

What is data ownership, and does it still matter under EU data law?

An exploration of traditional concepts of data ownership, and of the expected impact of the Data Act

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An introduction to data ownership concepts

1. Data ownership in open data ecosystems

The notion of ‘data ownership’ is often used as a convenient legal shorthand to describe that a certain party has a certain control over specific data. A typical example is its use in contracts for online services, where the user of the service is often reassured by the provider that they continue to “own” their data, usually without specifying what this ownership right entails exactly.

The actual meaning of data ownership is however not defined in any EU level legislation, nor is it clear what the scope of such an ownership right would be. There are many ways to examine data ownership from a legal perspective:

- From the perspective of **traditional civil law**, under which a person can own certain physical goods, or certain rights. In this context, ownership is often [understood as](#) an exclusive right of domination over a determined thing, allowing the owner to possess that thing, to enjoy its fruits and benefits, and to act with it as it please.
- From the perspective of **intellectual property law**, under which a person may not own the data as such, but instead own e.g. copyrights or database rights to the data.
- From the perspective of **fundamental rights, notably data protection**, under which a natural person has certain rights to data that identifies them or can otherwise be linked to them.
- From the perspective of **specific contextual legal frameworks** that protect a party against abuses in relation to their data, such as [competition law offering a certain degree of protection against dominant data monopolists](#), [data portability legislation for non-personal data](#), and [sector-specific data that ensures data access rights for certain purposes, such as repair rights](#).

No law however refers to “data ownership” as such, nor have there been any attempts to provide a definition of such a concept. This is not surprising, because traditional ownership of physical goods is mainly a useful concept due to the rivalrous, exclusive and exhaustible nature of a physical good: when one person holds it, another person cannot. This constraint does not apply to data: data is inherently **non-rivalrous, non-exclusive and inexhaustible**:

- An unlimited number of users can access data, even simultaneously, and use it in parallel, without impairing other users' ability to benefit from it. From that perspective, data is non-rivalrous.
- Furthermore, data is non-exclusive, because the use of data by others cannot be limited as soon as data is public.
- Finally, data can be copied at virtually no cost, and is not consumed or damaged by its use. It can be copied and analysed an indefinite number of times affecting its quality.

For these reasons, the application of an exclusive civil law notion of ownership is not as economically useful in relation to data. These characteristics of data are of course also critically important to open data ecosystems, which are based on the principle that value can be optimally extracted from data by making it available for reuse as openly as possible. Essentially, open data policy and open data legislation are based on the principle that data, because of its non-rivalrous, non-exclusive and inexhaustible character, is at its most valuable when it is not exclusively owned by any single party.

Recent European legislative initiatives, including in particular the [recently adopted Data Act](#), could have addressed this ambiguity by defining and regulating data ownership. Instead, the Data Act focuses much more on access and usage rights. This paper aims to briefly explore traditional ownership concepts of data, and the anticipated impact of the Data Act, including on open data ecosystems, in order to provide a better insight in this legislative choice, and to better understand the impacts on open data ecosystems.

2. Problem statement and structure of this research paper

There is no unambiguous concept of data ownership in Europe today, nor is it clear how the various existing ownership models should interact. More importantly, the Data Act does not regulate data ownership. Instead, the Act focuses on data *holders* (rather than data *owners*) and regulates data access and usage rights that third parties have in relation to the data held by data holders, irrespective of any real or claimed ownership rights.

The legal research paper aims to answer two research questions, examined in the two following sections of the paper:

- 1. What are the principal types of ownership rights that might be invoked outside the context of the Data Act, and what is their exact legal meaning?** This will require an examination of prior legislation that has attempted to address the issue of data ownership, at the EU level and at the national level (namely through interpretations of the concept of civil ownership of non-physical goods). The goal is to obtain an overview of the legal value and validity of ownership claims, and of the preconditions for making such claims.
- 2. What is the expected impact of the Data Act?** The Data Act aims to enhance the EU's data economy by making data, especially industrial data, more broadly accessible and usable. It strives to encourage data-driven innovation and increase data availability, and aims to improve fairness in allocating the value of data among actors in the data economy. Most importantly, it clarifies who can use what data, and under which conditions, including the right to demand access and usage rights from certain designated data holders. On these points, the Data Act provides a new layer of nuance to data ownership debates.

This legal research paper is **intended as a resource for data policy makers, data holders, and to the general public:**

- **Policy makers** will get a better understanding of the risks and opportunities of data ownership claims, and which legal risks and constraints to take into consideration.
- **Data holders** will get a better understanding of the legal claims that could be made under the Data Act, and how this may impact their activities.
- Inversely, the **general public** can learn which legal claims they might have under the Data Act in relation to data relating to them.

Collectively, the paper will provide an overview of the transition in EU data policy from a data ownership-based perspective to an access and usage rights perspective.

Can data be ‘owned’? A short summary

1. Traditional civil law ownership

Civil law ownership provisions are a matter addressed by national legislations, which are not harmonised at the EU level. For that reason, exhaustive overviews are difficult to obtain. Nonetheless, [multiple studies](#) have been [conducted](#) in Europe to examine the topic, and the collective conclusion is clear: when examining national legislation, jurisprudence and doctrine, the general conclusion is that existing legal concepts of ownership, as described in civil law codes, cannot be readily applied to data as such, and that data can thus in most Member States not subject to traditional property rights claims.

The principal driver behind this position is, as [argued in one study](#), that ownership rights imply a degree of exclusion, *“where the owner holds factual power over the owned thing that cannot be shared without impacting the original owner’s rights. Digital data lack this quality: since factual access to the data is sufficient to allow a recipient to take any action they desire without impacting in any way the factual power of the original holder, the ownership paradigm is not appropriate for digital data. Ownership cannot be readily applied in this perspective to goods that can be infinitely reproduced without necessarily creating any repercussions for the rights of the initial holder”*.

While counter positions were identified in some Member States (mainly driven by the argument that ownership can also exist for intangible rights such as intellectual property rights), this appears to be the minority position among the Member States.

Thus, the dominant perspective appears to be that data ownership is not a viable concept from a civil law perspective, at least not in most Member States. For that reason, the notion of data ownership is ambiguous as a legal concept, and often triggers more questions than it solves.

2. Intellectual property rights

A second and less legally controversial approach is not to examine the ownership of data as such, but to instead focus on intellectual property rights relating to that data. Intellectual property rights, after all, can be owned, traded and licensed, providing a viable legal model for data ownership and data exploitation.

As has been explored in a [prior legal paper](#), copyrights and database rights are the main relevant intellectual property rights relating to data. Copyrights generally apply when a work can be deemed original, in the sense that it can be considered an individual expression of its author(s). The legal basis for copyrights internationally is principally the 1886 Berne Convention for the Protection of Literary and Artistic Works; but at the EU level [more specific copyright law](#) exist. Database protection is somewhat more unique to the European context, and is based on the [Database Directive](#), which established that databases as such could qualify for copyright protection if they, by reason of the selection or arrangement of their contents, constitute the author's own intellectual creation. In the absence of such personal originality, no copyright applies.

Separately and more uniquely, the Database Directive established a so-called *sui generis* right – often simply referred to as database rights – for the makers of databases, irrespective of whether they qualify for copyright. The database right is granted automatically whenever the maker had to undertake a qualitatively and/or quantitatively substantial investment in either the obtaining, verification or presentation of the contents of the database. Through the database right, makers of databases can benefit from legal protections even when there is no particular originality to their work, but there was none the less a substantial investment involved in bringing it about.

The question then arises to what extent intellectual property rights apply to data as such, in particular for non-creative data that cannot be easily qualified as an 'original work'. This includes measured data, observed data, metadata, and any other kind of factual data that intends to capture an objective reality, devoid of significant creativity of any author.

With respect to copyrights, the answer is relatively straightforward: non-creative data does not show signs of originality from any author, and therefore the existence of any copyright is excluded in most cases. Protection by database rights is more plausible, since the creation of databases usually requires significant investment, which is the sole criterion for the applicability of database rights. However, the European Court of Justice has held that database rights do not apply to databases that are the simple by-products of the main activity of an organisation. For that reason, database rights normally would not apply to any databases created by public administrations or private companies that were merely necessary for their administration, products or services to function, , or which are automatically captured or machine-generated data (such as data from connected (Internet of Things – IoT) devices), since; and to the extent that, such data is principally a by-product.

The overall conclusion is that intellectual property rights can apply to data, but in many instances the legal threshold for the application of intellectual property rights is not met. In those instances, data ownership by proxy (via intellectual property rights rather than by owning the data as such) is not possible either.

3. Data protection law

The EU has developed an extensive legal framework for the protection of personal data. The right to data protection is recognised as a fundamental right in the [EU Charter of Fundamental Rights](#), and it

is further developed by specific legislation, including most notably via the well-known [General Data Protection Regulation](#) (GDPR).

The protection mechanisms that are granted by EU data protection law may, at first sight, have some characteristics of data ownership rights. The persons to whom personal data relates (the 'data subjects' under the GDPR) hold certain inalienable rights to their personal data, such as the right to information on how that data is being processed, the right to obtain a copy, and the right to have that data deleted or corrected. These rights apply irrespective of who holds the personal data, and in that sense, it might be tempting to consider data subjects as owners of their personal data – thus using data protection law as a legal platform for recognising certain data ownership rights.

However, this perspective is inaccurate for many reasons. First and foremost is the fact that data subject rights are not absolute. Beyond the predictable requirement of having to prove one's identity (to determine that the data indeed relates to a specific data subject), the GDPR recognises multiple exceptions to the exercise of these rights (e.g. copies of personal data may be denied if the relevant files also inevitably contain another person's personal data, and data deletion requests will be denied if there is a legal obligation to retain them, e.g. in the context of archiving obligations). Thus, as an ownership right, it would appear to be quite tightly circumscribed.

More importantly however, it has been repeatedly stressed by European data protection authorities that, like any other fundamental right, the right to data protection and the personal data themselves cannot be simply traded. The European Data Protection Board [recently noted](#) *“that data protection is a fundamental right guaranteed by Article 8 of the Charter, and taking into account that one of the main purposes of the GDPR is to provide data subjects with control over personal data relating to them, the EDPB reiterates that personal data cannot be considered as a “tradeable commodity”. An important consequence of this is that, even if the data subject can agree to the processing of his or her personal data, he or she cannot waive his or her fundamental rights.”* In a separate [joint opinion](#) from the European Data Protection Board and the European Data Protection Supervisor, they have noted that *“data protection is a fundamental right guaranteed by Article 8 of the Charter and personal data cannot be considered as a tradeable commodity”*.

Thus, while the right to data protection clearly grants data subjects a significant degree of control over their personal data, that control is not absolute, and should not be approached or interpreted as a data ownership right.

4. Regulated data access and usage rights as a nuanced evolution of data ownership concepts

The sections above have analysed the concept of data ownership from a rather naïve perspective, namely as an exclusive right to use, and control the use of, certain data. In practice, European legislation over the past few years has often adopted a much more nuanced approach, focusing on the right to access and use certain data for certain purposes described by law, without granting or defining ownership rights as such.

By way of examples, usage and access rights have been enshrined in:

- Banking legislation, through the [PSD2 Directive](#), which mandates making account data accessible through APIs to third party payment service providers and account information service providers (with the consent of the account holder).
- Energy legislation, through the [Energy Efficiency Directive](#), which mandates the use of intelligent metering systems (e.g. smart meters) to enhance energy saving and support the development of energy networks (smart grids).
- Automotive legislation, through the [Type Approval Regulation](#), which establish the rights to unrestricted and standardised access to vehicle repair and maintenance information to independent operators, in a non-discriminatory manner compared to the access granted to authorised dealers and repairers.
- Chemical safety legislation, through the [REACH Regulation](#), which requires the sharing of data in the case of registered substances and in relation to tests, to avoid needless duplication;
- Medical research legislation, through the [Clinical Trials Regulation](#), which requires registration of certain data in a central Clinical Trials Information System, where it can be accessed by other stakeholders.

In all of these instances, the need for controlled data access and usage rights has been addressed not by granting, scoping or mitigating data ownership rights, but by directly regulating which data must be available and usable, to whom, and for which purposes.

Given that this approach allows for a more balanced consideration of the interests of different stakeholders, it is perhaps unsurprising that the Data Act principally follows this logic too, as will be discussed in the next section.

The Data Act – a more coherent perspective on data access and usage

1. Central strands of the Data Act

As noted in the introduction, the [Data Act](#) generally aims to enhance the EU's data economy and foster a competitive data market by making certain data more accessible and usable. To do so, it does not focus on any concept of data ownership, but intervenes in several key areas, five of which are particularly important for this paper:

- Chapter II of the Data Act introduces rules on business-to-business and business-to-consumer data sharing **in the context of the Internet of Things (IoT)**. Users of IoT objects can access, use and port data that they co-generate through their use of a connected product. In other words, if an IoT object automatically creates or collects data as a consequence of its normal use, the user is considered a co-generator of that data, and is granted certain rights in relation to that data.

To achieve this goal, the Act introduces the notion of a 'data holder', which is defined in Article 2 (13) as *"a natural or legal person that has the right or obligation, in accordance with this Regulation, applicable Union law or national legislation adopted in accordance with Union law, to use and make available data, including, where contractually agreed, product data or related service data which it has retrieved or generated during the provision of a related service"*.

Thus, as will be further explored below, a data holder doesn't have any exclusive rights to control the data (unlike most of the ownership concepts discussed above). Rather, the definition is linked solely to an entity's legal right or obligation to "use and make available" data.

By way of clarification, the definition notes that it also applies to *"product data or related service data which [the data holder] has retrieved or generated during the provision of a related service"*, if this has been contractually agreed. These notions link the concept of data holders to connected products such as IoT devices. Simplifying somewhat¹, product data roughly corresponds to data generated by IoT devices in a way that's intended to make that

¹ Product data is formally defined in Article 2 of the Data Act as *"data generated by the use of a connected product that the manufacturer designed to be retrievable, via an electronic communications service, physical connection or on-device access, by a user, data holder or a third party, including, where relevant, the manufacturer"*; and related service data is defined in the same Article as *"data representing the digitisation of user actions or of events related to the connected product, recorded intentionally by the user or generated as a by-product of the user's action during the provision of a related service by the provider"*.

data retrievable; and related service data relates to user created or user generated data in an IoT device.

The Data Act aims to strengthen business-to-business and business-to-consumer data sharing, not by introducing any ownership right, but by granting users of IoT devices specific rights in relation to the data holders. If the user would like to share their IoT data (specifically product data and related service data) with another party (e.g. with another service provider), they must be able to do so directly, or may be required to ask the data holder to share it on their behalf. The data holder must ensure that they have a contract with the user that clarifies the user's rights in relation to the access, use and sharing of the IoT data.

- Chapter III of the Data Act introduces rules on **mandatory business-to-business data sharing**. The goal here is not to create a new data sharing obligation for data holders, but rather to define a standard set of requirements that can be made applicable wherever a data holder is obliged by law (the Data Act or any other law, such as the examples mentioned above), to share data with another business.

As a part of these requirements, charging mechanisms are defined, which can include costs incurred for making the data available, and the costs related to dissemination and storage.

- Chapter IV of the Data Act introduces rules on **unfair contractual terms in business-to-business relationships**. Again, no new data sharing obligation is created; but when data sharing agreements are concluded between two businesses, these will have to meet certain fairness requirements.

This is done firstly by defining a general criterion to determine unfairness (a contractual term is unfair *“if it is of such a nature that its use grossly deviates from good commercial practice in data access and use, contrary to good faith and fair dealing”*); and secondly by providing a list of clauses that are always considered unfair, and a list of clauses that are presumed unfair (but for which the business that imposed the term can try to demonstrate that the term is not unfair). Unfair clauses are deemed non-binding on the victim.

- Chapter V of the Data Act introduces rules on **business-to-government** data sharing. This obligation is a solution for so-called situations of exceptional need (such as pandemics or disasters), where a public sector body requires access to data that is held by a private sector data holder (e.g. on the safety characteristics of products, the prevalence of certain problems, likely developments in the absence of new actions, etc.).

In these instances, public sector bodies are allowed to force a data holder to make available certain data without undue delay. The requests must respect a number of requirements defined by the Data Act. For example, requests must be specific, transparent, and proportionate, trade secrets must be protected, and the data must be deleted once it is no longer needed.

- Finally, Chapter VI of the Data Act introduces rules on **switching between data processing services**. The provision applies in particular to providers of cloud and edge computing services, who are required to meet certain minimum requirements to facilitate interoperability and enable their customers to switch to a competitor.

As a general principle, switching should be possible without losing any data or the functionality of applications (provided of course that competitors can support these); and providers are at any rate required to remove obstacles that customers may face when they want to switch to another provider, and eliminate switching charges.

2. Impacts on data ownership rights

While the impacts of the Data Act are broad and varied, the obligations do follow a clear pattern. In all instances, the problem that the Data Act tries to resolve is linked to a specific party (the data holder) that has the legal ability to decide on access and usage rights over specific data, in a manner that can unreasonably harm the interests of their customer, or the general public.

When markets are perfectly competitive, these kinds of problems are typically resolved by simply choosing another data provider with more reasonable terms and practices; no regulatory intervention is necessary. But as the [impact assessments for the Data Act](#) showed, the problem is that often competition is not reasonably available. Often there is no competitor with substantially similar products or services; and in other cases lock-in effects occur where competitors do exist, but a data holder does not cooperate in handing over the customer's data. The provider holds data hostage, thus making a switch economically unviable.

The Data Act does not resolve these issues by defining or regulating data ownership (e.g. by granting data ownership rights to the customer, or by limiting data ownership rights of the data holder) – indeed, recital (25) of the Data Act explicitly notes that *“This Regulation should not be understood to confer any new right on data holders to use product data or related service data”*.

Rather, it tackles the problem by defining specific access and usage rights that can be exercised towards data holders (or in the case of the fairness clauses, by defining which constraints on access and usage rights are unlawful). This is effective, because the problem is not created by any ownership claims from data holders, but rather by unfair or unbalanced practices in the market. In that sense, targeting these practices directly is a more efficient option than trying to shoehorn the approach into a theoretical data ownership paradigm.

3. Are there “open data holders” under the Data Act?

Intriguingly, the Data Act does not reference open data or public sector information, with one small exception: recital (70) notes that, when a public sector body applies its Chapter V right to claim private sector data in situations of exceptional need, that data should not be considered as open data available for reuse by third parties (other than for the creation of official statistics). In other words:

when a government requires a private company to hand over certain data in order to mitigate a crisis, that data can thereafter not be demanded to be made available for reuse under the Open Data Directive or its national transpositions.

Apart from that single reference, the context of open data or public sector information is not addressed in the Data Act. This is not surprising, since the Data Act generally aims to make data more accessible and usable. This issue does not apply to the open data context, where data is by definition required to be made available with as few constraints as possible.

It is worth noting though that, since the definition of a data holder in the Data Act is so broad, a public sector body holding certain public sector data within the scope of the Open Data Directive must be considered a data holder as well, and thus also fall within the scope of the Data Act. However, if that public sector body chooses to make that data available as open data, it will not incur any new obligations or burdens under the Data Act. This is logical, since in that case, there is no unwilling or unfair data holder that should be coerced to hand over its data to a user – an open data policy inherently satisfies the objectives and the legal obligations of the Data Act.

Overall conclusion on data ownership

As this report shows, data ownership is an inherently problematic concept from a legal perspective: it is not defined or regulated at the EU level, nor is there a common understanding in legal literature. This can be explained by the non-rivalrous, non-exclusive and inexhaustible nature of data: data can be accessed and reused by any number of parties without inherently diminishing the possibilities of other parties. This implies that an ownership paradigm, where the rights to reap the fruits of the data are allocated to one or multiple parties exclusively, inevitably causes needless harm.

Moreover, data ownership is a concept that lacks nuance. The essential question for data is not who owns it (if anyone), but who has the right and ability to access and use it. This is the central point of the Data Act, which does not aim to introduce a common concept of data ownership, but rather focuses on data holders, and on granting certain access and usage rights in relation to those data holders. This is a situation that has also long been embraced by the open data community, which recognises that optimal value creation from data can often be created by ensuring free availability and reuse, without focusing on, or attempting to resolve, any question of data ownership.

The Data Act is clearly the most recent and largest scale EU level attempt to streamline access and usage rights in a more consistent and homogenous way, following in the footsteps of several smaller scale and sector specific initiatives that also focused on access and usage rights, rather than on data ownership. The Data Act tries to achieve this goal by targeting data holders, and by limiting the unfair power that certain data holders presently occasionally hold.

It remains to be seen how big its impact will be in practice, given that it will only become applicable on 12 September 2025. However, based on the findings of this research paper, its focus on access and usage rights in relation to data holders rather than on data ownership clearly seems to be the wise choice.

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