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Repair-Oriented Interpretations in EU Design Law: Exploring Exclusions and Limitations

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Anti-Plagiarism Statement

I hereby declare that I am the sole author of this thesis and that contributions or texts of others are duly referenced.

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Acknowledgments

I would like to express a heartfelt thank you to Professor Giulia Priora: for her contagious passion for IP, her exemplary dedication, and her unwavering support and motivation.

To the people and places of this journey.

To my family.

Quoting and other conventions

The quoting style used is OSCOLA (Oxford University Standard for Citation of Legal Authorities).

List of abbreviations

CJEU – Court of Justice of the European Union

EU – European Union

TRIPS Agreement – Agreement on Trade-Related Aspects of Intellectual Property Rights

CEAP – Circular Economy Action Plan

GC – General Court of the European Union

Declaration

The body of the Dissertation, consisting of five chapters, including spaces and footnotes, occupies a total of 168 783 characters.

Abstract

This thesis examines how EU Design Law can better accommodate repair. As the EU has explicitly embraced circular economy principles, the question arises whether its intellectual property systems can adapt. The repair clause in EU Design Law, being recently affirmed as aligned with circular economy goals, provides a unique entry point in the IP field for analysis and an invitation to look throughout the framework to assess where else EU Design Law could further enable repair.

The analysis has two main focus points. Firstly, it examines exclusions from protection, particularly functionality and public policy, with space to ponder the impact that the interconnection and modular systems related provisions can have in light of the circular economy goals. The goal is first to determine whether a public domain of spare parts, meaning certain features of appearance that remain available for use and replication by repairers, exists and how it can be influenced by repair-oriented interpretation of the relevant articles. And second, to understand if the public policy exclusion provides grounds to not grant protection to designs that contradict the goal of implementing a right to repair.

Secondly, it analyses limitations of exclusive rights, focusing on how private use, citation, referential use, exhaustion, and especially the repair clause govern the lawfulness of repair uses. In this regard, analysis of relevant case law highlights some uncertainty regarding the applicability and operationalisation of these clauses in repair scenarios. Nevertheless, the interpretation of these provisions, having in mind their consequences to the circular economy the EU is trying to build, could be a solid route to align design protection with the circular economy. The thesis argues for maximising interpretive possibilities within the existing Design Law framework, trying to expand its capacity for enabling meaningful repair uses.

Resumo

Esta tese examina como a legislação da UE em matéria de desenhos e modelos pode melhor incorporar o conceito de reparação. Tendo em conta que a UE adotou explicitamente o objetivo de tornar a sua economia mais circular, surge a questão de saber se o regime de propriedade intelectual irá adaptar-se a esses objetivos. A cláusula de reparação na legislação da UE em matéria de desenhos e modelos, recentemente confirmada como estando em linha com os objetivos da economia circular, proporciona um ponto de entrada único para análise e um convite a examinar todo o quadro legislativo para avaliar em que outros aspetos a legislação de desenhos e modelos da UE pode ser considerada compatível com o objetivo de viabilizar mais reparação.

A análise centra-se em dois pontos principais. Em primeiro lugar, examina as exclusões de proteção, em particular a funcionalidade e a ordem pública, deixando espaço para ponderar o impacto que a disposição relativa a interconexões e sistemas modulares pode ter à luz dos objetivos da economia circular. O objetivo é, primeiro, determinar se existe um domínio público de peças sobressalentes, ou seja, certas características de aparência que permanecem disponíveis para utilização e replicação por parte dos reparadores, e como pode esse domínio público ser influenciado através da interpretação dos artigos relevantes orientada para facilitar reparação. Segundo, o objetivo é também perceber se a exclusão da ordem pública fornece fundamentos para não conceder proteção a desenhos e modelos que contrariam o objetivo de implementar o direito à reparação.

Em segundo lugar, são analisadas as limitações aos direitos exclusivos concedidos, nomeadamente o uso privado, a referência, o uso para fins de identificação ou referência, o esgotamento e, em particular, a cláusula de reparação, que regem a legalidade dos usos de reparação. A este respeito, a análise da jurisprudência relevante revela alguma incerteza quanto à aplicabilidade e operacionalização destas cláusulas em cenários de reparação. No entanto, a interpretação destas disposições, ponderando as suas consequências para a economia circular que a UE está a tentar construir, poderia ser uma via sólida para alinhar a proteção dos desenhos e modelos com a economia circular. A tese defende a maximização das possibilidades interpretativas no âmbito do quadro jurídico existente em matéria de desenhos e modelos, para tentar expandir a capacidade do ordenamento de permitir utilizações de reparação significativas.

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Chapter 1 - Introduction

In an era of throwaway culture, millions of tons of potentially functional devices end up in landfills each year¹ because access to spare parts and/or an affordable repair service is simply unavailable.² As the recycling infrastructure struggles to keep pace, there is a pressing need to maximise the lifespan of existing products and restrain the fast depletion of limited natural resources and rampant pollution. These high levels of waste have driven a movement toward circular economic practices, a context in which repair is a viable, if not environmentally imperative, solution.³ The discussion around repair also prompts a rethinking of our relationship with products to understand expectations of durability and repairability, as well as the phenomenon of planned obsolescence. While repair practices have long been embedded in human societies as matters of necessity and resourcefulness,⁴ contemporary industrial and consumption habits have reconfigured the conditions under which these relationships with objects are negotiated.

The Ellen MacArthur Foundation's research on the circular economy well illustrates the centrality of repair. Its Butterfly Diagram⁵ highlights the extra value of repairing over other "Rs", such as recycling. Repairing a product maintains it closer to its original form and preserves the resources already spent on its production, keeping them in circulation and maximising the efficient use of natural resources.⁶ Furthermore, repairing can not only maintain but also save a product otherwise doomed to become waste, in what the Foundation calls "Refurbishing".⁷ These different ways of prolonging the lifespan of a product have characteristics that differentiate them from recycling and make them more attractive from

¹ Baldé C.P. and others, 'The Global E-Waste Monitor 2024' available at <https://ewastemonitor.info/the-global-e-waste-monitor-2024/> 62 billion kg of e-waste, only 22.3% is documented as formally collected and recycled in an environmentally sound manner.

² *ibid* page 28 "Driven by technological progress, increased consumption, *limited repair options*, short lifecycles and inadequate e-waste management infrastructure, the growth in the amount of e-waste is outpacing growth in documented formal collection and recycling." (emphasis added).

³ Eléonore Maitre-Ekern 'Exploring the Spaceship Earth: A Circular Economy for Products' in Eléonore Maitre-Ekern, Carl Dalhammar, and Hans Christian Bugge (eds.), *Preventing Environmental Damage from Products: An Analysis of the Policy and Regulatory Framework in Europe* (Cambridge University Press, 2018). Describing the failure of the linear economy model and the need for a shift to a circular economy paradigm which needs five key elements to be achieved, one of which is "designing for durability and reparability".

⁴ Aaron. Perzanowski, *The Right to Repair: Reclaiming the Things We Own* (Cambridge University Press 2021) Chapter 3 – The History of Repair. Providing examples, such as centuries-old pottery, boats, modular designs for Roman armour to ease repair, reparation of medieval manuscripts, etc.

⁵ Ellen MacArthur Foundation 'The butterfly diagram: visualising the circular economy' (12 February 2021) <<https://www.ellenmacarthurfoundation.org/circular-economy-diagram>> accessed 6 December 2025.

⁶ Eléonore Maitre-Ekern (n 3) "By keeping products in use longer, we can save resources that would be used for making new products, as well as money for consumers that do not have to replace their products as often".

⁷ 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 6 December 2025.

an efficiency of managing natural resources perspective. Recycling processes fail to preserve the original integrity and functionality of products, as materials are reduced to their constituent raw materials. This transformation results in the loss of energy already expended during the initial manufacturing phase. Furthermore, recycling operations require additional energy for material processing, sorting, and reconstitution, thereby incurring in supplementary costs. This is not to say that recycling as such is undesirable. However, while recycling represents a preferable alternative to waste disposal, repair and refurbishment take precedence as they maintain material integrity.⁸ Thus, repair occupies a place of primacy within the circular economy, offering particular promise for slowing consumption patterns and addressing the waste concerns outlined above. To that end, the other protagonist of this thesis, design law, becomes essential. This is both because of its potential as a mechanism to incentivise circularity and because, at the very least, it should avoid being an obstacle that prevents consumers, repair communities, and professional repairers from extending the lifespan of existing products.

The legal dimension of this relationship between design and repair will be further studied, starting with repair and the circular economy. Repair is defined as the “actions carried out to return a defective product or waste to a condition where it fulfils its intended purpose”.⁹ It is embedded within one of the EU’s main strategic aims – the establishment of a circular economy. This circular economy goal was first explicitly embraced in 2015¹⁰ to later, in 2020, be fully established as a key pillar of the European Green Deal in the Circular Economy Action Plan (CEAP).¹¹ These two Communications by the EU Commission set out some of the main characteristics of the circular economy envisioned by the EU,¹² namely being a “transition towards a regenerative growth model that gives back to the planet more than it takes”,¹³ emphasising the need to make sure “the value of products, materials and

⁸ Ellen MacArthur Foundation, *Growth within: A circular economy vision for a competitive Europe* (2015), page 12 “In value terms, Europe lost 95 percent of the material and energy value, while material recycling and waste-based energy recovery captured only 5 percent of the original raw material value. Even recycling success stories like steel, PET, and paper lose 30–75 percent of the material value in the first use cycle.”

⁹ Regulation 2024/1781 of 13 June 2024 establishing a framework for the setting of ecodesign requirements for sustainable products, amending Directive 2020/1828 and Regulation 2023/1542 and repealing Directive 2009/125/EC [2024] OJ L, 2024/1781 (Ecodesign Regulation) Article 2(20).

¹⁰ Commission, ‘Closing the loop - An EU action plan for the Circular Economy’ COM/2015/0614 final.

¹¹ Commission, ‘A new Circular Economy Action Plan for a cleaner and more competitive Europe’ COM(2020) 98 final (CEAP).

¹² Another example: Regulation 2021/783 of 29 April 2021 establishing a Programme for the Environment and Climate Action (LIFE), and repealing Regulation No 1293/2013 OJ L 172 Recital 18 “Promoting the circular economy and resource efficiency requires a shift in the manner materials and products, including plastics, are *designed*, produced, consumed, *repaired*, reused, recycled and disposed of and a focus on the whole lifecycle of products.” (emphasis added).

¹³ CEAP (n 11) Introduction.

resources is maintained in the economy for as long as possible”¹⁴ and minimising the production of waste,¹⁵ under the rationale of avoiding “the irreversible damages caused by using up resources at a rate that exceeds the Earth’s capacity to renew them in terms of climate and biodiversity, air, soil and water pollution.”¹⁶ and “keeping [EU’s] resource consumption within planetary boundaries”.¹⁷

The 2015 EU Commission Communication already referred to repair when it stated that “The proposed actions support the circular economy in each step of the value chain – from production to consumption, *repair* and remanufacturing, waste management (...)”¹⁸, and that “The Commission will promote the *reparability* (...) by developing product requirements relevant to the circular economy in its future work”.¹⁹ Furthermore, in 2015, the Communication also recognised the connection between repair and avoiding waste,²⁰ and identified existing obstacles to repair, such as access to spare parts.²¹ The CEAP goes one step further in this regard with the explicit intention of establishing a “right to repair”.²²

It thus becomes clear that repair is linked to a broader strategy for preserving material value and environmental protection. By preventing products from entering waste streams by restoring functionality and utility, repair becomes an activity that directly supports the transition from linear to regenerative systems by prioritising preservation over resource extraction and replacement. In this regard, it is also worth mentioning that enabling repair also resonates with the Sustainable Development Goals (SDGs), particularly SDG 12, which aims to “Ensure sustainable consumption and production patterns”,²³ and target 12.5 more specifically: “By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse”. However, the implementation of this repair dimension of the circular economy encounters not only technical barriers but also significant legal complexities. This tension particularly emerges with intellectual property (IP) rights, as acknowledged by the

¹⁴ ‘Closing the loop - An EU action plan for the Circular Economy’ (n 10) Introduction.

¹⁵ *ibid.*

¹⁶ *ibid.*

¹⁷ CEAP (n 11) 1. Introduction.

¹⁸ ‘Closing the loop - An EU action plan for the Circular Economy’ (n 10) Introduction (emphasis added).

¹⁹ *ibid.* 1.1. Product design (emphasis added).

²⁰ *ibid.* 2. Consumption “Once a product has been purchased, its lifetime can be extended through reuse and repair, hence avoiding wastage.”

²¹ *ibid.* 2. Consumption “(...) certain products cannot be repaired because of their design, or because spare parts or repair information are not available.”

²² CEAP (n 11) 5 “the Commission will work towards establishing a new ‘right to repair’”; identified in the Annex as a key action: “Legislative and non-legislative measures establishing a new “right to repair””.

²³ United Nations General Assembly, “Transforming our World: The 2030 Agenda for Sustainable Development” (2015) A/RES/70/1.

CEAP when it refers to the need to “ensure that intellectual property remains a key enabling factor for the circular economy and the emergence of new business models”.²⁴

Whether the EU legal framework governing IP, and particularly EU Design Law, can accommodate circular economy principles remains an open question. EU Design Law operates primarily as an incentive, which prioritises novelty over other product characteristics such as longevity or end-of-life considerations. Rather than encouraging design choices that lead to a more circular resource use or slower replacement cycles, the current EU design framework simply rewards novelty and individual character. Because of this, the extent to which circular economy features can be protected under EU Design Law is limited.²⁵ This is illustrative of some difficulties embedded in the design system, and the extent to which other parts of design law might encounter similar challenges will be seen throughout the thesis. In essence, it remains questionable whether a body of laws that historically developed to incentivise innovation within a linear economy paradigm²⁶ possesses the necessary legal mechanisms to align itself with broader sustainability-centred objectives, namely, the circular economy in general and the establishment of a right to repair in particular.

The exclusive rights conferred by IP law can often imply that repair acts (for example: access to protected information and to diagnostic software, producing replacement parts) need prior authorisation from the rightsholder. This tension prompts the need to examine the existence of potential mechanisms within IP that could be used to better align the framework with the right to repair and examine the IP legal barriers to repair activities. IP has, in fact, been strategically employed by original manufacturers to legitimise anti-repair behaviours and to oppose reforms to implement the right to repair.²⁷ Consequently, legal

²⁴ CEAP (n 11) page 21.

²⁵ Dana Beldiman, Stina Teilmann-Lock, and Anna Tischner ‘Designing for the European Green Deal - a supplementary protection regime for circular designs in the EU’ in Dana Beldiman (ed.), *Design Law Global Law and Practice* (Edward Elgar Publishing 2024) “Trapped by the concept of a product’s appearance”.

²⁶ *ibid* Also questioning the compatibility of current-day goals with those at the core of the Design Regime: “The EU design law was a response to the needs of the last decades of the 20th century, characterized in Europe by overproduction and exuberant consumerism.” “(…)if 20th-century EU design law is primarily focused on adding more ‘stuff’ to the world, is this the kind of design the world still needs in the 21st century?”.

²⁷ For example: Ole-Andreas Rognstad, ‘Revisiting the Concept of “Trade Mark Piracy” in Light of Sustainable Development Goals – a Discussion of the Norwegian ‘Apple Case’ in Ole-Andreas Rognstad and Inger Berg Ørstavik (eds), *Intellectual Property and Sustainable Markets* (Edward Elgar Publishing 2021); Aaron Perzanowski (n 4) page 9 “Copyright law has been central to Deere’s strategy to shut competitors out of the lucrative market for farm-equipment repair.”; Matthew Rimmer, ‘Tractor Rage: Intellectual Property, Agriculture, Competition Policy, and the Right to Repair’ (2025) in 56 IIC 115 “Caterpillar, the manufacturer of construction and mining equipment, has been a vocal opponent of the right to repair. Electric car manufacturer Tesla has also battled litigation over the right to repair. The information technology company Apple has faced scrutiny over its approach to the right to repair.” (and footnotes therein); Joined Cases C-397/16 and C-435/16 *Acacia* [2017] ECLI:EU:C:2017:992 (*Acacia*); C-500/14 *Ford Motor Company* [2015] ECLI:EU:C:2015:680.

initiatives worldwide highlight the urgent need to reform IP frameworks towards repair-compatibility.²⁸

Because the EU framework has explicitly embraced circular economy principles, it is then necessary to understand where these commitments have space to permeate the existing legislation, hence the choice of the EU as the territory to study. Within the broader IP system, which, as I have mentioned in the preceding paragraph, often plays the role of adversary to repair activities and reforms, the branch chosen is Design Law. This choice was based on the existence of a repair clause. This historically controversial clause reflects a particular equilibrium that the EU design law framework managed to achieve. Inside Design Law, the particular uniform system established via Regulation²⁹ was chosen, for the purpose of analysing the problematic under a unitary entitlement, not precluding that some of the analysis will naturally be useful for the purposes of interpreting the provisions from national law that have transposed the corresponding Directive.³⁰ Furthermore, the proposal to amend the Design Law Regulation very notably states that the repair clause is consistent with the aim to “promote repairs and the circular economy”.³¹ This acknowledgement provides a justification for interpreting the clause consistently with these aims and, beyond this express link, to explore alternative avenues through which repair (more broadly understood) concerns might permeate design law. For this purpose, the thesis proceeds through case law analysis to determine the scope of existing exclusions and limitations. Throughout it, judicial interpretation guides the analysis, and where case law is lacking, the analysis relies on textual interpretation supplemented by relevant preparatory materials to understand how, under today’s circular economy concerns, the clauses should be interpreted.

²⁸ For example: Anthony D Rosborough, ‘Updates to Canada’s Copyright Act bring consumers closer to the ‘right to repair’ your devices’ (7 November 2024) *The Conversation* <<https://theconversation.com/updates-to-canadas-copyright-act-bring-consumers-closer-to-the-right-to-repair-your-devices-241535>> accessed 6 December 2025; Elizabeth Chamberlain, ‘Right to Repair Laws Have Now Been Introduced in All 50 US States’ (24 February 2025) *iFixit* <<https://www.ifixit.com/News/108371/right-to-repair-laws-have-now-been-introduced-in-all-50-us-states>> accessed 7 December 2025; Julie Collins and Andrew Leigh, Joint media release: Farmers back historic right to repair reform (3 December 2025) <<https://minister.agriculture.gov.au/collins/media-releases/right-to-repair-reforms-agricultural-machinery>> accessed 7 December 2025.

²⁹ Council Regulation (EC) 6/2002 of 12 December 2001 on Community designs [2001] OJ L 3, as amended by Regulation (EU) 2024/2822 of 23 October 2024 [2024] OJ L2024/2822, hereafter EUDR. Numbering according to the consolidated version.

³⁰ Directive (EU) 2024/2823 of 23 October 2024 on the legal protection of designs (recast) [2024] OJ L, 2024/2823.

³¹ Commission, ‘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’, COM/2022/666 final, Explanatory Memorandum.

The thesis is structured as follows: Chapter 2 establishes a precise legal definition of repair within both the circular economy framework and the IP context, providing the conceptual foundation for subsequent analysis. The third chapter examines the Design Law system through the lens of protected subject matter and how certain provisions can channel the need to keep certain features free from protection to make products more repairable. Chapter 4 focuses on the activities directly involved in repair to understand the scope of current limitations, when protection does exist, and the freedom to operate of repairers. Here is where the flagship of repair in Design Law, the Repair Clause, will be studied, among other relevant limitations. And finally, the conclusion will address some of the findings related to attempts to adopt repair-oriented interpretations in different provisions.

Chapter 2 - What do we mean by “Right to repair” in the EU

At the EU level, when the CEAP³² was adopted, it was considered key to implement “Legislative and non-legislative measures establishing a new “right to repair””.³³ Several instances of normative resonance of the right to repair can be found throughout the EU legal framework, forming a heterogeneous body of laws. The piecing together of the different repair references reveals a need to clarify the scope of the thesis, and throughout the chapter, better clarify what is actually meant when using words and expressions such as “right to repair”, “repairability by default”, “repairability duties” and “repair uses”.

To make sense of the ever-growing body of laws regarding repair and the multifaceted nature of what is referred to as the “right to repair”, two different dimensions need to be highlighted. On one hand, *ex-ante* duties aimed at firms to adopt certain standards or conducts. On the other hand, *ex-post*, “duties to stay off” a certain conduct undertaken by a third party (not necessarily a firm). These are established for the purposes of enabling repair activities by blocking conducts that would otherwise undermine or obstruct such activities, namely the exercise of intellectual property rights.

These two dimensions can be distinguished by drawing a divide between the concept of *repairability duties* and that of *repair uses*. In this regard, Rosborough has conceptualised the Right to Repair by reference to two regulatory dimensions, which can be framed as follows: one aiming to increase *repairability duties* in products - impositions on manufacturers either through actionable consumer law-based rights or through product regulations; and a second dimension aimed at empowering consumers and independent repairers to undertake *repair uses* lawfully.³⁴ In other words, *repairability duties* are understood as something which strictly relates to product characteristics or obligations that the legislator has progressively been trying to impose on manufacturers (for example, documentation available, availability and price of spare parts, etc.). The imposition can regulate the characteristics that products must have and/or prohibit certain conduct of original manufacturers considered to be anti-repair, or mandate conduct considered to increase *repairability by default*. This *ex-ante* positive

³² (n 11).

³³ (n 11) Annex.

³⁴ Anthony D. Rosborough, ‘Unscrewing the Future: The Right to Repair and the Circumvention of Software TPMs in the EU’ [2020] 11(1) JIPITEC <<https://www.jipitec.eu/jipitec/article/view/270>> accessed 7 December 2025. “The ‘Right to Repair’ can mean many things. In the context of intellectual property, it is generally understood as both a defence to otherwise infringing conduct and a positive obligation on behalf of manufacturers to assist consumers in repairing and maintaining products they have purchased. This positive obligation can come in the form of offering to consumers repair documentation, spare parts protected by industrial design and patented special tools needed to perform repairs.”.

obligations dimension intends to make sure that, from their placement on the market, before any repair activity has been performed, products are compatible with the circular economy and have a high level of repairability.

On the other hand, the concept of *repair uses*, and their lawfulness, is directly linked to barriers for consumers or independent repairers to either privately repair or undertake business activities focused on repairing products, naturally, after they are placed on the market with a higher or lower degree of *repairability by default*, that reflects following the previous dimension of *duties*. The *repair uses* dimension is where most of the analysis will develop, and also where Intellectual Property Rights can reveal a negative bias towards repairing activities.

These two dimensions are reflected in both doctrine and in the legal acts adopted by the EU. As a consequence of its multifaceted nature, scholars refer to the right to repair to both analyse it with a heavier focus on the consumer law perspective³⁵ but also more specifically on its IP dimension and the tensions stemming from the attributed exclusive rights.³⁶ This variability underscores the necessity for conceptual precision as a prerequisite for a targeted analysis. Naturally, this analytical compartmentalisation does not suggest the creation of air-tight categories that ignore the inherent interconnectedness between different dimensions of repair. Rather, the recognition of these distinct yet complementary facets serves to enhance conceptual precision. An extra advantage lies in countering the tendency of incorporating IP considerations within broad legislative initiatives under the right to repair, inadvertently neglecting the instrumental role that the IP legal framework can play in advancing repair goals.

An analysis of the set of laws that regulate repair in the EU further underlines the importance of this conceptual difference and reveals the priorities of current regulatory approaches. There is an extensive body of laws that govern repair in the EU. For example, the Waste Directive,³⁷ asserts that “Member States should take appropriate measures to

³⁵ Agustin Reyna and Patrycja Gautier, ‘The European Take on the Right to Repair (R2R)’ [2025] in Volume 14, Issue 3 EuCML; Evelyne Terryn, ‘A right to repair? Towards sustainable remedies in consumer law’ [2019] 4-2019 European Review of Private Law.

³⁶ Quan Y and Zhang X, ‘Outlook on the right to repair: how will it find its way into China’s Copyright Law?’ [2023] Vol. 18, No. 5 JIPLP 382; Furuta A and Heath C, ‘The Right to Repair, Refill and Recycle by Way of an Anti-trust Defence – Comment on the Japanese Decisions *Ricoh I*, *Ricoh II* and *Brother*’ [2023] 72(11) GRUR 1053; Rosborough, Wiseman and Pihlajarinne, ‘Achieving a (copy)right to repair for the EU’s green economy’ [2023] Vol. 18, Issue 5 JIPLP 344; Leah Chan Grinvald and Ofer Turn-Sinai, Intellectual Property and the Right to Repair [2019] 88 Fordham Law Review 63.

³⁷ Directive (EU) 2018/851 of 30 May 2018 amending Directive 2008/98/EC on waste [2018] OJ L 150 (Waste Directive).

encourage the development, production, marketing and use of products and components of products that are suitable for multiple use, that contain recycled materials, that are technically durable and *easily repairable*”.³⁸ In this same Directive, Article 9, regarding “Prevention of Waste”, number 1 letter (d) states that within the measures to prevent waste generation Member States should “encourage the re-use of products and the setting up of systems *promoting repair* and re-use activities”.³⁹ It is noteworthy that the strategic importance of repair extends beyond environmental considerations to encompass resource security objectives. The Critical Raw Materials Regulation⁴⁰ recognises that a sustainable supply of critical raw materials depends on promoting “waste prevention and increase re-use and *repair* of products and components with relevant critical raw materials recovery potential;” (Article 26(1)(b)), positioning repair as a key component of EU strategic autonomy.

The legal strategy adopted by the EU has often focused on enhancing *repairability by default*, through positive obligations (*duties*) regarding design requirements and information disclosure. Examples can be found in the Empowering Consumers for the Green Transition Directive,⁴¹ which introduces information requirements establishing, where applicable, that a repairability score is included within the information provided by traders to consumers.⁴² The Ecodesign Regulation⁴³ establishes the framework for information requirements concerning repairability and durability (recital 30 and Article 7(b)(i)). Crucially, the design requirements to be adopted under this Regulation specifically target aspects such as repairability (Article 5(1)(e), Annex I (b), (e)), further revealing the commitment to embed repair in a product development stage. Regulation (EC) No 715/2007⁴⁴ exemplifies sector-specific repairability obligations by requiring manufacturers to “provide unrestricted and standardised access to vehicle repair and maintenance information to independent operators” (Article 6(1)). Furthermore, the requirement that any fee charged must be reasonable and proportionate (Article 7) highlights the dimension of repair affordability, an element of central importance in the discourse around repair.

³⁸ *ibid.* Recital 20 (emphasis added).

³⁹ *ibid.* Article 9(1)(d) (emphasis added).

⁴⁰ Regulation (EU) 2024/1252 of 11 April 2024 establishing a framework for ensuring a secure and sustainable supply of critical raw materials and amending Regulations (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1724 and (EU) 2019/1020 [2024] OJ L, 2024/1252.

⁴¹ Directive (EU) 2024/825 of 28 February 2024 amending Directives 2005/29/EC and 2011/83/EU as regards empowering consumers for the green transition through better protection against unfair practices and through better information [2024] OJ L, 2024/825.

⁴² *ibid.* Article 2(2) Amendments to Directive 2011/83/EU.

⁴³ (n 9).

⁴⁴ Regulation (EC) No 715/2007 of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information [2007] OJ L 171.

The IP side of the discussion, besides being emphasised by the doctrine, had initially been the subject of the EU Commission's Intellectual Property Action Plan to support the EU's recovery and resilience,⁴⁵ when it recognised that "We need clear answers to new questions, such as (...) how to ensure that repair and re-use are not blocked by unfair or excessively restrictive IP practices". Since then, Directive (EU) 2024/1799⁴⁶ was adopted, focusing on common rules promoting the repair of goods, establishing obligations to repair under its Article 5, and notably, recognising that ensuring products remain repairable in the marketplace requires addressing potential IP-related restrictions (Article 5(6)). At the same time, the debate around the design repair clause⁴⁷ finally reached its conclusion after uncertainty persisted for some time, although mitigated by case law interpreting the regulation,⁴⁸ and now, finally, national systems cease to operate under an unharmonized framework.⁴⁹

Precisely because of the holistic nature of the right to repair, there are interactions between the two previously mentioned dimensions. An example of this interplay can be found with repairability indexes and the design repair clause. A repairability index is a mechanism that, under the proposed conceptualisation, is an *ex-ante duty* imposed on manufacturers to calculate and share repair-related information. When a repairability index determines as a relevant criterion, the availability and price of spare parts⁵⁰ it aims to work as an incentive for the fair pricing of spare parts (the incentive being the loss in revenue due to having to communicate an unattractive feature of the product). Complementary, the repair clause in design law aims to liberalise the secondary market for spare parts, precisely to keep them available and at competitive prices, by lifting IP protection which would otherwise constitute a barrier. To achieve competitive repair prices,⁵¹ and, consequently, a meaningful right to repair,⁵² both dimensions come into play. The former (repairability index) and the latter (repair clause) form two complementary dimensions of the overarching issue of availability/affordability of spare parts. The first market intervention imposes duties that are

⁴⁵ Commission 'Making the most of the EU's innovative potential An intellectual property action plan to support the EU's recovery and resilience' COM(2020) 760 final.

⁴⁶ Directive (EU) 2024/1799 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 [2024] OJ L, 2024/1799 (Repair Directive).

⁴⁷ Article 20a EUDR.

⁴⁸ *Acacia* (n 27).

⁴⁹ Previously existing Article 14 of Directive 98/71/EC of the European Parliament and of the Council of 13 October 1998 on the legal protection of designs [1998] OJ L 289.

⁵⁰ As in the case of the French reparability index (*Code de l'environnement*, Art R541-214, I, paras 3-4).

⁵¹ The price of a part does not necessarily translate to the pricing of the service of repair, as the latter needs skills and often specialised tools.

⁵² The perspective that affordability, as referenced before, is key to repair.

hoped to indirectly increase *repairability by default*, and the second level of “intervention” targets mostly the secondary market of repair, not imposing duties, but making sure that spare parts can be produced and used without the threat of infringement claims, ensuring free and lawful *repair uses*. Both are relevant in making sure a competitive framework exists in which a thriving market of repair can be established.

Notwithstanding this complementarity, the regulatory development reveals a certain asymmetry. EU law increasingly mandates that products be designed for *repairability*⁵³ while potentially permitting IP rightsholders to restrict the very repair activities that such design requirements are intended to enable. Article 5(6) of the Repair Directive illustrates this point, establishing that the adoption of certain anti-repair conducts is prohibited, while also leaving an express exception under which IP rights transform what is standardly considered as a prohibited practice into a legitimate one, simply through the exercise of an IP right. Accordingly, the IP framework must evolve either through legislative reform or interpretative development to align with the broader repair-enabling legislative trajectory. Failure to achieve this alignment risks creating contradictions between IP exclusivity and the established EU policy objective of transitioning toward a repair-enabled circular economy. As such, the proposed analysis will consider several instances in which repair can be channelled to ensure that *repair uses* are free and lawful, which is a prerequisite for repair to thrive.

⁵³ Commission, ‘Ecodesign your future: how ecodesign can help the environment by making products smarter’ [2012] <<https://op.europa.eu/en/publication-detail/-/publication/4d42d597-4f92-4498-8e1d-857cc157e6db/language-en>> accessed 8 December 2025 In line with the European Commission’s assessment that “More than 80% of the environmental impact of a product is determined at the design stage.”.

Chapter 3 - The subject matter of EU design law and repairable products

The everyday, non-legal meaning of repair as “restoring by replacing a part or putting together what is torn or broken”⁵⁴, or the legislative notion of repair as “actions carried out to return a defective product or waste to a condition where it fulfils its intended purpose”⁵⁵, require translation to a technical and legal definition within the context of IP. This means considering what may or may not fall under the scope of protection granted to the right holder. To replace a part, one might need to reproduce it entirely, and to put together what is broken, one might need to use components that find themselves protected and, consequently, their use is only lawful if authorised by the right holder. As such, drawing a correct picture of protectability is essential to frame repair activities which, from the outset, infringe an exclusive right. In other words, within the IP framework, repair activities entail acts of reproduction, use, or modification of protected subject matter that may fall within the exclusive scope of rights holders’ control. As such, qualifying for protection is the natural first relevant moment, from the legal perspective, when framing repair acts to determine their lawfulness. Before assessing whether repair constitutes infringement or whether limitations might apply, it is essential to establish precisely which elements attract IP protection in the first place.

The EUDR grants exclusive rights to design, meaning the appearance of the whole or a part of a product,⁵⁶ based on its novelty, individual character and, if a component part of a complex product is being considered, the extra requirement of visibility applies.⁵⁷ Besides these criteria that can fall under what scholarly analysis has classified as “more flexible doctrines of general application”,⁵⁸ two other provisions, which instead are “narrowly-defined exclusions”,⁵⁹ are important to delineate the borders, beyond which protection is no longer granted. They are Article 8 EUDR regarding “Designs dictated by their technical function and designs of interconnections” and art. 9 EUDR relating to “Designs contrary to public policy or morality”.

These two Articles, for their potential repair implications, justify a close look as they are strictly related to the central issue of both the protection and definition of spare parts.

⁵⁴ Merriem-Webster, ‘repair’ <<https://www.merriam-webster.com/dictionary/repair>> accessed 13 December 2025.

⁵⁵ Article 2(20) Ecodesign Regulation.

⁵⁶ Art.3 (1) EUDR.

⁵⁷ Art.4 EUDR.

⁵⁸ Du Mont, Jason J. and Janis, Mark David, ‘Functionality in U.S. Design Patent & Community Design Law’ [2016] *Indiana Legal Studies Research Paper No. 342*, p. 29.

⁵⁹ *ibid.*

Understanding these exclusions is essential to map a public domain of available designs, meaning those elements that everyone could potentially freely use without seeking authorisation. The public domain encompasses not only designs whose protection has expired but, more importantly for this analysis, those that were never eligible for protection in the first place due to failing the substantive requirements or falling within the exclusions. With this in mind, the analysis now turns to the intersection between design protection and spare parts, which represents a direct point where IP exclusivity confronts the objectives of repair.

First and foremost, a conceptual clarification: spare parts and component parts of complex products refer to two different concepts. Component parts of complex products, by definition, encompass a necessarily narrower scope than the broader understanding of spare parts, as Article 3(3) EUDR defines complex products and Article 4(2) EUDR establishes extra requirements for the protection of component parts. Consequently, a spare part is only a component part of a complex product when that definition is met (this nuance will be particularly important when we later define the scope of the repair clause). On the other hand, the definition of a spare part encompasses any part of a product, complex or otherwise. The appearance of this part of a product can be subject to independent protection according to the definition of design (Article 3(1) EUDR: “appearance of the whole or a part of a product”).⁶⁰ Moreover, recital 20 EUDR reinforces this distinction when it states the objective of spare parts liberalisation and subsequently refers to a clause exclusively applicable to component parts of complex products. The use of the two concepts hints at both a comprehensive spare parts liberalisation objective and the narrow mechanism chosen to achieve it - a clause limited to specific spare parts categories. This further clarifies the conceptual distinction and how the EU legislator recognised the broader necessity for spare parts availability, but implemented a repair clause that only addresses a portion of the spare parts universe. The following analysis adopts a comprehensive understanding of spare parts, recognising that the exclusion of protection based on functionality and public policy applies across all designs and consequently across all spare parts categories.

The particularity of spare parts and their inherent purpose should prompt us to reconsider the interpretation of existing design protection provisions. A spare part is used as a means to restore the product and enable it to fulfil its intended purpose, which in the design

⁶⁰ What is sometimes referred to as a *partial* design in the doctrine – “A partial design is understood as several features of a product/part of a product, such as the ornamentation on the handle of a knife or teapot.” Lavinia Brancusi, ‘A multi-perspective view on visibility in EU design law’ [2024] Volume 19, Issue 8, JIPLP 648.

law context, also entails restoring the original appearance of the product. As such, most often, there are no new and creative ways to do so. When replacement involves designs that satisfy novelty and individual character requirements, such new alternatives can attract independent design protection while remaining outside the scope of pre-existing design rights and associated infringement claims. However, this scenario fundamentally fails to achieve the core spare parts objective: restoration of original appearance. The freedom to replace a spare part with a protectable alternative (and consequently not infringing) is less problematic, at least from a design law perspective. Instead, a tension emerges when consumers want to restore the original appearance of a product and need to use (most often, replicating) the identical spare part design originally incorporated into the product.⁶¹

The debate surrounding the IP legal protection of spare parts is far from new. Cases dating back to the 1988⁶² already revealed its contested nature, with different nuances and discussions emerging throughout the years, intensified by both case law developments and legal initiatives. Several arguments could be advanced to argue against the protectability of spare parts, each highlighting different aspects of this complex issue. Considering, for instance, the Economic and Social Committee's opinion⁶³ for the original proposal for the EUDR. This Opinion mentions in paragraph 2.11 the need to “improve the situation of consumers” while paragraph 2.14 comments on how one of the objectives of IP should be to motivate “other individuals to undertake similar endeavours and to innovate in the future”. These two notes, read in light of the particularity of spare parts, could form the basis for denying them protectability, as encompassing them in the scope of EU design rights would contradict the goals of the Proposal.

⁶¹ On vehicles specifically see: Bernhard Posner, ‘Protection of Car Designs and Component and Spare Part Designs under Future Community Law’ [1994] 22, 3 International Business Lawyer 108 “The consumer wishing to replace a car body part is bound to the manufacturer to the extent that he does not wish to change the appearance of his vehicle, unless a third party is authorised to reproduce the design”.

⁶² C-53/87 *CICRA and Others v Renault* [1988] ECR 1988 -06039; C-238/87 *Volvo v Veng*, [1988] ECR1988 - 06211.

⁶³ Opinion of the Economic and Social Committee on the Proposal for a European Parliament and Council Regulation on the Community design [1994], <<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A51994AC0849%2801%29>>.

The IP legal protection of spare parts leads to an increase in their market price,⁶⁴ which is a natural consequence associated with IP exclusivity.⁶⁵ If the criteria for assessing consumer welfare were only price, then every IP entitlement could be criticised for negatively impacting consumers. Hence why here (2.14 of the Economic and Social Committee Opinion), and IP economic analysis, emphasise the incentive element as a counterbalancing factor.⁶⁶ However, taking into consideration the particularities of spare parts, some distinctions arise and the protectability of spare parts cannot be analysed using the same framework applied to products. In the latter, the entitlement has the negative effect of price increase, but it is simultaneously associated with rewarding the creativity and work of the designer, while incentivising creativity (including through finding competing solutions) which aligns with the so-called “marketing approach”⁶⁷ that characterises the regulation. This formula fails to translate seamlessly to the secondary spare parts market. Since the purpose of using a spare part is to restore the original appearance of the product, there is but one choice and consequently, competition or diversification does not exist unless exact replication is possible. This is because spare parts, being must-match, cannot be “designed around” to still achieve the essential function of restoring the original appearance of a product - copying is indispensable to restore that appearance.

Protectability of spare parts has two different and relevant consequences. First, it establishes a permanent tie to the IP holder, which is not the goal of design law⁶⁸(practices

⁶⁴ Opinion of the Committee on Economic and Monetary Affairs on the proposal for a European Parliament and Council directive amending Directive 98/71/EC on the legal protection of designs [2005] <https://www.europarl.europa.eu/doceo/document/A-6-2007-0453_EN.html> “A liberalised market offers a greater choice and a high probability of lower prices. A study showed that 10 out of 11 spare parts are more expensive in protected markets than in liberalised markets. Furthermore -for example- the VM price for a wing front can be up to over 200% higher than it is on the free market.”

⁶⁵ W. Landes and R. Posner, *The Economic Structure of Intellectual Property Law* (Belknap Press, 2003), Chapter 1 - The Economic Theory of Property (page 11) “(...) legal protection against copying, by enabling the creator of the intellectual property to charge a price for copies (of which his property right makes him a monopolist) in excess of his marginal cost, prevents access to (use of) the intellectual property by persons who value that access at more than the marginal cost but less than the price.”

⁶⁶ *ibid* page 20-21 “That is the dynamic benefit of property rights, and the result is the “access versus incentives” tradeoff: charging a price for a public good reduces access to it (a social cost), making it artificially scarce (Plant’s point), but increases the incentive to create it in the first place, which is a possibly offsetting social benefit.”

⁶⁷ A. Kur and M. Levin, ‘The Design Approach revisited: background and meaning’ in Annete Kur, Marianne Levin and Jens Schovsbo (eds) *The EU Design Approach A Global Appraisal* (Edward Elgar Publishing 2018) 7 Although specifically having in mind saturated markets, the “design approach” or “marketing approach” recognises that the “design of products becomes a key factor for enabling diversification and reaching out to particular groups of customers.”

⁶⁸ Directive (EU) 2024/2823 of 23 October 2024 on the legal protection of designs (recast) [2024] OJ L, 2024/2823, Recital 32 “The purpose of design protection is to grant exclusive rights to the appearance of a product, but not a monopoly over the product as such. Protecting designs for which there is no practical alternative would lead in fact to a product monopoly. Such protection would come close to an abuse of the design protection regime.”

such as these have also been subject to competition law analysis for their negative effects⁶⁹). Second, in this specific context, the right granted does not fulfil any incentive role.⁷⁰ Consumers seeking to restore the original appearance will not decide based on the aesthetic appeal of different spare parts; they will choose the one which restores the original appearance of the product, and no other competitor can satisfy this need without exact replication. In essence, in the context of spare parts, design duplicates the reward to the IP holder (primary and the secondary market control), with the negative consequence inherent to it (exacerbated, as explained, in competition-less spare parts market) without having as its counterpart the equivalent incentive to innovation (as to achieve the goal of restoring the original appearance there is a set design to use).

Moreover, the Explanatory Memorandum in the Proposal for the Community Design in 1993 presented by the Commission is another instance where this is explicitly addressed. The Explanatory Memorandum features, in its point 9, specific considerations regarding design protection and competition, which include acknowledging that IP rights need to be “exercised in an equitable manner”⁷¹ to avoid “misgivings from a competition policy point of view”⁷². The Commission also recognises there can be cases in which the design creates “unwanted side effects as regards exclusion or limitation of competition in the market place” clearly stating that when it comes to “long lasting complex products such as motor vehicles”, “the design relating to the individual parts of which the complex product is composed could create a truly captive market in spare parts”.⁷³ This longstanding awareness of the problems associated with tying consumers to original manufacturers and the potential negative consequences of such market structures justifies a closer look to fully assess the potential of exclusions clauses in a broader repair context.

While these economic and competition concerns have long been recognised as potential justifiers for the exclusion of protection in design law, the contemporary legal landscape demands that we expand our analytical framework beyond these traditional market-based considerations. The emergence of circular economy principles and the

⁶⁹ For example: Paulo Burnier da Silveira and João Felipe Aranha Lacerda, ‘Competition and IP Rights in Brazil: The Exercise of Design Patents in the Auto Parts Aftermarket’ (Kluwer Competition Law Blog, 27 December 2017) <<https://legalblogs.wolterskluwer.com/competition-blog/competition-and-ip-rights-in-brazil-the-exercise-of-design-patents-in-the-auto-parts-aftermarket/>> accessed 9 December 2025.

⁷⁰ Council Regulation (EC) 6/2002 of 12 December 2001 on Community designs [2001] OJ L 3, Recital 7“(…) encourages innovation and development of new products and investment in their production.”.

⁷¹ Commission, ‘Proposal for a European Parliament and Council Regulation on the Community Design’ COM(93) 342 final-COD 463 (Design Proposal 1993) 9.1, p. 8.

⁷² *ibid.*

⁷³ *ibid.* 9.3.

legislative commitment to implementing repair, as previously analysed, requires us to re-examine these established doctrines through a new lens. Meaning the analysis goes beyond the familiar terrain of competition policy to explore whether, by channelling the new legislative commitment to repair through these existing provisions, design law might serve as a complementary mechanism for achieving both economic efficiency and environmental sustainability.

3.1. Functionality and repairability

Article 8(1) of the EUDR, according to the CJEU, is a provision that “intends to prevent technological innovation from being hampered by granting design protection to features dictated solely by a technical function of a product.”⁷⁴ As such, the provision’s underlying rationale, namely preventing the overextension of exclusive rights that would unduly advantage certain market actors, could extend to analogous negative competitive effects beyond strictly speaking technological hampering. In fact, the AG in the Opinion for *DOCERAM* also recognises that the problem stems from reducing “the availability of technical solutions for other economic operators”.⁷⁵ Precisely because the provision intends to correct instances where the exclusive rights overextend, which is also one of the reasons why it was expected to be a solution for issues concerning spare parts in the early Max Planck proposal,⁷⁶ a broader scope becomes particularly relevant when considering the de facto monopolies that emerge in secondary repair markets. Consequently, with the legislative commitment to repair in mind and its two corollaries - affordable repair through competitive markets, and being a step towards a more circular economy - the analysis here presented attempts to underline where repair considerations could play a role in the established functionality doctrine.

The technical function element present in Article 8 EUDR is not necessarily incompatible with features of appearance central to repairing a product. Following the three-step analysis outlined in the EUIPO Design Guidelines⁷⁷, and upon determining the technical

⁷⁴ Council Regulation (EC) 6/2002 of 12 December 2001 on Community designs [2001] OJ L 3, Recital 10; C-395/16 *DOCERAM* [2018] ECLI:EU:C:2018:172, para 29 (hereafter *DOCERAM*).

⁷⁵ C-395/16 *DOCERAM* [2018] ECLI:EU:C:2017:779, Opinion of AG Saugmandsgaard Øe, para 38 and footnote 45 – “In its observations the Commission rightly states that excluding from design protection features of appearance which serve solely to implement a technical solution ensures *free competition between the suppliers of products using that technical solution*.” (emphasis added).

⁷⁶ Kur and Levin (n 67) p 26 “It was expected that the solution for problems arising in that context (protection of spare parts) would follow from the exclusion from protection of designs that are solely dictated by their function”.

⁷⁷ EUIPO Design Guidelines 5.5.2. <<https://guidelines.euipo.europa.eu/2231430/2233370/designs-guidelines/5-5-2-examination>> accessed 9 December 2025.

function of the product, it could be argued that the high repair relevance of certain features, and possibly of the spare parts,⁷⁸ could be a factor to consider in the assessment of whether certain features are purely technical in nature. An assessment to be conducted in light of the CJEU case-law, stating that, when determining whether the features of appearance are dictated solely by the technical function of a product, the emphasis should be placed on the factors taken into account when determining the features of appearance.⁷⁹

When called upon to decide on *Tinnus Enterprises v. EUIPO*⁸⁰ the General Court offered some instructive observations. Notably it emphasised the existence of a “causal link between the technical function of the feature and the technical function of the product”⁸¹ as an important factor in establishing that the features of appearance are solely dictated by function, provided that the *DOCERAM* criteria apply - that is, that no other considerations were factored into the choice of appearance of the feature. It also bears noting that in *DOCERAM* itself, the Court, which settled the previous quarrel between functionality tests, identified that one of the objective circumstance the assessment of functionality should include is “the existence of alternative designs which fulfil the same technical function”.⁸²

With these elements in mind, one may question the full scope of the functionality exclusion in relation to the features of appearance of spare parts. Spare parts will often exhibit this causal link between their features of appearance and the functional and interoperability requirements of the complete product, thereby contributing directly to the technical function of the product when restoration of its intended purpose is required. Put differently, the reasoning could be outlined as follows: a product has a technical function; if a spare part of that product breaks such that the product can no longer fulfil its technical function (causal link), then restoration of that technical function necessitates that specific part; consequently, its features of appearance, if alternatives are lacking in that specific scenario, could be deemed

⁷⁸ The scope of Article 8(1) EUDR refers only to features of appearance. It is possible that all the features of appearance of a spare part are solely dictated by function, and consequently, the whole spare part would not be protected. While features such as shape and contours might more easily be deemed functional, colour is less likely to be a feature solely determined by function.

⁷⁹ *DOCERAM* paras 31-32.

⁸⁰ Case T-574/19 *Tinnus Enterprises v EUIPO - Mystic Products and Koopman International* [2020] ECLI:EU:T:2020:543 (*Tinnus Enterprises v EUIPO*).

⁸¹ *ibid* para 54.

⁸² *DOCERAM* para 37 “(...) such an assessment must be made, in particular, having regard to the design at issue, the objective circumstances indicative of the reasons which dictated the choice of features of appearance of the product concerned, or information on its use or the existence of alternative designs which fulfil the same technical function, provided that those circumstances, data, or information as to the existence of alternative designs are supported by reliable evidence.”.

solely dictated by function.⁸³ A reasoning such as this attempts to elevate the role of an almost inevitable act - repair - in the assessment, to the point where repairability concerns (impairing repairability through de facto establishing a monopoly on needed features of appearance which are unjustified from a teleological Design Law perspective) are given the same relevance as other competition concerns (impairing technological innovation).

In this regard, it could be further maintained that a considerable amount of spare parts perform no aesthetic function, in the sense that they don't drive choice or create a preference regarding a specific product, since their selection is constrained by necessity.⁸⁴ In other words, consumers do not choose certain spare parts based on their visual appeal but solely for their capacity to restore the complex product to its original state. In this sense, spare parts can be understood as "byproducts of complex product design activity",⁸⁵ the features of their appearance being predetermined by the technical requirements of integration with the existing product.⁸⁶ With this being the case, this more nuanced functionality test could keep free certain features of appearance that would otherwise be protected, precisely by channelling repair and its corollaries.

The landmark judgement *DOCERAM* provides further routes for expanded interpretations of the functionality exclusion, and ways to possibly consider the repair relevance of a certain feature of appearance. The Court references that, within the circumstances of the case, from which one can determine if the feature of appearance in question is solely dictated by its technical function, there is "information on its use" (para 37).

This could mean that the finetuning of the interpretation of functionality might potentially use a market-influenced analysis, including taking into consideration the information of the use of that feature of appearance in a market sense (the availability and

⁸³ Always with the safeguard that if aesthetic considerations played a role in determining the appearance of features, functionality is excluded, as per *DOCERAM*. This is likely the case of colour, but not necessarily in cases where the intended purpose encompasses original appearance.

⁸⁴ Karin Grau-Kuntz, 'O desenho industrial como instrumento de controle econômico do mercado secundário de peças de reposição de automóveis' in José de Oliveira Ascensão (ed.) *Direito Industrial Vol. VI* (Almedina 2009) page 364 "The purchase of spare parts on the secondary market will not be driven by preference criteria, but rather by necessity." (translated by the author).

⁸⁵ Miguel Moura e Silva 'Desenhos e modelos industriais - Um paradigma perdido?' in José de Oliveira Ascensão (ed.) *Direito Industrial Vol. I* (Almedina 2002) page 446 (translated by the author from: "subproduto da atividade de design do produto complexo").

⁸⁶ *ibid* page 440 "In effect, the manufacturer is compensated for the investment costs relating to the design of the motor vehicle as a whole and also benefits from a right to a component of that vehicle, *the aesthetic value of which results solely from its harmonious integration into the vehicle*. This criticism is particularly valid for the exterior panels of motor vehicles, since their *shape as components is dictated by the shape of the vehicle*." (translated by the author) (emphasis added).

price of the feature, for example). A scenario characterised by limited spare parts availability combined with high prices, could indicate that the features of its appearance are functional. One would need to demonstrate that there is a de facto monopoly of supply (where it depends entirely on the original product manufacturer), with prices that exceed the reasonable IP-related premiums (with the inherent difficulty of assessing these elements). It does not seem beyond the legal possibilities to grant more weight to market-based arguments, regardless of their competition law natured assessment (for instance, analysing a de facto monopoly in spare parts, would mean defining the market and perform an exercise close if not identical to determining whether there is a dominant position, and discovering the presence of a higher price would be akin to asking whether that dominant position is being abused). If such an analysis were to permeate through the test conducted to determine the functionality of features of appearance of a design, although increasing the complexity of the test, it would merely constitute a correction mechanism of a market imbalance created by design law itself and not necessarily enter into an area better dealt with through competition law. It seems only natural that design law avails itself of the full latitude of its provisions if that means correcting, through case law, an overextension of rights.⁸⁷

Differently, relying on “information on its use”, could open the door to considering how products are actually used in practice, including empirical evidence, such as the frequency with which those features need to be repaired/replaced. It is important to state that information stemming from the “experience gained by using the product concerned”⁸⁸ could, in fact, be important to develop a functionality analysis. When considering the concept of the informed user, the Court has stated that the condition of “informed” does not mean that the user “is able to distinguish, *beyond the experience gained by using the product concerned*, the aspects of the appearance of the product which are dictated by the product’s technical function from those which are arbitrary.”⁸⁹ This, in turn, means that the informed user can, in fact, distinguish between functional and non-functional features, but only when such a distinction is based on experience gained from using the product in question. This means that the Court believes that informed users have a sensitivity, acquired from experiencing the product, of how technical certain features are. The welcomed leeway in

⁸⁷ Dana Beldiman, Constantin Blanke-Roeser, *An International Perspective on Design Protection of Visible Spare Parts* (Springer 2017) p 34 “Thus, if it is known that conferring design protection in the space of spare parts tends to give rise to a problematic situation from the competition standpoint, it would be appropriate to correct the problem at the outset, by addressing it at the level of IP protection.” Although referring to an “anticipatory correction” rather than through judicial interpretation.

⁸⁸ T-153/08 *Shenzhen Taiden Industrial Co Ltd v. OHIM and Bosch Security Systems BV* [2010] ECLI:EU:T:2010:248 para 48.

⁸⁹ *ibid* para 48 (emphasis added).

DOCERAM, establishing a broad mandate to consider “all objective circumstances relevant to each individual case”, permits an informed user’s experience pertaining to a certain feature (not perceiving certain features as arbitrary because purchase is led by the necessity of repair, for example), grounded on empirical data, to influence the judicial interpretation of functionality. One of the understandings that prevailed before the DOCERAM preliminary ruling relied on the legal fiction of the “objective observer”, and although DOCERAM moved away from the “objective observer” fiction, nothing strictly excludes taking into account particular objective circumstances, nor are they bound to be analysed through a specific fictional lens (objective observer, informed user, repairer...). As such, nothing precludes considering the perspective of users who increasingly expect repairable products, namely informed users who can determine, through experience, whether features are solely determined by function or not, according to the quoted case-law. Furthermore, even keeping within the concept of informed user, if it were to be understood as not strictly speaking the end user, there is a passage in the Design Regulation Proposal of 1993,⁹⁰ that could be used to argue that, from the preparatory text, nothing prevents considering the informed user (in this case not used as a standard for the assessment of overall impression but rather determining functionality) as a more technically informed repairer.⁹¹

However, taking into account all objective circumstances, it is initially unclear what conclusions may be drawn from information such as the rate of replaceability of a specific part. If a feature performs its function so inadequately that it requires frequent replacement, one might conclude, in certain circumstances, that no consideration other than a strictly technical function played a role in determining its appearance. The implication being that, were this not the case, superior performance would be expected. In this scenario, the technical function only focuses on whether the product performs its function at all, not how long it does so. This reasoning falters when we consider that a high replacement rate is more likely to be fuelled by economic considerations (cutting product costs, or planned obsolescence), and in that regard, in a strictly binary functionality test, not solely dictated by the technical function.⁹² The problem deepens if one instead argues that aesthetic considerations or economic ones were so central to those features that need repair often,

⁹⁰ (n 71) p 12 “(the informed user) may be, but is not necessarily, the end consumer who may be totally unaware of the appearance of the product, for example if it is an internal part of a machine or a mechanical device replaced in the course of a repair. *In such cases the “informed user” is the person replacing the part.*”

⁹¹ Jane Cornwell, 'Under-referred, under-reasoned, under-resourced? Re-examining EU design law before the Court of Justice and General Court' (2016), *Intellectual Property Quarterly*, vol. 4, no. 4, 318

⁹² Even if this scenario falls outside the functionality clause, planned obsolescence could be framed as against public policy.

that technical function had to have played a marginal role. So, simply needing replacement often might not have, as such, a conclusive role to play in interpreting functionality.

However broadly “objective circumstances” might be interpreted in light of the legislative goals of promoting repair, the functionality doctrine has limitations as a tool for advancing circular economy objectives. Perhaps not being the provision best suited to solve the tension of allowing design protection to reward deliberately short product lifespans, which contradict circular economy principles. It might also not be a clear provision to disable secondary market monopolies that design law was never intended to create. Even if user experience data and repair-related information constitute “objective circumstances” worth considering, and I’ve established resorting to case law that they can be, the interpretative extension of the functionality test, and the very scope of Article 8(1) EUDR can only go so far to resolve the issues surrounding spare parts monopolies and planned obsolescence.

3.2. Modularity and repairability

Article 8(2) EUDR features another important exclusion from design protection, known as the must-fit exception.⁹³ The provision excludes “features of appearance of a product which must necessarily be reproduced in their exact form and dimensions in order to permit the product in which the design is incorporated or to which it is applied to be mechanically connected to or placed in, around or against another product so that either product may perform its function.” It represents another instance in which a certain feature, which might otherwise satisfy the requirements for design protection, is deliberately kept in the public domain of designs. As articulated in Recital 10 EUDR, the underlying purpose of this Article is to avoid hindering the interoperability of products, reflecting an understanding present from early stages in the legislative process leading up to the (then) Regulation on Community Designs.⁹⁴ As legal scholars have observed, this provision “implements the premise that developing compatible products is normally a fair commercial activity”.⁹⁵

⁹³ Dana Beldiman, Constantin Blanke-Roeser (n 87) “These parts are also referred to as “must fit” parts, the rule as “must fit” exclusion.”.

⁹⁴ Commission, ‘Green Paper on the Legal Protection of Industrial Design’ [1991] III/F/5131/91-EN “To ensure “interoperability” and competition in the spare part after market in respect of a wide range of household articles, motor vehicles, consumer electronics etc., it appears advisable to exclude from protection those features of a design which would have to be reproduced necessarily in their exact form and dimensions in order for the component part to fit into the complex product for which it is intended.”

⁹⁵ Graeme Dinwoodie and Jens Schovsbo, ‘Design Protection for Products That are “Dictated by Function”’ in Annete Kur, Marianne Levin and Jens Schovsbo (eds) *The EU Design Approach A Global Appraisal* (Edward Elgar Publishing 2018).

Another important piece of the interconnection puzzle is Article 8(3) EUDR – the modularity exception. This provision, which emerged from specific lobbying efforts⁹⁶ and was crafted with particular products in mind,⁹⁷ can, perhaps inadvertently, have implications for the circular economy objectives. The importance of the modularity exception is not exclusively emphasised by Recital 11 EUDR.⁹⁸ In fact, the Ecodesign Regulation identifies modularity as a product parameter that can influence the future setting of eco-design requirements.⁹⁹ Furthermore, modularity has been recognised as an important element of the circular economy framework. Scholarly literature underlines that modularity “supports ease of maintenance because it allows performing separate diagnoses and replacing damaged components” and that it “has been widely used for supporting extended service life of components and thus for reducing products’ environmental impact”.¹⁰⁰

Here, it could be argued that there is an apparent tension between the protectability of modular systems, which can be positive for circular economy objectives, and the goal of increasing how repairable products are. At first glance, modular systems should be ideal for repairability, given that broken modules can be easily swapped out for new ones. However, the tension arises if right holders maintain control over these modular designs, replicating the issues regarding accessible and affordable repair present in non-modular systems. This exemplifies the broader tension between controlled (because protected) ecosystems versus more repair-friendly standards that accommodate third-party alternatives to spare parts and repair services. The key insight is that modularity alone doesn't guarantee repairability; it is about how that modularity is implemented (whether through regulatory obligations imposed upon IP rightsholders or through facilitation of third-party market participation) that ultimately determines whether products become more or less repairable in practice.

⁹⁶ *ibid* “has also been reported as the product of intensive lobbying by the Danish government on behalf of the Danish company LEGO”.

⁹⁷ David Stone, *European Union Design Law: A Practitioners' Guide* (2nd edition, Oxford University Press 2016) (hereafter Stone Practitioners' Guide) 6.80 “The requirements for ‘multiple assembly or connection’ and mutual interchange ability reinforce the notion that the protection is primarily aimed at toys such as LEGO - although it will have other uses.”.

⁹⁸ Council Regulation (EC) 6/2002 of 12 December 2001 on Community designs [2001] OJ L 3 “The mechanical fittings of modular products may nevertheless constitute *an important element of the innovative characteristics of modular products* and present a *major marketing asset*, and therefore should be eligible for protection.” (emphasis added).

⁹⁹ Ecodesign Regulation, Annex I (b) and (c).

¹⁰⁰ Jérémy Bonvoisin, ‘Limits of ecodesign: the case for open source product development’ [2017] *International Journal of Sustainable Engineering*, 10(4-5) 198; other sources state for example that “modularity can contribute to the circular economy through the use of a modular design and optimization of modules, generating benefits that can contribute to the implementation of strategies for the circular economy in order to maximize the lifecycle of a product.” Machado N and Morioka S N Contributions of modularity to the circular economy: A systematic review of literature (2021), *Journal of Building Engineering* 44 <<https://www.sciencedirect.com/science/article/abs/pii/S2352710221011803>> accessed 9 December 2025.

The problematic element is not, in my opinion, the protection of modular designs. On the contrary, their protectability could be construed as a welcome incentive for those whose intellectual effort culminates in a more repairable design, in this case of a modular nature. The issue, substantially mirroring the spare parts issue, lies in the breadth of protection awarded. As such, either the conflict scenario persists regarding modularity, implying acceptance of protection that potentially duplicates right holders' rewards across primary and secondary markets, or an alternative interpretation emerges. There have been different arguments advanced by original parts manufacturers in the long-standing debate regarding the protection of spare parts.¹⁰¹ Here, the argument for control of the secondary market could even claim legitimacy due to the possible positive environmental impact of modular designs. The extension of protection, however, comes at the cost of compromising the existence of a competitive spare parts market for modular parts. That shouldn't be the outcome. While modularity can align with the circular economy commitment undertaken by the EU, it is certainly not the only important element, and even if that were the case, no compelling rationale exists for preferential treatment of modular designs, exempting them from yielding, as other designs should, to overarching repair principles centred on liberalised secondary repair markets. Making products more repairable is the prevalent overarching principle that one finds emerging from the analysis of European legal sources, not modularity as such. Consequently, even concerning modularity, a balance between rightsholder interests and public interest (both generally and specifically in a more repair-friendly framework) remains imperative.

If the key element is the availability of spare parts, then in this case, that means the availability of modular components. In essence, this raises the question of whether the repair clause extends to modular designs. Despite confronting two provisions construed with very specific scenarios in mind, one should not underestimate their potential for different applications. Article 8(3) EUDR, for example, can, as highlighted by Stone, "have other uses".¹⁰²

The effects of protection in design law need to be framed holistically, not only looking at the protectability of modular designs but also whether limitations allow for balanced outcomes. This holistic look will mean dedicating a specific chapter to the repair

¹⁰¹ For example: Dana Beldiman, Constantin Blanke-Roeser and Anna Tischner 'Spare Parts and Design Protection – Different Approaches to a Common Problem. Recent Developments from the EU and US perspective' (2020) GRUR International 69(7) 673 "OEMs point out that amortization generally occurs throughout the life of the vehicle."

¹⁰² Stone Practitioners' Guide 6.80.

clause later on, however, it seems adequate to preliminarily analyse it here in light of modular designs. This is because we will assess whether a modular design can be considered a complex product (and its elements component parts of a complex product) for the sake of clarifying what exactly is protected and/or under Article 8(3) EUDR. Notably, the applicability of the repair clause is also dependent on the product being a component part of a complex product.

Although courts have previously stated that this exercise should be done on a case-by-case basis¹⁰³, one could argue that modular product components are made specifically to be replaced and to permit disassembly and reassembly. In that capacity, every modular part could qualify for individual protection by meeting the criteria for the protectability of component parts of complex products. Let us examine modular furniture as an example (Fig.1):



This image, taken from Vitra’s website, a company dedicated to furniture design and sale, features the Soft Modular Sofa authored by Jasper Morrison.¹⁰⁴ The website’s 3D models of different and customisable sofa combinations¹⁰⁵ feature the part encircled in green (Fig.1) as the part enabling connection between modular pieces. This part permits the product to be placed against each other so that the sofa can perform its function as a modular, customisable sofa. This seems to fall directly under Article 8(2) EUDR and would therefore not be protected. However, this part serves to allow the multiple assembly of mutually interchangeable products within a modular system. Given that the sofa is modular, and in some of the combinations, the different seats can be arranged interchangeably, that part, if it meets the criteria of protectability, could be protected under Article 8(3) EUDR. The

¹⁰³ T-617/21 *B&Bartoni v EUIPO – Hypertherm* [2023] ECLI:EU:T:2023:152 (hereafter *Bartoni*) para 27 “Furthermore, it should be noted that the question whether a product comes within the concept of ‘component part of a complex product’ must be assessed on a case-by-case basis, according to a set of relevant factors.”

¹⁰⁴ Soft Modular Sofa <<https://www.vitra.com/en-pt/product/soft-modular-sofa>> accessed 9 December 2025.

¹⁰⁵ *ibid* “Thanks to its modular design with side, corner and central elements as well as a chaise longue, the size and form of the Soft Modular Sofa can be customised to meet a diverse range of requirements.”

question of whether to treat the product (sofa) as a complex product or not reinforces its centrality in the discussion. If classified as a complex product, this component would need to, beyond novelty and individual character, satisfy the criteria of visibility during normal use.¹⁰⁶

The Board of Appeal of the EUIPO had the chance to analyse “the appearance of a handling device that, once applied to a sofa or an armchair, allows for the mechanical extension and/or inclination of the footrests”¹⁰⁷ concluding that “semi-movable and/or reclining sofas and armchairs, in the light of their specific handling characteristics, are complex goods that can be unassembled and then be refitted into their various constituent components”.¹⁰⁸ Significantly, it highlighted that “a semi-movable and/or reclining sofa or armchair comprises various components (...) such as, for example, the backrest, the seat, the bracelets, the frame, the springs, the support nets, the foot, cushions, the footrests and the head restraints, and also a device enabling the movement of some of these elements, such as, in the present case, the footrests”.¹⁰⁹ There seems to be no reason to believe that this reasoning can’t apply to a modular sofa, as complexity exists not from the handling device but from multiple elements typically present in sofas (seat, backrests, etc.). So, at the very least, modular products should not be preliminarily excluded from being classified as complex products.¹¹⁰

The remaining important question would be visibility, which has since¹¹¹ received the attention of the CJEU in *Monz*¹¹². Visibility “does not require a component part that is incorporated into a complex product to remain fully visible the whole time that the complex product is being used”,¹¹³ and it “cannot be assessed solely from the perspective of the end user of that product”.¹¹⁴ Essentially, the question would be whether the component part is

¹⁰⁶ Article 4(2) and (3) EUDR.

¹⁰⁷ R 0050/2017-3 *Dispositivo di movimentazione* [2021] EUIPO Third Board of Appeal, para 45.

¹⁰⁸ *ibid* para 58 (“divani e poltrone semi-moventi e/o reclinabili”).

¹⁰⁹ *ibid* para 51.

¹¹⁰ Arguing the contrary: Lavinia Brancusi, *Spare parts in the light of design law, competition law and pro-consumer regulations concerning the right to repair* (2025), Scientific Journals of the Jagiellonian University. Intellectual Property Law Volume 168, Issue 2, 95 (Lavinia Brancusi’s translation of the original paper published in Polish) “A modular system is not a complex product within the meaning of design law and it is therefore not covered by the repair clause”, “it can be assumed that creating an independent market for spare parts for modular elements was definitely not the original intention of the EU design law legislator. As seen, the new EU design law did not touch upon modular products, and as such, they remain outside the scope of the repair clause.”.

¹¹¹ R 0050/2017-3 (n 107) para 81, also analyses the visibility of the component part of a complex product, concluding that “although only in part, (the device) will be visible during normal use of the product in which it is incorporated.”.

¹¹² C-472/21 *Monz Handelsgesellschaft International* [2023] ECLI:EU:C:2023:105 (hereafter *Monz*).

¹¹³ *Monz* Para 45.

¹¹⁴ *Monz* Para 46.

visible from the perspective of the end user or external observer during acts customarily carried out during “normal use”. Not all component parts of complex modular products will be eligible for protection, which means using those components in a secondary spare parts market would remain unrestricted. Nevertheless, protection could be granted in certain circumstances, leaving it to the existing framework, particularly the repair clause, to provide sufficient leeway for repair activities involving modular products.

Before analysing whether the repair clause applies to modular products. A crucial distinction emerges regarding these two provisions (Article 8(3) and 20a both from the EUDR). Article 8(3) EUDR concerns design features, not the design as a whole.¹¹⁵ Conversely, the repair clause targets component parts of a complex product. Returning to our modular sofa example: the connecting mechanism (encircled piece - Fig.1) is what falls under Article 8(3) EUDR, not other elements of appearance such as colour or shape of the sofa. Regardless, the scope of the repair clause does not encompass only the connecting mechanism, but potentially several other pieces, such as the seats themselves, if considered component parts of a complex product. Hence, analysing whether products, such as modular sofas, are complex products carries implications for the subsequent analysis of the repair clause.

A hurdle to the applicability of the repair clause can remain. The appearance of the design of the component part, to fall under the scope of the design clause, needs to depend on the complex product.¹¹⁶ Despite being unclear whether this is always the case for modular designs, one could ask if the very definition of modularity does not presuppose that the form of components is dependent, because of the integrated fashion in which they are designed, upon the appearance of the whole product.¹¹⁷

This interconnection exception and the modularity exception to it, embody a tension between rewarding modular innovation and ensuring interoperability and a competitive spare parts market. Moreover, although certain features could be protected, due to Article 8(3) EUDR, we must not forget that protectability still depends on fulfilling the requirement for protection, which in turn needs the clarity of what constitutes a component part of a complex

¹¹⁵ Stone Practitioners Guide, 6.81 “The apparent broader application of Article 8(3) of the Regulation is unnecessary, as only those features that must fit will have been excluded under Article 8(2) of the Regulation”.

¹¹⁶ Article 20a EUDR “upon whose appearance the design of the component part is dependent”.

¹¹⁷ Machado and Morioka (n 100) “Modularity refers to the product or process structure composed of modules that can be designed independently, but work together in an integrated manner”.

product. The role of provisions 8(2) and 8(3) of the EUDR might unexpectedly have a big role to play in establishing the circular economy and a more repair-friendly framework.

3.3. Public Policy and repairability

Article 9 EUDR states that “A EU design shall not subsist in a design which is contrary to public policy or to accepted principles of morality.” Significantly, the EUIPO design guidelines, regarding the examination of public policy and morality, clarify that the Office applies the concepts present in Article 7(1)(f) EUTMR¹¹⁸. When it comes to an EU-wide right being assessed, it is only natural that it is analysed in light of a EU concept of what is contrary to public policy or accepted principles of morality that is not particular to an IP field. The undetermined concepts used in this provision can be leading candidates when it comes to channelling sustainability principles, in this case, repairability considerations. In fact, subject matter producing negative environmental impacts was already framed in these provisions regarding other IP rights.¹¹⁹ As such, this is an appropriate space for understanding the rationale of repair, intending to frame it under, more specifically, public policy.

According to the EUIPO guidelines, “‘Public policy’ and ‘accepted principles of morality’ are two different concepts that often overlap.”¹²⁰ Importantly, public policy is to be assessed “based on objective criteria”¹²¹ and understood as a “body of EU law applicable in a certain area”.¹²² The legal framework featured in the first two chapters of this thesis contributes to delineating elements of an autonomous public policy framework regarding repair as a feature of the circular economy objectives in the EU, which are themselves a manifestation of the principle of environmental protection enshrined in primary sources of EU law. This legislative foundation can be used to build the argument against granting a legal entitlement to a design that contradicts those public policy objectives. The underlying environmental public policy (within which repair functions as an element of the circular

¹¹⁸ Regulation (EU) 2017/1001 of 14 June 2017 on the European Union trade mark [2017] OJ L 154.

¹¹⁹ Giorgio Spedicato, ‘The Untapped Potential of Patent Law in Deterring Environmentally Unsustainable Innovation’ (2024) GRUR International 73(8) 751.

¹²⁰ EUIPO Trademark and Design Guidelines (2025) <<https://guidelines.euipo.europa.eu/2231430/2231852/designs-guidelines/1-general-remarks>> accessed 9 December 2025.

¹²¹ EUIPO Trademark and Design Guidelines (2025) <<https://guidelines.euipo.europa.eu/2231430/2232149/designs-guidelines/2-1-concept-and-categories>> accessed 9 December 2025.

¹²² *ibid.*

economy strategy) is very well drawn in primary EU legal sources, for example, in Articles 3 TEU¹²³, 11 TFEU¹²⁴, and 37 CFREU.¹²⁵

A particular keen insight for understanding this framework was given by the opinion of AG Colomer in case C-176/03¹²⁶. Notably, the AG's Opinion highlights that "The concepts 'sustainable development' and 'quality of life' used in the EC Treaty occur closely linked with that of the 'environment'" and how "quality of life asserts itself as a citizenship right emanating from various factors, some of them physical (*the rational use of resources and sustainable development*) and some more intellectual (*progress and cultural development*)"¹²⁷, subsequently observing that "There thus emerges a right to enjoy an acceptable environment, *not so much on the part of the individual as such, but as a member of a group*, in which the individual shares common social interests."¹²⁸ These passages perfectly outline the analytical framework with which to analyse the environmental public policy. Within it, two dimensions are identified: one physical, more closely linked to the rational use of resources, and a second one, coined "intellectual" by AG Colomer, closely linked to progress and cultural development. In both, a communal nature seems to transpire, underscoring the collective nature of environmental rights.

The e-waste references at the beginning of the thesis serve as an early emphasis on the environmental impact (focusing on a specific time of waste) of products and a starting point to consider the physical dimension of the environmental public policy. Further EU studies have found, for example, that "changing the toaster market by extending the lifetime by 10% would net a savings of around 4 000 tonnes of CO2 equivalent and prevent around 60 tonnes of waste per annum".¹²⁹ Since consumer goods of the electronic era are so patently in heavy need of resources, they serve as the perfect example to emphasise the polluting nature of consumption habits, and how repair can find a more rational way to use resources. In Perzanowski's book,¹³⁰ he highlights several dimensions of this pollution, not only focused on their end-of-life, as mentioned here (when products become waste, or how to prevent

¹²³ Consolidated versions of the Treaty on European Union [2016] OJ C 202 "It (the Union) shall work for the sustainable development of Europe based on (...) a high level of protection and improvement of the quality of the environment".

¹²⁴ Consolidated version of the Treaty on the Functioning of the European Union [2016] OJ C 202 "Environmental protection requirements must be integrated into the definition and implementation of the Union's policies and activities, in particular with a view to promoting sustainable development."

¹²⁵ Charter of Fundamental Rights of the European Union [2012] OJ C 326 (CFREU).

¹²⁶ C-176/03 *Commission v Council* [2005] ECR I-07879, Opinion of AG Ruiz-Jarabo Colomer.

¹²⁷ *ibid* para 66 (emphasis added).

¹²⁸ *ibid* para 67(emphasis added).

¹²⁹ Carlos Montalvo, David Peck and Elmer Rietveld 'A longer lifetime for products: Benefits for consumers and companies' (2016) Directorate General for Internal Policies, page 42.

¹³⁰ n 4.

them from becoming so), but also frames how resource-intensive production is, particularly mining ores. These two dimensions highlight how enabling repair both prevents waste, and, by extending the lifespan of products and consequently slowing their replacement rate, it has an inherent positive environmental effect when seen in light of the polluting activities in their production phase.¹³¹ If repair has these virtues and also aligns with broader EU public policy on the circular economy, then it is only natural that designs that contradict these goals are not granted protection. If the incentive potential of design is to be used, clauses such as Article 9 EUDR make sure its incentive is not misplaced.

As such, in a context where design choices are a key factor in determining how repair-friendly a product is, consequently setting up how effective the usage of resources regarding that product will be, we must frame the appearance of unsustainable design elements and understand which elements are susceptible to making repair more difficult. This exercise would be subjective, if there is a need to prove the factors involved in the decision of the designer, namely, whether the product is purposefully built to make its repair harder (perhaps relying on business models that presuppose continuous consumption and replacement) or whether it's a natural consequence of a more efficient design (regarding the amount of materials use, or general price of production). However, the specific intent to hamper repair should be irrelevant. Firstly, because the designer's intent is not called for in the provision, so it should not be treated as a bad-faith analysis, and secondly, because the assessment can rely on a more objective test. In this regard, it is important to state that disassembly and reassembly, tools required for repair, ease of diagnosis, and interchangeability are examples of criteria analysed by the relevant literature, some of which are already implemented in repairability scoring systems.¹³² In this space, I will not delve into what a repairability score for the purposes of assessing the design's compatibility with public policy would look like, as that would presuppose a thorough analysis of the criteria and determining which are the most pertinent. Namely, it would presuppose determining whether the criteria should stick to visual features. For, while criteria such as ease of disassembling and reassembling, and tools required for repair might seem fitting, because most likely they are visible (for example, welded together components is part of the appearance of a product), criteria such as ease of diagnosis could make the rejection of the design application based on criteria external to its

¹³¹ Perzanowski (n 4) Page 37 "Effective and affordable repair extends the life of our devices, slowing the replacement cycle and deescalating extraction and production."

¹³² For a definition and general development of these and more criteria: Dangal, S., Faludi, J., Balkenende, R. 'Design Aspects in Repairability Scoring Systems: Comparing Their Objectivity and Completeness.' (2022) *Sustainability* 14(14), 8634.

scope (if for instance we consider cases in which availability and access to software to perform the diagnosis is key, those elements could've never enjoyed protection as a design).¹³³ In essence, the question of whether the *non-features* of appearance of a design can determine protection (or lack thereof) of *features* of appearance (or even designs as a whole) could need further analysis.

However, criteria such as these, which, as stated, exist and have been used in the context of repairability scores, would have to be developed in light of design law to perhaps streamline the assessment of whether a specific design is against the repair objectives of the EU, and consequently deem designs invalid¹³⁴ or unregistrable.¹³⁵ The latter presupposes an allocation of the burden of proof, resting on either the Office or the applicant. Regarding where the burden of proof is ultimately placed, certain aspects are worth pointing out. The Office, particularly in a context of registrability where no description explaining the representation is required,¹³⁶ would have an impossible task to autonomously conduct tests to determine a score regarding product characteristics. On the other hand, shifting the burden of proof to product manufacturers seems to be fully in line with current legislative initiatives in the EU, namely the EcoDesign Regulation, which in its Article 27 “Obligations to Manufacturers”, number 2 establishes “manufacturers shall carry out the conformity assessment procedure specified in that delegated act, or have it carried out on their behalf, and draw up the required technical documentation.”. As such, interaction between these two legislations (EcoDesign Regulation and Design Regulation) could, to some extent, provide the necessary information in registration and invalidity procedures.¹³⁷ The extent to which this might be the case is, at the moment, very limited. The EcoDesign Regulation merely empowers the Commission to adopt delegated acts in which the ecodesign requirements will actually be present.¹³⁸ Furthermore, when the requirements do eventually get implemented, they will cover specific products (unless similarities allow for horizontal requirements for product groups¹³⁹) with priorities already laid out.¹⁴⁰ It is highly unlikely that “any industrial or handicraft item”¹⁴¹ will be covered, and as such, a gap regarding implementing an environmental public policy through Article 9 EUDR will be hard to overcome, at least

¹³³ *ibid.* also analyses how objective the design elements considered in different scoring systems are.

¹³⁴ Article 25 (1) (b) EUDR.

¹³⁵ Article 47 (1) (b) EUDR.

¹³⁶ Article 36 (3) EUDR “may contain”.

¹³⁷ Regarding unregistered designs, invalidity would naturally be the only route for the environmental public policy argument to apply.

¹³⁸ Article 4 Ecodesign Regulation.

¹³⁹ Article 5(7) Ecodesign Regulation.

¹⁴⁰ Article 18(5) Ecodesign Regulation.

¹⁴¹ Article 3(2) EUDR.

regarding the registration phase. Invalidity proceedings, on the other hand, could be the preferable (and feasible) forum for arguing for an analysis under Article 9 EUDR.

So far, we have been focusing on efficiently managing resources (the physical dimension from the AG's previously quoted conceptualisation), and through finding characteristics in products that can hinder the efficiency of that management, we analysed ways in which these could be framed under Article 9 EUDR. However, we have yet to analyse the dimension of "progress and cultural development" and the communal nature of the "right to enjoy an acceptable environment".¹⁴² In the physical dimension, humanity's shared interest in planet preservation and rational management of resources can immediately strike us as a concern transcending a specific individual and most definitely transcending borders. The intellectual dimension of repair equally reveals profound collective implications, though these may appear less evident, they are nonetheless one very unique example.

The legal analysis of repair has, so far, not yet focused on repair as a social movement. However, across the globe, Coalitions and Organisations¹⁴³ have sprouted to echo consumers' understanding (and expectations) regarding repair and its accessibility and affordability. Very notably, in the USA, the mobilisation of farmers to advocate for the right to repair transformed a dispersed interest into a collective legal demand and generated meaningful legislative momentum.¹⁴⁴ Furthermore, the emergence of repair cafes reveals a social response to environmental degradation and planned obsolescence. The proliferation of these forums of skill transfer and community building emphasises demand for accessible repair services, often dependent on access to specific tools. This bottom-up and communal dimension, also evidenced by studies on consumer perceptions,¹⁴⁵ shows how the movement garners broad acceptance. This reality highlights dimensions of repair that go beyond strictly speaking competition or consumer empowerment. In fact, studies have corroborated the

¹⁴² Opinion of AG Colomer (n 126) Para 67.

¹⁴³ For example: Right to Repair EU <<https://repair.eu/whats-my-right-to-repair/>>; Canadian Repair Coalition <<https://www.canrepair.ca/>> ; iFixit <<https://www.ifixit.com/>> ; The Repair Association <<https://www.repair.org/>>.

¹⁴⁴ For example: Mathew Gault, 'Farmers Win the Right to Repair Their Own Tractors in Colorado' (13 April 2023) <<https://www.vice.com/en/article/farmers-win-the-right-to-repair-their-own-tractors-in-colorado/>> accessed 9 December 2025.

¹⁴⁵ Aaron Perzanowski, 'Consumer Perceptions of the Right to Repair' (2021) 96 Indiana Law Journal 361.

existence of a social¹⁴⁶ and restorative¹⁴⁷ element. Moreover, interviews conducted with repair campaign organisers or volunteers have revealed the presence of an enjoyable element and a social inclusion element that goes beyond merely sharing the infrastructure needed for repair.¹⁴⁸ These practices can also be said to enable “ethics of mutual care and responsibility”¹⁴⁹ making repair a unique example of progress and cultural development which also emphasises “the importance of exposure to innovation”.¹⁵⁰ To stress these points and encompass innovation dynamics within repair, Steven Jackson¹⁵¹ indicates how breakdown and repair lead to more innovation,¹⁵² shedding light on progress found in follow-on innovation through repair,¹⁵³ which distances repair from an “automatic preference for stasis.”¹⁵⁴

In short, both these dimensions converge in their inherently collective dimension and align with broader public policy goals. Consequently, when designs frustrate repair, they harm not merely individual consumers but also have broader impacts in the environment and in smaller “ecosystems” of repair knowledge. This collective harm profile strengthens the public policy argument, as granting protection to repair-hostile designs would undermine environmental, social, cultural, and innovative capacities that repair practices sustain. Thus, both dimensions of AG Colomer’s framework (the rational use of resources and the intellectual progress and cultural development) converge to establish a coherent public policy basis for denying protection to designs that impede repair. Article 9 EUDR thereby emerges

¹⁴⁶ McLaren, Niskanen, and Anshelm, ‘Reconfiguring repair: Contested politics and values of repair challenge instrumental discourses found in circular economies literature’ (2020) *Resources, Conservation & Recycling*: X, Volume 8 “Scholars of repair largely agree that repair is necessarily relational, and directly as well as indirectly affects social relations”; A. Perzanowski, *The Right to Repair: Reclaiming the Things We Own* (Cambridge University Press 2021) page 41 “strengthening social ties within our communities”.

¹⁴⁷ McLaren, Niskanen, and Anshelm (n 146) “Indeed, much of the repair literature highlights the importance of emotional attachment and care as a significant motivation for repair, rather than the instrumental value”.

¹⁴⁸ Bradley K and Persson O, ‘Community repair in the circular economy – fixing more than stuff’ (2022) *Local Environment*, 27:10-11, 1321 “community repair is not only about fixing broken stuff and reducing waste, but about building social relations, empowering people and creating space for non-consumerist forms of citizenship to develop”.

¹⁴⁹ Steven J. Jackson, ‘Rethinking repair’ in Tarleton Gillespie, Pablo J. Boczkowski, Kirsten A. Foot (eds.) *Media Technologies: Essays on Communication, Materiality, and Society* (MIT Press 2014).

¹⁵⁰ Alex Bell et al. ‘Who Becomes an Inventor in America? The Importance of Exposure to Innovation’ (2019) *Quarterly Journal of Economics* 134(2):647 “A lack of exposure to innovation can help explain why talented children in low-income families, minorities, and women are significantly less likely to become inventors.”, “Drawing more low income and minority children into science and innovation could increase their incomes—thereby reducing the persistence of inequality across generations”.

¹⁵¹ Steven J. Jackson (n 149).

¹⁵² Steven J. Jackson (n 149) “This makes innovation simultaneously specific and in some measure collective in nature. And its engine is breakdown and repair.”.

¹⁵³ Steven J. Jackson (n 149) “possibilities and forms of creativity, innovation, and difference to be found in the work of repair.”.

¹⁵⁴ Steven J. Jackson (n 149) “no automatic preference for stasis over change—another good reason for putting innovation (rather than preservation or conservation) front and center in our discussions of maintenance and repair.”.

as a provision for ensuring that design protection serves, rather than subverts, the communal interests embedded in EU environmental and social policy.

Chapter 4 - The limitations of the scope of EU design rights for repairing activities

So far, I have analysed specific clauses, stretching their interpretation to potentially leave certain features of appearance or designs as a whole fully available for a thriving repair network, or deny protection to those that are contrary to the goal of increasing the reparability of products. However, if components that are essential for repair are protected by way of EU design rights, how do the repair activities that the EU is trying to foster become more difficult or easier in light of the rights and limitations present in EU design law?

Article 19 EUDR establishes several acts which the rightsholder can prevent third parties from doing without his consent, encompassing, in a non-exhaustive list, acts such as making, offering, placing on the market and stocking. Keeping in mind that if the repair of a product entails the replacement of a spare part, as it often does, acts such as the ones here described are central to effectively repair. Furthermore, the rights can be enforced not only against exact copies but against every design “which does not produce on the informed user a different overall impression.” (Article 10 EUDR). This broad protection granted does, *prima facie*, conflict with repair activities. Nonetheless, precisely because the importance attached to repair outweighs the interests of the design right holders, the EU legislator created a specific clause that lifts protection when repair activities are being undertaken: the Repair Clause. The following section will analyse this clause in further detail, but also other relevant limitations, namely private and non-commercial use, citation, referential use and exhaustion, which can be used to balance the interests of the rightsholder and other interests, namely, repair.

4.1. Citation and referential use

Independent repair shops, in the course of trade, will probably want to communicate to prospective customers which services they provide. Namely, they will want to advertise which products they qualify to repair and which spare parts of which products they have available for sale. This communication will most likely be more effective if made with images and different representations of products that may embody protected designs. As such, this commercial necessity to advertise can constitute use within the meaning of Article 19 EUDR and conflict with the exclusive rights granted to the design right holder. Let us bear in mind that “‘use’ also includes the two-dimensional rendering of a three-dimensional design—thus,

depicting in a brochure an image of a product protected by a design is also an infringement”.¹⁵⁵

It is important to consider that the freedom to conduct a business¹⁵⁶ would, in my view, be compromised if, under any circumstances (even when acting in a way compatible with fair trade practices), independent repair shops could not legitimately leverage their expertise and advertise the products they repair/sell. The implications would be even more troubling when extended to non-private and non-commercial repair initiatives. As mentioned previously, repair cafes are volunteer-based forums where individuals gather to repair broken items in a collaborative way. Although their non-commercial nature is clear, it is also clear that they cannot be qualified as a private gathering. This means that access to the limitation in Article 20(1)(a) EUDR is likely not possible. Consequently, not many options are available to frame their conduct, from the design law perspective, in a lawful way, if, for example, they were to decide to advertise the design of products which are welcomed to be fixed during their gatherings. A result where activities undertaken fairly by volunteer organisations are deemed to infringe design law is a manifestly intolerable result for the framework. Particularly, in light of the “freedom of association at all levels”¹⁵⁷ and the “right to enjoy an acceptable environment” in all the dimensions mentioned previously.¹⁵⁸

In this context, the limitation conferred by Article 20(1)(c) and (d) EUDR can be very relevant, and with it the CJEU decision in *Nintendo*.¹⁵⁹ Let us first analyse the interaction between both provisions, before understanding under which, repair-related references/citations should be encompassed.

The Court, in *Nintendo*, analysed the defendant’s use of images of protected designs for advertising accessories (on the website and packaging) that could be used with the goods incorporating the protected design. A use framed under the citation limitation then available in the Design Regulation, at a time when art.20(1)(d) EUDR did not exist. In fact, it is possible that the criticism that followed the decision,¹⁶⁰ prompted this adoption.¹⁶¹ Yet, some

¹⁵⁵ Stone Practitioners’ Guide, 19.67.

¹⁵⁶ Article 16 CFREU.

¹⁵⁷ Article 12 CFREU.

¹⁵⁸ Opinion of AG Colomer (n 126) Para 67.

¹⁵⁹ Joined Cases C-24/16 and C-25/16 *Nintendo* [2017] ECLI:EU:C:2017:724.

¹⁶⁰ Jane Cornwell, ‘Nintendo v BigBen and Acacia v Audi; Acacia v Porsche: design exceptions at the CJEU’ (2019) Volume 14 Issue 1 JIPLP 51; and regarding the AG Opinion that the Court then followed: David Stone, ‘Design law misplayed in Nintendo AG Opinion’ (2017) Volume 12, Issue 7, JIPLP 558.

¹⁶¹ Commission, ‘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’, COM/2022/666 final, Explanatory Memorandum: “To ensure a better balance of legitimate interests involved and taking account of the case law of the Court of Justice of the European Union (CJEU)

questions arise regarding this new inclusion, importantly, whether advertising uses of a referential/citation nature are to be treated under the citation limitation (as they were in *Nintendo*) or should now be considered under referential use.¹⁶² The answer is not straightforward, and it is naturally desirable for independent repairers and repair cafes to be able to operate under some degree of legal certainty. Naturally, the importance of this question presupposes that there are different outcomes depending on which provision is applied.¹⁶³

In short, either the new limitation adopted was intended to narrow the scope of the citation limitation by providing a different frame for commercial identification and referential uses (thereby implicitly overruling *Nintendo*), or Article 20(1)(d) EUDR simply complements the broad citation exception, preserving the expansive citation interpretation followed by the Court in *Nintendo*.

I believe the latter to be more convincing. Referencing the Explanatory Memorandum¹⁶⁴ one could argue that the choice of the word “complement” points to adding a new reality to what the current limitations encompass, rather than restricting or displacing. Furthermore, recital 18 of Regulation (EU) 2024/2822 mentions “permissible use should include (...) referential use in the context of comparative advertising”,¹⁶⁵ which suggests that the referential use was introduced as a particular way of addressing scenarios of comparative advertising. Because, despite the expansive interpretation of the Court followed in *Nintendo*, for the use of the images to be considered citation, the use must be done “in order to explain or demonstrate the joint use of the goods thus offered for sale [which were accessories] and the specific goods of the holder of those rights”.¹⁶⁶ Comparative advertising does not seem to fit this formulation.

Conversely, one could argue that it would be logical that a previous overstretching (if seen as such) of a limitation would be corrected upon legislative intervention, transferring scenarios of commercial reference to a better-fitting exception now found in referential use.

(footnote to *Nintendo v BigBen*), it is proposed to complement the list of permissible uses by adding ‘referential use’ and ‘critique and parody’.”

¹⁶² Annette Kur, Tobias Endrich-Laimböck, Marc Huckschlag, ‘Substantive Law Aspects of the ‘Design Package’ Volume 72, Issue 6 GRUR International 557 “would use in advertising like that in *Nintendo* still have to be judged under the notion of citation, or would it more adequately be subsumed under referential use?”.

¹⁶³ *ibid* “Would the allocation to one or the other subparagraph impact the outcome; in particular, are the requirements for citation stricter than those for referential use?”.

¹⁶⁴ (n 161) p 9.

¹⁶⁵ Regulation (EU) 2024/2822 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, 2024/2822.

¹⁶⁶ *Nintendo* para 86.

In fact, the same Design Reform that adopted the referential use limitation did not refrain from overruling previous Court decisions. However, when that was the case, there was a much more explicit reference to it. I refer to the part of the Explanatory Memorandum about the Repair Clause stating that: “(...) in view of the case law of the CJEU (footnote to *Acacia*), it is proposed to *explicitly restrict* the scope of application of the repair clause to component parts whose appearance is dependent on the appearance of the complex product concerned.”¹⁶⁷ It becomes clear that, when the legislator intended to restrict the scope of application of a limitation, it did so while sharing its intent explicitly. This contrast between how the limitations are treated in the preparatory document could be interpreted as meaning that if the legislator actually meant to restrict the scope of the citation limitation, it would have at least expressed so in the same explicit terms.

Accepting this to be the current state of the art when it comes to the scope of existing limitations, despite lacking guidance from the CJEU on the matter, there is still a need to understand under which limitation an independent repair shop or a repair cafe can try to frame its activity. The activity would consist of the use of products incorporating protected designs for the purposes of advertising a specific expertise regarding that product, or a specific part, made lawfully and independently, sold by that shop. The case that prompted the expansive interpretation in *Nintendo* has, as the underlying dispute, accessories.¹⁶⁸ The whole conclusion is based on the goods offered by the defendants being goods “intended to be used as accessories”¹⁶⁹ and that the protected design was used “to explain or demonstrate the joint use of the goods thus offered for sale and the specific goods of the holder of those rights”.¹⁷⁰ The framed use for accessories does not cover products whose structural relationship is closer to the cited product. In other words, in *Nintendo*, the product cited could be subject to normal use without the accessories, which is potentially an issue if repair shops need to advertise, as they will most likely do, products they are able to fix or parts which are not accessories. Before analysing whether the reasoning in *Nintendo* could be applied analogously to these scenarios, or the framing under 20(1)(d) EUDR must be done, a short clarification regarding advertising uses and the repair clause is required.

The repair clause, which will be analysed later, does confer a limitation to all uses within the meaning of Article 19(1) EUDR. What does this mean for a repair shop that wants to “use” this limitation for advertising purposes? Several problems arise in this scenario.

¹⁶⁷ (n 161) (Emphasis added).

¹⁶⁸ *Nintendo* para 24 “remote controls and other accessories”.

¹⁶⁹ *Nintendo* para 86.

¹⁷⁰ *ibid.*

Firstly, if it were possible, the use in an advertisement should be restricted to the component part of a complex product (which is the scope of the limitation) and not the whole complex product. Secondly, more problematic, it would need to be for “for the sole purpose of the repair”.¹⁷¹ I believe, however, that the repair clause implicitly acknowledges the need to advertise linked to the use for the sole purpose of repair, when Article 20a (2) EUDR establishes that a “manufacturer or the seller of a component part of a complex product” needs to duly inform consumers “through a clear and visible indication on the product *or in another appropriate form*”.¹⁷² If to access the clause, manufacturers and sellers need to duly inform the consumer, it seems reasonable to assume that an appropriate form to do so could be advertising the non-original nature of the component part of the complex product they offer. The appropriate form to duly inform consumers should also include advertising the compatibility with the complex product as well, meaning the repair clause, in certain instances, could be an interesting avenue for certain advertising purposes.

Returning to the point, two possibilities remain: either the hypothetical uses I referred to, done by independent repair shops and repair cafes, are framed under citation, or under referential use. I am of the opinion that more encompassing exceptions to intellectual property rights are welcomed, when they better serve important public interests (be they enabling competition or advancing sustainable objectives). This contention does not ignore the restrictive interpretation tenet of EU law applied to exceptions. It simply argues, as the CJEU has done so previously, that this tenet should not undermine the effectiveness of limitations and disregard their purpose.¹⁷³ As such, lacking the guidance of the CJEU as to what exactly will constitute referential use in Design Law, and admitting that there was not an implicit message from the legislator to treat future advertising uses under Article 20(2)(d) EUDR, nothing seems to prevent the hypothetical uses I’ve highlighted from being treated analogously under the citation limitation.

The Court, in *Nintendo*, justifies its approach by noting that disallowing the use at issue to fall under citation could “discourage innovation”.¹⁷⁴ As scholarly commentary has rightly observed,¹⁷⁵ what is actually at stake in such cases is not innovation in the sense of creating new products, but rather the ability to reproduce designs for advertisement purposes, and specifically, to demonstrate compatibility or joint use with protected products.

¹⁷¹ Article 20a EUDR.

¹⁷² Article 20a(2) EUDR.

¹⁷³ *Nintendo* para 74.

¹⁷⁴ *Nintendo* para 76.

¹⁷⁵ Stone (n 160).

The Court, in its misrepresentation of the issue, clearly believes that one of the underlying interests of citation is “to make the Union more competitive”.¹⁷⁶ As such, accepting its interpretation, barring independent repair shops from certain advertisements could also have a negative impact on competition. The underlying purpose, to enable market participants to demonstrate compatibility to consumers, remains identical. Consequently, the justification of the Court could apply analogously here, despite the products not being accessories, if the purpose remains to demonstrate joint use/compatibility.

Perhaps more straightforward, the volunteer activity of repair cafes aligns more closely with, even a narrow interpretation of citation. The activities in these spaces are deeply pedagogical: knowledge sharing, learning by doing, and teaching repair skills through hands-on practice. When volunteers communicate which products can be repaired at their events, they are facilitating an educational exchange. This is precisely the kind of non-commercial, knowledge-disseminating activity that aligns with a strict interpretation of citation. So, even if in the future, citation is resized as a limitation and the analogies highlighted previously are unnecessary because the hypothetical situations created are comfortably covered by referential use, it seems that even in that scenario where the core of citation is reduced to cover teaching and knowledge sharing, it will surely encompass the communications by repair cafes.

Finally, regardless of which limitation is a better fit, both would need to comply with fair trade practices and not unduly prejudice the normal exploitation of the design, and, if the limitation used is citation, there needs to be a mention of the source of the product.¹⁷⁷

4.2. Private use

Under Art.20(1)(a) EUDR, acts done in private and for non-commercial purposes, cumulatively, do not constitute infringements of exclusive design rights. Importantly, this limitation could potentially cover a wide range of do-it-yourself repair activities. This means that individuals repairing their own lawfully acquired possessions by manufacturing spare parts at home, replicating products that embody a protected design, can be covered by this Article. Despite this potential, the limitation’s practical utility depends, naturally, on how we interpret the requirements for its application, namely “privately” and “non-commercial”.

¹⁷⁶ Joined Cases C-24/16 and C-25/16 Nintendo [2017] ECLI:EU:C:2017:146, Opinion of AG Bot, para 75 “In my view, in the light of the general scheme of that regulation, the concept of ‘citation’ should not be interpreted too strictly, since the regulation seeks, through the protection it confers on Community designs, to encourage innovation and thereby to make the Union more competitive.”.

¹⁷⁷ Article 20(2) EUDR.

The applicability of this clause to private repair scenarios is not as simple as one might think. Firstly, “the difficulties in defining private and non-commercial are not inconsiderable”.¹⁷⁸ Secondly, difficulties also emerge from the provision regarding rights conferred by the EU design legal protection, which specifies as a right of the design holder “*using a product in which the design is incorporated or to which the design is applied*”.¹⁷⁹ As a consequence, as Uma Suthersanen pointed out, “this provision has a potentially wide effect and may include activities such as non-sale exhibition or display or demonstration of the product.”¹⁸⁰

The private sphere and a non-commercial use are pretty much assured when a person manufactures a needed part at home and uses it to restore what is broken. The problem of the repair scenario in light of this limitation is how to frame the subsequent use. The repair of a product evidently entails continuing to use it. It’s the entire purpose of repair. Besides, it is safe to assume that many products are used outside the private sphere (either taken to work, used in public spaces, etc.). As such, does a home repair remain lawful when the use of the repaired product ceases to be private and non-commercial?

On this matter, Stone argues that selling on eBay or taking a toy to kindergarten is beyond the limits of the private sphere, establishing the only way to escape infringement is if the goods are always used under the requirements of the limitation (privately and non-commercially).¹⁸¹ Following this interpretation in a repair scenario of a lawfully acquired product entails that the lawful replication of a part at home to repair the product, would create an object that cannot lawfully be used for its intended purpose if that purpose involves any public dimension.

Instead, it seems more reasonable to characterise “use” only as something “which employs the protected product for the purposes of interfering with the economic exploitation of the design right holder”,¹⁸² and give weight to the fact that the repair scenario

¹⁷⁸ Abbe Brown, Smita Kheria, Jane Cornwell, and Marta Iljadica, *Contemporary Intellectual Property Law and Policy* (6th Edition, Oxford University Press, 2023) 8.126.

¹⁷⁹ Article 19(2)(a) EUDR. (emphasis added).

¹⁸⁰ Uma Suthersanen, *Design Law: European Union and United States of America* (2nd edition, Sweet & Maxwell, 2010) 6.050.

¹⁸¹ Stone Practitioners’ Guide: 20.62 “However, if offered on eBay, or, more arguably, taken to kindergarten, the toy will infringe.” 20.63, “The exception is likely to apply only to private individuals in their personal, non-commercial capacities, doing acts ‘privately’. However, arguably, it is unlikely to include an otherwise infringing product taken into the public realm.” 19.68 “Thus, the user of the tractor will infringe if using it to plough a field to grow corn to sell, but not for mowing the lawn of a private dwelling on the farm.” 20.61 “A plastic toy which would otherwise infringe will escape if it is only ever used privately and for non-commercial purposes.”

¹⁸² Suthersanen (n 180) 6.050 “If one further considers that private, experimental or non-commercial uses are expressly excluded from the scope of protection, by implication, any use which employs the protected product

presupposes a lawfully acquired good. In fact, this reading seems to be more compatible with the TRIPS Agreement, which in Article 26 states that “the owner of a protected industrial design shall have the right to prevent third parties not having the owner’s consent from marking (...) *when such acts are undertaken for commercial purposes*”.¹⁸³ Use as such is not featured in this provision, which is a minimum standard for harmonisation, but it is meaningful that the right to prevent others is subject to those acts the right holder wants to impede being undertaken for commercial purposes.

With this in mind, although use might entail exhibiting the part of the product that embodies a protected design, it seems reasonable to understand that the act of merely displaying the product, even if repaired, should not be considered an infringement. Fruition of a good should include displaying it and maintaining the product’s functionality¹⁸⁴ and thus repairing it, especially when none of these actions entail a commercial purpose. In fact, the only activity susceptible to interfering with the economic exploitation of the exclusive rights would be making the spare part at home, but this is precisely the use that clearly fits the limitation. Logically, *qui potest plus, potest minus*, and to simply use it in a non-private context, communicating a protected self-made part of it without a commercial intent, should not constitute “use” in the sense of Article 19 EUDR.

Finally, the goal of EU Design Law is to encourage innovation,¹⁸⁵ an objective that does not justify extending design protection so far as to control the ordinary personal use and enjoyment of lawfully acquired goods. The innovation purpose has been achieved as soon as the product was placed on the market. Strong protection thereafter should not encompass extending the exclusive rights to a level of control such as this. Not only does it seem to conflict with the right to property acquired over the good, but it would do so, finding no support in its overarching principle of promoting innovation, as nothing in this level of protection could be said to encourage innovation.

The exhaustion route has yet to be addressed, and it seems like, in light of previous comments, it is pertinent to treat it here. In fact, when thinking of fixing a product one has lawfully acquired, resorting to replicating a part of the product which embodies a protected

for the purposes of interfering with the economic exploitation of the design right holder will constitute infringement”.

¹⁸³ Article 26 TRIPS Agreement (emphasis added).

¹⁸⁴ Design does not protect function, but it joins both function and beauty, so it is expected that protected appearances are incorporated in products with a function.

¹⁸⁵ Council Regulation (EC) No 6/2002 of 12 December 2001 on Community designs [2001] OJ L 3. Recital 7.

design, one could immediately, and perhaps intuitively, think of exhaustion.¹⁸⁶ Could the scenario of a lawfully acquired product being repaired at home, resorting to manufacturing a part embodying a protected design, be addressed under exhaustion and found lawful? If the part is made privately, which is the one uncontroversial act (making) covered under the previously analysed limitation, should the “alteration” of the product with its new spare part be within the sphere of permitted uses in light of exhaustion of design rights?

The CJEU is yet to interpret exhaustion in design law. When it comes to relevant case law that could guide the densification of the concept, there is a decision of the German Supreme Court (*Bundesgerichtshof*) in which the alteration of the product, which was commercially redistributed, excluded the applicability of exhaustion in a subsequent sale.¹⁸⁷ However, the scenario which we discuss here does not involve a subsequent sale, and it is not clear whether it should qualify as an alteration when the part used to repair restores the original appearance of the product. As such, it would not be particularly useful to analogise. In fact, given the lack of further commercialisation,¹⁸⁸ there does not seem to be a reason why exhaustion should not cover alterations on a lawfully bought product. In this regard, a particular note on analogies in interpreting exhaustion. Given the fact that exhaustion exists in different IP branches, it might be tempting to draw parallels and analogies. I argue against this in the field of design law.

The clause of design law that establishes exhaustion does so without any caveat. Contrarily, Article 15 EUTMR,¹⁸⁹ features in its paragraph 2 that exhaustion shall not apply “where there exist legitimate reasons for the proprietor to oppose further commercialisation of the goods, especially where the condition of the goods is changed or impaired after they have been put on the market.”, likewise Article 29 of the UPC Agreement,¹⁹⁰ features a similar caveat as exhaustion applies “unless there are legitimate grounds for the patent proprietor to oppose further commercialisation of the product.”. Regarding copyright, the exhaustion provision in Article 4(2) InfoSoc Directive¹⁹¹ applies to distribution only, unlike the Design Exhaustion, which applies to every exclusive right.¹⁹²

¹⁸⁶ Article 21 EUDR.

¹⁸⁷ Stone Practitioners’ Guide 20.11

¹⁸⁸ Or meaningless commercialisation if the product were to be sold on a second-hand website.

¹⁸⁹ n 118

¹⁹⁰ Agreement on a Unified Patent Court [2013] OJ C 175 (UPC Agreement).

¹⁹¹ Directive 2001/29/EC of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society [2001] OJ L 167

¹⁹² Article 21 EUDR “The rights conferred by an EU design shall not extend (...)”.

In light of this, I now realise my reticence in analogies regarding exhaustion. Firstly, the narrow nature of the copyright exhaustion, which again, only applies to distribution, makes it hard to draw a parallel when the action at stake here is altering, not distributing. Secondly, regarding trademarks and patents, the law is different, the *mens legislatoris* unequivocal, and consequently, analogies are not appropriate. The design regulation differs from trademark and patent in the treatment the latter give to exhaustion. As such, it cannot, obviously, be interpreted as if there wasn't an explicit legislative choice present in 15(2) EUTMR and 29 UPC Agreement that does not exist in Article 21 EUDR. The lack of a caveat to oppose further commercialisations was a deliberate choice by the legislator. If one looks at the Proposal for the Community Design from 1993¹⁹³, one finds exhaustion in Article 24, drafted as it is today. More importantly, in Part Two of the Explanatory Memorandum concerning particular provisions,¹⁹⁴ it states, regarding exhaustion, that the provision "follows similar provisions contained in other Community acts, notably the Community Patent Convention and the draft Regulation on the Community Trade Mark".¹⁹⁵ On this note, Council Regulation 40/94 on the Community trade mark,¹⁹⁶ in its Article 13(2), features exactly the same caveat that today's Article 15(2) features. The proposal for the Council Regulation on Community trademark submitted in 1980¹⁹⁷ already features in its Article 11(2)(b) the same exception to the applicability of exhaustion ("where the condition of the goods is changed or impaired after they have been put on the market"). I believe this makes it clear that the EU legislator was aware of the formulation of exhaustion in other IP branches, namely trademark law, and chose a different one.

The two concepts developed here: the lawful use after a private and non-commercial repair and the lawful alterations (deemed lawful by exhaustion) of a lawfully acquired product, could prove key to realise the potential of limitations and their goals which can be particularly aligned with making products more repairable.

4.3. The Repair Clause

Before examining the judicial interpretation of the repair clause, it is essential to understand the policy choice underlying it. Regulating repair presupposes a choice as to who the burden of repair should be allocated to. What I've previously defined as the *repairability*

¹⁹³ Design Proposal 1993 (n 71).

¹⁹⁴ *ibid* Page 10 ss.

¹⁹⁵ *ibid* Page 21.

¹⁹⁶ Council Regulation (EC) No 40/94 of 20 December 1993 on the Community trade mark [1994] OJ L 11

¹⁹⁷ Commission, 'Proposal for a Council Regulation on Community trade marks' <[https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:51980PC0635\(02\)](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:51980PC0635(02))>.

duties route establishes that the original product manufacturers are ultimately responsible for repair and consequently imposes on them the burden to make spare parts available, in an affordable way, for a certain period of time after the initial sale, to provide long warranties, etc. Instead, the enabling *repair uses* route has independent repairers (whether DIY, independent repair shops or repair communities) as its focal point, and all the limitations addressed so far are central to frame *repair uses* lawfully. The goal is not one of regulatory imposition but of enabling other market actors to lawfully participate in repair activities. The latter is precisely why the repair clause in Design Law has been adopted. What was historically a controversial issue¹⁹⁸ now purposefully enables third parties to offer alternative spare parts to consumers and compete with the original manufacturers. Its main virtue is precisely its capability of being used in trade, which, in contrast, is the main shortcoming of the private use exception analysed before, which only permits individuals to repair and, consequently, ignores the web of interconnections inherent to repair (infrastructure needed to manufacture spare parts, access to spare parts, etc).

As such, the repair clause stands central to the analysis that has so far focused on several aspects in which repair concerns could be considered when interpreting existing design law provisions. Now is finally the time to analyse in more detail the explicit mention of repair as a limitation to the exclusive rights granted to rightsholders by Design Law. Article 20a EUDR reads, in its number 1, as follows:

“Protection shall not be conferred on an EU design which constitutes a component part of a complex product upon whose appearance the design of the component part is dependent, and which is used within the meaning of Article 19(1) for the sole purpose of the repair of that complex product so as to restore its original appearance.”

To trigger this clause, two sets of requirements must be met. The first set is intrinsically linked to design law and its concepts. Conversely, the second set (present in 20a (2) EUDR) establishes interests, to a good extent alien to design law and its concepts, namely, dissipating confusion and enabling consumers to make informed choices.

The four cumulative requirements in Article 20a (1) EUDR to fall under the clause are (1) being a component part of a complex product; (2) the design of the component part is dependent on the appearance of the complex product (3) it needs to be used under the

¹⁹⁸ Among others, Suthersanen (n 180) 4-007 – 4-012.

meaning of 19(1); and finally (4) for a specific and narrow purpose. Let us analyse in detail some of these criteria.

a) Component part of a complex product:

The first relevant question is thus determining the complexity of a product, to then be able to assess whether the design pertains to a component or not. The legislation provides in Article 3(3) EUDR a complex product definition: “a product that is composed of multiple components which can be replaced, permitting disassembly and reassembly of the product.”, but nothing is explicitly said regarding what constitutes a component part of a complex product.

Let us first clarify the reference to “multiple components”. This reference means that the complexity of a product only depends on having two components to be considered complex. The General Court confirmed this in T-39/13¹⁹⁹ (*Skirting Board*), where the complex product was a skirting board with a recess, and the contested design was the component designed to cover the recess.²⁰⁰ A low threshold of complexity evidently means that a great number of products can potentially be deemed complex. Further examples suggested by other case-law include “a car, a lawn mower, a generator, a compressor, a pump (...) air compressors, power generators, pumps, chipper/shredders (...) and go-karts”.²⁰¹

In my view, it is already relevant to emphasise the separability and potential independent marketing of the component parts of a complex product, which does not jeopardise the classification of a product as complex, nor the classification of that product marketed separately from constituting a component part of it. Such understanding stems from T-494/12²⁰² (*Biscuits*), where the General Court states that “Given the particular nature of components of a complex product within the meaning of Article 3(c) of Regulation No 6/2002, which *may be produced and marketed separately from the complex product*”,²⁰³ and also from *Bartoni* where the General Court clarifies that the “commercial decision (of marketing the

¹⁹⁹ T-39/13 Cezar v OHMI - Poli-Eco (Insert) [2014] ECLI:EU:T:2014:852 (*Skirting Board*).

²⁰⁰ *Skirting Board*, para 23-29.

²⁰¹ The EUIPO BoA, in case R 1380/2006-3 Internal Combustion Engine [2007] EUIPO Third Board of Appeal (*Internal Combustion Engine*), when deciding on the protectability of an internal combustion engine stated: “A particularity of internal-combustion engines is that they are ‘component parts’— within the meaning of Article 4 (2) CDR – of a ‘complex product’, the ‘complex product’ being the product that the engine powers: a car, a lawn mower, a generator, a compressor, a pump, etc. (...) the Board will from now proceed, for the purpose of this appeal, on the assumption that the relevant complex products are: air compressors, power generators, pumps, chipper/shredders, lawn mowers and go-karts (hereinafter, the ‘relevant complex products’).” (para 15) So, potentially every product powered by an internal combustion engine, or perhaps a battery, can be deemed complex.

²⁰² T-494/12 - Biscuits Poult v OHMI - Banketbakkerij Merba (Biscuit) [2014] ECLI:EU:T:2014:757 (*Biscuits*)

²⁰³ *ibid* para 22 (emphasis added).

product separately) should not be regarded as a decisive factor in assessing whether a product constitutes a component part of a complex product”.²⁰⁴ Consequently, if a complex product is composed of two component parts sold separately, that fact, as such, does not deem that those component parts cease to be component parts of a complex product, which in turn means that a complex product does not lose its complexity if it is made out of parts marketed separately.

Two other elements present in the definition of “complex product” merit some analysis: the replaceability of its components and the ability of the product to be disassembled and reassembled. Taking into consideration both the context and the everyday use of these terms,²⁰⁵ nothing hints at them being intended to establish a particular qualified requirement. In other words, neither the statutory text nor the ordinary meaning of these terms suggests any threshold of difficulty or complexity in replacing, disassembling and reassembling the product. Just as “multiple components” is a merely quantitative requirement, these other elements do not seem to indicate any qualitative requirement. In this regard, it is important to recall *Skirting Boards* and *Internal-Combustion Engine* to illustrate this reality. These cases confirm that the legislation does not distinguish between snap-fit connections and potentially intricate mechanical assembly, nor between components replaceable by any user and those requiring specialised tools or expertise. The more straightforward way of installing the recess in the *Skirting Board*, versus the potentially more sophisticated technical knowledge required to remove and reinstall an engine in *Internal Combustion Engine*, did not play a significant role in determining the nature of the products as component parts of a complex product. Consequently, the structural relationship between the components deems the product complex and its different parts components. It becomes thus clear that unless the product is what has been called “one-unit”,²⁰⁶ a condition that makes replaceability of its components impossible, because the disassembly implies destruction, it can be deemed a complex product.²⁰⁷

²⁰⁴ *Bartoni* Para 60.

²⁰⁵ C-164/98 P, *DIR International Film and Others v Commission* [2000] ECLI:EU:C:2000:48, para 26 “According to consistent case-law, the meaning and scope of terms for which Community law provides no definition must be determined by considering the general context in which they are used and their usual meaning in everyday language”.

²⁰⁶ Dana Beldiman, Constantin Blanke-Roeser (n 87) quoting Commission, ‘Proposal for a Directive of the European Parliament and of the Council amending Directive 98/71/EC on the legal protection of designs, COM(2004)582 final, Extended Impact Assessment p 6.

²⁰⁷ Or as Suthersanen (n 180) 6-006 states regarding the definition of complex product “cannot apply to products which are composed of permanently assembled parts which cannot be taken apart without destroying the product in hand”.

The classification of what a complex product is, is naturally very closely linked to that of component part of complex product, which is absolutely central to the repair clause. Here again, “in the absence of any definition of the term “component part” in that regulation, it must be understood in accordance with its usual meaning in everyday language”²⁰⁸ and its general context²⁰⁹ (which I went through in the previous paragraph). In what regards this definition, the Court, in *Acacia*, stated: “In those circumstances, it must be held that, through the words ‘component parts of a complex product’, Article 110(1) of Regulation No 6/2002 covers multiple components, intended to be assembled into a complex industrial or handicraft item, which can be replaced permitting disassembly and re-assembly of such an item, *without which the complex product could not be subject to normal use.*”²¹⁰ The emphasis added in this quote aims to precisely restate that not only are the two concepts (complex products and component parts of complex products) naturally very closely connected, but also alerts and confirms the mentioned structural relationship between component part and complex product by adding “without which the complex product could not be subject to normal use”. Through this phrasing the CJEU does not introduce an extra requirement for products to be considered a component part of a complex product, it simply clarifies the relationship between the two.

So far, with these elements in mind, one could certainly maintain the impression that the exception²¹¹ in Article 4(2) EUDR is in fact more commonplace than the concept of exception, meaning applying to special cases, presupposes. And in that regard, keeping in mind what is the “the canon of strict interpretation of exceptions”,²¹² some case law after *Acacia* has tried to shape the standard accordingly, creating some unpredictability in what regards determining whether a product is a component part of a complex product or not. I refer to cases *Vacuum Cleaner Bag*²¹³ and *Bartoni*. These decisions can either be (generously) framed as a qualification of the previous standards or, as a misapplication of the criteria. To decide which, we need to highlight some of the decision’s main arguments.

²⁰⁸ *Acacia*, para 64.

²⁰⁹ (n 205).

²¹⁰ *Acacia* para 65.

²¹¹ *Bartoni* para 25.

²¹² Tito Rendas, ‘Fundamental Rights in EU Copyright Law’ in Eleonora Rosati (ed.) *The Routledge Handbook of EU Copyright Law* (1st edition, Routledge 2021) “The canon of strict interpretation of exceptions is a staple in the case law of the CJEU. (...) The Court has gone as far as saying that “any derogation from or exception to a general rule must be interpreted strictly”, elevating the canon to a general interpretative maxim applicable in virtually every legal field.”.

²¹³ Case R 299/2021-3 Miele Computer Cie KG v Green bael Manufacturing Europe Ltd [2021] EUIPO Third Board of Appeal (Vacuum Cleaner Bag).

In *Vacuum Cleaner Bag* the EUIPO Board of Appeals (BoA) concluded that a vacuum cleaner bag was not a component part of complex product (a vacuum cleaner).²¹⁴ The decision puts forward several claims to support this view. Firstly, it argues that “Although the normal use of a vacuum cleaner requires a vacuum cleaner bag, this is not *perceived* as a component”.²¹⁵ This consideration bears a difficult time interacting with *Acacia* and previous case law. In *Acacia* the CJEU states that component parts of complex products are considered so, when the complex product cannot be subject to normal use without them.²¹⁶ It seems, according to that standard, pretty straightforward that the normal use of a vacuum cleaner, includes its bag. That much the BoA also affirms.²¹⁷ Yet, the BoA instead deems that the vacuum cleaner bag is not a component part of a complex product, because it is not “*perceived*”²¹⁸ as such. This novelty brings a degree of arbitrariness, inherent to the concept of perception, to the previous legal standard. Still, more importantly, it seems to depart from the previous structural relationship criteria developed by the Court.

The BoA goes on to then give weight to the fact that “A vacuum cleaner bag is promoted independently on the market, is sold at different locations (...) When replacing a vacuum cleaner bag, the vacuum cleaner is not disassembled and reassembled; Rather, the bag is placed or removed again in a roof intended for it.”²¹⁹ Regarding the first part of this paragraph - separate marketing - as seen previously in *Biscuits*, component parts of complex products may be marketed separately,²²⁰ an understanding that was confirmed by the General Court (after this case) when it states that the decision to market products and components separately is not “decisive”.²²¹ So, in short, this feature is not a preponderant element as such. Regarding the second part of the paragraph, the BoA claims that replacing the vacuum cleaner bag is not disassembly and reassembly, but rather a placement and removal. It is worth highlighting that in *Skirting Boards* a mere clip-on mechanism was considered to constitute disassembly and reassembly. So, it is at least contradictory with previous decided cases to suggest that there are different qualitative levels of replacement, a topic we will discuss further on, in light of a more recent case.

²¹⁴ *ibid* para 27.

²¹⁵ *ibid* para 28.

²¹⁶ *Acacia* para 65 “without which the complex product could not be subject to normal use.”.

²¹⁷ *Vacuum Cleaner Bag* para 27, when it states that vacuum cleaner bags are not used for maintenance, servicing or repair work.

²¹⁸ “*wahrgenommen*” in original text.

²¹⁹ *Vacuum cleaner Bag* para 29.

²²⁰ *Biscuits* para 22 “Given the particular nature of components of a complex product within the meaning of Article 3(c) of Regulation No 6/2002, which may be produced and marketed separately from the complex product”.

²²¹ *Bartoni* para 60.

Finally, the reason as regards to why this interpretation was followed can be found in paragraph 32 of *Vacuum Cleaner Bag*, where the BoA argues against creating an unusually high barrier for protecting these types of items, which, according to the BoA should be worthy of protection.²²² Not only that, but the BoA states also that an interpretation contrary to the one it follows would be incompatible with “higher-ranking law”. Which higher ranking law and how exactly this incompatibility arises is, however, unclear.

These very points, which present different avenues for interpretation from the ones previously settled by case-law, were more recently developed in *Bartoni*. Here, the justification of what ensues in the reasoning is that Article 4(2), being an exception, should, therefore, be interpreted narrowly.²²³ The starting point of the interpretation is naturally the standard of the CJEU previously mentioned, namely that the product is a component part of a complex product if the complex product could not be subject to normal use without it and has multiple components permitting disassembly and reassembly.²²⁴ The product analysed is an electrode, which is ultimately deemed a separate product and not a component part of complex product (a torch or a plasma cutting system). The reasoning of the GC is interesting in several regards, some of which further develop some of the concepts in *Vacuum Cleaner Bag*.

To determine whether a product is a component part of a complex product or not, the Court starts by welcoming the consideration of factors such as “firm and durable connection with the complex product” and “short lifespan”.²²⁵ The consequential need to be frequently replaced “denote[s] the standard characteristics of a consumable”.²²⁶ The Court seems to qualify what I previously described as the structural relationship. Meaning that the connection that component parts of complex products need to have with the complex product must now be durable and firm. So, it is not any type of structural relationship, according to the Court, it is a specific, demanding relationship.

²²² *Vacuum cleaner bag* para 32 “If a vacuum cleaner bag were to be regarded as a component which is incorporated into the complex product, there would be an unusually high barrier for protection that would no longer be compatible with higher-ranking law. Thus, similarly, any design protection could be obtained for, for example, light bulbs, batteries, film reels or café capsules, which, although inserted into a device, are likewise subject to independent distribution channels and systems.”

²²³ *Bartoni* para 25 “Article 4(2) of Regulation No 6/2002 is an exception to the system of protection laid down in Article 4(1) of that regulation. As an exception, that provision must be interpreted narrowly in order to minimise the exclusion of protection of designs.”

²²⁴ *Acacia* para 65.

²²⁵ *Bartoni* para 35.

²²⁶ *ibid.*

The Court goes on to state that since the consumable is “easily attached to the torch [the complex product]”²²⁷ and “easily replaced by the end user”²²⁸ the operation is not disassembly and reassembly. Implicitly, the Court contends that there is in fact a hidden nuance in the concept of “disassembly and re-assembly” present in Article 3(c) EUDR, for it intends to primarily cover those operations where “professional[s] with specific expertise [are needed] to carry that replacement”.²²⁹ It then clarifies the degree of ease and the categories of individuals for whom it is easy to disassemble and reassemble the product, in order to not classify the product as a component part of a complex product: “Even though the shield, the retaining cap and the nozzle must be unscrewed and put back again after the electrode has been replaced(...) this remains a simple operation for the end user (...). Such an operation cannot therefore be regarded as ‘disassembly’ and ‘re-assembly’ of the torch within the meaning of Regulation No 6/2002.”.

The mentioned case law concerning the definition of a product as a component part of a complex product warrants further analysis, particularly through an examination of the underlying reasoning and its impact on the repair clause and its objectives.

Let us, first and foremost, bear in mind, as *Acacia* lays out, that deeming a certain provision an exception is not a *carte blanche* for Courts to subject their application “to a condition which it does not lay down”.²³⁰ This is already one of the reasons why the *Vacuum Cleaner Bag* and the *Bartoni* reasoning become problematic, even if we discount their impact on the repair clause and its scope of application. For example, it is hard to find within the statutory provisions and previous case law, justifications for using elements such as the perception of users of a product being a component part of a complex product, and a qualification of what actually amounts to disassembly and reassembly based on their installation method rather than their functional role within the complex product. With respect, simply analysing the leaps taken in this regard reveals, in my view, legal errors.

This criticism is not to say that flexible interpretations are not welcome in law. In fact, the extent to which the flexibility within the law can be stretched to encompass repair principles is a central activity of this thesis. There are, nonetheless, some particularities that distinguish this exercise from the one undertaken in these decisions. The size of the leap taken by the Court and BoA as regards previous case-law is certainly noteworthy. However,

²²⁷ *Bartoni* para 36.

²²⁸ *ibid.*

²²⁹ *Bartoni* para 47.

²³⁰ *Acacia* para 42.

the main criticism I wish to lay out, again, with the utmost respect to these decisions, pertains to a lack of holistic consideration of the Design Edifice.

Even if we were to accept the reasoning in these cases to be a correct development of the legal standard, it is still not convincing that it should be the recommended one, especially considering its impact on the effectiveness of the repair clause. If the products were considered component parts of complex products, they would either not be protected due to not being visible during normal use (novelty and individual character being met) or they would be protected in a balanced way, seeing that avoidance of captive markets and competitive access to repairability would be guaranteed because they would potentially fall under the scope of the repair clause. Avoiding this result does not seem desirable. Be it a bag for a vacuum cleaner or an electrode for a welding torch, the purpose of the repair clause is precisely “to avoid the creation of captive markets in certain spare parts and, in particular, to prevent a consumer who has bought a long lasting and perhaps expensive product from being indefinitely tied, for the purchase of external parts, to the manufacturer of the complex product.”²³¹ The protection of consumables, not as component parts of complex products, could perversely exclude from the repair clause precisely those parts that independent repairers and consumers need to be most accessible, and those who have a great potential of undesirably tying the consumer. It would create the anomalous result that easily replaceable parts, perhaps those most amenable to competitive aftermarkets, receive full design protection.

Furthermore, this interpretation can not be said to be particularly in line with building a more circular economy. Independent protection of consumables as non-component parts of complex products could actively incentivise unsustainable design choices. Namely, incentivising business models built on recurring consumption over more durable alternatives. Consequence of manufacturers, through design law, being able to secure monopolies over frequently replaced parts while avoiding the repair clause exception. From the circular economy perspective, if concepts such as durability and short lifespan are called into a design law assessment, it seems certain that they should not be used to reward certain business models. In other words, they should not be used to treat frequent replacement and disposal as disqualifying characteristics for component part status, thereby extending protection to the very products whose environmental impact is most severe. From the perspective of environmental protection, it is not desirable to reward a wasteful product design with a

²³¹ *Acacia* para 50.

stronger intellectual property monopoly. To illustrate this: a manufacturer who designs a vacuum cleaner with a permanent, cleanable filter faces potential competition under the repair clause for that component. One who instead designs disposable bags receives protection for both the vacuum cleaner and the bag independently and potentially draws extra revenue in the market of the designed-to-be-replaced consumable bag. A scenario that amounts to IP-incentivised waste. The impact that this interpretation has on environmentally problematic design choices should not be ignored.

Regarding the other requirements needed to apply the repair clause, namely:

b) Dependent appearance (must-match)

This second element, commonly referred to as the “must-match” requirement, was subject to clarification in *Acacia*. The Court had the opportunity to explain the legislative intent behind this requirement and its implications for the repair clause’s scope, ultimately concluding (paras 34-39) that the “must-match” requirement was deliberately kept out of the legislation. Since then, the legislator, in the recent design reform, understanding the implications of the Court’s decision, decided to explicitly adopt the requirement in a substantive provision. With this inclusion, the current provision departs, in that regard, from the previous state of affairs settled in *Acacia*, and, importantly, narrows the scope of the repair clause.

c) Use

The CJEU in *Acacia* also clarified that “the ‘use’ of the component part within the meaning of that provision covers 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. *As is apparent from the wording of that article, that concept is construed broadly and encompasses any use of a component part for the purposes of repair.*”²³² It is clear from this framing that the clause applies to end-users who use a component part of complex product, to the independent manufacturer who made, offered and placed it in the market; to potential sellers who imported it and stocked it... In short, the broad definition of use adopted by the legislation, applied in this instance, potentially encompasses a whole chain that makes repair possible.

²³² *Acacia* para 68.

d) Sole purpose of the repair of the complex product

Regarding this fourth element, *Acacia*, once again, provides guidance on how to define it. Firstly, by further emphasising the structural relationship between the complex product and component part of the complex product, stating that “the component part must be *necessary for the normal use* of the complex product or, in other words, that if that part were faulty or missing, this would prevent such normal use.”²³³ Consequently, “aesthetic purposes or customisation of the complex product is therefore excluded from the ‘repair’ clause.”²³⁴ This consequence is somewhat natural, seeing that products for aesthetic personalisation could hardly be considered necessary for normal use. An interesting question is whether the repair clause still applies if the component part could accumulate both natures (personalisation and necessary for the normal use). In this regard, I agree with Brancusi’s position that “in the case of such a dual-purpose parts it is the functional link between the part and the product due to the possibility of repair that should be the conclusive for placing it under the umbrella of the repair clause”.²³⁵ Thus, when a part is used for repair, whether primarily or not, other incidental uses do not make those components fall outside of the repair clause. Nothing seems to point towards a different conclusion, even if one of the uses is maintenance and not strictly speaking repair. Maintenance differs from repair because “Maintenance is about prolonging the present state of affairs, while repair is a matter of returning to some prior condition”.²³⁶ However, if the component part of a complex product that one pre-emptively replaces because it was in poor condition is the same that would be used for replacing the component part were it torn or broken, then the same reasoning regarding mixed use is applicable.

A final note on restoring its original appearance. According to the Court, it means “identical visual appearance to that of the part which was originally incorporated into the complex product when it was placed on the market.”²³⁷ It also stems from the same decision that at least the colour and dimension of the component part need to correspond.²³⁸

Lastly, Article 20a EUDR operationalises consumer-based concerns and, importantly, it aims to ensure that the repair market is based on competition and not deception. One noteworthy aspect regarding this extra requirement is the use of the concept of commercial

²³³ *Acacia* para 69.

²³⁴ *Acacia* para 70.

²³⁵ Brancusi (n 110)

²³⁶ Perzanowski (n 4), page 16.

²³⁷ *Acacia* para 78.

²³⁸ *Acacia* para 77.

origin regarding the use of a design. As we know, design rights, unlike trademarks, do not perform the function of identifying commercial origin. Regardless, the substantive requirements of the Article could be said to be very similar, although more precisely defined, than those in Article 20(2) EUDR. As such, right holders seem to be satisfactorily covered in situations of abusive use of a limitation.

Chapter 5 - Conclusion

Throughout this thesis, the narrative of enabling repair in light of circular economy principles has been analysed. Namely, by assessing available avenues in case law and doctrine to understand how compatible the framework is with enabling repair goals. Now I will use the framework of What? How? and Why?²³⁹ for better framing the suggested repair-oriented interpretations analysed and help reach a more meaningful conclusion.

The question of why we should treat spare parts differently is addressed from competitive, economic, and circular economy perspectives. As IP scholarship recognises, “The question of why we want to protect certain immaterial goods and associated interests informs the object of IP protection”.²⁴⁰ As such, I have used the justification of the circular economy to shape the understanding of what falls within or outside protection. Particularly, I have explored whether a public domain of spare parts exists and whether exclusions, namely functionality and public policy, can or should influence its extent and relevance. These provisions potentially help delineate a doctrinal public domain of features of appearance, a repertoire of features to be freely used, and consequently, one is free to undertake *repair uses* that entail their reproductions. Analysing the public policy exclusion revealed the multifaceted importance of repair, demonstrating how environmental and social considerations coexist, and, very importantly, providing arguments to respond to the question of why protection should or should not be granted. The interconnection and modularity clause was also subject to analysis. It has been argued, in my view correctly, that design law “should not ignore the change in the role of design in the 21st century”.²⁴¹ As such, it seems reasonable not to exclude the modularity clause as a particular unexpected circular economy-oriented incentive, nor to exclude the applicability of the repair clause to modular products to enable the creation of a balanced repair system, also regarding these products.

Beyond exclusions (which answer the questions of what is protected), the thesis moves to the how something is protected. At this stage, protection exists, and the previously focused-on clauses were not operative. As such, private use, citation, referential use, exhaustion, and the repair clause are analysed to determine the freedom of broadly defined

²³⁹ Annette Kur, Nari Lee, and Anna Tischner, *Fairness in Intellectual Property Law* (Edward Elgar Publishing 2024).

²⁴⁰ *ibid* page 335.

²⁴¹ Anna Tischner, ‘Lost in communication: a few thoughts on the object and purpose of the EU design protection’ in Susy Frankel (ed.) *The Object and Purpose of Intellectual Property* (Edward Elgar Publishing 2019) “When reforming design protection in Europe it is worth considering to what extent this regime may address the acute social and environmental challenges of the 21st century – namely sustainability, global ecological crisis, and migration movements and human mobility.”.

repair uses. The repair clause, this innovative and unique solution in IP law, is paradigmatic of the equilibrium aimed at in the field of “how” something is protected, but also reveals the difficulties, due to its legislative history, to reach a final solution. An experience that can provide valuable lessons for future legislative efforts to balance exclusive rights with broader social objectives.

More substantially, the clause’s scope is ultimately disappointingly narrow, with several features limiting its effectiveness. Applying only to component parts of complex products is the first problematic and perhaps contradictory instance of the clause, as mentioned before, an interest in the liberalisation of spare parts in general was recognised, but the limitation applies only to a limited category of spare parts (component parts of complex products). The General Court and BoA’s jurisprudence on what constitutes a “component part of a complex product” reveals a certain level of unpredictability. I am not the first to analyse certain General Court decisions and highlight a “worryingly cavalier disregard for the legislative texts”.²⁴² I have not undertaken the same effort of systematic analysis of all available General Court decisions (as in the quoted article²⁴³) to be able to restate, several years after that article, that the same patterns Cornwell addresses are still present. However, regarding specifically the ambiguity of GC decisions on what constitutes a component part of a complex product, and the reasoning behind them, certain conclusions of the article are pertinent to apply in this regard, namely, when mentioning that disparity is created²⁴⁴ and innovations on the language of the regulation undertaken.²⁴⁵ Still on the first number of article 20a EUDR, the revocation, by the legislator, of the previous interpretation in *Acacia* regarding the must-match requirement, has, predictably, already revealed how it can curtail the applicability of the clause.²⁴⁶

Moreover, as anticipated in the text, I consider number 2 of article 20a also problematic for the use of trademark language, namely “commercial origin”. Firstly, it is unclear why the legislator (and CJEU before them in *Acacia*), created these very precise and particular conditions when regarding other limitations, a broad compliance with fair trade

²⁴² Jane Cornwell, 'Under-referred, under-reasoned, under-resourced? Re-examining EU design law before the Court of Justice and General Court' (2016), *Intellectual Property Quarterly*, vol. 4, no. 4, 318.

²⁴³ *ibid*.

²⁴⁴ *ibid* p 18. on the informed user standard “we are left meantime with a disparity between, on the one hand, what the GC tells us the characterisation of the informed user should be and, on the other, how the GC proceeds on the facts of the cases before it.”

²⁴⁵ *ibid* p 26 “It is simply astonishing that the GC should feel free – without any textual basis whatsoever – to innovate on the language of the CDR to the extent that it has done in *Cezar* and *Group Nivelles*.”

²⁴⁶ Marcel Pemsel, 'How the new EU Design Regulation can kill your infringement claim' (28 November 2025) <<https://ipkitten.blogspot.com/2025/11/how-new-eu-design-regulation-can-kill.html>> accessed 13 December 2025.

practices, and the mandate to not unduly prejudice the normal exploitation of the design is enough (article 20(2) EUDR). I found the approach troubling for an extra reason, at least from a theoretical perspective. As Kur and Levin have articulated, the function of design is, in theory, simply to denote the appearance of a product.²⁴⁷ While certain appearances can signify commercial origin (as trademark law recognises through non-traditional marks, including shape marks), conflating these functions within design law creates conceptual confusion. A component part of a complex product manufactured under the repair clause that incorporates a protected design should be assessed solely under design law principles. If that part is associated, by the independent seller, with a trademark in its marketing, then trademark law provides the appropriate framework for analysing this scenario. The merger of design limitations with trademark-like requirements is not only theoretically inconsistent but practically undesirable. It forces analysis of a single use under different legal concepts, one of which (the repair clause) is not even concerned with trademark protection. This lack of separation undermines predictability and obscures the separate functions these IP rights serve. Ideally, all IP legal regimes would be aligned in such a way as not to create what Kur has called “asymmetric convergence”²⁴⁸ where rightsholders “will tend to cherry-pick and rely on the right whose exceptions do not apply in the case at hand.”²⁴⁹, which has the unpleasant effect of emptying the goals of a limitation such as the repair clause. Lacking these horizontal limitations, in my view, keeping the regimes analytically separate, at least in this case, provides for a clearer and more predictable framework.

This thesis has tried to lay interpretative foundations for repair-oriented interpretation, exploring exclusions and limitations and finding where repair-related considerations could be channelled, in an effort of trying to align intellectual property with social and environmental goals. Crucially, it aims to work within the current legal framework informed by circular economy principles. The very recent Design Law reform makes further legislative revision unlikely in the near term, and, consequently, it is pragmatic to work within

²⁴⁷ Kur, Levin (n 67) “However, at least in theory a fundamental difference between the two fields of law lies in the fact that the design is not meant to convey any message beyond its own appearance, whereas a trade mark must indicate commercial origin in order to function as such. Expressed in terms of semiotics, the concept of design law implies that the signifier and the signified are collapsed (the product appearance signifies the product appearance), whereas in trade mark law they must be distinct from each other (the product appearance must signify commercial origin). However, in practice the distinction was never easy to draw, and with the concept of trade marks being extended so as to comprise the intrinsic value of brands, the conceptual background as well has become blurred.”

²⁴⁸ Graeme B. Dinwoodie and Ansgar Ohly, Conclusion in *Bruun, Niklas, Graeme B. Dinwoodie, Marianne Levin, and Ansgar Ohly, (eds.), Transition and Coherence in Intellectual Property Law: Essays in Honour of Annette Kur* (Cambridge: Cambridge University Press, 2021) “what Annette Kur calls “asymmetric convergence”.”

²⁴⁹ *ibid.*

existing structures, identifying interpretive pathways through which design law enables rather than jeopardises social and environmental objectives. The urgency of reducing the waste numbers, which were only mentioned in the beginning but are nevertheless always present, could also be used to argue that aligning IP frameworks with sustainability imperatives demands that we exhaust interpretive possibilities before waiting for long processes of legislative reform.

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