

Study in support of the evaluation of Directive 96/9/EC on the legal protection of databases

FINAL REPORT

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Abstract

The 1996 Directive on the legal protection of databases (Database Directive) aims at supporting the development of the European database industry. It created a sui generis right protecting investments of database makers, regardless of the originality of databases, and harmonised copyright law applicable to the original databases. This study investigates whether the Database Directive fulfils its objectives, especially in the current context of the fast-growing data economy, and whether, and if so how, it should be revised that it has the expected positive impacts on businesses and database availability.

Relevant information was gathered from a wide range of stakeholders, including database users, makers and user-makers. Legal experts in the field of database protection additionally have been consulted through in-depth interviews to ensure that the evaluation is built on solid knowledge and experience. The results of a targeted online survey, as well as the European Commission Public Consultation, contributed to building up the evidence of the study. The consultation of the legal practitioners complements the legal analysis and desk research.

The Study takes into consideration the principles of better regulation, which requires an evaluation of whether legislative measures have achieved their stated objectives effectively and efficiently, whether they are relevant and coherent, and whether there is any European added value.

Executive summary

Objectives of the Study

The Directive 96/9/EC on the legal protection of databases (hereafter Database Directive) pursues three objectives: the harmonisation of database protection across the Member States of the European Union, the promotion of investment in the production of databases with a view of fostering the international competitiveness of the European digital industry, and the safeguard of the balance of interests between database users and database makers. The protection of the intellectual creativity embodied in databases is provided through copyright (Article 3), while investment in the collection, verification and presentation of the contents of database are protected via a sui generis right, which allows the database maker to prevent any extraction and/or re-utilisation of substantial parts of those contents (Article 7).

A first evaluation of the Database Directive was conducted in 2005. The current study aimed to collect facts and evidence on the impact of the Database Directive, so that the European Commission can determine, in the context of a new REFIT evaluation, whether the Directive still fulfils its policy goals and whether it is useful in view of the most recent technological developments and the emerging data economy.

In the current context, it seems that the Database Directive does not apply to the databases generated with the means of machines, sensors and other new technologies (such as the Internet of Things or artificial intelligence). In fact, the generation of these databases is closely interlinked with the creation of their content (i.e. data). However, case law indisputably excludes investments in data creation from the scope of the sui generis right. The Study nevertheless explores what the impacts of a reversing jurisprudence would be. A legal and economic analysis helps determine whether these newly generated databases would need protection, if so, whether the current sui generis right and database copyright would be sufficient, and whether the Database Directive would contribute to the competitiveness of the European companies in the current context of the fast-growing data economy.

An online survey, in-depth interviews with database users, makers and experts, and a workshop, in addition to the public consultation conducted by the European Commission, provided the evidence that inform the economic and legal analyses of the outputs, outcomes and impacts of the Database Directive. The current study also examines the Database Directive in the context of the broader data economy and the Data Economy Package.

Considerations on the performance of the Database Directive in relation to its objectives

The effectiveness of the sui generis right, as a means to stimulate investment on databases, remains unproven and still highly contested. In consequence, highly vocal stakeholders and commentators have proposed its abolition.

However, most of the database makers who participated in the workshop organised in the context of the Study reported that it is an effective means to

protect databases which is often used alongside other means of protection, such as contractual terms, copyright and technological measures.

The legal analysis reveals nevertheless that a number of provisions in the Database Directive are unclear. The views of stakeholders as to how they might be changed are highly polarised. These provisions relate to the notion of 'substantial' investment; the protection of investment in obtaining, verification or presentation of data (as opposed to investment in data creation); the concepts of 'substantial' and 'insubstantial' extraction and re-utilisation; the articles 8(2) and 8(3) relative to the rights and obligations of lawful user; and, the term of protection (the makers favouring a term longer than 15 years, while users arguing that it is currently too long and not adapted with the new technologies).

Like other intellectual property rights, the sui generis right raises the issue of ensuring a balance between the interests of database makers and those of users. Some academic experts argue that the sui generis right provides a better balance than contractual terms, as the latter are often used to limit the rights of lawful users. This opinion is not shared by database users and producers of databases meant to be publicly accessible, who claimed that the sui generis hampers the free flow of data.

Even though all types of stakeholders find benefits in the use of contracts to protect databases (either to complement or waive the sui generis right), most consider that the *Ryanair* case has a negative impact – though yet barely perceptible. They consequently call for reversing the *Ryanair* case. Database users and experts argue indeed that this case law affects the balance between the interests of database makers and those of database users and that it may, for instance, prevent the re-use of data for scientific purposes.

Analysis of the costs and benefits induced by the Database Directive

The costs and benefits of the Database Directive are mainly evaluated based on the responses to the dedicated questions in the Study survey. Each category of stakeholders was asked about the costs and benefits experienced from the sui generis right.

- Database users have experienced rather low economic costs and moderate legal benefits mostly related to increased certainty as to the legality of use of databases (leading to a reduction of legal costs);
- Database user-makers experienced very low benefits from the sui generis right and mostly in relation to better legal certainty. Similarly, they incurred only low economic costs;
- Database makers represent the category of stakeholders for whom the sui generis right induced the most benefits. These benefits consist mainly of improved legal certainty and better protection of databases against their unauthorised use by third parties. Around one third of respondents did not experience any additional cost from the sui generis right.

In conclusion, most stakeholders have experienced low, if any, benefits from the Database Directive except in terms of improved legal certainty. However, the associated costs have not been significant either. The Database Directive could therefore be assessed as providing a relatively good cost/benefit outcome for the consulted stakeholders. The cost/benefit impact of the Directive in the broader data economy context remains nevertheless unknown.

Furthermore, the influence of the sui generis right, at the macroeconomic level, on levels in investments and on European competitiveness is similarly, hardly measurable. From the responses to the survey, it appears that the sui generis right did not have a positive effect on the decision of database makers to invest in the collection and generation of data, in setting up databases or verifying their content. A large share of database users who answered the questionnaire are still unaware or unfamiliar with the Database Directive and may not behave accordingly. This lack of familiarity may lead to unintentional infringement of the sui generis right and copyright. Because database makers have consequently no guarantee that these means of protection will, in consequence, effectively prevent extraction and/or re-utilisation of substantial parts of their database content, many of them are reluctant to make the necessary investments to benefit from them.

The Database Directive in the current legal and economic contexts

Stakeholders do not agree on the overall consistency between the different means of database protection. For some, especially among commercial publishers, the sui generis right is valuable and should therefore be retained, as it is preferable to the 'patchwork' approach that they have to take to protect their investments outside the European Union. However, in contrast, many database users, including library and archives, and public sector and community-driven database producers consider the sui generis right as an additional and unnecessary layer of protection.

The legal analysis highlights the need for harmonisation between the sui generis right and unfair competition law, as the Unfair Commercial Practices Directive is not enough in this respect. Furthermore, many national courts do not apply the spirit of the Database Directive by allowing the cumulation of the sui generis right with legal protection against parasitism (and free riding).

Concerns were raised about the Database Directive providing an outdated legal framework that is no longer in line with the last technological developments and with the new activities of the database industry. Participants in the workshop organised in the context of the Study reported, for instance, that the provisions of the Database Directive do not account for the following developments: extended and intensive use of the internet and increasing economic value of data; distinction between efforts devoted to different database-related tasks (e.g. data creation, collection, arrangement, update, maintenance, publication); aggregation of data and big data; automatic data generation; and advanced computational methods for analysis, information and decision making. However, the *Fixtures Marketing* and *British Horseracing Board* decisions of 2004 address in a way the problem of data thereby generated and their consequence on competition by excluding investments in data creation from the scope of the protection under the sui generis right and therefore avoid 'sole source data situations'. It is unclear whether such data can also be said to be recorded and the status of recorded data is unclear under these decisions. Therefore, a clarification of the status of recorded data would be welcome.

The protection of investments in data creation is a point of disagreement between the different stakeholders. While database makers want to have such investments protected, users do not want any change to the European case law that includes investments in creation of data within the scope of the sui generis

right. This issue should draw even more the attention of the European Commission, as the recent changes in the database industry increased its relevance. Indeed, the development of the open source model has led to a shift of investments for the creation of database to investments in the data collection and curation tasks. The legal analysis, however, does not contend that the distinction between data creation and data collection is legally problematic enough to be revised and abandoned. On the contrary, it is increasingly important in the broader data economy context where much data is generated and should remain outside the protection of the Database Directive.

The Internet of Things, Artificial Intelligence, algorithm- and sensor-generated data, Big Data are all gaining increasing economic importance. It is nevertheless unclear how they are regulated, e.g. whether the current definition of a database embraces them, and, even more importantly, whether they should benefit from protection under the sui generis right. These new technologies indeed raise questions as regards to who makes and who owns the database, and what 'substantial' investments are. The views are in this respect very polarised: database makers wish a protection for these new types of data and databases, whereas users and user-makers call for a right to access to the data. There are additional concerns that the Database Directive provides an extra layer of security and complexity that would prevent European actors from grasping the opportunities of new developments offered by text and data mining for instance. However, this may be soon resolved by the introduction of a text-and-data mining exception in the Proposal of 2016 for a Directive on copyright in the Digital Single Market (COM(2016) 593 final).

The interactions of the Database Directive with other means of database protection and the latest technological developments

While harmonisation of database protection across EU countries is considered one of the main benefits of the Database Directive, the legal analysis reveals that its provisions could better align with those of other Directives (including those on Information Society and Re-Use of Public Sector Information) relevant on the same topic.

There is still a lack of clarity, among stakeholders and in the literature, as regards to whether the sui generis right applies to publicly-funded databases. Most of them are in favour of excluding these databases from the scope of the sui generis right. Similarly, problems of coherence also appear with open access policies and also with unfair competition law.

The provisions of the Database Directive and the Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society diverge on several aspects. For instance, the exceptions to copyright for databases are different from those to copyright in other works. In consequence, experts and stakeholders are calling for harmonisation, even though most of the EU Member States have not adopted special definitions of rights for databases choosing merely to apply the general copyright rules. In addition to aligning exceptions, improved coherence might be achieved in addition by aligning the definitions of rights ('reproduction' and 'distribution') with those in Articles 2-4 of the Information Society Directive (and thus making explicit the 'making available right').

The latest technological developments raised a number of questions in relation to their interaction with the Database Directive. For instance, it is still uncertain whether the Directive applies to the sensor- or machine-generated databases. The *Fixtures* Marketing decision of the CJEU helps rule out the application of the sui generis right to sole source databases by making the distinction between investments in data creation (non-eligible for protection) and investments in data collection (eligible for protection). However, some commentators raise doubt as to the ability of this case law to prevent all potential occurrences, especially due to the latest technological advancements, of sole source databases and therefore monopolistic situations. They therefore suggest revising the current regime of database protection with the introduction of compulsory licensing. The ultimate objective of any revisions being to provide database makers with the protection they need to grasp fully the opportunities of development in the context of the fast-growing data economy.

Importance of a legal protection of databases at the European level

The harmonisation of the legal protection of databases across the EU Member States is regarded as one of the main (positive) contribution of the Database Directive. The cross-country differences that remain in its application is nevertheless considered negatively, but, according to the response to the online questionnaire, they have not had any significant impact on the activities of concerned businesses.

Stakeholders had various experiences with the concept of database maker, so that there is no clear picture of whether it would deserve to be clarified or not. However, national interpretations of the concept vary, which may justify an intervention at the European level for better harmonisation.

Even though experts claimed that the Database Directive has achieved a harmonisation of the originality standard for copyright protection of databases across the EU Member States, there is evidence that the national courts are still uncertain on how to apply it.

The concepts of copyright 'authorship' and 'ownership' do not seem to have created major problems with their application. However, different national rules still co-exist, which may justify an intervention of the European Commission for further harmonisation in this respect.

Possible reforms

Considering the evidenced limited positive effects of the Database Directive, the European Commission should not overlook its abolition. Such a decision may not render the situation more legally uncertain than it is currently.

Nevertheless, if the European Commission decides on keeping the Database Directive, it may consider amending it, such that it contributes better to the achievement of its objectives in the current legal and economic context.

The definition of a database given by the Database Directive does not cause problems to most stakeholders. However, its clarity could be improved. An amendment in this Directive will need to consider whether or not the scope of the definition should be narrowed, especially in the context of the data economy and the Data Economy Package. The European Commission may nevertheless

consider accompany such a change with revisions to other provisions: a wider definition with tighter provisions, or a narrower definition with restricted contractual freedoms.

The notion of 'substantial' investment is one of the most problematic provisions of the Database Directive, with polarised positions among stakeholders. Any amendment to this provision would need to be in line with its rationale: that is, to limit the protection of databases to those databases that would not be produced in the absence of legal protection. Therefore, the problem with the substantiality threshold is not that it exists, but where it lies and the associated uncertainty. In consequence, were the European Commission decide to amend the Database Directive, it may be recommended to consider identifying shared standards in this respect and thereby instilling legal certainty.

Similarly, most stakeholders find that the concepts of 'substantial' and 'insubstantial' extraction and re-utilisation leading to infringement of sui generis right are not clear enough. The uncertainty surrounding the related threshold may justify an extension of the exceptions regime (in Article 9), which would furthermore gain more sense and would be more effective in creating a level playing field if they were mandatory. The European Commission may additionally want to consider aligning the exceptions listed in the Database Directive with those in the Information Society Directive (Article 5).

The European Commission may want to consider in this regard shortening the term of protection to five years and allow renewal of the protection *ad infinitum*, as long as registration and deposit are required. Database users would be guaranteed the access to the deposit of the old databases that were made publicly available.

There is a lack of clarity regarding whether the sui generis right can be waived in a *CCO license* or any contract for that matter. The Database Directive could therefore be revised to include such provision and provide a mechanism for waiving the sui generis right in order to avoid problems with interoperability between licences.

An important issue related to the overall coherence of the Database Directive is the harmonisation of the sui generis right with unfair competition. The European Commission may either want to consider keeping this means of database protection but state in the Database Directive that it replaces slavish imitation/parasitism. Alternatively, the sui generis right might be abolished and the slavish imitation/parasitism harmonised. The latter option may however be costlier than the former, because of the high variation of national interpretations of slavish imitation/parasitism.

An amendment to the Database Directive for avoiding the sui generis right being merely an additional and unnecessary layer of database protection is the introduction of a registration requirement. The database makers who seek protection via the sui generis right would thereby make clear that they are claiming such a right. The European Commission may want to consider such an amendment, as it could meet concerns about uncertainty and lack of information, as well as ensuring that the sui generis right is better targeted (towards its primary objective) so that it is available only to those who need it. However, to the extent that many stakeholders and experts involved in the study did not

have views about this option, it would be useful to develop further the models of registration and notice that might be used, and further explore the advantages and disadvantages of each.

The exclusion of investments in data creation from the protection via the *sui generis* right by the Court of Justice of the European Union (CJEU) in its *Fixtures Marketing* and *British Horseracing Board* decisions may be interpreted as a way to avoid 'sole source data situations', likely to lead to monopolistic positions. However, the emergence and increasing economic importance of big data and sensor- and machine-produced data renew concerns with the effect of the Database Directive on competition, as the aforementioned case law may not provide a sufficient solution in this respect. The European Commission may therefore want to continue tracking the effects of the Database Directive on competition and to consider again the introduction of 'compulsory licensing' requiring the owners of exclusive rights to offer, in circumstances to be specified, licences that will permit third parties to carry out acts falling within the exclusive right.

In conclusion, the rapid and ongoing technological changes raise a number of legal questions that would become particularly problematic if the current case law excluding machine- and sensor-generated databases from the scope of the *sui generis* right is reversed. The notions of database maker, database owner and substantial investments and the status of recorded and created data would need to be clarified. If the European Commission decides to amend the Database Directive to provide here answers, it may want to consider carefully which options are the most appropriate to keep ensuring and improving the competitiveness of the European (digital) industries while safeguarding the balance between the respective interests of database users and database makers.

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1 Introduction

This report constitutes the final deliverable of the “Evaluation of Directive 96/9/EC on the legal protection” study SMART 2017/0084, carried out for the European Commission, DG Communication Networks, Content and Technology.

The Directive 96/9/EC on the legal protection of databases (hereafter Database Directive) pursues three objectives: the harmonisation of database protection across the Member States of the European Union, and the promotion of investment in the production of databases with a view of fostering the international competitiveness of the European digital industry. The protection of the intellectual creativity embodied in databases is provided through copyright (Article 3), while investment in the collection, verification and presentation of the contents of databases are protected via a *sui generis* right, which allows the database maker to prevent any extraction and/or re-utilisation of substantial parts of those contents (Article 7).

The current Study aims to collect facts and evidence on the impacts of the Database Directive, so that the European Commission can determine, in the context of a new REFIT evaluation, whether the Directive stills fulfils its policy goals and whether it is still applicable in view of the most recent technological developments and the emerging data economy. It pays particular attention to the influence of the currently fast-growing data economy on the Database Directive and its provisions. Generation of data has accelerated at an unprecedented speed. Big data, which rely notably on the increased penetration of interconnected sensors and devices in household, companies and public spaces, already have significant implications for the economy and society. For instance, even though microeconomic evidence is still scarce, it appears that the use of big data has a positive effect on labour productivity.¹ The businesses models of companies evolve (e.g. servitisation of the manufacturing activities) and rely extensively on the production and access to data. In parallel, a continuing uptake of connected devices is foreseen: from 1 million in 2016 to 14 billion by 2022 in OECD countries.² This increasing penetration could improve the delivery of services and is already encouraged in initiatives, e.g. for healthy ageing (like the Active and Assisted Living Programme). In consequence, it could be asserted that policymakers may consider supporting the development of the data economy for contributing to the competitiveness of European industries and the potential improvement of European citizens' quality of life. It should be investigated whether the Database Directive is still relevant in such a context, i.e. whether it provides protection to databases that is appropriate and contributes to the achievement of the objectives of the Directive. While the European Commission is putting emphasis on the free flow of data as part of its initiative for building a European Data Economy, the place and role of the Database Directive in the series of planned actions should be determined.

An online survey, in-depth interviews with database users, makers and experts, and a workshop, in addition to the public consultation conducted by the European Commission, provided the empirical evidence for the economic and legal analyses of the outputs, outcomes and impacts of the Database Directive in

¹ OECD (2017) *OECD Digital Economy Outlook 2017*, OECD Publishing: Paris.

² OECD (2015) *OECD Digital Economy Outlook 2015*, OECD Publishing: Paris.

regard to its rationales and the needs that it aimed at satisfying. More specifically, the Study investigated the effectiveness, efficiency, relevance, coherence and added value of the Database Directive.

The online survey consists of two questionnaires launched in October 2017 targeting database users, makers and user-makers, and experts. In addition to questions about their database-related activities, the former category of respondents was asked about their familiarity with the *sui generis* right, their use of it, the difficulties they have encountered in this respect, the costs and benefits they have experienced from the Database Directive, and their opinions on proposed amendments. While the questionnaire for database users, makers and user-makers focused on their respective and personal experience, experts responded to questions on the overall characteristics and impacts of the *sui generis* right and possible ways to improve the Database Directive. In total, 145 database users, makers and user-makers and 92 experts responded to the survey. Although the sample includes different kinds of stakeholders, it should not be considered as representative of the entire population of database stakeholders and its results should be considered carefully.

In-depth (semi-structured) interviews were conducted with a view to complete and elaborate on the findings of the online survey and the Public Consultation that the European Commission conducted between May and August 2017. Database users, makers and user-makers were asked to share their experience with and their opinion on the Database Directive in order to determine whether it still fulfils its policy goals and whether it is still adapted to the latest developments of data- and database-related technologies and business models. In total, 12 interviews were conducted with database users, makers and user-makers between November 2017 and January 2018. Additional seven experts (academic researcher and/or legal practitioner) were interviewed with the same objective to elaborate on the findings from the expert questionnaire. Moreover, national experts were asked to provide insights on the ways the Database Directive had been transposed, implemented and understood in the different EU Member States.

On Tuesday 21st November 2017, the Study Team organised a one-day workshop in order, firstly, to collect further evidence on the impacts that the Database Directive has had on the database users and/or makers; and, secondly, to discuss the preliminary analyses made based on the evidence already collected. In total, 25 representatives of either database makers, users and user-makers attended the workshop and were asked to reflect on (1) the means of database protection (comparing the *sui generis* right with the other existing ones), (2) the economic impacts and (3) the future of the Database Directive. For that purpose, the participants were divided in small groups. During the first session, the composition of these groups had been made randomly, as it consisted of an open discussion aimed at identifying the main issues related to the three aforementioned topics. During the second session, the participants were divided in three groups in accordance with the nature of their database-related activities: commercial publishers, commercial sectors other than publishing, and open access and public interest stakeholders. They were then asked to reflect on and possibly find consensus among themselves regarding the outcomes of the previous session discussions and to rank issues that had been identified.

Based on the evidence and information thereby collected and desk research, the Study Team completed an analysis of the provisions of the Directive, their economic impacts on the production and use of databases, and the way in which they have been implemented and understood across EU Member States. The Study also considered the latest technological developments that have had an impact on the digital industry and the data economy, such as the Internet of Things, the development of sensor technologies, Big Data, and artificial intelligence.

Finally, the European Commission has implemented Directives and has been pursuing actions with direct impacts on the legal protection of database, e.g. the Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society (Information Society Directive), the Directive on the re-use of public sector information (PSI Directive), and the Data Economy Package. The issue of the coherence of the Database Directive with the wider EU legal framework is consequently gaining increasing importance.

With these changes in mind, the Study Team has been collecting relevant evidence on the Database Directive and its legal and economic impacts, which will help the European Commission make informed and evidence-based decisions in this respect.

The Final Report is structured as follows. Section 2 investigates whether the Database Directive still contributes to the achievement of its objectives and rationales. Section 3 makes a cost/benefit analysis of the Directive. In Section 4, the relevance of the Database Directive is explored, taking into account the latest technological developments and related developments in the European digital economy. Section 5 poses the question of its interactions with the other directives and policy interventions that concern access, production and legal protection of databases. The harmonisation across the EU Member States achieved by the Database Directive is finally investigated in Section 6. Section 7 presents the conclusions of the Study.

2 Considerations on the performance of the Database Directive in relation to its objectives

2.1 To what extent have the provisions of the Database Directive achieved their objective to protect a wide variety of databases?

Whereas Recital 12 of the Database Directive establishes the goal of creating “a stable and uniform legal protection regime [...] for the protection of the rights of makers of databases”, with a view to incentivising investment “in advanced information processing systems” (Recital 10), Recital 10 highlights the desirability of such investment in “all sectors of commerce and industry”. As a result, the Directive adopted a broad, technologically-neutral, definition of “database” in Article 1(2) and Recital 17. There are no limits in terms of the types of subject matter, nor the characteristics of the author or maker.

Desk research reveals that the Database Directive is indeed applicable, and has been used, across a broad range of fields. However, such broad definition generates uncertainties on the provisions of the sui generis right, especially on the notion of substantial investment. The Directive does not indicate the level of investment for a database to qualify as protected. Therefore, the term “substantial” can be interpreted strictly or broadly and it leads to uncertainty.³ The majority of the participants in the public consultation, interviews, questionnaires and workshop find that the notion of substantial investment is not clear.

2.1.1 Protection of a wide range of databases

Article 1 clarifies that the protection in the Database Directive applies to databases “in any form”. The literature agreed that ‘any form’ means analogue or digital format and includes any potential future format.⁴ Accordingly, databases published on paper as well as electronic databases accessible online and on hard copies such as CD-ROMs are included within the scope of protection. The Court of Justice of the European Union (CJEU) confirmed that the definition of a database is broad and was meant to be.⁵ Protection therefore subsists irrelevant of the medium.

Article 1(2) defines “database” as “a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means.”

³ See e.g. M. Leistner, ‘Legal protection for the database maker: Initial experience from a German point of view’ (2002) IIC 957; Sanks, 998; Pollaud-Dulian, 540. For more references, see Derclaye, 2008a, 75.

⁴ This had been expressed by several commentators e.g. W. Cornish, ‘European Community Directive on database protection’, (1996) Columbia-VLA Journal of Law & the Arts, 21, 4; M. Lehmann, ‘The European Database Directive and its implementation into German law’, (1998) International Review of Intellectual Property and Competition Law, 776; M. Davison, The Legal Protection of Databases, CUP, Cambridge, 2003, 70–73; T. Cook, ‘The current status of the EC Database Directive’, (1995) Copyright World, 52, 28; F. Pollaud-Dulian, ‘Brèves remarques sur la directive du 11 mars 1996 concernant la protection juridique des bases de données’, (1996) D. Aff., n° 18, 540; I. Stamatoudi, ‘The EU Database Directive: Reconceptualising copyright and retracing the future of the sui generis right’, (1997) Hellenic Review of International Law, 50, 441. For more literature, see E. Derclaye, *The Legal Protection of Databases. A Comparative Analysis*, Edward Elgar, Cheltenham, UK and Northampton, MA, USA, 2008a, 54.

⁵ Case C-444/02 Fixtures Marketing Ltd v Organismos Prognostikon Agnon Podosfairou (OPAP) [2004] ECR I-10365, paras 20ff.

A “collection” does not mean a large number of elements.⁶ The absence of such a requirement may overprotect databases as technically a database composed of only two elements could be protected.⁷ However, if Recitals 45, 46 and 47 are taken into account, they should prevent abuses of a dominant position which could result from small but valuable databases.

The Directive does not define ‘independent’ but Recital 17 gives examples of subject matter which are not independent, namely a literary, musical or audiovisual work. The CJEU has interpreted the requirement of independence to mean that the materials must be separable from one another without their informative, literary, artistic, musical or other value being affected.⁸ Independent material must have autonomous informative value.⁹ The CJEU ruled that it is irrelevant whether the collection is made up of materials from a source or sources other than the person who constitutes that collection, materials created by that person him/herself or materials falling within both those categories.¹⁰ A collection can therefore be composed of pre-existing materials or materials created by the database maker him/herself (databases which are made wholly of elements created by the database maker are generally called sole-source databases). The concept of autonomous informative value has been interpreted by the CJEU in *Verlag Esterbauer*.¹¹

The CJEU confirmed that the requirement of “systematic or methodical” arrangement requires that there be some technical means such as electronic, electromagnetic or electro-optical processes (as provided in Recital 13) or other means such as an index, a table of contents or a particular plan or method of classification, to allow the retrieval of any independent material contained within the database.¹²

Article 1(3) excludes from the definition of databases computer programs used in the making or operation of databases.¹³ *A contrario*, computer programs and parts of computer programs which are not used in the making or operation of electronic databases can benefit from the sui generis right if they can be classified as databases. Nevertheless, it will be very difficult for any computer program to qualify as a database simply because a program’s elements will almost inevitably not be independent. If an element is withdrawn, the computer program can no longer be understood and/or cannot function.¹⁴

Desk research examining litigation under the Database Directive reveals that litigants have used the regulation in relation to a very wide range of subject matters and fields: the CJEU has considered sports data, legal databases, lists of poems, lists of automobiles, websites selling air travel service and maps; while national case-law has concerned telephone directories, job advertisements, lists

⁶ *OPAP*, para. 24.

⁷ See Derclaye, 2008, 56.

⁸ *OPAP*, paras 29, 32.

⁹ *OPAP*, para. 33.

¹⁰ *OPAP*, para. 25.

¹¹ Case C-490/14, *Freistaat Bayern v Verlag Esterbauer GmbH*, ECLI:EU:C:2015:735.

¹² *OPAP*, para. 30.

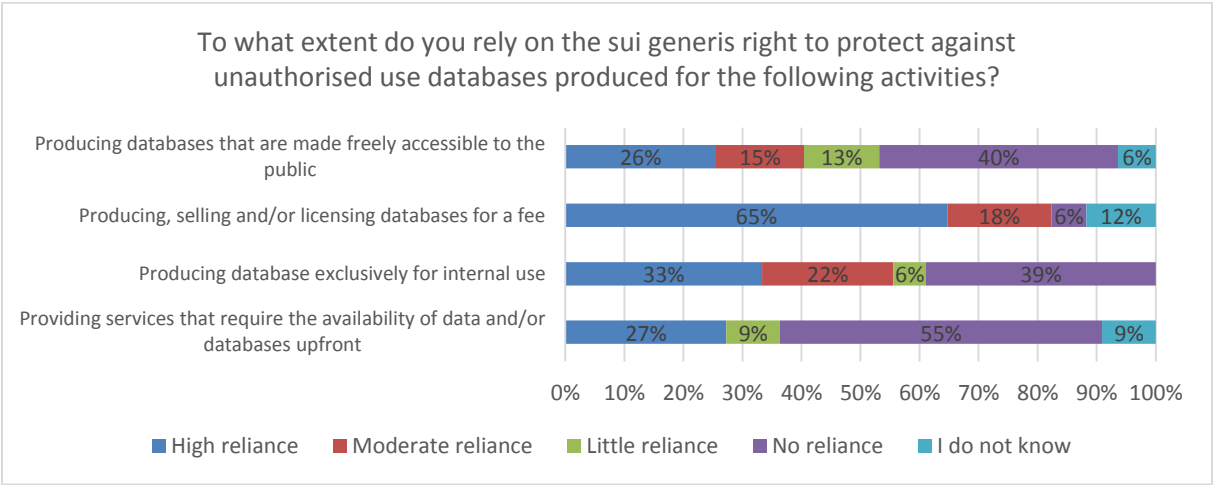
¹³ *Contra*: S. Beutler, ‘The protection of multimedia products through the European Community’s Directive on the legal protection of databases’ (1996), *Ent. LR*, 317, 324–5 (on the basis of Recital 23 only those computer programs protected by copyright are excluded; computer programs used in the making or operation of a database which do not obtain copyright could be protected by the *sui generis right*).

¹⁴ Westkamp, 5.

of email addresses of customers or suppliers, addresses for mobile phones, names and associated data of persons working at doctor practices, lists of recipes, lists of pharmaceutical products and their notices, lists of musical hits, customs tariffs, a motorway toll databank, rankings data from online market places, lists of market data and electrocardiogram analysis systems.

The answers of the survey respondents indicate that makers and user-makers rely on the sui generis right for various kinds of activities in relation with databases. In Figure 1, it can be observed that “the production, selling and licensing of databases for a fee” constitutes the activity for which makers and user-makers rely most on the sui generis right. This is followed by activities consisting in the “production of databases exclusively for internal use, the production of databases that are made freely accessible to the public, and the provision of services that require availability of data/databases upfront” (e.g. e-commerce websites such as airlines, car rentals, etc.).

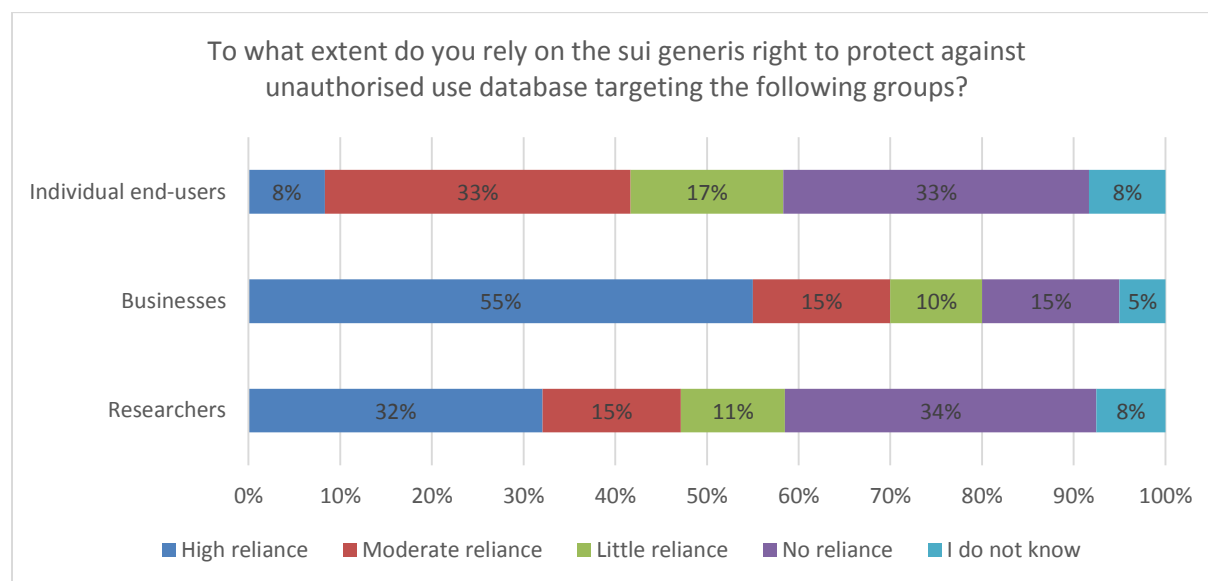
Figure 1 – Reliance on the sui generis right by makers and user-makers with different activities in relation to databases



Source: Survey conducted for this study

As can be observed in Figure 2, surveyed database makers and user-makers rely most on the sui generis right when their target group of users are businesses. It is interesting to observe that the sui generis right is also highly used by 32% of makers and user-makers targeting their databases at the research community. Conversely, the sui generis right is used the least when end users are the targets.

Figure 2 – Reliance on the sui generis right by makers and user-makers according to the target group of their databases



Source: Survey conducted for this study

2.1.2 Substantial investment

Given the breadth of the definition of “*database*”, with respect to the sui generis right, the key criterion for access to protection is the threshold of “substantial investment.” Article 7 elaborates that sui generis right arises where the maker can show “*qualitatively and/or quantitatively a substantial investment in either the obtaining, verification or presentation of the contents.*” Several experts and database stakeholders concurred that “*the definition of investments should be clarified*” and “*what constitutes substantial investment should be explained better*”.

The fact that there is no CJEU decision defining where the threshold of substantial investment lies does not add clarity to the issue.¹⁵ However, some national courts have had to grapple with minimal investments and rejected the sui generis right protection in some cases.¹⁶ Many cases deal with considerable amounts (several thousand pounds or euro and above). In Italy, a quantitative substantial investment is usually determined in accordance with what may be considered the normal investment for a specific sector. In Germany, the threshold for substantial investment is set rather low, in particular by the Federal Court of Justice. In an isolated French decision (Court of Cassation, 19 June 2013, *Réseau fleuri v. L’Agitateur floral*, 12-18.623), an investment which was made over 20 years in the collection, verification and updating of data for two databases (EUR 180 000 and EUR 388 279 respectively for each) was held not to be substantial. In Portugal, there has not been a single case about sui generis right. Of note, the German Supreme Court held that the investment in acquiring

¹⁵ The *Fixtures Marketing* cases, which clarify that investment in “creation” of databases is excluded.

¹⁶ See e.g. *AMC Promotion v CD Publishers Construct Data Verlag GmbH*, T. Com. Paris, 16 February 2001, cited by C. Caron, ‘Liberté d’expression et liberté de la presse contre droit de propriété intellectuelle’, (2002) *Communication Commerce Electronique*, 2, 25 (classifying data alphabetically is not sufficient); *Datenbankeigenschaft von Hyperlinksammlungen*, AC Rostock, 20 February 2001, available on <<http://www.jurpc.de/rechtspr/20020082.htm>> (very simple collections of data are not protected, for example a small private collection of addresses).

a database or in the payment of a licence to use a database does not count for the requirement of a substantial investment.¹⁷ This finding could be more related to the ownership of a database.¹⁸ Commentators are split on the issue but generally, national courts have been generous and granted protection for relatively low-level investments.¹⁹ However, in the national courts, there is generally no dispute on this point as the level of investment is high. In this regard, an interviewed legal expert explained that it is not clear what substantial investment means and how is it to be connected to the company building the database. The Directive could be made more precise by indicating the amount of money and time that would qualify as 'substantial' and including examples. To the best of his knowledge, the notion of 'substantial investment' has not been considered by the Polish courts, as, in most cases to date, it was relatively easy to establish whether investments were substantial or not.

Another interviewed legal expert raised the question whether organising software in such a way as to provide logical structure of the information is to be considered as substantial investment. This was not envisioned at the time of adoption of the Database Directive. These questions were, for instance, asked in the *Innoweb* case.²⁰ It is even more difficult to determine what a substantial investment in general is, as there is not yet a CJEU decision on this.

Workshop participants also agreed that there are a number of definitional issues that need addressing to add clarity to the database regime, especially reformulating the provisions defining the substantial investment. Some publisher participants said that they find it very difficult to define substantiality in investments for the creation of databases and pointed out that – also for linguistic differences between Member States – the adjective 'substantial' can be interpreted differently in the courts of different countries. Some stressed the vagueness of the term 'substantial' and suggested deleting it, in order to make interpretation of the norm easier and more consistent across the European Union. Representatives of commercial publishers proposed, during the same workshop, that the *sui generis* right should not have a substantial investment threshold, due to the difficulty in interpreting the adjective 'substantial'. The group of publishers suggest that Article 7 (Object of protection) may be modified as follows: *Member States shall provide for a right for the maker of a database which shows that there has been a qualitatively and/or quantitatively investment (instead that "a substantial investment") in either the obtaining, verification or presentation of the contents to prevent extraction and/or re-utilisation of the whole or of a substantial part, evaluated qualitatively and/or quantitatively, of the contents of that database.* From their opinions, it could be concluded that clarifying the concept of substantial investment is one of the most urgent measures if the Database Directive is to be revised.

The answers from survey participants reveal that more than 40% of user-makers encounter difficulties to determine whether their databases are protected by the

¹⁷ *Elektronischer Zolitariff*, 30 April 2009 (2009) GRUR 852, reported by von Lewinski, 241. Note that in that case, the claimant had made substantial investment in presenting the data so it benefited from the *sui generis* right.

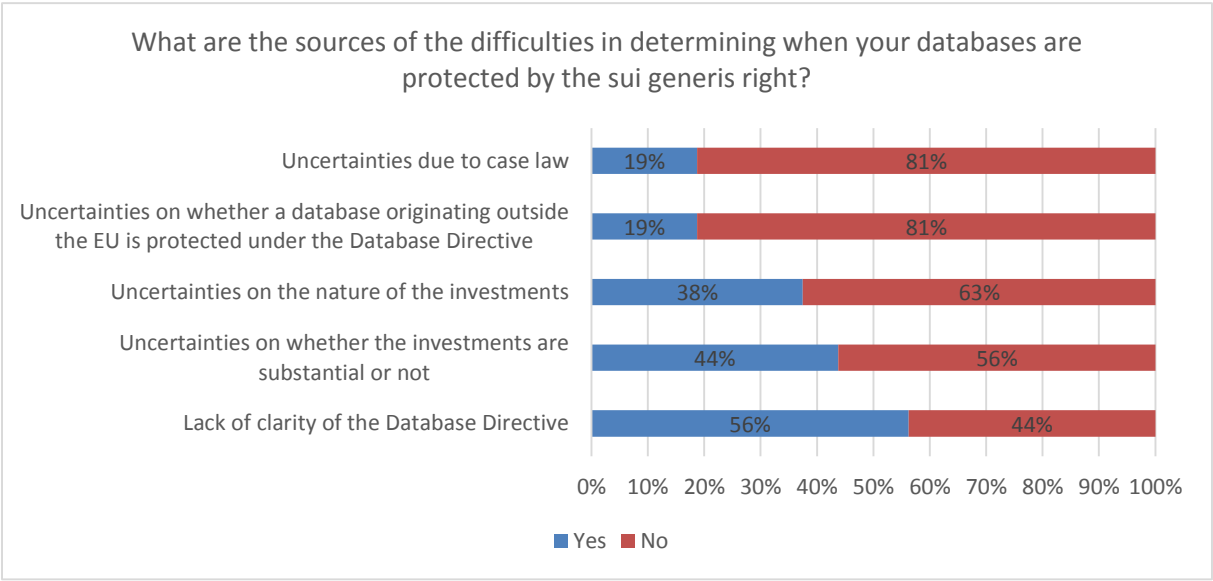
¹⁸ See Annex (legal analysis).

¹⁹ For more details, see Derclaye, 2008a, 76 ff.

²⁰ CJEU (Fifth Chamber), 19 December 2013, *Innoweb BV v Wegener ICT Media BV and Wegener Mediaventions BV*, Case C-202/12.

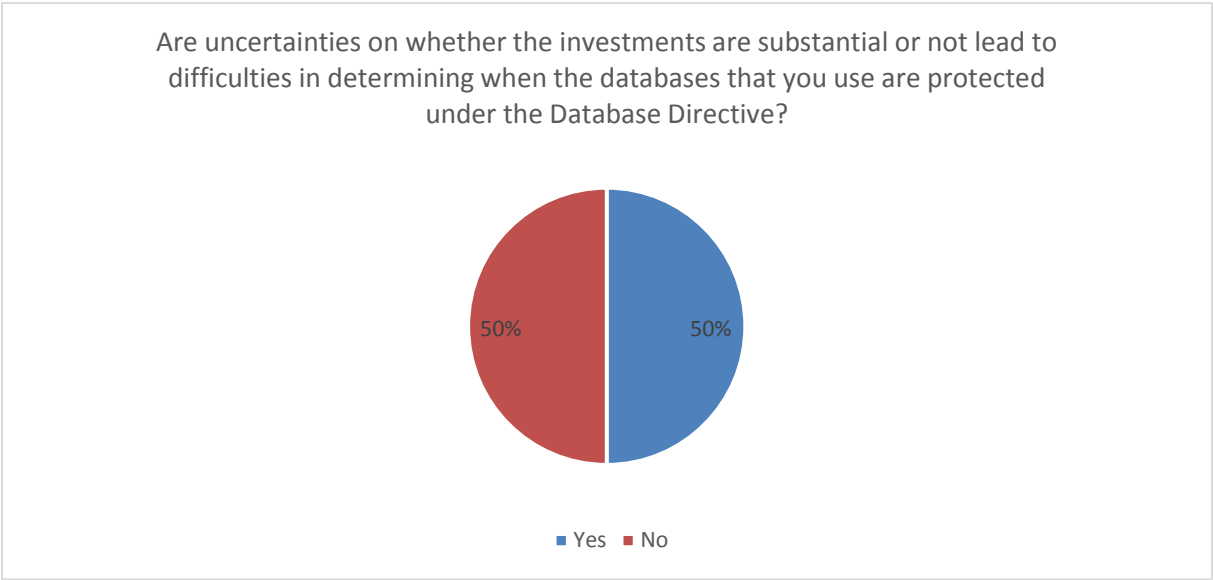
sui generis right (see Figure 3), and 50% of the participating users face such uncertainty with the databases they use (see Figure 4).

Figure 3 – Barriers experienced by database user-makers in determining when databases are protected by the sui generis right



Source: Survey conducted for this study

Figure 4 – Barriers experienced by database users in determining whether databases are protected through copyright or sui generis right



Source: Survey conducted for this study

2.2 Is the objective achieved to ensure a balance between interests of database authors/ makers and interests of lawful users?

Although the main goals of the Database Directive were to harmonise national laws and to create a legal environment that encouraged investment in database production (in the hope of giving the European Union a comparative advantage over competitor economies), those goals were not sought at the expense of

maintaining appropriate freedoms for 'users', who might encompass database makers ('maker-users'), or public, commercial or individual consumers of databases.

Subsequent developments, particularly the Information Society Directive and the Charter, emphasise the importance of balance. As Recital 31 of Directive 2001/29/EC states "*A fair balance of rights and interests between the different categories of rightsholders, as well as between the different categories of rightsholders and users of protected subject-matter must be safeguarded.*" Moreover, since 2009, the Lisbon Charter requires institutions and bodies of the European Union and Member States, when they are implementing European Union law, to give effect to the Charter. That may require balancing rights to intellectual property under Article 17, with rights of free expression under Article 11, freedom of arts under Article 13, rights to education under Article 14, freedom to conduct a business under Article 16, rights of persons with disabilities under Article 26, as well as right to respect for one's private and family life under Article 7. In cases interpreting rights and exceptions to copyright, the CJEU has frequently invoked the Charter to aid interpretation.

Legally, the balance in the Database Directive is sought to be maintained both by ensuring the rights are not too broad, and that "*exceptions and limitations*" are available for certain uses, either where licensing would not occur, or where the general interest outweighs the private interest.

Desk research revealed some uncertainty over the precise rights harmonised in relation to copyright protection of databases (and as explained below, their relationship to similarly worded rights in the Information Society Directive).²¹ More significantly, the analysis of implementation revealed wide variations in exceptions, including the notion of "*lawful user*" in Article 6(1). Through the surveys and the workshop, widespread concern was encountered that the balance embodied in the Directive varied across the European Union, because implementation of the exceptions in Article 6(2) is optional. Moreover, there was significant concern that the exceptions did not go far enough, for example, regarding permitting data mining.

Similarly, concerns were voiced with respect to the sui generis right, but with significantly more intensity. Most especially, there was concern about the very narrow remit of the three exceptions permitted by Article 9 of the Directive. In the survey of Member States, it was discovered that some Member States go beyond the explicitly permitted exceptions: for example, France operates an exception for persons with disabilities, and the Scandinavian countries offer a broad array of copyright-style exceptions. Taking into account the relative success of the Scandinavian countries in database production, there is no reason to think that this broader array of exceptions reduces any effectiveness of the sui generis right in terms of production of incentives. From the Study surveys, workshops and interviews, wide support was found to extend exceptions and limitations to sui generis right. One common sentiment was that they should replicate the exceptions in Article 5 of the Information Society Directive, but many equally thought the exceptions should be mandatory.

²¹ See Annexes (Legal Analysis & Cross-Country Analysis)

2.2.1 Copyright

Article 6 of the Database Directive seeks to balance the rights offered to copyright owners in databases (under Article 5), with exceptions and limitations. One exception is mandatory: Member States must provide the exception in Article 6(1) permitting lawful users to carry out any of the acts listed in Article 5 which is necessary for the purposes of access to the contents of the databases and normal use of the contents. The other exceptions are optional and rather open-ended, in so far as Member States may offer exceptions and limitations which are "*traditionally authorised*" under national law. On this broad freedom, there are two important limitations: first, the exception must not conflict with those specifically mentioned, and they must not conflict with the normal exploitation or prejudice the legitimate interests of the rightsholder. The requirement of "*consistency*" matters in relation to two exceptions specifically mentioned: one permitting exceptions relating to reproduction for private purposes in relation to a "*non-electronic database*"; and the other in respect of teaching and research. One important effect is that there can be no exception permitting reproduction for private use of "*electronic databases*."

Considerable uncertainty was encountered surrounding the notion of "*lawful user*" coupled with a wide diversity of implementation. While most Member States refer to "*lawful user*" but offer no further elaboration, others elaborate. For example, France and Malta seem to operate with a very narrow conception, referring to the licensed user or the existence of a contract. Austria and Hungary also refer to an "*authorised person*". In contrast, a number of countries take a broader view. Article 55a of the German copyright act, for instance, confers the right on:

*"the owner of a copy of the database work which was brought to the market by sale with the consent of the author, that person who is otherwise authorised to use the database work or that person who is given access to the database work on the basis of a contract concluded with the author or with his consent with a third party."*²²

Denmark, Finland and Sweden refer to any person having a "*right to use*" a database, not restricting how that right comes about. Ireland and the United Kingdom refer to anyone with a right to use the database "*under licence or otherwise*" leaving the possibility that they might rely on an exception. Belgium is more explicit, as anyone who performs the acts authorised by the author or "*by law*."

Diversity in implementation of the scope of Article 6(1) was found. While many Member States replicate the terms faithfully, a number of countries:

- (i) Refer to "*intended purpose*" rather than "*normal use*" (Austria, Hungary, Sweden);
- (ii) Refer to "*use*" rather than "*normal*" use (Ireland, Latvia, Portugal, the United Kingdom.)

Moreover, France limits permitted uses to those "*prévue par contrat*".

²² The translation of the German Copyright Act is by Ute Reusch: https://www.gesetze-im-internet.de/englisch_urhg/englisch_urhg.html

Similarly, most Member States provide expressly that the freedom reserved by Article 6(1) cannot be overridden by contract. As far as can be seen, no such explicit rule against 'contractual overrides' appears in the laws of the Czech Republic,²³ France, Ireland, Luxembourg, Poland, Romania and Slovenia.

Most Member States incorporate database protection in their regular rules on copyright, and thus apply (most of the exceptions) applicable to copyright to copyright-protected databases.²⁴ This includes quotation rights. In the Member States that treat copyright in databases in a special part of the law, the position varies: some, such as Slovakia, specifically apply copyright exceptions to database copyright,²⁵ while Portugal did likewise ("*wherever they appear compatible*").²⁶ In Italy, the relationship is not expressly specified, though it is probably the case that the generally applicable exceptions are also applied to copyright-protected databases.²⁷

Most Member States have adhered religiously to the limitation in Article 6(2)(b). However, the United Kingdom applies its narrower "*fair dealing with a [...] work for the purposes of private study*" to all works, apparently including electronic databases.²⁸

The most common way of implementing Article 6(2)(a) is by a carve out from a generally applicable private copying exception so as to dis-apply the exception in the case of "*electronic databases*".²⁹ However, some laws specifically posit that the exclusive right covers private use of an electronic database,³⁰ or that the exception covers a "*non-electronic database*".³¹ Yet other Member States couch the qualification in different terminology: Danish and Swedish law excludes from private copying exception "*copies in digital form of databases if the copy is made on the basis of a reproduction of the database in digital form*",³² Finland "*computer-readable database*",³³ and Germany "*to database works the elements of which are individually accessible by electronic means*".³⁴

²³ It is nevertheless understood that, in the Czech Republic, the freedom could not be overridden by contract. Similar understandings may prevail in some of the other Member States.

²⁴ The Belgian Code of Economic Law identifies when exceptions apply to databases: Art XI.191, and Section 5 (applying certain exceptions in Art XI.190 to databases).

²⁵ Slovakia, Art 134 refers to Articles 34-57 (excluding art 42 on copies for private use).

²⁶ Decree Law, Art 10(1)(d).

²⁷ Italy, Art 64 quinquies(1).

²⁸ United Kingdom, CDPA Section 29(1)(c) (presumably on the basis of Article 6(2)(b)).

²⁹ Croatia, Art 82 (carve out for electronic databases); Estonia: Art 18(2)(3) (excluding electronic databases from reproduction for purposes of personal use exception); Greece, Art. 3(4) (added by Art. 81 of Law No. 3057 of Oct. 10, 2002) ("Reproduction of electronic database for private use is not permitted"); Hungary, Art 35; Lithuania, Art 20(3)(3); Slovakia, art 134(2) applying Art 42 on private use only to a "*database which was not created in electronic form*"; Slovenia, Art 50(4) ("*Reproduction of the preceding paragraphs of this Article is not permitted for ... electronic databases*"); Spain, art 31(2)-(3) ("*Electronic databases excluded*").

³⁰ Czech Republic, art 30(3): "*Unless otherwise stipulated herein, use under this Act shall also cover the cases where a computer program or an electronic database is used to serve a natural person to meet his personal needs or a legal person or sole trader for their own internal use, including the making of reproductions of such works for such needs and uses*".

³¹ Ireland, Section 50(1) "*Fair dealing with a literary, dramatic, musical or artistic work, sound recording, film, broadcast, cable programme, or non-electronic original database, for the purposes of research or private study, shall not infringe any copyright in the work*".

³² Denmark, Art 12(2)(iv); Sweden, Article 12 does not apply to "*make copies in digital form of compilations (sammans llningar) in digital form*".

³³ Finland, Art 12(4) ("*excluding computer-readable database from reproduction for private use exception*")

³⁴ Germany. Art 53(5) "*Subsection (1), (2), first sentence, numbers 2 to 4, as well as subsection (3), number 2, shall not apply to database works the elements of which are individually accessible by electronic means*".

Article 6(2)(b) permits use “for the sole purpose of illustration for teaching or scientific research”. Many Member States apply general research and teaching exceptions to copyright equally to databases.³⁵ However, some make specific provision in relation to copyright-protected databases of exceptions for teaching and research that map closely the Directive.³⁶ For example, Article 64 sexies(a) of the Italian law, or Article 19(2) of the Estonian law.³⁷ The effect is very confusing: the Lithuanian law, for example, having exemptions for teaching and research uses generally in Article 22, and later specifically for copyright in Art 32(4). In Italy, the special provision has created uncertainty. In Article 64 sexies of the Italian Copyright Law,³⁸ the legislator has introduced a specific list of exceptions in relation to databases, different from those provided for authorship works in general. This distinction has created doubts as to whether the other exceptions can be applied to databases. On the one hand, some have argued that databases are only subject to exceptions specifically indicated for in Article 64 sexies, such as those provided for scientific and educational purposes, or for public security. Others, instead, consider that databases should be subject also to the exceptions provided under general copyright law.³⁹

2.2.1.1 Importance

Responses to the questionnaire confirm that exceptions to copyright in databases are an important source of contention. 14% of total responding database experts reported that they have experience of dispute or legal proceedings in relation to the application of an exception to copyright.

Figure 5 – Disputes and legal proceeding experienced by experts in relation to copyright



Source: Survey conducted for this study

³⁵ Greece, art 21.

³⁶ Belgium.

³⁷ Estonia, Art 19(2) (“the use of a lawfully published work for the purpose of illustration for teaching and scientific research to the extent justified by the purpose and on the condition that such use is not carried out for commercial purposes”). Note also Art XI.191(4) of the Belgian Code of Economic Law.

³⁸ Law n. 633 of 22 April 1941 *Protezione del diritto d'autore e di altri diritti connessi al suo esercizio*.

³⁹ See the Italian fiche in Annex (Cross-country analysis).

2.2.1.2 Criticisms of Stakeholders

Respondents to the European Commission's public consultation,⁴⁰ particularly those from the university and library sectors, make three criticisms of the copyright exceptions regime.

The first is that the exceptions are too narrow. In particular, a number observe that it was inappropriate to exclude the possibility of a private use exemption in relation to electronic database. Moreover, a number of respondents also complain about the absence of an exception for text and data mining.⁴¹

Secondly, many emphasise problems that arise from uncertainty over who counts as a "lawful user" and what counts as "normal use". For example, FIGIEFA contends that:

"The term 'normal use' is vague and imprecise. As a result, the term will be interpreted differently by the Member States and/or the courts in the member states. In particular the question as to when 'normal use' applies with respect to continuously changing databases requires clarification"

Another source of uncertainty supposedly arises from Article 6(2)(d). According to EBLIDA,⁴² it is not clear now whether Article 6(2)(d) implies that existing national copyright exceptions automatically apply to copyrighted databases, or whether this provision requires national legislators to actively implement their exceptions explicitly for databases.

Third, the objection is made that many of the exceptions are optional rather than mandatory. The European University Association (EUA), for example, states:

"Exceptions in the Database Directive should be in line with other policies, namely the EU Copyright Directive. In general, exceptions, or at least the exception for teaching and scientific research (art. 6(2)(b)), should be mandatory across all European Member States."

One anonymous respondent to the Public Consultation who works in tertiary education noted that:

"In research and education, the exception in art. 6(2)(b) is very important. We see more and more that data and databases are not fully accessible for research. E.g. more and more social media databases are restricted in use and not openly accessible for research and education. Although most Member States have included the directive as is in their own legislation, it would still be beneficial to make the exceptions mandatory. In addition, further alignment with the copyright directive is necessary, especially in the scope of exceptions."

⁴⁰ Summary report of the public consultation on the evaluation of Directive 96/9/EC on the legal protection of databases, <https://ec.europa.eu/digital-single-market/en/news/summary-report-public-consultation-legal-protection-databases>

⁴¹ EUA ("Text and Data Mining (TDM) should be included in the Database Directive's exceptions as well"); EBLIDA

⁴² Citing Beunen, 99.

The library representative, EBLIDA, recommends:

"The Directive should stipulate that Member States must ensure that all their national copyright exceptions should equally apply to databases whose selection or arrangement is protected by copyright."

It argues that Article 15 *"should be extended to the optional limitations and exceptions in Article 6(2)"*.

2.2.2 Sui generis right

Article 9 provides for three optional exceptions: Member States can choose whether or not they implement them in their national laws. The exceptions to the sui generis right are virtually identical to those that are permitted in relation to copyright in Article 6(2)(a)-(c). The most important difference is that the flexibility to maintain other exceptions *"traditionally authorised"* is not available in relation to the sui generis right. Article 9(a) allows Member States to permit extraction for private purposes of the contents of non-electronic databases. This corresponds with the option offered to Member States to offer an exception to infringement of copyright in the database (Art. 6(2)(a)). As a result, the exception only applies to a non-electronic database. Private reproduction or extraction is not defined. Article 9(b) allows Member States to offer teaching and research exceptions in relation to *extraction* from protected databases. There must be an illustration for teaching or scientific research, the source must be indicated (which in the context of databases must mean at least the name under which it has been made available by the maker or publisher – for example, the Gale Directory of Databases) and the illustration for teaching or research must not be for a commercial purpose. The condition of non-commercial purposes means that the research cannot be undertaken by a private company because by definition it has a commercial purpose.⁴³ The terminology of the exception – and criticisms thereof – were discussed in the consideration of article 6 (above). Derclaye argues that the limitation to extraction renders the exception virtually unusable:

*"The corresponding exception in the sui generis right chapter is therefore far more restricted and in effect quasi unusable since to teach and research one almost always has to communicate to the public."*⁴⁴

Article 9(c) parallels Articles 6(2)(c) and allows for the extraction and re-utilisation of a substantial part of the database for purposes of public security or an administrative or judicial procedure with no condition of indication of source or non-commercial purpose being required.⁴⁵

Considerable criticism was expressed of the practices of sui generis right owners limiting the availability of exceptions through contract. The protection provided by Article 15 to the mandatory exception in Article 6(1) and the provisions of Article 8 from override by contract terms is considered by legal experts very positive for libraries and their users. However, the same experts contend that the

⁴³ A. Strowel, 'La loi du 31 août 1998 concernant la protection des bases de données', (1999) Journal des Tribunaux, 297, 301.

⁴⁴ Derclaye in Stamatoudi and Torremans, EU Copyright Law: A Commentary (ed).

⁴⁵ Vanhees, 1007.

same protection should be extended to the optional limitations and exceptions in Article 6(2) and Article 9.

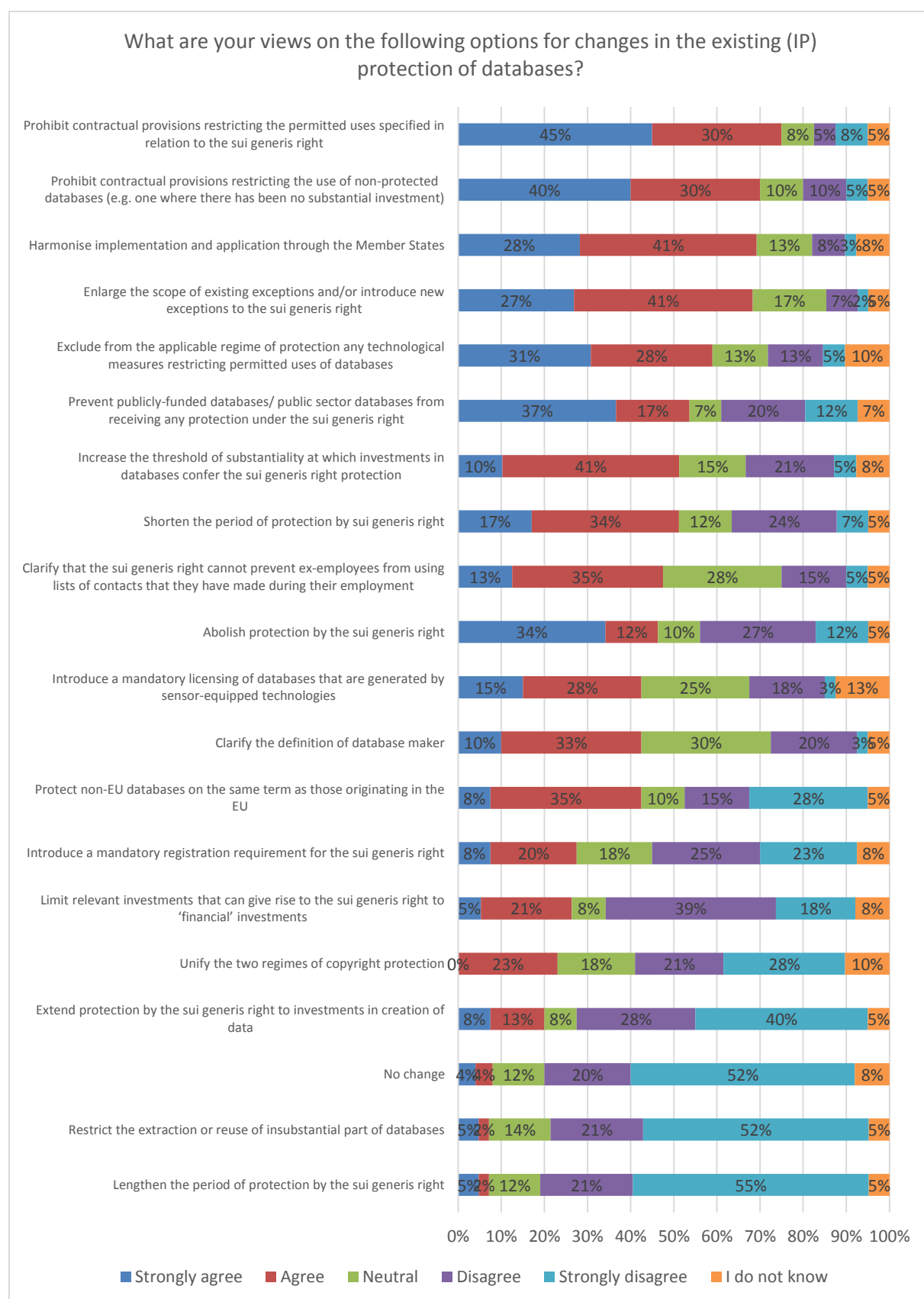
Similarly, a number of stakeholders call not just for prohibitions on the overriding of exceptions by contract, but also the same sort of use of technological protection measures.

The questionnaire revealed that two most favoured reforms to the database regime concerned exceptions. The fourth most favoured was the expansion of the exceptions to the sui generis right: 27% strongly agree and 41% agree, while 9% somehow disagree and 17% do not have a position in this respect (see Figure 6). This suggests that very serious consideration should be given to extend the exceptions.

But in what way should the exceptions be extended? In four of the in-depth interviews with legal experts, a simple proposal was made: that all exceptions applicable to copyright (in the Information Society Directive 2001/239/EC) should apply also to the sui generis right. Professor Matthias Leistner explained that the European Union “*should not have narrower exceptions to the sui generis right in comparison to copyright law*”. An academic at a French university agrees that the law would “*make more sense, if all the exceptions for copyright and IP rights are also applicable to the sui generis right. This is to ensure consistency of protection*”. A Dutch expert stated that “*all the applicable exceptions in the InfoSoc Directive*” should apply to sui generis rights.⁴⁶

⁴⁶ See the Dutch fiche in Annex (Cross-Country Analysis)

Figure 6 – Expert views on possible changes to the Database Directive



Source: Survey conducted for this study

2.2.3 Impending and Ongoing Reforms

It is worth noting that the Directive (EU) 2017/1564 of 13 September 2017, which must be implemented into national law by 11 October 2018, and which seeks to enable the EU to ratify the Marrakesh Treaty on the rights of visually-impaired persons, *requires* Member States to provide further exceptions (inter alia to) copyright in databases and sui generis right for any specified acts designed to provide visually impaired persons (and other beneficiaries referred to in Article 2(2)) with access to usable versions ("*accessible format copies*" as defined in Article 2(3)) of publicly available works (as specified in Article 2(1)). The particular exceptions permit the "*making*" of accessible format copies (in specified circumstances) and the communication or distribution of such copies.

Moreover, the proposals relating to exceptions in the proposed Directive on Copyright in the Digital Single Market (COM(2016) 593 final) – in particular, those relating to text and data mining (proposed Article 3) and digital use in teaching (proposed Article 4) – would apply to the sui generis right as well as copyright. Importantly, while the proposed text and data mining permits reproduction (in relation to copyright-protected databases) and extraction (with respect to the sui generis right), the teaching exception is not to 'extraction' (limited as it is in Article 9(b) of the Database Directive) and therefore envisages 're-utilisation' (i.e. communication).

2.2.4 Conclusion

2.2.4.1 *Copyright*

At present, there is some dissatisfaction with the treatment of exceptions to copyright in Article 6 of the Database Directive. In the analysis of coherence with the copyright acquis, a further source of difficulty is noted, namely the relationship between exceptions to copyright in databases and exceptions to copyright in other works. This is also evident in much of the implementation of the Database Directive discussed in this part. Indeed, one irony appears to be that those Member States which most assiduously implement the different directives, paying scrupulous attention to difference in wording of rights and exceptions, end up with unnecessarily complex, tortuous and unmanageable laws. In that section, it is suggested that further consideration should be given by the European Commission to aligning the copyright protection of databases with that conferred on other works. If, however, that suggestion is not embraced, there are good grounds for thinking that Article 6 of the Database Directive should be revisited.

2.2.4.2 *Sui generis right*

Beyond the issue of text and data mining, the importance of exceptions to the sui generis right depends on interpretation and application of substantial part. If "*insubstantial part*" is interpreted as allowing considerable re-use, a short list of exceptions might be justifiable; if the substantiality threshold is not high, a larger number of exceptions may be needed. As seen previously, considerable uncertainty surrounds the threshold, and, for that reason alone, an extension of the exceptions regime might be regarded as highly desirable.

Indeed, it seems likely that a greater list of exceptions is necessary to accommodate fundamental rights protected under the Charter.⁴⁷ Article 11, for example, protects freedom of expression, and this would require a balance to be made between the interests of rightsholders and the freedom of expression of users. Thus, exceptions such as for purposes of quotation and reporting current events, as well as for purposes of access to information, almost certainly should be introduced into the sui generis right regime.

Moreover, it is clear that, if the aim of the regime is to create a level playing field, exceptions should be mandatory, not optional. Only exceptions that do not implicate digital use or the circulation across border of databases, and thus operate purely locally, can today be optional. An exception for use in religious ceremonies, for example, might be regarded as one of the few examples of an exception that does not need to be made mandatory.

Finally, in terms of coherence and simplicity, the European Commission should consider the many suggestions to align the exceptions with the list in Article 5 of the Information Society Directive. Of course, these are currently optional. However, making them mandatory for the sui generis right seems entirely justifiable, given that the right is an invention of EU law, arising out of concerns with the single market.

2.3 Where expectations have not been met, what obstacles hindered their achievement?

One possible source of obstacles are legal developments, such as the interpretation of the Database Directive by the Court of Justice. In particular, two developments may have limited the effectiveness of the sui generis right: first, the case law in the *Fixtures Marketing* cases, and, more recently, the *Ryanair* decision. The former (from some perspectives) made the sui generis right harder to acquire. The latter made the alternative form of protection, contract, potentially more attractive.

With respect to the case law of the CJEU, the Study assesses what sort of impact each case has had on the operation of the sui generis right. To do so, commentary, responses from participants in the workshop and the surveys are considered.

2.3.1 Case C-203/02 Fixtures Marketing

The single most prominent decision of the CJEU in the lifetime of the Directive is the ruling in the three *Fixtures Marketing* and *BHB* cases, Case C-203/02. The CJEU drew a critical distinction between investment in creating data and obtaining it.⁴⁸ The latter – but not the former – counted as investment that fell to be protected by sui generis right, and thus which it was necessary to show to establish “*substantial investment*”. The Court explained at that “*the resources used to draw up a list of horses in a race and to carry out checks in that connection do not represent investment in the obtaining and verification of the*

⁴⁷ Italian experts (in depth): Whilst the protection of copyright is justified by constitutional principles, however, said rights, limit other constitutional. Therefore, the scope they cover must be determined through a balance with these rights. In this context, exceptions may serve a fundamental purpose (e.g. freedom of expression, public security, research and study etc.), as long as carried out only to the extent necessary.

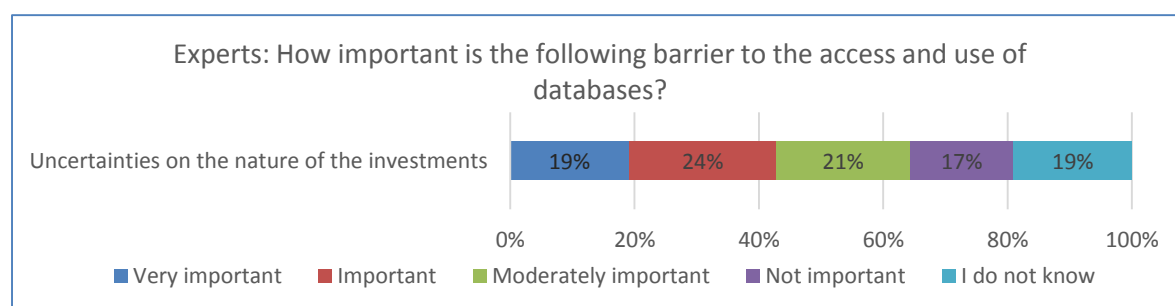
⁴⁸ Case C-338/02 *Svenska Spel*, para. 24; Case C-203/02 *BHB*, para. 31; *Veikkaus*, para. 34; *OPAP*, para. 40.

contents of the database in which that list appears”.⁴⁹ Therefore, “it must be held that those materials do not represent a substantial part, in qualitative terms, of the BHB database”. In other words, the CJEU has held that the term ‘obtaining’ encompasses only the collection of the data and not its creation.

The effect of the decision was that spin-off databases, i.e. databases which are the by-products of main activities, are rarely protected by the sui generis right and avoid monopolies on information. In the data economy context, it means that most machine-generated data should remain out of the scope of the sui generis right, though it is not always clear whether the data is generated (created) rather than obtained (collected). In *Ryanair v. Atrápalo*, the Spanish Supreme Court held that Ryanair’s web site was a database but was not protected by the sui generis right, because the investment was in the creation of data and of software, and not on their obtaining.⁵⁰ Only where there is a separate substantial investment in gathering the created data can the sui generis right attach to the database.⁵¹ As it is often difficult to prove such separate investment, the sui generis right will rarely protect sole source databases.⁵² The Court did not give an answer regarding data recorded from nature (e.g. meteorological). Commentators are split on the issue. Some think the Court would hold that recording data is creating data rather than obtaining it.⁵³ Other commentators think recording data is collecting it.⁵⁴

Experts were asked in the survey whether they consider the *Fixtures Marketing* case law significant. In response to the question “How important are the following barriers to the access and use of databases?”, 64% of the respondents suggested that “uncertainties on the nature of the investments (e.g. creation of data, collection of data, etc.)” was a somehow important barrier, and 17% said it was not. Therefore, a considerable majority characterise the distinction between creating and obtaining data as creating a barrier.

Figure 7 – Expert opinion on the impact of uncertainties on the nature of investments on the access and use of databases



Source: Survey conducted for this study

⁴⁹ [37]- [41]

⁵⁰ Case STS 572/2012, 9 October 2012, available at <<http://www.poderjudicial.es/search/indexAN.jsp>>.

⁵¹ Case C-338/02 Svenska Spel, paras 29–30; OPAP, paras 45–6.

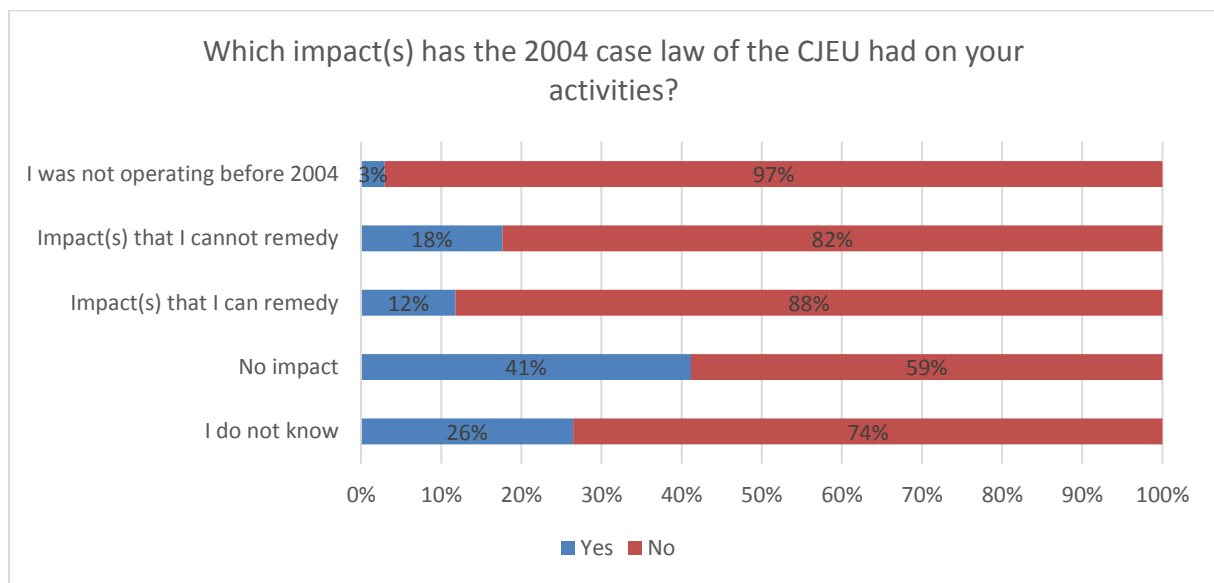
⁵² See e.g. *NVM v Zoekallemhuisen.nl*, Pres. Arr. Arnhem, 16 March 2006, upheld by CA Arnhem, 4 July 2006, available at

<http://zoeken.rechtspraak.nl/resultpage.aspx?snelzoeken=true&searchtype=ljn&ljn=AV5236&u_ljn=AV5236>
⁵³ Bygrave, 31.

⁵⁴ O.-A. Rognstad, *Opphavsrett*, Universitetsforlaget, Oslo, 2009, 302–3; M. Leistner, ‘British Horseracing Board v. William Hill’, (2005) *International Review of Intellectual Property and Competition Law*, 36, 592, 594; Kur et al., ‘First evaluation of Directive 96/9/EC on the legal protection of databases’, (2006) *International Review of Intellectual Property and Competition Law*, 37, 551, 556; E. Derclaye, ‘Databases sui generis right: Should we adopt the spin-off theory?’ (2004), *European Intellectual Property Review*, 402, 411–12.

A majority of database makers (41% of respondents) reported that the decision had no impact. Of those who said the decision had an impact, more than 40% described it as an impact that they could remedy, and almost 30% as an impact that they could not remedy. As stated in this section below, it is unclear whether some machine-generated data is in fact excluded from the protection of the sui generis right because some or all of it is arguably recorded and thus collected rather than generated.

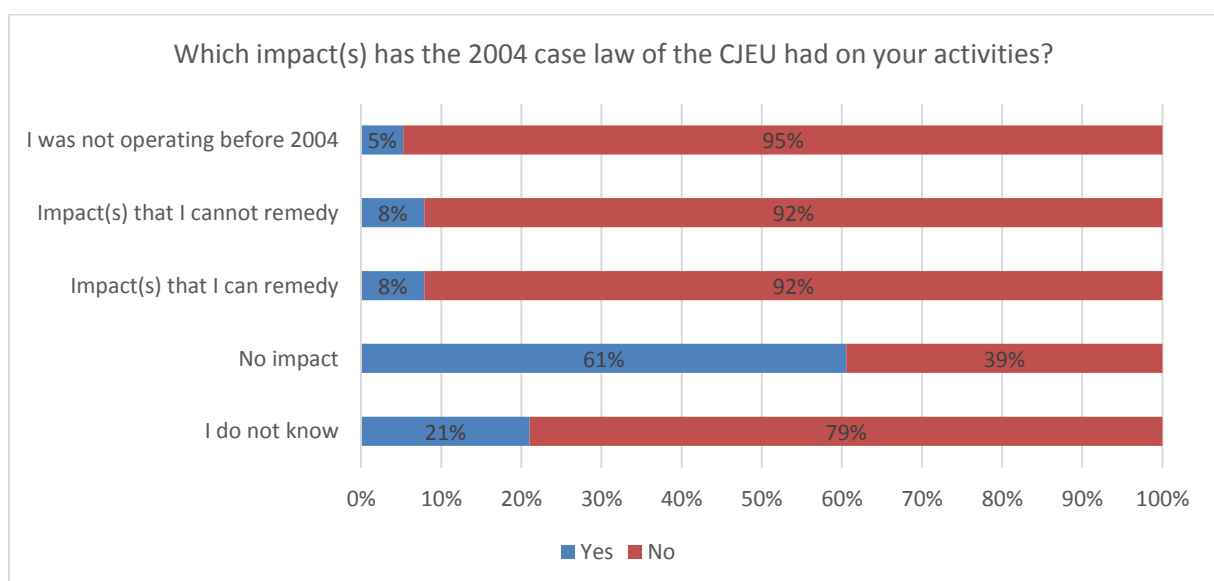
Figure 8 – Makers' opinion on the impact of the 2004 case law of the Court of Justice of the European Union



Source: Survey conducted for this study

For the majority of user-makers, the *Fixtures Marketing* decisions had no impact, and only in a few cases was there an impact that could not be remedied.

Figure 9 – User-makers' opinion on the impact of the 2004 case law of the Court of Justice of the European Union



Source: Survey conducted for this study

All this suggests that despite the importance of the *Fixtures Marketing* decisions, the extent of their impact – to date - has been limited. There are few database makers (within those that engaged in the Public Consultation or this Study) who were dependent upon investment in creation and were unable to adapt. However, what the implications for the new data economy of the *Fixtures Marketing* case law is more difficult to know. It is unclear whether some machine-generated data is in fact excluded because some or all of it is arguably recorded and thus collected rather than generated. For more details on this, see Chapter 5.

2.3.2 Case C-30/14 Ryanair

The second key decision of the CJEU which might be thought to have hindered the achievement of its objectives is the Court of Justice's decision in Case C-30/14 *Ryanair v PR Aviation*. In this case, the CJEU held that database makers whose database falls within the definition of a database but do not fulfil the conditions of copyright or the sui generis right, can rely on contract to override any exceptions to the Directive. The reason for the conclusion was that the Directive does not apply to databases which do not fulfil the conditions for protection.

The apparent effect of the case is that database makers can remedy non-protection by either modifying their investment, so to meet the criteria of eligibility, or imposing contractual conditions on the use of the database. The latter remedy is, paradoxically, more efficient than the former, in that an unprotected database can be fully protected by contract, while certain contractual restrictions on lawful uses of protected databases are declared null and void by Article 15 of the Database Directive. Most importantly, under Article 8(1) of the Directive, a lawful user is entitled to use "*insubstantial parts*" of a database, and this freedom is protected by Article 15 from contractual variation. The apparent paradox is that a database maker who wishes to prevent extraction and reuse of insubstantial parts is better off when the database is not protected by copyright or sui generis right, as he or she is free to determine contractually the conditions of use of the database. This CJEU decision has prompted a flurry of critical comments in this vein from commentators including some interviewees and respondents to the European Commission Public Consultation.⁵⁵ A chief criticism is that the decision undermines the usefulness of the sui generis right and the balance that might exist between users and makers. Indeed, it also presents the possibility that databases that fall into the public domain after the 15-year term (but to which the public have only had electronic access previously) might receive stronger protection through contract, a conclusion that seems bizarre.

In fact, the significance of the decision probably depends on how far a particular country's laws treat the contractual terms imposed by the website owner as binding on users. The Court of Appeal of Amsterdam, in *Pearson v Bar Software* (22 November 2016) suggested that contractual provisions in a database manual requiring users to obtain consent from the owner for certain uses were not

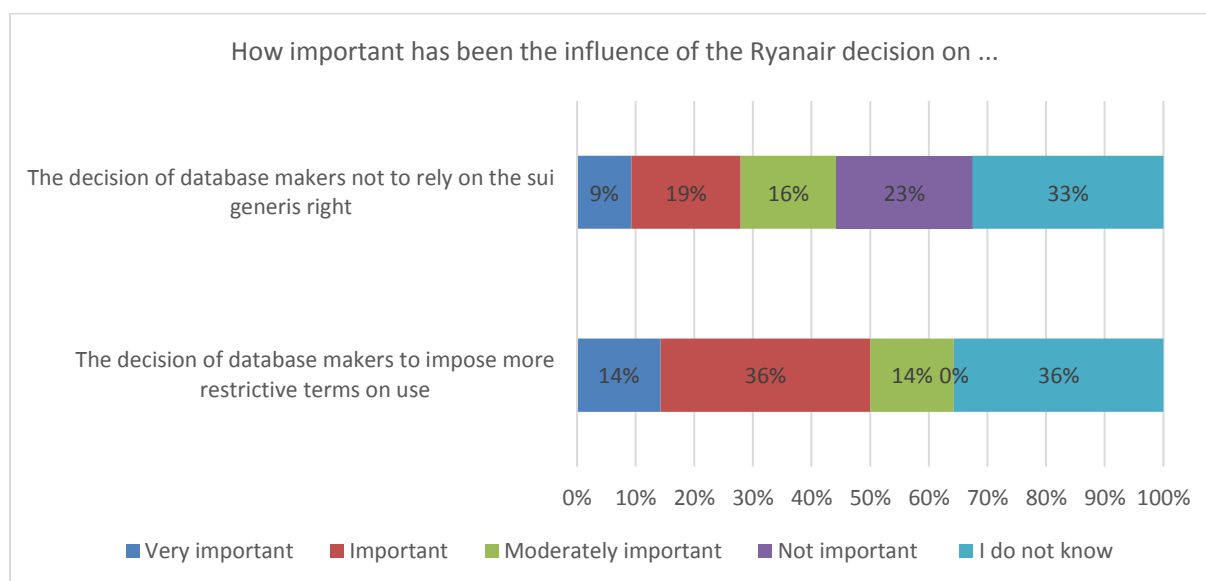
⁵⁵ Summary report of the public consultation on the evaluation of Directive 96/9/EC on the legal protection of databases, <https://ec.europa.eu/digital-single-market/en/news/summary-report-public-consultation-legal-protection-databases>

enforceable even though the database in question was held to be an unprotected database.

Even if the position as to the enforceability of contract terms varies between Member States, one important development occurred in Ireland, where the Irish Supreme Court has now confirmed two High Court decisions which, for different reasons, held that the terms of use determined the forum (Ireland).⁵⁶ This would mean that all cases based on Ryanair's (and any other company designating Ireland as the jurisdiction for litigation in their terms) terms would go to Irish courts. The Court did not decide that the terms of use created binding contracts. The case raises the spectre of forum-shopping so as to give jurisdiction to the courts in (and adopt the applicable law of) a Member State that enforces website terms as contracts.

Experts were asked, in the survey, to assess the impact of the *Ryanair* decision. 44% of the respondents thought the decision had a moderate or greater importance in decisions not to rely upon sui generis right (while 23% said the decision was not important in that respect). That suggests the *Ryanair* ruling might operate as a significant impediment to the realisation of the goals of the Directive. An even greater number thought that the case had led to more restrictive website terms (presumably as an alternative should a sui generis right claim fail).

Figure 10 – Views of experts on the influence of the *Ryanair* case law on the decisions of database makers



Source: Survey conducted for this study

2.3.3 Conclusion

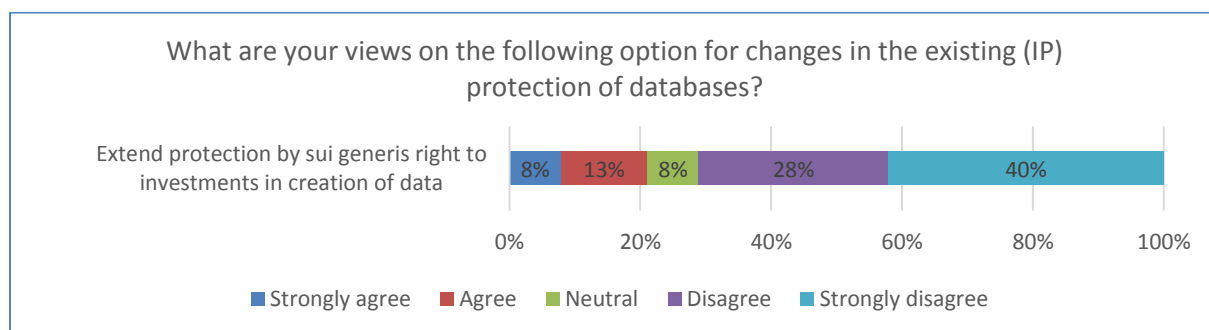
The evidence does not appear to establish that the *Fixtures Marketing* cases have in practice hindered the achievement of the objectives of the sui generis right. In fact, it might be said that the jurisprudence went some way to ensure balance between database makers and users, in particular, by reducing the possibility of monopolistic control, through sui generis right, of sole-source databases.

⁵⁶ *Ryanair Ltd v Billigfluege GmbH* and *Ryanair Ltd v On the Beach Ltd* [2015] IESC 11.

Respondents to the European Commission Public Consultation are split between those who want to delete the distinction between creating and obtaining data (in other words reverse *Fixtures Marketing/ British Horse Racing Board* decisions) and those who approve the status quo as established by the latter decisions. The first group (mainly database producers) claims that it is often difficult to make the distinction between creating and obtaining data. It is sometimes impossible for database producers to separate out, and therefore to prove, the investment in these two types of effort. Therefore, some would like that investment in creating data be recognised as triggering the protection. The other group, mainly user-makers and users of databases, are in favour of the status quo. Some also would like further clarification in relation to machine-generated data, namely that it is created data and thus unprotectable by the sui generis right.

In contrast, the experts who answered the survey were very strongly opposed to altering the law so that investments include investments in creation of data: more than half of the respondents disagree, to some extent, with the proposal.

Figure 11 – Expert view on the extension of the protection by sui generis right to investments in creation of data



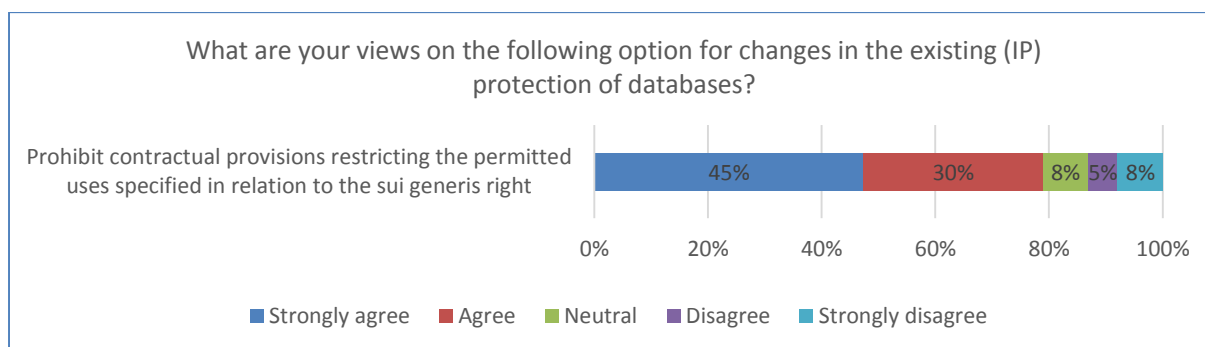
Source: Survey conducted for this study

The different views (interviews, questionnaire, public consultation) are quite polarised on the issue which is not surprising. On the one hand those who create data only and those who both create and collect, verify or present data want reversal of 2004 CJEU cases on the issue, while users want the status quo. However, the vast majority across all groups in all contributions agrees that, if possible, the concept should be further clarified as the distinction between creation and collection has a philosophical undertone, appealing as it does to an ontological question as to when data exists.

With respect to the *Ryanair* decision, there is evidence that it has affected the goals established by the Database Directive. At the workshop, some participants mentioned it would be good to make the exceptions imperative even if a database is not or no longer protected by copyright or the sui generis right, to avoid the problem caused by the CJEU *Ryanair* decision. Of course, the position is not unanimous: some makers and one interviewee find *Ryanair* adequate.

When asked about potential options for change, there was very considerable support amongst expert respondents for reversal of *Ryanair*: 30% agreed, 45% strongly, that contractual restriction of use of databases that fall outside the scope of protection should be prohibited.

Figure 12 – Expert view on the possible prohibition of contractual provisions restricted the permitted use of databases (specified in relation to the sui generis right)



Source: Survey conducted for this study

The European Commission might consider creating a ‘user right’ in the Database Directive that covers databases falling into the definition of a database even where such databases do not meet the criteria of copyright or sui generis right or are no longer protected by those rights.⁵⁷ This user right would have the effect of extending the prohibition on specified contractual terms to all databases, whether protected or not. The effects would be to reverse *Ryanair* and to ensure that contractual protection is not preferred to the careful balance effected in the database regime. Most importantly, it would warrant that all lawful users of (published) databases would be able to re-use insubstantial parts thereof, for whatever purpose, irrespective of any contractual term (e.g. website term) to the contrary. Consideration would need to be considered as to whether a mechanism, such as that in Article 6(4) of the Information Society Directive, might also be desirable where technological measures are used as a means to prevent access and reuse of insubstantial parts. The effect of this reversal of *Ryanair* would also foster innovation in the data economy as such parts of databases would remain unprotected thanks to the ‘user right’.

2.4 Is the protection offered by the Database Directive still fit for purpose in an increasingly data-driven economy?

2.4.1 Definitional Issues

The European Commission, in its 2014 Communication, envisioned the data-driven economy as an “ecosystem of different types of players interacting in a Digital Single Market, leading to more business opportunities and an increased availability of knowledge and capital, in particular for SMEs, as well as more effectively stimulating relevant research and innovation”.⁵⁸ The characteristics of the data-driven economy as defined by the European Commission included:

- Availability of good quality, reliable and interoperable datasets and enabling infrastructure (referring to the datasets themselves, the flexibility required to use the datasets, so well as infrastructure, resources and services);

⁵⁷ See also Leistner 2017, p. 42, thinks that it would be good to have a general user right also applicable to non-protectable databases to counter the effect of *Ryanair*.

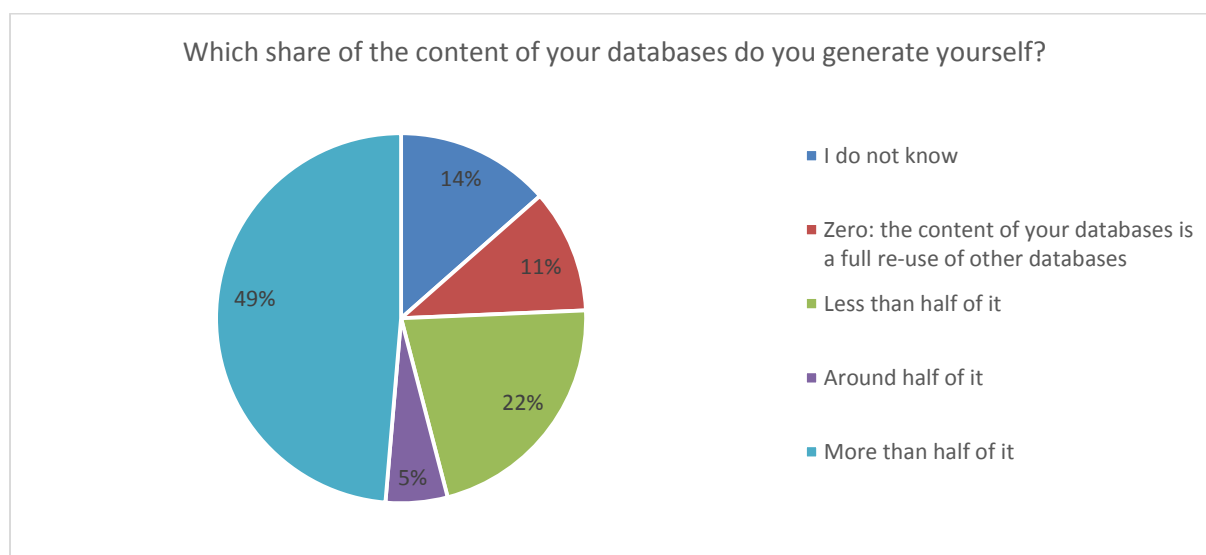
⁵⁸ COM/2014/0442 final, COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Towards a thriving data-driven economy, <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52014DC0442>

- Improved framework conditions that facilitate value generation from datasets (referring to an adequate skills base and close cooperation between all the relevant players);
- A range of application areas where improved big data handling can make a difference (given the availability of advanced ICT systems with sufficient capabilities and a base of early adopters and catalysts).

2.4.2 Changing data ecology

The creation of database content has evolved in the last decades from the manual gathering of existing data, over automatic processes of data collection, even to automatic creation of data (e.g. sensor-generated data). The automatisisation of data processes has led to a richer landscape of data sources and larger amounts of data, allowing the aggregation of different sources and types of data to create new collections of information. This is a very common strategy for database makers or user-makers, although it is followed with varying degrees of data re-usability. For instance, almost half of the database user-makers that participated in the survey of this study generate more than half of the content of their databases themselves, and 27% generate around or less than half of the content (see Figure 13).

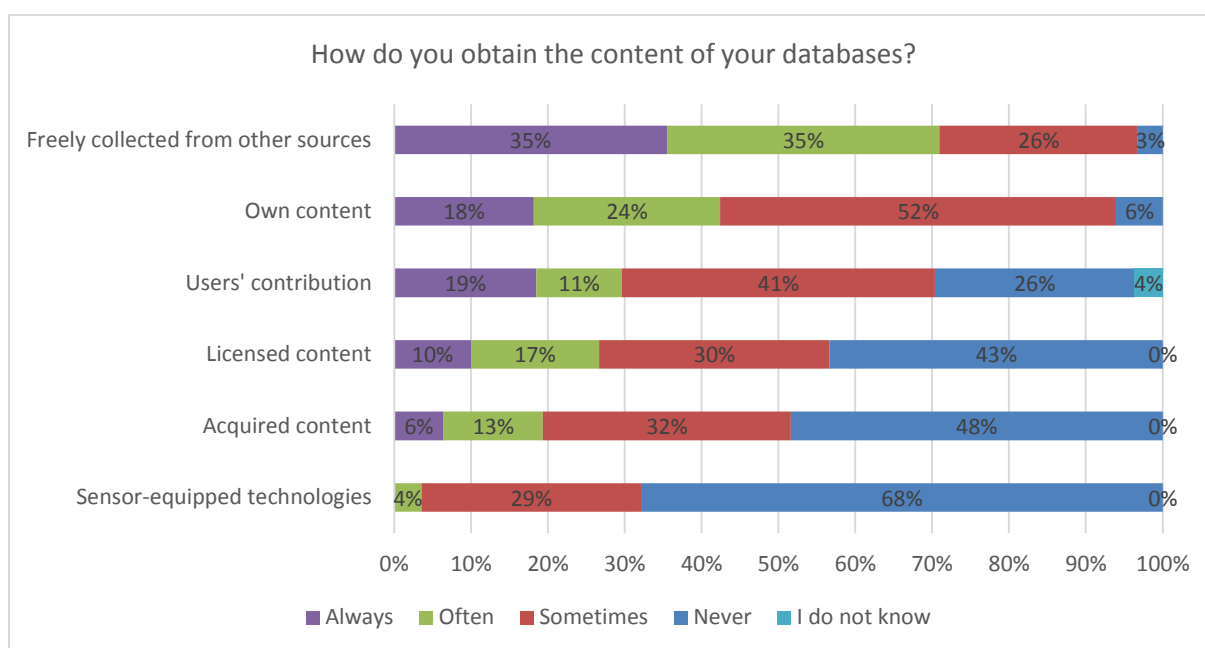
Figure 13 – Proportion of database content generated by maker-users



Source: Survey conducted for this study

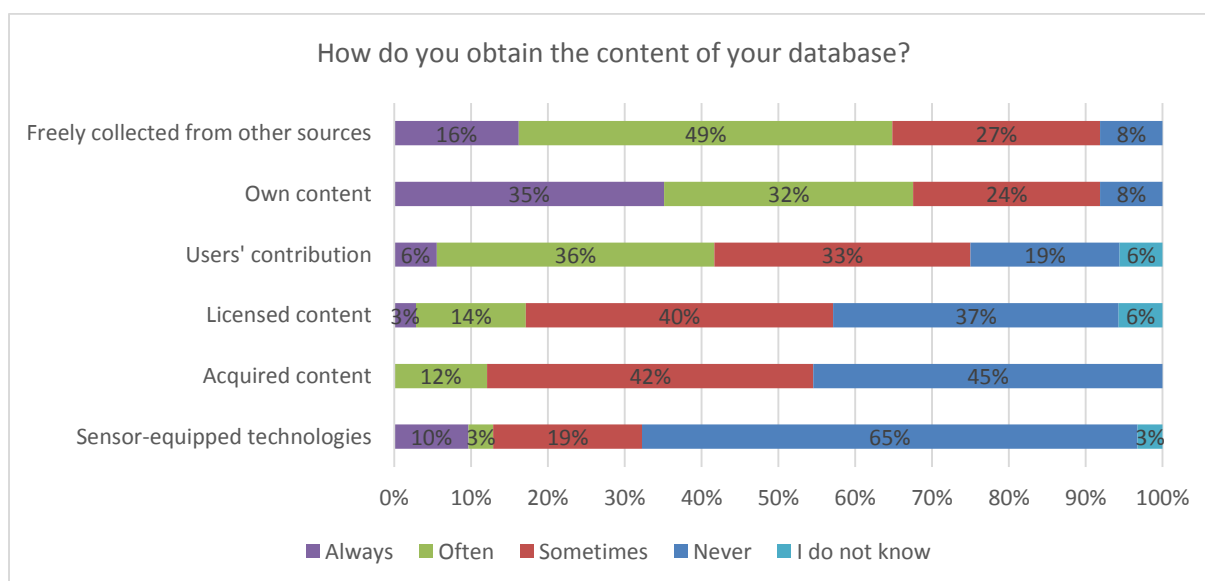
There exists different means to gather content from other sources. For instance, data can be gathered free of charge from other databases, a strategy that is often or always used by 71% of the database makers who responded the survey, and by 65% of the user-makers. Data can also be licensed, which is a strategy followed often or always by a 27% of makers and 17% of user-makers. A similar option is the purchase of data, which is done by a 19% of makers and a 12% of user-makers either often or always. Data may also come from user contributions (e.g. user-generated data as in Wikipedia) and from sensor-equipped technologies. The latter is used less often by the respondents of this survey; however, it should be noted that data gathered through sensor-equipped technologies are often not publicly available (see Figure 14 and Figure 15).

Figure 14 – Means employed by database makers to obtain the content of their databases



Source: Survey conducted for this study

Figure 15 – Means employed by database maker-users to obtain the content of their databases



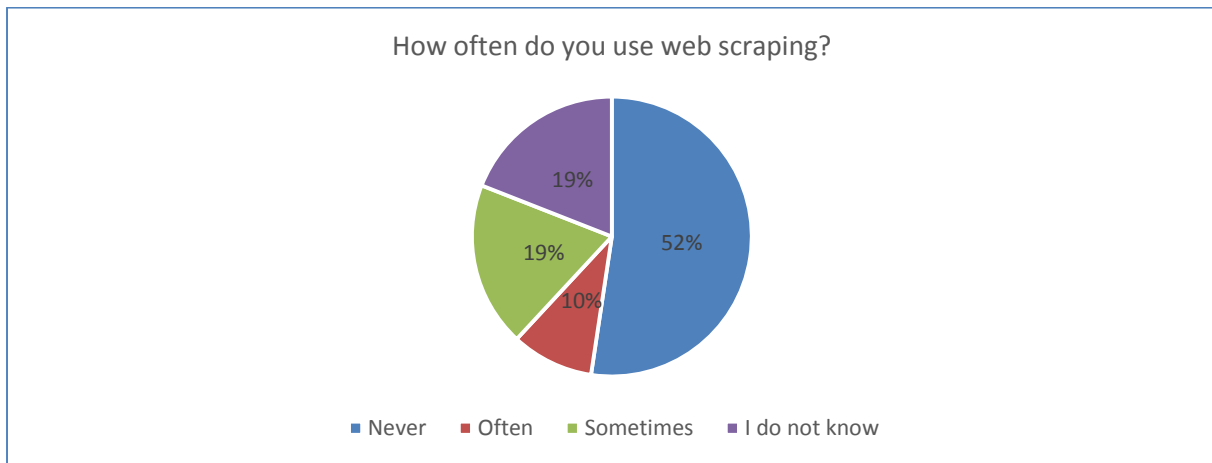
Source: Survey conducted for this study

The important concern among the participants of this study is that technological advancements have rendered the dispositions of the Database Directive to foster European innovation both insufficient and out-dated: not only are the exceptions and limitations considered misaligned with technological developments, but they are also regarded as a limitation for the development of welfare-enhancing uses of information. Five workshop participants and one interviewee raised concerns on the negative impact that the Database Directive exerts on EU competitiveness in the global database market as it constitutes, in their opinion, an obstacle to key activities in the market, such as sharing, re-use and mining of European data.

Web-scraping

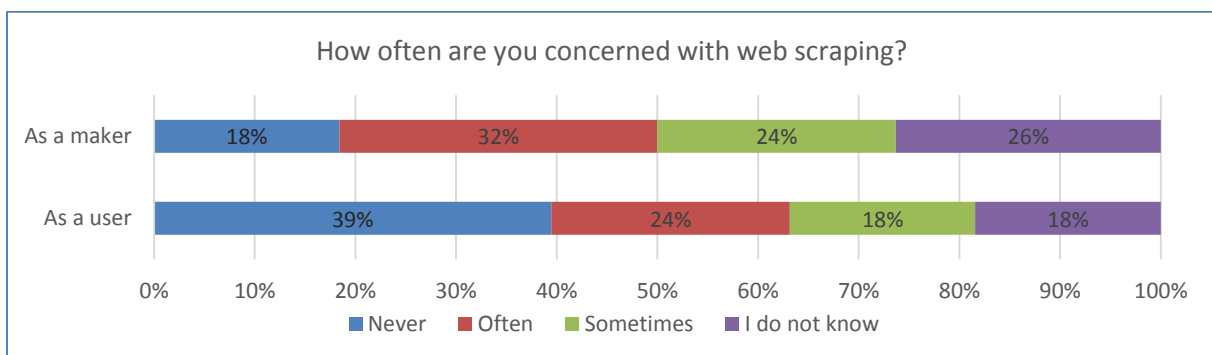
Among the latest techniques to extract information from other sources, web scraping has gained popularity in the last years. This is an automated process that uses a bot to fetch web pages automatically and extract the content displayed, which is later parsed, reformatted and stored into a database. Although the terms of use of most web pages explicitly prohibit the use of bots and many pages have implemented systems to block them, they are widely used due to the relative low cost of its development. As it can be observed in Figure 16, more than one fourth of the database users that responded the survey of this study use it (10% often, 19% sometimes), and 42% of user-makers too (24% often, 18% sometimes) (see Figure 17). However, user-makers not only use it, but they are also subject to it: 32% often and 24% sometimes (see Figure 17). Of course, database makers also reported being subject of this technique: 32% often and 24% sometimes (see Figure 18).

Figure 16 – Proportion of database users that make use of web scraping techniques



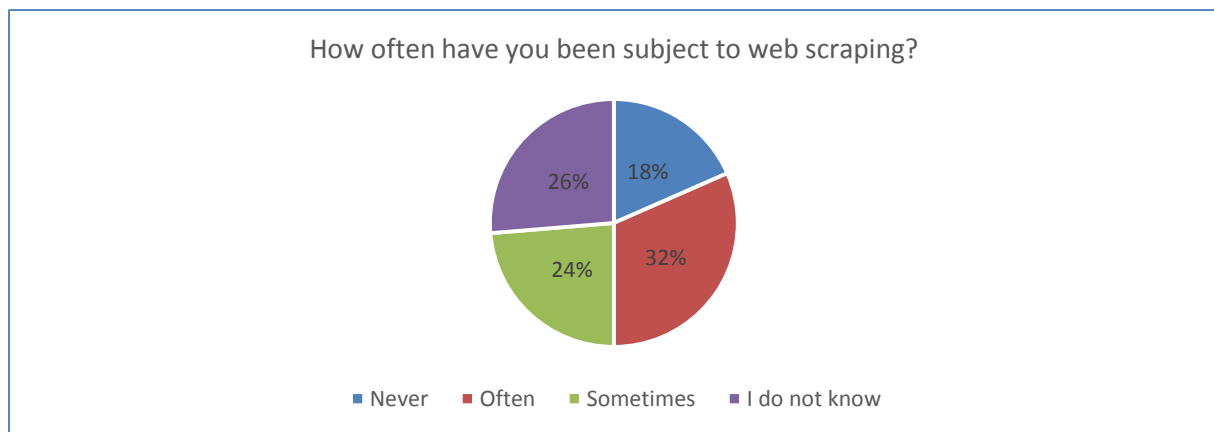
Source: Survey conducted for this study

Figure 17 – Proportion of database user-makers that use or have been subject to web scraping techniques



Source: Survey conducted for this study

Figure 18 – Proportion of database makers that have been subject to web scraping techniques



Source: Survey conducted for this study

Sensor-generated data

A second technological innovation in the creation of database content is sensor-produced data, or more generally machine-generated data. It refers to data generated by devices such as cars, fridges, (3D) printers, weather stations, health care devices, smart watches, etc. that are connected to a system that retrieves the data from sensors operated by the devices. Sensor data is one of the integral components of the Internet of Things (IoT), which is a network in which devices connect to each other and exchange data. Sensor-generated data is expected to continue gaining momentum as the number of interconnected devices increases. Already in 2017, the number of connected devices was estimated to be 20.35 billion, and it is expected that this number will increase to 30.73 by 2020.⁵⁹

Sensors generate a vast bulk of data with little or no human interaction, meaning that databases containing sensor-generated data are continually being replenished with data. This mass accumulation of data is very valuable for predictive analyses, as well as for the search for unexpected patterns that provide new insights on the processes that are being monitored. To collect the data, software and hardware infrastructure needs to be in place. For instance, some cars have SIM cards installed to connect to the internet and send the information collected through their sensors. To receive this information, the car manufacturer also needs to set up servers to communicate with the car and process the information.

Because of the special nature of sensor/machine-generated data, Leistner argues that the sui generis right should be amended for them. This is because of the rather low threshold of substantial investment, the uncertainty behind spin-off situations and the fact that another database maker will need another complete set of data to create a new data set, so will automatically infringe the sui generis right. Because of these, the sui generis right has the potential to influence the European data economy and its infrastructure enormously.⁶⁰

⁵⁹ Statista.com (visited in January 2018). Internet of Things (IoT) connected devices installed worldwide from 2015 to 2025.

⁶⁰ Leistner 2017, p. 33.

A few workshop participants elaborated on the importance of this kind of data for start-ups and innovation, and even described it as the “*oxygen they need to breathe*”. Therefore, they argued that access to this data should be regulated to facilitate innovation processes and fair competition. One participant gave the example of the automotive industry that has incorporated sensors in cars, from which manufacturers retrieve huge amounts of data that are stored in their private databases. The information recorded by a car, however, is vital for other services such as car maintenance or parking services. Therefore, there should be fair access for innovation and competition on this kind of data, whose value is much higher than could have been anticipated when the Database Directive was written.

A general conclusion on the changing technological landscape of databases is that, for most if not all participants of this study, clearly IoT, artificial intelligence, machine-learning, algorithm- and sensor-generated data, big data, etc. are very important. However, it is unclear how they are all regulated. Some say the Database Directive is applicable, others disagree and yet others are uncertain. Others say that irrespective of whether such data can be protected by Database Directive, TPMs are enough. Again, the views seem polarised. For the makers, these new developments in data mean that they should receive protection, whereas for users and user-makers, there should not be and there should even be a right of access to the data (i.e. through a request to the manufacturer/maker/generator of the data). The Max Planck Institute echoes this view, i.e. they are against a right for manufacturers but instead propose a right of access for users. Some, however, say that since such developments are still at an early stage, the legislative intervention should therefore be cautious. This echoes the impact assessment in the European Commission proposal on the flow of data.

2.4.3 Threshold Issues (Substantial Investment)

Technical developments impact the cost structure and associated costs in the creation of databases, especially for those that are generated automatically. During an interview conducted as part of the present Study, Professor Matthias Leistner reported considering that “*the Database Directive has been drafted in a vague enough way to accommodate such changes. If it becomes too cheap to create databases, there would simply not be substantial investment. The sui generis right is quite flexible and a modern right that has a clear scope and can accommodate such developments. The future developments such as algorithms and big data do not preclude that there will be substantial investment which still needs to be protected in future. Therefore, changing economic circumstances will not be a problem for the Directive*”.

It is not clear, however, whether all machine-generated data requires low investments. As mentioned by an interviewed database user-maker from the library sector, the investment for collecting sensor-generated data may vary “*from very high such as in the case of the Hadron collider to the very cheap*”. For instance, an interviewed database maker in the sports industry elaborated on the high level of sophistication of their sensors and the difficult return of investment. The commercial values of fixture lists and of live match data have significantly increased in the last years due to the development of online betting, while the investment to capture them have also raised. For instance, organisations in the sports industry have invested in sensors to collect the latter type of data. The

protection of these investments is however reported as missing or not sufficient, such that the sport association cannot gain a return on them. Therefore, legislative intervention should be cautious in the regulation of the investment threshold in such kind of data.

2.4.4 Ownership Issues

Considerable uncertainty surrounds the identification of the beneficiary of the sui generis right. The right is conferred by Article 7 on the maker, and Article 7(3) clarifies that the right is transferable. Recital 41 of the Directive states that *"the maker of a database is the person who takes the initiative and the risk of investing; whereas this excludes subcontractors in particular from the definition of maker."* That person can be an individual or legal entity. There is no provision either regarding databases made by employees but Recital 41 states that subcontractors in particular are excluded from the definition of maker. Apart from this restriction, therefore, Member States are free to have a rule of ownership giving the right to the employer or to the employee (similar to Article 4, above). The Directive is silent on joint ownership but much of the literature argues the Directive makes it possible.⁶¹ These issues of ownership by employees, commissionees and joint owners have been assumed to have been left to national laws.⁶²

Member States have implemented the concept in different ways: some require that the database maker takes both the risk and the initiative to invest (Croatia, Ireland, Slovakia and the United Kingdom⁶³); others (Bulgaria, France, Germany, Italy, Latvia and Poland) refer to the person who took the initiative, the risk and made a substantial investment; the Netherlands and Portugal refer merely to the person *"who bears the risk of the investment"*; Hungary adds to the requirements of risk and initiative that the database has to be made under the name of the database maker; in the Czech Republic, the database maker is the person who took responsibility for producing a database or on whose instruction the database was produced. Finally, in Sweden, the law states that *"a maker of a database"* is *"anyone who has produced a catalogue, a table or another similar product"*.

In addition, the position on joint making varies. Most Member States laws are silent on this issue.⁶⁴ Three Member States have rules on this. In Ireland and the United Kingdom, if two or more persons both take the risk and the initiative, joint making may occur. In Poland, 'co-production' in database making is possible, based on a conviction that the division of responsibilities cannot be excluded. However, if the individual stages of a given database are not coordinated by the manufacturers of the various stages then each of them has a sui generis right to the relevant part of the database (and provided that such part is extracted from the entire database in accordance with the features specified in the legislation).

These uncertainties and variations are likely to become significant in the changing data environment. With sensor-produced data, it will be hard to

⁶¹ Beunen, 155 and references therein.

⁶² For extensive details of national implementations and the literature's views, see Beunen, 146ff.

⁶³ The Slovak Copyright Act grants the sui generis right to the person who initiated and provided for the production (making) of the database (Slovak Copyright Act, §135). See Koščík and Myška (2017), 53.

⁶⁴ Koščík and Myška (2017), 53.

determine who the database maker is, and the possibility arises that the sui generis right will be owned jointly because many persons will take the initiative and risk of investing.⁶⁵ In an in-depth interview, Professor Matthias Leistner reported that he personally knows of some hold up situations because of split co-ownership. For him, contracts are the solution to this problem. An advantage of the sui generis right is that contrary to copyright, it has no moral rights, so the entirety of the right can be contractually transferred so it is easier to deal with.⁶⁶ *"However, obviously the conclusion of such contracts is faced with different transaction cost hurdles and potential information asymmetry in certain situations. Therefore, in order to make contract-based solutions workable, additional legal guideposts might be needed".*⁶⁷

Otherwise with sensor data, the person who takes the initiative and/or risk will often be the manufacturer of the sensors, while the operators of the machines or devices may in some cases also invest in the obtaining of the data. So, often, it will be the manufacturer who will be the database maker. While this helps with transaction costs, it can aggravate access and leveraging problems as they will often be the only ones who have access to the data (sole source database). Therefore, *"this solution would even increase the need for instruments to guarantee access for legitimate users where they need this in order to devise, produce or market additional products or services."*⁶⁸ One immediately thinks of compulsory licences. Another solution to counter both hold-up situations and power concentration caused by respectively joint ownership and sole ownership is registration.⁶⁹ However, registration of the sui generis right is a double-edged sword: the registration requirement would filter those databases makers who really need the sui generis right to make the databases, but, on the other hand, registered unitary protection right risks incentivising rent seeking and strategic registration.

In response to the survey of experts, a large share (40% of respondents) support further clarification of the concept of maker, while only 23% have an opposition opinion (see Figure 19).

⁶⁵ Leistner 2017, p. 35.

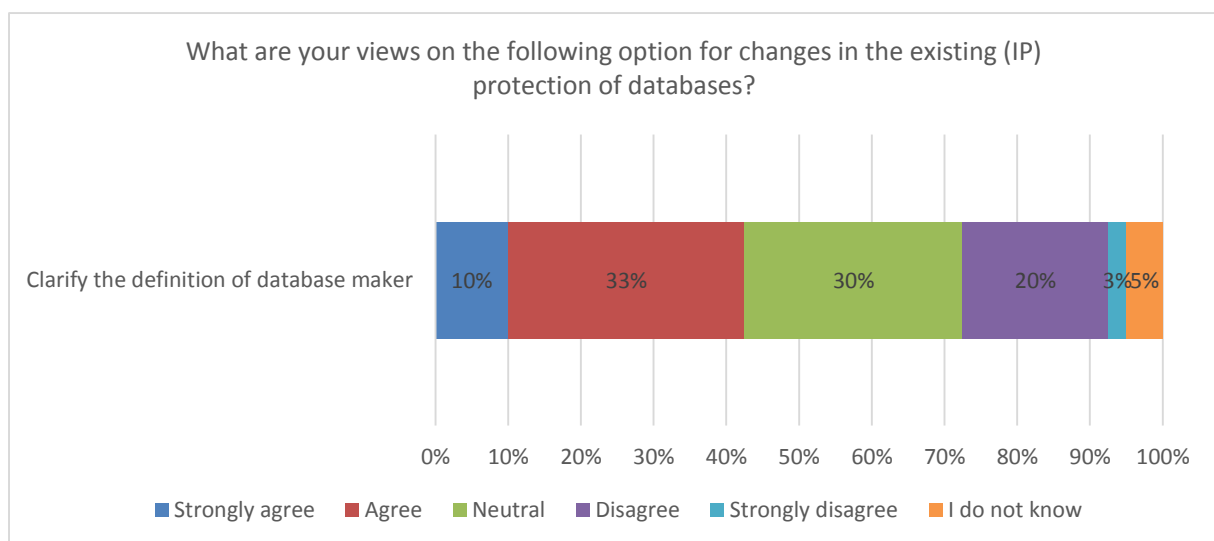
⁶⁶ Michal Košík and Matěj Myška, (2017), at 59.

⁶⁷ Leistner 2017, p. 36.

⁶⁸ Leistner 2017, p. 37.

⁶⁹ Leistner 2017, p. 37.

Figure 19 – Expert view on the clarification of the definition of database maker



Source: Survey conducted for this study

2.4.5 Scope of Rights and Exceptions

The new technological environment has led to new forms of research. The growth of web-scraping has already been noted as a mechanism for acquiring data that is then reused in a database. Another, much discussed form of research, is text and data mining. As the European Commission itself has observed:

*"New technologies enable the automated computational analysis of information in digital form, such as text, sounds, images or data, generally known as text and data mining. Those technologies allow researchers to process large amounts of information to gain new knowledge and discover new trends. Whilst text and data mining technologies are prevalent across the digital economy, there is widespread acknowledgment that text and data mining can in particular benefit the research community and in so doing encourage innovation."*⁷⁰

In the consultation, workshop and questionnaire, concerns were revealed as to the possible ways in which database protection impaired the possibility of text and data mining.

There is little clarity at present as to how far these technologies infringe the maker of a database's sui generis right or fall within permissible exceptions. Much, no doubt, turns on the specific facts. At one end of the scale, lawful users are entitled to extract and reutilise insubstantial parts. At the other, it is clear that one commercial entity may not use a so-called 'meta search engine' to give access to a database in such a manner that users can acquire the data they are seeking without encountering the database maker's own site. The Court of Justice in *Innoweb v Wegener* (Case C202/12) treats this activity as a reutilisation because it "is not limited to indicating to the user databases providing information on a particular subject" but it "provides any end user with a means of searching all the data in a protected database and, accordingly, [...] provide[s] access to the entire contents of that database by a means other than

⁷⁰ COM(2016) 593 final, Recital 8.

that intended by the maker of that database, whilst using the database's search engine and offering the same advantages as the database itself in terms of searches".⁷¹ A dedicated meta search engine re-utilises the whole or a substantial part of the contents of a database and thus infringes the sui generis right where it:

- "provides the end user with a search form which essentially offers the same range of functionality as the search form on the database site;
- 'translates' queries from end users into the search engine for the database site 'in real time', so that all the information on that database is searched through; and
- presents the results to the end user using the format of its website, grouping duplications together into a single block item but in an order that reflects criteria comparable to those used by the search engine of the database site concerned for presenting results".⁷²

In the Proposed Directive on Copyright in the Digital Single Market of September 2016,⁷³ the European Commission already recognised these concerns when it proposed a mandatory exception for text and data-mining.⁷⁴ Article 2(2) defines 'text and data mining' broadly as "any automated analytical technique aiming to analyse text and data in digital form in order to generate information such as patterns, trends and correlations". Importantly for the purposes of this Study, it is proposed that it would apply also to rights under the Database Directive including the sui generis right. However, two significant limitations are that the exception is limited to research organisations, as defined in Article 2, and only applies to the extraction of the contents of a database, not their reutilisation.⁷⁵ These two limitations make the applicability of the exception narrow.

2.4.6 Compulsory Licensing

Another effect of the changed data environment is to require consideration of whether databases should be subject to compulsory licensing. 'Compulsory licensing' refers to situations where the owner of an exclusive right is required to offer licences permitting third parties to carry out acts falling within that exclusive right – the grant of the licence is not a matter of choice for the rightsholder but is 'compulsory'.⁷⁶ Some commentators refer to compulsory licensing as converting a 'property right' into a 'liability rule', because the owner is only entitled to compensation or remuneration for use and is no longer able to prevent or prohibit the use in the first place.⁷⁷ The precise way in which the compensation or remuneration may be determined can vary.

⁷¹ Case C202/12, *Innoweb BV v Wegener ICT Media BV and Wegener Mediaventions BV*, ECLI:EU:C:2013:850.

⁷² Case C202/12, *Innoweb BV v Wegener ICT Media BV and Wegener Mediaventions BV*, ECLI:EU:C:2013:850

⁷³ COM(2016) 593 final

⁷⁴ Proposed art 3.

⁷⁵ Impact Assessment, IS, 108 ("The exception would not permit any communication to the public of the content being mined."); 110 ("none of the options considered in the IA allows the communication to the public of the mined content").

⁷⁶ In Joined Cases C 241–242/91P, *Radio Telefis Eireann and Independent Television Publications Limited (Intellectual Property Owners Inc. intervening) v E.C. Commission (Magill TV Guide Limited intervening)* [1995] 4 C.M.L.R. 718, [AG12], Advocate General Gulman states "A characteristic feature of compulsory licences in the field of copyright is that permission to make certain use of the protected work stems from general legislative provisions, which may include provision for the question of royalties being submitted to a public authority. It is generally not the case that, as in the patent field, permission to make certain use of the protected work in the public interest is given by a court or a public authority which then lays down the corresponding terms."

⁷⁷ R Merges, 'Of Property Rules, Coase and Intellectual Property', (1994) 94 Columbia Law Rev 2655.

In general, intellectual property rights comprise exclusive rights, but there are circumstances in which it is accepted that patents and copyright might be subject to compulsory licensing. Indeed, the Berne Convention provides for two such situations explicitly – the so-called ‘jukebox licence’ and the ‘mechanical licence’⁷⁸ – while other such licences are permissible under Article 9(2) of that Convention.

According to one commentator, the dominant explanation for the grant of compulsory licences is the reduction of transaction costs, for example, those associated with identifying all the rightsholders in works which have been broadcast before retransmitting such broadcasts,⁷⁹ or, as is the case with the juke-box licence, getting permission from all composers before playing published recordings of songs in public.⁸⁰ However, in many cases, compulsory licensing has been adopted where adopted by policymakers as a compromise between potential right-holders and users.⁸¹ Indeed, the ‘mechanical licence’, which allows countries to subject songs that have been recorded to compulsory licensing for the making of subsequent (‘cover version’) recordings, stems from a fear of the monopolistic effects of introducing the right in musical works to control the making of such recordings for copyright owners. Simultaneously, the compulsory licence operated to facilitate the emergence of embryonic industries which require substantial investment.

Compulsory licensing has also been used as a remedy to abuse of a monopoly position. Indeed, in *RTE and Independent Television Publications v. Commission* (known as the ‘Magill’ case),⁸² the European Commission offered precisely such a solution. In that case, the Irish broadcasting organisation (RTE), which owned copyright in its television schedules,⁸³ refused to license newspapers to publish television listings in a weekly format. The effect of this was that the only weekly guides available were those issued separately by RTE and the other broadcasting organisations (BBC and ITV). As such, if a viewer were to want to plan their television viewing for the week ahead, they would have to purchase all three magazines. Magill, who proposed to publish a comprehensive guide, claimed that the refusal to license contravened Article 86 (now Article 102). The European Commission agreed and on 21 December 1988 ordered the defendant to license the listings.⁸⁴ More specifically, it ordered that the infringement be brought to an end:

⁷⁸ Berne, Arts 11bis(2), Art 13.

⁷⁹ Midge M. Hyman, Note, *The Socialization of Copyright: The Increased Use of Compulsory Licenses*, 4 *Cardozo Arts & Ent. L.J.* 105, 111 (1985) (arguing that the primary purpose of compulsory licenses is the elimination of transaction costs and discussing US compulsory licences for cable retransmission); Jane C. Ginsburg, *Creation and Commercial Value: Copyright Protection of Works of Information*, 90 *Colum. L. Rev.* 1865, 1925 (1990) (“The most popular current justification for compulsory licensing is the reduction of otherwise insuperable transactions costs”). In the EU, cable retransmission is dealt with by compulsory collective management, Sat-Cab Directive 93/83/EEC, art 9 (“Member States shall ensure that the right of copyright owners and holders or related rights to grant or refuse authorisation to a cable operator for a cable retransmission may be exercised only through a collecting society.”).

⁸⁰ Although the possibility of a compulsory licence in such situations is available in international copyright law, no provision is made for such licences under EU, the transaction cost problem having been reduced to virtually zero by the operation of collective management organisations which grant licences for public communication of such works.

⁸¹ Robert Stephen Lee, *Economic Analysis of Compulsory Licensing in Copyright Law*, 5 *W. New Eng. L. Rev.* 203, 209 (1982).

⁸² [1995] 4 CMLR 18.

⁸³ *Radio Telefis Eireann v Magill TV Guide Ltd* [1990] FSR 561.

⁸⁴ *Magill TV Guide/ITP, BBC and RTE* [1989] OJ L 78/43, [1989] 4 C.M.L.R. 757; [1990] F.S.R. 71.

"by supplying each other and third parties on request and on a non-discriminatory basis with their individual advance weekly programme listings and by permitting reproduction of those listings by such parties. This requirement does not extend to information in addition to the listings themselves ... If they choose to supply and permit reproduction of the listings by means of licences, any royalties ... should be reasonable. Moreover, ITP, BBC and RTE may include in any licences granted to third parties such terms as are considered necessary to ensure comprehensive high-quality coverage of all their programmes, including those of minority and/or regional appeal, and those of cultural, historical and educational significance."

The decision was suspended pending an appeal,⁸⁵ but that appeal was rejected, first by the Court of First Instance,⁸⁶ and on 6 April 1995 by the Court of Justice.⁸⁷

The idea of compulsory licensing of databases is not new. In her 1990 *Columbia Law Review* article,⁸⁸ Professor Jane Ginsburg considered the potential of compulsory licensing of certain works of fact as a mechanism to reduce some of the problems associated with a branch of US copyright law that offered protection to works of fact developed as a result of so-called 'sweat of the brow' (a category that was, in fact, significantly diminished the following year by the Supreme Court decision in *Feist v Rural Telephone*). Ginsburg considered:

"Compulsory licensing is an appropriate means of reconciling the warring social goals of stimulating the production of information on the one hand, and ensuring its broadest dissemination on the other."

Under the scheme she proposed (in outline), the compulsory licence would only be available in relation to *"low authorship informational works"* (which did not embody expression of personality) once such works had been made available to the public.⁸⁹ Under the proposed scheme, confidential or unpublished information would be outside the compulsory license domain. Moreover, the compulsory licence envisaged would not have allowed competitors to create duplicate works but only 'derivative works'. Ginsburg was less prescriptive as to which rates for the licences would be set, weighing up various options from administrative rate-making to mere intervention where the parties failed to agree the rate.

Perhaps inspired both by the Magill proceedings and by Ginsburg's proposals for US law, in its initial proposal,⁹⁰ as well as in the amended proposal, the European Commission proposed that the new sui generis right be subject to compulsory licensing. Article 8 provided that *"if the works or material contained in a database which is made publicly available cannot be independently created, collected or obtained from any other source"* they should be licensed on *"fair and*

⁸⁵ [1989] 4 C.M.L.R. 749, [1990] F.S.R. 87

⁸⁶ EU:T:1991:41; [1991] E.C.R. II-575.

⁸⁷ EU:C:1995:98, Joined Cases C 241–242/91P, *Radio Telefis Eireann and Independent Television Publications Limited (Intellectual Property Owners Inc. intervening) v E.C. Commission (Magill TV Guide Limited intervening)* [1995] E.C.R. I-743, [1995] 4 C.M.L.R. 718.

⁸⁸ Jane C. Ginsburg, *Creation and Commercial Value: Copyright Protection of Works of Information*, 90 *Colum. L. Rev.* 1865, 1924 ff (1990).

⁸⁹ *Ibid* at 1929.

⁹⁰ European Commission, *Proposal for a Council Directive on the Legal Protection of Databases*, COM(92) 24 final – SYN 393 (13 May 1992)

non-discriminatory terms". In addition, where a database is made publicly available "by a public body which is either established to assemble or disclose information pursuant to legislation or is under a general duty to do so". Article 8(3) added that "Member States shall provide appropriate measures for arbitration between the parties in respect of such licences."

This was maintained in the Amended Proposal, though now as Article 11.⁹¹ However, two new conditions were added as a result of amendments proposed by the European Parliament and accepted by the Commission as 'clarifications'. The first was that the purpose was not *"economy of time, effort or financial investment"*. The idea seems to have been that the user must propose a use that would 'add value' rather than merely paying to license an equivalent product. The second was that the licence must be preceded by a *"declaration clearly setting out the justification of the commercial purpose pursued and requiring the issue of a licence."* The public-sector obligation was also extended in Art 11(2)(b) to *"firms or entities enjoying a monopoly status by virtue of an exclusive concession by a public body."*

For some time, the Council was divided on the issue of compulsory licences. All Members States wanted to ensure that the new right was not a vehicle for abuse on monopoly, but Denmark, Finland, Germany, the Netherlands and Sweden opposed the use of compulsory licences in principle. More specifically, they thought competition law, including Article 102 and national equivalents, sufficient protection against abuse. In the end, in reaching a compromise deal, these parties won through. Part of that compromise was the limitation of the sui generis right to the extraction and utilisation of the whole or substantial parts (rather than insubstantial parts, as was on the table in Council). In its statement on adopting a Common Position, the Council deleted this aspect:

*"The Commission proposal made provision for obtaining non-voluntary licences in certain circumstances notwithstanding the sui generis right. This was meant to offset the substantial sui generis right which applied not only to the entirety and a substantial part of the contents of the database but also to insubstantial parts of it. Given that the scope of that right has been restricted to the whole of or a substantial part of the contents of the database, and in view of the exceptions to that right under Article 9 of the common position, the Council concluded that a proper balance between the rights of the maker of a database and the rights of the users no longer hinged on the possibility of obtaining such licences and it has deleted the provisions allowing for it. It nevertheless judged it useful to state that the sui generis right must not be exercised in such a way as to facilitate abuses of a dominant position and that competition rules continue to apply (recital 47). In addition, the Council has added a specific reference to this issue in the clause on the review of the Directive (Article 16(3))."*⁹²

All that seems to survive is the statement in Recital 47:

"Whereas, in the interests of competition between suppliers of information products and services, protection by the sui generis right must not be afforded in such a way as to facilitate abuses of a dominant position, in

⁹¹ COM (93)464 final- SYN 393 (4 Oct 1993).

⁹² Council Doc No 7934/95 (June 1995).

particular as regards the creation and distribution of new products and services which have an intellectual, documentary, technical, economic or commercial added value; whereas, therefore, the provisions of this Directive are without prejudice to the application of Community or national competition rules."

Many commentators were unhappy at the effect of the removal of the compulsory licensing provisions and were not convinced that other changes in the regime had allayed any of the fears which the compulsory licensing regime was intended to address. In his extensive study of database protection, Davison remarked that the Council reasons do not survive "even cursory scrutiny".⁹³

Leistner noted that:

*"while functioning quite well in some contexts (e.g. the protection of certain internet services), the new right caused problems in others: in so-called sole source data situations (where the content of the database cannot be compiled independently from public domain resources, such as with respect to TV programme listings, train timetables, etc.). These problems have been discussed extensively, and the sui generis right (which was originally intended as a European model for a world-wide protection instrument) became the object of global criticism."*⁹⁴

Nevertheless, the *Fixtures Marketing* and *British Horseracing Board* decisions did go some way to addressing some of the concerns that had informed the inclusion of compulsory licensing mechanisms in the initial proposal. It will be recalled that in those cases, the CJEU held that there was no sui generis right in lists of football fixtures or the runners and riders in horse races because the investment in such databases was primarily investment in "creating" the data rather than "obtaining, verifying or presenting" the data. It is notable that the claimants in those proceedings were the 'sole source' of the data – football fixture lists for the English Football Leagues could not be obtained from a source that did not ultimately lie with the Football Association. While the reasoning turned on the (ontological) distinction between obtaining and creating the data, the impact seemed most likely to be borne by the creators of sole-source databases as in such cases it was difficult to argue that the data 'pre-existed'. Leistner found it to be an "elegant and stunningly simple" solution to the problem of sole-source databases:

*"the ECJ has found a solution for clear spin-off cases and sole source data situations by simply excluding investments in the mere creation of data. This solution might indeed work well in clear-cut cases, because it is typical of sole source data situations that the data in question have been created by the database maker. It is because of this very creation process that the data cannot be obtained anywhere else, and the new right thus becomes problematic."*⁹⁵

⁹³ Davison, 97-98, 272 ff.

⁹⁴ [2005] 36(5) IIC 581, 592.

⁹⁵ [2005] 36(5) IIC 581, 593. See further Leistner, 'The protection of databases' in E Derclaye (ed.), *Research Handbook on the Future of EU Copyright* (Edward Elgar, 2009) 429.

A number of commentators suggested that the 'sole source' problem might exist even with some data that was 'obtained' rather than created, and that Competition Law rules, external to the system, could not be regarded as providing a satisfactory mechanism for preventing anti-competitive effects of sui generis right. Following the European Commission's first review, the Max Planck team of Kur, Hilty, Geiger and Leistner argued that "*it might therefore be a preferable alternative to implement a regime of non-voluntary licences within database legislation proper.*"⁹⁶ Moreover, Derclaye, in her 2008 review, proposed compulsory licences.⁹⁷ More recently, Gupta has argued that "*The compulsory licensing provision must be brought back to reduce existing concern with monopoly over factual information.*"⁹⁸

2.4.7 Study Findings

Continued concern was found over the competitive effects of sui generis right, and interest in a compulsory licensing solution, both in the in-depth interviews and at the workshop. There seem to be three reasons why the idea of compulsory licensing might be thought to be worth revisiting:

- (i) Doubts as to the ability of the *Fixtures Marketing* doctrine to prevent the occurrence of sole source databases;
- (ii) Concern about 'big data' and 'sensor-produced data' and the social importance of access to such information;
- (iii) The possibility of reversing the *Fixtures Marketing* (creation-collection) rule.

During an interview conducted as part of the present Study, Professor Matthias Leistner observed:

"In the original proposals of the Database Directive, compulsory licenses were foreseen. This should be reconsidered. In the wake of the new big data scenarios, it should be considered whether for certain areas, compulsory licenses might be needed (for example in cases where the databases have developed into industry standards)."

Similarly, in the specific case of Italy, it was found during the cross-country analysis, that the sui generis right protection should be reduced in order to avoid overprotection [including by] introduction of compulsory licenses.⁹⁹

(i) The effect of *Fixtures Marketing*

There is a level of uncertainty surrounding the *Fixtures Marketing* decisions. Moreover, the creation-collection distinction would not seem to prevent the existence of sui generis right for many sole-sourced databases. For example, any institution with a collection of unique objects will be able to operate as the sole source of collections of images (and the like) of those objects. This will be most obvious in relation to public institutions, such as art galleries or museums. However, organisations such as national health organisations could easily occupy

⁹⁶ [2006] 37(5) IIC 551, 554.

⁹⁷ 280-284.

⁹⁸ Gupta, *Footprints of Feist* (2017).

⁹⁹ See Italian fiche in Annex 6 (Cross-Country Analysis)

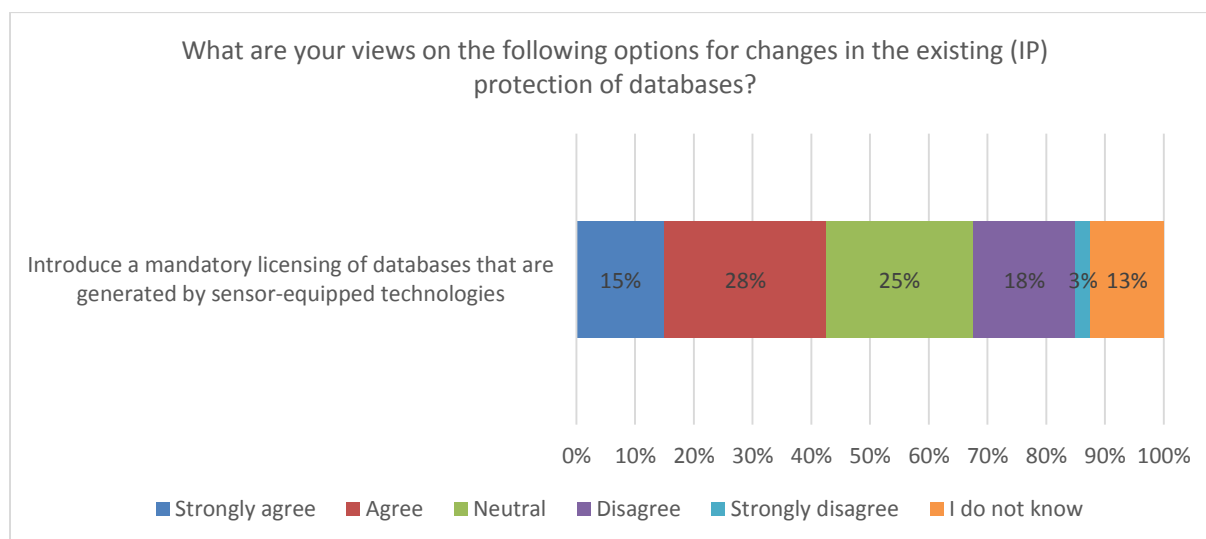
a highly privileged position in relation to the collection of medical data that might be highly valuable commercially once aggregated, albeit in anonymised form.

(ii) Big data and sensor-produced data

The issue becomes of special concern in the light of 'big data'. This highlights the many and varied ways in which accumulated data can lead to the generation of important innovative products and services. The technological developments alter the assessment of the 'incentive-access' balance that underpins many intellectual property rights, including the sui generis right. The social welfare benefits associated with access are significantly increased (and in the case of many sole-source database, the need for legal-economic incentives to produce such databases was always questionable).

In the questionnaire, legal experts were asked to consider various reform options. One was mandatory licensing for sensor-produced databases. Of the expert responses, twice as many favoured such licensing as were against, though 25% were neutral (see Figure 20).

Figure 20 – Expert view on the introduction of mandatory licensing of databases that are generated by sensor-equipped technologies



Source: Survey conducted for this study

(iii) The problem would be magnified if a decision were made to reverse *Fixtures Marketing*

The third reason to keep 'compulsory licensing' on the table is that there were serious calls for the reversal of *Fixtures Marketing*, particularly from those involved in the commercial exploitation of sport. The arguments have been reviewed earlier, but if it were thought appropriate to respond to them, it would also be vitally important to consider the implications of so doing for competition. In the workshop organised as part of the present Study, participants considered 'compulsory licensing' as an option. Those representatives of the sports industries seemed to regard compulsory licensing as acceptable, in part because they want to be able to license for example fixture lists widely, but they were interested primarily in securing remuneration.

Criticisms/Reasons to be Sceptical About Compulsory Licensing

Compulsory licensing has attracted substantial criticism.¹⁰⁰ One objection is that it is administratively cumbersome: price-setting requires large amounts of economic data and considerable expertise, and thus administrative proceedings that set prices can be lengthy and costly. Another, related, objection is that price-setting is doomed to failure: only the parties can agree the 'correct' rate, with a rate set by a third party almost always 'wrong'. Third, it might be said that compulsory mechanisms deter the formation of better voluntary arrangements such as pooling or collecting societies.

Compulsory Licensing as an Option

If sui generis right is maintained, serious reconsideration should be given to compulsory licensing as an option. Four aspects would need to be addressed: (i) which databases would be subject to compulsory licensing? (ii) what acts would the licence permit? (iii) who would set the licence fee? (iv) what would the standard for the fee and other conditions be?

i. Which databases?

More difficult still is the question when a compulsory licence should be available. One possibility would be to allow an applicant to seek a compulsory licence for any use, effectively removing the exclusivity of the sui generis right altogether. A second is to attempt to identify limited circumstances where such licences are to be available. The 1992 proposal identified two cases: "*if the works or material contained in a database ... cannot be independently created, collected or obtained from any other source*" and databases made available "*by a public body which is either established to assemble or disclose information pursuant to legislation, or is under a general duty to do so.*" The former might well cover sensor-produced data and would certainly cover fixture lists and sports information.

Under the original proposal, and in Ginsburg's scheme, compulsory licensing would only apply to databases that had been 'made available' to the public. This reflected concern with protecting sensitive confidential data. However, such a limitation might not encompass important collections of data that might benefit from compulsory licensing. In such cases, it is possible to envisage both duties to supply data and to permit its use. Indeed, such duties to share unpublished information are not unheard of. In the United Kingdom, precisely such a rule applies to so-called 'television listings'.¹⁰¹ If the reach of the licence were broadened in this way to encompass obligations to disclose data, the cases in which this is possible would need to be carefully identified. The Max Planck

¹⁰⁰ See e.g. Besen, Manning & Mitchell, 'Copyright Liability for Cable Television: Compulsory Licensing and the Coase Theorem', 21 J.L. Econ. 67 (1978); Goldstein, 'Pre-empted State Doctrines, Involuntary Transfers and Compulsory Licenses: Testing the Limits of Copyright', 24 UCLA L. Rev. 1107, 1135-36 (1977).

¹⁰¹ Broadcasting Act 1990, s. 176(1):

(1) A person providing a programme service to which this section applies must make available in accordance with this section information relating to the programmes to be included in the service to any person (referred to in this section and Schedule 17 to this Act as "the publisher") wishing to publish in the United Kingdom any such information.

(2) The duty imposed by subsection (1) is to make available information as to the titles of the programmes which are to be, or may be, included in the service on any date, and the time of their inclusion, to any publisher who has asked the person providing the programme service to make such information available to him and reasonably requires it'.)

Institute, in response to the European Commission's Data Economy Communication,¹⁰² has raised – in the context of sensor-produced data – the possibility of a “*a targeted and non-waivable data access right*” for someone with “*a legitimate interest in access to the data*”.¹⁰³ Moreover, grounds for refusing to disclose the data would also need to be established, including grounds based on trade secrecy/commercial confidentiality and data protection/data privacy.¹⁰⁴

ii. Which acts?

Both Ginsburg's 1990 proposal and the Amended Proposal were concerned that compulsory licensing might not be justifiable if the proposed use was duplicative of the rightsholder's use. One concern was that this would undermine the incentive effect of the exclusive right, so compulsory licensing should be restricted to where proposed uses added value. This also reflects the competition law approach that there may be abuse where the intellectual property right owner, which occupies a dominant position, without justification, forecloses the emergence of a market for a 'new product'. A refusal to license would thus not be an abuse where the proposed licensee was planning only to duplicate the goods or services already offered on the secondary market by the owner of the copyright.¹⁰⁵

Nevertheless, care should be taken before automatically assuming that compulsory licences should not apply to duplicate markets. After all, one of the concerns is to ensure that sole-sources of data do not leverage the intellectual property right to restrict supply or leverage prices. In the case of football fixture lists, for example, the need to establish a distinct product seems artificial – though in most cases a proposed use would be sufficiently contextually different that this might be achieved.

iii. Who would set royalties?

To date, the European Union has not offered the possibility for compulsory licensing at an EU-wide level in any field of intellectual property. For example, compulsory licensing under the proposed European Patent with Unitary Effect is left to Member States.¹⁰⁶ Moreover, in the 1992 Proposal, the European Commission had envisaged a system of arbitration at a national level. However, were the EU sui generis right to be transformed into a unitary right (similar to the unitary unregistered design right) – something which might be considered as having some value – one could imagine the possibility of compulsory licences being determined by an EU organisation, such as the European Union Intellectual

¹⁰² See Max Planck Institute for Innovation and Competition, 'Position Statement of 26 April 2017 on the European Commission's 'Public consultation on Building the European Data Economy' (2017), at http://www.ip.mpg.de/fileadmin/ipmpg/content/stellungnahmen/MPI_Statement_Public_consultation_on_Building_the_EU_Data_Eco_28042017.pdf [20] ff.

¹⁰³ Under Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, Art 6, manufacturers of vehicles are obliged to supply independent service providers with specified vehicle and repair data, but under Art 7 may charge a 'reasonable and proportionate' fee.

¹⁰⁴ A starting point might be Regulation (EC) 1049/2001 on access to documents, which creates exceptions to the obligations on EU institutions to disclose documents. See further M. Leistner, 'Big data...', 45.

¹⁰⁵ Case C-418/01, *IMS Health*, [2004] 4 CMLR (28) 1543, [49].

¹⁰⁶ Regulation 1257/2012, recital 10 ('Compulsory licences for European patents with unitary effect should be governed by the laws of the participating Member States as regards their respective territories'); for speculations, see Hugh Dunlop, [2017] EIPR 393.

Property Office (EUIPO). Indeed, coupled with a register at the EUIPO, one could imagine the availability of the terms of such licences as a mechanism that would encourage further exploitation.

Whether the right/licence is regarded as an EU or national level matter, experience suggests that the preferable mechanism is to leave the matter of negotiation to the parties and offer a fall-back system of price-setting/arbitration operating only in default of agreement. The parties will be in a good position to make a first attempt at price-setting, and because of the wide-range of databases and potential uses, it is unlikely that any tribunal will develop particularly useful experience from making repeat determinations. Where licences have already been subject of arbitration, the outcome could be a benchmark for assessment of further applications.

iv. What would criterion for remuneration be?

Finally, some further thought would need to be given to precisely the standards and conditions. To begin, one would expect the application of general standards of non-discrimination. The 1992 proposal had stated that licences should be on "*fair and non-discriminatory terms*".¹⁰⁷ Distinguishing between rates and conditions applicable to different licences will need to be justified.

What about the rate? Should it be 'compensation', seeking to replicate what, absent the licensing regime, the parties (as willing licensor and licensee) would have agreed? Should it depend on the database maker's investment? One possible standard might be to calculate a licence fee by reference to (i) investment in the database; and (ii) a notionally appealing return on investment, based on exploitation by the rightsholder and an anticipated number of non-exclusive licensees.

2.4.8 Conclusion

In general, it is difficult to identify appropriate responses to the rapidly changing data environment. Indeed, it was for this very reason that, following the consultation on the Data Economy package, the European Commission elected a rather modest legislative proposal confined merely to issues of location of data storage within the European Union.

Nevertheless, in part because of the changing environment, it would be useful to clarify some of the rules regarding database ownership. This is especially so as it can be expected that databases will increasingly involve cross-border production. A single, clear, ownership standard is important. Indeed, if the idea of a unitary EU database title were thought attractive, there would be a need to identify one law that would define the maker/producer/owner.

One possibility would be that the concept of the database maker should be defined clearly in the text of the Database Directive. One rather obvious definition would be that the maker is the person responsible for 'substantial' investment in the database.¹⁰⁸ Such a definition would logically link the requirement of substantial investment to the definition of the maker of a database. This is because there needs to be risk in making/developing the

¹⁰⁷ On the use of FRAND terms, Leistner, 'Big Data...', 46.

¹⁰⁸ On this, see also Beunen, p. 151 and 157.

database, an investment in the database production itself; buying a database is not enough.¹⁰⁹

Another idea that that might make the law easier to understand would be to replace the concept of 'maker' with the term 'producer', a concept familiar from the sphere of related rights.

Employees should be clearly excluded from the definition of maker/producer, like subcontractors. In relation to joint making, the Database Directive's text should state that such possibility exists. It could include a presumption of ownership to the person who made most substantial investment to avoid hold-ups.

Finally, joint 'makership' is different from joint authorship under copyright law and it is recommended that the two be not merged as the efforts and persons making these efforts could very well be different in many cases. Beunen and the European Parliament had wanted the author of a creative database to necessarily be the maker for the sui generis right. This is debatable. Presumably the argument is (i) simplicity of having all rights in one person and (ii) copyright is in some way hierarchically privileged because of the 'creator'. The arguments against are (i) the rights are independent, and respond to distinct 'inputs'; (ii) linking them produces uncertainty where it is clear who the maker is, but uncertain whether the threshold of Author's Own Intellectual Creation (AOIC) has been met (and thus whether the maker is not in fact the first owner); (iii) the rights can in any case come to be separated, especially in monist countries (Austria-Germany). This is why one argument might be for some sort of presumption similar to Section 53 of the UK Copyright Act.

The European Commission should consider carefully the effects of the Database Directive on competition, with a particularly close eye on sensor-produced technologies. Article 16(3) of the Directive requires the Commission, every three years, to submit to the European Parliament, the Council and the Economic and Social Committee a report on the application of this Directive, so as to verify *"whether the application of this right has led to abuse of a dominant position or other interference with free competition which would justify appropriate measures being taken, including the establishment of non-voluntary licensing arrangements."* Much of the concern with the anti-competitive effects of the sui generis right dissipated after the *Fixtures Marketing* decisions, but the evidence suggests that, in the era of 'big data', these challenges are again significant. Compulsory licensing is one potential solution.

¹⁰⁹ Beunen, p. 157.

3 Cost-Benefit analysis of the Database Directive

3.1 What costs have the provisions of the Database Directive produced and what are the benefits for the different stakeholders?

Based on the qualitative accounts of the participants of the Study, this Section describes how the Database Directive has been experienced by different groups of stakeholders in terms of benefits and costs.

3.1.1 For-profit database makers

According to the accounts of many for-profit database makers participating in the workshop and interview participants, the main benefit of the Database Directive is that it brings additional legal certainty. It offers protection of investment against situations where other means of protection (e.g. technological measures, licences, etc.) cannot help. According to one interviewed database maker, the main advantage of the Database Directive is that it offers protection against copies of data, and, therefore, secures investment. Without the legal protection his company would have been two times smaller. He additionally reported that copyright would not have brought sufficient protection, as it would be very difficult to claim that a database is original and was created with intellectual creativity.

Workshop participants also mentioned that the Database Directive reduces contractual costs due to the European harmonisation. They added that contractual terms usually increase administration costs on both sides, therefore, it is important that the legal framework aims to be concise, clear and harmonised to reduce such costs to the minimum.

Regarding costs, participants in different sectors mentioned that it is difficult and expensive to prove that somebody has copied your data in case changes to the data are done (e.g. reformatting, merging with other data). According to them, this leads to abuse and infringement of the terms of use of the original data. Sometimes the best way to prove that is to introduce wrong data in datasets, and check whether the suspect has also introduced the faulty data in the new database. As a solution, they propose that there should be the obligation to disclose the source of the records stored in a database. In the opinion of several participants, this problem will escalate in the next years as data will be increasingly interconnected with the development of the digital economy. Therefore, for quality issues and traceability, it is important to be able to track the source of the data.

3.1.2 SMEs and start-ups

In the public consultation organised by the European Commission,¹¹⁰ Copyright for Creativity responded that the Database Directive has strengthened the position of the market leader in their sector and added:

¹¹⁰ Summary report of the public consultation on the evaluation of Directive 96/9/EC on the legal protection of databases, <https://ec.europa.eu/digital-single-market/en/news/summary-report-public-consultation-legal-protection-databases>

"We consider that this new right has had an adverse effect, which is usually the case new rights are granted, namely: it benefits the bigger players who are already active in the market. BEUC, the European consumer organisation, made this point in its response to the EC's first public consultation back in 2006, as it explained that this Directive also impacts consumers because: "it increases the barriers to entry for potential competitors in the database market, thus raising costs and stifling innovation to the detriment of, amongst others, the consumer"."

Its representative additionally explained:

"We consider that additional layers of protection of information equate to disproportionate burdens for those willing to utilise this information, as it requires more efforts from them to negotiate licences or clear rights, and thus unnecessarily hinders accesses and increases costs."

One workshop participant (a data user) also raised concerns about the implications of the Database Directive on European innovative industries: in less mature markets, such as those dominated by start-ups and with no established rules of the game, the growth of many start-ups will be inhibited by data that is not readily available because it is in the hands of few players who will exercise undue monopoly power on information that should be open data. This participant gave the example of data availability in the wind industry, where there is much room for improvement and societal impact, i.e. bringing down the costs due to improved maintenance of the turbines. Such improved maintenance requires access to sensor-generated turbine data during operation for its analysis. However, turbine manufacturers rarely make this data available to their customers nor to companies that offer innovative services in the sector. In this case, the Database Directive provides an extra layer of security and complexity that inhibits access to such data, particularly if a 'standard' way has not been yet found in the industry.

The opinion of this participant is also shared by two surveyed experts who discuss the barriers caused by the sui generis right in terms of access and use of databases. One of them refers to the *"anticompetitive use of database right by undertakings in a dominant position to prevent third parties from consulting or looking up material and then creating derivative information"*. The other expert also refers to the anti-competitive actions that hinder innovation:

"For R&D in businesses and especially SMEs, the sui generis right represents a very high cost to access what in any other economy does not require negotiation. This increase transactive costs, stifles innovation and is fundamentally anti-competitive. Also, there is no empirical evidence that the sui generis right has been of any use to database businesses if compared to what has happened in other jurisdictions."

3.1.3 Research community

Four participants in the workshop organised as part of the present Study, including two representatives of research institutions, commented that the sui generis right creates additional costs for organisations wanting to share and open their databases to the third parties or the public, as part of the core activity of their activities.

They argued that opening data has a higher cost due to the incompatibility of the EU protection with the means of protection in other parts of the world. For instance, researchers who make intensive use of databases need to reach many different contractual agreements, which represents a high cost for the research institution. A similar experience was also reported by a representative of a private company who mentioned that her company prefers working with European data providers to avoid the legal costs of contractual agreements with US partners. Other strategies consist of circumventing the sui generis right by using CC licences aimed at ensuring user access to data. Some goes even one step further by using CC0 licences, meaning waiving all rights on the database. However, the interactions between the sui generis right and CC0 licence is not well understood.

Five participants in the European Commission public consultation additionally argued that it is also costly to make open databases compliant with the Database Directive because they need to involve their legal units to create and coordinate contractual agreements. This affects certain research fields, especially those employing text and data mining. The European Universities Association observed:

*"restricting a [text and data mining] exception to research organisations inhibits collaboration among citizens, researchers outside academia and fledging commercial organisations (e.g. spin-offs, SMEs). It is also at odds with the collaborative infrastructure the [European Commission] is investing in, such as the European Open Science Cloud and, more generally, the principles of Open Science and Open Innovation. The European institutions should therefore ensure that a mandatory exception be included to enable at least the not-for-profit organisations that have legal access to content to analyse and mine it with the tools of their choice."*¹¹¹

Therefore, they conclude that the Database Directive hampers research collaboration and restricts access and sharing of databases even for research and non-profit purposes. The opinions of these participants resonate with the findings of a report for the European Commission confirming that text and data mining lowers research costs and barriers for SMEs to enter new markets.¹¹² According to the same report, European stakeholders *"may be falling behind, especially with regard to researchers in the United States"*. This lag *"results, at least in part, from the nature of Europe's laws with regard to copyright, database protection and, perhaps increasingly, data privacy"*.

From the accounts of the participants, it could be concluded that different business sectors and activities have experienced contrasting benefits and costs. While established database makers see the Database Directive as a means of protection of investment, research organisations see it as a burden when such protection is not wanted, and start-up industries – where rules and ways of doing business have not yet been established – regard it as unfavourable as it might hinder access to original data that is needed to create new business models.

¹¹¹ Public Consultation at https://ec.europa.eu/eusurvey/publication/Consultation_Database_Directive

¹¹² European Commission (2014) *Standardisation in the areas of innovation and technological development notably in the field of Text and Data Mining*. Report from the Expert Group. Publications Office of the European Union: Luxembourg.

Generally, legal uncertainty was considered by all parties to be a negative issue driving costs for both enforcement and access to data.

3.2 To what extent has the intervention been cost-effective?

From an economic perspective, there follows an assessment of the benefits and costs that the Database Directive has brought to the different stakeholder groups participating in the survey.

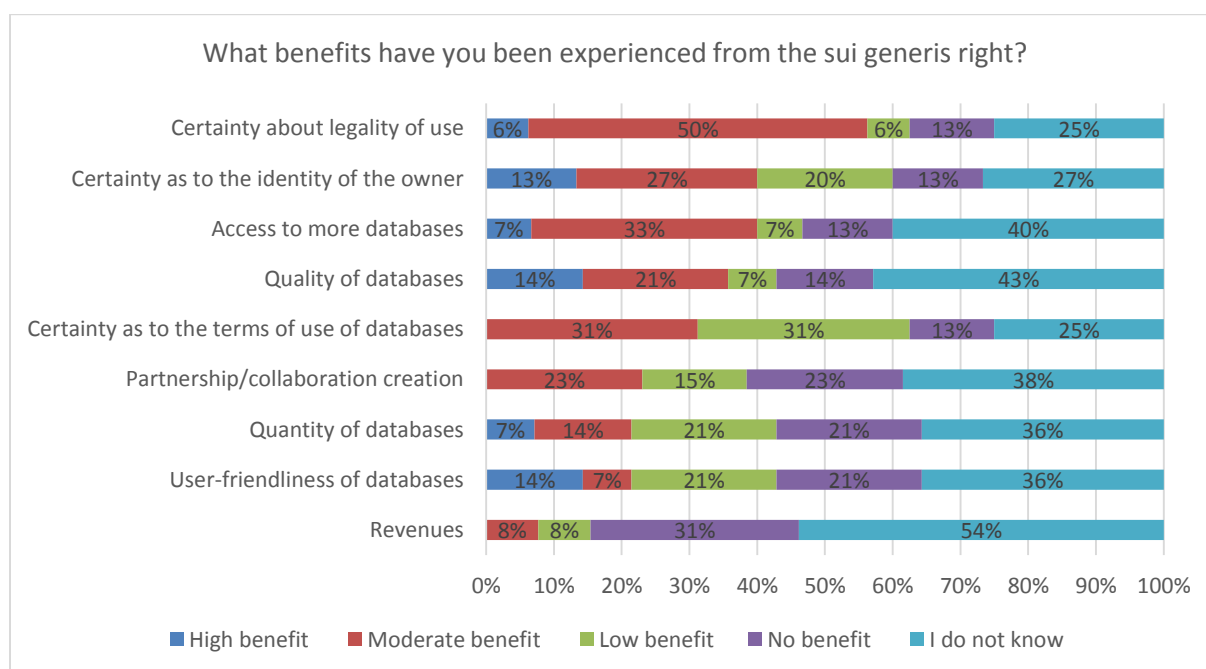
3.2.1 Database users

For users, the most significant benefit of the sui generis right is the certainty about the legality of use of databases – 56% of the participating users assessed it as a high or moderate benefit (see Figure 21). This benefit was also mentioned by several interview and workshop participants as a paramount factor for the reduction of legal costs within the European data market. The second and third most important benefit are the certainty as to the identification of the owner and the access to databases that would not have been available or created without the existence of the sui generis right – both benefits were assessed as high or moderate by 40% of the respondents. The lowest benefit experienced by respondents relates to higher revenues: only 8% of the respondents assessed it as a moderate benefit or as low benefit, while the remaining respondents experienced no benefit or did not know.

Concerning costs, 48% of the respondents experienced no additional costs, 13% moderate costs and none of them experienced high costs due to the sui generis right (see Figure 22).

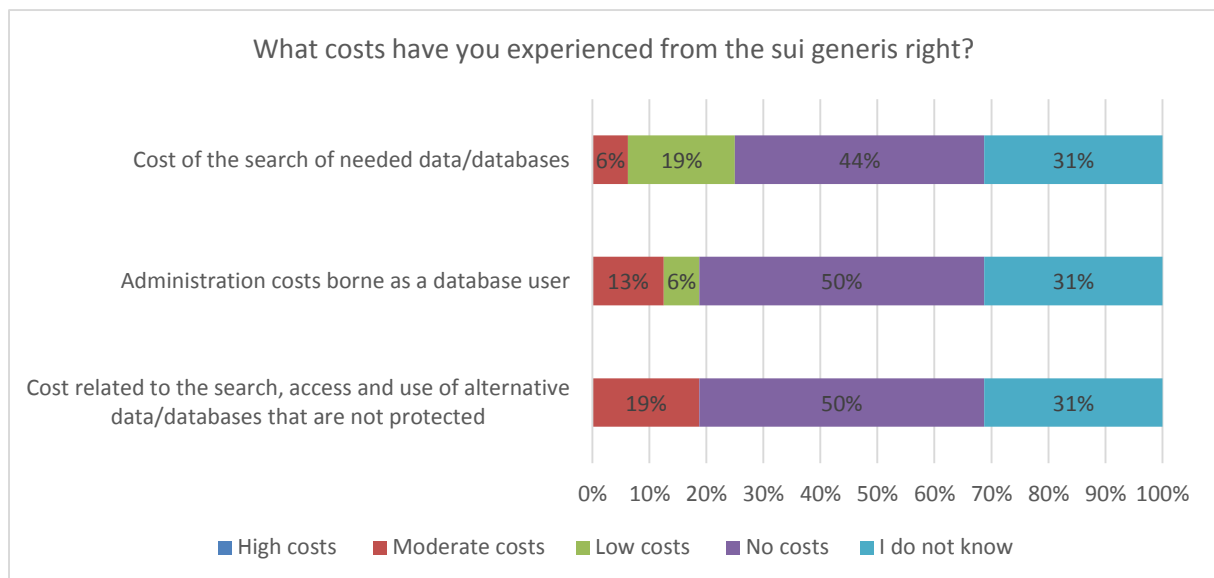
In the absence of any other source of quantitative economic data on the benefits and costs that users have experienced from the sui generis, the responses of the survey participants suggest that users have experienced rather low economic cost and moderate legal benefits.

Figure 21 – Benefits experienced by database users from the sui generis right



Source: Survey conducted for this study

Figure 22 – Costs experienced by database users from the sui generis right



Source: Survey conducted for this study

3.2.2 Database user-makers

Regarding surveyed database user-makers, overall, they have experienced very low benefits from the sui generis right. As can be observed in Figure 23, 'no benefit' is the most common answer of user-makers in each of the listed aspects: on average, it was reported by 44% of the respondents. Database user-makers assessed legal-related issues as the highest benefits from the sui generis right, in the following order:

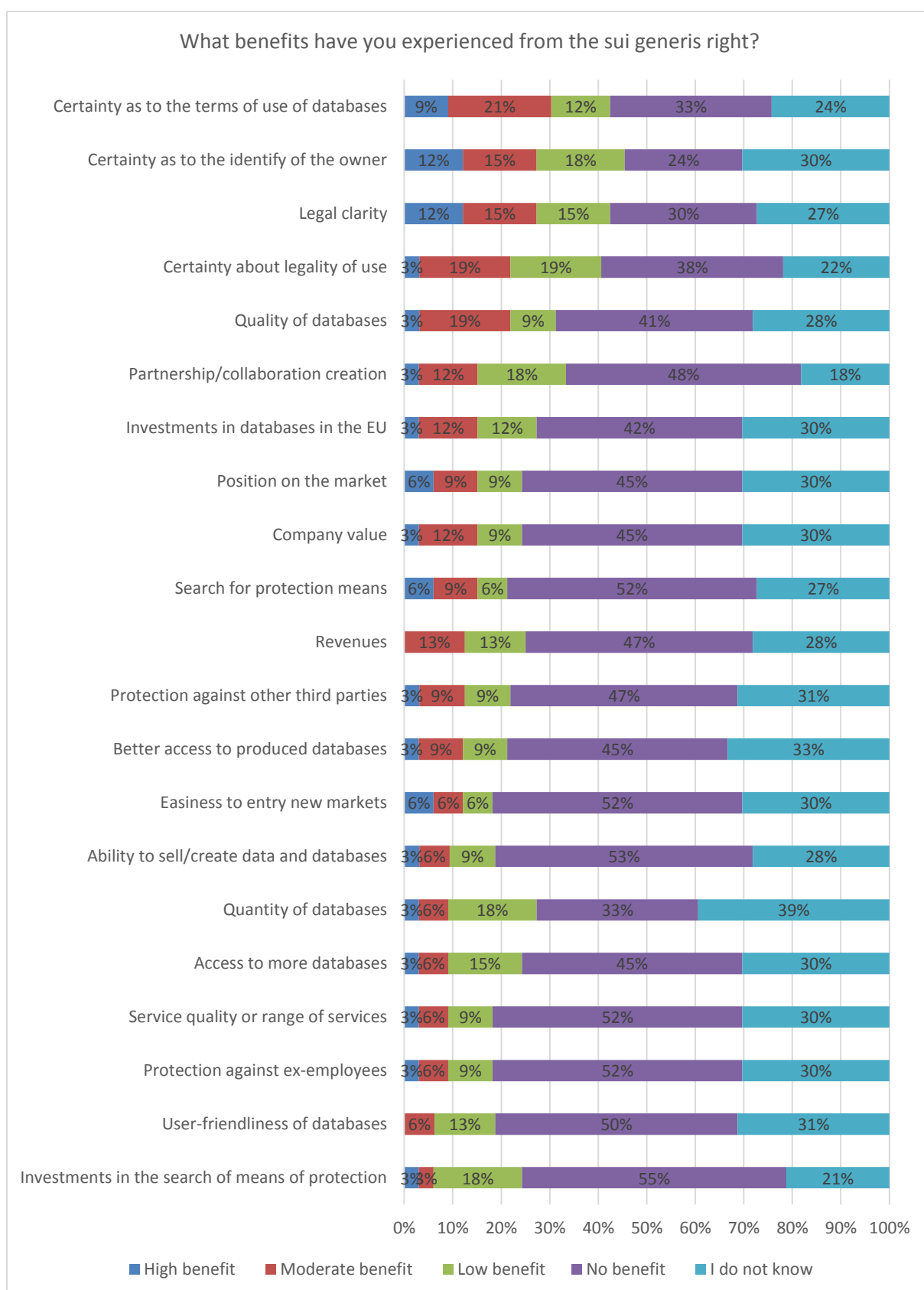
- (i) certainty as to the terms of use of databases (high/moderate benefit for 30% of the respondents);
- (ii) certainty as to the identity of the owner and legal clarity on the protection of own databases (high/moderate benefit for 27% of the respondents);
- (iii) certainty about legality of use (high/moderate benefit for 22% of the respondents).

The aspects where respondents experienced fewer benefits are: the user-friendliness of databases and investments in the search for means to protect databases (each with 6% of participants with high/moderate benefit).

Concerning costs, the aspects where user-makers experienced higher costs are: (i) the costs for meeting the conditions for protection of their own databases under the database right (high/moderate costs for 28% of the respondents), and (ii) administration costs borne as database users (high/moderate costs for 27% of the respondents).

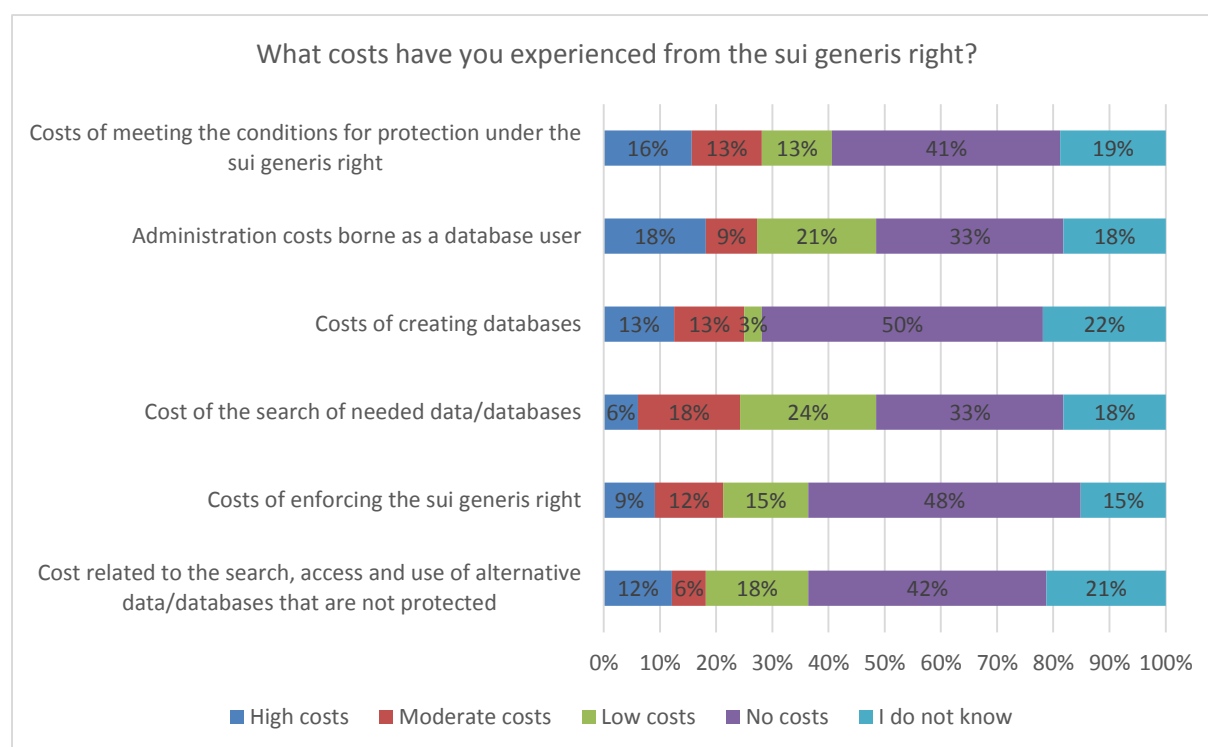
These results suggest that user-makers have mostly experienced moderate-low economic costs, low-moderate legal benefits, and rather low economic benefits.

Figure 23 – Benefits experienced by database user-makers from the sui generis right



Source: Survey conducted for this study

Figure 24 – Costs experienced by database user-makers from the sui generis right



Source: Survey conducted for this study

3.2.3 Database makers

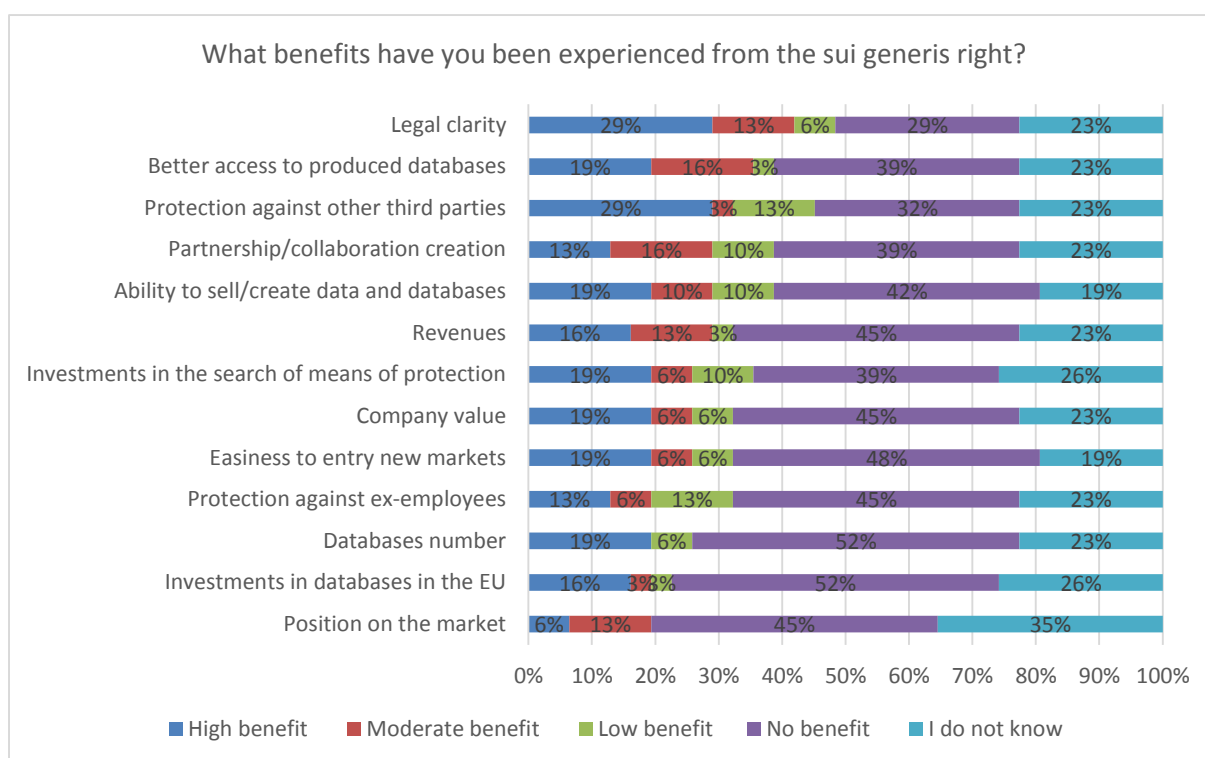
Compared to database users and user-makers, database makers constitute the stakeholder group that has experienced more benefits. Approximately 18% of the responding database makers reported high benefits (Figure 25). This is significantly higher than the proportion of users and user-makers reporting high benefits: 7% and 4% respectively. Despite this, it should be noted that a high percentage of database makers (42%) have experienced no benefits. The highest benefits reported by the respondents are:

- (i) Legal clarity (42% experienced high/moderate benefits);
- (ii) Better access to produced databases (35% experienced high/moderate benefits); and
- (iii) protection offered by the sui generis right against third parties except ex-employees (32% experienced high/moderate benefits).

The benefit experienced the least by the responding database makers is an improvement of their position in the market (19% experienced high/moderate benefits).

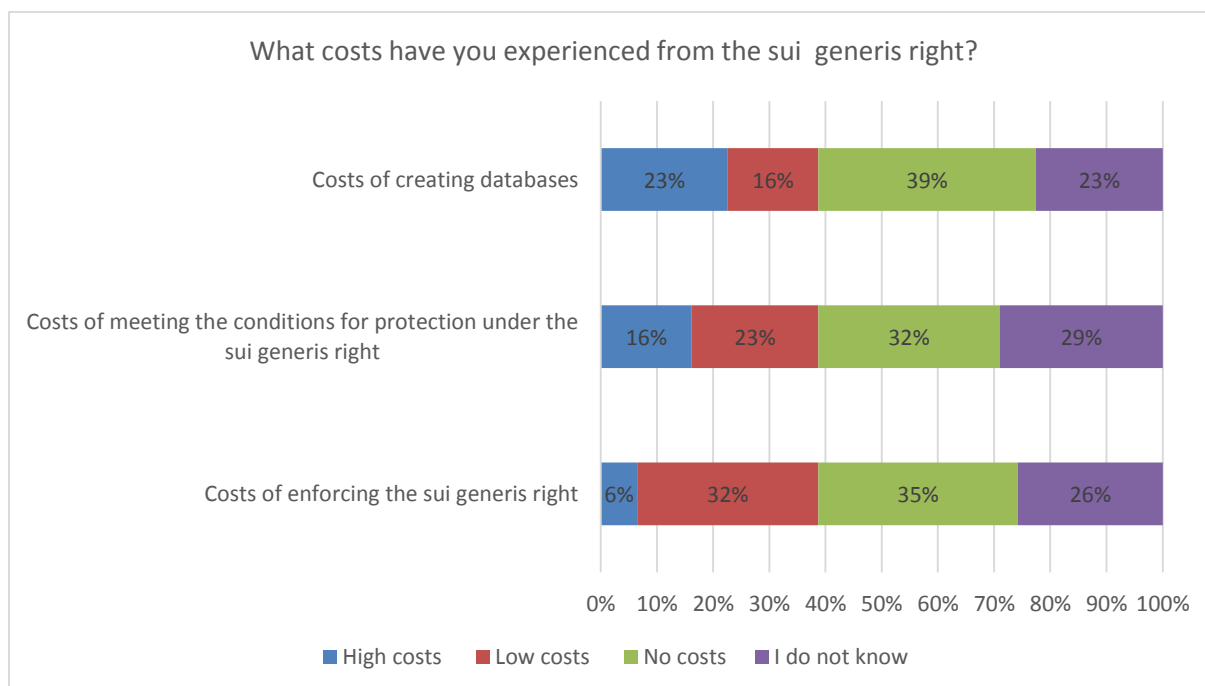
Regarding costs, on average 35% of the respondents reported no additional costs, followed by 24% who reported low costs and high costs by 15% (Figure 26). The highest impact experienced has been increasing costs of creating databases, while the lowest impact has been reported in the costs of enforcing the sui generis right.

Figure 25 – Benefits experienced by database makers from the sui generis right



Source: Survey conducted for this study

Figure 26 – Costs experienced by database makers from the sui generis right



Source: Survey conducted for this study

3.2.4 Conclusion

It could be concluded that legal certainty has been most beneficial effect of the Database Directive for all stakeholder groups. Database makers is the group that has benefited the most in terms of protection, economic results and legal clarity,

while users mainly benefited from improved legal clarity and certainty of the use of databases. Regarding costs, it is interesting to observe that users have reported rather low costs, and lower than database makers and user-makers.

3.3 To what extent have the costs of each provision of the Database Directive and of the Database Directive as a whole been justified and proportionate, given the benefits that were achieved?

While the previous Section presents the proportions of benefits and costs for different stakeholders, this Section discusses to what extent the provisions of the Database Directive are experienced by stakeholders as difficulties or barriers.

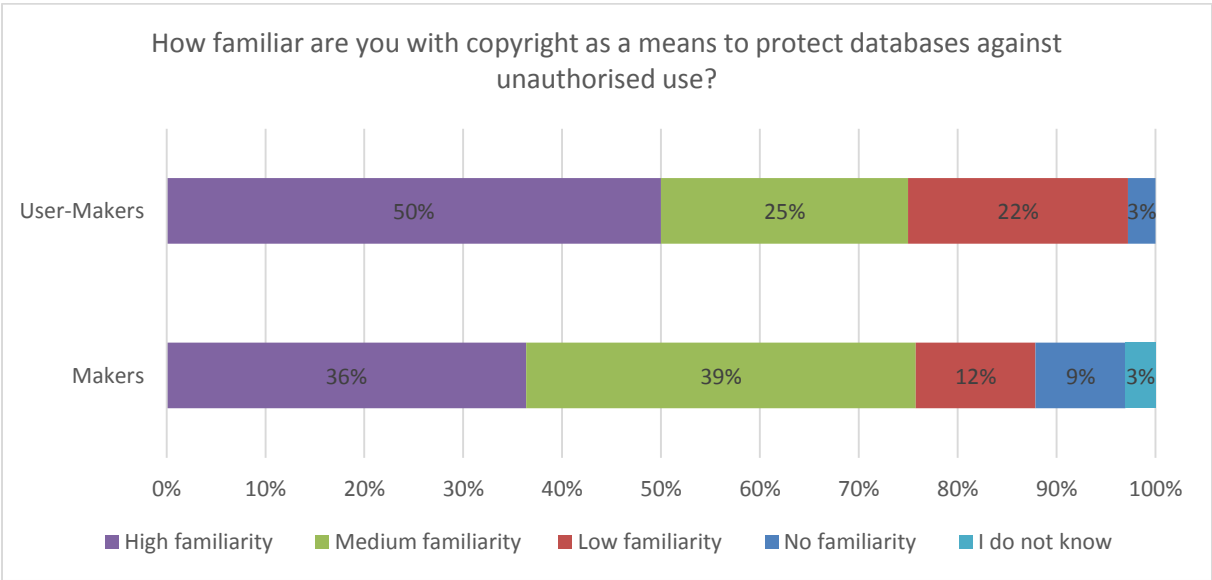
The survey data and the experiences of the participants of this Study indicate that some stakeholders experience uncertainties determining whether a database is protected by copyright or the sui generis right, whether the intellectual property of their database has been infringed or whether they are infringing it. Concerning the exceptions of the Database Directive, the barriers experienced by stakeholders are mainly related to their limited breath of scope.

3.3.1 Copyright

One of the main goals of the Database Directive was to establish a common standard for the protection of databases by copyright. Although a number of interviewees suggested that copyright protection of databases was not so important for their activities, other evidence suggests otherwise.

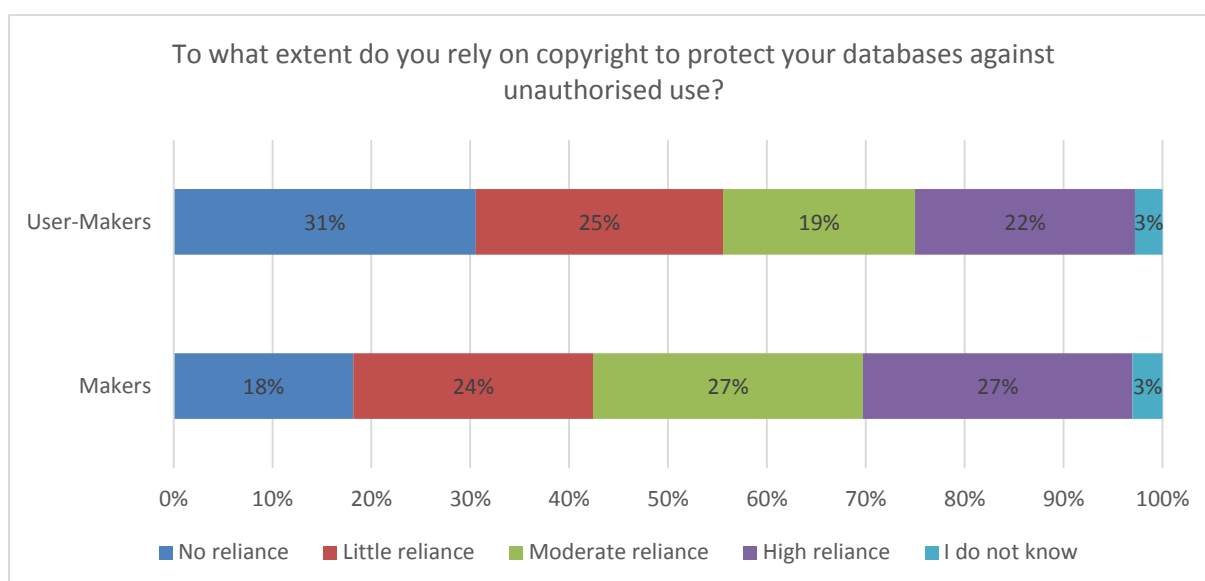
Most database makers and user-makers who participated in the questionnaire are familiar with the copyright (75% of them are highly or moderately familiar with it) (see Figure 27). Approximately 42% of the participating database user-makers and 54% of the makers have high or moderate reliance on it as a means of protection (see Figure 28).

Figure 27 – Familiarity of database user-makers and makers with copyright



Source: Survey conducted for this study

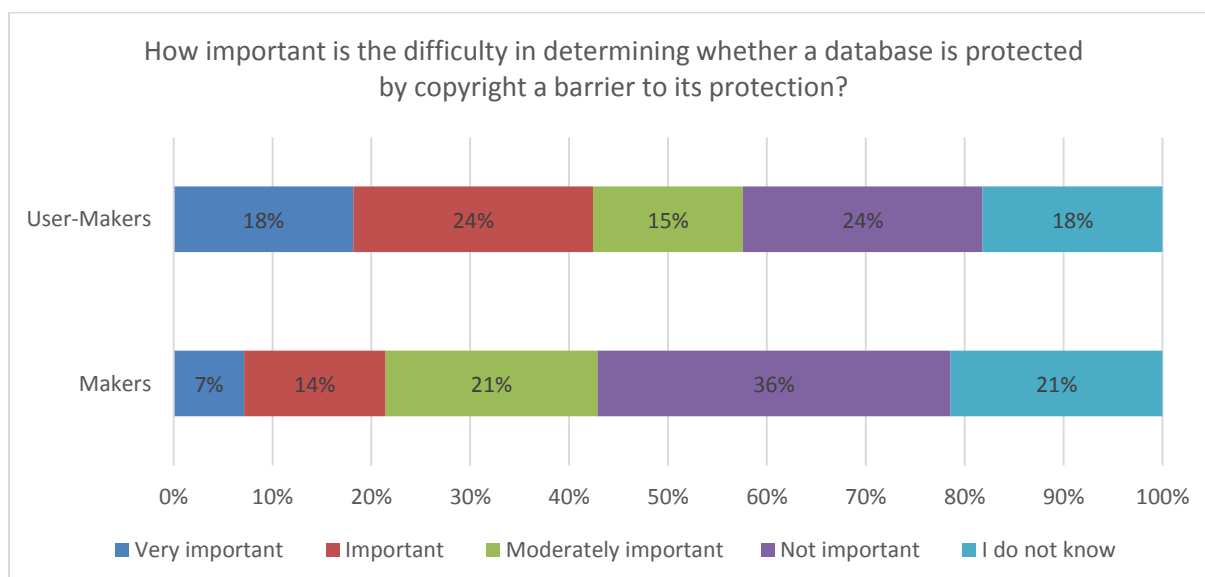
Figure 28 – Database user-makers and makers relying on copyright to protect databases



Source: Survey conducted for this study

Despite the high level of familiarity and considerable reliance on copyright, investigations reveal that the issue of originality of databases is a significant source of uncertainty. Around one third of the responding database makers and database user-makers stated that difficulties in determining whether databases are protected by copyright is an important or very important barrier to their protection (see Figure 29).

Figure 29 – Importance of the barrier experienced by makers and user-makers to determine when databases are protected by copyright



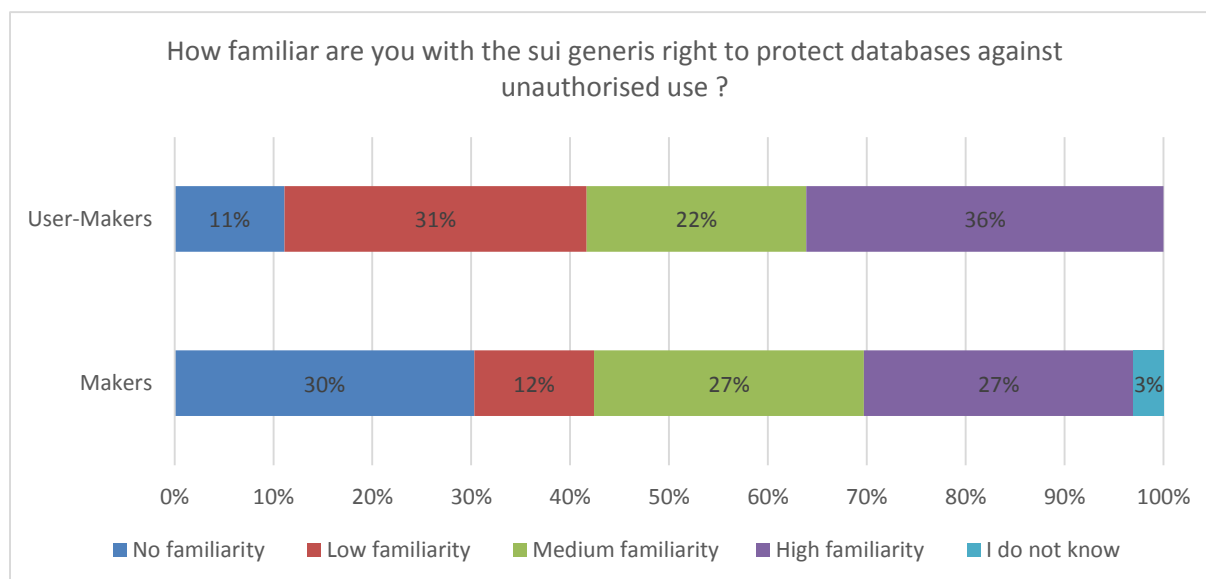
Source: Survey conducted for this study

Among the responding experts who had been involved in legal disputes or proceedings relating to copyright in databases, one third reported that the issue encountered was in relation to whether the databases actually benefitted from such protection.

3.3.2 Sui Generis Right

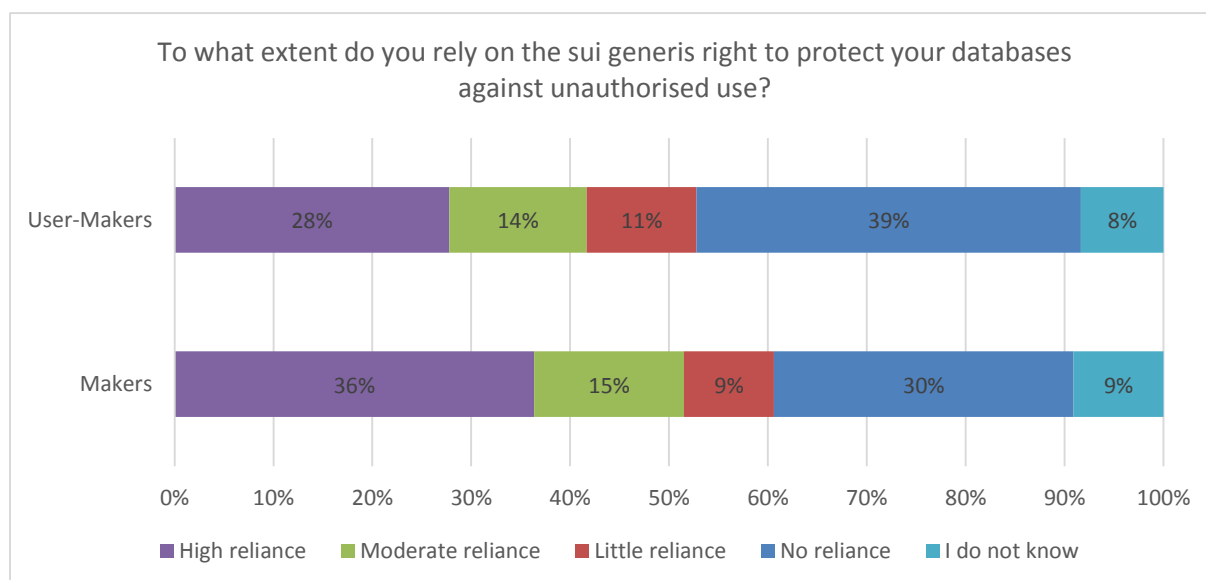
Compared to copyright, the sui generis right is less known by the responding database makers and user-makers (see Figure 30). However, as it can be observed in Figure 31 that there is a similar percentage heavily/moderately relying on the sui generis right to protect their databases.

Figure 30 – Familiarity of database user-makers and makers with the sui generis right



Source: Survey conducted for this study

Figure 31 – Database user-makers and makers relying on the sui generis right to protect databases



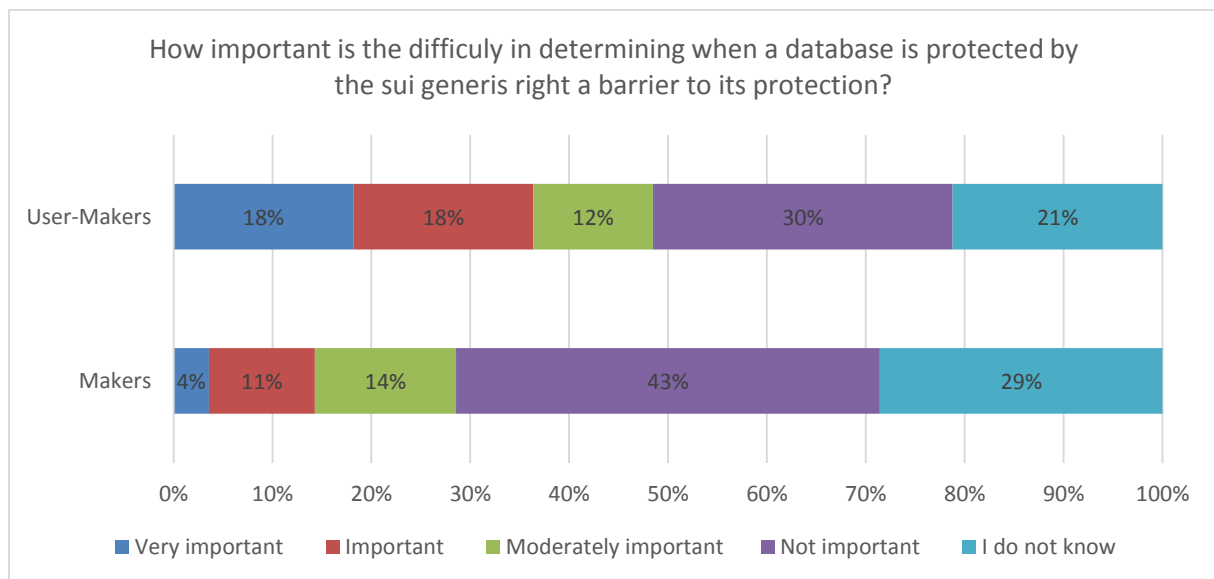
Source: Survey conducted for this study

According to the survey results, database makers and user-makers have fewer problems determining when their databases are protected by the sui generis than by copyright: 43% of the makers and 30% of the user-makers do not encounter difficulties to determine if their databases are protected by the sui generis right (see Figure 32). It is interesting to observe that a low proportion of makers (14% of the respondents) consider this to be an important or very

important barrier. Similarly low is the proportion of makers that have important or very important problems to determine if somebody has infringed the sui generis right of their databases (15%) (see Figure 33).

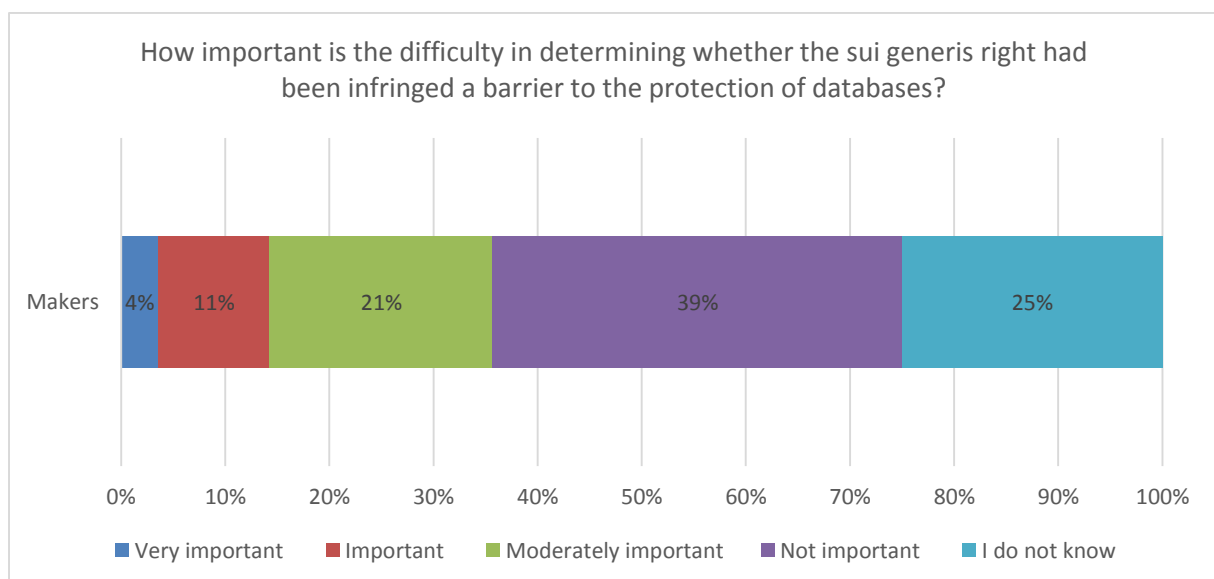
Conversely, user-makers seem to encounter very important or important barriers to determine whether the sui generis right protects their own databases (36% of the respondents) (see Figure 32), whether the databases they use benefit from any kinds of protection (53%) (see Figure 34), and when their use infringe any protection (53%) (see Figure 35).

Figure 32 – Importance of the barrier experienced by makers and user-makers to determine when databases are protected by the sui generis right



Source: Survey conducted for this study

Figure 33 – Importance of the barrier experienced by makers to determine when the sui generis Right has been infringed



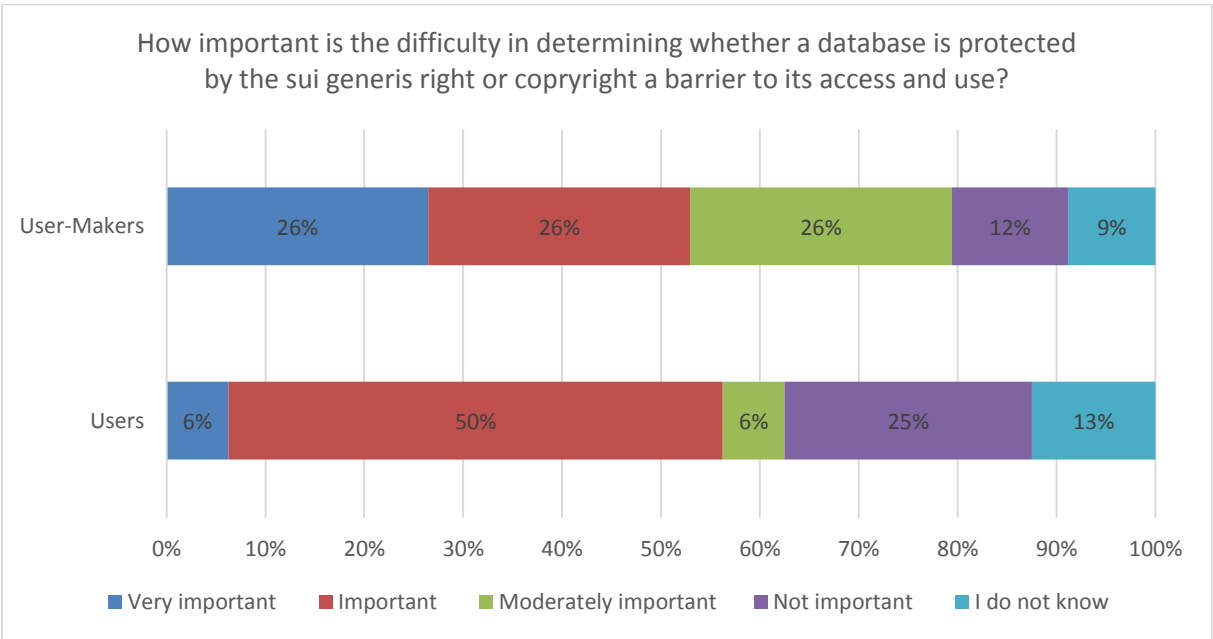
Source: Survey conducted for this study

In Figure 35, it can be observed that the responding users encounter more barriers than makers in determining when a database is infringed. For 44% of respondents, this is an important or very important barrier to their access and use of databases.

According to the accounts of users and user-makers, such barriers are caused by legal uncertainty. One expert noted that *"the concept of substantial (and a contrario insignificant) parts of the database, by its imprecise nature (as well as the notion of "substantial investment") entails considerable uncertainty as to the definition and to the scope of protection."*¹¹³ In an in-depth interview, Professor Matthias Leistner explained that *"it can sometimes be difficult to identify whether substantial part of the database was taken, or insubstantial parts were taken in a systematic way."* Another interviewed expert suggested that what constitutes a 'substantial part' in relation to extraction deserves better and clearer explanation. A participant in the workshop reported that such uncertainty is ever higher in relation to increasing web scraping practices.

Additionally, there is some uncertainty as to the scope of the notion of lawful user and whether it would include anyone making 'lawful use,' such as someone taking advantage of an exception. With the sui generis right, the latter option is complicated by the fact that exceptions in Article 9 are only available to someone who is a 'lawful user,' thus presenting an obvious circularity.

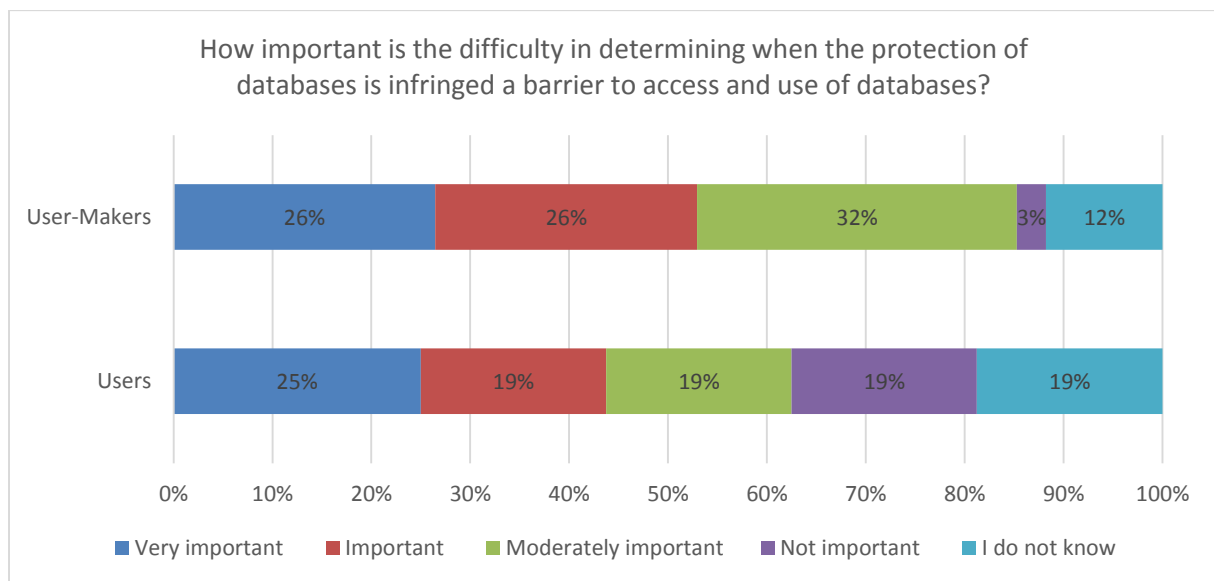
Figure 34 – Importance of the barrier experienced by users and user-makers to determine when a database is protected



Source: Survey conducted for this study

¹¹³ See Annex (Cross-Country Analysis)

Figure 35 – Importance of the barrier experienced by users and user-makers to determine when one is infringing the IP protection of databases



Source: Survey conducted for this study

3.3.3 Exceptions

According to the results of the study questionnaires, the scope and effect of the exceptions is of significant practical importance. Of those involved in legal disputes, almost all stakeholders and slightly more than one third of legal experts indicated that the issue included 'lawful use.' Similarly, around 60% of the responding stakeholders and almost half of the lawyers reported that the main issues included exceptions to the sui generis right. Although these issues are not litigated or fought over as much as those relating to the existence or scope of protection, the data still suggests these matters have significant practical importance.

A number of commentators criticise the restricted menu of exceptions. In particular, traditional copyright exceptions such as quotation and news reporting are unavailable in relation to the sui generis right. This is not only regarded as strange, giving rise to potentially opportunistic use of the sui generis right, but clearly raises the possibility of conflicts with Article 11 and 13 of the Charter of Fundamental Rights and Freedoms. Citing *Wegener Uitgeverij Gelderland-Overijssel BV et.al. v. Hunter Select BV*,¹¹⁴ Hugenholtz observed that:

"In practice, this incongruity between the two regimes may lead to regulatory arbitrage. For example, in a Dutch case, a newspaper publisher invoking protection of personnel advertisements published in its newspaper against appropriation by an online job ad site convinced the Court that the newspaper actually was a database subject to sui generis protection. The defendant in this case could therefore not invoke the

¹¹⁴ Court of Appeal Leeuwarden, 27 November 2002, AMI 2003, 59-63'

quotation and news reporting exceptions that would have been available had the Court applied Dutch copyright law to the case."¹¹⁵

Many respondents to the European Commission public consultation and to the survey and many interviewees criticise the limited array of exceptions to the sui generis right and call for expansion in various respects. There is also criticism of the overall balance.¹¹⁶ The sui generis right is a reported to be a rather strong right, coming very close to protecting data as such. However, this strong right is not balanced with flexible freedoms. Thus, Professor Matthias Leistner, in an in-depth interview, described the exceptions to the sui generis right as *"too limited and too rigid"*, a statement that is not endorsed by all interviewed legal experts. Respondents to the European Commission public consultation, especially from the library and university sectors, made similar points. Wendy Sonneveld, from Ghent University, argued that *"the Directive was clearly drafted with commercial interests in mind, and the exceptions demonstrate that it neglects the public interest and needs of educators and researchers."*¹¹⁷ LIBER, a library organisation, citing Annemarie Beunen, remarked that *"the sui generis right is arguably over-strong and [...] fails to balance the commercial interests of database producers against the public interests of society at large, such as the free flow of information."*

Most, if not all, participants in the European Commission's public consultation and involved in research or text and data mining activities objected to the current limitation for research purposes to (i) extraction (as opposed to reutilisation) and (ii) those acting for non-commercial research. Library representative, LIBER, explained:

"The exception for the purposes of illustration for teaching or scientific research is limited to the extraction of data for non-commercial purposes. First, limiting this exception to extraction of data creates issues for researchers as they also need to be able to re-use data, even if only to analyse it, in order to conduct meaningful research. Second, limiting the exception for non-commercial use goes against the public interest. This limits any potential knowledge transfer, especially seeing that research activities are nowadays more and more conducted in the context of public-private partnerships. Moreover, this limitation fails to recognise the fact that research has also become more reliant on private funding due to budget cuts. These restrictions thus render this exception useless in practice and negatively affect the re-use of data."

Communia raised similar points:

"The limitation to only extraction could prevent researchers from utilising the data in ways necessary for their research, such as text and data mining. The limitation for only non-commercial purposes ignores the fact that research and innovation take place beyond the walls of the traditional

¹¹⁵ P.B. Hugenholtz, [Something Completely Different: Europe's Sui Generis Database Right](#) In: The Internet and the Emerging Importance of New Forms of Intellectual Property, S. Frankel and D. Gervais (eds.), Information Law Series, Vol. 37, Kluwer Law International 2016, p. 205-222, 217.

¹¹⁶ Similar points occur in scholarly writing: see Beunen, 212.

¹¹⁷ She added *"The rights of the users (art. 8) and the exceptions (art. 9) should be broadened. A data driven economy not only protects the big database players, but also small players and other users."*

not-for-profit research university, and oftentimes includes projects that involve the private sector too."

Communia was not the only respondent to highlight how the limited scope of the exception might limit new forms of scientific research, in particular, text and data mining. The European Universities Association observed:

"restricting a TDM exception to research organisations inhibits collaboration among citizens, researchers outside academia and fledging commercial organisations (e.g. spin-offs, SMEs). It is also at odds with the collaborative infrastructure the EC is investing in, such as the European Open Science Cloud and, more generally, the principles of Open Science and Open Innovation. The European institutions should therefore ensure that a mandatory exception be included to enable at least the not-for-profit organisations that have legal access to content to analyse and mine it with the tools of their choice."

A number of respondents wanted to see the exception for transient uses in the Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society (Information Society Directive) extended not just to copyright in databases, but also the sui generis right. For the library group LIBER, it is *"important for the Database Directive to explicitly allow for temporary copies, which are generated when text and data are mined."* It also called for an exception permitting the retention of the research material for the verification. Wendy Sonneveld from Ghent University made a related point:

"The sui generis protection restricts extraction and/or re-utilisation of the whole or of a substantial part of a database: any (temporary) copies of a database made for text and data mining (TDM) purposes infringe this protection. The TDM exception proposed by the European Commission is limited to "reproductions and extractions made by research organisations" and "for the purposes of scientific research". Therefore, those who cannot benefit from the TDM exception (journalists, start-ups, etc.) will still be tormented by the complexities of the Database Directive."

On the other hand, some of the publishers cautioned against extending the exception for scientific research significantly. The Federation of European Publishers among others stated that *"data mining (academic or other) should be subject to the condition of lawful access and the non-for-profit purpose of the researcher."*

3.4 What factors influenced the efficiency of the current rules?

Efficiency is a context-dependent measurement. Benefits and costs experienced by different categories of stakeholders differ and vary according to different parameters. The efficiency of the legal protection offered to databases via the Database Directive appears to be mainly influenced by the following two parameters: (i) the level of familiarity of stakeholders (especially database users) with the Database Directive; and, (ii) the purpose(s) of the databases produced/used.

3.4.1 Level of familiarity with the Database Directive

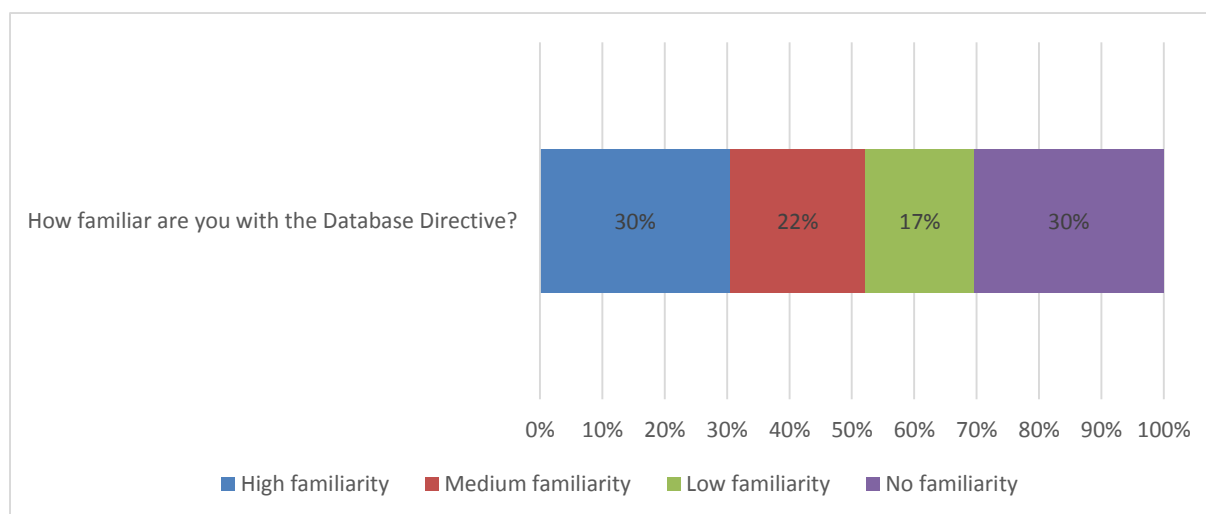
The low familiarity of users with the Database Directive was regarded as a problem with undesirable consequences by several workshop and interview participants. On the one hand, according to an anonymous interviewee from the library sector, when users do not know about the protection of databases, it is difficult to tell them what they can re-use from the database. On the other hand, people with no familiarity with the Database Directive might not know that some methods for data gathering, e.g. web scraping, might be unauthorised practice. In such circumstances, they may moreover be unwilling to pay for data. The latter consequence was regarded as particularly problematic by several workshop participants, as it may affect the decision of database makers as to whether to invest in improving the quality of their data or not, as they have low, if not no, guarantee that the protection of their databases will not be infringed.

Nevertheless, four workshop participants and one interviewee agreed that although some users might not know about the Database Directive, many might have heard that it is not allowed to copy the records of a database for commercial purposes. They believe that it is likely that the Database Directive has contributed to more awareness on the legal protection of databases, and users can find information in this respect, if they look for it. However, collected information might not be easy to interpret and would therefore not sufficient to prevent unintentional infringement.

The respondents to the questionnaire were asked to assess their degree of familiarity with the sui generis right and other means of database protection. Differences could be noticed between the different stakeholder groups in this respect, the users being the least informed group.

Among the database users who responded the survey of this study, 48% have low or no familiarity with the Database Directive. For instance, in Poland, the Database Directive is reported, by a national interviewed legal expert, to be largely unknown and those who would benefit from the sui generis right are, more often than not, unaware of its existence.

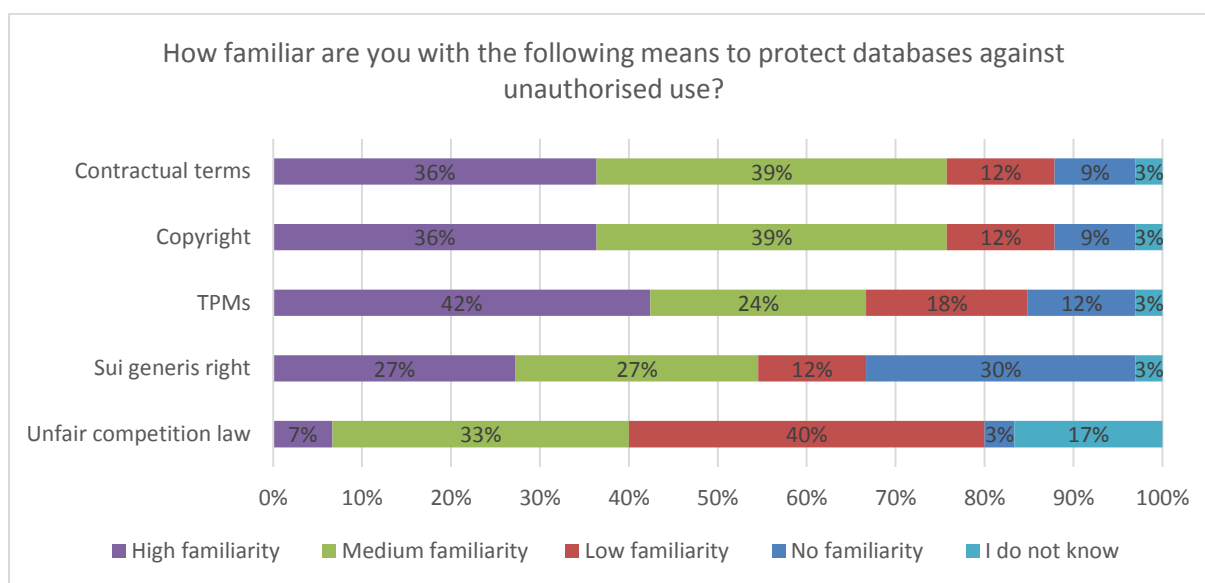
Figure 36 – Familiarity of database users with the Database Directive



Source: Survey conducted for this study

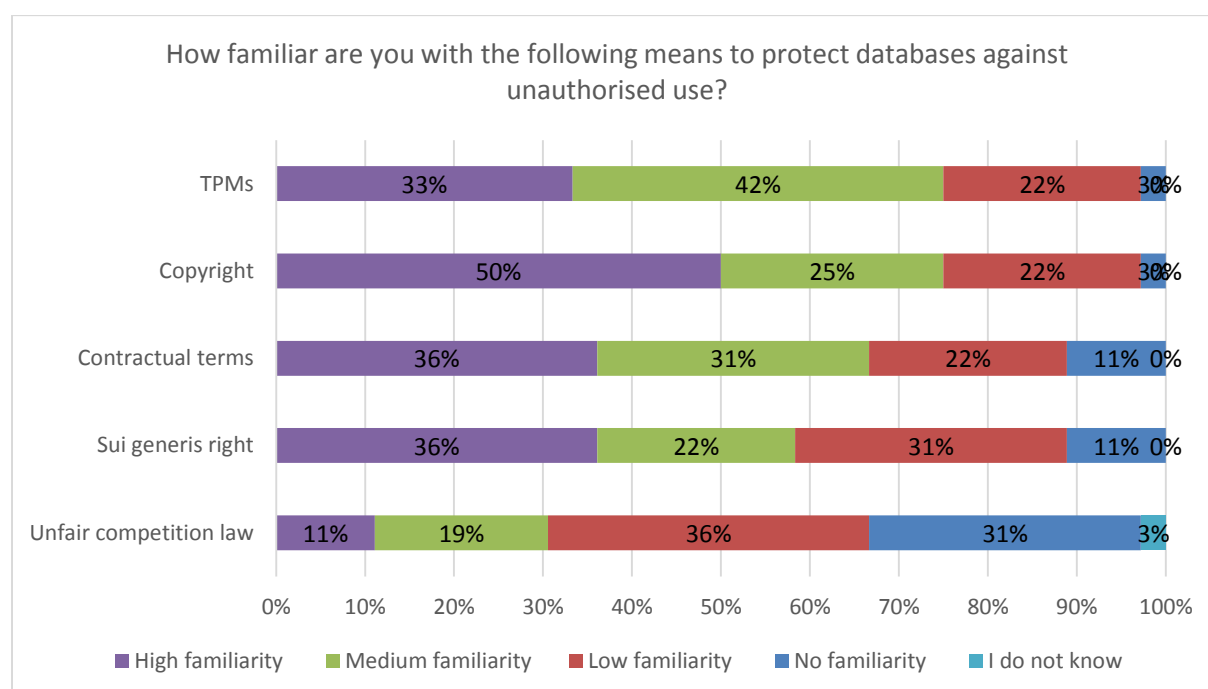
The proportion of makers and user-makers with high or medium familiarity with the Database Directive is only slightly higher than that of users. Their most well-known means to protect databases against unauthorised use is copyright, followed by contractual terms and technological protection measures. Only unfair competition law is less known than the Database Directive. The interviewed representative of a consortium of research libraries reported that she was not familiar with the Database Directive. The protection of databases has never been a concern so far in her organisations, whose databases are the objects of CC0licences aimed at ensuring that they would remain freely accessible.

Figure 37 – Familiarity of database makers with different means to protect databases against unauthorised use



Source: Survey conducted for this study

Figure 38 – Familiarity of database user-makers with different means to protect databases against unauthorised use



Source: Survey conducted for this study

3.4.2 Purposes of protected databases

Efficiency is measured by comparing the benefits of the protection offered by the Database Directive with all the costs that it implies. Unsurprisingly, most database users, who expressed their opinions in the context of the present study, are willing to access data at the lowest cost possible and would prefer encountering databases with a lower level of protection.

The workshop organised within the context of the present Study nevertheless reveals that there is less clear consensus among database makers. Representatives of (user-)makers of databases aimed at being shared widely and/or being made openly and freely accessible reported that they needed to take actions to clear the sui generis right protecting their databases and thus restricting or prevent its open access. For this purpose, they use, for instance, CC0 licences. Such practice may nevertheless create additional administration costs for them and therefore reduce, as far as they are concerned, the efficiency of the legal protection of database offered by the Database Directive. Furthermore, it is still unclear whether the protection of databases via the sui generis right and copyright can be waived by CC0 licences. Their use can therefore lead to increased legal uncertainty and limit the benefits of the Database Directive in this respect (consequently reducing again the efficiency of the Database Directive).

As stated by an interviewed maker of an open access repository of research databases, the Database Directive is more a hindrance to the achievement of its objectives – the free flow of data mostly for research purposes. Conversely, the protection of databases that the Database Directive offers may make more sense to makers of commercial databases, as the sui generis right can be a single and effective means of protection of their investments.

3.4.3 Conclusion

The efficiency of the legal protection of databases offered by the Database Directive depends, in accordance with the findings of the present Study, on the level of familiarity of database stakeholders (especially users) with it and on the purpose(s) of the databases considered.

The legal protection of databases may be infringed by users who are not (sufficiently) aware of and/or informed about the Database Directive. Such infringement increases the total costs of the enforcement of the Database Directive and reduces its efficiency. Database makers may consequently be more reluctant in making any further investments in databases.

Moreover, the Database Directive may create additional costs for users and makers when it grants (or is thought to grant) legal protection to databases that are nevertheless aimed at being freely and openly accessible. In such circumstances, representatives of makers, who participated in the study, reported to use CC0 licences to clear the sui generis right. Such practice can induce additional administrative costs and create legal uncertainty.

Because of this varying efficiency of the means of protection offered by the Database Directive, database makers could decide to replace the sui generis right and/or copyright with other means of protection. For instance, technological protection measures are believed to offer a more effective and efficient protection, while contractual protection can be adapted to the business models of commercial database makers and the purposes of the databases. However, it appears, from the workshop and the interviews conducted as part of the Study, that these different means of database protection are not considered as alternative options. They are used instead in a complementary way. This raises the issue of their overall coherence. For instance, as it appears that not all database makers are willing to benefit from the sui generis right, the European Commission may want to consider whether the Database Directive should include provisions about the interoperability between contracts (including licences) and the sui generis right, and/or opt-in or opt-out mechanisms.

3.5 Could the objectives to protect databases be achieved at a lower cost?

Although the stakeholders consulted in the context of the present Study indicate that the costs associated with the database right are generally low, there is also evidence that the ready availability of the sui generis right (as an automatic right granted to any database that results from substantial investment) itself creates problems. In essence, the regime at present may be regarded as too generous, granting exclusive rights whether needed or not, and in many respects, not wanted. As a result, consideration could be given as to whether the regime could be better targeted and reconceptualised to reduce the information and transaction costs.

Stakeholder consultations reveal not just a lack of consensus about the sui generis right, but diametrically opposed views. For some, particularly commercial publishers, the sui generis right is valuable, and they would like to see it retained (and possibly enhanced). The right works and is preferable to the 'patchwork' approach those publishers have to protect their investments outside the EU. By contrast, many from the sector of databases users, including library and

archives, as well as public sector and community-driven database producers, find the right to be an additional and unnecessary layer of protection.

In these circumstances, it is hard for policymakers to locate some sort of compromise position. However, one option that might be worth further consideration is the introduction of some sort of formality: namely, making available the sui generis right, but on condition that the person seeking the right does something to make clear they are claiming such right. Makers not willing to benefit from the sui generis right, should simply not request it.

The question of formalities played no part in the debates of the early 1990s. However, Leistner recently raised:¹¹⁸

"A more radical alternative in order to reduce the inefficiencies, which the sui generis right can clearly cause in such situations, would be to consider designing the right as a registered and unitary EU industrial property right. A respective register (which could be administered by the EUIPO) should provide interested parties with relevant information on the existing exclusive rights and their ownership and could thus considerably reduce information costs in the markets. Moreover, the condition of registration, the resulting registration fees and ideally also prolongation fees, substantially increasing over time, would guarantee that only those enterprises would acquire and prolongate exclusive rights which really deemed such protection necessary in order to recoup their initial investments. Arguably, this would also help to cut back the sui generis right to those (probably rather limited and area specific) situations where such protection is really needed as an incentive in order to prevent underinvestment in database markets (and also to a justifiable protection term, see further below, II. 4.)."

The critical premise that underpins Leistner's proposal is that a right such as a sui generis right should only be conferred on those who really need it as an incentive for their investment.

3.5.1 Public Consultation

The Commission's public consultation revealed that the idea of some sort of formality, particularly registration, has garnered considerable support: Communia,¹¹⁹ Creative Commons,¹²⁰ Wikimedia, Copyright4Creativity, EDRI and others propose such a reform. Admittedly, most of those who support the idea regard it as a second-best option and would prefer repeal. But they see the introduction of formalities as a mechanism to:

- (i) Ensure only those who need the right benefit from it;
- (ii) Provide information to users about what is protected;

¹¹⁸ Leistner credits Herbert Zech for the idea. In *Informationals Schutzgegenstand* (Mohr Siebeck 2012) 437–440, Zech considers the introduction of a registered right for digital information more generally, rather than specifically for databases.

¹¹⁹ Communia states "If it is not possible to fully revoke the sui generis right, the Commission should amend the Database Directive to introduce a system whereby producers of databases must register to receive protection under the sui generis right."

¹²⁰ Creative Commons, which responds in similar terms to Communia, adds that "*The registration process should be substantial.*"

The idea that registration is a mechanism to ensure sui generis right is only conferred on those who need it is articulated well by the representative of Wikimedia, who states:

"The database protection remains mostly an unwanted right. The vast majority of database producers are not aware, especially of the sui generis right and when told about it see it unnecessary next to copyright. The sui generis right is practically non-existent outside of the European Union and thus inapplicable in a global economy."

"We gather all data under a Creative Commons Zero licence. This is because of the sui generis right in the Database Directive. If it didn't exist, we would be able to accept a wider array of licenses and thus to gather and offer for re-use significantly larger amounts of data."

"The sui generis right should be revoked EU-wide and harmonised exceptions should be established. Alternatively, a 'protection upon registration' system could be a solution. This way the producers wishing to protect their databases could continue to do so, while the vast majority of cases where the sui generis right is unwanted would be resolved. The registration could be handled by the EUIPO in Alicante."

EDRI makes a similar point:

"An alternative to complete removal of the sui generis right could be envisaged. A sui generis protection only for the cases where the database rightsholder specifically requires such protection (i.e. by a 'sui generis notice')."

The substantial information benefits are indicated by the respondent from iRights.Law (as part of the Smart Data Web Consortium), who argues:

"amendment of the sui generis right to have a shorter term and be subject to registration, so that there would be ways to look up the sui generis status of any given database (for example at the EUIPO) and in cases of unjustified registration challenge the status generally."

Elsewhere in this Study, the possibility of adoption of a shorter term (say five years) is mooted, such as that offered in South Korea, with similar possibilities for renewal as at present. It is often for users to know when such protection lapses, and a registration system could provide increased clarity in this respect.

Other respondents put the benefits of registration in terms of 're-balancing' the rights of the right-holder and the public. Copyright4Creativity stated:

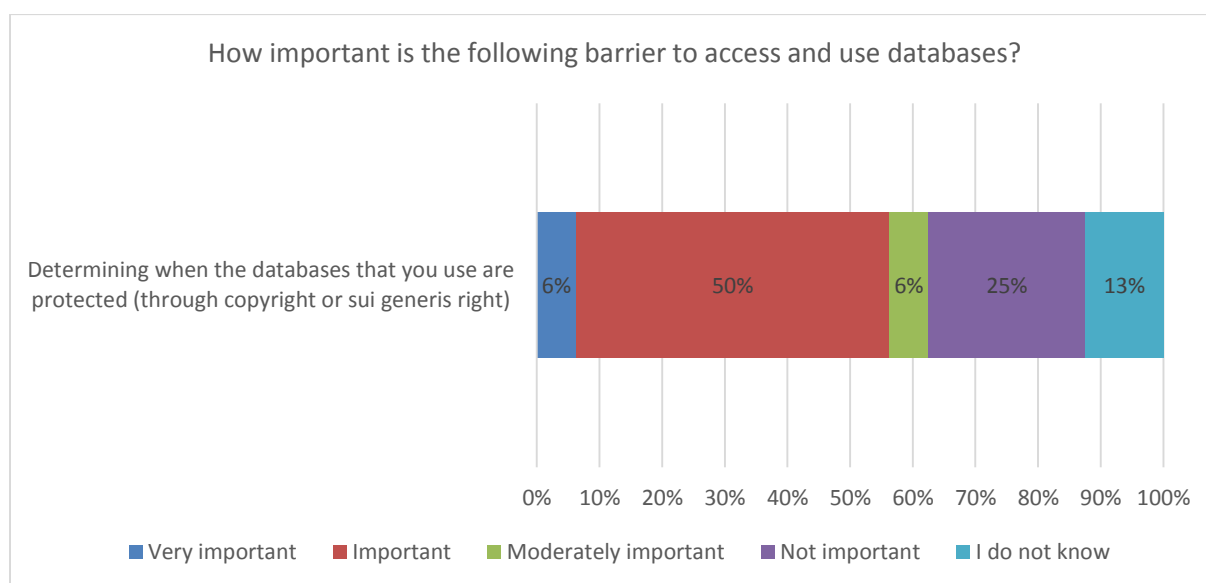
"We consider that additional layers of protection of information equate to disproportionate burdens for those willing to utilise this information, as it requires more efforts from them to negotiate licences or clear rights, and thus unnecessarily hinders accesses and increases costs. The additional restrictions on the use of data have not generated any benefits, quite the contrary. Therefore, C4C suggests to, at a minimum, withdraw the sui generis right. However, should this not be a feasible option to pursue, we suggest the introduction of constitutive formalities for database producers in order to benefit from the sui generis protection. This could be achieved,

for example, through a mandatory registration requirement for those databases that a database producer wants to protect, instead of automatically granting protection. Dev Gangjee, Associate Professor of Intellectual Property Law at Oxford, explains that "constitutive formalities act as an entry level barrier into copyright protection, by requiring positive acts on the part of those seeking protection" (p. 226), therefore this would help re-tip the balance in favour of the public. Such an electronic register could be facilitated by the European Union Intellectual Property Office, as they have experience with the unitary trademark and designs registries.¹²¹

3.5.2 Questionnaire

The questionnaire responses from users suggests that absence of clarity as to whether databases are protected is a problem. In response to the question "How important are the following barriers to access and use" of databases, the answer "determining when the databases that you use are protected (through copyright or sui generis right)" was regarded as important by almost two-thirds of the respondents (see Figure 39).

Figure 39 – Users' opinion on the importance of the barrier of determining when databases are protected

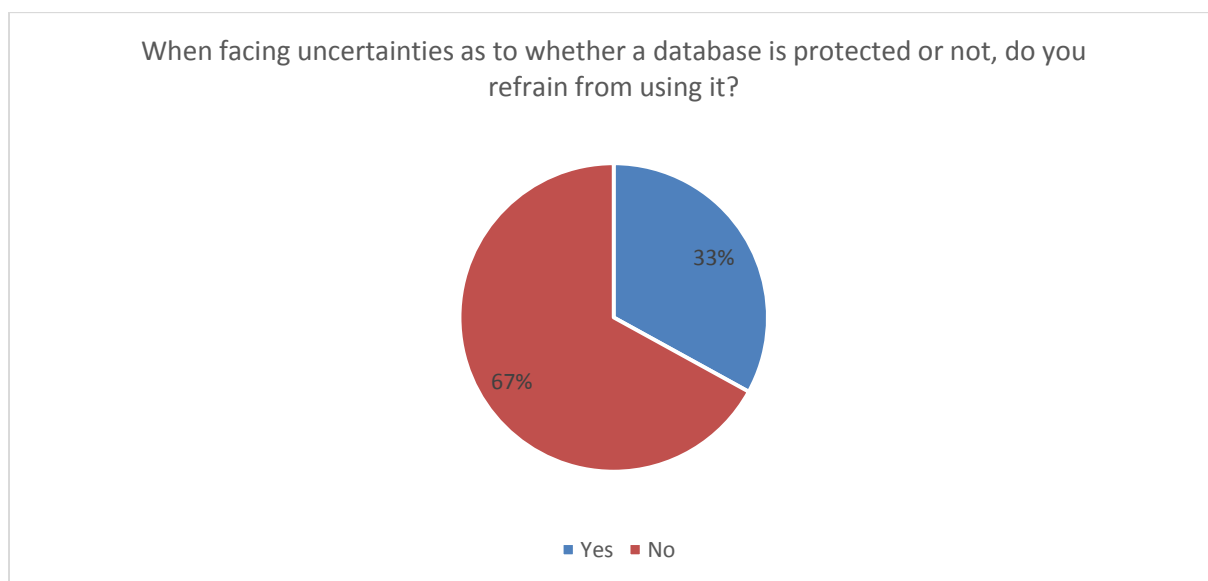


Source: Survey conducted for this study

Moreover, when asked how they respond to absence of clarity, users indicated that they were likely not to use the database. In effect, lack of clarity ends up impeding potentially valuable activity (see Figure 40).

¹²¹ <http://press-files.anu.edu.au/downloads/press/n2190/pdf/ch07.pdf>

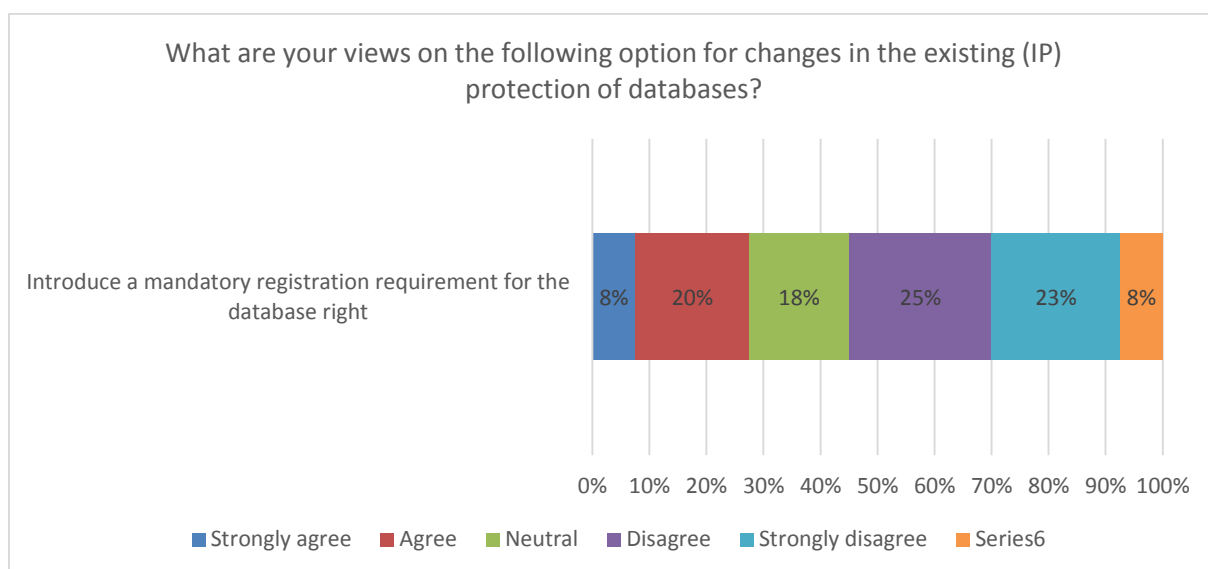
Figure 40 – Users' refraining from using databases when facing uncertainties as to whether a database is protected or not



Source: Survey conducted for this study

Nevertheless, respondents are not convinced that registration is the answer. In the questionnaire, “options for change” were listed, offering a menu of ten possibilities, one of which was introduction of mandatory registration. No explanation was offered about what precisely was envisaged. The responses of legal experts were divided, with 28% in favour, 48% against, and 18% neither agreeing nor disagreeing.

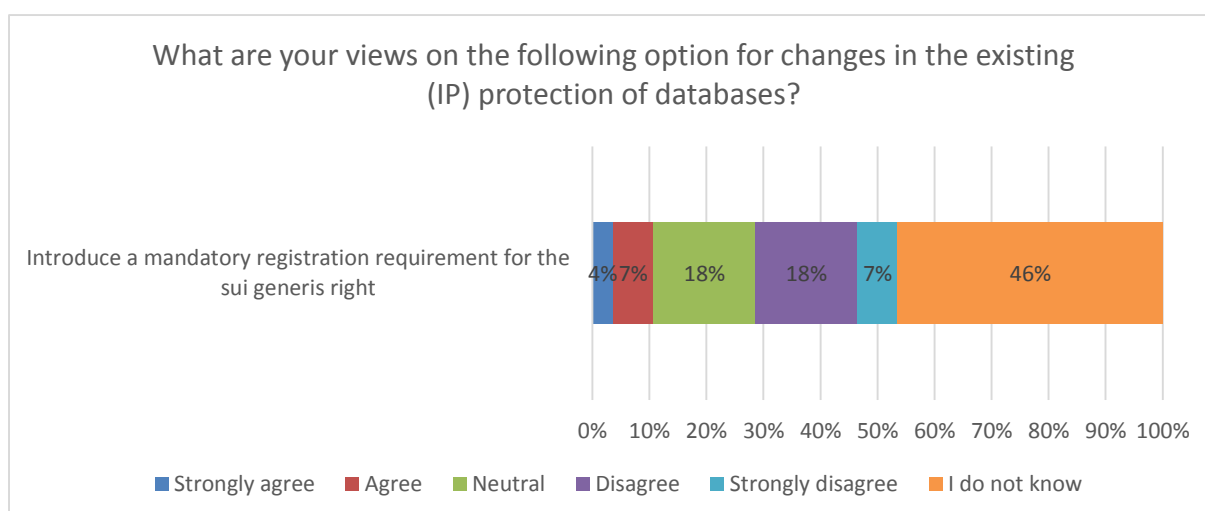
Figure 41 – Expert view on the introduction of mandatory registration requirement



Source: Survey conducted for this study

The results were similar for “makers” and “user-makers”. Of makers, 11% favour registration and 25% oppose, but what is more interesting is that almost 20% are neutral and more than 45% do not have an opinion on the issue. This suggests that proper consideration cannot sensibly be offered without sketching out what might be involved (see Figure 42).

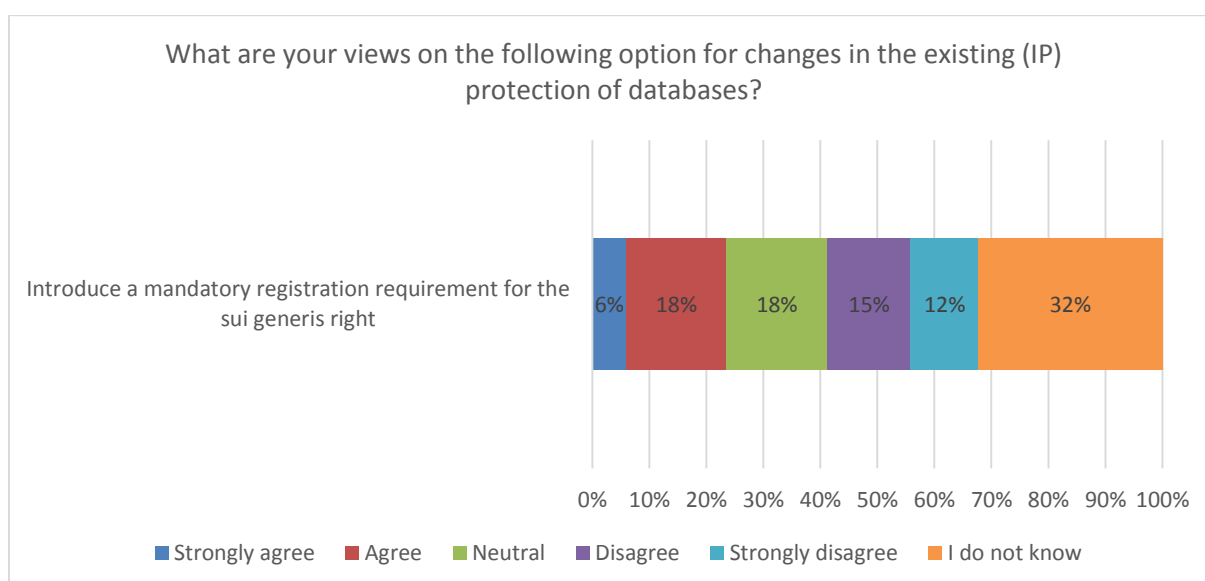
Figure 42 – Makers' opinion on the introduction of a mandatory registration requirement



Source: Survey conducted for this study

Similarly, with user-makers (see Figure 43), 24% favour registration, 27% disagree, but again almost 20% are neutral and one out of three don't know.

Figure 43 – User-makers' opinion on the introduction of a mandatory registration requirement



Source: Survey conducted for this study

Despite the luke-warm reception of the idea of registration in the survey, two legal experts commented that registration might be a mechanism to overcome problems inherent in the existing law. One explained:

"one of the big problems with the design of the Directive is that presence of protection is not transparent for the user because it is a result of back-end investments; so two databases that have the same content and size can be protected or not, depending on back-end decisions by a firm (purchase of data, cleaning, etc.); unless users observe the process of the database set-up entirely (which is very rare), they are not able to judge for themselves if something is protected, or verify to what extent it is protected; in my view, this is a huge design flaw that can be only solved

through examination procedure or another strong signalling preconditions."

Another lawyer added that:

"The need for registration might be good idea to distinguish protected databases from free databases."

A number of the in-depth interviews also indicated support for the idea of registration, for similar reasons. Professor Matthias Leistner noted that:

"Registration might have certain advantages as it might further target the right to real investment databases, might solve some of the problems with the identification of the database maker, and thus it might simplify licensing of the databases because from the register one would know whom to ask for a licence."

The interviewed US legal experts, who have experience of copyright registration for domestic works, were also positive about registration:

"[...] partly because if one creates much data, and if one does not put markers around it for people to know, people start using the databases and are then surprised if they run into a dispute."¹²²

Experts from libraries and the university sector, some of the major critics of the sui generis right, were positive about the idea of registration, taking the view that it could offer significant benefits in terms of legal clarity. A representative from the library sector, in an interview, observed that *"Compulsory registration for obtaining protection via the sui generis right would help with clarity enormously."*

In contrast, one interviewed database maker from the sports industry was sceptical about the benefits of registration for users:

"The compulsory registration of database for their protection via the sui generis right would not have any major impact, as the users will not consult the list of registered/protected databases, and, even if they do, they will not consider it."

Moreover, Professor Matthias Leistner sounded a note of caution:

"there might be a substantial danger that registration creates new administrative costs and public source effect and the situation might become worse than before. This topic needs to be considered but the interviewee does not have a conclusive answer to that and more research is needed."

3.5.3 Workshop

At the workshop, some suggested there be an 'opt out' system, and there was some discussion of making database right an 'opt-in'. However, without a clear model for such a system, further discussion was not possible. In this part, it may

¹²² See Annex (Cross-Country Analysis).

be considered what 'opt out' and 'opt in' mechanisms might look like: namely, potentially useful ways of forging greater consensus as to a future vision for the sui generis right.

3.5.4 Conclusion

The idea for introducing registration as a pre-requisite of protection of the database is one that the Commission might consider further. There are indications that it could be the basis of some sort of acceptable compromise between the highly polarised sets of respondents to the consultation and the present Study. It could meet concerns about uncertainty and lack of information and ensure that the existence of the right is better targeted so that it is only available to those who need it. To the extent that many respondents simply don't have views about the option, it would be useful to develop further the models of registration and notice that might be used and further explore the advantages and disadvantages of each.

Such a registration system would be entirely possible under international law, as the rule against the use of formalities in Article 5 of the Berne Convention applies only in relation to copyright aspects of databases. Some important questions arise immediately. When should registration be required: for all databases or only for those that have been made available to the public? Would there be a grace period to allow for registration shortly after the database was made accessible to the public? Where should registration be effected? With the EUIPO, with national IPOs, or elsewhere? What should registration entail: identifying the database and all its contents verbally (a description in words), or by deposit? If by deposit, would registration be limited to electronic formats? Would it require the use of specific software?

As an alternative, some participants suggested making it possible to 'opt out' of the sui generis right more easily than at present. Indeed, many research libraries utilise Creative Commons licences in an attempt to give up the sui generis right. However, many participants were not confident as to the effect of the CC0 licences and wondered whether more assurance could be given by some more formal mechanism of waiver of the right. One possible option would be to amend the Directive to make it clear that the sui generis right can be waived, and how this might be done (for example, through deposit of the database at the EUIPO). Although this idea has attractions, it offers less notice to potential users of databases than does an 'opt in' system. This is because databases that are from outside the EU or more than 15 years old will be unprotected, but there will be nothing to signal this to the public. The 'opt out' will then only offer a signal to the public as to one part to the databases that are in fact in the public domain.

3.6 What are the regulatory burdens of the Database Directive?

The efficiency of the Database Directive can be affected by external factors increasing the costs it induces or decreasing the benefits experienced by relevant stakeholders. These external factors include other norms and rules with which database makers and users may need to comply with when they deal with databases protected or to be protected under the Database Directive. Here 'regulatory' burdens are understood as consisting additionally of all administrative procedures (and their associated costs) that may dissuade

database makers and users respectively from enforcing the Database Directive and from complying with its provisions.

The questionnaire (especially the questions on the costs experienced by stakeholders from the Database Directive) and the in-depth interviews help identify and better understand the regulatory burdens of the Database Directive.

The Study did not find evidence of significant regulatory burdens of the Database Directive either induced by (i) excessive administration costs, or (ii) other norms and rules with which database users and makers may need to comply.

3.6.1 Lack of cost burdens

A significant share of respondents to the questionnaire had difficulties in associating costs with their experience of the Database Directive, whatever the category of stakeholder (users, makers or user-makers).

Furthermore, among the database makers able to report on the costs they have experienced from the Database Directive, around half claimed that administration costs were zero (see Figure 26). Administration costs here are understood as consisting of costs for meeting the conditions for protection under the sui generis right and costs for enforcing the sui generis right. No clear picture appears regarding administration costs borne by database users: a share inferior to 30% of them experienced some (see Figure 22) but the corresponding share for user-makers rises to 59% (see Figure 24).

During the workshop and interviews, there was no mention of any major administration costs acting as a burden to the legal protection of databases under the Database Directive. In consequence, based on the findings of the present study, it can be contended that no significant administrative costs prevent databases from benefitting from protection via the sui generis right or copyright.

3.6.2 Regulatory burdens

The legal analysis of the Database Directive did not identify any significant regulatory burden either.

Its understanding and implementation may be hampered by remaining legal uncertainty (e.g. as regards to the notion of 'substantial' investments) and the incomplete alignment of its provisions with some of the Directive on the re-use of public sector information (PSI) and the Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the Information Society Directive (InfoSoc). However, even though the Study successfully sheds lights on areas where coherence between these Directives could be improved (see below), it did not collect any strong evidence that would allow to contend that those misalignments could be considered as regulatory burdens.

Case law and especially the Fixtures Marketing and British Horseracing Board decisions of the CJEU are highly criticised by some database makers, especially from the sport data and rights industries. They claim that the distinction that these decisions introduced between investments in data creation and data collection, excluding the former from the 'substantial' investments eligible for protection under the sui generis right, have left their databases, e.g. fixture lists,

without any protection despite their economic importance. A representative of a national football association which creates, in addition to fixtures lists, live match data complained about this lack of protection. This situation benefits the betting industry, which has been growing at a high pace in the last years increasing the commercial value of these data. The national football association, in such circumstances, has no control over the data in the creation of which it invests and therefore low, if not no, return on its investment. In the perspective of these categories of database makers, these distinction between investment in data creation and data collection, introduced by the case law, is a strong burden to database protection.

3.6.3 Conclusion

The economic and legal analyses conducted as part of this Study did not reveal any significant regulatory burden to the Database Directive. On the one hand, responses to the questions in the online survey on the costs experienced by the different groups of stakeholders do not allow any inference in this respect, as a significant share of respondents (around half of those able to respond) report that there were no costs associated with the Database Directive in their experience. The legal analysis, on the other hand, identified some room for clarifications and better alignment with other Directives, but the current legal uncertainty and misalignment do not act as a burden to the Database Directive either. Only from the perspective of some database makers, case law of the CJEU prevents their databases from benefitting from the sui generis right, even though such protection, in their opinion, would be in line with the rationales of the Database Directive.

The workshop and the in-depth interviews reveal nevertheless that the main burden to the Database Directive are of technological nature. For database users, they are TPMs which may prevent use of data from databases that are not sometimes protected under the sui generis right. For database makers, they are web scraping that collect data from protected data without authorisation. So far, it had been very difficult for them to identify such practice, to quantify unauthorised extractions and to prove it.

3.7 Is there scope for streamlining and/or simplifying the rules/procedures laid down in the Database Directive?

Acquisition of either of the two rights harmonised by the Database Directive does not require any form of registration process, so that it is hard to talk meaningfully of streamlining procedures relating to either the copyright protection of databases or the sui generis right. Indeed, some costs arising from the regime might be reduced were such procedural requirements introduced.

Nevertheless, there are components in the Database Directive that might be simplified or streamlined, either because they are confusing or redundant. In this section, some possible changes that the Commission might consider are described.

The majority of this content derives from primarily from desk research and examination of implementation in the Member States. Where relevant, some relate to matters discussed in the survey.

3.7.1 Unitary Title

The Database Directive was one of the first directives harmonising aspects of copyright and it was passed in an environment where harmonisation of intellectual property rights was still rather limited. Indeed, work on the Database Directive had begun considerably before adoption of the Community Trade Mark Regulation 40/94 (on 20 December 1993). At the time of its conception (as opposed to adoption) therefore there were no 'unitary' European titles (that is pan-European rather than national rights), and it was not surprising that the new EU right, the *sui generis* right, was conceived as a national right.

However, in 2002, in the Council Regulation No 6/2002 on Community designs,¹²³ the European Union adopted a unitary right, the Community Design Right, both in registered and unregistered form. There might be advantages (if it is decided to retain the *sui generis* right at all) in reconceiving the *sui generis* right as a registered right, and possibly a unitary title, registrable at the EU Intellectual Property Office. However, even if that idea is not embraced, the idea of remoulding the *sui generis* right as an EU title seems well worth considering. As the Community Design Regulation makes clear, no real problems arise from the creation of EU titles that do not depend on registration. Of course, the Design Directive would need to be transformed into a Regulation (presumably under TFEU, Art 118).¹²⁴ This would move the EU one step closer to more fully integrated IP laws, would reduce the potential for national rights to limit the free movement of goods or services, and improve the degree of harmonisation.

3.7.2 Obligations of Lawful Users

A second matter that might be thought worthy of streamlining is the provision of Article 8(2) and (3) of the Directive. As explained in detail in the legal annex, the role of these provisions is obscure. At a first glance, they appear to impose conditions of use on lawful users of databases, but the better view is that they must merely qualify the rule that contracts cannot normally prejudice a lawful user's right to extract and reutilise insubstantial parts.

Member States implement Article 8(2) and (3) by adopting one of the following five approaches: i) by ignoring both of them (Denmark, Finland, Netherlands, Sweden and the United Kingdom); ii) by ignoring Article 8(3) (France, Poland); iii) by ignoring Article 8(2) (Ireland); iv) by treating them as conditions on the right of the lawful user (Austria, Czech Republic, Germany, Malta); v) or by setting them out separately, as if each is a freestanding legal rule (Belgium, Bulgaria, Croatia, Estonia, Greece, Hungary, Italy, Latvia, Lithuania, Portugal, Romania, Slovakia, Slovenia and Spain). Those who implement the terms of Article 8(2) and (3) as freestanding, commonly prohibit contractual overrides of even these duties: Belgium, Bulgaria, Croatia, Hungary, Italy, Lithuania, Portugal. Estonia, rightly, limits the *ius cogens* rule to contracts that purport to limit the lawful users right (not the clauses that reaffirm the lawful user's duties).

¹²³ Regulation (EC) No 6/2002.

¹²⁴ This provides: "In the context of the establishment and functioning of the internal market, the European Parliament and the Council, acting in accordance with the ordinary legislative procedure, shall establish measures for the creation of European intellectual property rights to provide uniform protection of intellectual property rights throughout the Union and for the setting up of centralised Union-wide authorisation, coordination and supervision arrangements".

Given the uncertainty at the regard of these provisions, the following remarks suggest its substantial deletion.

3.7.3 Rationalising Exceptions

There is considerable criticism of the provisions for exceptions to copyright in Article 6 of the Directive and exceptions to sui generis right in Article 9. One frequent proposal is that the exceptions in Article 6 and 9 be aligned with those in the Information Society Directive, and in appropriate cases be rendered mandatory and subject to the procedures in Article 6(4) that guarantee that technological measures cannot impede access to the exceptions.¹²⁵

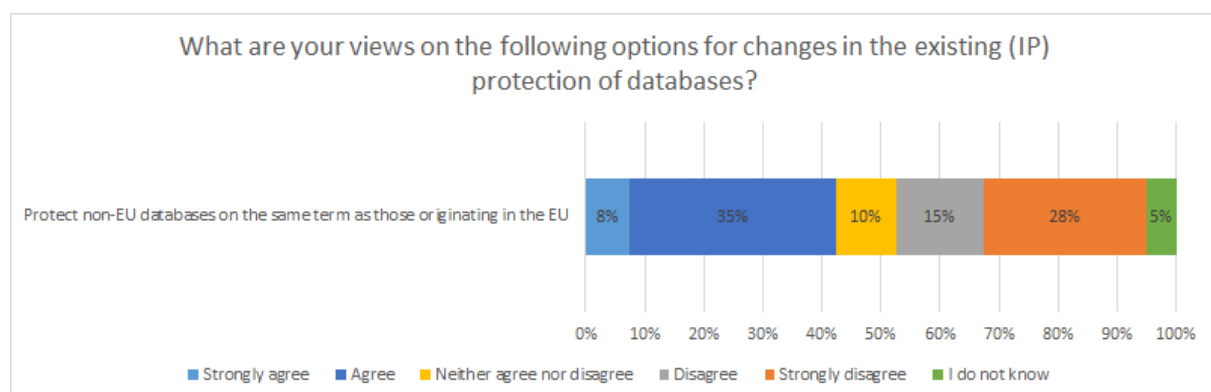
There is much to be said for these proposals in terms of increasing simplicity and reducing difficulties encountered by users who may find particular materials protected under all three regimes. There would also be considerable benefits in terms of national implementation. Of course, care would need to be taken to ensure that the availability of all the exceptions was appropriate to maintain a suitable balance between rightsholders and users.

3.7.4 Foreign Beneficiaries

Article 11 of the Directive provides that the sui generis right should arise in relation to databases of which the maker or rightsholder is an EU national. Article 11(3) allows for the extension of the benefit of the Directive to databases made outside the EU, but only where the jurisdiction in question offers equivalent protection.

One matter raised in the survey was whether expert respondents favoured a change in the legal rule. Those declaring themselves in favour of protecting non-EU databases on the same terms as those originating in the EU, equal those disagreeing with the statement. As displayed in the chart below, strong opposition reaches a significant 28% of total responses.

Figure 44 – Expert view on the protection of non-EU databases on the same terms as the databases originating in the EU



Source: Survey conducted for this study

Having considered the matter of the legality of applying reciprocity and concluded that the EU is not in breach of its international obligations in maintaining Article 11, the only evident advantage with extending rights to

¹²⁵ This approach proved attractive to the Commission in its 2016 proposals on data-mining, digital teaching, preservation of cultural heritage, and provision of access for the visually impaired and print disabled.

foreign database makers is simplicity. However, that seems like a false benefit, and likely frequently to burden EU database users with additional rights (in many cases unnecessarily so). A better approach in terms of rendering clear what is and what is not protected could be the adoption of a registration system or a related formalities regime.

4 The Database Directive in the current legal and economic context

4.1 Are each of the articles of the Database Directive still relevant today, in light of the changed market, emerging trends, technological and regulatory landscape?

4.1.1 Definition of Database (Article 1)

The definition of 'database' is extremely broad and technologically neutral.¹²⁶ It seems to remain relevant, particularly given the recognition of obligations to protect databases by copyright in the WIPO Copyright Treaty and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs). No significant problems appear in relation to the changing technological environment. Some questions were raised as to the exclusion of software, and the importance of investment in software in generating databases (for example, software for internet searching or collecting and analysing sensor-produced data). The exclusion of software from the definition of database means that investment in software is not relevant to the existence and scope of the sui generis right in any resulting databases, so there is a need to alter that aspect of the definition.

4.1.2 Relationship with prior directives (Article 2)

Since the passage of the Database Directive, a number of other directives have been adopted, including the Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society (Information Society Directive). The relationship is discussed in detail in Chapter 5. There is sympathy for the views of respondents who favour increased coherence between the various aspects of the copyright acquis, including the creation of a European Union copyright code.

4.1.3 Copyright: Originality Standard (Article 3)

The originality standard in Article 3 is widely thought of as one of the achievements of the Database Directive, and the CJEU has adopted this standard as the general threshold for copyright protection in its *Infopaq* decision.¹²⁷ It is also consistent with the international standard recognised in the WIPO Copyright Treaty of 1996. The changing technological environment has no significant effect on the relevance of this provision.

4.1.4 Copyright: Authorship (Article 4)

Article 5 largely reserves freedoms to Member States to determine authorship and ownership of copyright in databases. It is difficult to state conclusively how this relates to the regulatory environment more generally, as harmonisation of matters such as authorship is at most implicit, and clarification is awaited from the CJEU as to how far it will interpret the notion as an "*autonomous concept of European law*". If Articles 14-16 of the Directive on Copyright in the Digital Single Market are adopted, authors will be given additional rights as against contracting parties. That Directive is supposed to be 'without prejudice' to the Database Directive. It is not clear whether the designation e.g. of legal persons

¹²⁶ See Annex (Legal Analysis).

¹²⁷ CJEU (Fourth Chamber), 16 July 2009, *Infopaq International A/S v Danske Dagblades Forening*, Case C-5/08.

as authors as permitted by Article 4 will mean legal persons will benefit from these provisions, or whether they would be interpreted to apply to natural persons who create databases even where a Member States designates a legal person as the author. There is a potential for significant incoherence, all of which suggests that the European Commission may wish to consider horizontal harmonisation of rules on authorship and first ownership.

4.1.5 Copyright: Restricted Acts (Article 5)

The rights recognised in Article 5 are very broad. As noted in Chapter 5, they are not formally consistent with the rights recognised in the Information Society Directive, and consideration should be given to their further alignment.

4.1.6 Copyright: Exceptions (Article 6)

There is considerable uncertainty surrounding, and criticism of, the exceptions to copyright recognised in Article 6 (see Chapters 2 and 5, and legal analysis in Annex). First, they are not formally consistent with the exceptions and limitations recognised in the Information Society Directive, and consideration should be given to their further alignment. Second, it is unclear whether Article 6(2)(d) allows Member States to adopt new exceptions, where they have previously not had exceptions to copyright for databases. Third, these are criticised as not adequate given new technologies. The European Commission has been addressing some of these criticisms through the proposed Directive on Copyright in the Digital Single Market of September 2016.

4.1.7 Sui Generis Right: The Concept

As explained further in Chapters 4 and 6, a number of respondents have raised the question of whether the sui generis right should be retained at all. One argument is that this was a legal experiment, and the result is clear: there is no demonstrable positive correlation between the introduction of the right and the production or quality of databases generated in the European Union. Of course, at the same time, it is not possible to show that database production has been harmed by the existence of the right, nor to be confident how many databases would have been produced had the right not existed.

The evidence from respondents as to the likely impact of the Internet of Things was no clearer. Some suggested this meant the sui generis right would be more important; others that it would be even less unnecessary (and perhaps more problematic in holding up the free flow of data); yet others that technological change would affect what qualified (in so far as many databases might not result from substantial investment). Overall, there was no clear indication as to whether the new technological environment rendered sui generis right more or less 'relevant', in the sense of appropriate.

4.1.8 Maker (Article 7 (1))

As noted in the legal analysis and Chapter 2, there is concern that the definition of 'maker' is uncertain, and that this may prove problematic in the light of new ways of generating databases. Further consideration needs to be given to whether, and if so how, the definition could be made clearer.

4.1.9 Sui Generis Right: Substantial Investment (Article 7(1))

As noted in the legal analysis and Chapter 2, there is concern that the definition of 'substantial investment' creates uncertainty, and that this may prove

problematic in the light of new ways of generating databases. Moreover, users find it difficult to assess whether particular databases are protected (and this can be very important, especially in the light of *Ryanair*). In Chapter 3, it is suggested that a requirement of registration might reduce some of these noticed problems. Even with (and irrespective of) that, the definition of the threshold remains an issue. Further consideration needs to be given to whether, and if so how, the definition could be made clearer.

4.1.10 Sui Generis Right: Obtaining, Verification, Presentation (Article 7(1))

As noted in the legal analysis and Chapter 2, there is concern that the exclusion from consideration of investment in the creation as opposed to the collection/obtaining of data creates uncertainty. The distinction may take on even more significance in the light of new ways of generating databases is also noted. Further consideration needs to be given to whether, and if so how, the definition could be made clearer.

4.1.11 Sui Generis Right: Extraction and Reutilisation (Article 7(2))

The rights conferred on database makers are defined very broadly by Article 7. They are technologically neutral and have been applied, sometimes with startling results (*Innoweb*), to the new technological environment.

As explained in Chapter 2, there is concern that exclusive rights may not always be appropriate, particularly in relation to sole-source databases. In the new technological environment, it is predicted that the problems associated with such databases will become much more common. Therefore, the question of 'compulsory licensing' warrants reconsideration.

4.1.12 Sui Generis Right: Transferability (Article 7(3))

This is a standard provision in intellectual property law. Because the sui generis right is a property right, this provision remains relevant.

4.1.13 Sui Generis Right: Repeated and Systematic Extraction (Article 7(5))

As noted in the legal analysis, Article 7(5) was interpreted by the CJEU in the *Fixtures Marketing* and *BHB* cases. It remains relevant, perhaps more so, in the light of the development of technologies that would facilitate systematic extraction, such as web-scraping technologies.

4.1.14 Sui Generis Right: Right to Insubstantial Parts (Article 8(1))

As explained in the legal analysis and in Chapter 2, the significance of this lies in the fact that the freedom to use insubstantial parts cannot be overridden by contract. It remains relevant, though as explained in Chapter 2, its effect is somewhat undermined by the *Ryanair* decision, as the freedom is not available to the lawful user of a database that is unprotected (for example, because there was no substantial investment). Consideration needs to be given to extending the freedom to lawful users of even non-protected databases.

4.1.15 Sui Generis Right: Obligations of Lawful Users (Article 8(2)(3))

As explained in the legal analysis and in Chapter 2, the provisions of Article 8 are difficult to understand and, for that reason, have been implemented in a number of different ways. Doubts must exist as to whether they were ever relevant.

4.1.16 Sui Generis Right: Exceptions (Article 9)

As explained in the legal analysis and in Chapter 2, the narrow list of optional exceptions in Article 9 is widely recognised as a problem. Both technological changes, and changes in the regulatory environment (in particular the Charter of Fundamental Rights) mean that urgent consideration needs to be given to expanding this list. The European legislature has made a start with the implementation of the Marrakesh Treaty,¹²⁸ and the European Commission has placed new proposals for exceptions to sui generis right before the EU legislative organs in the proposal for a Directive on Copyright in the Digital Single Market. However, on the assumption it is proposed to retain the sui generis right, consideration should also be given to adopting a parallel range of exceptions to those under Article 5 of the Information Society Directive.

4.1.17 Sui Generis Right: Term (Article 10)

There was some evidence that the current term might be too long in the light of technological change, in particular, sensor-produced data. It was observed in the comparative work that South Korea has a similar right to the sui generis right but with a five-year term.

It is also noted that the European Commission Proposal on Copyright in the Digital Single Market proposes a (so-called 'ancillary') right for press publishers lasting 20 years. There is nevertheless no clear evidence as to why that term was proposed rather than the three-year term under the German *Leistungsschutzrecht für Presseverleger* (Ancillary Copyright for Press Publishers).

4.1.18 Sui Generis Right: Beneficiaries (Article 11)

This provision is still relevant and does not need changing in view of the new technological developments, emerging trends or the changed market. Furthermore, adding to Article 11 a registration/formality requirement to identify protected databases positively, means that the public can readily identify non-EU-protected databases.

In addition, it would be advisable to write in the text of the Database Directive (e.g. in Article 7 or even Article 1) that the sui generis right is an intellectual property right.

4.1.19 Remedies (Article 12)

The rules on remedies are now governed by the Directive (2004/48) of 19 April 2014 on the enforcement of intellectual property rights. This provision is therefore redundant and cross-referencing to the later Directive would be appropriate.

4.1.20 Other Legal Provisions (Article 13)

This provision is still highly relevant in view of the changes since 1998. However, there are several aspects which need urgent reconsideration, namely the relationship between the copyright and the sui generis right and contracts, TPMs, access to public documents, trade secrets and unfair competition.

¹²⁸ Marrakesh Treaty of 27 June 2013 to Facilitate Access to Published Works for Persons Who are Blind, Visually Impaired or Otherwise Print Disabled.

4.1.21 Application over Time (Article 14)

This provision is now outdated as 15 years have passed since the Directive was enacted.

4.1.22 Binding Nature of Certain Exceptions/User Rights (Article 15)

Consideration should be given to securing a wide range of exceptions from contractual variation, as the European Commission proposes with the new exceptions in the Marrakesh Treaty and the proposal on Copyright in the Digital Single Market. With respect to databases, in the light of *Ryanair*, it is all the more important that users' rights be secured even where databases do not reach the threshold of protection, or where protection has lapsed. Otherwise there is a danger that contractual terms will operate e.g. to prevent data-mining and other socially valuable reuses of lawfully accessible materials.

4.1.23 Commission Reviews (Article 16)

In the rapidly changing environment, this provision seems still very relevant. Unfortunately, this is only the second review that the European Commission has conducted since 1996. Consideration could be given as to how such obligations to review could be rendered more effective.

4.1.24 Conclusion

There are several provisions which need amending or deleting but also many others which remain relevant in light of emerging trends, changed market and technological developments.

4.2 What is the added value of the sui generis right protection of databases compared to other means of protection?

The sui generis right is only one of a number of mechanisms that an investor in the production of a database (collection, verification or presentation of the contents) may rely upon for protection. Alternatives are: copyright (in databases that are also, by virtue of selection and/or arrangement) 'intellectual creations'; technological protection measures (TPMs); contracts; and in some national jurisdictions, unfair competition law.

Article 13 of the Database Directive explicitly provides that:

"This Directive shall be without prejudice to provisions concerning in particular copyright, rights related to copyright or any other rights or obligations subsisting in the data, works or other materials incorporated into a database, patent rights, trade marks, design rights, the protection of national treasures, laws on restrictive practices and unfair competition, trade secrets, security, confidentiality, data protection and privacy, access to public documents, and the law of contract."

It thereby signals that the sui generis right can sit alongside other forms of protection.

4.2.1 Technological Protection Measures (TPMs)

It is a curious feature of the Database Directive that it contains no provisions for dealing with TPMs. This is despite the fact that the Software Directive¹²⁹ contained, in Article 7(1)(c), a provision requiring Member States to offer protection against circumvention,¹³⁰ that the issue was raised in the 1993 Opinion of the Economic and Social Committee on the legal protection of databases,¹³¹ and that such measures were already commonly used to protect electronic databases.¹³²

Nevertheless, when the European Union implemented the WIPO Treaties, which required protection of TPMs against circumvention, in the Directive on the harmonisation of certain aspects of copyright and related rights in the information society (Information Society Directive)¹³³, it extended protection to databases, both with respect to copyright and sui generis right. Although the Information Society Directive in general is not supposed to affect the database regime,¹³⁴ Article 6 is explicitly applicable to measures designed to prevent or restrict acts:

"in respect of works or other subject-matter, which are not authorised by the rightsholder of any copyright or any right related to copyright as provided for by law or the sui generis right provided for in Chapter III of Directive 96/9/EC."

Moreover, the final sub-paragraph of Article 6(4) states that:

"When this Article is applied in the context of Directives 92/100/EEC and 96/9/EC this paragraph shall apply mutatis mutandis."

Therefore, copyright and sui generis right in databases can be protected using TPMs, and, if those measures are effective, Member States also provide protection from deliberate circumvention of such measures,¹³⁵ as well as against distribution of products or provision of services that are promoted for the purpose of circumvention or primarily designed to enable circumvention.¹³⁶

The Information Society Directive recognises that a conflict might exist between rightsholders use of technological protection measures, and users' general entitlements to certain exceptions. Article 6(4) is intended to ensure that the beneficiaries of certain exceptions and limitations are not prevented from accessing those limitations. The privileged exceptions are listed, but only in terms of the Information Society Directive. It is a strange list, and does not include, for example, exceptions for quotation or news reporting. Given the high

¹²⁹ Directive 2009/24/EC of 23 April 2009 on the legal protection of computer programs.

¹³⁰ "'appropriate remedies' against a person who puts into circulation, or possesses for commercial purposes, any means the sole intended purpose of which is to facilitate the unauthorised removal or circumvention of any technical device which may have been applied to protect a computer program."

¹³¹ Opinion on the proposal for a Council Directive on the Legal Protection of Data Bases (93/C 19/02)

¹³² Moreover, WIPO included such measures in Article 10 the Basic Proposal for the Substantive Provisions of the Treaty on Intellectual Property in Respect of Databases to be Considered by the Diplomatic Conference, CRNR/DC/6, August 30, 1996.

¹³³ Directive 2001/29/EC of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society.

¹³⁴ Directive 2001/29/EC, Art 1(2)(d), recital 20.

¹³⁵ Directive 2001/29/EC, Art 6(1).

¹³⁶ Directive 2001/29/EC, Art 6(2).

value placed on freedom of expression in the European Union, it is not inconceivable that the Court of Justice would extend it so as to protect fundamental rights. Indeed, albeit concerned with a different issue, in Case C-355/12 *Nintendo v PC Box*,¹³⁷ the Court of Justice emphasised that the use of TPMs to control access to and use of intellectual property must be 'proportionate', and it seems that the requirement of proportionality might come from the jurisprudential basis of a requirement that intellectual property right holders who rely on legal protection against circumvention of TPMs are only able to do so where they ensure there is no disproportionate prejudice to fundamental rights, such as freedom of expression under Article 11 of the Charter.

The final sentence of Article 6(4), which indicates that it should be applied 'mutatis mutandis' to databases, leaves unclear precisely which exceptions to the sui generis right (or indeed copyright in databases) are covered. Table 1 suggests what the applicable exceptions might be.

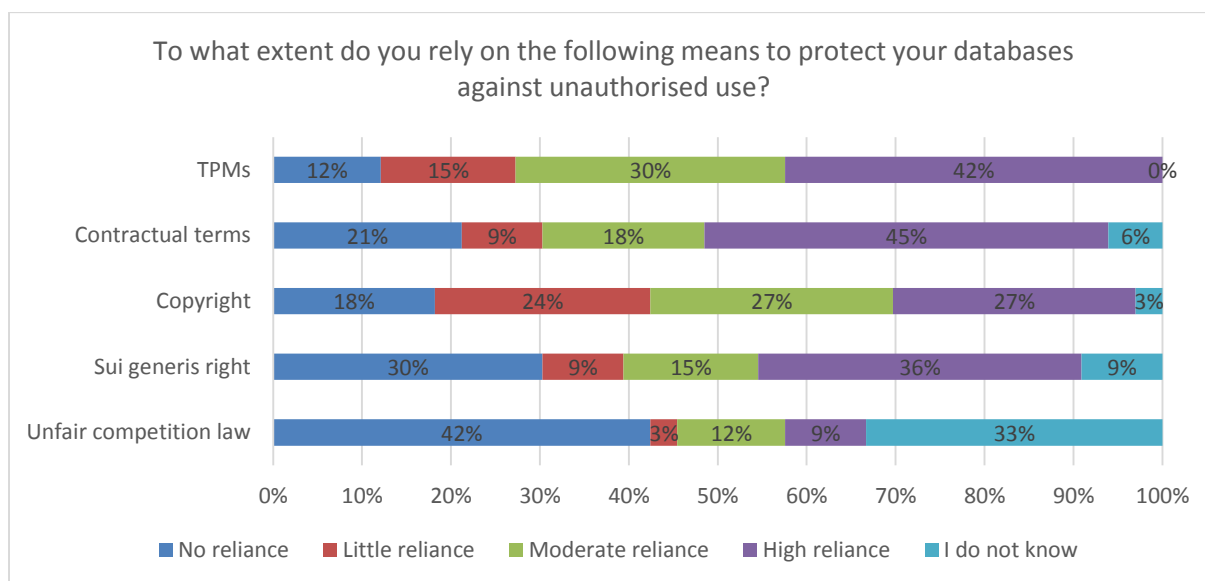
Table 1 – Applicable exceptions of the Information Society Directive and the Database Directive

Information Society Directive	Database Directive	
	Copyright	Sui generis right
Mandatory		
Art 5(2)(a) (reprographic copying)	Art 6(2)(a) non-electronic	Art 9(a)
Art 5(2)(c) (specific acts of libraries etc)	Art 6(2)(d) (if recognised)	
Art 5(2)(d) (ephemeral recording of broadcasts)	Not relevant	
Art 5(2)(e) (reproduction by hospitals and prisons)	Art 6(2)(d) (if recognised)	
Art 5(3)(a) (illustration for teaching and research)	Art 6(2)(b)	Art 9(b)
Art 5(3)(b) (disability)	Art 6(2)(d) (if recognised)	
Art 5(3)(e) (public security)	Art 6(2)(c)	Art 9(c)
Optional		
Art 5(2)(b) (private use)	Art 6(2)(a) non-electronic	Art 9(a)

The study questionnaires revealed evidence of high levels of familiarity with and use of TPMs to protect databases. When database makers were asked on what measures they relied on for protection, 73% said they placed a high or moderate level of reliance on TPMS, whereas only 52% placed similar levels of reliance on the sui generis right, and 55% on copyright (see Figure 45). These figures are not surprising: many online databases are subject to access controls and passwords, and these are made available only to those with subscriptions. On the whole, this seems entirely appropriate.

¹³⁷ CJEU (Fourth Chamber), 23 January 2014, *Nintendo Co. Ltd and Others v PC Box Srl and 9Net Srl*, Case C-355/12.

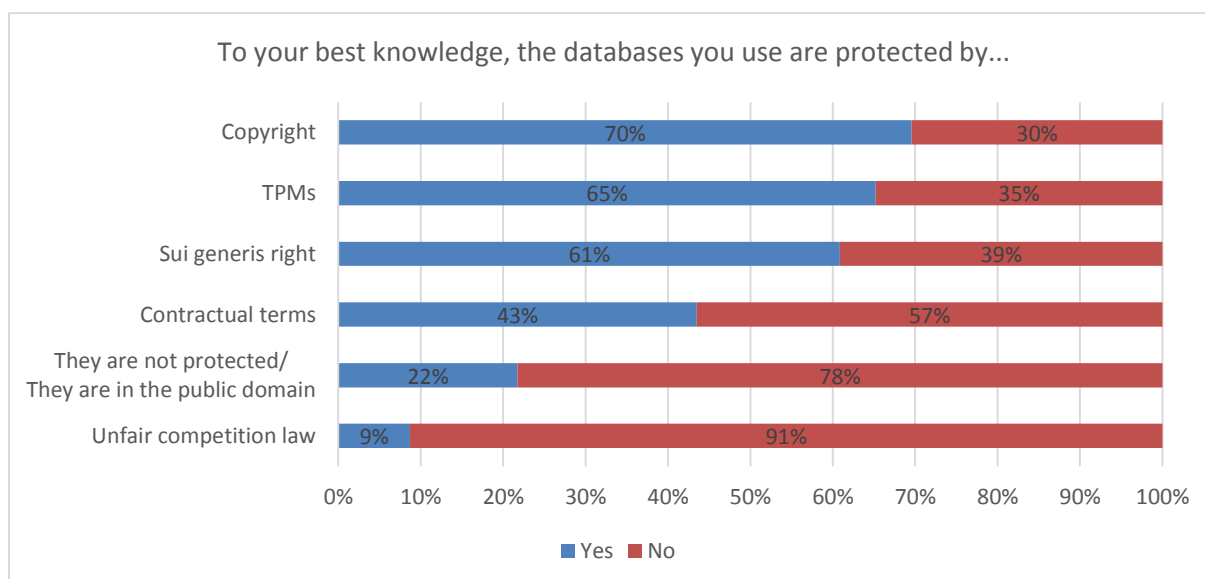
Figure 45 – Reliance of database makers on different means to protect databases against unauthorised use



Source: Survey conducted for this study

Moreover, 65% of the responding users reported that the databases they used were protected by TPMs (see Figure 46).

Figure 46 – Means of protection of the databases used by database users



Source: Survey conducted for this study

Some respondents expressed concern about the widespread use of TPMs. In an in-depth interview, Professor Matthias Leistner expressed the view that technological protection measures should not be able to be used to circumvent the minimum rights of the user under the exceptions to the Database Directive and the rights of the lawful user. A representative of EBLIDA also argued, during

the public consultation organised by the European Commission,¹³⁸ that *"interference of TPMs with users' access to copyright and database right exceptions is a major problem."* He gave an example from the United Kingdom where a mechanism exists for a person who cannot avail themselves of a specified exception because of the operation of a TPM to make a complaint to the Secretary of State, through the Intellectual Property Office (IPO). In September 2015, the Library and Archives Association, acting on behalf of a UK academic, applied to the IPO to have Digital Rights Management (DRM) removed from a site he wished to mine. The site in question was publicly accessible, but as a result of CAPTCHA technology, prevented the academic from downloading more than a few records at a time. The IPO decided the case was not within scope of the exception because the work had been *"made available to the public on agreed contractual terms in such a way that members of the public may access them from a place and at a time individually chosen by them."*¹³⁹

It is notable that the European Commission now seems to be conscious of the problems TPMs can pose for users in accessing material that would fall within an exception or limitation. In the 2016 Proposal on Copyright in the Digital Single Market,¹⁴⁰ the European Commission proposes the introduction of three exceptions, in relation to both copyright and sui generis right, for text and data mining, teaching and the preservation of cultural heritage (Articles 3-5), providing in Article 6 that *"the first, third and fifth subparagraphs of Article 6(4) of Directive 2001/29/EC shall apply to the exceptions and the limitation provided for under this Title."* Article 3(4) of the Directive 2017/1564 implementing the Marrakesh Treaty is in the same terms. Importantly, the fourth paragraph is not applied. This is the paragraph that dis-applies Article 6(4) where works or other subject matter made available to the public on agreed contractual terms in such a way that members of the public may access them from a place and at a time individually chosen by them.

Given the widespread use of TPMs, it might legitimately be asked whether the sui generis right 'adds value.' The first point to make, however, is that the two rights are not properly seen as alternatives: TPMs operate to reinforce copyright and the sui generis right, and (as noted above) are only protected where they do operate to protect copyright, related rights or sui generis right. If there were no sui generis right, anti-circumvention laws (or at least those in Article 6 of the Information Society Directive) would not operate to protect the measure from circumvention (and associated acts). The second point, of equal importance, is that there are many databases that are not merely in digital form and which are not protected by TPMs. Therefore, there is clearly a role for the sui generis right independent of TPMs.

4.2.2 Contract

In the survey, it was found that experts had a high level of familiarity with contract as a means of protecting investment in databases. Interestingly, 25% of the respondents thought contractual protection was stronger than protection

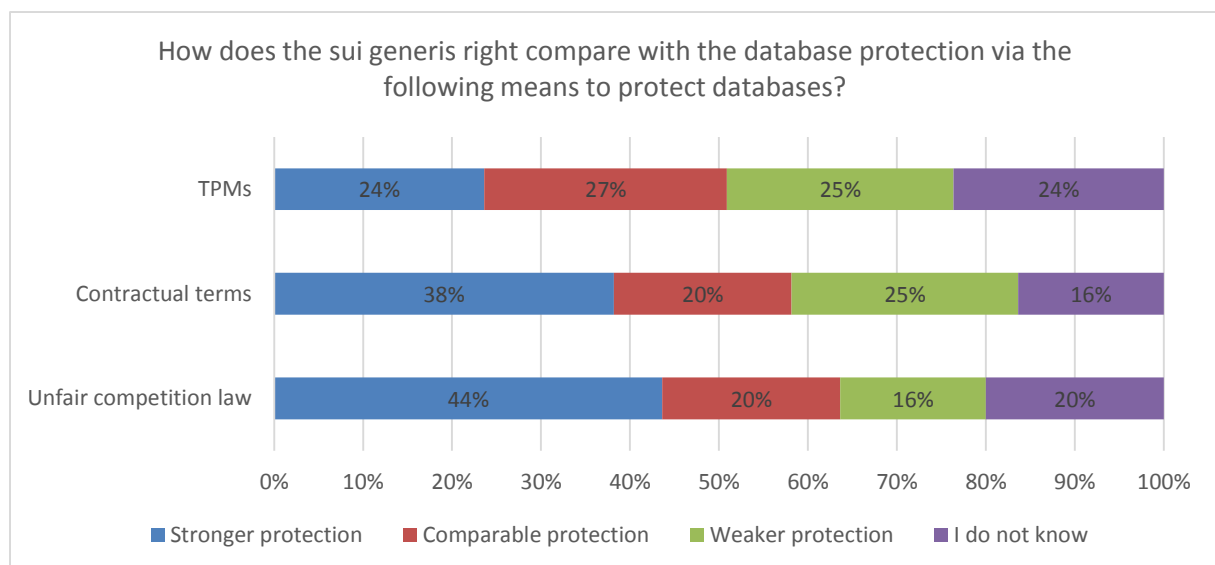
¹³⁸ Summary report of the public consultation on the evaluation of Directive 96/9/EC on the legal protection of databases, <https://ec.europa.eu/digital-single-market/en/news/summary-report-public-consultation-legal-protection-databases>

¹³⁹ Information Society Directive, 2001/29/EC, art 6(4).

¹⁴⁰ Proposal for a Directive of the European Parliament and of the Council on copyright in the Digital Single Market, COM(2016) 593 final.

under the sui generis right (perhaps because of the *Ryanair* decision, discussed in Chapter 2).

Figure 47 – Expert view on the comparative strength of different means of database protection

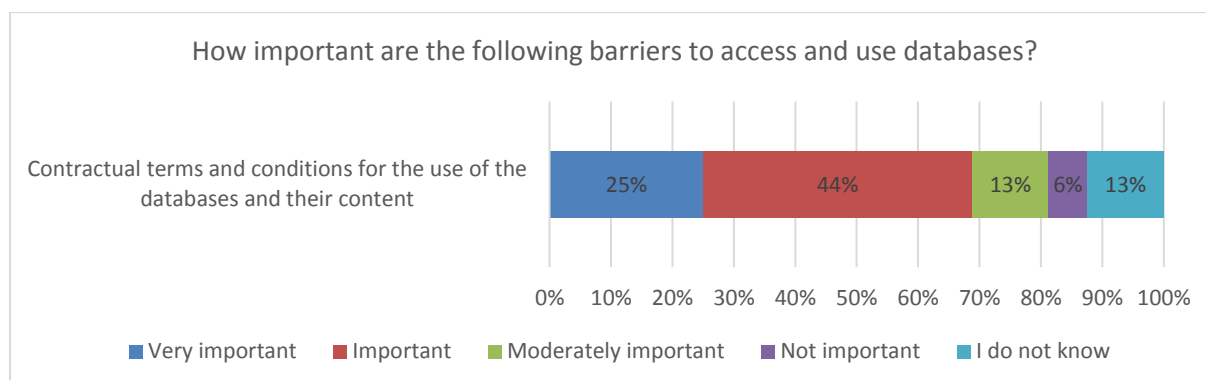


Source: Survey conducted for this study

Nevertheless, it is clear from the data collected throughout the present Study that contracts are not a replacement for the sui generis right or copyright because of the privity of contract principle – they are not binding *erga omnes* but only bind the parties to the contract. During the workshop organised in the context of this Study, database makers were in unison on this. For them, contracts are nevertheless a very useful complement to the sui generis right and copyright. Three interviewees disagreed: according to them, alone or combined with TPM and trade secrets, contracts offer sufficient protection to database makers. From the point of view of makers who do not wish to benefit from the sui generis right, contracts are useful to waive the sui generis right as many participants in the workshop and questionnaire have mentioned.

It is clear, too, that despite Article 15 of the Database Directive (which renders contractual terms that limit the freedoms reserved to lawful users under article 6(1) and 8(1)) ineffective, the use of contracts can add additional restrictions on users' abilities to access and use databases. The survey revealed that a majority of the responding users found contractual terms to be an important or very important barrier to access. Moreover, as already noted when discussing technological protection measures (and as illustrated by the LACA's unsuccessful application to the UK IPO), the combination of contract and technological protection measures can render redundant the safeguard provisions embodied in article 6(4) of the Information Society Directive.

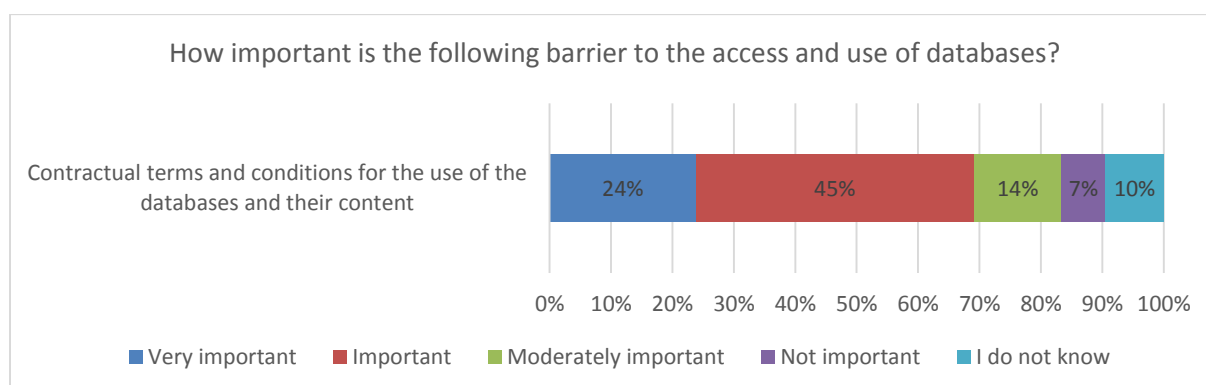
Figure 48 – Views of database users on the impact of contractual terms on the access and use of databases



Source: Survey conducted for this study

Among the experts who responded to the online survey, almost 70% similarly contend that contractual terms may hamper the access and use of databases.

Figure 49 – Expert views on the impact of contractual terms on the access and use of databases



Source: Survey conducted for this study

4.2.3 Unfair Competition

Although Article 13 of the Database Directive allows Member States to offer databases protection through unfair competition law, such laws remain unharmonised (outside the business to consumer context). The strength and availability vary from one Member State to another. Some, such as Ireland and the United Kingdom, offer protection only against various forms of deceptive conduct (so-called 'passing off'). Others (including Belgium, the Czech Republic, France, Greece, Hungary, Italy, Poland and Slovakia) protect, in general, against 'parasitism'/'slavish imitation', offering the capacity to supplement the sui generis right with unfair competition law. Others (such as Finland, Germany, Luxembourg, the Netherlands, Portugal, Spain and Sweden) offer protection against slavish imitation but only in exceptional circumstances.

Moreover, it is not clear how far Member States that do provide for protection against 'parasitism' will do so in the field of databases. In Poland, in 2004, the Supreme Court rendered a judgment confirming that "*taking over an electronic database and selling it to recipients under a different name constitutes an act of unfair competition*". In Italy, case law is consistent in providing that the

unauthorised use of database constitutes an act of unfair competition pursuant to Art. 2598 of the Italian Civil Code provided it was carried out by a competitor.¹⁴¹ In Spain, the Supreme Court found liability both for parasitism and under the sui generis right in a case involving one of the main Spanish legal databases.¹⁴² That said, in 2012, however, the Spanish Supreme Court held that the defendant's 'scraping' of Ryanair's website did not constitute parasitism.¹⁴³ In Germany, several judgements have applied both protections cumulatively. In France, the position is less clear, with the Court of Cassation and the lower courts behaving unpredictably. In *Précom, Ouest France Multimedia v Direct Annonces*,¹⁴⁴ the French Court of Cassation declined to find parasitism in the case of a database that did not benefit from the sui generis right (because the investment was in the creation rather than collection of data), as the defendant indicated his source of information and he did not create any risk of confusion for the user. Hence, it rejected the negative overlap between unfair competition law and the sui generis right.

The survey revealed relatively low familiarity with unfair competition law as a means of protecting investment in databases. Moreover, there was little indication that unfair competition would be a regime of choice for maker who was seeking exclusivity: as Figure 47 shows, 44% of the respondents thought the sui generis right is stronger than protection via unfair competition law (though 16% thought it weaker).

In the in-depth interviews, strong arguments emerge that cumulate the sui generis right and postulate that unfair competition law should be prohibited. Professor Matthias Leistner explained that prominent authors in Germany have argued that the sui generis right is a protection of the investment and no unfair competition law should be available on top of it. Unfair competition law protection should be treated as pre-empted by the sui generis right. As a result, it was argued that to avoid overprotection and reduce differences between Member States, the Database Directive should be changed to specify that national unfair competition rules must not be applied on top of the sui generis right.

If the sui generis right remains in operation, this suggestion has merit. However, were the European Commission to decide to abolish the sui generis right, it seems that some sort of harmonisation of unfair competition law across the European Union would be desirable.

4.2.4 Trade Secrets

In 2016, the Council of the European Union and the European Parliament adopted the Directive 2016/943 (Trade Secrets Directive).¹⁴⁵ This provides for a mixture of full and minimum harmonisation of the laws of the Member States on trade secrets. Despite its soubriquet, the Trade Secrets Directive is in fact

¹⁴¹ Court of Bologna, 9 February 2009.

¹⁴² Case STS 988/2008, 30 January 2008, www.poderjudicial.es/search/doAction?action=contentpdf&datasematch=TS&reference=160286&links=96/9&optimize=20080430&publicinterface=true

¹⁴³ Ryanair v Atrapalo, Case STS 572/2012, 9 October 2012.

¹⁴⁴ Court of Cassation, 1st civ., 5 March 2009

¹⁴⁵ Recital 1 states that "Businesses and non-commercial research institutions invest in acquiring, developing and applying know-how and information which is the currency of the knowledge economy and provides a competitive advantage", which are very much the sort of circumstances that inform the Database Directive.

entitled Directive “*on the protection of undisclosed know-how and business information (trade secrets)*”, and is by no means limited to technical trade secrets (recipes, formulae and the like). Recital 14 says it covers “*know-how, business information and technological information*”.

A close comparison of the two regimes (trade secrets and the sui generis right) is therefore warranted in order to ascertain:

- (i) How far the Trade Secrets Directive reduces the role and importance of the sui generis right?
- (ii) Whether, to the extent to which the regimes now overlap, there is any reason to seek to modify the operation of sui generis right?
- (iii) How far the Trade Secrets Directive highlights policy goals that the Database Directive did not acknowledge (for example, with respect to employees)?
- (iv) How far the Trade Secrets Directive informs decisions as to the appropriateness of particular reform proposals?

The first point to note is that the subject matter of the two regimes diverges in a very important way. The sui generis right protects collections of data, but explicitly does not extend to “*mere facts or data*”. The idea behind the Database Directive is to encourage investment in the collection, verification and presentation of data. In contrast, the object of protection under the Trade Secrets Directive is secret, valuable ‘information’, as such. The idea behind the Trade Secrets Directive is to establish an EU framework for “*acquiring, developing and applying know-how and information*”. The fact that the Trade Secrets Directive is focussed on information ‘as such’ goes a long way to explaining many of the differences (for example with respect to exceptions, which focus on important flows of information).

Similarly, there are significant differences in the thresholds for protection. The Database Directive applies to both unpublished and published databases. For an unpublished database, the term runs for 15 years from the date of ‘completion’.¹⁴⁶ The Trade Secrets Directive only applies to secret information that has commercial value as a result of its secrecy. Secrecy is defined as:

“secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question.”

While the object of and thresholds for protection differ, the two regimes do overlap. In part this is because ‘collections of data’ (the subject of the sui generis right) can constitute ‘information’ for the purpose of the Trade Secrets Directive. Indeed, this is clear from the definition of secrecy that refers to ‘configuration’ and ‘assembly’. Therefore, where a database comprises a collection of data and is unpublished, it might meet the criteria of protection for both the sui generis right and trade secret protection. The effect is to produce a significant overlap between the protection offered to unpublished bodies of data as ‘trade secrets’

¹⁴⁶ Database Directive, Art 10 (“*The right provided for in Article 7 shall run from the date of completion of the making of the database. It shall expire fifteen years from the first of January of the year following the date of completion.*”)

and the protections such bodies of data might gain from the sui generis right. One example, specifically referred to in Recital 2 of the Trade Secrets Directive, is customer lists. Other examples could include sensor-produced data that is now recognised as of increasing economic importance. Such bodies of data might be both trade secrets and protected databases.¹⁴⁷

Is every unpublished database a trade secret? It would seem that such would be a 'secret' and therefore the answer seems to depend on Article 2(1)(b) of the Trade Secrets Directive – the condition for protection that the information in issue “*has commercial value because it is secret.*” Recital 14 elaborates:

“such know-how or information should have a commercial value, whether actual or potential. Such know-how or information should be considered to have a commercial value, for example, where its unlawful acquisition, use or disclosure is likely to harm the interests of the person lawfully controlling it, in that it undermines that person's scientific and technical potential, business or financial interests, strategic positions or ability to compete.”

It might be argued that where a collection of information is going to be made accessible to subscribers, then it has value because of its compilation rather than because of its secrecy. However, the language of Recital 14 seems to suggest a broader conception as to how commercial value seems to exist. If someone accessing data on an unpublished database harms the interests of the controller who was planning to license access to the database, that access clearly “*undermines that person's ... business or financial interests.*”

It looks therefore as if there is room for a very substantial overlap between the two regimes. Is such an overlap likely to prove a problem? Cumulation of intellectual property protection is now commonplace, and while it brings with it certain familiar problems, can frequently be justified where the two regimes protect different aspects of an intellectual object in different ways and for different reasons.

For the most part, the overlap does not seem to be a problem. Although there is some uncertainty as to the notions of investment and substantiality, the rights conferred by the Database Directive are targeted at protection of the database as a product of investment. In contrast, the Trade Secrets Directive is targeted at acquisition and disclosure that compromises the secret character of the data.

That said, the Trade Secrets Directive undoubtedly extends the strength of protection granted through EU instruments to databases. Henceforth, merely accessing an unpublished database, even without an extraction or reutilisation, would generate liability. This is because under the Trade Secrets Directive unlawful acquisition is defined as:

“unauthorised access to, appropriation of, or copying of any documents, objects, materials, substances or electronic files, lawfully under the control

¹⁴⁷ As noted when discussing compulsory licensing as a possible response to sole-source and sensor-produced data, were rights of access to such data to be created, some consideration would need to be given not merely to the protection of personal data, but also trade secrets. Importantly, Article 3(2), defining lawful acquisition of trade secrets, states “*The acquisition, use or disclosure of a trade secret shall be considered lawful to the extent that such acquisition, use or disclosure is required or allowed by Union or national law.*”

of the trade secret holder, containing the trade secret or from which the trade secret can be deduced."

However, extraction of a substantial part of an unpublished database (so as to violate the sui generis right) would only be a wrong action in relation to the database as a trade secret if the part taken were itself a trade secret.

One notable tension is that, in relation to unpublished databases (or at least databases that have not been made available to the public), the Database Directive only permits the extraction or reutilisation of insubstantial parts. This is because the exceptions in Article 9 only apply to lawful users of databases that have been made available to the public. Elsewhere difficulties are noted in harmonisation of the notion of lawful user and criticisms as to the narrowness of the formulation of the exception (and a recommendation is consideration of increased flexibility). It seems surprising that it is not envisaged, for example, that a database might need to be disclosed for the purposes of public security or more generally in the public interest.

Table 2 – Databases protection by sui generis right and as trade secrets

	Sui Generis Right	Trade Secret
Object of protection	a collection of ... data ... arranged in a systematic or methodical way and individually accessible by electronic or other means. Recital 45 <i>"the right to prevent unauthorised extraction and/or re-utilisation does not in any way constitute an extension of copyright protection to mere facts or data"</i>	Information
Conditions for Protection	qualitatively and/or quantitatively a substantial investment in either the obtaining, verification or presentation of the contents	(i) Secret (ii) Commercially valuable
Formalities	None	Subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret
Foreign entities	Not protected	At least TRIPS parties qualify for protection on basis of national treatment: TRIPs art 39
Ownership	Maker	<i>"any natural or legal person lawfully controlling a trade secret"</i>
Conditions for rights violation	Extraction or reutilisation of substantial parts; Systematic or methodical use of insubstantial parts	Unlawful acquisition, use or disclosure
Justifications for rights violation	Only for databases that have been made available; Private use (of non-electronic databases); Research and teaching; Public security, administrative and judicial proceedings.	Lawful acquisition (Art 3), e.g. independent creation Article 5: (a) freedom of expression and information; (b) revealing misconduct; (c) disclosure by workers to representatives; (d) protecting legitimate

4.2.5 Employees

One issue that caused considerable controversy during the passage of the Trade Secrets Directive was how far the law might affect national regimes dealing with employees. As is widely appreciated, Member States have varied traditions on governance of employee mobility, particularly through the use of so called 'restrictive covenants' or 'non-compete agreements'. The issue is a delicate one because recent research from the United States suggests that promoting employee mobility has been associated with technological innovation. One concern was that the rules proposed in the Trade Secrets Directive might indirectly affect employee mobility: if an employer is able to allege that an ex-employee has had access and is liable to use trade secrets for a new employer (or in competition), one remedy might be to prevent the employee from using the confidential information.

In the end, the Trade Secrets Directive purports to have a limited impact on the position of employees and ex-employees: Article 1(3) specifically clarifies that nothing in the Directive should be understood to offer any ground for restricting employee mobility. In particular, ex-employees should be free to use information that falls outside the notion of 'trade secret' (as defined), or that persons use of "*experience and skills honestly acquired in the normal course of employment*". The definition of trade secret, as elaborated in Recital 14, apparently excludes "*the experience and skills gained by employees in the normal course of their employment, and also excludes information which is generally known among, or is readily accessible to, persons within the circles that normally deal with the kind of information in question*". However, an employee who memorises a trade secret, or takes copies of such secrets, seems clearly to fall within the field covered by the Directive. The potential effect is recognised by the review clause in Article 18, which requires the European Commission to report (by 9 June 2022) on the effects of the Directive, inter alia, on employee mobility.

The caution exhibited in the passage of the Trade Secrets Directive stands in marked contrast to the barely noticed role of the Database Directive on the field of employment. However, it is clear that in some Member States, a substantial portion of litigation over the sui generis right has concerned ex-employees and lists of customers or suppliers in which their former employers claim sui generis right. In the United Kingdom, for example, at least seven cases in the High Court have involved claims based on the sui generis right,¹⁴⁸ in a number successfully.¹⁴⁹ Only in one case did the judge question whether the sui generis

¹⁴⁸ See next footnote for cases in which the claim succeeded. Cf *Berryland Books Ltd v BK Books Ltd* [2009] EWHC 1877 (Ch) (Judge Hodge QC), (rejecting database claim against ex-director and employee who set up in competition, grounded in wrongful retention of database of suppliers and customers, finding at [41] that the claim was not established on the facts); and *Capita plc v Richard Darch* [2017] EWHC 1248 (Ch): database right in particulars of claim, but not discussed in case where ex-employer sought interim relief against ex-employees who had set up in competition.

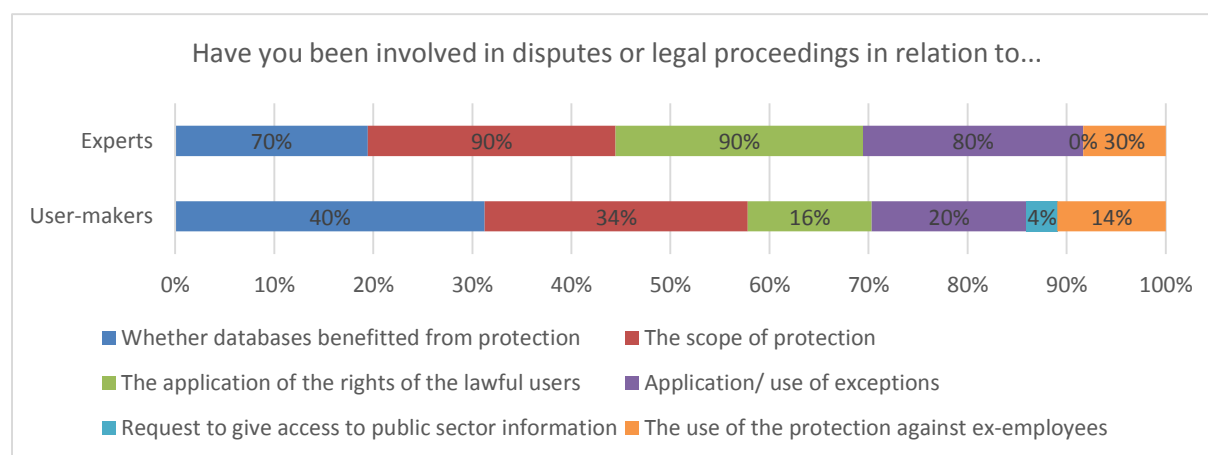
¹⁴⁹ *Pennwell Publishing (UK) v Ornstein & Ors* [2007] EWHC 1570 (QB) (Judge Fenwick QC) (considering the status of a spreadsheet of contacts created by the Defendant, an ex-employee, who had set up in competition, and suggesting that while not original [107], the list was protected by SG right and, if created in the course of employment, that vested with the employer: [108]); *Magical Marking Ltd v Holly* [2008] EWHC (Ch) 2428, where ex-director of firm raided and copied, inter alia, customer lists, Norris J found (i) this was protected by database right and (ii) the database right was infringed by unlawful extraction; *Flogas Britain Ltd v. Calor Gas Ltd* [2013] EWHC 3060 (Ch), [108] (Proudman J) (where D employed X, former employee of Claimant, and X supplied C's database of customer names and addresses, D was found vicariously liable for infringement of database right by. extraction, but no award of additional damages was made.) In *MPT Group v Peel et Ors*

right was an appropriate cause of action.¹⁵⁰ Indeed, Chapter 4 of Paul Goulding QC's *Employee Competition: Covenants, Confidentiality and Garden Leave* (3rd ed., 2016) is titled "Confidential Information and the Database Right."

Our review of case law confirmed the use of the sui generis right to prevent employee competition was not just a phenomenon visible in the United Kingdom. In the Netherlands, precisely such a matter came before the Court of Appeal of Den Bosch in February 2017 (though on the facts of the case the database failed, because the claimant could not prove substantial investment).¹⁵¹

In the study questionnaire, stakeholders and experts were asked about legal proceedings they had been involved in. Among the user-makers of database who responded that they had been involved in any kind of dispute or legal proceeding, for 30% it was in relation to the use of database protection against ex-employees. Among the responding experts who have been involved in disputes or legal proceedings, 15% dealt with question relative to the use of the sui generis right against ex-employee.

Figure 50 – Disputes or legal proceedings in relation to the sui generis right, as a % of the responding experts and database user-maker who have experience in disputes or legal proceedings



Source: Survey conducted for this study

In order to invoke the sui generis right against a former employee, an employer needs to establish that there is a database that is the product of substantial investment, that it holds a sui generis right in that database, and that the employee has extracted a substantial part thereof. The latter element is often readily established where the ex-employee copied material. The first element, 'substantial investment' ought in principle to be most troubling, because many business databases such as customer or supplier lists are 'spin offs' from their

[2017] EWHC 1222 (Ch), a company that makes machinery and parts for mattress manufacture brought an action against ex-employees that set up in competition. The Court found there to be "a serious issue to be tried" with respect to database right in list of customers and suppliers downloaded by the employees before departure, the Judge noting, at [41], that this act infringed database right).

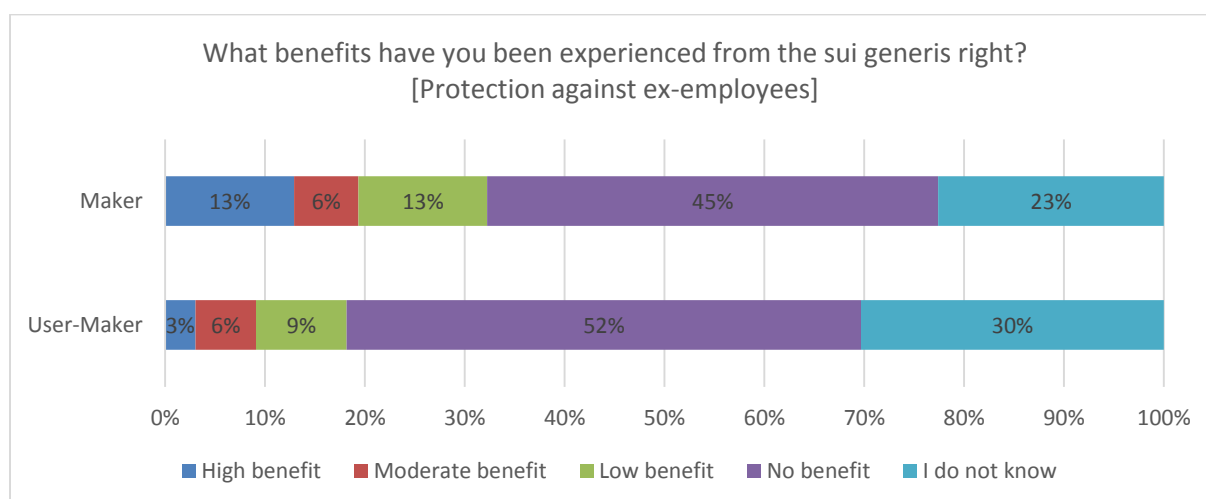
¹⁵⁰ Pintorex Ltd v. Keyvanfar [2013] EWPCC 36, [11]–[13] (Alastair Wilson QC.) Where Defendant, ex-employee of C, a stationery business, loaded database onto his laptop and set up in competition, the Judge questioned why database right ("such troublesome allegations") set up in competition and set up in competition and was pleaded in addition to breach of confidence.

¹⁵¹ Hof 's-Hertogenbosch 28 February 2017, IEF 16635; ECLI:NL:GHSHE:2017:831 (Vehicle System Engineering v. Dutch Automotive Engineering Company). (Information from Dutch expert).

main activities (making and selling goods or services). If the database does cross the threshold, the second issue, whether the employer is the maker seems less troubling. Although the Database Directive does not have a provision on ownership of the sui generis right, and Recital 41 provides minimally that the database maker is “*the person who takes the initiative and the risk of investing*” and indicates that subcontractors in particular are excluded from the definition of maker. According to some commentators, the exclusion of subcontractors from being makers necessarily implies employees should also be since they do not bear the risk of investing.¹⁵² Others consider that the question of ownership by employees is left to Member States.¹⁵³ Certainly, the British legislature implemented the conclusion explicitly.

The use of the sui generis right as a means of protection against unauthorised use by ex-employees is a (high or moderate) benefit from the Database Directive reported by around 20% of the responding database makers and 10% of the responding database user-makers. However, the shares of those who experience no benefit were respectively 45% and 52%.

Figure 51 – Benefits experienced by database makers and database user-maker from the sui generis right and in relation to protection of databases against unauthorised use by ex-employees



Source: Survey conducted for this study

A database user-maker interviewed in this Study suggested the sui generis right is particularly important to protect databases from former employees who might have created copies of the databases or hacked it – a situation his company faced some years ago.

4.2.6 Conclusion

It seems clear that given the breadth of the concept of trade secret, once implemented, there will be a substantial overlap between the EU trade secrets regime and the protection afforded by the sui generis right in relation to unpublished databases. This raises the concern that the sui generis right might, in this field, constitute an additional weapon in the armoury of an employer seeking to suppress competition from ex-employees. Such employers already are

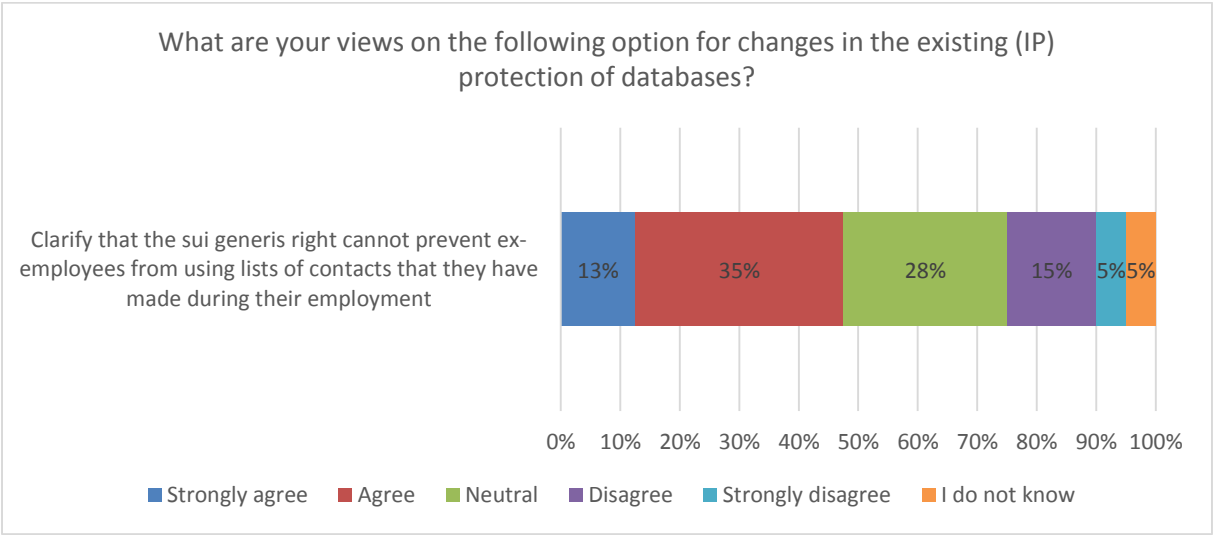
¹⁵² Koščík and Myška (2017), 53.

¹⁵³ For extensive details of national implementations and the literature’s views, see Beunen, 146ff.

able to use national contract law, unfair competition law and under the Trade Secrets Directive will be able to use trade secret protection. The additional use of the esoteric and specialised IP protection of the sui generis right might appear oppressive. In addition, there is a possibility that it will be less well understood by litigants (ex-employees) and tribunals dealing with such cases (which may lack expertise in intellectual property). Although the evidence revealed that the sui generis right has frequently been used in these scenarios, and some operators value this facility, this is not what the right was designed to achieve. As a consequence, one conclusion might be that the protection offered by sui generis right should be excluded from this field.

If so, how could that be achieved? In the study questionnaire, legal experts were asked about their views on various options for changes in the existing (IP) protection of databases. Almost half of the respondent agree, to some extent, while 20% disagree.

Figure 52 – Experts' opinions on clarifying that the sui generis right cannot prevent ex-employees from using lists of contacts made during their employment



Source: Survey conducted for this study

There are other possibilities. First, the use of the sui generis right in this field might diminish if there were clear guidance about the threshold of ‘substantial investment’ that might operate to exclude customer and supplier lists. Of course, the questions of creation/collection and substantiality are in play in this review, so it should also be stated clearly that if these criteria are reduced or abandoned (as some stakeholders would like) the overlaps with the trade secrets regime would be all the greater and the position of ex-employees all the more uncertain.

Second, at various points the possibility of ‘registration’ has been raised as a pre-requisite to protection. Our sense is that customer list/supplier list cases are examples of opportunistic use of the database regime: few businesses create such lists as a result of the ‘incentive’ offered by the sui generis right; rather the right is invoked ‘ex post’, that is after a relationship with an employee has broken down. Registration is seen as a vehicle to avoid protecting databases the production of which was not consciously motivated by the privileges offered by the sui generis right. Although the details need to be further developed, such a requirement could minimise the negative effect of the sui generis right on the

careful balance that policymakers seek to hold between the legitimate interests of employers and those of ex-employees.

A third possibility would be to limit protection of the sui generis right to situations where a database had been made available to the public. Making rights available only where material is published or made accessible is by no means unusual in the EU intellectual property system: under Article 11 of Regulation 6/2002 of 12 December 2001 on Community designs, unregistered design protection arises under EU law only when a design is made available to the public within the Community; under Article 4 of the Directive 2006/116 of 12 December 2006 on the term of protection of copyright and certain related rights, a right arises in a previously unpublished work (in which copyright has lapsed) when such a work is lawfully published or lawfully communicated to the public for the first time.

4.3 Are the original objectives of the Database Directive still in line with the need of the EU?

The Database Directive has harmonised most issues. However, many aspects are still unclear such as the notion of substantiality and of maker. It also has left exceptions to the sui generis right unharmonised. The relationship between the sui generis right and other laws, mainly contract and unfair competition, the Directive 2003/98/EC on the re-use of public sector information is also not fully harmonised. More harmonisation in these respects is advisable. The Nordic countries retain copyright exceptions bar private use and Article 5(1). There is some evidence that these countries do quite well in terms of database production. Therefore, there is no reason to think that more exceptions negatively affect database production. In terms of competition, compulsory licences may be necessary in some situations. As a result of this study, some may doubt whether the European Union needs the sui generis right. If the sui generis right was abolished, it may be necessary to harmonise slavish imitation as otherwise the protection of databases would be left unharmonised, which may affect the free movement of goods and services.

5 Interactions of the Database Directive with other means of database protection and the latest technological developments

5.1 Is the Database Directive coherent with other EU actions?

This section considers how far the Database Directive is 'coherent' with other legal instruments and initiatives in the field. The most important of these is the so-called 'copyright acquis', in particular, the Information Society Directive 2001/29/EC.

Desk research reveals a host of inconsistencies between the language employed in the Database Directive's provisions on copyright and those in the copyright acquis. Further comparative work suggests that these inconsistencies produce additional complexity at national level in terms of implementation. Interviews revealed widespread support for aligning the exceptions to copyright in databases with those in the rest of the acquis, and also for doing something similar in relation to sui generis right.

5.1.1 The copyright acquis

When the Database Directive was adopted, there were only four Directives dealing with copyright, and each was targeted at particular subject matter or modes of exploitation: the protection of computer programs (1991); rental, lending and related rights (1992); satellite broadcasting and cable transmission (1993); term of protection (1993). The overall effect was one of very limited harmonisation. As a result, when the Database Directive was adopted,¹⁵⁴ there were only a few models for different elements of the copyright rules (primarily the Council Directive 91/250/EEC on the legal protection of computer programs and the Council Directive 92/100/EEC on rental right and lending right and on certain rights related to copyright in the field of intellectual property).

In 2001, the position shifted significantly, with the adoption by the Council and Parliament of the Directive of Copyright in the Information Society. This has been described as the first (and only) 'horizontal Directive',¹⁵⁵ applicable to all authorial works, and identifying various rights and potential exceptions. The Court of Justice has used the 2001 Directive as a springboard for further harmonisation of concepts such as originality and 'work'. The effect is that there is now a 'model' (or at least default) copyright regime.

Article 1(2) of the Information Society Directive states that "*Except in the cases referred to in Article 11, this Directive shall leave intact and shall in no way affect the existing Community provisions relating to... (e) the legal protection of databases.*" Article 11 refers only to technical adaptations of the Term and Rental Directives, rather than the Database Directive. Nevertheless, certain provisions of the Information Society Directive, such as Article 6 on technological measures,

¹⁵⁴ In fact, Art 5 retained form from 1992 proposal

¹⁵⁵ Commission Staff Working Paper, 3 ("*the most horizontal measure adopted in this field.*")

are clearly intended to apply to databases, as it refers specifically to the Database Directive.¹⁵⁶

Previous Directives, such as the Rental Directive (Art 4) and Database Directive (Art 2) had been expressed to be 'without prejudice to community provisions' relating to, e.g. the legal protection of computer programs. While the term 'without prejudice' may be limited to situations where there is a *prima facie* conflict between the terms of two directives (so that a later Directive which adds new rights would not 'prejudice' provisions of an earlier instrument), the language of Article 1(2) of the Information Society Directive might, by virtue of the words 'in no way affect', seem to imply a more absolute rule.¹⁵⁷ Thus it might be thought to preclude, for example, the use of the Information Society Directive even as a means to interpret the Database regime. However, Michel Walter has argued that "*the application of this principle must be construed flexibly and against the background of the overall harmonisation purpose in every single case. Thus, except for the very core and essence of a specific earlier regulation, the Directives are not completely immune from subtle interpretation taking into consideration modifications or amendments of later Directives*".¹⁵⁸

There are three significant areas where the rules diverge: on authorship and ownership; on rights; and on exceptions.

5.1.1.1 Authorship and Ownership

In the case of databases there is a provision dealing with authorship (Article 4), but there is no express provision in the Information Society Directive dealing with authorship of works protected by copyright in general. This appears at first sight to be a significant divergence. However, on closer analysis, and rather paradoxically, it seems harmonisation of authorship in the context of databases is less extensive than in the context of copyright more generally. The reason for this is that while Art 4(1) of the Database Directive states that "*The author of a database shall be the natural person or group of natural persons who created the [data]base*", there is an express proviso that "*where the legislation of the Member States so permits*" the author will be "*the legal person designated as the rightsholder by that legislation*". In effect, Member States are given complete freedom to designate the 'rightsholder' of a copyright-protected database. In contrast, while the Information Society Directive does not contain a provision on 'authorship', the terms of the Directive require Member States to confer certain rights on the 'author'. As a consequence, 'authorship' would likely be regarded as an 'autonomous concept of European law'.¹⁵⁹ Indeed, the CJEU has held that a

¹⁵⁶ Article 6 defines 'technological measures' as "*any technology, device or component that, in the normal course of its operation, is designed to prevent or restrict acts, in respect of works or other subject matter, which are not authorised by the rightsholder of any copyright or any right related to copyright as provided for by law or the sui generis right provided for in Chapter III of Directive 96/9/EC.*"

¹⁵⁷ But cf Case C-277/10, EU:C:2012:65, para [47], referring to Information Society Directive as being "without prejudice" to earlier directives.

¹⁵⁸ In M Walter & S von Lewinski, *European Copyright Law*, (OUP, 2010) [11.1.3], 953.

¹⁵⁹ However, the various provisions requiring that the principal director be recognised as one of the authors of a cinematograph, but which permit Member States to recognise 'other authors' might lend weight to the notion that this matter is, overall, one for Member States. Article 2(1) of Directive 2006/116 sets out, under the heading 'Cinematographic or audiovisual works', the general rule that the principal director of a cinematographic work is to be considered its author or one of its authors, Member States being free to designate other co-authors; Directive 93/83, Article 1(5) provides that the principal director of a cinematographic or audiovisual work is to be considered its author or one of its authors; Article 2(2) of Directive

Member State cannot designate a publisher as entitled to remuneration under Article 5(2)(a) of the Information Society Directive, because publishers are not amongst the listed beneficiaries of the reproduction right conferred by Article 2.¹⁶⁰ The CJEU therefore, at the very least, indicated that a publisher is not an author.¹⁶¹

Although the proposal for the Database Directive initially contained a provision dealing with 'ownership' of copyright,¹⁶² in the final version this is left to Member States. Instead, Recital 29 states that:

"Whereas the arrangements applicable to databases created by employees are left to the discretion of the Member States; whereas, therefore nothing in this Directive prevents Member States from stipulating in their legislation that where a database is created by an employee in the execution of his duties or following the instructions given by his employer, the employer exclusively shall be entitled to exercise all economic rights in the database so created, unless otherwise provided by contract".

The Information Society Directive says nothing about ownership. Its Recital 30 states *"The rights referred to in this Directive may be transferred, assigned or subject to the granting of contractual licences, without prejudice to the relevant national legislation on copyright and related rights."* Can Member States provide that employer's presumptively own copyright protected under the Information Society Directive rather than the Database Directive? The answer should almost certainly be positive for two (closely related) reasons. First because while the Information Society Directive leaves intact and in no way affects the earlier Directives, it seeks only to adapt and extend the principles recognised in the earlier Directives. As Recital 5 states, *"While no new concepts for the protection of intellectual property are needed, the current law on copyright and related rights should be adapted and supplemented to respond adequately to economic realities such as new forms of exploitation."* The Recital 29 of the Database Directive can thus potentially be read as authorising the same provisions in relation to other forms of copyright. Second, a similar approach emphasising continuity was taken by the Court in relation to the provisions in previous Directives (but not the Information Society Directive) that allowed for presumptions of transfer in relation to films.¹⁶³ In *Luksan* the Court of Justice drew on these to hold that Member States could operate a presumption of transfer mechanism as regards reproduction and making available rights to facilitate the exploit a cinematographic work.¹⁶⁴ Although the decision was very much based on the legislative background operating in relation to cinematographic works, it seems entirely plausible that the Court would take the same view with respect to employee ownership.

2006/115 provides that the principal director of a cinematographic work is to be considered its author or one of its authors.

¹⁶⁰ *Hewlett-Packard Belgium SPRL v Reprobel SCRL*, Case C-572/13, EU:C:2015:750, [48] (ECJ, Fourth Chamber)

¹⁶¹ Cf Walter, [16.0.10], 1469 ("the legislation of the Member States is free to determine the concept to be applied.")

¹⁶² Art 3(4) of the proposal – employees – in Amended Proposal but eventually deleted and replaced.

¹⁶³ Directive 92/100, Article 2(5) (a presumption of transfer of the rental right in favour of the producer of a cinematographic work); Directive 2006/115, Article 3(4) (presumption with respect to performers); Art 3(5) (Member States may provide for a similar presumption with respect to authors).

¹⁶⁴ Case C-277/10, EU:C:2012:65.

5.1.1.2 Rights

The Database Directive, Article 5, specifies certain rights that must be conferred on the holders of copyright in databases. These include the right of reproduction, communication, distribution and adaptation. The Information Society Directive harmonises the rights of reproduction, communication and distribution, though the precise details vary.

Reproduction

Under Article 5(a) of the Database Directive, the Member States must confer on the holder of copyright the exclusive right to carry out or to authorise the *"temporary or permanent reproduction by any means and in any form, in whole or in part"*. In contrast, Art 2 of the Information Society Directive requires Member States to provide *"the exclusive right to authorise or prohibit direct or indirect, temporary or permanent reproduction by any means and in any form, in whole or in part"*.

The main difference is that the Information Society Directive refers to *"direct or indirect"* reproduction. According to Hugenholtz, the scope of the right given to copyright owners in databases thus *"fall short of the even broader reproduction right of the Information Society Directive"*.¹⁶⁵ However, according to Michel Walter, the later Directive can be regarded as a *"further clarification"* of the Database Directive.¹⁶⁶ In an earlier review, the Commission itself stated that:

*"In fact, only a rather modest amendment aligning the terminology used in the different Directives in this respect would improve the existing situation without resulting in any unintended substantive changes to the reproduction right. The scope of reproduction right would thus remain unchanged."*¹⁶⁷

The disagreement is, probably, of minor significance.

Adaptation

Article 5(b) requires Member States to recognise the exclusive right of *"translation, adaptation, arrangement and any other alteration"* of a protected database. No such right is recognised in the Information Society Directive, but Berne requires that *"Authors of literary or artistic works shall enjoy the exclusive right of authorising adaptations, arrangements and other alterations of their works"* (Article 12). The effect is that Member States must provide for *"adaptation rights"* under international law, and for database copyrights, also under EU law.

How significant is this difference? It has been suggested by some that it is not particularly important for two reasons. First, because the reproduction right conferred under Article 2 of the Information Society Directive has already been interpreted extremely broadly, in particular, in encompassing reproduction of 'any part'.¹⁶⁸ As a result, it might be said, there are few acts of adaptation,

¹⁶⁵ Hugenholtz in Concise European Copyright Law, 396. See also IViR, Recasting Copyright 47, 54.

¹⁶⁶ In Walter & von Lewinski, European Copyright Law, [11.1.14], 956.

¹⁶⁷ Commission Staff Working Paper, 5-6.

¹⁶⁸ Case C-5/08, Infopaq International A/S v. Danske Dagblades Forening [2009] ECR I-6569 (ECJ, Fourth Chamber).

arrangement or alteration that would not themselves involve reproduction. Second, it is said that adaptation, arrangement and alteration are not especially significant for database copyright, as the latter protects only the selection and/or arrangement – the ‘structure’ – of the database.

Distribution

Under Art 5(c) of the Database Directive, Member States must give copyright holders the right to prevent “*any form of distribution to the public of the database or of copies thereof*”. In contrast, Article 4 of the Information Society Directive “*Member States shall provide for authors, in respect of the original of their works or of copies thereof, the exclusive right to authorise or prohibit any form of distribution to the public by sale or otherwise*”. Immediately, it is noticeable that the later Directive includes the words “*by sale or otherwise*”.

The CJEU has interpreted Article 4 of the Information Society Directive very broadly, so that it covers “*an offer for sale or a targeted advertisement of the original or a copy of that work, even if it is not established that that advertisement gave rise to the purchase of the protected work by an EU buyer, in so far as that that advertisement invites consumers of the Member State in which that work is protected by copyright to purchase it*”.¹⁶⁹

At least one commentator takes the view that Article 4(1) of the Information Society Directive can be treated as a clarification which also applies to databases.¹⁷⁰ In the *Dimensione Direct* and *Donner* cases,¹⁷¹ the CJEU conferred a very broad interpretation on the term “*distribution*” in part because the WIPO Copyright Treaty defines distribution by reference to sale “*or other transfer of ownership*”.¹⁷² As the Database Directive should also be interpreted in the light of international law, it seems likely that – despite Article 1(2) of the Information Society Directive – the CJEU would give a similar interpretation of Article 5(c) of the Database Directive.

Exhaustion

Article 5(c) of the Database Directive goes on to deal with ‘exhaustion’:

“The first sale in the Community of a copy of the database by the rightsholder or with his consent shall exhaust the right to control resale of that copy within the Community.”

In contrast, Article 4(2) of the Information Society Directive states:

“The distribution right shall not be exhausted within the Community in respect of the original or copies of the work, except where the first sale or other transfer of ownership in the Community of that object is made by the rightsholder or with his consent.”

¹⁶⁹ Case C516/13, *Dimensione Direct Sales srl*-, ECLI:EU:C:2015:31, para 35.

¹⁷⁰ Walter, in Walter & von Lewinski, *European Copyright Law*, [11.1.15], 956

¹⁷¹ Case C5/11, *Donner*, EU:C:2012:370, paragraph 24; Case C516/13, *Dimensione Direct Sales -srl*-, ECLI:EU:C:2015:31, para 23-24.

¹⁷² WCT, (“*Authors of literary and artistic works shall enjoy the exclusive right of authorising the making available to the public of the original and copies of their works through sale or other transfer of ownership.*”)

As with the definition of the distribution right, the Information Society Directive refers not just to sale but to “*other transfer of ownership*”. Would the two Directives be regarded as diverging? In its report for the Commission, *Recasting Copyright for the Knowledge Economy*, the Institute for Innovation Law of the University of Amsterdam (IViR) argues that there is “*no justification for the differential treatment*” (55) and that the ‘internal market objective’ would in fact imply the same scope for the exhaustion rule under the Database Directive.¹⁷³

Von Lewinski explains that the narrow conception of the conditions for exhaustion was adopted by Council as part of its determination to leave the issue of rental and lending to the earlier Directive and argues that “*since these differences do not seem to be justified on objective grounds, and alignment of these provisions seems recommendable*”.¹⁷⁴

The two Directives are also phrased differently in their treatment of international exhaustion: the Database Directive states that exhaustion will occur from distribution in the EU, whereas the Information Society Directive indicates that exhaustion will not occur unless there is distribution in the EU. In principle, the Database Directive might be said simply to leave open the position where a database is marketed outside the EU. Once again, however, the divergent wording of the provisions in fact is misleading, and it is highly likely that their substantive effect is identical. This is because, in the context of trade mark law, the CJEU rejected a suggestion that a provision relating to Community exhaustion left open the possibility for Member States to operate regimes of international exhaustion (and parallel reasoning would seem to compel the same conclusion with respect to database copyright).¹⁷⁵

The two Directives seemed aligned in their treatment of the issue of exhaustion through distribution of intangible copies. Recital 33 of the Database Directive clarifies:

“Whereas the question of exhaustion of the right of distribution does not arise in the case of on-line databases, which come within the field of provision of services; whereas this also applies with regard to a material copy of such a database made by the user of such a service with the consent of the right-holder, whereas, unlike CD-ROM or CD-i, where the intellectual property is incorporated in a material medium, namely an item of goods, every on-line service is in fact an act which will have to be subject to authorisation where the copyright so provides.”

Recital 29 of the Information Society directive is in virtually identical terms. However, both Directives differ from the Software Directive, which in the *UsedSoft* decision,¹⁷⁶ was interpreted so that intangible sales were regarded as exhausting rights in the intangible copy that was sold. Because of the differences in language, Professor Hugenholtz argues that exhaustion applies “*only in*

¹⁷³ IViR, *Recasting Copyright*, 50.

¹⁷⁴ European Copyright Law, [9.5.14], 718-719.

¹⁷⁵ *Silhouette International Schmied GmbH & Co. KG*, Case C-355/96, ECLI:EU:C:1998:374.

¹⁷⁶ Case C-128/11, *UsedSoft GmbH v. Oracle* (3 July 2012, ECJ), [47], [49], [58] and [61] (holding that the exhaustion doctrine applies to computer programs made available electronically where the substance of the arrangement is to transfer the copy to the user for an indefinite period).

*respect of sale of physical copies” and that this precludes application by analogy of the UsedSoft rule to databases.*¹⁷⁷

Communication

Under Art 5(d) of the Database Directive, Member States must confer on copyright owners the right to control “*any communication, display or performance to the public*” of the database (expression). In contrast, Article 3(1) Information Society Directive provides that:

“Member States shall provide authors with the exclusive right to authorise or prohibit any communication to the public of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access them from a place and at a time individually chosen by them”.

Article 3 appears at first glance both broader and narrower. It is broader in that, as it was adopted only in 2001, it takes account of the WIPO Copyright Treaty (1996) and of the requirement to recognise a right of ‘making available’ on the internet (which the Database Directive does not). In contrast, it is narrower in that it does not encompass ‘performance to the public, as included in Article 5(d) of the Database Directive.’

Recital 23 states that:

“This Directive should harmonise further the author's right of communication to the public. This right should be understood in a broad sense covering all communication to the public not present at the place where the communication originates.”

Where the public is present at the place where the communication ‘originates’, the act is one of ‘public performance’, and governed by the laws of Member States.

Nevertheless, it is widely accepted that ‘making available’ is included within the rights conferred by copyright in a database.¹⁷⁸ In Recital 31, the Database Directive states that “*the copyright protection of databases includes making databases available by means other than the distribution of copies*”.¹⁷⁹ Perhaps a hint of what the legislator had in mind could be inferred from the definition of re-utilisation in the context of the sui generis right (Article 7(2)(b)), which refers to “*any form of making available to the public [...] by the distribution of copies, by renting, by on-line or other forms of transmission.*” Thus ‘distribution’,¹⁸⁰ or ‘communication’ in Article 5(d) might be read as encompassing ‘online or other forms of transmission’. Whatever the legislator in fact meant, it seems clear that

¹⁷⁷ P B Hugenholtz in T Dreier & P B Hugenholtz (eds), *Concise European Copyright Law* (Wolters Kluwer, 2016) 397.

¹⁷⁸ Leading commentators concur that “making available” is included: Hugenholtz, *ibid*, 397-8 (‘Presumably, ...’); von Lewinski, [16.0.38], 1480.

¹⁷⁹ Derived from, but different from amended Proposal, recital 23 (“*Whereas the author's exclusive rights should include the right to determine the way in which his work is exploited and by whom, and in particular to control the availability of his work to unauthorised persons*”).

¹⁸⁰ IviR, *Recasting Copyright* 48 (Distribution right could be interpreted to cover online transmission). Similarly, von Lewinski argues that on demand transmissions were initially conceived as part of the distribution right: *European Copyright Law*, [9.5.20-, 721-2 (referring to Explanatory Mem, Part 2, 5d, and that the Council wished to leave categorisation to the MS.)

the copyright aspects of the Database Directive would be interpreted to ensure compliance with Article 8 of the WCT, and therefore that 'communication' would be read in the same way as Article 3(1) of the Information Society Directive.

In fact, the question of whether 'communication' in Article 5(d) encompasses 'making available' (as in Article 3(1) Information Society Directive) has almost certainly been rendered redundant by the capacious interpretation the CJEU has given to the concept of 'communication' itself in Article 3 of the Information Society Directive. Arguably, the so-called 'making available' right has become entirely superfluous in the context of authors rights because anything that would be a 'making available' is encompassed within the CJEU's understanding of 'communication'. Assuming that 'communication' in Article 5(d) would be given the same interpretation as 'communication' in Article 3 of the Information Society Directive,¹⁸¹ then there is no question that it encompasses making the database accessible via the internet.

As noted, however, Article 5(d) does seem to go beyond Article 3(1) of the Information Society Directive in one respect, namely, that it encompasses 'performance'.¹⁸² The protection of live performances, at least, is not harmonised by the Information Society Directive and (databases apart) remains a matter for national law.¹⁸³ In fact, in this respect, Art 5(d) of the Database Directive may also go beyond the international *acquis*.¹⁸⁴ The IViR report noted that the practical significance of this "seems limited",¹⁸⁵ while Hugenholtz states that the right is "of theoretical interest only".¹⁸⁶ Von Lewinski adds "It is not clear how a database can possibly be performed to the public. The performance is usually understood as a personal presentation of a work or the personal interpretation of a work on stage. The right is unlikely to have any practical importance."¹⁸⁷

Rental and Lending

The provisions in the Database Directive on copyright do not mention 'rental' and 'public lending'. Nevertheless, the Directive is without prejudice to the earlier Rental Directive (Art 2(b)), and Recital 24 clarifies that:

"the rental and lending of databases in the field of copyright and related rights are governed exclusively by Council Directive 92/100/EEC of 19 November 1992 on rental right and lending right and on certain rights related to copyright in the field of intellectual property."

¹⁸¹ Communication to the public is regarded as having the same meaning for authors rights and related rights: *Reha Training Gesellschaft für Sport- und Unfallrehabilitation mbH v. Gesellschaft für musikalische Aufführungs- und mechanische Vervielfältigungsrechte eV (GEMA)*, Case C-117/15, ECLI:EU:C:2016:379, [31]-[34].

¹⁸² IViR, *Recasting Copyright*, 52 and Von Lewinski, in *European Copyright Law*, [16.0.38], 1480, suggest that 'display', too, might be a matter harmonised only for databases but not generally. However, since the time of both these accounts, the CJEU held that projection of a broadcast onto a screen in a pub was 'communication to the public' under Art 3(1) Information Society Directive: *FAPL*, Joined Cases C-403/08 and C-429/08 [2011] ECR I-9083 (ECJ, Grand Chamber), [200]-[203].

¹⁸³ *Circul Globus București (Circ & Variete Globus București) v. Uniunea Compozitorilor și Muzicologilor din România*, Case C-283/10 [2011] ECR I-12031 (ECJ).

¹⁸⁴ The Berne Convention requires recognition of performance rights only in relation to particular categories of work (dramatic and musical works, and a recitation right for literary works). As copyright databases encompass databases of different sorts of works (and indeed databases of materials other than works), it is not easy to know how such databases are treated in the international *acquis* relating to performance.

¹⁸⁵ IViR, *Recasting Copyright*, 52 n 214, 54.

¹⁸⁶ Hugenholtz, *Concise European Copyright Law*, 398.

¹⁸⁷ Von Lewinski, in *European Copyright Law*, [9.5.18], 721.

In effect, owners of database copyright, like other authorial works, benefit from the rights (and may be subject to the limitations) under that Directive.¹⁸⁸

5.1.1.3 Exceptions

Chapter 2 outlined the available exceptions to copyright required and permitted by Article 6 of the Database Directive: the mandatory exception to permit lawful users to access a database and use it normally; the optional exceptions for private use (of non-electronic databases), teaching and research, security and judicial or administrative proceedings; and the freedom for countries to maintain traditional exceptions. In contrast, Article 5 of the Information Society Directive requires Member States to implement an exception relating to 'transient use' and offers an exhaustive list of other exceptions.

5.1.1.4 Problems of Incoherence with the *Acquis*

Implementation

Most Member States offer the same menu of rights to authors and rightsholders of copyright databases as to other copyright works. On the other hand, a few Member States 'copy out' the list of rights referred to in the Database Directive just in respect of databases, rendering database copyright distinct. This is the case in Cyprus, Greece, Italy, Latvia,¹⁸⁹ Portugal and Slovakia.¹⁹⁰ In one or two Member states, such as Spain and the United Kingdom,¹⁹¹ specific rights are elaborated for databases where the basic list of rights was regarded as inadequate. For example, in Spain, the notion of 'transformation' in Article 21 is the case of a database extends to 'rearranging it'.¹⁹² Similarly, in the United Kingdom, adaptation is defined specifically in relation to a database in Section 21(3)(ac) as meaning "*an arrangement or altered version of the database or a translation of it.*"¹⁹³ Moreover, in Germany, "*In the case of [...] the adaptation or transformation of a database work, the production of the adaptation or transformation shall already require the consent of the author.*"¹⁹⁴ Croatia has a distinct rule for databases with respect to their public lending.¹⁹⁵

Most Member States do not differentiate between exhaustion of copyright in databases and other works. As a result, many do not adopt the precise wording. For example, Article 16 (3) of the Austrian Copyright Act exhausts the right of distribution and is not limited to "*the right to control the resale*". It applies to copies of a work "*which have been put into circulation by transfer of the property rights therein*", which may be considered as materially equivalent to 'the first sale'. Although most countries therefore apply the definition of exhaustion from

¹⁸⁸ Davison, *The Legal Protection of Databases*, 77; Hugenholtz, *Concise European Copyright Law*, 397; von Lewinski, in *European Copyright Law*, [16.0.31], [16.0.32], 1477.

¹⁸⁹ Though Latvia also includes the "making available" right.

¹⁹⁰ Cyprus, Art 7C(2)(a) Greece, Art 3(3); Italy, Art 64quinquies(1); Latvia, Art 15 (3); Portugal, Art 7 Decree Law; Slovakia, Art 133.

¹⁹¹ CDPA s 21.

¹⁹² Spain, Article 21 ("transformation" of a work "*includes translation, adaptation and any other change in form from which a different work is derived*").

¹⁹³ Ireland s 42(3)(e) (in relation to "an original database", adaptation "*includes a translation, arrangement or other alteration of the original database*".)

¹⁹⁴ Germany, Art 23.

¹⁹⁵ Croatia, Art 33(5) ("*By way of derogation from the provision of paragraph (1) of this Article, authors of databases shall have the exclusive right of public lending of the originals or copies of their databases.*")

the Information Society Directive to databases, in the countries which provide a special regime of rights for copyright-protected databases, there is usually a specific definition of exhaustion mirroring that in the Database Directive.¹⁹⁶ For example in Greece, Article 3(3) states:

"The first sale in the Community of a copy of the database by the rightsholder or with his consent shall exhaust the right to control resale of that copy within the Community."

One effect of this is that there is a special test of 'exhaustion' for databases, reflecting the precise terms of the Database Directive. Moreover, at least one Member State, Estonia, scrupulously implements the distinct definition for each Directive, differentiating between exhaustion of the distribution right generally (Art 13(2) and exhaustion in relation to databases (Art 13(5)).¹⁹⁷

Similar behaviour is observed in the implementation of exceptions. Most Member States apply their copyright exceptions to database copyright, adjusting only to accommodate the special limitation deriving from the express wording in Article 6(2) of the Database Directive. The most common derogation which is database-specific is with respect to private copying: many Member States comply with Article 6(2)9s) by disapplying the generally-available exception to the specific case of 'electronic databases'.¹⁹⁸ Similarly, some Member States make specific provision in relation to copyright-protected databases of exceptions for teaching and research that map closely the Directive: Article 64 sexies(a) of the Italian law, or Article 19(2) of the Estonian law might be good examples.¹⁹⁹ The effect is very confusing: the Lithuanian law, for example, has exemptions for teaching and research uses for all copyright works generally in Article 22, and later specifically for databases protected by copyright in Article 32(4). In Italy, the special provision has created uncertainty. Indeed, in Article 64 sexies of the Italian Copyright Law, the legislator has introduced a specific list of exceptions that concern sui generis rights, different from those provided for authorship works in general. This distinction has created doubts as to the exceptions that apply to databases. On the one hand, it has been argued that databases are only subject to exceptions specifically indicated for in Article 64 sexies, such as those provided for scientific and educational purposes, or for public security. Others, instead, consider that databases should be subject also to the exceptions provided under general copyright law.

In contrast, a number of countries (e.g. Greece and Slovakia) do not just apply their 'traditional exceptions', such as those for libraries and archives or reporting

¹⁹⁶ Portugal, Art 7(2) Decree Law.

¹⁹⁷ Estonian CA, art 13(5) (*"The first sale of a copy of a database shall exhaust the right to control resale of the copy of the database."*)

¹⁹⁸ Croatia, Art 82 (carve out for electronic databases); Estonia: Art 18(2)(3) (*"excluding electronic databases from reproduction for purposes of personal use exception"*); Greece, Art. 3(4) (added by Art. 81 of Law No. 3057 of Oct. 10, 2002) (*"Reproduction of electronic database for private use is not permitted"*); Hungary, Art 35; Lithuania, Art 20(3)(3); Slovakia, art 134(2) applying Art 42 on private use only to a *"database which was not created in electronic form"*; Slovenia, Art 50(4) (*"Reproduction of the preceding paragraphs of this Article is not permitted for ... electronic databases"*); Spain, art 31(2)-(3) (*"Electronic databases excluded"*).

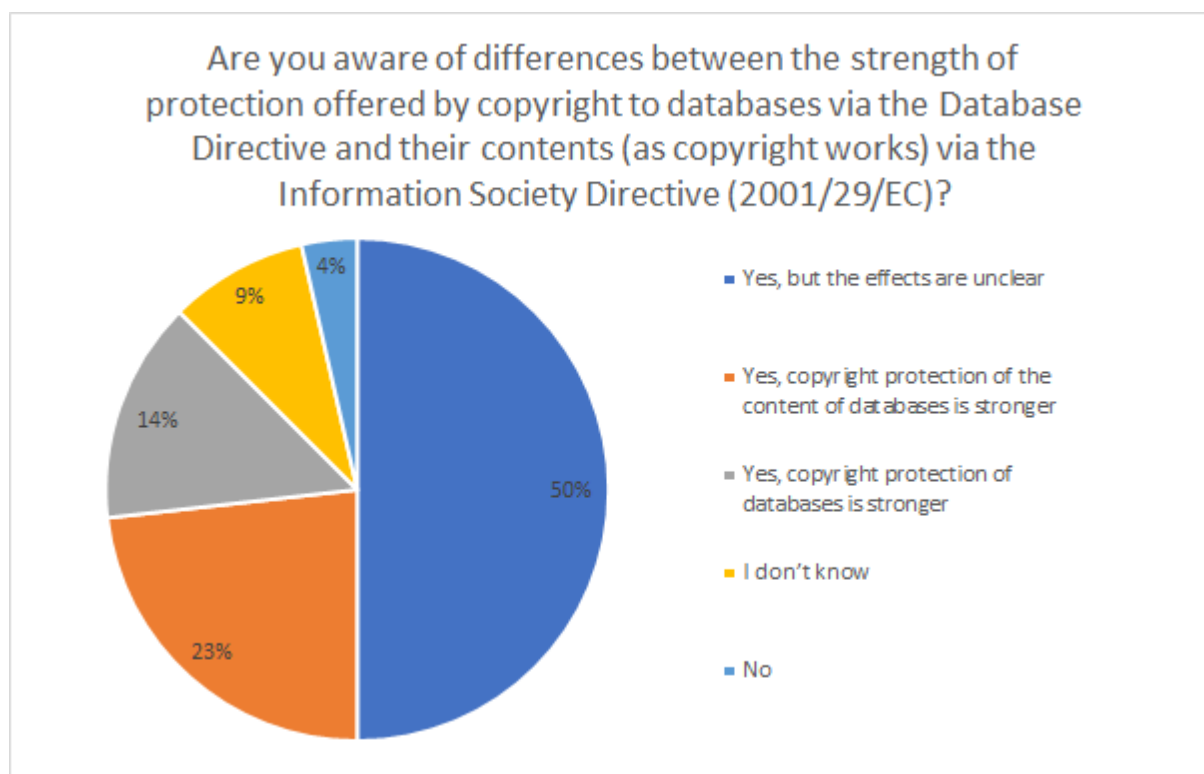
¹⁹⁹ Estonia, Art 19(2) (*"the use of a lawfully published work for the purpose of illustration for teaching and scientific research to the extent justified by the purpose and on the condition that such use is not carried out for commercial purposes"*). Note also Art XI.191(4) of the Belgian Code of Economic Law.

current events exceptions to databases,²⁰⁰ but they also apply exceptions which were created after the adoption of the Database Directive, for example, relating to persons with disability, or transient copying in networks (implemented Article 5(1) of the Information Society Directive),²⁰¹ while at least two have created a new text and data mining defence applicable to databases (as well as other works).²⁰² The academic literature is sceptical about whether such an approach is justifiable under the wording of Article 6(2)(d) (permitting other exceptions to copyright “*which are traditionally authorised under national law*”).²⁰³

Stakeholders

By analysing the responses of the experts, it can be reported that it is difficult to identify how the two regimes of protections differ from and compare with each other. 14% of the respondents consider the Database Directive giving stronger copyright protection than the Information Society Directive, 23% thought the Information Society Directive gave stronger protection, while 50% argued that the effects of the – notable – differences were unclear (see Figure 53).

Figure 53 – Experts' awareness of the differences between the strength of protection offered by copyright to databases via the Database Directive and via the Information Society Directive



²⁰⁰ For example, Belgium, Art XI.191, applies by analogy to copyright databases, Art XI.190 Section 1-4, 10-11 e.g. news reporting and parody.

²⁰¹ For example, Greece, Art. 19 (quotations); art 22 (libraries and archives); Art 25 (reporting current events); Art 28A (disabled); Art 28B (transient copies under Information Society Directive Art 5(1)); Ireland, Section 87 (transient copies); or Slovakia (specifying that exceptions and limitations under Sections 34 to 57 and therefore including Art 54 on transient copying). But many Member States specifically state that the transient copying exception does not apply to databases: Denmark, Art 11(a)(2); France, Art L 122-5(6); United Kingdom, CDPA, s28A.

²⁰² CDPA, s 29A (UK); Estonia, Art 19(3) (“processing of an object of rights for the purposes of text and data mining and provided that such use does not have a commercial objective”).

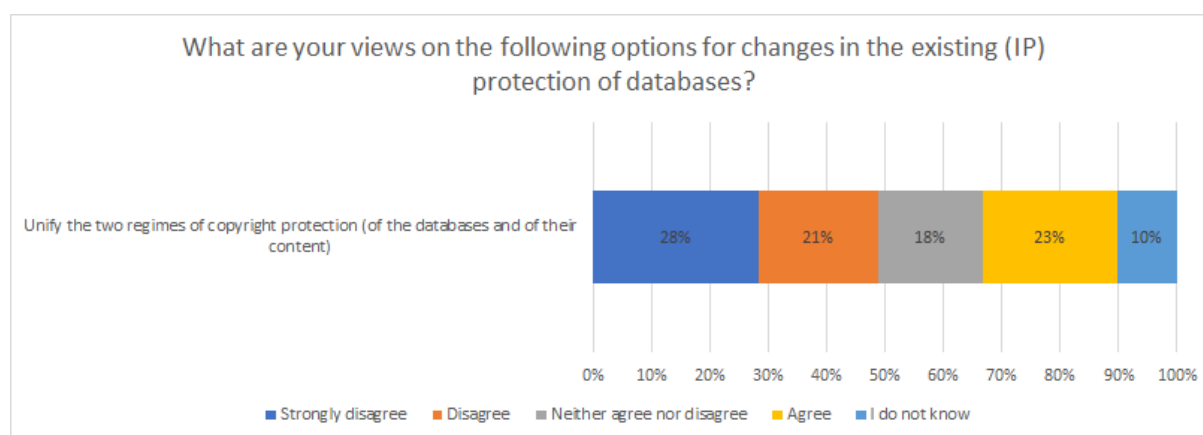
²⁰³ Hugenholtz, Concise, 401 (arguing that this probably refers to exceptions already applied in national law to databases before adoption of the Directive, though he acknowledges that a broader reading is possible).

Source: Survey conducted for this study

Many respondents to the public consultation clearly favoured the idea of increasing the coherence between the regimes. A number of respondents advocated the idea of assimilating the database provisions with the Information Society Directive, in particular with respect to the matter of exceptions. Communia, for example, argued *"the Commission should [...] harmonise the limitations and exceptions for the copyright section of the Database Directive with the Infosoc Directive"*. A respondent from tertiary educational sector added that *"further alignment with the copyright directive is necessary, especially in the scope of exceptions."* In one of our in-depth interviews, the Italian respondent observed that *"Harmonisation of provisions between the InfoSoc and the 96/9 Directive would provide greater uniformity and result in more legal certainty."* A Polish respondent agreed that *"the dispersion of legislation can contribute to legal incertitude and doubts."*

In the Study survey, while the 23% of the responding experts supported the idea of 'unifying' the two regimes, almost half of them disagree to a certain degree (see Figure 54). The results suggest that further consideration would need to be given before fully assimilating the copyright regime in the Database Directive with that in the Information Society directive.

Figure 54 – Expert view on unifying the two regimes of copyright protection



Source: Survey conducted for this study

5.1.2 The objectives of the 'Data Economy Package'

When analysing whether the Database Directive is coherent with the so-called 'Data Economy Package', no conclusion can be easily drawn. One of the main reasons is that, if a right for the data producer were to be introduced, which is presently unclear, it may however lead to incoherence with the Database Directive.

The Data Economy Package is a series of initiatives from the European Commission resulting from the 2017 consultation "Building the European Data Economy".²⁰⁴ This consultation relates to restrictions on localisation of non-personal data and toys with the idea of a new data producer's right, both of which are the most relevant in relation to their relationships with the Database Directive. As reported in the Synopsis Report of the consultation, *"the*

²⁰⁴ <https://ec.europa.eu/digital-single-market/en/news/public-consultation-building-european-data-economy>

*stakeholder consultation confirmed that businesses incur high costs because of current data localisation restrictions, predominantly when carrying out cross-border business in the EU, launching new services, entering new markets or starting up a new business” and “many stakeholders stressed that the main question is how to maximise and organise access to and re-use of data, and not who owns.”*²⁰⁵ After the public consultation, the Commission issued a proposal for a Regulation on a framework for the free flow of non-personal data in the European Union.²⁰⁶ The Commission’s impact assessment of the regulation acknowledges that the most pressing issue is the free flow of data. *“Data access, transfer (i.e. whether “ownership” rights exist on non-personal data that are generated as part of a business process or that are de facto in the possession of a business and what are the conditions of usability and access to such data] and liability, are more difficult topics and less mature topics that deserve further assessment.”*²⁰⁷

5.1.2.1 Setting the issue

What is sensor-produced or more generally machine-generated data?

The specific kind of data under scrutiny here is generated by machines such as fridges, (3D) printers, cutting machines, etc.; it is also the product of the so-called Internet of Things (IoT). A database user from the automotive sector, who participated in the workshop organised in the context of the present Study, explained the technicalities behind sensor-produced data, several machines, such as cars and fridges, are at the origin of the creation of these datasets (see Box 1).

²⁰⁵ <https://ec.europa.eu/digital-single-market/en/news/synopsis-report-public-consultation-building-european-data-economy>

²⁰⁶ Proposal for a Regulation of the European Parliament and of the Council on a framework for the free flow of non-personal data in the European Union, COM(2017) 495 final, 13.09.2017. https://ec.europa.eu/info/law/better-regulation/initiatives/com-2017-495_en

²⁰⁷ <https://ec.europa.eu/digital-single-market/en/news/proposal-regulation-european-parliament-and-council-framework-free-flow-non-personal-data>, Impact assessment, p. 2-3.

Box 1 Sensor-generated data in cars

At first, changes in front of a sensor (e.g. the change in electric voltage) are linked to the creation of a piece of information, which is sent to specified software and specified hardware. The software will – for instance – code 2 volts as 20 degrees and 3 volts as 30 degrees. The software converts these sensor data volts into degrees. In some cases, the sensor may have software incorporated: there is no signal transmission to the software/hardware, but instead the sensor does this processing itself. As the temperature has risen in the car, as a result of the sensor sending the signal, the car's computer will switch on the air conditioning automatically. This sensor-generated data is all transient/temporary data, which is always deleted.

There are more complex situations: when interactions between different parts are needed, then the data is stored. This storage, however, is not permanent: when the task is successfully completed, then the data is also deleted. The non-permanent storage of this data online is called '(online) transactions databases', 'OLAP' or 'business intelligence'.

In cars, there are also SIM cards which send information to the manufacturers. To collect all this data, automotive companies employ huge servers, which need huge investments in the development of software and hardware. In this case, the data collected is stored permanently.

5.1.2.2 The law

Arguably, there is no legal protection of machine-generated data as such unless it is inside a database while the database fulfils the requirements of the Database Directive. With such data, the question in relation to the sui generis right is whether the machine-generated data – stored either transiently or permanently – is created or collected as it is not verified nor presented.

At the time of the consultation, some commentators criticised the creation of a data producer's right.²⁰⁸ In the opinion of the Max Planck Institute for Innovation and Competition, a new property right should not be created because it should only be introduced if there is market failure in the form of insufficient access to data and if it improves functioning of data economy, so not on a distributive justice basis, and there is no market failure because the manufacturer already has de facto control over the data.²⁰⁹ Since the producer has de facto control,

²⁰⁸ J. Drexler et al., "Max Planck Institute for Innovation and Competition, 'Position Statement of 26 April 2017 on the European Commission's 'Public consultation on Building the European Data Economy'" (2017) Max Planck Institute for Innovation & Competition Research Paper No 17-08 1 et seq. < ssrn.com/abstract=2959924>. A. Gartner and K. Brimsted, "Let's talk about data ownership" (2017) E.I.P.R. 461-466 ("However, there is no apparent need to incentivise the collection and analysis of data. Data ownership arguably would not facilitate the "sale" and "licensing" of data either, because data are already the subject of transactions. Commercial parties routinely agree on data "ownership" and access rights on a contractual basis. Indeed, there are valid concerns that the creation of an erga omnes "monopoly" right to data might render it more difficult to access data, thereby frustrating and damaging further development of existing and new products and services. With all due caution, it would thus appear that there is neither a pressing need nor an obvious benefit to develop a legal framework for the digital economy that recognises a new data property right". at 464); W. Kerber, "A New (Intellectual) Property Right for Non-Personal Data? An Economic Analysis" [2016] G.R.U.R. Int. 989; H. Zech, "A legal framework for a data economy in the European Digital Single Market: rights to use data", (2016) JIPLP 460; also Joint Research Committee of the European Commission. (all stating that it is not necessary to create a new data producer's right or at least that the legislature should proceed with caution before creating such a right). D. Kim, "No one's ownership as the status quo and a possible way forward: A note on the public consultation on Building a European Data Economy" (2018) JIPLP 154.

²⁰⁹ Ibid, p. 6 and 9. This analysis is also shared by FIGIEFA. See FIGIEFA, "'Free Flow of Data' and the Connected Car, The role of the European legislator in the legal and factual protection of innovations and competitiveness by the example of the motor vehicle parts, service and repair industry", 15 July 2016.

leaving “allocation of the right to license the re-use of the data to the parties based on the principle of freedom of contract will most likely lead to an agreement whereby the manufacturer will retain that right”.²¹⁰ Such trading already exists nowadays because of the existing control. This proves there is no need of an additional legal right. What is needed therefore is not a data producer right but on the contrary “non-mandatory contract rules coupled with the application of rules on the control of unfair contract terms”.²¹¹

Another issue with machine-generated data is ownership. Arguably, the data is not only made by the manufacturer of the device but by the user as the machine has to be used to generate the data, so co-ownership seems inevitable. However, this creates “a blocking situation if only one of the co-owners is willing to license, and the applicable national law on ownership requires joint administration”.²¹²

A solution to the problem of machine generated data, which because of the de facto control over data combined with contractual protection, readily creates competition problems²¹³, is to create a non-waivable data access right.²¹⁴ The advantages are that it would vest in the person who has legitimate interest in access to the data and not in the purchaser of device.

*“Second, [...] the right of access should be limited to the purpose of conducting data analysis in the interest of the entitled person, irrespective of whether this analysis is organised within the company of the entitled person or whether this analysis is out-sourced to an independent data analysis service provider. In the latter case, the data access right should include the right to request the manufacturer to grant access to the independent service provider. [...] The potential right of data access could even be conceived as a generalisation of the right of data portability as already contained in Article 20 General Data Protection Regulation”.*²¹⁵

Concerning the sui generis right, as to whether machine-generated data is protected by it, there is much legal uncertainty. During the workshop organised in the context of the present Study, a user of databases from the automotive sector contended that this is an investment in creating data in his view and that the distinction between short term (or ‘state of a system’ data) and long-term data is important. He considers that short term data should be free of charge/open whether in raw or processed form and long-term data could possibly be protected by the sui generis right. Leistner also thinks it is far from clear that

²¹⁰ Drexler et al., p. 7. This analysis is also shared by FIGIEFA. See FIGIEFA, “‘Free Flow of Data’ and the Connected Car, 15 July 2016: p. 5. “The connected car is a textbook example that shows that developments regarding the ‘Internet of Things’ make steering legislative action on the aftermarkets necessary in order to make competition through innovation possible.”

²¹¹ Ibid.

²¹² Ibid, p. 9.

²¹³ A view also shared by FIGIEFA which adds that SMEs have no resources to sue manufacturers for abuse of dominant position. See FIGIEFA, “‘Free Flow of Data’ and the Connected Car, The role of the European legislator in the legal and factual protection of innovations and competitiveness by the example of the motor vehicle parts, service and repair industry”, 15 July 2016. This was echoed also by some participants at the workshop and by others in the automotive industry in the public consultation.

²¹⁴ Ibid, p. 11. A solution also favoured by FIGIEFA (Free Flow of Data’ and the Connected Car, 2016, p. 5), who notes that there is no right to data for the other market participants and that a legislative response is needed in this respect. An interview partner also mentioned this.

²¹⁵ Ibid., p. 13.

all sensor-generated data is created.²¹⁶ Following the co-conclusions of the German Federal Court of Justice (BGH) in *Hit Bilanz* and *Autobahnmaut* and the *Verlag Esterbauer* decisions, “investments into the establishment of a measuring, obtainment or documentation infrastructure in order to obtain certain pre-existing use, sales or geographical data will be relevant for assessing substantiality under Art. 7(1) Database Directive”.²¹⁷ However, in “cases where a machine ‘produces’, stores and transmits real-time operational data which is vital to the very functioning of the machine, [...] it would not be far-fetched to argue that such data are ‘created’ by the very operation of the machine if and to the extent that the operation cannot be separated from the measuring, storing and transmitting of the data and if such data are not available by any other means than the very operation of the machine.” Such data are at the borderline, i.e. almost certain to be by-products of a principal activity. This is the reason why there will be legal uncertainty until the CJEU clarifies the scope of the database sui generis right.²¹⁸

A database user from the automotive sector adds that there is also an additional problem. Sometimes, the data generated by sensors in cars is ‘encrypted’ in the sense that there is a certain number of pre-calculations done inside the car which are not readable by a diagnostic tool. Only the result of the calculations is readable. Pre-calculations are thus a way of encrypting data. This is a real problem in the automotive industry. This is also the case in the wind energy sector with data generated by wind turbines.

Because of the special nature of sensor/machine-generated data, M. Leistner argues that the sui generis right should be amended for them. This is because of the rather low threshold of substantial investment, the uncertainty behind spin-off situations and the fact that another database maker will need another complete set of data to create a new data set, so will automatically infringe the sui generis right. Because of this, the sui generis right has the potential to influence the European data economy enormously and its infrastructure.²¹⁹

5.1.2.3 Public consultation, interviews and questionnaire

Most of the respondents to the European Commission public consultation, interviews and questionnaire oppose the creation of the so-called ‘Data Producer’s right’ or any other kind of similar instrument, as they consider it too soon for the legislature to intervene in this field.

However, there are few who have instead a positive opinion of this potential change. As to the relationship between big data/machine-generated data and the right, there are many who are concerned as to whether the sui generis right applies to machine-generated data and machine-generated databases.

²¹⁶ M. Leistner, “Big Data and the EU Database Directive 96/9/EC: Current Law and Potential for Reform” in Lohsse/Schulze/Staudenmayer (eds.), *Trading Data in the Digital Economy: Legal Concepts and Tools*, Baden-Baden, Nomos 2017, p. 27, at 28: from the rulings in *BHB* and *Fixtures Marketing*, “many authors have derived that in typical big data scenarios, the investments of ‘producers’ of sensor or machine-generated data of all kinds will be excluded from the sui generis right because in most practical cases, such investments would have to be regarded as investments in the ‘creation’ of data” but “the sweeping conclusion that all sensor- or other machine-generated data will typically not be covered by the sui generis right is not warranted.”

²¹⁷ Leistner, 2017, p. 28.

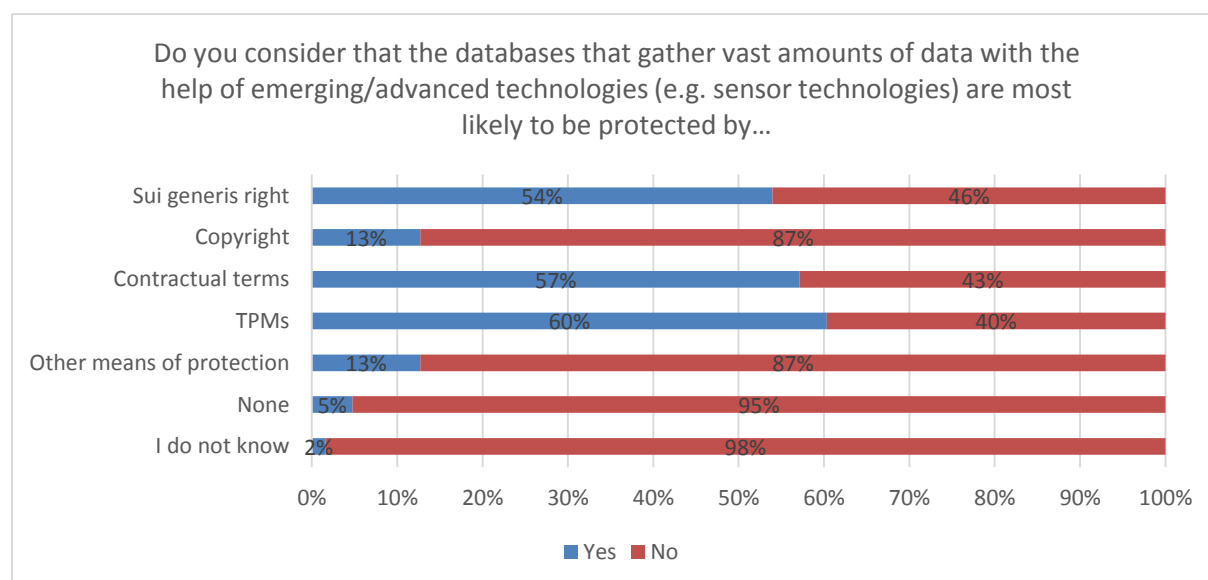
²¹⁸ Leistner 2017, fn 10.

²¹⁹ Leistner 2017, p. 33.

A few respondents to the public consultation also mentioned that the Database Directive is not coherent with the objectives of the Data Economy Package and that it is “an impediment to the development of a European data-driven economy”. Many also think that the Database Directive needs to be revamped or rethought, as they see the data economy as regulated by a legislation at this point outdated. A single respondent to the European Commission public consultation thought that the Database Directive was written in a broad way and neutral tone and does not need to be changed in view of new technological developments.

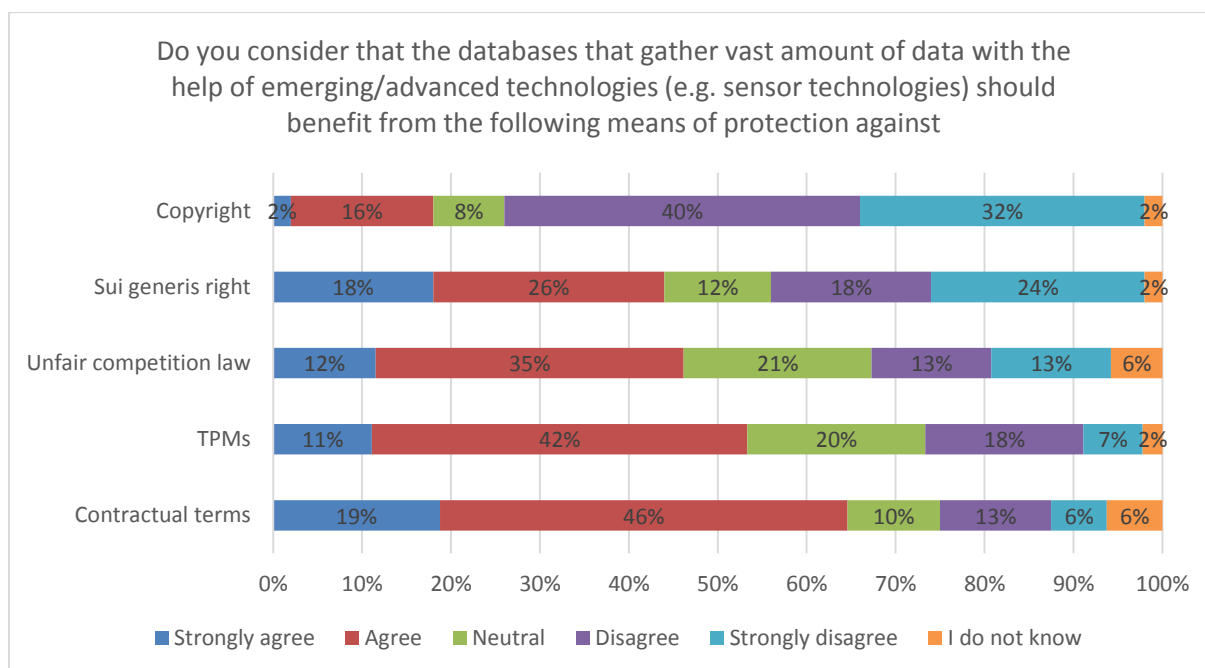
As the following graphs from the questionnaire show, the majority of experts think that sensor-generated data can be protected by the sui generis right along with other types of protection (mainly contracts and TPMs). Far fewer, instead, think they should be protected by copyright. In this regard, it is relevant to notice that there is no consensus among the responding experts as to whether there should be compulsory licences for databases produced by sensor-equipped technologies.

Figure 55 – Expert views on the protection of database created with the means emerging/advanced technologies



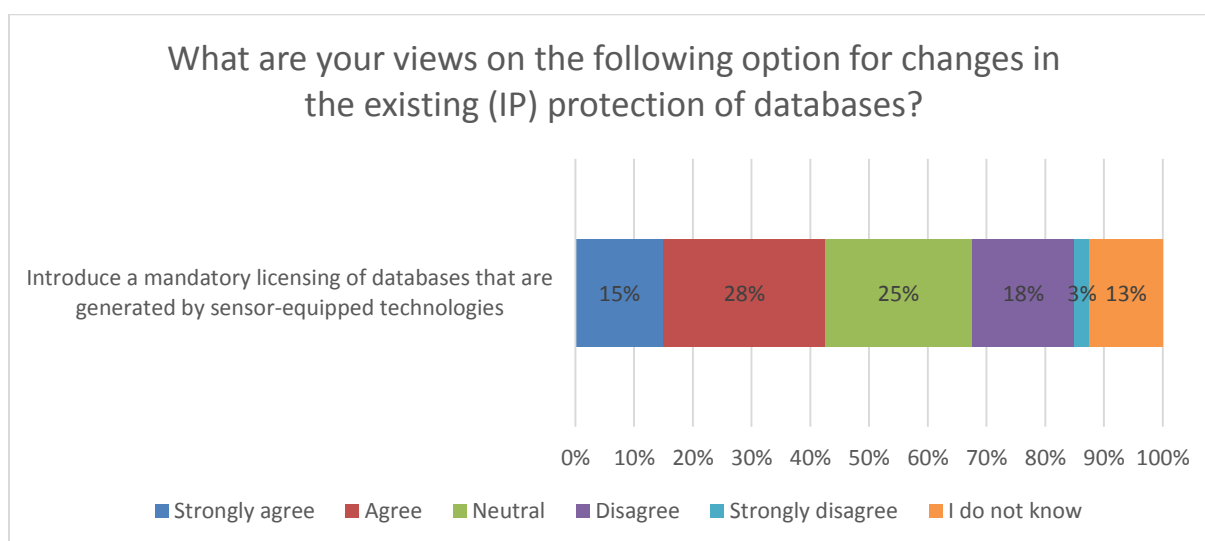
Source: Survey conducted for this study

Figure 56 – Views on the most appropriate means of protection of databases created with the means of emerging/advanced technologies



Source: Survey conducted for this study

Figure 57 – Expert views on the introduction of a mandatory licensing of databases created with the means of emerging/advanced technologies



Source: Survey conducted for this study

The European Union may wish to consider clarifying the status of machine-generated data and databases in the Database Directive in view of the reported misunderstandings.

Machine-generated data as such is not within the scope of the Database Directive since it protects databases and not datasets/data. It is unclear whether most machine-generated databases are produced from created or collected data. If they are made of recorded data, the status of such data should be clarified in the Database Directive.

Related to this topic, the present Study's offers recommendations about Article 7: Creation of data. Unlike some of the views expressed, the Database Directive seemingly fit, in general, for purpose in relation to these databases. The European Commission may not wish to consider, in view of the emergence of AI, IoT and machine-generated data, extracting a single piece of data as a substantial part and thus an infringement of the sui generis right. The Database Directive could be further clarified in this respect.

Alternatively, these databases could be left without protection by the sui generis right, as contracts and TPMs could be enough to protect them. However, in that case, a mechanism comparable to compulsory licences should be applicable to avoid the competition problems that can ensue from effective control of data (abuse of dominant position including refusal to supply data).

According to the majority of the respondents, a data producer's right is unnecessary for machine-generated data which is not fitting the definition of database in the Database Directive. It would only reinforce the monopoly position in which companies manage their creation. It would also add yet another layer of complexity to the already complex picture. It is therefore not recommended to adopt such a right. In any case, the legislature should indeed proceed cautiously to avoid unintended consequences. It may also be a good idea to provide a non-waivable data access right to the person who has legitimate interest in access to the data. This could also be enshrined in a revised version of the Database Directive, with a cross-reference to the new legislation that may emerge from the Commission's Data Economy Package initiatives.

In conclusion, if the Data Economy Package were, in the future, to include a data producer's right, it would not be coherent with the Database Directive. It would add an unnecessary extra layer of complexity and pose competition problems.

5.1.3 The Directive on the re-use of public sector information (PSI)

The Member States had to implement the 2003 Directive on the re-use of Public Sector Information (PSI Directive), Directive 2003/98/EC, which entered into force on 31 December 2003. Subsequently that Directive was revised by Directive 2013/37/EU which entered into force on 17 July 2013. There has been a new consultation of the said directive at the end of 2017 ahead of a review of the Directive.²²⁰

As shall be seen below, there is evidence that the Database Directive and the PSI directive are not coherent.

The goal of the PSI Directive is to stimulate the growth of the European information market by allowing the re-use of public-sector information, access being already broadly ensured by national laws. The Directive covers all printed, aurally or visually recorded, or electronically-accessible documents of public-sector bodies with some important exclusions such as documents held by educational, cultural, archival, or research establishments and those in which

²²⁰ https://ec.europa.eu/info/consultations/public-consultation-review-directive-re-use-public-sector-information-psi-directive_en

third parties hold intellectual property rights (Art. 2).²²¹ Article 3, the core provision, states:

"Subject to paragraph 2, Member States shall ensure that documents to which this Directive applies in accordance with Article 1 shall be re-usable for commercial or non-commercial purposes in accordance with the conditions set out in Chapters III and IV."

Compared to the 2003 Directive, which only set out a hortatory duty, Member States now have an obligation to allow re-use of public-sector information.

The second and third Chapters of the Directive concern procedures for requesting re-use of such documents. Public-sector bodies must process requests within a reasonable time consistent with that already stated in national access regimes or, otherwise, within no longer than 20 or 40 days, the latter if the request is complex or extensive; requests and access should, wherever possible, be processed electronically. If the public-sector body refuses, it must state the reason and the means of redress if the applicant wants to appeal the decision (Art. 4 and 5). Where charges are made, the total income from supplying and allowing re-use of documents shall not exceed the cost of reproduction, provision, and dissemination, but there are some exceptions notably for libraries, museums and archives (Art. 6). Article 7 then sets out a transparency requirement according to which public-sector bodies must publish conditions and standard charges for re-use of their documents. However, these conditions should neither be discriminatory for comparable categories of re-use, nor restrict competition. If a public body re-uses its information in competition with private entities, it must apply to itself the same conditions that it applies to these entities. Exclusive agreements are also forbidden, except when they are in the public interest (Art. 8, 10, and 11). Finally, Member States must indicate what their public-sector information is, where it is located in a user-friendly manner and can be found (Art. 9).

The question of the relationship between the sui generis right and the PSI Directive is whether public sector bodies: i) can acquire the sui generis right and ii) if so, how the PSI directive affects it. Nothing in either of the two directives precludes a public-sector body from acquiring a sui generis right if the conditions of the Database Directive are fulfilled.²²² The key point is to understand whether the public-sector body makes an investment²²³, even though it is arguable that the state does not usually take financial risks.²²⁴ It is often unclear where this is the case. In France and the Netherlands, two public-sector bodies argued that they had a sui generis right on their databases and the courts forced them to

²²¹ The 2013 amendments of the PSI directive overrule the exception that the 2003 version of the Directive made for cultural and research establishments, but it is not completely enabling access to opening such PSI because these establishments can decide which PSI they open and can charge a higher re-use fee than other institutions. So, it is said that the 'cultural exception' remains in all but name. See De Filippi and Maurel 2015, at 13.

²²² Derclaye 2008; <https://ec.europa.eu/digital-single-market/en/news/legal-aspects-public-sector-information-lapsi-thematic-network-outputs>

²²³ Derclaye 2008; V. Papakonstantinou & P de Hert (2012) 9:3 SCRIPTed 329.

²²⁴ In the second French case on this issue (12/07/17) mentioned in the grid, the Council of State (administrative court) held that there had been no investment so no sui generis right. In the first French case (notrefamille.com), the same court held that there was a substantial investment.

release the data.²²⁵ Some Member States have exclusions in their copyright acts for official documents or 'texts' but it is unclear whether this exclusion applies also to the sui generis right. According to a continental legal norms interpretation, the official texts exclusion from copyright law could apply also to databases protected by sui generis right.²²⁶ An exception is Art. 8 of the *Dutch Database Act* which clearly states that "*public authorities do not possess the right referred to in Article 2, first paragraph, with respect to databases of which they are the producers and whose content is constituted by laws, decrees and regulations, judgments issued by it, judgments and administrative decisions.*" However, in its second paragraph, it gives the right to the public authority to derogate from this principle so that Article 8 is not really restrictive. Another such example is the Czech Republic. Since 1 January 2017, the official text exclusion clearly applies to databases protected by the sui generis right (art. 3 and 94 Czech copyright act). The exclusion applies to copyright works and databases protected by the sui generis right in two situations according to part of the literature's interpretation. First, it applies where there is an implicit public interest in excluding such works from protection e.g. publicly accessible registers. Second, in the other situations, i.e. where there is no implicit public interest, two conditions must be met: i) the maker of the database must be a public sector body and ii) there must be a public interest in excluding sui generis protection. In conclusion, these combined characteristics mean that the state of affairs is generally unclear so that often de facto, one (users) has to assume that the public-sector body has the sui generis right. Since the PSI Directive does not apply to all public-sector data but there are many exclusions, the bite of the sui generis right is real.

Because of this, some public-sector bodies have actually gone further than the PSI Directive and use licences to renounce the exercise of their sui generis right. Some use an open data licence, some go further and have created their own licences.²²⁷ For instance, the UK has created its open government licence and the French government its '*licence ouverte*' which is anchored in the French act implementing the PSI Directive²²⁸ and which has the same conditions as the UK one, i.e. the data can be re-used for commercial purposes as long as attribution of the source is made and there is no tampering with/improper modification of the data. "*The Italian Open Data Licence (IODL) was launched in October 2010 as the very first official license for public data in Italy. Version 1.0 of the IODL contained a Share-Alike clause, directing producers of derivative works to release those works under similar licensing conditions. Version 2.0 of the IODL has*

²²⁵ Notrefamille.com; Conseil d'Etat, 12/7/2017: case N° 397403 - ECLI:FR:CECHR:2017:397403.20170712 and ABRvS 29 April 2009, n 07/786, AMI 2009-6 (College B&W Amsterdam/Landmark; m. nt. M. Van Eechoud - see French and Dutch grids. In a Dutch case, "*the Amsterdam District Court held that the Amsterdam City Council could not rely on the sui generis right in order to impose restrictions and/or annual licensing fees for the use of its environmental database.*" See Primavera De Filippi and Lionel Maurel, "*The paradoxes of open data and how to get rid of it? Analysing the interplay between open data and sui-generis rights on databases*" (2015) 23 International Journal of Law and Information Technology 1–22, at 6.

²²⁶ 'LAPSI Policy Recommendation N. 3, Selected intellectual property issues and PSI re-use', available at <https://ec.europa.eu/digital-single-market/en/news/legal-aspects-public-sector-information-lapsi-thematic-network-outputs>

²²⁷ De Filippi and Maurel (2015) at 8.

²²⁸ Loi n. 78-753 du 17 juillet 1978 portant diverses mesures d'amélioration des relations entre l'administration et le public et diverses dispositions d'ordre administratif, social et fiscal, as amended, see <http://www.legifrance.gouv.fr/affichTexte.do?cidTexte%4AJORFTEXT000000339241>

*subsequently been developed, where only attribution of the source is required. This is the version now in use on the Italian data portal data.gov.it".*²²⁹

However, arguably, the PSI Directive has a perverse effect namely that some public-sector bodies are using it as a potential source of new exclusive rights. It has been interpreted *"as implicitly acknowledging the subsistence of an exclusive right over data [...]. This interpretation has found the strongest support in the context of cultural heritage and research institutions, whose data are subject to a specific derogatory regime (iii). [...] Although public sector institutions cannot generally oppose the authorisation requests made by citizens or corporate entities, the directive nonetheless allows them to lay down specific conditions for the re-use of information, such as the payment of a fee and/or the acceptance of a contractual licence."*²³⁰ Also, even the requirements in the French and UK licences to attribute the data and to make no improper modification, amount to some extent to rights of paternity and integrity over data. The requirement to pay and the quasi-rights of paternity and integrity in the above mentioned licences amount to exclusive rights on single pieces of data, which is worse than the sui generis right because the latter does not have moral rights and applies to a substantial part of a database, not single pieces of data.²³¹ In addition, it may be that these databases are not even protected by a sui generis right for lack of (substantial) investment in the first place, making people believe that they are.²³²

In conclusion, such open data licences can add a layer of complexity and legal uncertainty; it would be better for public sector bodies to dedicate their data and databases to the public domain, such as through CC0 licences, to maximise the reuse of PSI.²³³ Of course, using such licences is voluntary so it would be better to enshrine this in the law (i.e. there is no sui generis right on databases made by public sector bodies) like the Dutch legislature has partly done (Art. 8 Database Act). Exceptions may be required in some cases such as those already set out in the PSI directive (e.g. confidential data, data protected by the data protection directive etc).

Implementation in the Member States

Statutory law

Following the option in Article 2(4) of the Berne Convention, many Member States' copyright laws exempt official works or at least texts. As stated above, there is no such provision in the Database Directive but it poses the question whether databases made by any of the three branches of state power, at local or national level, can benefit from the sui generis right; indeed, it is disputable that there is risk, hence an investment, because they are paid by taxpayer's money.²³⁴

²²⁹ De Filippi and Maurel (2015) at 17, fn 75.

²³⁰ De Filippi and Maurel (2015) at 9-10.

²³¹ De Filippi and Maurel (2015) at 11.

²³² De Filippi and Maurel (2015) at 22 (*"Releasing them under a specific Open Data license is thus likely to deceive people into thinking that they do actually have to abide to the conditions of these licenses, even if the data actually belong to the public domain"*).

²³³ De Filippi and Maurel (2015) at 18-19.

²³⁴ E. Derclaye, 'Does the Directive on the re-use of public sector information affect the State's database sui generis right?', in J. Gaster, E. Schweighofer and P. Sint (eds), *Knowledge Rights – Legal, Societal and Related*

Case law

As stated above, there were two prominent cases in France but they both seem to imply that public bodies can hold the *sui generis* right so long as the conditions are fulfilled. Though in both cases the public bodies were forced to release their data on the basis of the act implementing the PSI directive.

The German Supreme Court held that databases eligible for the *sui generis* right, which are official works, should be exempted from protection by analogy with the copyright act's exemption for official works.²³⁵ The Supreme Court posed a question to the CJEU but later withdrew it so that this issue is still unclear at the EU level.²³⁶ In *Autobahnmaut* (25 March 2010), the Federal Court of Justice held that in a public-private partnership, the investments of the private partner into the resulting database, can constitute substantial investments in the sense of the *sui generis* right even if there was also partial public funding. In particular, this will be the case if the industry partner relies on a mix of public funding and private exploitation to recoup his investments into the database. According to German case law, in general, publicly-commissioned enterprises can benefit from database protection as they need to recuperate their investment.

The *sui generis* right in Italy is applicable also to the public sector and public authorities. In addition, according to antitrust law, where a public-sector body performs commercial activities, it has to make available all the information to its competitors.

In the Netherlands, the District Court of Amsterdam held that according to the Public Administration Act (Article 11a sub 1a) two conditions are imposed on public bodies' ability to rely on the reuse regulation: (i) the existence of a database and (ii) the public-sector body should be considered as the producer. The Court held that the collection of data occurred in the performance of the public body's public task and with the support of governmental subsidies, so the public body in question, here a City Council, did not qualify as a database producer, because it did not actually bear the risk of the investment. The intention of the database was to simplify the public task of the local authorities.²³⁷

In Poland, the implementation act has been widely criticised, because the relevant provisions had not been fully implemented into the Polish legal system until 2016. As far as our interview partners know, otherwise, there has been no issue between the Database and PSI Directives.

Public consultation, interviews and questionnaire

Technological Aspects, Austrian Computer Society, Vienna, 2008b, C. Sappa, 'Public sector databases – the contentions between *sui generis* protection and re-use', (2011) Computers and Telecommunications Law Review c.T.L.R., 17(8), 217 (citing decisions discussing whether the *sui generis* right subsists in public sector databases).

²³⁵ Saechsiger Ausschreibungsdiesnt, 28 September 2006 [2007] GRUR 500; [2007] GRUR Int. 532; Case C-215/07 Schawe v Saechsiches Druck- und Verlagshaus [2007] OJ C-155/12.

²³⁶ S. von Lewinski, 'Chronique d'Allemagne – 2e partie: L'évolution du droit d'auteur en Allemagne de mi-2005 à fin 2010', (2011) Revue internationale du droit d'auteur, 229, 239. For the situation in the Netherlands, see M. van Eeichoud, 'Government works', in P.B. Hugenholtz, A. Quadvlieg and D. Visser (eds), A Century of Dutch Copyright Law, Auteurswet 1912–2012, deLex, Amsterdam, 2012.

²³⁷ ABRvS 29 April 2009, n 07/786, AMI 2009-6 (College B&W Amsterdam/Landmark; with annotation from M. Van Eeichoud).

The contributions on PSI and open access are very polarised.

Many respondents to the public consultation (those who answered on this point are users or research bodies) and the vast majority of interviewees think that sui generis right clashes with PSI directive, and also the Data Economy Package is an obstacle to PSI reuse, stating that publicly-funded databases should be excluded from the sui generis right protection as official works under the copyright regime. At best, they state that the relationship between the two Directives is not clear and that the Database Directive is not coherent with the PSI directive. Because of the legal uncertainty surrounding the notion of substantial investment and substantial part, the Database Directive has a chilling effect in relation to PSI. While some would like the Database Directive not to apply to PSI, including to publicly-funded research data and databases, some suggest more drastically that the sui generis right be abolished. As one of the respondents to the public consultation said: *"the two Directives are in tension with each other and it is legally unclear whether one of them could cancel elements of the other out"* and another *"the sui generis right is by nature an antithesis to EU Open Access policies since its exceptions in Article 9 are merely optional and not harmonised throughout the Union"*. This contrasts with most publishers' contributions stating that database and PSI directives are in 'perfect harmony'.

The same goes in relation to open access. Users and researchers think the Database Directive, or at least the sui generis right, strongly hinders open access. Publishers say that open access policies may prejudice the normal exploitation of databases and thus not be compliant with the Database Directive. Some publishers agree with open access but only if it recognises the investment made by publishers, such as via gold access.

Questionnaire

As the graphs below show, users seem to rely on the public-sector databases much but makers do not seem to have been asked to open up their data on the ground of the PSI directive. This may be because most of those who answered are not public bodies. There does not seem to be not much legal advice or litigation on the issue. A majority (ca. 53%) of experts agree that public sector/publicly-funded databases should not be IP protected.

Table 3 – Experienced use of public-sector databases

Answer	Count	Percentage
Yes	11	65%
No	3	18%
I do not know	3	18%

Source: Survey conducted for this study

Table 4 – Experienced request to give access to part of databases in compliance with the Re-Use of Public Sector Information Directive

Answer	Count	Percentage
Yes	1	8%
No	9	63%
I do not know	3	23%

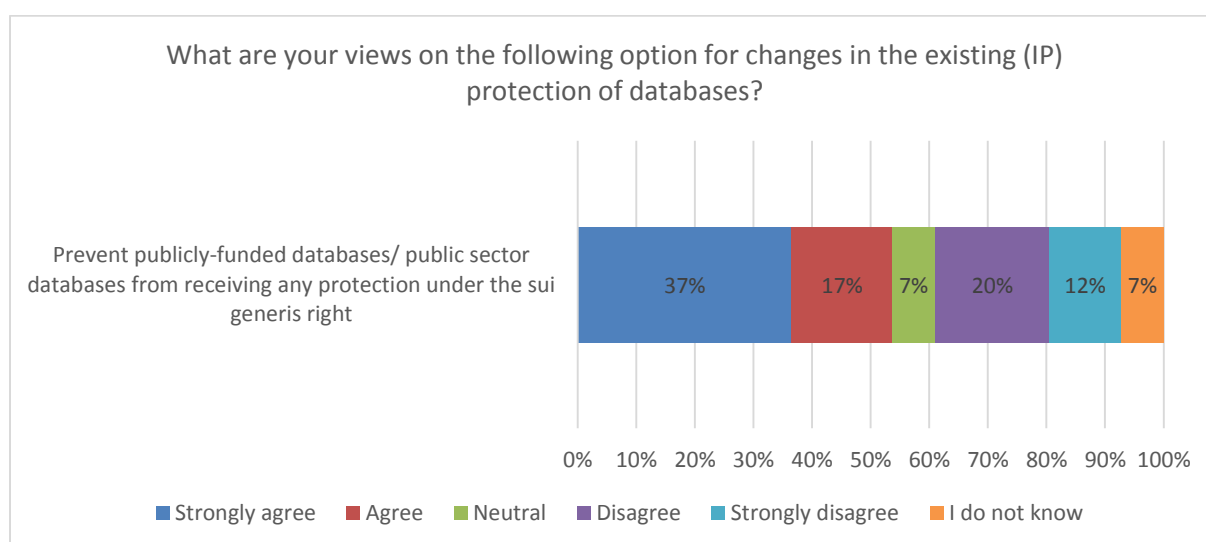
Source: Survey conducted for this study

Table 5 – Databases made available under open access policies

Answer	Count	Percentage
All my databases	8	23%
Some of my databases	14	40%
Few of my databases	2	6%
None of my databases	10	29%
I do not know	1	3%

Source: Survey conducted for this study

Figure 58 – Expert view on preventing publicly-funded databases from receiving any protection under the sui generis right



Source: Survey conducted for this study

Possible reforms

There is strong evidence that there is no coherence, a clash or no clarity or uncertainty as regards the relationship between the Database Directive or at least the sui generis right and the PSI directives and open access policies. The sui generis right is seen by many as a barrier to innovation and knowledge exchange and thus to economic growth as research and public data cannot be reused either at all (if refusal to license), or less fast or at a greater cost. It makes the EU less competitive than other economies where data research and public is more open. The case law, though not abundant, is also quite divergent.

The EU would be advised to address this issue. A possibility would be to remove the protection of the sui generis right for public bodies including research institutions. The Study has also made recommendations in relation to substantial investment and created data (above under Article 7). Indeed, some of the PSI is arguably spin-off data and if it is not, it is arguable that in many cases, the public body has made no (substantial) investment. However, the EU should be cautious if and when it proceeds on this, as many Member States public bodies are self-funded, i.e. not funded by the state and thus rely on the sui generis right for their very existence. If the EU decides to remove the sui generis right from public bodies, it will have to ensure that those which are self-funded and act somewhat as commercial entities are not excluded from the benefit of the sui

generis right, as their existence, and with that valuable databases, may be threatened.

5.1.4 EU open access policies regarding research activities

Another aspect where the Database Directive is not coherent is open access policies regarding research activities. These policies exist at national and also EU level (e.g. through Horizon 2020). They are often not set out in legislation but are binding policies for academics, imposed by funding bodies or governmental departments (e.g. in the UK, through the HEFCE). They require that research made in universities and publicly-funded institutions or with funds granted by publicly-funded bodies (e.g. CNRS, UK research councils, etc) be available to anyone free of charge. These policies therefore can clash with the Database Directive. One aspect of these policies is that they require either 'gold' or 'green' access. Gold is immediate free access at the moment of publication, this is often financed by article processing charges (APCs) which publishers charge to cover their publication costs. Green access is often understood as free access after an embargo period of generally, six, 12 or 24 months. Under open access policies, the research (i.e. articles in reviews, less often chapters and books) must be posted online on a repository or else on the site of the publisher.

It is not difficult to see that both the PSI directive and the movement to open up – at least research – data are, at least on the face of it, in total contradiction with the Database Directive. This is also echoed in the many contributions on this topic in the public consultation, interviews and questionnaires.

There is strong evidence that there is no coherence or clarity, rather a clash or uncertainty as regards the relationship between the Database Directive and at least the sui generis right on the one hand and open access policies on the other. The sui generis right is seen by many as a barrier to innovation and knowledge exchange and thus to economic growth as research and public data cannot be reused either at all (if refusal to license), or less fast or at a greater cost. It makes the EU less competitive than other economies where data research and public is more open. The case law, though not abundant, is also quite divergent.

In relation to open access, if the sui generis right would not be available to research institutions, it would inconvenience publishers but arguably much less than a removal of copyright, which would be problematic anyway in view of the EU's international obligations (Berne, TRIPs). Publishers' business models arguably do not rely on sui generis right but on copyright in books and articles. This would mean that standalone databases and databases which are inside books or articles could be free to reuse but not the other copyright protected content (text, pictures, photographs).

5.1.5 Legal considerations bearing on abolition of the sui generis right

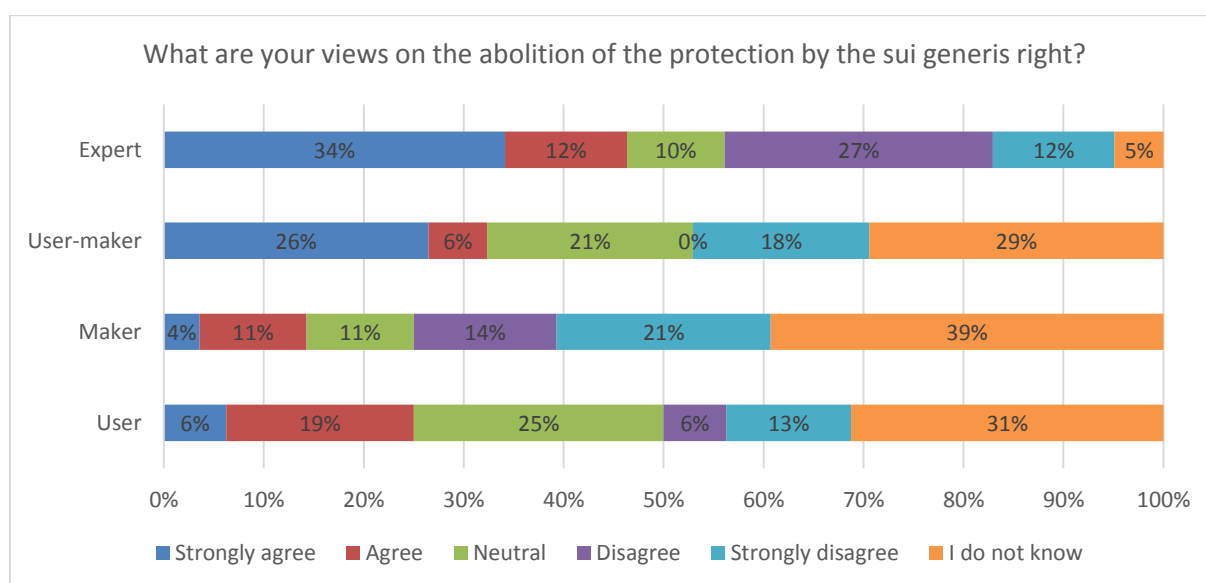
Public consultation, interviews, questionnaires and workshop

There is quite vocal support for the abolition of the sui generis right, especially from public and community creators of the sui generis right, public users of databases (libraries, educational and research institutions) and academics; this was reflected across the public consultation, interviews, questionnaires and workshop. The reasons are primarily (i) that the sui generis right has not achieved its purpose and (ii) the right imposes undesirable costs and (iii) contracts, TPMs and unfair competition are sufficient to protect the investment in

making databases. However, the database makers are generally strongly against abolition of the regime: because the sui generis right is better than other types of protection, they would prefer the status quo. Some across groups would not consider abolishing the sui generis right but strongly reforming it, e.g. by adding more exceptions and making them imperative or by not giving the sui generis right to public authorities.

Below is a graph with answers across the four groups in the questionnaire to the question whether they would like to see the sui generis right abolished. There is no majority to abolish the sui generis right across groups even if the 'don't know' answers are discounted. There, respondents are rather split. Strangely, users are in favour of keeping the sui generis right: think this could be explained by a misunderstanding of the question.

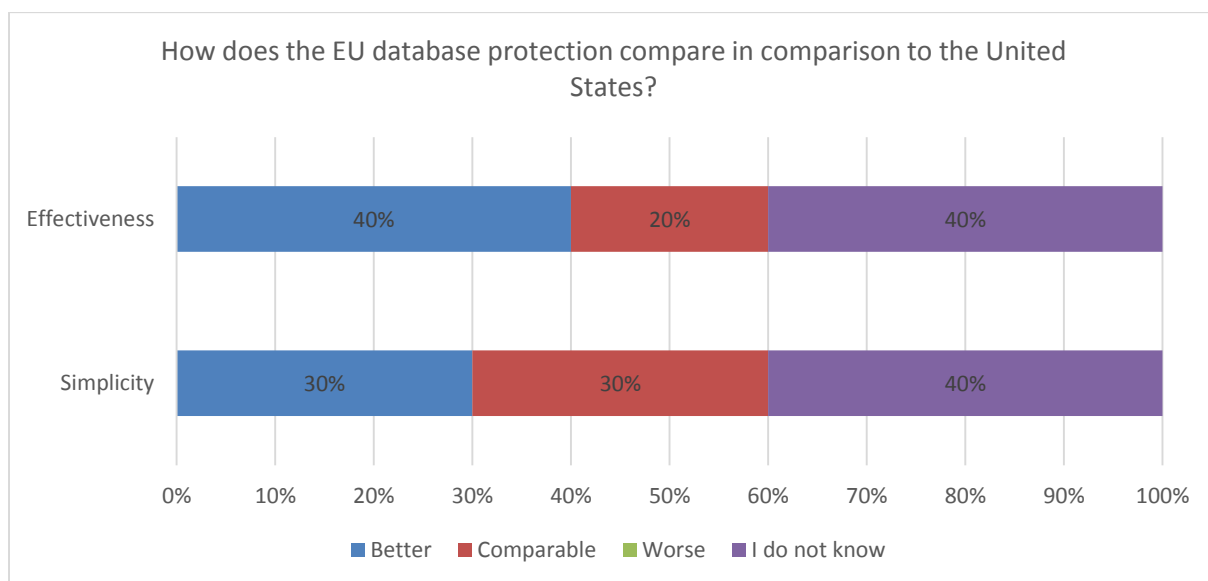
Figure 59 – Respondent's views on abolishing the sui generis right



Source: Survey conducted for this study

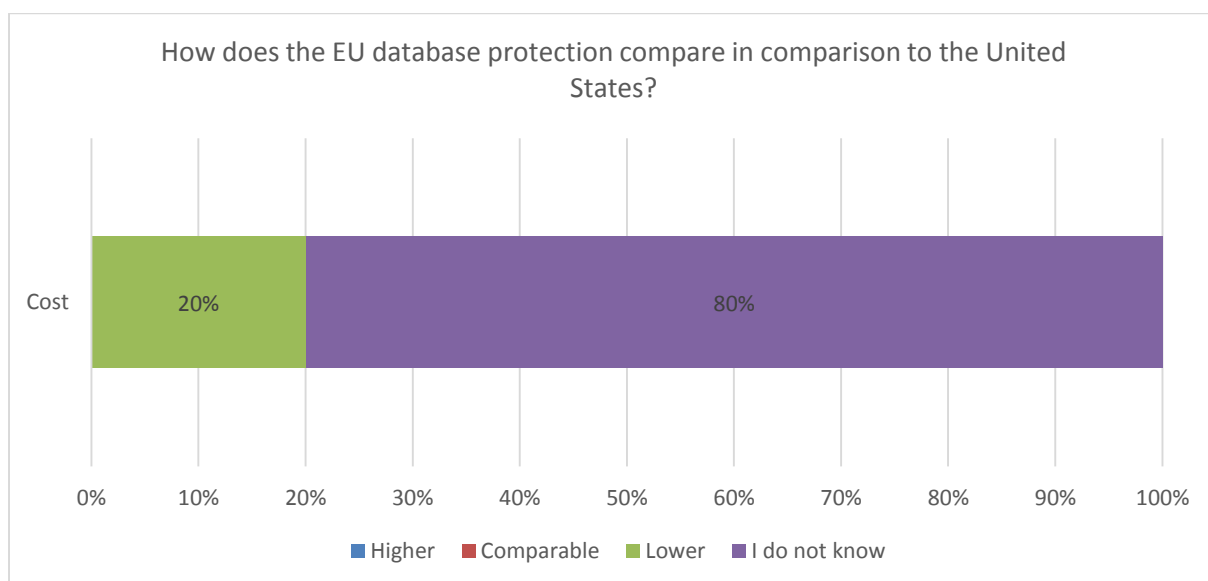
For makers, the EU sui generis right is better or comparable to the US situation. This was also reflected in the workshop. However, two say the costs are lower and the majority do not know.

Figure 60 – Database makers' opinions on the effectiveness and simplicity of the sui generis right compared to the protection of databases in the United States



Source: Survey conducted for this study

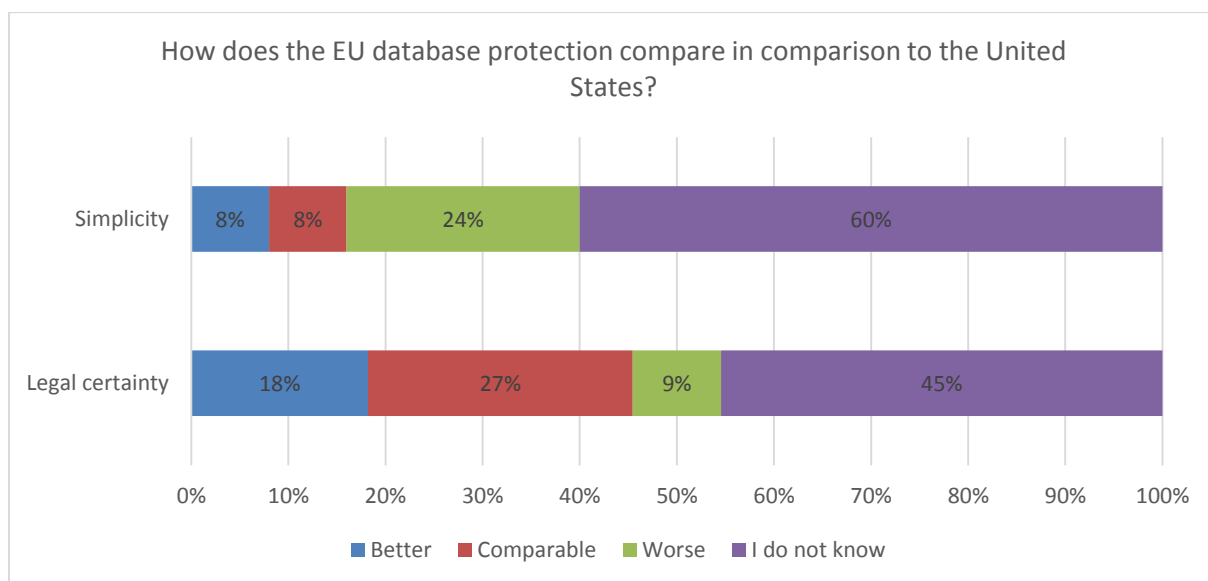
Figure 61 – Database makers' opinions on the costs induced by the sui generis right compared to the protection of databases in the United States



Source: Survey conducted for this study

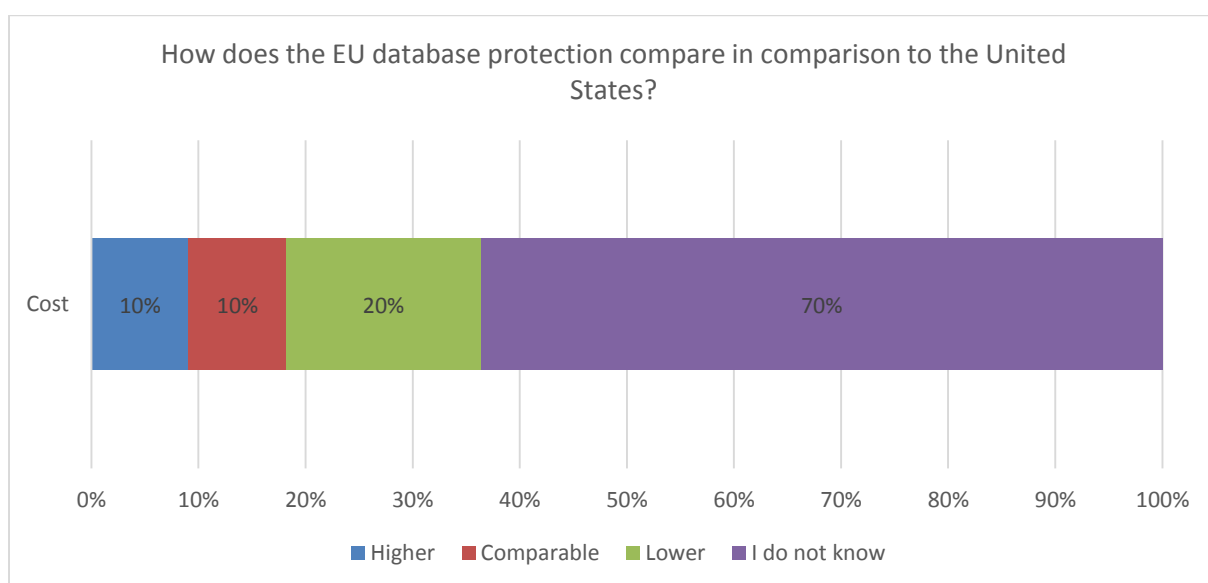
In general, users do not know how the EU's sui generis right compares to the protection in the US. No evidence can be really gleaned on this point from their answers.

Figure 62 – Database users’ opinions on the legal certainty and simplicity of the sui generis right compared to the protection of databases in the United States



Source: Survey conducted for this study

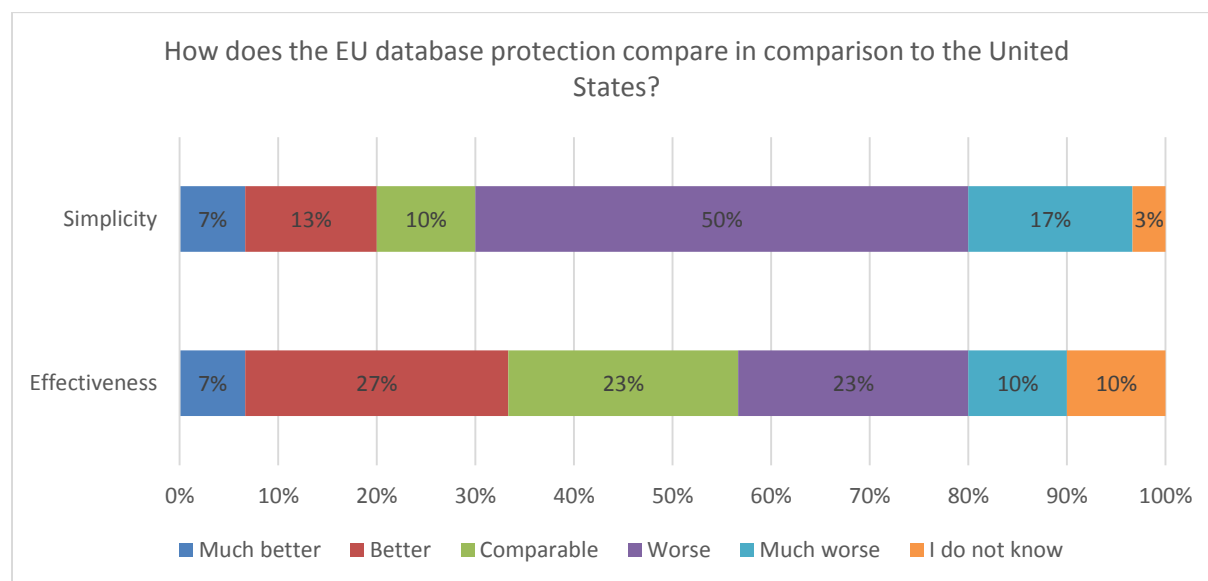
Figure 63 – Database users’ opinions on the costs induced by the sui generis right compared to the protection of databases in the United States



Source: Survey conducted for this study

The majority of experts think the sui generis right is less simple and as or less effective than the US protection of databases.

Figure 64 – Expert view on the effectiveness and simplicity of the sui generis right compared to the protection of databases in the United States



Source: Survey conducted for this study

Possible Reforms

The Commission may want to consider abolition. There is no evidence that the sui generis right has had a positive effect. There is evidence that it causes problems. There is evidence that it is not needed in the US. It is arguable that abolishing the sui generis right would not increase uncertainty any more than currently, if unfair competition or at least slavish imitation/parasitism is unharmonised. However, it may be best to keep the sui generis right because of the added value it has thanks to harmonisation in all Member States, and, once and for all, state in the Database Directive that it replaces slavish imitation/parasitism (see also above under relationship with unfair competition).

However, the option of abolition + harmonisation of unfair competition may be as daunting if not more than in 1996 because there are far more Member States and it will also be more costly than keeping the sui generis right as Member States will have to remove it from their law and then the EU will have to invoke another Directive or Regulation to harmonise parasitism and the sui generis right was meant to codify/replace parasitism in the first place. In this respect, it appears that the real problem is that Member State courts are not applying the spirit of the Database Directive by cumulating parasitism with sui generis right and this is easily fixed by stating in one sentence in Article 13 that it is not possible to cumulate sui generis right and parasitism.

Another problem with abolishing the sui generis right is that removing the right may entail a breach of human rights namely a breach of Art. 17(2) of the EU Charter of Fundamental Rights which states that intellectual property shall be protected and Article 1 of the Additional Protocol to the ECHR. Another issue is transition – what transitory rights to give if the sui generis right is abolished. If the human rights hurdle is surmountable, and the right is abolished, it could be done only for the future and rights already in existence could be left to expire. In this case, the provision on the renewal of term would have to be deleted.

6 Importance of a legal protection of databases at the European level

6.1 Is there still added value for EU intervention, vis-à-vis national or regional interventions in the fields covered by the Database Directive?

When the added value of the Database Directive is considered, the matter must be looked at from both an internal and external view. Internally, it is interesting to see how far the Directive has created a harmonised law, and how far that law is preferred over the prior legal situation. When the external perspective is considered, it should be judged whether the Directive confers on the EU a comparative advantage compared with non-EU Member States.

Drawing on desk research, interviews, survey and workshop, there is wide recognition of 'internal value added,' that is, the manner in which the Directive creates a harmonised framework applicable throughout the European Union. This is so for copyright in databases, via the harmonisation of the 'originality' standard, and for the sui generis right, at least understood as a common alternative to a diverse range of unfair competition laws. However, there is also significant criticism that harmonisation is not deep enough, that there are wide variations in implementation (particularly in relation to the exceptions and concept of 'lawful user'). There is widespread support for deeper harmonisation and making exceptions mandatory rather than optional.

However, for external value added, the picture is very different. There is little evidence that the sui generis right has made the database ecology (a term used to highlight that database production is a systemic phenomenon involving a wide array of stakeholders and implying more than private investments) in the European Union more productive or competitive than that in countries that do not have such a right. Most importantly, there is no evidence of greater production of databases in the European Union compared to the United States.

6.1.1 Internal Value Added

Prior to the adoption of the Database Directive, one of the most widely-discussed issues was how far databases could be protected by copyright in the light of the originality standard. In the United States, the Supreme Court determined that the US Constitution allowed protection through copyright law only for works which displayed a minimum amount of creativity.²³⁸ Works that were the product of laborious collection and systematic arrangement, such as an alphabetical list of the names, addresses and telephone numbers of telephone subscribers in a particular geographical area, lacked the required minimum creativity.

In the then European Communities, the originality standard was recognised as varying under national law. Some legal systems (e.g. in Cyprus, Ireland and the United Kingdom) seemed to operate a standard that took account of labour, skill and effort;²³⁹ others (such as Germany) couched the standard in terms of personal intellectual creation; and yet others (such as France and the

²³⁸ Feist Publications, Inc. v. Rural Telephone Service Co. (499 U.S. 340 (1991))

²³⁹ Ladbroke v William Hill (HL) (pools coupons); Football League v Littlewoods [1959] (fixture lists).

Netherlands) referred to the standard as requiring an 'imprint of personality'.²⁴⁰ Recognising that these different standards would lead to wide divergences in the existence of copyright in databases, as well as the level of protection such copyright afforded, the European Commission determined to harmonise the originality standard, and required Member States to protect databases by copyright which, by reason of the selection or arrangement of their contents, constitute the author's own intellectual creation.

6.1.1.1 Internal Value Added – Copyright

Most Member States have implemented the 'author's own intellectual creation' standard into their national legislation,²⁴¹ while a small number (Denmark, Finland, the Netherlands and Sweden) left their copyright legislation unaltered. The fact that some Member States did not make any amendment to their national laws could be justified either on the premise that the national standard was already identical to the harmonised one, or that the courts would interpret it in such a manner because of their willingness to look to the CJEU. Moreover, even if the Netherlands has not positively implemented the 'author's own intellectual creation' standard, it has at least abolished its non-creative writing (*geschriftenbescherming*).²⁴² In *Football Dataco v Yahoo*, Case C-604/10,²⁴³ the CJEU has indicated that the EU standard does not include creativity in the creation of the data as such and that 'intellectual creation' involves the expression of creative ability through free and creative choices.

Hugenholtz has recently written that:

*"Twenty years after the adoption of the Directive one can conclude that the first goal of the Directive – approximation of national laws – has largely been met. Databases produced in the EU are now either protected by copyright as 'intellectual creations' reflecting creative choices, or by sui generis right inasmuch as they result from 'substantial investment', or both. Member States that initially tried to preserve traditional doctrines that are pre-empted by the Directive, such as the United Kingdom's 'skill and labour' copyright, the Nordic catalogue rule or Dutch *geschriftenbescherming* (copyright protection for non-original writings), are now gradually – and grudgingly – abandoning these primordial regimes."*²⁴⁴

These investigations support this conclusion, with some interviewed experts suggesting that harmonisation of the originality standard is a major contribution of the Database Directive. That said, it is acknowledged that it is difficult to

²⁴⁰ Van Dale Lexicografie BV v Rudolf Jan Romme, Hoge Raad, 4 Jan 1991, NJ 1991, 608 (English translation in EJ Dommering and PB Hugenholtz, *Protecting Works of Fact* (Deventer/Boston 1991, 93 ff) (personal imprint or personal character). The Dutch Supreme Court refused copyright protection to Van Dale for its Dutch dictionary of 230.000 words which Mr. Romme uploaded to enable him to solve his crossword puzzles.

²⁴¹ Croatia (Art 7(1)); Estonia (Art 4(3)(22)); Greece, art 2(2a); Ireland, s 17(2)(d), s 2; Italy (databases are protected as to the choice or the disposition of the material constituting an intellectual creation of the author (Art.1, c. 2, l.d.a)); UK, CDPA s 3A.

²⁴² P.B. Hugenholtz, 'Goodbye, *Geschriftenbescherming*!', Kluwer Copyright Blog, March 6, 2013, at <http://copyrightblog.kluweriplaw.com/2013/03/06/goodbye-geschriftenbescherming/> (reporting on the Bill that would delete the word 'all' from article 10 of the Dutch Copyright Act and thereby eliminate the right).

²⁴³ CJEU (Third Chamber), 1 March 2012, *Football Dataco Ltd and Others v Yahoo! UK Ltd and Others*, Case C-604/10.

²⁴⁴ P.B. Hugenholtz, 'Something Completely Different: Europe's Sui Generis Database Right' in S. Frankel and D. Gervais (eds.), *The Internet and the Emerging Importance of New Forms of Intellectual Property*, (Information Law Series, Vol. 37, Kluwer Law International 2016), pp. 205-222.

ascertain how far the courts of the Member States are really at one on this matter. In part, this is because perceptions of creative choice depend on the detailed evidence before the courts, matters that are not readily reflected in law reports.²⁴⁵ It is also because with only one CJEU decision, there is still very little clarity about the precise nature of the CJEU's test. It is suspected that some tendencies to continue to apply traditional standards are likely to continue to exist. Certainly, there is evidence of uncertainty in application of the standard.

Other aspects of harmonisation in copyright matters seem to have been less successful. In particular, a wide array of approaches is taken to authorship and ownership, while divergences exist in implementing the rights: some Member States offers a database-specific menu, while most choose to assimilate the rights required to be given to copyright-protected databases with the rights recognised generally (including under the Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society – Information Society Directive).

Moreover, there are significant divergences in the implementation of Article 6(1), which is intended to guarantee lawful users' right to access and use the database 'for normal use'. There are considerable divergences in implementation as to the scope of the exemption, the notion of lawful user, and whether there is a contractual override. During the European Commission Public Consultation,²⁴⁶ the representative of FIGIEFA stated that:

"The term 'normal use' is vague and imprecise. As a result, the term will be interpreted differently by the Member States and/or the courts in the Member States. In particular, the question as to when 'normal use' applies with respect to continuously changing databases requires clarification".

Probably the most problematic of these divergences is the notion of 'lawful user.'

Most significantly, there is a rather low level of harmonisation in relation to exceptions to copyright in databases. Apart from Article 6(1), there is an optional menu in Article 6(2), including the possibility to other exceptions to copyright 'which are traditionally authorised under national law', as long as these are without prejudice to points (a), (b) and (c) (and comply with the two-step test in Article 6(3)). A number of Member States, e.g. Greece and Slovakia, do not just apply their library and archive and reporting current events exceptions to databases,²⁴⁷ but also exceptions enacted in some Member States after the adoption of the Database Directive, for example, relating to persons with disabilities, or transient copying in networks (implemented Article 5(1) of the Information Society Directive).²⁴⁸ Furthermore, at least two Member States,

²⁴⁵ G. Karnell, 'European Originality - A Copyright Chimera,' 42 Scand Stud in Law 73

²⁴⁶ Summary report of the public consultation on the evaluation of Directive 96/9/EC on the legal protection of databases, <https://ec.europa.eu/digital-single-market/en/news/summary-report-public-consultation-legal-protection-databases>

²⁴⁷ For example, Belgium, Art XI.191, applies by analogy to copyright databases, Art XI.190 Section 1-4, 10-11 e.g. news reporting and parody.

²⁴⁸ For example, Greece, Art. 19 (quotations); art 22 (libraries and archives); Art 25 (reporting current events); Art 28A (disabled); Art 28B (transient copies under ISD Art 5(1)); Ireland, Section 87 (transient copies); or Slovakia (specifying that exceptions and limitations under Sections 34 to 57 and therefore including Art 54 on transient copying). But many Member States specifically state that the transient copying exception does not apply to databases: Denmark, Art 11(a)(2); France, Art L 122-5(6); United Kingdom, CDPA, s28A.

Estonia and the United Kingdom, have created a new text and data mining defence applicable to databases (as well as other works).²⁴⁹

6.1.1.2 Internal Value-Added – Sui Generis Right

The sui generis right seems to create a considerable level of harmonisation and can be regarded as contributing EU value added. Most aspects of the sui generis right are mandatory, and there is a high level of implementation in the Member States. This is true of the definition of database, the threshold of substantial investment, the designation of the beneficiary of the rights ('the maker') and the rights conferred. While there are variations in detailed implementation, and a number of Member States have chosen to ignore the language of 'extraction' and 'reutilisation,' one can say that there is for the most part a high level of implementation.

Exceptions to the sui generis right (in Article 9), however, are optional, and the related provisions on the 'rights and obligations' of the lawful user in Article 8 have generated considerable confusion in their implementation. Perhaps most interestingly, while Article 9 creates a 'closed' list of optional exceptions, a number of Member States go further. Italian law permits acts necessary for normal use, by analogy with Article 6(1) of the Directive (on copyright), while French law operates a disability exception. Most notably, relying on Recital 52, Denmark, Finland and Sweden apply a whole range of traditional copyright exceptions. The overall effect is one of disharmony. However, rather than responding by enforcing the terms of the Directive, the Commission may want to consider proposing a broader array of mandatory exceptions, and as it has recently done in relation to the visually impaired,²⁵⁰ and it could also include them in the Digital Single Market proposal as it has done for text and data-mining and for digital use in teaching.²⁵¹

6.1.1.3 Internal Value-Added – Overall

If the harmonisation of the copyright-originality standard and the invention of the sui generis right 'add value,' it is worth noting various other respects in which true EU-value is impeded. To begin with, as already noted, makers of databases which seek protection have no hesitation in cumulating copyright and the sui generis right with other forms of protection, including contract, use of technological protection measures and, where available, unfair competition law. Cumulation with unfair competition, while specifically permitted in Article 13 of the Database Directive, seems in many ways to add not only unnecessary complexity but ensures continued divergences in the protection of databases in Member States.

In addition, the EU added value is to a certain extent necessarily limited by the operation of the sui generis right at the national level. This carries with it all the problems that flow from 'territorial' rights within the European Union, that is, the possibility of national database rights ending up in different hands and the consequent problems for the Internal Market. Given that this is a new invention of EU law, some consideration could be given to the transformation of the right

²⁴⁹ CDPA, s 29A (UK); Estonia, Art 19(3) ('processing of an object of rights for the purposes of text and data mining and provided that such use does not have a commercial objective: RT I, 07.07.2016, 1 - entry into force 01.01.2017).

²⁵⁰ Directive (EU) 2017/1564 of September 13, 2017.

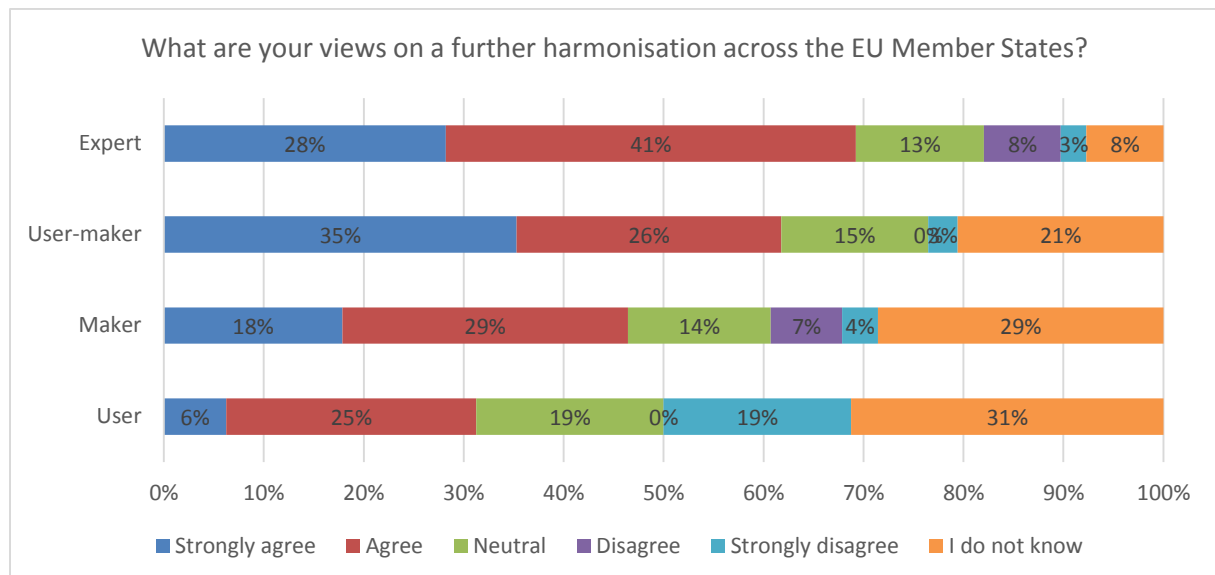
²⁵¹ COM(2016) 593 final, Art 3, 4.

into a single EU right (as the Community Design Regulation does for Community Unregistered Design Right).

6.1.1.4 Improving the Internal Value Added

Our questionnaires support the view that if the database regime is maintained. Most respondents favour deeper harmonisation.

Figure 65 – Opinion on the harmonising implementation and application of the database regime through the Member States



Source: Survey conducted for this study

The most obvious ways to increase the level of harmonisation would be:

- i. To remove optional elements and replace with mandatory ones, e.g. Articles 6, 8 on exceptions;
- ii. Reduce cumulation with divergent national regimes by adopting pre-emption of national unfair competition law;
- iii. Replace the Directive with a Regulation, so as to minimise divergences developed in implementation;
- iv. Adopt a single unitary title, at least in relation to the sui generis right (if it is maintained).

6.1.2 External Value Added

When the Database Directive was being conceived there were attempts to formulate an international treaty on the legal protection of databases. The World Intellectual Property Organization (WIPO) produced texts of a 'basic proposal' for a treaty in August 1996, modelled very much on the Database Directive. However, the proposal was not discussed further at the December 1996 Geneva conference (where the two WIPO Treaties on copyright and performers and phonogram producers were agreed). For a while after, there was further talk of the EU Directive becoming an international standard, but in the end, no such thing occurred.

In order to understand whether the EU regime adds value compared to foreign laws, comparative assessments were conducted with South Korea, Switzerland and the United States. Of these countries, only the former operates with

something similar to a sui generis right, a right inspired by the EU system but instead lasting five years,²⁵² with a full panoply of copyright-style exceptions. The country analysis suggests that some uncertainty surrounds the new right and practitioners and courts are feeling their way.²⁵³

In Switzerland, the main form of protection that has been used is unfair competition law (though the leading cases suggest with limited success).²⁵⁴ A public consultation was conducted relative to a possible reform of the copyright law, namely the Copyright Act (CopA). It lasted from 11 December 2015 to 31 March 2016. According to interview evidence, there was no discussion on and no demand to introduce a sui generis database protection in this consultation (or any other intellectual property protection for databases), as it was seen as not relevant and the current protection possibilities were deemed as sufficient. The external view on the European regulation was that it would not be much in use and does not constitute a 'must-have' for Switzerland.

In the United States, databases can be protected to some extent through copyright law (if they are more than minimally creative), contract, trade secret and trespass to property, unfair competition law and certain criminal laws (in particular the Computer Fraud and Abuse Act). Technical protection is also available, though the anti-circumvention rules are premised on the protection of a copyright work²⁵⁵. The overall effect is that there is *"robust and flourishing [protection], even without a specialized sui generis protection. Database owners of all varieties are well taken care of under US law."*²⁵⁶

The legal analysis of the protection of databases in the United States reveal that that the EU model is not viewed with any envy. The sui generis right is not regarded as something that the United States needs or what would be desirable. If such an approach were adopted there, the expectation would be for a considerable amount of litigation.

In the survey, experts were asked about whether they had experience of US law, and if so what was their impression of the EU law compared with that in the US. The results are surprising (see Figure 64); 20% thought the EU protection simpler, but 67% that US law was simpler. As disturbing was the response to the question of effectiveness – about the same share of the responding thought the US law as effective as the EU law: Although fewer experts expressed a view, almost 30% said the costs associated with the sui generis right was higher, and only 10% lower.

²⁵² Law 2003/04

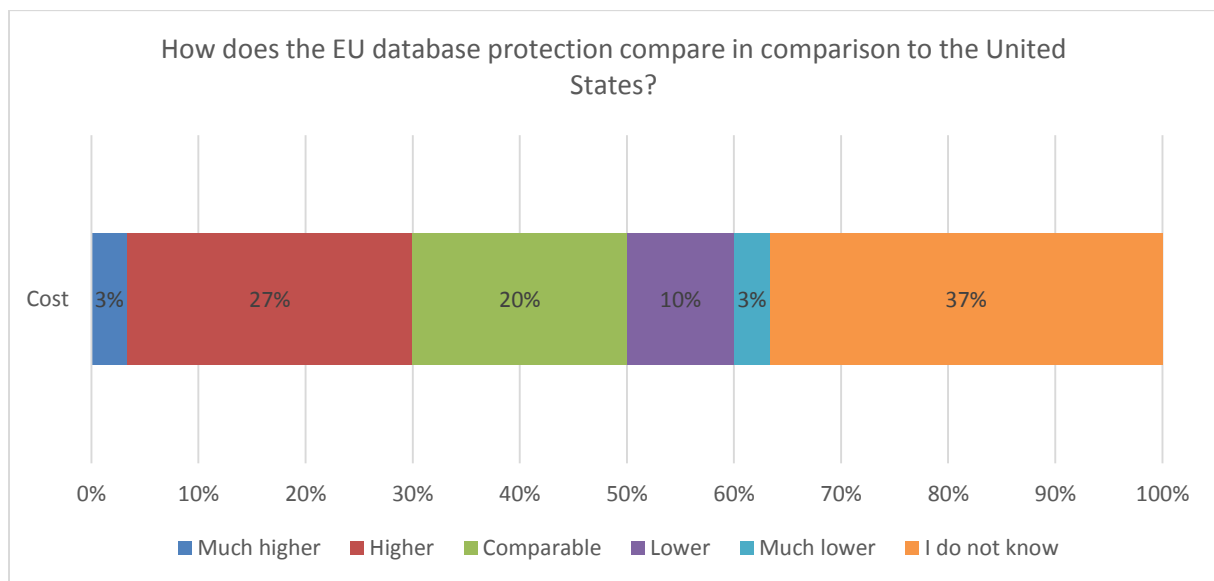
²⁵³ See Annex (Cross-Country Analysis).

²⁵⁴ Swiss Unfair Competition Act (UCA, from 19 December 1986, amended 1 July 2016), More specifically, Art.5c protects against copying by means of technical reproduction processes. Art. 5c seems to be in practice one of the closest means one can get to actual database protection. However, it has severe limitations.

²⁵⁵ 1201(a) DMCA prohibits "...circumvention of devices or technologies that are used to control access to a copyrighted works."

²⁵⁶ See Annex (Cross-Country Analysis)

Figure 66 – Expert view on the costs induced by the sui generis right compared to the protection of databases in the United States



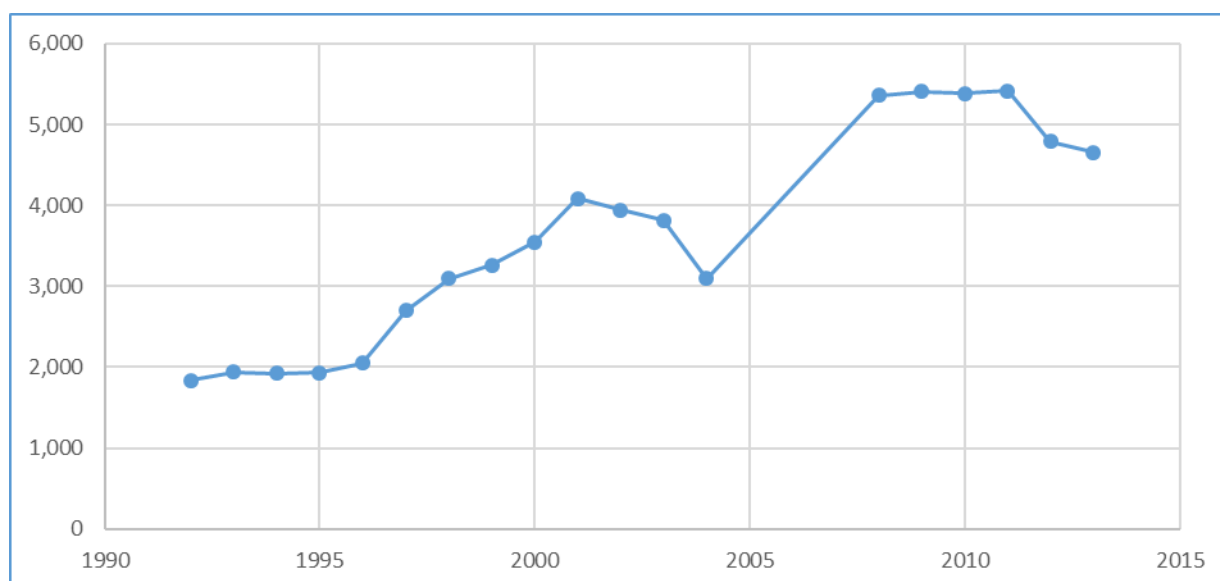
Source: Survey conducted for this study

All this suggests that the EU database regime is not regarded as better than the US system. Is there any objective evidence that it has had a positive effect? It has already been noted the methodological difficulties with giving a conclusive answer: the lack of numbers of databases created or published; the fact that the Database Directive definition is so broad that many outputs might fall within the EU concept of database without being categorised as 'databases' in normal parlance (for example, maps); and the difficulty of ascertaining which items categorised as 'databases' would be protected by the sui generis right (but not copyright – given that copyright protection exists in both the United States and throughout the European Union).

Nevertheless, the quantitative data contained in the Gale Directory may be taken as one indication (not least because most of the items included therein would count as databases within the terms of the Database Directive) despite their important limitations of this data (as described in Annex).

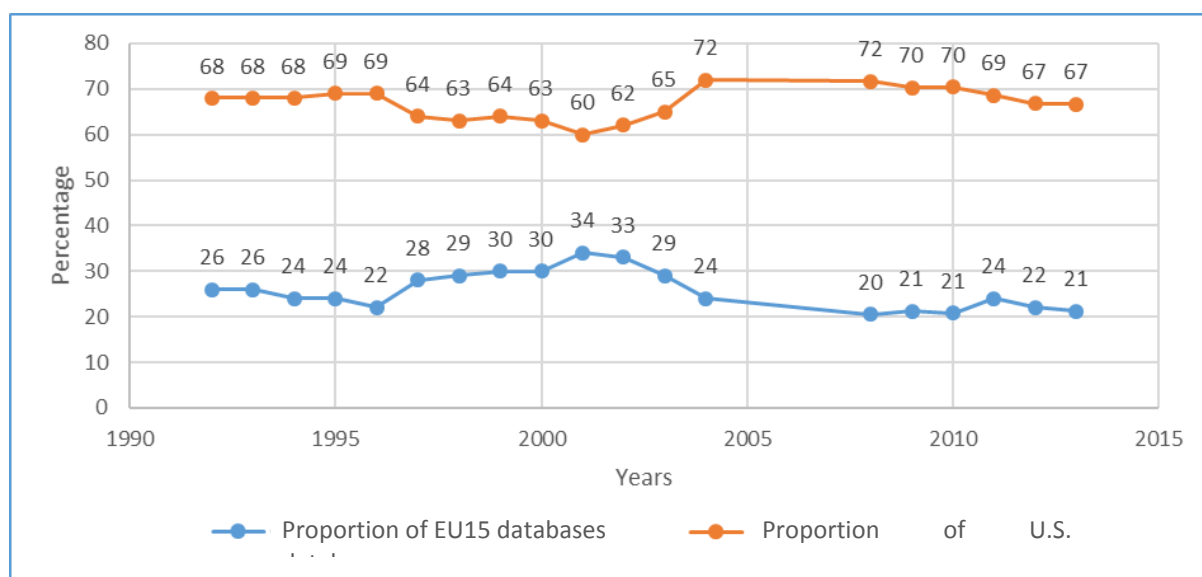
According to the data collected from Gale Directory for the first evaluation of the Database Directive and new data extracted from the 30th to 36th edition of the Gale Directory, it can be observed that the number of databases produced in Europe continued to increase up until 2011, and it later decreased in 2012 and 2013 (see Figure 67). A similar decrease can also be observed in the production of US databases between 2010 and 2013 (see Figure 68) and worldwide. The reason for such decreases cannot be determined with certainty, but it is likely to be influenced by the data collection efforts of the Gale Directory.

Figure 67 – Databases created in EU15 from 1990 to 2013 listed in GALE



Source: GALE Directory of Databases 30th to 36th Edition; First Evaluation of Directive 96/9/EC on the legal protection of databases.

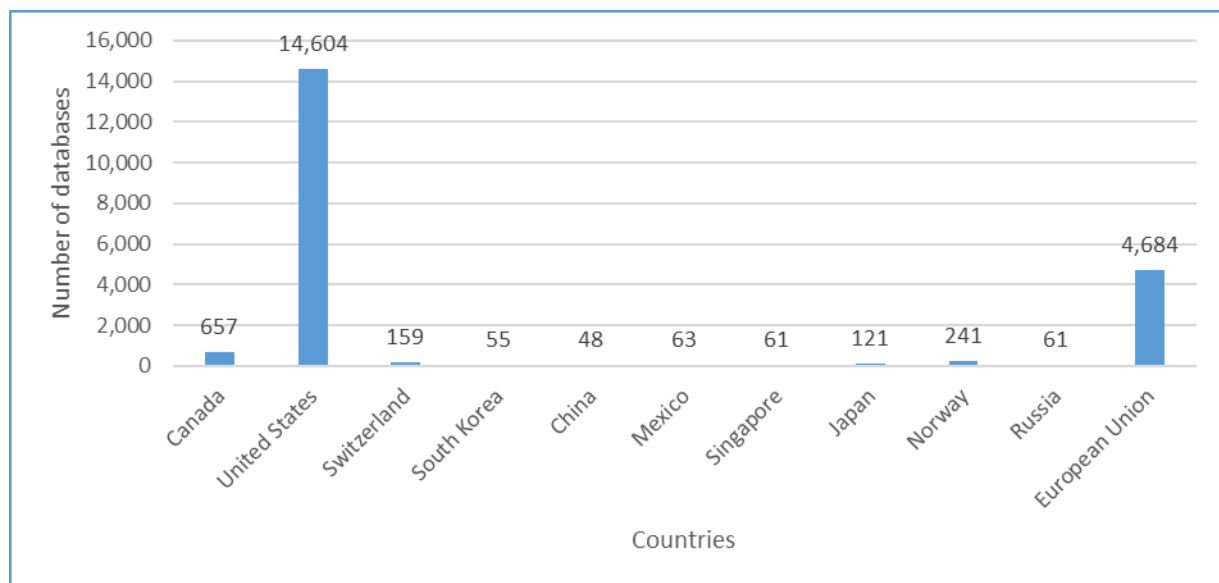
Figure 68 – Database production in EU15 and the United States from 1992-2004 and 2008-2013



Source: GALE Directory of Databases 30th to 36th Edition; First Evaluation of Directive 96/9/EC on the legal protection of databases.

In 2013, the last year for which the Gale Directory of Databases has records, the total number of databases published in Europe is 4684, which is significantly higher than the number of databases published in other countries in the world, except for the United States that has 14 604 databases (see Figure 69).

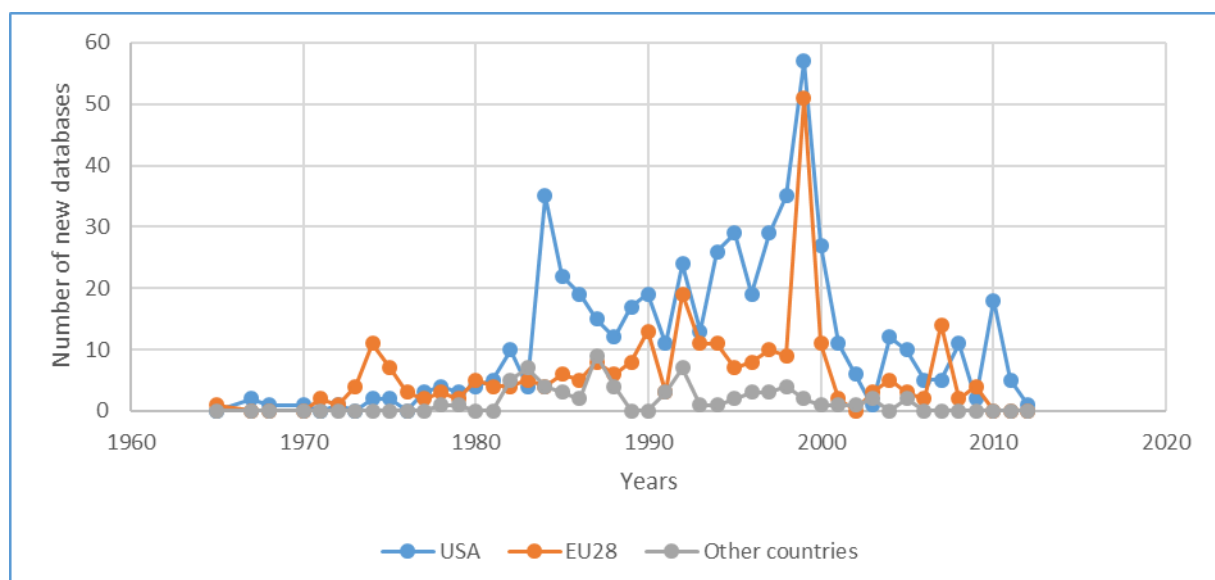
Figure 69 – Number of databases in different countries in 2013



Source: GALE Directory of Databases 36th Edition

Information about the first year of publication of a database is available for a small percentage (4.3%) of databases in the Gale Directory of Databases. Figure 70 shows the distribution of databases published in different years in different geographic areas. It can be observed that the production of databases in the European Union and the United States follows a similar distribution in a few subsets of years such as from 1988 to 1994 and from 1998 to 2006. It is not possible to determine the accuracy of this pattern, nor whether it is influenced by the effort of Gale to gather a proportional number of records for each geographic area.

Figure 70 – Number of new databases per year in the European Union, USA and other countries



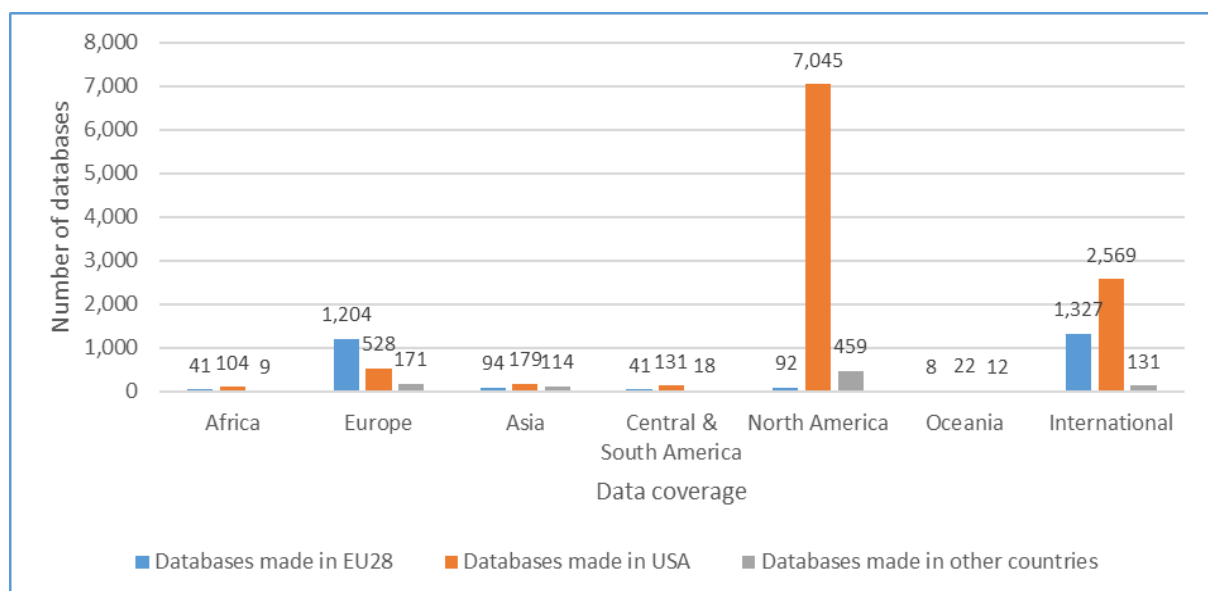
Source: GALE Directory of Databases 36th Edition

The United States also have the most extensive coverage of data in North America (7,045 databases). In other words, the United States is the country with the highest number of databases that focus on North American data. This can be

observed in the fifth set of columns of Figure 71, and can be compared to the relatively small coverage that databases created in the EU Member States have on North America (92 databases). Instead, databases produced in the EU Member States have higher coverage than US databases on European data (1204 EU databases vs. 528 US databases). Moreover, in Figure 72, it can be observed that with 68% of the databases created in the EU Member States focus on data gathered in the EU Member States, while only 5% of the US databases focus on data gathered in the EU Member States.

This specific pattern may not necessarily be interpreted as a shortcoming of the Gale directory in relation to the type of databases Gale seems to analyse, i.e. 'traditional' databases with a specific focus on country-specific data (e.g. telephone directories, legal document databases, etc.). The advent of sensor-generated data might change this picture completely, as it can be argued that data generated by smartphones or by cars will be collected, sold and analysed by their respective manufacturers on a global scale.

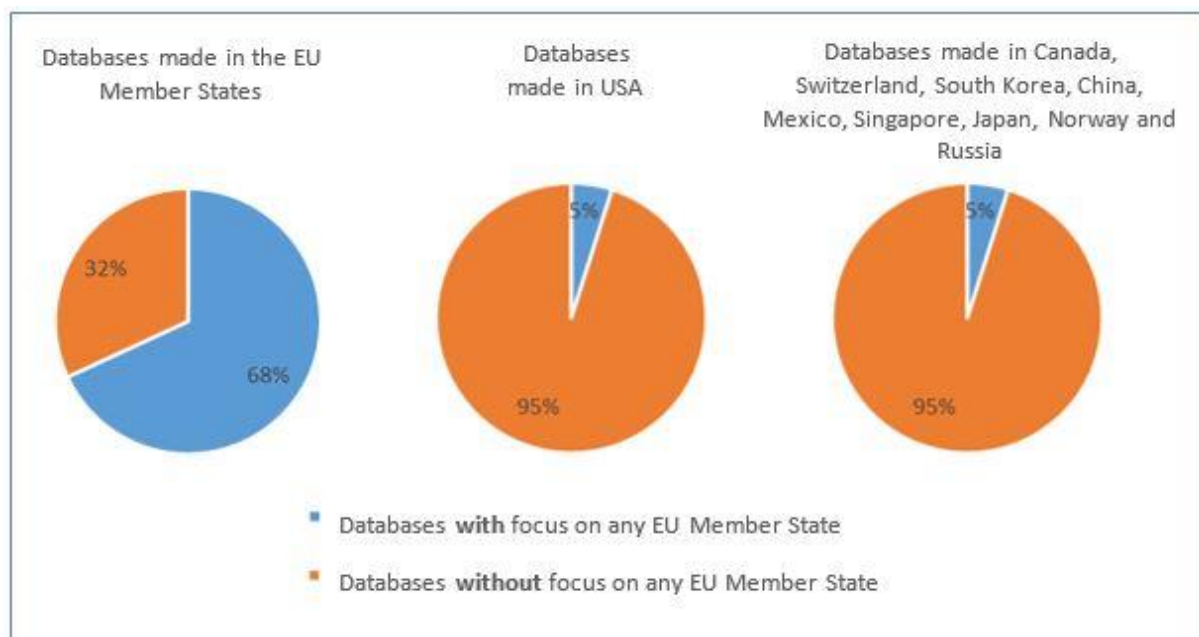
Figure 71 – Coverage of the databases produced in the European Union, USA and other countries



Source: GALE Directory of Databases 36th Edition

The coverage of European data by databases produced in other countries (i.e. Canada, China, Japan, Mexico, Norway, Singapore, South Korea, Switzerland and Russia) is also rather low: 171 databases in 3% of the total amount of databases. This indicates that, although information systems may facilitate data gathering across frontiers, in most cases, databases store data related to their countries or geographic area.

Figure 72 – Proportion of databases made in different countries and containing data of any of the EU Member States.



Source: GALE Directory of Databases 36th Edition.

Looking at these figures, the inevitable inference is that no positive quantitative effect can be attributed to the addition to the EU system of the sui generis database.

6.1.3 Conclusions

The absence of an economically demonstrable divergence in database production in the European Union compared to that in the United States has led many to infer that the sui generis right is ineffective, and thus unnecessary. Quite a significant number of respondents have gone so far as to advocate abolition of the regime. The gist of their criticism is that the European Union has conducted a legal experiment and the evidence shows the sui generis right is a failure: it should therefore be abolished. The Study shows that abolition of the right would be one possible 'way forward.' Such abolition would, of course, need to respect the rights of those with vested property rights, but as the sui generis right is relatively short, it would be conceivable to abolish the right henceforth and allow the existing vested rights to gradually expire.

While abolition of the sui generis right is one of the reform options that the European Commission will wish to consider, there are two reasons to be cautious about this. First, there is considerable evidence from some stakeholders that they value the sui generis right. There is no reason to doubt the genuineness of such evidence. Second, and perhaps more important, is that there is considerable added value internally. Were the sui generis right abolished, the European Union would return to the situation where (non-creative) databases would fall to be protected by contract law and unfair competition law, two areas where there is only limited EU harmonisation. The Internal Market goals that prompted policymakers to consider action in the field 40 years ago would go unaddressed.

One conclusion might be to seek to retain the sui generis right in some form (so as to keep what is valuable in the existing law for those who do value it), but at the same time to try and minimise any negative effects (costs) on the knowledge economy and data ecology. It was mentioned that one way to reconcile the polarised views on the sui generis right would be to transform it into a right acquired by registration. Rather than abolishing the sui generis right, the European Commission might reflect on the advantages of (and any objections to) the following course of action:

- i. Making the right available by registration;
- ii. As an EU-wide right;
- iii. Tailored so as to be balanced, with an array of exceptions equivalent to those conferred in relation to copyright generally;
- iv. Under an EU Regulation (so as to avoid the divergences that emerge in implementation);
- v. With pre-emptive effect on national unfair competition law (so that, in the applicable field, one must register or have no protection).

7 Conclusion

The present report presents data and other evidence on the impacts of the Directive on the legal protection of databases. It aims to help the European Commission determine, in the context of a new REFIT evaluation, whether the Database Directive stills fulfils its policy goals and whether it is still applicable in view of the most recent technological developments and the emerging data economy.

Evidence and data were collected via an online survey, a dedicated workshop and in-depth interviews and serve an economic and legal analysis of the Database Directive. The Study additionally elaborates on the findings of the public consultation organised by the European Commission between May and August 2017.

The online survey collected the responses of 145 database users, makers and user-makers and 92 experts on a wide array of issues including familiarity with the sui generis right, the use of it, the difficulties encountered, the costs and benefits experienced from the Database Directive, and opinions on proposed amendments.

In-depth (semi-structured) interviews were conducted with a view to complete and elaborate on the findings of the online survey and the public consultation. Database users, makers and user-makers were asked to share their experience with and their opinion on the Database Directive. In total, 12 interviews were conducted with database users, makers and user-makers, in addition to seven with experts between November 2017 and January 2018. Moreover, national experts were asked to provide insights on the ways the Database Directive had been transposed, implemented and understood in the different EU Member States.

The one-day workshop organised in November 2017 aimed, firstly, to collect further evidence on the impacts that the Database Directive has had on the database users and/or makers; and, secondly, to discuss the preliminary analyses made based on the evidence already collected. In total, 25 representatives of either database makers, users and user-makers attended the workshop and were asked to reflect on (1) the means of database protection (comparing the sui generis right with the other existing ones), (2) the economic impacts and (3) the future of the Database Directive.

Based on the data and information thereby collected, economic and legal analyses of the impacts of the Database Directive were made.

The effect of the sui generis right on the production of databases remains unproven as the economic evidence, albeit scarce, is inconclusive.

Consideration could be given to abolition of the sui generis right owing to many of its deficiencies and incoherence with the EU acquis. However, commercial publishers are vocal in support of its maintenance and there is evidence that it has EU added value because unlike slavish imitation (as part of unfair competition in some Member States), which it was meant to replace, it is harmonised and if it was abolished there is high likelihood that an unharmonised state of affairs would ensue if slavish imitation were not harmonised.

If the European Union decides to retain the sui generis right, it is important to consider ways to minimise costs created within the system. While it is acknowledged that some alternative conceptions of the database regime might be more controversial (and perhaps less realistic) than others, it is considered that further reflection is desirable in relation to the following three paths:

- i. registration so the right is only given to those motivated by protection (with benefits for third parties in terms of notice and deposit);
- ii. expanding exceptions in Art 8(1) to parallel copyright (and database copyright exceptions should be expanded to parallel regular copyright);
- iii. subjecting sole-source databases to compulsory licensing.

Because there is evidence that harmonisation is incomplete the EU could consider:

- Introducing a single (unitary) title for the sui generis right at least;
- Clarifying the definition of database maker;
- A rule that the sui generis right pre-empts national unfair competition in respect of slavish imitation;
- Reversing the CJEU *Ryanair* ruling, so exceptions apply to lawful users whatever contracts may say and include a user right for databases which do not fall within the definition of a database;
- Further harmonising the relationship of the Database Directive with the Directive on reuse of public sector data and open access policies.

In response to technological changes, especially in view of the so-called 'Internet of Things' and growing economic importance of machine-generated data:

- i. it is not (yet) clear how the sui generis right interacts;
- ii. it could be advisable to clarify the notion of database maker;
- iii. as far as possible, clarify the notions of substantial investment and substantial part including the notion of recorded and of created data;
- iv. introduce a text and data mining exception;
- v. as with European Commission's own conclusion to the Digital Economy Package, it is advisable to wait before proceeding to a legislative intervention in this respect.

European Commission

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