

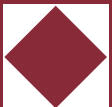
Sebastian Lohsse/Reiner Schulze/Dirk Staudenmayer (eds.)

# Trading Data in the Digital Economy: Legal Concepts and Tools

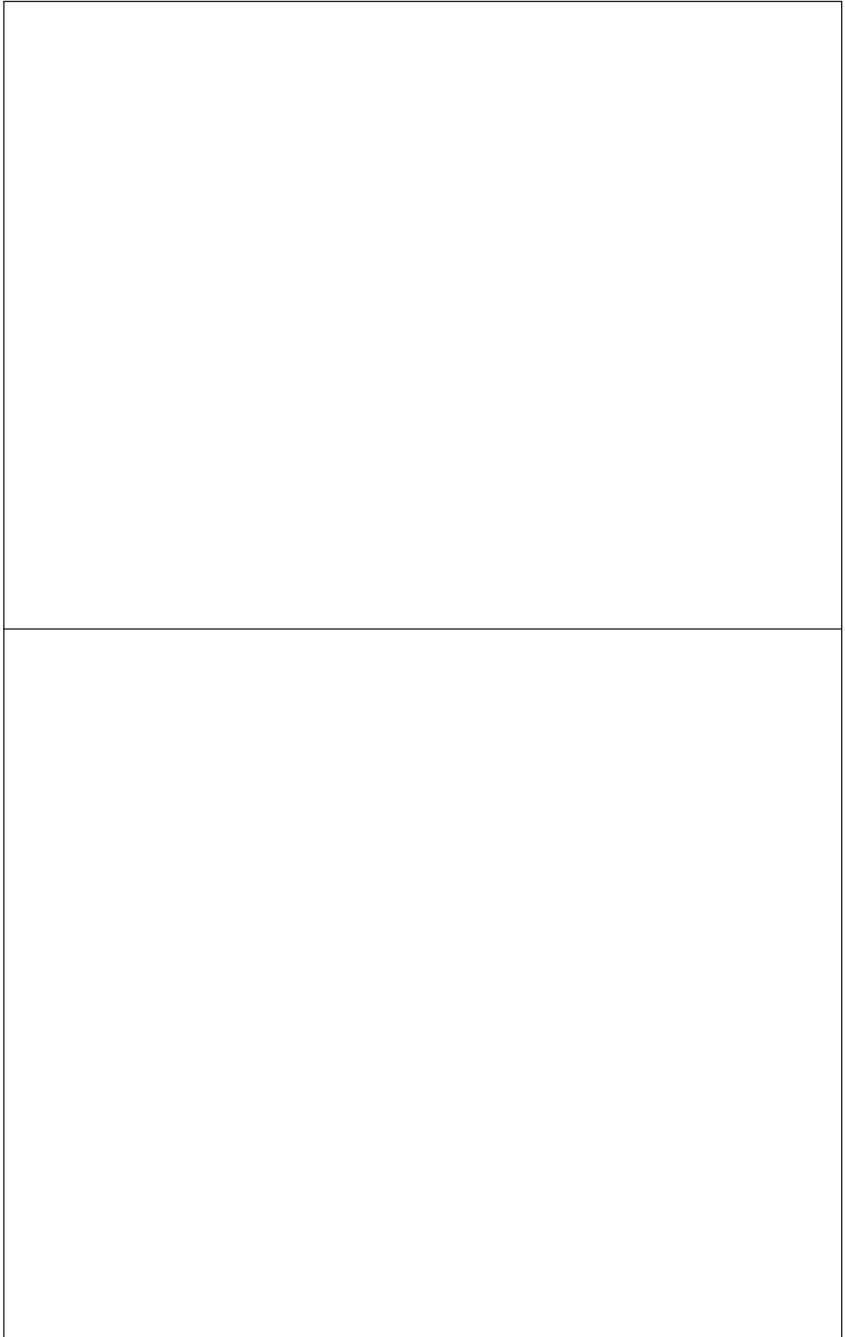
Münster Colloquia on EU Law and the Digital Economy III



**HART**  
PUBLISHING



**Nomos**



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## Foreword

Digitization is fundamentally transforming our entire economy and our society. In particular, the datafication of business processes leads to an incredibly fast and ever increasing mass of data being the blood in the veins of the digital economy. Many existing and future business models, which will drive innovation and create economic growth, depend on the ability to use these data. Thus, ‘Trading Data in the Digital Economy’ has become one of the central aspects of the development of the EU Digital Market.

As the Münster Colloquia on EU Law and the Digital Economy are designed to discuss how EU law should react to the challenges and needs of the digital economy, it was therefore only natural for the third Münster Colloquium, held on 4–5 May 2017, to focus on ‘Legal Concepts and Tools’ for ‘Trading Data in the Digital Economy’. The Colloquium analysed the academic, practice-based, and political aspects of the various legal concepts and tools surrounding the trade in data. More specifically, it focused on the starting points and challenges, exclusivity rights, compulsory licences, and contractual concepts.

This volume is a collection of contributions to this third Münster Colloquium. The editors kindly thank Jorrit Mauter and Jonathon Watson for their invaluable support and assistance in organizing the third Münster Colloquium and preparing this volume.

September 2017

Sebastian Lohsse  
Reiner Schulze  
Dirk Staudenmayer



# Contents

## Introduction

Trading Data in the Digital Economy: Legal Concepts and Tools	13
<i>Sebastian Lohsse / Reiner Schulze / Dirk Staudenmayer</i>	

## Starting Points and Challenges

Big Data and the EU Database Directive 96/9/EC: Current Law and Potential for Reform	27
<i>Matthias Leistner</i>	

Trading Data in the Digital Economy: Trade Secrets Perspective	59
<i>Tanya Aplin</i>	

## Exclusivity Rights

Data Property in the System of Intellectual Property Law: Welcome Guest or Misfit?	75
<i>P. Bernt Hugenholtz</i>	

Property Rights Regarding Data?	101
<i>Daniel Zimmer</i>	

Rights on Data: The EU Communication ‘Building a European Data Economy’ from an Economic Perspective	109
<i>Wolfgang Kerber</i>	

## Compulsory Licence

Improvement of Data Economy through Compulsory Licences?	137
<i>Rolf H. Weber</i>	

*Contents*

Access to Data: The Role of Consent and the Licensing Scheme 159

*Francesco Mezzanotte*

Data Interfaces and Data Formats as Obstacles to the Exchange and  
Portability of Data:

Is there a Need for (Statutory) Compulsory Licences? 189

*Malte Grützmacher*

Contractual Concepts

On the Future EU Legal Framework for the Digital Economy:  
A Competition-based Response to the  
'Ownership and Access' Debate 223

*Josef Drexl*

Contracts with Big Data:  
The End of the Traditional Contract Concept? 245

*Friedrich Graf von Westphalen*

Fishing for an Agreement: Data Access and the Notion of Contract 271

*Ruth Janal*

Panel Discussion

Learning from Past Mistakes:  
Similarities in the European Commission's Justifications of the  
Sui Generis Database Right and the Data Producers' Right 295

*Julia Reda*

Trading in Data: A Policy Perspective 305

*Judita Dolžan*

Trading in Data: An Industry Perspective 323

*Heiko Willems*



Of Elephants in the Room and Paper Tigers: How to Reconcile Data Protection and the Data Economy <i>Christiane Wendehorst</i>	327
Contributors	357



# Introduction



# Trading Data in the Digital Economy: Legal Concepts and Tools

*Sebastian Lohsse / Reiner Schulze / Dirk Staudenmayer\**

## I. Introduction

Digitization is one of the ground-breaking trends of this century; it is fundamentally transforming our entire economy and our society. In particular, one has to bear in mind that speaking about the ‘Digital Economy’ does not merely mean to refer to a kind of a separate economy or a specific sector of the overall economy. Rather, the changes in our economy caused by digitization will ultimately lead to the result that the entire economy will become digital.

While it is important to safeguard in this transformation process fundamental values of our society, political system and market structure, it is also of imminent importance to provide a framework that allows reaping the economic potential of this process for the growth of the European economy. The European Commission has acknowledged this by declaring the Digital Single Market as one of its ten priorities<sup>1</sup> and by putting forward its Digital Single Market Strategy<sup>2</sup>. As one of the deliverables of this Digital Single Market Strategy, the Commission adopted in January 2017 the Communication ‘Building a European Data Economy’<sup>3</sup>. This Communication deals among others with the access to and transfer of data.

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\* The contribution expresses only the personal opinion of the authors and does not bind in any way the European Commission.

1 See Juncker, ‘A New Start for Europe: My Agenda for Jobs, Growth, Fairness and Democratic Change’ (15 July 2014) available online under <[ec.europa.eu/priorities/docs/pg\\_en.pdf](http://ec.europa.eu/priorities/docs/pg_en.pdf)>.

2 European Commission, ‘A Digital Single Market Strategy for Europe’, COM(2015) 192 final.

3 European Commission, ‘Building a European Data Economy’ COM(2017) 9 final (hereinafter ‘Data Economy Communication’). See also the accompanying ‘Staff Working Document on the free flow of data and emerging issues of the European data economy’ SWD(2017) 2 final (hereinafter ‘Data Economy SWD’).

As the objective of the Münster Colloquia on EU Law and the Digital Economy is to discuss how EU law should react to the challenges and needs of the digital economy, the Münster Colloquia as a matter of course could not show disregard for the challenges arising from these questions of access to and transfer of data. Accordingly, having examined and discussed challenges presented by the digital revolution for contract law in general on the 1st Colloquium in October 2016 and contracts for the supply of digital content in particular on the 2nd Colloquium, the 3rd Colloquium held in May 2017 focused on ‘Trading Data in the Digital Economy: Legal Concepts and Tools’. With the 3rd Colloquium discussing and analysing legal concepts and tools that might be suitable and necessary in order to facilitate and promote the trade in data in the digital economy, the Münster Colloquia thus have come notably closer to the core of the challenges that digitization presents for European private law.

The present volume assembles the contributions to this 3rd Münster Colloquium. In accordance with the Colloquium’s general aim, they provide for a closer analysis of the different legal concepts and tools in order to promote the discussion of several options at European level to tackle the challenges in the trade of data.

## II. Starting Points and Challenges

The digitization of our economy and society, in particular the roll-out of the Internet of Things (IoT) and the datafication of business processes, leads to an incredibly fast and ever increasing mass of data. A couple of examples<sup>4</sup> can make the dimensions of ‘big data’ more understandable. In one single day, Google processes more than 24 petabytes<sup>5</sup> of data. This corresponds to thousands of times the quantity of all printed material in the US Library of Congress. Already in 2013 the global amount of stored information was estimated at 1,200 exabytes<sup>6</sup>. If this were saved on CD-ROMs, the result would be five towers of CD-ROMs reaching the moon.

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4 The following examples are taken from Mayer-Schönberger/Cukier, *Big Data* (John Murray 2013).

5 A petabyte is  $10^{15}$  or 1 000 000 000 000 000 bytes, while 1 byte is a single character.

6 An exabyte is  $10^{18}$  or 1 000 000 000 000 000 000 bytes.

Such data is the blood in the veins of the digital economy. Many existing business models, but much more importantly those future business models that will drive innovation and create economic growth depend on being able to use these data. For instance, business concepts such as ‘predictive maintenance’ or ‘precision farming’ are only possible based on access to data.

Data is a non-rivalrous resource, which means that the use of data by one market player does not limit the availability of the same data for use by other market players. Data is, however, also an excludable resource, i.e. it is by no means automatically available for use by anyone as its use can be restricted. Indeed, the Commission Communication notes<sup>7</sup> that exchange of data currently remains limited because businesses which have collected or hold data use them often mostly in-house and do not share them with other market players. Where voluntary data sharing emerges, there may be a risk that the conditions for such transfer in a situation where the data holder has a greater bargaining power impose transaction costs on the other contractual party asking for data access which make such access very expensive, if not prohibitive<sup>8</sup>.

The European Commission launched therefore a dialogue with Member States and stakeholders to discuss whether there is a need for a possible future framework for access to and transfer of data beyond the existing approaches in the *acquis communautaire*<sup>9</sup> and if so, how it should be designed. It bases this dialogue and the possible future framework on several objectives<sup>10</sup>. Fundamentally, it endeavours to achieve the economic policy objective of letting data flow as freely as possible between economic operators. However, it also takes into account the interests of data holders. It is important to allow a fair return on investment for those market players who have created the technical conditions and invested the resources to

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7 See Data Economy Communication (n 3) 9 et seq. This was confirmed by the feedback from the public consultation and the structured dialogue organized by the Commission. Further information and documents available under <ec.europa.eu/digital-single-market/en/news/summary-report-public-consultation-building-european-data-economy> (hereinafter ‘Public Consultation’) accessed 27 August 2017.

8 These problems were confirmed by the feedback from the public consultation and the structured dialogue organized by the Commission, *ibid*.

9 See in particular the contributions from Leistner, Alpin, Reda, and Willems, in this volume.

10 See Data Economy Communication (n 3) 11 et seq.

collect data. After all, the overall objective is to promote innovation, not to stifle it. It also acknowledges that businesses would not feel incentivized to invest and act in the data economy if at the same time they would have to share their business secrets with their competitors. Finally, it also takes into account the already mentioned situations of unequal bargaining power. In order to solve possible problems, the Commission Communication puts forward a number of approaches for discussion<sup>11</sup>. Only the more controversial and legally more challenging approaches were the subject of discussion at the 3rd Münster Colloquium: on the one hand, exclusivity rights and, in particular, the question of ‘ownership’ of data; on the other hand, the further development of contract law instruments including default contract law rules coupled with a B2B unfairness control of standard terms and conditions, and the question of mandatory licences.

### III. Exclusivity Rights

A central question surrounding exclusivity rights in data is whether a specific quasi-proprietary right to data, which is at least indirectly concerned with the trade in data (as property in data carriers or intellectual property rights in information), should exist alongside existing exclusivity rights.<sup>12</sup> The approach of an ‘ownership’ right in data goes back to a controversial discussion in legal doctrine<sup>13</sup>. The basic idea is to give the data producer a right in non-personal or anonymized data. The assumption is that this would give the data producer the incentive to trade the data like other economic goods on dedicated platforms. Important features like whether the right would be an exclusive right to utilize the data or only include defensive rights against third parties which misappropriate the data, to whom precisely this right should be allocated or whether and if so which exceptions should be foreseen remain to be discussed.

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11 See Data Economy Communication (n 3) 12 et seq. and the accompanying Data Economy SWD (n 3) 30 et seq.

12 On the topic of exclusivity rights see the contributions by Hugenholtz, Zimmer, and Kerber, in this volume.

13 See the references in Data Economy SWD (n 3) 33, n 150.



There are a number of open questions regarding the features of a quasi-proprietary right in data.<sup>14</sup> The first concern the general criteria to be created for such rights and whether an exclusivity right in data can fulfil such criteria. Indeed, in the civil law tradition the term ‘Dominium’ applies to more than the control over tangible items. In limiting the concept of property to tangibles (as in Germany in the 19th century), a broader term became necessary; the concept of ‘exclusivity rights’ or, to use the terminology from various national laws, ‘absolute rights’ has filled this gap. By using ‘property’ as a basis, a typical feature of these influential exclusivity rights is their assignment of control over an object ‘exclusively’ to a person in the manner that such person is afforded with comprehensive legal protection against all others. Legal protection against everyone and underlying indivisibility are therefore common characteristics of exclusivity rights (in part this is based on property in tangible items but expanded with the criterion of a particular ‘publicity’, i.e. recognizable assignment to a person). However, the recent developments concerning rights in intellectual property and in information could create doubts as to whether the strict traditional boundaries between exclusivity rights and ‘relative’ rights in the law of obligations can remain.

Against this backdrop, the concept of ‘exclusivity rights’ poses a number of questions and concerns in relation to data rights. It first requires an explanation of how one is to define the object of such rights.<sup>15</sup> The concept of ‘data’ can be understood very simply as ‘information’, yet the matter is complicated when we approach the type of information that is involved and its purpose.<sup>16</sup> For example, the General Data Protection Regu-

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14 See e.g. Lynsky, *The Foundations of EU Data Protection Law* (OUP 2015) 229 et seq.; Zech, *Information als Schutzgegenstand* (Mohr Siebeck 2012) 219.

15 E.g. Max Planck Institute for Innovation and Competition, ‘Data Ownership and Access to Data – Position Statement of 16 August 2016 on the Current European Debate’, accessible online under <[www.ip.mpg.de/en/link/positionpaper-data-2016-08-16.html](http://www.ip.mpg.de/en/link/positionpaper-data-2016-08-16.html)> accessed 27 August 2017; Thouvenin/Weber/ Früh, ‘Data Ownership: Taking Stock and Mapping the Issues’ (forthcoming). See, however, Fezer, ‘Dateneigentum’ (2017) MMR 3; Hoeren, ‘Dateneigentum – Versuch einer Anwendung von § 303a StGB im Zivilrecht’ (2013) MMR 486; Hoeren, ‘Big Data and the Ownership in Data: Recent Developments in Europe’ (2014) EIPR 751.

16 On the difficult issue of personal data see, Wendehorst, in this volume.

lation<sup>17</sup> refers to ‘personal data’, ‘biometric data’, ‘genetic data’, ‘data concerning health’ and also ‘sensitive personal data’. In particular, they concern the role of a specific right in data in the spectrum of intellectual property rights. It can be doubted whether there exists a need to protect the data producer or acquirer of data who is not already sufficiently protected by intellectual property rights (especially regarding the information forming the content of the data).<sup>18</sup>

In turn, there are concerns surrounding the object and the rightholder of specific rights in data. As the object of exclusivity rights, some areas of legal doctrine view data from the perspective of the ‘information’ and either assign corresponding rights, such as copyrights, or create new concepts of ‘information law’. Other areas of legal doctrine view data and data sets as the object of a specific exclusivity right. They distinguish this right in the data itself from property rights in the tangible data carrier and from the information that forms the content of the data. From this perspective, the creation of data or data sets (i.e. the process of creation or scripting) forms the starting point for assigning these rights to a specific person.<sup>19</sup>

However, even with this approach there is a considerable conceptual and practical problem: data can be reproduced as often as desired and thus the possibility to use and distribute is available to an unlimited number of persons. Such possibility exists without the original ‘data owner’ losing the ability to reproduce, use, and distribute the data. This fundamental difference to traditional property rights in movables creates considerable doubts as to whether rights in data can be viewed as quasi-exclusivity rights.<sup>20</sup>

It is therefore unsurprising that the approach of an ‘ownership’ right received the least support<sup>21</sup> in the feedback from the public consultation and

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17 Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 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) [2016] OJ L119/1.

18 See, in particular, the contributions by Alpin, Hugenholtz, and Kerber, in this volume.

19 Welp, ‘Datenveränderung (§ 303a StGB) – Teil 2’ (1988) IUR 434, 448.

20 See, in particular, the contributions by Zimmer, and Drexl in this volume.

21 See, for example, the response by BusinessEurope, BDI, Poland, available at <[ec.europa.eu/digital-single-market/en/news/position-papers-received](http://ec.europa.eu/digital-single-market/en/news/position-papers-received)

the structured dialogue organized by the Commission<sup>22</sup>. Accordingly, this approach was not even mentioned anymore in the Communication on the mid-term review of the Digital Single Market Strategy where the follow-up work to the ‘Building a European Data Economy’ Communication is mentioned<sup>23</sup>. This is understandable because beside other problems it is doubtful whether this approach would achieve the fundamental aim of facilitating data access. It does not provide any assurances that the holder of this exclusive right would indeed give access to other parties and that he would do so at acceptable conditions. On top of that, it seems rather likely that the practical result would be the same as now, i.e. that the party with the greatest bargaining power in the data value chain would ultimately gain control over the data. It would seem therefore doubtful to justify such a strong interference in the market without having a corresponding added value in terms of achieving the overall economic objective.

From the feedback published it seems that at present the most serious problem exists in the automotive sector<sup>24</sup> where the players in the aftersales market segment do not have access to in-vehicle data. Rather, these data are retained by the car producers alleging they would need these data for developing predictive maintenance or other business models. One could think that similar problems will appear in other markets in the future, based for instance on predictive maintenance models or other business models which have not yet appeared.

#### IV. Contractual Concepts

The concerns raised regarding the need and legal design, which are also shared in contributions to this volume,<sup>25</sup> and the reserved response to the European Commission’s public consultation do not indicate that the de-

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framework-public-consultation-building-european-data-economy> accessed 27 August 2017.

22 See Public Consultation (n 7).

23 European Commission, ‘Mid-Term Review on the implementation of the Digital Single Market Strategy – A Connected Digital Single Market for All’ COM(2017) 228 final, 11.

24 See Public Consultation (n 7).

25 See the contributions by Alpin, Hugenholtz, Zimmer, Kerber, Weber, and Drexler, in this volume.

velopment of a specific quasi-proprietary right in data could be met with success, at least not at European level at this time. In light thereof, greater attention must be given to the approaches that attempt to balance the interests of parties trading data with concepts and instruments from contract law.<sup>26</sup>

The attention in the field of contract law must be directed primarily towards the instruments that have emerged or will develop in the context of freedom of contract. To a large extent they are an expression of the market players' ability to shape their own legal relationships through the principle of freedom of contract. However, those means and instruments in contract law that aim to protect the other party (or a third party) from unfair exploitation of contractual freedom need to be taken into account. The discussions should therefore include not only recommendations and models for how the parties can design their own contractual arrangement but also rules in order to protect both parties' freedom of contract.

In this respect, possible link between default rules and the control of standard terms could be considered.<sup>27</sup> The approach of default contract law rules coupled with a B2B unfairness control of standard terms and conditions would deal more specifically with the transfer of data. It recognizes that at present only competition law provides a – very wide – framework to prevent abuses in the relationship between the data holder and the party who wants to have access to data. The threshold and conditions for a competition law intervention, mainly on the basis of the abuse of a dominant position are however fairly high and will therefore be rarely fulfilled. The approach therefore suggests creating default contract law rules describing how the legislator would see a balanced distribution of rights and obligations in a contractual relationship between the data holder and the other contractual party asking for data access.

As these rules would be default rules, they could be modified or even entirely waived by the B2B parties on the contract, exercising their freedom of contract. If however parties modified or even entirely waived in their contract these default rules, a B2B unfairness control of standard terms and conditions would provide the limits. As unfairness control of

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26 On the possible contribution of contract law see the contributions by Drexl, Graf von Westphalen, Janal, Dolžan, and Willems, in this volume.

27 See, in particular, the contributions by Graf von Westphalen, and Dolžan, in this volume.

standard contract terms regularly does, this scheme would also need to be based on a general clause. The standard for the general clause could not, however, be the same as in the Unfair Contract Terms Directive<sup>28</sup> for B2C transactions, as the regime to be governed here would mainly concern B2B contracts. The control to be applied thus could rather use the existing models of the Late Payments Directive<sup>29</sup> and the proposal for a Common European Sales Law (CESL)<sup>30</sup>, i.e. refer to a gross deviation from good commercial practices<sup>31</sup>. In order to make this general clause more concrete, it could use the default contract rules as benchmark.

B2B unfairness control of standard terms and conditions is obviously an unfamiliar concept for the majority of Member States where such regime does not exist, while only a minority of Member States already have such rules – however sometimes criticized by business stakeholders – and the experience with the corresponding case law. This approach could be coupled with the development of model contract terms on the basis of the default rules, which would have the advantage of translating into practical guidance for drafting contracts what the legislator considers a balanced distribution of rights and obligations in the contractual relationship. The latter approach of model contract terms, then on the basis of best industry practices, could also be seen as self-standing. This would however raise the question whether it is likely that such model contract terms would be used by data holders with greater bargaining power if they have no economic incentive to do so.<sup>32</sup>

Contractual relationships between parties trading in data feature a further important aspect: the use of licences, which are often decisive in determining whether the purpose of the contract can be achieved for one of the parties. This gives rise to the question whether and to which extent model licences or non-mandatory rules on the use and content of licences

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28 Directive 93/13/EEC of the Council of 5 April 1993 on unfair contract terms in consumer contracts [1993] OJ L95/29.

29 Directive 2011/7/EC of the European Parliament and the Council of 16 February 2011 on combating late payments in commercial transactions [2011] OJ L48/1, replacing the former Directive 2000/35/EC of the European Parliament and the Council of 29 June 2000 [2000] OJ L200/35.

30 European Commission, ‘Proposal for a Regulation of the European Parliament and of the Council on a Common European Sales Law’ COM (2011) 635 final.

31 See, as an example, Art. 86(1)(b) CESL.

32 See also feedback from the Public Consultation and the structured dialogue organized by the Commission pointing into this direction (n 7).

are necessary and sufficient.<sup>33</sup> Furthermore, one also has to consider whether and to what extent mandatory licences would be necessary in order to compensate for possible shortcomings of contract law tools. In particular, only such mandatory licences might operate as a sufficient counter-weight to the exclusive possibility to use data as it arises from mere factual control of the data. Likewise, such mandatory licences could also play an important role in a system operating on the basis of an ‘ownership’ right in data. Just as it is true for mere factual control, in such system they could make up for deficiencies arising from the exclusive nature of such right. In any event, the approach of mandatory licences is based on and generalizes several sector-specific precedents in EU law<sup>34</sup>, which differ in terms of scope and licensing conditions. One of the most important questions of this approach would naturally be, how much would have to be paid for the access to data. Such counter-performance could be foreseen on the basis of FRAND (fair, reasonable and non-discriminatory) terms.

## V. Conclusion

While the 3rd Münster Colloquium – being divided in three sections on exclusivity rights, compulsory licences and contractual concepts – was designed to start from the perception that each of the challenging approaches set out above may have its merits and its disadvantages but is worth considering, it became quite clear from the contributions and the discussions that not all approaches were felt equally suitable by the majority of participants. In particular concerning new exclusivity rights, the Colloquium very much reflected the aforementioned impressions from the public consultation and the structured dialogue organized by the Commission. Concerns not only arose from the question how such new layer of rights would interact with the already existing absolute rights. Rather, concerns were also brought forward with a view to practical problems such as that data do not form a stable object of protection. The most important objections, however, arose from the question to what extent a new property right in data would actually be suitable for achieving the purposes aimed at. While

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33 See, in particular, the contributions by Leistner, Weber, Mezzanotte, and Grützmaker, in this volume.

34 See the references in Data Economy SWD (n 3) 38.

such right would indeed be apt to safeguard the interests of data holders, it was widely felt that it would not as such create incentives to trade data and would thus not operate so as to serve the needs of the economy as regards a desired free flow of data. Arguably, its deficiencies in this respect could be made up for by means of compulsory access rights such as with compulsory licences. The effects of a new 'ownership' right in data as such, however, would thus largely be confined to the safeguarding of interests of data holders. Whether these effects would indeed call for a new 'ownership' right with all its difficulties was widely doubted.

Consequently, the discussion soon focused on the other legal concepts and instruments which were felt more suitable for promoting the trade in data in the digital economy. As regards compulsory licensing, one of the advantages highlighted was its flexibility. Unlike a combination of a general property approach with specific access rights a mere concentration on such rights would allow for problem-specific solutions from the outset. A tailoring of such specific data governance regimes was also widely thought appropriate with a view to the different needs in different sectors of the economy. Such sector-specific regulation, it was argued, would at least be more appropriate than any general rule. In particular, general rules on pricing would hardly be conceivable. One has to bear in mind, however, that sector-specific regulation also brings about disadvantages. Most importantly, different sets of rules that are not necessarily coherent naturally increase legal complexity. Moreover, compulsory licensing, it was felt, seems rather inappropriate as soon as personal data is involved.

Contract law tools, by contrast, namely default rules supplemented by a corresponding B2B control of unfair standard contract terms waiving such rules, were well found to be suitable means for the purposes set out above. In particular, it was felt that they would be apt to make up for arguable shortcomings arising from the fact that for the time being most questions are left to competition law. As mentioned before, with a view to trade of data, both a dominant position as well as its abuse are rather hard to establish. Moreover, it seems that the existing competition law prerequisites fall notably short of ensuring an adequate free flow of data in any event whereas default contract rules and the control of unfair standard contract terms could be tailored to the specific challenges of the digital economy. However, as was also pointed out, one has to bear in mind that even mandatory rules do not function as incentives to conclude a contract in first place and thus do not guarantee access to data where there are no contracting parties at all or where contracts are concluded in a B2C relationship while the interest of getting access lies with another business.

On the whole, both the Colloquium's papers which are collected in this volume as well as the discussions throughout the Colloquium thus demonstrated the complexity of the subject matter. It calls for a very detailed analysis not only of the needs and challenges of the digital economy and possible market failures in first place but also for a careful assessment of the legal concepts and tools which are suitable to deal with these needs and challenges. As has become clear from the Colloquium, both compulsory licences as well as a contract law approach are well worth to be considered in this respect.



## Starting Points and Challenges



# Big Data and the EU Database Directive 96/9/EC: Current Law and Potential for Reform

Matthias Leistner\*

## I. Introduction: The Scope and Impact of the Sui Generis Right in Big Data Scenarios

### 1. The general scope and the conditions for sui generis database protection in European law

The recent discussion of the function and relevance of the European Database Directive's<sup>1</sup> sui generis right for database makers for the European data economy has been characterized by the assumption that in most big data situations the crucial condition of a 'substantial investment' will not be fulfilled.<sup>2</sup> This assumption is based on the ECJ's fundamental judg-

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\* Many thanks go to Josef Drexler, Reto Hilty and Wolfgang Kerber for continuous exchange of ideas concerning the issues discussed in this paper, and to my research assistant, Thomas Sagstetter, for very valuable help with preparatory research for and final edition of this paper.

1 Directive (EC) 1996/9 of 11 March 1996 on the legal protection of databases [1996] OJ L77/20 (Database Directive).

2 By contrast, as regards the *general scope* of the Directive, which is delineated by the *notion of database* (Art. 1(2) Database Directive) and defined as any collection of independent material, arranged in a systematic or methodical way and individually accessible, most authors agree that this is a very wide definition which accordingly will be fulfilled by the overwhelming majority of big data collections of whichever kind, see Ehmann, 'Big Data auf unsicherer Grundlage – was ist „wesentlich“ beim Investitionsschutz für Datenbanken?' (2014) K&R 394, 396; Zech, '„Industrie 4.0“ – Rechtsrahmen für eine Datenwirtschaft im digitalen Binnenmarkt' (2015) GRUR 1151, 1157; Wiebe, 'Schutz von Maschinendaten durch das sui-generis-Schutzrecht für Datenbanken' (2017) GRUR 338, 339 et seq. Indeed, this is correct as the originally wide definition of database (see Leistner, 'The protection of databases' in Derclaye (ed.), *Research Handbook on the Future of EU Copyright* (Edward Elgar 2009) 429) has been even further extended (in respect of the crucial condition of independency of the elements) by recent ECJ case law, such as in Case C-490/14 *Verlag Esterbauer* EU:C:2015:735.

ments in *British Horseracing*<sup>3</sup> and the *Fixtures Marketing*<sup>4</sup> cases where the ECJ held that only investments into obtaining the contents of a database (i.e. the ‘seeking out’ of existing independent material) will be relevant for the substantiality threshold, whereas investments into the ‘creation’ of materials are irrelevant in that regard. From this ruling, 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.<sup>5</sup>

While it has to be admitted that the details of drawing the thin red line between investments into obtaining data and investments into the creation of data have remained contentious,<sup>6</sup> by contrast, the sweeping conclusion that all sensor- or other machine-generated data will typically not be covered by the sui generis right is not warranted. Since *British Horseracing*, those opinions in literature which have argued that the judgment should be read as a functional, competition-oriented distinction between the irrelevant creation of data in the strict sense (i.e. sole source data situations where the data themselves are *created* (‘made up’) by the manufacturer, typically in the context of another main activity) and the *relevant* obtainment of independently existing data by collection but also by measuring through sensors, weighing etc.<sup>7</sup>, have become accepted in German case law. Consequently, the German Federal Court of Justice<sup>8</sup> (*Bun-*

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3 Case C-203/02 *British Horseracing* EU:C:2004:695, paras 31–42.

4 Case C-444/02 *Fixtures Marketing v Organismos prognostikon* EU:C:2004:697, paras 40–53; Case C-46/02 *Fixtures Marketing v Oy Veikkaus AB* EU:C:2004:694, paras 34–49; Case C-338/02 *Fixtures Marketing v Svenska Spel AB* EU:C:2004:696, paras 24–37.

5 See Zech (n 2) 1157 et seq.; similarly the European Commission ‘Staff Working Document on the free flow of data and emerging issues of the European data economy’ SWD(2017) 2 final, 20.

6 See correctly Ehmann (n 2) 396.

7 See Leistner, ‘The protection of databases’ (n 2) 438; similarly, but more relying on the spin-off doctrine which was not really followed by the ECJ in *British Horseracing*, Ehmann (n 2) 397 et seq.

8 BGH in (2005) GRUR 857 (*HIT BILANZ*); cf also BGH in (2010) GRUR 1004 (*Autobahnmaut*): this case is remarkable insofar as it actually concerned a spin-off situation since the compiled and protected data on highway use in Germany had essentially been compiled for operating a highway charge system and not in order to produce a commercially exploitable database. Nonetheless, the

*desgerichtshof*; BGH) and (from this author's viewpoint) by implication also the European Court of Justice<sup>9</sup> have held in different factual settings that 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. Also, the investment intensive methodical or systematic structuring of raw data might be covered under the head of investments in the presentation of the contents of the database. Although arguably an area of legal uncertainty remains on the European level in respect of genuine spin-off-situations,<sup>10</sup> according to these established cases, many cases of sensor- or other machine-generated data should be covered by the sui generis right on the condition that the investments into measuring or otherwise obtaining verifying and presenting the data were substantial. Ultimately, this will hinge on a possible future judgment of the ECJ clarifying the reach of the *British Horseracing*-doctrine and its relationship to the spin-off doctrine in such cases, which, however, in the *British Horseracing*-judgment was still clearly rejected.<sup>11</sup>

Moreover, the majority of the existing literature<sup>12</sup> and case law<sup>13</sup> have interpreted the substantiality standard rather extensively, essentially speci-

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German Federal Court of Justice considered the investments into the obtaining of the data as relevant and affirmed sui generis protection for the resulting database. See critically Ehmann (n 2) 398.

9 *Verlag Esterbauer* (n 2).

10 In particular, this concerns cases where a machine 'produces', stores and transmits *real-time operational data* which is vital to the very functioning of the machine. In such cases, indeed, 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 situations, indeed, are situated on the thin red line between the *British Horseracing*-doctrine and the spin-off doctrine (which latter the ECJ essentially rejected). Hence, in such cases legal uncertainty prevails, until the ECJ further clarifies the scope of the sui generis right in a future judgment.

11 *British Horseracing* (n 3) para 35; see Leistner, 'Anmerkung zu EuGH, Urteil v. 9.1.2004 – Rs. C-203/02 (*British Horseracing*)' (2005) JZ 408, 409.

12 Derclaye, 'Database Sui Generis Right: What Is a Substantial Investment? A Tentative Definition' (2005) IIC 2, 20 et seq.; Leistner, 'Legal Protection for the Database Maker – Initial Experience from a German Point of View' (2002) IIC 439, 448 et seq.; id., 'The protection of databases' (n 2) 430.

fyng the criterion as a kind of *de minimis exclusion*. Indeed, aspects of legal certainty and effective harmonization support this rather extensive construction of the criterion. Recently, more voices in literature have argued that the criterion should be interpreted on the basis of a stricter, more specific and case-by-case based ‘market failure’-approach that would essentially ask whether the investment would not have been made in a specific case if there were no *sui generis*-protection<sup>14</sup>. Obviously, this individualized, ‘market failure’-approach would at the same time clearly embrace the spin-off-doctrine since in most spin-off-cases, where the database was created as a spin-off to another main economic activity, the criterion of market failure without database protection would not be fulfilled.<sup>15</sup> For the typical machine generated-data this would indeed reduce the relevance of *sui generis* protection in the future. However, while these approaches theoretically have some merit, it seems doubtful whether they can really be made operational in day-to-day court practice. In other words, while these approaches seem functional in theory, in practice they would put legal certainty at further risk in the field of database protection. Accordingly, the courts have not yet embraced these concepts – by contrast, for the moment being, the status quo of database *sui generis* protection is characterized by a rather low threshold of substantiality in case law.

## 2. Broad construction of the exclusive rights

Further, the exclusive rights under Art. 7(2) Database Directive, i.e. extraction and re-utilization, have been construed *broadly* in the ECJ’s case law. In fact, the exclusive rights will cover practices such as indirect extraction and even extraction for the compilation of substantially changed,

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13 See e.g. BGH in (2011) GRUR 724, para 18 (*Zweite Zahnarztmeinung II*); OLG Köln in (2007) MMR 443, 444 (*DWD-Wetterdaten*); AG Rostock in (2001) MMR 631, 632 (*Linksammlung als Datenbank*); with a tendency to stricter construction of the criterion: LG Köln in (2000) ZUM-RD 304, 306 (*Kidnet.de*).

14 Ehmann (n 2) 398; id., *Wettbewerbsfreiheit und Investitionsschutz für Datenbanken* (C.H. Beck 2011) 114 et seq.; already before in favour of stricter standards e.g. Westkamp, ‘Protecting Databases Under US and European Law – Methodical Approaches to the Protection of Investments between Unfair Competition and Intellectual Property Concepts’ (2003) IIC 772, 780 et seq.

15 Ehmann (n 2) 400.