

BUSINESS-TO-CONSUMER REPAIR ENTERPRISES IN IRELAND

CIRCULAR INSIGHTS SERIES



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Circular Insights

Business-to-consumer repair enterprises in Ireland

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Foreword

The Environmental Protection Agency (EPA) leads the Circular Economy Programme, which is a statutory requirement under the Circular Economy and Miscellaneous Provisions Act 2022. The vision for the programme is an Ireland in which the circular economy ensures that everyone uses less resources and prevents waste to achieve sustainable economic growth.

The Circular Economy Programme has regulatory activities (authorisation of the waste sector, by-products and end-of-waste regulation), provides evidence (reporting of national statistics and delivering insights studies) and works with others (including providing funding supports for innovation and demonstration, and developing and implementing statutory programmes and plans such as national food waste prevention programmes and the National Hazardous Waste Management Plan).

The Circular Economy Programme is commissioning a series of 'Circular Insights' studies on emerging and priority topics to build evidence and fill knowledge gaps to support circular economy policy. Through analysis of data, literature review, stakeholder interviews and assessment of best and emerging practices, it is intended that these studies will offer insights relevant to policy makers, business and other circular economy practitioners and contribute to national discussions on circular economy.

This Circular Insights study on business-to-consumer repair enterprises has been carried out by Arup under contract to the EPA.

Glossary

Term	Definition
Business-to-consumer (B2C)	The process of selling products and services directly between a business and consumers who are the end-users of its products or services. ¹
Circular economy	An economic model and the policies and practices which give effect to that model in which: <ul style="list-style-type: none"> a - production and distribution processes in respect of goods, products and materials are designed so as to minimise the consumption of raw materials associated with the production and use of those goods, products and materials, b - the delivery of services is designed so as to reduce the consumption of raw materials, c - goods, products and materials are kept in use for as long as possible thereby further reducing the consumption of raw materials and impacts harmful to the environment, d - the maximum economic value is extracted from goods, products, and materials by the persons using them, and e - goods, products and materials are recovered and regenerated at the end of their useful life.²
Digital product passport	A set of data specific to a product that includes the information specified in the applicable delegated act adopted pursuant to Article 4 [of Regulation (EU) 2024/1781] and that is accessible via electronic means through a data carrier in accordance with Chapter III [of Regulation (EU) 2024/1781]. ³
Ecodesign	The integration of environmental sustainability considerations into the characteristics of a product and the processes taking place throughout the product's value chain. ³
Enterprise	Any entity engaged in an economic activity, irrespective of its legal form. This includes, in particular, self-employed persons and family businesses engaged in craft or other activities, and partnerships or associations regularly engaged in an economic activity. ⁴
Maintenance	One or more actions carried out to keep a product in a condition where it is able to fulfil its intended purpose. ³
Manufacturer	Any natural or legal person that manufactures a product or that has a product designed or manufactured and markets that product under their name or trademark. ³
Market failure	Refers to a situation, such as a barrier to competition or externality, that creates suboptimal market outcomes. ⁵
Prepare for reuse	Preparing for reuse is defined as 'checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be reused without any other pre-processing' ⁷

1 Kenton, W., Brock, T. & Jackson, A. (2023) *B2C: How Business-to-Consumer Sales Works, 5 Types and Examples*. Available at: <https://www.investopedia.com/terms/b/btoc.asp> (Accessed: 19 April 2024).

2 Government of Ireland (2022) *Circular Economy and Miscellaneous Provisions Act*. Dublin: Stationery Office.

3 Regulation (EU) 2024/1781 of the European Parliament and of the Council of 13 June 2024 establishing a framework for the setting of ecodesign requirements for sustainable products, amending Directive (EU) 2020/1828 and Regulation (EU) 2023/1542 and repealing Directive 2009/125/EC (2024), *Official Journal of the European Union*, L series, 28.6.2024.

4 Commission Recommendation 2003/361/EC concerning the definition of micro, small and medium-sized enterprises. (2003) *Official Journal of the European Union*, L124/36.

5 Siderius, T. & Zink, T. (2022) 'Markets and the future of the circular economy', *Circular Economy and Sustainability*, 3, pp. 1569-1595.

Term	Definition
Product as a service/ product-service system	A mix of tangible products and intangible services designed and combined so that they jointly are capable of fulfilling final customer needs. ⁶
Recovery	Any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy. Annex II of Directive 2008/98/EC sets out a non-exhaustive list of recovery operations. ⁷
Recycling	Any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations. ⁷
Refurbishment	Actions carried out to prepare, clean, test, service and, where necessary, repair a product or a discarded product in order to restore its performance or functionality within the intended use and range of performance originally conceived at the design stage at the time of the placing of the product on the market. ³
Remanufacturing	Actions through which a new product is produced from objects that are waste, products or components and through which at least one change is made that substantially affects the safety, performance, purpose or type of the product. ³
Repair	One or more actions carried out to return a defective product or waste to a condition where it fulfils its intended purpose. ³
Repair café	Free community events that primarily rely on volunteers to carry out repair work alongside members of the public on a broad range of products brought to the café. ⁸
Repairer	Any natural or legal person who, related to that person's trade, business, craft or profession, provides a repair service, including manufacturers and sellers that provide repair services and repair service providers whether independent or affiliated with such manufacturers or seller. ⁹
Repurpose	Repurposing is the use of a product or a material for a different function than it was originally intended. It means taking an object, but using it for a totally different purpose, even though it remains the same object. Repurposing an item can be done by modifying it to fit a new use or by using the item in a new way.
Reuse	Reuse means any operation by which products or components that are not waste are used again for the same purpose for which they are conceived. ⁷
Reverse logistics	Refers to the process of returning products from end users back along the supply chain to the retailer or manufacturer. ¹⁰

6 Tukker, A. & Tischner, U. (2006) 'Product-service as a research field: past, present and future. Reflections from a decade of research', *Journal of Cleaner Production*, 14(17), pp. 1552-1556.

7 Directive 2008/98/EC on waste and repealing certain Directives (2008), *Official Journal of the European Union*, L312/3.

8 Rediscovery Centre (2023) *Removing Insurance Barriers to Repair – EPA Strategic Partnership 2023*. [Presentation slides]

9 Directive (EU) 2024/1799 of the European Parliament and of the Council of 13 June 2024 on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394 and Directives (EU) 2019/771 and (EU) 2020/1828.

10 ASCM (n.d.) *What is Reverse Logistics?* Available at: <https://www.scribbr.co.uk/referencing/harvard-style/> (Accessed: 19 April 2024).

Term	Definition
Small and medium enterprise (SME)	<p>Refers to small enterprises and medium-sized enterprises, defined by the European Commission according to the following criteria:</p> <p>Medium sized enterprises are those that:</p> <ul style="list-style-type: none"> ● Have fewer than 250 employees; ● Have an annual turnover not exceeding €50 million or annual balance sheet total not exceeding €43 million; and ● Are independent.* <p>Small enterprises are those that:</p> <ul style="list-style-type: none"> ● Have fewer than 50 employees; ● Have an annual turnover not exceeding €10 million or annual balance sheet total not exceeding €10 million; and ● Are independent.* <p>*Independent enterprise means no more than 25% of the capital or voting rights are owned by one or more enterprises which fall outside the SME definition. This threshold may be exceeded when an enterprise is held by a public investment corporation, Venture Capital Company or other institutional investors, provided they exercise no control.¹¹</p>
Social enterprise	An enterprise whose objective is to achieve a social, societal or environmental impact, rather than maximising profit for its owners or shareholders; which pursues its objectives by trading on an ongoing basis through the provision of goods and/ or services, and by reinvesting surpluses into achieving social objectives; and which is governed in a fully accountable and transparent manner. ¹²
Upcycling	A process in which used materials are converted into something of higher value and/or quality in their second life. ¹³
Upgrading	Actions carried out to enhance the functionality, performance, capacity, safety or aesthetics of a product. ³
Waste	Any substance or object which the holder discards or intends or is required to discard. ⁷
Waste management	The collection, transport, recovery, and disposal of waste, including the supervision of such operations and the aftercare of disposal sites, and including actions taken as a dealer or broker. ⁷
White goods	White goods are large electrical goods/ home appliances examples include such as refrigerators, ovens, washing machines, freezers, dishwashers, and tumble driers etc. ¹⁴

11 DE TE (n.d.). What is the Commission's definition of an SME? Available at: <https://enterprise.gov.ie/en/faqs/what-is-the-commission%E2%80%99s-definition-of-an-sme-.html#:~:text=The%20Commission%20considers%20a%20company,not%20exceeding%20EUR%2043%20million> (Accessed: 19 April 2024).

12 Government of Ireland (2019) *National Social Enterprise Policy for Ireland 2019 – 2022*.

13 Sung, K. (2015) 'A review on upcycling: Current body of literature, knowledge gaps and a way forward', *Proceedings of the 17th International Conference on Environmental, Cultural, Economic and Social Sustainability, Venice, Italy, 17(4), Part I*.

14 Market Business News (n.d.). *White goods – definition and meaning*. Available at: <https://marketbusinessnews.com/financial-glossary/white-goods-definition-meaning/> (Accessed: 19 April 2024).

Acronyms

Acronym	Definition
B2C	Business-to-consumer
BSI	British Standards Institution
CEIGS	Circular Economy Innovation Grant Scheme
CEMF	Circular Economy Monitoring Framework
CESI	Circular Economy Skills Initiative
CIS	Circular Insights Series
CLG	Company Limited by Guarantee
CMUR	Circular Material Use Rate
CRNI	Community Resources Network Ireland
CSCP	Collaborating Centre on Sustainable Consumption and Production
CSO	Central Statistics Office
CSP	Community Services Programme
DECC	Department of the Environment, Climate and Communications
DETE	Department of Enterprise, Trade and Employment
DPP	Digital Product Passport
EAO	(Local Authority) Environmental Awareness Officer
EC	European Commission
EEA	European Environment Agency
EEB	European Environmental Bureau
EEE	Electrical and electronic equipment
EMF	Ellen MacArthur Foundation
EPA	Environmental Protection Agency
EPR	Extended producer responsibility
ESPR	Ecodesign for Sustainable Products Regulation
ETB	Education and Training Boards
ETC CE	European Topic Centre – Circular Economy and Resource Use
EU	European Union

Acronym	Definition
FIT	Fastrack into Information Technology
GDP	Gross Domestic Product
GVA	Gross Value Added
IT	Information technology
LEO	Local Enterprise Office
MCC	Monaghan County Council
N	Number
NACE	Statistical Classification of Economic Activities in the European Community
NESC	National Economic and Social Council
NCAD	National College of Art and Design
NIRN	Northern Ireland Resources Network
OECD	Organisation for Economic Co-operation and Development
PaaS	Product-as-a-Service
PAT	Portable appliance testing
PIAB	Personal Injuries Resolution Board (formerly 'Personal Injuries Assessment Board')
RMS	RepairMyStuff.ie
R.U.S.Z.	Repair and Service Centre (in German)
SEEDS	Sustainability Environmental Economics and Dynamics Studies
QQI	Quality and Qualifications Ireland
UK	United Kingdom
VAT	Value added tax
VITO	Flemish Institute for Technological Research (in Dutch)
WEEE	Waste electrical and electronic equipment
WGA	White Goods Association
WRF	World Resources Forum
3D	Three dimensional

Executive Summary

The circular economy offers an alternative to the prevailing linear, take-make-use-dispose model of resource use. In a circular economy, waste and pollution are eliminated, products and materials are circulated at their highest value, and nature is regenerated.

Repair is an enabler of the transition from a linear to a circular economy. The role of repair in the circular economy lies in keeping existing goods in circulation – in extending the life of goods and retaining their functional value. Repair as an alternative to buying new, has the effect of reducing demand for new goods and the associated environmental and social impacts in the supply chain. Policies at national and European Union levels seek to promote repair as an enabler of the circular economy.

This study on business-to-consumer (B2C) repair enterprises in Ireland has been undertaken as part of the EPA Circular Economy Programme's Circular Insights Series, a series of studies on emerging and priority topics to build evidence and fill knowledge gaps to support circular economy policy in Ireland. The aim of this study is to provide an evidence-based report providing information on what is known about B2C repair enterprises in Ireland. Based on analysis of data and stakeholder insights from a series of workshops, and a review of relevant literature, this study identifies recommendations and potential intervention opportunities to support the development of a thriving B2C repair sector in Ireland, supporting the transition to a circular economy.

This Circular Insights study is complemented by a second, parallel study on repair skills training and education in Ireland, which may be read in conjunction with this study. Some of the recommendations of that study are not reiterated here but are critical to meet the skills and recruitment needs of business-to-consumer repair enterprises. Please refer to the standalone Circular Insights Study, 'Repair Skills Training and Education in Ireland' for further information.

This study on B2C repair enterprises, drawing principally on data from RepairMyStuff.ie, the national directory of repair enterprises, which is primarily funded by the EPA Circular Economy Programme and managed by Monaghan County Council, has identified and analysed 1,503 enterprises in Ireland, providing B2C repair services for a range of product categories, including electrical and electronic equipment (EEE), textiles, bicycles and furniture, among others. Certain product categories such as EEE (31.0% of enterprises identified) are particularly well represented, while for other product categories – shoes and leather goods, for example (4.4%) – there are fewer B2C repair enterprises available. Not surprisingly, this study has found that urban areas are better served by B2C repair services than rural areas, with Dublin (22.4%) and Cork (8.1%) having the greatest proportions of B2C repair enterprises identified. However, B2C repair enterprises were identified in all 26 Counties.

This study found that B2C repair enterprises present a major opportunity to support an inclusive, just transition from a linear to circular economy in Ireland. In addition to supporting circularity, repair provides a range of social co-benefits, including job creation, social integration, skills development, and access to affordable goods. In line with previous research from elsewhere,^{15,16,17} this study has found that the repair sector in Ireland is labour intensive, with roughly double the labour share of the overall business services sector. Previous international studies have found that repair is more labour intensive even than other circular economy activities such as remanufacturing, recycling and composting.^{15,16} One

- 15 Llorente-González, L. & Vence, X. (2020) 'How labour-intensive is the circular economy? A policy-orientated structural analysis of the repair, reuse and recycling activities in the European Union', *Resources, Conservation and Recycling*, 162.
- 16 Ribeiro-Broomhead, J. & Tangri, N. (2021) *ZeroWaste and Economic Recovery: The Job Creation Potential of Zero Waste Solutions*. [Report prepared for Global Alliance for Incinerator Alternatives].
- 17 Monier, V., Tinetti, B., Mitsios, A., de Prado Trigo, A., Ax, C. & Medhurst, J. (2016) *Study on socioeconomic impacts of increased reparability – Final report*. [Report prepared by Deloitte, SERI and ICF-GHK for EC, DG ENV]

study,¹⁶ drawing on data from 16 countries, estimated that repair creates over 200 times as many jobs as waste management activities such as landfills and incinerators.

A further feature of the B2C repair sector in Ireland is its fragmented nature, as illustrated by the dominance of micro- and small firms (i.e., firms with fewer than 10 employees), which represent 87% of firms within the sector.

As demonstrated by a number of social enterprises operating in the sector in Ireland, the nature of repair work aligns well with labour activation – providing training and employment opportunities to groups at risk of poverty and social exclusion.

The majority of identified B2C repair enterprises operating in Ireland are commercial enterprises operating for profit (98.9%) as opposed to social enterprises (1.1%). However, social enterprises play an important role in the sector, including in provision of repair skills training, labour activation and B2C repair services in areas that might otherwise be poorly served due to poor economic viability of commercial repair. Previous publications at European and national levels^{18, 19, 20, 21, 22} have highlighted the role of the social economy in supporting the transition to a circular economy.

In order to support the role of repair in the transition to a circular economy, there are numerous challenges facing B2C repair enterprises that need to be addressed. Stakeholder engagement as part of this study has identified key challenges for B2C repair enterprises operating in Ireland today, including recruitment and retention of staff, limited access to training, high operating costs, availability of low-price consumer goods, lack of design for repairability, consumer attitudes regarding consumption and repair, accessibility and convenience of repair for consumers, and inadequate infrastructure and space.

Fundamentally, the economic viability of commercial repair is undermined by market failures of externalities, whereby the retail price of low-price consumer goods does not reflect true costs to society and the environment. Globalisation of trade and variations in global labour costs have resulted in a scenario in which it may be less expensive for consumers to replace rather than repair. Policy interventions, such as circular taxation and ecodesign requirements, are needed to meaningfully address these underlying economic issues. These issues are complex and systemic and will, therefore, require a long-term, coordinated, multilateral policy response.

In the short-term, national-level interventions, as suggested in this study, can be implemented to support B2C repair enterprises in Ireland, to provide consumers with convenient access to quality professional repairs, and to encourage consumers to engage with the sector. Potential intervention opportunities identified for further consideration include targeted funding and economic policy instruments to support enterprises and incentivise consumers to engage with the sector, measures to promote quality assurance and consumer confidence in repair services. Recommendations and potential intervention opportunities identified in this study to support the B2C repair sector in Ireland, and in turn support the transition to a circular economy, are set out in Table 1, below.

18 EC (2022) *Transition Pathway for Proximity and Social Economy*. Luxembourg: Publications Office of the EU.

19 OECD (2022) *Policy Brief on Making the Most of the Social Economy's Contribution to the Circular Economy*. Luxembourg: Publications Office of the EU.

20 Government of Ireland (2022) *Whole of Government Circular Economy Strategy 2022 – 2023 – Living More, Using Less*.

21 Government of Ireland (2023) *National Social Enterprise Policy for Ireland 2024 – 2027 – Public Consultation Document*.

22 NESI (2023) *Social Enterprise on the Island of Ireland*, Council Report No. 161.

Table 1: Key recommendations and intervention opportunities for the development of a repair economy in Ireland

Recommendations	Potential Intervention Opportunities
 <p>Ensure the role of the B2C repair sector is supported in national circular economy policy – and other relevant policy areas (including climate, social economy, employment and skills)</p>	<ul style="list-style-type: none"> • Objectives to support the role of the B2C repair sector in the next iteration of the Whole of Government Circular Economy Strategy • Development and adoption of a National Reuse and Repair Roadmap
 <p>Introduce economic policy instruments to support the long-term economic viability of B2C repair enterprises</p>	<ul style="list-style-type: none"> • Circular taxation/fiscal reform, whereby tax burden is shifted from labour to resource consumption and pollution • Reformed EPR policy financing infrastructure (e.g., for collection and sorting) and incentives to promote repair
 <p>Introduce economic supports to address operational costs for B2C repair enterprises</p>	<ul style="list-style-type: none"> • Expansion of funded labour activation schemes for social enterprises • Targeted supports to address costs for commercial repair enterprises
 <p>Introduce economic policy instruments to incentivise consumers to engage with B2C repair enterprises</p>	<ul style="list-style-type: none"> • Reduced rate of VAT for B2C repair enterprises • Repair discount/bonus scheme for key product categories • Revised Cycle to Work (or similar) scheme extending application of tax incentive to second-hand bicycle market
 <p>Ensure innovation and other funding is designed to support the role of B2C repair enterprises in the transition to a circular economy</p>	<ul style="list-style-type: none"> • Targeted funding strand for B2C repair enterprises
 <p>Support B2C repair enterprises to adopt innovative and circular business models and strategies to promote optimal outcomes</p>	<ul style="list-style-type: none"> • Reverse logistics/take-back schemes • Product-as-a-service/sharing economy models • Mobile repair services • Clustering of repair/circular enterprises • 3D printing of spare parts • Digital product passports • Repair service apps • Smart fault diagnostics
 <p>Support the role of social enterprises in the B2C repair sector</p>	<ul style="list-style-type: none"> • Additional Community Services Programme (CSP) positions • Targeted CSP funding strand for B2C repair enterprises • Safeguarded access to funding for social enterprises
 <p>Promote public awareness of B2C repair enterprises</p>	<ul style="list-style-type: none"> • Public awareness campaign(s) in tandem with new policy/ies for repair • Effective national directory of B2C repair enterprises
 <p>Make B2C repair services more accessible and convenient for consumers</p>	<ul style="list-style-type: none"> • Improved public transport services in rural areas • Making vacant/underutilised space in cities, towns and villages available for B2C repair enterprises
 <p>Implement measures to promote quality assurance and consumer confidence in the B2C repair sector</p>	<ul style="list-style-type: none"> • Accessible, national-level quality mark for B2C repair enterprises

Recommendations



Support and implement policies to promote product design for repairability and access to information on repairability



Support national-level representation for B2C repair enterprises



Implement measures to mitigate insurance barriers to B2C repair enterprises



Monitor the role of B2C repair in the circular economy



Address barriers for B2C repair enterprises related to repair skills training and education

Potential Intervention Opportunities

- National transposition and implementation of Right to Repair Directive
- Implementation of forthcoming delegated acts pursuant to Ecodesign for Sustainable Products Regulation
- National repairability index
- National design for repairability standard
- Representation for social enterprises engaged in repair (i.e., Community Resources Network Ireland)
- Representation for commercial repair enterprises and sub-sectors thereof
- Continued insurance reform to promote reduced insurance premiums
- Provision in national transposition of Right to Repair Directive to address insurance barriers to repair
- Develop a repair target roadmap as per the commitment in the National Waste Management Plan for a Circular Economy (National Target 4A – Repair)
- Monitor use and effectiveness of national repair platform/directory (e.g., integrated web-design mechanism to track user engagement, survey of enterprises registered)
- Refer to standalone Circular Insights Study, ‘Repair Skills Training and Education in Ireland’

1. Introduction

This study on business-to-consumer (B2C) repair enterprises in Ireland has been undertaken as part of the EPA Circular Economy Programme's Circular Insights Series, a series of studies on emerging and priority topics to build evidence and fill knowledge gaps to support circular economy policy in Ireland. The aim of this study is to provide an evidence-based report providing information on what is known about B2C repair enterprises in Ireland.

The circular economy offers an alternative to the prevailing linear, take-make-use-dispose model of resource use. In a circular economy, waste and pollution are eliminated, products and materials are circulated at their highest value, and nature is regenerated.²³

Ireland is at a turning point for the transition from a linear to a circular economy.²⁴ In recent years, several interventions including government-led waste prevention and circular economy initiatives, government-supported funding schemes, and the introduction of national circular economy policies and action plans have accelerated Ireland's transition to circular economy.²⁴

While Ireland has introduced legislation and policies to promote circularity in recent years, its circular material use rate (CMUR)²⁵ is low (1.8%) compared with the Netherlands (27.5%), Belgium (22.2%) and France (19.3%).²⁶ The Government has committed to significantly reducing Ireland's circularity gap, in both absolute terms and in relation to other EU Member States.²⁰ It should also be noted that the CMUR is a 'whole of economy' metric expressing recycling and recovery tonnage as a percentage of total materials/resources extracted and used in an economy, including imports. Ireland's low CMUR is partly explained by its open economy with a strong agricultural sector and high level of exports. For other circular economy indicators, Ireland is more closely aligned with other Member States (e.g., Ireland's municipal recycling rate is 41% compared with the EU average of 46%).²⁷

There are a number of frameworks that seek to illustrate how a circular economy can work in practice. These include the 9R Framework that provides a hierarchy of nine strategies to enable the transition from a linear to a circular economy (Figure 1).^{28,29} Among these is repair, which refers to "one or more actions carried out to return a defective product or waste to a condition where it fulfils its intended purpose".³

23 EMF (n.d.) *What is a circular economy*. Available at: <https://www.ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview> (Accessed 19 April 2024).

24 OECD (2022) *The Circular Economy in Ireland*. Paris: OECD Publishing.

25 The CMUR reflects the proportion of materials that are reused, recycled, or remanufactured within the circular economy.

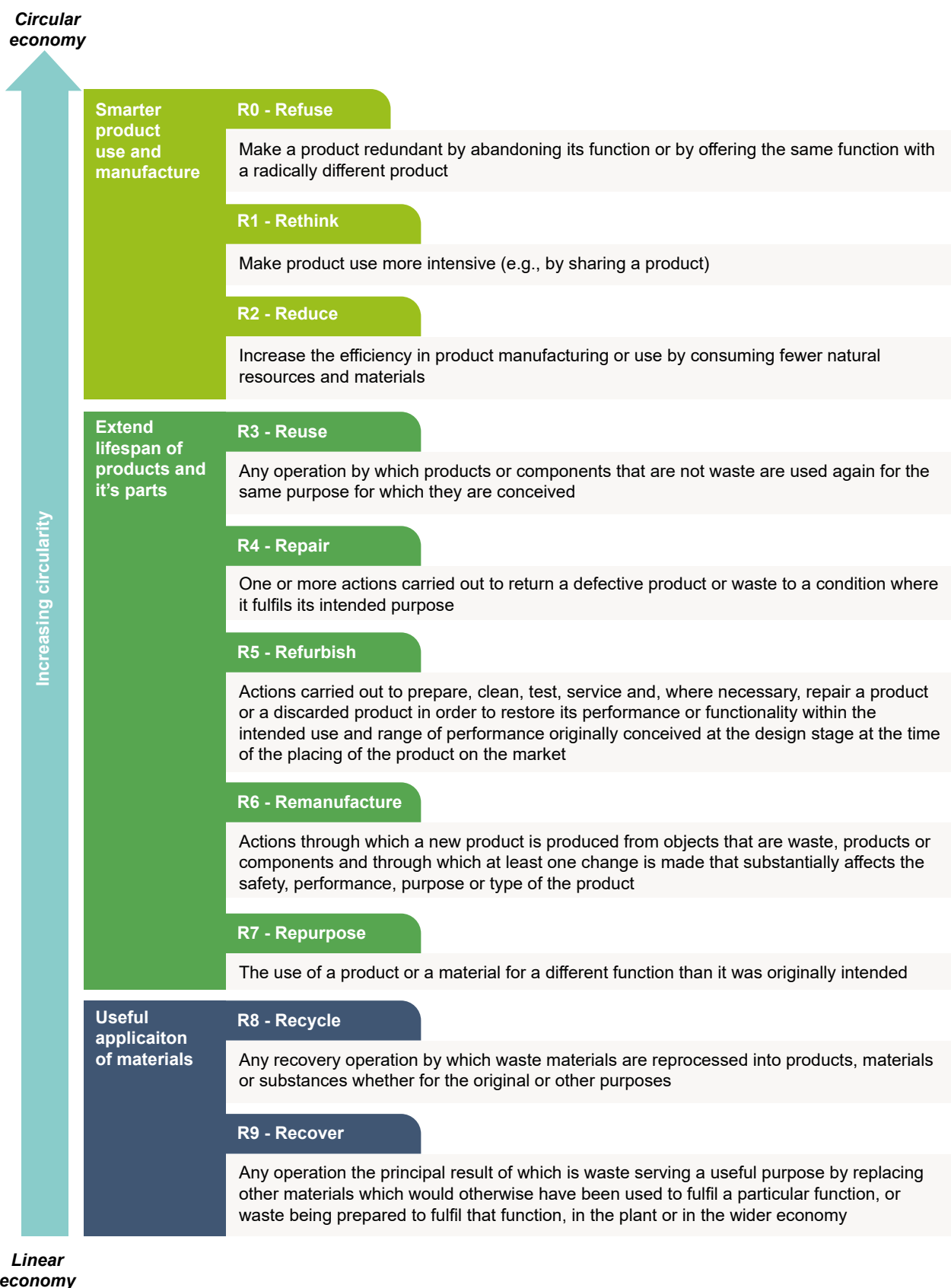
26 Eurostat (2023) *Material flows and resource productivity*. Available at: <https://ec.europa.eu/eurostat/web/environment/information-data/material-flows-resource-productivity> (Accessed 19 April 2024).

27 EPA (2023) *Municipal waste statistics for Ireland*. Available at: <https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/municipal/>. Accessed 12 September 2024.

28 Potting, J., Hekkert, M., Worrell, E. & Hanemaaijer, A. (2017) *Circular Economy: Measuring Innovation in the Product Chain – Policy Report*. [Report prepared for the Netherlands Environmental Assessment Agency]

29 Kirchherr, J., Reike, D. & Hekkert, M. (2017) 'Conceptualizing the circular economy: An analysis of 114 definitions', *Resources, Conservation & Recycling*, 127, pp. 221-232.

Figure 1: The 9R Framework³⁰



30 Adapted from Potting, J., Hekkert, M., Worrell, E. & Hanemaaijer, A. (2017) *Circular Economy: Measuring Innovation in the Product Chain – Policy Report*. [Report prepared for the Netherlands Environmental Assessment Agency], and Kirchherr, J., Reike, D. & Hekkert, M. (2017) 'Conceptualizing the circular economy: An analysis of 114 definitions', *Resources, Conservation & Recycling*, 127, pp. 221-232.

Repair has an essential role to play as a driver of the transition to a circular economy. It is relatively high up in the hierarchy of strategies for a circular economy, as it retains the functional value of products.

This makes repair preferable from a circularity perspective to strategies such as recycling, for example, which destroys the functional value of the product, while keeping its constituent materials in circulation.

Repair has the effect of ‘slowing down’ resource loops,³¹ reducing demand for resources and the associated environmental pressures. As an alternative to buying new, product repair avoids the embodied environmental impacts associated with the supply chain of new products and waste generated by prematurely discarded, defective products. Circular economy in Ireland has the potential to support job creation, drive down sectoral carbon emissions, and reduce biodiversity degradation caused by the overconsumption of natural materials, thereby contributing to the success of priority areas identified in Ireland’s Climate Action Plan 2024.³²

Policies at national and European levels seek to promote repair as an enabler of the circular economy. The European Commission’s Circular Economy Action Plan³³ supports the availability of repair services, repair manuals and the establishment of a ‘right to repair’ for consumers.

The Irish Whole of Government Circular Economy Strategy 2022-2023²⁰ emphasises the need for training to support the role of repair in the circular economy. It also notes the potential social co-benefits of repair skills training in creating jobs and safeguarding potential, thereby supporting the national just transition effort. Under the EPA Circular Economy Programme,³⁴ ‘establishing Ireland’s reuse and repair sector’ is identified as a new partnership area to promote a national reuse and repair culture, and to overcome barriers to the take-up of pre-owned and refurbished goods and product repair. In response to this requirement, the EPA established a National Reuse and Repair Network in 2024, bringing together national-level organisations with a role and remit to support and scale repair in Ireland.

Ireland recently published its first National Waste Management Plan for a Circular Economy 2024 – 2030, which acknowledges the important role that repair plays in Ireland’s circular economy transition. The Plan highlights the positive impact that the growth of the repair sector could have on the secondary materials market and material recirculation and sets a commitment to develop a Repair Target which will support the growth of the sector to 2030.³⁵

In the EU, the policy context in respect of repair is rapidly evolving. On 30 May 2024, the European Council adopted Directive (EU) 2024/1799 on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394 and Directives (EU) 2019/771 and (EU) 2020/1828.⁹ The ‘Right to Repair (or R2R) Directive’, as it’s commonly referred to, introduces a range of measures to empower consumers to seek repair instead of replacement; make repair services more accessible, transparent and attractive; and promote design for repairability. It lays down common rules strengthening provisions related to the repair of goods, including a requirement for manufacturers to repair products that are technically repairable under EU law, the extension of the legal guarantee by 12 months if consumers choose repair instead of replacement, and a requirement for European/national online platforms providing directories of available repair services.³⁶ The Directive was published in the Official Journal of the European Union

31 Bocken, N.M.P., de Pauw, I., Bakker, C. & van der Grinten, B. (2016) ‘Product design and business model strategies for a circular economy’, *Journal of Industrial and Production Engineering*, 33(5), pp. 308–320.

32 Government of Ireland (2024) *Climate Action Plan 2024*.

33 EC (2020) *Circular Economy Action Plan – For a cleaner and more competitive Europe*. Luxembourg: Publications Office of the EU.

34 EPA (2021). *The Circular Economy Programme 2021 – 2027*.

35 Government of Ireland (2024). *National Waste Management Plan for a Circular Economy 2024 – 2030*.

36 Council of the European Union (2024). *Press release: Circular economy: Council gives final approval to right-to-repair directive*. Available at: <https://www.consilium.europa.eu/en/press/press-releases/2024/05/30/circular-economy-council-gives-final-approval-to-right-to-repair-directive/>. Accessed September 2024.

on 10 July 2024, and entered into force 20 days later on 30 July. Member States have 24 months to transpose the Directive into national law.

Another significant development is the enactment of Regulation (EU) 2024/1781 establishing a framework for the setting of ecodesign requirements for sustainable products, amending Directive (EU) 2020/1828 and Regulation (EU) 2023/1542 and repealing Directive 2009/125/EC (the 'Ecodesign for Sustainable Products Regulation' or ESPR), which entered into force on 18 July 2024³⁷. The ESPR replaces the previous Ecodesign Directive (Directive 2009/125/EC)³⁷, providing a framework for setting ecodesign requirements for specific product groups. It has a broader scope than the Ecodesign Directive and will enable the establishment of ecodesign requirements for almost all categories of physical goods, including to improve repairability. It introduces a requirement for a Digital Product Passport (DPP) containing information to be laid down in delegated acts pursuant to the ESPR, regarding a product's sustainability and circularity, including repairability.

1.1 Aims and Objectives

This Circular Insights study is focussed on business-to-consumer (B2C) repair enterprises in Ireland. It aims to address a data gap on this subject at the national level, and provide a strong evidence base, analysis and recommendations to support circular economy policy and implementation. This constitutes the first study on this topic at the national level.

The objectives of this study are to:

- Describe the baseline scenario for the B2C repair enterprise sector in Ireland, highlighting what is known about the nature and scale of the sector presently, and identifying knowledge gaps
- Identify key barriers and needs for the sector; and
- Identify opportunities and present recommendations to support the development of a thriving B2C repair sector, supporting the transition to a circular economy in Ireland.

Chapter 2 sets out key statistics on B2C repair enterprises in Ireland today. These are based on the analysis of a dataset of B2C repair enterprises operating in Ireland, primarily drawing on an existing publicly managed and funded directory, RepairMyStuff.ie.

Chapter 3 provides an economic analysis of the repair sector, drawing on the dataset of B2C repair enterprises and data from Eurostat.

Chapter 4 summarises the key insights and opportunities identified in this study, based on data gathered and feedback received during a series of 13 workshops with key stakeholders engaged in the repair sector, repair skills training and education, and circular economy research and implementation more broadly. A list of these stakeholders is provided in Appendix A.

Chapter 5 identifies recommendations and potential intervention opportunities for further consideration.

Chapter 6 summarises the conclusions of this study.

³⁷ Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (recast) (2012), *Official Journal of the European Union*, L 315.

1.2 Methodology

1.2.1 Data Collection and Analysis

To inform this study, a dataset of B2C repair enterprises operating in Ireland was developed based on the following information sources:

- Data from the RepairMyStuff.ie database, provided by Monaghan County Council (MCC) via the EPA (data accessed November 2023).
- Data collected by Enviroguide Consulting in 2021 to supplement the RepairMyStuff.ie (RMS) database, provided by the EPA.

Responses to stakeholder information requests from Galway, Kilkenny, and Wexford County Councils and, Google searches undertaken by Arup to validate the data above and gather data on specific variables.

The scope of 'B2C repair enterprises' included B2C enterprises, situated in Ireland, providing third-party repair services (including manufacturer-accredited third parties) and manufacturer take-back and repair services. The scope did not include business-to-business repair services, upcycling, or repurposing services. Data points not aligning with this scope were excluded from the dataset. Any enterprises found to be 'permanently closed' on Google Maps during data validation were removed from the dataset.

The following variables were identified for each B2C repair enterprise in the dataset:

- Information source
- Name
- Product category/ies
- Statistical Classification of Economic Activities in the European Community (NACE) (Rev. 2) class³⁸
- County
- City, where applicable
- Enterprise type (social/commercial enterprise)
- Whether manufacturer (Y/N); and
- Third party accreditation/certification(s), if any.

1.2.2 Economic Analysis

The primary data source within the Economic Analysis Chapter is Eurostat's Structural Business Statistics database, used to provide an overview of the economic features of Ireland's repair sector.

This dataset allows us to gain a clear insight into the economic role of Ireland's repair sector, providing a harmonised and comprehensive picture at a national and sectoral level of the private sector in the EU. Most of the Structural Business Statistics data is collected by National Statistical Institutes such as the CSO in Ireland by means of statistical surveys, business registers or from various administrative sources. In addition to the Structural Business Statistics, business demographic information published at an annual frequency on the numbers of firms or enterprises, enterprise births and deaths etc. is used.

1.2.3 Stakeholder Engagement

To gather insights from key stakeholders in the repair sector in Ireland, 13 workshops were held with a range of stakeholders from across the repair sector in Ireland, including B2C repair enterprises, industry

³⁸ Eurostat (2008). *NACE Rev. 2: Statistical classification of economic activities in the European Community*. Luxembourg: Office for Official Publications of the European Communities.

representative groups, state agencies and non-governmental organisations (refer to Appendix A for full list of stakeholders). The workshops facilitated discussion on the barriers, opportunities and needs of Ireland's B2C repair sector. Workshops were recorded and transcribed and stakeholder insights collated and analysed thematically.

1.2.4 Limitations

As noted above, the data on B2C repair enterprises that are the basis of the analysis in Chapter 2 are primarily from the RMS directory, and supplemented by a number of other sources, detailed above. It is understood from a workshop undertaken with MCC, which manages the RMS directory, that this directory and is likely not comprehensive, having gaps in coverage.

It is also noted that while manufacturer take-back-and-repair schemes are included in the scope of this study, this class of repair services is not well represented on the RMS database. Therefore, the statistics presented in Section 2 do not fully capture manufacturer take-back repair services in Ireland.

Data for the majority of the variables measured for B2C repair enterprises (product category/ies, NACE class, County, City, enterprise type, whether manufacturer, and third-party accreditation/certification(s), if any), were based on information provided by the information sources identified above and/or on websites/social media accounts for the repair enterprises in question. Therefore, there are likely to be some inaccuracies in the data.

For example, each B2C enterprise identified was categorised according to the most appropriate NACE class, having regard to the information available on the repair services offered and the definitions of the classes as defined by Eurostat. The NACE codes identified, therefore, represent 'best guesses' at principal economic activity based on available information and may not be precisely representative of the breakdown of principal activities in the sector.

Regarding third party accreditations/certifications, these data are based on claims made by repair enterprises on their websites and/or social media that have generally not been verified, except in the case of ReMark certification, which is confirmed in publications from CRNI.

2. B2C Repair Enterprises in Ireland – Key Statistics

2.1 Number and Types of Enterprises

A total of 1,503 B2C repair enterprises currently operating in Ireland were identified using the data sources detailed in Section 1.2, above. Of the repair enterprises identified, the majority (98.9%) were identified as commercial enterprises operating for profit. The remainder (1.1%) identified as social enterprises, which operate to achieve social, societal, or environmental impact, rather than maximising profits for owners or shareholders.¹²

The distribution of NACE classes for enterprises identified is summarised in Table 2. The majority of B2C repair enterprises identified (1,455; 96.8%) were assigned NACE group S95, “Repair of computers and personal and household goods”. This group is comprised of classes S95.1, “Repair of computers and communication equipment” and S95.2, “Repair of personal and household goods”, which are estimated to represent 30.0% and 66.8% of B2C enterprises identified, respectively.

As detailed in Section 3, below, economic analysis undertaken for the purposes of this study identified just over 1,700 repair enterprises in NACE group S95, “Repair of computers and personal and household goods” in Ireland in 2021, using data from Eurostat’s Structural Business Statistics database. While it is not possible to determine the degree to which the enterprises in the Eurostat dataset overlap with those in the dataset of B2C repair enterprises developed as part of this study, it is worth noting that the number of repair enterprises represented by each dataset is broadly similar, around 1,500 – 1,700 enterprises. However, it should be noted that NACE group S95 does not capture all categories of repair activity – e.g., as indicate in Table 2, below, automotive repair is represented by NACE group G45.2, “Maintenance and repair of motor vehicles”.

Table 2: B2C repair enterprises in Ireland – Approximate distribution of NACE classes

NACE (Rev. 2) Code		Count	Percentage (%)
No.			
S95.2	Repair of personal and household goods	1,004	66.8
S95.1	Repair of computers and communication equipment	451	30.0
F43.2	Electrical, plumbing, and other construction installation activities	19	1.3
N80.2	Security systems service activities	12	0.8
G45.2	Maintenance and repair of motor vehicles	10	0.7
C33.1	Repair of prefabricated metal products, machinery and equipment	7	0.5
Total		1,503	

2.2 Categories of Products Repaired

The B2C repair enterprises identified provided repair services across a range of product categories, as summarised in Table 3, and Figure 2.

The largest product category was electrical and electronic equipment (EEE)³⁹ – roughly a third (31.0%) of B2C repair enterprises identified specialised in the repair of these products. The next most important product categories were clothing and textiles (19.7%); bicycles (7.3%); furniture and upholstery (6.7%); large appliances/white goods (6.4%); lawnmowers and agricultural machinery (6.4%); jewellery, watches, and clocks (4.9%); shoes and leather goods (4.4%), musical instruments (4.1%) and automotive (0.5%).

Approximately 5% of the enterprises identified offered B2C repair services for multiple product categories. The most well represented combinations were ‘bicycles and automotive’ and ‘EEE and large appliances/white goods’ (1.5% of enterprises, in both cases).

A small number of enterprises identified (3.5%) offered B2C repair services for products not captured by the aforementioned categories. These included boilers, plumbing and drainage systems (1.3%); windows, doors and locking systems (0.8%); roofing and guttering (0.6%); and sports equipment (0.5%); among others.

A small number of the repair enterprises identified (4.3%) were also identified as being manufacturers of consumer goods. This subset was dominated by enterprises in the clothing and textiles; furniture and upholstery; jewellery, watches, and clocks; and musical instruments product categories. However, as noted in Section 1.2, above, manufacturer take-back and repair schemes were not well represented in this dataset.

Table 3: B2C repair enterprises - product categories repaired

Product category	Count	Percentage (%)
Electrical and electronic equipment, excluding large appliances (white goods)	466	31.0
Clothing and textiles	296	19.7
Bicycles	109	7.3
Furniture and upholstery	101	6.7
Large appliances (white goods)	96	6.4
Lawnmowers and agricultural machinery	96	6.4
Jewellery, watches, and clocks	73	4.9
Shoes and leather goods	66	4.4
Musical instruments	61	4.1
Automotive	8	0.5
Multiple categories of product repaired	78	5.2
Other products	53	3.5
Total	1,503	

³⁹ Not including white goods

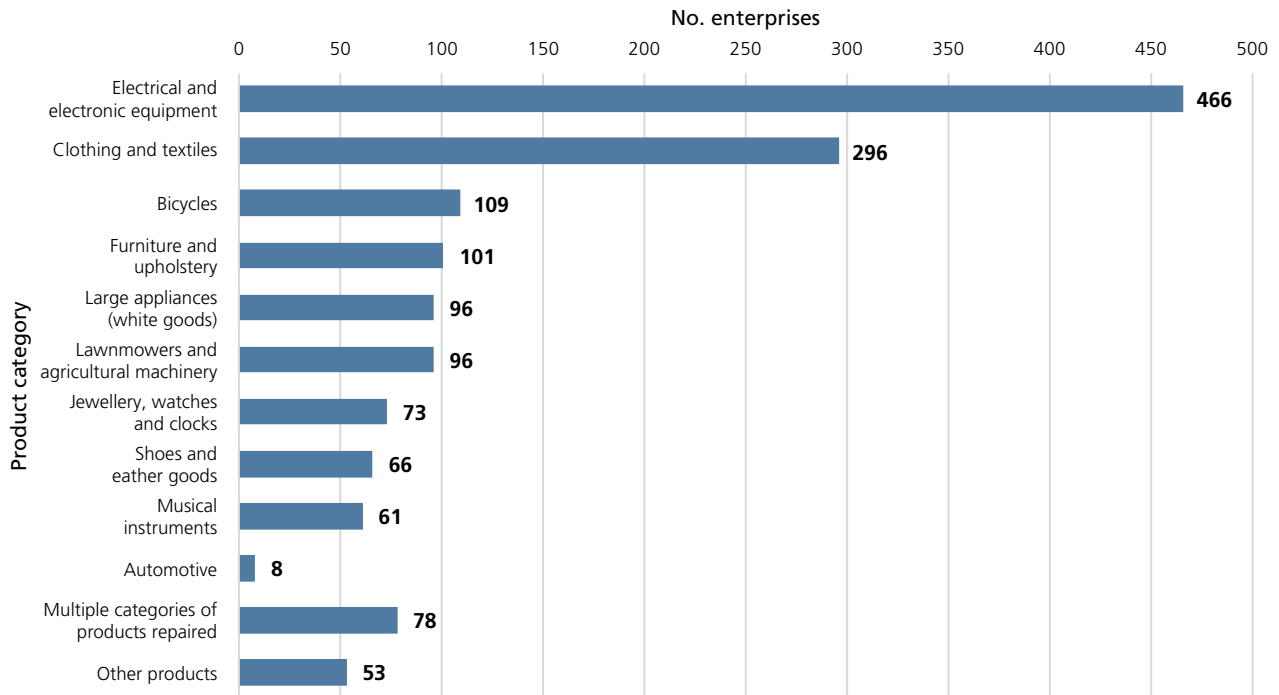


Figure 2: Product categories repaired

2.3 Geographic Distribution

The national geographic distribution of B2C repair enterprises identified was analysed. Of all Counties, Dublin had the greatest number, with close to a quarter (22.4%) of all B2C repair enterprises identified. This was followed by County Cork, with 8.1% of enterprises. Counties Wexford and Limerick were next, with 5.8% each. All other Counties had <5% of enterprises, as detailed in Table 4.

Table 4: B2C repair enterprises – Geographic distribution by County

County	Count	Percentage (%)
Dublin	337	22.4
Cork	121	8.1
Wexford	87	5.8
Limerick	87	5.8
Galway	73	4.9
Tipperary	72	4.8
Kilkenny	55	3.7
Kerry	51	3.4
Kildare	48	3.2
Clare	47	3.1
Roscommon	45	3.0

County	Count	Percentage (%)
Westmeath	44	2.9
Waterford	42	2.8
Donegal	37	2.5
Carlow	37	2.5
Mayo	34	2.3
Laois	34	2.3
Meath	33	2.2
Wicklow	33	2.2
Cavan	31	2.1
Offaly	29	1.9
Leitrim	28	1.9
Louth	27	1.8
Monaghan	25	1.7
Sligo	24	1.6
Longford	22	1.5
Total	1503	

Of the B2C repair enterprises identified, 20.6% were located in one of the five Cities – Dublin, Cork, Limerick, Galway or Waterford – as delineated in Local Authority mapping. Most of these were situated in Dublin City (8.3%), followed by Cork City (4.4%), Limerick City (4.0%), Galway City (2.4%) and Waterford City (1.6%). Results are presented in Table 5, Table 6 and Figure 3.

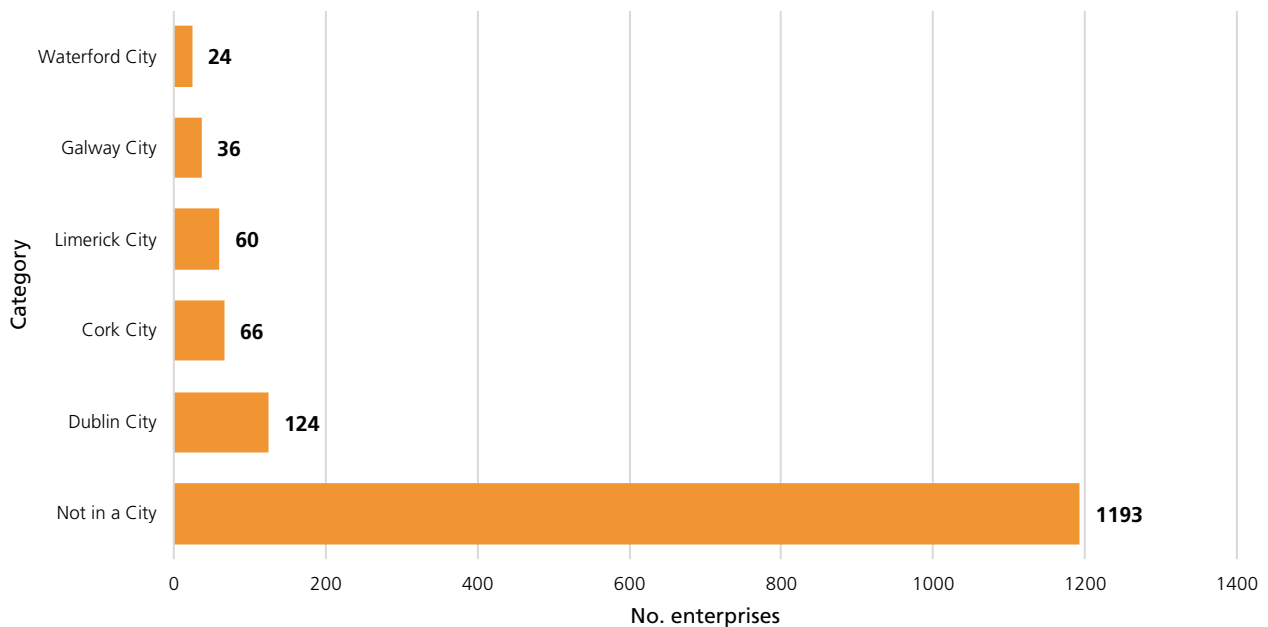
It should be noted that the data in Table 5 and Table 6 represent the breakdown of B2C repair enterprises identified in Cities versus all other areas, based on Local Authority mapping of the boundaries of the five Cities. This refers to 'Cities' as opposed to Metropolitan Areas, which take in wider areas. These data are not representative of the breakdown of B2C repair enterprises in urban versus rural areas.

Table 5: B2C repair enterprises in/not in a City

Category	Count	Percentage (%)
In a City	310	20.6
Not in a City	1193	79.4
Total	1503	

Table 6: B2C repair enterprises by city

City	Count	% of Enterprises in Cities	% of Total Enterprises
Dublin	124	40.0	8.3
Cork	66	21.3	4.4
Limerick	60	19.4	4.0
Galway	36	11.6	2.4
Waterford	24	7.7	1.6
Total	1503		

**Figure 3:** B2C repair enterprises by City

2.4 Third Party Certifications

Of the enterprises identified, a small number (~3%) reported having third party certifications/ accreditations of relevance to repair. These included Apple Authorised Service Providers for third-party repairs of Apple electronic products, Cytech accredited bicycle repair professionals, and two social enterprises certified with the ReMark quality mark for reuse and repair social enterprises in Ireland, developed by the Community Resources Network Ireland (CRNI).

3. Economic Analysis

Having a clear understanding of the economic role of the B2C repair sector in Ireland is key to designing effective circular economy-enhancing policies. To gain an understanding of the repair sector's economic contribution, it is necessary to consider both the structural features of the repair sector and its sectoral contribution within the Irish economy.

For this purpose, this Chapter presents an economic analysis of the sector, based on data from Eurostat's Structural Business Statistics database. This dataset provides a harmonised and comprehensive picture of the business economy⁵ at a national and EU level, for cross-cutting analytical purposes.

In addition, it describes how output, employment, and capital, amongst other indicators, are distributed at a sectoral level in the business economy⁴⁰. For analysis purposes, economic activities are classified at a sectoral level based upon their NACE⁴¹, the European basis for statistical classification of economic activities based on their primary business activities. Structural Business Statistics cover the economic activities of firms within the NACE Sections B to N, P to R and Divisions S95 and S96. This includes mining and quarrying, industry, supply and sewerage, construction, trade, and most of the service activities. The aggregate repair sector has been proxied by services within NACE category S95, 'Repair of computers and personal and household goods'. There are two sub-sectors within this category, namely, S95.1, 'Repair of computers and communication equipment' and S95.2, 'Repair of personal and household goods'⁴². To gain insight into the macroeconomic role and impact of the repair sector in Ireland, these two sub-sectors (referred to collectively as the 'repair sector' in this Chapter) were analysed in terms of business demography or sector structure, inputs, and outputs.

3.1 Business Demography of the Repair Sector

The number of firms operating within the repair sector in Ireland has been on an upward trend over the past ten years, rising broadly in line with the number of firms in the wider business sector, as illustrated in Figure 4. The share of business economy firms accounted for by the repair sector has, as a result, remained largely unchanged in Ireland over the 2011 to 2021 period, with the share of repair sector firms varying within a very tight range of 0.62% to 0.65%.

Cross-country analysis of the number of repair sector firms per head of population provides useful insights into the size of the repairs sector at a country level, thereby, facilitating a comparison of Ireland with other EU countries.

There is some variation in terms of the number of repair sector firms per capita across EU countries, ranging from a low of 0.0001 in Germany to a high of 0.0011 in Malta. At an EU-level, there are an average of 0.0004 repair enterprises per head of population, Ireland is broadly in line with the EU average, with 0.0003 repair enterprises per head of population.

40 Defined as mining and quarrying, industry, supply and sewerage, construction, trade, and most of the service activities. Agriculture, public administration and non-market/public services such as education and health are excluded.

41 The term NACE is derived from the French title: Nomenclature statistique des activités économiques dans la Communauté européenne.

42 Use of NACE S95.1 and S95.2 is aligned with those used in the European Environment Information and Observation Network report "An overview of Europe's repair sector" (ETC CE Report 2022/6).

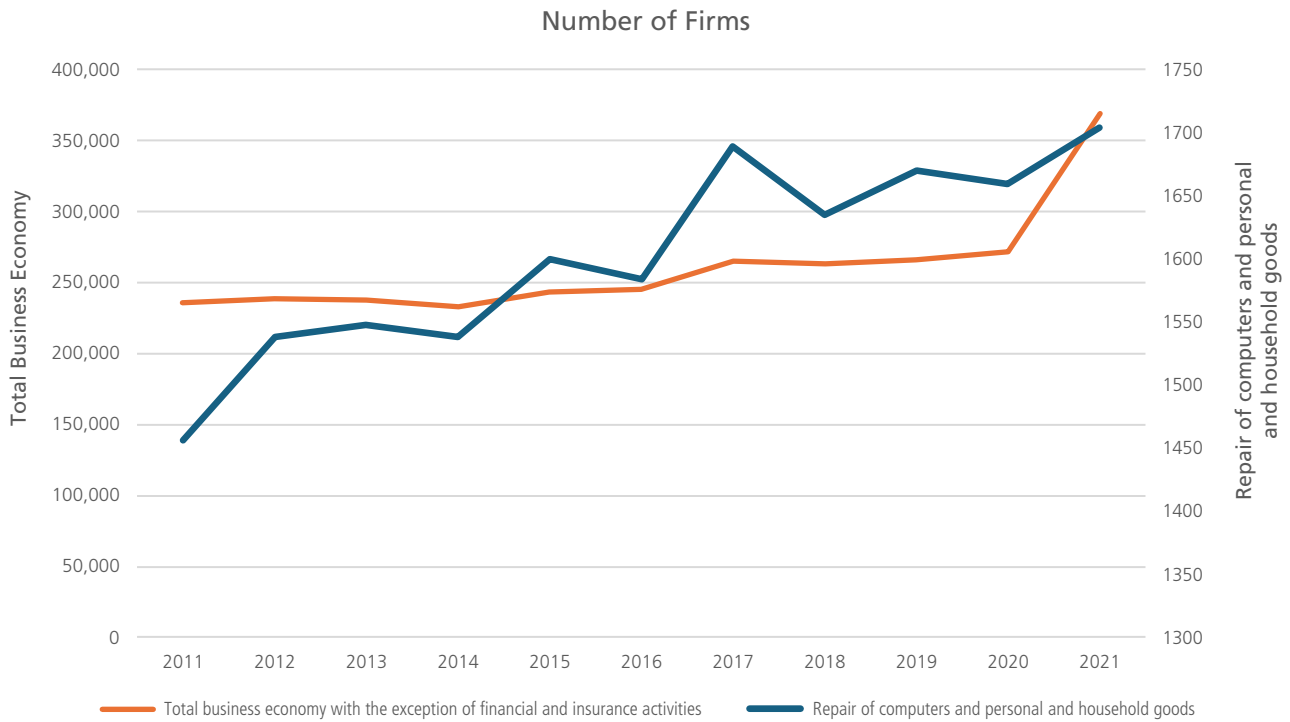


Figure 4: Repair sector (S95) and total business economy – Number of firms⁴³ (2011 – 2021)

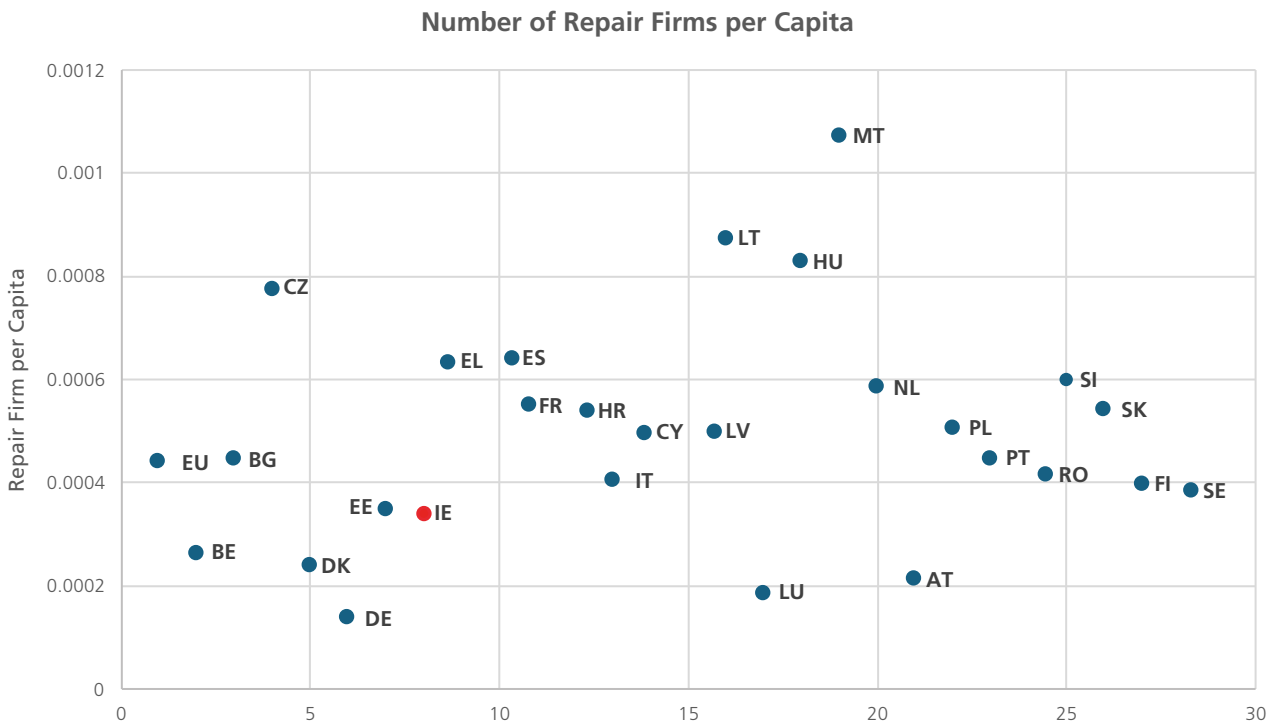


Figure 5: Number of repair firms per capita – EU Counties, 2021

Business demographics provide valuable insights into both the structural features of a sector and how, for instance, sector size may be evolving over time, which is particularly relevant in terms of policy design and effective implementation.

43 Eurostat (n.d.) Eurostat Structural Business Statistics Database. Available at: <https://ec.europa.eu/eurostat/web/structural-business-statistics/database> (Accessed 19 April 2024)

The CSO publishes Irish business demographic information annually on the numbers of firms or enterprises, enterprise births and deaths and survival rates and related employment figures.

Within this dataset, an enterprise is defined as active in a specific period if it generates turnover, employs staff, or makes investments in that period. Analysis of active enterprises by number of employees is used to inform on the size of firms within the repair sector. In 2021, the most recent year for which data was available, the repair sector was dominated by micro- and small firms, referred to as firms with less than 10 employees. This category alone accounted for 98.8% of the firms within the repair sector.^{44, 45} This highlights the fragmented nature of the repair sector as one of its key distinguishing business demographic features.

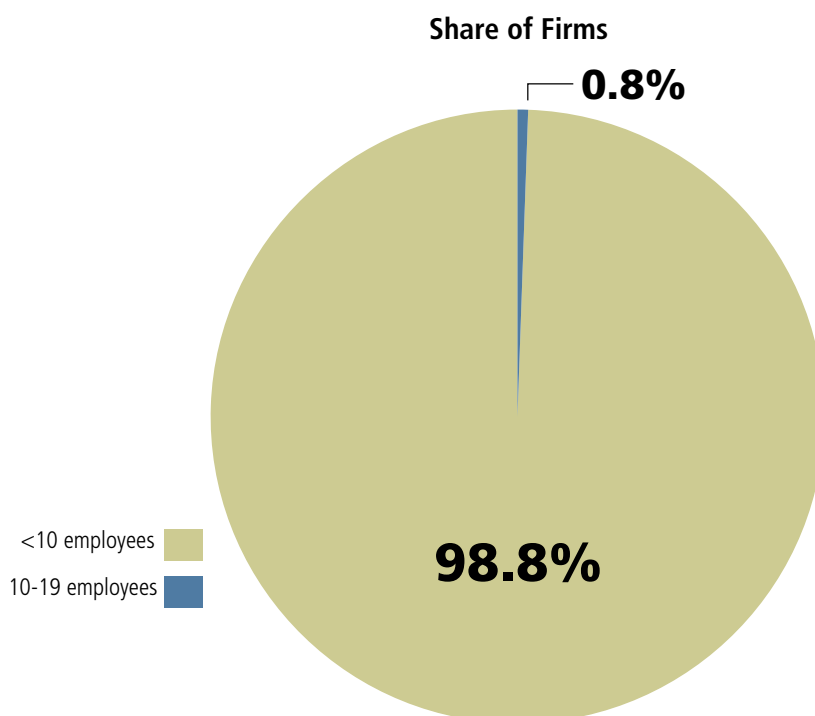


Figure 6: Repair sector (S95) – Share of firms by employment size

Given that the repair sector represents an important aspect of the transition to a circular economy, and business creation represents a vital source of innovation, economic growth and employment creation, this finding also underlines the need for policy supports to foster business creation within the repair sector to deliver on Ireland’s circular economy ambitions. Policy supports for the repair sector could include measures to streamline repair firm or business establishment, to reduce uncertainty and to increase financing options within the sector.

3.2 Inputs and Outputs

Economic activity is characterised as an input of resources, namely, capital, labour, and intermediary inputs, which are combined to produce output in the form of goods or services. Gross Value Added (GVA) is the typical measure of output. It is the difference between the value of goods and services produced and the value of goods and services used in producing these outputs (i.e., the cost of raw materials and non-labour inputs that are used). In terms of GVA, the repair sector generated €134.6 million in output in Ireland in 2021, with the personal and household goods sub-sector accounting for approximately 60% of this (Table 7).

⁴⁴ The most recent year for which data was available

⁴⁵ CSO (n.d.). *Business Demography – BRA 31 – Business Demography NACE Rev 2*. Available at: <https://data.cso.ie/> (Accessed 19 April 2024).

Table 7: Repair sector share of value added, employment and Gross Operating Surplus within sector, 2021⁴³

No.		Value added (%)	Employment (%)	Gross Operating Surplus (%)
S95	Repair of computers and personal and household goods	0.03	0.14	0.02
S95.1	Repair of computers and communication equipment	0.01	0.06	0.00
S95.2	Repair of personal and household goods	0.02	0.09	0.01

Depending on which metric is considered, the repair sector's share of the non-financial business sector varies somewhat, as detailed in Table 7. The repair sector accounts for 0.03% and 0.02% of the business sector in Ireland, respectively, in the case of value added and gross operating surplus (i.e., profit), yet it accounts for a considerably larger share of employment at 0.14%, reflecting the labour-intensive nature of the repair sector.

Output in an economy is the result of the combined contributions of both labour and capital.

The labour share is the proportion of GVA attributed to labour in the form of wages, social benefits, and self-employed income. The remainder of GVA is attributed to capital in the form of profits, also referred to as Gross Operating Surplus.

Table 8: Repair sector productivity, labour and capital shares, 2021

No.		Labour share (%)	Capital share (%)	Value added per employee (€000)
S95	Repair of computers and personal and household goods	49.5	50.5	56.7
S95.1	Repair of computers and communication equipment	74.8	25.2	43.1
S95.2	Repair of personal and household goods	32.6	67.4	71.8
Total business services sector		23.8	76.2	203.8

Table 8 highlights a further distinguishing feature of the repair sector - its high labour share relative to the business services sector as a whole. A higher labour share is associated with higher returns to labour (i.e., higher wages, more entrants into the labour force or decreasing returns to capital). Conversely, a smaller labour share suggests that workers are receiving lower compensation for their output, which could also be explained by higher returns to capital or profits. It may, therefore, be concluded that repair activities are considerably more labour intensive than is the case for the overall business services sector in Ireland. It is, nevertheless, noteworthy that the total business sector's labour share is heavily influenced by the activities of a comparatively small number of foreign-owned multinational enterprises due to the high concentration of intangible capital assets in these companies. The labour-intensive nature of the repair sector is noteworthy given the sector's potential to increase employment levels as Ireland transitions from a linear to a circular economy.

In terms of capital share, the repair sector accounted for 50.5% of value added in 2021.⁴³ Such a share is considerably lower than the corresponding 76.2% capital share of the overall business economy. It is, however, important to acknowledge that the latter is again somewhat distorted by the dominance in output terms of large capital-intensive foreign-owned multinational enterprises in Ireland. Some variation in capital share within the repair sector is also evident, with a noticeably higher capital share in the repair of personal and household goods relative to that of computer and communications equipment.

Labour productivity, a measure of the efficiency of labour supply, is measured as output or GVA per employee. Essentially, if a sector has higher labour productivity in relative terms, it implies that the sector is using its labour supply more efficiently to produce output. According to the data available, firms within the repair sector display markedly lower productivity values relative to that of the overall business services sector. Such a discrepancy is consistent with the labour-intensive nature of activities within the repair sector highlighted earlier. It is also, however, noteworthy that the capital intensive foreign-owned multinational enterprises somewhat inflate labour productivity at the total economy level.

4. Insights

This Chapter summarises the insights identified in this study under the headings of key themes. The insights presented herein are based on the analyses above, literature review and feedback received during an extensive series of 13 workshops with key stakeholders from across the repair sector. The workshops facilitated discussions on the organisations, barriers, opportunities and needs of Ireland's repair sector, providing valuable insights into the perspectives of different repair professionals, state agencies and non-governmental organisations. Refer to Appendix A for a list of stakeholders engaged.

4.1 Social Value of Repair

Repair has significant social value beyond the utilitarian 'fixing of things'.⁴⁶ In addition to supporting the transition from a linear to a circular economy, the social co-benefits of repair include job creation, social inclusion, conservation of traditional craft skills, skills development and access to affordable goods.

This study has found that the repair sector in Ireland is labour intensive, with roughly double the labour share of the overall business services sector (refer to Section 3). This is consistent with previous research from elsewhere that has found the repair sector to be more labour intensive than the total economy, and more labour intensive than other circular economy activities, including remanufacturing, recycling, composting, landfill or incineration.^{15, 16} One of these studies, drawing on data from 16 countries, estimated that repair creates over 200 times as many jobs as landfills and incinerators.¹⁶ If supported, the B2C repair sector in Ireland and the EU more broadly has the potential to create a significant amount of skilled local jobs, concentrated in small and social enterprises.¹⁷

As demonstrated by a number of social enterprises operating in the B2C repair sector in Ireland (refer to Section 4.2, below), repair is also well suited to labour activation – providing training and employment opportunities to groups at risk of poverty and social exclusion. By providing access to repair services and creating a supply of repaired goods for the re-sale market, the B2C repair sector also provides access to affordable goods.⁴⁷ Thus, promoting the repair sector can support an inclusive and just transition from a linear to circular economy.⁴⁸

Many of the sub-sectors of repair involve traditional or heritage crafts or trades, such as cobblery, leatherworking, furniture making, carpentry, joinery and jewellery making. Investment in repair, therefore, may also be regarded as an investment in the conservation of certain traditional crafts and trades. Through its 'Turning the Collar' documentary, the Studio Repair Acts project has spotlighted the role of traditional craftsmanship in the repair sector in Ireland.⁴⁹

46 McLaren, D., Niskanen, J. & Anshelm, J. (2020) 'Reconfiguring repair: Contested politics and values of repair challenge instrumental discourses found in circular economies literature', *Resources Conservation & Recycling: X*, **8**, 100046.

47 Manoochehri, S., Schlupe, M., Dams, Y., Mehlhart, G., Lingås, D.B, Marin, G., Nicolau, M. & Colgan, S. (2022). *An overview of Europe's repair sector*, ETC/CE Report 6/2022. [Report prepared by WRF, VITO, PlanMiljø, SEEDS and CSCP for the EEA].

48 Schirru, S. (2023) *How reuse and repair social enterprises are contributing to a socially and circular society*. Available at: https://social-economy-gateway.ec.europa.eu/how-reuse-and-repair-social-enterprises-are-contributing-socially-and-circular-society-2023-06-13_en (Accessed 19 April 2024).

49 Studio Repair Acts (n.d.). *Studio Repair Acts*. Available at: <https://www.repairacts.ie/> (Accessed 19 April 2024).

Case Study 1 Studio Repair Acts

Established in 2018 by artist, researcher and Professor of City Futures, Teresa Dillon, studio repair acts is a pluralistic, artist-led research programme that explores repair, care, maintenance and healing cultures.⁵⁰ Studio repair acts is located in the School of Art and Design and Digital Cultures Research Centre at the University of the West of England in Bristol, UK, with collaborators located in Ireland, Brazil, and India. Through various forms of art making, desk-based research, public workshops, social, civic, and educational practices, studio repair acts explores how we can design and build systems and items that are less extractive, extend the service life of products, maximise value, and maintain the knowledge and skills required to do so.

As part of Creative Ireland's inaugural Climate Action programme in 2022, studio repair acts worked collaboratively with Dr. Alma Clavin at University College Dublin and Westmeath County Council to develop the repair acts programme in Ireland. One of studio repair acts major approaches is to showcase repair activities through storytelling. 'Tales of Care and Repair'⁵¹ is a repository of stories of everyday repaired objects, which aims to foster a culture of repair in New Dehli, Belo Horizonte, Bristol and Co. Westmeath, as part of the 'People's Archive of Everyday Repair'.

Another key approach of studio repair acts is the design and crowdsourcing of local 'Repair Declarations', statements of intent that people can follow, and which communities can use to foster more repair-oriented cultures and activate change. The Westmeath Repair Declaration – the first of its kind in Ireland – was launched at a four-day festival and exhibition in Kilbeggan, 'Caring for Repair',⁵² which facilitated open public conversations about how Repair Declarations can be advanced in the Irish context. Alongside the Repair Declaration (Figure 7), the festival and exhibition provided people with opportunities for engaging in the topic of repairability from several different angles, covering issues relating to skills and education, conservation practices, and the 'right to repair' movement.

50 Repair Acts (2024). *About*. Available at: <https://repairacts.net/about/> (Accessed 19 April 2024).

51 Repair Acts (2022). *Tales of Care and Repair*. Available at: <https://repairacts.net/all-work/tales-of-care-repair-2021/> (Accessed 19 April 2024).

52 Repair Acts (2022). *Caring for Repairing, Kilbeggan*. Available at: <https://repairacts.net/all-work/caring-for-repairing/> (Accessed 19 April 2024).

We the people of Westmeath:

CALL FOR

- Repair to be more Visible and Present in our Towns and Villages**
- Support for Traditional Crafts and Repair Skill**
- Enhanced Repair skills sharing and Confidence**
- Curriculum Integration** so that repair is present across all aspects of school, training and university curricula
- County Repair Directories** that detail trusted repairers, including an inventory of where materials can be purchased
- Central County Repair Hubs** that provide information on all forms of repair
- Local Repair Workshops and Hubs** in towns and villages, with trained people working collectively to provide advice
- Linked Employment Schemes** that support the development of more qualified tradespeople
- Financially Supported Apprenticeships** for artisan, craft and trades people
- Better Leadership** on repair and the circular economy
- Repair Ambassadors** at a national and local level national and local
- Repair Logos** for shops and business that show they support repair practices and stock mending materials
- Mobile Repair Units** that can travel to rural parts of the county
- Encouraging, Empowering and Positive Language** around Repair and all its benefits

DEMAND

- An End to Planned Obsolescence**
- Better Quality Products** that are sustainable and durable
- Better Information on the materials** and mineral used in products
- Useable Alternatives to Plastic**
- Modular Design** especially for frequently used objects, where parts are replaceable and easily obtained
- Spare Parts Hubs** where people can drop off and trade items free of charge
- Reduced Tax Obligations** for repair shops, so as to keep down end user costs
- Affordable Insurance Rates** for repair business
- Documentation, Access and Tips from Manufacturers** on how they repair their products
- Manufacturer Transparency** on with how they repair their products

repairacts.ie

A Repair Declaration For Ireland v.1
Collated by the people of Westmeath, May-Oct 2022

Figure 7: Westmeath Repair Declaration

4.2 Role of Social Enterprises

Data analysis and stakeholder engagement undertaken for the purposes of this study has found that, while they account for only a small minority (c. 1%) of B2C repair enterprises identified, social enterprises play an important role in the repair sector in Ireland, providing high quality and affordable B2C repair services while delivering a range of co-benefits, including provision of repair skills training, supporting an inclusive and just transition, piloting circular economy business models, and raising the profile of the repair sector.

Numerous social enterprises engaged in B2C repair are providing skills development and employment opportunities, including for groups at risk of poverty and social exclusion, under the scope of Government funded labour market activation schemes, such as Pobal's Community Services Programme (CSP) and Tús. Examples include Frontline Bikes in Inchicore in Dublin City, which provides accredited training and employment in bicycle repair to people with a lived experience of addiction; Deaf Enterprises in Cork City, which provides training and employment in furniture and bicycle repair to people in the deaf and hard of hearing community; and IRD Duhallow Revamp in Newmarket, Co. Cork (refer to case study, below).

As noted by stakeholders interviewed for the purpose of this study, because the labour costs of social enterprises are often subsidised, this supports them in providing access to affordable repaired goods and in the delivery of B2C repair services in areas that might otherwise be poorly served due to high operating costs and poor economic viability for commercial enterprises. Social enterprises are also testing and developing innovative circular economy and repair-based business models using Government innovation funding. For example, An Mheitheal Rothar in Galway, which provides B2C bicycle repair

services, is running a project funded by the EPA's Green Enterprise Fund, investigating new techniques for remanufacturing end-of-life bicycles.

These findings echo previous publications at European and national levels that emphasise the existing and potential future role of the social economy in supporting the transition to a circular economy and highlight the value of supporting the role of social enterprises in the provision of B2C repair services in Ireland. ^{18, 19, 20, 21, 22}

Case Study 2 IRD Duhallow Revamp

IRD Duhallow Revamp is a social enterprise in Newmarket, Co. Cork, specialising in furniture refurbishment and repair. It is an initiative of Local Development Company, IRD Duhallow CLG, established in 1989 to serve the region of Duhallow in north-west Cork and south-east Kerry.

The Revamp initiative was established in 2016 with the aims of providing sheltered training and employment opportunities; reducing landfilling and fly-tipping; and providing quality second-hand furniture at low cost to pensioners, low-income families and marginalised groups.

The operation has two core work streams: a furniture donation, refurbishment/repair and re-sale programme, which accounts for the majority of its activities; and a B2C furniture refurbishment and repair service.

The enterprise offers free collection and delivery of furniture in the local area, making donation a more economical and convenient option than disposal at the recycling centre or illegal dumping. The operation uses a light touch approach to its repairs, aiming to minimise the use of new materials. From the outset, the Revamp initiative has collected data to measure its impact. Using standard weights for items of furniture, the enterprise estimates the weight of furniture that it diverts from landfill and redistributes to the community each year.

IRD Duhallow Revamp is a member of Community Resource Network Ireland (CRNI). It was involved in the development of CRNI's ReMark initiative and is one of a small number of social enterprises that have been awarded certification with the quality mark. The team at Duhallow Revamp is aware of the challenge of consumer perceptions and the need to build consumer confidence in the repair market. They have addressed this through the implementation of standardised workflows for quality assurance, and investing in having a well-presented shop that resembles a new furniture showroom.

The team at IRD Duhallow Revamp has identified labour as their key challenge. The social enterprise currently has four full-time positions funded by Pobal's CSP that are essential to its operation. The enterprise has no shortage of potential donations or space and would welcome more funded positions. However, because staffing is a bottleneck, IRD Duhallow Revamp is currently unable to expand and is operating a waiting list for donations.

4.3 Economic Policy Instruments

Fundamentally, the economic viability of B2C repair is undermined by market failures of externalities, whereby the retail price of consumer goods often does not reflect true costs to society and the environment. In order to ‘make the economics work’⁵³ for repair, systems-level economic policy interventions, such as ‘circular taxation’, are needed at scale. In the interim, targeted economic policy instruments can be implemented at the national level to support the economic viability of B2C repair enterprises in Ireland, by addressing high operating costs for enterprises, incentivising consumers to procure repair services, and supporting innovation. Key opportunities for long- and short-term economic interventions are discussed below.

4.3.1 Circular Taxation

In order to address market failures and support the long-term economic viability of the circular transition, a number of groups have called for the introduction of ‘circular taxation’, whereby the tax burden is shifted from labour onto resource use and pollution at the EU and/or global level.⁵⁴ In its ‘Policy recommendations for a circular economy in Ireland’, the OECD has recommended the Irish Government consider implementing such a shift towards circular taxation.²⁴

This type of circular fiscal reform would be expected to have dual benefits for B2C repair enterprises, by alleviating high labour costs while making the price of repair services more economically viable relative to purchasing new goods. Research undertaken by a number of organisations indicates that circular taxation would support a relative decoupling of primary material use from economic growth in future years, while stimulating job creation and cutting greenhouse gas emissions.^{55, 56, 57}

According to modelling undertaken by the Ex’tax Project, the introduction of circular taxation in the EU during the period 2021-2025, in Ireland could have resulted in an increase in GDP of 1.7%, an employment increase of 2.1% and a reduction in CO₂ emissions of 8.5%.⁵⁸ This type of tax reform may require safeguards to avoid unintended regressive effects on vulnerable groups resulting from potential transitory increases in prices of some goods and services.⁵⁵

4.3.2 Direct Supports for Repair Enterprises

Stakeholders interviewed to inform this study emphasised the need for core funding to address day-to-day operational costs for B2C repair enterprises. Key costs for B2C repair enterprises in Ireland highlighted during stakeholder engagement include labour, rent, energy and spare parts, with the relative importance of costs varying depending on location and type of enterprise. Operating costs pose as a significant challenge for many B2C repair enterprises in Ireland, with enterprises in certain sub-sectors struggling to break even, according to stakeholders interviewed. Poor economic viability may be a deterrent to new entrants.

53 EMF (2021) *Universal circular economy policy goals – enabling the transition to scale*.

54 Reichstadt, T., Lewis, E., Taylor, C. & Ventosa, V. (2022) *Circular Taxation – A policy approach to reduce resource use and accelerate the transition to a circular economy*. Brussels: EEB [Report prepared by Eunomia Research & Consulting for EEB]

55 Groothuis, F. (2016) *New era. New plan. Europe. A fiscal strategy for an inclusive, circular economy*. Utrecht: The Ex’tax Project Foundation.

56 Laubinger, F., Lanzi, E. & Chateau, J. (2020) *Labour market consequences of a transition to a circular economy: A review paper*, OECD Environment Working Paper No. 162. [Report prepared by OECD Environment Directorate].

57 Bibas, R., Chateau, J. & Lanzi, E. (2021) *Policy scenarios for a transition to a more resource efficient and circular economy*, OECD Environment Working Papers No. 169. [Report prepared by OECD Environment Directorate].

58 Groothuis, F. (2022) *The Taxshift: An EU Fiscal Strategy to Support the Inclusive Circular Economy*. Utrecht: The Ex’tax Project.

Subsidised Labour

One potential support is Government funding to address labour costs of B2C repair enterprises. Social enterprises with state-subsidised labour play an important role in providing repair services in areas that might otherwise be poorly served by commercial repair. Social enterprises engaged in B2C repair are often reliant on funded positions; for example, under the Tús community work placement scheme⁵⁹ and/or CSP.^{60, 61} CSP is administered by Pobal and funded by the Department of Rural and Community Development. It provides robust employment support specifically for social enterprises, providing a contribution towards salary costs for staff and managerial roles. Organisations must apply for CSP funding, for which there is a high level of competition. A number of social enterprises interviewed to inform this study emphasised the importance of CSP funding and the need for more CSP funded roles to support the sector. While expansion of CSP positions for social enterprises providing repair services is desirable, it should be noted that social enterprises account for a small proportion (c. 1%) of B2C repair enterprises in Ireland, and targeted supports for commercial repair enterprises should also be considered.

Case Study 3 R.U.S.Z., Vienna, Austria

Cases from elsewhere in Europe highlight the value of government-funding for labour activation schemes centred around repair. R.U.S.Z. is an electronics repair enterprise in Vienna, Austria, with a focus on white goods. In 1998, R.U.S.Z. was commissioned by the Public Employment Service in Vienna for a ten-year period, to provide employment and training to people with long-term unemployment, in the context of high demand for white goods repair. Over those ten years, over 300 people were upskilled and transferred into regular jobs through the R.U.S.Z. initiative.

When the government commission for R.U.S.Z. ended in 2007, the initiative was transferred into a social enterprise model, and it now operates on cost-recovery basis, employing 25 people, most of whom were formerly in long-term unemployment. R.U.S.Z. repairs approximately 400 tonnes of EEE annually. Since 1998, it is estimated to have prevented over 15,000 tonnes of WEEE.

Over the years since its inception, R.U.S.Z. has become an important hub of technical expertise in electronics repair and has come to play a leadership role in advocacy for the repair sector. In 2007, experts from R.U.S.Z. supported the development of an Austrian design for reparability standard for white and brown goods. It founded Repair Network Vienna, which represents around 80 repair SMEs in the municipality. It was also the co-founder of RepaNet and RREUSE, the Austrian and European umbrella organisations for social economy enterprises engaged in reuse, repair and recycling.⁶²

4.3.3 Consumer Incentives

A number of stakeholders interviewed to inform this study noted the potential value of economic incentives to promote Irish consumers to engage with B2C repair services. A study by the EC found that the price of repair (particularly the ratio between the prices of repair and replacement) was the

59 Citizens Information (2024) *Tús*. Available at: <https://www.citizensinformation.ie/en/employment/unemployment-and-redundancy/employment-support-schemes/tus/> (Accessed 19 April 2024).

60 Pobal (n.d.) *Community Services Programme (CSP)*. Available at: <https://www.pobal.ie/programmes/community-services-programme-csp/> (Accessed 19 April 2024).

61 Government of Ireland (2024) *Community Services Programme – Interim Programme Manual, Version 2*.

62 R.U.S.Z. (2024). *Company*. Available at: <https://rusz.at/uber-uns/unternehmen/> (Accessed 19 April 2024)

most important factor influencing decision to repair, followed by convenience.⁶³ This is supported by the results of a survey undertaken on behalf of the EPA in 2022 (the ‘National Repair Survey’), which found that affordability was a key factor influencing decisions to repair among a representative sample of Irish citizens.⁶⁴ Particularly for low-priced consumer goods, the price of repair may be similar to, or even greater than, the retail price of buying new. This poses a major economic hurdle to scaling repair services.

To increase consumer willingness-to-pay for repair, there is a need to widen this price gap between repair relative to buying new. As discussed above, this issue results from market failures of externalities whereby the prices of repair services and new consumer goods often do not reflect the true costs and benefits to the environment and society. While systems-level interventions are needed at scale to address this problem meaningfully, in the short-term, targeted economic instruments can be implemented to incentivise consumers to repair, including tax incentives and discount schemes.

Tax Incentives

A number of stakeholders interviewed to inform this study, and circular economy stakeholders more broadly,^{65, 66, 67, 68} have called for tax relief for repair, specifically a further reduced rate of value added tax (VAT), or VAT exemption. As repair retains the value of goods already placed on the market, imposing VAT on repair may be regarded as taxing value retention where there is no ‘value added’. From a fiscal perspective, this places the circular use of products and the purchasing of new products on equal footing and does not promote repair as an alternative to replacement.

In Ireland, repair services are subject to a reduced rate of VAT, at 13.5%. Certain other goods and services qualify for further reduced rates (of 9%, 4.8% and 0%) or a VAT exemption. CRNI has called for a 5% rate of VAT for reuse and repair.⁶⁶ Sweden (see case study, below), Belgium and Austria have implemented reduced rates of VAT for repair of certain product categories.^{69, 70, 71} The Greek government has indicated that it will follow suit, in addition to shifting the tax burden from labour to materials.⁷⁰

63 Cerulli-Harms, A., Suter, J., Landzaat, W., Duke, C., Rodriguez Diaz, A., Porsch, L., Peroz, T., Kettner, S., Thorun, C., Svatikova, K., Vermeulen, J., Dekeulenaer, F. & Lucica, E. (2018) *Behavioural study on consumers’ engagement in the circular economy*. Luxembourg: Publications Office of the EU [Report prepared by LE Europe, VVA Europe, Ipsos, ConPolicy and Trinomics for the EC].

64 EPA (2022) *Repair: Attitudes & Behaviours National Survey 2022 – Professional Repair Services; Part 4 of 5 Series*.

65 RREUSE (2017) *Reduced taxation to support re-use and repair*.

66 CRNI (2022) *Cut VAT for the Circular Economy*.

67 Milios, L. (2021) ‘Towards a circular economy taxation framework: expectations and challenges of implementation’, *Circular Economy and Sustainability*, 1, pp. 477 – 498.

68 Council of the EU (2023) *Lower VAT rate for recyclates/recycled products – a possible economic tool to promote the circular economy – Information from the Czech delegation*.

69 Piringer, M. & Schanda, I. (2020) *Austria makes repair more affordable*. Available at: <https://repair.eu/news/austria-makes-repair-more-affordable/> (Accessed 19 April 2024).

70 Dalhammar, C. (Ed.), Richter, J.L. (Ed.), Almén, J., Anehagen, M., Enström, E., Hartman, C., Jonsson, C., Lindbladh, F. & Ohlsson, J. (2020) *Promoting the Repair Sector in Sweden*.

71 Piringer, M. & Butler, O. (2022) *Austria launches a nation-wide repair bonus scheme*. Available at: <https://repair.eu/news/austria-launches-a-nation-wide-repair-bonus-scheme/> (Accessed 19 April 2024).

Case Study 4 Swedish Tax Breaks for Repair

In January 2017, Sweden introduced legislation providing a consumer tax break to promote repair, which saw the rate of VAT for repairs of certain product categories reduce from 25% to 12%.⁷⁰ The reduced rate of VAT is applied upon purchase of repair services for eligible product categories – shoes, bicycles, white goods and EEE.

A study undertaken three years later indicates that the tax break did not have a significant impact on consumer behaviour. Some repairers believe that increasing the price of new goods would have a bigger impact on consumer willingness to repair.

Potential issues identified with this policy include a lack of consumer awareness of the tax break, and the already low price of consumer goods resulting in proportionally little economic incentive through the reduced rate of tax. Calls have also been made for the reduced rate to apply to a broader range of product categories – textiles and furniture, for example, are not eligible – and the purchasing of spare parts.^{72 73}

There is also a need to ensure that existing tax incentive schemes are aligned with circular economy objectives. Bicycle repair enterprises interviewed for this study have highlighted, for example, that the Cycle to Work Scheme does not promote bicycle reuse or repair (see case study below).

72 Margolis, J. (2017) *Sweden tries to curb buy-and-throw-away culture through tax breaks*. Available at: <https://theworld.org/stories/2016/12/23/sweden-tries-curb-buy-and-throwaway-culture> (Accessed 19 April 2024).

73 Sverige Radio (2016) *Would lowering V.A.T. on repairs do any goods?* Available at: <https://sverigesradio.se/artikel/6411587> (Accessed 19 April 2024)

Case Study 5 Cycle to Work Scheme, Ireland

The Cycle to Work Scheme is a Government tax incentive scheme introduced in 2009 that seeks to increase the number of people cycling to work. Under the scheme, an employer can pay for a new bicycle and accessories for an employee for the purposes of commuting to work. The employee repays the price of the purchase in regular instalments from their gross salary without incurring income or benefit-in-kind taxes or related charges.⁷⁴

The Cycle to Work Scheme applies to regular, electric and cargo bicycles but, notably, does not apply to second-hand bicycles. Employees can avail of the scheme once every four years. The scheme limits expenditure to the initial cost of purchasing a bicycle and equipment and does not provide for ongoing costs, such as repairs. Thus, the Cycle to Work Scheme facilitates the regular purchasing of new bicycles but does not directly support demand for bicycle repair services or second-hand bicycles.

Due to its legislative basis, the scheme can only be applied in the context of an employer-employee relationship, meaning self-employed and unemployed persons are, therefore, ineligible. People with higher incomes, for whom the cost of a bicycle is not likely to constitute a significant barrier to cycle-commuting, generally enjoy greater savings as a result of participating in the scheme. It is also noted that equipment for cycling with children does not qualify for the scheme, which make it less useful for parents/caretakers that need to transport children as part of their commute.

A Government assessment of the scheme⁷⁵ identified a need to examine the role of the Cycle to Work Scheme in promoting a modal shift among commuters. A number of stakeholders interviewed to inform this study highlighted the need for the scheme, or some iteration thereof, to support bicycle repair services and the second-hand bicycle market, and/or to be open to a broader segment of the public (e.g., through a 'Cycle to Find Work Scheme').

Discount Schemes

Certain countries and municipalities in the EU have introduced discount schemes for repair services, often referred to as a repair 'bonus' or 'voucher', allowing citizens or repair enterprises to claim back part of the cost of B2C repair services for eligible product categories. Examples include the Austrian⁷⁶ (see case study, below) and French⁷⁷ repair bonus schemes, and the Amsterdam Stadspas discount for clothing repair.⁷⁸

74 Citizens Information (2023) *Cycle to Work Scheme*. Available at: <https://www.citizensinformation.ie/en/travel-and-recreation/cycling/cycle-to-work-scheme/> (Accessed 19 April 2024).

75 Ní Éigeartaigh, Ú., Campbell, T. & Crowe, D. (2021) *Spending Review 2021: An Examination of the Cycle to Work Scheme*. [Report prepared by the Department of Transport Strategic Research and Analysis Division].

76 Reparatur Bonus (n.d.) *Reparatur Bonus*. Available at: <https://www.reparaturbonus.at/> (Accessed 19 April 2024).

77 Label QualiRépar (n.d.) *Label QualiRépar*. Available at: <https://www.label-qualirepar.fr/> (Accessed 19 April 2024).

78 Circle Economy (2023) *Amsterdam City Pass Clothing Repair Initiative*. Available at: <https://knowledge-hub.circle-economy.com/article/23936?n=Amsterdam-City-Pass-Clothing-Repair-Initiative> (Accessed 19 April 2024).

Case Study 6 'Reparatur Bonus', Austria

The Austrian repair bonus ('Reparatur Bonus') was launched by the Ministry of Climate Protection in April 2022, building on the experience of repair vouchers used by the City of Vienna since 2020.⁷⁶ The €130 million scheme is funded by the EU's reconstruction fund, NextGenerationEU, and will run until the end of March 2026.

It allows Austrian residents to receive a refund of 50% of the price of repairing EEE commonly used in private households and not covered by insurance, warranty or guarantee, up to a limit of €200 per repair.⁷⁹ The bonus applies to repairs by partner companies listed in a directory on the scheme website. Austrian residents download a digital repair voucher from the website, which is brought to the desired partner company. Once the customer has paid the full invoice amount for a repair, the partner company submits a refund application on their behalf, using a QR code or voucher number from the digital voucher.⁶⁹

Becoming a partner company for Reparatur Bonus is relatively straightforward. In order to participate, repair enterprises must submit a registration application via the website and meet certain eligibility criteria. Eligible companies must be able to demonstrate that they have a branch in Austria and hold a relevant class of trade licence, or an exemption from same under Austrian regulations. Reports indicate that there has been high demand for the Austrian repair bonus to date. It has been estimated that, by March 2026, 400,000 or more devices will be repaired as a result of the scheme.

The accessibility of the Austrian repair bonus for repair enterprises differentiates it from the French equivalent, which applies only to repair professionals who have obtained certification with a dedicated quality mark/ecolabel for repairers.⁷⁷ Currently, the French scheme applies to out-of-warranty EEE, and only repairers who have been certified with the 'QualiRépar' label can offer the repair bonus. Achieving certification entails administrative and financial costs for repairers, which could create a barrier to entry for a proportion of repair enterprises.

4.3.4 Innovation Funding

A number of national competitive funds have supported circular economy projects, including the EPA Circular Economy Programme's *Green Enterprise: Innovation for a Circular Economy* scheme, the Department of the Environment, Climate and Communications' *Circular Economy Innovation Grants Scheme (CEIGS)* and CIRCULÉIRE's *Innovation Fund*. A number of projects of relevance to repair have been completed or are ongoing with funding from one of these schemes.

An Mheitheal Rothar's CircleGreen bicycle remanufacturing project and the RePlay refurbished toys project led by Jiminy Eco Toys were both funded under the EPA's Green Enterprise scheme.

Projects supported by CIRCULÉIRE's Innovation Fund included NCAD's Circular by Design project; and the Circular Economy Skills Initiative (CESI) led by the Fastrack to Information Technology (FIT) and the White Goods Association (WGA) which, in 2021, culminated in the launch of a flagship QQI-accredited training course for white goods repair technicians.

Innovation funding is likely to be beneficial to promote the contribution of the repair sector to the transition to a circular economy, particularly where there are knowledge or technological gaps. Many

⁷⁹ EC (2022) Project: Repair bonus – Promotion the repairing of electrical and electronic equipment. Available at https://commission.europa.eu/projects/repair-bonus-promotion-repairing-electrical-and-electronic-equipment_en#:~:text=The%20support%20program%20repair%20bonus,press%20conference%20in%20April%202022. (Accessed 19 April 2024).

repair success stories from elsewhere in Europe have got their start with government innovation funding, such as the 'fixoteket' community repair hubs in Gothenburg, Sweden. However, stakeholders interviewed to inform this study have emphasised the need for – in addition to innovation funding – supports for the day-to-day operation of repair enterprises that already have a circular business model but are not necessarily doing anything particularly novel or innovative.

4.3.5 Extended Producer Responsibility

Extended producer responsibility (EPR) refers to an environmental policy approach whereby a producer's responsibility, physical and/or financial, for a product is extended to the post-consumer stage of its lifecycle.⁸⁰ In the EU, EPR schemes require producers "to bear financial responsibility or financial and organisational responsibility for the management of the waste stage of a product's life cycle".⁷ In Ireland, there are currently six EPR schemes ('Producer Responsibility Initiatives'), whereby producers of must finance the collection and environmentally sound waste management at end-of-life of six categories of products: packaging, batteries, WEEE, end-of-life vehicles, tyres, and farm plastics.⁸¹ There are additional EPR obligations for particular types of single-use plastic products.⁸¹

During stakeholder engagement to inform this study, it was highlighted that current EPR policy in Ireland supports waste management but does little to influence consumer decision-making, promote repair or ecodesign of products. This is echoed by the Right to Repair Europe Coalition, which recently called for reformed EPR policy to promote repair.⁸² In its discussion paper, the group points out that current EPR schemes have been successful in financing better waste management but have failed to systematically promote waste prevention strategies, such as repair. It states that reformed EPR policy could be used to partly finance the collection, sorting and treatment infrastructure needed to promote repair, as well as incentives such as repair bonuses.

The discussion paper describes three necessary aspects of reformed EPR schemes to support repair: (1) the use of EPR fees to promote a circular economy instead of only end-of-life management, both before and after products are discarded by consumers; (2) significant and eco-modulated fees that cover waste prevention activities and all environmental costs, and which have a steering effect; and (3) better governance of EPR schemes that includes all relevant stakeholders, including consumer protection and environmental organisations. It highlights that the French repair bonus, for example, is fully financed by EPR fees paid by producers for each product placed on the market.

4.4 Design for Repair

During stakeholder engagement to inform this study, product design was highlighted as a key challenge for B2C repair enterprises across numerous product categories. The design of products and decisions of manufacturers, which are usually outside the control of B2C repair enterprises, influence a number of factors that affect B2C repair, including technical product repairability, cost of repair and consumer willingness to repair.

The technical repairability of products within product categories can vary greatly.^{83, 84} A key factor influencing repairability is the degree to which a product is designed for disassembly, which is a function of various design decisions including choice of materials, joints and fasteners, coatings and

80 OECD (2001) *Extended Producer Responsibility: A Guidance Manual for Governments*. Paris, France: OECD Publications Service.

81 DECC (2024) *Extended Producer Responsibility (EPR)*.

82 Right to Repair Europe (2024) *Discussion Paper: Reforming Extended Producer Responsibility to Promote Repair*.

83 Fletcher, K. (2017) 'Exploring demand and reduction through design, durability and 'usership' of fashion clothes', *Philosophical Transactions of the Royal Society A – Mathematical, Physical and Engineering Sciences*, 375(2095).

84 Laitala, K., Grimstad Klepp, I., Haugrønning, V., Throne-Holst, H., Strandbakken, P. (2021) 'Increasing repair of household appliances, mobile phones and clothing: Experiences from consumers and the repair industry', *Journal of Cleaner Production*, 282, 125349.

reinforcement, among others.^{85, 86} It is important to note that what constitutes the optimal design for repairability depends on who will carry out the repair.⁸⁵ The design requirements of third-party B2C repair enterprises differ to those of manufacturer take-back-and-repair schemes, which may employ proprietary screws and tools and/or robots to carry out in-house repairs.⁸⁷

Even in cases in which a defective product is technically repairable, a consumer may have a preference for replacement over repair due to perceived obsolescence, driven by design.⁸⁸ This is particularly a problem for consumer goods closely linked to identity, such as clothing, where manufacturers can drive obsolescence and new purchases through rapidly changing styles and trends.⁸³ To address this challenge, some authors have called for ‘emotionally durable design’ to elicit an emotional response promoting sustained use.⁸⁹ Indeed, research indicates that perceived quality and emotional attachment to goods are important factors influencing decisions to repair.⁸⁴ However, authors have noted the potential limitations of this approach to transform consumer attitudes and patterns of consumption, which are influenced by culture as well as design.⁹⁰

Product design and decisions of manufacturers also affect availability of spare parts and access to information regarding repair for B2C repair enterprises.⁹¹ In some instances, spare parts may be produced by manufacturers but not made available to third parties, or only made available under the scope of paid certification schemes for third-party repair enterprises, although there have been positive recent developments in this regard.^{47, 92} Access to information needed for fault diagnostics and repair (e.g., manuals, labelling, Digital Product Passports) may also be limited.

There are a range of potential solutions to address design barriers to B2C repair, including national and multilateral policy instruments, voluntary design standards, and application of emerging technologies and circular business models.

Targeted policy interventions include ecodesign requirements, penalties for premature obsolescence and mandatory repairability indices. At European Union level, the recently adopted Ecodesign for Sustainable Products Regulation (ESPR)³ and the Right to Repair Directive⁹ seek to address design barriers. The ESPR, which replaces the previous Ecodesign Directive³⁷, provides a new framework for setting ecodesign requirements for a broad range of product groups, including design for repairability requirements and a requirement for a Digital Product Passport (DPP), providing information about a product’s ecodesign attributes. At national level, France was the first Member State to introduce a mandatory repairability index for certain product groups (refer to case study, below).

85 Den Hollander, M.C. (2018) *Design for managing obsolescence: A design methodology for preserving product integrity in a circular economy*. [PhD thesis: TU Delft].

86 De Fazio, F., Bakker, C., Flipsen, B. & Balkenende, R. (2021) ‘The Disassembly Map: A new method to enhance design for product repairability’, *Journal of Cleaner Production*, 320, 128552.

87 Apple Canada (2016) *Liam – An Innovation Story*. Available at: <https://www.youtube.com/watch?v=2oXYDj9TC8> (Accessed 19 April 2024).

88 Burns, B. (2010) ‘Re-evaluating obsolescence and planning for it’, in *Longer lasting products: alternatives to the throwaway society* (ed. T. Cooper), pp. 39 – 60. Farnham, UK: Gower.

89 Chapman, J. (2005) *Emotionally durable design: objects, experiences and empathy*. London, UK: Earthscan.

90 Chapman, J. (2010) ‘Subject/object relationships and emotionally durable design’, in *Longer lasting products: alternatives to the throwaway society* (ed. T. Cooper), pp. 61 – 76. Farnham, UK: Gower.

91 Pozo Arcos, B., Dangal, S., Bakker, C., Faludi, J. & Balkenende, R. (2021) ‘Faults in consumer products are difficult to diagnose, and design is to blame: A user observation study’, *Journal of Cleaner Production*, 319, 128714.

92 Apple (2024). *Apple to expand repair options with support for used genuine parts*. Available at: <https://www.apple.com/newsroom/2024/04/apple-to-expand-repair-options-with-support-for-used-genuine-parts/> (Accessed 19 April 2024).

Case Study 7 French Repairability Index

In 2021, France became the first country in Europe to introduce a regulation enforcing manufacturers to display a Repairability Index on their products. The Index was introduced to reduce WEEE by providing consumers with information on product repairability at the point of purchase. The Index places a legal obligation on French re-sellers and operators to show a repairability score for certain product groups that they sell. The score is calculated out of ten and is based on responses to a set of criteria, including spare parts availability and ease of disassembly. The higher the score, the better the repairability and the longer the lifespan of a product.

The Repairability Index is currently being piloted for five categories of products: smartphones, laptops, front-loading washing machines, televisions, and electric lawnmowers. Over time, it will be extended to other categories of EEE. Limitations have been noted in relation to the French Repairability Index, including the potential ease of obtaining a good grade and the issue of self-declared scores by manufacturers.^{93, 94, 95}

Voluntary design standards are another alternative for promoting repair in the design process. Relevant examples include EN 45554:2020, 'General methods for the assessment of the ability to repair, reuse and upgrade energy-related products', and the Austrian standard, ONR 192102:2014, 'Sustainability mark for electric and electronic appliances designed for easy repair (white and brown goods)'.

Emerging technologies and innovative circular economy strategies and business models can also be used to address design barriers for B2C repair enterprises. For example, 3D printing, using blueprints made available by manufacturers, could allow third-party B2C repair enterprises to print spare parts locally⁹⁶. Smart technologies and smart networks of devices could be used to support fault diagnosis in EEE products. Additionally, product-as-a-service (PaaS) models, which can be adopted by B2C repair enterprises, incentivise the design of repairable products, as the service provider is responsible for keeping the products in good working order and incurs any costs of replacement.^{6, 97} For example, R.U.S.Z., an Austrian social enterprise providing B2C repairs of white goods, introduced a new PaaS offering to customers in 2017, 'Clean Laundry', whereby 'repair-friendly' washing machines are rented rather than sold⁹⁸.

93 ECR Community (2021) *Implementing the Repairability Index in France*. Available at: <https://www.ecr-community.org/implementing-the-repairability-index-in-france/> (Accessed 19 April 2024).

94 EU Right to Repair (2021) *The French repairability index: challenges and opportunities*. Available at: <https://repair.eu/the-french-repairability-index-challenges-and-opportunities/> (Accessed 19 April 2024).

95 Fairphone (2021) *French Repairability Index: Fairphone takes the lead*. Available at: <https://www.fairphone.com/en/2021/02/04/french-repairability-index/> (Accessed 19 April 2024).

96 Turunen, T., Suvantola, L. & Romppenen, S. (2021) 'Well defined is half solved? The regulatory barriers for circular economy business', *Nordic Environmental Law Journal*, 2021(1) pp. 93-111.

97 Tukker, A., Van den Berg, C., & Tischner, U. (2006). 'Product-services: a specific value proposition', in A. Tukker and U Tischner (Eds.), *New Business for Old Europe - Product-service development, competitiveness and sustainability* (pp. 22-34). Sheffield, UK: Greenleaf Publishing Ltd.

98 R.U.S.Z. (2021). *Use instead of own: The Clean Laundry Product Service: Project summary*.

4.5 Staff Recruitment and Retention

This study has found that staff recruitment and retention is a key barrier to the success and growth of the repair sector in Ireland.

Social enterprises have the potential to create 70 jobs per 1,000 tonnes of used material collected for the purpose of reuse.⁹⁹ However, numerous sub-sectors of Ireland's commercial repair sector (including textiles, shoe and leather goods and white goods repair) are struggling to hire skilled repair professionals from the domestic labour market. Difficulties linked to this issue include insufficient training opportunities for individuals wishing to join the repair sector, lack of a clear career pathway, and poor recognition of repair as a profession.

Stakeholders, including those who participated in this study, claim that skilled workers are difficult to find due to a lack of efficient and accessible training opportunities in Ireland.¹⁰⁰ Careers such as shoe repair usually require on-the-job training, which can result in drawbacks for an enterprise, including additional costs to the business and slower repair rates. In contrast, some enterprises consider on-the-job training more useful for recruitment, as it can empower people living in more isolated areas to participate in repair skills training opportunities by removing the cost and inconvenience associated with commuting to training centres. It is clear, therefore, that training influences both the uptake of repair careers and the ability of repair enterprises to recruit staff. This aligns with a study on the repair sector in Sweden, which also found that repair enterprises find it difficult to recruit trained individuals due to a lack of sufficient training resources for the sector.⁷⁰ The challenges associated with repair skills training education in Ireland are explored further in a second, parallel Circular Insights study under separate cover. Please refer to standalone Circular Insights Study, 'Repair Skills Training and Education in Ireland' for further information.

The attractiveness of repair as a career is limited by the lack of recognition given to these skills and the lack of jobs available to the market. Stakeholder engagement shows that people are generally not satisfied with the level of recognition given to the skills required in the repair sector. According to a number of stakeholders, repair professionals may spend several years training on the job, only to be discouraged by the absence of a certification to support their skills development. This sentiment was reiterated by various workshop participants who agree that a certification and clear career pathway would encourage people to see the value in repair services as a viable career. There is a perception that it would also increase consumer confidence in the quality of these services. Initiatives such as the ReMark quality mark (Section 4.10) and manufacturer certification schemes (Section 4.10) are conducive to these interventions, but there is a clear desire to see more of them across the repair sector in Ireland.

4.6 Accessibility, Convenience and Visibility of Repair Services

In order to increase rates of repair and make repair an obvious alternative to replacement for Irish citizens, there is a need to make B2C repair services accessible, convenient and visible to consumers nationwide. A number of stakeholders interviewed to inform this study emphasised this need. The findings of this study indicate that this factor may be a particular challenge for citizens in rural areas in Ireland, which are less well served than urban areas (refer to Section 2), in agreement with previous studies.^{47, 101}

99 RREUSE (2021) *Job creation in the re-use sector: Data insights from social enterprises*. Available at: <https://rreuse.org/job-creation-in-the-re-use-sector-data-insights-from-social-enterprises/> (Accessed 19 April 2024).

100 WEEE Ireland (2023) *Initiatives and Case Studies: Fastrack into Information Technology (FIT) Consumer Electronics project 2023*. Available at: <https://www.weeeireland.ie/close-the-loop-initiatives/fastrack-into-information-technology-fit-consumer-electronics-project-2023/> (Accessed 19 April 2024).

101 Fachbach, I., Lechner, G. & Reimann, M. (2022) 'Drivers of the consumers' intention to use repair services, repair networks and to self-repair', *Journal of Cleaner Production*, 346, 130969.

These findings are consistent with previous research, which has identified convenience as a key driver of willingness to repair, second only to price.^{63, 102} Research has also found that consumers may have poor awareness of repair services, even where they are available – highlighting the importance of awareness/visibility in addition to accessibility.¹⁰² The EPA's 2022 National Repair Survey found that awareness of repair services was low among Irish citizens, with only 15% strongly agreeing that *'I am aware of repair services for the products I own'*.¹⁰³

Due to a shortage of skilled labour, long delivery times for spare parts and poor financial resources, B2C repair enterprises may be limited in what they can achieve in isolation to improve the accessibility, convenience and visibility of their services.¹⁰² However, there are examples of B2C repair enterprises in Ireland that have tailored their business models to address this challenge. For example, Isaac Jackman Shoe Repairs in Dublin City introduced a postal send-and-return service, making its services available to customers nationwide (refer to case study, below). There are also bicycle repair enterprises (such as Cycle Clinic in Dublin City) that provide mobile bicycle repair clinics, bringing their services to individuals' homes and workplaces.

Potential policy/government interventions to address this challenge include improved public transport infrastructure and services in rural areas, supports for social enterprises providing B2C repair services in areas that might otherwise be poorly served, innovation funding to promote accessibility of repair, use of repair directories, and awareness campaigns. At European Union level, the recently adopted Right to Repair Directive will support the accessibility and visibility of repair services (refer to case study, below). When considered in the context of the consumer 'right to repair' movement, B2C repair enterprises may be regarded as basic infrastructure.

102 Güsser-Fachbach, I., Lechner, G., Ramos, T.B. & Reimann, M. (2023). 'Repair services convenience in a circular economy: The perspective of customers and repair companies', *Journal of Cleaner Production*, 415, 137763.

103 EPA (2022) *Repair: Attitudes & Behaviours National Survey 2022 – The Repair Economy; Part 2 of 5 Series*.

Case Study 8 Right to Repair

There has been a global movement in recent years that frames repair as a consumer right.¹⁰⁴ In both the US and Europe, 'right to repair' movements have emerged, including Right to Repair Europe Coalition¹⁰⁵ and the Repair Association in the US.¹⁰⁶ The Right to Repair Europe Coalition has over 130 member organisations from 23 European countries, including CRNI and the Rediscovery Centre in Ireland.¹⁰⁷ Its steering group includes the European Environmental Bureau, iFixit and RREUSE. It lobbies for a universal right to repair for consumers through minimum design for repairability requirements, access to spare parts and information, product repairability labelling, a competitive repair market, and bans on certain anti-repair practices.¹⁰⁸ The EPA's 2022 National Repair Survey found that 31% of people were familiar with the concept of the 'right to repair'.¹⁰⁹

In the EU, the right to repair movement and circular economy policy objectives have prompted the adoption of right to repair legislation. On 30 May 2024, the European Council adopted Directive (EU) 2024/1799 on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394 and Directives (EU) 2019/771 and (EU) 2020/1828.⁹ The 'Right to Repair Directive' introduces a range of measures to empower consumers and repair enterprises, including a requirement for manufacturers to repair products that are technically repairable under EU law beyond the legal guarantee period, the extension of the legal guarantee by 12 months for consumers who choose to repair instead of replace, and provisions to improve access to tools and spare parts for third-party repairers.

However, the agreement also maintains the consumers' right to choose between repair and replacement for defective products under warranty. Additionally, the scope of the new rules is limited to categories of products covered by repairability ecodesign requirements under EU law, such as delegated acts pursuant to the Ecodesign for Sustainable Products Regulation (ESPR).^{3, 110}

Ireland already has a national directory of repair enterprises, RepairMyStuff.ie, launched in 2017, which is managed by Monaghan County Council and primarily funded by the EPA Circular Economy Programme. It allows citizens to search for repair enterprises by location and product category. Repair enterprises can register for free, and new registrations are validated by the Council through a web search. While there is promotion of the website through social media, to date, there has not been a significant focus on national-level communications campaign to increase awareness of the directory.

There is currently a lack of data on the effectiveness of the directory in promoting the use of B2C repair services. Options to address this data gap include use of website analytics to track user engagement with B2C repair enterprises on the platform, and/or a survey of registered enterprises to understand how the value of the directory can be optimised. Results from that EPA's 2022 National Repair Survey

104 Hernandez, R.J., Miranda, C. & Goñi, J. (2020) 'Empowering sustainable consumption by giving back to consumers the 'right to repair'', *Sustainability*, 12(3), pp. 850.

105 Right to Repair (n.d.) *Who we are*. Available at: <https://repair.eu/about/> (Accessed 19 April 2024).

106 Repair.org (n.d.) *Who We Are*. Available at: <https://www.repair.org/our-board-and-board-advisors> (Accessed 19 April 2024).

107 Dao, B. (2024) *Press Release: New EU law sets to make repair more affordable for selected products, campaigners push for widespread right to repair*. Available at: <https://eeb.org/new-eu-law-sets-to-make-repair-more-affordable-for-selected-products-campaigners-push-for-widespread-right-to-repair/#:~:text=The%20Right%20to%20Repair%20Europe%20campaign%20is%20a%20coalition%20of,repair%20networks%2C%20and%20repairers%20themselves.> (Accessed 19 April 2024).

108 Right to Repair (n.d.) *What we want*. Available at: <https://repair.eu/what-we-want/> (Accessed 19 April 2024).

109 EPA (2022) *Repair: Attitudes & Behaviours National Survey 2022 – Consumer Rights; Part 1 of 5 Series*

110 Rezende, J.A. (2024). *Analysis of the adopted Directive on Common Rules Promoting the Repair of Goods*. Available at: <https://repair.eu/news/analysis-of-the-adopted-directive-on-common-rules-promoting-the-repair-of-goods/>. Accessed September 2024.

indicated that awareness of the directory was low.⁶⁴ Only 11% of respondents reported being aware of RepairMyStuff.ie, with highest levels awareness among Dubliners and young adults. Of those who were aware of the directory, 44% reported using it to search for repairers, while the majority of those who searched (75%) ultimately had their item repaired.

4.7 Consumer Attitudes

According to workshop participants, consumers often have negative attitudes towards repair and repaired items, which may be rooted in a lack of confidence in repair services and repaired goods, attributed to various factors including the perceived optics of repair, the perceived quality of repair, and the reparability of the goods owned. Overcoming these negative perceptions will be pivotal to successfully scaling repair in Ireland. This section will explore these negative perceptions further and investigate potential opportunities for overcoming them.

From discussion with repair industry stakeholders, there was a consensus that consumers in Ireland are not confident in the repair services available to them. This is consistent with a recent study conducted in Austria,¹⁰² which found that consumers sometimes find it difficult to determine whether they should trust a repair service. Consumers raised concerns about their lack of knowledge of the failure of their belongings, which may result in repairers taking advantage of them in terms of the length of time it takes to make the repair, the cost of the repair, and the nature of the repair.¹⁰² The same study found that consumers determined their confidence in repair from web-based reviews, certifications, recommendations or the appearance of the service's webpage.¹⁰²

However, the EPA's 2022 National Repair Survey found that, of those who did procure repair services, experiences of the services in question were very positive, with 80% of users reporting that the service provided was good across a range of criteria.

Negative perception of repair services and repaired goods may relate to the marketing of repair and societal norms and pressures related to consumption. There is a consensus that repaired goods are inferior to new goods in terms of performance, quality, optics, and the user's social status. Workshop participants believe that in general, people think that repaired goods are not as durable, safe or 'trendy' as new versions.

There may even be a sense of embarrassment associated with repairing personal items, with people who opt for repairing their goods expressing a desire for their items to look as attractive post-repair as they did prior to repair.¹¹¹ People may also feel that old products are of inferior quality, 'obsolete and out of fashion'.¹¹²

Overcoming these stigmas requires efforts to instil a sense of ownership and pride in the goods that individuals consume, while also showcasing the value, performance, and sustainability that repaired goods can offer. Opportunities such as implementation of certification and accreditation schemes (Section 4.10) and designing for reparability (Section 4.4) should be explored in an effort to increase confidence in the value, quality, and sustainability of the sector.

A third point on consumer attitudes towards repair is the perceived reduction in durability associated with repaired goods. A study on repair in the EU states that, for brand-new large appliances, durability has decreased significantly in recent years.¹⁷ Despite technological advancements in recent years, defects requiring repairs are on the rise due to in-built obsolescence shortening the service life of these items.¹⁷

111 Maguire, H. (2023) *Sustainment and sustainabilities – Exploring everyday clothing consumption practices in Ireland and insights for sustainability transitions*. [PhD Thesis: NUI Galway]

112 Šajin, N. (2019) *Briefing: Consumers and repair of products*. [Briefing prepared for European Parliamentary Research Service].

The EPA's 2022 National Repair Survey found that the majority of Irish citizens (81%) believed product durability was in decline, with close to 80% indicating their willingness to pay more for a durable product.

In order to reconcile these issues, consumer behaviour needs to be tackled. Considering the high cost associated with repairs, attributed to the labour, spare parts, and skills required to carry out a repair, repair is often a more expensive alternative to replacement. This, coupled with the effort required to travel to repair enterprises and wait for an item to be returned, may discourage people from engaging with the repair sector for their low value items such as clothing, furniture, and some electronics.¹¹¹ Government intervention in the form of repair subsidies or tax relief (Section 4.3) could be influential for altering this type of behaviour by removing this key barrier to consumer engagement with repair.

4.8 Logistics

The transition from a linear to a circular economy presents a logistical challenge, to which repair is no exception. In a linear economy, supply chains flow forward 'from cradle-to-grave'.¹¹³ In a circular economy – and in the case of repair service supply chains – there is also a reverse flow of products from end users to manufacturers or third-party repairers, which creates new logistical needs.

This study has found that storage space and transportation are logistical challenges for repair enterprises operating in Ireland. The need for storage space is a particular challenge for repair enterprises where bulky goods, such as bicycles, are concerned, and in urban areas where the cost and availability of space is at a premium, contributing to rental overheads. Transportation of defective goods to-and-from repairers is also a potential barrier for repair enterprises and consumers alike. As discussed in Section 4.6, the accessibility of repair services (e.g., using public transport) is a key factor influencing convenience and willingness-to-repair among consumers.¹⁰² This has been identified as a particular challenge for enterprises and consumers in rural areas, where travel distances to access repair enterprises are likely to be greater; and where bulky, difficult-to-transport goods are concerned (e.g., white goods).

Potential solutions to overcome logistical challenges for repair include the use of reverse logistics, mobile repair services and technicians, use of courier/postal services, and clustering of repair enterprises. Examples of reverse logistics for repair include take-back schemes offered by manufacturers such as Apple, Patagonia and MUD Jeans.

Reverse logistics operations are more complex than traditional linear logistics and provide manufacturers with an opportunity to differentiate themselves from competitors, while facilitating repair and contributing to circularity.¹¹⁴ Additionally, in the case of products that are beyond repair, take-back schemes support the most circular use of end-of-life products (e.g., disassembly for spare parts and recycling of constituent materials).

113 McDonough, W. & Braungart, M. (2009) *Cradle to Cradle: Remaking the Way We Make Things*. New York, United States: Vintage.

114 Amini, M.M., Retzlaff-Roberts, D. & Beinstock, C.C. (2005) 'Designing a reverse logistics operation for short cycle time repair services', *International Journal of Production Economics*, 96(3), pp. 367-380.

Case Study 9 MUD Jeans

MUD Jeans was founded in 2012 with the purpose of providing good quality, ethical jeans. In 2013, it introduced a leasing model for its jeans. As well as allowing consumers to purchase its products outright, MUD Jeans allows consumers to rent its jeans for around €10 per month. Customers pay the monthly fee for one year, during which time MUD Jeans retains ownership of the raw materials. After a year, customers can opt to keep the jeans (at which point they become the owner), swap them for a fresh leased pair, or return them for reuse or recycling through the post.

The leasing model was adopted by MUD Jeans as an alternative to sale and consumer ownership, to promote optimal rates of product take-back and, therefore, rates of reuse, repair and recycling. In addition to its own jeans, MUD also accepts donations of used jeans from other brands, as long as they comprise at least 96% cotton. New customers receive a discount for sending MUD their old jeans, and returning customers receive a discount on their second leased pair.

In partnership with a third-party repair enterprise, MENDED, MUD Jeans provides a repair service for its leased and purchased jeans in the Netherlands. MENDED allows customers in the Netherlands to book clothing repair services using a dedicated app and provides for the transportation of the garment to-and-from the consumer via DHL. MUD Jeans covers 50% of the repair price. For customers outside of the Netherlands, it encourages its customers to use local repair enterprises and offers to reimburse up to €10 of the cost of these repairs, when a receipt and photo of the repaired jeans are provided for verification.^{115, 116}

As highlighted in the cases of MENDED and Isaac Jackman Shoe Repairs, for third-party repair enterprises, there are opportunities to collaborate with providers of logistical, postal, and digital services to develop bespoke logistical solutions that make repair services as convenient as possible for customers. A number of logistics enterprises are developing low-carbon delivery services for last-mile delivery in urban areas (e.g., DHL's CityHub¹¹⁷ and Cubicycle¹¹⁸ initiatives).

Additionally, the clustering of repair and related enterprises and uses (e.g., providers of spare parts, community repair facilities, second-hand shops) provides an opportunity for efficient sharing of space and transportation and 'near sourcing',¹¹⁹ while promoting collaboration, innovation, and the integration of circular business models. Examples of clusters and enterprise hubs of repair and circular economy enterprises include the Oldenburg Resource Repair Centre in Germany¹²⁰, Sparks Bristol in the UK¹²¹, and ReTuna Mall in Sweden¹²².

115 Solbrand, E. & Dong, Y. (2020) *MUD Jeans – A circular business model*. [BA Thesis: Lund University Department of Business Administration].

116 MUD Jeans (n.d.). *MUD Jeans*. Available at: <https://mudjeans.eu/> (Accessed 19 April 2024).

117 Singh, V. (2023) *To make city logistics more sustainable, DHL opens 2 climate-neutral CityHubs in Amsterdam*. Available at: <https://siliconcanals.com/promoted-content/dhl-opens-2-cityhubs-in-amsterdam/> (Accessed 19 April 2024).

118 DHL (2023). *Our Green DHL Fleet*. Available at: <https://www.dhlexpress.be/en/planet/our-green-dhl-fleet/> (Accessed 19 April 2024).

119 Van Buren, N., Demmers, M., van der Heijden, R. & Witlox, F. (2016). 'Towards a circular economy: The role of Dutch logistics industries and governments', *Sustainability*, 8, pp. 647.

120 RessorcenZentrum (n.d.). *Welcome to the Resource Centre*. Available at: <https://ressourcenzentrum-oldenburg.de/> (Accessed 19 April 2024).

121 Sparks Bristol (n.d.) *Sparks Bristol*. Available at: <https://sparksbristol.co.uk/> (Accessed 19 April 2024).

122 Retuna Återbruksgalleria (n.d.) *Welcome to the world's first recycling mall!* Available at: <https://www.retuna.se/english> (Accessed 19 April 2024).

Furthermore, vacant spaces in cities pose a great opportunity to increase social value and accessibility to repair services in Ireland. An article exploring the use of Dublin’s vacant property spaces outlines the potential value creation which can result from facilitating society-led events and initiatives in vacant spaces, even on a temporary basis.¹²³ Integration of repair enterprises into these temporarily vacant spaces could increase visibility of enterprises, providing them with a temporary operation space, while also bringing business to a previously derelict area.¹²³

This is consistent with the policies and objectives of the Government’s National Planning Framework (NPF), which promotes compact growth and consolidation in cities, towns and villages through the regeneration and reuse of vacant, derelict and underutilised sites and buildings in existing built-up areas.¹²⁴ The draft first revision to the NPF, which published for public consultation in July 2024, maintains a strong emphasis on this policy of compact growth and also highlights the ‘town centre first’ approach for Irish towns, as well as the potential for enterprise hubs and clusters to support entrepreneurship and economic activity by leveraging the benefits of co-location.¹²⁵

Case Study 10 Isaac Jackman Shoe Repair

Isaac Jackman Shoe Repair is a well-known, family-run shoe repair enterprise based on Charlemont Street in Dublin City Centre. The enterprise offers cleaning and repair services for all types of footwear and leather goods, including sole and heel repairs, zip and buckle replacements and stitching of leather uppers.¹²⁶ Shoe repair is at the core of the business, which is known for high-quality repairs of designer shoes. Owner, Isaac Jackman, has been a cobbler for over 50 years and started his career as an apprentice in C&D Shoes, founded by his father. In recent decades, Isaac Jackman has observed a decline in the cobblery sector, with a number of shops closing down and little evidence of new entrants to the market. In past years, C&D Shoes had 22 shops in Ireland. Today, Isaac Jackman Shoe Repairs has two premises.

Challenges for the shoe repair sector identified by Isaac Jackman include the absence of formal training (such as apprenticeships) for professional shoe repair, a shortage of skilled workers in the Irish labour market, a lack of design for repairability in footwear, low willingness of manufacturers to supply spare parts, the availability of low-price footwear, and consumer expectations that repair services should be low-price. In recent years, Isaac Jackman has seen an improvement in the willingness of footwear designers and manufacturers to engage with and promote repair, due to the changing regulatory landscape. Isaac Jackman Shoe Repairs is the only enterprise in the Country certified by shoe manufacturer, Vibram, for the repair of its boots.¹²⁷

123 O’Callaghan, C. & Lawton, P. (2016) ‘Temporary solutions? Vacant space policy and strategies for re-use in Dublin’, *Irish Geography*, 48(1), pp. 69-87.

124 Government of Ireland (2018) *Project Ireland 2040 – National Planning Framework*.

125 Government of Ireland (2024) *Project Ireland 2040 – Draft First Revision to the National Planning Framework*.

126 Isaac Jackman Shoe Repairs (n.d.) *Services*. Available at: <https://www.isaacjackman.ie/services> (Accessed 19 April 2024).

127 Vibram (n.d.). *Shoe Repair Shops*. Available at: <https://www.vibram.com/us/shoe-repair-locator> (Accessed 19 April 2024).

The team at Isaac Jackman Shoe Repairs has adapted over the years to meet the changing circumstances for the shoe repair sector. Regular upskilling is needed in-house to keep up with changing trends in footwear design. During the Covid-19 pandemic, the enterprise invested in logistics, collaborating with courier companies to offer a postal send-and-return service, making its services accessible to customers across the Country.¹²⁸

Isaac Jackman Shoe Repairs places an emphasis on quality, understanding customer expectations and building trust in its services. In recent years, the enterprise has witnessed a trend of increasing interest in cleaning and repair services among younger cohorts – with growing numbers of customers in their 30s, 20s and younger. The enterprise uses social media to connect with existing and prospective customers, but in Isaac Jackman’s experience, word-of-mouth and a trustworthy reputation are key to winning and retaining customers.¹²⁸

4.9 Product Liability Insurance

The cost of product liability insurance has been identified as a challenge for certain B2C repair enterprises in Ireland. This is understood to be a particular challenge for enterprises providing repair services for higher risk product categories – for example, fire risk associated with EEE and, to a lesser degree, risk of injury associated with bicycles and furniture.⁸

While there are a number of steps that B2C repair enterprises may take to mitigate this challenge, such as certification/accreditation with a third-party quality mark or standard, and use of Portable Appliance Testing (PAT) for repaired EEE; these don’t address the underlying problem of high insurance premiums and may increase administrative burden and costs for enterprises already challenged by high operating costs.

Ongoing policy reforms at national and EU levels are promoting a positive shift in this regard. The Government’s 2020 *Action Plan for Insurance Reform*,¹²⁹ set out a range of measures to make Ireland’s insurance sector more supportive of enterprise.

Since the adoption in 2021 of the Judicial Council of Ireland’s *Personal Injuries Guidelines*, there has been a marked decrease in the average value of awards of damages.¹³⁰ Additionally, the Courts and Civil Law (Miscellaneous Provisions) Act of 2023¹³¹ includes provisions to rebalance duty of care, placing greater responsibility on visitors and users; and changing the standard for consideration of liability from ‘reasonable grounds’ to ‘reckless disregard’.

At EU level, there is an acknowledgement of the need for insurance reform to support the circular economy. In September 2022, the EC published a proposal to revise the Product Liability Directive to support circular business models, noting that “existing product liability rules do not define who should be liable for defects resulting from changes to products after they are put into circulation”. The new Product Liability Directive came into force on 8 December 2024 and Member States have two years to transpose the Directive.

128 O’Connor, R. (2015). *Inside track: Isaac Jackman of Isaac Jackman Shoe Repairs Dublin*. Available at: <https://www.irishtimes.com/business/retail-and-services/inside-track-isaac-jackman-of-isaac-jackman-shoe-repairs-dublin-1.2268260> (Accessed 19 April 2023).

129 Government of Ireland (2020). *Action Plan for Insurance Reform*.

130 PIAB (2023). *PIAB Personal Injuries Award Values 2022 – Average Awards Report No. 4*.

131 Government of Ireland (2023) *Courts and Civil Law (Miscellaneous Provisions) Act, No. 18 of 2023*.

4.10 Role of Certification and Accreditation

Research by the EPA suggests that many people show preference for professional repair services over personal repair, particularly for items in the textiles, EEE, or White Goods categories.^{103,132} Professional certification or accreditation allows for the establishment of quality, training and safety standards for the repairer and the item being repaired.¹³³ This may improve the consumer's perception of repaired goods and repaired services overall. Results of this study indicate that few B2C repair enterprises in Ireland hold a third-party certification related to repair (Section 4.10).

Some manufacturers offer manufacturer certification schemes, in which a third-party service provider can become certified to repair products on behalf of a manufacturer. An example of such a scheme includes Apple's Repair Provider Programmes, which provide external technicians with the skills training and equipment required to repair Apple products within and outside of their warranty period.¹³⁴ Additionally, Vibram's 'repair if you care' initiative allows Vibram trained cobblers to deliver their brand's repair service while educating consumers on the reuse and repair of high-quality shoes as a means of reducing the environmental impact of consumption.¹³⁵

Accreditation by a professional body is also available in some parts of Ireland's repair sector. For example, Cytech is an internationally recognised training and accreditation scheme for bicycle technicians. The programme was founded by the Association of Cycle Traders in the United Kingdom over 30 years ago. Today, it is established in over 50 countries globally, including Ireland. Cytech courses are not specific to any one brand of bicycle, but rather they encompass all elements of bicycle mechanics from the basics to dealing with the most advanced components and parts. In-person training is available in the UK, South Africa, Canada, Australia and New Zealand. In April 2024, the Rediscovery Centre in Ballymun, Dublin City, launched Ireland's first (and the world's seventh) Cytech accredited training centre. There are over 80 Cytech certified bicycle technicians in Ireland.¹³⁶ With the launch of the Rediscovery Centre's course, that number will increase.

In addition to accreditation schemes, quality mark schemes provide consumers with a recognisable logo which provides a level of quality, operational, and sustainability assurance.

The introduction of this type of quality mark to the Irish repair market could address barriers such as consumer perception of repaired goods, consumer awareness of repair services, and ensuring that the quality of repair across Ireland remains high. An analysis of the Revolve Reuse Quality Standard, developed by Zero Waste Scotland, suggests that quality marks can positively influence sales,¹³⁷ while the QualiRépar Label in France endeavours to deliver quality services in a non-discriminatory manner.¹³⁸ ReMark, a quality mark which is currently being rolled out in Ireland, has potential to standardise repair services in Ireland (refer to case study, below).

¹³² EPA (2023) *Textiles: Attitudes & Behaviours National Survey 2021*.

¹³³ EPA (2022) *Government Interventions to Support Transition to a Circular Economy*.

¹³⁴ Apple (n.d.) *Apple Repair*. Available at: https://support.apple.com/repair?cid=gn-ols-repair-lp-get_help (Accessed 19 April 2024).

¹³⁵ Vibram (n.d.) *Repair if You Care*. Available at: https://www.vibram.com/ie/brand/campaigns/br_repair_if_you_care.html (Accessed 19 April 2024).

¹³⁶ Cytech (n.d.) *Accreditation*. Available at: <https://www.cytech.training/information/accreditation/> (Accessed 19 April 2024).

¹³⁷ CRNI (2019) *Reuse Quality Mark Pilot Project*. Available at: https://crni.ie/content/uploads/2019/06/CRNI_EPA-Final-Report-ReMark-1.pdf (Accessed 19 April 2024).

¹³⁸ Label QualiRépar (n.d.) *What is the QualiRépar label?* Available at: <https://www.label-qualirepar.fr/le-label/> (Accessed 19 April 2024).

Additionally, as a joint initiative of the EPA, Monaghan County Council, WEEE Ireland and the White Goods Association, in 2020 and 2021, 'authorised repairers' were identified on the RepairMyStuff.ie online directory of repairers. 'Authorised Repairer' status is now clearly displayed with a green 'stamp' on individual listings of particular EEE and white goods repairers on the directory. The status is validated based on the WEEE Ireland Compliance scheme and the registered Producers in Ireland.

Some stakeholders interviewed for this study highlighted the potential for certification and accreditation schemes to create an additional barrier for B2C repair enterprises, potentially negatively impacting enterprises that lack the resources to pursue certification or accreditation. Participants from social enterprises emphasised that limiting these schemes to 'professionals' can disincentivise people from partaking in repair activities for both personal and professional skills development. Defining 'professional' for this purpose would restrict accessibility to these activities, potentially discouraging people from entering the sector. Furthermore, participants outlined concerns that the cost of certification schemes may pose an unprecedented barrier for repair service providers, making the 'professional' status unattainable for a proportion of the repair sector's population.

It is important to acknowledge the advantages and disadvantages of certification for Ireland's repair sector, in order to promote a just transition to circularity in Ireland. National policy interventions which support certification and accreditation schemes for repair service providers should be considerate of financial and infrastructural barriers which may hinder the delivery of these services if exclusive certifications are implemented.

Case Study 11 ReMark

CRNI is Ireland's only community reuse and recycling network, which aims to contribute to the development of resource efficiency and circular economy initiatives at both local and national levels.¹³⁹ CRNI recently outlined that persisting barriers to repair in Ireland include the lack of public awareness about circular economy and also a "lack of consumer confidence in circular economy products and services".¹⁴⁰ CRNI is responsible for piloting the ReMark initiative in Ireland in an effort to resolve these consumer attitudes towards repair.

The ReMark initiative project aims to explore the demand, development, processes, promotion and value of a quality mark for reuse and repair social enterprises in Ireland. CRNI describes the mark as a "commitment to sustainability and circular practices",¹⁴¹ as well as a means of emphasising the social and environmental benefits of the goods.¹⁴¹ The project, which was initially funded by the EPA's Green Enterprise fund, and more recently funded by DECC's Circular Economy Innovation Grant Scheme (CEIGS), was piloted in 2017 and focused largely on addressing negative consumer perceptions of reused and repaired goods.

Since the initial roll-out of the ReMark initiative, seven pilot participants have received their quality marks, marking recognition of their commitment to sustainability. CRNI focused on revising ReMark in Phase 3 of the project, with an aim to include more enterprises and services that fall under the circular economy; for example, repair services, libraries and design upcycling services.¹⁴⁰

Successful pilot participants include IRD Duhallow Revamp, Native Events, An Mheitheal Rothar, Deaf Enterprises, Hands That Talk, Dublin Simon Community and ReCreate (which ceased operations in 2023).¹⁴² IRD Duhallow Revamp outlined a number of improvements that they have benefitted from since gaining their quality mark, including improved merchandising and marketing of the premises, higher standard of screening required for donated items, enhanced customer service and experience, and improved staff knowledge.

Dublin Simon Community also noted that their team's confidence in their organisation improved since gaining accreditation. The improvements are expected to positively impact the consumer perception of repaired goods by increasing confidence in and perceived reliability of the goods available.

In the most recent report prepared by CRNI,¹⁴² some recommendations were set out which focus on scaling of the quality mark to more enterprises in Ireland, including additional training provisions appropriate to the varied budgets of different enterprises, and improving accessibility of the pre-assessment and assessment process. Additionally, the report highlighted that the future, large-scale roll out of ReMark would include participation by a larger cohort of CRNI members, establishing a steering committee to oversee the accreditation process, provision of training and support to participants and interested parties, facilitation of a mentoring scheme for participants and interested parties, and roll out of a marketing campaign. CRNI has noted that they will not have the resources to take on this large scale roll out, and that these activities would need to be overseen by a dedicated body with access to funding. Therefore, while the ReMark pilot has been a promising initiative, the future of the quality mark in Ireland remains uncertain.

139 CRNI (n.d.) *ReMark Quality Mark*. Available at: <https://crni.ie/re-mark/> (Accessed 19 April 2024).

140 Pope, C. (2023) *Making savings while saving the planet and joining the circular economy*. Available at: <https://www.irishtimes.com/your-money/2023/07/10/making-savings-while-saving-the-planet-and-joining-the-circular-economy/> (Accessed 19 April 2024).

141 DECC (2023). *ReMark, Ireland's reuse quality mark of excellence*. Circular Economy Innovation Grant Scheme.

4.11 Collaboration and Representation

Representation by a sectoral body can promote behavioural change, facilitate development of supportive policy, enable funding, and encourage research to help overcome the barriers faced by a sector. At present, repair sector stakeholders highlight inadequate representation for repair enterprises as a key factor limiting the growth and sustainability of repair networks. For example, there is no representation for commercial shoe or furniture repair enterprises in Ireland and as a result, these enterprises have received little to no support, funding, and advocacy, according to stakeholders from these enterprises. This issue must be addressed as one of precedence to enable the promotion of the repair sector going forward.

An example of a representative body for community-based reuse, repair and recycling organisations in Ireland is CRNI, which provides practical supports for its members as well as exploring the implementation of a quality mark to support repair enterprises in Ireland (Section 4.10). Further examples of representative groups for the repair sector include Northern Ireland Resources Network,¹⁴² Circular Communities Scotland,¹⁴³ and Repair Café Wales.¹⁴⁴

A collaborative approach to Ireland's transition to circular economy will further promote a thriving repair sector, by facilitating a holistic, systems-thinking approach to the sector's development. Stakeholders have expressed a desire for further collaboration between government, policymakers, public and private sector, and independent groups to ensure that all perspectives of the circular economy are considered in developing support interventions for the repair sector. Transparency on a local, national and international scale in terms of information sharing, data collection and developing partnerships will be beneficial for the sector by informing best practice policies and procedures for the sector, for example, if goods/products are beyond repair, collaboration with other circular business such as upcycling businesses can facilitate a further life span of parts included in the unrepairable product/good.¹³⁴

With regard to governance of Ireland's repair sector, multi-stakeholder collaboration can promote the growth of the sector through policy development and information sharing of the barriers and enablers of the sector. Stakeholders in Ireland including are actively collaborating for the transition to CE across multiple working groups assembled by CIRCULÉIRE, EPA and Government of Ireland, amongst others. However, these working groups lack an overarching governance structure and as a result to date, few quality actions have been produced from these groups.¹³⁴ The lack of clear government targets and guidance for repair enterprises has led to some enterprises falling through the gaps. This is expected to improve with the implementation of Ireland's new National Waste Management Plan for a Circular Economy, which aims to set targets for repair over the coming years.

In order to achieve this aim, it is important that stakeholder collaboration groups in Ireland are utilised to their full potential, with clear structure and responsibility established from the inception of these groups.

In addition to cross-disciplinary collaboration, the establishment of interconnected repair networks to facilitate collaboration within the repair sector can be a driver for more efficient, effective, and better-quality repair operations.¹⁴⁵ Expanding these repair networks and alliances among different industries and stakeholders can lead to capacity building, knowledge sharing and improve the delivery of services.¹⁴⁶

142 NIRN (n.d.) *Northern Ireland Resources Network*. Available at: <https://www.ni-rn.com/> (Accessed 19 April 2024).

143 Circular Communities Scotland (n.d.) *Circular Communities Scotland*. Available at: <https://www.circularcommunities.scot/> (Accessed 19 April 2024).

144 Repair Café Wales (n.d.) *Repair Café Wales*. Available at: <https://repaircafewales.org/> (Accessed 19 April 2024).

145 Lechner, G., Wagner, M.J., Diaz Tena, A., Fleck, C. & Reimann, M. (2021) 'Exploring a regional repair network with a public funding scheme for customer repairs', *Journal of Cleaner Production*, 288, 125588.

146 Hielscher, S. & Jaeger-Erben, M. (2021) 'From quick fixes to repair projects: Insights from a citizen science project', *Journal of Cleaner Production*, 278, 123875.

4.12 Measuring Repair

A number of stakeholders who participated in this study suggested that a repair target could influence the growth and uptake of the sector and leverage its contribution to the circular economy in Ireland. In March 2024, Ireland's first *National Waste Management Plan for a Circular Economy* was published. It includes a national target to develop a roadmap for a repair target, among other commitments to support the role of repair in the circular economy.¹⁴⁶

Establishing metrics for repair remains a challenge. However, there are several existing initiatives which could be scaled to monitor the sector and its contribution to the circular economy, and other global examples which could be explored for application in the Irish context.

There are examples of previous efforts to quantify elements of the repair sector in Ireland. In 2022, WEEE Ireland commissioned a survey of White Goods Association (WGA) members. The survey titled "*White Goods Repair for a Circular Economy*" reports data on job creation, number of repairs requested, number of successful repairs, and cost of repairs in the sector in 2020.¹⁴⁷ Additionally, furniture repair social enterprise, IRD Duhallow Revamp, quantifies its repairs on an ongoing basis, using standard weights for different types of furniture to estimate the weight of goods repaired and redistributed back into the community.

As discussed in Section 4.6, RepairMyStuff.ie (RMS) provides a national directory of repair services. In addition to providing information to consumers about available repair services in their area, the website could be used as a useful data collection tool to gather key metrics from repair enterprises registering on the website. The data which could be collected from RMS has the potential to inform a monitoring framework for Ireland's repair sector.

As noted in Section 2.1, the NACE group S95, "*Repair of computers and personal and household goods*" is likely to provide a good indicator of the scale of the repair sector in Ireland. While there are categories of repair not captured by this group – such as automotive repair, which is represented by NACE group G45.2, "*Maintenance and repair of motor vehicles*" – the number of firms in S95 would be a valuable indicator to monitor the size of the repair sector in Ireland over time. Annual data on Irish enterprises by NACE group are available via the CSO's Structural Business Statistics / Business in Ireland statistics.^{148, 149}

NACE classifications are currently used as a proxy to monitor repair and other circular economy sectors at the EU level, under the EU Circular Economy Monitoring Framework (CEMF). The CEMF monitors a range of indicators of relevance to the circular economy, including circular material use rate (CMUR) (refer also to Section 1).¹⁵⁰ Notably, CMUR, which measures the share of material recycled, does not capture repair or other reuse activities. However, the CEMF tracks (i) private investments, (ii) persons employed and (iii) gross value added related to circular economy sectors, including repair, as indicated by detailed enterprise statistics for services under the relevant NACE groups.

¹⁴⁷ DSS (2022) *White Goods Repair for a Circular Economy: Irish Repair Data*. [Report prepared by DSS for WEEE Ireland].

¹⁴⁸ CSO (n.d.) *Structural Business Statistics*.

¹⁴⁹ CSO (n.d.) *Business in Ireland 2022 – Summary Results: Data*.

¹⁵⁰ Eurostat (n.d.). *Circular Economy Monitoring Framework*. Available at: <https://ec.europa.eu/eurostat/web/circular-economy/monitoring-framework> (Access 19 April 2024).

In 2021, Ireland was ranked below the EU average in respect of private investment and persons employed in circular economy sectors, including repair; but had the joint highest annual gross value added in relation to these sectors, as a percentage of gross domestic product, along with Malta.¹⁵¹ Limitations of using NACE group data to monitor circular economy activities, including repair, have been noted – for example, the NACE group data do not capture all activities that contribute to product life extension.¹⁵²

Other EU Member States have implemented efforts to monitor the repair sector in the context of the circular economy. As part of its Circular Flanders initiative, the Government of Flanders in Belgium monitors a range of indicators to track circularity in the region.¹⁵³ These include a dedicated ‘Repair Indicator’, quantifying the rate of repair in the region.¹⁵⁴ Data to inform this indicator was gathered from two online surveys among a representative sample of the adult population: a general repair survey and a household budget survey. The data revealed insights into categories of goods repaired, number of goods repaired in each category, and the mode of repair chosen for these goods. Based on the data gathered, Circular Flanders estimated that approximately 10 million repairs were completed in 2023, mainly through self-repair – with a greater proportion of bicycle and EEE repairs being completed by professional repairers.

151 Eurostat (n.d.). *Data browser – Circular economy indicators: Competitiveness and innovation*. Available at: https://ec.europa.eu/eurostat/databrowser/view/cei_cie012/default/table?lang=en&category=cei_cie (Accessed 19 April 2024).

152 Moraga, G., Huysveld, S., Mathieux, F., Blengini, G.A., Alaerts, L., van Acker, K., de Meester, S. & Dewulf, J. (2019) ‘Circular economy indicators: What do they measure?’, *Resources, Conservation & Recycling*, 146, pp. 452-461.

153 Circular Flanders (n.d.) *Indicators*. Available at <https://cemonitor.be/en/indicator/> (Accessed 19 April 2024).

154 Circular Flanders (n.d.) *Repair indicator*. Available at: <https://cemonitor.be/en/indicator/circularity/r-strategies/repair-indicator/> (Accessed 19 April 2024).

5. Recommendations and Intervention Opportunities

Based on analysis of data and stakeholder insights and a review of relevant literature, recommendations have been identified to support the development of a thriving B2C repair sector in Ireland, supporting the transition to a circular economy (Table 9). In relation to each recommendation, potential intervention opportunities have been identified for further consideration.

This Circular Insights study is complemented by a second, parallel study investigating repair skills training and education in Ireland. Some of the recommendations of that study are not reiterated here but are important to meet the skills and recruitment needs of B2C repair enterprises. Please refer to the standalone Circular Insights Study 'Repair Skills Training and Education in Ireland' for further information.

Table 9: Key recommendations and potential intervention opportunities

Recommendations	Potential Intervention Opportunities
 <p>Ensure the role of the B2C repair sector is supported in national circular economy policy – and other relevant policy areas (including climate, social economy, employment and skills)</p>	<ul style="list-style-type: none"> Objectives to support the role of the B2C repair sector in the next iteration of the Whole of Government Circular Economy Strategy Development and adoption of a National Reuse and Repair Roadmap
 <p>Introduce economic policy instruments to support the long-term economic viability of B2C repair enterprises</p>	<ul style="list-style-type: none"> Circular taxation/fiscal reform, whereby tax burden is shifted from labour to resource consumption and pollution Reformed EPR policy financing infrastructure (e.g., for collection and sorting) and incentives to promote repair
 <p>Introduce economic supports to address operational costs for B2C repair enterprises</p>	<ul style="list-style-type: none"> Expansion of funded labour activation schemes for social enterprises Targeted supports to address costs for commercial repair enterprises
 <p>Introduce economic policy instruments to incentivise consumers to engage with B2C repair enterprises</p>	<ul style="list-style-type: none"> Reduced rate of VAT for B2C repair enterprises Repair discount/bonus scheme for key product categories Revised Cycle to Work (or similar) scheme extending application of tax incentive to second-hand bicycle market
 <p>Ensure innovation and other funding is designed to support the role of B2C repair enterprises in the transition to a circular economy</p>	<ul style="list-style-type: none"> Targeted funding strand for B2C repair enterprises
 <p>Support B2C repair enterprises to adopt innovative and circular business models and strategies to promote optimal outcomes</p>	<ul style="list-style-type: none"> Reverse logistics/take-back schemes Product-as-a-service/sharing economy models Mobile repair services Clustering of repair/circular enterprises 3D printing of spare parts Digital product passports Repair service apps Smart fault diagnostics
 <p>Support the role of social enterprises in the B2C repair sector</p>	<ul style="list-style-type: none"> Additional Community Services Programme (CSP) positions Targeted CSP funding strand for B2C repair enterprises Safeguarded access to funding for social enterprises
 <p>Promote public awareness of B2C repair enterprises</p>	<ul style="list-style-type: none"> Public awareness campaign(s) in tandem with new policy/ies for repair Effective national directory of B2C repair enterprises
 <p>Make B2C repair services more accessible and convenient for consumers</p>	<ul style="list-style-type: none"> Improved public transport services in rural areas Making vacant/underutilised space in cities, towns and villages available for B2C repair enterprises
 <p>Implement measures to promote quality assurance and consumer confidence in the B2C repair sector</p>	<ul style="list-style-type: none"> Accessible, national-level quality mark for B2C repair enterprises

Recommendations



Support and implement policies to promote product design for repairability and access to information on repairability



Support national-level representation for B2C repair enterprises



Implement measures to mitigate insurance barriers to B2C repair enterprises



Monitor the role of B2C repair in the circular economy



Address barriers for B2C repair enterprises related to repair skills training and education

Potential Intervention Opportunities

- National transposition and implementation of Right to Repair Directive
- Implementation of forthcoming delegated acts pursuant to Ecodesign for Sustainable Products Regulation
- National repairability index
- National design for repairability standard
- Representation for social enterprises engaged in repair (i.e., Community Resources Network Ireland)
- Representation for commercial repair enterprises and sub-sectors thereof
- Continued insurance reform to promote reduced insurance premiums
- Provision in national transposition of Right to Repair Directive to address insurance barriers to repair
- Develop a repair target roadmap as per the commitment in the National Waste Management Plan for a Circular Economy (National Target 4A – Repair)
- Monitor use and effectiveness of national repair platform/directory (e.g., integrated web-design mechanism to track user engagement, survey of enterprises registered)
- Refer to standalone Circular Insights Study, 'Repair Skills Training and Education in Ireland'

6. Conclusions

6.1 Key Statistics

Drawing principally on data from RepairMyStuff.ie, the national directory of repair enterprises, this study identified a total of 1,503 B2C repair enterprises currently operating in Ireland (as of November 2023). The vast majority of these were commercial (98.9%) rather than social (1.1%) enterprises. The enterprises identified provided B2C repair services across a range of product categories. The most well represented product category was EEE excluding large appliances (white goods) (31.0%); followed by clothing and textiles (19.7%); bicycles (7.3%); furniture and upholstery (6.7%); large appliances/white goods (6.4%); lawnmowers and agricultural machinery (6.4%); jewellery, watches and clocks (4.9%); shoes and leather goods (4.4%), musical instruments (4.1%) and automotive (0.5%). A small minority of the repair enterprises identified (4.3%) were also identified as manufacturers of consumer goods, particularly of clothing and textiles; furniture and upholstery; jewellery, watches and clocks; and musical instruments.

B2C repair enterprises were identified across all 26 Counties. However, this study found that urban areas tend to be better served by B2C repair enterprises, with Dublin (22.4%) and Cork (8.1%) having the greatest proportions of those identified. A small proportion of enterprises identified (~3%) reported having third party certifications or accreditations related to repair. These included Apple Authorised Service Providers, Cytech accredited bicycle mechanics, and a small number of social enterprises certified with CRNI's ReMark quality mark for reuse and repair.

The majority of B2C repair enterprises identified (96.8%) correspond to NACE category S95, 'Repair of computers and personal and household goods'. Economic analysis of Irish enterprises belonging to this category found that the number of firms operating within the repair sector in Ireland has been on an upward trend over the past ten years. Cross-country analysis of the number of repair sector firms per head of population further suggests that the size of Ireland's repair sector is broadly in line with the EU average. In terms of structural features of the repair sector in Ireland, it appears that the sector is characterised by a dominance of micro- and small firms (i.e. firms with fewer than 10 employees). This finding is consistent with a highly fragmented repair sector. Accordingly, policy supports for the repair sector could include measures to streamline repair firm or business establishment, to reduce uncertainty and to increase financing options within the sector. A further distinctive structural feature of the repair sector is its labour-intensive nature relative to the overall business services sector in Ireland.

6.2 The Role of Repair

Repair has a key role to play in supporting the transition from a linear to a circular economy. The role of repair in the circular economy lies in product life extension and value retention. Repair as an alternative to replacement of consumer goods has the effect of reducing demand for new goods and resources, preventing waste generation and, in doing so, minimising environmental and social impacts in the product lifecycle, including reducing carbon emissions. Supporting the role of B2C repair enterprises in the circular economy in Ireland can contribute to the objectives of a range of policies on circular economy, climate, environment and social economy at national and EU levels.

In addition to supporting circularity, repair provides a range of social co-benefits, including job creation, social inclusion and integration, skills development, access to affordable goods, and conservation of traditional craft and trade skills. The win-win potential of repair is demonstrated by the range of social enterprises operating in the repair sector in Ireland today, providing repair skills training and employment to groups at risk of poverty and social exclusion, while making repair services and affordable used products accessible to communities across the country. In the context of the 'right to repair' movement, B2C repair enterprises may be regarded as basic infrastructure for citizens.

Table 10: The role of B2C repair enterprises – overview

<ul style="list-style-type: none"> ● Enabling the circular economy ● Product life extension ● Value and retention ● Piloting circular economy innovation ● Reducing resource consumption ● Waste prevention ● Minimising lifecycle environmental and social impacts ● Decarbonisation 	<ul style="list-style-type: none"> ● Supporting national and EU Policy objectives ● Job creation ● Social inclusion and integration ● Skills development ● Providing access to affordable goods ● Supporting an inclusive and just transition ● Conservation of traditional craft and trade skills ● Satisfying consumers’ rights to repair
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6.3 Key Barriers

While repair presents a major opportunity to support an inclusive, just transition to a circular economy, B2C repair enterprises operating in Ireland today are faced with numerous technical, infrastructural, economic and social barriers, which need to be addressed to unlock the potential of the sector. Key barriers identified in this study are highlighted below in no particular order. The applicability and relative importance of these barriers may be expected to vary depending on the location, type and scale of the enterprise in question.



Figure 8: Key barriers to B2C repair in Ireland

Fundamentally, the economic viability of commercial repair is undermined by market failures of externalities, whereby the retail price of consumer goods often does not reflect true costs to society and the environment. In order to increase consumer willingness to repair, policies are needed to increase the price of buying new relative to the price of repair.

Policy interventions driving systems-level change, such as circular taxation and ecodesign regulation, are needed at scale to meaningfully address these underlying economic issues. This will require a long-term, coordinated, multilateral policy response. In the short-term, national and regional-level interventions can be implemented to support B2C repair enterprises in Ireland to provide consumers with convenient access to quality professional repairs for a range of product categories, and to facilitate and encourage consumers to engage with the sector.

This study (Section 5) identifies recommendations and potential intervention opportunities for further consideration with a view to addressing these key challenges, supporting the development of a thriving B2C repair sector and the transition to a circular economy in Ireland.

APPENDIX 1 STAKEHOLDER ENGAGEMENT

Stakeholder	Type of Engagement
Ellen MacArthur Foundation	Workshop
Repair Acts	Workshop
WEEE Ireland	Workshop
ERP Recycling	Workshop
FIT	Workshop
BSHG	Workshop
Glen Dimplex	Workshop
Louth & Meath Education and Training Board	Workshop, Information Request
Ibec	Workshop
CESI	Workshop
Rediscovery Centre	Workshop, Information Request
Fónfix	Workshop
An Mheitheal Rothar	Workshop
The Bike Hub	Workshop
Frontline Bikes	Workshop
Rothar	Workshop
Rediscovery Centre	Workshop, Information Request
CIRCULÉIRE	Workshop, Information Request
SOLAS	Workshop, Information Request
St. Angela's Atlantic Technological University	Workshop
Monaghan County Council	Workshop, Information Request
Zipyard	Workshop
Isaac Jackman Shoe Repair	Workshop
IRD Duhallow Revamp	Workshop
CRNI	Workshop, Information Request
Mayo, Sligo and Leitrim Education and Training Board	Information Request

Stakeholder	Type of Engagement
Regional Skills Fora – Dublin, Mid East, Mid-West, Midlands, North East, North West, South East, South West, West.	Information Request
Tipperary Education and Training Board	Information Request
Waterford and Wexford Education and Training Board	Information Request
Local Authority LEOs (29 no.)	Information Request
Central Statistics Office	Information Request
Dept of Enterprise, Trade and Employment	Information Request
Dept of Education	Information Request
Dept of Further and Higher Education	Information Request
ETBI	Information Request
Skillnet Ireland	Information Request
City & Guilds in Ireland	Information Request
Local Authority EAOs (31 no.)	Information Request
Regional ETBs (12 no.)	Information Request

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