

OPEN SOURCE SOFTWARE GUIDELINES

FINAL VERSION

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Important note: These Open Source Software guidelines should, where relevant, be annexed to tenders and procurement contracts concerning software.

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1 INTRODUCTION

The following guidelines are meant to help developers managing Open Source Software (“OSS”) in the JRC development projects.

Open Source Software¹ has progressively become a more and more prominent tendency in the IT sector. Its use inside the JRC is already widespread and numerous initiatives of the EU institutions indicate their growing interest for OSS, e.g. the use of OSS components in the IT infrastructure.

Moreover, an Open Source license was specifically drafted at the initiative of the European Commission. This license, named EUPL (European Union Public License) is designed to use the concepts of European law and to respect the legal and linguistic diversity of the Member States of the European Union. More information about the EUPL can be found on the website of IDABC <http://ec.europa.eu/idabc/en/document/7774>.

As the Open Source model may profitably meet the needs and objectives of the JRC, the use of existing OSS in certain JRC projects and/or the release of software developed by the JRC under an Open Source license may be positive and advantageous. However, such use implies various consequences and some risks, including legal ones. Avoiding these risks requires that the use of OSS in the JRC projects is supervised and monitored throughout all stages of these projects.

As a developer involved in projects of the JRC, you are naturally a key person for the good management of Open Source Software. The aim of this document is to provide you with guidelines to be followed when using OSS and with a brief overview of the risks which may arise from OSS, along with policy orientations taken by the JRC.

2 EARLY DETERMINATION PRINCIPLE

A key concern of the JRC is to determine and control the use of OSS in its software development projects. The JRC wishes to encourage mechanisms of **early determination** aiming at determining two key elements at the earliest stages which could otherwise have an undesired impact at later stages. This covers:

¹ “Open Source” software is also referred to as “free” software, “Libre” software or a conjunction of these adjectives. For the purpose of this document, we will consider these expressions as synonyms and use the unique term of “Open Source Software” or “OSS”.

- **Early determination of distribution policy.** There are basically three options concerning distribution of software developed by the JRC or contributions made by the JRC to existing software: 1) No distribution (software development for internal use only); 2) « Proprietary » distribution² (grant of individual licenses, either free of charge or with a license fee); 3) distribution under an Open Source license.

There is no preferred “default” option as the policy reasons to choose one or another may vary from project to project. Nevertheless, the decision must be taken in the beginning of each project.

- **Early determination of the Open Source license.** If the Open Source model is chosen as the desired distribution policy, the type of license under which software in development will be released must also be determined at the earliest stage of the project. In this case, the EUPL will most often be chosen, but other licenses could also be used in certain situations.

You are therefore requested to make the above-mentioned decisions of the distribution policy as early as possible, as they will impact the development of the software at the technical level. For any clarifications you are invited to contact unit JRC/A.2

3 OSS GUIDELINES FOR JRC-DEVELOPERS

Please follow these guidelines whenever you intend to use OSS-software in a JRC-software development project.

If such software is developed by the JRC “from scratch” in its entirety, i.e. without incorporating or linking any piece of pre-existing software (either proprietary or open source), these guidelines need not as such be followed³. However, we recommend taking them into account as most of them may be considered as “good practices”.

These guidelines are voluntarily kept as short and simple as possible; they certainly do not cover the variety and complexity of questions relating to OSS that may arise. If you are facing such questions, you are strongly encouraged to refer to your action leader, and to seek always legal support from the unit A/2, JRC-IPR-Contact@ec.europa.eu .

² Also often referred to as « commercial » distribution.

³ In this case, the EU will hold all the intellectual property rights on such developed software. The JRC will thus be free to release the software under the model of its choice (possibly Open Source), without constraints resulting from other licenses that should otherwise be taken into account during the development process.

3.1 Document your work

This is probably the most important requirement: when you insert pre-existing OSS in your own software or use OSS and want to adapt it, you must carefully document your use of OSS in the JRC projects. You must always record:

- The origin of any OSS component used, the date of its download, its version number and the license under which it is released;
- The “place” in the code where you inserted pieces of OSS;
- The identification and description of your developments and of the modifications that you have made in OSS source code, and the date(s);

Your action leader/project manager will provide you with instructions and unit A/2 can provide you examples concerning these records.

Ask also the contractors and collaborators who are involved in the software development project to follow the above instructions.

3.2 Where can you get Open Source Software?

OSS is usually available for download in online repositories. All of them are not of equal quality. Some of them may offer outdated versions of OSS or, in the worst cases, modified OSS which contains malicious components or parts that infringe third parties rights. For these reasons, you are asked to apply the following instructions:

- Download OSS directly on its official author's, editor's or project's website, if there is any;
- Download OSS from OSOR.EU if functionally relevant software is available;
- If not, choose repositories that are largely accepted and recognized through the OSS community.

3.3 Use of OSS development tools or environments?

Certain OSS are development tools (like compilers or automated test tools) or environments (like website environments or operating systems of workstations). The use of such tools or

environments in the JRC-software development projects is not problematic from a legal point of view,

However please verify from your action leader if any technical objections would hinder such a use.

3.4 Incorporation of Open Source code in a JRC project?

“Incorporate” here means both include pieces of OSS code into software that you are developing and/or modify existing OSS in order to create new or customized software. The result is the same: you intend to integrate pre-existing OSS code into the project which you are working on.

There is no direct answer to the question whether to include or not OSS code in a JRC project; the answer varies from case to case, depending essentially on **2 elements**:

- **The distribution scheme** chosen for this project. Certain software are developed for JRC internal use only, others are intended to be distributed under proprietary scheme and finally the JRC may choose to release it under an Open Source license.
- **The license** of OSS which you want to incorporate or modify.

The table attached in **annex 1** indicates which components may be incorporated in which projects. You will in particular see in this table that the insertion of GPL code into software which you intend to distribute under the EUPL is not allowed.

Do not hesitate to get support from the unit A/2 JRC-IPR-Contact@ec.europa.eu in case of uncertainty.

3.5 Linking the JRC software to OSS libraries?

Some of the OSS available are released as libraries. Instead of incorporating it into JRC Software, you may want to create links between your software and these (unmodified) libraries and to distribute them along with your software, either by compiling them together (“static linking”) or not (“dynamic linking”).

There are cases where dynamic linking to OSS libraries is allowed while static linking is not. It depends from the Open Source license under which such library is released. A case-by-case approach is thus necessary.

Just like what is indicated above about “incorporating” OSS in JRC projects, the possibility to link certain parts of OSS libraries to JRC projects depends on the **distribution scheme** chosen for the project and **the license** under which such OSS is released. The table attached in **annex 2** indicates which OSS-components may be linked to which projects.

3.6 Copyright notices and disclaimer

OSS usually contains copyright notices and disclaimers in their source code or in attached files. They typically indicate the name and version number of these software, the identity of the creator (or of the different contributors), the reference (or the full text) of the license under which it is released and a disclaimer.

You must **always copy such copyright notices and disclaimers** along with the pieces of code that you insert or use in your project.

3.7 Keep and send copies of your code for archiving purposes

A copy of all software developed by the JRC is kept for legal archiving purposes. You must send a copy to unit A/2 JRC-IPR-Contact@ec.europa.eu of the code of all software developed in the JRC and subsequent (major) versions thereof. This also applies to OSS developed or modified in JRC projects. You should also check with your project manager/action leader whether the developed software should be uploaded on online repositories or forges (e.g. OSOR.eu).

3.8 Relationships with external developers

Some (parts of) software developed in the JRC projects may come from external developers, usually contractors, their sub-contractors or other providers. If they are dealing with OSS for the JRC, they will be asked to follow similar guidelines. If you have contacts with such external developers during the course of your work, do not hesitate to draw their attention on these guidelines and to require from them the relevant documentation about their own use of OSS. Such requirement should be stipulated in the relevant contract with the contractor.

If while examining part of software developed by external developers, you notice that the current guidelines have not been respected (e.g. the copyright notices are not present, the use of OSS

inserted is not documented, the software contains parts of code released under a license that is not allowed for this type of project, etc.), you must refer to your action leader/project manager and to the unit A/2 of the JRC, JRC-IPR-Contact@ec.europa.eu .

3.9 Use of these guidelines in tenders and contracts

The principles set out in these guidelines must also be respected in case of software procurement from external developers or contractors. Make sure that calls for tenders and contracts oblige the contractors to respect these guidelines, which must be annexed thereto. Such calls for tenders and contracts should also indicate the specific requirements about the use of OSS in the concerned project (if any) and oblige the tenderers and contractors to explain and document in advance the use of OSS that they intend to make.

3.10 Contact Unit A2

Open Source Software opens fascinating technical possibilities but is also challenging from a legal point of view. The present guidelines give an overview of these challenges. As already mentioned, you are warmly encouraged to involve the unit A/2, JRC-IPR-Contact@ec.europa.eu into OSS development projects and to request their assistance in case of any doubts.

4 CHECKLIST

Did you determine if you intend to distribute externally your software?	
Did you decide the type of license you are going to use for distributing the software?	
Did you document, or ask your contractors/collaborators to document the use of pre-existing OSS-code in the development project?	
Did you check the compatibility of the licenses in case of modification, insertion or linking of pre-existing OSS components?	
Did you copy all copyright notices and disclaimers appearing on the pre-existing software used in your project?	
Did you send copies of your code to unit A/2,JRC-IPR-Contact@ec.europa.eu for legal archiving and check whether such code should be made available in online repositories?	

5 OPEN SOURCE – PRECISIONS AND RISKS

5.1 Introduction

This section aims at providing you with short information about Open Source Software from a legal point of view. It will help you to better understand the legal risks caused by the use of OSS and the rationale behind the guidelines given in the previous sections.

5.2 Open Source – opportunities for the JRC

The Open Source model is based on freedom. Applied to software, it means that one should have the freedom to use, study, modify and distribute it. Another leading idea is the building of a community of developers around such software who accept to share their contributions (initial software, new modules, improvements, etc.) and consequently expect to benefit from the contributions of the others.

Such model may profitably meet the needs and objectives of the JRC, as it offers the possibility to make software easily available, enables the use and inclusion of existing components instead of re-developing them from scratch and opens expectations for user-generated improvements that might otherwise not have been developed by the JRC, whose resources are not unlimited and must therefore be prioritized.

5.3 Copyright and conditions of use

As a large freedom is given for Open Source Software use and as (free) sharing of such software is facilitated and often encouraged, one could think that it is part of some “public domain” and that it somehow “belongs to everyone”. From a legal point of view this conception is wrong. Like any software, OSS is protected by intellectual property rights – in particular copyright – of its creator, which grant him certain exclusive rights (e.g. exclusivity to copy it, to modify it, etc.). The particularity of Open Source Software is that the owner of copyright chooses to allow others to exercise such prerogatives, instead of preserving its exclusivity. However, these permitted uses are generally granted subject to the respect by the user of certain conditions.

The permitted uses of OSS and the conditions of use are determined in licenses. There exist dozens of Open Source licenses, although some of them are more widespread than others (e.g. the GPL-family).

Conditions of use and obligations of the users vary according to the license under which an OSS is released and may be strong or soft. Every case should therefore be considered individually. Frequent examples of such restrictions and obligations are e.g. the obligation to (re)distribute the software royalty-free, the obligation to mention the identity of the creator, the obligation to document the changes made, the obligation to distribute the source code of the software along with the executable version, etc.

The use of OSS is legal as long as the user stays inside the limits of the permitted uses and respects the conditions imposed by the OSS-licenses. It is thus essential to know and respect the terms of licenses which govern OSS parts used in the JRC projects. The Unit A/2, JRC-IPR-Contact@ec.europa.eu is available to help managing legal issues related to the compliance with the Open Source license. In this regard it is important to **provide the Unit A/2 with relevant information** about which use is made of which OSS component.

5.4 Copyleft effect

Some Open Source licenses oblige the user who distributes the original software and any derivative work thereof to do so under the same license terms. The GPL and the EUPL are examples of licenses containing such obligation. Examples of practical consequences are the following:

- You modify software released under the GPL and you want to distribute the modified work: you are obliged to release it under the GPL .

- You integrate some lines of code of software released under the GPL into a bigger work. If you want to distribute it, you are obliged to release the whole resulting work under the GPL, as it will be considered as a “derivative work” of the GPL software, even if only a small part of it is used.

Licenses which contain such obligation are said “**copyleft**” licenses and are often referred to as having a “viral effect”, because they propagate through derivative works.

At the opposite, licenses that do not contain such obligations and let you choose under which conditions you want to distribute derivative software are said “**permissive**”.

5.5 Compatibility

An Open Source license A is said “**compatible**” with an Open Source License B when software originally licensed under a license A may be re-distributed under a license B after modification or merger with other software.

Compatibility is not necessary reciprocal: it is possible that a license A is compatible with a license B, while license B is not compatible with the license A.

See examples in **annex 3** for illustration of compatibility issues.

5.6 (Legal) risks caused by the use of OSS - Examples

In software development projects involving OSS components, it is frequent that developers copy, modify and/or merge elements of different OSS into their final result. However, all these operations are not necessarily permitted because license conditions must be respected. Here are a few examples of problems that may arise from uncontrolled use of OSS, based on real facts that have already happened in large organizations:

- You have inserted into your own software some OSS code released under “copyleft” license, GPL, which obliges you to distribute the final result under the same “copyleft” license. Your organisation’s licensing policy does not allow the distribution of its software under such “copyleft” license. You are obliged to remove and rewrite from scratch all the inserted elements which were originally released under the “copyleft” license.
- You merge two software elements which are released under two different “copyleft” licenses, both of them obliging you to distribute the final result under their own terms and conditions => it is impossible to release your final result under one of these license without infringing the other. You are obliged to choose one of the licenses and to remove and rewrite from scratch all elements originally released under the other license that you had inserted.
- You plan to commercialize software, when you suddenly remember that you inserted some piece of OSS code inside. After verification, you realize that the terms and conditions prohibit charging a license fee for this software and for any derivative work => you are obliged either to abandon your commercial intention or to remove and rewrite from scratch all elements originally released under the license which prohibits charging license fees.
- You want to verify the license conditions of some part of software that you inserted into a project, but you cannot remember which license was applicable. In fact, it is even unclear

where you actually found this software => there is a risk that your (whole) project infringes the conditions of the open source license under which concerned part of software was released. Due to the lack of information, this risk is impossible to assess. You will have to remove concerned part of software and to rewrite it from scratch.

6 VERSION

This document is [version 1.0] dated [xx/xx/2010].

This document may be subject to periodic review. Please check the last version on [insert URL].

7 GOING FURTHER

If you want more information about Open Source Software and the EUPL, we recommend the following readings:

<http://ec.europa.eu/idabc/eupl> : on this site you will find the text of the EUPL in all linguistic versions and “Guidelines for users and developers” which are longer and more detailed than this document.

<http://www.osor.eu> : The “Open Source Observatory and Repository for European public administrations (OSOR)” is a platform for exchanging information, experiences and OSS-based code for use in public administrations.

ANNEX 1 – OSS INCORPORATION MATRIX

WARNING

- This matrix is intended to help you in managing the use of OSS in the JRC projects. It might not be accurate for all situations and certainly do not cover all situations that you might face.
- « Incorporation allowed » does not mean that the use is “term-free” It is always important to copy copyright notices and to document your use of OSS. Do not hesitate to check with the Unit A/2, JRC-IPR-Contact@ec.europa.eu which obligations you have to respect while using a particular OSS Component.

Incorporation of OSS in JRC projects, depending on the **Open source license** of such pre-existing OSS and on the **distribution scheme** chosen for the software resulting from the project.

License of existing OSS Component	Internal projects (no distribution)	distribution under EUPL	JRC “Proprietary” distribution
EUPL	V	V	X
GPL 2.0	V	X	X
GPL 3.0	V	X	X
LGPL v2.1	V	X	X
LGPL v3.0	V	X	X
Artistic License	V	O	X
BSD License	V	V	V
Apache License	V	X	X
MIT License	V	V	V
Mozilla Public License	V	X	X
Common Public License (CPL)	V	X	X
Eclipse Public License (EPL)	V	X	X
CeCILL 2.0	V	X	X
Open Software License (OSL)	V	X	X

V = Incorporation allowed

X = Incorporation not allowed

O = Incorporation possible under certain conditions – please contact the Unit A/2, JRC-IPR-Contact@ec.europa.eu .

? = Remaining legal uncertainties – please contact the Unit A/2.

ANNEX 2 – OSS LINKING MATRIX

WARNING

- This matrix is intended to help you in managing the use of OSS in JRC projects. It might not be accurate for all situations and certainly do not cover all situations that you might face.
- « Linking allowed » does not mean that the use is “term-free”. It is always important to copy copyright notices and to document your use of OSS. Do not hesitate to check with the Unit A/2, JRC-IPR-Contact@ec.europa.eu which obligations you have to respect while using a particular OSS library.

Linking of OSS libraries with JRC projects, depending on the **Open source license** of such pre-existing OSS libraries and on the **distribution scheme** chosen for the software resulting from the project.

License of existing OSS libraries	Internal projects (no distribution)		Distribution under EUPL		JRC “Proprietary” distribution	
	Static link	Dynamic link	Static link	Dynamic link	Static link	Dynamic link
EUPL	V	V	V	V	X	X
GPL 2.0	V	V	X	X	X	X
GPL 3.0	V	V	X	X	X	X
LGPL v2.1	V	V	O	O	O	O
LGPL v3.0	V	V	O	O	O	O
Artistic License	V	V	?	?	?	?
BSD License	V	V	V	V	V	V
Apache License	V	V	?	V	?	V
MIT License	V	V	V	V	V	V
Mozilla Public License	V	V	X	X	X	X
Common Public License (CPL)	V	V	X	V	X	V
Eclipse Public License (EPL)	V	V	X	V	X	V
CeCILL 2.0	V	V	X	V	X	V
Open Software License (OSL)	V	V	?	V	?	V

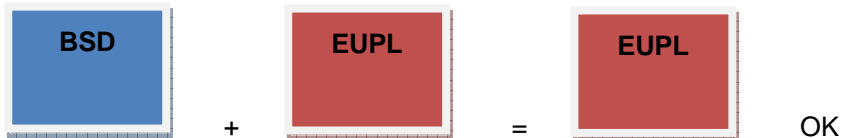
V = Linking allowed

X = Linking not allowed

O = Linking possible under certain conditions – please contact the Unit A/2, JRC-IPR-Contact@ec.europa.eu .
? = Remaining legal uncertainties – please contact the Unit A/2.

ANNEX 3 - EXAMPLES OF COMPATIBILITY / INCOMPATIBILITY

1. Merger between two parts of software, one released under BSD and the other under the EUPL.



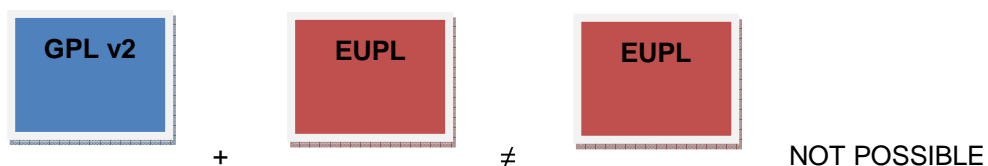
In this case, software originally released under the BSD license is integrated into a final result which is distributed under the EUPL license after merger with other software. The terms of the BSD license authorize this subsequent change of license. One could say that **BSD is compatible with EUPL**.



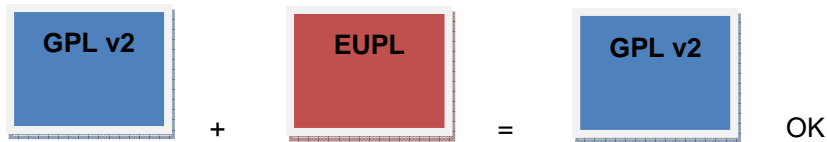
This case is exactly the same as previous operation, but you want to distribute the final result under the BSD license. This is not possible, because the terms of the EUPL impose that derivative works of software released under the EUPL are also released under the EUPL (copyleft). One could say that **EUPL is not compatible with BSD**.

This is thus a case where compatibility between BSD and EUPL is **not reciprocal**.

2. Merger of two parts of software, one released under EUPL and the other under the GPL v2.



The GPL v2 imposes that the final result, which is a “derivative work” is released under the GPL v2. This operation is thus impossible without infringing the terms of the GPL v2. **The GPL v2 is not compatible with the EUPL.**



This case seems exactly the same as the previous, because the EUPL also imposes that derivative works are released under the EUPL. But the EUPL contains a clause which explicitly allows releasing derivative works under the GPL v2 in case of merger between EUPL and GPL v2 pieces of software. This is a case of express compatibility: **The EUPL is compatible with the GPL v2.**

Here again, one could note that compatibility between EUPL and GPL v2 is **not reciprocal**.