Agora Digitale Transformation

Submission to the Call for Evidence
"Towards European open digital ecosystems"

Executive summary

Europe already hosts strong open-source communities and produces a significant share of foundational digital building blocks. Yet the EU often does not capture proportional value, and many promising projects struggle to scale beyond expert users. To unlock Europe's competitiveness, resilience and democratic capacity, the EU Open Source Strategy should:

→ **Treat usability and product development as first-order policy goals**, not a "nice-to-have": open-source solutions often lose at the last mile (UX, onboarding, design, distribution).

→ **Shift from short-term innovation funding to lifecycle funding**, including long-term maintenance, security response, governance and operations (10 to 20 year horizons for infrastructure-like software).

→ **Expand the strategic lens beyond "foundational libraries"** to include **user-facing, society-shaping digital infrastructures** where Europe faces structural dependencies (e.g., communication/discovery and mapping/geo layers).

→ **Build one ecosystem, not many silos**: enable cross-sector interoperability and compatibility so open-source solutions can reach critical mass.

→ **Use EU-level instruments to "open" closed ecosystems where feasible**, not to sponsor new projects but to support transitions that increase the overall stock of reusable, auditable software.

→ **Create a credible data base** on economic value, adoption barriers and value capture, to support Member States and public buyers in prioritisation and sustained investment.

Question 1
Strengths and weaknesses of the EU open-source sector; main barriers to adoption, maintenance and sustainable contributions

Strengths

The EU has a strong base of open-source talent, research capacity, and community-driven innovation. Europe contributes substantially to foundational components that underpin modern digital systems. These communities and practices are a strategic asset: they cultivate skills, enable knowledge diffusion, and create the conditions for durable innovation and should be used as such in positioning the EU's digital (economic) policy vis-à-vis the US and China.

Weaknesses and barriers (clustered)

A) The "productisation gap" (from developer tool to mass adoption)

A recurring barrier is that many open-source initiatives are built primarily *by and for technically proficient communities*. As a result, critical elements for adoption at scale (usability, design, onboarding, documentation for non-experts, localisation, accessibility, product management, distribution) are under-resourced. This gap is not merely cosmetic: it determines whether open source remains a niche or becomes a mainstream option capable of competing with dominant proprietary offerings.

B) Sustainability gap (maintenance and security over time)

Even widely used open-source components and applications frequently rely on fragile funding structures and volunteer labour. The EU and Member States often fund innovation but under-fund maintenance, security hardening, incident response, and long-term operations. In a similar vein, necessary endeavours to transfer and scale working solutions (i.e. software documentation, documentation of organizational practices, standardization / interoperability, transferrable business models, marketing, etc.) are underfunded. Depending on the respective area, sustainability can be provided both by business models and market forces or – where inapplicable – by public funding in the interest of Europe's democratic societies.

C) Fragmentation into sectoral silos

Open-source ecosystems are commonly organised by sector (govtech, smart city, social, health, education, etc.) with limited cross-sector coordination. This fragmentation hampers interoperability and compatibility, reduces reuse, and prevents the formation of critical mass. It also increases duplicated effort and weakens shared maintenance capacity.

D) Value capture outside the EU and weak political/economic narrative in Member States

Europe often contributes significantly to upstream work, while downstream commercialisation and value capture happen elsewhere. Moreover, in many Member States open source is still perceived as niche or secondary, partly because robust, comparable data on economic impact, adoption drivers and public value is missing. This inhibits sustained political prioritisation and long-term investment decisions.

Question 2
Added value of open source for public and private sectors (with examples and factors to assess)

Open source delivers value not only as a procurement option, but as a governance model for critical digital infrastructure. Its added value is best assessed across economic, security, and democratic dimensions.

A) Reducing economic and societal structural dependencies

For both public and private actors, open source can mitigate lock-in and dependency risks. Importantly, dependency is not only economic. In several "everyday" digital layers, e.g. communication, discovery, mapping, Europe is heavily reliant on a small number of globally dominant platforms. These layers shape market access, information flows, and civic discourse.

Examples of high-dependency layers with high public relevance:

→ **Communication and public discourse infrastructure** (e.g., social networking and related services as well as civic tech and public participation tools)

→ **Discovery and access layers** (e.g., web search and AI agents, app stores, browser defaults, recommender systems)

→ **Geospatial and mapping layers** (e.g., maps, points of interest, routing-related components)

B) Transparency and accountability as democratic value

Open source can increase inspectability of critical systems, including algorithmic curation and AI-enabled decision support, when paired with good documentation and governance. This supports democratic oversight, auditing, and contestability – characteristics especially relevant where digital systems influence public debate, access to services, or allocation decisions.

C) Cyber resilience through verifiability and repairability

Open source can strengthen cyber resilience by enabling broader review, faster patching, and reduced dependence on a single vendor's timelines, *if* maintenance and security processes are funded and professionalised. The assessment should therefore consider not only licensing, but governance maturity, security practices, and maintenance capacity.

D) Innovation and competitiveness through ecosystem effects

Open source lowers barriers for SMEs and public administrations to build on shared components, creating spillovers and enabling European service markets (support, integration, hosting, compliance, training). "Community vitality" itself becomes a competitiveness factor, including talent attraction, learning effects, and faster diffusion of innovation.

Key factors to assess added value (context-dependent):

→ Lock-in and switching costs

→ Long-term operational risk and continuity

→ Security governance and response capacity

→ Ability to audit/verify (incl. AI-related systems)

→ Interoperability and reuse potential

→ Market structure effects (openness for SMEs, contestability)

Question 3
Concrete EU-level measures and actions to support development and growth, and contribute to technological sovereignty and cybersecurity

We recommend a strategy that treats open source as infrastructure policy and ecosystem policy, not only as software funding.

A) Fund adoption, not only code: make usability a strategic objective
Create dedicated EU support for the "last mile":

→ UX/UI, service design, accessibility, localisation

→ Product management and user research

→ Reuse, business model development, scaling, interoperability

→ Documentation for non-expert adoption (public sector and SMEs)

A practical approach is to establish user-facing tracks within EU funding instruments, with evaluation criteria that reward demonstrated adoption and user outcomes, while remaining compatible with open-source community practices.

B) Establish lifecycle funding for maintenance, security, and operations (10 to 20 years where needed)
For software that functions as digital infrastructure, sustainability must be designed in:

→ Multi-year maintenance and security response funding

→ Support for professional governance and stewardship roles

→ Funding for dependency management, secure build/release pipelines, and vulnerability handling

→ Operational support for long-lived services where appropriate

This should complement support for foundational components, but broaden it to include user-facing infrastructure where dependencies are societally significant.

C) Build one ecosystem: interoperability and compatibility as scaling mechanisms
EU action can reduce fragmentation by:

→ Supporting open standards and shared interfaces

→ Funding interoperability work and cross-sector reference architectures

→ Enabling reusable components across public administration, civic services, and private markets

→ Incentivising compatibility to help projects reach critical mass

D) "Opening" as a strategic lever: expand the open ecosystem by transitioning closed assets

Beyond sponsoring new open-source projects, the EU should consider instruments that help transition selected closed-source solutions toward open models where it increases resilience and market contestability:

- → Transition funding for re-licensing and governance redesign

- → Support for migration paths and community handover models

- → Incentives for open components in previously closed ecosystems

This is not a blanket approach; it requires clear criteria (public value, dependency reduction, feasibility, security governance).

E) Procurement and policy frameworks that reward sustainability

Public purchasing power can stabilise ecosystems if procurement moves from "pilot projects" to sustainable adoption:

- → Procurement criteria for maintainability, interoperability, and openness of interfaces

- → Requirements or incentives for contributing back (where appropriate)

- → Contract structures that fund long-term maintenance and security work (not only delivery)

F) Build a robust evidence base and monitoring capability

A credible EU-wide data effort would help Member States treat open source as strategic:

- → Mapping value chains and potential EU value capture

- → Measuring adoption barriers (incl. usability/skills)

- → Quantifying dependency hotspots and strategic layers

- → Identifying where targeted interventions yield the highest resilience and competitiveness returns

G) Finance models beyond business cases: include public-civic approaches

Not all high-value open-source infrastructure will sustain itself through market revenue alone. The EU should explore mixed models:

- → Public-private partnerships where appropriate

- → Public-civic partnerships and public-civic-private models for infrastructure-like services

- → Long-term stewardship funding where the public interest is strong

Question 4
Technology areas to prioritise and why

In addition to commonly cited foundational layers, the strategy should explicitly include user-facing digital infrastructures where dependency and public impact are greatest.

A) Communication, discovery and mapping layers (high dependency, high societal impact)
These layers shape how people communicate, find information, and navigate the world. They are deeply embedded in daily life and economic activity, yet currently dominated by a small number of global providers.

B) Civic and public-service digital infrastructure (adoption potential and public value)
Tools that function as infrastructure for participation and service delivery (e.g., civic participation platforms, reusable administrative components) should be prioritised because they directly support state capacity and democratic participation.

C) "Infrastructure by function," not by technical category
The EU should broaden the definition of infrastructure beyond networks, compute, and low-level libraries. Many application-level systems (e.g., scheduling/booking infrastructures in health contexts, POI ecosystems, public service portals) are de facto infrastructure and deserve lifecycle-oriented support.

D) Data and findability infrastructure enabling reuse and interoperability
Without discoverability, shared components do not scale. Priorities should include tooling and practices that make open components easier to find, evaluate, integrate, and maintain across sectors.

Question 5
Sectors where increased open-source use could raise competitiveness and cyber resilience

We do not provide a separate sector-by-sector response, as our submission deliberately focuses on cross-cutting bottlenecks and policy levers that apply horizontally across sectors. The sectoral implications are therefore embedded in our answers to Questions 1 to 4, in particular our argument for prioritising "infrastructure by function".

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