The Right to Repair in India and the EU: A Comparative Legal Analysis

Prepared by

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Co-authored with

re:gen Collective

POLICY FRAMEWORK, REGULATORY LANDSCAPE, LEGAL ISSUES AND IMPLEMENTATION CHALLENGES

FOR POLICY, LEGAL, SUSTAINABILITY AND INDUSTRY STAKEHOLDERS

Authors and Institutional Context

This White Paper has been prepared by BridgeCounsels LLP ("Bridge Counsels/the Firm") with Re:Gen Collective ("RGC") as a co-authoring knowledge and sustainability partner, bringing together legal, regulatory and circular economy perspectives on India's emerging Right to Repair framework.

Bridge Counsels is a legal advisory firm providing strategic, business-aligned legal support to startups, growth-stage companies, institutions, impact-led organisations and enterprises operating in evolving regulatory environments. The Firm advises on legal strategy, governance, commercial contracts, regulatory compliance, data protection, ESG-linked business practices, intellectual property, technology law, risk management and responsible business structuring. In this White Paper, Bridge Counsels has led the legal and policy analysis of the Right to Repair framework in India, including its intersection with consumer protection, competition law, environmental regulation, e-waste governance, extended producer responsibility, repairability, data governance and circular economy policy.

Re:Gen Collective is a collaborative platform dedicated to advancing regenerative development, climate resilience, social equity, and sustainable transformation. It seeks to bridge policy and practice by fostering partnerships among communities, youth, institutions, governments, and the private sector to co-create locally led solutions. Through knowledge exchange, innovation, capacity building, and collective action, Re:Gen Collective promotes circular economies, strengthens community resilience, and supports inclusive pathways toward a more sustainable and regenerative future aligned with the goals of the United Nations Sustainable Development Goals.

Together, Bridge Counsels and Re:Gen Collective seek to contribute to the growing discourse on Right to Repair as a critical pillar of India's circular economy strategy. This White Paper examines Right to Repair not only as a consumer rights issue, but also as an environmental, economic, legal and governance priority for India.

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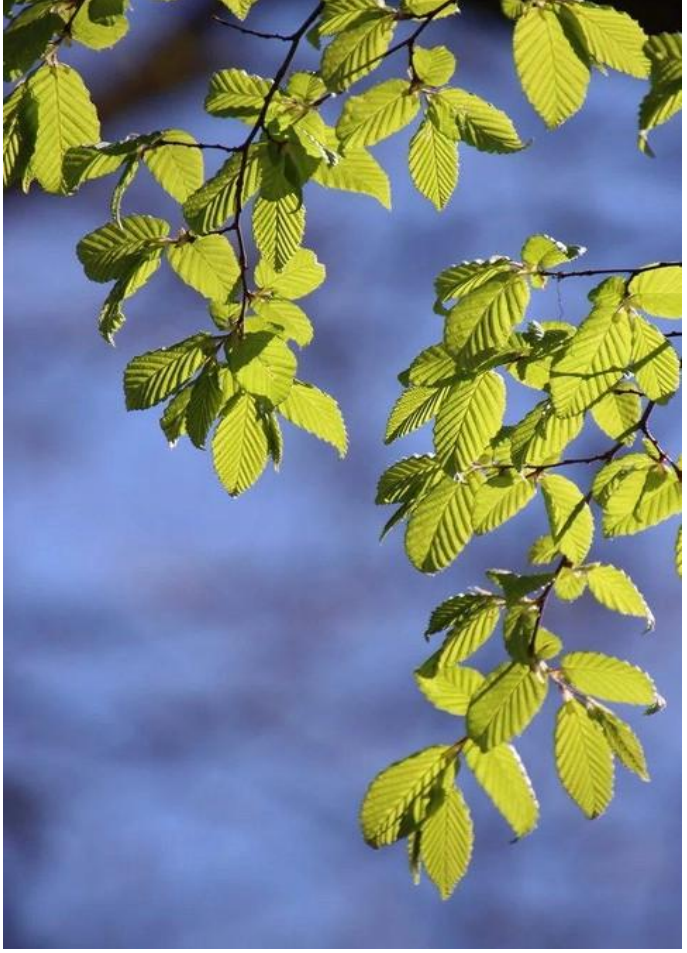


The Right to Repair ("R2R") has emerged as one of the most consequential and multidimensional emerging arenas for modern regulatory governance.

Public discussion generally portrays R2R as a form of consumer convenience: access to spare parts, reasonably priced independent service options, and the availability of products for an extended period. Yet a closer legal examination shows that it is also a much more structurally significant issue to the architecture of property rights, intellectual property law, competition regulation, and environmental governance.[1]

As consumer goods become increasingly dependent upon integrated firmware, remote authorization systems, telemetry data collection, and Artificial Intelligence, the ability to repair their mechanical components has evolved from a simple mechanic's task to a negotiated ability to access codes, proprietary diagnostic tools, controlled software ecosystems, and technical expertise, which manufacturers safeguard via Intellectual Property laws and their contractual obligations. This transformation elevates R2R beyond consumer facilitation and positions it as a matter of structural legal and regulatory reform.[2]

Doctrinal Significance

The R2R framework seeks a remedy for the imbalance in the digital economy whereby owning a product legally does not equate to being able to physically operate the product as intended. Manufacturers still control products after sale using various means of management, such as digital rights management ("DRM"), firmware locks, proprietary authorisation networks and tiered ecosystem services; all of which control how much autonomy a legal owner has over their property.

R2R intersects with several distinct domains of law: Property and sales of goods law, including principles under SOG[3] and the TPA[4], which govern the rights of purchasers over acquired goods, including the right to modify and maintain products free from unreasonable post-sale restrictions.

(a) Intellectual property law, where the boundaries of patent, copyright, and trade secret protection determine the extent to which manufacturers may lawfully restrict access to spare parts, repair manuals, and technical documentation.

(b) Competition law, which prohibits the use of dominant market positions to foreclose independent repair markets and restrict aftermarket access.

(c) Environmental regulation, including the Extended Producer Responsibility framework, which promotes product longevity, waste reduction, and material recovery.

(d) Digital legislation and data governance, regulating access to software, embedded systems, and personal data involved in repair processes.

At this point in time, India's R2R, framework is still in the developmental stage. Rather than establishing legally binding laws, many of the rules for implementing this right are being set through administrative and policy tools. Nevertheless, as India rolls out its consumer protection reform, strengthens its competition law enforcement mechanism, develops its environmental governance regime, and engages in international regulatory alignment, it is slowly progressing towards having a real legislative framework for the R2R (i.e., a codified, legally enforceable framework). This White Paper provides a legal analysis of the R2R regulatory framework in India, including an overview of the policy history of the framework, an overview of the current statutory structure, discussion of significant legal conflicts and compliance obstacles, and comparison to the EU's advanced R2R regulatory system. Finally, this paper will discuss any legal and regulatory modifications that may be needed to implement the R2R as a legally binding framework within India's multi-dimensional governance system.

1 Department of Consumer Affairs, Right to Repair Portal India (Ministry of Consumer Affairs, Food and Public Distribution, Government of India, December 2022) https://righttorepairindia.gov.in accessed 16 March 2026.

2 ibid; see also Ministry of Consumer Affairs, Press Information Bureau, 'Stakeholders Meeting on Right to Repair Portal India' (PIB, 2023) https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2012833 accessed 16 March 2026

3 Sale of Goods Act 1930 (India) s 19.

4 Transfer of Property Act 1882 (India) ss 10-11.

2.0 EVOLUTION OF THE R2R POLICY FRAMEWORK IN INDIA

2.1 The Right to Repair Portal, 2022

In December of 2022, the Department of Consumer Affairs (Ministry of Consumer Affairs, Food and Public Distribution) launched an online platform for R2R ("R2R Portal"). At launch, the R2R portal focuses on four product categories[5]:

(a) Mobile phones and electronic devices.
(b) Consumer durables.
(c) Automotive and automotive equipment.
(d) Agricultural equipment and machinery[6].

The principal policy rationale underlying the R2R portal includes the following objectives:

(a) To increase consumer awareness and empower consumers to make better-informed decisions in the aftermarket.
(b) To reduce electronic waste by extending product life cycles through accessible repair.
(c) To create repair-based employment and vocational training opportunities within India's MSME sector.
(d) To align industrial practice with India's broader objectives of a circular economy and sustainable development.

The R2R portal serves as an administrative and facilitative tool, rather than a binding statutory instrument. Thus, manufacturers are encouraged to participate; however, participation is voluntary. The R2R does not impose any specific statutory penalty for a manufacturer that fails to comply with its informational requirements. As such, defining R2R as a policy objective is a key characteristic of the current phase of India's regulations and thus represents a significant gap that legislative reform must address.

5 Department of Consumer Affairs, 'Launch of Right to Repair Portal India' (Press Information Bureau, Government of India, 24 December 2022) https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2012833 accessed 16 March 2026
6 ibid; Ministry of Consumer Affairs, Food and Public Distribution, 'Right to Repair Portal India: Product Categories' (Government of India, 2022) https://righttorepairindia.gov.in accessed 16 March 2026.

2.2 The Repairability Index: Policy Instrument and Statutory Limitations

The Repairability Index ("RI") being created by the Department of Consumer Affairs is a major part of India's ongoing R2R program.

Repairability Index aims to create an ecosystem where consumers choose options that align with the ethos of 'mindful utilisation' of their products over 'wasteful consumption'.

By empowering consumers with ease and hassle-free repair options, the Department of Consumer Affairs is reaffirming its commitment to a self-reliant, sustainable, and consumer-friendly economy.

The RI will enable the first-time measurement and public disclosure of how easy it is to repair products in India, starting with smartphones and tablets. The RI is assessed across four key dimensions[7]:

(a) The ability to take apart, including the means by which you can do so, the type of bonding used removable batteries and the modularity of components.

(b) The availability and cost of spare parts for a minimum period of at least as long as the life span of an electronic product or system, preferably longer if the product is being sold for a long time (6 years).

(c) The availability and access to repair manuals and the types of diagnostic tools, while balancing the consideration of protecting Intellectual Property.

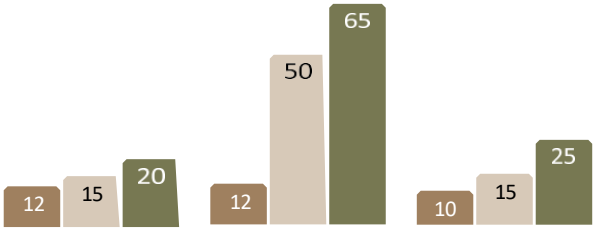
(d) The timing of software updates to avoid digital and/or technical obsolescence.

Critical Limitation

Currently, the Act does not recognize the RI as a legally enforceable mechanism. Manufacturers do not have to necessarily comply with standard or required disclosure obligations, nor will there be any automatic legal repercussions for non-compliance. The RI does not grant consumers any enforceable rights that they can pursue in the National Consumer Dispute Redressal Commission or any other consumer forum. Because of this, the RI is currently being used as a soft-law tool with a limited regulatory impact - there is a need to address this by passing a binding law or subordinate regulation.

The committee's recommendations have been framed in alignment with best global practices, without impeding the industry's innovation and ease of doing business. The Original Equipment Manufacturers (OEMs) are required to self-declare the Repairability Index based on a standards-based, point-scoring criteria provided in the framework, with no additional compliance burden.

Further, the committee recommended that the Repairability Index be displayed at the point of sale/purchase, on e-commerce platforms, and as a QR code on packaged products to enable consumers to make informed choices.



7 Department of Consumer Affairs, 'Framework on Repairability Index in Mobile and Electronic Sector' (Ministry of Consumer Affairs, Food and Public Distribution, Government of India, 2024) https://consumeraffairs.nic.in accessed 16 March 2026.

3.0 LEGAL FRAMEWORK GOVERNING RIGHT TO REPAIR IN INDIA

3.1 Consumer Protection Act, 2019

The Act provides the legal framework for R2R in India. The Consumer has a Right to be Informed, including the Right to Obtain Accurate Information Regarding Goods or Services Necessary to Make Informed Decisions[8].

Unfair trade practices may be found when a consumer is subjected to restrictive warranty terms, unable to access repair procedures, denied the purchase of replacement parts, and an imbalance of after-sale service competition. Consumers may utilise the Act's provisions to seek adjudication to challenge repair restrictions and gain access to the courts.[9]

Moreover, the Central Consumer Protection Authority ("CCPA"), India's consumer protection regulator established under the Consumer Protection Act, 2019, authorises the promulgation of rules and guidelines designed to prevent unfair trade practices and protect consumers. These regulatory provisions provide a mechanism by which the State can impose repairability obligations on manufacturers, thereby implementing the R2R principle without legislative change to existing consumer law. The State's powers of investigation, inquiry and imposition of penalties provide an important enforcement mechanism that is mostly unused in terms of repair access.[10]

3.2 Competition Act, 2002

The Competition Act provides a critical mechanism in enforcing restrictions on repair ecosystems, prohibiting anti-competitive agreements, including any arrangements that limit the supply or access to markets or impose an obligation of exclusive dealing in the after-market.[11]
It also prohibits the abuse of a dominant position, including acts that limit output, limit technical developments, or deny access to the market.[12]

When an OEM restricts parts availability, imposes exclusive service arrangements, utilises software locks to block access to third-party tools, or restricts access to technical reference documentation, this may constitute anti-competitive conduct amenable to complaint through the CCI. Specifically, the monopolisation of repair services in concentrated markets such as smartphones, home appliances and automobiles will be subject to regulatory scrutiny for market foreclosure and consumer exploitation.

The CCI's market review of the telecoms sector, combined with analogous investigations in related markets, reflects increased institutional awareness of competition issues arising from restrictions on repair. The body of jurisprudence in India on the essential facilities doctrine and refusal-to-supply under Indian competition law provides an important avenue for compelling access to repair diagnostic software, repair tools, and spare parts ecosystems.[13]

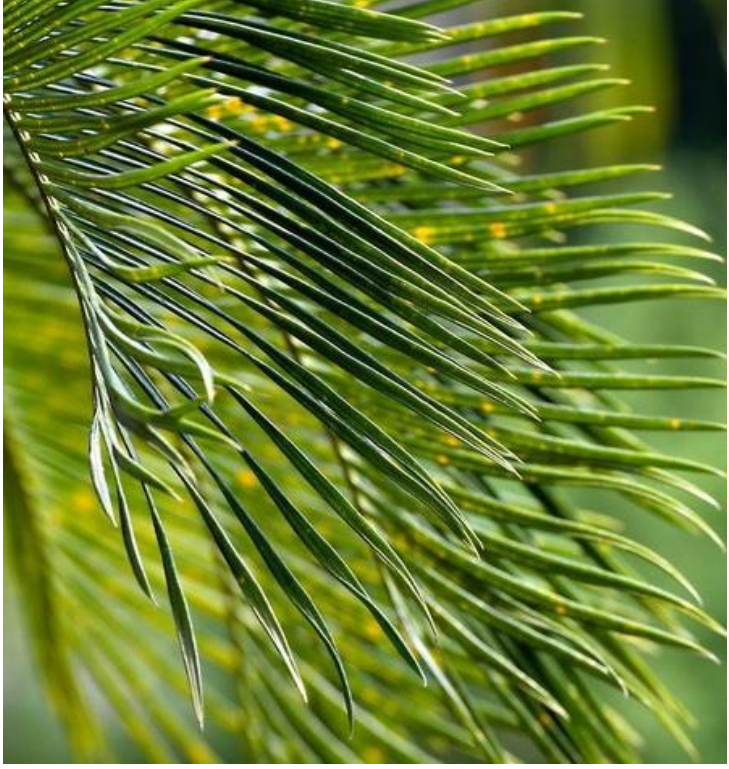
8 Consumer Protection Act 2019 (India) s 2(9).
9 Consumer Protection Act 2019 (India) ss 2(47), 2(11).
10 Consumer Protection Act 2019 (India) ss 18, 94.
11 Competition Act 2002 (India) s 3.
12 Competition Act 2002 (India) s 4.
13 Competition Commission of India, 'Market Study on the Telecom Sector in India' (CCI, 2021).

3.3 E-Waste Management Rules 2022

The e-waste rules require manufacturers, importers and brand owners to perform their extended producer responsibility (EPR) obligations by establishing procedures for the systematic collection, recycling and environmentally suitable disposal of electronic waste.

In 2026, the Government of India and the Central Pollution Control Board (CPCB) are strengthening EPR enforcement by tightening producer take-back obligations, recycling targets, and environmental compensation penalties, and by implementing digital traceability through the CPCB EPR Portal, which continues to serve as the primary compliance mechanism for e-waste management. Repairability supports the e-waste rules by increasing product lifetimes, delaying the generation of waste, and lowering the material throughput of the economy through these e-waste rules.[14]

The E-Waste (Management) Rules place strong emphasis on compliance, monitoring, and accountability across the e-waste value chain. To ensure transparency and traceability, all transactions related to e-waste collection, recycling, refurbishment, and disposal must be recorded and maintained digitally through the centralized online portal managed by the regulatory authorities. This digital tracking system enables real-time monitoring of EPR obligations, facilitates verification of recycling targets, and strengthens regulatory oversight. Additionally, the rules mandate that no e-waste may be stored by obligated entities for beyond 180 days.



To reinforce compliance, the Rules provide for Environmental Compensation mechanisms. Producers, manufacturers, recyclers, and other entities that fail to achieve their prescribed EPR targets, violate regulatory requirements, or channel e-waste through unauthorised and informal processing systems may be subject to significant financial penalties. These provisions are designed to encourage responsible e-waste management practices, strengthen formal recycling systems, and ensure that environmental costs associated with non-compliance are appropriately addressed.

The rules place strong emphasis on bringing the informal e-waste sector into the formal regulatory framework. All obligated entities are required to conduct strict audits of their supply chains, ensure traceability of disposed waste, and not engage in business with unregistered parties.

14 E-Waste (Management) Rules 2022 (India) r 4(1) (EPR obligations).

3.4 Solid Waste Management Rules, 2026

The SWM Rules that will take effect on 1st April 2026 represent a major shift away from a regulatory model focused on disposal towards an integrated lifecycle approach to waste management, which will enhance India's circular economy framework.

There are many important reforms included in the SWM Rules as follows[15]:

(a) Lifespan of the Environment: A new way of governing waste disposal by using a cycle approach instead of a disposal-only approach. Using the principles of the circular economy across the entire waste management process.

(b) Required Four-way Sorting of Waste: Source-based waste segregation by type (wet, dry, household hazardous, and sanitary) will improve the recovery rate and traceability of material.

(c) Institutional Accountability: All Urban Local Bodies, State Pollution Control Boards, large waste generators, and processors will be defined, have compliance timelines, and have assigned responsibilities.

(d) Extend the Application of Extended Producer Responsibility: Expanded application of EPR to all waste systems will create more accountability from manufacturers for all products produced during their life cycle this also reinforces the principle of "the polluter pays."

(e) Indirect Support for "Repairable"- If the SWM Rules did not establish an explicit requirement for products to be designed for repair, the Rules create higher regulatory expectations for durable, repairable, and recyclable designs, and this supports the goals of the R2R Programme.

How Are the 2026 Rules Different?

1. Waste Management Measures

- Four-stream source segregation made mandatory: wet, dry, sanitary, and special care (domestic hazardous) waste.
- Landfill restrictions: Only non-recyclable, non-energy-recoverable waste and inert material permitted.
- Landfill disincentives: Higher tipping fees for unsegregated waste compared to segregated waste processing.
- Legacy waste management: Mandatory mapping of all dumpsites with time-bound biomining and bioremediation, supported by quarterly progress reports.
- Extended Bulk Waste Generator Responsibility (EBWGR): Bulk generators must process wet waste on-site or possess certified off-site processing arrangements.
  - Bulk Waste Generator definition:
    - Built-up area > 20,000 sq. m, or
    - Water use > 40,000 litres/day, or
    - Waste generation > 100 kg/day.
- Material Recovery Facilities (MRFs) formally recognised for sorting recyclables and handling special waste streams, including e-waste.
- Refuse-Derived Fuel (RDF) mandate: Industrial units using solid fuel must substitute part of it with RDF. Increase RDF use from 5% to 15% within six years.
- Hotels and restaurants in ecologically sensitive areas must adopt decentralised wet waste processing.

Monitoring and Enforcement

- **Polluter Pays Principle** operationalised through **Environmental Compensation (EC)** for violations such as false reporting and unregistered operations.
- **Digital governance**: A centralised online portal for waste tracking, facility registration, and audit reporting.
- **Scientific land-use planning**: Graded land allocation and buffer zones for waste facilities.
  - **CPCB** to issue buffer-zone guidelines for plants exceeding **5 tonnes/day capacity**.
- **Annual landfill audits** by SPCBs under the oversight of **District Collectors**.
- **State-level Committee**, chaired by the **Chief Secretary**, to supervise implementation.
- **Tourist user fees** permitted in hilly and island regions to manage waste pressure.
- **Carbon credits**: Urban local bodies encouraged to generate credits through efficient waste management.

15 Solid Waste Management Rules 2026 (India), Ministry of Environment, Forest and Climate Change, effective 1 April 2026.

3.5 Intellectual Property Law Framework

The R2R intersects directly with India's intellectual property (IP) regime in terms of certifications covered by the Patents Act and Copyright Act. In terms of patent protection, it protects the design for any component that is an invention; thus preventing the independent manufacture of the protected component. It also protects some software related to Firmware/Diagnostic Software. Thus, restricting someone's ability to access the codes related to Embedded Code[16].

The Copyright Act provides an exception for reverse engineering for interoperability between software and hardware, which may be used as the basis for obtaining access to repair codes. However, there is no judicial pronouncement as yet on this exception, in relation to a judgment of a court of law regarding reverse engineering for repair[17].

In practice, most manufacturers apply contractual restrictions and technical protection measures to circumvent the exception in the Copyright Act, thereby exacerbating the legal tension between superior or exclusive IP rights and the objective of R2R rights. This may ultimately require a legislative or device-specific exemption from the Copyright Act, or the implementation of a compulsory licensing model by regulation, to produce an enforceable resolution.

3.6 Digital Regulation & Data Governance

The introduction of the DPDP Act[18] and the IT Act[19] creates more regulatory complexity within the R2R framework. Independent repair providers accessing connected products will raise many data governance questions regarding telemetry, user-level, and biometric data accessed through these devices. The existing regulatory framework does not address obligations regarding data minimisation or limit the future use of customer data collected during the repair process by independent service providers. As we see an increase in the number of artificial intelligence-enabled products, these governance gaps will only widen.

Therefore, R2R legislation should be comprehensive and include clear rights and obligations for independent service providers accessing customer data to meet the requirements of data minimisation/limiting purpose and securing customer data.

India's Regulatory Steps

The Department of Consumer Affairs established a committee targeting major sectors with the goal to make schematics, manuals, and software updates accessible to the public at optimal costs.

Competition Commission of India The CCI has intervened to curb monopolies, ruling that manufacturers cannot leverage IPRs to stifle competition in the repair and spare parts markets.

The Industry Counterargument

Manufacturers assert that providing unrestricted access to parts, diagnostics, and schematics—especially to unverified independent repairers—dilutes brand quality, jeopardizes data security, and exposes consumers to physical hazards (such as mishandling lithium-ion batteries).

16 Patents Act 1970 (India).
17 Copyright Act 1957 (India) s52 (1) (ab).
18 Digital Personal Data Protection Act 2023 (India).
19 Information Technology Act 2000 (India).

3.7 National Resource Efficiency Policy and Circular Economy Frameworks

Durability, ability to be repaired, refurbished, reused and recycled are all key features of the National Repairability and Ease of Repair Policy ("NREP") and sector specific circular economy action plans. These government policies compel industries to integrate repairability into their product design and manufacturing processes thereby institutionalizing sustainable practices within the production of goods and services. The R2R is therefore becoming a significant operational tool to enforce compliance with circular economy principles through binding obligations for industry and public procurement.

The NREP 2019 supports the R2R in the following respects[20]:

(a) Design for Repairability (DFR) as a Policy Objective - NREP helps with resource conservation by encouraging companies to create products that are built for maximum durability with the capacity to be easily repaired, thereby reducing waste and increasing the lifespan of products.

(b) Material Recovery and Waste Minimisation (WRM) Hierarchy - The WRM Policy places a higher priority on repairing and reusing products than on recycling or disposing of them as waste, as such, the WRM Policy establishes repair as the preferred way to respond to failed products from both environmental and economic perspectives.

(c) Sector Specific Circular Economy Action Plans - Specific actions for four sectors (electronics, construction waste, automobiles and textiles) recommend the formalisation of repair infrastructure and legislative requirements for spare parts availability.

(d) Repair as a Compliance and Procurement Tool – By integrating repairability into public procurement criteria, the repair framework facilitates the creation of market demand for products to be repaired, as well as creating incentives for manufacturers to adopt repair-friendly product design standards.

(e) Relationship with EPR- The Producer Responsibility Provisions of the NREP strengthen the EPR obligations outlined in the E-Waste Rules, by promoting repairability, refurbishment, reuse, and lifecycle extension of electronic products, while also supporting producers in achieving their EPR collection and recycling targets through improved circularity and resource recovery practices.

(f) Standardisation and Ecolabels - The policy framework supports the establishment of repairability labels by the Bureau of Indian Standards (BIS) and the Quality Council of India (QCI), to help consumers make informed purchasing decisions.

20 Ministry of Environment, Forest and Climate Change, 'National Resource Efficiency Policy 2019' (Government of India, 2019).

4.0 R2R FRAMEWORK: ISSUES & CHALLENGES

4.1 Intellectual Property versus Repair Access

The main legal issue arising within R2R framework is the competing goals of protecting IPR, which includes patents, copyright, design rights and trade secret with the need for consumers and independent service providers to be able to access repair services at a reasonable price and without unreasonable barriers to access said repairs.

IPRs provide a critical incentive to develop innovations and deserve to be respected but it should be noted that the exercise of those rights should not create an artificial monopoly to provide repairs or completely prevent competition in the aftermarket ecosystem; both of those situations are contrary to competition law and constitutional principles of proportionality and reasonableness recognised under Indian law.

The exhaustion doctrine recognised in IPR law in India provides that IPR are exhausted after the first legitimate sale of a product; however, technological protective measures and contractual terms imposed on the customer regarding repair and maintenance usually circumvent the exhaustion principle.

There is justification for regulatory intervention to mandate disclosure of technical repair information in a controlled manner, licensing of diagnostic tools in a fair and non-discriminatory manner and giving reasonable access to spare parts on reasonable terms in order to satisfy both the need to protect investment in innovation as well as satisfy consumers' rights and sustainability objectives. A doctrinal basis for such intervention exists under the compulsory licensing framework in Section 84 of the Patents Act 1970, which permits the grant of a compulsory licence where the patented invention is not available to the public at a reasonably affordable price or is not worked in India.

By analogy, where a manufacturer's refusal to license diagnostic tools or spare parts constitutes a restriction on the reasonable use of a purchased product or creates a market foreclosure effect, the compulsory licensing mechanism could serve as a regulatory pathway to mandate access on fair and non-discriminatory terms, subject to appropriate safeguards for legitimate intellectual property interests[21].

4.2 Warranty Restrictions and Contractual Limitations Some consumer warranties attempt to state or imply that warranty coverage may be void if repairs are done outside authorized repair facilities. However, in many jurisdictions, including the United States under the Magnuson-Moss Warranty Act, manufacturers generally cannot void a warranty merely because a consumer used an independent repair service, unless they can prove the repair caused the defect or damage.

There are several grounds to challenge these blanket exclusions, including that they significantly diminish a consumer's ability to make their own choices; they are placed in adhesion contracts without any opportunity for meaningful negotiation; and they result in the elimination of independent repair markets, which undermines competition. The philosophy of the Act regarding the doctrine of unfair contract terms provides a basis to challenge unduly oppressive clauses that void warranties. There is an emerging consensus amongst regulators, consistent with the approach of the R2R Directive, that warranty exclusions should only apply to defects that can be directly or causally connected to improper repairs and should not be blanket exclusions related to any repairs even if made by non-authorized service providers. This form of warranty exclusion preserves consumer choice while also providing manufacturers with the necessary protection from unsafe or abusive repair practices[22].

4.3 Design and Engineering Obligations: Design for Repairability

Recent advancements in global regulations are expanding product compliance requirements to include repairability design obligations, including modular product design, minimum periods of spare parts availability, access to repair documentation, and prohibitions on planned technical obsolescence. This development is most comprehensively reflected in the EU's Ecodesign framework.

India is likely to progressively integrate analogous design obligations through technical standards established under the Bureau of Indian Standards Act, 2016, and regulatory mechanisms under the E-Waste Rules, placing greater compliance responsibilities on manufacturers to align product engineering with lifecycle sustainability and repair accessibility requirements. Manufacturers who engage early with repairability-by-design standards will be better positioned to navigate the upcoming regulatory transition and to compete in sustainability-conscious global markets.

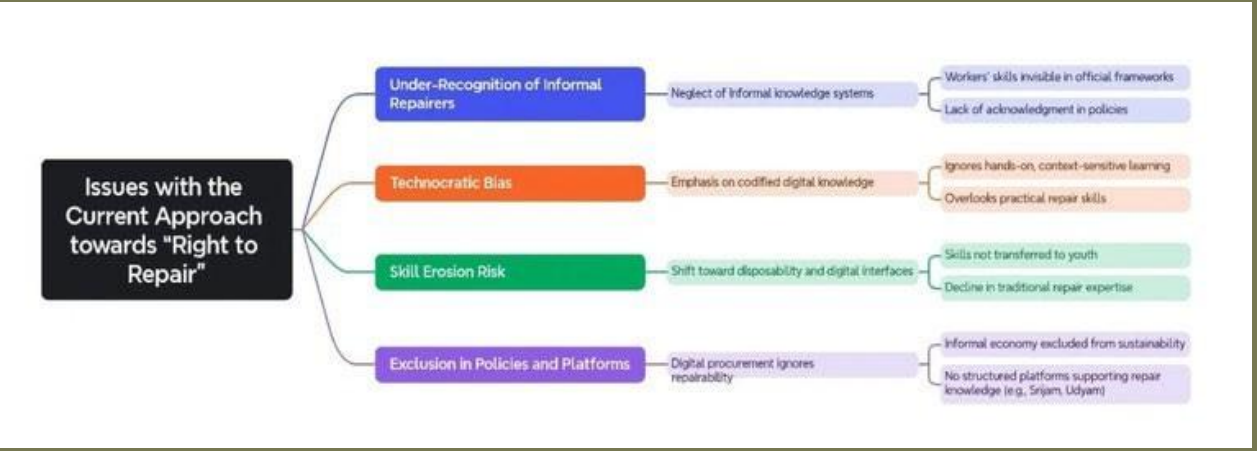
21 Patents Act 1970 (India) s 84 (compulsory licensing); see also Copyright Act 1957 (India) s 52(1) (ab) (reverse engineering exception for interoperability).

22 Directive (EU) 2024/1799 of the European Parliament and of the Council of 13 June 2024 on common rules promoting the repair of goods [2024] OJ L/2024/1799, arts 5-6.

4.4 R2R in the Context of AI-Enabled Products

The proliferation of AI-enabled devices -including smart home systems, connected vehicles, AI-assisted medical equipment, and algorithmically operated agricultural machinery -introduces new dimensions to the R2R framework. In many such products, the distinction between hardware repair and software governance is legally indeterminate. Repairing an AI-enabled product may require access to proprietary algorithms, inference engines, training data pipelines, calibration tools, and remote verification systems -none of which form part of a conventional spare parts supply chain.

Manufacturers may invoke the complexity of their AI systems to justify restricting independent repair on cybersecurity or safety grounds. While such justifications may, in appropriate circumstances, be legitimate, they must be grounded in transparent, proportionate, and independently verifiable criteria. Any comprehensive R2R framework must recognise software repair, model recalibration, and AI diagnostics as integral components of the right to repair, while establishing appropriate safeguards for data integrity and cybersecurity.[23]



23 See Directive (EU) 2024/1799 of the European Parliament and of the Council of 13 June 2024 on common rules promoting the repair of goods [2024] OJ L/2024/1799, recital 14 (addressing software and digital components of repair); see also NITI Aayog, 'Responsible AI for All' (Government of India, 2021) (discussing accountability frameworks for AI-enabled systems); Digital Personal Data Protection Act 2023 (India) (data governance obligations relevant to AI-integrated products).

5.0 R2R AS A PILLAR OF INDIA'S CIRCULAR ECONOMY STRATEGY

The emerging strategy for the circular economy in India identifies R2R as a core component to support the transition from a linear to a circular economic model, thereby extending product lifespans, reducing raw material extraction, generating less waste, and increasing market availability for reuse and refurbishment. These goals will be achieved through national policy frameworks and India's international commitments to sustainable development.

Repair ecosystems, which are part of the Corporate Social Responsibility (CSR) programs mandated by the Companies Act 2013, the requirements for Environmental, Social, and Governance (ESG) disclosure, the sustainability criteria for public procurement, and vocational skills development will be critical to expanding R2R-based circular business models throughout India's industrial sectors. The R2R therefore is not only an instrument of consumer protection; it is also a powerful instrument of industrial policy and environment governance[24]. The following circular economy dimensions of the R2R require specific regulatory attention and legislative action:

Extending Product Lifespan: Repairing products extends how long they can function and limits carbon emissions caused by producing new products through environmentally harmful manufacturing processes.

Recovering & Reusing Materials: Repair ecosystems allow for reused components across multiple product lifecycles, helping to reduce the need for using 'virgin' resources, while also relieving stress on global supply chains for important minerals.

Adapting Informal Economy to Regular Economy: India has large numbers of skilled workers who carry out repairs. These workers support the livelihoods of millions of people and make an important contribution to a circular economy. In order to develop and support India's informal repair economy, the R2R framework will focus on formalising and supporting India's repair ecosystem.

INSIGHTS FROM THE EUROPEAN UNION MODEL

The EU has been establishing a cohesive ecosystem of regulations on the repairability of products to promote sustainability throughout Europe. In contrast to India, which has only aspirational policy frameworks aimed at repairing products, the European Union has created an extensive, legally binding regulatory environment for all aspects of repairability by integrating consumer protection, product design standards, sustainability disclosure, and lifecycle governance into an integrated, multilevel regulatory framework.

India's Unregulated Import of e-waste

India has prohibited the import of e-waste, yet unauthorized imports continue due to regulatory and classification challenges. While regulations permit the import of used electrical and electronic equipment (EEE) for recycling, refurbishment, or direct reuse, distinguishing between second-hand electronics and actual e-waste remains difficult. This creates loopholes that allow e-waste to enter the country disguised as reusable products.

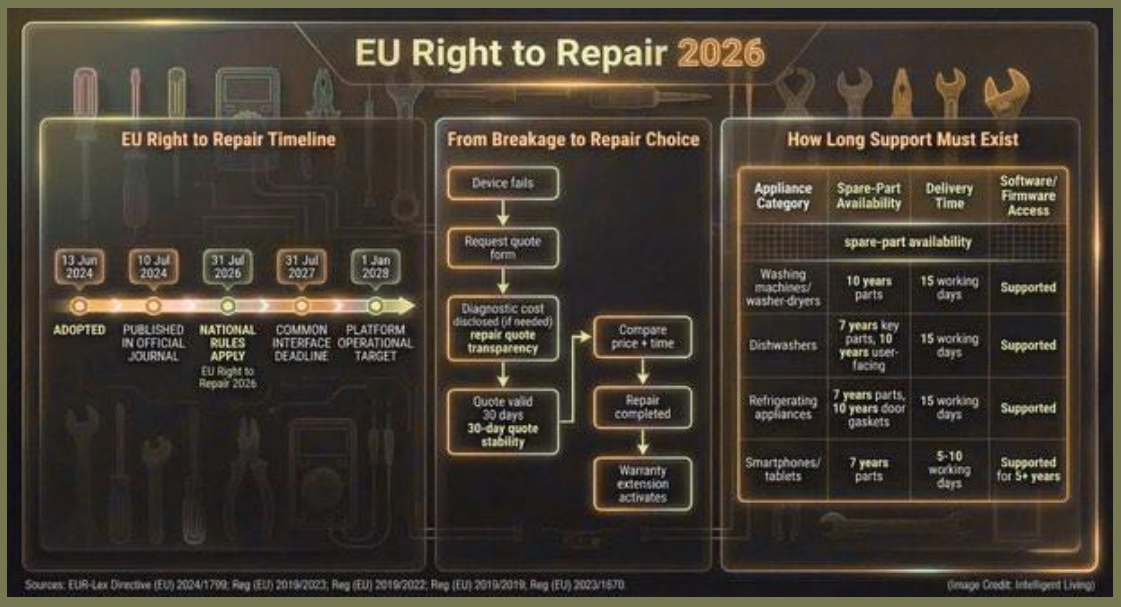
A major challenge is the lack of separate trade classifications for new electronics, second-hand equipment, and e-waste, making it difficult to accurately track imports. As a result, reliable data on the volume of imported e-waste is unavailable, and current trade statistics do not distinguish between new and used electronic products.

Although instances of illegal e-waste imports have been detected in recent years, imported e-waste remains largely unaccounted for in national e-waste inventories. This limits the accuracy of waste management planning and policy implementation. To develop comprehensive e-waste inventories and strengthen resource recovery systems, imported e-waste must be systematically monitored and incorporated into national data systems. At the same time, the continued import of second-hand electronic equipment warrants reconsideration, particularly in contexts where recycling and environmentally sound management capacities remain inadequate.

24 Companies Act 2013 (India) s 135 (corporate social responsibility); SEBI, 'Business Responsibility and Sustainability Reporting' (Securities and Exchange Board of India, 2021) https://www.sebi.gov.in/legal/circulars/may-2021/business-responsibility-and-sustainability-reporting-by-listed-entities_50096.html accessed 16 March 2026.

6.0 STRUCTURAL CHARACTERISTICS OF THE EU MODEL

The structure of the EU framework can be identified by five structural characteristics:
(a) Multi-Layer Integration - Consumer Law, Product Design Law, and Environmental Regulation are integrated and mutually reinforcing in the way they work together.
(b) Legally-binding Enforcement - The obligations imposed on members of the EU are legally enforceable in Member States through a designated national authority.
(c) Lifecycle Governance - The regulatory requirements apply from the design and manufacture of a product through to the management of that same product once it reaches the end of its life.
(d) Market Harmonisation - By having a uniform set of standards across 27 Member States, there is a single market for repairing products and it eliminates any regulatory fragmentation in the marketplace.
(e) Digital Transparency - The Digital Product Passport combined with standardised systems for providing repair information creates digital ecosystems that provide accessible, interoperable repair information



6.1 R2R Directive (EU) 2024/1799

The R2R Directive is the most important component of the EU's repair reform, as it gives consumers more choice between repairing and replacing their products, thus creating a competitive repair market throughout the EU. Some of the main points contained in the directive are[25]:
(a) Encouraging repairing as a first choice for remedy within the legal time frame for warranty claims; Also, outside this warranty period through promotion of repairing over replacing products.
(b) Extending warranty periods if the consumer chooses repair instead of replacement; Therefore, encouraging consumers to choose to repair their product rather than re-buying it.
(c) Manufacturers will be required to provide repairs for products that are within the period of warranty, even if those products don't meet the minimum ability to be repaired set by the EU.
(d) An EU Repair Information Form will be developed to enable the comparison of repairing items versus replacing with other parts available in the same country.

R2R adds to and strengthens Directive (EU) 2019/771 on Selling Goods by setting out common legal guarantees and making repairs the first option for consumers. This is a major change in how people will be able to get their goods repaired; instead of replacing an item with a new one, this is now the philosophy that should be followed[26].

25 Directive (EU) 2024/1799 of the European Parliament and of the Council of 13 June 2024 on common rules promoting the repair of goods [2024] OJ L/2024/1799.
26 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 [2019] OJ L136/28.

6.2 Ecodesign Regulation (EU) 2023/1670

In addition to consumer remedies in the EU, there is a broad set of requirements related to product design laws that govern how to maintain and repair products. There are now a number of binding ecodesign requirements for smartphones and tablets set to come into effect in June 2025 according to the Ecodesign Regulation.

There are numerous ecodesign regulations as outlined below[27]:

(a) Mandatory access to spare parts at defined minimal times.

(b) Standards for batteries regarding service life and ability or inability to be serviced.

(c) Limits on the amount of adhesive used and its ability or inability to allow for the easy disassembly of devices, thereby limiting their capacity for being recycled.

(d) Minimum duration of support for software updates.

(e) Requirements for professional repair shops to have access to parts/tools/technical documentation at a fair and reasonable price.

This regulation represents a major regulatory change from a 'repair permitted' paradigm to one where repair is incorporated into the design. It changes the relationship of repairability with the market as an attribute to the engineering & compliance requirements which are required by law.

6.3 Ecodesign for Sustainable Products Regulation (EU) 2024/1781

The European Sustainable Products Regulation will provide an overarching framework to create sustainability duties across product types within the EU single market.

Product compliance under this regulation will include the following requirements[28]:

(a) Durability and minimum product lifetime standards

(b) Repairable and uptable standards

(c) Recyclable and material-efficient standards

(d) Digital product passbook to provide life-cycle tracking and transparency.

Prohibiting destruction of unsold products

The ESPR converts the circular economy from a policy aspiration into a legally enforceable market standard, applicable across all product sectors in the EU.

6.4 Comparative Assessment: EU versus India

India has made initial institutional progress via the R2R Portal and RI, but its framework still is primarily voluntary and advisory.

The EU, by contrast, has created a model that establishes binding obligations across multiple regulatory layers, with designated national enforcement mechanisms to give those obligations practical effect. The key distinction lies in legal enforceability: while India's current instruments rely on manufacturer participation and policy aspiration, the EU framework mandates compliance and provides consumers and independent repairers with enforceable rights. India's legislative reform agenda should draw upon the EU model to introduce equivalent legally binding duties within India's consumer protection, competition, and environmental governance architecture.

27 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 [2019] OJ L136/28.

28 Commission Regulation (EU) 2023/1670 of 16 June 2023 laying down eco-design requirements for smartphones and tablets [2023] OJ L217/1.

COMPARATIVE ASSESSMENT: EUROPEAN UNION (JULY 2026 FRAMEWORK) VERSUS INDIA

Aspect	European Union (Applicable from 31 July 2026)	India
Legal Status	Binding legal framework under Directive (EU) 2024/1799, requiring implementation by all Member States.	No dedicated Right to Repair legislation; policy framework and portal-based approach.
Consumer Rights	Consumers obtain a statutory right to request repair of covered products, including in circumstances beyond the ordinary legal guarantee period.	No statutory right to demand repair from manufacturers.
Manufacturer Repair Obligation	Manufacturers of products covered by EU reparability requirements must offer repair within a reasonable time and at a reasonable price.	No comparable legal obligation.
Spare Parts Access	Manufacturers must ensure access to spare parts and related repair resources on reasonable terms.	Availability largely dependent on manufacturer discretion.
Anti-Repair Restrictions	Manufacturers are prohibited from using contractual terms, hardware restrictions, or software techniques that impede repair unless objectively justified.	No explicit prohibition on software locks, repair restrictions, or technological protection measures that hinder repair.
Independent Repairers	The framework facilitates independent repair markets by providing access to repair information and parts.	Independent repairers frequently face barriers in obtaining diagnostic tools, manuals, and genuine parts.
Warranty Incentives	Consumers receive an additional one-year legal guarantee extension when they choose repair over replacement during the guarantee period.	No comparable repair incentive mechanism.
Digital Repair Infrastructure	EU-wide online repair platform to connect consumers with repair providers and facilitate repair services.	The Right to Repair Portal primarily functions as an information repository and a disclosure mechanism.
Circular Economy Integration	Embedded within the European Green Deal, Ecodesign Regulation framework, and circular economy strategy.	Circular economy objectives exist, but repair policy remains fragmented across sectors
Enforcement	Mandatory compliance through national legislation, consumer remedies, and regulatory oversight	Limited enforceability; largely dependent on voluntary compliance and consumer grievance mechanisms.

Analytical Observations

The July 2026 EU framework moves beyond a traditional consumer protection model and establishes a repair-first regulatory architecture. It combines mandatory repair obligations, access to spare parts, restrictions on anti-repair practices, warranty incentives, and digital repair infrastructure within a single legal framework. Notably, the Directive explicitly prohibits manufacturers from employing contractual, hardware, or software-based measures that unnecessarily impede repair.

India's framework remains primarily informational and voluntary. While the Right to Repair Portal represents an important policy initiative, consumers lack enforceable rights to obtain repairs, spare parts, diagnostic tools, or access to software. The absence of statutory obligations creates a significant implementation gap when compared with the EU regime.

While India has initiated a policy discourse on repairability, the European Union's July 2026 Right to Repair framework establishes a far more comprehensive and enforceable model. The EU experience demonstrates that effective repair rights require not only consumer awareness but also legally enforceable obligations on manufacturers, safeguards against anti-repair practices, and integration with competition and circular economy objectives. These elements offer valuable guidance for the evolution of India's emerging Right to Repair regime.

7.0 IMPACT ON KEY STAKEHOLDERS

7.1 Manufacturers and Original Equipment Manufacturers

The R2R framework requires OEMs to meet new compliance requirements related to the design of products, management of spare parts supply chains, providing technical documentation where needed, and administering warranties. Compliance will include initial costs; however, OEMs that adopt repair-friendly product design principles at the outset of their products will gain the most advantage from this requirement in terms of competitiveness.

ESG performance improvement and sustainability reporting metrics have improved.
(a) There may be less regulatory risk and more opportunity to be the first to market when operating in compliance-heavy industries.
(b) Sustainability-focused market segments are seeing an increased ability to differentiate oneself from other brands. There is greater alignment with sustainability expectations in the global supply chain, especially in export markets.

7.2 Independent Service Providers and the MSME Repair Economy

The R2R framework presents a tremendous opportunity to transform the large and economically important informal and semi-formal repair sector in India. Providing original spare parts, diagnostic tools, service manuals, and technical support to independent repairers under Fair, Reasonable and Non-Discriminatory (FRAND) terms would benefit repair technicians by enhancing their livelihoods, increasing consumer choice, enhancing service quality through competition, and lessening the burden on authorised repair networks[30].

Through the development of an integrated and registered ecosystem for independent repairers (supported by training, quality assurance, and data privacy compliance), significant consumer protection, employment and sustainability value will be created for India.

7.3 Consumers

The introduction of a compulsory Repair Indicator (RI) at point of sale will allow consumers to take repairability into account when making purchasing decisions and will encourage competition among manufacturers based upon the degree of repairability they provide.

Consumers will be able to save on repair costs, have greater access to more service providers, extend the lifespan of purchased products, and be better informed about service alternatives available after purchase.[31]

7.4 Environmental and Regulatory Bodies

The R2R framework can be useful to environmental regulators and sustainability policymakers to reduce e-waste generation, decrease primary resource extraction, and achieve circular economy goals in India and under international sustainability agreements.
Legally including repairability metrics in EPR compliance frameworks and developing criteria for green public procurement would create structural shifts that would help facilitate the transition of entire industries away from reliance on virgin resources.

29 Companies Act 2013 (India) s 135; SEBI (Listing Obligations and Disclosure Requirements) Regulations 2015 (India) reg 34(2)(f) (BRSR disclosures).
30 Competition Act 2002 (India) ss 3-4; Competition Commission of India, 'Suo Motu Case No 01/2021' (CCI, 2021) (Android investigation).
31 Consumer Protection Act 2019 (India) ss 2(9) (right to information), 18 (1) (a) (CCPA powers).

8.0 POLICY AND LEGISLATIVE RECOMMENDATIONS

This White Paper advances the following six legislative and regulatory recommendations for operationalising the R2R as a binding, enforceable framework within India's governance architecture:

8.1 Enact Binding R2R Rules under the Consumer Protection Act 2019

The Department of Consumer Affairs needs to use their power under Sections 18 and 94 of the Act to put out enforceable Rules Towards Repair (R2R Rules) that will implement enforceable obligations on manufacturers as follows:

(1) The provision of spare parts for a period SPECIFIED by law;

(2) Disclosure of repair documentation and access to diagnostic tools to independent service providers on terms that are Fair, Reasonable and Non-Discriminatory

(3) Warranty administration based on the concept that "warranty exclusions" shall apply only to defects that were caused by improper repairs. R2R must be a legal right rather than simply an aspirational policy, and there has to be a credible means of holding manufacturers accountable[32].

8.2 Mandate, Standardise, and Independently Audit the Repairability Index

It is essential for everyone to get the RI done across all the products they are going to sell, and BIS has released technical specifications that must be developed by your company or by accredited 3rd parties. It is required that there be independent verification and public disclosures of the RI at the point of sale and on e-commerce platforms. Independent verification of the RI and public disclosure of these results will be the two main requirements that will allow the RI to be a successful market instrument and a means for companies to comply with regulations[33].

8.3 Legislate Minimum Spare Parts Availability and Software Support Obligations

Regulations about electronic waste should be changed so that all manufacturers must keep spare parts available for their products a certain length of time after the product's last sale date based on the product type also, if a manufacturer intends to stop giving software updates or security patches for their products they should give all consumers enough advance notice of discontinuation so they can decide whether to continue using, repair or replace their item[34].

8.4 Establish a Certified Independent Repair Ecosystem with Structured Access to Tools and Diagnostics

An equitable legal framework should be established so that certified independent repair providers can gain structured access to OEM parts, proprietary diagnostic devices, firmware, and technical documentation, under Fair, Reasonable and Non-Discriminatory (FRAND) terms. At the same time, the framework should balance the need for protection of Intellectual Property with repair providers' need for access to repair components, establish security practices and obligations for independent repair providers regarding security and data protection, and address the specific governance challenges of connected products and products using artificial intelligence[35].

8.5 Integrate Repairability Metrics into Environmental Governance and EPR Compliance

Repairability is a measurable aspect of EPR success that needs to be included in changes to E-Waste Rules so that manufacturers can earn credit under EPR for products with viable and proven repair ecosystems. Additionally, repairability criteria will need to be included in Environmental Performance Standard guidelines for products, the Environmental Impact Assessment process and the criteria used for Green Public Procurement[36].

8.6 Strengthen Enforcement Architecture and Institutional Capacity

To be effective, R2R regulation must be backed by an appropriate and centralized R2R enforcement system. The CCPA, CCI, and environmental regulators need to have a mechanism for clearly defining jurisdictional boundaries for enforcement of R2R obligations, such as coordination and capacity for enforcing the R2R obligations on behalf of multiple agencies. In the absence of that kind of effective enforcement, transparency and disclosure obligations will be unable to change the behaviours of the industries that have historically been established[37].

32 Consumer Protection Act 2019 (India) ss 18, 94.

33 Bureau of Indian Standards Act, 2016 (India) ss 10-14 (standards development); Consumer Protection Act 2019 (India) s 101 (rule making power).

34 E-Waste (Management) Rules 2022 (India) r4(1); Consumer Protection Act 2019 (India) s 2(9).

35 Commission Regulation (EU) 2023/1670, arts 11-14 (fair and non-discriminatory access); Directive (EU) 2024/1799, art 5

36 E-Waste (Management) Rules 2022 (India) r 4; Solid Waste Management Rules 2026 (India).

37 Consumer Protection Act 2019 (India) ss 18, 28 (CCPA investigation and enforcement); Competition Act 2002 (India) s 36 (CCI orders); E-Waste (Management) Rules 2022 (India) r 22 (penalties).

CONCLUSION

India's adoption of a R2R model represents a major shift in its approach to consumer protection, industrial policy and environmental governance. While still in its infancy, there is an increasing amount of momentum toward eventual establishment of a binding statutory R2R framework in India. Globally, India's trend toward regulatory harmonization at the international level, its support for a circular economy, and increasing complexities of technology-based product ecosystems all support and necessitate a comprehensive legislative codification of the R2R.

EU regulatory experience shows that an effective R2R framework should be based on the following principles:

(a) binding product design requirements mandating repairability;

(b) minimum obligations for availability of necessary spare parts and provision of software support;

(c) access to certified independent repair network with necessary tools and diagnostic access; and (4) coordinated multi-agency enforcement organization to hold manufacturers accountable for compliance with the R2R framework.

When executed with careful consideration and thorough planning, India's R2R ecosystem can provide multiple benefits to consumers, small businesses that operate in the repair market for electronic devices/ appliances, the environment, and ultimately to India as a whole as a leader globally in sustainable supply chain development.

Coordinated actions among government, industry, civil society, and consumers will be required to achieve the full potential of the R2R Framework in India.

Repairability should not be seen as a barrier to innovation; rather, it should be considered an important part of innovation and essential to achieve responsible and sustainable technology advancement for future generations.

Glossary

For the purposes of this White Paper, the following terms bear the meanings assigned below and shall be used consistently throughout:

ACT / CPA	Consumer Protection Act 2019 (India)
BIS Act	Bureau of Indian Standards Act 2016 (India).
CA02	Competition Act 2002 (India)
CCPA	Central Consumer Protection Authority, established under the Consumer Protection Act 2019
CCI	Competition Commission of India, established under the CA02
Copyright Act	Copyright Act 1957 (India).
DPDP Act	Digital Personal Data Protection Act 2023 (India)
DPP	Digital Product Passport - a standardised data record attached to a product to provide lifecycle traceability and transparency
DRM	Digital Rights Management - technological measures used by manufacturers to control access to firmware and software embedded in consumer products
EcoDesign Regulation	Commission Regulation (EU) 2023/1670 of 16 June 2023 laying down ecodesign requirements for smartphones and tablets
EPR	Extended Producer Responsibility - regulatory obligation requiring manufacturers, importers, and brand owners to manage the end-of-life phase of their products
ESPR	Regulation (EU) 2024/1781 establishing a framework for setting ecodesign requirements for sustainable products.
E-Waste Rules	(Management) Rules 2022 (India).
FRAND	Fair, Reasonable, and Non-Discriminatory - standard terms applicable to licensing of intellectual property and access to proprietary tools or documentation
IT Act	Information Technology Act 2000 (India).
MSME	Micro, Small, and Medium Enterprises
NREP	National Resource Efficiency Policy 2019 (India)
OEM	Original Equipment Manufacturer
Patents Act	Patents Act 1970 (India)
R2R	Right to Repair is the legal and policy framework that confers on consumers and independent service providers the right to access spare parts, technical repair documentation, diagnostic tools, and software necessary to repair products they own or service, free from unreasonable manufacturer-imposed restrictions.
R2R Directive	Directive (EU) 2024/1799 of the European Parliament and of the Council of 13 June 2024 on common rules promoting the repair of goods
RI	The scoring and disclosure mechanism under development by the Department of Consumer Affairs to measure and publicise the repairability of products, beginning with smartphones and tablets.
SWM Rules	Solid Waste Management Rules 2026 (India), effective 1 April 2026
TPA	Transfer of Property Act 1882.

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