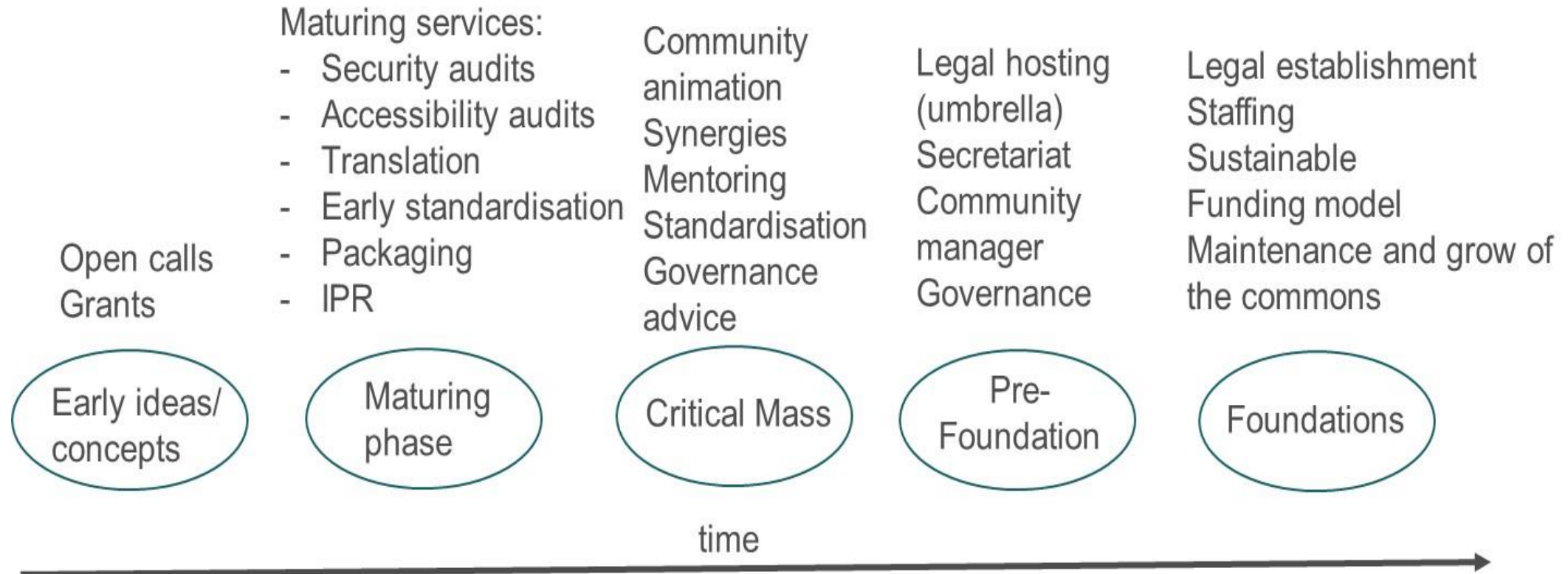
From the Study on Open Source:

- "*Foundations are a significant driver in OSSH ecosystems*"
- Considering "*Foundation for [creating] Foundations as an umbrella organisation may be beneficial in helping smaller projects*"
- Recommends "*To transfer OSS projects to foundations*"

According to https://flossfoundations.org/foundation-directory/ there are 161 open source foundations: 76,4% in the USA, 12,4% in Europe, 11,2% RoW

Private business exploiting **open source business models**

The open source life-cycle for internet commons:
NGI partnership proposal

Open calls
Grants

Maturing services:
- Security audits
- Accessibility audits
- Translation
- Early standardisation
- Packaging
- IPR

Community animation
Synergies
Mentoring
Standardisation
Governance advice

Legal hosting (umbrella)
Secretariat
Community manager
Governance

Legal establishment
Staffing
Sustainable Funding model
Maintenance and grow of the commons

Early ideas/ concepts

Maturing phase

Critical Mass

Pre-Foundation

Foundations

time

NGI moved a dozen of projects to the pre-foundation stage (e.g. filesender, let's connect, cryptech, corteza, inter-wide, postmasterOS, CASPER…).

Supporting commons to fit usage

Maintenance dimension
Support to innovators in a broad range of areas including quality, security, accessibility, privacy, open source licensing, or documentation.

HORIZON-CL4-2021-HUMAN-01-09 NGI Tech Review (CSA)
1.5M€ awarded

Internet of trust dimension
Supporting existing commons towards better privacy protection, user control, choices, portability of data and services, inclusion, more decentralisation

Piloting NGI commons with verticals

HORIZON-CL4-2023-HUMAN-01-12: Pilots for the Next Generation Internet (IA)

- Foster the take up of Next Generation Internet (NGI) technologies and solutions in Europe by integrating them in a variety of industrial and societal use cases, enabling the emergence of internet ecosystems supporting the needs of specific sectors…

- NGI Pilots will make use of the rich portfolio of technologies and tools developed in the NGI programme

- Focus will be on open source solutions (both software and hardware) and their integration and adoption in vertical use cases

- A minimum of 15% of the total requested EU contribution should be allocated to financial support to third parties, selected through open calls.

European Commission

Inter-Governemental Activities

TOWARDS A SOVEREIGN DIGITAL INFRASTRUCTURE OF COMMONS

Report of the European Working Team on Digital Commons

June 2022 | Digital Assembly

- A one-stop shop for commoners to easily find funding opportunity and assistance
- Call for commons proposals: a group of leading MS would collectively launch a call for proposals targeting strategic digital commons
- Establishing a European foundation for digital commons as a long-term action. Involve commoners as well as private sector
- « Digital commons first » both in usage and creation

European Commission

Inter-Governemental Activities

Ivan Bartoš, Deputy Prime Minister for Digitisation, at the Tallin Digital Summit 2022:
« If we want to take it seriously at European level we shall think of its **institutionalisation** »

OBJECTIVES

| Bring together Member States' initiatives and avoid overlapping | Build critical mass and scale at European level | Create instruments for shared governance | Bring strategic view on what is essentially bottom-up today |

An **European Digital Infrastructure Consortium (EDIC)** has potential in terms of shared governance, access to funding and setting-up flexibility to be the instrument of choice for the desired institutionalisation.

European Commission

(Provisional) Conclusion

- Bridging the gap between contributors to commons & decision makers

- Instilling top-down elements in what is essentially a bottom-up

  - Investing in bottom-up is already a strategic move

  - Not re-inventing the wheel

  - Critical mass and alignment is key

- Moving beyond 0.1%

  - Momentum: crisis of trust, deep fake & Large Language Models

  - Trust models

Thank you

European Commission

NGI project**s**

Today

RIAs & IAs

'Better data governance' – LEDGER

'Technologies improving search and discovery' – NGI Zero DISCOVERY

'Privacy and trust enhancing technologies' – NGI Zero PET

'Privacy and trust enhancing technologies' – NGI TRUST

'Data portability and services' – NGI DAPSI

'Self-Sovereign Identities (SSI) technologies' – NGI ESSIF-Lab

'Architects to change the fabric of the Internet and Web' – NGI POINTER

'Advancing research on Blockchain and DLT' – NGI ASSURE

'Fostering trust in internet info. exchange and content w. blockchain' – TRUBLO

'Bringing forward the emergence of collective intelligence on the internet' – ONTOCHAIN

'NGI experiments together with US research teams' – NGI ATLANTIC.eu

'Trust and data sovereignty on the Internet' – NGI0 ENTRUST

'Trustworthy open search and discovery' – NGI SEARCH

'Trustworthy open search and discovery' – OpenWebSearch.EU

'NGI Fund'

'Upgrade the open Internet architecture' – NGI0 CORE

'Enhance decentralised technologies' – TRUSTCHAIN

'NGI Pilot 1'

'NGI Pilot 2'

'NGI Pilot 3'

'NGI Pilot 4'

'NGI international collaboration – USA and Canada' – NGI Sargasso

'NGI international collaboration – USA'

'EU-US NGI fellowship programme' – NGI EXPLORERS

'EU-US Think Tank' – NGI THINK NEXUS

'NGI testbeds' - FED4FIRE+

'Technology harvest and transfer' – TETRA

'NGI Policy Office' – NGI Forward

'NGI Outreach office' – NGI4ALL

'Transatlantic fellowship programme' – NGI Enrichers

'NGI Tech Review' – NGI0 Review

'NGI Commons Policy'

'NGI community-building and outreach' – NGI4ALL.E

European Commission

2019   2020   2021   2022   2023   2024   2025   2026 **CSAs**