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## **EU 2020**

# **Realizing the full potential of Free Software to build a vibrant knowledge economy and society**

*Contribution to the European Commission's consultation  
on the European Union's strategy for 2020*

During the last few years, patenting and copyright policies have been questioned, and information commons have become a trending topic thanks to remarkable thinkers and academics. Among the most famous of them are two Nobel economics prize laureates, Joseph Stiglitz (2001) and Paul Krugman (2008), who both established the nuisance innovation patents represent for innovation; but also Koichiro Matsuura, former Executive Director of UNESCO, who stated that the sharing of knowledge is a multiplier of growth<sup>1</sup>; and in 2009 Elinor Ostrom was awarded the Nobel economics prize for her theory on the management of commons.

Meanwhile, the European Union adopted several directives hardening patent and copyright enforcement policy (EUCD, IPRED) and examined the extension of patentability to software...

Association April wishes to contribute to the reflection of the European Commission regarding the Union's strategy for 2020. This contribution aims at highlighting the unique aptitudes of the EU for Free Software<sup>2</sup>, and the asset it represents for Europe in return. It proposes a series of recommendations to achieve the objectives of this strategy by realizing the full potential of Free Software.

## **About April**

Pioneer of free software in France, April has been since 1996 a major player in the democratization and the spread of Free Software and open standards to the general public, professionals and institutions in the French-speaking world. In the digital era that is ours, it also aims to inform the public on the dangers of an exclusive appropriation of information and knowledge by private interests. The association is made up of more than 4,800 individuals, 278 companies, 147 associations, 5 local government bodies and 6 educational organizations, all sharing the values of freedom.

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1 OpEd by Koichiro Matsuura, Le Figaro (FR), 27 September 2006:

[http://www.lefigaro.fr/debats/20060927.FIG000000201\\_le\\_partage\\_du\\_savoir\\_est\\_un\\_multiplicateur\\_de\\_croissance.html](http://www.lefigaro.fr/debats/20060927.FIG000000201_le_partage_du_savoir_est_un_multiplicateur_de_croissance.html)

2 EU institutions tend to use “Free/Libre/Open Source Software” or “FLOSS”.

## Introduction:

### Free/Libre/Open Source Software, an information commons

**Recommendation #1: Acknowledge Free Software as a commons benefiting the society as a whole. Acknowledge Free Licenses as the means to build and enhancing this commons.**

The concept of Free Software was formalized in the early 1980s. It was inspired both by the principle of collaborative scientific publishing, and by the desire to provide each and every one with fundamental freedoms in the digital age. Thanks to the four freedoms it grants everyone (run the program, study the program and adapt it to one's needs, redistribute copies of the program, improve the program and publish these improvements), it aims to respect the users' freedom and the solidarity in digital communities.

These four freedoms are guaranteed by copyright-based licenses. They allow software authors to share their software with all mankind, while protecting it against exclusive appropriation. Richard M. Stallman, principal author of the GNU GPL, likes to explain that Free Software can be defined in three words: "Liberty, Equality, Fraternity". Eben Moglen, the lawyer who advised him, often says that the license enables "the creation of a common fund to which anyone can add, but from which no one can subtract".

In practice, since Free Software can be freely used, copied, modified and redistributed lawfully by anybody, it has spread a lot over the last two decades; and the number of contributors to the common collection it constitutes is constantly increasing.

### ***A unique asset for the competitiveness of the EU***

As established in the "FLOSS impact" study led by Rishab Aiyer Ghosh for the European Commission, the European Union hosts half of the world's Free Software developers. The base of quality Free Software available is estimated at € 12 billion. Firms contributing to Free Software development represent at least 565 000 jobs and Euro 263 billion in annual revenue. They tend to have much higher revenues than non-contributing firms. The study states Free Software can also provide the EU with significant competitiveness improvement in the ICT sector, R&D efficiency, cost savings. Finally, Free Software retains a greater share of added value locally and thus encourages the creation of SMEs and jobs within the EU<sup>3</sup>.

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3 "Study on the : Economic impact of open source software on innovation and the competitiveness of the Information and Communication Technologies (ICT) sector in the EU"  
[http://ec.europa.eu/enterprise/sectors/ict/files/2006-11-20-flossimpact\\_en.pdf](http://ec.europa.eu/enterprise/sectors/ict/files/2006-11-20-flossimpact_en.pdf)

# Realizing the full potential of Free Software

“The world of 2020 to come could be full of promise: greater distributed prosperity and welfare, more sharing of information capital, reduction of the digital divide... It could equally pose numerous challenges: How to sustain economic development to ensure the welfare of 8 billion people? How to cope with the scarcity of resources and energy? How to reconcile economic growth and sustainable development? How to create synergy between social progress and economic prosperity? Free Software could have a key impact in all these fields. The Free Software arena is where new applications serving citizens needs are being designed, experimented and matured. Innovative applications that would never have been developed in a proprietary software world because the immediate business models were not clear have been developed and deployed as Free Software. This happened for the Internet itself, the Web, or in the fields of democracy, co-operation, access to knowledge and culture and collaborative media. These applications have in turn enabled significant economic growth. Public policies are a key tool to realizing the potential of Free Software, for existing organizations and companies as well as for society and the economy as a whole.”<sup>4</sup>

## 1. Creating value by basing growth on knowledge

*Knowledge is the engine for sustainable growth. In a fast-changing world, what makes the difference is education and research, innovation and creativity.*

### a) Free Software-based education and research

**Recommendation #2: Provide all pupils with computer science education including basic programming techniques.**

**Recommendation #3: Train pupils using a range of tools (text processor, web browser...) rather than specific vendor software. Teach adaptability and open-mindedness when dealing with information technologies.**

Citizens of the digital era will need to handle their digital destinies. They will only be able to do so if they are taught the basic assets to understand and master their environment. And yet when pupils are provided with an IT education, it often consists in teaching them how to use a very specific piece of software from a unique vendor. The computer itself, its operating system and applications remain altogether a black box.

Building the skills for our competitiveness in the ICT sector requires cultivating curiosity and adaptability. The four freedoms and the transparency of Free Software are the perfect tools to enable the development of such qualities.

**Recommendation #4: Encourage the use and creation of Free-licensed software and contents by and for public sector teachers and researchers.**

Free/Libre licenses are naturally adapted to the transmission of knowledge. They should be preferred for all publications in the public educational and research sectors. Moreover, the collaborative process they convey allows for resources to be pooled. This of course makes research investment more efficient but also enables to initiate or get involved in projects with low funding. The emerging trend of “Open Science” uses such levers.

<sup>4</sup> 2020 FLOSS Roadmap, Abstract from the “Public Policies” theme. <http://www.2020flossroadmap.org/>

## **b) Giving free rein to innovation and creativity on the software market**

An open, dynamic, competitive software market relies on the legal and technical possibility to innovate and interact with existing solutions.

**Recommendation #5: Unambiguously prohibit the patentability of software, protocols and formats. Have the patent offices apply the subsequent doctrine: software may be part of a patented invention but shall never constitute the inventive step.**

Software patents bring rigidity to innovation, reinforce dominant positions and work against the four freedoms of Free Software. They are the first source of legal uncertainty for both proprietary software and Free Software developers. Software patents generate speculation on technology and encourage the development of patent trolls that don't innovate but develop significant portfolios by patenting functionalities – that is to say: ideas.

The excessive and abusive monopoly granted by patents, the fundamental inappropriateness of patents to software, and the current failure of the US system should lead the EU to purely ban the patentability of software, protocols and formats.

**Recommendation #6: Establish a right to interoperability, including a full and secure right to reverse engineering and an obligation of non-commercial, royalty-free cooperation for interoperability for all software publishers.**

Closure of software and format source code often leads to dominant positions because they refrain competitors from interoperating with popular solutions. The right to reverse engineering constitutes the most minimalist way to enable innovation and competition in the software sector. It is yet put in jeopardy by the chaotic transposition of the EUCD and DRM legal protection. The directive needs to be revised so as to guarantee the right to reverse engineering to create interoperable multimedia solutions, whether proprietary or Free.<sup>5</sup> Furthermore, in order to avoid vendor lock-in mechanisms a right to interoperability should be established so as to enable diversity in the benefit of users.

The deal the Antitrust Directorate-General found with Microsoft on interoperability is unfortunately an unsatisfactory progress. Indeed, the Directorate-General was right to ask Microsoft to grant any competitor the right to access interoperability-related information; but letting Microsoft claim patent royalties for the commercial distribution of resulting software simply annihilates this right for Free Software developers and vendors.<sup>6</sup>

## **2. Empowering people in inclusive societies thanks to Free Software**

This objective can be achieved thanks to Free Software through the reduction of the digital divide, education and training, and innovative business models.

**Recommendation #7: Enable the spread of Free Software solutions to the general public by tackling the bundling of software with PCs.**

The strategy of bundling software with all retail PCs results in a 95% monopoly of Microsoft's operating system in stores. This pre-emption of the market prevents any information of the general public on alternative OS and especially on Free Software solutions. Moreover, consumers buy Microsoft's OS without knowing its cost, or even without knowing that they pay for it at all. Finally, as consumers have no choice but buy the software with their new PCs, bundled sales induce an artificial consumption behavior as well as software mono-culture.

<sup>5</sup> For further information please see our contribution to the “Content Online” consultation (2009) filed under REF INF SO REP/[INF SO-A1(2010)D/200819] [http://www.april.org/files/April\\_20100105\\_reponses.pdf](http://www.april.org/files/April_20100105_reponses.pdf)

<sup>6</sup> See <http://www.april.org/en/the-european-commission-curtails-microsofts-abuse-dominance>

### **Recommendation #8: Reduce the digital divide thanks to Free Software**

The digital divide excludes people from the information society. This results in their incapacity to prepare and train themselves for modern jobs requiring the use of ICT.

Free Software can be copied legally by anybody, it can almost always be downloaded gratis from the Internet. This free of charge access allows the less privileged populations to avoid resorting to illegal software copies to benefit from technological progress. It also allows training organizations to provide the trainees with a variety of software they will be able to use at home. Free software is thus intrinsically a tool to reduce the “digital divide”.

### **Recommendation #9: Adaptable workers with flexible skills: base education and training on Free Software to favor autonomy and adaptability**

As stated under recommendation #3, the transparency of Free Software naturally encourages curiosity. Free Software empowers users by giving them access to its source code, and thus enables them to understand its functioning. This approach favors autonomy and adaptability rather than trap users in the mastering of a specific solution.

### **Recommendation #10: Acknowledge Free Software business and innovation models.**

Thanks to the four freedoms Free Software licenses grant every user, entering the Free Software market is easier than the proprietary market. Technologies can be acquired, no license fees are to be paid, and the market is open and competitive thanks to interoperability and open formats.

The business models of Free Software are innovative and numerous. Beyond the classical software vendor and service models, many Free Software companies invent their own. As an example, French SME Anakeen, Free Software Enterprise Content Management specialist, recently announced their fees would be inversely related to their customer's contribution to the Free Software solution they promote.

### **Recommendation #11: Create incentives to encourage Free Software SMEs and self-employment.**

As in general in the software industry, putting a figure on a company's innovation in the field of Free Software is nothing but trivial. Innovation metrics are ill-adapted to the information society. Therefore Free Software companies rarely benefit from tax incentives on R&D and innovation that national authorities tend to establish.

Since Free Software is a commons, enhancing the collection it constitutes, whether on a volunteer or a professional/commercial approach, should be strongly encouraged through tax reductions or other forms of public funding.

### **Recommendation #12: Create a Free Software Promotion Venture Fund that is accessible to young entrepreneurs to help them set up their own Free Software businesses.**

Attracting private investment can turn out to be very challenging for Free Software businesses, as the RoI-based business models for Free Software do not really exist yet. However, Free Software entrepreneurship can be fostered by a public fund dedicated to help young entrepreneurs to set up SMEs that supply and support Free Software solutions and applications locally.

### **3. Creating a competitive, connected and greener economy**

As stated before, Free Software is a unique asset for the competitiveness of the EU in the ICT and ICT-intensive sectors. The sustainable development of the information and knowledge society, the connection of people, companies and organizations can only be successfully realized thanks to the Free Software approach: freedom and openness.

**Recommendation #13: Maintain in EIF 2.0 the definition of Open Standards as established by IDABC**

IDABC adopted an extremely clear and appropriate definition of Open Standards:

*The following are the minimal characteristics that a specification and its attendant documents must have in order to be considered an open standard:*

- *The standard is adopted and will be maintained by a not-for-profit organisation, and its ongoing development occurs on the basis of an open decision-making procedure available to all interested parties (consensus or majority decision etc.).*
- *The open standard has been published and the standard specification document is available either freely or at a nominal charge. It must be permissible to all to copy, distribute and use it for no fee or at a nominal fee.*
- *The intellectual property – i.e. patents possibly present – of (parts of) the open standard is made irrevocably available on a royalty free basis.*
- *There are no constraints on the re-use of the standard.*<sup>7</sup>

This definition of open standards enables competition, innovation and especially the construction of sustainable IT infrastructure. It does not need to be changed so as to adapt to proprietary models: it is proprietary models that are to change so as to comply with this definition.

**Recommendation #14: Give priority to Free Software and Open Standards in public organizations procurement.**

The development of eGovernment and the interconnection of businesses, citizens and public administrations must comply with several constraints:

- data durability
- interoperability
- accessibility
- information system sustainability

Free Software and Open Standards (as defined by IDABC in EIF v1.0) are the best way to fulfill these requirements.

On the contrary, if public administrations were to resort to proprietary solutions using closed formats, they would either oblige businesses and citizens to use proprietary software to interchange data, or even exclude users when no solution is available for their platform.

This should apply more generally to the development of outsourcing solutions, Software-as-a-Service and “Cloud Computing”.

<sup>7</sup> European Interoperability Framework for Pan-European eGovernment services v1.0  
<http://ec.europa.eu/idabc/servlets/Doc?id=19529>



**Recommendation #15: Create open-standard-based platforms and infrastructure for new markets to develop.**

One of the challenges of new IT markets is the development of sustainable infrastructure. Another issue is users' sovereignty on their data, and thus their freedom and mobility when using new services.

Public authorities should anticipate these trends and promote best practices in the interest of both users and economic players. They can boost the development of new markets as well as competition and innovation by providing, together with the private sectors concerned, open-standard-based public platforms and infrastructure .

## **Conclusion:**

### **Using Free Software bricks to build the European knowledge society**

Free Software provides us with essential freedoms in the digital era:

- For economic players, it promotes a free market and grants them the right to compete and innovate;
- For public authorities, Free Software is a way of enforcing sovereignty and industrial policies. It is a means to control public expenses and to achieve sustainable development;
- For individuals, the four freedoms of Free Software allows for digital citizenship, access to knowledge and technologies and control over their digital destinies;
- For all, it offers the wealth of collaborative processes, resources pooling, and knowledge sharing.

For now, it is a lever to boost our competitiveness in the ICT sector and build a vibrant industry that will emulate with North American champions. And because ICT is becoming ubiquitous, this energy will benefit the European Union economy as a whole. Free Software is not only a way out of the present crisis, it is also a key to our future prosperity.

Free Software is the natural tool for the foundation of an inclusive knowledge society. The EU should use its advantage and realize the full potential of Free Software in the best interest of its economy, public authorities and citizens.