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SPECIAL ISSUE

THE IMPACT OF INTELLECTUAL PROPERTY PROTECTION ON THE EU'S RIGHT TO REPAIR[1]

Abstract

The shift from a linear (take-make-consume-dispose) to the of the circular economy (CE) has been widely recognised as a key driver ecological sustainability. Contrary to linear business models, the CE aims to restore and regenerate resources and is characterised by a certain number of 'circular operations'; incl. repair and maintenance. As a circular operation, repair and maintenance play an important role as it aims to extend a product's lifespan, resulting in less waste. However, repair can be obstructed by a number of material and legal barriers, which become more and more pronounced with the computerisation of products. For this reason, the so-called 'Right to Repair' movement has become increasingly popular in recent years. Intellectual Property (IP) rights and trade secrets are among the barriers identified to repair and to circularity in general. With the exception of a specific intervention in design law, no changes to European Union (EU) IP legislation have been proposed to support (independent) repair services. Instead, the EU is facilitating the transition from a linear to a circular economy through other initiatives in EU consumer, product design, competition and data governance legislation. Rights and obligations under these instruments create together a right to repair *sensu lato*. The contribution investigates the relationship between selected instruments expressing a right to repair *sensu lato* and EU IP rights.

To do this, the contribution first summarises how IP rights can serve as barriers to material and legal access to essential repair commodities. Essential repair commodities are defined as hardware (affordable spare parts and repair and maintenance tools), software and repair information. It then continues to describe provisions materialising the right to repair *sensu lato*. The selected instruments are Directive (EU) 2024/1799 on common rules on the repair of goods, Regulation (EU) 2024/1781 establishing a framework for the setting of ecodesign requirements for sustainable products, and Regulation (EU) 2023/2854 on harmonised rules on fair access to and use of data. For each instrument, the contribution scrutinises the scope of provisions that facilitate repair and their limitation. I further address the interaction between (*i.*) the instruments in themselves; and (*ii.*) EU IP rights. The contribution summarises its research results in a final, conclusionary chapter.

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[1] This article translates and builds upon the research results in 'Friends or Foes – Het Recht op Reparatie sensu lato en de Interactie met Intellectuele Eigendomsrechten in de Europese Unie' (2025) DCCR 3-34 (only available in Dutch).

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SUMMARY

1 Introduction

Contemporary products are becoming increasingly complex. While a vacuum cleaner in previous decades consisted mainly of physical components or hardware, modern models are now frequently operated via software 'embedded' or integrated directly into the product. At times, they are even 'smart', equipped with sensors and integrated software that allow them to collect and process information. This data can then be transmitted via an internet connection to other devices—an interconnected system commonly referred to as the 'Internet of Things'. One example of this is a link to a mobile application that notifies you when it's time to replace or service specific components.

The increasing technological complexity of products poses significant challenges for maintenance and repair operations, aimed at maximising their lifespan. In practice, however, a variety of legal and material obstacles continue to hinder a meaningful shift from product replacement towards repair. These obstacles have fuelled the emergence of a socio-legal movement referred to as the 'right to the repair' movement.[2] The conceptual scope of this 'right to repair' differs in literature.[3] This contribution interprets the right to repair according to the majority opinion, which argues that an effective right to repair must allow for competition in the repair and maintenance market.[4] Using this definition, an effective right to repair requires (independent) repairers to have access to a number of 'commodities'. These 'essential repair commodities' are set out in Section 1 below.

Obstacles to repair also impede an effective shift to a Circular Economy (CE), in which repair and maintenance are key operations.[5] This CE-transition is clearly supported by EU

[2] Aaron Perzanowski, The Right to Repair: Reclaiming the Things We Own (1st edn, Cambridge University Press 2022).
[3] For an overview, see Elias Van Gool, 'Product Liability in a More Circular Economy' (doctoral dissertation, KU Leuven and Université de Lille 2024) para 87.
[4] See for example Evelyne Terryn, 'A Right to Repair? Towards Sustainable Remedies in Consumer Law' (2019) 27 European Review of Private Law 851; 'A European "Right to Repair": Yes! But How (Far)?' (Faculteit Rechtsgeleerdheid en Criminologische Wetenschappen) < https://shorturl.at/w0DaB > accessed 11 July 2025; Aaron Perzanowski, The Right to Repair: Reclaiming the Things We Own (1st edn, Cambridge University Press 2022).
[5] ibid, 8. See also European Commission, 'Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on A New Circular Economy Action Plan For a Cleaner and More Competitive Europe' (2020) COM(2020) 98 final 6, 7 and 10; Ellen MacArthur Foundation, 'The Technical Cycle of the Butterfly Diagram' (23 May 2022) <https://www.ellenmacarthurfoundation.org/articles/the-technical-cycle-of-the-butterfly-diagram> accessed 7 May 2025.

policy, most prominently in the European Green Deal.[6] Accordingly, the EU is seeking to address shortcomings in the current repair and maintenance market which fail to sufficiently incentivise consumers to opt for repair over replacement.[7] The European Commission's (Commission) Impact Assessment accompanying the proposal for Directive (EU) 2024/1799[8] identifies the various factors that influence such consumer decisions. Within the legal guarantee period, the previous version of the Sale of Goods Directive[9] placed repair and replacement on an equal footing.[10] This resulted in 65% of consumers choosing replacement over repair in case of a lack of conformity.[11] Outside the legal guarantee period, factors such as the cost of repair[12], specific burdens[13], supply-related problems and technical limitations[14] discourage consumers from choosing repair. Intellectual Property (IP) rights influence many of these factors, as well as the general availability[15] of 'essential repair commodities'[16], in particular for independent aftermarket players.[17] However, there are no changes to EU IP law aimed at supporting the repair market except for the design clause in EU design law.

[6] European Commission, 'Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on the European Green Deal' (2019) COM(2019) 640 final 7-10.

[7] This prevailing trend of *replacing* (complex) products aligns more with a linear economic model that encourages the premature disposal of otherwise functional goods.

[8] European Commission, SWD Impact Assessment Accompanying the document Proposal for a Directive of the European Parliament and of the Council on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394, Directives (EU) 2019/771 and (EU) 2020/1828 2023 [SWD(2023) 59 final].

[9] Directive (EU) No 2019/771 of the European Parliament and of the Council of 20 May 2019 on certain aspects concerning contracts for the sale of goods, amending Regulation (EU) 2017/2394 and Directive 2009/22/EC, and repealing Directive 1999/44/EC (2019) OJ L136/43 (Sale of Goods Directive).

[10] Recital 48 and Art 13 Sale of Goods Directive.

[11] European Commission, SWD Impact Assessment Accompanying the document Proposal for a Directive of the European Parliament and of the Council on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394, Directives (EU) 2019/771 and (EU) 2020/1828 2023 [SWD(2023) 59 final] 196 14.

[12] The price of repair if often relatively higher than that of replacement, a disparity shaped by multiple interrelated factors. These factors include: the availability and accessibility of repair and maintenance services and therefore the degree of competition within the repair market; the price and availability of spare parts (particularly in the context of complex products); the increased technical complexity of products, largely driven by evolving design practices. An enhanced competition in complex products' aftermarkets can pressure repair prices downwards however, such competition can be restrained or restricted by manufacturers, *inter alia* based on their IP Rights and TSs.

[13] Including the labour-intensive nature of repair processes, the inconvenience for the consumer of losing material ownership of the product for an extended period, and the transport or logistical costs associated with repair and maintenance activities.

[14] These may include product design by the manufacturer that prevents or makes repair more difficult such as: the difficulty or denial of access to information necessary for repair on the one hand, and the lack of access to necessary data and e.g. software updates on the other hand (see SWD Impact Assessment Accompanying the document Proposal for a Directive of the European Parliament and of the Council on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394, Directives (EU) 2019/771 and (EU) 2020/1828, EUROPEAN COMMISSION, 22 March 2023, SWD(2023) 59 final, 17).

[15] Availability is defined in a broad way for the purposes of this contribution, including effective, 'material' access to the commodities in question, but also mor generally 'legal' access (i.e., the ability to use the commodities without infringing upon someone's third party rights).

[16] 'Essential repair commodities' are understood as hardware (such as spare parts and repair tools), software and repair information.

[17] See, among others, Shahrzad Manoochehri and others, 'An Overview of Europe's Repair Sector' (2022) 17; Aaron Perzanowski, *The Right to Repair: Reclaiming the Things We Own* (1st edn, Cambridge University Press 2022); Taina Pihlajarinne, 'Repairing and Re-Using from an Exclusive Rights Perspective: Towards Sustainable Lifespan as Part of a

Instead, the EU legislator has adopted a consumer- and product-design-oriented approach. The most prominent of these initiatives is the recently adopted Directive (EU) 2024/1799[18] on common rules for the promotion of the repair of goods (Right to Repair Directive or R2RD), which formally introduces the notion of a consumer 'right to repair' in EU law. That said, other EU legislation also influences access to (independent) repairers. The contribution therefore speaks of a 'right to repair *sensu lato*', which will be further conceptualised in section 3.

This observation underwrites the relevance of the main research question: How do European intellectual property rights interact with the right to repair *sensu lato* as expressed in Directive 2024/1799, Regulation 2024/1781 and chapter II Regulation 2023/2854? To answer this question, the contribution is sub-divided into two sections. Section 2 highlights how IP rights can intervene with (independent) repair and maintenance market. It focusses on four types of IP protection: copyright, design, patent and trade mark law.

Section 3 scrutinises a selection of EU laws aimed at materialising a 'right to repair' *sensu lato*[19], in particular: the aforementioned R2RD, Regulation (EU) 2024/1781[20] (ESPR) and Chapter II of Regulation (EU) 2023/2854[21] (Data Act). The analysis focusses on their scope and their interplay with IP rights. The contribution only discusses those provisions that further impact material and legal access to affordable repair and maintenance services.[22]

New Normal?' in Ole-Andreas Rognstad and Inger BØrstavik (eds), *Intellectual Property and Sustainable Markets* (Edward Elgar Publishing 2021); European Commission. Directorate General for Communications Networks, Content and Technology. and others, 'Study to Support an Impact Assessment on Enhancing the Use of Data in Europe.' (Publications Office 2022) 270-271.

[18] Directive (EU) No 2024/1799 of the European Parliament and of the Council of 13 June 2024 on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394 and Directives (EU) 2019/771 and (EU) 2020/1828, *OJ L* 10 July 2024.

[19] See *infra* sub-section 3 for an introduction to this concept.

[20] Regulation (EU) 2024/1781 of the European Parliament and of the Council of 13 June 2024 establishing a framework for the setting of ecodesign requirements for sustainable products, amending Directive (EU) 2020/1828 and Regulation (EU) 2023/1542 and repealing Directive 2009/125/EC (2024) OJ L (Ecodesign for Sustainable Products Regulation or ESPR).

[21] Regulation (EU) 2023/2854 of the European Parliament and of the Council of 13 December 2023 on harmonised rules on fair access to and use of data and amending Regulation (EU) 2017/2394 and Directive (EU) 2020/1828 (2023) OJ L (Data Act).

[22] Other EU legislation such as Directive (EU) 2016/943 of the European Parliament and of the Council of 8 June 2016 on the protection of undisclosed know-how and business information (trade secrets) against their unlawful acquisition, use and disclosure and other consumer law is not addressed. See, in particular: European Commission Proposal for a Directive on the substantiation and communication of explicit environmental claims (2023) [COM(2023) 166 final] (Green Claims Directive), for which the Council voted its position for its negotiating mandate on 17 June 2024; Directive (EU) No 2024/825 of the European Parliament and of the Council of 28 February 2024 amending Directives 2005/29/EC and 2011/83/EU as regards empowering consumers for the green transition through better information and through protection against unfair practices (2024) OJ L; Directive (EU) No 2011/83 of the European Parliament and of the Council of 25 October 2011 on consumer rights, amending Council Directive 93/13/EEC and Directive 1999/44/EC of the European Parliament and of the Council and repealing Directive 85/577/EEC and Directive 97/7/EC of the European Parliament and of the Council (2011) OJ L304/64.

2 An overview of Intellectual Property limitations on the repair and maintenance market

IP rights are exclusive rights[23], empowering their holders to restrict certain acts on or with the protected subject matter. This exclusivity necessarily impacts independent players, hindering their access to certain essential commodities for repair and maintenance. As discussed in footnote 16, these commodities include material and legal access to technical repair information, affordable spare parts, integrated software and on-board systems, as well as product-generated data. The impact of the selected IP rights on these commodities is outlined in sub-sections 2.1 to 2.3. The contribution distinguishes between three different kinds of repair commodities: hardware, software and repair information.[24]

2.1 Intellectual Property Protection and Hardware

The Commission has identified the price and availability of spare parts as an important barrier for effective repair and maintenance.[25] This can be influenced by IP protection on (aspects of) the products and/or the part in question, among other factors.[26]

The design of spare parts may be protected under national or EU[27] design law. Design law historically recognised the impact of design rights on the availability and price of spare parts within the repair and maintenance market. In an attempt to limit anticompetitive effects, the Community Design Regulation[28] (CDR) introduced a limitation to design rights on components of complex products used solely for repair purposes. Following a turbulent legislative process[29], the recently published Design Directive

[23] Protected under Art 17.2 of EU Charter of Fundamental Rights.
[24] Note that the overview below represents a high-level overview. For a more extensive, all-encompassing discussion, see Aaron Perzanowski, 'Repair and Intellectual Property', *The Right to Repair: Reclaiming the Things We Own* (1st edn, Cambridge University Press 2022); Manon Vanderhaeghe and Jozefien Vanherpe 'The "right to repair" in the European Union: considerations from an EU intellectual property perspective' in Dorothy Gruyaert (ed), *Sustainability, law and criminology – provoking a sustainability reflex in (future) lawyers and criminologists* (Intersentia 2025) 475-503.
[25] M Shahrzad Manoochehri and others, 'An Overview of Europe's Repair Sector' (2022) 17.
[26] Dana Beldiman and Constantin Blanke-Roeser, 'European Design Law: Considerations Relating to Protection of Spare Parts for Restoring a Complex Product's Original Appearance' (2015) 46 IIC 915-919.
[27] Up until 1 May 2025, this was referred to as 'Community' protection under the previous version of Council Regulation (EC) No 6/2002 on Community Designs (2002) OJ L3/1 (Community Design Regulation or CDR).
[28] CDR, Art 110. Aimed at the harmonisation of national design laws, Directive (EC) 98/71 of the European Parliament and of the Council of 13 October 1998 on the legal protection of designs (1998) OJ L289/28, Art 14 (Design Directive or DD) did not contain a similar provision, but adopted a compromise in which members states were not required to amend their national design laws to include a similar 'repair clause' as under the Community Design Regulation but when it would change their corresponding national provisions, it could only have the effect of favouring the liberalisation of the spare part market.
[29] Which is does not fall under the scope of the article. For an overview of the legislative history of the repair clause, see *inter alia* Joseph Drexl, Reto M Hilty and Annette Kur, 'Design Protection for Spare Parts and the Commission's Proposal for a Repairs Clause' (2015) 46 IIC 915-919; David Stone, *European Union Design Law: A Practitioners' Guide* (2nd edition, Oxford University Press 2016) 481-468.

(recast)[30] and the amended EU Design Regulation[31] now introduce such a (permanent) limitation for users[32] of form-dependent components of complex products.[33] As noted in the impact assessment accompanying the R2RD, this legislative change is considered a key driver of product repairability in the EU from a supply-side perspective, alongside measures introduced under the ESPR.[34]

That said, its conceptual scope is narrow. First, the limitation only applies to *form-dependent* components of complex products. This requirement deviates from the accepted standard established by the Court of Justice of the European Union (CJEU), which clarified that 'the protected design's dependence upon the appearance of the complex product' is not one of the conditions of the old repair clause in the CDR.[35] An explicit reference to form-dependency would prevent manufacturers of items such as wheel trims[36] to rely on the repair clause as a defence for infringement. Second, the use of the component must be *necessary* for repairing the complex product.[37] Third, the alleged infringer invoking the defence must comply with two obligations with regard to downstream users. Specifically, the repairer must (*i.*) inform users of the origin of the spare part, i.e. the identity of the manufacturer[38] and (*ii.*) respect the duty of care, ensuring through appropriate measures that users will only use the spare part for repair

[30] Directive (EU) No 2024/2824 of the European Parliament and of the Council of 23 October 2024 on the legal protection of designs (recast) (2024) OJ L (DD recast).

[31] The CDR, amended by Regulation (EU) No 2024/2822 of the European Parliament and of the Council of 23 October 2024 amending Council Regulation (EC) No 6/2002 on Community designs and repealing Commission Regulation (EC) No 2246/2002 (2024) OJ L (Amending Regulation).

[32] Note that the term 'use' is interpreted broadly. Under the DD recast, Art 12(1) and the CDR, Art 19(1), it was defined as "the making, offering, putting on the market, importing, exporting or using of a product in which the design is incorporated or to which it is applied, or stocking such a product for those purposes" (see also joined cases C-397/16 and C-435/16 *Acacia srl v Pneusgarda Srl/Audi AG* and *Acacia Srl/Rolando D'Amato v Dr. Ing. h.c. F. Porsche AG* (2017) ECLI:EU:C:2017:992 para 68. Under the DD recast and the EUDR, 'use' further also explicitly includes the (*i.*) stocking of a product for such purposes and (*ii.*) creation, download, copying and sharing or distribution of a medium or software which records the design for the purpose of enabling a protected product to be made (for 3D printing purposes) (DD recast, Art 16(1)(c) and (d) and Amending Regulation, Art 1(17)).

[33] Art 19 DD recast and Art 20a EUDR (inserted by Art 1(18) Amending Regulation).

[34] SWD Impact Assessment Accompanying the document Proposal for a Directive of the European Parliament and of the Council on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394, Directives (EU) 2019/771 and (EU) 2020/1828, EUROPEAN COMMISSION, 22 March 2023, SWD(2023) 59 final, 4.European Commission SWD Impact Assessment Accompanying the document Proposal for a Directive of the European Parliament and of the Council on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394, Directives (EU) 2019/771 and (EU) 2020/1828 (n 15) 4.

[35] Joined cases C-397/16 and C-435/16 *Acacia srl v Pneusgarda Srl/Audi AG* and *Acacia Srl/Rolando D'Amato v Dr. Ing. h.c. F. Porsche AG* (2017) ECLI:EU:C:2017:992 para 34.

[36] Which was the protected subject-matter in the *Acacia* case law (ibid).

[37] In other words: without the component part, normal use of the complex product would not be possible. For an extended analysis of the conceptual scope of 'normal use', see Hendrik Vanhees, 'Wanneer is er nu juist sprake van een onderdeel in het modellenrecht, wanneer zijn de kenmerken van een onderdeel zichtbaar en wanneer is er sprake van normaal gebruik van het samengestelde voortbrengsel?' (2024) 28 17-30 (only available in Dutch).

[38] European Parliament 'European Parliament legislative resolution of 14 March 2024 on the proposal for a regulation of the European Parliament and of the Council amending Council Regulation (EC) No 6/2002 on Community designs and repealing Commission Regulation (EC) No 2246/2002' (2024) P9_TA(2024)0164 Art 1(16) (EP Resolution Amending Regulation); European Parliament 'European Parliament legislative resolution of 14 March 2024 on the proposal for a directive of the European Parliament and of the Council on the legal protection of designs (recast)' (2024) P9_TA(2024)0165 Art 16(2) (EP Resolution DD recast).

purposes.[39] Lastly, the repaired product must have an identical visual appearance to the original complex product. In other words, the allegedly infringing part and the original part must be identical.

The application of this last requirement may be challenged if the part in question incorporates a trade mark. In that scenario, an independent actor (e.g. a spare part manufacturer) is 'stuck' between trademark and design protection. On the one hand, it cannot incorporate a sign confusingly similar or identical to the trade mark without committing a trade mark infringement.[40] On the other hand, failing to include the trade mark may undermine the requirement of visual identity of the repair limitation.

(Parts of) spare parts can also fall under patent protection[41] if they are new, inventive and industrially applicable.[42] In such cases, independent manufacturers and suppliers of non-original spare parts commit a patent infringement when they make or import spare parts without obtaining an authorisation from the patent holders. In the case of original second-hand parts, the principle of exhaustion applies, unless a further modification takes place. If such a modification is applied, patent infringement could still occur whenever it can be qualified as 'remanufacturing'.[43]

The previous considerations regarding spare parts also apply to the protection of the product to be repaired in itself. Repairing a patented product as such may pose a risk of patent infringement. The risk not only affects independent repairers, but also to the manufacturers and suppliers of non-patented spare parts or repair tools. The former may infringe a product patent if the repair amounts to remanufacturing. If not, EU patent law accepts that patent rights on that specific product are exhausted, thereby allowing independent repair and maintenance.[44] However, the point at which legitimate repair becomes illegitimate remanufacturing is not clearly or uniformly defined.[45] While both concepts are now clearly defined within the ESPR[46], European patent courts apply different criteria.[47]

[39] This requirement however does not amount to warranty from the part of the alleged infringer. See EP Resolution Amending Regulation, Art 1(17) and EP Resolution DD recast, rec 35 *juncto* Art 19(2).
[40] There is no similar 'repair' defense in EU trade mark law. This has been further confirmed in case C-334/22 *Audi AG v CQ* (2024) ECLI:EU:C:2024:76.
[41] Within the EU, this can be either national or, since 1 June 2023, unitary patent protection.
[42] European Patent Convention (EPC), Art 52(1).
[43] See below for a more detailed analysis.
[44] See, *inter alia*, Niels Hölder, 'Contributory Patent Infringement and Exhaustion in Case of Replacement Parts - Comment on a Recent Supreme Court Decision in Germany' (2005) IIC 889; Christopher Heath, 'A Three-Step Test for Determining Patent Infringement Related to Repair' (2024) 55 IIC 762, B Whitehead and R Kempner, 'Manufacture or Repair?' (2011) 6 Journal of Intellectual Property Law & Practice 9; Klaus Haft and others, 'Die Erschöpfung von Rechten des Geistigen Eigentums in Fällen des Recyclings oder der Reparatur von Waren (Q 205)' GRUR International (2008) 944.
[45] ibid.
[46] ESPR, Art 2(16) and (20). See below for the description of the scope of repair provisions within the ESPR.
[47] In their analysis of relevant European jurisprudence, R.M. Ballardini, I. Flores Ituarte and E. Pei distinguish four criteria that are usually taken into account when analysing repair *versus* remanufacturing: (1) the extent to which the technical effects of the invention are embodied by the component to be replaced; (2) the need to repair the product; (3) the extent of the repair compared to the manufacturing process of the original product; and (4) the extent to which the repaired part competes with the original parts (Rosa Maria Ballardini, Iñigo Flores Ituarte and Eujin Pei, 'Printing

Furthermore, manufacturers of non-patented spare parts or repair tools can be prosecuted for indirect patent infringement. Such infringement exists where an entity (*i.*) offers means relating to an essential element of the invention *and* (*ii.*) where it should have known that these means are suitable and intended for putting that invention into effect.[48]

In addition to patent and design rights, (parts of) complex products and spare parts can further be protected by copyright if the shape of a utilitarian product is not solely defined by its technical function and is original.[49] Reproducing and commercialising original elements of that shape would then constitute a copyright infringement. Trademark law can further also affect the trade of repaired products.[50]

2.2 Intellectual Property Protection and Software

In recent years, the hardware of complex products is often equipped with and/or driven by 'on-board computer systems' and 'embedded software'. Access to such software is often required for an (independent) repairer to perform repair and maintenance tasks.[51] However, software is eligible for copyright protection within the EU. This enables the copyright holder[52] to prevent third parties from reproducing, altering (including translation or adaptation) or distributing the software.[53] For historical reasons[54], the Software Directive[55] and EU copyright law *sensu stricto*[56] allow the introduction of Technological Protection Mechanisms (TPMs) to prevent third parties from accessing protected works.[57] Circumventing such TPMs or circulating means for circumventing them

Spare Parts through Additive Manufacturing: Legal and Digital Business Challenges' (2018) 29 Journal of Manufacturing Technology Management 958).

[48] Agreement on the Unified Patent Court (2013) OJ C175/1 Art 16 (UPCA).

[49] Case C-833/18 *SI/Brompton Bicycle Ltd v Chedech/Get2Get* ECLI:EU:C:2020:461 paras 33 and 35.

[50] For an overview of the problematic interaction between the resale of repaired products bearing a trade mark, see Annette Kur, '"As Good as New" – Sale of Repaired or Refurbished Goods: Commendable Practice or Trade Mark Infringement?' (2021) 70 GRUR International 228; Simon Geiregat, 'Trading Repaired and Refurbished Goods How Sustainable Is EU Exhaustion of Trade Marks?' (2023) 73 GRUR International 287.

[51] Sarah Kessler, 'The Connected Car of the Future Could Kill off the Local Auto Repair Shop' (*Quartz*, 5 September 2017) <https://qz.com/1054261/the-connected-car-of-the-future-could-kill-off-the-local-auto-repair-shop> accessed 7 February 2024.

[52] Usually, the original manufacturer of the complex product, as economic rights will oftentimes be transferred to the company in the case of an employer-employee relationship.

[53] Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs (2009) OJ L111/16, Art 4(1). The Software Directive refers to 'computer programs' instead of 'software'.

[54] For an overview of the legislative history and *ratio legis* for the protection of TPMs, see Anthony D Rosborough, 'Unscrewing the Future: The Right to Repair and the Circumvention of Software TPMs in the EU' (2020) 26 JIPITEC 26 paras 32-52.

[55] Directive (EC) 2009/24 of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs (2009) OJ L111/1 (Software Directive).

[56] Directive (EC) No 2001/29 of the European Parliament and of the Council of 22 May 2001 (2001) OJ L167/10 (InfoSoc Directive).

[57] Software Directive, Art 7(1)(c) and InfoSoc Directive, Art 6(1).

is also illegitimate under these provisions.[58] The rightsholder can prevent such circulation as well, irrespective of a subsequent illegitimate use of the protected work.

European patent law excludes patent protection for computer programs *per se*.[59] However, software can be considered a patentable invention if the applicant can demonstrate a further technical effect.[60] Specifically, the grant of method patents that can be executed on a computer will not be refused based on a lack of technical character.[61]

2.3 Intellectual Property Protection and Repair Information

Information in the of form of raw, unstructured data does not qualify for IP protection in itself.[62] There is some debate as to the scope of process patents protection and whether it extents to information directly resulting from the process covered by the patent.[63] The restrictive interpretation prevailing in national patent courts seems to suggest that it does not.[64] However, as previously stated, patent law can protect data structures and data formats to the extent that they are technical in nature.

In addition to patent protection, the specific formulation and representation of repair and maintenance information may be covered by other IP regimes. For example, a manual may consider a 'work' under copyright *sensu stricto*.[65] This restricts the reproduction and distribution of physical or digital copies, as these acts may amount to a copyright infringement if they are undertaken outside the mere private and non-commercial sphere. The reproduction of information may also fall within the scope of a *sui generis* database right.[66]

[58] Anthony D Rosborough, 'Unscrewing the Future: The Right to Repair and the Circumvention of Software TPMs in the EU' (2020) 26 JIPITEC 26.
[59] Art 52(2) European Patent Convention.
[60] This is also referred to as the requirement of a 'technical character', which is necessary for subject-matter to fall under the scope of an 'invention' thus not qualifying as excluded subject-matter. See European Patent Office 'Guidelines for Examination Part G-Chapter II-3.6 Programs for computers'.
[61] ibid.
[62] Note that these may fall under TS protection however, this is beyond the scope of the contribution.
[63] UPCA, Art 25(c).
[64] Josef Drexl and others, 'Position Statement of the Max Planck Institute for Innovation and Competition of 25 May 2022 on the Commission's Proposal of 23 February 2022 for a Regulation on Harmonised Rules on Fair Access to and Use of Data (Data Act)' [2022] SSRN Electronic Journal para 9, referring to Case X ZR 33/10 *MPEG-2-Videosignalkodierung* [2012] BGH and Case X ZR 124/15, *Receptor Tyrosine Kinase II* [2019] BGH para 21; Josef Drexl, 'Data Access and Control in the Era of Connected Devices' (BEUC 2018) 87.
[65] For example, the authors of the manual can make free and creative (and thus original) choices by the structuring of information and/or by including photos, diagrams, illustrations, etc. For a detailed overview, see Aaron Perzanowski, *The Right to Repair: Reclaiming the Things We Own* (1st edn, Cambridge University Press 2022); Anthony D Rosborough, 'Zen and the Art of Repair Manuals: Enabling a Participatory Right to Repair through an Autonomous Concept of EU Copyright Law' (2022) 13 JIPITEC 113.
[66] See below, section 3.4.

3 The right to repair *sensu lato* and its interaction with Intellectual Property Rights

3.1 Introduction

The EU's legislative intervention to stimulate the repair and maintenance aftermarket is designed in different ways and across different legal disciplines. The legislation discussed below either explicitly focusses on repair for environmental sustainability reasons, or envisions more general objectives tat encompass repair. In the context of the R2RD, the Commission presented the various legislative interventions in favour of repair and the CE more generally by referring to the stages of a standard product manufacturing and sale process: the production stage (e.g., product design regulation[67]); the purchase and sale stage[68]; and the post-sale stage.[69] In that sense, the contribution applies the concept of a right to repair *sensu lato*, which is further materialised through various statutory rights and obligations that impact affordable services within the repair and maintenance aftermarket, such as the right to repair *sensu stricto* for consumers under the R2RD.[70]

As mentioned, this contribution focusses on three legislative initiatives[71] that affect the repair and maintenance market: the R2R Directive, the ESPR and the Data Act.[72] For each instrument, it first analyses the scope of provisions affecting (independent) players in the repair aftermarket. Then, it will consider how these initiatives interact with and/or accommodate for IP protection.

3.2 The Right to Repair Directive

The recently published R2RD was adopted in the context of the EU's green ambitions.[73] It promotes repair and reuse of products in two situations. First, *within* the legal warranty period by introducing an amendment to the SGD[74], extending the legal warranty period

[67] Incl. the ESPR.
[68] With f.e. Directive (EU) No 2011/83 of the European Parliament and of the Council of 25 October 2011 on consumer rights, amending Council Directive 93/13/EEC and Directive 1999/44/EC of the European Parliament and of the Council and repealing Council Directive 85/577/EEC and Directive 97/7/EC of the European Parliament and of the Council (2011) OJ L304/64.
[69] With f.e. the R2R Directive.
[70] In its new CEAP, the Commission refers to the concept 'right to repair' as horizontal material rights for consumers. Despite proposed amendments by the European Parliament, the term is not featured within the final text of the R2RD.
[71] The contribution does not represent an all-encompassing study of all relevant provisions to that may influence the right to repair *sensu lato* in the EU. Instead, it takes focussed approach, limited to the three selected instruments on the one hand, and, within those instruments, to specific provisions affecting independent players on the other hand.
[72] See footnote 21 before.
[73] Recital 5 R2RD states that it pursues the objective of more sustainable product design at the production phase.
[74] Directive (EU) 2019/771 of the European Parliament and of the Council of 20 May 2019 on certain aspects concerning contracts for the sale of goods, amending Regulation (EU) 2017/2394 and Directive 2009/22/EC, and repealing Directive 1999/44/EC (2019) OJ L136/28 (Sale of Goods Directive or SGD).

for repair compared to replacement. Second, *outside* the legal warranty period with the creation of an obligation to repair on the part of the manufacturer.

The R2RD also introduces information requirements. It establishes a standardised European Repair Information Form (ERIF) that is accessible to consumers via a European online repair platform. Use of the ERIF and the access to the platform are voluntary.[75] Manufacturers must be transparent about the extended warranty period for repair as a remedy under the SGD and on their obligation to repair beyond the legal warranty period. Given its scope, this contribution focuses on the newly introduced repair obligation for manufacturers.

In terms of its personal scope, the repair obligation only applies to the manufacturer of the products.[76] Art 2(5) R2RD[77] defines a 'manufacturer' as a natural person or legal entity that 'manufactures a product or that has a product designed or manufactured, and markets that product under their name or trademark'. For non-EU manufacturers, the obligation falls upon one of the economic operators described in the form of a cascade structure: the authorised representative, the importer, the distributor.[78] While Art 5(1) R2RD accepts that the obligation is outsourced, the manufacturer is still responsible for complying with the associated duty to inform. Member states must transpose the R2RD by 31 July 2026.[79]

There are a number of ways in which the repair obligation in the R2RD is further limited. Art 1(2) R2RD stipulates a first material limitation in that the provisions of the R2RD only apply to consumer goods.[80] In addition, Art 5(1) and recital 21 R2RD further specify that the repair obligation *only* applies to goods that are subject to repairability requirements under specific EU legislation.[81] This is an important practical limitation with regard to its effective application. Of course, this also means that the material scope is bound to evolve in a significant manner over time, when more and more products will be dictated by ecodesign requirements. The appropriateness of such a rule lies within the acceptance

[75] The communication of the ERIF was initially drafted as an obligation for the manufacturer upon request by a consumer. The European Parliament introduced the optional nature in European Parliament, 'Amendments adopted on 21 November 2023 to the proposal for a directive of the European Parliament and of the Council on common rules for facilitating the repair of goods and amending Regulation (EU) 2017/2394 and Directives (EU) 2019/771 and (EU) 2020/1828' (2024) C/2024/4233 OJ C Amendments 6 and 34.
[76] It also applies to micro, small and medium-sized enterprises, see R2RD, Art 10.
[77] *Juncto* ESPR, Art 2(42).
[78] R2RD, Art 5(3).
[79] R2RD, Art 21 and 22.
[80] R2RD, Art 1(2).
[81] Included in Annex II R2RD. R2RD, recital 8. For example, requirements included in the ESPR discussed below; requirements included in Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (recast) (2009) OJ L 285/10; Regulation 2009/125/EC of the European Parliament and of the Council of 12 July 2023 on batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC (2023) OJ L 191/1.

that these products are already repairable *by design*, in application of EU or national requirements.[82]

This obligation is intended to complement the limited scope of the SDG.[83] The revised SDG also includes a repair obligation as a remedy of choice for the consumer. However, the choice only applies with regard to the seller to mediate a lack of conformity becoming apparent within three years.[84] The separate repair obligation therefore encourages consumers to get their defective products repaired, even *after* the liability period and for defects that do not constitute a 'lack of conformity'.[85] It operates outside the legal framework set up by the SGD, and only shifts to an obligation to offer a refurbished good when repair is impossible.[86]

The interaction between the R2RD and the ESPR extends beyond the material scope of the repair obligation. Indeed, the provisions of the ESPR[87] also affect the repair and maintenance aftermarket, complementing provisions in the R2RD to a certain extent. For example, the ESPR obliges manufacturers to provide access to spare parts and repair-related information and/or tools, also to what recital 18 R2RD refers to as 'other' repairers.[88] While the initial amendment in the IMCO report spoke of 'independent repairers', we no longer see this term in the final, published R2RD.[89] However, we can infer that this alludes to independent repairers as recital 18 refers to ecodesign obligations under the ESPR, that *are* aimed at enhancing access for independent repairers.

Art 5(4) R2RD, in addition, requires that spare parts and repair-related information and/or tools are offered at a reasonable price. It further prohibits the manufacturer to prevent independent repairers from supplying original, second-hand, compatible or 3D-printed spare parts.[90] Art 5(6)-(7) also prevents the manufacturer from using contractual provisions, hardware or software techniques that impede upon repair, and from refusing repair because of an intervention by an independent repairer.

Importantly, recital 18 *juncto* Art 5(6) present IP rights as legitimate and objective justifications to discard the prohibitions imposed by the R2RD and referred to in the paragraph above.[91] Consequently, rightsholders are still entitled to use TPMs[92] to shield

[82] European Commission, SWD Impact Assessment Accompanying the document Proposal for a Directive of the European Parliament and of the Council on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394, Directives (EU) 2019/771 and (EU) 2020/1828 2023 [SWD(2023) 59 final] 34.
[83] In its version amended by the R2RD.
[84] Taking account of the extended liability period for the seller under R2RD, Art 16(2). The lack of conformity must exist at the time of delivery, see SGD, Art 10(2).
[85] R2RD, recital 15.
[86] R2RD, Art 5(2)(d).
[87] Drafted to intervene of the product design stage.
[88] See also R2RD, recital 18.
[89] European Parliament 'Amendments adopted by the European Parliament on 21 November 2023 on the proposal for a directive of the European Parliament and of the Council on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394, Directives (EU) 2019/771 and (EU) 2020/1828 (COM(2023)0155 – C9-0117/2023 2023/0083(COD)' (2023) P9_TA(2023)0400, Amendment 11.
[90] Note that this does not apply to repair-related tools or instruments.
[91] R2RD, recital 18 and Art 5(6).
[92] As discussed before.

copyright-protected software. Despite their obligation to foresee in the availability of repair information and hardware, they can charge higher prices whenever IP protection would be involved. This hurts the effectiveness of a right to repair, as the price of spare parts is identified as one of the main barriers for repair. In addition, it is possible that only a small part of a spare part or tool is covered by IP rights. The carve-out represents an important limitation, as manufacturers generally use the protection of *quasi*-IP[93] and safety concerns to justify denying access to spare parts or repair information.[94]

3.3 The Ecodesign for sustainable products Regulation

As previously mentioned, the ESPR is designed to be implemented at the production stage. The objective of the ESPR is to enhance certain product aspects, including repairability[95], with the aim reducing premature obsolescence. The ESPR replaces the Ecodesign Directive.[96] It operates as a horizontal framework, based on which secondary legislation can formulate specific requirements for certain product categories.[97]

Due to its horizontal character, the ESPR applies to all products – with the exclusion of some specific product categories. This is in contrast with its predecessor, the Ecodesign Directive, which only applied to energy-related products.[98] More specifically, the ESPR covers "any physical goods that are placed on the market or put into service, including components and intermediate products".[99] This allows the Commission to take measures with regard to a wide range of products.[100] Recital 13 clarifies that the ESPR also covers digital content that is an integral part of a physical product.[101] Specific product groups are excluded from the outset. This is due to the fact that ecodesign requirements are already set by different legislative frameworks or because they are subject to specific market approval requirements.[102] Excluded product groups include *inter alia* food and feed products, (veterinary) medicinal products, and vehicles to the extent that product aspects are not already covered by existing legislative acts.

[93] Including IP and TS protection.
[94] Aaron Perzanowski, *The Right to Repair: Reclaiming the Things We Own* (1st edn, Cambridge University Press 2022) 110-166.
[95] Other product characteristics are: durability, reliability, repairability, upgradability, reusability and recyclability. See ESPR, recitals 6, 16, 23 and Art 5(1).
[96] Directive No 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (recast) (2009) OJ L285/10 (Ecodesign Directive).
[97] The Commission further explicitly recognises that the development of ecodesign requirements on the repairability of consumer products serves to extent the 'right to repair' under the R2RD, see Communication from the Commission - Ecodesign for Sustainable Products and Energy Labelling Working Plan 2025-2030 2025 (2025) COM(2025) 187 final 1.
[98] ESPR, Art 79 and Ecodesign Directive, Art 1(1).
[99] ESPR, Art 1(2). There are some exclusions for *inter alia*, food, plants, etc. under ESPR, Art 1(2)(a)-(h).
[100] ESPR, recital 13.
[101] There no further referral to digital content in the definition of a product in ESPR, Art 2(1), which only refers to physical goods. As Christopher and others point out, it may have been more desirable for legal certainty to further include this reference in the articles of the ESPR themselves, certainly because of the role that software plays with regard to the various product parameters envisioned by the ESPR (Christopher Borucki and others, 'Lifespan Extension of Products - European & National Initiatives' (2024) 31 CE Center publication 20).
[102] ESPR, recital 13.

Second-hand products are excluded from the scope of the ESPR as long as they cannot qualify as 'remanufactured' products.[103] As Christopher Borucki and others have observed, Art. 2(1)(38)-(39) ESPR refer only to products being 'placed on the market'[104] or 'put into service'[105],[106]. Second-hand products imported in the EU are placed on the market outside the EU and thus excluded. A similar consideration applies for products manufactured in the EU but intended for export.[107]

The ESPR further expands the list of product aspects for which the Commission can set requirements, no longer being limited to the improvement of energy efficiency as was the case under the Ecodesign Directive.[108] Repairability is included within this aforementioned list of product aspects.

The ESPR also has a broad personal scope, determining obligations[109] for all economic operators in a product's supply chain.[110] The role of online marketplaces and online search engines is also envisioned, as they are required to cooperate with market surveillance authorities to facilitate the removal of non-compliant products from their platforms.[111] In contrast to the R2RD, the ESPR's personal scope extends beyond the B2C sphere, with the exception of the requirements on product destruction, which only target consumer goods.[112] The inclusion of B2B interactions is also evident from the terminology, which refers to 'customers'[113] and 'end-users'[114] as opposed to 'consumers'. The introduction of Digital Products Passports (DPPs) is further intended to benefit multiple, targeted market

[103] ESPR, recital 17.
[104] Defined as 'any supply of a product for distribution, consumption or use on the Union market in the course of a commercial activity, whether in return for payment or free of charge'.
[105] Defined as a product's 'first use, for its intended purpose, in the Union'. See ESPR, Art 2(1)(41).
[106] ESPR, Art 1(2).
[107] For a more extensive discussion on the exclusion of second-hand products and whether or not this is desirable, see Christopher Borucki and others, 'Lifespan Extension of Products - European & National Initiatives' (2024) 31 CE Center publication 25-28.
[108] See footnote 96 above.
[109] For example but not limited to: ecodesign requirements set by delegated acts (Art 4), obligations and restrictions regarding the destruction of unsold consumer goods (Chapter VI), other obligations under Chapter VII including for example, the prohibition to engage in behaviour that undermines the compliance of products the ESPR (Art 40), monitoring and recording obligations (Art 37), information obligations (Art 36) and labelling obligations (Art 32).
[110] Requirements can apply to manufacturers (or its authorised representative), importers, distributors, traders or service providers. For the definition of these concepts, see ESPR Art 2(1).
[111] ESPR, recital 70-72 and Art 35(2). These apply without prejudice to existing obligations under the Digital Services Act, see ESPR, Art 35(1).
[112] Included in Annex VII (which at the time of writing only mentions clothing and footwear).
[113] Defined as 'a natural or legal person that purchases, hires or receives a product for their own use whether or not acting for purposes which are outside their trade, business, craft or profession' (emphasis added) (ESPR, Art 2(1)(35)).
[114] Defined as 'any natural or legal person residing or established in the Union, to whom a product has been made available either as a consumer outside of any trade, business, craft or profession or as a professional end user in the course of its industrial or professional activities' (emphasis added) (ESPR, Art 2(10), read in conjunction with Art 3(21) Regulation (EU) 2019/1020).

participants in the broad sense, including independent operators.[115] The definition of independent operators is broader than that of an 'ordinary' economic operator.[116]

Art 1(1) ESPR identifies four subject-matters, including (1) the establishment of a framework for the setting of ecodesign requirements and the creation of obligations for market participants; (2) the creation of DPPs; (3) the setting of mandatory green public procurement requirements and (4) the creation of a framework to prevent the destruction of unsold consumer goods. Because of its focus on the right to repair, the present contribution mainly focusses on the first two points.[117]

As previously mentioned, the ESPR establishes the horizontal framework within which the Commission is allowed to set Ecodesign requirements in delegated acts. Ecodesign requirements must aim to improve certain product aspects, including repairability. To that end, the Commission is obliged to take product parameters established in Annex I as a basis. Ecodesign requirements can either take the form of specific performance requirements, or information requirements on specific product aspects. The product parameters for repair and maintenance include aspects on which IP rights can have an important impact. These comprise, for example, the conditions for access to product data[118] and the conditions for access to or use of the necessary hardware and software.[119] In accordance with the 2025-2030 working plan of the Commission, the establishment of horizontal repairability requirements is scheduled prior to 2027.[120] Horizontal ecodesign requirements apply to a wider range of product groups with technical similarities. They can be further supplemented by specific ecodesign requirements on specific product groups.[121]

The Commission can set minimum or maximum standards for performance requirements relevant to repairability[122] or recourse to non-quantitative performance requirements.[123] These can include the obligation for the manufacturer to ensure the availability of a

[115] ESPR, Art 11. These include *independent* operators, defined in the broad sense as 'a natural or legal person that is independent of the manufacturer and is directly or indirectly involved in the refurbishment, repair, maintenance or repurposing of a product, and includes waste management operators, refurbishers, repairers, manufacturers or distributors of repair equipment, tools or spare parts, as well as publishers of technical information, operators offering inspection and testing services and operators offering training for installers, manufacturers and repairers of equipment' (ESPR, Art 2(1)(47)).
[116] Defined in the ESPR as 'manufacturer, the authorised representative, the importer, the distributor, the dealer and the fulfilment service provider' (ESPR, Art 2(1)(46)).
[117] Point (4) will be touched upon as well, because of the provision's explicit reference to IP rights.
[118] Access to data is discussed within the section on the Data Act, see section 3.4 below.
[119] ESPR, Annex I (b).
[120] Communication from the Commission - Ecodesign for Sustainable Products and Energy Labelling Working Plan 2025-2030 2025 (2025) COM(2025) 187 final 6.
[121] ESPR, recital 15 and Art 5(7).
[122] For example, the limitation of a certain material incorporated in the products.
[123] ESPR, Art 6(2).

certain quantity of spare parts to independent repairers[124] or the prohibition of a specific technical solution that is detrimental to product repairability.[125]

Information requirements may encompass repair and maintenance information, in addition to information on the price and availability of spare parts.[126] It can also relate to information on 'how to install, use, maintain and repair the product, in order to minimise its impact on the environment and to ensure optimum durability, on how to install third-party operating systems where relevant, as well as on collection for refurbishment or remanufacture'.[127]

The newly introduced DPP is also intended to encourage competition within the repair and maintenance market. The ESPR presents a DPP as one of the information requirements that can be imposed by the Commission on manufacturers, to be made available to independent operators[128] as well. Art 9(1) ESPR appears to suggest that the provision of a DPP should be *mandatory* within delegated acts.[129] In practice, the DPP is thus a prerequisite for market entry under future delegated acts[130], with the aim of collecting and facilitating access to relevant information for different players.[131] It is further intended to feature as an important governance tool for competent authorities.[132]

The objective of the ESPR is to advance the availability of spare parts and other repair information, also for independent repairers. As IP rights further influence this availability, the question of interaction between the access provisions of the ESPR and the EU's IP framework bear a particular importance. The ESPR does refer to IP rights however only to a limited extent. These references include (*I.*) the differentiated 'access' regime to information requirements, (*II.*) the proliferation of IP rights as an exception to the prohibition of unsold consumer goods; and (*III.*) the referral to conditions for access to or use of technologies protected by IP rights as a factor influencing the product parameter

[124] *See f.e.* Ecodesign requirements of refrigerator appliances under Commission Regulation (EU) 2019/2019 of 1 October 2019 laying down ecodesign requirements for refrigerating appliances pursuant to Directive 2009/125/EC of the European Parliament and of the Council and repealing Commission Regulation (EC) No 643/2009 (2019) OJ L315/187.
[125] ESPR, recital 24 and Art 5(7).
[126] ESPR, recital 30 and Art 7(2)(i).
[127] ESPR, Art 7(2)(ii).
[128] For the definition of independent operators, see footnote 116.
[129] ESPR, Art 9(1) states the following: "The information requirements shall provide that products can only be placed on the market or put into service if a digital product passport is available in accordance with the applicable delegated acts adopted pursuant to Article 4 and with Articles 10 and 11. The data in the digital product passport shall be accurate, complete and up to date." (emphasis added) Note that the Commission may also exempt certain product groups from the requirement to have a DPP when (1) technical specifications of the digital product passport are not available in relation to the essential requirements included in Articles 10 and 11 or (2) other Union law includes a system for the digital provision of information related to a product group which the Commission considers achieves the objectives (…) [of access to product information that is relevant for them and of facilitating the verification of product compliance by national authorities]" (ESPR, Art 9(4)). See also Christopher Borucki and others, 'Lifespan Extension of Products - European & National Initiatives' (2024) 31 CE Center publication 42-43.
[130] Note however that a DPP can also be installed as a measure of self-regulation.
[131] ESPR, recital 26 *juncto* Art 7(1) and Art 8(1).
[132] ESPR, recitals 32 and 74 and European Commission, 'Part 4/4 - Commission Staff Working Document (Impact Assessment) Accompanying the Document Proposal for a Regulation of the European Parliament and of the Council Establishing a Framework for Setting Ecodesign Requirements for Sustainable Products and Repealing Directive 2009/125/EC' (Hart Publishing Ltd 2022) 616.

for 'ease of upgrading, reuse, remanufacturing and refurbishment'.[133] Furthermore, it is clear that certain statutory obligations requiring access towards market participants may conflict with IP rights, even when this is not specifically addressed within the ESPR in itself (*IV.*).

I. The ESPR introduces the concept of a differentiated access to the DPP as opposed to an 'open access' approach, which was also considered by the Commission.[134] Consequently, delegated acts will define access rights in relation to specific independent market participants, users, and authorities. Each of these participants will only be granted access to certain parts of the DPP, in accordance with their rights. IP rights are presented as at least one of the reasons for introducing such access limitation.[135] While recital 33 ESPR focusses on IP rights, preparatory documents refer to the 'confidentiality' of such information as the main reason for access on a need-to-know basis.[136] Confidentiality however typically refers to TS rather than IP rights. From a theoretical perspective, TSs are more relevant obstacles in the context of DPPs as IP rights generally already require some kind of publicity.[137] From a practical viewpoint, for DPPs, one can take inspiration from the EU Battery Regulation[138] that entered into force in August 2023. The EU Battery Regulation requires batteries to have a DPP by February 2027. Within the context of the DigitalEU funded CIRPASS project in 2021, the loss of confidentiality was identified as one of the main barriers (risks) of the DPP.[139] Again, at one instance, the report

[133] ESPR, Annex I(c).
[134] European Commission, 'Part 4/4 - Commission Staff Working Document (Impact Assessment) Accompanying the Document Proposal for a Regulation of the European Parliament and of the Council Establishing a Framework for Setting Ecodesign Requirements for Sustainable Products and Repealing Directive 2009/125/EC' 616-619.
[135] ESPR, recital 33 states the following "(…) To optimise access to the resulting data while also protecting intellectual property rights, the digital product passport needs to be designed and implemented in a manner that allows differentiated access to the data in the digital product passport depending on the type of data and the typology of stakeholders." It is notable that the ESPR makes no mention of trade secrets in this context, as IP rights do not in principle apply to *information*, only to the concrete representation of such information (see section 2.3 above). Confusingly, the SWD supporting the proposal does not make any mention to IP rights in the context of the discussion of the different types of access regimes for DPPs, but does refer to 'confidentiality'.
[136] EUROPEAN COMMISSION, 'Part 4/4 - Commission Staff Working Document (Impact Assessment) Accompanying the Document Proposal for a Regulation of the European Parliament and of the Council Establishing a Framework for Setting Ecodesign Requirements for Sustainable Products and Repealing Directive 2009/125/EC' (Hart Publishing Ltd 2022) 602-603. The SWD states the following: "The information contained in an EU DPP could be potentially very comprehensive for the sake of maintenance, repair or re-manufacturing – but also therefore confidential, at least during the period of time when the company is actively supporting the product. For this reason, the European digital product passport should enable access to information on a "need-to-know" basis (…)" (emphasis added).
[137] For registered rights, this is done with the requirement of registration. For certain types of IPRs, this is further underwritten within validity conditions such as the disclosure requirement in patent law. For non-registered rights, such as copyright protection in the EU, the requirement of publicity can be derived from the condition of concrete form and the fact that protection only adheres to that specific expression of an idea to the general public. For copyright, this statement must, however be nuanced as the author has a moral right to decide when to release its work to the general public (the moral right of 'disclosure').
[138] Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC OJ L191/1 ("EU Battery Regulation").
[139] Thibaut Wautelet and Anne-Christine Ayed, 'Exploring Possible Digital Product Passport (DPP) Use Cases in Battery, Electronics and Textile Value Chains' 35–36 <https://zenodo.org/doi/10.5281/zenodo.10974901> accessed 27 May 2025.

referred to 'confidential information'[140] while at other instances it refers to the 'risk of intellectual property loss'.[141]

II. The ESPR further *allows* the Commission to make derogations to the prohibition of the destruction of unsold consumer goods where these products have become 'unsaleable' due to an infringement of IP rights. The exception refers to statutory penalties provided in IP legislation, which allow destruction of infringing goods as a corrective measure, available for the rightsholder next to the standard remedy of obtaining an injunction against illegitimate acts. Further supported by Art 46 of the World Trade Organisation agreement on Trade-Related aspects of Intellectual Property Rights, corrective measures include a possibility for rightsholders to request a recall and/or permanent removal from the market and/or the destruction of infringing products.[142] In appropriate cases, this sanction may even extend to the 'materials and implements principally used in the creation or manufacture of these goods'.[143] The possibility to claim destruction of infringing products as a corrective measure has been criticised in legal doctrine for its negative impact on environmental sustainability, and several authors argue that the enforcement of IP rights should become more sustainable.[144] The inclusion however supports legal certainty, as judges would still have the possibility to order the sanction of destruction when claimed by an IP rightsholder, for infringing products that would also be covered by the scope of a delegated act under Art 25 ESPR. However, the optional nature of the limitation may still allow judges to use their discretionary power to further refuse a claim for destruction by the rightsholder.[145]

III. Annex I, point C refers to 'conditions for access to or use of technologies protected by intellectual property rights' as a product parameter that influences the 'ease of upgrading, reuse, remanufacturing and refurbishment'. IP rights are not explicitly referred to in relation to the product aspect 'ease of repair'. However, a number of product parameters relating to the ease of repair are further also affected by IP rights. This will be discussed further in point IV. below.

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[140] ibid 36.
[141] ibid 82.
[142] Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights (2004) OJ L157/45 (Enforcement Directive), recital 24 and Art 10.
[143] ibid.
[144] See Charlotte JS Vrendenbarg, 'Towards a Judicial Sustainability Test in Cases Concerning the Enforcement of Intellectual Property Rights' (2023) 72 GRUR International 1125; Jozefien Vanherpe and Manon Vanderhaeghe, 'Ecologisch verantwoorde handhaving in de Belgische IE-praktijk: nog groen achter de oren?' (LeA uitgevers) (forthcoming).
[145] Enforcement Directive, Art 10(1)(3) stipulates that corrective measures are optional in nature (the court must take 'appropriate measures'). It requires courts to consider the proportionality between the 'seriousness of the infringement and the remedies ordered as well as the interests of third parties (…)' (emphasis added). For a more extensive discussion on the extent of the discretionary power given to judges, see Charlotte JS Vrendenbarg, 'Towards a Judicial Sustainability Test in Cases Concerning the Enforcement of Intellectual Property Rights' (2023) 72 GRUR International 1125; Jozefien Vanherpe en Manon Vanderhaeghe, 'Ecologisch verantwoorde handhaving in de Belgische IE-praktijk: nog groen achter de oren?' (LeA uitgevers) (forthcoming).

IV. This contribution already demonstrated that the IP rightsholder can influence legal and material access to repair commodities for independent repairers. Such restrictions are also included in certain product parameters for repairability under Annex I ESPR.[146] We have to await specific delegated acts to further assess the interaction between ecodesign requirements on repairability parameters to be able to see how IP rights would be addressed. That said, it seems possible - at least in theory - that repair requirements in delegated acts can lead to a friction between *on the one hand* an obligation for the manufacturer[147] to provide access to essential repair commodities[148] and on *the other hand* its IP right to decide to whom and under what conditions it grants an authorisation to 'use'[149] that commodity. For information requirements, it remains to been seen how the Commission will elaborate the requirement of 'differentiated access' in its delegated acts.

3.4 The Data Act

Today, a significant proportion of products are equipped with devices capable of measuring and generating data. Combined with specific (analytical) tools such as software, that data can give information on the performance and use of the product or its environment. This, in turn, facilitates repair and maintenance. In addition, access to certain types of data such as real-time data, data on performance monitoring, self-diagnosis, etc. is often necessary or at least valuable for repair purposes. In the absence of legislative intervention, manufacturers have a *de facto* control over such information, as they have the final say in deciding whether or not to allow the user and/or third parties access to such data. Importantly, this *de facto* control over the data must be distinguished from a form of *de jure* control on the data's availability[150] or accessibility.[151] Specifically for the repair and maintenance market, shielding such information from independent players may be appealing, as manufacturers often operate on that market as well. After all, the repair and maintenance market is valuable, certainly for complex products.[152] In

[146] For example, ESPR Annex I (b). While IP rights influence the characteristics of this product parameter, and therefore the 'ease of repair' as a parameter in itself, IP rights are not explicitly referred to within the provision itself. That said, 'conditions for access to or use of technologies protected by intellectual property rights' do feature as an influencing factor for the product parameter 'ease of upgrading, reuse remanufacturing and refurbishment' under ESPR, Annex I (c).
[147] Often the IP rightsholder.
[148] Whether or not under certain conditions.
[149] In the IP sense of the word, including infringing acts covered by the IP right only, see section 2.
[150] Which is also influenced by TS protection however, this is out of scope.
[151] Interpreted by this contribution in the sense of 'usability', covering all the acts that are reserved to the IP holder.
[152] See f.e. for automotive aftermarket: Friso Bostoen, Liesbet Van Acker and Wouter Devroe, 'Servitization and Competition Law' in Bert Keirsbilck and others (eds), *Servitization and Circular Economy: Economic and Legal Challenges* (Intersentia 2023) 69-92; European Commission. DG for Communications Networks, Content and Technology, 'Study to Support an Impact Assessment on Enhancing the Use of Data in Europe.' (Publications Office 2022) <https://digital-strategy.ec.europa.eu/en/library/impact-assessment-report-and-support-studies-accompanying-proposal-data-act> accessed 27 May 2025 181, stating that f.e. automotive aftermarkets represent an important business impact as aftersales generate 20% of revenue and approx. 50% of profits for manufacturers.

addition, repair diminishes the need for consumption, which can be detrimental for manufacturers' revenue.[153]

The present contribution focuses of the Data Act as the instrument within this horizontal data sharing framework that is most relevant to the repair and maintenance aftermarket. It concentrates on one aspect of the Data Act, namely the creation of a right to access and corresponding obligation to share data from connected products. The statutory rights under Chapter II Data Act benefit to the user and independent repairers of their choice. They can thus be qualified as components of the right to repair *sensu lato* applying to connected products specifically.[154]

This link with the repair and maintenance market is recognised in the Data Act itself. Chapter II of the Data Act lists as one of its objectives to enable users of connected products to gain access to specific after-market services such as maintenance and repair. These services are often dependent upon access to data from connected products.[155] The objective is closely linked with the Data Act's broader aim of giving users of connected products a renewed *control* over the data generated by such products.[156] This control encompasses not only effective *access* to the data[157], but also the ability to *transfer* it to third parties of their choice.[158] This is based on the idea that both the manufacturer[159] of the connected product and the user are co-generators of data from connected products.[160]

Broadly speaking, Chapter II sets out three steps as to determine the scope of the rights on data from connected products. First, Art 3 creates a *statutory obligation* for manufacturers of connected products and providers of related services to make 'product data and related service data' accessible to users.[161] Products and services must be designed in such a way as to allow this access. This requirement therefore serves as a horizontal product design requirement aimed at data generation. Specific, sectoral

[153] Francisco López Bermúdez and Xavier Vence, 'The European Directive on Common Rules Promoting the Repair of Goods. A Critical Assessment of Its Drafting Process' [2024] Revista Galega de Economía 1, 3.
[154] The other chapters of the Data Act, which set out the rules for Business to Government (B2G) data sharing, and create obligations for providers in respect of Cloud and Edge services, are beyond the scope of this contribution. The provisions of Chapters III (creating obligations for data holders obliged to make data available under Union law) and IV (defining unfair contractual terms in relation to access and use of data in a B2B context) of the Data Act are also relevant to the right to repair *sensu lato*, but will not be further addressed.
[155] Data Act, recital 6.
[156] Charlotte Ducuing, 'Data Governance for the Ecological Transition: An Infrastructure Perspective' [2024] Review of European, Comparative & International Environmental Law 5. Josef Drexl and others, 'Position Statement of the Max Planck Institute for Innovation and Competition of 25 May 2022 on the Commission's Proposal of 23 February 2022 for a Regulation on Harmonised Rules on Fair Access to and Use of Data (Data Act)' [2022] SSRN Electronic Journal para 24.
[157] Data Act, Art 3 and 4.
[158] Data Act, Art 5.
[159] Identified as the 'data holder' under the Data Act.
[160] Data Act, recital 6. EUROPEAN COMMISSION, 'Commission Staff Working Document - Impact Assessment Report: Accompanying the Document Proposal for a Regulation of the European Parliament and of the Council on Harmonised Rules on Fair Access to and Use of Data (Data Act)' (Hart Publishing Ltd 2022) SWD(2022) 34 final 29; European Commission. Directorate General for Communications Networks, Content and Technology. and others, 'Study to Support an Impact Assessment on Enhancing the Use of Data in Europe.' (Publications Office 2022) <https://digital-strategy.ec.europa.eu/en/library/impact-assessment-report-and-support-studies-accompanying-proposal-data-act> accessed 27 May 2025 176-196.
[161] Data Act, Art 3.

product design requirements can be added.[162] Second, where such data access is not guaranteed, Art 4 establishes a second *statutory obligation* for data holders[163] to make 'readily available' data[164] available. This corresponds to a *right* for users to request and obtain *access* to such data. Third, Art 5 establishes the *right* of users to *share* IoT data with third parties of their choice. The request can be addressed to the data holder by the user or by another party acting on their behalf, such as a data intermediation service under the DGA.[165]

The aforementioned rights and obligations are subject to legal restrictions regarding the use of the IoT by data holders and/or data recipients.[166] For example, third party recipients are prohibited from developing a product that competes with the connected product generating the connected product data.[167] They are also not permitted to share connected product data with other parties.[168] The data holder has a right to request corrective action, including a claim for the destruction of competing products.[169]

The Data Act has a broad personal scope. The provisions of Chapter II of the Data Act benefit users of connected products placed on the EU market.[170] 'Users of connected products' are broadly defined and include the owner of the connected product or anyone with temporary rights on its use.[171] The scope exceeds the personal scope of the repair obligation under the R2RD, as it also addresses professional users.[172] Obligations fall upon both manufacturers of connected products[173] and holders of connected product data.[174] In practice, these two categories often overlap, as they are often also the holders of IP rights and trade secrets on the products or connected product data.[175] Connected product data from micro or small enterprises are excluded from Chapter II obligations.[176] Although such formulation focusses on the data rather than the enterprises, it is a limitation of the personal rather than the material scope. Indeed, it is solely because of the involvement of micro and small enterprises that the limitation applies.[177]

In terms of its material scope, Chapter II applies to 'data, with the exception of content, concerning the performance, use and environment of connected products and

[162] Such as Ecodesign requirements under the ESPR, see section 3.3 above.
[163] In practice however, data holders are often also the manufacturers of connected products.
[164] Along with the metadata necessary to interpret this data. See Data Act, Art 4 and the discussion below.
[165] Data Act, recital 26; DGA, Art 2(11).
[166] I.e. Data user of third parties receiving the IoT data as a result of a data sharing request by the user.
[167] Data Act, Art 6(2)(c).
[168] Data Act, Art 6(2)(d).
[169] Data Act, recital 57 and Art 11(2)(b).
[170] Data Act, Art 1(3)(a) and Art 1(3)(b).
[171] F.e. in application of a leasing or rental agreement. Data Act, Art 2(12).
[172] Note that data sharing and access rules also apply when there are multiple users.
[173] For the statutory obligations under Article 3 Data Act.
[174] For the statutory obligations under Article 4 and 5 Data Act.
[175] Charlotte Ducuing and others, 'White Paper on the Data Act Proposal' [2022] SSRN Electronic Journal 95.
[176] Data Act, Art 7.
[177] This limitation however does not apply when the micro or small enterprise has a non-micro or small partner or linked enterprise and the when the micro- small enterprise is subcontracted to manufacture of design a connected product or to provide a related service. See Data Act, Art 7(1).

related services'.[178] This material scope is again important for the repair and maintenance market, as a limited scope may result in lesser opportunities for (independent) repair and thus for a weaker component of the right to repair *sensu lato*. In order to understand this effective scope, one needs to consider first what is meant by 'product data' of a 'connected product' and 'data relating to a 'related service'.[179] Art 2(15) Data Act defines product data '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'. The term covers both data 'recorded intentionally' and 'data which result indirectly from the user's action'.[180] The focus explicitly lies on data *generated* by the product.[181]

However, Recital 15[182] specifies that 'inferred or derived data which is the outcome of additional investments into assigning values or insights from the data' are not included in the scope of Chapter, particularly with regard to the data holder's obligations. The wording leaves a doubt as to whether this limitation applies to all types of derived or inferred data, or only information resulting from additional investments. The purpose of the limitation indicates a willingness of the legislator not to intervene with IP protection on algorithms or software.[183] The wording is quite remarkable, as copyright protection to software does not extent automatically to the data generated by this software, which this sentence does suggest.[184]

Due to this vagueness, the exclusion is criticised in legal doctrine. For example, Joseph Drexl and others argue that such derived and inferred data is necessary in order to carry out repair and maintenance services.[185] By way of illustration, they use the example of sensors that measure a product's temperature.[186] While these data types give information

[178] Data Act, Art 1(2)(a).
[179] The contribution will not develop upon the data types that are excluded from the Data Act's scope, as these are not generally relevant for repair and maintenance purposes. Such excluded data types are f.e. data stemming from prototypes and content such as films, music, etc. generated by the connected product.
[180] Data Act, recital 15. This also includes data from virtual assistants (Data Act, recital 32 and Art 1(4)).
[181] This is also clear form the definition of a 'connected product' as 'an item that obtains, generates or collects data concerning its use or environment and that is able to communicate product data via an electronic communications service, physical connection or on-device access, and whose primary function is not the storing, processing or transmission of data on behalf of any party other than the user' (Data Act, Art 2(5)). The idea conforms with the proposal of the Commission. See Proposal for a Regulation of the European Parliament and of the Council on harmonised rules on fair access to and use of data (Data Act) 2022 (COM(2022) 68 final) Art 3(1).
[182] The limitation is not further included in the Articles of the Data Act.
[183] Data Act, recital 15 stats: "By contrast, information inferred or derived from such data, which is the outcome of additional investments into assigning values or insights from the data, in particular by means of proprietary, complex algorithms, including those that are a part of proprietary software, should not be considered to fall within the scope of this Regulation and consequently should not be subject to the obligation of a data holder to make it available to a user or a data recipient, unless otherwise agreed between the user and the data holder." (emphasis added).
[184] See Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs (Codified version) (2009) OJ L111/16 Art 5 (Software Directive).
[185] The opinion statement was based on the proposal of the Commission, but these provisions did not change in substance, as derived and inferred data are still excluded from the scope. Hence, their considerations are still relevant.
[186] These data types can be qualified as 'source' or 'pre-processed data' under the Data Act.

on the temperature, they do not state whether or not the product is overheated. For this, additional information is necessary, such as a range of temperatures that would problematic and thus, in which repair or maintenance is desirable.[187]

With 'data of a related' service, the Data Act essentially refers to software embedded within or connected with the connected product.[188] Data generated by such software application shall also fall within the scope of Chapter II Data Act.

As established in the previous paragraphs, the data access and transfer rights under chapter II Data Act provide for one of the components of the right to repair *sensu lato*, specifically applied to connected products. Importantly, derived or inferred data fall outside the data act's scope. As such data may give valuable information (independent) repairers, this exclusion necessarily hurts the effectiveness of the right to repair. This is aggravated by the legal uncertainty brought upon by the inclusion of different data types.

Another uncertainty is the impact that IP and trade secret rights will have on data access and transfer rights for repair and maintenance purposes. The EU legislator has made clear that it does not intend to touch upon IP rights. This intention is reflected in a number of provisions. Most notably, Art 1(8) Data Act explicitly states that the Data Act is 'without prejudice to Union and national legal acts providing for the protection of intellectual property rights. It is further included in Article 49(1)(e) Data Act, which obliges the Commission, during its review, to verify that there is no impact on IP rights. However, this does not preclude domain- or specific legislation from imposing further restrictions on IP rights. For example, the European Health Data Space Regulation[189] does not provide in a similar exception to IP rights for access to electronic health data.[190] In reality, although they fall outside the scope of this contribution, trade secret rights will be more relevant for repair and maintenance information of connected products.

Despite the aim to protect IP rights, the Data Act does contain a specific provision on *sui generis* database rights.[191] This *sui generis* protection regime was created by the

[187] Josef Drexl and others, 'Position Statement of the Max Planck Institute for Innovation and Competition of 25 May 2022 on the Commission's Proposal of 23 February 2022 for a Regulation on Harmonised Rules on Fair Access to and Use of Data (Data Act)' [2022] SSRN Electronic Journal 10-11.
[188] Art 2(6) Data Act defines it as 'a digital service, other than an electronic communications service, including software, which is connected with the product at the time of the purchase, rent or lease in such a way that its absence would prevent the connected product from performing one or more of its functions, or which is subsequently connected to the product by the manufacturer or a third party to add to, update or adapt the functions of the connected product'.
[189] Regulation (EU) 2025/327 of the European Parliament and of the Council of 11 February 2025 on the European Health Data Space and amending Directive 2011/24/EU and Regulation (EU) 2024/2847 (2025) OJ L.
[190] Which is a much broader term than 'data on health' under GDPR, Art 3, also including IP protected data.
[191] For an extensive discussion, see Josef Drexl and others, 'Position Statement of the Max Planck Institute for Innovation and Competition of 25 May 2022 on the Commission's Proposal of 23 February 2022 for a Regulation on Harmonised Rules on Fair Access to and Use of Data (Data Act)' [2022] SSRN Electronic Journal 74-79; Charlotte Ducuing and others, 'White Paper on the Data Act Proposal' [2022] SSRN Electronic Journal 111 254-266.

Database Directive[192] in 1996.[193] This IP right favours a database 'maker' who puts in substantial investment in the obtaining, verification or presentation of the contents of a database. It enables the maker to take action against the unauthorised extraction and/or re-utilisation of the whole or a substantial part of its contents, which would necessarily have consequences for data access and use provisions under the Data Act.[194] Art 43 Data Act thus aims to prevent a *sui generis* database rightsholder from invoking these exclusive rights to avoid complying with its data access obligations for data from connected products.

The Commission recognises that the possibility to invoke such rights on *machine-generated data* is contested in EU case law, and that this clarification would therefore improve legal certainty.[195] However, the wording of the provision raises another legal certainty issue relating to its nature. One could argue that it was the aim of the EU legislator to *clarify* the scope of Art 7 Database Directive. This would imply that databases including machine-generated data would not be subject to the *sui generis* database protection at all, even outside the context of the Data Act's data sharing rights for connected products.[196] Nevertheless, the use of the term 'shall not apply' suggests that the limitation to *sui generis* database rights only applies to situations falling under the data access rights and obligations of the Data Act.[197] This is further supported by the last sentence of recital 112 Data Act, that confirms the *sui generis* database rights can still apply to databases containing connected product data falling outside the Data Act's scope.[198]

A second uncertainty relates to the scope of application of the limitation within the Data Act itself. Art 43 Data Act states that the 'limitation' applies *with* respect to the data access and data transfer rights of the user.[199] The wording implies a broader scope,

[192] Directive No 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases (1996) OJ L77/20 (Database Directive).
[193] Art 43 of the Database Directive states the following: "The sui generis right provided for in Article 7 of Directive 96/9/EC shall not apply when data is obtained from or generated by a connected product or related service falling within the scope of this Regulation, in particular in relation to Articles 4 and 5 thereof." (emphasis added).
[194] Database Directive, Art 7(1).
[195] EUROPEAN COMMISSION, 'Commission Staff Working Document - Impact Assessment Report: Accompanying the Document Proposal for a Regulation of the European Parliament and of the Council on Harmonised Rules on Fair Access to and Use of Data (Data Act)' (Hart Publishing Ltd 2022) SWD(2022) 34 final 133-134, referring to Case BGH I ZR 47/08 *Autobahnmaut* (25 March 2010), in which it was accepted that sensor-generated data of a road-toll system could be protected by *sui generis* database rights.
[196] The specific wording of the SWD suggested such an interpretation, as it stated that: "the risk exists that the current situation of unclarity as to whether machine-generated data are covered by the *sui generis* right could be opportunistically exploited by equipment manufacturers to claim IP protection beyond the intended purpose of the database protection provided for in EU law." (EUROPEAN COMMISSION, 'Commission Staff Working Document - Impact Assessment Report: Accompanying the Document Proposal for a Regulation of the European Parliament and of the Council on Harmonised Rules on Fair Access to and Use of Data (Data Act)' (Hart Publishing Ltd 2022) SWD(2022) 34 final. 133).
[197] To the contrary, Data Act recital 112 states that the provision is aimed at 'clarifying' that the *sui generis* database right does not apply to databases with machine-generated (read: IoT) data.
[198] Provided that these databases comply with the validity conditions under Art 7 Database Directive.
[199] Data Act, Art 4 and Art 5.

also covering other rights/obligations of other chapters in the Data Act, and not only Chapter II Data Act.[200]

Third, the Data Act does not extent the limitation to copyright protection *sensu stricto*, which can also apply to databases[201] and/or to works[202] generated by the connected product. To the contrary, as was stated above, the Data Act explicitly excludes such *content* from its scope.

4 Conclusion

The 'right to repair' aims to enhance (consumer) access to affordable and accessible repair services. While the R2RD marks the first introduction of this concept in EU legislation, it operates in a broader policy framework that seeks to encourage circular operations. This framework[203] delineates a network of rights and corresponding obligations for various parties within a product's value chain. Different laws intervene at different levels. However, they also complement and interact with each other. For example, delegated acts under the ESPR may oblige manufacturers to make spare parts and repair tools available to professional (independent) repairers or to include repair information within a DPP that must also be made available to them. In addition to the information to be included in the DPP, the Data Act further imposes data sharing rights and obligations regarding data from connected products, including for the purposes of repair. To complement these measures, the R2RD adds that such independent repairers should not be prevented from using original, second-hand, and 3D printed spare parts. Also, it adds that these should be offered at a 'reasonable price'.

Each instrument has a different goal, a different scope, and more importantly, a different mechanism to deal with exclusionary control regimes such as IP rights and trade secrets. For example, while the ESPR mentions differentiated access to *information* within the DPP that is protected by IP rights, the R2RD provides for a real carve-out for such types of rights. This divergence is important, as the ESPR may require manufacturers to make a certain quantity of spare parts available for a certain time period, the carve-out in the R2R allows for manufacturers to still do this at high, unreasonable prices whenever the spare part's subject-matter is covered by IP rights. Arguably, this may incentivise a further push to seek out IP protection on such components.[204] The current version of the

[200] *Sui generis* rights are also referred to within the context of B2G data sharing in the Data Act. However, this falls outside the scope of the contribution. Data Act, recital 71.
[201] Provided that they fulfil the condition of originality.
[202] F.e.: photos, videos, etc. that would fulfil the requirements of copyright protection.
[203] Consisting of consumer, product, IP, competition and data governance legislation.
[204] With the caveat that such protection is only possible when the validity conditions for IP protection are fulfilled. This statement is not further supported by any data, as the creation of rights and obligations for the right to repair *sensu lato* has been a relatively recent phenomenon.

right to repair is mainly access-based[205] and not competition-based, where IP rights exert their main influence.

Beyond the new repair clause under EU design law[206] and the clarification on the protection of *sui generis* database rights for access rights on connected product data under the Data Act, the initiatives discussed above do not include solutions to further address specific IP barriers identified in Chapter II above.[207] Further research on how IP rights can accompany the shift to an effective and balanced shift to a 'right to repair' and, more broadly, a well-functioning CE, is thus needed.

[205] Meaning that the EU legislator wants to guarantee that there is access to repair and maintenance services, independently whether this access is given by the manufacturer or authorised repairers, or independent repairers. On the other hand, a competition-based right to repair would further limit obstacles to independent repairers, resulting in a higher consumer choice for repair services.

[206] Although with a limited scope, see section 2.1 above.

[207] The contribution does not further state that such a change is desirable. Taking account of the protection of IP rights (which is also a fundamental right under Art. 17(2) of the Charter of the European Union on fundamental rights), effectively addressing such IP barriers might be disproportionate as to the rights of the IP holders. However, this necessitates further research.