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Dear Commission Reviewer,

On behalf of OSI Europe Foundation and the Open Source Initiative, we'd like to thank you for this opportunity to provide feedback on the European Open Digital Ecosystem Strategy. The **Open Source Initiative** (OSI) is a global charity at the heart of the Open Source Community for over 25 years, recognized globally as the authority defining Open Source. OSI Europe Foundation is its independent European chapter.

The Open Digital Ecosystem Strategy comes at a pivotal time for Europe. As geopolitical instability intensifies, we concur with the Commission's view that **digital sovereignty is a crucial goal**. This involves Europe building and deploying competitors to the solutions on which it currently depends. We believe that **Open Source Software (from herein *FOSS*) is the best way to achieve that goal**.

By embracing FOSS as a means to achieve this goal, **Europe can compete with dominant technology players at a fraction of the cost**, harnessing expertise from around the world to drive competitiveness, security and economic growth, while retaining digital sovereignty. With Europe contributing nearly 20% of global Open Source development, and EU developers being the largest group of contributors to Open Source on Github[1], the ecosystem represents **Europe's Silicon Valley**—a dynamic, decentralized hub of expertise and collaboration.

This response contains a selection of proposals to achieve that goal. Including both non-legislative proposals the Commission can undertake to achieve that goal, as well as opportunistic changes that can be made to laws that are currently under revision.

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[1] https://innovationgraph.github.com/economies/eu

Detailed Response to Commission questions

1. What are the strengths and weaknesses of the EU open-source sector? What are the main barriers that hamper adoption and maintenance of high-quality and secure open source; and sustainable contributions to open-source communities?

Open Source is not so much a sector as it is an ecosystem made up of Companies[2], Communities and Charities[3], foundations[4], OSPO[5]s, and a plethora of individual developers working both on projects based inside the EU, and on projects based outside the EU. These collectively form a **symbiotic relationship** that drives Open Source development forward: individuals, communities, companies and OSPOs reuse each-others code, contribute to each-others projects, and collaborate to build solutions together.

It's also important to differentiate between **Open Source products** (such as CRMs, Operating Systems, Collaboration and Communication Platforms) and **Open Source components** (Programming Languages, Libraries). All Open Source products (and many proprietary products), depend on Open Source components. While such components are not end products, without them, the ecosystem could not succeed.

> **Hence, to guarantee the success of the ecosystem as a whole, it is important to explore the strengths, weaknesses, & challenges facing the different actors in the Open Source ecosystem, and the different types of projects which exist within it.**

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[2] For example, NextCloud, SUSE, Element, OpenNebula, Odoo, Plausible Analytics, Elastic
[3] For example, Framasoft, KDE e.v, Mastodon, OpenCollective Europe etc..
[4] Such as the Eclipse Foundation, who host many Open Source projects
[5] Open Source Programme Offices, organisations within companies and public administrations devoted to Open Source

Commercial Open Source

Europe's **Commercial Open Source (COSS)**[6] sector is a global leader, ranking second[7] only to the United States. It thrives by offering end-user and B2B products, monetized through models like Software-as-a-Service[8], technical support, dual licensing, and Open Core[9]. The sector is growing, driven by public sector adoption (governments, cities, and universities) and rising private sector interest.

Despite this, COSS startups in Europe face **challenges in securing capital and funding**, much like their proprietary counterparts. While this slows expansion, European COSS companies have leveraged Open Source to develop competitive solutions at a fraction of the cost of dominant technology players, and **governments across the EU are already beginning to deploy these solutions**.

Getting organisations to switch is challenging, with prospective customers often **locked into proprietary ecosystems**, and ICT department hesitancy due to unfamiliarity with FOSS solutions. Even at DG DIGIT, despite high staff proficiency with FOSS and successful trials, **management is hesitant to deploy FOSS solutions,** even when reliance on proprietary dominant tech players from abroad is a growing & proven risk. **Addressing these concerns is difficult**, as COSS companies don't have as much to spend on advertising and customer acquisition, instead relying on organic approaches, such as word-of-mouth.

Another challenge arises from government-backed projects bundling community editions of COSS into enterprise packages. While beneficial for the public, this risks undermining the revenue streams of the original open-source companies. For these government projects to remain sustainable in the long term, it's crucial to adopt models that **preserve the financial viability** of the companies developing the underlying software.

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[6] By "COSS" we mean a particular category of open source software used to directly generate revenue. All software under OSI approved licenses may be used commercially, as was established in 2006 by David Wheeler

[7]: Sam Boysel, Matthieu Lavergne, Matt Trifiro, "The State of Commercial Open Source 2025: The Data-Backed Financial Case from 25 Years of Commercial Open Source,", The Linux Foundation, 08/25

[8] In this model, companies offer their software as a service for a monthly fee, with maintenance and operations managed by them.

[9] In this model, core functionality is Open Source while certain features are paid & proprietary.

<u>Open Source non-profits: communities, charities, and foundations</u>

Many participants in the Open Source ecosystem are non-profits, **especially those developing Open Source components**—critical building blocks for both proprietary and Open Source software. Studies show over 90% of commercial software[10] contains Open Source components[11], with 70% of code in commercial software codebases being Open Source. **They are the raw materials of software.**

However, **monetizing these components is difficult** because unlike raw materials in the real world, they can be reproduced infinitely at no cost. While some larger foundations are financially stable, others struggle to maintain their projects when they become unexpectedly essential to others. Most companies using these components **neither contribute code nor provide funding**. This unsustainable situation risks creating future security threats.

The Cyber Resilience Act (CRA) could help address this by allowing non-profits to charge modest fees for *security attestations*, reducing compliance burdens for manufacturers and creating a sustainable funding mechanism to support the maintenance of critical Open Source components that help Europe compete with the US in both Open Source and proprietary software.

Additionally, The CRA creates *Open Source Software Stewards*: legal entities that support the development of a FOSS project. But as of now, **many projects don't have a legal entity in the EU** (even those based in Europe). In parallel, some existing US-based projects are considering moving some or all of their operations to the EU. Reducing the barrier to entry for future stewards is critical to the success of the CRA, and will result in more projects making a home in Europe, helping to attract talent and create economic value in the EU, while protecting Open Source projects we rely on from coercion, protecting EU sovereignty.

Finally, some Open Source projects, such as European social network **Mastodon**, operate as a non-profit due to their public benefit goals. They are often of societal and strategic value to Europe, hence we recommend the Commission recognises this value and ensures expanded funding opportunities for such projects.

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[10] both Open Source and proprietary
[11] www.blackduck.com/resources/analyst-reports/open-source-security-risk-analysis.html

Individual Open Source Developers: Europe's hidden Silicon Valley

The final set of participants in the FOSS ecosystem are its individual developers. They are either building Open Source products or components alone, or contributing to existing projects. **They are Europe's hidden silicon valley: an extraordinary but hidden pool of expertise spread across the Union.**

Without them, many of the world's most successful Open Source projects wouldn't exist: Linux, which powers the majority of devices and services we use today, was created by a Finn: Linus Torvalds; and you'd struggle to find an internet-connected device today that doesn't have a copy of the CURL library, a tool used for transferring information over the internet written by the Swede, Daniel Stenberg.

This isn't by mere chance: **Europe is a world leader in Open Source contributors and contributions**: it makes up around 20% of global Open Source contributions[12], and all 27 EU member states are in the top 50 countries by Open Source developers per capita, with 12 in the top 20.

Several elements can explain this: notably Europe's strong rankings in work-life balance[13], which has been found to be a factor in sustainable Open Source contributions[14], but also the willingness of many European Companies to employ full-time Open Source contributors[15]. These conditions also help create European technical expertise, improving Europe's competitiveness. Europe should hence take actions that foster these elements such as maintaining citizens' work-life balance, developing tax or procurement incentives for companies which contribute to OSS projects, and expanding citizens' Opportunities to contribute.

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[12] Johannes Wachs, Mariusz Nitecki, William Schueller, Axel Polleres, The Geography of Open Source Software: Evidence from GitHub, Technological Forecasting and Social Change, Volume 176, 2022,

[13] Hideo Noda, 2020. "Work–Life Balance and Life Satisfaction in OECD Countries: A Cross-Sectional Analysis," Journal of Happiness Studies, Springer, vol. 21(4), pages 1325-1348

[14] Linåker, Johan & Link, Georg & Lumbard, Kevin. (2024). Sustaining Maintenance Labor for Healthy Open Source Software Projects through Human Infrastructure: A Maintainer Perspective. 10.48550/arXiv.2408.06723.
Johannes Wachs, Mariusz Nitecki, William Schueller, Axel Polleres, The Geography of Open Source Software: Evidence from GitHub, Technological Forecasting and Social Change, Volume 176, 2022

[15] Cailean Osborne and Adrienn Lawson, "Open Source as Europe's Strategic Advantage: Trends, Barriers, and Priorities for the European Open Source Community amid Regulatory and Geopolitical Shifts", foreword by Cédric Gégout, The Linux Foundation, August 2025.

Challenges to all Open Source participants

Regulation is also a significant challenge for all actors in the Open Source ecosystem, because of the symbiotic nature of the Open Source ecosystem: a law that impacts one type of Open Source entity, will inevitably have repercussions for the others.

In recent years, the EU has increasingly considered the impact of its laws on FOSS, and while the mitigations it initially proposed (for example with the Cyber Resilience Act) needed tweaking, the fact that Open Source was a consideration is already something to be praised.

However, the symbiotic nature of the ecosystem means it is very difficult to predict the impact of legislation on the Open Source ecosystem. Better connections with Open Source communities are key to ensure future regulation doesn't inadvertently negatively impact Open Source.

Finally, **patent-encumbered standards** are another barrier to development and adoption. By nature, FOSS cannot include patent-encumbered components. When vital European standards are encumbered by patents, it prevents fair competition from Open Source in that space.

In addition to this, the current European Standards system is not adequately welcoming to Open Source, making participation in the system itself extremely challenging, in particular for non-profit organisations.

In our answer to question 2 we propose a selection of solutions to these issues. For further information beyond those, you can also see our [feedback on the 1025 (Standardisation regulation) revision](#).

2. What is the added value of open source for the public and private sectors? Please provide concrete examples, including the factors (such as cost, risk, lock-in, security, innovation, among others) that are most important to assess the added value.

Digital Independence & Sovereignty

Geopolitical tensions make it crucial for Europe to control its technological infrastructure. Currently, Europe relies on foreign firms for most software solutions—solutions that cannot be reliably audited, may contain "kill switches" or "backdoors," and could be weaponised against European authorities and businesses.

Test Case: the International Criminal Court

Several International Criminal Court judges have lost access to their email accounts[16] after being sanctioned by the United States, as technology companies based in the US can no longer provide services to them. This led the ICC to move away from services offered by US-based companies. Recently a former EU official was also sanctioned by the US.

FOSS offers an alternative. Unlike proprietary solutions, it **enables trust** and interoperability by allowing users to use, study, modify, and share the code. This transparency lets anyone review how the software works, verify its security, and develop compatible services or derivatives if needed.

Test Case: Police radios vs Element

Upon its release, many European Countries adopted the proprietary **TETRA standard** for radio communication in Emergency Services & Military. The encryption algorithms used in TETRA were proprietary, and could not be audited by the government. **25 years later**, researchers discovered the encryption algorithm was deliberately flawed, allowing intercepts.

Today, more and more governments are adopting the Open Source solution *Element* for their communications. Because Element is Open Source, the code of all its components - including encryption algorithms - can be audited by governments to guarantee they are safe and secure.

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[16]https://www.lbc.co.uk/article/british-icc-chief-prosecutor-lost-email-bank-accounts-frozen-trump-sanctions-rpTkm_2/

With Open Source, Europe can maintain digital sovereignty, **benefiting from global expertise while retaining control**, regardless of where the software originates. Additionally, users can choose to run that code anywhere, with or without developer approval and support, be it on premises, on the developers cloud, or a cloud of their choice.

Test Case: Confluence to XWiki in the European Parliament

The European Parliament previously used Atlassian's proprietary workspace software, Confluence, which could be self-hosted or accessed via Atlassian's cloud. In 2021, Atlassian discontinued the self-hosted option, leaving Parliament with two choices: migrate confidential data to Atlassian's infrastructure (potentially outside the EU) or switch to an alternative. In 2025, Parliament opted to migrate to XWiki, a french Open Source solution supported by an eponymous company. They signed a contract with that company to organise the migration.

This migration gave Parliament flexibility: they could continue to host their data on their own infrastructure, use XWiki's, or choose any other cloud provider. As open-source software, XWiki also allowed Parliament to audit the code for security threats, and, if needed, create a custom derivative version to avoid unwanted future changes. Open Source gave parliament back control of its digital infrastructure.

Competitiveness and value for money

Open Source can also benefit Europe's competitiveness, and bring down costs for businesses and public authorities alike.

In procurement, Open Source keeps costs down and suppliers competitive: when suppliers offer a service based on FOSS, they cannot rely on vendor lock-in or the inconvenience and cost of migration to retain contracts[17]: because the software is Open Source, the user can move to another supplier of the same software, or even bring the software in house. This forces suppliers to stay price-competitive.

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[17] Simon, Kimberly D. "The value of open standards and open-source software in government environments." *IBM Systems Journal* 44.2 (2005): 227-238.

Test Case: Productivity123 vs Nextcloud

Productivity123 is a fictional proprietary collaboration and office suite used by the European Commission, at a cost of €15/user/month. The contract is expiring, and the Commission has launched a tender.

In the meantime, *Productivity123*'s developer built *BackseatDriver*, an AI assistant for *Productivity123*, which proved expensive and unpopular with users. To recoup costs, they integrate *BackseatDriver* into *Productivity123*, and bump the cost to €23/user/month. Because the software is proprietary, and they are the only provider, the Commission can either accept the price hike, or undergo an extremely expensive and disruptive transition to another office suite.

The Commission decides to make the move to NextCloud, an Open Source collaboration and office suite, and choose NextCloud GmbH, the developer of NextCloud, to provide the service. The move is difficult but successful. Five years later, when the contract comes up for renewal, the Commission launches another tender, attracting **several competing Nextcloud providers**, this guarantees that the tender remains competitive.

In software development, Open Source also allows European Businesses to build new products faster: because they can re-use existing Open Source code to save reinventing the wheel. As of now, around 70% of code in commercial code bases is Open Source, even for proprietary software products.

Accounting for the savings it enables, a recent Harvard[18] study estimated Open Source's value at $9tn. Recent European Commission research[19] estimates that over the course of 1 year, **a €1 billion investment in Open Source in Europe resulted in between €65 and €95 billion of benefit for the European Economy**.

The same analysis estimates that an increase of 10% of FOSS contributions would annually generate an additional 0.4% to 0.6% GDP as well as more than 600 additional ICT start-ups in the EU.

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[18] Hoffmann, Manuel, Frank Nagle, and Yanuo Zhou. "The Value of Open Source Software." Harvard Business School Working Paper, No. 24-038, January 2024.
[19] Blind, K., Böhm, M., Grzegorzewska, P., Katz, A., Muto, S., Pätsch, S., & Schubert, T. (2021). The impact of Open Source Software and Hardware on technological independence, competitiveness and innovation in the EU economy. *Final Study Report. European Commission, Brussels, doi*, *10*, 430161.

In short, like Infrastructure in the real world, **Open Source creates opportunities for businesses to thrive and drives our economies forwards.**

Societal benefit

When governments procure or develop Open Source solutions, those solutions benefit everyone: Since everyone can make use of the created software, the economic benefits are multiplied: a software solution developed for the public sector can be reused or even commercialised by the private sector, creating cost savings for businesses, and spurring economic growth at no additional cost.

Test Case: Prozorro

In 2014, the Ukrainian government recognized the potential of an activist-developed software project designed to combat corruption in procurement through radical transparency. With government funding, the project evolved into **Prozorro**[20], an award-winning public procurement hub. As open-source software, Prozorro earned public trust and enabled interoperability, allowing third-party access to procurement data for transparency.

Because Prozorro was Open Source, Ukrainian companies were also able to use it as the basis for a Commercial product, RIALTO, which is designed to enable transparent business-to-business procurement. Finally, governments of some EU countries are now considering deploying Prozorro, or building their systems using Prozorro as a basis, bringing down development costs and potentially enabling interoperability between procurement systems.

Procuring Open Source can contribute to high quality jobs that strengthen Europe's digital independence: when proprietary software is procured, especially from outside of the EU, the jobs created within the EU will mainly be sales and technical support instead of development. However, procuring Open Source solutions in Europe, regardless of the origin of the project, can result in the creation of skilled jobs in software development, bolstering European technological expertise and strengthening Europe's digital independence. Additionally, **Procuring Open Source software and services from suppliers within the EU means the money stays in the Union**, regardless of where the Open Source project comes from.

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[20] https://oecd-opsi.org/innovations/eprocurement-system-prozorro/

3. What concrete measures and actions may be taken at EU level to support the development and growth of the EU open-source sector and contribute to the EU's technological sovereignty and cybersecurity agenda?

Procurement & Development of IT solutions

Each year, the EU and its member states spend about **€125 billion** on ICT services. Much of this spending flows to non-EU companies, failing to support the EU's economic or strategic objectives: **we may be funding the solutions, but we are still buying the problems**.

Reforming public procurement to reduce barriers for Open Source and recognize its benefits would be one of the EU's most impactful decisions for digital sovereignty and the success of Open Source. We aren't seeking special treatment; Open Source is already competitive. If its advantages were fully considered in procurement, we believe it would outperform proprietary alternatives.

Proposed Measures:

☑ **Prohibit tenders from requiring specific proprietary solutions** or proprietary or patent-encumbered standards

☑ **Consider interoperability, reusability, vendor lock-in, digital sovereignty, and total cost of ownership** as procurement criteria

☑ **Ensure procurement templates are designed with Open Source in mind.**

☑ **Consider code and financial contributions by the supplier to Open Source components they depend on as a procurement criteria.**

You can find a more detailed paper on proposed solutions in our [feedback to the call for evidence on a revision of the public procurement directive](#).

In addition, **to maximize the benefit of IT investments,** we recommend the Commission **adopt an "Open by Default" policy when building new solutions internally**, **or procuring custom-built solutions externally,** requiring the code to be stored in a public commission-hosted repository, and encouraging member states to adopt similar policies, in line with the **Public Money - Public Code** principle.

<u>Funding</u>

The Open Source Initiative and OSI Europe Foundation have also been major supporters of the Next Generation Internet initiative, and other EU-funded grants to Open Source projects which have achieved excellent value-for-money, and enjoy wide popularity in Open Source communities. To ensure the sustainability of Open Source, and spur future innovation in Europe, we propose the following:

Proposed Measures:

☑ **Create a European Sovereign Tech Fund,** partially modeled on the German STF, as a replacement for the Next Generation Initiative

The fund should support: Open Source components and projects critical to European users, businesses and Open Source communities, promising early-stage Open Source innovations, and Open Source projects of strategic value to the EU. A dedicated sub-fund could also accelerate the development of specific features in Open Source projects (including commercial ones) used by the EU and its member states, further strengthening Europe's digital sovereignty.

☑ **Include Open Sourcing deliverables as a criteria in Horizon grants** where software is a deliverable

☑ **Create a one-stop-shop for funding opportunities relating to Open Source**

☑ **Develop Open Source Attestations under the Cyber Resilience Act**, ensuring they can become a source of revenue for Open Source Stewards.

<u>Regulation</u>

Regulation remains a major challenge for the Open Source ecosystem, often forcing communities to divert significant resources to address issues proposals after they're published. To support the EU in regulating with Open Source in mind, we propose the following:

Proposed Measure:

☑ **Create an Open Source Expert Group** leveraging expertise of Open Source organisations in Brussels and beyond, representing Open Source Companies, Foundations, Communities, and individual developers.

☑ **Avoid imposing "Know your contributor" requirements** A core benefits of Open Source is that you can use it *without having to trust the developer*. Requiring contributors to formally identify themselves will dramatically cut participation, in particular by minorities, with no impactful security benefit, as the state actors behind such attacks have the resources to get around such requirements. The best way to prevent this is through funding to strengthen sustainability of Open Source and ensure contributions are adequately reviewed.

Standards

The European Standard system also poses some fundamental challenges for Open Source: **in many cases standards are paywalled or patent-encumbered**, meaning it is not possible for Open Source projects to consider those standards[21]. Additionally, **Open Source is inadequately represented in the standardisation** process like other representatives of the fourth sector[22], meaning standards aren't made with Open Source in mind. This has been a particularly severe issue in the CRA.

Proposed Measures:

☑ **Mandate that all European Standardisation Organisations have an additional rights-waived mode** where no further relationships are necessary to either access or implement the standard.

☑ **Empower the Commission to designate publicly available Open specifications as European Standards** when they are not patent encumbered.

☑ **Consider means by which the Open Source ecosystem can be represented and financially supported**, akin to the current Regulation 1025 Annex III system.

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[21] https://opensource.org/blog/osi-to-the-european-commission-make-space-for-patent-free-standards-too

[22] https://opensource.org/blog/modern-eu-policies-need-the-voices-of-the-fourth-sector

For more information see our [feedback on the Standardisation Regulation revision](#).

Knowledge and Skills

To unlock Open Source's potential, it is vital that both citizens and public authorities build the knowledge and skills to best make use of it. Open Source is often at the heart of the experiences of self-taught programmers, who regularly use Open Source components, and whose first projects are often Open Source. However this is not always reflected in current education and reskilling programmes.

Furthermore, some existing European Open Source developers are considering trying to find ways to commercialise their projects, but don't know where to start.

Finally, public authorities mindful of the EU's strategic goals around digital sovereignty and data protection are keen to deploy Open Source solutions, but often lack the confidence to do so, either due to a perceived lack of expertise on their side, or a lack of knowledge of existing deployments of Open Source solutions.

To address these issues we propose the following measures:

Proposed Measures:

☑ **Integrate Open Source into education and reskilling around technology** to build a generation of European developers who know how to benefit from Open Source.

☑ **Provide support to European Open Source developers who want to Commercialise their projects**, with advice on pathways to commercialisation from existing experts and companies.

☑ **Support local authorities in knowledge-sharing and knowledge building** around the deployment of Open Source, through workshops, testimonials, and community-building, in particular for regional and municipal authorities.

Business & Economy

Finally, there are a selection of measures the EU could take to economically incentivise Open Source, and support the development of Open Source companies and alternatives, beyond a Sovereign Tech Fund.

Proposed Measures:

 ☑ **Create an incentive in the procurement system** for companies to dedicate time to contributing to Open Source projects, in particular the Open Source components that the company depends on for its products.

 ☑ **Provide guidance to member states tax authorities**, to allow Open Source contributions by companies to be tax-deductible as Research & Development.

 ☑ **Provide guidance to member states tax authorities**, to ensure that Open Source Software Stewards can sell Security attestations under the CRA to fund the sustainable development of Open Source components.

 ☑ **Support fledgling Open Source companies** by offering training and guidance on going from an Open Source project to an Open Source company, and by offering funding or other incentives.

 ☑ **Make it easier for Open Source foundations to get established in Europe** by delivering the Directive on European cross-border associations, including a status for public-benefit foundations in the upcoming 28th regime, or providing a tool that compares EU member states' various non-profit statuses, and generates legal statutes on the basis of templates, with an english translation.

Other Measures

Proposed Measures:

 ☑ **Use OpenDocument formats by default in EU Institutions:** the existing Microsoft Office suite used in the institutions supports saving documents using OpenDocument formats[23] by default. Doing so makes those documents more interoperable, and facilitates future switches to alternative office solutions.

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[23] https://en.wikipedia.org/wiki/OpenDocument

4. What technology areas should be prioritised and why?

Here, the OSI and OSI Europe Foundation do not have specific recommendations, however, **in order to achieve digital sovereignty, we would urge the Commission to first and foremost address areas with the highest present dependency** on proprietary software from outside the European Union. This includes Operating Systems, Office and Collaboration Platforms, Email and Calendar, identity management systems, and Social Media platforms.

5. In what sectors could an increased use of open source lead to increased competitiveness and cyber resilience?

The use of Open Source is already increasing competitiveness and cyber resilience across the economy, in particular when it comes to Open Source Components. An increase in deployments of Open Source Products could also drastically improve cyber resilience at a time of geopolitical tensions, while bringing down costs and strengthening competitiveness.

We hope that these answers have provided useful insights about how Europe can better support and benefit from Open Source. Please do not hesitate to reach out to us if you have any questions. Our dedicated policy staff in Brussels would also be delighted to meet for an in person meeting at a time of your convenience.

Best Regards,

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