

26 May 2021



Open Source is gaining momentum in EU policy

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CampusSource Tagung 2021



OpenForum
Europe



OpenForum Europe (OFE) is a not-for-profit, Brussels-based independent think tank which explains the merits of openness in computing to policy makers and communities across Europe.



OpenForum
Europe

Founded in 2002 to accelerate and broaden the use of Open Source Software (OSS) among businesses, consumers and governments, including a level playing field for open source

OFE's focus has evolved and covers many digital policy topics, providing policy analysis, stakeholder and expert engagement

Works with industry, SME associations, community, and academia, and policymakers

Member of MSP for ICT Standardisation, Cloud DSM Stakeholder Group, MSP for eProcurement, UN Technology Labs IP advisory group, etc.

Main policy topics:



Open Source



Open standards



Digital Government



public procurement



Internet policy



cloud computing

A short OFE history

- “The Standards Wars”
 - Open Document Format vs OOXML
- Spearheaded Open in Brussels (EC thought actual spears)
- Today OSS is mainstream... in the right circles

Where are we today?

Open Source is a niche*

*in policy

Is OSS everywhere?

Where is the ...

...Cybersecurity

...Research & Innovation

...Machine Learning

...High Performance Computing

...Telecommunications

...Copyright 🦴

... policy that's making use
of OSS?



European Commission overarching digital strategy

13 pages

ctrl+f

“Standard” = 13 results

“Open Source” = 0 results



Brussels, 5.5.2021
COM(2021) 350 final

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

**Updating the 2020 New Industrial Strategy:
Building a stronger Single Market for Europe's recovery**

{SWD(2021) 351 final} - {SWD(2021) 352 final} - {SWD(2021) 353 final}

European Commission 2021 Industrial Strategy

13 pages

ctrl+f

“Standard” = 23 results

“Open Source” = 0 results

Digital Government



Brussels, 21.10.2020
C(2020) 7149 final

COMMUNICATION TO THE COMMISSION

OPEN SOURCE SOFTWARE STRATEGY 2020 – 2023
Think Open



Policymakers
 need

evidence

We have some evidence

- Germany (Bitkom, 2019 f.)
- France (CNLL, 2019 and Nagle, 2019)

...and Europe?

2006



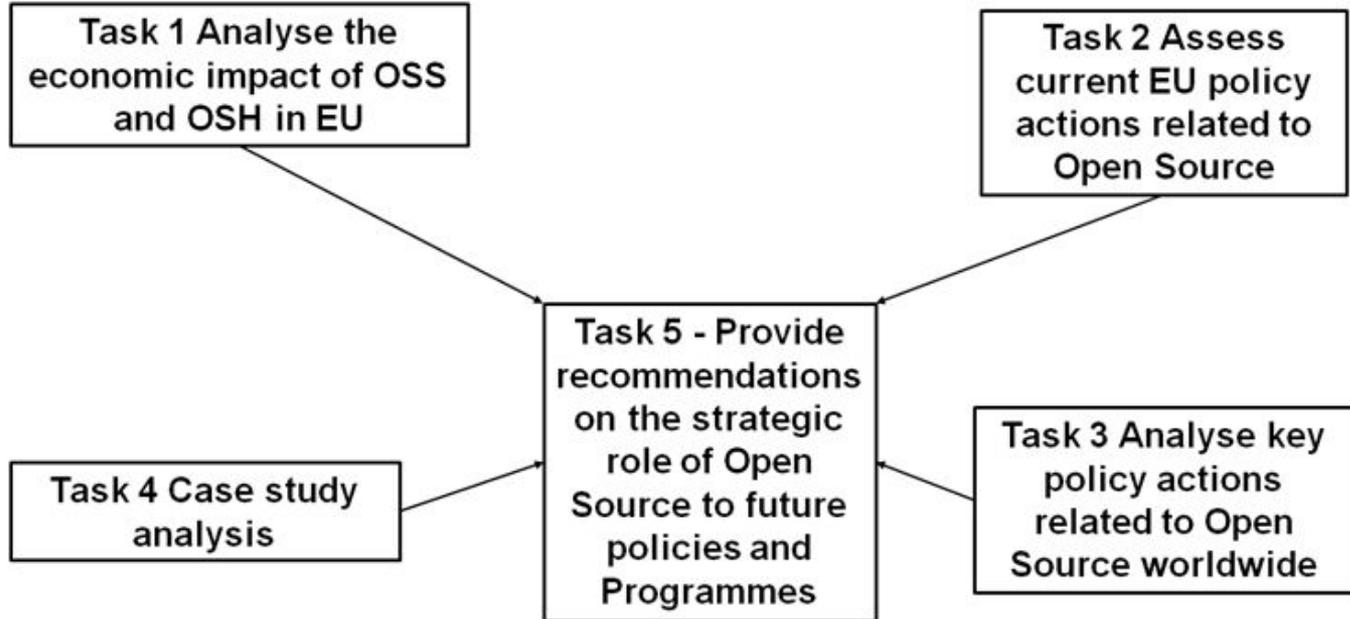
**The impact of Open Source Software
and Hardware on technological
independence, competitiveness and
innovation in the EU economy**

FINAL STUDY REPORT

Soon...

The Study

Our tasks



Economic Impact

**Short summary of economic results produced by Knut
Blind/Fraunhofer ISI**

All numbers are for EU 28 in 2018

Investment in OSS on MS level

- 8.2% of the 3 millions employees in computer programming contribute on GitHub
- 30 million commits to GitHub: effort of more than 16,000 FTEs
- € 1 billion personnel cost investment in 2018
- Small companies most active, i.e. > 75% have < 100 employees; the smaller the company, the more commits

€65 - €95
billion

OSS contribution to EU economy in 2018

(lower bound)

10% increase
in number of
contributors:

€ 95 billion
Increase in
EU GDP

(lower bound)

1:4

Cost : benefit
ratio

(lower bound)

Public Policy Analysis

What were our goals?

- Create a framework to compare expansiveness of public policy actions relating to Open Source (not normative!)
- ...and performing that comparison
- Understand why governments engage with Open Source
- Understand what works and what doesn't

About that framework

Criterion	Indicator	Max Mark
Dimension: Public sector		65
Policy existence	Is there a policy on OSS/OSH? If so, what is the most prescriptive level of the policy in force?	
	Norm	5
	Decree	10
	Law	15
Criterion total mark		15
Public procurement	Is a public procurement policy in force which favours OSS/OSH, under which of categories does the policy fall?	
	Advisory (where the use of Open Source software is permitted)	5
	Preference (where the use of Open Source software is given preference, but not mandated)	10
	Mandatory (where the use of Open Source software is required)	15
Criterion total mark		15
Policy implementation	If there is an OSS/OSH policy, how effectively is the policy being implemented?	5
	Is there any enforcement foreseen for the OSS/OSH policy?	5
	Criterion total mark	
OS competence	Does the public administration have an internal strategy on OSS/OSH?	5
	Does the public administration have an open source office?	5
	Does the public administration share its OSS and OSH policies and solutions with other public administrations?	5
	Does the public administration use OSS/OSH in its own developments, including development which it outsources?	5
	Criterion total mark	

Criterion	Indicator	Max Mark
Dimension: Private sector		45
Supporting private sector	Are there any laws or rules that aim to support the private sector in exploiting OSS/OSH?	5
	Are there any laws or rules that aim to encourage the private sector to develop OSS/OSH?	5
	Does a strategy exist to use OSS/OSH for industrial development?	10
	Criterion total mark	
Guidance	Are there services that provide OSS/OSH-related guidance to the private sector (e.g. through explaining: OS licensing schemes, intellectual property rights, equal opportunities, procurement rules and how to participate in OSS/OSH communities)?	5
	Criterion total mark	
Community	Is the public authority nurturing Open Source communities?	5
	Is the public authority a good open community citizen?	5
	Criterion total mark	
OS present in neighbouring policies	To what degree do policy actions in neighbouring fields, such as research & innovation, cybersecurity, telecommunications, AI, HPC etc., take into account OSS/OSH?	10
	Criterion total mark	
Total of achievable mark		110

The framework

Dimension	Criteria
Public policies aimed at the public sector	<ul style="list-style-type: none">• The level of prescriptiveness of a policy, throughout the jurisdiction.• The degree to which public procurement policies take OSS/OSH into account.• How effectively the policy is being executed.• The degree of competence with regard to OSS and OSH within the public authority.
Public policies aimed at the private sector	<ul style="list-style-type: none">• To what degree the jurisdiction supports private actors in adopting and developing OSS and OSH.• To what degree the jurisdiction makes guidance available for private actors.• Whether the jurisdiction's administration takes on a role (and if so, what role) with regard to OSS and OSH communities.• To what degree OSS and OSH is being taken into account in neighbouring policy fields.

What countries have we looked at?

Europe	Americas	Asia
Bulgaria France Germany Italy Poland Spain United Kingdom	Brazil The United States	China India Japan South Korea

What countries will we show today?

Europe	Americas	Asia
Bulgaria France Germany Italy Poland Spain United Kingdom	Brazil The United States	China India Japan South Korea

Brazil

- OSS push in early 2000s
 - Internal lobbying achieved high-level political support
 - Intertwined with political concerns around independence and culture
“Software as a commons”
 - Institutionalisation significant part of effort, but never centralised
- Early 2010s saw end high-level political support
 - Without central function, institutions quickly lost mandate
 - Why did the Software Livre movement lose its power of persuasion on the government?
- What is left today?

Italy

- Italy's OSS policy story revolves around the CAD (“Codice Amministrazione Digital”)
 - From 2012 on, developed into the “perfect” OSS procurement law
 - Comparative assessment, favouring OSS
 - Except nothing really happened
- Why?
 - Unclear responsibilities
 - Lacking awareness
 - No guidance
- Improvement as of late

South Korea

- South Korea's government doesn't procure OSS specifically
- South Korea wants its industry to be sovereign
 - Ministry: "Open Source software [...] the basis of all activities"
 - Coordinates with CJK (China-Japan-Korea) countries on OSS
- Institutionalisation and industrial policy
 - Korea Copyright Commission, License compliance - \$3 mil annual
 - Open Source Software Competence Plaza - \$12 mil annual
 - KOSSLab, an Open Source incubator
 - National IT Promotion Agency - \$360 mil annual

The framework

Dimension	Criteria
Public policies aimed at the public sector itself	<ul style="list-style-type: none">• The level of prescriptiveness of a policy, throughout the jurisdiction.• The degree to which public procurement policies take OSS/OSH into account.• How effectively the policy is being executed.• The degree of competence with regard to OSS and OSH within the public authority.
Public policies aimed at the private sector	<ul style="list-style-type: none">• To what degree the jurisdiction supports private actors in adopting and developing OSS and OSH.• To what degree the jurisdiction makes guidance available for private actors.• Whether the jurisdiction's administration takes on a role (and if so, what role) with regard to OSS and OSH communities.• To what degree OSS and OSH is being taken into account in neighbouring policy fields.

Comparison

Criterion	Italy	Brazil	South Korea
Dimension: Public sector	63%	14%	31%
Policy existence	10	0	1
Public procurement	15	0	0
Policy implementation	4	0	0
OS competence	12	9	10
Dimension: Private sector	13%	4%	76%
Supporting private sector	0	0	17
Guidance	0	0	5
Community	4	0	6
OS present in neighbouring policies	2	1	6
Total of achievable mark	38%	9%	53%

Why do governments engage with OS

Economic concerns

- Cost savings
- Switching costs and network effects
- Underproduction of public goods
- Market competition and technology neutrality

Technical concerns

- Compatibility
- Security
- Customisability
- Localisation

Political concerns

- Governance
- Independence
- Digitalisation

Legal concerns

- Software piracy
- Risks of indemnification
- Difficulty to restrict access
- Compliance with international trade regime

A pattern emerging

- Two waves of government OSS support
 - The first wave: Early 2000s
 - The second wave: Mid 2010s
- What story drives these waves?

Issues and approaches

- Writing a good law is not everything
- Implementation and follow up is difficult
 - Awareness / ease of implementation / education
- It is difficult to force the disinterested to do something
 - External spark, intrinsic motivation
- Political support - changing priorities and governments

Issues and approaches

- Level of prescriptiveness secondary as explanatory factor
- Culture seems most important factor - Open (Source/Innovation/Data/Government) culture
 - The bigger the organisation/scope, the more challenging
 - Only successful examples on regional level
- Institutionalisation common approach, but mixed results
 - Political support necessary if open culture has not set in

Summary

- Changing stories and motivations over time - 2 waves
- Geographical spread in government focus
- Implementation and culture biggest issues

Policy Recommendations

Policy Recommendations

A digitally autonomous public sector	Open R&D enabling European growth	A digitised and internationally competitive industry
<ul style="list-style-type: none">• Building Institutional Capacity• Creation of Legitimacy• Strategic Intelligence	<ul style="list-style-type: none">• Knowledge Creation• Knowledge Diffusion and Networking• Entrepreneurial Activities• Human Capital Development	<ul style="list-style-type: none">• Financial Capital Development• Regulatory Environment• Market Creation• Open Source Hardware• AI, HPC, Software defined infrastructure• Sustainability

Knowledge Creation

- Creation and expansion of a knowledge base is at the core of emerging technologies and industries, because learning and researching are preconditions of innovation

Recommendations

1. Increasing the level of public R&D funding of specific Open Source projects
2. Easing the access for SMEs and Start-Ups to ICT-related Open Source funding

Knowledge Diffusion and Networking

- Knowledge diffusion and networking are depending on cultural factors, which can in general only be influenced by soft policy instruments
- Their relevance for innovation and growth is widely acknowledged, because OSSH have due to their openness all the requirements necessary for an effective and efficient diffusion of knowledge

Recommendations:

1. Supporting incentives for publicly funded R&D projects to make their results open and accessible
2. Supporting the creation of Open Source platforms and networks in the EU

Entrepreneurial Activities

- Entrepreneurial activities are crucial for the emergence of new, e.g. related to OSH, but also for the performance of already existing innovation systems, like for OSS.
- Despite the massive involvement of individuals and micro companies in OSS and OSH, lack of successful entrepreneurship.

Recommendations:

1. Providing relevant education and establishing a culture to foster Open Source based start-ups
2. Promoting partnerships between small Open Source players, trusted intermediaries and larger companies

Human Capital Development

- Lack of skilled labour prevents companies from using and contributing to Open Source, but development of software skills important factor in long term development and performance.

Recommendation:

1. Promoting the inclusion of Open Source (development, business models and licensing) in the programmes of Higher Education Institutions
2. Promoting entrepreneurial and management skills among Open Source based micro companies and SMEs
3. Developing an EU Certification Scheme for individuals who have developed Open Source skills in particular fields
4. Enabling increasing the diversity of Open Source contributors



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Thank you