

# Right-to-Repair, Product Durability and Obsolescence: A Legal Perspective

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## Abstract

A growing worldwide consensus is that action is required to improve product durability. Equipment such as motor vehicles, farm and construction equipment, and consumer products have become more sophisticated, as have the cost and complexity of repairs. Manufacturers may restrict access to repair manuals, software upgrades and spare parts. Alternatively, the product design may preclude ready access to undertake repairs. The article explores the concepts of right-to-repair, product durability and obsolescence, and the protection of consumer rights. The European Union (EU) is arguably at the forefront of the consumer protection movement. It has introduced many initiatives that have been adopted, wholly or in part, by nations worldwide. The key EU initiatives in response to the “*right-to-repair*” and “*product durability and obsolescence*” movements are described and analyzed. It was found that the EU initiatives and legislation are consumer-centric and provide a template for such legislation in

other jurisdictions. One area of the EU initiatives that should be addressed is surrounding product recycling. As far as possible, sellers, producers and specialist recycling companies should be prohibited from exporting their waste to another country and must meet the best workplace safety and environmental protection practices. As recommended by the EU, governments should encourage the reuse of products and the setting up of systems promoting repair and reuse activities. Finally, the authors recommend an enhanced research program to allow the recycling of consumer “waste” on an industrial scale.

**KEYWORDS** *Consumer Law, European Union, Intellectual Property, John Deere, Right to Repair*

## Introduction

The global community is becoming increasingly concerned about product durability and obsolescence. In December 2015, the United Nations General Assembly requested the Secretary-General to “continue to promote effective implementation of the [United Nations Guidelines for Consumer Protection, 2015 revision] by Member States, businesses and civil society”.<sup>1</sup> The customer needs that the Guidelines intend to meet:

1. consumers have access to essential goods and services;
2. vulnerable and disadvantaged consumers are protected;
3. the health and safety of consumers are protected;
4. the economic interests of consumers are both promoted and protected;
5. consumers have access to information to make informed choices;
6. consumer education is provided to ensure that consumers understand the environmental, social, and economic impact of their choices;
7. effective dispute resolution processes are in place;
8. freedom to form consumer groups that can present their views to decision-makers;
9. promotion of sustainable consumers;
10. protection for users of electronic commerce; and
11. privacy protection and free flow of information.<sup>2</sup>

<sup>1</sup> United Nations, *Resolution Adopted by the General Assembly on 22 December 2015*, 18(a). 2. para 9.

<sup>2</sup> United Nations, *General Assembly Resolution A/RES/70/86*. Annex para. 5

In other words, the government must ensure the consumer's economic interests and that the supplier/manufacturer provides sufficient information to allow the consumer to make an informed choice based on an understanding of their decision's environmental, social, and economic impacts. In the context of this article, the focus will be on the key issues of right-to-repair, product durability and obsolescence.

As equipment such as motor vehicles, farm and construction equipment, and consumer products have become more sophisticated, so have the cost and complexity of repairs.<sup>3</sup> The “right-to-repair” movement aims to give “households and businesses the ability to have their products repaired at a competitive price using a repairer of their choice”.<sup>4</sup> Šajn notes that “the right to repair is a rather vague concept that may mean different things”.<sup>5</sup> It may mean the right to repair the product during its guarantee period, following the expiration of the guarantee period, or the right for consumers to undertake the repairs by themselves.<sup>6</sup>

The US-based Repair Association has expanded on these rights.<sup>7</sup> Firstly, product owners require the right to repair their products or have them repaired by an independent repairer of their preference. Secondly, they require “access to the same diagnostics, information, and parts available to the dealer’s facilities”. They note that many manufacturers make it impossible for consumers or independent repairers to fix their products. The inability of consumers or independent repairers to undertake repair products may be inadvertent or intentional. Nonetheless, often, it leaves the only option to purchase a new replacement. Most importantly, product design should allow their lifespan to be extended by regular maintenance and repair.

To achieve these outcomes, they considered that consumers and independent service providers require access to the manuals, schematics and circuit diagrams, software updates and clear contracts that set out which of the elements of the machine are not included in the sale. Service parts and tools, as well as diagnostic tools, should be available at competitive pricing. Patent holders should be encouraged to allow repair spare parts and tools to be made

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<sup>3</sup> Andrew Leigh, "Keynote Address to the Australian Repair Summit 2022, Canberra," (5 August 2022). <https://ministers.treasury.gov.au/ministers/andrew-leigh-2022/speeches/keynote-address-australian-repair-summit-2022-canberra>.

<sup>4</sup> Leigh, "Keynote Address," 2.

<sup>5</sup> Nikolina Šajn, "Right to Repair" (Briefing Paper, European Parliamentary Research Service, January 2022). 2.

<sup>6</sup> Šajn, "Right to Repair." 2.

<sup>7</sup> The Repair Association, "It's Time for a Common-sense Perspective," *The Repair Association*, 21 November 2022, <https://www.repair.org/policy>.

under fair licensing terms, and diagnostic tools, codes and software should be made available. “[U]nlocking, adapting and modifying any part of the machine, including software” should be legalized. Finally, they recommended that design for repair principles be integrated into “eco-design product design practices”.<sup>8</sup>

In 2021, the United States Federal Trade Commission (FTC) reported to Congress on repair restrictions. The report identified the following repair issues of concern to consumers: complicated product designs that make repairs complicated or impossible; parts and repair information are not available; designs are such that independent repairs may make the products less safe; customers are directed towards manufacturer repair networks through manufacturer policies or statements; owners exercising patent rights and enforcing trademarks; denigrating the use of parts not provided by the original equipment manufacturer (OEM) or having repairs undertaken by independent repairers; issues associated with firmware updates and software locks; and restricted End User License Agreements.<sup>9</sup>

On the other hand, manufacturers offered the following explanations for restrictions on repairs: protection of their intellectual property; protection of repair workers and consumers from injuries (i.e. safety); protection of consumers from cybersecurity risks; manufacturers will face liability or reputational damage due to faulty repairs by independent repair shops; design choices and consumer demand drive repairability; and quality of service as the authorized repair facilities provide a superior service.<sup>10</sup>

Finally, FTC identified issues to be considered in any action taken by industry, policymakers, or legislators: determine which types of products should be covered; which components of the covered products would be covered (i.e. what replacement parts should be made available for purchase by consumers or independent repair facilities); a monetary threshold and duration of repair commitments; and protection of intellectual property rights.<sup>11</sup> The FTC concluded that whilst legislation may provide consumers with the right to repair, “repair restrictions have made it difficult for consumers to exercise this right”.<sup>12</sup> They considered that action required to address unlawful repair restrictions includes law enforcement, regulation and consumer education.

Probably the most well-known case is that of the John Deere company, which, amongst other products, manufactures agricultural equipment such as

<sup>8</sup> The Repair Association, "It's Time."

<sup>9</sup> *Nixing the Fix: An FTC Report to Congress on Repair Restrictions*, 6 (2021).

<sup>10</sup> *Nixing the Fix*, 24-36.

<sup>11</sup> *Nixing the Fix*, 51-53.

<sup>12</sup> *Nixing the Fix*, 54.

tractors, combine harvesters, and the like, as well as road construction and maintenance equipment. For instance, when farmers in the United States and elsewhere buy a John Deere tractor, they “buy the right to use it for life” with the intellectual property remaining with John Deere and the dealers.<sup>13</sup> As a result of the complex technology and the strictures of the intellectual property agreement, they depend on John Deere for repairs and spare parts. In Australia, at least, John Deere is promoting the ability for farmers to be able to “repair [their] own equipment, in [their] own workshop and in [their] own time”.<sup>14</sup> Farmers have resorted to hacking the digital locks that manufacturers have placed on their equipment.<sup>15</sup> Those in the United States have lodged court cases against the manufacturers,<sup>16</sup> and in 2022, a member of Congress submitted a draft Bill to the Senate, which has not progressed.<sup>17</sup> Finally, in early 2023, John Deere and the American Farm Bureau Federation (AFBF) signed a memorandum of understanding (MOU) that ensures that farmers have the right to repair their own John Deere farm equipment (ABC Rural, 2023).<sup>18</sup> Individual farmers can purchase the diagnostic software and either repair the machine themselves or have it repaired by an independent dealer of their choice. The MOU formalizes access to diagnostic and repair codes, manuals, and product guides. John Deere also undertook to allow farmers to purchase

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<sup>13</sup> Jemima Burt, "Tractor-hacking Farmers in the US Fight for Right to Repair under Equality Law," *ABC News*, 22 February 2018, <https://www.abc.net.au/news/rural/2018-02-22/tractor-hacking-farmers-in-the-us-fight-for-right-to-repair/9470658>.

<sup>14</sup> John Deere Repair, "Self-Repair Made Easy," *John Deere Repair*, 11 November 2022, <https://www.deere.com.au/en/our-company/repair/>.

<sup>15</sup> Lily Hay Newman, "A New Jailbreak for John Deere Tractors Rides the Right-to-Repair Wave," 13 August 2022, <https://www.wired.com/story/john-deere-tractor-jailbreak-defcon-2022/>.

<sup>16</sup> Northern Ag Network, "Court Consolidates Majority of John Deere Right-to-Repair Cases," *Northern Ag Network*, 6 June 2022, <https://northernag.net/court-consolidates-majority-of-john-deere-right-to-repair-cases/>.

<sup>17</sup> Karl Bode, "Congress Introduces New Agricultural 'Right to Repair' Bill With Massive Farmer Support," *Techdirt, Floor 64*, 5 November 2022, <https://www.techdirt.com/2022/02/02/congress-introduces-new-agricultural-right-to-repair-bill-with-massive-farmer-support/>.

<sup>18</sup> ABC Rural, "US farm machinery manufacturer John Deere allows farmers the right to repair tractors," *ABC News*, 10 January 2023, <https://www.abc.net.au/news/rural/2023-01-10/john-deere-allows-farmers-the-right-to-repair-tractors/101839884>.

diagnostic equipment from them and receive their assistance when ordering parts and products.<sup>19</sup>

The worldwide reach of John Deere machinery and its sophisticated technology led to a bizarre incident. Ukraine's vast agricultural sector is a primary John Deere agricultural machinery market. Soon after the Russian invasion of 2022, the Russians apparently stole equipment from John Deere dealers. In response, John Deere remotely activated their technology, which disabled all the stolen machinery.<sup>20</sup>

In September, a Bill was submitted to the United States House of Representatives to ensure the right to repair agricultural equipment.<sup>21</sup> The Bill aims “to require original equipment manufacturers to make available certain documentation, parts, software, and tools with respect to electronics-enabled implements of agriculture, and for other purposes”.<sup>22</sup> As of early 2024, no national law had been enacted, although some state legislation has been enacted.<sup>23</sup> The fight of the farmers continues.

Whilst the focus is on agricultural equipment in the United States, there is a growing movement to extend the right-to-repair concept to the electronic equipment marketplace. This movement has been led mainly by California, which enacted its Right to Repair Act in October 2023 to enter into force on 1 July 2024.<sup>24</sup> The intent of the legislation is “to provide a fair marketplace for the repair of electronic and appliance products and to prohibit intentional barriers and limitations to third-party repair”.<sup>25</sup> Spare parts and manuals are to be available for three years after the end of production of a model or type for an

<sup>19</sup> "Memorandum of Understanding Between American Farm Bureau Federation and John Deere," News Release, 8 January 2023, [https://www.fb.org/files/AFBF\\_John\\_Deere\\_MOU.pdf](https://www.fb.org/files/AFBF_John_Deere_MOU.pdf).

<sup>20</sup> Nik Martin, "How Farm Vehicles Stolen by Russia were Remotely Disabled," *Deutsche Welle*, 5 May 2022, <https://www.dw.com/en/ukraine-how-farm-vehicles-stolen-by-russia-were-remotely-disabled/a-61691839>.

<sup>21</sup> Marie Gluesenkamp Perez, "Gluesenkamp Perez and Colleagues Introduce Bill to Ensure the Right to Repair Agricultural Equipment," (20 September 2023). <https://gluesenkamppez.house.gov/posts/gluesenkamp-perez-and-colleagues-introduce-bill-to-ensure-the-right-to-repair-agricultural-equipment>.

<sup>22</sup> "Agricultural Right to Repair Act," (H.R.5604, 2023). <https://www.congress.gov/bill/118th-congress/house-bill/5604/text>.

<sup>23</sup> Nathan Proctor, "New Farm Right to Repair Bill Introduced in Congress," *Campaign for the Right to Repair* (Denver), 20 September 2023, <https://pirg.org/updates/new-farm-right-to-repair-bill-introduced-in-congress/>.

<sup>24</sup> Right to Repair Act, State of California 1 July 2024 (10 October 2023). <https://legiscan.com/CA/text/SB244/id/2845333>

<sup>25</sup> *Right to Repair Act - California*. ss 42488.1

item with a wholesale price between \$US 50 and \$US 99.99, regardless of the warranty period.<sup>26</sup> The availability period increased from three to seven years for products with a wholesale price of \$US100 or more.<sup>27</sup> Unless specifically required by Section 42488, the manufacturer is not required “to divulge a trade secret or license any intellectual property, including copyrights or patents”<sup>28</sup> or source code.<sup>29</sup> The repairer must also advise the consumer if they are not an authorized repair provider of the manufacturer.<sup>30</sup> The Act is more comprehensive than its forerunners in Minnesota and New York as its minimum periods for the availability of repair materials after production has ceased are for a more extended period.<sup>31</sup> Apple Inc. supported the Californian legislation as it was passing through the California legislature and announced in October 2023 that it would support a United States right-to-repair bill.<sup>32</sup> The big question is whether the other “big tech” companies will follow.

In late 2023, a more intriguing case arose, this time in Poland. Full details are still forthcoming, and the parties are in dispute. The train operator engaged hackers to understand the cause of trains locking up after being serviced in third-party workshops.<sup>33</sup> According to one of the researchers quoted in the article: “*We found that the PLC [programmable logic controller] code actually contained logic that would lock up the train with bogus error codes after some date, or if the train wasn't running for a given time*”.<sup>34</sup> “*They also claimed to have found an undocumented key combination in the cabin controls that would unlock the*

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<sup>26</sup> *Right to Repair Act - California*. ss 42488.2(a)

<sup>27</sup> *Right to Repair Act - California*. ss 42488.2(b)

<sup>28</sup> *Right to Repair Act - California*. ss 42488.2(c)

<sup>29</sup> *Right to Repair Act - California*. ss 42488.2(d)

<sup>30</sup> *Right to Repair Act - California*. ss 42488.2(e)

<sup>31</sup> Victoria Song, “California Passes Right-to- Repair Act Guaranteeing Seven Years of Parts for Your Phone,” *The Verge*, 14 September 2023, <https://www.theverge.com/2023/9/13/23871712/california-right-to-repair-act-sb-244>.

<sup>32</sup> Andrea Shalal, Stephen Nellis, and David Shepardson, “Apple Backs Biden's Push for Right-to-Repair Law,” *Reuters*, 25 October 2023.

<sup>33</sup> Ethan Brown, “Polish Train Maker Accused of Sabotaging its Own Trains with Software,” *TendyDigests*, 14 December 2023, <https://trendydigests.com/2023/12/14/polish-train-maker-accused-of-sabotaging-its-own-trains-with-software/>.

<sup>34</sup> Brown, “Polish Train Maker.”

*trains*".<sup>35</sup> The manufacturer has disputed these findings. de Kemmeter, writing on RailTech.com, explained the issue as follows:<sup>36</sup>

- a. "New vehicles are purchased by operator X for a regional [rail operation] contract, and the manufacturer is awarded the maintenance contract. All is as usual.
- b. "Operator X does not get its contract extended and sells the vehicles to successor Y.
- c. "Successor Y takes over the fleet but decides to award the maintenance contract to another company rather than the manufacturer. This is where the problems start."

This issue appears to be the only reported case; as de Kemmeter noted, it all depends on the contract. In the Polish case, the manufacturer is taking action, as it claims the action of the maintenance company and its group of hackers have violated the security of its products and its ownership of the onboard software.<sup>37</sup> This story still has a long way to go.

## Product Durability & Obsolescence

An associated issue with "*right-to-repair*" is product durability and obsolescence. The European Environment Agency has identified absolute obsolescence, where the product suffers a mechanical failure, or the software is upgraded and no longer compatible with the product. Relative obsolescence occurs when the product is still functional. However, it is considered obsolete because of the desire for a new product, a more technologically advanced product becomes available, or the price of repair or upgrade is non-viable compared to purchasing a new product.<sup>38</sup> By 2019, globally generated e-waste alone was estimated to amount to 53.6 million tonnes.<sup>39</sup> Around 82% "had an

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<sup>35</sup> Brown, "Polish Train Maker."

<sup>36</sup> Frédéric de Kemmeter, "Poland: Hackers Used to Unblock Trains?," *Railtech Newsletter*, 3 January 2024, <https://www.railtech.com/policy/2024/01/03/poland-hackers-used-to-unblock-trains/>.

<sup>37</sup> de Kemmeter, "Poland: Hackers Used to Unblock Trains?."

<sup>38</sup> Šajin, "Right to Repair." 3.

<sup>39</sup> Agata Meysner and Jesu Urios, *The 'Right to Repair': Addressing Social and Environmental Spillovers in the Electrical and Electronic Equipment Sector* (Brussels: Institute for European Environmental Policy, 25 July 2022), 3. <https://ieep.eu/publications/the-right-to-repair-addressing-spillovers-in-the-electrical-and-electronic-equipment-sector/>.



uncertain destination, ending up either in landfills, burned, illegally traded, or disposed of by informal workers in poor conditions".<sup>40</sup>

In January 2021, in a world first, France commenced the implementation of legislation to require manufacturers of electronic equipment to grade their products on five criteria: "availability of technical documents to aid in repair, ease of disassembly, availability of spare parts, price of spare parts, and a wild-card category for repair issues specific to that class of products".<sup>41</sup> All the information must be available at the time of purchase. France will expand the score to other classes of consumer products. By 2024, the repair index will transition to a "durability index" to advise consumers, the repairability and, also, the overall robustness of a product.<sup>42</sup>

These issues are not restricted to the developed world. For example, new products and services in Thailand, a middle-income country, are quickly developing to respond to the consumer trend of wanting the latest communication devices, computers and other electronic devices, often at high cost. Like consumers worldwide, Thai consumers are subjected to intense marketing campaigns to upgrade to the latest model, which tends to be released on an annual cycle. Besides purchasing the new technology, the customer must purchase from the same brand sold separately at unfriendly prices. There is little option for the consumers.

Moreover, even if the same brand launches the same product but in a different series, the accessories from the earlier model can no longer be used. They are out of date very quickly. It becomes a costly waste just overnight. Consumers are the most disadvantaged within this marketing cycle. The concept of right-to-repair should be an integral part of consumer protection legislation. The aim is to reduce electronic waste and improve the current imbalance between manufacturers and consumers.

Thailand provides consumer protection under the *Consumer Protection Act*<sup>43</sup> as amended by the *Consumer Protection Act (No. 4)*.<sup>44</sup> The Consumer Case Procedure Act B.E. 2551 (2008) was enacted to provide a consumer-friendly,

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<sup>40</sup> Meysner and Urios, *The 'Right to Repair'*, 3.

<sup>41</sup> Maddie Stone, "Why France's New 'Repairability Index' is a Big Deal," *Grist*, 8 February 2021, 4, <https://grist.org/climate/why-frances-new-repairability-index-is-a-big-deal/>.

<sup>42</sup> Stone, "Repairability Index," 5.

<sup>43</sup> Consumer Protection Act B.E. 2522 (1979), Thailand (30 April 1979).

<sup>44</sup> Consumer Protection Act (No. 4) B.E. 2562 (2019), Thailand (24 May 2019).

fast-track court procedure.<sup>45</sup> The Act “even allows consumers to file complaints orally, by having the Case Officer arrange for the recording of details of the complaint and ask the plaintiff to sign”.<sup>46</sup> According to Rungpry in her summary of the Thai language version of the law:

*Section 11 specifically states that where a business operator, through notice, advertisement, warranty, or any other actions, leads the consumer to understand that the business operator agrees to provide certain things to the consumer in addition to those concluded in the contract, then such statements, actions, or promises made by the business operator will be deemed as part of the contract concluded, even though such terms are not in writing.*<sup>47</sup>

In 2022, the United Nations Conference on Trade and Development issued a voluntary peer review of Thailand's consumer protection law and policy. It concluded that, whilst Thailand has comprehensive legislative and institutional structures, there was a need to standardize the definition of “consumer” across the various laws and rationalize the institutional structures.<sup>48</sup>

## European Union Legal Process

There are five types of legal acts used within the European Union, with some binding and others not, and some apply to all EU countries and others to just a few.<sup>49</sup> The five are:

- a. A regulation is legislation that is binding across all the EU members;
- b. A directive is legislation that sets out a goal that all EU members must achieve;

<sup>45</sup> Stephen Frost, "New Rights for Consumers in Disputes with Business Operators," *British Chamber of Commerce Thailand* (Bangkok), 27 February 2009, 1, [https://bccthai.com/asp/view\\_doc.asp?DocCID=1440](https://bccthai.com/asp/view_doc.asp?DocCID=1440).

<sup>46</sup> Siraprapha Rungpry, "Consumer Case Procedure Act takes Effect," *Tilleke & Gibbins International Ltd.* (Bangkok), September 2008, [https://www.tilleke.com/sites/default/files/TH\\_IP\\_CCPA\\_Takes\\_Effect.pdf](https://www.tilleke.com/sites/default/files/TH_IP_CCPA_Takes_Effect.pdf).

<sup>47</sup> Rungpry, "Consumer Case Procedure Act takes Effect."

<sup>48</sup> Trade and Development Board - Trade and Development Commission - Intergovernmental Group of Experts on Consumer Protection Law and Policy, *Voluntary peer review of consumer protection law and policy of Thailand Overview*, 2022. 9. para 56

<sup>49</sup> European Union, "Types of Legislation," *European Union* 2023, [https://european-union.europa.eu/institutions-law-budget/law/types-legislation\\_en](https://european-union.europa.eu/institutions-law-budget/law/types-legislation_en).

- c. A decision is binding on those to whom it is addressed, which can be an EU country or an individual company;
- d. A recommendation is not binding. “*A recommendation allows the institutions to make their views known and to suggest a line of action without imposing any legal obligation on those to whom it is addressed*”;<sup>50</sup>
- e. An opinion “*is an instrument that allows the institutions to make a statement in a non-binding fashion, in other words without imposing any legal obligation on those to whom it is addressed*”.<sup>51</sup>

A complicating factor is the legislative procedure of the EU, which, except in exceptional cases, is the “*Ordinary legislative procedure (Codecision)*”.<sup>52</sup> The procedure as described in Article 294 of the *Treaty on the Functioning of the European Union*<sup>53</sup> is: *The then provides steps to be undertaken to resolve the differences between the Parliament and the Council*.<sup>54</sup>

The study utilizes the documentary research method to describe the right-to-repair and product durability, obsolescence, and circular economy initiatives. As the European Union was the pioneer in the field of consumer protection and continues to be a leader, the focus of this paper will be an analysis of the current initiatives of the EU and their broader applications.

## Initiatives of the European Union

The European Union is arguably at the forefront of the right-to-repair movement. As will be seen, there are two components. The first is the *right-to-repair initiative per se*, and the second is the *product durability, obsolescence, and circular economy initiative*.

The impact of the EU consumer initiatives has not been limited to the countries of the European Union. Aspects of the EU legislation have been mirrored in the legislation of countries as diverse as Australia, China, Japan, New Zealand and the ten nations of ASEAN – the Association of Southeast

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<sup>50</sup> European Union, "Types of Legislation."

<sup>51</sup> European Union, "Types of Legislation."

<sup>52</sup> EUR-Lex, "Ordinary Legislative Procedure (Codecision)," in *EUR-Lex* (Online Database: EUR-Lex, 2024). [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM:ordinary\\_legislative\\_procedure](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM:ordinary_legislative_procedure).

<sup>53</sup> Consolidated Version of the Treaty on the Functioning of the European Union, Article 294 (ex Article 251 TEC) (OJ C 202, 7.6.2016, p. 173–175), European Union.

<sup>54</sup> *Treaty on the Functioning of the European Union. art 294(7)-(15)*.

Asian Nations.<sup>55</sup> These nations have a variety of legal systems, from common law to civil and criminal codes. The initial driving force was Council Directive 85/374/EEC concerning liability for defective products<sup>56</sup>, which was finally amended by Directive 1999/34/EC<sup>57</sup>.

## Right to Repair

### A. Current Legislation

As will be seen later, the European Union legislation on the right to repair continues to evolve. Recent initiatives of the European Union are described in Table 1.

**TABLE 1** Key Right-to-Repair Initiatives of the European Union

Initiative	Clause	Requirement
Regulation (EC.) No 715/2007 <sup>58</sup>	art. 6.1	Manufacturers are to provide unrestricted and standardized access to repair and maintenance information on specific classes of light vehicles to independent operators in a non-discriminatory manner compared to that provided to authorized dealers and repairers.
Directive (EU) 2009/125 <sup>59</sup>		Establishes eco-design requirements for energy-related products
Commission Regulation (EU.)	Annex II (1.2.1.)	Manufacturers of specified servers and data storage devices “shall ensure that joining,

<sup>55</sup> Luke Nottage et al., *ASEAN Consumer Law Harmonisation and Cooperation: Achievements and Challenges*, Kindle ed. (Cambridge University Press, 2019). Ch 3

<sup>56</sup> Council Directive 85/374/EEC of 25 July 1985 on the Approximation of the Laws, Regulations and Administrative Provisions of the Member States Concerning Liability for Defective Products [1985] OJ L 210/29, European Economic Community.

<sup>57</sup> Directive 1999/34/EC of the European Parliament and of the Council of 10 May 1999 Amending Council Directive 85/374/EEC on the Approximation of the Laws, Regulations and Administrative Provisions of the Member States Concerning Liability for Defective Products [1999] OJ L 141/20, European Commission.

<sup>58</sup> Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on Type Approval of Motor Vehicles with Respect to Emissions from Light Passenger and Commercial Vehicles (Euro 5 and Euro 6) and on Access to Vehicle Repair and Maintenance Information [2007] OJ L 171/1, European Union 2 July 2007 (part.) (20 June 2007).

<sup>59</sup> Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 Establishing a Framework for the Setting of Ecodesign Requirements for Energy-using Products (Current consolidated Version 4 December 2012) [2009] OJ L 285/10, European Union 20 November 2009 (21 October 2009).

Initiative	Clause	Requirement
2019/42460		fastening or sealing techniques do not prevent the disassembly for repair or reuse purposes of the following components”: data storage devices, memory, processor (CPU), motherboard, expansion card/graphic card, power supply unit (PSU), chassis, and batteries.
	Annex II (1.2.3)	The latest version of firmware must be available for a minimum period of eight years, for free or reasonable costs, and security updates of firmware must be available for at least eight years.
Directive (EU) 2019/771 <sup>61</sup>	art. 10(1)	The seller of a product is “liable to the consumer for any lack of conformity [of goods with digital elements] which exists at the time when the goods were delivered and which becomes apparent within two years of that time” [or a longer time limit as allowed under art. 10(3)].
	art. 10(2)	Where goods contain a digital element, and “the sales contract provides for a continuous supply of the digital content or digital service over a period of time”, the seller is liable for any non-conformity that arises within the two-year time frame [or a longer time limit as allowed under art. 10(3)].
	art. 10(3)	Member States may impose a time limit exceeding the two-year lack of conformity period.
	art. 10(6)	Member states may impose a minimum limit of 1 year when the goods are second-hand, and the seller and consumer agree to the reduced contractual terms.
	art. 11(1)	If a lack of conformity appears within one year of the good's delivery, it is considered to have existed at the time of delivery unless proved otherwise.
	art. 11(2)	Member states may maintain or introduce a period of two years from the time of delivery for

<sup>60</sup> Commission Regulation (EU) 2019/424 of 15 March 2019 Laying Down Ecodesign Requirements for Servers and Data Storage Products Pursuant to Directive 2009/125/EC of the European Parliament and of the Council and Amending Commission Regulation (EU) No 617/2013 [2019] OJ L 74/46, European Union.

<sup>61</sup> Directive (EU) 2019/771 of the European Parliament and of the Council of 20 May 2019 on Certain Aspects Concerning Contracts for the Sale of Goods, Amending Regulation (EU) 2017/2394 and Directive 2009/22/EC, and Repealing Directive 1999/44/EC [2019] OJ L 136/28, European Union.

Initiative	Clause	Requirement
		a lack of conformity to have existed at the time of delivery of the goods.
	art. 13(1)	The remedy for lack of conformity shall be repair or replacement, a proportionate price reduction, or contract termination. The remedy is chosen under the rules set out in art. 13(2) to 13(7) and follows the procedures in art.14 (repair or replacement), art.15 (price reduction) and art.16 (termination of sales contract).
	Annex II 8(1)	Manufacturers of washing machines and dryers must ensure that spare parts are available for at least ten years after the last unit has been placed on the market.
Commission Regulation (EU) 2019/2023 <sup>62</sup>	Annex II 8(2)	Spare parts should be delivered within 15 days of the order being placed.
	Annex 8(3)	Access to repair and maintenance information to professional repairers must be available within two years from when the product comes onto the market during the period specified in Annex II 8(1).

<sup>62</sup> Commission Regulation (EU) 2019/2023 of 1 October 2019 Laying Down Ecodesign Requirements for Household Washing Machines and Household Washer-dryers Pursuant to Directive 2009/125/EC of the European Parliament and of the Council, Amending Commission Regulation (EC) No 1275/2008 and Repealing Commission Regulation (EU) No 1015/2010 [2019] OJ L 315/25, European Union. Similar regulations apply for other consumer products such as: Commission Regulation (EU) 2019/2022 of 1 October 2019 Laying Down Ecodesign Requirements for Household Dishwashers Pursuant to Directive 2009/125/EC of the European Parliament and of the Council Amending Commission Regulation (EC) No 1275/2008 and Repealing Commission Regulation (EU) No 1016/2010 [2019] OJ L 315/267, European Union; Commission Regulation (EU) 2019/2021 of 1 October 2019 Laying Down Ecodesign Requirements for Electronic Displays Pursuant to Directive 2009/125/EC of the European Parliament and of the Council, Amending Commission Regulation (EC) No 1275/2008 and Repealing Commission Regulation (EC) No 642/2009. [2019] OJ L 315/241., European Union; Commission Regulation (EU) 2019/2020 of 1 October 2019 Laying Down Ecodesign Requirements for Light Sources and Separate Control Gears Pursuant to Directive 2009/125/EC of the European Parliament and of the Council and Repealing Commission Regulations (EC) No 244/2009, (EC) No 245/2009 and (EU) No 1194/2012. [2019] OJ L 315/209.

Initiative	Clause	Requirement
European Parliament Resolution T9-0318 /2020 <sup>63</sup>		Called on the European Commission to develop strategies for: Consumer rights and clamping down on planned obsolescence; Facilitating repairs; Developing a global strategy to promote a culture of reuse; A digital strategy for a sustainable market; and Responsible marketing and advertising.

*Source: The authors*

The right-to-repair initiatives of the EU tabulated above are clearly consumer-positive. Of particular benefit are the minimum requirements for the repairability of goods, provision of spare parts and repair manuals, and the transfer of the burden of proof for non-conformity from the consumer to the supplier.

Negotiations between 27 member states are, no doubt, relatively complex and time-consuming. It would have been better if the more stringent conditions were legislated. Such an action would preclude the member states from being free to legislate more stringent conditions if desired. Allowing member states to impose more stringent conditions means that suppliers/manufacturers could offer different warranties depending on the jurisdiction without necessarily changing the product quality. Alternatively, they may need to change the product specification to meet the higher requirements or even increase the product price across the EU to meet the requirements of a handful of Member States.

## B. Legislation under Review

In November 2020, the European Parliament requested the European Commission to develop strategies to improve consumer rights, clamp down on planned obsolescence and develop a circular ecosystem.<sup>64</sup> Then, in January 2022, the European Commission issued a request for comments on the sustainable consumption of goods by promoting repair and reuse.<sup>65</sup> Among the

<sup>63</sup> European Parliament Resolution of 25 November 2020 Towards a More Sustainable Single Market for Business and Consumers (2020/2021(INI)) P9-TA(2020)0318, European Union.

<sup>64</sup> European Parliament Resolution of 25 November 2020.

<sup>65</sup> "Sustainable Consumption of Goods – Promoting Repair and Reuse," European Commission, European Union, updated 11 January 2022,

325 organizations that responded were researchers from the Katholieke Universiteit Leuven (KU Leuven), who raised several concerns (Van Gool et al., 2022),<sup>66</sup> and The European Consumer Organisation (BUEC),<sup>67</sup> as summarized in Table 2.

**TABLE 2** Recommendations Raised by BUEC & KU Leuven re Directive (EU) 2019/771

Clause	Concern	Proponent
art. 2(16) (new)	Add: “replacement means the remediation by the seller of a lack of conformity by providing to the consumer a good that conforms with the sales contract, which might be a repaired, refurbished or remanufactured good that meets the conformity requirements.”	KU Leuven
art. 2(17) (new)	Add: “second-hand goods means goods that are used again for the same purpose in their original form or with little enhancement or change.”	KU Leuven
art. 3(5)(a)	The Directive should also be applied to second-hand goods sold at auction. Delete: art 3(5)(a)	KU Leuven
art. 3(7)	“[T]he freedom of Member States to allow consumers to choose a specific remedy, if the lack of conformity of the goods becomes apparent within a period after delivery, not exceeding 30 days,” is considered to encourage impulsive consumption, which should be discouraged.	KU Leuven

[https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13150-Sustainable-consumption-of-goods-promoting-repair-and-reuse\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13150-Sustainable-consumption-of-goods-promoting-repair-and-reuse_en).

<sup>66</sup> Elias Van Gool et al., CCM KU Leuven Feedback to EU Commission Consultation on Sustainable Consumption of Goods - Promoting Repair and Reuse Legislative Initiative (Submission: KU Leuven, Consumer Competition Market, 4 April 2022, 2022). [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4211301](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4211301).

<sup>67</sup> The European Consumer Organisation, *Sustainable Consumption of Goods: Promoting the Right to Repair and Reuse* (Position Paper: The European Consumer Organisation,, 5 April 2022). <https://www.beuc.eu/position-papers/sustainable-consumption-goods-promoting-right-repair-and-reuse>.



Clause	Concern	Proponent
	Delete: art 3(7)	
art. 10(6)	Allowing a shorter legal guarantee period for second-hand goods confuses consumers and sellers and discourages consumers from purchasing second-hand goods. Delete: art 10(6)	KU Leuven, BEUC
	Allow for extension of presumption period beyond the current 2-year maximum (KU Leuven) for product-specific guarantee periods established on their life spans (BEUC).	KU Leuven, BEUC
art. 11(2)	Suspend the guarantee period during the repair period	KU Leuven
	“[I]ntroduce a new mandatory label: ‘guaranteed lifespan label for all products whose life span is two years or exceeds two years.’”	BEUC
art. 13(2)	Obligate the seller to bring the goods into conformity through repair unless this is impossible, or costs are disproportionate. Amend by adding: “unless this is impossible or would impose costs on the seller that would be disproportionate, taking into account all circumstances, including: (a) the value the goods would have if there were no lack of conformity; (b) the nature of the lack of conformity; (c) substantial technical difficulties, economic costs or other risks involving the repair; (d) the design of the relevant product components as well as the availability of indispensable spare parts, repair information or repair services; and (e) the length of the expected period for completing the repair process if the seller cannot offer to the consumer a temporary replacement good at a reasonable cost for the seller, as well as any other significant inconvenience to	KU Leuven, BEUC

Clause	Concern	Proponent
	the consumer that may result from the repair.” (KU Leuven version)	
art. 14(4)	Customers who opt for replacement should be charged for prior use of the goods before replacement.	KU Leuven
art. 16	Introduce direct producer liability complementary to the liability of the seller (KU Leuven), with the producer and the seller being jointly and severally liable (BEUC)	KU Leuven, BEUC
art. 17	If there is a producer’s durability guarantee, oblige the seller to bring the goods into conformity through repair unless this is impossible, or costs are disproportionate.	KU Leuven
New article	Obligatory temporary replacement product if repair causes an inconvenience to consumers.	KU Leuven, BEUC

Source: The authors

Essentially, the recommendations of these two responders aim to mandate repair rather than replacement, making both the seller and producer liable for product quality. The proposal for joint liability between the seller and the producer is partially a “catch-up” provision. The authors have noted that warranties on electronic equipment such as computers, printers and scanners are usually with the equipment manufacturer and/or their local agent rather than the seller.

On 21 November 2023, the European Parliament issued a press release advising that Parliament had “adopted its negotiating position on new measures to strengthen the right to repair and reduce the environmental impact of mass consumption”.<sup>68</sup> At the same time, the European Environmental Bureau issued a detailed press release setting out the Parliament’s position.<sup>69</sup>

Following the resolution of the European Parliament on the right to repair, the European Consumer Organisation (BUEC) prepared a report for the

<sup>68</sup> "New EU Rules Encouraging Consumers to Repair Devices over Replacing Them," (Press Release, 21 November 2023). <https://www.europarl.europa.eu/news/en/press-room/20231117IPR12211/>.

<sup>69</sup> "Unlocking Consumer Freedom: EU Parliament Votes Yes to Right to Repair," (Press Release, 21 November 2023). <https://eeb.org/unlocking-consumer-freedom-eu-parliament-votes-yes-to-right-to-repair/>.

interinstitutional negotiations<sup>70</sup> of the parties.<sup>71</sup> At these negotiations, the European Parliament, European Council, and European Commission representatives will meet to arrive at an agreed position on the legislation. In brief, BEUC supported:<sup>72</sup>

- a. The Council position which gives the consumer the right to choose the remedy for non-conformity of goods;
- b. The European Parliament and Council positions in allowing extension of warranty period where customer decide to repair their products;
- c. The European Parliament position to allow consumers to claim free repair directly from producers;
- d. The Council position for a harmonized European Repair Information Form;
- e. The European Parliament position for extending the right to repair to other types of products, including bicycles;
- f. The European Parliament proposal for Member States to be obliged to adopt national measures promoting the right to repair;
- g. The European Parliament proposal to ban practices that are anti-repair;
- h. The European Parliament proposal for a new guarantee for repaired parts; and
- i. The European Parliament proposal to align the provision of penalties with Omnibus Directive 2019/2161<sup>73</sup> provisions.

The trilogue was set to commence on 7 December 2023. It is anticipated that the Parliament and Council will “reach an agreement and adopt the proposed Directive before the European Parliament’s elections in June 2024, so

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<sup>70</sup> Interinstitutional negotiations are those between the Parliament, Council and Commission; *see* "Interinstitutional Negotiations for the Adoption of EU Legislation," Ordinary Legislative Procedure, European Parliament, 2017, <https://www.europarl.europa.eu/olp/en/interinstitutional-negotiations#>.

<sup>71</sup> The European Consumer Organisation, *How to Deliver a Right to Repair to European Consumers: BEUC Recommendations for the trilogue negotiations* (Submission: The European Consumer Organisation, 6 December 2023, 2023). [https://www.beuc.eu/sites/default/files/publications/BEUC-X-2023-161\\_Right\\_to\\_Repair\\_BEUC\\_recommendations\\_for\\_the\\_trilogue\\_negotiations.pdf](https://www.beuc.eu/sites/default/files/publications/BEUC-X-2023-161_Right_to_Repair_BEUC_recommendations_for_the_trilogue_negotiations.pdf).

<sup>72</sup> The European Consumer Organisation, *How to Deliver a Right to Repair*.

<sup>73</sup> Directive (EU) 2019/2161 of the European Parliament and of Council of 27 November 2019 amending Council Directive 93/13/EEC and Directives 98/6/EC, 2005/29/EC and 2011/83/EU of the European Parliament and of the Council as Regards the Better Enforcement and Modernisation of Union Consumer Protection Rules (OJ L 328), European Union 7 January 2020 (27 November 2019).

that the Directive's repairability requirements could already apply to products marketed in the EU/EAA as of 2026-2027".<sup>74</sup>

## I. CIRCULAR ECONOMY

The United Nations Conference on Trade and Development (UNCTAD) describes a circular economy as a market that gives incentives to reuse products rather than scrapping them and then having to extract new resources for the replacement products (UNCTAD, 2018). All forms of waste, including clothes, scrap metal and obsolete electronics, are then "returned to the economy or used more efficiently". The circular economy initiatives of the European Union are provided in Table 3.

**TABLE 3** Circular Economy Initiatives of the European Union

Initiative	Clause	Requirement
Directive 2006/66/EC <sup>75</sup>	art 8(1)	Collection schemes are required to allow end users to deposit waste, portable batteries, and accumulators (art 8(1)(a)); distributors must be required to take back the waste (art 8(1)(b)) at no charge to end-users (art 8(1)(c)).
	art (11)	Manufacturers must design appliances so waste batteries and accumulators can be readily removed with appropriate instructions.
	art (14)	Waste industrial and automotive batteries and accumulators are prohibited from disposal in landfills and incinerators.
Directive (EU) 2018/851 Amending Directive 2008/98/EC <sup>76</sup>	art 9(1)(b) (new)	"[E]ncourage the design, manufacturing and use of products that are resource-efficient, durable (including in terms of life span and absence of planned obsolescence), repairable, reusable and up-gradable."

<sup>74</sup> Cándido García Molyneux and Anna Oberschelp de Meneses, "The Right To Repair Gains Momentum In The EU," Covington & Burling LLP ed. *Inside Energy & Environment*, Covington & Burlington LLP, 2024, <https://www.insideenergyandenvironment.com/2024/01/the-right-to-repair-gains-momentum-in-the-eu/#>.

<sup>75</sup> Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on Batteries and Accumulators and Waste Batteries and Accumulators and Repealing Directive 91/157/EEC [2006] L 266/1, European Union.

<sup>76</sup> Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 Amending Directive 2008/98/EC on Waste [2018] L 150/109, European Union 14 June 2018.

Initiative	Clause	Requirement
European Parliament Resolution 2020/2077 <sup>77</sup>	art 9(1)(d) (new)	“[E]ncourage the reuse of products and the setting up of systems promoting repair and reuse activities, including in particular for electrical and electronic equipment, textiles and furniture, as well as packaging and construction materials and products.”
	Resolution Point 25	“[C]alls on the Commission to propose product-specific and/or sector-specific binding targets for recycled content, while ensuring the performance and safety of the products concerned and that they are designed for recycling”.
	Resolution Point 31	“[S]upports the planned initiatives to improve the durability and reparability of products”; “[S]trongly welcomes the planned initiatives to establish a new ‘right to repair’, which should cover at least the extended life cycle of products, access to spare parts and to comprehensive information, and to affordable repair services for consumers”.
	Resolution Point 32	Calls “for measures to provide free-of-charge access to necessary repair and maintenance information, including information on spare parts and software updates, to all market participants.”
	Resolution Point 34	“Calls for legislative measures to stop practices resulting in planned obsolescence.”
	Resolution Point 52	“Underlines that voluntary agreements have proven ineffective in achieving a sustainable and common charging solution for mobile radio equipment.”
	Resolution Point 55	“Believes that the collection of electronic waste must be made much easier for consumers.”

Source: *The authors*

In March 2022, the European Commission (EC) proposed a Directive that would empower “consumers for the green transition through better protection against unfair practices and better information”.<sup>78</sup> The amendments

<sup>77</sup> European Parliament Resolution of 10 February 2021 on the New Circular Economy Action Plan (2020/2077(INI)), European Parliament (10 February 2021).

<sup>78</sup> *Proposal for a Directive of the European Parliament and of the Council Amending Directives 2005/29/EC and 2011/83/EU as Regards Empowering Consumers for the Green Transition*

aimed to update the existing consumer law to protect consumers and contribute to the green revolution.<sup>79</sup> The proposed amendments aim at:

- a) “Providing information on the existence and length of a producer's commercial guarantee of durability for all types of goods;”
- b) “Providing information on the availability of free software updates;”
- c) “Providing information on the reparability of products, through a reparability score or other relevant repair information;”
- d) “Ensuring that traders do not mislead consumers about environmental and social impacts, durability and reparability of products;”
- e) “Ensuring that a trader cannot advertise benefits for consumers that are considered as a common practice in the relevant market;”
- f) “Ensuring that a trader can only compare products, including through a sustainability information tool, if they provide information about the method of the comparison, the products and suppliers covered, and the measures to keep information up to date;”
- g) “A ban on displaying a sustainability label which is not based on a certification scheme or not established by public authorities;”
- h) “A ban of generic environmental claims used in marketing towards consumers, where the excellent environmental performance of the product or trader cannot be demonstrated in accordance” with EC regulations;
- i) “A ban on making an environmental claim about the entire product, when it actually concerns only a certain aspect of the product;”
- j) “A ban on presenting requirements imposed by law on all products within the relevant product category on the Union market as a distinctive feature of the trader's offer;” and
- k) “A ban of certain practices related to the early obsolescence of goods”.<sup>80</sup>

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*Through Better Protection Against Unfair Practices and Better Information (COM/2022/143 final), (2022/0092(COD)).*

<sup>79</sup> *Better Protection Against Unfair Practices.*

<sup>80</sup> *Better Protection Against Unfair Practices.*

The Resolution of the European Parliament 2020/2077,<sup>81</sup> Directives 2006/66/EC<sup>82</sup> and 2018/851,<sup>83</sup> and the proposed Directive<sup>84</sup> all focus on improving consumer protections and contributing to the circular economy.

## Discussion

As tabulated above, the EU initiatives are extensive, and some may be inclined to say they are “revolutionary”. The consumer protections legislated by the EU are to be commended and can be used as a model for the global community. One of the recommendations by KU Leuven and BEUC was that to be effective, the legislation should be mandatory rather than advisory to ensure its implementation. The authors support this recommendation.

Another issue that needs to be adequately addressed is intellectual property rights, including industrial designs<sup>85</sup> and copyright.<sup>86</sup> Rosborough et al. sum up the role played by the EU to date and recommended role for the future as follows:

*On many fronts, the EU has set an example for the world in finding regulatory solutions to product manufacturing standards, tackling product obsolescence through EcoDesign requirements and regulation*

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<sup>81</sup> *European Parliament Resolution of 10 February 2021 on the New Circular Economy Action Plan (2020/2077(INI))*.

<sup>82</sup> *Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on Batteries and Accumulators and Waste Batteries and Accumulators and Repealing Directive 91/157/EEC [2006] L 266/1*.

<sup>83</sup> *Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 Amending Directive 2008/98/EC on Waste [2018] L 150/109*.

<sup>84</sup> *Proposal for a Directive of the European Parliament and of the Council Amending Directives 2005/29/EC and 2011/83/EU as Regards Empowering Consumers for the Green Transition Through Better Protection Against Unfair Practices and Better Information (COM/2022/143 final), (2022/0092(COD)), 1-2*.

<sup>85</sup> An EU Repair Clause - A Missing Piece of the Right to Repair: BEUC recommends for reform of EU design protection legislation, The European Consumer Organisation, Position Paper; ECAR, "The Repair Clause," ECAR ed. *Freedom of Repair, European Campaign for the Freedom of the Automotive Parts and Repair Market*, 19 January 2024, <https://www.ecar-alliance.eu/the-repairs-clause/>.

<sup>86</sup> Anthony D. Rosborough, Leanne Wiseman, and Taina Pihlajarinne, "Achieving a (Copy)right to Repair for the EU's Green Economy," *Journal of Intellectual Property Law & Practice* 18, no. 5 (29 April 2023 2023), <https://doi.org/10.1093/jiplp/jpad034>, <https://doi.org/10.1093/jiplp/jpad034>.

*of batteries and waste batteries. While these [current] achievements of the [EU] should not go unrecognized, . . . IP laws (and particularly copyright) should play a more central role in the EU's right to repair ambitions. We propose an even more substantive approach to such reforms and, particularly, in conceiving IP amendments in favour of the right to repair as user rights with corresponding obligations on manufacturers and rightsholders.<sup>87</sup>*

Implementing the circular economy is more problematic. Recycling, which is excellent in principle, must be safe and sustainable. For instance, the worst example is probably the extensive shipbreaking industry at Chattogram in Bangladesh. Evidence shows that industry is plagued by “abysmal working conditions, fatal accidents, exploitation of child workers, and severe pollution of the marine environment as well as the dumping of hazardous wastes” (NGO Shipbreaking Platform, 2023). As far as possible, sellers, producers and specialist recycling companies should be prohibited from exporting their waste to another country and must meet the best workplace safety and environmental protection practices. In the case of organizations like the EU, this could be extended so that recycling had to take place within the EU.

As populations are very mobile, recycling should be the responsibility of the jurisdiction of disposal and not the jurisdiction of the seller. Consideration could also be given to including a disposal fee in the price at the time of purchase. Recyclers should be prohibited from disposing of “recycled” materials in landfill.

## Conclusion

Consumers are becoming aware of their rights to purchase durable goods and have them repaired. On the other hand, online influencers and advertisers are pandering to the members of the consumer society where having the most up-to-date product is seen as an important social and economic activity. As recommended by the EU, governments should encourage the reuse of products and develop programs to promote repair and reuse activities. Finally, the authors recommend an enhanced research program to allow the recycling of non-compostable consumer “waste” on an industrial scale. That is upscale the research from the laboratory to the factory.

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<sup>87</sup> Rosborough, Wiseman, and Pihljarinne, "JIPLP," 352.



## References

- ABC Rural. "US Farm Machinery Manufacturer John Deere Allows Farmers the Right to Repair Tractors." *ABC News*, 10 January 2023. <https://www.abc.net.au/news/rural/2023-01-10/john-deere-allows-farmers-the-right-to-repair-tractors/101839884>
- "Agricultural Right to Repair Act." H.R.5604, 2023. <https://www.congress.gov/bill/118th-congress/house-bill/5604/text>
- An EU Repair Clause - a Missing Piece of the Right to Repair: BEUC Recommends for Reform of EU Design Protection Legislation*. The European Consumer Organisation, Position Paper, September 2023. [https://www.beuc.eu/sites/default/files/publications/BEUC-X-2023-077\\_POSITION\\_PAPER\\_design\\_directive\\_2023.pdf](https://www.beuc.eu/sites/default/files/publications/BEUC-X-2023-077_POSITION_PAPER_design_directive_2023.pdf)
- Bode, Karl, "Congress Introduces New Agricultural 'Right to Repair' Bill with Massive Farmer Support," *techdirt. Floor64*, 5 November 2022, <https://www.techdirt.com/2022/02/02/congress-introduces-new-agricultural-right-to-repair-bill-with-massive-farmer-support/>
- Brown, Ethan. "Polish Train Maker Accused of Sabotaging Its Own Trains with Software." *TendyDigests*, 14 December 2023. <https://trendydigests.com/2023/12/14/polish-train-maker-accused-of-sabotaging-its-own-trains-with-software/>
- Burt, Jemima. "Tractor-Hacking Farmers in the US Fight for Right to Repair under Equality Law." *ABC News*, 22 February 2018. <https://www.abc.net.au/news/rural/2018-02-22/tractor-hacking-farmers-in-the-us-fight-for-right-to-repair/9470658>
- Commission Regulation (EU) 2019/424 of 15 March 2019 Laying Down Ecodesign Requirements for Servers and Data Storage Products Pursuant to Directive 2009/125/EC of the European Parliament and of the Council and Amending Commission Regulation (EU) No 617/2013 [2019] OJ L 74/46. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R0424&from=EN>
- Commission Regulation (EU) 2019/2020 of 1 October 2019 Laying Down Ecodesign Requirements for Light Sources and Separate Control Gears Pursuant to Directive 2009/125/EC of the European Parliament and of the Council and Repealing Commission Regulations (EC) No 244/2009, (EC) No 245/2009 and (EU) No 1194/2012. [2019] OJ L 315/209. [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2019.315.01.0209.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.315.01.0209.01.ENG)
- Commission Regulation (EU) 2019/2021 of 1 October 2019 Laying Down

- Ecodesign Requirements for Electronic Displays Pursuant to Directive 2009/125/EC of the European Parliament and of the Council, Amending Commission Regulation (EC) No 1275/2008 and Repealing Commission Regulation (EC) No 642/2009. [2019] OJ L 315/241. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019R2021>
- Commission Regulation (EU) 2019/2022 of 1 October 2019 Laying Down Ecodesign Requirements for Household Dishwashers Pursuant to Directive 2009/125/EC of the European Parliament and of the Council Amending Commission Regulation (EC) No 1275/2008 and Repealing Commission Regulation (EU) No 1016/2010 [2019] OJ L 315/267. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019R2022>
- Commission Regulation (EU) 2019/2023 of 1 October 2019 Laying Down Ecodesign Requirements for Household Washing Machines and Household Washer-Dryers Pursuant to Directive 2009/125/EC of the European Parliament and of the Council, Amending Commission Regulation (EC) No 1275/2008 and Repealing Commission Regulation (EU) No 1015/2010 [2019] OJ L 315/25. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R2023&from=EN>
- Consolidated Version of the Treaty on the Functioning of the European Union, Article 294 (Ex Article 251 TEC) (OJ C 202, 7.6.2016, P. 173–175). [https://eur-lex.europa.eu/resource.html?uri=cellar:2bf140bf-a3f8-4ab2-b506-fd71826e6da6.0023.02/DOC\\_1&format=PDF](https://eur-lex.europa.eu/resource.html?uri=cellar:2bf140bf-a3f8-4ab2-b506-fd71826e6da6.0023.02/DOC_1&format=PDF)
- Consumer Protection Act B.E. 2522 (1979) (Thailand). <https://www.wipo.int/wipolex/en/text/185589>
- Consumer Protection Act (No. 4) B.E. 2562 (2019) (Thailand). [https://www.aseanconsumer.org/file/pdf\\_file/consumer%20protection%20act%20no.4.pdf](https://www.aseanconsumer.org/file/pdf_file/consumer%20protection%20act%20no.4.pdf)
- Council Directive 85/374/EEC of 25 July 1985 on the Approximation of the Laws, Regulations and Administrative Provisions of the Member States Concerning Liability for Defective Products [1985] OJ L 210/29. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31985L0374>
- "Council of the European Union." EU Institutions, European Union, 2024 [https://european-union.europa.eu/institutions-law-budget/institutions-and-bodies/search-all-eu-institutions-and-bodies/council-european-union\\_en](https://european-union.europa.eu/institutions-law-budget/institutions-and-bodies/search-all-eu-institutions-and-bodies/council-european-union_en)
- de Kemmeter, Frédéric. "Poland: Hackers Used to Unblock Trains?" *Railtech Newsletter*, 3 January 2024.

<https://www.railtech.com/policy/2024/01/03/poland-hackers-used-to-unblock-trains/>.

- Directive 1999/34/EC of the European Parliament and of the Council of 10 May 1999 Amending Council Directive 85/374/EEC on the Approximation of the Laws, Regulations and Administrative Provisions of the Member States Concerning Liability for Defective Products [1999] OJ L 141/20. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31999L0034>
- Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on Batteries and Accumulators and Waste Batteries and Accumulators and Repealing Directive 91/157/EEC [2006] OJ L 266/1. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006L0066&from=EN>
- Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 Establishing a Framework for the Setting of Ecodesign Requirements for Energy-Using Products (Current Consolidated Version 4 December 2012) [2009] L 285/10. <http://data.europa.eu/eli/dir/2009/125/oj>
- Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 Amending Directive 2008/98/EC on Waste [2018] L 150/109. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L0851&from=EN>
- Directive (EU) 2019/771 of the European Parliament and of the Council of 20 May 2019 on Certain Aspects Concerning Contracts for the Sale of Goods, Amending Regulation (EU) 2017/2394 and Directive 2009/22/EC, and Repealing Directive 1999/44/EC [2019] OJ L 136/28. <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:32019L0771>
- Directive (EU) 2019/2161 of the European Parliament and of Council of 27 November 2019 Amending Council Directive 93/13/EEC and Directives 98/6/EC, 2005/29/EC and 2011/83/EU of the European Parliament and of the Council as Regards the Better Enforcement and Modernisation of Union Consumer Protection Rules (OJ L 328). <https://eur-lex.europa.eu/eli/dir/2019/2161/oj>
- ECAR, "The Repair Clause," ECAR ed. Freedom of Repair. European Campaign for the Freedom of the Automotive Parts and Repair Market, 19 January 2024. <https://www.ecar-alliance.eu/the-repairs-clause/>
- EUR-Lex. "Ordinary Legislative Procedure (Codecision)." In EUR-Lex. Online Database: EUR-Lex, 2024. <https://eur-lex.europa.eu/legal->

- content/EN/TXT/?uri=LEGISSUM:ordinary\_legislative\_procedure  
European Parliament Resolution of 25 November 2020 Towards a More Sustainable Single Market for Business and Consumers (2020/2021(INI)) P9-TA(2020)0318.  
[https://www.europarl.europa.eu/doceo/document/TA-9-2020-0318\\_EN.pdf](https://www.europarl.europa.eu/doceo/document/TA-9-2020-0318_EN.pdf)
- European Parliament Resolution of 10 February 2021 on the New Circular Economy Action Plan (2020/2077(INI)).  
[https://www.europarl.europa.eu/doceo/document/TA-9-2021-0040\\_EN.pdf](https://www.europarl.europa.eu/doceo/document/TA-9-2021-0040_EN.pdf)
- European Union. "Types of Legislation." European Union, 2023.  
[https://european-union.europa.eu/institutions-law-budget/law/types-legislation\\_en](https://european-union.europa.eu/institutions-law-budget/law/types-legislation_en)
- Frost, Stephen. "New Rights for Consumers in Disputes with Business Operators." British Chamber of Commerce Thailand (Bangkok), 27 February 2009. [https://bccthai.com/asp/view\\_doc.asp?DocCID=1440](https://bccthai.com/asp/view_doc.asp?DocCID=1440)
- Gluesenkamp Perez, Marie. "Gluesenkamp Perez and Colleagues Introduce Bill to Ensure the Right to Repair Agricultural Equipment." 20 September 2023. <https://gluesenkamperez.house.gov/posts/gluesenkamp-perez-and-colleagues-introduce-bill-to-ensure-the-right-to-repair-agricultural-equipment>
- How to Deliver a Right to Repair to European Consumers: BEUC Recommendations for the Trilogue Negotiations.* The European Consumer Organisation, Submission. 6 December 2023.  
[https://www.beuc.eu/sites/default/files/publications/BEUC-X-2023-161\\_Right\\_to\\_Repair\\_BEUC\\_recommendations\\_for\\_the\\_trilogue\\_negotiations.pdf](https://www.beuc.eu/sites/default/files/publications/BEUC-X-2023-161_Right_to_Repair_BEUC_recommendations_for_the_trilogue_negotiations.pdf)
- "Interinstitutional Negotiations for the Adoption of EU Legislation." Ordinary Legislative Procedure, European Parliament, 2017,  
<https://www.europarl.europa.eu/olp/en/interinstitutional-negotiations#>
- John Deere Repair. "Self-Repair Made Easy." John Deere Repair, 11 November 2022. <https://www.deere.com.au/en/our-company/repair/>
- Leigh, Andrew. "Keynote Address to the Australian Repair Summit 2022, Canberra." 5 August 2022.  
<https://ministers.treasury.gov.au/ministers/andrew-leigh-2022/speeches/keynote-address-australian-repair-summit-2022-canberra>
- Martin, Nik. "How Farm Vehicles Stolen by Russia Were Remotely Disabled." Deutsche Welle, 5 May 2022. <https://www.dw.com/en/ukraine-how-farm-vehicles-stolen-by-russia-were-remotely-disabled/a-61691839>

- "Memorandum of Understanding between American Farm Bureau Federation and John Deere." news release., 8 January 2023, [https://www.fb.org/files/AFBF\\_John\\_Deere\\_MOU.pdf](https://www.fb.org/files/AFBF_John_Deere_MOU.pdf).
- Meysner, Agata, and Jesu Urios. "The 'Right to Repair': Addressing Social and Environmental Spillovers in the Electrical and Electronic Equipment Sector". Brussels: Institute for European Environmental Policy, 25 July 2022
- Molyneux, Cándido García, and Anna Oberschelp de Meneses, "The Right to Repair Gains Momentum in the Eu," Covington & Burling LLP ed. Inside Energy & Environment. Covington & Burlington LLP, 2024, <https://www.insideenergyandenvironment.com/2024/01/the-right-to-repair-gains-momentum-in-the-eu/#>
- Network, Northern Ag. "Court Consolidates Majority of John Deere Right-to-Repair Cases." Northern Ag Network, 6 June 2022. <https://northernag.net/court-consolidates-majority-of-john-deere-right-to-repair-cases/>
- "New EU Rules Encouraging Consumers to Repair Devices over Replacing Them." Press Release, 21 November 2023. <https://www.europarl.europa.eu/news/en/press-room/20231117IPR12211/>
- Newman, Lily Hay. "A New Jailbreak for John Deere Tractors Rides the Right-to-Repair Wave." 13 August 2022. <https://www.wired.com/story/john-deere-tractor-jailbreak-defcon-2022/>
- Nixing the Fix: An FTC Report to Congress on Repair Restrictions. (2021). <https://ieep.eu/publications/the-right-to-repair-addressing-spillovers-in-the-electrical-and-electronic-equipment-sector/>
- Nottage, Luke, Justin Malbon, Jeannie Paterson, and Caron Beaton-Wells. *ASEAN Consumer Law Harmonisation and Cooperation: Achievements and Challenges*. Kindle ed.: Cambridge University Press, 2019. doi:10.1017/9781108770149
- Proctor, Nathan. "New Farm Right to Repair Bill Introduced in Congress." Campaign for the Right to Repair (Denver), 20 September 2023. <https://pirg.org/updates/new-farm-right-to-repair-bill-introduced-in-congress/>
- Proposal for a Directive of the European Parliament and of the Council Amending Directives 2005/29/EC and 2011/83/EU as Regards Empowering Consumers for the Green Transition through Better Protection against Unfair Practices and Better Information (COM/2022/143 Final), (2022/0092(COD)). (2022). <https://eur->

- lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022PC0143  
 Regulation (EC) No 715/2007 of the European Parliament and of the Council  
 of 20 June 2007 on Type Approval of Motor Vehicles with Respect to  
 Emissions from Light Passenger and Commercial Vehicles (Euro 5 and  
 Euro 6) and on Vehicle Repair and Maintenance Information [2007] OJ  
 L 171/1. <http://data.europa.eu/eli/reg/2007/715/oj>
- Right to Repair Act, State of California 1 July 2024 (10 October 2023).  
<https://legiscan.com/CA/text/SB244/id/2845333>
- Rosborough, Anthony D., Leanne Wiseman, and Taina Pihlajarinne.  
 "Achieving a (Copy)Right to Repair for the EU's Green Economy."  
*Journal of Intellectual Property Law & Practice* 18, no. 5 (29 April 2023):  
 344. <https://doi.org/10.1093/jiplp/jpad034>
- Rungpry, Siraprapha. "Consumer Case Procedure Act Takes Effect." Tilleke &  
 Gibbins International Ltd. (Bangkok), September 2008.  
[https://www.tilleke.com/sites/default/files/TH\\_IP\\_CCPA\\_Takes\\_Effect.pdf](https://www.tilleke.com/sites/default/files/TH_IP_CCPA_Takes_Effect.pdf).
- Šajn, Nikolina "Right to Repair." Briefing Paper, European Parliamentary  
 Research Service, January 2022.  
<https://policycommons.net/artifacts/2210674/right-to-repair/2967031/>
- Shalal, Andrea, Stephen Nellis, and David Shepardson. "Apple Backs Biden's  
 Push for Right-to-Repair Law." *Reuters*, 25 October 2023.  
<https://www.reuters.com/technology/apple-make-tools-parts-fix-phones-computers-available-nationwide-white-house-2023-10-24/>
- Song, Victoria. "California Passes Right-to- Repair Act Guaranteeing Seven  
 Years of Parts for Your Phone." *The Verge*, 14 September 2023.  
<https://www.theverge.com/2023/9/13/23871712/california-right-to-repair-act-sb-244>.
- Stone, Maddie. "Why France's New 'Repairability Index' Is a Big Deal." *Grist*,  
 8 February 2021. <https://grist.org/climate/why-frances-new-repairability-index-is-a-big-deal/>.
- "Sustainable Consumption of Goods – Promoting Repair and Reuse."  
 European Commission, European Union, 11 January 2022,  
[https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13150-Sustainable-consumption-of-goods-promoting-repair-and-reuse\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13150-Sustainable-consumption-of-goods-promoting-repair-and-reuse_en)
- The European Consumer Organisation. Sustainable Consumption of Goods:  
 Promoting the Right to Repair and Reuse. Position Paper: The European  
 Consumer Organisation, 5 April 2022. <https://www.beuc.eu/position-papers/sustainable-consumption-goods-promoting-right-repair-and->

reuse.

The Repair Association. "It's Time for a Common-Sense Perspective." The Repair Association, 21 November 2022. <https://www.repair.org/policy>.

Trade and Development Board - Trade and Development Commission - Intergovernmental Group of Experts on Consumer Protection Law and Policy. "Voluntary Peer Review of Consumer Protection Law and Policy of Thailand Overview." TD/B/C.I/CPLP/30, 9, 6 May 2022. [https://unctad.org/system/files/official-document/cicplpd30\\_en.pdf](https://unctad.org/system/files/official-document/cicplpd30_en.pdf)

United Nations. "Resolution Adopted by the General Assembly on 22 December 2015." In A/RES/70/86, 18(a)2, 4 February 2016. <https://undocs.org/en/A/RES/70/186>

"Unlocking Consumer Freedom: EU Parliament Votes Yes to Right to Repair." Press Release, 21 November 2023. <https://eeb.org/unlocking-consumer-freedom-eu-parliament-votes-yes-to-right-to-repair/>

Van Gool, Elias, Anaïs Michel, Bert Keirsbilck, and Evelyne Terryn. *CCM KU Leuven Feedback to EU Commission Consultation on Sustainable Consumption of Goods - Promoting Repair and Reuse Legislative Initiative*. Submission: KU Leuven, Consumer Competition Market, 4 April 2022. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4211301](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4211301)

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