

3 Geo Shared Licenses: A base for better access to Public Sector Geo-Information for value added resellers in Europe

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Abstract

In a digital age public sector geoinformation (PSGI) is potentially a vital link in the added-value chain. Yet private sector value-added resellers (VARs) still face a number of barriers to using PSGI. Price is only one impediment. The complexity of licences and restrictive licence conditions of PSGI may be an even bigger obstacle. Especially when combining different datasets, VARs can face a quagmire of conflicting licence conditions. Batty (2006 *Environment and Planning B: Planning and Design* 33 163 – 164) called for research that would stimulate value-added use of PSGI. However, inconsistent and intransparent licence conditions for PSGI are among the biggest obstacles of PSGI for VARs. This paper explores the current PSGI licences to assess the actual restrictions and how current obstacles can be levelled. The Creative Commons licensing concept was explored and adapted to make it suitable for licensing PSGI. The resulting concept of Geo Shared licences is a means to harmonise licence conditions for PSGI. Our research shows that the Geo Shared concept can be a valuable contribution to further harmonisation of PSGI licences and thus development of value-added chains. Furthermore, development of geographic information infrastructures will also be stimulated. Similarly, the concept can be considered as a serious option within the Infrastructure of Spatial Information for Europe (INSPIRE), as a way towards transparent harmonised licences in Europe and beyond.

Keywords: Creative Commons; licences; geographic information infrastructure; INSPIRE; reuse of public sector information: Geo Shared

§ 3.1 Geographic information infrastructure development

§ 3.1.1 Framework

The terms ‘geographic information’, ‘geographic data’, ‘spatial information’ and ‘spatial data’ are interchangeably used as synonyms. For the purpose of this article only the term geographic information (GI) will be used. Access to GI is of vital importance to the economic and social development of the nation. Nations around the world are developing geographic information infrastructures (GIIs), also referred to as spatial data infrastructures (SDIs), with access to GI at the core. For more advanced GIIs (re) use is considered to be the driver of a GII. In this respect special reference is made to value added use of available basic or framework GI. Most GI belongs to public sector bodies with access and use governed by specific access policies. In Europe many public sector bodies use licence fees to finance their operations and to guarantee certain levels of GI quality. However, each body applies different licence conditions and pricing structures. It is this inconsistency and intransparency that forms one of the biggest obstacles for value-added reusers (VARs) in their decision to (re)use public sector geographic information (PSGI) for their activities (see Groot *et al.*, 2007; RAVI, 2000; STIA, 2001; van Loenen *et al.*, 2007). As a consequence, value-added use, the driver for advanced GIIs, remains limited.

A GII or SDI may be defined as the framework to facilitate the management of information assets, with a focus on better communication channels for the community for sharing and using data assets, instead of aiming toward the linkage of available databases (Rajabifard *et al.*, 2002). Governments have an important role in the development of GIIs. They are often both providers and users of GI, and most often government agencies lead GII development. This is especially true when the government is the main provider of GI. They can decide what information is collected and maintained and, through its access policies, they also determine the extent to which a dataset can be used. Pricing of PSGI is an important factor for users in their decision to use a data set for value-adding. However, surveys held in 2007 and 2008 among VARs in Europe suggests that the most prominent barriers for value-added (re) use are the complexity, inconsistency, intransparency and restrictive use conditions (Groot *et al.*, 2007; MICUS, 2008a). The European Directive on the re-use of public sector information 2003/98/EC, the so-called PSI Directive, is explicitly directed at promoting value-added use of PSI (EC, 2003). However, it only prescribes a minimum of harmonisation for licences, keeping the hindering status quo alive. 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 –

the so-called INSPIRE Directive – requires Member States to exchange, share, access and use interoperable spatial data and spatial data services across the various levels of public authority and across different sectors. INSPIRE should assist policy-making in relation to policies and activities that may have a direct or indirect impact on the environment. However, while INSPIRE requires data to be shared between public sector bodies, it also allows public sector bodies to charge for (re)using the data by leaving the regime of the PSI Directive unaffected. So far, these Directives have not resulted in a harmonisation of licence conditions leaving value-added use of PSGI hindered as before. INSPIRE must be transposed into national legislation by 15 May, 2009. A harmonised licensing framework has been developed by the INSPIRE Data and Service Sharing Drafting Team. However, this framework will be voluntary.

§ 3.1.2 Users and their needs

Users of the GII “will probably be the most mentioned group and yet actually the least considered” (McLaughlin and Nichols, 1994, p.72). Van Loenen (2006) distinguishes four user groups:

- 1 primary users (the collector and major users);
- 2 secondary users (incidental users for similar purposes as the primary user);
- 3 tertiary users (users that use the dataset for purposes other than those for which the information was collected and the dataset created), and
- 4 end-users.

Primary users are those that use the dataset for the initial purpose of information collection on a continuous basis. They typically belong to the organisation that has collected and processed the information. Secondary users use the information incidentally for similar purposes, and tertiary users are those that add value to the framework dataset by using the data set for other purposes than the collection purpose. Finally, the end users are the fourth group of users. This group consists of citizens, decision makers, and others that use the end product of geographic information – for example, a map or an answer to a query – mostly through services provided by the tertiary users. Although secondary, tertiary and end users all may reuse PSGI, it is the tertiary user that by definition reuses PSGI for value adding. Therefore, this paper’s primary focus is on the tertiary user.

Users require transparency of the information policies (*e.g.* Groot *et al.*, 2007; RAVI, 2000) and require consistency in the access policies throughout government (KPMG, 2001; PIRA International, 2000; QSIO, 2006; RAVI, 2000; STIA, 2001). Differences in pricing, use restrictions, and liability regimes may result in confusion and ultimately

limited use of the dataset (Meixner and Frank, 1997). The user is, for example, uncertain about the cost he or she should calculate for complete jurisdiction coverage. A consistent or harmonised access policy throughout government may promote the use of framework information. In this paper we assess the extent to which the concept of the Creative Commons (CC) can be used as a tool to develop a model that will harmonise current PSGI licences.

§ 3.1.3 Reading guide

First, in Section 3.2, we will consider attempts to standardise licences in general, with a focus on CC. In Section 3.3 we describe the present situation with regard to the use of licences in the Netherlands, Norway, Germany, and England. In Section 3.4 we look at the pros and cons of applying CC for geographic information and look at the issues that remain when aiming at the extended use of CC. In Section 3.5 we introduce the Geo Shared concept as an alternative framework. We conclude with an analysis. Further, we will discuss the issues that CC can and cannot solve with regard to access to PSGI for VARs.

§ 3.2 Standardising Licences

§ 3.2.1 Information licences

Access to and (re)use of geographic information is often regulated by licences to allow the information holder to economically or otherwise exploit the information. A licence is a contract imposing express limits on the use of the data (Dreyfuss, 1999). One can generally redistribute a licenced copy only if especially contracted for the right to do this (Samuelson, 1998). Other legislation such as privacy legislation may impose restrictions as well. Intellectual property rights (IPR) can be considered a prerequisite for successfully exploiting information.

§ 3.2.1.1 Copyright and database rights

Intellectual property rights such as copyright, and in Europe also database rights, may be had in many types of geographic information, such as topographic information. Copyright gives the creator of an original work exclusive rights to it (e.g. right to publish, distribute, and adapt), most often for a limited time, usually in the order of seventy years after the death of the author. The primary objective of copyright is to promote creativity and innovation.²⁴ It assures authors the right to their original expression, but encourages others to build freely upon the ideas and information conveyed by a work (Onsrud and Lopez, 1998). Copyright protection extends to expressions and not to ideas, procedures, methods of operation, or mathematical concepts as such (WIPO, 1996). Differences among the copyright laws of various nations have resulted from a wide range of interpretations that nations have developed for the concept of originality (Onsrud and Lopez, 1998).

The EU Directive on the legal protection of databases (96/9/EC), the so-called Database Directive, made a significant change to intellectual property rights in Europe. This directive created a 'new' sui generis²⁵ right for the creators of databases that do not qualify for copyright as such. While copyright protects the creativity of an author, database rights protect the substantial investments in obtaining, verification, or presentation made by the producers. Under the terms of the Database Directive the rightholder may prohibit the extraction and/or reuse of the whole or a substantial part of the database. Database rights last for fifteen years from the end of the year that the database was made available to the public. Any substantial changes, which could be considered to be a substantial new investment, will extend the protection for another fifteen years. Therefore, databases that are regularly updated could effectively have a perpetual protection. Database rights may be reserved only if the investments in obtaining, verifying or presenting the data are made as a main commercial activity of the database producer. If a database is created without substantial investments or as a by-product of another activity, the so-called spin-off doctrine applies (Hugenholtz, 2005). The European Court handed down a number of rulings in 2004 confirming the spin-off doctrine.²⁶ On April 2009 the Council of State, the highest Dutch Court

24 See for instance, *Feist Publications Inc. v. Rural Telephone Service Co.*, 1991, 499 US 340, 349.

25 The literal meaning of sui generis is of its own kind. In law it is a term used to identify a legal classification that exists independently of other categorisations because of its uniqueness or owing to the specific creation of an entitlement or obligation.

26 See for instance, *The British Horseracing Board Ltd and Others v. William Hill Organization Ltd*. ECJ, joint cases C-46/02, C-338/02 and C-442/02, 9 November 2004.

of Appeal for Administrative Law, upheld²⁷ the District Court of Amsterdam's ruling²⁸ that a public sector may not claim database rights for public sector databases, if the database was created as part of its public task and was funded by taxpayers' money. Thus, the spin-off doctrine has a significant bearing on public sector bodies claiming database rights as there may be no legal basis if they are publicly funded.

§ 3.2.1.2 Some Rights Reserved Licenses

In the 1990s changes were made to United States Copyright Act in order to offer better protection of works in a digital environment. These changes included retroactively extended copyright terms, thereby threatening to prevent the so-called orphaned works from being published on the Internet.²⁹ As a reaction to these copyright changes, several organisations were founded to provide alternative licensing systems, on the basis of a 'some rights reserved' approach. The terms 'some rights reserved' is used to denote a concept somewhere in between the 'all rights reserved' approach of the Copyright Act and the 'no rights reserved' approach of the Public Domain.

There are now over 60 'some rights reserved' type licences currently recognised by the Open Source Initiative. The most popular types currently in use for small group or individual users for non-software works are Creative Commons (CC) licences and variations of the GNU Free Documentation Licence (FDL). Although the latter was designed originally to apply to software manual documentation, it has been applied far more widely – for example, for projects of the Wikimedia Foundation (Onsrud, 2006). The fact that there are so many different 'some rights reserved'-type licences is a fair illustration that attempts to standardise these have not succeeded, as illustrated by the attempts of the Science Commons to develop a licence framework since 2005. Even to enable just one transaction, namely the transfer of biological materials, Science Commons have developed four different Material Transfer Agreements (<http://www.sciencecommons.org/projects/licensing/>).

²⁷ Raad van State case nr. 200801985/1. The Council of State reiterated in its ruling that databases funded by public money and produced for a public task rather than specifically for commercial purposes, cannot be protected by database rights as the investments made to produce the database—even though the investments were vast—had not carried a substantial risk.

²⁸ Landmark Nederland BV v. Municipality of Amsterdam, Amsterdam District Court reg. nr. LJN BG1554, 11 February 2008.

²⁹ As contested in *Eldred v. Ashcroft*, 2003, 537 US 186.

In the US the National Research Council (NRC) suggests that, in order to facilitate finding and (re)using geoinformation, a national GI marketplace should be set up. The would-be customer could search for GI and buy the suitable data after 'clicking-through' to the appropriate server. In more advanced implementations, the seller or licensor might define for each dataset or group of datasets a pricing formula that varies with differing standard licence or sale conditions (National Research Council, 2004).

§ 3.2.2 Creative Commons

CC was founded in 2001 as a non-profit organisation to offer flexible copyright licences for creative works such as text articles, music, and graphics. They advocate a system whereby works can be made available through the Internet without forfeiting their intellectual property rights. To facilitate this, they have developed a licensing system, the co-called CC licences. Thus, works can be made easily accessible for dissemination or for reuse. As at February 2009, fifty countries around the world have set up national CC organisations and have transposed the US version of CC licences into national legislation. CC licences are becoming very popular; at the end of 2003 there were worldwide about 1 million CC licences in use, and at the end of 2008 this number has exploded to 130 million and at the time of writing is still growing exponentially (www.creativecommons.org). Within Open Geospatial Consortium efforts to arrive at a geospatial rights management standard, variations of CC licences are also considered (Vowles *et al.*, 2007).

CC licences try to find a balance between the 'all rights reserved' concept of traditional IPR and the 'no rights reserved' concept of the public domain, by employing a 'some rights reserved' approach. Through their website (<http://www.creativecommons.org>) they offer six standard licences for anyone wanting to publicise their work. Each CC licence contains the following standard clauses:

- 1 The licence applies worldwide.
- 2 The licence is irrevocable.
- 3 The licence is granted for the term of the appropriate IPR legislation.
- 4 Licensors do not forfeit their IPR.
- 5 Acknowledgement of the source is compulsory (attribution the way the author requests).
- 6 Licensees must seek permission for actions that are not allowed by that specific licence.
- 7 Each copy of the work must contain a link to the licence.
- 8 Licensees may not alter the terms of the licence agreement.
- 9 Licensees may not employ technology or other means to limit access to the work in a way that is contradictory with the terms of the licence agreement.

- 10 Works are offered on an 'as-is' basis without any guarantees and the licensor does not accept any liability claims.

Apart from each of these standard clauses, the six CC licences offer one or more of the following terms:

- 1 You let others to distribute derivative works only under a licence identical to the licence that governs your work (share alike).
 - 2 You let others copy, distribute, display, and perform only verbatim copies of your work, not derivative works based upon it (no derivative works).
 - 3 Others may copy, distribute, display and perform your work – and derivative products based upon it – but for non-commercial purposes only (noncommercial).
- The six main licences are described in Table 3.1.







LICENCE TYPE	ICONS	LICENCE CONDITIONS
Attribution (by)		This license lets others distribute, remix, tweak, and build upon your work, even commercially, as long as they credit you for the original creation. This is the most accommodating of licenses offered, in terms of what others can do with your works licensed under Attribution.
Attribution Share Alike (by-sa)		This license lets others distribute, remix, tweak, and build upon your work, even for commercial reasons, as long as they credit you and license their new creation under the identical terms. This license is often compared with open source software. All new works based on yours will carry the same licence, so any derivatives will also allow commercial use.
Attribution No Derivatives (by-nd)		This license allows for redistribution, commercial and noncommercial, as long as it is passed along unchanged and in whole, with credit to you.
Attribution Non-Commercial (by-nc)		This license lets others remix, tweak, and build upon your work noncommercially, and although their new works must also acknowledge you and be noncommercial, they don't have to license their derivative works on the same terms.
Attribution Non-Commercial Share Alike (by-nc-sa)		This license lets others remix, tweak, and build upon your work noncommercially, as long as they credit you and license their new creations under the identical terms. Others can download and redistribute your work just like the by-nc-nd licence, but they can also translate, make remixes, and produce new stories based on your work. All new work based on yours will carry the same licence, so any derivatives will also be noncommercial in nature.
Attribution Non-Commercial No Derivatives (by-nc-nd)		This license is the most restrictive of the six main licenses, allowing redistribution. This licence is often called the 'free advertising' licence because it allows others to download your works and share them with others as long as they mention you and link back to you, but they can't change them in any way or use them commercially.

TABLE 3.1 Creative Commons licenses
<http://creativecommons.org/about/licenses/>, symbols Trademark by Creative Commons, <http://creativecommons.org>

Each of the CC licences generates three versions of the same licence agreement. The first version – a commons deed in plain language suitable for laymen – is a summary of the licence complete with the relevant symbols as displayed in Table 3.1. The second version – a legal code – is the actual licence and is legally binding. The legal code is suitable for lawyers and consists of a number of pages in legal terminology. The third version – a digital code – is a machine-readable translation of the licence that helps computer programs such as search engines to identify the work by its terms of use.

CC aims to promote access to IPR protected works as an open content organisation. Open access works, while copyrighted, allow use without obtaining prior permission since a general licence is granted ahead of any specific use. A basic condition of a CC licence is that user rights are supplied without royalties, although the right to receive a reward is not forfeited under a CC licence. The licences were designed to suit creators who want to distribute their work independently to gain publicity or to build up a reputation, or to suit creators or organisations that act out of ideological or non-profit objectives. The CC-licences are also applied to digital works to stimulate sales of the printed version of the same work, or to promote the use of paid support services (Boyle, 2007; National Research Council, 2004). CC-licences appear to be suitable for those that do provide their data for free such as non-profit organisations, academia, and government organisations, but also suitable for VARs that may use the data as the trigger to generate revenue from the sales of related products or services.

§ 3.3 PSGI licences in Europe

Although all EU Member States have to abide by the PSI Directive, there are still quite some differences with respect to access and user licences. Information regarding the Netherlands, Norway, North Rhine Westphalia (Germany), and England and Wales (United Kingdom) was collected as part of a study (van Loenen *et al.*, 2007). In this chapter, we will give a brief summary of access policies of these countries.

§ 3.3.1 The Netherlands

In the Netherlands access to PSI and reuse of PSI are both regulated by the Freedom of Information Act (*Wet openbaarheid van bestuur*, known as the *Wob*). The *Wob* states that, with respect to access, fees should not exceed dissemination costs as far as

possible. However, for reuse of PSI subject to IPR, charges should not exceed the total costs of collecting, producing, reproducing and disseminating documents, together with a reasonable return on investment. Some public sector organisations have their own specific legislation setting their own framework for disseminating information – for example, the Cadastre Act and the Meteorological Institute Act. At ministerial level there is a framework of policies and guidelines recommending that information should be made available to other national public sector organisations for dissemination costs. However, this framework does not apply to regional and municipal organisations (yet). The Wob is currently under review and the differences in pricing regimes will probably be amended.

In 2006, current licence agreements for PSGI were reviewed (Welle Donker, 2006). Licence terms and conditions appeared to be very diversely formulated, ranging from a few paragraphs written in plain language to countless pages written in legal language that is hard to understand for a layperson. The licence fees also vary significantly, ranging from free to hundreds of thousands of Euros for a complete dataset. Sometimes a differentiation is made between different types of users – that is, libraries, schools, universities and research institutes will pay lower fees than the private sector. Almost all of the licence agreements usually specify that the data are to be used only for internal purposes and if the dataset is to be used for any other purposes a separate licence agreement will have to be negotiated. In some cases one has to indicate what the data will be used for before access or permission for reuse is granted. Sometimes the dataset has to be returned after a (predetermined) goal has been attained. Sometimes one has to purchase an entire dataset and sometimes one gets access through a web service. None of the licence agreements contain provisions for the combined use of data from more than one source (Welle Donker, 2006). Formally no differentiation is made between public sector users and non-public sector users. In practice, some public sector organisations have data-for-data agreements, in which they share data to create and maintain large-scale datasets. Some public sector organisations charge fees to other public sector organisations.

In spite of all these differences, all these licence agreements also show a lot of similarities as far as the main provisions are concerned. These similar provisions are:

- A non-exclusive user right is granted.
- Intellectual property remains with the supplier.
- The data may not be transferred to a third party without prior consent of the rightholder.
- Derivative products obtained by adaptation of the data (if allowed) must be clearly credited with the original source (name of supplier and year of acquisition).
- The supplier of the data indemnifies himself or herself against any claims to the comprehensiveness and accuracy of the data or any damage resulting from use of the data.

- General (nonspecific) financial provisions related to terms of payment.

§ 3.3.2 Norway

Within the public sector several organisations handle geographic information. The Norwegian Mapping and Cadastre Authority (SK) – which falls under the Ministry of Environment – is responsible for the coordination of the Norwegian GII. In 2003, a white paper authorised GI sharing within the public sector by setting up a GII. This program, called Norge Digitalt (Digital Norway), provides not only a portal but also a framework for cooperation within the public sector. Nearly all state departments and agencies as well as local governments and some private partners have joined or are in the process of joining Norge Digitalt (ND). After paying a contribution, the government organisation then makes its GI available free of charge to other participating organisations. This way all participants can use free GI for its own internal processes. More than thirty state and almost all local government organisations are a member of ND. In Norway thematic GI should be available – often online – free of charge for everybody to view. For environmental information this has been the case by law since 1993.

If the private sector wants to use PSGI, they can buy datasets from a government-owned intermediary, the Norsk Eiendomsinformasjon (NE). NE acts as a one-stop shop for VARs to get the data and resell them to end users. A contract is drafted with the NE and NE pays royalties to ND. NE uses the same (restrictive) licence conditions for all information it resells. However, there are some unresolved issues with this system. SK is not allowed to sell information directly to third parties but other members of ND are. Several public sector organisations provide this information for free through web mapping services. Until 1 January 2007, all SK services were available freely on the web. To be in line with the access policy from the 2003 white paper, SK had to limit free access to ND partners only. NE does not have a publicly known pricing policy. NE is supposed to operate as a wholesale distributor but NE is also selling PSGI to end users thus blurring the boundaries between public and private tasks (Welle Donker and Zevenbergen, 2007).

§ 3.3.3 North Rhine Westphalia (Germany)

North Rhine Westphalia (NRW) is one of the sixteen states of the federal republic of Germany. Each German state is responsible for its own topographic service and land register, environmental and statistical information collection, and in general for

information policies. Information collection is largely decentralised and carried out mostly on the regional and local level. The different states have issued laws ('surveying and cadastral acts') that regulate both the work, and the authorities of the surveying and mapping agencies.

All local governments in NRW claim copyright and database right in their information. In NRW users of PSGI are granted a 'limited use right' as described in the Copyright Act and further in the Cadastre Act. Only with permission of the concerned organisation can information from local government be multiplied, made public, or provided to third parties. Making copies and processing the (digital) information for internal use are permitted.

The Cadastre Act rules that access to PSGI within government is without cost. The free access provision does not apply to access for VARs. One has to pay a fee according to the fee ordinance if cadastre information is used for commercial purposes. The fee for the information depends on the category of the layers, the information density, the size of the area requested, and the format requested (analogue, vector, raster). Further, there are different fees for different users. Although the fee ordinance provides the legal framework for the price setting of PSGI, it is generally regarded as complex and difficult to understand, and too inflexible to be of use for Internet applications. As in the Netherlands, VARs in NRW find the current restrictive licence conditions a major obstacle to reusing PSGI (MICUS, 2008b).

§ 3.3.4 England and Wales (United Kingdom)

Within the UK, Scotland and Northern Ireland have devolved responsibilities. In England and Wales policy is set by the UK government. Therefore, we will limit ourselves to England and Wales. Local governments are responsible mainly for local planning and everyday operations of their areas. The UK has different copyright regimes that apply to GI. The main copyright law affecting PSGI is the Crown Copyright. Crown Copyright applies to PSGI produced by central government agencies referred to as Crown Bodies. However, it is not always easy to distinguish which public sector organisations are Crown Bodies and thus affected by Crown Copyright because of technical legal reasons (APPSI, 2004). Therefore, different central government agencies will have different copyright regimes regulating their information, resulting in different rules for reuse.

Most PSGI is generated by the Ordnance Survey (OS). PSGI is also provided by central government parties like the United Kingdom Hydrographic Office (UKHO), Her Majesty Land Registry (HMLR) and the Royal Mail Group. The local authorities of the UK

(approximately 500, excluding the local authorities of London) have an agreement with public and private GI producers for the provision of GI products and services they require for performing their activities. This agreement is known as the Mapping Services Agreement (MSA). This competitive procurement results in the responsibility for the provision of GI to local authorities falling into the hands of three GI suppliers. In the MSA the OS is still the main provider of GI datasets with supporting datasets being provided by Intermap and Intelligent Addressing. However, the majority of the more widely used GI in the UK is derived from or is actually OS datasets. OS, UKHO and HMLR are all classified as trading funds and are required to generate a surplus. Therefore, these agencies all use restrictive licence conditions and fees to make their datasets available for reuse. Hence, access to these datasets will be governed by the underlining policies of these trading funds.

Like the Netherland, the UK has no single access policy for PSI. As far as reuse within the public sector is concerned, OS uses a system of Collective Licensing Agreements (CLAs). A CLA is an agreement between the OS and a group of public sector organisations which allow the public sector organisations access to OS information for internal processes. As far as reuse by the private sector is concerned, UKHO uses a network of VARs which reuse hydrographic information on a royalty basis. OS also have licence agreements with various VARs on a royalty basis and/or upfront fees.

From the above examples we can see that there are vastly different approaches to PSGI licensing in Europe.

§ 3.4 Applying Creative Commons to PSGI licences in Europe

Although CC licences appear vastly different from the PSGI licences currently in use, the general terms of most licence agreements do not differ that much from the CC licences. Thus, CC offers a promising access model. However, not all the available CC-licences can be applied to geographic information as such, especially if our aim is to make datasets available as input for commercial value-added products and services. Tables 3.2a and b show that there are some inherent problems when applying CC licences to PSGI for VARs. In this section we will discuss some of these concerns.

§ 3.4.1 Matches and differences between PSGI licences and Creative Commons licences

As we have shown, there are matches and differences between current PSGI-licences and CC-licences. These are listed in Tables 3.2(a) and 3.2(b) respectively. No colour indicates a match, medium blue a near-match and dark blue a substantial difference.

The table shows that there are discrepancies in several locations. These discrepancies and shortcomings of Creative Commons are addressed in the following sections.

CC	NL	NORWAY	NRW	ENGLAND
Adaptation of the information is in some cases allowed. Derivatives must be clearly attributed to the creator(s) of the original source	Yes	Yes	Yes	Yes
Information is accessible on-line after the licence terms have been agreed to	Sometimes	Yes	Yes	Sometimes
The intellectual property rights remain with the right holder	Yes	Yes	Yes	Yes
The user obtains a non-exclusive user right	Yes	Yes	Yes	Yes

TABLE 3 2(a): Matches in licence conditions CC and European case studies

Background medium blue: Near Match

Background no colour: Match

CC	NL	NORWAY	NRW	ENGLAND
On-line acceptance of licence is available (no paper application or signature required)	Sometimes	Need formal agreement	Need formal agreement	Need formal agreement
The user may transfer the information and/or derivatives to a third party without prior consent of the right holder	No	Only to Norge Digitalt (Digital Norway) participants	Only to public sector parties	No
All Information is available for (re)use at no upfront charges and free of royalties	Some information	Only thematic (environmental) information	Only for other public sector bodies	Very little information
No differentiation between types of users	Sometimes	Differentiation between public sector and other users	Differentiation between public sector and other users	Differentiation between public sector and other users
Licence is valid for the duration of copyright/database right	Sometimes valid for fixed period	Sometimes valid for fixed period	Sometimes valid for fixed period	Only valid for fixed period

TABLE 3 2(b): Differences in licence conditions CC and European case studies

Background medium blue: Near match

Background dark blue: Substantial difference

§ 3.4.2 Commercial use

One of the cornerstones of CC is sharing information, usually for noncommercial purposes. However, what exactly constitutes ‘commercial use’? In its legal code CC defines noncommercial in article 4b as:

“You may not exercise any of the rights granted to You [the licensee] ... in any manner that is primarily intended for or directed toward commercial advantage or private monetary compensation. The exchange of the Work for other copyrighted works by means of digital file-sharing or otherwise shall not be considered to be intended for or directed toward commercial advantage or private monetary compensation, provided there is no payment of any monetary compensation in connection with the exchange of copyrighted works.”

This definition is clear with regard to a private sector organisation that wants to use the dataset to produce a product or service with the intention to sell this product or service for a profit. But what about use by nonprofit organisations, are they entitled to use data made available under a ‘non-commercial’ condition when they do not intend to make a profit? Should there be a differentiation between public and private schools since private schools are institutes that ultimately intend to make a financial profit? And what about a company representative visiting a client using a car navigation system, does this constitute commercial or internal use? The courts will not only look for a legalese interpretation of the word ‘commercial’ but also look at the contract situation as a whole, when interpreting the situation (Pawlo, 2004). On a national level, some consensus may be reached what the meaning of ‘commercial’ will be, but on an international level this may not be the case. In the Netherlands, the District Court ruled in favour of a CC licensor. A well-known DJ had published photographs of his family on flickr.com under a CC-nc licence. A magazine used some of these photographs without permission. The DJ successfully sued the magazine for breach of the CC licence, although no damages were awarded.³⁰

Therefore, the CC question ‘Allow commercial uses of your work?’ would always have to be answered with ‘yes’, or else the private sector would not be able to use the datasets. Even if they were only to use the datasets for internal use rather than to produce directly value-added services, this may still constitute commercial use, given the uncertainty of the concept ‘non-commercial’ in various jurisdictions. To avoid a potential quagmire, it would be best if only by-nd, by-sa or by licences are used for reusing PSGI.

In most European jurisdictions public sector organisations make PSGI available for producing value-added products and services only after a formal agreement has been negotiated. This allows the public sector organisation to customise licence agreements depending on the type and quantity of data. This is one of the reasons why the current licensing system is not transparent. It might be more practical to replace the current CC noncommercial use symbol with an 'advance permission' symbol. The licence condition as it is currently in use by a number of public sector organisations would thus be better represented. It would also avoid a philosophical discussion concerning commercial use. However, it would be better to abolish the distinction between non-commercial (internal use only) and commercial (external use) entirely. Especially as a non-commercial CC licence will not prevent the user from reproducing the data using web services or posting the data on websites. As long as there is no financial gain for the licensee, the licensee is allowed to do so as long as the right attribution has been made.

§ 3.4.3 Derivatives and Share Alike

In the older CC-versions there was a mismatch between different 'some rights reserved' licences such as CC and FDL. If you wanted to remix works issued under different 'some rights reserved' licences you could not make the derivative product available if the derivative has to be licenced under exactly the same licence as the original. By selecting one 'some rights reserved' licence over the other, you were in breach of the original licence and therefore neither could be selected. Version 3.0 of CC, released in the spring of 2007, has rectified these incompatibility problems. Products may now be made available under other types of open content licences, as long as they have the same properties.

The CC licence concepts of 'no derivatives' and 'share alike' also may pose a problem if the aim is to make datasets available for value-added products. If PSGI is only to be used without being able to produce derivatives, then it will only be suitable for internal business processes or for end users. Whilst this makes the licence suitable for GI reuse by secondary users and end users, it will not stimulate value adding by tertiary users. The same applies to the share alike option. In a creative environment the concept of sharing works, adapting them and making the derivatives available under similar conditions can be very important. Institutes like Wikipedia could not exist without share alike licences. But when PSGI is made available to tertiary users for value adding, the concept of making the value-added services and products available under the same conditions would be counterproductive. The concepts are therefore only suitable to make PSGI available to secondary users and end users, provided the GI was supplied for no more than marginal costs of dissemination. This constitutes discrimination

for different types of users which is in conflict with the non-discriminatory provision in the PSI Directive.

PSGI licences found typically are non-transferable licences without so-called viral use conditions (licences conditions requiring derived works should be made available under the same some-rights-reserved conditions). Therefore, the share-alike condition of CC cannot be applied in these instances.

§ 3.4.4 Fees and royalties

CC aim to protect some rights of the author, which should also include the right to receive fair compensation. But CC also stated in their earlier licence conditions that the licensee is under no obligation to pay “any royalties, compulsory licence fees, residuals or any other payments”. However, in a number of jurisdictions collective music rights systems are in place. With version 3.0 CC addresses this problem of compulsory contributions to collecting societies. In the older licensing versions the right to collect royalties had to be waived. CC has now acknowledged that this is not possible to do so in those jurisdictions where there are statutory or compulsory licensing schemes. Whilst this amendment addresses the problem of musicians having to compulsory join a collection society and still wanting to publish their work under a CC licence, it does not directly address the problem of a licensor intending to charge licence fees and/or royalties. CC licences as such therefore seem to be effectively only suitable for organisations that intend to make the datasets available free of charge. However, if PSGI is made available for dissemination costs, then one does not pay for the actual dataset. Rather, one pays a compensation for setting up and maintaining a web service, cost of DVD, or postal charges. In that case we hold the opinion that a CC licence can be used for PSGI as long as it is clear that the data itself is free and one only pays for the costs of dissemination. However, much European PSGI is available at a price exceeding the marginal cost of dissemination. In these instances, CC cannot be applied.

§ 3.4.5 Liability

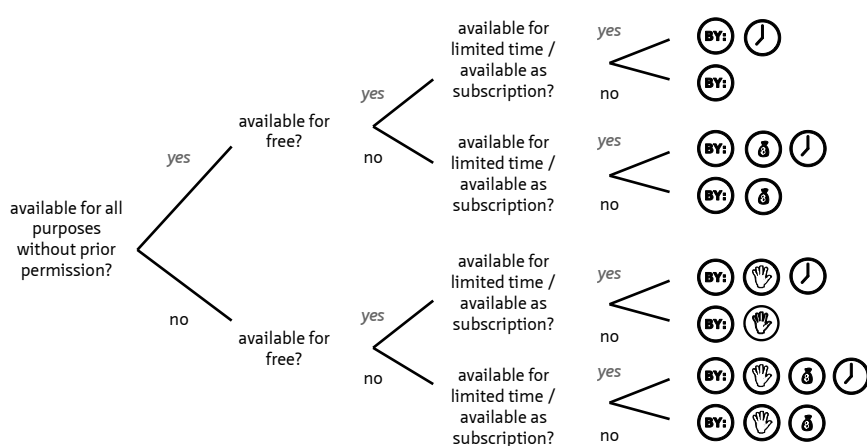
Geo datasets incur a different liability regime than most other data. Suppose a company is commissioned by a municipality to produce a road system for a new housing development. Afterwards it turns out there is a mistake in the dataset because two street names were switched. The municipality suffers losses because they have used the dataset to produce a new street plan and have already distributed 10,000

copies. Others may suffer losses as well because of this mistake. What if one of the residents suffers a heart attack and dies because the ambulance was delayed due to the street name mix-up? Can his relatives claim damages? (van Loenen *et al.*, 2006).

We will not go into the legal details of liability here as liability regimes differ in Europe. In general though, in the Netherlands, if a public sector organisation makes (geographic) data available for reuse by third parties, the datasets should be accurate and exhaustive enough to carry out the original public task (van Loenen *et al.*, 2006). The metadata should display the original use of the dataset. Potential users of the dataset can determine if the dataset is suitable for the intended (re)use by inspecting the supplied metadata. However, although INSPIRE will prescribe metadata standards, in practice metadata is poorly maintained, especially for older GI and non-GI PSI. In the CC licences v3.0, works are offered 'as-is' unless mutually agreed by parties in writing. So, if the metadata is incomplete, liability will remain a problem as the licensee does not have enough information to determine the suitability of the data. Furthermore, consumer protection legislation might prevent the use of a total disclaimer. In the Netherlands, for example, disclaiming liability for gross negligence is not allowed in general conditions between companies and consumers (it is on the so-called black list). The Dutch CC licence allows for such legal provisions at the end of article 6.

§ 3.4.6 In summary

This means that – apart from a public domain licence – in effect only one out of the six CC licences can be considered for supplying PSGI, namely the CC-BY licence. This conclusion corresponds with the conclusions of research carried out about the suitability of CC-licences for public sector information in general (van Eechoud and van der Wal, 2008). Nevertheless, with the additional symbols as shown in Figure 3.1, most of the current PSGI policies would be covered. However, when changes are to be made to the original CC model, the name 'Creative Commons' can no longer be used. The name 'Geo Shared' is more applicable to an adapted model. Geo Commons seems more obvious as a moniker, but is not so suitable. The name Commons implies communal use – that is, prior permission for use does not have to be sought before the GI is used. This may be misleading, hence the name Geo Shared.







-  = **Attribution.** Others may copy, distribute, display, and perform the copyrighted work - and derive works based upon it - but only if they give credit the way rightholder request.
-  = **Permission in advance.** Data and/or derivative products may only be made available to third parties after obtaining permission from right holder in advance.
-  = **Costs.** The user is required to pay licence fees and/or royalties for the use of the data/information.
-  = **Limited period.** The Data and/or derivative products is available for a limited period, see full licence for exact period

FIGURE 3.1 Geo Shared licences

§ 3.5 Geo Shared licenses








Although CC licences are considered for PSGI in Queensland (Australia) (QSIC, 2007; QSIO, 2006) and are successfully used in the Netherlands for the New Map of the Netherlands, available at no cost, the analysis of licences currently available for PSGI in Europe shows that a one-to-one translation into CC licences is not possible (see Table 3.3). The first difference – formal licences – can be solved by online registration and password-controlled entry procedures. Many organisations which supply GI already use online registration forms and password-controlled entry procedures. The second difference does not pose a problem either as it can be included in the legal code. To make this condition clearer on the common deed, the non-commercial use symbol could be replaced with another symbol. The third difference could be overcome by including an extra symbol to indicate the difference between free or fee-based data. To indicate the last difference, another symbol could be included on the common deed.

However, it is debatable if this is necessary. A lot of GI dates quickly, having most of its value in the degree to which it is up-to-date.

By adapting the existing schema for CC with additional symbols, we can no longer use the name Creative Commons. Therefore, we will refer to the new schema as Geo Shared licences. This would be in line with the recommendations of the National Research Council (2004).

The licence conditions are reduced to the following terms:

- 1 Others may use your data as long as they credit you for the original creation the way you request it.
- 2 Others may use, copy, display and distribute your data – and derivative products based upon it – either for commercial or non-commercial purposes, but only after they have contacted you in advance the way you request it (prior permission).
- 3 The data are available for an upfront fee and/or attracts royalties payable (fee-based).
- 4 The data are only available for a limited period, either on a subscription basis or data to be returned after a specified period (time limit).

LICENCE TYPE	ICONS	LICENCE CONDITIONS
Attribution		This license lets others copy, build upon and distribute the data without prior permission, as long as they credit the rightholder for the original creation.
Attribution Time Limit		This license lets others copy, build upon and distribute the data without prior permission, as long as they credit the rightholder for the original creation. The data are only available for a limited period.
Attribution Fee-based		This license lets others copy, build upon and distribute the data without prior permission, as long as they credit the rightholder for the original creation. The data incur upfront fees and/or royalties payable.
Attribution Time Limit Fee-based		This license lets others copy, build upon and distribute the data without prior permission, as long as they credit the rightholder for the original creation. The data incur upfront fees and/or royalties payable. The data are only available for a limited period.
Attribution Prior Permission		This license lets others copy, build upon and distribute the data only after prior permission. The rightholder must be credited for the original creation.
Attribution Prior Permission Time Limit		This license lets others copy, build upon and distribute the data only after prior permission. The rightholder must be credited for the original creation. The work is only available for a limited period.
Attribution Prior Permission Fee-based		This license lets others copy, build upon and distribute the data only after prior permission. The rightholder must be credited for the original creation. The work incurs upfront fees and/or royalties payable.


Attribution Prior Permission Fee-based Time Limit		This license lets others copy, build upon and distribute the data only after prior permission. The rightholder must be credited for the original creation. The work is only available for a limited period. The work incurs upfront fees and/or royalties payable.
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Table 3.3 Geo shared licence framework

§ 3.6 Conclusion

Only if the restrictive reuse conditions and financial issues have been resolved is value-added use expected to thrive. Until that very moment, the introduction of a CC inspired concept such as the Geo Shared concept in the world of GI may help to increase the transparency and consistency of licence agreements, especially when combining data from different sources. Although CC licences are not suitable for all types of GI licences, they do provide a tool to review the current PSGI licences. Both CC and Geo Shared licence categories provide a way to review and categorise current licences. The Geo Shared licensing concept also enables the harmonisation of fee-based datasets. Using symbols in a layman's version of licence agreements makes it easier for users to identify datasets suited to specific purposes. Uniform and legible licence agreements would certainly help to make the whole process more transparent, especially when combining datasets from different suppliers. In this way, the Geo Shared concept is a valuable contribution to the development of many geographic information infrastructures around the world, including INSPIRE. Therefore Geo Shared licences should also be considered as a serious option within INSPIRE as one concept of transparent harmonised licences for geographic information as a key for the utilisation of the geographic information infrastructure in Europe. To the same end, other nations across the globe may take advantage of the Geo Shared concept by harmonising existing licence conditions of PSGI. Ultimately, this may result in a standard set of licences for PSGI providing the consistency and transparency required by value-added resellers.

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ABBREVIATIONS

CC	Creative Commons
CLA	Collective Licence Agreement
FDL	Free Documentation Licence
GI(I)	Geographic Information (Infrastructure)
HMLR	Her Majesty Land Registry
INSPIRE	Infrastructure for Spatial Information in Europe
IPR	Intellectual Property Rights
MSA	Mapping Services Agreement
ND	Norge Digitalt (Norwegian Geographic Information Infrastructure)
NE	Norsk Eiendomsinformasjon (Norwegian GI One-Stop Shop)
NRC	National Research Council
NRW	North Rhine Westphalia (German State)
OS	Ordnance Survey (United Kingdom)
PS(G)I	Public Sector (Geographic) Information
SDI	Spatial Data Infrastructure
SK	Statens Kartverk (Norwegian Mapping and Cadastre Authority)
UKHO	United Kingdom Hydrographic Office
VAR	Value Added Reseller
Wob	Wet openbaarheid van bestuur (Dutch Freedom of Information Act)

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