Right to Repair Between Intellectual Property and Servitization

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Abstract In the paradigm shift towards circular economy, the so-called right to repair ('R2R') is pivotal for promoting sustainable development within an innovative productive system. This proves true looking at the legislative agenda all over the world: in the European Union, such reform program gained momentum more recently, especially with Directive (EU) 2024/1799.

At a closer look, however, this Directive seems to disregard the issues of intellectual property and servitization, which represent relevant obstacles for R2R in law and in fact.

This paper criticizes such an approach, considering how the EU legislator seems to (green)wash its hands under both perspectives. Therefore, an evolutive interpretation of the Directive is here proposed in order ensure effectivity to R2R.

On one side, against an excessive reverence to intellectual property, it is maintained that the pursuit of public interest underlying repair could well entail a 'due prejudice' to private business rights, limiting their prevalence to abuse cases.

On the other side, against biased presumption that servitization is always beneficial for a sustainable circular economy, it is maintained that the consumer shall instead enjoy the right to freely turn to an open competitive market for repair, in order to counteract the relevant foreclosure effects of this contract model.

1 Introduction

In the paradigm shift towards a circular economy, the Right to Repair ('R2R') is pivotal for promoting sustainable development within an innovative productive system. This proves true looking at the legislative agenda all over the world: while

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abroad there are already important examples[1], in the EU the reform program has gained momentum more recently[2].

Looking at the content of the EU reform, major problems arise that could be significant for R2R itself, even beyond the boundaries of Europe: actually, the issues of intellectual property rights ('IPR') and servitization or product-service system ('PSS') represent critical obstacles that could impair legally and factually R2R in its effectivity.

However, the tension between R2R and such obstacles seems overlooked in the reform: in fact, on one side, the EU legislator decided to introduce repair obligations for manufactures 'unless justified by' and 'without prejudice to' the protection of IPR; moreover, on the other side, repair obligations are primarily addressed to traditional sale contracts, assuming the manufacturers' reluctance to provide relevant services, without considering the ambivalent nature of PSS.

This paper criticizes such an approach, considering—with some provocative tone—how the EU legislator seems to (green)wash its hands under both perspectives. In particular, the paper develops the argumentation as follows: after a brief presentation in Sect. 2 of R2R within the framework of sustainable circular economy, Sect. 3 reports the obstacles to an effective R2R that derive respectively from IPR (3.1) and PSS (3.2); then, Sect. 4 focuses on the EU legislative agenda on R2R, analyzing its core element represented by Directive (EU) 2024/1799 (hereinafter also just the 'Directive'); Sect. 5 sets out the critical issues of such reform, under each of the considered perspectives of IPR (5.1) and PSS (5.2); accordingly, Sect. 6 illustrates possible corrective solutions, again respectively for IPR (6.1) and PSS (6.2); finally, Sect. 7 concludes.

2 The New Paradigm of Sustainable Circular Economy and the Right to Repair

The so-called circular economy—according to the common definition of 'an economy that is restorative and regenerative by design'[3]—represents the main conversion of the new paradigm of sustainability in terms of productive model, whose

[1] For an updated recap of the situation in the US see Calboli (2023), as well as Grinvald and Tur-Sinai (2024); even more recently, with a specific focus on the agricultural sector (where the famous case of John Deere tractors brought to light the controversial nature of repair for current technological products with relevant intellectual property rights), see Rimmer (2025). More in general, about the international agenda towards circular economy and sustainability beyond the EU policy action see Candelmo (Chap. 10).

[2] Actually, the EU reform here discussed has been approved in the time of writing, however confirming the text agreed by the European Parliament and the Council in the last rounds of negotiations, with relevant amendments to the original proposal: therefore, save where specified otherwise, all comments can be referred to the promulgated version of Directive (EU) 2024/1799, of 13 June 2024, on common rules promoting the repair of goods (OJEU, 10 July 2024, L).

[3] Ellen Macarthur Foundation (2015), p. 47.

significance is not limited to business concerns but is intended to reshape the world we live in.

From this perspective, economic growth is traditionally seen as bringing about greater entropy, with inevitable negative social and environmental repercussions, almost as if it were a necessary price to be paid for achieving progress. However, the novelty of circular economy lies precisely in its discontinuity with previous models, internalizing sustainability as its cardinal principle.

This new paradigm of an economy that is circular and thus sustainable represents a real challenge for the system, and it would be wrong to consider it in a reductive way as a mere return to traditional—albeit valid and wise—good practices of reusing and saving from a pre-industrial era: in fact, the challenge is to reconcile an advanced and innovative economy, such as that of today's global and digital market, with principles of socio-environmental sustainability, so that the level of collective wellbeing achieved becomes the basis for further flourishing, to the benefit of all. Such a radical change would have a major impact on current production and consumption patterns, which in turn is meant to revolutionize not only the economy but also society as a whole[4].

This is the context where R2R is framed, which by the way has now risen to the status of a truly global movement[5]. In opposition to the exasperation of an economic model that pushes to consume more and more, in a swirling and endless chase towards productive novelties (whether real or narrated), R2R responds to the need to preserve the utility of existing goods, in some ways 'reclaiming' control over one's possessions and, by extension, one's autonomy[6]. This is enough to understand how R2R fits perfectly into the discourse on circular economy, epitomizing the disavowal of the linear 'make-take-dispose' model in favor of practices aimed at saving the value inherent in circulating goods and putting it back into the production cycle[7].

As much as repair is a historical need, perhaps as old as human manufacturing, the existing legal system does not provide a specific discipline. Usually, repair is concerned when regulating products defect in terms of conformity and related warranty on the manufacturer, but this perspective is closely related more to purchase contracts than to the possession of the good apart from the relevant commercial transaction[8]. What is lacking, therefore, is a true statute for R2R, which goes beyond

[4] For a brief manifesto see Stahel (2016); for a recent empirical study in the field see Fedele and Hysa (2024).

[5] As demonstrated by the attention in general media: 'Fix, or Toss? The 'Right to Repair' Movement Gains Ground', New York Times, 23 October 2020 (https://www.nytimes.com/2020/10/23/climate/right-to-repair.html); in parallel, stakeholders associations are growing almost all over the world: for example, in the geographic context of the legislation here analyzed, see 'Right to Repair Europe', a coalition representing over 100 organizations from 21 European Countries (https://repair.eu/about/); for a general framework see Ozturkcan (2023).

[6] Express reference is to the pivotal work of Perzanowski (2022).

[7] As a confirm from a technical perspective, see for example Jonas et al. (2023).

[8] For an analysis of direct contractual remedies (and their limits) see Terryn (2019).

the simplistic consideration of this need as something to be dealt with on a 'do-it-yourself' basis.

From this point of view, technological progress has made such an approach to R2R totally anti-historical. There is too much technical (especially IT) complexity in the products we have access to, even for everyday needs. It is therefore crucial to contextualize R2R in its market dimension, that is, as an economic sector of services (assistance) and goods (tools and spare parts) that consumers must rely on, in order to effectively achieve a practical result otherwise beyond their reach. Without this commercial dimension, one cannot appreciate the extent of repair in its various individual and systemic implications. At the same time, without considering the market, one cannot understand the problems that currently impair repair, in terms of obstacles to its effective realization.

3 Obstacles to an Effective Right to Repair

It is precisely the market dimension of repair that may explain the existence of obstacles to R2R, arising from the conflict between the economic actors involved: manufacturers, on the one hand, and repairers, on the other hand.

Manufacturers aim to internalize repair, both to cash in on the associated economic value (often far from negligible, compared to the product's price alone) and to seize strategic control of their supply (so as to manage the 'generational' replacement of products, according to the classic pattern of planned obsolescence)[9].

In contrast, repairers are independent operators that intervene downstream of the product sale, and that base their business on the competitive supply of repair services directly to customers, trying to take advantage of economic opportunities that, deliberately or naturally, manufacturers leave behind[10].

In this framework, consumers stand primarily alongside repairers, to whom they can—and, as mentioned, to some extent must—turn to implement their personal choice of repair. Beyond that, the role of consumers is, in truth, more ambiguous[11]: while repairers certainly live on the demand of consumers, at the same time consumers themselves often fuel the continuous renewal policies of manufacturers, favoring replacement over repair of the broken product, as evidence of how deeply the consumerist model pervades our social habits[12].

In any case, this situation illustrates well the conflict that characterizes the repair market, with manufacturers attempting to tackle any 'hostile' initiative to their

[9] In general, see Slade (2007); from the legal perspective at hand, see Malinauskaite and Erdem (2021), as well as more recently Philippe (2024) and Pihlajarinne (2024).

[10] For a practical study see van der Velden et al. (2024).

[11] More broadly on this in the EU context see Deana (Chap. 7).

[12] For a confirm, in the context of a wider analysis on the relevance of 'cultural' barriers to circular economy, see Kirchherr et al. (2018). More in general, for a sociological perspective about the reigning economic model see Marzulli (Chap. 1).

economic interests. Actually, the opposition is so strong that it entails not only typical restrictions against repairers, like for any other threatening competitor, but a more comprehensive constraint to repair as an objective result itself: namely, the aim is to avoid relevant economic losses deriving both directly and indirectly from independent repair, with the consequent effect of impairing the respective substantive need of personal users.

In this sense, manufacturers have historically deployed various strategies to limit the possibilities of independent product repair, along (and often across) the uncertain boundary between legitimate claims and abusive practices. Such strategies are based on different obstacles of technical, legal and factual nature[13]. For the purposes of this analysis, two in particular will be explored: intellectual property rights and servitization.

3.1 Obstacles: Intellectual Property

In the first place, intellectualy property rights (again 'IPR') could hinder repair in many ways. As vastly denounced by scholars all over the world[14], almost each and every IPR can conflict with initiatives for repair by independent operators and personal users. Since the issue in question is already well-known, just a brief summary is provided here.

Patents for invention are the most classic case. In a certain way, it could be said that patents are so immediately in contrast with repair that they are not so puzzling or, better, that the issue revolves around a quite simple point: it should be verified to what extent repair does represent the reconstruction of the protected invention itself, which as such falls within the legitimate monopoly of the rightholder[15]. If this verification is inevitably less simple and depends on a case-by-case assessment, the increasing presence of patented components in technological products makes the situation more intricate and, therefore, more uncertain for repair activities[16].

Exclusive rights on design—to be intended as the aesthetic appearance of products[17]—could seem less significant, being separated from the technical dimension. Furthermore, the legal regime seems well aware of this distinction, avoiding that

[13] Epitomized by the practice of serialization and parts pairing, specifically denounced as an obstacle to repair to be tackled by the reform in Opinion of the European Economic and Social Committee (2023/C 293/11), para. 4.3.3; for a general overview of such practical barriers see Svensson-Hoglund et al. (2021).

[14] In addition to Perzanowski (2022), p. 105, see from different international perspectives, just as examples, Grinvald and Tur-Sinai (2019); Pihlajarinne (2021); Arora (2021); Rosborough (2022a); Rimmer (2022); Reynolds (2023); Quan and Zhang (2023); Montagnani (2023); Wiseman (2024); Calboli (2024).

[15] In these terms the historical case in the US, *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336 (1961).

[16] On the point, with a focus on relevant case-law, see Mohri (2010).

[17] In EU law, product design is mainly protected with exclusive rights based on registration as a unitary title under Regulation (EC) 2002/6, as recently reformed by Regulation (EU) 2024/2822;

design rights could extend to relevant technical features of products[18]. However, design rights enter into question every time the restoration of the product involves also its appearance: all the more so considering that such exclusive rights can protect both the product as a whole and its individual components, with consequent impact on spare parts[19]. In this sense, repair by its very nature tends to conflict with design rights[20].

Trademarks could appear even less problematic, being essentially related to matters of commercial origin. However, the recognized extension of trademark functions also to brand image protection, together with the pervasive material affixing of the sign on products, entails a broad possibility of control against repair. This proves true especially for spare parts, which are always more frequently 'marked' with names and logos[21]. The same is also true for products as such, if the repaired product is then put again on the market, because this independent activity could interfere

and in parallel with national titles originally harmonized by Directive (EC) 1998/71, now equally recast by Directive (EU) 2024/2823.

[18] Including so-called 'must-fit' parts, as stated by Art. 8(2) Regulation (EC) 2002/6 and Art. 7(2) Directive (EC) 1998/71; see Schovsbo and Dinwoodie (2018); in a comparative perspective see Janis (2021).

[19] Design protection can extend also to component part of complex products, as long as such parts fulfills individually the requirements of novelty and individual character, plus remaining visible under normal use; on such conditions see CJEU, 16 February 2023, Case C-472/21, *Monz v. Büchel*, ECLI:EU:C:2023:105; in general on this conflict see Firth (2009); all this without mentioning the thorny issue of overlap with trademark rights: more broadly on this point see Tischner (2021).

[20] In fact, so-called 'must-match' parts were regulated by virtue of a controversial transitional provision in favour of free replicability for repair under Art. 110 Regulation (EC) 2002/6, save some difference at the national level as admitted by Art. 14 Directive (EC) 1998/71: for the practical application of this exemption see CJEU, 20 December 2017, Joined Cases C-397/16 and C-435/16, *Acacia v. Audi*, ECLI:EU:C:2017:992; however, the so-called 'repair clause' has now been definitely established by the recent reform in Art. 20a Regulation (EC) 2002/6 and Art. 19 Directive (EU) 2024/2823, as a denial of protection for rightholders against 'component part of a complex product upon whose appearance the design of the component part is dependent, and which is used […] for the sole purpose of the repair of that complex product so as to restore its original appearance', subject to certain diligence obligations by third-party manufacturers and sellers to 'duly inform consumers, through a clear and visible indication on the product or in another appropriate form, about the commercial origin, and the identity of the manufacturer, of the product to be used for the purpose of the repair of the complex product, so that they can make an informed choice between competing products that can be used for the repair', without resulting in the 'guarantee that the component parts they make or sell are ultimately used by end users for the sole purpose of repair so as to restore the original appearance of the complex product'.

[21] In EU see recently CJEU, 25 January 2024, Case C-334/22, *Audi v. GQ*, ECLI:EU:C:2024:76; for the background of this case see Tischner and Stasiuk (2023); another recent famous case coming from 'continental' Europe is Norwegian Supreme Court, 2 June 2020, *Henrik Huseby v Apple*, HR-2020-1142-A (available in English at https://www.domstol.no/globalassets/upload/hret/decisions-in-english-translation/hr-2020-1142-a.pdf), commented by Rognstad (2021).

with the rightholder's prerogatives in authorizing the manipulation and reselling of the 'marked' product[22].

Copyright epitomizes the new kind of obstacles that IPR poses to repair in the contemporary world. This is not so much for the question of the (cumulative) protection of aesthetic appearance as a work of art[23], but instead for digital copyright, since it covers software that, as known, characterizes almost every product in today's Internet-of-Things ('IoT') era[24]. Thus, if there is an unavoidable need to intervene on software to perform repair, copyright becomes an effective barrier in practice[25], particularly considering the additional layer posed by technological protection measures[26].

Copyright is also relevant to instruction manuals, and this broadens the field to include in the discourse other forms of protection that may cover 'instrumental' aspects, such as technical information and data, which are increasingly important for repair[27]. From this point of view, trade secrets and further means of *de facto* exclusivity may entail all but negligible impeding effects[28].

To sum up, it is important to stress that all these possible conflicts constitute a significant obstacle mainly because it lacks a specific discipline that regulates repair in the presence of IPR: it follows that exclusive rights can therefore be—more or less legitimately, but promptly—opposed by the manufacturer against repair,

[22] See more specifically Kur (2021); Senftleben (2024); Geiregat (2024); and also please concede the reference to Calabrese (2025); for a similar analysis under the US system see Cahoy (2023).

[23] Although this issue should not be underestimated, especially in the context of recent EU expansive trends: see CJEU, 12 September 2019, Case C-683/17, *Cofemel v. G-Star Raw*, ECLI:EU:C:2019:721, followed by CJEU, 11 June 2020, Case C-833/18, *Brompton Bicycle v. Get2Get*, ECLI:EU:C:2020:461; the principle of cumulative protection has been codified in the recent design reform by Art. 96(2), Regulation (EC) 6/2002 (as amended by Regulation (EU) 2024/2822), and in parallel Art. 23, Directive (EU) 2024/2823; on this problematic overlap see generally Fabbio (2018) and more recently Ricketson and Suthersanen (2023); for a specific focus on EU case law see Kur (2020) as well as Levin (2021); for a further critical review see Musso (2024).

[24] Among many, see recently Noto La Diega (2023), p. 275; for practical confirmation, involving the (denied) registration of 'FOOTWARE' as a trademark for 'electronic devices and computer software that allow users to remotely interact with other smart devices for monitoring and controlling automated systems' and similar classes, see GCEU, 12 June 2024, Case T-130/23, *Nike Innovation v. EUIPO*, ECLI:EU:T:2024:373.

[25] Specifically from EU law perspective see Widła (2023).

[26] In this sense, referring comparatively also to the exemption to prohibition on circumvention of copyright protection systems for access control technologies by US Copyright Office (Library of Congress 37 CFR 201, Docket No 2020–11), see Rosborough (2020), and even more broadly see Derclaye (2009).

[27] In addition see Rosborough (2022b).

[28] This is true also in terms of how consumers perceive the existence of obstacles to repair, as illustrated by Perzanowski (2021); generally on this topic of '*de facto*' powers with respect to IPR see Ricolfi (2022).

notwithstanding the principle of exhaustion[29]. The result is that the system is far from favorable to R2R, all the more so when one considers the high level of protection that characterizes IPR enforcement at the international level[30].

3.2 Obstacles: Servitization

A further problem is hiding in the mesh of the system, which could paradoxically impair the effectiveness of R2R even more strongly. Namely, the personal choice to repair could be deprived of its substance through manufacturers' strategy of changing consumers' habits, offering PSS (as said 'product-service-system', tantamount to 'product-as-a-service' or 'servitization') instead of classic ownership[31].

Apparently, one might think that this kind of offer is not problematic in itself, following normal market dynamics, if not even improving sustainability of traditional industrial models[32].

However, assessing the impact of PSS is more complicated: in fact, such a model allows manufacturers to internalize the management of product lifespan, including the provision of repair services, so that this deferral of control over personal goods entails several risks for R2R[33].

The first and most obvious risk is to surreptitiously encourage product obsolescence. This is because of the convergence between the producer's business advantage and the consumer's longing for innovation (promptly supported by the productive system itself), which, however, sacrifices all the collective benefits of repair[34].

Further risks relate to the anticompetitive consequences of PSS, which take the form of both consumer lock-in and competitor lock-out effects. This is explained by the joint functioning of contractual constraints and customer loyalty, which causes an exclusionary mechanism for independent repairers. As an example, it is enough

[29] For a specific analysis in this perspective, struggling with the existing limits of exhaustion, for example about patent law, see Heath (2014), as well as Liu (2014); along this line, pushing for an evolutive interpretation of exhaustion, see Calboli (2024); similarly, with specific regard to trademarks, see Geiregat (2024) and also by analogy please concede again the reference to Calabrese (2025); more broadly on such fundamental principle applied to repair see Ghosh (2022).

[30] For a critical review of the overall IP system see Ghidini (2018); for a specific collection of cases and comments in this sense see Bonadio and O'Connell (2022).

[31] For this equivalence in terminology see Annarelli et al. (2016); for a classic definition of PSS, expressing its environmentally-friendly character, see Mont (2002); however, highlighting a shift of focus from environmental to economic aspects of PSS, see Haase et al. (2017).

[32] The critical remarks here moved about repair do not imply a total denial of potential positive aspects of PSS in the broader perspective of sustainability: in this sense see De Franceschi (2023), who actually confirms the ambivalence of PSS in terms of potential benefits and risks.

[33] For an effective presentation of detrimental effects for repair related to PSS see Perzanwoski (2022), p. 243.

[34] For this combined attitude less favourable for repair see Mak and Terryn (2020).

to recall the case of ancillary repair services offered ostensibly free of charge, but whose price is actually incorporated in the general fee for PSS: this implies that, in truth, consumers have already paid for repair from the outset, with a consequent disincentive to turn to independent repairers[35].

It is important to note how this situation of 'relativized' dependence represents an anticompetitive leverage for manufacturers, which are attracted by the possibility of enclosing their commercial system so as to insulate it from the competitive pressure of independent repairers[36]. What is more, PSS allows manufacturers to protect from users themselves and their countervailing power arising from private property, also considering the conceivable convergence of the industry towards these much-preferred formulas of totalized control over consumption dynamics[37].

To sum up, the problem of PSS revolves around a basic conflict of interest that concerns the manufacturer, because the best repair of its products is usually less convenient for its own business. The result is the tendency to employ such a contractual model as a tying mechanism, making it more difficult for consumers to exercise their autonomy about repair outside the manufacturer's network and preferences.

In essence, it can be said that PSS entails a risk of 'legal rebound effect': as, in economic terms, systems based on 'using' instead of 'owning' have been seen to often cause a paradoxical rebound, pushing people to consume more (and worse), PSS also affects repair despite the contractual provision of relevant services, which paradoxically push back market alternatives and user freedom to the detriment of R2R[38].

4 The EU Legislative Agenda and the New Directive on Right to Repair

From (legal) theory to reality, the EU has fully embraced the paradigm of sustainable circular economy as a necessary step for its future, according to an ambitious political program of structural reforms.

Without going into the merits of an obviously more complex discourse, the rather 'rose-tinted' tones of the EU programmatic statements cannot hide the perplexity about the actual salvific capacity of this new model, first of all because it should at least be shared on a global scale. However, even if it were not decisive, it is equally true that the beneficial impact of circular economy might be significant, and that,

[35] On these economic profiles of PSS see Hojnik (2016); for an updated reflection see also Hojnik (2023).

[36] About this disincentive for manufacturers to open up repair in case of PSS, even against sustainability concerns, see expressly Hernandez et al. (2020).

[37] More broadly on this topic Perzanowski and Schultz (2016).

[38] This idea of possible 'rebound effects' of PSS not only in economic but also in regulatory terms can be found in Hojnik (2016), p. 10–11.

aside from any doubts about its effectiveness, its approach remains appreciable in promoting practices of economic 'common sense'.

Therefore, any mistrust of this kind does not legitimize discrediting this policy action *per se*, which, on the contrary—given the urgency of the situation and the meritorious goal of attempting to remedy it—must necessarily be taken seriously, not least because it is a paradigm shift that seems here to stay. That is why the EU policy agenda for circular economy remains absolutely relevant, not only (obviously) for European citizens, but also for other countries, which could look at this initiative in order to gain useful experiences for their own regulatory purposes, as well as for the international action at the global level.

Moving into the details of the legislative agenda, the EU has envisioned reforms that address many profiles of sustainable circular economy, as stated in the relevant policy manifesto[39].

In particular, with regard to product repairability, a distinction should be made between pre-sale and after-sale measures.

In the pre-sale context, the major instrument is the equally recent Regulation (EU) 2024/1781 on ecodesign requirements for sustainable products, which includes specific action for improving product repairability[40]. This reform also supports the establishment of a harmonized repairability score[41], which comes in addition to relevant informative requirements of products at the point of sale, as disciplined by Directive (EU) 2024/825[42]. In this latter normative frame, mention should also be made of the relevant provisions that regulate the fairness of commercial practices in terms of sustainability labels and environmental claims, to counter the increasing phenomenon of greenwashing in market communication[43].

In the after-sale context, there are also several norms that concern R2R, such as the regime for requesting repair as a legal remedy for defective products under

[39] With specific regard to circular economy see Communication from the Commission, 'Closing the loop—An EU action plan for the Circular Economy', COM(2015) 614 final, followed by Communication from the Commission, 'A new Circular Economy Action Plan–For a cleaner and more competitive Europe', COM(2020) 98 final; in parallel, on the side of consumers, see Communication from the Commission, 'New Consumer Agenda–Strengthening consumer resilience for sustainable recovery', COM/2020/696 final; more in general for the paradigm transition of EU towards sustainability see Communication from the Commission, 'The European Green Deal', COM(2019) 640 final; for a comparison with other policy initiatives at the international level see again Candelmo (Chap. 10).

[40] Art. 5(1)(e), Regulation (EU) 2024/1781, and also—as an indirect confirm of the risk mentioned above about leaving the management of product life-cycle only in the hands of manufacturers—Art. 5(2) in terms of assuring repairability against practices of planned obsolenscence: on this, see more specifically Deana (Chap. 7).

[41] Art. 7(2)(b)(i), Regulation (EU) 2024/1781.

[42] Art. 2, Directive (EU) 2024/825.

[43] Art. 1, Directive (EU) 2024/825; on the relevant implications for intellectual property, see Spedicato (2024).

Directive (EU) 2019/771[44], as well as the exemption for independent repairers under Directive (EU) 2024/2853 on liability for defective products[45]. But most importantly, there is the main reform for the issue at hand, namely Directive (EU) 2024/1799 on common rules promoting the repair of goods, which has been publicly presented as the introduction of a EU-wide R2R[46]. This is why the analysis will focus on this new piece of legislation[47].

In principle, it is undoubtedly an important decision to act in favour of R2R at the EU level with strong harmonization, in order to avoid national fragmentation and, therefore, ineffectiveness within the single market[48]. In this sense, also the outward approach seems correct, looking beyond the European borders through the involvement of the relevant 'authorised representative, importer and distributor' as local business gatekeepers for extra-territorial producers[49]. Even more important is the express recognition that the objectives of the reform are directly related to circular economy and sustainability, so as to create solid foundations for the new provisions[50].

Beyond the political statements, however, there is the normative content: and here certain critical points come to attention.

[44] Art. 14, Directive (EU) 2019/771, together with Recital 48 highlighting the connection of such provision with the new paradigm of sustainable circular economy.

[45] Art. 11(1)(g), Directive (EU) 2024/2853, again to be read in conjunction with Recital 39 that underlines the connection with sustainable circular economy.

[46] About the recent Directive (EU) 2024/1799 on common rules for promoting the repair of goods, see the relevant press release by European Commission, 2 February 2024, 'Commission welcomes political agreement on new consumer rights for easy and attractive repairs', IP/24/608 (https://ec.europa.eu/commission/presscorner/detail/en/ip_24_608).

[47] This does not mean that R2R is confined to this single piece of legislation: it is just to stress the pivotal role of the new Directive (EU) 2024/1799, without disregarding other complementary initiatives that can be very important for product repairability and circularity, also from a less legal and more technical perspective, like the standardization of a common USB-C charger for every mobile devices in EU as recently mandated by Directive (EU) 2022/2380.

[48] See Art. 3, Directive (EU) 2024/1799 (together with Recital 2 and 46 of the same legal text).

[49] See Arts. 5(3) and 6, Directive (EU) 2024/1799.

[50] See expressly Recitals 1, 40, 41 Directive (EU) 2024/1799, and even more clearly Recital 5, which states that 'this Directive thus pursues the objectives, in the context of the European Green Deal, of promoting a more sustainable consumption, a circular economy and the green transition'.

5 Critical Issues of the Approved EU Reform

The new EU Directive regulating a right to repair—or, more correctly, an 'obligation' to repair, as it will be explained immediately—has been finally approved, after relevant discussion and amendments[51]. In brief, the Directive provides different measures to promote repair in a market environment.

On one side, there are mandatory informative actions, also in terms of standard forms and public platforms, in order to give to consumers the necessary means to evaluate and eventually compare the possible options for repairing the product[52].

On the other side, the Directive imposes on manufacturers a new general obligation to repair, which represents the real core of the reform[53].

In particular, this obligation consists not only of the active duty to repair the product upon consumer's request (save technical impossibility)[54], but also of the condition to perform repair in a reasonable time and for a reasonable price, if not even free of charge[55]. In addition, a reasonable price is also mandated for spare parts and tools made accessible by manufacturers, without actually indicating how to calculate its amount but specifying that it 'shall not deter repair'[56]. Finally, such obligation is integrated by a correspondent prohibition on the same manufacturers to oppose legal or factual restraints to repair, in terms of 'contractual clauses, hardware or software techniques', also against the use of 'original or second-hand spare parts, compatible spare parts and spare parts issued from 3D-printing' by independent repairers[57]. In this sense, the freedom for consumers to seek repair services from competitors is expressly safeguarded[58], together with the non-derogability by contract of all the abovementioned measures to their benefit[59].

The analysis here does not go on to comment on all the innovations of the Directive, which do introduce interesting aspects, such as the categorization of

[51] For the original proposal see EU Commission, Proposal for a Directive COM(2023) 155 final; the relevant preparatory works of procedure 2023/0083 (COD) can be found on the EU official website https://eur-lex.europa.eu/legal-content/EN/HIS/?uri=CELEX:52023PC0155.

[52] See, respectively, Arts. 4 and 7, Directive (EU) 2024/1799.

[53] See, Art. 5, Directive (EU) 2024/1799, indexed as 'Obligation to repair'.

[54] See Art. 5(1), Directive (EU) 2024/1799, together with Recital 24, where it is explained that 'a manufacturer should be exempted from the obligation to repair where repair is factually or legally impossible. Therefore, the manufacturer should not be able to refuse repair for purely economic reasons, such as the cost of spare parts, or for the sole reason that a previous repair has been performed by other repairers or, where applicable, by the consumer'.

[55] See Art. 5(2), Directive (EU) 2024/1799, which adds that 'in cases where the repair is impossible, the manufacturer may offer the consumer a refurbished good'.

[56] See expressly Art. 5(4), Directive (EU) 2024/1799.

[57] See Art. 5(6), Directive (EU) 2024/1799, to which the following Art. 5(7) adds that 'manufacturers shall not refuse to repair goods covered by Union legal acts listed in Annex II for the sole reason that a previous repair has been performed by other repairers or by other persons'.

[58] See Art. 5(8), Directive (EU) 2024/1799.

[59] See Art. 14, Directive (EU) 2024/1799.

misleading repair information as unfair commercial practice[60] or the institutional provision of effective penalties[61]. Likewise, the comment will not cover all the critical aspects of the reform, whether more technical, such as the online platform system[62], or more general, such as the limited scope of the goods actually encompassed[63].

In fact, the present analysis will focus on those two specific aspects of IPR and PSS already anticipated as widely-recognized barriers to R2R. This is not so much because they deserve more attention than others in the abstract, but because they turn out to be almost totally overlooked by the EU legislator, who from this point of view seems to have been (green)washing its hands.

5.1 Critical Issues: Intellectual Property

As said, it is well known that R2R clashes with IPR that insist on various aspects of the product. From this point of view, it is true that the Directive takes expressly into account intellectual property: this can be considered, at first glance, an appropriate improvement with respect to the original proposal that did not even mention it[64].

However, the norm is too ambiguous to say that the issue of IPR has been duly tackled by the EU legislator, and even more that it provides a discipline capable of resolving the conflict caused by such exclusive rights with R2R.

In fact, the Directive juxtaposes repair obligations with possible counter-interests by manufacturers based on IPR. In particular, the opposition of legal and technical barriers to repair is prohibited 'unless justified by legitimate and objective factors including the protection of intellectual property rights'; equally, the ban on manufacturers' impediment against non-original spare parts is confined only to 'when those spare parts are in conformity with requirements under Union or national law such as requirements on product safety or in compliance with intellectual property';

[60] See Recital 19, Directive (EU) 2024/1799, where it is affirmed that 'traders' practices that induce consumers to think that their goods cannot be repaired due to previous repair or inspection by an independent repairer, non-professional repairer or end-users, or false claims that such repair or inspection generates risks related to safety, thereby misleading consumers, could, where applicable, constitute unfair commercial practices'.

[61] See Art. 15, Directive (EU) 2024/1799.

[62] The EU platform, appreciable as a matter of principle, leaves some doubt about its practical organization: in this sense, see the joint statement of Estonia and Latvia, who abstained from approval (Council, 27 May 2024, ST 9378 2024 ADD 1); in fact, some intricacy between European and national levels for such online platform emerges from Recital 27, Directive (EU) 2024/1799.

[63] More precisely, the scope of such repair obligations is limited only to the categories of products listed in Annex II, following the rationale of matching repairability requirements imposed elsewhere in EU law, especially connecting to the new ecodesign Regulation (EU) 2024/1781: see Art. 1(3), Directive (EU) 2024/1799.

[64] Just check the very same wording of Commission, Proposal for a Directive COM(2023) 155 final; in fact, during preparatory works this gap was highlighted by Opinion of the European Committee of the Regions—Consumers' protection package, (C/2023/1330), para. 23.

eventually, the entire norm on repair obligations is circumscribed in being 'without prejudice to Union and national law providing for the protection of intellectual property rights'[65].

The (in)famous 'without prejudice' formula inevitably raises some concerns. One could say that the situation is not as problematic as it seems, by virtue of the combined reading with Regulation (EU) 2024/1781 on ecodesign requirements, which the Directive expressly recalls: in fact, that Regulation imposes an obligation to producers to provide access to spare parts, repair and maintenance information and any repair related software tools, firmware or similar auxiliary means; moreover, the same Directive reinforces such beneficial effects, adding that access to spare parts and tools should be made available at reasonable price that does not deter repair[66].

However, this is exactly where the problem stays with the chosen 'without prejudice' formula. Namely, any repair obligation promoted directly or indirectly by the legal text becomes weakened, or even deprived of its useful content, if it cannot implicate a relevant compression of exclusive rights. In other words, this normative construction is problematic because it tends to subordinate R2R to IPR—and apparently to each type of IPR[67]—in every conflict situation.

Certainly, the relationship between IPR and competing interests, in terms of related 'prejudice' and possible justifications, is far more complex. In this case, looking at the Directive, there is a feeling that the EU legislator wanted to support R2R, encouraging a general procompetitive approach to the repair market, instead of putting IPR at the center as with the dangerous rhetoric of fundamental rights[68].

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[65] See literally Art. 5(6), Directive (EU) 2024/1799.

[66] In this sense, see Recital 18, Directive (EU) 2024/1799, where it is specified that 'under the requirements laid down in delegated acts adopted pursuant to Regulation (EU) 2024/1781 or implementing measures adopted pursuant to Directive 2009/125/EC of the European Parliament and of the Council, manufacturers are to provide access to spare parts, repair and maintenance information or any repair related software tools, firmware or similar auxiliary means. Those requirements ensure the technical feasibility of repair, not only by the manufacturer, but also by other repairers. As a consequence, the repairers and, where applicable, consumers will have access to spare parts and repair-related information and tools in accordance with Union legal acts and consumers will have a wider choice of repairers or, where applicable, the possibility to repair by themselves. Spare parts should be made available at least for the time period set out in Union legal acts. Manufacturers that make spare parts and tools available for goods covered by legal acts listed in Annex II to this Directive, whether because of corresponding legal obligations under Union law or voluntarily, should charge a reasonable price that does not deter access to such spare parts and tools, thereby preventing repair'.

[67] See again Recital 18, Directive (EU) 2024/1799, which, notwithstanding the declamatory conclusion that 'this should encourage competition and benefit consumers with better services and lower repair prices', recalls expressly Directive (EC) 2004/48 on the enforcement of intellectual property rights that in turn, at its Art. 1, refers to all kind of intellectual property rights, including 'industrial property rights', as further confirmed by Communication from the Commission, 'Guidance on certain aspects of Directive 2004/48/EC of the European Parliament and of the Council on the enforcement of intellectual property rights', COM(2017) 708 final, para. V.1.

[68] See Recital 47, Directive (EU) 2024/1799, where intellectual property is not actually mentioned as a fundamental right protected under Art. 17(2), EU Charter of Fundamental Rights, while it is

Such a feeling, however, clashes with the stark normative reality. Leveraging on the strict rule of the Directive, it would be immediate for manufacturers to invoke IPR as a valid justification against R2R[69].

The situation gets exacerbated considering that EU intellectual property law, as it stands, is not so friendly towards R2R. While it is true that further reforms proceed in this direction, such as the definitive enactment of the repair clause for design rights[70], it is equally true that, conversely, in the absence of specific modifications, the system shows little flexibility in favour of this principle[71].

In order to show how it is not so straightforward to reconstruct within the current system an effective R2R 'without prejudice' to IPR, it is enough to mention copyright[72]. In this matter, at EU level reigns an approach of 'exceptionalism' that makes any pro-competitive or even pro-user interpretation difficult[73]. As is well known, copyright is far from secondary to IoT products, which may have software problems whose repairability is strongly limited by the relevant exclusive protection[74]. This demonstrates how critical the reform is, because the rule that ostensibly prohibits 'software techniques' that impede R2R also subordinates such a prohibition to the legitimate justification of IPR, with the paradoxical result of emptying the very

specifically recognized that the Directive—in addition that 'it contributes to an improvement of the quality of the environment in accordance with Article 37 of the Charter by promoting sustainable consumption of goods and thereby reducing negative environmental impacts from premature disposal of viable goods'—also 'ensures respect for the freedom to conduct a business in accordance with Article 16 of the Charter by safeguarding contractual freedom and encouraging the development of repair services in the internal market'.

[69] In fact, Art. 5(6), Directive (EU) 2024/1799 in its overall reading entails a 'three-time' denial of R2R in favor of IPR (almost of evangelic echo).

[70] See recently Art. 20a, Regulation (EC) 6/2002 (as amended by Regulation (EU) 2024/2822), and in parallel Art. 19, Directive (EU) 2024/2823.

[71] See again very recently CJEU, 25 January 2024, Case C-334/22, *Audi v. GQ*, ECLI:EU:C:2024:76, where it is affirmed that 'it should be pointed out, as the referring court did, that a so-called 'repair' clause, such as that existing in design law under Article 110 of Regulation No 6/2002, was not provided for by the EU legislature in Regulation 2017/1001. Furthermore, the Court has already clarified the scope of Article 110 of Regulation No 6/2002, in that it imposes certain limitations only on protection conferred on designs and applies without prejudice to the provisions of EU law relating to trade marks. That provision therefore contains no derogation from EU trade mark law' (paras. 26–27); this need for a broader approach to R2R with regard to all IPR (and even beyond) is to some extent testified, in the context of preparatory works of the same Directive here analyzed, by the Opinion of the European Economic and Social Committee (2023/C 293/11), para. 1.6, where 'the EESC calls on the Commission to assess the possibility of supporting data sharing for spare parts and product repairability, as part of the ongoing modernisation of the intellectual property framework'.

[72] By the way, even the recent reform of EU design rights does not mention copyright within the new repair clause, although it maintains a direct recognition of the principle of cumulative protection: see Art. 96(2), Regulation (EC) 6/2002 (as amended by Regulation (EU) 2024/2822), and in parallel Art. 23, Directive (EU) 2024/2823.

[73] Literally for this expression see Margoni and Kretschmer (2022); more broadly in this perspective see Sganga (2024).

[74] For a discussion of such cases within the EU system see Widła (2023).

same obligation just affirmed. This ends up in a sort of fallacious (and ironical) argumentative 'circularity'.

But even apart from deeper questions about the balancing of intellectual property, the problematic nature of this legal formula emerges in all its concreteness looking at the burden of proof it entails, which is totally in favour of manufacturers. In fact, by relying on the reading that IPR are presumed to be a viable justification by the Directive, which in turn is based on the general presumption of validity and protection of IPR by the legal order, manufacturers are in the position to discharge themselves and turn everything over to independent repairers and consumers, who must subsequently demonstrate to the contrary that such business justification is not 'legitimate and objective'[75]. This issue of burden of proof alone, which adds obstacles to R2R instead of removing them, is sufficient to illustrate the critical implications of the reform.

5.2 Critical Issues: Servitization

With regard to the second issue considered here, the Directive does not mention PSS at all. Even more critically, it does not seem to have duly taken into account PSS in the regulation of R2R. The problem in this regard becomes twofold.

Firstly, PSS may be claimed to fall out of the scope of the Directive on R2R, and consequently of the relevant obligations to repair. Actually, Directive (EU) 2024/1799 is structured with express reference to Directive (EU) 2019/771 on certain aspects concerning contracts for the sale of goods, as it can be appreciated in terms of objectives[76], definitions[77] and also amendments[78]. However, this other piece of legislation—Directive (EU) 2019/771—does not cover hybrid forms of supply between goods and services like PSS, being referred just to traditional sales based on the transfer of ownership[79]. Therefore, the risk is that manufacturers providing PSS could try to use this argument in order to avoid such new repair obligations.

[75] See again Art. 5(6), Directive (EU) 2024/1799, where IPR are mentioned in an exemplifying tone that could be easily read as a direct confirmation of their nature of 'legitimate and objective factor' by default; moreover, it should be remembered that IPR enjoy a general presumption of validity that tends to be supported by the system at the enforcement level, as shown by CJEU, 28 April 2022, Case C-44/21, *Phoenix Contact v. Harting*, ECLI:EU:C:2022:309.

[76] See Art. 1(2), Directive (EU) 2024/1799.

[77] See Art. 2(1), Directive (EU) 2024/1799, especially for the direct recall of Directive (EU) 2019/771 for the relevant definitions of 'consumer' (no. 1), 'seller' (no. 4) and 'goods' (no. 9).

[78] See Art. 16, Directive (EU) 2024/1799.

[79] In particular, see Art. 1(2), Directive (EU) 2019/771, where the definition of 'sales contract' (no. 1) as 'any contract under which the seller transfers or undertakes to transfer ownership of goods to a consumer, and the consumer pays or undertakes to pay the price thereof'; even more explicitly see Recital 17 of the same Directive (EU) 2019/771, which states that 'for the purpose of legal clarity this Directive should lay down a definition of a sales contract and also clearly define its scope. The scope of this Directive should also cover contracts for goods that are yet to be produced

Secondly, and as said more critically, PSS could escape repair obligations on the grounds of the same norms within the Directive on R2R. Although the described obligations on manufacturers under Art. 5(6) include also a ban on contractual clauses impeding repair (always save 'legitimative and objective factors'), the Directive addresses more thoroughly the contractual aspects in a specific rule about clauses derogating from repair obligations: and, apparently, Art. 14(1) seems quite incisive in stating that manufacturers cannot exclude or affect by contract the protection so granted to consumers[80]. However, this anti-derogation rule goes together with an exception under Art. 14(2) that expressly admits a certain deviation, in terms of 'contractual arrangements that go beyond the protections provided for in this Directive'[81].

In principle, one can only look favourably at rules that raise the level of R2R protection in more consumer-friendly terms, but the problem is that with PSS the situation is not so straightforward. In fact, the tricky aspect is that a PSS model could easily be 'sold' by manufacturers as an ameliorative solution to the benefit of consumers, because it already includes the provision of official repair services, without the need to resort to the repair obligations imposed by law. But this would completely disregard all the issues that PSS poses to R2R on a wider scale, especially in its necessary competitive market dimension, which is instead affected by those lock-in and lock-out effects that preclude a real space for independent repair.

This misalignment derives from the peculiar approach taken by the EU legislator, who seems concerned only with the inaction of manufacturers about R2R: that is, when manufacturers refuse to provide repair in reasonable terms[82], relying on

or manufactured, including under the consumer's specifications. Furthermore, an installation of the goods could fall within the scope of this Directive if the installation forms part of the sales contract and has to be carried out by the seller or under the seller's responsibility. Where a contract includes elements of both sales of goods and provision of services, it should be left to national law to determine whether the whole contract can be classified as a sales contract within the meaning of this Directive'.

[80] See Art. 14(1), Directive (EU) 2024/1799, which states that 'unless otherwise provided for in this Directive, any contractual agreement which, to the detriment of the consumer, excludes the application of national measures transposing this Directive, derogates from them, or varies their effect, shall not be binding on the consumer'.

[81] See however Art. 14(2), Directive (EU) 2024/1799, which adds that 'this Directive shall not prevent the repairer from offering to the consumer contractual arrangements that go beyond the protections provided for in this Directive'.

[82] See Recital 16, Directive (EU) 2024/1799, where it can be read that 'the price should be reasonable, meaning it should be set in such a way that consumers are not intentionally deterred from benefitting from the manufacturers' obligation to repair. The price for and the conditions of repair should be agreed in a contract between the consumer and the manufacturer and the consumer should remain free to decide whether that price and those conditions are acceptable. The need for such a contract and the competitive pressure from other repairers should encourage manufacturers who are obliged to repair to keep the price acceptable for the consumer'.

technical constraints[83] or making excuses of economic convenience[84]. However, the problem with PSS is exactly the opposite: i.e. that manufacturers become pro-active with the aim of internalizing repair services, so as to gain total control over consumers' goods and their life-cycle management.

The abovementioned perplexity is far from unfounded considering that today manufacturers tend to emphasize more and more the (real or alleged) sustainability aspects of their industrial production, which, as is well known, brings with it a very high risk of greenwashing[85]. Not only that, but the problem is also more challenging because the EU legislator is keeping the door open to such arguments, announcing its interest in PSS for some (other) profiles of circular economy, in the wake of a new paradigm intended to prevail over ancient market schemes[86].

The result is that, from this second perspective, the situation seems even worse: instead of claiming to be out of the applicative scope of the Directive, manufacturers can claim either under Art. 5(6) that PSS is a legitimate objective factor to contractually restrict repair, or even more directly under Art. 14(2) that, acting as 'repairers', their contractual offer is 'beyond' any regulatory need, because PSS can be presumed as more advantageous for R2R and so *per se* compatible with the obligations imposed by the Directive.

It goes without saying that this result cannot be accepted, being too apodictic if not simplistic, against a more controversial economic literature[87]. In fact, it is manifest the risk of conflict of interest, which should impede the law to rely just on

[83] See the contextual reading of Art. 5(6) on the ban of hardware and software techniques by Recital 18, Directive (EU) 2024/1799.

[84] See respectively Recital 24, Directive (EU) 2024/1799, where it is specified that 'manufacturer should not be able to refuse repair for purely economic reasons, such as the cost of spare parts, or for the sole reason that a previous repair has been performed by other repairers or, where applicable, by the consumer'.

[85] The new Directive (EU) 2024/825 sounds as a direct confirmation of this very fact, as it can be appreciated (leaving aside the specific provisions about repair) in reading its Recital 1, which declares its policy objectives as follows: 'in order to contribute to the proper functioning of the internal market, based on a high level of consumer protection and environmental protection, and to make progress in the green transition, it is essential that consumers can make informed purchasing decisions and thus contribute to more sustainable consumption patterns. That implies that traders have a responsibility to provide clear, relevant and reliable information. Therefore, specific rules should be introduced in Union consumer law to tackle unfair commercial practices that mislead consumers and prevent them from making sustainable consumption choices, such as practices associated with the early obsolescence of goods, misleading environmental claims ('greenwashing'), misleading information about the social characteristics of products or traders' businesses, or non-transparent and non-credible sustainability labels'.

[86] See Communication from the Commission, 'Closing the loop—An EU action plan for the Circular Economy', COM(2015) 614 final, para. 2, as well as Communication from the Commission, 'A new Circular Economy Action Plan—For a cleaner and more competitive Europe', COM(2020) 98 final, para. 2.1 (although PSS are welcomed for matters of consumption patterns not directly related to the issue of repair, which remains instead strongly supported in general terms).

[87] About the effective contribution to sustainability, stating expressly that 'PSS is not a panacea', see Tukker (2015), p. 76; on equivalent positions see Laumann Kjaer et al. (2018).

unilateral assertions of greater sustainability by manufacturers. This is why the silence of the Directive with regard to PSS does not represent an adequate response for R2R.

6 'Repairing' a Defective Reform? Possible Corrective Interpretation

Expectations towards the reform that declared to introduce a right to repair in EU were inevitably high. Not least because it set out to intervene in accordance with that approach advocated by many, including in the field of intellectual property law, through the imposition of rules that would guarantee such individual prerogatives of public interest in a 'horizontal' way, i.e. across different exclusive rights as well as contractual and technical restrictions[88].

However, it cannot be said that the reform has lived up to expectations. In the face of such an ambiguous—if not frustrating—normative wording, for the reasons explained above, the EU legislature has not offered effective solutions to the issues of IPR and PSS, nor it does certainly appear to have facilitated the interpreter in establishing R2R against current obstacles[89].

Therefore, although it appears uphill, the only way forward seems to be an evolutionary interpretation of the Directive according to the paradigm shift towards a sustainable circular economy, considering how repair represents a fundamental building block of this new systemic model[90].

In this regard, it should not be forgotten that the Directive itself expressly recalls these policy objectives[91], which now rest on real 'constitutional' grounds that can support this evolutionary reading[92]. There is thus a substantial basis for trying to put

[88] It was the same EU legislator that announced the right to repair as one of 'new horizontal material rights for consumers' of its policy agenda (see Communication from the Commission, 'A new Circular Economy Action Plan—For a cleaner and more competitive Europe', COM(2020) 98 final, para. 2.2); in favor of this approach for reforming intellectual property law, see for example Senftleben (2021); for a further horizontal reading of exceptions and limitations as expression of general principles aimed at rebalancing intellectual property see Musso (2012); for a broader discourse in this perspective see Ghidini (2014).

[89] In this sense, following the exhortation to denounce the relevant 'bad' rules as proclaimed by Di Cataldo (2015).

[90] Some advancement in this direction can be appreciated in recent case-law: see CJEU, 27 October 2022, Case C-197/21, *Soda-Club v. MySoda*, ECLI:EU:C:2022:834; in favour of an 'internal' integration of environmental consideration in IP law by means of interpretation see Izyumenko (2024); furthermore in this sense see Calboli (2024) and also Pihlajarinne and Ballardini (2020).

[91] See again Recital 5, Directive (EU) 2024/1799.

[92] See Art. 3(2) TUE, with express reference to 'sustainable development'; at the national level, constitutional reforms are moving in the same direction of inserting social and environmental principles as fundamental values, such as Arts. 8 and 41 of the Italian Constitution. On such constitutional aspects see Cozzi (Chap. 9).

forward corrective proposals, in order to 'repair' on the interpretative level a reform that would otherwise be 'defective' from the outset.

6.1 Corrective Interpretation: Intellectual Property

As seen above, the Directive deals with the issue of IPR according to a 'carve-out' formula, following a quite usual tendency in this field[93]. However, a common approach is getting momentum towards such provisions, in order to better frame their meaning beyond the plain black letter and make them consistent with the public interest that underlies the relevant obligations on business operators[94].

The interpretation proposed here shares this approach. This is because, looking more deeply into the reform, it can be appreciated that R2R represents the real policy objective. Not only the same norm which mentions IPR is titled 'Obligation to repair'[95], but the overall structure of the Directive is centered around the core principle of 'strengthening' repair, 'with a view to contributing to the proper functioning of the internal market, while providing for a high level of consumer and environmental protection'[96]. And this policy objective is translated not just into promotional and informative measures, but also into mandatory obligations to be enacted even against manufacturers' will[97]. Moreover, the Directive takes into account the position of independent repairers, confirming the idea of repair as an 'open' competitive market that goes beyond the 'close' relationship between manufacturer and consumer[98].

But then, if R2R is the real policy objective that pursues the public interest in light of the paradigm shift towards a sustainable circular economy, it cannot be other than the overriding principle in balancing rules and limitations[99]. In other words, it is IPR that should truly be considered an exception to R2R. This means that any literal and too decontextualized reading of the provision at issue would only apparently be more accurate, while it would be actually inconsistent, turning the

[93] As a quite recent and emblematic example see—in the so-called 'AI Act'—Art. 53(1)(b), Regulation (EU) 2024/1689.

[94] With regard to the equivalent 'without prejudice' provision of Art. 3(9), Directive (EU) 2019/770, see Geiregat (2022).

[95] See again Art. 5, Directive (EU) 2024/1799.

[96] See literally Art. 1(1), Directive (EU) 2024/1799.

[97] Compare just Arts. 5 and 6, Directive (EU) 2024/1799.

[98] As it is implied by the direct reference to the use of spare parts by 'independent repairers' under Art. 5(6), and even more broadly by the principle that 'consumers may seek repair from any repairer of their choice' under Art. 5(8), as well as in terms of policy objectives in Recital 2 of the same Directive (EU) 2024/1799, declaring that the new rules on R2R are intended 'in particular to facilitate cross-border provision of services and competition among repairers of goods purchased by consumers in the internal market'.

[99] Expressly in this sense of the right to repair as a 'positive user's right' see Rosborough et al. (2023).

balance upside down: that is, IPR shall be construed restrictively, in order to maintain the 'useful effect' of the public objective so established[100].

Having said that, an evolutive interpretation of the norm regulating the relationship between R2R and IPR seems compatible with the normative text. As reported above, the Directive provides three different rules in this sense: contractual and technical restrictions to R2R are prohibited, 'unless justified' by IPR; spare parts for R2R shall be available, when 'in compliance' with IPR; all such obligations in favor of R2R shall be 'without prejudice' to IPR[101].

Starting from the last, this provision appears less meaningful, being a safeguard clause so generic that it can be considered a boilerplate. Conversely, it gains significance by reason of the very same premise maintained here: since R2R is the overriding principle that can actually prejudice IPR, and admitting that IPR have a broader scope which is not limited to repair, there comes the need to preserve IPR in general. Therefore, this rule serves the purpose of circumscribing the prevalence of R2R over only such exclusive claims that affect relevantly the objective of repair, without intending to question—or indeed 'without prejudice' to—the remaining validity of IPR.

Coming to the second rule, the issue of spare parts appears thorny, because of the criteria of direct compliance with IPR. However, the provision expressly refers to independent repairers and compatible spare parts, therefore recognizing the lawfulness of such 'non-original' supply of products and services as a matter of principle. Then, this rule also confirms the primacy of R2R, with IPR to be applied restrictively only in cases when the interference with exclusive rights is not necessary and proportionate for repair[102].

This leads to the first and most weighty rule of the Directive, the one that generally tackles business obstacles to R2R, but exempting the relevant contractual and technical restrictions when justified by IPR. In fact, the same evolutionary interpretation applies also in this case. Namely, once it turns out that R2R is the prevailing principle that can justify some proportionate prejudice to IPR, it is logical to conclude in reverse that IPR cannot always be valid justifications in opposition to R2R. This interpretation is somehow supported by the normative wording, which specifies that R2R can be limited only by 'legitimate and objective factors', meaning that not any 'subjective' claim, even when legitimate, can be invoked to the contrary. This objectivity shall then be valorized in construing correctly the admissible justifications against R2R, among which IPR are included by the legislator:

[100] As already advocated especially in the field of copyright law by Borghi (2021), Rosati (2023) p. 218, Geiger and Jütte (2024), and in more systemic terms by Dusollier (2022).

[101] See in detail Art. 5(6), Directive (EU) 2024/1799.

[102] The final establishment of a 'repair clause' in EU design law comes as a confirmation of this view, excluding from protection the relevant uses for restoring product appearance subject to due diligence obligations in terms of consumer information: see again Art. 20a, Regulation (EC) 6/2002 (as amended by Regulation (EU) 2024/2822), and in parallel Art. 19, Directive (EU) 2024/2823.

consequently, this criterion entails a specific (and indeed restrictive) selection of relevant conflicts.

The idea is that, although IPR are expressly mentioned by the legislator, it should always be checked their 'legitimate and objective' nature as a justification in the specific case, which is tantamount to deny a general primacy presumption of IPR against repair. In particular, it is here argued that the relevance of IPR should be confined to cases of R2R 'abuse', that is when repair conceals competitive misconduct or fraudulent intent, so that the compression of IPR cannot be tolerated[103]. Otherwise, in cases of 'normal' conflict between IPR and R2R, the latter principle should generally prevail, because the Directive should be interpreted consistently with its paradigmatic goals in favor of prioritizing consumer freedom and competitive openness that substantiate the market dimension of R2R[104].

This means also that an abusive violation of IPR, still possible, would specifically have to be claimed and demonstrated by the rightholder, in line with the said exceptional nature of IPR in this conflict scenario. Such an interpretation would then be more balanced in procedural terms, reallocating aptly on manufacturers the burden of proof against any risk of shifting on individual consumers and independent repairers, all to the benefit of the collective interest in R2R[105].

It is easy to imagine that such a position would be censured as too farfetched with respect to the existing IPR system. For example, because of its contrast with the 'three-steps' test established by TRIPS Agreement at the international level[106]. However, apart from the large number of critics that this model has attracted, there are two considerations that appear decisive. In policy terms, if any evolutive interpretation of the Directive were rejected, the result of the rigid application of such a norm would inevitably be a manifest contradiction, bringing to a new regulation for

[103] Like for possible cases of trade secrets misappropriation, on condition that the relevant information is actually eligible for protection, so going beyond the mere technical features related to repair activity, as correctly noted by Grinvald and Tur-Sinai (2019) p. 121.

[104] In this sense, further support can be found in the historical approach towards IPR in the framework of the EU single market: according to such an approach, the enforceability of IPR is not contested in terms of their 'existence', but it could well be subject to scrutiny in terms of their 'exercise' (starting from the historical decision by CJEU, 13 July 1966, Joined Cases 56 and 58–64, *Établissements Consten and Grundig-Verkaufs v Commission*, ECLI:EU:C:1966:41); leaving aside all the peculiar (and critical) contingencies of this judicial interpretation, for a reflection on its key role for resolving the tension between the construction of an integrated single market and the obstacle to it represented by IPR, thus paving the way for the normative harmonization by the EU legislature, see Pila (2013); therefore, it seems possible to derive from this approach—at least as a matter of principle—that IPR, although recognized as fully valid, cannot be considered as always predominant in the conflict with systemic market interests and freedoms within the very same EU legal order.

[105] As it is specifically established in Australia: about this interesting legal model, including the relevant case-law, see Wiseman and Kariyawasam (2020).

[106] See respectively for copyright, trademarks, designs and patents, Arts. 13, 17, 26(2), 30, TRIPS; for an overall presentation see Christie and Wright (2014).

R2R even more restrictive than the current (over)protective TRIPS standard[107]. But also in strict legal terms, this reading of the Directive seems compatible with the well-known threefold clause: not only because repair can arguably qualify as a 'certain special case' that does not affect the 'normal exploitation' of IPR, leaving untouched the primary market of the product; but mostly because the proposed interpretation would follow the very same idea that IPR should be protected against 'unreasonable' prejudice (as indeed abuses of R2R), implying conversely that reasonable prejudices to IPR can be tolerated, especially 'taking account of legitimate interest of third parties'[108]. And, in this sense, there is no doubt that R2R constitutes a legitimate interest of third parties, if not society as a whole, as dictated by the new paradigm of a sustainable circular economy[109].

Admittedly, this does not mean that the interpretation proposed here can solve all the problems that arise in practice when IPR and R2R clash. However, it does mean establishing a suitable starting point for setting up an effective and balanced discipline of this conflict, upon which intellectual property law can then build solutions in order to fit R2R within existing IPR regimes[110]. In other words, this interpretation may not be the salvation from all problems, yet it is indispensable to save R2R itself, in order to prevent this principle from succumbing to IPR in a flat reading of the Directive that would leave no real leeway for repair in the EU legal order.

As further support, in this way it can be enacted what was declared by the same EU policy agenda, according to which IPR represent a key element for the strategic future of the system in times of changing, advocating—in the words of the EU Commission—for a renewed balancing between exclusivity and openness in front of such a 'unique window of opportunity to modernize our approach to protecting our intangible assets'[111]. From this perspective, the solution here proposed in favour of R2R may have various shortcomings, but surely not the lack of reinterpretation of the traditional IPR system in such an innovative fashion, so as to make the market more capable of serving the collective interest of society[112].

After all, it is important to remember that intellectual property does not live in the empyrean, but is a concrete entity that affects everyday actions: and if R2R is to

[107] For such critical positions, it is enough to mention the interpretative manifesto promoted by Geiger et al. (2008).

[108] For this kind of alternative and more proportional approach see, among many, Geiger et al. (2015).

[109] By the way, also Art. 7 TRIPS Agreement can be said to encompass relevant systemic values, considering its objective to protect and enforce IPR 'in a manner conducive to social and economic welfare, and to a balance of rights and obligations'; for a wider interpretation in this sense see Yu (2009).

[110] For example, extending the threshold of repair vis-à-vis remake in the context of patent law, as recently argued by Heath (2024).

[111] See Communication from the 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.

[112] For a similar propositional approach about IP law and the challenges of artificial intelligence in the new framework of sustainability see Jütte (2023).

be fostered in the new economic reality, it is a necessary and inevitable step to reconfigure the actual scope of IPR, even if this may entail a relevant 'prejudice'—yet 'reasonable'—with respect to those ideal expectations[113].

6.2 Corrective Interpretation: Servitization

With regard to PSS, the main problem posed by the Directive is that it does not take a real position, with the risk of leaving R2R—which, it should be reiterated, represents the public interest in the new paradigm of a sustainable circular economy—at the mercy of the conflict of interest that characterizes such contractual model.

But then, as with any conflict of interest, an institutional approach of 'scepticism' should be invoked towards a situation that remits the management of the risk itself to the counter-interested party[114]: which means, in this case, the inadmissibility of a normative reading that leaves the issue of R2R in PSS merely to business judgement and its narrative[115]. In other words, R2R requires regulatory 'caution' against any risk of regulatory 'capture' that would result from the choice to rely entirely on the private conscientiousness of manufacturers[116], which generally take advantage of any market foreclosure about repair[117]. It is evident that this conflict of interest would call into question the very same credibility of such public policy.

Certainly, this does not mean that PSS should be prohibited outright, but it highlights the need for an effective solution that allows R2R to be safeguarded even within this contractual framework, guaranteeing the necessary freedom of operation for consumers and independent repairers. This contractual 'neutrality' of R2R seems preferable in light of a reality that tends to overcome the dichotomy between goods and services, both in economic and legal terms[118].

[113] For such a concrete approach to IPR, see Tamura (2024).

[114] In a sort of paraphrasing of the relevant notion of 'professional scepticism' required to statutory auditors of annual accounts, in terms of 'an attitude that includes a questioning mind, being alert to conditions which may indicate possible misstatement due to error or fraud, and a critical assessment of audit evidence' (Art. 1(13), Directive (EU) 2014/56).

[115] As a (sad) matter of fact, evidence that negates the validity of closed 'proprietary' firm recycling system is already emerging: see Liu (2014), p. 337–338.

[116] As anticipated to a certain extent, the phenomenon of greenwashing epitomizes the issue of market unreliability, when leaving matters of general interests merely to business storytelling: on the relevance of the new Directive (EU) 2024/825 in this field within the European framework see Deana (Chap. 7) and also from a wider perspective see De Vido (Chap. 12); along the same line it could be read the EU normative intervention on corporate sustainability reporting, about which see more extensively Genovese (Chap. 2).

[117] It should be noted that regulatory capture goes well beyond direct collusion, deriving also from the widespread production of biased information for regulatory and policy use: see Agrell and Gautier (2012).

[118] In this sense see Peng (2020).

A proper remedy should then be sought at the interpretative level. Going back to the Directive, which is after all the new legislation specifically aimed at implementing R2R in the EU, a few considerations can be made to move in this direction.

Regarding the first argument that PSS would be outside the scope of the Directive, such objection can be rebutted quite easily by looking at the Directive itself, which expressly states the intention to impose repair obligations in addition to the legal liability provided by Directive (UE) 2019/771 for sale contracts[119]. This means that the safeguard of R2R may well go beyond the applicative perimeter of traditional sale contracts, notwithstanding the normative links to that other Directive, so to cover also non-traditional contractual models like PSS. On closer inspection, this idea seemed already in the mind of the EU legislator, given the reference to 'manufacturers' and not 'sellers' in the specific provision about repair obligations, thus freeing it from the strict contractual definition[120].

Moreover, with regard to the second and most problematic argument that PSS would be exempted from repair obligations because it is more favorable to consumers, a combined reading of the relevant provisions of the Directive can open up a different construction.

Starting from the pivotal norm tackling the restrictive practices by manufacturers, this provision reveals a deeper content that amounts to the affirmation of an all-encompassing obligation to repair, not only positive-active ('do the repair'), but also negative-passive ('allow the repair'), as a right enforceable against the manufacturer itself and its contractual will[121].

This supports a parallel interpretation of the rule governing the mandatory nature of R2R. In particular, as mentioned, the Directive enables manufacturers to derogate from their obligations to repair when the conditions included in the contract go beyond the legal protection provided by the reform. However, the legal text speaks in terms of 'offering' such contractual arrangements, which implies that no binding effect is intended, suggesting that consumer freedom should remain the basis[122].

From this normative framework, it emerges that R2R is a guaranteed minimum objective that the Directive wants to secure in general, so that it can only be improved more favourably for the consumer, but not varied in detrimental terms. At the same time, this fundamental guarantee must be appreciated according to the aforementioned dual nature of R2R, in both an active and passive sense[123].

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[119] See Art. 1(2), Directive (EU) 2024/1799.

[120] See Art. 5, Directive (EU) 2024/1799.

[121] For a direct confirmation, see again Art. 5(8), Directive (EU) 2024/1799, which affirms—almost in terms of general principle—that 'without prejudice to the obligation to repair under this Article, consumers may seek repair from any repairer of their choice'.

[122] See literally Art. 14(2), Directive (EU) 2024/1799.

[123] In support of this reading, it should be underlined that Art. 5(6), Directive (EU) 2024/1799, dealing with the prohibition of manufacturers' practices against repair, speaks expressly of 'contractual clauses', that should therefore be appreciated also in the complementary perspective of limiting contractual freedom under Art. 14 of the same Directive; in this sense, the following argument about the inadmissibility of such restrictions to repair freedom applies *a fortiori* to the possible

In light of this reading, it can be affirmed that the Directive always imposes the consumer's right to turn to an independent repairer, even when the producer 'offers' special repair services: this is because, in the public interest perspective characterizing R2R, no solution that restricts such freedom of choice can be considered more favourable than the protection guaranteed by the Directive[124]. Therefore, this essential right could not be derogated by contract, including in the case of PSS, leaving aside the general validity of the agreements for the remaining part of such hybrid product-service supply.

Technically speaking, this hypothesis can be configured as a special contractual invalidity/ineffectiveness that can be invoked unilaterally by the interested party pursuing repair. In truth, solutions of this kind are far from unusual to the EU legal system and can be found (not by chance) both in consumer law[125] and antitrust law[126]. Apart from these more specific categorizations, it can be maintained more substantially—with a reconstruction that may then be conjugated according to the peculiarities of different jurisdictions—that such contractual restrictions to R2R, affecting an individual right which is functional for the benefit of a collective systemic interest, can be considered contrary to economic public order, and as such null

claim that PSS amounts to a 'legitimate and objective factor', being apparently based on mere subjective business expectations that cannot override the public interest of the system in R2R.

[124] As indirectly demonstrated by Art. 5(7), Directive (EU) 2024/1799, providing that 'manufacturers shall not refuse to repair goods […] for the sole reason that a previous repair has been performed by other repairers or by other persons', as an evidence of the intended aim to safeguard a competitive market for repair and the revelant freedom for consumers.

[125] For example, as mandated for consumer protection against unfair commercial terms by Art. 6(1), Directive (EEC) 1993/13, providing that such terms shall 'not be binding on the consumer and that the contract shall continue to bind the parties upon those terms if it is capable of continuing in existence without the unfair terms'; in addition, case-law specified that the judge 'is required to assess of its own motion whether a contractual term […] is unfair, compensating in this way for the imbalance which exists between the consumer and the seller or supplier' (CJEU, 14 June 2012, Case C-618/10, *Banco Español de Crédito SA v. Joaquín Calderón Camino*, ECLI:EU:C:2012:349); in this sense, it has to be remembered that the Directive (EU) 2024/1799 on R2R has its formal legal basis exactly in Art. 114 TFEU, related to 'the establishment and functioning of the internal market', including the specific objective of 'consumer protection' in terms of 'a high level of protection'; this is not to say that consumer protection law is sufficient to solve all problems of R2R, considering the need of a special and at the same time holistic approach to R2R, as confirmed by Artigot Golobardes (2024).

[126] Contractual restrictions to competition, in terms of agreements or concerted practices, are declared 'automatically void' under Art. 101(2) TFEU; in this sense, it should be remembered that under EU competition law the affected party can always invoke such invalidity, notwithstanding its consent to the contract (since CJEU, 20 September 2001, Case C-453/99, *Courage v. Crehan*, ECLI:EU:C:2001:465). By the way, competition law might be considered a helpful instrument in support of R2R, supplementing the lack of other normative solutions: for a comparative example regarding IPR, see Furuta and Heath (2023); however, competition law is not that solid to represent an effective remedy for R2R in all the relevant situations, as highlighted in an alternative reconstruction by Carrier (2022); for similar critics about antitrust law, including for PSS, see Perzanowski (2022), p. 173.

and void[127]. In this sense, the new paradigm shift towards a sustainable circular economy can readily offer the necessary constitutional grounds, as recalled above[128].

Admittedly, this is again an evolutionary interpretation with respect to the normative text: however, considering the outcome of the reform, this seems the only viable solution to make this Directive fit for purpose in ensuring an effective R2R also in the case of PSS. Moreover, this reconstruction would reinforce, if not encompass, the same arguments illustrated above about IPR, with the not negligible advantage of shaping a common approach in response to both these issues[129]. And this leads to some concluding remarks.

7 Conclusive Remarks

In conclusion, the interpretation proposed here tries to fix some troublesome aspects of the Directive as criticized above. However, this does not mean that the reform is to be rejected in its entirety, considering other interesting actions in support of R2R[130].

In a certain sense, it is exactly because the policy effort is appreciable that the legislative result can be said to be disappointing, especially in terms of missed opportunity. This is all the more so considering the major relevance for R2R of the two issues at hand, IPR and PSS: and that is why such a normative hesitation sounds as if the EU legislator has (green)washed its hands of them.

Nevertheless, where reforms hesitate, the only alternative is to push for a corrective interpretation that is 'paradigmatically' oriented towards a sustainable circular economy, and thus in favour of R2R, even struggling with the limits of the existing norms.

As to future reform, this EU attempt highlights the importance of a wider legal approach in terms of market regulation for R2R, indeed to be understood correctly:

[127] Like for contractual restrictions that go beyond the inherent limits of IPR, as recently ruled in the interesting Italian case by Court of Cassation, 9 April 2024, n. 9429, *M.A. v. SunWorld International*, published in IIC 56:204–214 (2025); for an equivalent reasoning see Grinvald and Tur-Sinai (2019), p. 103.

[128] See again Cozzi (Chap. 9); further along this line, for a rethinking of consumers prerogatives in terms of human rights at the international level see Dal Monico (Chap. 11).

[129] In this sense, stressing the importance of a contextual reading tackling both intellectual property claims and contractual restrictions against R2R, see Ghosh (2022), p. 1111.

[130] Apart from the informative and promotional measures already mentioned, a general observation can explain this view: on one side, it is true that the scope of application of the Directive is quite limited in terms of goods, but, on the other side, it is equally true that it already includes important products like mobile phones (Annex II, no. 8); from this point of view, it is understandable that the legislature decided to introduce such potentially impactful discipline in a graduated manner, considering also that the Commission is already vested with the delegated power to update the list of products subject to repairability requirements in light of regulatory developments (Art. 5(9), Directive 2024/1799).

not as a juxtaposition of fields where each specialized discipline—such as intellectual property—is not considered by the other, but as a moment of comparison and integration exceeding separated self-referential logic, according to the promoted 'human-centered' economic model[131].

Therefore, with a more constructive attitude, the just enacted Directive (EU) 2024/1799 should be considered not so much as the ultimate definition of R2R, but only as a first step, a sort of starting point for further more effective solutions, which should necessarily revolve around the fundamental core identified here[132]: that is, a right that every consumer shall enjoy to have the product repaired by freely turning to a competitive and open repair market, as such capable of counteracting the relevant foreclosure effects deriving from manufacturers' claims of control by means of IPR and PSS[133].

Only in this way can R2R become real, in the EU as in every other legal order, and bring about the systemic benefits of a sustainable circular economy that are needed now more than ever.

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[131] At the EU level, the human-centered approach is declared to be at the basis of the industrial transition inspired by this paradigm shift: see e.g. European Commission, 'Industry 5.0: A Transformative Vision for Europe', ESIR Policy Brief No. 3, 2022; in literature, confirming the need for such an approach, see Murray et al. (2017), as well as in terms of applicable model Clube and Tennant (2023); from a policy theory perspective, focused on R2R, see also Lloveras et al. (2025).

[132] In this sense, given the specific formulation of the Directive, the room for manoeuvre by Member States is not really relevant, therefore significant changes are not expected at the stage of transposition (to be completed within 31 July 2026: Art. 22 Directive (EU) 2024/1799). In the meantime, critical observations are already arising: see e.g. López-Bermúdez and Vence (2025).

[133] This fundamental reconstruction of R2R as implying an open competitive market is confirmed by the recent reform of EU design law, where the final enactment of the relevant 'repair clause' is expressly reconnected to the 'liberalisation of the spare parts aftermarket' (see Recital 35, Directive (EU) 2024/2823, and equally Recital 20, Regulation (EU) 2024/2822); moreover, this reform is presented in policy terms not only as 'at the core of a sustainable economy', but also as directly related to the 'establishment and functioning of the internal market' against legal uncertainties that 'distort competition and trade' (see Recital 33, Directive (EU) 2024/2823, also indirectly recalled by Recital 19, Regulation (EU) 2024/2822).

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