

Ownership of Databases: Personal Data Protection and Intellectual Property Rights on Databases*

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Abstract: When we think on initiatives on access to and reuse of data, we must consider both the European Intellectual Property Law and the General Data Protection Regulation (GDPR). The first one provides a special intellectual property (IP) right – the *sui generis* right – for those makers that made a substantial investment when creating the database, whether it contains personal or non-personal data. That substantial investment can be made by just one person, but, in many cases, it is the result of the activities of many people and/or some undertakings processing and aggregating data. In the modern digital economy, data are being dubbed the ‘new oil’ and the *sui generis* right might be considered a right to control any access to the database, thus having an undeniable relevance. Besides, there are still important inconsistencies between IP Law and the GDPR, which must be removed by the European legislator. The genuine and free consent of the data subject for the use of his/her data must remain the first step of the legal analysis.

Zusammenfassung: Wenn wir über Initiativen für den Zugang zu und die Weiterverwendung von Daten nachdenken, müssen wir sowohl das europäische Recht auf geistiges Eigentum als auch die Datenschutzverordnung (DSGVO) berücksichtigen. Ersteres bietet ein spezielles IP-Recht – das *sui generis*-Recht – für diejenigen Hersteller, die bei der Erstellung der Datenbank eine erhebliche Investition getätigt haben, unabhängig davon, ob sie personenbezogene oder nicht-personenbezogene Daten enthält. Diese erhebliche Investition kann von einer einzigen Person getätigt werden, aber in vielen Fällen ist sie das Ergebnis der Aktivitäten vieler Personen und/oder einiger Unternehmen, die Daten verarbeiten und aggregieren. In der modernen digitalen Wirtschaft werden Daten als das ‘neue Öl’ bezeichnet, und das Recht *sui generis* könnte als ein Recht zur Kontrolle jeglichen Zugriffs auf die Datenbank betrachtet werden und hat somit eine unbestreitbare Relevanz. Außerdem gibt es immer noch wichtige Unstimmigkeiten zwischen dem IP-Recht und der Allgemeinen Datenschutzverordnung, die vom europäischen Gesetzgeber beseitigt werden müssen. Die echte und freie Zustimmung der betroffenen Person zur Verwendung ihrer Daten muss der erste Schritt der rechtlichen Analyse bleiben.

Résumé: Lorsque nous réfléchissons aux initiatives en matière d'accès et de réutilisation des données, nous devons tenir compte à la fois du droit européen de la propriété intellectuelle et du règlement général sur la protection des données. Le premier prévoit un droit de propriété intellectuelle spécial – le droit *sui generis* – pour les créateurs qui ont fait un investissement substantiel lors de la création de la base de données, qu'elle contienne des données personnelles ou non. Cet investissement

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substantiel peut être réalisé par une seule personne, mais, dans de nombreux cas, il est le résultat des activités de nombreuses personnes et/ou de certaines entreprises traitant et agréant des données. Dans l'économie numérique moderne, les données sont surnommées le 'nouveau pétrole' et le droit sui *generis* pourrait être considéré comme un droit de contrôler tout accès à la base de données, ce qui lui confère une pertinence indéniable. En outre, il existe encore des incohérences importantes entre le droit de la propriété intellectuelle et le règlement général sur la protection des données, qui doivent être éliminées par le législateur européen. Le consentement authentique et libre de la personne concernée par l'utilisation de ses données doit rester la première étape de l'analyse juridique.

1. Data Protection and Databases Protection

1. Nowadays, data are seen as a commodity, as well as an essential resource in the new data economy. We live in an economic and technological environment in which we are part of an information superhighway being data owned as property, as any other common property of a person.¹ In economic jargon data are being dubbed the 'new oil', owing to their resource-like properties.² Current legal debate about data economy as well as databases protection discussions get increasing attention.³

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- 1 European Commission, Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'Building European Data Economy', COM(2017) 9 final.
 - 2 OECD, *Data-Driven Innovation: Big Data for Growth and Well-Being* (Paris, OECD Publishing 2015), p 181, www.oecd.org/sti/data-driven-innovation-9789264229358-en.htm.
 - 3 In relation to economic arguments of the privacy debate and the commodification of data, see among others, F. BANTERLE, 'Data ownership in the data economy: A European dilemma', in T. Synodinou, P. Jouglaux, C. Markou & T. Prastitou (eds), *EU Internet Law in the Digital Era* (Berlin: Springer 2020), pp 199-225; J.A. CASTILLO PARRILLA, 'Economía digital y datos entendidos como bienes', in P. Castaños Castro & J.A. Castillo Parrilla (eds), *El Mercado digital en la Unión Europea* (Madrid: Reus 2019), pp 238-305; A. DE FRANCESCHI & M. LEHMANN, 'Data as Tradeable Commodity and New Measures for Their Protection', 51. *Italian Law Journal* 2015(1), pp 51-72; W. KERBER, 'Rights on Data: The EU Communication "Building a European Data Economy" from an Economic Perspective', in S. Lohsse, R. Schulze & D. Staudenmayer (eds), *Trading Data in the Digital Economy: Legal Concepts and Tools* (Nomos: Hart 2017), pp 493-496; T. HOEREN, 'Big data and the Ownership in Data: Recent Developments in Europe', 12. *European Intellectual Property Review* 2014, pp 751 ff; O. LYNKEY, *The foundations of EU Data Protection Law* (Oxford: Oxford University Press 2015), p 2; G. NOTO LA DIEGA, 'Data as Digital Assets. The Case of Targeted Advertising', in M. Bakhoun, B. Conde Gallego, M.O. Mackenrodt & G. Surblytė-Namavičienė (eds), *Personal Data in Competition, Consumer Protection and Intellectual Property Law Towards a Holistic Approach?* (Berlin: Springer 2018), pp 445-499; J.M. VICTOR, 'The EU General Data Protection Regulation: Toward a Property Regime for Protecting Data Privacy', *The Yale Law Journal* 2013, pp 513 ff; H. ZECH, 'Data as a Tradeable Commodity - Implications for Contract Law', in J. Drexler (ed.), *Proceedings of the 18th EIPIN Congress: The New Data Economy between Data Ownership, Privacy and Safeguarding Competition* (Cheltenham: Edward Elgar

2. The current economy is highly based on the capacity of companies in accessing to, monitoring and processing some personal and non-personal data of our daily life. In the case the database is protected by an intellectual property right, the company collecting those data is the right holder. This fact explains why companies such as Facebook, Twitter or Google earn their profits by collecting, processing and selling the - personal and non-personal - data of their users rather than charging them a subscription fee. That because users pay the price of these services not with money, but with their own data. The European legislature is aware of this situation. Recital 18 of the Proposal for a Regulation concerning the respect for private life and the protection of personal data in electronic communications is a proof of that.⁴ According to this recital: ‘In the digital economy, services are often supplied against counter-performance other than money, for instance by end-users being exposed to advertisements’.⁵

3. In our economies, different actors produce raw data, some others collect them and create databases and some others analyse them using data algorithms thus enabling qualitatively new insights (and new databases). As a result, different stakeholders act at different levels during the generation and processing of data in order to create, enrich, select, analyse and add value to data. There are many components of the data value chain.

4. Despite the lack of direct fees, the above-mentioned undertakings are some of the digital economy’s leaders precisely because of the possibility to access vast amounts of data from their users and employ them with their algorithms in

2017); and H. ZECH, ‘A legal framework for a data economy in the European Digital Single Market: rights to use data’, 11. *Journal of Intellectual Property Law & Practice* 2016(6), pp 460-470. However, it is not a modern debate. See H. NISSENBAUM, ‘Protecting Privacy in Public: The Problem of Privacy in the Information Age’, 17. *Law and Philosophy* 1998, p 562.

4 Proposal for a Regulation of the European Parliament and of the Council concerning the respect for private life and the protection of personal data in electronic communications and repealing Directive 2002/58/EC (Regulation on Privacy and Electronic Communications), COM/2017/010 final - 2017/03 (COD), eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52017PC0010.

5 The European Data Protection Supervisor criticized this recital in its Opinion 6/2017, EDPS Opinion on the Proposal for a Regulation on Privacy and Electronic Communications (ePrivacy Regulation), edps.europa.eu/sites/edp/files/publication/17-04-24_eprivacy_en.pdf. ‘The EDPS emphasizes that personal data cannot be considered as “counter-performance” for a requested service such as access to a website or an app This is because consent is valid only if freely given and withdrawn without detriment to the individual concerned. [...] the notion of “counter-performance” creates additional obligations for the individual and is not consistent and compatible with the notion of consent under the GDPR. The notions of “paying with personal data” and offering personal data as “counter-performance” would indeed therefore undermine the current legal grounds for lawful processing as set out in Article 6 of the GDPR’.

order to create their databases and license them to third parties. The value of the data depends on its nature – it is not the same for personal or non-personal data.⁶ Regarding personal data, not all the items have the same value as such or in combination with other data, so it will be different, for example, if we think on data concerning health or bank details than for other categories of data – . Besides, this value also depends on the processing made by the use of big data and algorithms. Indeed, it is often generated as a ‘by product’ of other processes or services.⁷

5. Consequently, data are commercialized in general, as any other material or immaterial property. Data are treated as a tradeable commodity or as a tradeable service. As such, ‘data tradability’ implies the possibility to resell the data in secondary markets. However, when exercising this property right in data, the transfer must meet all the mandatory rules contained within European and national regulations. Personal data protection systems cannot offer less protection than other property rights systems.⁸ The genuine and free consent of the data subject for the use of his/her data remains the epicentre of the legal analysis, so it must be fulfilled in any personal data use or processing. Consent is defined by Article 4(11) of the General Data Protection Regulation (GDPR)⁹ as ‘any freely given, specific, informed, and unambiguous indication of the data subject’s wishes by which he or she, by a statement or by a clear affirmative action, signifies agreement to the processing of personal data relating to him or her’ – . The Europeanization of the data protection framework is irrefutable.¹⁰ Not only because of the approval of the GDPR – replacing the previous Directive¹¹ and eliminating the discretion of national legislatures when incorporating EU rules in domestic legal systems – , but also with the introduction of Article 16 of the Treaty on the Functioning of the UE as the explicit legal basis for the enactment of European data protection

6 General Data Protection Regulation applies to the personal data part of the whole mix dataset, provided the non-personal data and the personal data are inextricably linked, even if the personal data represents a small part of the set. Anonymization, thus, plays a key role for companies developing store and data process activities.

7 In some cases, data are generated and analysed in-house by the company. In other cases, data are traded to third parties, being interested on the aggregation of new data. See F. BANTERLE, in *EU Internet Law in the Digital Era*, p 200.

8 Drexl provides an interesting opinion on the distinction between data ownership and protection of personal data in J. DREXL, ‘Designing Competitive Markets for Industrial Data – Between Propertisation and Access’, 8. *JIPITEC* 2017, pp 257-292.

9 Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 Apr. 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

10 See O. LYNSKEY, *The Foundations of EU Data Protection Law*, p 7.

11 Directive 95/46/EC of the European Parliament and of the Council of 24 Oct. 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data.

legislation and with the recognition of an independent fundamental right to data protection, in addition to a right to privacy, in Article 8 of the EU Charter of Fundamental Rights.¹² The features related to the human right nature provides the individual an inalienable abstract right to decide to divulge his/her data and to allow third parties the use of those data.

6. However, when analysing the legal problems emerged by the commodification of personal data, the hybrid nature of right to data protection has to be taken into account.¹³ The European legislature recognized two main objectives or perspectives of this issue: on the one hand, fundamental rights-based objectives and, on the other hand, economic underpinning.¹⁴ The complexity of implementing the legal framework results when trying to balance its dual objectives.¹⁵

7. In the context of new data economy, where a multitude of actors interact in the processing of data – being some of them raw machine-generated data – it is often questioned who owns the data. In relation to individual data, the answer refers to the data subject or, as a derivative right holder, the person authorized by the data subject to use his/her data. Despite this fact, there is no formal property-type right – *erga omnes* right – over data yet.¹⁶ In February 2020, with the ambition of becoming a leading role model for a society empowered by data to make better

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- 12 Besides, another important supra-national organization – the Council of Europe – regulated the data protection as a fundamental right. The right to respect for family and private life is enshrined in Art. 8 of the European Convention on Human Rights. This right is further interpreted by the case-law of the European Court on Human Rights and complemented and reinforced by the Council of Europe Convention 108, the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data.
- 13 On the hybrid nature of EU data protection law, see L. CHROBAK, ‘Proprietary Rights in Digital Data? Normative Perspectives and Principles of Civil Law’, in M. Bakhoun, B. Conde Gallego, M. O. Mackenrodt & G. Surblytė-Namavičienė (eds), *Personal Data in Competition, Consumer Protection and Intellectual Property Law Towards a Holistic Approach?*, pp 253-272; and A. SATTLER, ‘From Personality to Property?’, in *Personal Data in Competition, Consumer Protection and Intellectual Property Law Towards a Holistic Approach?*, pp 27-54.
- 14 See European Commission, Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee, and the Committee of the Regions, ‘Safeguarding Privacy in a Connected World: A European Data Protection Framework for the 21st Century’, COM(2012)9 final, p 3. The same distinction has been applied broadly to the right of imagen, which is composed of two parts or perspectives: the fundamental right and the economic right.
- 15 See O. LYNKEY, *The Foundations of EU Data Protection Law*, p 9.
- 16 Instituting property rights over data comes with its own concerns. See J. DREXL, R.M. HILTY, L. DESAUNETTES, F. GREINER, D. KIM, H. RICHTER, G. SURBLYTE & K. WIEDEMANN, *Data Ownership and Access to Data – Position Statement of the Max Planck Institute for Innovation and Competition of 16 August 2016 on the Current European Debate*, www.ip.mpg.de/en/research/research-news/position-statement-data-ownership-and-access-to-data.html, pp 2-3; and I. STEPANOV ‘Introducing

business decisions, the European Commission launched a new strategy.¹⁷ In this last proposal, the European Commission does not present the creation of a European data producer's right exhibiting the traits of a property right as a policy solution for the stimulation of the data economy's growth. The reason is easy to understand: among the European countries we actually have an actual protection for databases makers: a specific intellectual property right. Mere raw data are excluded from intellectual property rights, but the database may be protected by the so-called *sui generis* right in the European territory.

8. These considerations have to be taken into account when regulating and implementing current data protection regulations and intellectual property rules on databases protected by the *sui generis* right. It is a special intellectual property right that was harmonized among EU countries by Directive 1996/9/EC.¹⁸ The aim followed by the European legislator was to incentivize the creation of databases in the EU. According to this Directive, the concept of database shall mean a 'collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means'.¹⁹ The foundation stone of the *sui generis* regime is the concept of substantial investment, as opposite to the traditional concept of originality that makes a work eligible for copyright protection. Its implementation and its balance with the data protection framework poses legal problems or doubts for data protection stakeholders. Besides, the landscape of big data systems is still evolving and the application of the *sui generis* right to big data tools needs to balance the role played by different stakeholders that are part of the data value chain.²⁰ This article analyses the link between both issues and explores potential inconsistencies.²¹

a property right over data in the EU: The data producer's right - an evaluation, *International Review of Law*, 34. *Computers & Technology* 2020(1), pp 65-86.

- 17 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *A European strategy for data*, COM(2020) 66 final.
- 18 The commercialization of databases is the focus of the Database Directive (Directive 96/9/EC of the European Parliament and of the Council of 1 March 1996 on the legal protection of databases). Databases are not often traded or licensed as a commodity but as a service. We no longer buy CDs or DVDs or any other tangible medium but instead we listen to music or watch movies which are streamed or communicated to the public on an App or a platform (a service) in such a way that users may access the contents from a place and at a time individually chosen by them.
- 19 Article 1(2) Database Directive.
- 20 In relation to health-related databases, see P. ANDANDA, 'Towards a Paradigm Shift in Governing Data Access and Related Intellectual Property Rights in Big Data and Health-Related Research', 50. *IIC - International Review of Intellectual Property and Competition Law* 2019, pp 1052-1081.
- 21 See F. BANTERLE, in *EU Internet Law in the Digital Era*, p 199.

2. *Sui generis* Right on Databases

2.1. *European Harmonization*

9. The so-called *sui generis* right is a special European intellectual property right on databases, which was harmonized in 1996. It is currently just a European special IP right. There is no equivalent IP protection in other countries. It has not been harmonized worldwide in any international treaty and it is no longer in the World Intellectual Property Organization's agenda.

10. The *sui generis* right is currently one of the main tools for databases protection. Taking into account that this special protection provides no moral rights to the database maker – such as the paternity right or the integrity right of authors – ,²² the European legislature decided to recognize this protection both to natural persons and companies that bear the risk of the investment, provided they have a direct link with the European territory.²³ As any other intellectual property right, the *sui generis* right may be transferred, assigned or granted under contractual licence. Besides, as in the copyright regime, registration is not required for *sui generis* protection – but it is recommended in order to achieve legal and economic certainty.

2.2. *Substantial investment*

11. According to the Database Directive:

Member States shall provide for a right for the maker of a database which shows that there has been qualitatively and/or quantitatively a substantial investment in either the obtaining, verification or presentation of the contents to prevent extraction and/or re-utilization of the whole or of a substantial part, evaluated qualitatively and/or quantitatively, of the contents of that database.²⁴

22 This is the reason why the name chosen for this new IP right was so strange to the IP jargon: it is not copyright, but a related or neighbouring right and the right holder is not called author or something similar, but database maker. However, there are some other related or neighbouring rights that also protect the same object – just investment – , such as the right of audiovisual and musical producers and the right of broadcasting companies.

23 Article 11 Database Directive. In the case of natural persons, the nationality of an EU Member State or the residence in the EU territory are required. In relation to undertakings, it is required that the company was formed in accordance with the law of an EU Member State and having their registered office, central administration or principal place of business within the EU. The right holder of the *sui generis* right is the person who takes the initiative and the risk of investing. This excludes subcontractors from the definition of maker (recital 41 Database Directive).

24 Article 7 Database Directive. On the other hand, the Database Directive harmonized traditional copyright protection of databases. According to Art. 3, databases are considered original works

Consequently, this special intellectual property right over the database arises when there has been a substantial investment in either the obtaining, verification or presentation of data.

12. Artificial intelligence databases and databases containing machine-generated data are eligible for the *sui generis* right, provided there is a substantial investment. The same conclusion is applicable to datasets created by using big data technologies. It follows the logic of the non-authorship or no human characterization allowed by the Database Directive.

13. The substantive nature of the investment could be quantitative or qualitative, e.g., either in resources, efforts or time. While this special intellectual property right entailed the risk of creating information monopolies, this risk has been minimized after a series of landmark decisions of the Court of Justice of the European Union.

14. The investment requirement is not hard to overcome.²⁵ The substantial investment requirement sets a minimum frame, but the Database Directive does

provided the selection and/or the arrangement of their contents is original enough. Copyright protection is not often in current databases in which setting up is commonly dictated by technical reasons, with no room for creative choices in the selection and arrangement criteria. In other words, the database maker does not want his/her database to be original, but to be complete and easy-to-use. Investment made on the selection or arrangement criteria is not relevant to determine originality. Thus, databases that are expensive to produce are not as such eligible for copyright protection, but these products may be eligible for the *sui generis* right. The dichotomy originality *versus* investment explains the relationship between copyright and the *sui generis* right: since these two intellectual property rights do not protect the same thing, the protections are cumulative (Art. 7(4)). Thus, a database that was expensive to produce and has an original selection of contents and/or original arrangement criteria is protected both by copyright and the *sui generis* right. However, the vast majority of databases composed by mere data are only protected by the *sui generis* right, not by copyright. Nowadays, copyright on databases is only applicable, in general terms, to collections of works, such as museum collections, poetry anthologies or fashion collections, among others, in which the database maker made original choices when selecting and ordering the components of that collection. On database copyright, see M. DAVISON, 'Databases and copyright protection', in T. Aplin (ed.), *Research Handbook on Intellectual Property and Digital Technologies* (Cheltenham: Edward Elgar 2020), pp 63 ff.; G. MINERO, 'Did the Database Directive actually Harmonise the Database Copyright? Football Dataco Ltd. v. Britten Pools Ltd. and the ECJ's Rules against Subsistence of Database Copyright in Fixtures Lists', 10. *European Intellectual Property Review* 2012, pp 729-732.

25 See P.B. HUGENHOLTZ, *Data Property: Unwelcome Guest in the House of IP*, Paper presented at Trading Data in the Digital Economy: Legal Concepts and Tools, Münster, Germany (2017), dare.uva.nl/personal/search?identifier=c5791bb2-e1de-4d7b-9720-68021b5ae5cc; and I. STEPANOV, 34. *Computers & Technology* 2020, p 71. However, some academics understand that *sui generis* right does not sufficiently respond to the needs of the different stakeholders in the data value chain. See F. BANTERLE, in *EU Internet Law in the Digital Era*, p 201; and H. ZECH, 'Information as Property', 6. *JIPITEC* 2015, p 197.

not provide a concrete quantity of money.²⁶ Consequently, national judges have to do a case-by-case analysis. There is no doubt that many current artificial intelligence tools used for the data processing imply substantial investment eligible for the *sui generis* protection.

15. Besides, this special IP right has been applied in cases concerning unauthorized data-scraping on websites.²⁷ The question of the application of the *sui generis* right to results provided by metasearch engines was raised before the Court of Justice of the European Union in *Innoweb v. Wegner* case.²⁸ The Court gave an affirmative answer: the *sui generis* right may be used to protect the investment made in a website which provides access to an online collection of car advertisements and contains a search engine, in order to provide any user with a means of searching the items in the database behind that website.²⁹ The right holder of the *sui generis* right can implement technical measures to block bots commonly used for web-scraping.

16. However, taking into account the characteristic of many current data value chains, European case-law has to be considered in order to narrow the scope of this special intellectual property right. Investment in the creation *ex novo* of data is not protected by the *sui generis* right. This because the aim followed by the European legislature when passing the Database Directive was not to create a new intellectual property right in data or information *per se*.³⁰ The database maker has to invest

26 Investment needs to be more than minimal, which points towards a relatively low threshold. For example, the German Federal Supreme Court has accepted a EUR 4000 investment as sufficiently substantial (*Zweite Zahnarztmeinung II* (Case No. I ZR 196/08)). See EUROPEAN COMMISSION, *Evaluation of Directive 96/9/EC on the legal protection of databases* (Brussels 25 Apr. 2018) (SWD(2018) 146 final), 1: ec.europa.eu/digital-single-market/en/news/staff-working-document-and-executive-summary-evaluation-directive-969ec-legal-protection, p 27.

27 See EUROPEAN COMMISSION, *Evaluation of Directive 96/9/EC*, p 29.

28 ECJ 19 Dec. 2013, ECLI:EU:C:2013:850, *Innoweb BV v. Wegener ICT Media BV and Wegener Mediaventions BV*, curia.europa.eu/juris/documents.jsf?num=C-202/12. The activity of the operator of a dedicated meta-search engine such as that at issue in the main proceedings makes it possible to search the entire contents of a database in real time, by entering an end user's query, in translated form, in the search engine of the database.

29 The judgment found against the meta-search engine, even though it only displayed hyperlinks to the individual specialized search engines' websites, because by scraping it came close to becoming a 'parasitic competing product', since many end users no longer have any need to go to the website of the database concerned. Consequently, it creates a risk that the database maker will lose income, in particular the income from advertising on his website, thereby depriving that database maker of revenue which should have enabled him to redeem the cost of the investment in setting up and operating the database (paras 40-42).

30 Recitals 45 and 46 of Database Directive. See F. BANTERLE, in *EU Internet Law in the Digital Era*, p 205; and J. DREXL, 8. *JIPITEC* 2017, pp 267-268. See Case C-203/02, *The British Horseracing Board Ltd and Others v. William Hill Organization Ltd*, Judgment of 9 Nov. 2004, ECLI:EU:C:2004:695, para. 30.

resources on processing data that already existed, that is, resources in pre-existing data, since those resources made on the preliminary phase of generation of data are excluded from protection.³¹

17. In many databases of personal and non-personal data, where data – such as customers’ histories and customers’ interaction with the service – are processed for commercial purposes, most of the items are provided directly by users. However, collecting those data often requires verification and updating of the information, as well as collecting users’ consent, being the resources invested in this formality considered investments connected to verifying activities.³² On the other hand, resources connected to profiling processes – such as the cost of the data

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- 31 The Court of Justice of the European Union has highlighted this idea in the *Fixture Marketing* saga and in the *Football Dataco* saga: the company creating data, such as sport fixtures, does not own the *sui generis* right because the investment in creating data is excluded from *sui generis* protection. According to the Court of Justice, resources deployed for the purpose of determining, in the course of arranging the leagues concerned, the date, the time and the identity of teams corresponding to each fixture of those leagues, in accordance with a set of rules, parameters and organizational constraints as well as the specific requests of the clubs concerned do not satisfy the conditions of eligibility for protection by the *sui generis* right under the Database Directive. See ECJ 9 November 2004, *Fixtures Marketing Ltd v. Oy Veikkaus Ab*, para. 41, curia.europa.eu/juris/documents.jsf?num=C-46/02; ECJ 9 Nov. 2004, ECLI:EU:C:2004:696, *Fixtures Marketing Ltd v. Svenska Spel AB*, curia.europa.eu/juris/documents.jsf?num=C-338/02, para. 31; ECJ 9 November 2004, ECLI:EU:C:2004:697, *Fixtures Marketing Ltd v. Organismos prognostikon agonon podosfairou AE (OPAP)*, curia.europa.eu/juris/documents.jsf?num=C-444/02, para. 47; and ECJ 1 Mar. 2012, ECLI:EU:C:2012:115, *Football Dataco Ltd and Others v. Yahoo! UK Ltd and Others*, para. 28, curia.europa.eu/juris/documents.jsf?num=C-604/10. In those cases, the database maker will only be protected by the *sui generis* right provided there was an additional investment in the resources used for the verification or presentation of the contents. Consequently, when these additional investments are made, spin-off databases – databases created as a by-product or a sort of side effect of other activity – are eligible for *sui generis* protection. That additional substantial investment was satisfied in ECJ 18 Oct. 2012, ECLI:EU:C:2012:642, *Football Dataco Ltd and Others v. Sportradar GmbH and Others*, curia.europa.eu/juris/documents.jsf?num=C-604/10. The claimants alleged infringement by the defendants of the *sui generis* right, which the claimants claim to have in a database relating to football league matches in progress (‘Football Live’). ‘Football Live’ is a product different to just football fixtures. It is a compilation of data about football matches in progress (goals and scorers, yellow and red cards and which players were given them and when, penalties and substitutions, etc.). The data is said to be collected mainly by ex-professional footballers who work on a freelance basis for Football Dataco and attend the matches for this purpose. The claimants submitted that the obtaining and/or verification of the data requires substantial investment. For the Court of Justice, the insertion into a database of statistics did not count as an investment in relation to the creation of data, since goals are facts of a life event which is not created and controlled by the database maker.
- 32 See F. BANTERLE, ‘The Interface between Data Protection and IP law: The Case of Trade Secrets and Database Sui Generis Right in Marketing Operations, and the Ownership of Raw Data in Big Data Analysis’, in *Personal Data in Competition, Consumer Protection and Intellectual Property Law Towards a Holistic Approach?*, p 429.

management software – must be considered investment in obtaining data and presentation or, in general, investment in processing data that already exist.

18. It is noteworthy that the Evaluation Report made by the European Commission in 2018 concludes that the exclusion of investment related to the creation of contents of the database should also apply to machine generated databases and databases automatically generated by Internet of Things devices.³³ The distinction between the preliminary phase of generation of data and the subsequent phase of processing machine-generated data is crucial in order to provide some legal certainty for producers in current data economy. In the first phase, these databases are created as by-products of the central activity of the firm, as spin-off databases, but the maker may invest new resources on activities other than mere creation of data. Thus, the legal analysis has to be focused on these additional resources, and the potential substantial investment behind them.

19. There is a current revival of a debate that was opened in 2010 by the German Federal Court decision in case *Autobahnmaut*, where machine-generated data, namely traffic data – data about motorway use –, was deemed to be protected as a *sui generis* database.³⁴ The German Federal Court accepted the existence of the highway enterprise's *sui generis* right in a database of machine-generated toll data.³⁵ The resources investing in recording pre-existing data on cars using the highway were considered investment in obtaining data and the resources made in the processing of such data were considered investment in verifying and presenting the contents of the database.

20. Besides, concerning artificial intelligence, European case-law means that investment in licensing artificial intelligence tools for processing and arranging data may be eligible for *sui generis* protection, but resources on creating the data as such are excluded from protection.³⁶ The same conclusion is applicable to Internet

33 EUROPEAN COMMISSION, *Evaluation of Directive 96/9/EC*, p 47. See also 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), pp 27-57.

34 *Autobahnmaut*, BGH 25 Mar. 2010, I ZR 47/08, <https://dejure.org/dienste/vernetzung/rechtsprechung?Gericht=BGH&Datum=25.03.2010&Aktenzeichen=1%20ZR%2047%2F08>. See M. LEISTNER, in *Trading Data in the Digital Economy*, p 29.

35 EUROPEAN COMMISSION, *Evaluation of Directive 96/9/EC*, p 36.

36 If we think on the automotive sector, we must conclude that investment in creating those sensors monitoring and transmitting data of driving habits and fuel consumption may be eligible for *sui generis* protection provided it is substantial. Car manufacturers need to install sensors to connect the car to the internet and transmit the information in real time and to set up servers to store and process the data. The data as such are generated when driving the vehicles and, consequently, sensors do not create data, but just obtain pre-existing data and afterwards a process for verifying, transmitting, comparing and enriching data starts. The origin of data is not the device but the

of Things devices. As in case *Football Dataco v. Sportradar*, we have to draw a difference between (1) the origin of the data as part of a physical-real life process – e.g., in weather stations, pollution stations, smart-fridges, smartwatches and devices counting atmospheric conditions, carbon dioxide concentrations, steps and calories – and (2) the use of that data as contents of a future database or its use as core of a business model. Often, it will be the manufacturer of the machine or the sensor – or the person running that machine or than algorithm – who will be the database maker – that is, the right holder of the *sui generis* right.

21. High levels of sophistication of sensors may guarantee broader volumes of raw data collecting and processing. The substantial investment into intensive methodical or systematic structuring of raw data is covered under the head of investments in the presentation of the contents of the database.³⁷ In general, sophistication and accuracy mean higher investments.

22. On the other hand, in those cases where two or more persons work together in the capturing and processing of data, both bearing the risk of the investment, the *sui generis* right will be owned jointly by all these people taking the initiative and risk of investing. This will be the case of many cooperative network big data structures and many open innovation networks. These situations must be dealt with contract-based solutions. In these cases, percentages of ownership corresponding to each participant may be agreed by contract, and any right holder can decide to entirely transfer his/her co-ownership to another co-owner or to a third party. Besides, we have to take into account the increasing number of connected devices, transmitting raw data among them and, in a second phase, comparing, complementing and enriching those data, whether or not by big data processes. For all

process that is being monitored by that device. These data may be vital for third parties, such as potentially competing services, e.g., car maintenance producers, parking services and insurance companies. The complexity of this case-by-case analysis explains that some scholars stand up for excluding databases generated with the means of machines, sensors and other new technologies from *sui generis* protection, since the generation of these databases is closely interlinked with the creation of their content. See JIIC (Joint Institute for Innovation Policy), *Study in support of the evaluation of Directive 96/9/EC on the legal protection of databases*, commissioned by the European Commission, 2018, <https://ec.europa.eu/digital-single-market/en/news/study-support-evaluation-database-directive>, p 112; and M. LEISTNER, in *Trading Data in the Digital Economy*, pp 28–30. The difficulties of the case-by-case analysis and problems concerning the proof of the investment in these two kinds of resources explain that many respondents to the European Commission Public Consultation (mainly database makers) want to delete the distinction between creating and obtaining data. In that sense, the majority of data makers that answered the consultation asked for the reversion of *Fixtures Marketing* saga and *British Horse Racing Board* decisions in order to have legal certainty when deciding to invest. The results of the online survey can be accessed here, ec.europa.eu/digital-single-market/en/news/study-support-evaluation-database-directive.

³⁷ See M. LEISTNER, in *Trading Data in the Digital Economy*, p 28.

these reasons, we can conclude that the *sui generis* right has the potential to influence the European data economy. In particular, in relation to sensor or machine-generated data products and services.³⁸

23. In the case of location data, the investment made on GPS sensors that merely generate those data is excluded from *sui generis* protection.³⁹ However, the resources made on the processing of that raw data for analysing movement patterns and comparing different patterns on different areas, cities and countries will be taken into account when deciding whether there is a substantial investment in either the obtaining, verification or presentation of data.⁴⁰

24. The above-mentioned case-law has important consequences on biomedicine. In particular, on decisions concerning investing resources for the use of health-related databases that process important volumes of data with big data tools. Sensors commonly used in medicine do not generate the data concerning health, but just monitor individuals in real time. Consequently, both substantial investments in those sensors and in the big data analysing tools are eligible for *sui generis* protection of the database created with the aim of collecting and arranging those data. Besides, in problematic cases, database makers are motivated to seek protection via technological measures or through contractual restrictions over the use of data.⁴¹

25. Taking into account these considerations, it may be concluded that the aim of this special intellectual property right is providing protection to those who invest on the creation of structured data processing systems or products, thus organizing data and providing tolls on the data value chain or data value networks. Other

38 M. LEISTNER, in *Trading Data in the Digital Economy*, p 33.

39 The same conclusion applies to data concerning the operation of 3D printers, smart fridges and some others Internet of Things devices. In these cases, the machine stores and transmits real-time operational data which is vital to the very functioning of the machine, to the extent that the line between the operation of the machine and the processing of that data is not clear. It may be difficult to draw the thin line between investment into creating data and resources for the obtaining and processing of data that already exist. See JIIC (Joint Institute for Innovation Policy), *Study in support of the evaluation of Directive 96/9/EC on the legal protection of databases, commissioned by the European Commission* (2018), p 112.

40 Concerning machine-generated data, the European Commission highlights that the verification of the content of the database is also regarded as a cost-intensive activity by most of the interviewees, experts and practitioners participating in the online survey. The budget to pay software engineers - as well as the cost of formulating algorithms and artificial intelligence tolls running the same or similar tasks and functions - that maintain the database has to be taken into account. See EUROPEAN COMMISSION, *Evaluation of Directive 96/9/EC*, p 36. The result of the online survey launched by the European Commission can be accessed here, <https://ec.europa.eu/digital-single-market/en/news/study-support-evaluation-database-directive>.

41 See T. SYNODINOU, 'Database producer protection: between rights and liabilities', in *Research Handbook on Intellectual Property and Digital Technologies*, p 96.

stakeholders of that chain will be interested on buying a licence of that database in order to use the contents together with other data processing tools, such as their own algorithms, for the creation of new enriched data and a new database containing them. Provided the new database implies a new substantial investment, the licensees will be considered new derivative data makers and may be beneficiaries of a new and independent *sui generis* right. The fee that was paid for the licence to use the contents of the first database - using the jargon of the Database Directive, the licence for the extraction and reutilization of the contents of the first database - will be eligible for the *sui generis* protection provided it is a substantial investment. Other resources used by that licensee for the obtaining, verification and presentation of that data or other new data will be also considered when analysing the substantial nature of the new and independent investment made by that third party, either in a quantitative and/or a qualitative manner.

26. The right holder of the *sui generis* right has the right to decide whether to authorize or not extractions of contents and reutilizations and to decide the conditions (time, price, permitted uses, among others). However, this right holder has no right to impede the creation of new comparable or competitive databases containing the same or similar contents in those cases where the second maker does not use his/her database as the source of the new dataset.⁴²

27. The term of protection of the *sui generis* right is only fifteen years.⁴³ This period will run from the date of completion of the making of the database. Such a short term of protection is remarkable. Indeed, compared with other IP Directives, it is the shortest European term of protection for intellectual property rights.

28. However, any new substantial investment will be eligible for new independent *sui generis* right, with its own term of protection, that is, for another fifteen years from the date of the new investment. In practice, many databases will be protected for longer periods than the initial fifteen years term. In this case, the object of protection is the new substantial investment, so the above-mentioned considerations concerning the European case-law are applicable to the concept of new

42 Besides, recital 47 of Database Directive indicates that ‘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 particular as regards the creation and distribution of new products and services which have an intellectual, documentary, technical, economic or commercial added value’. The Database Directive is without prejudice to the application of competition rules, trade secrets, confidentiality and law of contracts.

43 Article 10(1) Database Directive. The *sui generis* right expires fifteen years from the first of Jan. of the year following the date of completion of the database. In the case of a database which is made available to the public in whatever manner before expiry of this period, the term of protection by that right shall expire fifteen years from the first of Jan. of the year following the date when the database was first made available to the public (Art. 10(2)).

investment and the analysis of its substantial nature.⁴⁴ Consequently, the sums of subsequent substantial investments may derogate the criticism concerning the short term of protection provided by the database makers. Dynamic databases – which are increasingly replacing static and offline databases – might be perpetually protected due to their continuous updating, by a rolling series of fifteen years terms as long as the right holder thinks it is worthwhile to continue investing in it. In other words, if a database maker continues investing money in new resources for the obtaining, verification and presentation of contents of his/her database, then his/her protection tends to be ever-lasting – until fifteen years from the date he/she decides to stop making new investments – . Substantial new investments involving a new term of protection may include a substantial verification of the contents of the database, thus eligible for new sui generis right.⁴⁵

29. This potential nearly eternal renewal possibility is controversial. In particular, in sole source data situations. The practical difficulties around the proof of the new investment and the risk of simulation have been highlighted in the literature.⁴⁶

44 Article 10(3) of Database Directive is useful for the interpretation of the concept of new investment. It may relate to substantial changes resulting from the accumulation of successive additions, deletions or alterations. The substantial investment may be evaluated in a qualitative and/or in a quantitative manner.

45 Recital 55 of Database Directive.

46 Among scholars, critiques highlight the potentially perpetual protection, which is out of line with intellectual property that is limited in time by definition. The protection of new investments and updated databases would be problematic from the viewpoint of free access to information and competition if the new subsequent sui generis rights are exercised over the entire database – thus containing the original contents and the updated contents – . That would be the case of many databases, being difficult to distinguish previous substantial investment and new subsequent substantial investments. See C. COLSTON, ‘Protecting Databases – A call for Regulation’, 19. *Denning Law Journal* 2007, p 93; E. DERCLAYE, ‘IPR on Information and Market Power: Comparing the European and American Protections of Databases’, 3. *IIC – International Review of Intellectual Property and Competition Law* 2007, p 275; P.B. HUGENHOLTZ, ‘Something Completely Different: Europe’s Sui Generis Database Right’, in S. Frankel & D. Gervais (eds), *The Internet and the Emerging Importance of New Forms of IP* (Alphen aan den Rijn: Wolters Kluwer 2016), pp 221-222; M. LEISTNER, ‘The protection of databases’, in E. Derclaye (ed.), *Research Handbook on the Future of the EU Copyright* (Cheltenham: Edward Elgar 2009), pp 443-444; G. MINERO, ‘Overview of databases protection, after two decades of discussions and regulations. An international approach’, in A. Bensamoun & A. Latil (eds), *Propriété littéraire et artistique et humanités numériques* (Paris: Mare & Martin 2015), pp 177-178; and T. SYNODINOU, in *Research Handbook on Intellectual Property and Digital Technologies*, p 96. The experts signing the *Study in support of the evaluation of Directive 96/9/EC on the legal protection of databases*, commissioned by the European Commission, 2018, provide the following proposals: (1) shortening the term of protection to five years, (2) allowing renewal of the protection *ad infinitum*, as long as registration and deposit are required. This in order to guarantee the access to the deposit of old databases, which are already in the public domain. However, this registration requirement proposal does not follow the traditional logic of intellectual property rights.

However, two things have to be taken into account. The first one: the burden of proof of the existence of a substantial new investment lies with the maker of the database resulting from such investment. This person may be the original right holder of the *sui generis* right on the initial database or a third party. The case in which a licensee introduces changes in the original database thus resulting a new database with a new substantial investment must be considered when applying Article 10(3) of Database Directive. This rule follows the same logic as in traditional copyright. The author of a work can authorize a third party to create a derivative work or he or she can also do that derivative work using his/her previous work. That derivative work will be protected by a new independent copyright provided it has its own originality – thus, the second author uses the previous originality and introduces new creative choices in order to create a derivative work – . In relation to the *sui generis* right, if the first right holder authorizes a third party to create a new database using the first one but adding new investments, either by introducing new contents, erasing obsolete components or verifying the accuracy of them comparing with other sets of contents, then the second database also deserves *sui generis* protection, for a new period of fifteen years. We can think of cases where the licensee could identify what is valuable of the first database, ask for the authorization for the extraction and reutilization of those contents and then transforms them by using big data tools. The substantial investment in the second database may be protected by independent *sui generis* right, running its term of protection from the completion date – of that second database, thus not depending on the date of completion of the first database.

2.3. Exhaustion Rule and Infringement of Sui Generis Right

30. Besides, the so-called first sale doctrine or exhaustion rule is not applicable to databases protected by the *sui generis* right which are not exploited in a tangible or material device. This doctrine implies that the acquirer of a product can lawfully resell it – in return of a price even higher than the original one – without having to ask for authorization to the right holder of the intellectual property right. The extension made to the online market by the Court of Justice of the European Union in *UsedSoft v. Oracle* – thus creating an online exhaustion rule for the software – does not concern databases or any product eligible for any IP right protection other than computer programs.⁴⁷ Databases exploited online are excluded

47 ECJ 3 July 2012, ECLI:EU:C:2012:407, *UsedSoft GmbH v. Oracle International Corp*, curia.europa.eu/juris/documents.jsf?num=C-128/11. The Court concluded that the right of distribution of a copy of a computer program is exhausted if the copyright holder who has authorized the downloading of that copy from the internet onto a data carrier has also conferred, in return for payment of a fee intended to enable him to obtain a remuneration corresponding to the economic value of the copy of the work of which he is the proprietor, a right to use that copy for an unlimited

from exhaustion by Recital 43 of Database Directive.⁴⁸ This literal exclusion is not contained within the Software Directive and this lack of regulation was one of the main arguments taken into account by the Court of Justice in the above-mentioned judgment.⁴⁹ Consequently, the database maker that does not commercialize tangible copies of his/her database but exploits the database in the online market as a service can avoid the users from reselling it.⁵⁰ Finally, it has to be taken into account that the vast majority of licences of databases are not for permanent use, but for temporary access (a month, a year, an academic year, etc.), so these licenses are far away from the concept of sale. Of course, licensor and licensee can decide to derogate this online non-exhaustion conclusion in their contract - with potential price-setting implications.

31. Restrictions of resales of databases by technical protection measures (such as passwords and other identification techniques) and/or by legal measures (such as contractual clauses) are, thus, legal.⁵¹ Any deletion of those technical measures made by the acquirer in order to resell the database will be considered an infringement of the IP rights of the database maker. The so-called first sale doctrine that provides lawfulness to resales is linked to tangible commodities but not to services. From an economic point of view, there are differences between sales of tangible and intangible goods.⁵²

period. This contract will be considered a sale, irrespective of the name given by the vendor and the acquirer.

- 48 This Recital provides: 'Whereas, in the case of on-line transmission, the right to prohibit re-utilization is not exhausted either as regards the database or as regards a material copy of the database or of part thereof made by the addressee of the transmission with the consent of the right holder'. It complements Art. 7(2)(b), which refers to the traditional exhaustion rule that applies to tangible copies of the database. This provision states: 'The first sale of a copy of a database within the Community by the right holder or with his consent shall exhaust the right to control resale of that copy within the Community'. These provisions clearly preclude application by analogy of the *UsedSoft* decision to databases. See P.B. HUGENHOLTZ, 'Directive 96/9/EC - on the legal protection of databases (Database Directive)', in T. Dreier & P. B. Hugenholtz (eds), *Concise European Copyright Law* (Alphen aan den Rijn: Wolters Kluwer 2016), p 397.
- 49 ECJ 3 July 2012, ECLI:EU:C:2012:407, *UsedSoft GmbH v. Oracle International Corp*, curia.europa.eu/juris/documents.jsf?num=C-128/11, paras 53-56.
- 50 Today databases are not often sold as a commodity but rather access to databases is offered as a service for a period.
- 51 There is a high level of reliance among database producers on technological protection measures (TPMs) such as access control, passwords, or encryption. This may be explained by the increasing technical efficiency of TPMs and the legal protection against anti-circumvention enshrined in Art. 6(3) of Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society. See EUROPEAN COMMISSION, *Evaluation of Directive 96/9/EC*, p 33.
- 52 See W. KERBER, 'Exhaustion of Digital Goods: An Economic Perspective', 8. *Zeitschrift für Geistiges Eigentum (ZGE) / Intellectual Property Journal (IPJ)* 2016, p 146.

32. When analysing potential *sui generis* right infringements, good or bad faith of the users is irrelevant. The traditional logic of copyright is also applicable to the *sui generis* right. Consequently, the right holder can sue any unlawful user – any person that has no right to access to the database – or any lawful user that used the database in a manner or for a purpose that goes beyond the authorization or licence given by the right holder in such a way that it prejudices the right holder’s legitimate interests or conflicts with normal exploitation of the database, that is, in such a way that deprives the database maker of revenue which should have enabled him/her to redeem the cost of the investment in setting up and operating the database. This rule is also applicable to subsequent infringers, that is, to subsequent licensees that contracted with the first licensee of the original database or any derivative database using unlawful contents.

3. Data Protection Rights and *Sui Generis* Right: The Ironic Inconsistence

33. The European Commission’s 2005 Evaluation Report concluded that, while no positive or negative effects on the growth of the database industry were proved, the Database Directive had largely achieved its harmonization objectives, thus repealing previous national fragmentations. No ‘significant administrative or other regulatory burdens on the database industry or any other industries that depend on having access to data and information’ had been detected, and so no intervention was deemed necessary.⁵³

34. The main purpose of the 2018 Evaluation Report was to assess whether these conclusions are still valid.⁵⁴ The European Commission concludes that, in general terms, the conclusions of the 2005 evaluation report still apply – there is no evidence to conclude that the *sui generis* right has been fully effective in stimulating investment in the European database industry, nor in creating a fully functioning access regime for stakeholders.⁵⁵ Indeed, the European Commission concludes that ‘there are no major inconsistencies between the Database Directive and other EU legislation’.⁵⁶

53 EUROPEAN COMMISSION, DG Internal Market, *First evaluation of the Directive 96/9/EC on the legal protection of databases* (2005), ec.europa.eu/info/sites/info/files/evaluation_report_legal_protection_databases_december_2005_en.pdf, p 6. An important factor highlighted by the 2005 Report was the above-mentioned limitation imposed by the landmark 2004 rulings from the Court of Justice of the European Union.

54 EUROPEAN COMMISSION, *Evaluation of Directive 96/9/EC*.

55 EUROPEAN COMMISSION, *Evaluation of Directive 96/9/EC*, p 45.

56 EUROPEAN COMMISSION, *Commission Staff Working Document, Executive Summary of the Evaluation of Directive 96/9/EC on the legal protection of databases* (Brussels 25 April 2018), SWD(2018) 147 final, ec.europa.eu/digital-single-market/en/news/staff-working-document-and-executive-summary-evaluation-directive-969ec-legal-protection, p 2.

35. However, some of the interviewees, experts and practitioners participating in the online survey deployed by the European Commission prior to the formal evaluation report expressed either confusion between the Database Directive and the GDPR or concern about how some of the requirements of the GDPR are to be reconciled with those deriving from the Database Directive.⁵⁷ The academic study commissioned by the European Commission in 2018 reveals some problems of coherence between the Database Directive and the European data protection framework. This legal gap is relevant since both the Database Directive and the GDPR are applicable in a cumulative manner to many databases.⁵⁸

36. At the time of approval of the Database Directive, the European data protection acquis was not as extensive as nowadays. The main Directive on the issue - Directive 95/46/EC - was mentioned in Recital 48 of the Database Directive.⁵⁹ However, this recital only highlights the objectives of both Directives. The aim of Directive 95/46 is to guarantee free circulation of personal data on the basis of fundamental rights (in 1995, the right to privacy, and nowadays, the right to personal data protection). Consequently, the provisions of the Database Directive are without prejudice to data protection legislation (Recital 48 and Article 13). References to Directive 95/46/EC must be understood as referring to the current GDPR.

37. However, it has to be highlighted that the Database Directive does not require the fulfillment of rules contained within the European data protection legislation as a condition *sine qua non* to consider the database eligible for *sui generis* protection. The European legislature has not made use of any recent IP Directive in order to modify this legal gap, something that is, at least, surprising and difficult to understand. Consequently, we can find databases that deserve this special IP protection even when the database maker fails - in an intended or non-intended manner - to fulfil the rules contained within the GDPR. In this case, the database maker can sue anyone using his/her database for extraction and reutilization of the contents even

57 The evaluation took place between March 2017 and March 2018, following the commitment established in the 2017 European Commission Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 'Building a European Data Economy'. European Commission, *Evaluation of Directive 96/9/EC on the legal protection of databases* (2018), p 69; and JIIC (Joint Institute for Innovation Policy), *Study in support of the evaluation of Directive 96/9/EC on the legal protection of databases*, commissioned by the European Commission, 2018, Appendix 4 on the 'In-depth Interviews with Experts and Practitioners', ec.europa.eu/digital-single-market/en/news/study-support-evaluation-database-directive.

58 This section is not applicable to databases containing only non-personal data.

59 Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data.

when those contents were obtained, verified and processed in breach of the main data protection rules.⁶⁰

4. Some Conclusions

38. Although it was passed in 1996, the Database Directive is still relevant today, because it has fulfilled the aim of avoiding the previous regulatory fragmentation in the protection of the database industry investment. Fragmentation was clearly detrimental to a well-functioning European database market.

39. The *sui generis* right comes close to protecting substantial – after excluding resources on creating data – investment as property, thus creating a legal effect similar to unfair competition rules over parasitic behaviours. The main advantage is that it secures investment. This IP right applies both to personal data and non-personal datasets, in a uniform way. However, other European rules applicable to datasets differ and this can cause important problems. In particular, the European personal data protection framework, whose basis is the data subject’s genuine and free consent. Major difficulties arise when analysing the validity of the data subject’s consent and the potential exercise of his/her rights.

40. The principal goal of the Database Directive was to promote the European database industry – by providing an incentive available only to database makers based in the EU – . However, there is no conclusive evidence supporting the actual effect on promoting the European industry and catching-up with the North American industry. The economic impact of the *sui generis* right is still unproven. Even when the European legislature does not admit it, this lack of economic positive effects reflects that maybe there was no need at all to create this special incentive for investment in databases. This because the overall efficiency of access control is also provided by contracts and technological protection measures, such as passwords. Besides, unfair competition rules (parasitism and free riding) and trade secret laws have to be taken into account. Consequently, the *sui generis* right is only one of a number of mechanisms that an investor in the production of a database may rely upon for protection, either in an alternative or cumulative ways.

41. The 2005 and 2018 European Commission evaluations also arose from Article 16(3) of the Database Directive, which specifies that the Commission

60 Besides, it has been highlighted that the *sui generis* right may imply problems in relation to the right of data portability as already contained in Art. 20 GDPR, which entitles data subject to receive their personal data in a structured, commonly used, and machine-readable format and have the right to transmit those data to another controller. See JIIC (Joint Institute for Innovation Policy), *Study in support of the evaluation of Directive 96/9/EC on the legal protection of databases*, p 111; and P. ANDANDA, 50. *IIC* 2019, pp 1064-1070.

should in examine periodically whether the application of the *sui generis* right contained in the Database Directive has led to significant interference with free competition. The purpose of this provision is to ‘verify especially 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’. However, concerning the potential negative effects of the *sui generis* right, the European Commission concludes: ‘currently there is no evidence pointing to relevant problems, notably in view of the limited scope of application of the right following Court of Justice of the European Union (CJEU) case law’.⁶¹ Consequently, we can conclude that there is no current need – or no current economic and legal justification, since the complexity of the market is still unclear – to create a new – and additional – right in raw data for the producer of collections of machine-generated data.⁶² 4.5. The Court of Justice of the EU has in fact redefined the *sui generis* right in a way that makes it a tool that does not, at least in principle, restrict in an unduly manner free competition on the creation of data. Drawing the line between generating data and processing data that already exist is a crucial task in day-to-day national courts practice.

42. Taking into account the above-mentioned considerations, we can conclude that the *sui generis* right might be applicable to databases containing machine-generated data and datasets created with items monitored by Internet of Things devices, provided the maker fulfils the additional substantial investment requirement. However, there may be problematic cases concerning spin-off databases and other sole source data collections – being that database the one and only source of the information it contains, so that data cannot be obtained anywhere else – , where the *sui generis* right creates a monopoly and a potential dominant position which may be used in an abusive way intended to data lock-up. In particular, when that abuse implies anti-competitive consequences for the creation of new surrounding markets of new products and services that add value to the data contained within the database. This will be the case of many Internet of Things, artificial intelligence and big data products/services and in the field of scientific research, where access to multiple

61 EUROPEAN COMMISSION, *Evaluation of Directive 96/9/EC on the legal protection of databases*, p 45. ‘In sum, in the light of the available evidence and case law (...) the Commission Services consider that engaging in a process of limited reform of the *sui generis* right would be, at this stage, largely disproportionate’ (p 47).

62 This idea was proposed by the European Commission in 2017, with no successful result. See Commission Staff Working Document on the Free Flow of Data and Emerging Issues of the European Data Economy Accompanying the Document Communication Building a European Data Economy (SWD (2017) 2 final), p 33.

sources, data reuse and data enrichment are essential. On the contrary, the aim of duplicating products or services has to be excluded from this proposal for a compulsory licensing system. Big data products, made after a process of comparison of different previous databases, are examples of these new products or services adding value to the previous datasets.

43. In these particular cases, competition legislation has to be applied to avoid any tendency to lead to restrictions on competition.⁶³ The European Commission does not consider this potential tendency sufficient enough to propose the regulation of any compulsory licences alternative.⁶⁴ However, the introduction of compulsory licensing regimes in the case of sole source databases may be a proper solution to balance the interests concerned, thus requiring the right holder to offer licenses that will permit third parties to carry out acts falling within the exclusive right.⁶⁵ In these special cases, the grant of the license is not a matter of choice for the right holder but is compulsory, thus provided the database is the sole-source of the data and informational items contained within it and the license is given in return of a fee.⁶⁶ Grounds for refusing to disclose the data may be based on trade secrecy or commercial confidentiality, on the one hand, and, on the other hand, data protection. The preferable solution may be to leave the matter of price-setting negotiation to the parties – depending on the specific use, the period and other surrounding circumstances of each case – and offer an arbitration system or administrative or judicial intervention only in default of agreement.

44. The European Commission is aware of the importance of database protection, but also artificial intelligence promotion and other data-driven innovations and the

63 See M. LEISTNER, in *Research Handbook on the Future of the EU Copyright*, pp 446–447.

64 Indeed, the European Commission concluded that ‘The sui generis right thus often functioned as a special unfair competition rule against deceptive conducts between businesses such as passing off someone else’s product as one’s own’. EUROPEAN COMMISSION, *Evaluation of Directive 96/9/EC on the legal protection of databases*, p 32.

65 This idea was also highlighted by JIIC (Joint Institute for Innovation Policy), *Study in support of the evaluation of Directive 96/9/EC on the legal protection of databases*, commissioned by the European Commission, 2018, p 141.

66 Providing all these conditions are met, compulsory licences will fulfil the main aim that was highlighted by Professor Ginsburg: ‘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’. See J.C. GINSBURG, ‘Creation and Commercial Value: Copyright Protection of Works of Information’, 90. *Columbia Law Review* 1990, p 1929. The Max Planck team of Kur, Hilty, Geiger and Leistner also proposed this solution. See KUR et al., ‘First evaluation of Directive 96/9/EC on the legal protection of databases’, 37. *IIC – International Review of Intellectual Property and Competition Law* 2006, p 554; and M. LEISTNER, in *Trading Data in the Digital Economy*, p 38.

need to provide a comprehensive and consistent framework. It explains both the Data Strategy⁶⁷ and the White Paper on Artificial Intelligence,⁶⁸ but also the public online survey that the European Commission launched recently, with the aim to be fed with ideas for initiatives on access to and reuse of data in the coming years, thus including contracts where data are provided in exchange for services.⁶⁹

45. Besides, one of the main future improvements or changes to the Database Directive should be removing conflicts with EU legislation on data protection. In particular, the European legislature has to make the *sui generis* right consistent with the GDPR by providing an explicit exclusion of protection by this special IP right to any database created in infringement of the European data protection framework.

67 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 'A European strategy for data', Brussels, 19 February 2020, COM(2020) 66 final.

68 European Commission White Paper on 'Artificial Intelligence - A European approach to excellence and trust', Brussels, 19 February 2020, COM(2020) 65 final.

69 It can be accessed here, ec.europa.eu/eusurvey/runner/DataStrategy.



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