4 Update public sector information accessibility policies and open data licences in Europa

Chapters 2, 3 and 5 of this dissertation were written between 2007 and 2009. Since then, there have been a number of developments in the field of public sector information re-use. One of these developments is the emergence of open data. In the previous chapters, legal and financial aspects of public sector information access regimes were discussed. This chapter starts with a description of the revised PSI Directive 2013/37/EU of the European Parliament and of the Council of 26 June 2013 amending Directive 2003/98/EC on the re-use of public sector information. This Directive and Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) provide the basis for implementing open data policies, as described in Chapters 6, 7 and 8. This chapter continues with an update of the licence framework discussed in Chapter 3. This update was written for the European Location Framework project. The chapter concludes with an analysis of the various open data licences currently in use in Europe.

§ 4.1 Emergence of open data

The idea of open data, *i.e.* data that are freely available to everybody to (re-)use without restrictions, is not a new concept. In 1942, the sociologist Robert King Merton explained the importance of research results to be freely accessible to all. All researchers should contribute to a "common pot" and give up intellectual property rights to allow knowledge to move forward (Chignard, 2013). The concept of open access to scientific data was also adopted by International Council for Science when the World Data Center System was established in 1958.[31]

In the digital age where information can be accessed and shared easily, science and technology ministers of all nations of the Organisation for Economic Co-operation

31 Several World Data Centres were established around the world to minimize the risk of data loss and to maximise data accessibility, see http://www.icsu-wds.org/organization

and Development (OECD) recognised that fostering broader, open access to and wide use of research data would enhance the quality and productivity of science systems worldwide. In 2004, the ministers adopted a Declaration on Access to Research Data from Public Funding, and asked the OECD to take further steps towards proposing Principles and Guidelines on Access to Research Data from Public Funding. The OECD published these Principles and Guidelines for Access to Research Data from Public Funding in 2007.[32]

In 2007, thirty open data pioneers met in Sebastopol, California to write eight open data principles, intended for adoption by US presidential candidates (Chignard, 2013). Among these pioneers was Lawrence Lessing, the founder of Creative Commons licences. The objective was to find a simple way to express values about how the government should make their data available in a way that enables a wider range of people to help make the government function better.[33]

The eight principles – that data should be complete, primary, timely, accessible, machine-processable, non-discriminatory, non-propriety and licence-free – formed the foundation for the open data movement since then. In 2010, these eight principles were updated to ten by the Sunlight Foundation and included the principles of data permanence and (no) usage costs (Sunlight Foundation, 2010). In 2014, the open data principles were extended to fourteen by including principles on publishing data with trust and provenance and principles on the openness process (public input, public review and coordination (Tauberer, 2014).

§ 4.1.1 Open data principles

In 2007, thirty open data pioneers met in Sebastopol, California, to write eight open data principles, intended for adoption by US presidential candidates (Chignard, 2013). Among the pioneers of the Open Government Working Group was Lawrence Lessing, the founder of Creative Commons licence suite described in Chapter 3. The objective was to find a simple way to express values about how the government should make their data available in a way that enables a wider range of people to help make the government function better.[34] The Open Government Working Group considered

32 http://www.oecd.org/science/sci-tech/oecdprinciplesandguidelinesforaccesstoresearchdatafrompublicfunding.htm

33 Larry Lessing on Open Government Data Principles, https://www.youtube.com/watch?v=AmlzW980i5A

34 Larry Lessing on Open Government Data Principles, https://www.youtube.com/watch?v=AmlzW980i5A

government data to be open if it was made public in a way that it complied with the eight principles that data should be complete, primary, timely, accessible, machine-processable, non-discriminatory, non-propriety and licence-free. These eight principles formed the foundation for the open data movement since then. In 2010, The Sunlight Foundation updated these eight principles to ten and included the principles of data permanence and (no) usage costs (Sunlight Foundation, 2010).[35] Tauberer proposed in 2014 to extend the open data principles to fourteen by including principles on publishing data with trust and provenance and principles on the openness process (public input, public review and coordination (Tauberer, 2014).

The fourteen principles according to Tauberer are:

1. Information is not meaningfully public if it is not available on the Internet for free.
2. Primary: Primary data is data as collected at the source, with the finest possible level of granularity, not in aggregate or modified forms, including audio-visual content.
3. Timely: Data are made available as quickly as necessary to preserve the value of the data. Data is not open if it is only shared after it is too late for it to be useful to the public.
4. Accessible: Data are available to the widest range of users for the widest range of purposes. Data should be made available in formats that support both intended and unintended uses of the data by being published with current industry standard protocols and formats, preferably open, non-proprietary protocols and formats. Data should be discoverable and be provided with sufficient metadata and documentation so that the user understands the structure of the data.
5. Analysable: Data should be published in a format that is machine-processable, so that users can perform their own analyses without having to rely on government analyses.
6. Non-discriminatory: Data are available to anyone, with no requirement of registration, including access via APIs.
7. Non-proprietary: Data are available in a format over which no entity has exclusive control, *i.e.* in a recommended (open) format that can be processed with non-propriety software.
8. Licence-free. Dissemination of the data is not limited by intellectual property law such as copyright, patents, or trademarks, contractual terms, or other arbitrary restrictions. This includes a requirement to attribute the original source.
9. Permanent: Data should be made available at a stable Internet location indefinitely, *e.g.* through the use of persistent URLs (PURLs) or URIs. When data changes over time, copies of all published versions of the data should be retained and stability of format from version to version should be maintained.

35 In Chapter 7, the ten principles proposed by the Sunlight Foundation are described.

10 Safe file formats: Government bodies publishing data online should always seek to publish using data formats that do not include executable content. Executable content within documents poses a security risk to users as it may be malware. Therefore, documents containing macros should be avoided.

11 Provenance and trust: Published content should be digitally signed or include attestation of publication/creation date, authenticity, and integrity. Digital signatures help data users validate the source of the data they find so that they can trust that the data has not been modified since it was published.

12 Public input: The public is in the best position to determine what information technologies will be best suited for the applications the public intends to create for itself.

13 Public review: Not only the data should be public but the process of data creation should also be transparent.

14 Interagency coordination: interoperability makes data more valuable by making it easier to derive new uses from combinations of data. Public data from different departments should be published in the same standard formats with the same definitions.

§ 4.1.2 Some issues with the 14 open data principles

Even within these principles, there is some tension. For instance, Principle (5) prescribes that data should be analysable and Principle (7) states that data should be published in an open format. However, not all users are familiar with open standards and open software to analyse the data. Therefore, if data are published according to Principles (2) and (4) it may be advisable to publish data both in the original (propriety but a de facto) format.

Another concern is Principle 6 (data available to everybody without prior registration). Data may be available via an Application Programming Interface (API), which allow re-users to acquire a small part of the data without downloading the entire dataset. APIs are a suitable interface for applications that require re-use of dynamic and/or voluminous datasets, *e.g.* real-time traffic information. Government data providers develop APIs to facilitate re-users. The government body may then require that re-users register prior to use and agree with the API service conditions. Such agreement conditions may be used to terminate or deny access by users that are suspected of misusing the data. Although prior registration is in violation of Principle 6, this is not always recognised by government data providers. In addition, APIs can limit the amount of data queried each time (rate limiting) to prevent the server from being overtaxed or to prevent misuse of the data. However, rate limiting also violates Principle 4 (access in bulk) (Tauberer, 2014).

Finally, there is the issue of the effort and resources governments should invest in publishing data according to all principles. To make data accessible and interoperable requires resources and time. Data documentation has to be written, metadata have to be filled according to metadata standards and data formats have to be adapted to an open format. It may be that a shared data standard has to be developed or an existing standard has to be adapted. This shared data format has to be adopted within government through coordination across departments, agencies and other government organisations as part of open data governance. This aspect of open data governance may lead to delays in publishing the data, which is contrary to Principle 3 (timely published).

As will be demonstrated in the following sections, most nations have adopted open data policies that include most of the original eight principles proposed by the Open Government Working Group in 2007. However, the eight principle, licence-free, is still a potential issue.

§ 4.1.3 Adoption of open data policies

The concept of open data gained momentum when on his first day in office in January 2009, President Obama issued a memorandum on transparency and open data, which declared that "openness will strengthen our democracy and promote efficiency and effectiveness in government" (Obama, 2009, p.1). The Executive Order of 2013 ordered that "making open and machine readable the new default for government information", *i.e.* all government agencies were to publish their data in a machine-readable form for free public re-use (Obama, 2013). In 2010, the European Commission published the Digital Agenda for Europe as one of the seven pillars of the Europe 2020 Strategy, which sets objectives for the growth of the European Union by 2020. The Digital Agenda's main objective is to develop a digital single market in order to generate smart, sustainable and inclusive growth in Europe.[36]

The European Commission views opening public data as a way to untap the potential for re-use in new products and services and for efficiency gains in administrations (European Commission, 2011). Other countries, such as Australia, India and Kenya have adopted open data policies with transparency, accountability, public participation and economic potential as the main drivers, although each country has its own specific motivation for opening their data. In the United States, transparency and

36 https://ec.europa.eu/digital-single-market/en/europe-2020-strategy

accountability are the main drivers, whereas in European countries there is more emphasis on innovation and growth, and Australia did not want to fall behind Open Government leadership of the United States (Huijboom and van den Broek, 2011).

§ 4.2 The Amended Public Sector Information Re-use Directive 2013/37/EU

Directive 2003/98/EC on the re-use of public sector information – the so-called PSI Directive – aimed to remove major barriers to re-use of public sector information (PSI) in the European internal market, such as discriminatory practices, monopoly markets and a lack of transparency. Chapter 2 showed that the PSI Directive had a number of shortcomings, such as a lack of clear definitions that allowed room for public sector bodies to offer commercial services in competition with the private sector. The intended ceiling on charges left sufficient room for public sector bodies to charge fees above cost recovery ("cost recovery plus a reasonable rate on return"). Although progress had been made to remove barriers to re-use of PSI since the adoption of the PSI Directive, Member States needed to take further steps to unlock the full potential of PSI for the EU economy (European Commission, 2009).

In 2009, the European Commission recognised that public sector information (PSI) was the single largest source of information in Europe and the potential for re-use of PSI needed to be highlighted in the digital age. (European Commission, 2009). As one of the key actions of the Digital Agenda for Europe[37] was a review of the PSI Directive, the European Commission carried out a round of consultations with stakeholders to seek their views on specific issues to be addressed in the future Commission guidelines in 2010. In addition, the Commission commissioned a number of studies. These studies included a review of studies on PSI re-use and related market studies by Graham Vickery[38], an assessment of the different models of supply and charging for PSI

37 https://ec.europa.eu/digital-single-market/en/our-targets#Our Actions

38 Vickery, G. (2011). Review of recent studies on PSI re-use and related market developments. Paris, Information Economics: 44, http://ec.europa.eu/digital-agenda/en/news/review-recent-studies-psi-reuse-and-related-market-developments.

(the POPSIS study)[39] and a study on PSI re-use in the cultural sector. [40] In addition, the European Commission carried out an impact assessment of the proposed revisions of the PSI Directive.[41]

The review highlighted the different ways in which PSI rules were being applied by Member States (European Commission, 2011). In addition, Vickery's review of PSI-re-use studies showed that the overall economic gain from opening up public sector data as a resource for new products and services could be in the order of €40 billion per annum. The Pricing of PSI Study (POPSIS) assessed different models of supply and charging for PSI and their effects through the analysis of 21 case studies, covering a wide range of public sector bodies and different PSI sectors. The case studies showed that for public sector bodies that charged for PSI re-use, the revenue was relatively to extremely low in comparison to the total budget of the public sector body. The study concluded that lowered charges could lead to more economic activity, market dynamism, innovation and employment, and might also entail efficiency gains for the public sector body (de Vries *et al.*, 2011). The study on PSI re-use in the cultural; sector concluded that overall, the revenue resulting from PSI-re-use for cultural institutions was relatively limited and very few cultural institutions are dependent on revenue from PSI re-use. However, the current revenue was important to enable future re-use and future development of services. The institutions also indicated that digitising content was the limiting factor, in terms of costs and effort, to enable re-use. The institutions expressed concerns about becoming entirely dependent on public money (Clapton *et al.*, 2011). After the review, the 2003 PSI Directive was amended in 2013 by Directive 2013/37/EU of the European Parliament and of the Council of 26 June 2013 amending Directive 2003/98/EC on the re-use of public sector information and came into force on 17 July 2013.

The main changes of the 2013/37/EU Amended Public Sector Information Re-use Directive were that the Directive made it a general rule that all documents made accessible by public sector bodies can be re-used for any purpose, commercial or non-commercial, unless protected by third-party copyright. The scope was extended to libraries, museums and archives. Charges are limited to the marginal costs of distribution of the data, unless duly justified. Data are to be published in machine-

39 de Vries, M., L. Kapff, M. Negreiro Achiaga, P. Wauters, D. Osimo, P. Foley, K. Szkuta, J. O'Connor and D. Whitehouse (2011). Pricing of Public Sector Information Study. Models of Supply and Charging for Public Sector Information (ABC) Final Report. Brussels, Deloitte Consulting, 403, https://ec.europa.eu/digital-single-market/en/news/pricing-public-sector-information-study-popsis-models-supply-and-charging-public-sector.

40 Clapton, G., M. Hammond and N. Poole (2011). PSI re-use in the cultural sector - final report. Curtis+Cartwright Consulting Ltd. Guildford, European Commission: 43, http://ec.europa.eu/information_society/policy/psi/docs/pdfs/report/cc462d011_1_1final_report.pdf

41 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2011:1551:FIN:EN:PDF

readable formats, and are to be accompanied by metadata and cross-lingual search facilities to enable effective re-use. The Directive also requires Member States to establish independent regulatory authorities to deal with complaints.

§ 4.2.1 Open data principles for re-use of PSI

The Amended PSI Re-use Directive encourages implementation of open data policies. Recital 3 states that "open data policies: which encourage the wide availability and re-use of public sector information for private or commercial purposes, with minimal or no legal, technical or financial constraints, and which promote the circulation of information not only for economic operators but also for the public, can play an important role in kick-starting the development of new services based on novel ways to combine and make use of such information, stimulate economic growth and promote social engagement …". However, the Amended PSI Re-use Directive does not address all open data principles; it merely sets recommendations for publishing documents as primary data, the use of open and machine-readable formats, and open licences. Other open data principles, such as timely publication and permanent (data available at a stable internet location indefinitely), are not addressed in the directive.

The 2013 Amended PSI Re-use Directive recommends that to facilitate re-use, public sector bodies should, where possible and appropriate, make documents available through open and machine-readable formats and together with their metadata, at the best level of precision and granularity, in a format that ensures interoperability and recommends consistency with the principles governing the compatibility and usability requirements for spatial data under Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) (recital 20).

The 2013 Amended PSI Re-use Directive promotes the use of open licences available online (recital 26) but does not mandate the use of open licences. In the Implementation Guidelines, the European Commission recommends the use of Creative Commons licences (European Commission, 2014). Section 4.3.1 describes the recommendations of the European Commission.

§ 4.2.2 Still room for charges for public sector information

The 2013 Amended PSI Re-use Directive applies the principle that where charges are made by public sector bodies for the re-use of documents, those charges should in principle be limited to the marginal costs. However the necessity of not hindering the normal running of public sector bodies that are required to generate revenue to cover a substantial part of their costs relating to the performance of their public tasks or of the costs relating to the collection, production, reproduction and dissemination of certain documents made available for re-use should be taken into consideration. In such cases, public sector bodies should be able to charge above marginal costs. Those charges should be set according to objective, transparent and verifiable criteria and the total income from supplying and allowing re-use of documents should not exceed the cost of collection, production, reproduction and dissemination, together with a reasonable return on investment (recital 22). Libraries, museums and archives are allowed to charge above marginal costs in order not to hinder their normal running. When calculating the charges, the cultural institutions could consider the prices charged by the private sector for the re-use of identical or similar documents when calculating a reasonable return on investment (recital 23).

In the 2003 PSI Directive, the decision whether or not to authorise re-use remained with the Member States or the public sector body concerned. Under the 2013 Amended PSI Re-use Directive, a clear obligation for Member States to make all documents re-usable unless access is restricted or excluded under national rules on access to documents and subject to the other exceptions laid down in this Directive. The amendments made by this Directive do not seek to define or to change access regimes in Member States, which remain their responsibility (recital 8). Thus, the 2013 Amended PSI Re-use Directive does not provide a right to information.

§ 4.2.3 Compliance with protection of personal data principles

The Amended Directive should be implemented and applied in full compliance with the principles relating to the protection of personal data in accordance with Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data.[42] In particular, it is worth noting that, according to

42 OJ L 281, 23.11.1995, p. 31.

that Directive, the Member States should determine the conditions under which the processing of personal data is lawful. Furthermore, one of the principles of that Directive is that personal data must not be processed further to collection in a way incompatible with the specified, explicit and legitimate purposes for which those data were collected (recital 11).

As described in Section 1.6, there is a tension between open data and protection of personal data. As more data become available as open data, the risk of misuse of personal data increases although open data may not seem to be personal data on first glance, especially when it is anonymised or aggregated. However, the data may become personal data by combining it with other data or when de-anonymised (Kulk and van Loenen, 2012). In addition, with apps and tools based on open government data, there is nothing to prevent the use of open data for profiling, data mining and other activities, which have privacy implications for individuals (Scassa, 2014, p.407). During the review process of the PSI Directive, the European Data Protection Supervisor (EDPS) was not consulted. In 2012, EDPS issued an Opinion on the "Open-Data Package" (of which the Amended PSI Re-use Directive was a part). In this Opinion, the EDPS recommended that the Amended PSI Re-Use Directive should address data protection more specifically (EDPS, 2012, p.5). The EDPS made some specific recommendations, including, inter alia, that public sector bodies should carry out a data protection assessment prior to publishing open data (EDPS, 2012, p.7). However, the Amended PSI Re-use Directive did not adopt the EDPS's recommendations.

§ 4.2.4 Level playing field

The Amended PSI Re-use Directive recognises that a level playing field at Union level is required in terms of whether or not the re-use of documents is authorised, as this cannot be achieved by leaving it subject to the different rules and practices of the Member States or the public sector bodies concerned. To prevent different rules in different Member States acting as a barrier to the cross-border offer of products and services, and to enable comparable public data sets to be re-usable for pan-European applications based on them, a minimum harmonisation is required to determine what public data are available for re-use in the internal information market, consistent with the relevant access regime (recital 6). Recital 13 states that where any document is made available for re-use, the public sector body concerned should retain the right to exploit the document. The Amended PSI Re-use Directive allows room for exceptions to the charges ceiling of marginal costs for public sector bodies that are required to generate revenue and for specifically excepted documents. Given the fact that the concept of "public task" is still not defined in the amended directive, there is room for such public sector bodies to define publication of (semi-)commercial products as a public task.

§ 4.2.5 Redress by an impartial body

The means of redress should include the possibility of review by an impartial review body. That body could be an already existing national authority, such as the national competition authority, the national access to documents authority or a national judicial authority. That body should be organised in accordance with the constitutional and legal systems of Member States and should not prejudge any means of redress otherwise available to applicants for re-use. It should however be distinct from the Member State mechanism laying down the criteria for charging above marginal costs. The means of redress should include the possibility of review of negative decisions but also of decisions, which, although permitting re-use, could still affect applicants on other grounds, notably by the charging rules applied. The review process should be swift, in accordance with the needs of a rapidly changing market (recital 28). Although the amended directive is more specific on redress procedures, there are no time limits set to deal with complaints, thus appeal procedures described in Chapter 1 of this dissertation, could still take a long time.

§ 4.3 Open licences in Europe[43]

Since the Digital Agenda for Europe, many of the EU Member States have adopted open data licences for publishing open data. This section provides an overview of the various open data licences employed by National Mapping and Cadastre Authorities, and an analysis to which extent these open licence contribute to legal interoperability in a pan-European project.

§ 4.3.1 European Commission recommendations for open licences

The European Commission recommends the use of open standard licences for publishing public sector data, e.g. Creative Commons licences. Open standard licences could allow

43 The following sections build on a study carried out for the European Location Framework platform to research the interoperability of the various open licences employed by the participating National Mapping and Cadastre Authorities (see van Loenen, B. and F. Welle Donker, 2015. Open licences for ELF. (p. 17). Delft: Knowledge Centre Geo-Information Governance).

the re-use of PSI without the need to develop and update custom licences at national or sub-national level. Especially the CC0 public domain dedication is interesting as a legal tool as it "allows waiving copyright and database rights on PSI, it ensures full flexibility for re-users and reduces the complications associated with handling numerous licences, with possibly conflicting provisions" (European Commission, 2014, p.2).

Further recommendations of the Commission include that the open standard licence should:

- Provide a reference to the conditions under which re-use is allowed should appear prominently at the point of display of, or accompanying, the information.
- Define the temporal and geographical scope of the rights covered by the licensing agreement.
- Define the types of rights granted and the range of re-use allowed.
- Grant a worldwide (to the extent allowed under national law), perpetual, royalty-free, irrevocable (to the extent allowed under national law) and non-exclusive rights to use the information covered by the licence.
- Explicitly set out the rights not covered by the licence.
- Define the types of right granted (copyright, database right, and related rights) broadly.
- Use the broadest possible wording to refer to what can be done with the data covered by the licence (terms, such as: use, re-use and "share" can be further described by an indicative list of examples).

The Commission continues "where licences are required by law and cannot be replaced by simple notices, it is advisable that they cover attribution requirements only, as any other obligations may limit licensees' creativity or economic activity, thereby affecting the re-use potential of the documents in question." (European Commission, 2014, p.3). However, the use of licences that require source attribution is in violation of Principle 6 listed in Section 4.1.1.

Several licences comply with the principles of 'openness'. They have been translated into many languages, centrally updated, and already used extensively worldwide. Open standard licences, for example the most recent Creative Commons (CC) licences (version 4.0), could allow the re-use of PSI without the need to develop and update custom-made licences at national or sub-national level.

In addition, the LAPSI[44] 2.0 thematic network discourages organisations to use their own open government licence since it raises all kinds of interoperability and licence

44 LAPSI stands for Legal Aspects of Public Sector Information.

management issues. If countries still prefer to do so, the LAPSI 2.0 thematic network advises to create only an Attribution-only licence (Tsiavos, 2012).

§ 4.3.2 Recommended open licences

The European Commission as well as the LAPSI 2.0 thematic network recommends for open government data the use of the CC0 declaration or, if CC0 appears not feasible or possible, a CC-BY 4.0 licence. In Tables 4.1 and 4.2, the main characteristics of CC0 and CC-BY are described.

§ 4.3.2.1 CC0

The Creative Commons Zero declaration (CC0) allows one to waive all copyrights and related or neighbouring rights in one's work, such as moral rights (to the extent that these can be waived), publicity or privacy rights, rights protecting against unfair competition, and database rights and rights protecting the extraction, dissemination and re-use of data.[45]

- Affirmer overtly, fully, permanently, irrevocably and unconditionally waives Copyright and Related Rights and associated claims and causes of action in the Work in all territories worldwide for the maximum duration provided by applicable law or treaty, in any current or future medium and for any number of copies, and for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes.
- Work is provided "as-is".
- No trademark or patent rights held by Affirmer are waived.

TABLE 4.1 CC0

45 See Loenen, B. van, Janssen, K. and Welle Donker, F.M. (2012). Towards true interoperable geographic data: developing a global standard for geo-data licences. In K. Janssen and J Crompvoets (Eds.), Geographic Data and the Law. Defining New Challenges (pp. 19-36). Leuven: Leuven University Press; see also http://creativecommons.org/publicdomain/zero/1.0/legalcode

§ 4.3.2.2 CC-BY 4.0

 **Attribution**	• You let others Share (copy and redistribute) the material in any medium or format and/or Adapt (remix, transform, and build upon the material) for any purpose, even commercially - but only if they give appropriate credit, provide a link to the licence, and indicate if changes were made. • Non-sub licensable licence grant. • No endorsement (no use in any way that suggests the licensor endorses the use or the user). • Work is provided "as-is".

TABLE 4.2 CC-BY 4.0

In November 2013, the CC-BY 4.0 licence replaced the CC-BY-3.0 version of 2007. There are a number of differences between the two versions. The main differences are the licence scope beyond copyright (*e.g.* database rights) and the manner of attribution. Below, we list the relevant differences, as listed by https://wiki.creativecommons.org/License_Versions.

§ 4.3.2.3 Sui generis database rights

The CC 4.0 international suite licences database rights along with copyright. When the CC 4.0 licence is used for a database, sui generis database rights are implicated, whether or not copyright is implicated. The 3.0 version does not mention sui generis rights. In the ported 3.0 licences for jurisdictions where those rights exist, these rights are addressed according to CC's 3.0 database rights policy. Under this policy, sui generis rights must be licenced but licence restrictions for uses triggering database rights must also be waived. With the switch from ported licences to international licences, version 4.0 explicitly addresses licence conditions applicable to sui generis rights. Version 2.0 does not address sui generis database rights at all.

§ 4.3.2.4 Moral rights and trademark rights

There are other differences in the licence scope beyond copyright, such as the treatment of moral rights and trademark rights. Versions 1 to 2.5 did not address moral rights and version 3.0 did not include a waiver of moral rights. Version 4 harmonised the treatment of moral rights and limited the role of moral rights where the exercise of those rights by licensors would prevent uses the CC licences are designed to

permit, but only to the extent those rights are held by the licensor and may be waived or not asserted.[46]

Creative Commons licences do not cover trademark and patent right. In version 4.0, this was made explicit to avoid confusion.

§ 4.3.2.5 Attribution and marking

In version 4.0, a licensor may request removal of attribution by users whether the work is modified or not. In earlier versions of CC, the title of the work was required in the attribution. In version 4.0, this is no longer a requirement to increase flexibility and ease of compliance.

In version 4.0, (URI) is required for proper attribution if it is reasonably practicable to include. In previous versions, a URI is only required if it contains copyright notices of licensing information.

Version 4.0 includes a "no endorsement" clause, *i.e.* the licence is clear that the user is not granted permission to suggest the licensor endorses their use. In earlier versions, this is also the case but it was never explicitly mentioned. In version 4.0, this clause is expressed as a limitation on the rights granted by the licensor.

In version 4.0, licencees are required to indicate if they have made modifications to the licenced material. In version 3.0, this obligation only applies if they result in the creation of an adaptation.

§ 4.3.3 European Location Framework Project

The European Location Framework (ELF) project was established to provide a practical implementation of INSPIRE and to complement the activities of European national mapping, cadastral and land registry authorities. The intention of the ELF platform is to provide a single point of access to harmonised pan-European maps, geographic and land information from official sources to facilitate the wider use of geo-information and enable the creation of innovative value-added services (EuroGeographics, 2016). One of the

46 https://wiki.creativecommons.org/wiki/Version_4#Moral_rights.3B_similar_rights

objectives of the ELF project is to create a policy for sustainable interoperability to ensure that the data from the ELF platform will remain available for use and re-use after the end of the pilot. This policy should be consistent with the INSPIRE Directive rules for data and service sharing and network services, and the 2013 Amended PSI Re-use Directive. A number of the participating National Mapping and Cadastre Authorities, which provide data via the ELF platform, are self-funding authorities, i.e. they are required to generate sufficient revenue to cover a substantial part of their operating costs. ELF aims to establish a financially viable operational framework through agreements, which encourages open licences and minimum to no charge licence fees.

§ 4.3.4 Open licences in the ELF network

§ 4.3.4.1 Open licences currently in use in the ELF network

Table 4.3 provides an overview of the in the ELF network existing open licences.[47]

COUNTRY	LICENCE	KEY CHARACTERISTICS
Czech Republic	Unknown	· Data can be downloaded without reference to a licence
Denmark	Conditions for use of open public geographic data	· Register before access · Right to copy, distribute and publish, adapt and combine with other material, exploit commercially and non-commercially · Attribution required + link + note on whether the data were retrieved from the Licensor or through a data service · Copy of conditions available to third parties · Same conditions apply if forwarding data to a third party · No guarantee for the continued availability of the data · Licensor may change the licence and licence conditions at all times

47 Czech Republic CUZK Geoportal at http://geoportal.cuzk.cz/; Danish Geodata Agency at http://eng.gst.dk/media/gst/2364686/Conditionsforuseofopenpublicgeographicdata.pdf; Eurogeographics at http://www.eurogeographics.org/form/topographic-data-eurogeographics; National Land Survey of Finland at http://www.maanmittauslaitos.fi/en/opendata; France at https://www.etalab.gouv.fr/licence-ouverte-open-licence; the Netherlands Kadaster at http://www.kadaster.nl/web/artikel/Alle-producten-1/TOPvector.htm and the Dutch PDOK geoportal https://www.pdok.nl/en/products/downloading-data-pdok; Norwegian Mapping Authority at http://kartverket.no/en/Kart/Gratis-kartdata/Open-and-Free-geospatial-data-from-Norway/; the Surveying and Mapping Authority of the Slovenian Republic at http://www.gu.gov.si/en/services/free_access_database/; the Spanish Instituto Geográfico Nacional at http://www.ign.es/ign/main/index.do?locale=en and the Spanish Catastro at http://www.sedecatastro.gob.es/; UK Ordnance Survey at http://www.ordnancesurvey.co.uk/oswebsite/products/os-opendata.html.

Eurogeo-graphics	EuroGlobalmap licence	· Right to reproduce, distribute, adapt, extract, re-utilize and communicate to the public for any legal purpose including commercial exploitation · Attribution required + link · Sublicensing allowed · No endorsement · As is provided · No right to use trademark
Finland	CC-BY 4.0	· *See Table 4.2*
France	Licence ouverte	· Right to reproduce, copy, publish, transmit, disseminate, redistribute the information, to adapt, modify, transform and extract from the information, to exploit the information commercially and non-commercially · Attribution required (name + date last updated or URL link) · No endorsement · As is provided · No misleading third parties · Licence is compatible with CC-BY 2.0, OGL (UK) and ODC-BY (Open Knowledge Foundation)
Nether-lands	CC-BY version 3.0 and CC-BY 4.0	· *See Table 4.2*
Nether-lands	CC0	· -
Norway	CC-BY 4.0	· Register before access.
Slovenia	Open data licence Slovenia ("CC-like")	· Only available in Slovenian language. It is very similar with Danish license "Conditions for use of open public geographic data" · Data can be copied, distributed, published, re-used, and adapted in new products for com-mercial or non-commercial use · Attribution required (name source + year) · As is provided; SI NMCA does not take any liabilities regarding data/service quality and continued availability
Spain	"CC-BY like"	· Request for attribution as "© IGN. National Geographic Institute of Spain"
Spain	Resolution of 23 March 2011	· Register before access · Data must be transformed when re-using data · Authorisation for re-use and transform is granted for a period of 10 years · Attribution required (name source + access date) · As is provided · No guarantee for the continuous availability of the Service
United Kingdom	Ordnance Survey Open Data Licence (based on OGL Version 2.0)	· Right to copy, publish, distribute, transmit, adapt, combine and exploit the information commercially and non-commercially · Attribution required (Name source + year) · Attribution passed on in any sub-licences · No endorsement · As is provided

TABLE 4.3 Overview open data licences used within ELF network

We see that most countries build in one way or another on the framework of Creative Commons. Finland, Norway and the Netherlands are using CC-BY 3.0/4.0 and/or CC0; the other open licences are similar in the rights granted, the licence conditions, the rights not licenced, and the disclaimer and limitation of liability. Sometimes, there are differences in the wording of the use rights and sometimes, issues are addressed

that may not need to be addressed in an open data licence (e.g. no guarantee on the data availability).

§ 4.3.5 Differences in open licences

Although many of the open licences build on the Creative Commons suite framework, and have many similarities, there are also a number of differences. These differences may pose barriers for some ELF network participants.

§ 4.3.5.1 Denmark

The Danish Open Data licence differs from CC-BY 4.0. In Denmark, users must register first. The attribution is very specific (name of Agency + name of dataset + retrieval date + data retrieved from Licensor or through a data service). If the data are made available to third parties, the original attribution licence terms must be available to these third parties, *e.g.* by using a link. In addition, there is an explicit clause that the Authority does not guarantee the continued availability of the data and that the Authority may at any time modify the right to use the data and under what circumstances. This last clause means that the Danish Open Licence for the data is revocable at any time.

Prior registration before access should not be considered as a barrier to re-use via the ELF platform. Although CC prohibits the use of technical protection measures to prevent others from exercising the licenced rights, prior registration as such does not prevent the usage of the data. However, prior registration may be viewed as a barrier by re-users outside the ELF platform.

The main differences between the Danish licence and CC-BY 4.0 are the specific attribution requirement and revocable data licence. As far as specific attribution is concerned, CC licences have a flexible attribution requirement. The proper method for giving credit will depend on the medium, means, and context in which a licencee is redistributing licenced material. The user may satisfy the attribution requirement if a link is provided to a place where the attribution information may be found.

As far as revocable licences are concerned, CC-BY licences for data are irrevocable by definition. However, with every updated version of the data, a new licence could be reapplied. The old licence would still apply to all data obtained under the older licence terms. However, as the value of ELF data lies in the actuality of the data, older downloaded versions would probably cease to be in use within foreseeable time.

The specific attribution requirements and the revocable licence may pose a barrier to international use of ELF data. The first barrier can only be overcome by making the attribution requirement more flexible in line with CC-BY 4.0. The latter barrier could be overcome by notifying potential re-users with a disclaimer on the ELF platform.

§ 4.3.5.2 France

The French licence ouverte declares to be compatible with CC-BY 2.0. The differences between version CC-BY 2.0 and CC-BY 4.0 lie in the application to:

- sui generis database rights;
- the treatment of moral right;
- an explicit waiver of rights to enforce, and grant permission to circumvent technological protection measures;
- automatic reinstatement after termination if violations occur;
- attribution-specific elements.

In Section 4.3.2, the main differences between versions 2.0 and 4.0 were described. In CC-BY 2.0 the title of the work is required as part of the attribution; in CC-BY 4.0, this requirement was eliminated to increase flexibility and ease of compliance. However, this point should not be an issue as the French licence ouverte requires attribution by acknowledging its source "(at least the name of the « Producer ») and the date on which it was last updated. The « Re-user » may fulfil this condition by providing one or more hypertext links (URL) referring to the « Information » and effectively acknowledging its source."[48]

In the CC-BY 4.0 version, licencees are required to indicate if they made modifications to the licenced material. This obligation applies whether or not the modifications produced adapted material. In 3.0 and earlier licence versions, the indication of changes is only required if a derivative is created. This clause does not specifically appear in the French licence ouverte.

The differences to attribution between CC-BY 4.0 and the French licence ouverte should not pose a legal barrier as such for international use of ELF data.

48 http://ddata.over-blog.com/xxxyyy/4/37/99/26/licence/Licence-Ouverte-Open-Licence-ENG.pdf

§ 4.3.5.3 Spain

The Spanish Cadastre uses an open data licence, which is not compatible with CC-BY licence. The main differences between the Catastro licence and CC-BY are the requirement that the data must be transformed and the licence term of 10 years. The latter should not pose a barrier, as most re-users will update the data within the 10-year period. However, the former requirement may pose an enforcement problem when the data is re-used by users outside Spain. The licence condition implies that data cannot be hosted by ELF and can only be invoked from the Spanish web service. The ELF platform should notify potential re-users of the transformation requirement and the licence term limitation. However, it is expected that ELF users will transform the data anyway by combining with other data.

§ 4.3.5.4 United Kingdom

The standard UK Open Government Licence 2.0 is similar to a CC-BY licence, and is compatible with CC-BY 4.0. However, the UK Ordnance Survey has added a clause to the standard OGL licence making the Ordnance Survey Open Data licence incompatible with CC-BY 4.0. In the Ordnance Survey OpenData licence, a user has to include the same acknowledgement requirement (name source + year) in any sub-licences of the data and a requirement that any further sub-licences do the same.[49] CC-BY 4.0 prohibits such a restriction. If the standard OGL 2.0 licence were applied to the UK contribution to ELF data, there would be no impediment to using CC-BY 4.0 for international use. However, the Ordnance Survey OpenData licence is currently incompatible with CC-BY 4.0. The ELF platform could provide a notification alerting potential re-users of the sublicensing requirement.

§ 4.3.6 Summary open data licences currently in use

Most of the countries build in one way or another on the framework of Creative Commons with CC-BY the most common licence. It would, therefore, be the most obvious to recommend that ELF would adopt the CC-BY 4.0 licence for open data. Although some of the identified differences, such as user registration prior to access or the CC-BY 2.0 compatibility of the French licence ouverte, will not pose a barrier to CC-

49 http://www.ordnancesurvey.co.uk/business-and-government/licensing/using-creating-data-with-os-products/os-opendata.html

BY 4.0 compatibility, there are, however, some differences that may pose a barrier to adopting a CC-BY 4.0 licence. The current open data licences for Spanish Cadastral Data and for the UK Ordnance Survey data are incompatible with CC-BY 4.0. If ELF decides to invoke the national services rather than hosting data, a disclaimer and a link to the specific licence conditions should suffice. The national authority will be responsible for enforcement of the specific licence conditions.

§ 4.3.6.1 Remaining questions

To comply with the Spanish open data licence for Cadastral data, ELF should only use invoking services. In this case, national open data licence will be applicable to the data. This raises the first question if the ELF platform needs to use a separate ELF licence for the web service, and if so, what type of licence.

If a CC-BY-type licence were chosen for the invoked ELF open data, the second question that needs to be answered, is how attribution should be given, given the fact that CC-BY does not allows specific attribution in a specific place. The seemingly most logical way of recommending attribution would be to allow for multiple source attribution, *e.g.* "Contains ELF data + year". Similar to the CC-BY licence, ELF should allow for flexibility in attribution for compliance reasons.

Another remaining issue is whether the ELF platform should refer to a single ELF licence (for invoked data) or to link to the individual licences per data holder? If the latter is the case, will ELF provide a link to the information provided by the national authority? This may pose problems with missing information (*e.g.* Czech Republic), mismatch in information (*e.g.* the Netherlands) or language issues (*e.g.* Slovenia). It may be preferable to refer to an ELF page with specific information about the licences of the individual data holders in multiple languages. This page should also describe the main differences between the different open licences. However, licence changes in the individual countries need to be monitored regularly.

The fourth question that needs to be addressed is how to deal with the specific licence differences as these differences cannot be addressed in a single licence. For instance, the UK requirement of users having to pass on attribution requirement to all subsequent licences is incompatible with the CC-BY 4.0 licence and/or CC0 declaration used in Finland, Norway and the Netherlands, as none of the Creative Commons licences grants permission to sublicence the licenced material. It would not be practical to include such a clause in an ELF open licence, as this would cause a problem of having a more restrictive licence for a product obtained through ELF rather than obtained through a national service. Especially for data licenced under a CC-BY 4.0 or a CC0 licence.

The last question that needs to be addressed is how to deal with data obtained via services when the national licence is revoked or amended.

References

Chignard, S. (2013). A brief history of open data. ParisTech Review, http://www.paristechreview.com/2013/03/29/brief-history-open-data/, accessed April 29, 2016.

Clapton, G., M. Hammond and N. Poole (2011). PSI re-use in the cultural sector - final report. Curtis+Cartwright Consulting Ltd. Guildford, European Commission, http://ec.europa.eu/information_society/policy/psi/docs/pdfs/report/cc462d011_1_1final_report.pdf: 43, accessed 10 May 2011.

de Vries, M., L. Kapff, M. Negreiro Achiaga, P. Wauters, D. Osimo, P. Foley, K. Szkuta, J. O'Connor and D. Whitehouse (2011). Pricing of Public Sector Information Study (POPSIS) - Summary Report. Brussels, Deloitte Consulting CVBA,, https://ec.europa.eu/digital-single-market/en/news/pricing-public-sector-information-study-popsis-summary-report, accessed October 2011.

EDPS (European Data Protection Supervisor) (2012). Opinion of the European Data Protection Supervisor on the 'Open-Data Package' of the European Commission including a Proposal for a Directive amending Directive 2003/98/EC on re-use of public sector information (PSI), a Communication on Open Data and Commission Decision 2011/833/EU on the reuse of Commission documents. Brussels: 13. https://secure.edps.europa.eu/EDPSWEB/webdav/shared/Documents/Consultation/Opinions/2012/12-04-18_Open_data_EN.pdf, Accessed October 28, 2016.

EuroGraphics (2016). What is the European Location Framework?, http://elfproject.eu/sites/default/files/ELF2_leaflet_2016_FINAL.pdf: 2, accessed 30 March 2016.

European Commission (2009). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Re-use of Public Sector Information- Review of Directive 2003/98/EC – [SEC(2009) 597]. Brussels, European Commission, http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52009DC0212, accessed May 26, 2015.

European Commission (2011). Commission Staff Working Paper. Impact Assessment Accompanying the document Proposal for a Directive of the European Parliament and the Council amending European Parliament and Council Directive 2003/98/EC on the re-use of public sector information {COM(2011) 877 final} {SEC(2011) 1551 final}. Brussels, https://ec.europa.eu/digital-agenda/en/news/commission-staff-working-paper-impact-assessment-accompanying-document-proposal-directive: 84, accessed December 12, 2011.

European Commission (2011). Open Data: An engine for innovation, growth and transparent governance. Brussels. COM(2011) 882 final: 13, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0882:FIN:EN:PDF, accessed June 10, 2013.

European Commission (2014). Guidelines on recommended standard licences, datasets and charging for the reuse of documents (2014/C 240/01). Brussels (Official Journal of the European Union). 57: 10, http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2014.240.01.0001.01.ENG&toc=OJ:C:2014:240:TOC, accessed September 11, 2015.

Huijboom, N. and T. van den Broek (2011). Open Data: an international comparison of strategies, European Journal of ePractice no. 12 (March/April 2011): 4-16, http://share-psi.eu/papers/TNO-epractice.pdf, accessed April 14, 2015.

Obama, B. (2009). Transparency and Open Government. Memorandum for the Heads of Executive Departments and Agencies. Washington, The White House, https://www.whitehouse.gov/the_press_office/TransparencyandOpenGovernment, accessed March 29, 2016.

Obama, B. (2013). Executive Order -- Making Open and Machine Readable the New Default for Government Information. Washington DC, https://www.whitehouse.gov/the-press-office/2013/05/09/executive-order-making-open-and-machine-readable-new-default-government-, accessed May 10, 2013.

Scassa, T. (2014). "Privacy and Open Government". Future Internet 6(2), pp.397-413. doi: 10.3390/fi6020397.

Sunlight Foundation. (2010). Ten Principles for Opening Up Government Information, accessed August 31, 2010, from https://sunlightfoundation.com/policy/documents/ten-open-data-principles/.

Tauberer, J. (2014). Open Government Data: The Book. The principles, practices, and a history of the open government data movement, https://opengovdata.io/: 196, accessed October 6, 2015.

Tsiavos, P. (2012). Licence Interoperability Report, LAPSI 2.0, http://ec.europa.eu/newsroom/dae/document.cfm?action=display&doc_id=3899, Accessed April 19, 2016.