

Gaps and Opportunities for Social Enterprises in Post Consumer Textile Life Cycle

Project THREADs

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1 Introduction to the Report

1.1 The Purpose of the Report

The purpose of this report is to describe the emerging textile circular economy and identify a number of business models that Social Enterprises (SEs) operate in within the EU. The report is intended to support SEs to understand this complex terrain and identify potential development opportunities, which could then be explored in a more granular feasibility study to assess local viability.

The report begins with a state of play section that provides a comprehensive assessment of the current landscape for social enterprises operating within the textile waste management and circular economy sector. Data for this section was gathered by the Western Development Commission (WDC) through a structured template completed by project partners, capturing information on actions either located within, or directly supporting, Northern Periphery and Arctic (NPA) regions.

The following section of the report then outline in detail various textile business models in which social enterprises are operating. The report follows a schema that outlines how these various models fit together, which uses the 9 R's model as well as a categorisation system developed by the Threads project (both described below). The schema identified at a glance the business models that are outlined in the report, and whether these are illustrated through a full description of the model or a case study. The selection of businesses aimed to identify key models, and while every type of textile cannot be covered, the aim of the report is to provide a fairly comprehensive overview of the sector. To support an assessment of the models, each section includes; an overview, a description of customers, pricing and logistics, an assessment of resources required, logistical, policy and environmental factors, the customer base, key challenges and an assessment of what factors will contribute towards local viability of this model. Selected case studies illustrate successful examples in practice and outline their growth trajectory.

The report was developed by Quality Matters, an Irish based SE that provides research and consultancy services as well as running a textile SE in the area of production of textile products with a focus on circularity (CMT), and textile training. This first hand industry knowledge supported the research and analysis of available data. Information for this report was drawn from data provided by international partners of the Threads project as well as through a literature review with a focus on industry reports and grey literature and online business information. AI was used to source supplementary data and was not used for writing or editing.

1.2 Glossary

Social Enterprise (SE): A social enterprise is an operator in the social economy whose main objective is to have a social impact rather than make a profit for their owners or shareholders. It operates by providing goods and services in an entrepreneurial and innovative fashion and uses its profits to achieve social objectives[1]. SEs are usually managed in an open and responsible manner and, in particular, involves employees, consumers and stakeholders affected by its commercial activities.

The 9 R's: The 9R model is a framework for describing different strategies within the circular economy, where the "R" stands for different ways to minimise resource use, waste and environmental impact throughout a product's life cycle. The 9 Rs represent levels of circularity – from most desirable (resource minimisation) to least (recycling and energy recovery).

- **R0 Refuse**: Make product redundant by abandoning its function or by offering the same function with a radically different product
- **R1 Rethink**: make product use more intensive (e.g. by sharing product)
- **R2 Reduce**: Increase efficiency in product manufacture or use by consuming fewer natural resources and materials
- **R3 Reuse**: Reuse by another consumer of discarded product which is still in good condition and fulfils its original function
- **R4 Repair**: Repair and maintenance of defective product so it can be used with its original function
- **R5 Refurbish**: Restore and old product and bring it up to date
- **R6 Remanufacture**: Use parts of discarded product in a new product with the same function
- **R7 Repurpose**: Use discarded product or its parts in a new product with a different function
- **R8 Recycle**: Process material to obtain the same (high grade) or lower (low grade) quality
- **R9 Recover**: Incineration of material with energy recovery

The Minimum – Medium – Maximum – system: The Mini, Medi, Maxi System is a textile resource categorisation chart developed by the THREADs project. It presents three resource categories based on the 9R model with supporting examples forming the foundation for a textile waste management value creation tool according to the required level of intervention.

- **Minimum Intervention:** End of life textiles which with minor adjustments that the consumer can make themselves or can be made industrially at a low price.
- **Medium Intervention:** End of life textiles or discarded textiles which could be processed in an industrial process, but where the product is still a textile.
- **Maximum Intervention:** Advanced material transformation of used textiles that requires large facilities & volumes, i.e. chemical recycling of cellulose. Not always resulting in new textiles.

[1] European Commission – Social Enterprises webpage

NPA country/region: NPA regions describe the region where THREADs project is operating. The Northern Periphery and Arctic Transnational (NPA) Region comprises the northernmost part of Europe including parts of the North Atlantic territories. The 2021-2027 Interreg programming period covers Northern and Eastern Finland, Northern and Western Regions of Ireland, and Northern Sweden. Outside the EU, it includes the Faroe Islands, Greenland, Iceland, and Northern parts of Norway[2].

- **NPA Operating**: servicing the NPA region
- **NPA Located**: operations based in the NPA region

1.3 Business Model Schema

The diagram on the following page shows the business models explored through this report and where they can be identified compared to the level of intervention and 9Rs model. The schema shows whether the report addresses these business models through a full description or through a case study.

[2] Climate ADAPT – website

Textile Social Enterprise Business Opportunity Schema

			Mini + Medi-level Intervention		Maxi-level Intervention		
COLLECTION	SORTING	COMMUNITY ENGAGEMENT & TRAINING	REUSE (R3)	REPAIR (R4)	REMANUFACTURE (R6)	REPURPOSE (R7)	RECYCLE (R8)
DOOR-TO-DOOR / HOME COLLECTION	MANUAL SORTING FOR RESALE	TRAINING PROGRAMMES FOR HOME REPAIR	IN-STORES (VINTAGE / CHARITY SHOPS)	REPAIR STORE / WORKSHOP	PRODUCING FELT, STUFFING, INSULATION	PRODUCING NEW HOMEWARES OR FASHION	
DONATION BANKS / BINS			ONLINE SALES B2C	REPAIR IN WORKPLACES / POP-UPS			CHEMICAL TEXTILE PRODUCTION
	AUTOMATED OPTICAL / AI SORTING	WORK-BASED TRAINING PROGRAMME	CLOTHES RENTAL				MECHANICAL TEXTILE PRODUCTION

FULL BUSINESS MODEL ANALYSIS

ADDRESSED THROUGH CASE STUDY

2 State of Play

2.1 Introduction

This chapter provides an overview of the strengths, challenges, and opportunities available to social enterprises (SEs) operating within the textile waste management and circular economy sector in the NPA region. SEs that have their operations based in the NPA region are referred to as "Located" while those providing textile waste management services in the NPA region, without having a base of operations there, are referred to as "Operating".

2.2 Collection Methods – Post Consumer Textiles

Overview

Post-consumer textiles in the NPA regions are collected through a range of systems, including general waste, textile banks, charities, recycling centres, retail take-back schemes, and digital resale platforms. The availability and operation of these methods vary across countries and regions.

Collection Method	Description	NPA Country & NPA Area				
		Ireland	**Norway**	**Finland**	**Sweden**	**Iceland**
Collected as general waste	Unsorted, unclean textile or textile otherwise unsuitable is wasted and placed in the bin at home.	N/A	Located	Located	N/A	N/A
Collected in textile banks	Placed in residential areas, shopping centres, and recycling stations. Operated by NGOs and private companies.	Operating	Operating	Located	Operating	Operating
Collected by charities	Usable clothes and textiles are collected for reuse. Kerbside, banks, and in-store collection.	Located	Operating	Located	Operating	Operating
Kerbside/Door-to-door collection	Placement of textile collection points near apartment buildings to make it easier to leave textiles.	N/A	N/A	Located	Operating	N/A
Collected instore and resold	Retailers take-back schemes to promote circular fashion and recycling initiatives.	Operating	Operating	Operating	Operating	N/A
Recycling centres/stations	Municipal facilities for drop off textiles. Both whole garments and textiles for reuse/recycling are accepted.	N/A	Located	Located	Located	Operating

Collection Method	Description	NPA Country & NPA Area				
		Ireland	Norway	Finland	Sweden	Iceland
Digital Markets	Digital platforms where users can buy and sell everything, e.g. clothes, cars, furniture etc.	Operating	Operating	Operating	Operating	Operating

Strengths

Across the NPA regions, a range of collection systems already exist that support the recovery and reuse of textiles. These include municipal recycling centres, textile banks, charity shops, retailer take-back schemes, and second-hand markets. Container-based collection is common in countries such as Ireland and Norway, while recycling centres and eco-points are widely used in Finland and Sweden. This existing infrastructure provides a foundation that could support more systematic textile collection, where there are regional gaps in provision.

Charity and social economy organisations play a particularly important role in textile reuse. Organisations such as the Red Cross, Salvation Army, Myrorna, and the Society of Saint Vincent de Paul collect textiles through donation banks and charity shops, prioritising reuse where possible. These activities also generate social value by funding charitable work and creating employment and training opportunities.

In addition, second-hand markets and digital resale platforms are increasingly extending the lifespan of textiles. Charity shops, vintage retailers, and online marketplaces allow garments to remain in circulation for longer, supporting more circular consumption patterns.

Challenges

Despite these systems, large volumes of textiles still enter general waste streams. Once mixed with household waste, textiles often become contaminated and are typically sent to landfill or incineration rather than being reused or recycled.

Contamination and poor sorting of collected textiles also present ongoing challenges. Textiles may be wet, dirty, or mixed with other waste, reducing their reuse potential and increasing sorting costs. At the same time, many organisations lack the labour and infrastructure required to process the growing volume of collected textiles.

Limited domestic sorting capacity contributes to high levels of textile export. In several regions, surplus textiles are exported for resale or further sorting abroad. While this can extend product lifecycles, it also raises concerns about environmental impacts, offshoring of what is essentially a waste management issue that then puts the majority of textile pollution outcomes on countries in the global south, who have not caused the waste and do not have the infrastructure to manage this.

Potential Opportunities

There are several opportunities to strengthen textile circularity. Expanding separate textile collection systems could reduce the volume of textiles entering mixed waste streams and improve recovery rates.

Developing local sorting, repair, and recycling capacity could also increase the value recovered from collected textiles while reducing reliance on exports. Investments in repair, remanufacturing, and recycling infrastructure could support new circular economy activities.

Finally, improved collaboration between municipalities, charities, private collectors, and retailers, combined with increased public awareness, could strengthen collection systems and encourage more sustainable textile consumption and disposal practices.

2.3 Fibre and Textile Sorting Methods

Overview

Collection Method	Description	NPA Country & NPA Area (operating or located)				
		Ireland	Norway	Finland	Sweden	Iceland
Manual Sorting	Textiles sorted by hand based on condition, usability, and material type.	Operating	Operating	Located	Located	N/A
Automated Sorting	Technology-based sorting using sensors and machines to identify fibre composition and material characteristics.	N/A	Operating	N/A	Located	N/A
Internal Charity Sorting Facilities	Textiles sorted by charities before resale, redistribution, or recycling.	Operating	N/A	N/A	Located	N/A
Fiber-to-Fiber Sorting and Recycling	Textiles sorted by fibre type to enable recycling into new textile materials.	N/A	N/A	Operating	N/A	N/A
Private textile sorting	Commercial companies sort and grade collected textiles for reuse, recycling, or export.	Operating	Operating	N/A	N/A	Operating

Strengths

Across the NPA regions, several fibre and textile sorting methods are already in use, ranging from manual sorting in charity operations to advanced technological solutions. Manual sorting remains widely used, particularly in charity shops and reuse centres, where staff assess the condition, usability, and resale value of garments. This approach supports reuse and provides employment opportunities, particularly within social economy organisations.

In some regions, private companies and charities also operate sorting and grading facilities where textiles are categorised and baled for resale, recycling, or export. Additionally, technological innovation is beginning to emerge in textile sorting, including fibre identification technologies such as

near-infrared scanning, automated optical sorting facilities, and pilot projects exploring AI-based sorting. These developments demonstrate growing investment in improving sorting accuracy and enabling fibre-to-fibre recycling.

Challenges

Despite these developments, several challenges affect the effectiveness of textile sorting systems. Manual sorting is labour intensive, time-consuming, and difficult to scale when large volumes of textiles are collected. Identifying fibre composition can also be challenging, particularly when garments lack labels or contain blended materials.

In many regions, limited domestic sorting capacity means that textiles are graded primarily for export rather than for reuse or recycling within the country. This can result in lower-value textiles being exported, where they may ultimately end up in landfill or incineration, with the follow on environment impacts.

Technological sorting systems also present challenges, including high investment costs, technical complexity, and the need for specialised expertise to operate and maintain equipment. In addition, automated and AI-based systems can struggle with complex materials and may misclassify textiles if data inputs are incomplete or inaccurate.

Potential Opportunities

There are several opportunities to strengthen textile sorting systems across the regions. Expanding local sorting infrastructure could increase the proportion of textiles that are reused or recycled domestically and reduce reliance on exports.

Technological developments such as fibre-level identification systems, automated optical sorting, and AI-assisted classification have the potential to significantly improve sorting accuracy and enable fibre-to-fibre recycling at scale. At the same time, combining technological solutions with manual sorting could support both efficiency and social employment initiatives.

Research and innovation projects are also creating opportunities to develop new approaches to textile recycling, improved product traceability, and circular design. Together, these developments could support more efficient sorting systems and help recover greater value from post-consumer textiles.

2.4 Communication/Instructional Tools for Textile Sorting & Categorisation

Overview

Communication and instructional tools support textile sorting and categorisation through guidance, policy frameworks, and digital systems, helping to improve consistency, awareness, and traceability across NPA regions.

Collection Method	Description	NPA Country & NPA Area (operating or located)				
		Ireland	Norway	Finland	Sweden	Iceland
National or Regional Sorting Guides	Public guidance platforms explaining how households should sort textiles and other waste streams.	N/A	Operating	Operating	N/A	
Municipal Communication Campaigns	Municipality materials such as posters, websites, workshops, and school programmes promoting correct textile disposal.	N/A	Located	Operating	N/A	
Research & Policy Frameworks	Studies and strategic reports that develop guidance for circular textile systems and sorting practices.	Located	N/A	N/A	N/A	
Digital Platforms for Textile Tracking & Recycling	Software or digital tools that support textile traceability, recycling logistics, or material categorisation.	N/A	N/A	Operating	Operating	
Circular Textile Classification Practice Frameworks	Methodologies that define how textiles should be categorised for reuse, recycling, or disposal.	N/A	N/A	N/A	Operating	
Research & Innovation Projects	Pilot projects and RDI initiatives testing new approaches to textile sorting, recycling, and circular systems.	N/A	N/A	Located	N/A	

Strengths

Several regions have developed communication materials and guidance frameworks to support textile sorting and circular textile practices. National and regional sorting guides, such as Norway's Sortere.no and municipal initiatives like Lumire in Sweden, provide accessible instructions for households on how to dispose of textiles correctly.

Research and policy initiatives, including Ireland's Circular Textiles System research and Finland's Telaketju project, also contribute to knowledge development and awareness of circular textile systems. Additionally, emerging digital tools and platforms, such as textile recycling data platforms and open-source frameworks for circular textiles, support improved traceability and categorisation of textile materials.

Challenges

Despite the availability of guidance tools, there are several challenges related to accessibility and understanding. Most of all is that these processes require consumer behaviour change which is difficult and expensive to influence, and which requires multipronged ongoing efforts. Communication materials are often limited in reach, particularly in rural or remote areas, and may only be available in certain languages. Confusion between textile waste and reusable textiles can also lead to incorrect sorting by consumers. In addition, some frameworks and digital tools remain in early development stages or rely on ongoing project funding, which may limit long-term continuity and implementation.

Potential Opportunities

There is significant potential to expand and strengthen communication tools across the regions. Existing guidance materials could be adapted, translated, and shared between countries to improve accessibility and consistency in textile sorting practices. Digital platforms and open-source frameworks also offer opportunities to improve data collection, traceability, and fibre identification within textile systems. Combined with targeted ongoing public awareness campaigns, these tools could help improve sorting behaviour and support the transition to more circular textile management.

2.5 Minimum Intervention

Overview

Minimum intervention approaches enable consumers to extend textile lifecycles through reuse, repair, and reduced consumption. They are widely embedded across regions and require minimal infrastructure.

Collection Method	Description	NPA Country & NPA Area (operating or located)				
		Ireland	Norway	Finland	Sweden	Iceland
Consumer behaviour change (rethink/reduce)	Activities encouraging consumers to reduce consumption or rethink how they acquire clothing (e.g. awareness campaigns, swap events, sustainable fashion workshops).	N/A	N/A	Operating	Operating	N/A
Clothing rental and sharing	Platforms or businesses allowing users to rent garments instead of purchasing them.	Located	Operating	Operating	N/A	Operating
Peer-to-peer resale platforms	Digital marketplaces where individuals buy and sell second-hand clothing directly.	Operating	Operating	Operating	Operating	Operating
Vintage and second-hand retail	Physical stores selling pre-owned clothing, including vintage retailers and charity shops.	Operating	Operating	Operating	Operating	Operating
Community repair initiatives	Workshops, repair cafés, and community programmes teaching clothing repair and upcycling skills.	Located	N/A	Operating	Operating	Operating
Professional repair services platforms	Platforms connecting consumers with clothing repair services.	N/A	Operating	N/A	N/A	N/A
Material reuse and upcycling initiatives	Projects that reuse textile waste as materials for new products, craft, or design.	Operating	Operating	Operating	Operating	Operating

Strengths

Minimum intervention approaches are widely accessible and are already embedded across regions, particularly through peer-to-peer marketplaces, charity retail, and community repair initiatives. These systems are low-cost, decentralised, and are often connected to existing consumer behaviour, making them easy for the general public to engage with. Strong activity in resale, rental (especially occasion wear), and community-led repair supports reuse and extends garment lifecycles without requiring significant infrastructure.

Challenges

Many initiatives are limited in scope or scale. Rental models are largely confined to occasion wear and do not extend to everyday clothing, establishing large national platforms require significant investment costs. Resale systems often rely on imported or high-quality garments, limiting local circularity. Charity shops can lack standardised sorting criteria, leading to inconsistent decision-making and the disposal or export of damaged textiles. Repair initiatives are typically localised and difficult to scale, with logistical challenges needing to be overcome once the models are no longer based on bricks and mortar store locations. Consumer barriers such as low motivation, concerns about hygiene, and limited awareness reduce participation.

Potential Opportunities

There is potential to expand and connect these systems. Rental models could be broadened to include categories like sportswear, pregnancy items, children's wear or other short-use items. Resale platforms could be adapted to support textile flows for designers and remanufacturing. Developing clear pathways for damaged textiles would enable repair, repurposing, or resale rather than disposal. Scaling community repair through standardised toolkits and national programmes or platforms, alongside improved public education and awareness, could increase participation and impact. There is also the possibility for providers to advocate for incentives for repair providing more impetus for consumers to engage with services

2.6 Medium Intervention

Overview

Medium intervention approaches involve structured, expertise-led systems that support repair, reuse, and remanufacturing of textiles. These approaches are present across NPA regions but rely on specialised skills, infrastructure, and coordination to scale effectively.

Collection Method	Description	NPA Country & NPA Area (operating or located)				
		Ireland	Norway	Finland	Sweden	Iceland
Remanufacture	Transformation of post-consumer or waste textiles into new garments or products by designers or specialised producers which requires technical, creative, and material expertise	Located	Operating	Located	N/A	N/A
Advanced Repair Services	Specialised garment repair and alteration, including knitwear repair, tailoring, material replacement, and structural modification to extend lifespan	Operating	N/A	Operating	Operating	N/A
Organised Behaviour Change Programmes	Structured initiatives led by organisations that promote sustainable textile practices through education, campaigns, and facilitated activities	Operating	N/A	N/A	N/A	N/A
Refurbish	Restoration of textiles or garments to a usable or upgraded state, often requiring design and material expertise.	N/A	N/A	Located	N/A	N/A
Organised Reuse Systems	Professionally managed reuse systems including textile sorting centres, second-hand shops, and structured reuse logistics	N/A	N/A	Located	N/A	N/A
Circular Start-ups	Early-stage companies developing innovative solutions for textile reuse, repair, recycling, or circular business models	N/A	N/A	N/A	N/A	Operating

Strengths

Medium intervention approaches introduce a higher level of structure and expertise, supporting more advanced circular practices such as remanufacturing, professional repair, and behaviour change initiatives. Across regions, there is clear evidence of skilled actors including designers, repair specialists, and organised programmes that extend garment lifecycles and add value to post-consumer textiles. Professionally managed reuse systems and repair services contribute to local employment, skills development, and the strengthening of circular economy ecosystems.

Challenges

These interventions often require access to infrastructure, materials, and specialised skills, which can limit scalability and accessibility. Designers and remanufacturers face barriers in sourcing consistent textile inputs and accessing sorting facilities. Repair services can be constrained by cost, availability, and consumer perceptions, with many individuals lacking the awareness or vision to reimagine

garments. In some regions, initiatives remain niche or urban-focused and scaling them across wider geographic areas presents logistical and financial challenges.

Potential Opportunities

There is strong potential to better connect and scale these systems. Developing streamlined links between sorting facilities and designers or repair providers could improve material access and efficiency. Digital platforms could enable tailored sourcing of textile inputs and better matching of supply and demand. Expanding education and behaviour change programmes can increase consumer engagement with repair and reuse. Additionally, there is an opportunity to build regional hubs, standardise service models, and support knowledge transfer to strengthen circular textile systems across NPA areas.

2.7 Maximum Intervention

Overview

Maximum intervention approaches involve industrial and technology-driven systems that process textile waste at scale, transforming materials through recycling, recovery, and regeneration to support circular textile systems.

Collection Method	Description	NPA Country & NPA Area (operating or located)				
		Ireland	Norway	Finland	Sweden	Iceland
Mechanical Recycling	Industrial processing where textiles are shredded and converted into new materials such as insulation, padding, or fibres.	Located	Operating	Located	Located	N/A
Chemical Recycling	Advanced processes that break down textiles at a molecular level to create new fibres or materials.	N/A	N/A	N/A	Located	N/A
Thermochemical Recovery (e.g. Pyrolysis)	High-temperature processes that convert textile waste into fuels, oils, or chemical feedstocks.	N/A	N/A	N/A	N/A	N/A
Industrial Repurposing	Large-scale transformation of textile waste into new products or materials, often combining design and industrial processes.	N/A	N/A	Operating	N/A	N/A
Regenerative / Localised Production Systems	Systems focused on rebuilding textile production using local fibres, materials, and circular supply chains.	Operating	N/A	N/A	N/A	N/A

Strengths

Maximum intervention approaches enable the processing of large volumes of textile waste through industrial and technological systems, including mechanical and chemical recycling, and thermochemical recovery. These systems can divert textiles from landfill and transform waste into new materials, fuels, or products, supporting circular economy goals. There is also strong innovation across regions, particularly in fibre development and industrial recycling technologies, alongside opportunities for local production systems and regenerative models.

Challenges

These approaches are highly resource-intensive and require significant investment, infrastructure, and technical expertise. High energy demand, particularly in processes such as pyrolysis, raises sustainability concerns. Many systems face limitations in input materials, with inconsistent or mixed consumer textiles posing challenges for processing. Technologies are often at pilot or early-stage development, and scaling to industrial levels presents financial and operational risks. In some cases, outputs are limited in application, and uncertainty remains around the inclusion of textiles in existing recycling systems.

Potential Opportunities

There is strong potential to develop regional infrastructure and scale industrial recycling systems to handle textile waste more effectively. Expanding the applications of recycled materials, particularly from mechanical processes, could increase value and market demand. Chemical recycling and fibre innovation present opportunities to create high-quality, circular textile inputs. Thermochemical processes offer a pathway for non-recyclable textiles as a final end-of-life option. Additionally, integrating these systems with local supply chains and regenerative models could strengthen circular textile ecosystems and reduce reliance on export or landfill.

3 Business Model: Collection of Textiles - Bins

3.1 Description of the Model

A "bring bank" or donation bin model places secure, branded containers in public or partner locations where citizens drop unwanted clothing and household textiles[3]. This model is a first-step collection point in wider textile reverse-logistics[4]. The primary suppliers are householders and small businesses. End-customers vary by output stream but can include local charity shops and social retailers for high-grade reuse, bulk buyers and exporters for resale, fibre-to-fibre recyclers or industrial processors for non-reusable textiles, or municipal waste systems if contaminated[4].

Citizens bring items directly to bins with convenience being a major drive. Bins are often sited at car parks, shopping centres, community centres or on street with landowner permission[4]. Some schemes combine bins with municipal collection or retailer take-back[3].

Customers for the collected output include local charity shops, online resale platforms, bulk traders and exporters, textile recyclers, and industrial buyers[5]. Municipalities and producer responsibility schemes can also be customers or partners for collection services[5].

3.2 Market Position

Donation bins are a very common and often crowded collection channel. In many countries there are multiple operators: charities, commercially branded collectors, SEs and municipal schemes[3].

3.3 Products/Services and Customers

3.3.1 Core services

- Site selection, installation and maintenance of bins, including branding and signage
- Regular collections, emptying and transport to sorting centre
- Data reporting and traceability – who gave what, volumes, where it goes[4]

3.3.2 Pricing and Revenue Model

Collection bins do not have fees for donors[6]. Income is generated from: (i) resale of prepared items; (ii) sale of bales to bulk traders and exporters; (iii) sale of unusable textiles to recyclers; (iv) host payments as some operators pay landowners or schools a per-tonne or fixed annual fee for hosting a bin; or (v) contracts with retailers and municipalities who pay service fee or per-collection payment[4].

[3] Zero Waste Europe. 2023. How to collect, sort, and reuse textile waste locally?
[4] WRAP - The Waste and Resources Action Programme. Textiles Resource Hierarchy - Product Reuse.
[5] UNECE. 2024. Reversing direction in the used clothing crisis: Global, European and Chilean perspectives.
[6] FAQs. Recycled Clothing Banks website

Some SEs operating in schools in the UK quote £250 up-front per site or £0.40/kg for hosts where the installation of bins may be provided at no cost by the operator in return for hosting[7]. *These figures are operator-specific and should be validated locally.*

3.3.3 How Customers are Accessed

- Partnering with landowners, such as supermarket car parks, schools, community centres, etc., and negotiating hosting agreements.
- Retail partnerships such as take-back in store or drop off into branded bins
- Fundraising and marketing to communities and digital campaigns to increase donations[4]

3.4 Resource Requirements

3.4.1 Human Resources

A core small SE setup typically requires 3–10 people;

- Operations and logistics staff in charge of route planning, driving, and loading;
- Operations and partnerships lead in charge of contracts, site relationships, and reporting;
- Communications and fundraising person[4].

The skills and experience required include logistics & vehicle operation, safe manual handling, textile grading, repair, basic enterprise bookkeeping and data reporting[3]. If the SE aims to scale to many sites or run a retail arm, they would also require retail, warehouse management, and compliance staff.

3.4.2 Capital Resources

Bins are purchased or supplied by a collection operator. Purchase price varies widely; simple donation boxes can be sourced for €100 - €1,000, while large secure outdoor steel banks are commonly several hundred to a few thousand euros each depending on build, security and branding[8].

- If involved in the '*sorting*' market, small SEs would also need a covered, dry sorting area, such as a small warehouse, with racking, tables, steamers, irons, minor sewing and repair equipment.
- Buying a van for collections and haulage can cost €8,000–20,000; however, many operators contract haulage to reduce capital needs.

3.5 Logistical, Environmental and Policy Factors

3.5.1 Transportation of Bins

Bins are emptied on fixed routes by the operator's crews into a collection vehicle. Some SEs use volunteer help for small volumes while others contract weekly collections[3]. After collection, textiles are transported to the SE's sorting centre, or to partner facilities for grading, onward sale, or recycling.

[7] Kids Just Recycle. (2025) Did you know a free clothes bin for schools can raise £400?

[8] Bin Shop. Lockable Clothing Donation Bin 1700 Litres.

3.5.2 Policy & Environmental Considerations

- Site permissions & contracts: placing a bin almost always requires landowner permission and a hosting agreement. Many operators provide bins at no charge but require a formal hosting contract[9]. Where bins are located on public land, local council permission is generally required.
- Licences & permits: some local authorities require donation bin permits, such as zoning or use permits, to control the number and location of bins and to avoid fly-tipping. For instance, UK local authorities often regulate siting and require agreements for maintenance[10].
- Extended Producer Responsibility (EPR) & upcoming rules: in many jurisdictions, especially those in the EU, mandatory separate textile collection and EPR for textiles are being introduced or negotiated. This will shift the cost and governance of collection and may create tender opportunities for accredited SE collectors, but also competition[5].
- Environmental impacts to manage include preventing contamination, minimising exports of low-value textiles that cause harm in receiving countries, and measuring the carbon and greenhouse gas benefits of reuse vs recycling[5].

3.6 Main Market Challenges and how they are Overcome

3.6.1 Oversupply of Low-Value Textiles

Oversupply of cheap new clothing and low-quality donations reduce resale value, lower revenue, and make non-reusable textiles difficult to route profitably. To mitigate this, focus on high-quality sorting and preparation for reuse, create direct resale channels, build partnerships with retailers or recyclers with better margins, and lobby for EPR funds to cover costs[4].

3.6.2 Trust & Transparency

Research finds high level of public scepticism about whether donations actually help local causes. To overcome this, SEs should publish traceability data, show end-routes of donations, and communicate the social impact created, such as data on jobs created, tonnes reused, etc, as donors want to know how their donations are used[4].

3.6.3 Contamination & Site Vandalism

Bins often attract non-textile waste – if wet or contaminated, this waste reduces the value of donation[3]. To avoid this, SEs should select good sites, design robust bin locking systems, ensure bins are regularly emptied, provide clear donor guidance and cleaning maintenance clauses in host agreements.

3.6.4 Regulatory uncertainty & competition from commercial operators

Differing local rules on permitting and commercial collectors branded as charities create difficulties for SEs who find it difficult to remain competitive[5]. SEs should pursue municipal accreditation, obtain

[9] World in Need. 2021. Clothes Recycling Bins.

[10] Textile Recycling Association (UK). 2020. Code of practice for collectors, graders and exporters of used clothing.

required permits, and differentiate themselves from commercial enterprises by showcasing social impact and traceability.

3.6.5 Logistics & costs

Collection and sorting of textiles are labour and transport-intensive which raise costs for SEs[3]. To overcome this, SEs should contract haulage initially, co-locate with other SEs to share space and equipment, scale gradually and use host payments or municipal subsidies to cover route costs[4].

3.7 Summary: Potential for SE Development of this Business Model

Bring-banks or collection bins are a proven entry point for SEs into textiles circularity. The model offers strong potential for social impact, through job creation, training, community engagement, and forms a gateway to higher-value activities, namely reuse, resale, repair, and upcycling. However, long-term financial viability for pure collection depends on: (i) access to quality inputs, (ii) ability to capture value through preparation for reuse or retailer/municipal contracts, and (iii) an enabling policy environment.

3.7.1 Investment Priorities: Where SEs can add greatest value

1. Preparation for reuse capacity: which includes cleaning, repair, quality grading, can increase value of materials[4].
2. Partnerships with municipalities & retailers: win tenders or co-deliver take-back schemes[3].
3. Transparency & traceability IT: builds donor trust and meets EPR reporting needs[4]
4. Social employment & training programmes: leverages SE mission to access grants and subsidies and win community support[3].

3.8 Case Study: Enable Ireland (Ireland)

3.8.1 Introduction

Enable Ireland is a national Irish disability charity that runs a commercial division involving charity shops, warehouse and a nationwide network of textile donation banks. It collects donated clothing and textiles and sells them through its shops, warehouse and wholesale channels to fund disability services[11].

In 2023 Enable Ireland reported 155 textile banks on 103 sites and recycled 2,121 tonnes of donated textiles and clothing[12]. The end customers for resold items are shoppers in Enable Ireland charity shops and B2B customers for unsold/recycled textiles. The beneficiaries are Enable Ireland's core disability services as all profits from their commercial division support those services[12].

3.8.2 Income Breakdown

Enable Ireland publishes consolidated figures in its 2023 Annual Report[12]:

[11] Enable Ireland Website

[12] Enable Ireland Annual Report 2023.

- Commercial & fundraising (generated funds): €7,045,917 reported under "Activities for generating funds. This line includes income from shops, warehouse and likely the financial value generated from donated textiles.
- Net profit from Commercial Division (2023): €1,003,527
- Other major income lines: HSE service grants are the largest income source for the charity overall. For context, Enable Ireland's total incoming resources combine state grants, commercial income, fundraising and other income. So income from collection bins is material but part of a mixed revenue model.

3.8.3 Scaling History

Enable Ireland has a long history as a national charity. Over time it built a commercial division made up of charity shops, a central warehouse and textile banks. The organisation's partnership and campaign with TK Maxx is longstanding since the late 1990s and helped scale donation channels and awareness[12].

Annual Reports show changes in the number of banks/shops over recent years with 196 banks in 2020[13], 174 banks in 2022[14], and 155 banks in 2023 in reported snapshots. This indicates that the network has been actively managed rather than passive expansion. Strategic scaling levers used include partnerships with large retail (TK Maxx), opening new charity shops, investment in warehouse capacity, and commercial merchandising to increase shop yield[15].

3.8.4 Financial outline of Business Model

- Revenue model: donated textiles are sorted/warehoused and then sold via shops or in wholesale to third-party traders.
- Profitability: the commercial division made a net profit of €1,003,527 in 2023 which is channelled into services. The commercial division's costs (staff, premises, distribution) are also reported and show the division is a meaningful contributor but not the sole funder of services[12].
- Dependency & diversification: Enable Ireland explicitly mixes earned income (shops & commercial) with fundraising and statutory grant. This diversification reduces risk from textile-market volatility[12].

3.8.5 Marketing Presence and Partnerships

Enable Ireland has had a high-profile, long-running retail partnership with TK Maxx called "Give Up Clothes For Good campaign" which has raised significant funds and channelled customer donations in store to Enable Ireland[12]. Enable Ireland also uses its website, shop network, social media and national campaigns to promote donations, including signage on banks and shop messaging[11].

[13] Enable Ireland. Annual Report 2020.

[14] Enable Ireland. Annual Report 2022.

[15] Enable Ireland. Strategic Plan 2022-2025

3.8.6 Lessons and Learning

- Partnerships amplify reach: long-term retail partnerships scale donations and raise profile which is valuable for SEs that lack broad retail footprints.
- Transparency & "100% charity" messaging matters: Enable Ireland emphasises that its collection bins and shops are owned and operated by the charity and that profits support services. This helps donor trust and distinguishes them from commercial collectors.
- Don't rely on collection alone for sustainability: Enable Ireland's accounts show that while commercial activities are important, statutory grants remain the backbone, meaning SEs that start with bins should plan for diversified income or aim to win municipal/EPR contracts[12].

4 Business Model: Home Collection of Textiles

4.1 Description of the Model

In this model, unwanted textiles are collected directly from households rather than requiring the donor to bring items to a bin or drop-off point[16]. The service is aimed at donors who either cannot easily drop off items or who value convenience.

Donors book a collection or pick-up slot online or by phone, the organisation sends a collection vehicle, collects the textiles, transports them to a warehouse facility, and then processes them for resale, export, or recycling[17].

On the input side the customer is the donor or household. On the output side, customers vary: but can include charity shops or retail outlets buying prepared textiles, bulk traders or exporters buying sorted bales, or recycler partners for textiles not suitable for reuse[17]. The beneficiaries are the charities receiving income from donations, and the local community, via job creation and training.

4.2 Market Position

Home-collection is less common than drop-off bins but is increasingly becoming popular[17]. Many textile reuse operations use banks but those offering door-to-door collection have added convenience and may serve underserved donor segments, such as older people or those with restricted mobility.

4.3 Products and Services

4.3.1 Core Services

- Online or phone booking for collection
- Scheduling of pickup
- Driver vehicle collection
- receipt/tracking of donations
- resale via charity shops or bulk sales
- disposal or recycling of non-reusable textiles

4.3.2 Pricing and Revenue Model

For donors, the collection is often free to encourage use. Revenue is generated via: (i) payments by charities for tonnes collected[18]; (ii) resale income from sorted textiles; (iii) contracts with brands or municipalities for take-back or collection services where the SEs may be paid a service fee or receive a grant/subsidy[17]; (iv) fundraising or grant income tied to social impact.

[16] Recycle Kind. Website

[17] TRIAD. 2021. Wearing Waste Out pdf.

[18] iCollectClothes, Heart UK website

4.3.3 How are Customers Accessed:

- Marketing to households: via online booking platforms, local advertising, social media, mail-drops, partnerships with housing associations or local authorities.
- Partnerships with charities: the SE or service may partner with a charity that promotes the collection service to its supporters[19].
- Could also partner with large retailers offering home-collection of textiles through postal bags as part of brand take-back programmes. For example, an online trial by Marks & Spencer and Oxfam allowed customers to order a free postal donation bag[20].

4.4 Resource Requirements

4.4.1 Human Resources

A small-scale home-collection SE would require:

- 1 operations lead responsible for bookings, scheduling, donor communications and partnerships, tracking collections, donor receipts, sales to wholesale, impact reporting
- 1-2 collection staff (driver + loader) for each collection route.
- Note sorting staff are not included in this list

A larger-scale SE would need more staff across fleet management, quality control, e-commerce/resale operations, social impact evaluation, and others departments.

The experience required includes logistics and collection operations (health & safety, manual handling), basic warehousing experience (preferably with textiles), partnership and contract management (for municipalities and charity relationships), and some marketing/donor-relations skills. If the SE has a strong social mission, such as employing disadvantaged workers, then staff would need experience in supported employment or community development.

4.4.2 Capital Resources

- Collection vehicle(s): vans or small trucks suitable for door-to-door pickup; cost depends on lease and local vehicle market.
- Booking IT system: online booking platform, donor database, logistics scheduling software.
- Costs**:** Although more specific figures for this model are less frequently published, some operator websites indicate investment in vehicles, IT and warehouse space. For instance, TRAID's home-collection scheme mentions "vehicles which conform to the latest emissions regulations" and logistics managers[17].
    - Scaling costs: to expand routes, purchase vehicles, hire additional staff, and expand storage capacity.

[19] ACT Take Back. Part of Fashion's Future.

[20] The Guardian. 2024. M&S and Oxfam trial postal donation bags for 'unwearable' clothes

4.5 Logistical, Environmental and Policy Factors

4.5.1 Collection of Textiles from Homes

Generally, the operational flow of a SE operating in home collection of textiles looks like: households book collection → SE plans vehicle routes → driver and loader collects bagged textiles (often donor-bagged) from accessible location (doorstep, driveway) → transport to warehouse. Afterwards, the textiles are sorted into reuse-wholesale-recycle streams by the SE or a partner organisation.

4.5.2 Environmental Considerations:

- Ensure collected textiles are clean, dry, suitable for reuse as contamination reduces value;
- Reduce transport emissions by optimising routes and/or using clean vehicles[17]. Using the post service as a collector can also reduce carbon emissions from transport;
- Avoid sending low-value items to landfill or exporting to destinations where they cause environmental/social harm[21].

4.5.3 Policy factors:

- Permits/licensing: Door-to-door collection may require a licence or permit under local waste management/charity collection rules. Some local authorities regulate collection vehicles, routes, donation bags.
- Extended Producer Responsibility (EPR): In jurisdictions where textile EPR is emerging, home-collection may be funded or supported through producer-takeback schemes, giving SEs new opportunities[21].
- Linkage with municipal collection: In some municipalities, textiles cannot be put in household residual waste allowing home collection to support municipal waste diversion targets[22].

4.6 Main Market Challenges and how they are Overcome

4.6.1 High Logistics and Operational Costs

Home collection involves greater expense than textile bins because of fuel, vehicle maintenance, driver wages, and route planning. SEs can overcome this to some degree by optimising routes through scheduling software, clustering pickups by area, and using efficient or shared vehicles. Some partner with local authorities or other charities to share costs and infrastructure23.

4.6.2 Low Quality or Contamination of Collected Textiles

Door-to-door collections risk receiving unsuitable or soiled items that reduce resale value. To manage this, SEs give clear donor guidance on what to donate (clean, dry, wearable items), provide educational materials online or with collection bags, and train sorters to quickly separate usable items from waste[16].

[21] UNECE. 2024. Reversing direction in the used clothing crisis: Global, European and Chilean perspectives.

[22] Isle of Wight Council website.

[23] Zero Waste Europe. 2023. How to collect, sort, and reuse textile waste locally?

4.6.3 Competition from Commercial Collectors and Charity Schemes

Numerous commercial collectors and national charities already operate textile pickup services, which can limit volumes for smaller SEs. Successful SEs differentiate through transparency, local employment, community focus, and traceable reuse. They market themselves as "local, ethical, and impact-driven," forming partnerships with councils, housing associations, or corporate donors who value social returns as well as waste reduction[18].

4.6.4 Fluctuating Market Value of Second-hand Textiles

Prices for used clothing vary with global demand, reducing financial predictability. To counter this, SEs diversify revenue by combining resale, repair, upcycling, and contracts with recyclers or municipal waste services. For example, Triad reinvests resale profits into global reuse and education programmes, stabilising finances through mixed income sources[17].

4.6.5 Limited Public Awareness and Donor Engagement

A home collection model relies on households knowing and trusting the service and wanting to use this. SEs address this through targeted marketing using social media, local press, community groups, and charity partnerships to highlight ease of use and environmental benefits[17]. This challenge can be compounded by areas with smaller populations where; 1) there are less customers, and 2) there is greater distance between customers. A movement towards online sales platforms for individual resale targeted at the public (i.e. Depop and Vinted), may also present competition for some age groups.

4.7 Summary: Potential for SE Development of this Business Model

Home collection of textiles presents a potential opportunity for a SE: it offers donor convenience, potentially higher goodwill leading to larger donations, and a differentiator against bin-only models. For SEs with a social mission, this route could well with social goals. Business viability would need to be assessed through a feasibility study which has a particular focus on the previously mentioned challenges and whether there is sufficient projected income available in a specific geographical area to sustain the business, considering existing competition.

4.7.1 Investment Needed

- Initial investment in one or more collection vehicles, booking IT system, warehousing space and equipment, and staffing as described above.
- Additional investment for marketing to households and building partnerships
- Depending on scale, route-optimisation software or fleet management may be needed.

4.7.2 Scaling Potential

By building a route network across neighbourhoods, partnering with local authorities to contract collections, integrating with retail take-back programmes, and combining with sorting-preparation for reuse, a SE can increase its value capture.

The home-collection model is a viable route for an SE specialising in textiles collection, especially if combined with reuse or retail operations and strong environmental credentials. The required investment

is moderate, relative to large manufacturing or recycling plants, but hinges on logistics, volume and quality. With favourable policy trends, such as EPR, and increasing public demand for convenient donation solutions, this model has good potential.

4.8 Case Study: TRAID (UK)

4.8.1 Introduction

TRAID is a UK-registered charity whose mission is to collect unwanted clothing and textiles, extend their useful life through reuse or resale, and fund projects tackling poverty and poor working conditions in the fashion supply chain[24]. Their model includes high-street charity shops, a network of donation banks (bins), and a free home-collection service for households in London to donate bagged clothing/household textiles[25].

By 2024, TRAID reports that they put over 233 million garments back into use, saved over 628,638 tonnes of CO_2 and delivered to more than 50 projects in 30+ countries[26]. Their donors include households who book collection, charities and local authorities who partner, and downstream buyers of sorted textiles.

TRAID operates primarily as a trading SE, not a grant-funded charity; most of its income is earned from commercial activities, such as selling donated clothing through its London charity shops and wholesale channels, rather than from grants or donations.

4.8.2 Income Breakdown

According to the Charity Commission entry, in 2023, TRAID had total income of £9,075,370, of which £8.95m was from "charitable activities" and £123k from investments[27].

TRIAD does not publicly publish a detailed breakdown of home-collection income vs donation-bank income vs retail-resale income. Their website mentions that they've put back 233 million garments into use since they launched and committed £7.5m to 50 projects indicating trading income supports their charitable projects.

4.8.3 Scaling History

TRAID launched in 1999 with four charity shops and 700 clothing banks. In 2014 they launched a free home collection service initially with 4 London boroughs and later expanded to cover all London boroughs[24]. In their first year of home collections, they collected 125 tonnes. They have since scaled the home-collection model combined with their shop growth and campaigning[26].

[24] TRIAD. Our History. Website

[25] TRIAD. Home Collection. Website

[26] TRIAD. 2024. Celebrating our 25 Year History. Website

[27] Register of Charities UK. TRIAD. Website

4.8.4 Financial outline of Business Model

Revenue model: donated textiles are collected via home pickup, donation banks, or shops, and then sorted and resold to shops or wholesale market the proceeds of which go to fund charitable and development projects.

- The 2023 income of approx. £9.08m gives scale and shows the trading model dominates[27].
- Costs and margins are not publicly broken down for home-collection vs bank collection etc., but campaign evidence suggests home collection adds incremental tonnes but helps increase reuse[28].
- TRIAD emphasises "free for donors" service with no donor charge, so cost must be covered by the downstream resale value and economies of operation.

4.8.5 Marketing Presence and Partnerships

- TRAID markets the home collection prominently – their website has a "Book a free home collection" interface[25].
- They partner with local authorities to offer home collection for residents.
- They run public campaigns like the "23% Campaign" in 2018 encouraging wardrobe clear-outs which generated significant media visibility and helped boost collections[28].
- They emphasise environmental and social impact, showcasing how garments reused, tonnes CO_2 saved, global projects funded, etc. as part of their story[26].

4.8.6 Lessons and Learning

- Home collection can expand reach to households who may not use donation banks, thereby increasing collection volumes. However, cost per tonne is likely higher for home collection vs bins due vehicle, logistics, staffing costs involved. Therefore ensuring downstream value and good sorting is essential.
- Transparency and offering donors convenience helps; TRIAD's home-collection web page emphasises the features such as online booking, clear branding, driver calls ahead.
- Partnerships with local authorities who may want to divert textiles from domestic waste, helps secure donor volumes and legitimacy.
- The scaling history of TRIAD shows that the free collection model is one of many channels of revenue: shops, banks, home collection, etc., indicating that diversification is beneficial.

[28] TRIAD. Campaigns. Website

5 Business Model: Sorting for Resale

5.1 Description of the Model

Sorting for Resale is an operation that receives post-consumer textiles from donation points, curb side collections, charity shops, municipal textile banks, commercial donors and sometimes commercial collectors[29]. The incoming textiles are manually or semi-automated inspected, graded and separated into resale quality categories such as ready to sell locally, vintage, premium, export bale grade, rags or feedstock for recycling.

The customers are second-hand retailers, vintage shops, online resale platforms, bulk exporters and local reuse shops

5.2 Market Position

For SEs the model typically occupies a niche between pure charity retail and large export-oriented sorting merchants. Generally, in this business model, SEs compete with several commercial and charity actors[29].

5.3 Products and Services

5.3.1 Core Services

- Sorting and grading of textiles by condition, fibre type, garment type and market destination
- Baling and packaging for bulk buyers
- Clean and repair light defects to upgrade items into higher resale categories
- Brokerage between donors and resale channels or direct supply to social retail shops[29]

5.3.2 Pricing and Revenue Model

- Unit or weight-based purchase of incoming textiles from collectors or municipalities
- Service fees for sorting or grading contracts with municipalities, brands or take back programmes
- Sale revenue from retailing higher grade items directly to buyers
- Bulk revenue from selling sorted bales to wholesalers priced per kilogram with premium for higher grade or branded lots[30]

5.3.3 How are Customers Accessed

- Direct procurement contracts with municipalities and corporate take back programmes
- Long term relationships with local second-hand retailers, charity shops and international wholesale buyers.

[29] Fashion United. 2024. Sorting for Sustainability. Article

[30] WRAP - The Waste and Resources Action Programme. Textiles Resource Hierarchy - Product Reuse.

- Online presence for retail customers and trade shows or trade networks for bulk buyers[31]

5.4 Resource Requirements

5.4.1 Human Resources

A small-scale sorting operation would require 5 to 20 staff for a modest SE that runs hands on sorting and a small retail outlet. Larger sorting hubs that do semi-automated sorting may require 50 plus staff.

Sorting requires trained sorters who know how to sort into many different categories, a capacity that is lacking in many regions[32]. Therefore, SEs typically hire staff with low formal qualifications and invest in on the job training for grading, handling and light repair[31]. However, supervisors with experience in textile grading, logistics and health and safety are necessary to ensure the quality[32].

5.4.2 Capital Resources

- Space requirements: a small-scale sorting SE can operate in a space of 200 to 800 square meters with designated intake, sorting lines, storage and a dispatch area. Larger hubs need multiple thousands of square meters.
- Machinery and equipment: basic operation requires sorting tables, racking, scales, packing and baling equipment. To scale and increase yield, semi-automated equipment can be introduced such as conveyors, near infrared NIR spectrometers and optical sorters[33].
- Costs: Reported ballpark capital costs for optical and sensor equipment are spectrometers €15-25,000 and optical sorting machines €150-200,000 euros[33]. Baling machines and conveyors add to costs but basic manual lines require low equipment cost. Ongoing costs include safety equipment, washing or repair stations if cleaning is offered, and transport vehicles.

5.5 Logistical, Environmental and Policy Factors

5.5.1 How Inputs Arrive / Distribution

Inputs arrive through municipal textile banks, curb side collections, corporate take back and donations at retail stores[29]. Many SEs have contracted municipal collection routes or operate donation banks. After sorting, outputs are distributed to local shops, online retail channels or packaged into bales for domestic or international buyers[30].

5.5.2 Environmental Considerations

Environmental considerations include hygiene and contamination control, avoidance of sending reusable textiles to landfill, and meeting end of waste criteria where applicable[34]. In many countries

[31] Rresue. April 2023. Valorising used textiles locally through re-use and recycling activities: The contribution of SEs. Pdf

[32] Zero Waste Europe. 2023. How to collect, sort, and reuse textile waste locally?

[33] Refashion. 2020. Optical Sorting and Textile Recognition. Pdf

[34] European Environmental Bureau. 2025. Redefining used textiles and textile waste. Pdf

donation boxes and curb side collection may require municipal permits and health and safety compliance[35].

5.5.3 Policy Factors:

- Extended producer responsibility schemes, which make producers operationally and financially responsible for the end-of-use phase of the products they put on the market, along with take back regulations and municipal contracts create stable supply and funding opportunities[35]
- Import and export regulation for second-hand textiles affects access to export markets and adds compliance requirements[34]
- Waste classification rules for textiles can alter whether a stream is treated as waste or reusable product which has implications for licensing and cross border movement[34]

5.6 Main Market Challenges and how they are Overcome

5.6.1 Variable Quality and Contamination of Incoming Textiles

A primary challenge for textile sorting SEs is that donated or collected textiles often arrive in mixed condition, with significant proportions being damaged, heavily soiled, unrepairable or otherwise unsuitable for resale[32]. This lowers overall yield, increases sorting and disposal costs, and reduces the margin on resale operations. To counter this, SEs adopt a combination of strategies, such as, introducing light repair, cleaning or reconditioning operations to upgrade items into higher-quality resale categories; investing in staff training and quality control protocols so that sorting personnel become adept at quickly identifying higher-value garments; and partnering with municipalities or donation programmes to improve the quality of intake through pre-sorting guidelines or segregated donation streams.

5.6.2 Price Volatility and Export Market Dependence

Reliance on bulk resale or export markets for lower-grade textiles exposes operations to fluctuations in global demand, shifting import regulations, currency risk and competition. When margins are thin and volume is high, any disruption in export channels can jeopardise the business model[34]. The mitigation strategy is to diversify both supply and resale channels. For instance, SEs develop local resale outlets (charity shops, online second-hand platforms, vintage niches) and reduce over-dependence on export sales. SEs can also seek more stable income streams by securing contracts with municipalities or brands to reduce reliance on commodity resale alone. They can also target higher value niches, such as designer or vintage items, where margins are better and market position stronger.

5.6.3 Labour Intensity and Productivity Constraints

Sorting textiles is labour-intensive and typically requires manual inspection, which limits output and elevates cost per kilogram compared with highly mechanised competitors[32]. This can hamper financial sustainability and scalability. To overcome this, SE can investment in semi-automation infrastructure along with staff training and workflow optimisation to improve productivity[32].

[35] Refashion. 2022. Sorting for Circularity Europe. Pdf

5.6.4 Regulatory Barriers

Regulatory frameworks can pose operational barriers for sorting and resale enterprises. Requirements for licensing, waste classification, and cross-border movement of used textiles vary widely and can restrict access to key supply and resale markets[34]. To overcome this, SEs can engage with local authorities and sector associations to clarify regulatory requirements and advocate for reuse-friendly legislation. Developing internal compliance systems for hygiene, safety, and documentation further ensures that enterprises remain legally secure and trustworthy partners in municipal or brand collaborations[34].

5.7 Summary: Potential for SE Development of this Business Model

Sorting for Resale is highly compatible with SE goals as it creates local jobs, can provide pathways for disadvantaged workers, and captures value that would otherwise be exported or downcycled. The model scales from low capital expenditure community operations to larger semi-automated hubs. SEs can capture more value when they combine sorting with local retail, repair and training services. The model also benefits from favourable policy levers such as public contracts and EPR funding directed to reuse.

5.7.1 Investment needed

- Basic equipment and secure premises for intake, sorting and storage.
- Staff training in grading, repair and health and safety.
- Baling, conveyors and IT for stock tracking and traceability.
- Modest automation, such as NIR (near infra-red) spectrometer or optical sorter, where volumes justify capital spending.
- Investment in sales channels including ecommerce, repair kits and local shop set up or partnerships.

Other supports that improve viability

- Securing public contracts for municipal collection and potentially access to EPR funds.
- Partnerships with brands for take back flows and with technology pilots that improve sorting accuracy.
- Grants or impact investment to cover the gap while the operation scales and to fund training for social employment outcomes

5.8 Case Study: Humana Nova (Croatia)

5.8.1 Introduction

Humana Nova is an eco-SE based in Northern Croatia. It collects used textiles in partnership with utility companies, through citizen donations and private sector partnerships. The enterprise sorts the textiles and then reuses or resells them via second-hand retail or exports, upcycles some items into accessories or redesigned garments, and sends cotton textiles for industrial rags production while recycling remainder into felt. Customers include local second-hand buyers, export markets for sorted bales, and

buyers of up-cycled products. The organisation also employs vulnerable groups, such as people with disabilities[36].

5.8.2 Income Breakdown

Humana Nova reports the following revenue structure:

- Goods and services sales: approximately 83.17% of revenue.
- Subsidies for employment of people with disabilities: approximately 12.14%.
- Donations: about 3.38%.
- Project funding: about 1.31%.

In 2024, they reported revenue of €2,404,497 and growth of more than 35%[36].

5.8.3 Scaling History

Humana Nova was formed in response to two main challenges: (i) limited infrastructure in Croatia for textile waste management, and (ii) low employment opportunities for people with disabilities and other vulnerable groups.[36] They created a nonprofit -eco-SE that integrated waste management (textile collection, sorting, reuse, up-cycling) with inclusion of marginalised workers[36]. Over time they built partnerships with utility companies, established donation textile streams, grew their sorting operations, expanded their upcycling product line, and increased throughput and employment. They progressed from mainly sorting- and resale toward more integrated operations, such as upcycling, local production, awareness raising[37].

5.8.4 Financial Outline of Business Model

The business model combines:

- Sale of sorted textiles: both local resale and export bales
- Upcycled product sales: (bags, accessories, redesigned clothes) from items not suitable for standard resale.
- Industrial usage: cotton items converted to rags along with other textiles recycled to felt.
- Employment subsidies and some project funding

Cost structure likely includes textile collection and transport, sorting labour, premises, storage, light repair/upcycling, packaging, logistics. Revenue is heavily skewed toward sales (83%), making it quite self-sustaining for its size. The subsidy portion (~12%) helps with inclusive employment. The growth of 35% in revenue indicates good market traction.

5.8.5 Marketing Presence and Partnerships

Humana Nova emphasises its social and environmental mission of inclusion of vulnerable workers, circular economy of textiles, and local processing through its website, awareness-raising and

[36] Interreg Europe. Social Cooperative Humana Nova. Website

educational activities[37]. Reporting and highlighting its employment and environmental impact also serves as marketing for its mission and brand.

5.8.6 Lessons and Learning

- Diversified revenue streams matter: Humana Nova relies nearly entirely on resale sales (~83 %) but supplemented by subsidy and donation streams gives stability.
- Integration of social mission with commercial operations strengthens value proposition and may open additional funding/subsidy opportunities.
- Access to reliable textile supply is important: Humana Nova cooperates with utility companies and donation networks helps secure input stream.
- Up-cycling and processing non-resale items adds value and reduces waste to landfill (and thus cost of disposal).
- Growth is possible even in smaller markets with the right mix of operations, mission and partnerships — they achieved 35% growth in a given year.

[37] Humana Nova. Website

6 Case Study on Automated Optical / AI Sorting: Re4Circular by Atelier Riforma

6.1 Introduction

Re4Circular is an AI-driven textile sorting and cataloguing solution developed by Atelier Riforma, a SE based in Turin, Italy. Originally focused on upcycling and circular fashion, Atelier Riforma then shifted its focus to technology to address inefficiencies in manual classification and sorting of post-consumer textiles[38].

The Re4Circular system uses AI and near-infrared spectroscopy classification integrated with digital tools to sort textiles and direct them to the most appropriate circular use, whether reuse, recycling, or upcycling[39]. Customers span second-hand stores, upcycling professionals, recycling companies, and B2B actors in the textile waste value chain[39]. It is designed to help these stakeholders maximise the value of collected textiles by providing structured, high-resolution data on garments.

Re4Circular operates at the intersection of SE, environmental impact and tech-enabled circular solutions, distinct within Europe's textile reuse ecosystem for its automated sorting focus.

6.2 Income Breakdown

Re4Circular's development has been driven primarily by grant and innovation funding rather than immediate product revenue. The initiative was supported through an EU Open Call for financial support to third parties managed by EISMEA (the European Innovation Council and SMEs Executive Agency), reflecting its innovation and social impact focus within the EU circular economy agenda[40]. As the technology is still being scaled, income breakdown clearly shows public funding and innovation support as the main enablers, with future revenue models anticipated from service subscriptions, B2B platform access, and data-driven sorting services for collectors and reuse partners[40]. There is not yet a detailed public commercial revenue breakdown, but the funding emphasis reflects typical early-stage social tech models that prioritise innovation and proof-of-concept before commercial scaling.

6.3 Scaling History

Atelier Riforma began in 2019 as a circular fashion project focused on upcycling and reuse of discarded garments while connecting artisans, designers and social tailors to create employment and reduce waste. In 2020 it became an innovative startup with a social mission, formalising its activities and impact focus[41]. As separate textile collection was set to become mandatory in the EU by 2025, the organisation recognised the need for technological solutions to handle rapidly increasing volumes of collected textiles. This led to the pivot toward AI-driven sorting and cataloguing technology,

[38] European Circular Economy Stakeholder Platform - Re4Circular Website
[39] Re4Circular - Atelier Riforma Website
[40] Atelier Riforma - Website
[41] Atelier Riforma -Torino Social Impact Website

culminating in the Re4Circular project that seeks to automate classification and link collection data to circular outcomes[41].

The development reflects a typical tech scaling trajectory: starting with manual practice and impact work, moving to co-design AI tools built from academic and industry collaborations, and now positioning the solution for commercial and ecosystem adoption.

6.4 Resource Use

Re4Circular development combines human, technical and data resources. Core human resources include teams blending AI-machine learning expertise, optical engineering, circular economy practice and textile domain knowledge. The technical resources centre on AI-powered computer vision systems, high-resolution imaging and AI algorithms for classification, along with digital platforms enabling B2B marketplace functionality[42]. Data resources include curated and labelled training datasets of post-consumer garments that feed the machine learning models[42]. The involvement of spectroscopy and computer vision reflects advanced optical sorting components that underpin high-accuracy automated sorting.

6.5 Financial Outline of Business Model

Financially, Re4Circular's business model is hybrid. In its current phase, it relies on grant funding and innovation programme support to advance technology, build proof of concept and enable pilot deployments. Future revenue models envisage B2B licensing of the sorting technology and platform subscription fees for textile collectors, reuse organisations, recyclers and municipal partners who access the classification and marketplace tools[40].

6.6 Marketing Presence

Re4Circular's marketing presence is currently ecosystem and industry oriented rather than consumer retail oriented. The initiative maintains a dedicated website and online presence, and communicates developments through professional networks and social media channels such as LinkedIn, Instagram, etc. Its outreach is geared toward B2B partners, textile collectors, circular fashion businesses, municipalities and research networks, offering demos and pilot collaborations[40]. As the technology matures, marketing aims to position Re4Circular as a circular infrastructure enabler, highlighting its capacity to reduce manual sorting costs, improve traceability and unlock higher value for textile feedstocks in reuse and recycling[39].

6.7 Lessons and Learning

Several key lessons emerge from Re4Circular's experience:

- Technology adoption in social impact fields often necessitates hybrid funding, combining public grants with emerging commercial models to sustain development.

[42] Reverse Fashion – Website

- Early integration of AI and optical recognition systems requires robust training data and multidisciplinary teams, meaning capacity building and partnerships with academic and industry actors are critical.
- Aligning automated sorting with planned EU policy shifts, such as mandatory textile separate collection and digital product passports, enhances relevance and potential uptake across reuse and recycling ecosystems.
- SEs expanding into advanced technology need to balance mission focus (environmental impact) with rigorous IP and business strategy, including securing patents and planning long-term monetisation pathways[43].

[43] Upcycling Garments, Upcycling Success: The IP Story of Atelier Riforma – Article

7 Business Model: Training Programmes for Home Repair

7.1 Description of the Model

Training Programmes for Home Repair involve teaching individuals and communities the practical skills needed to repair, mend and upcycle textiles such as clothing and household fabrics. These programmes are targeted at a broad audience ranging from everyday consumers who want to reduce waste, to school children[44], to vulnerable groups who gain employability through new skills[45].

7.2 Market Position

Such programmes often sit alongside other community reuse activities but are distinct as they focus explicitly on skills development and behaviour change, rather than on resale or collection of second-hand textiles. Organisations delivering this model often occupy a unique position combining community education, environmental awareness and social inclusion, while sometimes collaborating with municipal circular economy initiatives or partner SEs[46].

7.3 Products/Services and Customers

7.3.1 Core Services

The services offered typically include hands-on repair workshops, sewing and upcycling classes, guided "repair cafes", and longer-form training courses covering garment construction, basic machine sewing and creative upcycling techniques[46]. Training can be provided at various levels from amateur to professional level, and can therefore be 1 day long to 12 week courses.

7.3.2 Pricing and Revenue model

Pricing models vary, some organisations charge fees for structured courses, others offer free or donation-based workshops, which are funded through grant funding with an environmental focus, and others include repair skills as part of broader services (such as community events or training portfolios)[45][46].

7.3.3 How are Customers Accessed

Customers are people interested in learning sustainable practices, community groups, schools, and sometimes corporate partners seeking training for staff or clients. SEs access these customers through community outreach, collaboration with local councils or education boards, and via their own retail or online presence[45].

[44] https://www.levistrauss.com/wearlongerproject/
[45] CycleUp Textiles – Roscommon Women's Network website
[46] Rediscover Fashion - Rediscovery Centre website

7.4 Resource Requirements

7.4.1 Human Resources

Human resources required can begin at a small core team of experienced trainers. Staff will often skilled seamstresses, textile artists or educators to part-time workshop facilitators and volunteers. In smaller setups a team of two to five trained facilitators is sufficient to run regular workshops and courses while larger programmes with multiple simultaneous offerings may require a coordinator and additional support staff[47]. Trainers should have practical textile repair experience, teaching or community facilitation skills, and knowledge of sustainable practice principles.

7.4.2 Capital Resources

Capital requirements centre on a workspace large enough to host groups (community centre rooms, workshop spaces or reuse hubs), and sewing equipment including domestic (or industrial sewing machines – if it is a professional course), basic tools (scissors, needles, thread), and workstations[47].

Costs vary widely by location and scale; a basic repair workshop set-up might operate with minimal capital if located within a community centre, but acquiring several sewing machines and dedicated space can cost several thousands of euros. Programmes can minimise capital outlay by sharing space with reuse hubs or co-working spaces.

7.5 Logistical, Environmental and Policy Factors

7.5.1 How Inputs Arrive / Distribution

Inputs such as donated fabric or old garments are typically brought to the training centre through community textile donation streams or direct contributions from participants. These materials are used both as learning resources and to practice repair techniques. Completed repaired items may be returned to participants or, in some models, sold through a SE retail channel with proceeds supporting the training programme[48]. Logistically, integrating with municipal textile collection or reuse initiatives strengthens supply of materials and visibility within the community.

7.5.2 Environmental Considerations

Environmentally, the model supports waste reduction, extended product life, and awareness of circular textile practices, aligning with broader EU circular economy objectives[47].

7.5.3 Policy Factors

Policy factors vary by region; in some areas community repair activities are encouraged through waste prevention strategies or may be eligible for environmental education funding. There are typically no special licences required for community training, though public health and safety standards for shared spaces must be observed[48].

[47] Case Tallin Sewing Repair Workshop – Handbook Treasource Article
[48] Rresue. April 2023. Valorising used textiles locally through re-use and recycling activities: The contribution of SEs. Pdf

7.6 Main Market Challenges and how they are Overcome

7.6.1 Lack of Engagement and Interest

One consistent challenge is engaging participants who may not see immediate value in repair skills compared with buying new items, especially in places where fast fashion is normalized. Organisations mitigate this by emphasising the environmental and cost benefits of repair and by integrating repair training into broader lifestyle or sustainability programmes that resonate with local values[47].

7.6.2 Inconsistent Revenue Stream

Another challenge is the sustainability of revenue, as affordable workshops, which represent acceptable value to the consumer may not generate sufficient income to cover operational costs. To address this, many SEs blend revenue streams by charging for structured courses while fund raising with the behavioural change goals as the product the grant funder are purchasing, This approach can also leverage grants or public funds for environmental education. Selling upcycled products made during or after training[46] can also supplement income.

7.6.3 Securing and Retaining Skilled Trainers and Equipment

Securing skilled trainers and retaining them can also be difficult as low-cost workshops may result in low-salaries. Programmes overcome this by creating volunteer networks and partnerships with local vocational or arts education providers to source talent and co-deliver courses[45]. Limited space or equipment can constrain scale, so organisations often share premises with reuse hubs or local community centres to reduce overheads[47].

7.7 Summary: Potential for SE Development of this Business Model

Training programmes for home repair possess strong potential for SE expansion because they combine skills development, environmental education and community engagement with tangible outcomes in waste reduction and employability. This model supports broader circular economy goals by empowering individuals to extend the life of textiles, reduce demand for new products, and build local networks of practice[47]. In addition, the SE model can integrate income-generating activities, such as paid courses and product sales, with mission-driven activities, like free events and partnerships, making it adaptable across contexts[46]. However it should be noted that steady grant funding, and multiple revenue streams are often required to ensure sustainability. Organisations such as Rediscover Fashion illustrate how repair training can be embedded in a multi-activity circular hub, enhancing both reach and impact.

7.7.1 Investment needed

The potential for scaling this model is significant in regions where environmental awareness and community education are priorities.

- Investment in training spaces, equipment and skilled facilitators is needed[49].

[49] A REVIEW OF THE ALL-ISLAND CLOTHING AND TEXTILES INDUSTRY - pdf

- Seed funding or grants can help establish infrastructure and initial programming[49].
- Sustainable revenue models can be built through fee-based courses, partnerships with local authorities or educational institutions, and collaborative events with industry stakeholders[46].
- Expansion can also involve digital offerings, such as online repair courses, to broaden reach without proportional increases in physical space.
- Continued development of policy frameworks that incentivise repair. such as waste prevention targets or circular economy strategies, will further strengthen these opportunities[48].

7.8 Case Study: CycleUp Textiles – Roscommon Women's Network (Ireland)

7.8.1 Introduction

CycleUp Textiles is a community-focused SE based in Roscommon, Ireland, operated by the Roscommon Women's Network (RWN). It trains individuals, particularly women from Traveller and migrant communities, in textile upcycling and repair skills, aiming to reduce textile waste and increase employability. Participants learn to identify suitable fabrics, deconstruct garments, use sewing machines, and create upcycled products such as bags and home items. Customers include local community groups, individuals attending workshops, schools and workplaces where courses are delivered, and purchasers of upcycled products sold through the CycleUp Textiles online presence and local events[45].

7.8.2 Income Breakdown

CycleUp's income consists of mixed sources.

- A major portion comes from grant and programme funding, such as the Ireland Department of Rural and Community Development Community Services Programme Contract[50] (this provides for approximately 75%-80% of staff wages, when staff come from marginalised groups, as well as contribution to a professional manager) and an EU Just Transition Fund award of €186,649, which supports staffing and programme delivery[51].
- The enterprise also generates earned revenue through fees for workshops and courses, and through the sale of upcycled products produced by trainees[45].
- While exact product-based income breakdowns are not publicly detailed, CycleUp's model combines public and EU co-funding with earned income from training and product sales to sustain operations.

7.8.3 Scaling History

CycleUp began as a response to local textile waste issues and the need for community-based skills development. Initially developed through interest among women connected to the RWN pop-up shop, the project evolved into a structured initiative offering regular training courses. Over time, CycleUp secured public funding and EU support, enabling it to hire a full-time manager, expand staff, and deliver workshops in multiple towns. The training programme also advanced by certifying participants

[50] See Pobal for more information website
[51] CycleUp Textiles EU Just Transition Fund Project website

as workshop tutors (e.g., 7 participants completed a QQI Level 6 training qualification), creating a cadre of skilled facilitators who can sustain and grow delivery capacity[45].

7.8.4 Marketing Presence and Partnerships

CycleUp uses a combination of local community networks, local media and online visibility to reach customers. It is promoted through its website (cycleup.ie), featured in radio adverts on local stations, and participates in community partnerships and events to raise awareness of upcycling and repair as practical circular economy activities[51]. Funding announcements and project milestones are publicised to increase visibility, attract participants to courses and build reputation as a sustainable community enterprise.

7.8.5 Lessons and Learning

CycleUp's experience highlights several important lessons for SEs operating in textile repair training:

- Diversified income is critical: combining grant funding with earned revenue from training and product sales helps balance social impact with sustainability.
- Investing in participant certification and training of trainers builds internal capacity, enabling the enterprise to scale delivery and maintain quality.
- Embedding the programme in community development structures strengthens engagement, encourages participation from under-represented groups, and aligns environmental objectives with local needs.
- Securing long-term funding mechanisms such as EU programmes enables strategic growth and stability beyond short-term event-based workshops.

8 Business Model: Work-Based Training Programmes

8.1 Description of the Model

Work-based training programmes in the textile sector are structured initiatives aimed at equipping people, often those who are unemployed, marginalised or distanced from the labour market, with practical skills that relate to textile reuse, repair, recycling or circular economy employment[52]. Participants work in real operational environments where they learn by doing, typically integrating training with actual production, sorting or upcycling tasks rather than classroom-only instruction. Textiles used in training are usually sourced from donation streams, municipal collections or partner SEs and then processed or repurposed as part of the learning activities. Another model is that trainees learn on own brand products and then progress to providing manufacturing services[53]

Customers of this model are both commercial buyers and participants who gain employability and vocational skills, with downstream benefits for local reuse markets and circular value chains[54].

8.2 Market Position

In the EU context, this model is increasingly recognised as a unique bridge between social inclusion, skills development and circular economy activity, positioned alongside formal Vocational Education and Training schemes but embedded within SE practice rather than standard education institutions[52].

8.3 Products/Services and Customers

8.3.1 Core Services

Work-based training services include hands-on instruction in textile sorting, repair, upcycling, quality grading, basic or advanced sewing and recycling process tasks, often structured as paid or subsidised programmes with step-by-step skill acquisition[52].

8.3.2 Pricing and Revenue Model

Pricing models for training programmes vary, most are funded by public skill-development grants and delivered free or at subsidised cost to participants. Others may operate on a cost-sharing basis with regional employment services or receive support through social contracts.

8.3.3 How are Customers Accessed

Customers for products produced will often be accessed through websites, direct marketing and industry networking. If the products are well priced and meet an industry demand this can present a key income stream. Niche markets that are untapped and where services are provided (i.e. customisation or low minimum quantity orders) can provide a USP[55].

[52] How reuse and repair SEs are contributing to a socially and circular society (2023) - Article
[53] We Make Good website
[54] Remake Textile Project – Case Study (2024)
[55] See Speedpaks Rosette business, which is niche and provides vital income website

Customers are primarily individual learners referred by employment support systems, local community organisations, but can also be organisations seeking workforce retraining aligned with environmental and circular economy goals. The RREUSE network highlights these programmes as key to equipping individuals with circular and green skills in reuse and repair sectors[52].

8.4 Resource Requirements

8.4.1 Human Resources

Human Resources for this model include a training coordinator or manager with experience in adult education along with skilled practitioners in relevant textile skills, i.e. sorting, sewing or repair technicians[56]. Depending on scale, teams might range from a small core group of 2-4 staff in a community setting to larger cohorts with several trainers and support workers in bigger hubs. Trainers should have both technical expertise and the capacity to mentor learners with diverse skill levels[57].

8.4.2 Capital Resources

Capital resources include workspace that supports both training and operational activity, for example, a community workshop, reuse hub or shared maker space equipped with sewing machines (it is likely in this model that industrial machines are required as well as overlockers), repair benches, garment steamer and storage for textiles to be used as training materials[58]. Costs depend on location and scale but entry-level setups leveraging donated machines and shared space can be launched with modest capital, while larger facilities with professional equipment and dedicated classrooms require greater investment. Industrial machines heavy and unlike domestic machines cannot be easily stored away, so the need to be able to pay rent on a consistent floor space needs to be factored in.

8.5 Logistical, Environmental and Policy Factors

8.5.1 How Inputs Arrive / Distribution

Inputs to work-based training programmes, such as donated textiles, are brought to training centres via community collection streams, reuse partnerships or municipal textile schemes. These textiles are integrated into practical exercises where learners work with real material. Finished outputs may remain within the training environment, as teaching modules, or be sold or reused locally, contributing to circular revenue streams[59].

8.5.2 Environmental Considerations

Environmentally, this model contributes to waste prevention and extended product life by embedding skills necessary for textiles reuse and recycling in the local workforce[54].

[56] RREUSE pledges to organise, lead and promote training and upskilling for circular SEs active in textile reuse and recycling – Article
[57] CycleUp Textiles – Roscommon Women's Network website
[58] Case Tallin Sewing Repair Workshop – Handbook Treasource Article
[59] Rresue. April 2023. Valorising used textiles locally through re-use and recycling activities: The contribution of SEs. Pdf

8.5.3 Policy Factors

Policy considerations include alignment with regional employment services, funding eligibility criteria for adult education and compliance with health and safety standards in workshop spaces. There are generally no specific licences required for conducting training itself, but integration with recognised vocational frameworks or national qualifications can improve outcomes and attract funding. EU and national strategies on skills development and circular textiles further support such programmes by encouraging green job creation and lifelong learning pathways[52].

8.6 Main Market Challenges and how they are Overcome

8.6.1 Consistent Funding and Financial Sustainability

As training programmes often depend on public grants or partnerships, securing sustained funding can be a key challenge. To mitigate this, as well as traded income, some SEs link training delivery with funding streams from employment agencies, the European Social Fund, or regional circular economy initiatives, diversifying their income base and reducing reliance on a single source[52].

8.6.2 Labour Market Opportunities

Another challenge is ensuring that the training translates into real labour market opportunities, especially in sectors where circular textile jobs are still emerging. Enterprises address this by co-designing programmes with local employers and reuse partners, aligning curriculum with actual skills demand and facilitating work placements[54].

8.6.3 Supply Logistics

Managing material supply logistics, such as ensuring enough textiles for hands-on training, is handled by integrating the training component into existing reuse routes or collaborating with collection partners so that learning materials flow naturally from reuse operations[52].

8.7 Summary: Potential for SE Development of this Business Model

Work-based training programmes offer an opportunity for SEs to generate social impact while building the green and circular skills ecosystem for textiles. This model bridges employability and sustainability, contributing to local workforce development, inclusion and circular textile value chains. By combining practical training with operational activity, SEs can differentiate their offerings and create pathways to employment in reuse, repair, recycling and circular design[52].

8.7.1 Investment needed

The potential for expanding work-based training programmes in the textile sector is strong, especially where a unique product or service can be identified and there is likelihood of being able to access grant funding, i.e. green jobs and circular economy practices are being prioritised by policy. Investments needed include:

- Dedicated training spaces, multi-purpose workshop equipment, and skilled trainers[52]

- Identification of a key product or service (i.e. cut make trim) to provide real work experience and an income stream
- Longer-term investment in accreditation pathways, digital learning tools, and partnerships with labour market services will deepen impact and sustainability[52]
- Foster the demand for circular skills across sectors and raise awareness on the need to reuse and repair[52]
- Funding from EU programmes like the European Social Fund Plus, regional green innovation grants, or national employment services can help build robust, proven models that attract further support[54].

8.8 Case Study: Remake Textile Project (Sweden)

8.8.1 Introduction

The Remake Textile Project is based in the Västsverige region of Sweden and is funded through the European Social Fund Plus (ESF/ESF+). It was established to develop innovative solutions for textile waste management while providing skills development and work-based training for long-term unemployed people aged 21-59. Participants are given meaningful tasks involving textile reuse, reduction, recycling and other circular activities as part of structured group activities and intensive courses, and the training is designed to improve their employability in circular economy sectors including reuse, recycling and textile services[54].

8.8.2 Income Breakdown

Remake Textile is primarily publicly funded rather than commercially driven. Its funding comes from the European Social Fund Plus, a major EU instrument that supports employment, social inclusion and skills development across member states. It has a specific budget allocation of 6 million Swedish krona to deliver training and employment activation activities over its multi-year duration. Unlike traditional SEs that sell products or services to generate income, this project is structured as an EU-backed initiative where the bulk of resources are provided via grant funding to cover staff, participant support, training delivery and partnership activities. Because the emphasis is on training and inclusion rather than direct product sales, there is no separate breakdown of commercial income by product or service[54].

8.8.3 Scaling History

Remake Textile did not begin as a typical small SE. It was designed as a regional skills and innovation project in response to two simultaneous pressures: the need for workforce development for long-term unemployed people and the need to prepare for forthcoming EU textile waste responsibilities that municipalities will face after 2025. Rather than starting as a commercial activity, Remake Textile was initiated with the support of the Swedish School of Textiles in Borås and other partners to co-design training content that meets both labour market and circular textile objectives. Participants are gradually recruited in cohorts so that content can be adapted to experience levels, increasing the chance of employment after training. Over time, the project's structure allows iterative improvements to training modules and stronger alignment between education and actual work in textile reuse and recycling[54].

8.8.4 Marketing Presence and Partnerships

Remake Textile Project's promotion is focused more on stakeholder engagement than retail branding. Communications and visibility occur through EU and regional funding channels, partner organisations, such as the Swedish School of Textiles and municipal stakeholders, and through project dissemination activities that share results with other SEs and public authorities. As a publicly funded project, its presence is often communicated via partner and funding organisation websites and industry events rather than consumer marketing campaigns. The project's online footprint supports outreach to prospective participants and collaborators in the Västergötland region.

8.8.5 Lessons and Learning

- Work-based training in the textile circular sector can be structured around public social investment, especially when labour market activation and inclusion are core goals.
- Leveraging ESF funding tied to employment can open opportunities for long-term unemployed people to gain real skills relevant to both municipal textile management and circular value chains.
- Collaboration with educational institutions and sector partners increases the relevance of training content and strengthens the transition from training into employment.
- Because the model is grant driven rather than reliant on product sales, work-based training models may depend on public policy alignment and systemic support to be viable at scale, particularly where commercial revenue streams are limited or absent.

9 Business Model: Reuse In-store

9.1 Description of the Model

The Reuse In-store model refers to physical retail spaces that sell second hand textiles such as clothing, shoes, accessories and household fabrics. Typical examples include charity shops operated by organisations such as Oxfam, Goodwill Industries and The Salvation Army, as well as independent vintage stores and mission driven SEs[60].

The model collects pre owned textiles from households, retailers or manufacturers and resells them through shops. Items are sorted, priced and displayed in store. Revenues fund social or environmental missions.

Customers include price sensitive households, environmentally conscious consumers, young urban shoppers seeking unique fashion, and collectors of vintage garments. Research by WRAP shows that affordability and sustainability are key motivations for second hand clothing purchases[61].

A Social Return on Investment study on the contribution of charity shops to society shows a return of 4.1 – 17.8 for every 1 investment, which is comparatively a very high investment ration, showing excellent value is generated across economic and social outcomes from this model[62].

9.2 Market Position

The model is widespread. In the United Kingdom there are more than 11,000 charity shops according to the Charity Retail Association[63]. However, differentiation can occur through curated vintage positioning, strong brand identity, premium store layout, or clear social mission communication.

9.3 Products, Services and Customers

9.3.1 Core Services

How textiles get there:

- Donation drop offs in store
- Textile banks placed in public areas
- Partnerships with local authorities
- Corporate surplus donations
- Some organisations such as TRAID operate branded textile banks and collection partnerships with councils[64].

9.3.2 Products:

- Second hand clothing sorted by category

[60] Goodwill Industries – 2024 Annual Impact Report pdf.
[61] Valuing our Clothes: The Cost of UK Fashion WRAP Website
[62] See SROI report PDF
[63] Charity Retail Statistics - Website
[64] Triad UK - Website

- Vintage or curated fashion
- Shoes and accessories
- Home textiles such as curtains and bedding
- Some stores provide additional services such as gift vouchers, upcycled capsule collections, or in store events.

9.4 Pricing and Revenue model

Prices are generally low to mid-range compared to fast fashion retail. Charity shops often use flat price bands by garment type, while curated vintage stores price based on brand, era and condition. According to ThredUp resale reports, second hand pricing typically ranges from 30 percent to 70 percent below original retail value[65]. AI has also meant shops have access to better pricing tools and are becoming more data driven, and there are an increasing number of commercial products available to support pricing and online sales[66].

9.4.1 How are customers accessed

- High street locations with strong footfall
- Community based neighbourhoods
- Pop up shops
- Online presence to support in store traffic

9.5 Resource Requirements

9.5.1 Human Resources

Small charity shops may operate with one paid manager and several volunteers. Larger SEs may employ five to fifteen paid staff depending on store size and turnover. Skills required include retail management, merchandising, volunteer coordination, sorting and pricing expertise[67].

9.5.2 Capital Resources

Space requirements vary from 60 to 300 square metres depending on scale. Key infrastructure includes

- Retail floor with racks and shelving / Basic point of sale system
- Back room for sorting and storage / Steamers for garment refreshing
- Occasional sewing machines for minor repairs[67]

Set up costs: Fit out costs depend on location but can range from €20,000 to €100,000 for rent deposit, fixtures and initial staffing. Equipment costs are relatively low compared to manufacturing models. Steamers and tagging systems are low cost investments under €2,000 total[68].

[65] ThredUp – 2023 Resale Report pdf.
[66] See Thiftify for one example of AI powered pricing software targeted at charity shops website
[67] Charity Retail Association - website
[68] Social Value of Charity Shops – pdf.

9.6 Logistical, Environmental and Policy Factors

9.6.1 Logistics

Donations are transported from collection points to stores using small vans. Unsold items may be redistributed to other branches or sold to textile recyclers. Some charity shops, such as those operated by TRAID and Oxfam, use central sorting hubs to grade items before distribution to retail outlets[64].

9.6.2 Environmental Considerations

The environmental benefit lies in extending garment life. It is estimated that extending clothing life by nine months can reduce carbon water and waste footprints by around 20 percent to 30 percent[69].

9.6.3 Policy Considerations

In many countries, textile collection bins require local authority or municipality permits. Health and safety regulations apply to retail spaces[67]. Waste carrier licences may be required when transporting textiles.

9.7 Main Market Challenges and how they are Overcome

9.7.1 Supply Quality Variability

A primary challenge in the Reuse in store model is supply quality variability. Because stock is largely donation based, the volume, condition and style of garments can fluctuate significantly across seasons and locations. This inconsistency can make it difficult to maintain attractive displays and predictable sales performance. SEs mitigate this risk by developing long term partnerships with brands for surplus or end of line stock, investing in centralised sorting and grading hubs, and implementing clear quality control systems before garments reach the shop floor[64]. Some organisations use structured grading processes to ensure that only saleable items are displayed in higher value retail locations.

9.7.2 Competition from Online Resale

Another challenge is competition from online resale platforms. Digital marketplaces such as Depop and Vinted have attracted younger and digitally native consumers, offering convenience and broad product selection[65]. Physical reuse stores can respond by emphasising the experiential aspects of in store shopping, including curated collections and community events. Some enterprises adopt hybrid models, listing premium or high value items online while maintaining the bulk of trade in store[69].

9.7.3 Perception of Low Quality

In some contexts, charity or second hand shops are associated with low quality goods or cluttered environments. This perception can limit their appeal to mainstream shoppers. To address this, SEs invest in boutique style layouts, improved lighting, clear branding and professional merchandising to reposition second hand as aspirational and sustainable[69].

[69] The Ellen MacArthur Foundation - A NEW TEXTILES ECONOMY: REDESIGNING FASHION'S FUTURE pdf.

9.7.4 Volunteer Dependence

While volunteer engagement strengthens community ties and reduces labour costs, inconsistent availability and skill levels can affect operational stability. Some organisations address this by implementing structured volunteer training programmes, clear role descriptions and pathways into paid employment, aligning workforce development goals with retail performance[60].

9.8 Summary: Potential for SE Development of this Business Model

The reuse in store model presents strong potential for SE development because it combines relatively low capital requirements with measurable environmental and social impact. Unlike manufacturing based circular models, it does not require complex production infrastructure, making it accessible to early stage enterprises. It directly contributes to textile waste reduction by extending garment lifespans, which generates significant reductions in carbon emissions, water use and waste, reinforcing the environmental case for expansion.

Market growth trends further strengthen this potential. The global resale market has been projected to grow substantially over the coming decade, with reports indicating that second hand apparel is growing faster than the wider retail sector[65]. This expansion creates space for new entrants, particularly those with strong community ties or clear social missions. For SEs, the model offers multiple impact pathways. It can generate employment for disadvantaged groups, provide affordable clothing for low income households and create volunteering opportunities that build skills and social inclusion.

9.8.1 Investment needed

- Moderate start-up capital for premises and staff
- Working capital for rent and utilities
- Investment in brand development and merchandising
- Logistics investment such as small transport vehicles

9.9 Case Study: De Kringwinkel (Belgium)

9.9.1 Introduction

De Kringwinkel operates across Belgium, with regional member organisations in Flanders, Brussels, and Wallonia. The model is a structured reuse in store system: household textiles and other goods are donated through collection points or direct drop off. Items are sorted in central facilities and sold in physical second hand stores while unsold textiles are redirected to recycling partners. Kringwinkel is one of the largest reuse networks in Belgium, operating over one hundred stores and multiple sorting centres. It handles significant volumes of reusable goods annually, contributing substantially to national waste diversion targets. Customers include mainstream consumers, families, students, and price sensitive households. The stores are designed to be attractive retail environments rather than purely low income outlets, supporting broad market appeal[70].

[70] De Kringwinkel – website

9.9.2 Income Breakdown

The financial model is primarily retail driven. The main income source is the sale of second hand goods in physical stores, including textiles. Secondary income sources:

- Contracts with local authorities for waste and reuse services.
- Recycling revenue from unsold materials.
- In some regions, employment integration subsidies linked to SE status.

As a recognised SE network, some Kringwinkel organisations receive public support linked to labour market integration programmes[70].

9.9.3 Scaling History

Kringwinkel developed during the 1990s as Belgium expanded structured waste prevention systems. Local initiatives merged over time into a federated brand model to improve efficiency, quality standards, and recognition. Scaling occurred through:

- Establishment of local reuse centres
- Development of regional networks
- Creation of a unified brand identity under Kringwinkel
- Expansion of retail presence across Belgium
- Integration with municipal waste prevention strategies[70]

9.9.4 Marketing Presence and Partnerships

Kringwinkel uses strong national branding. Marketing elements include:

- Consistent store signage across regions
- Clear circular economy messaging and public awareness campaigns on reuse
- Collaboration with municipalities for collection services
- Digital presence promoting store locations and sustainability impact[70]

The unified brand identity increases consumer trust and recognisability, which is important for a reuse in store model competing with fast fashion and online resale.

9.9.5 Lessons and Learning

- Federated structure enables scale: the Kringwinkel model shows that reuse in store enterprises can scale nationally while retaining local autonomy.
- Brand consistency matters: a unified brand across multiple regions strengthens consumer confidence and simplifies marketing.
- Integration with public policy increases stability: alignment with Belgian waste prevention and circular economy policies supports operational continuity.
- Retail quality is essential: attractive store environments increase mainstream customer engagement, not just low income reliance.
- Diversified revenue strengthens resilience: combining retail sales with recycling income and public service contracts reduces financial risk.

10 Business Model: Reuse Online Sales or Rental

10.1 Description of the Model

The Reuse Online Sales (B2C) model involves a SE acquiring used or donated textiles, sorting and quality-grading them, and then listing and selling them directly to individual consumers through a dedicated website or established online marketplace platforms. The textiles are sourced primarily through donations from the public, charitable collections, community partnerships, or through consignment arrangements in which individuals send in items for the SE to list and sell on their behalf. The organisation takes responsibility for the full customer journey, from item intake through to dispatch.

10.2 Market Position

Historically, not-for-profit businesses have been dominant actors in second-hand markets across Western Europe and North America. However, with the growing interest in second-hand consumption, for-profit firms have increasingly entered this market over the last decade. This means the space is increasingly contested[71]. An SE occupies one of many positions in a crowded market, but it can carve out a defensible niche by emphasising its social mission, ethical sourcing, and community reinvestment — credentials that pure for-profit rivals typically cannot match.

10.3 Products/Services and Customers

10.3.1 Core Services

The core product is pre-owned clothing and textile items sold directly online. These can range from everyday casual wear to vintage pieces, workwear, children's clothing, and homeware textiles. Some SEs offer supplementary services such as consignment (where the donor receives a share of the sale price), gift cards, and bundled or mystery box offers to increase average order value.

10.3.2 Pricing and Revenue Model

Pricing pre-owned clothing items can vary, given variations in condition and brand. Generally, used items are priced at 25% to 40% of their original retail price[72]. SEs may also use a tiered pricing structure: basics such as everyday items like t-shirts at lower price bands, mid-tier quality brands in the middle range, and premium designer pieces or specialty items at higher price points[73].

The most common revenue approach for a B2C SE is a fixed-price model where the SE sets the price and retains all proceeds after costs. Where a consignment arrangement is used, the original owner receives a percentage of the sale, with the SE retaining the remainder. Sellers may receive store credits instead of cash in hand, which reduces cash outflow and encourages repeat engagement with the platform[71].

[71] Second-hand clothing markets and a just circular economy? Exploring the role of business forms and profit – Journal Article
[72] Big Commerce: How to Start an Online Store That Sells – Blog
[73] Homebase: How to Start a Thrift Shop – Website Article

10.3.3 How are Customers Accessed?

Customers are reached primarily through the SE's own website, and may also be accessed through established third-party platforms. Social media, particularly Instagram and TikTok, plays a major role in marketing. Success depends heavily on digital marketing, photography, and logistics. An online thrift store can scale more easily and reach a national or global audience[74].

The customer base tends to skew younger. Two thirds of Gen Z consumers prefer second-hand products, driving unprecedented growth within second-hand and resale in apparel and footwear[75]. Sustainability-motivated buyers, budget-conscious shoppers, and vintage enthusiasts are also significant segments.

10.4 Resource Requirements

10.4.1 Human Resources

A small-scale SE online operation can start with a small team of three to five people covering the core functions. Key roles include a stock intake and sorting coordinator, a photographer and product lister, a packing and dispatch operative, and a customer service and social media manager. As the business scales, an e-commerce manager and a warehouse coordinator become necessary additions. Other roles may include a store manager who oversees day-to-day operations, sales associates who process payments and manage inventory, an inventory manager who coordinates restocking, and a donation coordinator who accepts donations, sorts through them, and determines which items can be sold[76]. SEs in this space frequently draw on a combination of paid staff and volunteers, particularly for sorting and steaming.

Experience required spans textile grading knowledge, basic e-commerce platform skills, photography, and fulfilment logistics. Digital marketing competency, even at a basic level, is increasingly essential.

10.4.2 Capital Resources

Startup costs can vary widely. Key expenses include initial inventory, photography equipment, shipping supplies, and platform fees. For an SE establishing a dedicated online operation with a small warehouse, a more realistic setup budget including warehousing, photography equipment, steaming and cleaning equipment, racking, a POS or inventory management system, and initial website development would sit in the range of $10,000 to $30,000.

- A photography and product styling setup runs between $500 and $2,000.
- A point-of-sale system and technology, including POS hardware, software subscriptions, inventory management tools, and payment processing equipment, typically costs between $500 and $2,000.
- Marketing and grand opening costs, covering website setup, social media advertising and promotional materials, generally run between $1,000 and $3,000.

[74] Korona Pos: How To Start a Thrift Store Business in 2026 – Article
[75] Geodis: Why Thrift is Thriving – Article
[76] Thrift Cart: How To Open a Thrift Store in 2025 - Article

- Working capital of $5,000 to $15,000 is needed to cover the first two to three months of operating expenses including rent, utilities, and payroll before revenue stabilises[73]

A warehouse or processing unit is needed for intake, sorting, steaming or light cleaning, photography, and dispatch. The size required depends on throughput, but a facility of 1,000 to 3,000 square feet is a typical starting range for a small-scale operation[73]. This space does not need to be retail-facing, which keeps rental costs lower than a high-street shop.

10.5 Logistical, Environmental and Policy Factors

10.5.1 How Inputs Arrive and Distribution

Textiles arrive at the SE through a combination of routes: public donation drop-offs at a central facility, doorstep collection drives, partnerships with community textile banks, and consignment postal services where donors send items directly[77].

Once listed and sold, items are dispatched by post or courier. Returns in the second-hand market require careful handling. The reverse logistics process begins when a customer returns an item, which involves re-inspecting the item and may require repair before being re-added to the inventory[78].

10.5.2 Policy Factors

The most significant policy development for SEs in this space across Europe is the EU's revised Waste Framework Directive, which entered into force in October 2025. Under the new rules, social economy enterprises engaged in second-hand textile collection and management will be exempt from EPR obligations, allowed to operate their own collection systems, and have their textile waste managed at no cost by Producer Responsibility Organisations[79].

Under the EU Waste Framework Directive, all Member States must have separate textile waste collection in place from January 2025 and fully operational national textile EPR schemes by 2027[80]. This creates a supportive infrastructure for SEs collecting textiles, as producer fees will partially fund collection systems that SEs can leverage.

10.6 Main Market Challenges and how they are Overcome

10.6.1 High Labour Intensity of Processing Individual Items

Each item in a second-hand online operation must be individually assessed, cleaned or steamed, photographed, measured, described, listed, and then picked, packed and dispatched. This makes the cost per unit far higher than in bulk retail. SEs should: (i) pursue clear item grading and intake standards to reduce processing time per piece; (ii) invest in efficient workflows, for example dedicated steaming

[77] From Preloved to Reloved: How Second-Hand Clothing Companies Facilitate the Transaction of Used Garments – Journal Article
[78] Resolve: Recommerce - Ultimate Guide For Understanding Resale Industry – Website Blog
[79] European Commission: Revised Waste Framework Directive enters into force to boost circularity of textile sector and slash food waste – News Article
[80] Overview of All Textile Extended Producer Responsibility (EPR) Laws – Blog

stations, photography lightboxes, and templated listing descriptions to reduce labour time per unit; (iii) use automation tools for inventory management and cross-platform listing[81].

10.6.2 Competition from Fast Fashion and Large Commercial Platforms

SEs face price pressure from both ends: cheap new fast fashion that consumers may perceive as better value, and well-resourced for-profit resale platforms with significant brand recognition. To address this, SEs should lean into their mission-driven identity as a genuine differentiator. Consumers who are motivated by sustainability, social impact, or community support are a growing segment and one that a for-profit competitor cannot authentically serve in the same way. Niche specialisation, such as curated vintage, children's clothing, or workwear, also reduces direct price comparison with mass-market platforms[81].

10.6.3 Consumer Trust and Quality Perception

Online shoppers cannot physically inspect a garment before purchase. Concerns about condition, fit, and authenticity can reduce conversion rates and increase returns. SEs can invest in high-quality product photography, detailed condition gradings, accurate measurements, and transparent descriptions builds customer confidence. A clear and fair returns policy reduces perceived risk. Building a reputation through customer reviews and social media community engagement also addresses trust concerns over time[75].

10.6.4 Reverse Logistics and Returns

Managing returns and unsold inventory is a persistent challenge. Returned items must be re-inspected and may require additional processing before relisting. Handling returns and managing complex logistics networks can be cost-prohibitive. Warehousing these items requires additional space and resources, and freight costs for return shipping add to operational expenses. To overcome this, SEs can set clear listing standards and detailed item descriptions to reduce the rate of returns in the first place. Having a defined pathway for items that cannot be relisted ensures that unsold or returned stock does not simply become waste or dead inventory cost[82].

10.7 Summary: Potential for SE Development of this Business Model

The Reuse Online Sales (B2C) model presents a strong opportunity for SE development in the textile sector. Globally, the second-hand clothing market alone is projected to reach $367 billion by 2029[72].

SEs that build their online B2C model around a clear social mission, a well-managed logistics operation, and a strong community presence are well-positioned to participate in and grow with this expanding market. The EU's formal recognition of social economy enterprises within its textile EPR framework represents a structurally supportive policy environment that commercial competitors do not benefit from in the same way.

[81] Secondhand Apparel Market Forecast and Outlook 2026 to 2036 – Article
[82] Resolve: Financial Challenges Faced by Recommerce Companies – Website Blog

The online channel removes the geographic constraint of a physical shop, enabling an SE to build a customer base well beyond its immediate locality. A well-run SE with a distinct identity can compete effectively against larger commercial platforms by offering authenticity and mission alignment that those platforms cannot replicate.

10.7.1 Investment Required

A small-scale SE entering this model should anticipate an initial investment in the range of $15,000 to $50,000 (or equivalent in local currency) to cover:

- warehouse or processing space setup;
- photography and listing equipment;
- e-commerce platform development or subscription;
- inventory management software;
- steaming and light-cleaning equipment;
- initial marketing;
- working capital for the first three months of operation.

Staff costs, particularly for intake, listing, and fulfilment, will be the primary ongoing expense.

10.8 Case Study: Myrorna (Sweden)

10.8.1 Introduction

Myrorna is one of Sweden's largest and oldest second-hand organisations, with over 30 stores across the country and an online shop featuring more than 1,200 auctions every week. On average, it collects 30 tonnes of textiles and home items every day through stores, recycling centres, clothing donation boxes, and partnerships with municipalities, businesses and housing companies[83].

Myrorna has approximately 450 employees and its headquarters are located in Botkyrka outside Stockholm. It is owned by the Salvation Army in Sweden and all financial surplus goes directly to the Salvation Army's work supporting people in vulnerable situations.

Its customers are Sweden-based consumers shopping for clothing, homeware, books, electronics, and collectibles. The in-store network attracts a broader demographic including lower-income households and sustainability-motivated shoppers.

10.8.2 Income Breakdown

Myrorna's revenue is generated entirely through product sales, in-store and online, with no reliance on grants or fundraising. All surplus after operating costs flows to the Salvation Army's social programmes rather than being retained or distributed as profit[84]. The online channel operates through two routes: a dedicated web shop on myrorna.se and a seller account on Tradera, Sweden's largest second hand marketplace. There is no grant income, membership income, or fundraising component; the model is purely transactional retail.

[83] Myrorna - Website
[84] Myrorna: Our Surplus – Website

10.8.3 Scaling History

Myrorna was founded in the late 19th century as the charitable trading arm of the Salvation Army in Sweden. For almost 130 years, Myrorna has collected and sold second hand items to support people in vulnerable situations, making it Sweden's oldest retail chain when it comes to collecting clothing and home goods for reuse. The organisation grew through the steady expansion of its physical store network across Swedish cities. The shift to online began with its seller account on Tradera, which records show has been active since at least 2013. Myrorna now operates 32 stores across the country and an online shop featuring over 1,200 auctions weekly[83].

10.8.4 Financial Outline

Myrorna's financial model rests on high-volume throughput of donated stock, with income generated entirely at point of sale. Key financial features include:

- Revenue is split across in-store sales and the online channel, with 1,200-plus auctions running online every week generating a continuous stream of small-to-medium transactions. Combined shipping for 2 to 4 items is offered at 95 SEK within Sweden, with buyers covering postage costs, which protects margin on lower-value items
- Operating costs include the wages of 450 employees on market-rate salaries under collective agreements, three major sorting facility sites, store rents across 32 locations, and logistics
- All surplus is transferred to the Salvation Army. The model has no external investors, no debt financing requirement, and no grant dependency — making it a clean example of a fully commercially self-sustaining SE in the second hand space[83].

10.8.5 Marketing Presence

Myrorna maintains an active digital presence across Instagram, Facebook, and its own website, using these channels to promote specific listings, seasonal campaigns, and its social mission. Its brand identity is built around two pillars: sustainability and social impact, with the message that every purchase directly funds the Salvation Army's work.

The Tradera platform also provides significant passive marketing reach, being the largest marketplace in the Nordics for sustainable shopping. Myrorna's presence on this platform gives it access to a large audience of second hand buyers without using paid advertising.

10.8.6 Lessons and Learning

- Operating at commercial scale without grants is achievable: Myrorna's model demonstrates that a second hand SE can sustain 450 jobs, operate 32 locations and a national online channel, and generate a surplus for social reinvestment, entirely through trading income. The structural advantages of charitable tax status and access to labour market programme participants are important enablers, but the underlying commercial model is sound.
- Combining physical and online channels creates resilience: The physical store network generates stock awareness, donation volumes, and community relationships that directly feed the online operation. SEs should not treat the online channel in isolation; the two models are mutually reinforcing.

11 Case Study on Clothes Rental: VIGGA

11.1 Introduction

VIGGA is a subscription service for baby clothes. It was founded in 2014 by Vigga and Peter Svensson in Denmark, based on the idea that modern sustainable solutions should not require compromises such as high prices and poor design, but should instead offer a more attractive alternative to conventional solutions[85].

The model works as follows: based on a monthly subscription fee, the customer receives 20 pieces of designer clothes in the child's current size. When the clothes become too small, they are exchanged for a new package one size bigger. The returned clothes are treated and checked for flaws in an environmentally certified professional laundry, repackaged and sealed with a quality stamp[86].

The brand uses environmentally friendly textile cleaning processes to get the clothes back in shape for their next wearer, and repairs them if necessary. Test results show that the pieces can be used five to seven times on average. VIGGA also chips each item to track its usage through the circulation cycle[86]. Once the clothes are worn out, they are reused to produce new products to ensure nothing is wasted[87].

Customers are parents of newborns and toddlers in Denmark, with the service also extended to maternity wear. The customer profile is environmentally motivated, urban, and middle-income, though the model is designed to be cost-competitive with conventional purchasing.

11.2 Income Breakdown

VIGGA's income is generated entirely through subscription fees — there is no grant income or fundraising component in the core business model. The subscription model provides members with a 16-item bundle of clothes for approximately $55 a month[88]. Revenue is therefore recurring and predictable, with income driven by the number of active subscribers and the retention rate across the period of a child's growth from newborn to toddler.

The circulation of clothes provides a cash-strong business model, and the circular concept reduces the environmental footprint by up to 80% compared to traditional consumption[88]. Each garment generates revenue across multiple subscription cycles, meaning the unit economics improve significantly as the inventory ages and the upfront cost of producing organic garments is spread across many customers.

[85] Danish Design Award – Vigga Svensson website
[86] Close the Loop – Vigga website
[87] European Cluster Collaboration Platform - Baby clothes subscription model in Denmark Article
[88] Bright Vibes - Article

On the investment side, several European impact-focused and philanthropic organisations have invested in VIGGA, namely Pymwymic, and Stichting DOEN. This indicates that early capital may have come from mission-aligned impact investors rather than conventional venture capital[89].

11.3 Scaling History

VIGGA launched in Denmark in 2014 and 2015 and was initially available only to Danish families[90]. The early phase was built around proving the concept domestically, attracting mission-aligned investors, and developing the logistics infrastructure. By May 2017, VIGGA had circulated over 100,000 pieces of designer clothing, with customers achieving combined water savings of 7.5 million litres and CO2 reductions of 7 tonnes through sharing clothes with each other[89].

VIGGA was acquired in 2019 by Voyage, an Amsterdam-based operator, and the founding team went on to launch Circos in the Dutch market that same year, based on the knowledge and network built from the VIGGA experience[91]. This acquisition represented both an exit for early investors and an expansion of the model into new European markets.

11.4 Financial Outline

The financial model is built on the principle that a single garment generates revenue multiple times. In VIGGA's system, a baby garment is not used 5 or 7 times, it is instead used 100 or even 150 times[88]. This dramatically reduces the effective cost of goods per subscription cycle as inventory matures, giving the model strong long-run unit economics despite the relatively low monthly subscription price.

Key cost lines include: organic garment production to a durability standard high enough to survive industrial laundering many times over; eco-certified industrial laundering after every return; repair and quality inspection of each item; RFID or chip-tracking technology per garment; packaging and postal logistics; and platform and subscription management costs.

A family can save up to $2,100 in the first year of parenting by subscribing to VIGGA instead of buying new baby clothes, which is a compelling customer value proposition and supports subscriber retention[92]. However, the model requires significant upfront capital to build the garment inventory before subscriptions can generate revenue, which is why impact investment was important in the early phase.

VIGGA is currently growing, offering increased flexibility in rentals, expanding its product range and its rental platform. The recurring subscription structure gives the business predictable monthly income and visibility on future demand.

89 Crunchbase – Vigga

90 Ptichbook – Vigga Overview

91 Circularx – Circos website

92 Global Geo Explorer – Leasing Organic Children's Wear Article

11.5 Marketing Presence

VIGGA built its brand around quantified environmental impact, design quality, and the founder's personal credibility. Over the years, the enterprise has received numerous awards on sustainable solutions, retail innovation, and design. These awards served as powerful earned media and gave the enterprise credibility with both consumers and potential investors.

Kolding School of Design partnered with VIGGA on a research and development project studying parents' conception of the service and fashion within this context, as well as laundry habits and reception of the design aesthetics[93]. This academic partnership both improved the product and generated credibility and media interest.

The model's core marketing strategy is making sustainability emotionally compelling for parents rather than framing it as a sacrifice. It also emphasises convenience, cost savings, and quality alongside environmental impact.

11.6 Lessons and Learning

Several key lessons emerge from VIGGA's experience:

- Product design must be built for the model from the start. To implement their solution, VIGGA had to work with suppliers to ensure access to high-grade, long-lasting, and organic materials with a timeless look. Off-the-shelf garments designed for single-use consumption will not survive industrial laundering at scale. The upfront design investment is non-negotiable.
- Children's and maternity wear is a commercially viable entry point for clothes rental. The use case is compelling and logical: children outgrow clothes rapidly, making ownership economically wasteful for parents in a way that is immediately intuitive.
- Acquisition and replication is a valid exit and scaling pathway. VIGGA's acquisition by Voyage in 2019 and the founding team's subsequent launch of Circos in the Netherlands demonstrates that the operational and conceptual knowledge built in one market has real transferable value. SEs that build this model should consider licensing or replication as part of their long-term strategy rather than assuming organic geographic expansion is the only route.

[93] Kolding School of Design - VIGGA Sustainable Clothing for Babies website

12 Business Model: Repair Store / Workshop

12.1 Description of the Model

A textile repair store or workshop is a fixed-premises service business that accepts garments and other textile items directly from individual customers, carries out repairs, alterations, or restorations, and returns the finished items to the customer for a fee. The scope of work typically includes hemming, seam repair, zipper replacement, patching, resizing, button replacement, darning, and more complex structural alterations[94].

12.2 Market Position

The market for tailoring and alteration services is highly fragmented, with a large number of small and independent tailoring businesses dominating the landscape. It lacks a unified global presence, with most providers operating at local or regional levels. The market features low entry barriers, allowing new entrants to establish operations with minimal capital[94]. Service quality, turnaround time, and customer relationships remain key competitive differentiators.

An SE occupies a distinctive but not unique position. While independent tailors and dry-cleaning chains also offer repair services, an SE can differentiate through its social mission, for example, by offering employment and training to people facing barriers to the labour market, or providing subsidised access to repair services for low-income communities.

12.3 Products, Services and Customers

12.3.1 Services

The core service offering of a textile repair workshop covers alterations, mending, and structural repairs. Care and repair services typically include alterations, repairs, customisations, restorations, upcycling, mending, and tailoring. More specialist operations may add visible mending, that is, the deliberate use of decorative stitching to repair garments in a way that celebrates rather than conceals the repair, as a premium-priced service[95].

12.3.2 Pricing

According to industry data, the average cost of alterations is $20 to $50 for performing basic clothing alterations and repairs. The exact price depends on the type of mending or alterations required and how long it will take. More complex work such as structural resizing, leather repair, or wedding dress alterations commands significantly higher prices[96].

SEs working in this space frequently use a tiered pricing approach: a published price list for standard, defined tasks such as a trouser hem or a zip replacement, combined with a quote-on-assessment model for more complex or bespoke work[96]. Pricing is especially difficult for SEs because costs are

[94] Credence Research - Clothing Alterations Services Market By Service Type Report
[95] Top Stitch – Sewing & Mending website
[96] Sewing Trip – Pricing 2026 website

higher due to programming and transitional workforce training costs. There is additional value to the product or service from being mission-based that can come into play in pricing.

12.3.3 Customers

Customers are predominantly individuals bringing in their own garments. Key segments include individuals needing size adjustments, people repairing sentimental or high-value items, sustainability-motivated consumers seeking to extend garment life, and lower-income households for whom repair is more economical than replacement[97]. The global market is also benefiting from the rise of online tailoring and alteration services, where platforms allow consumers to send in clothing for alterations, gaining significant traction[97] [98].

12.4 Resource Requirements

12.4.1 Human Resources

A small repair workshop can operate with two to four staff, combining a skilled lead tailor or seamstress with one or two additional repair technicians and a front-of-house customer service person. As the workshop scales, a workshop manager role becomes necessary to handle scheduling, quality control, and customer communications[99]. Key competencies include customer service skills, communication skills, time management, and close attention to detail, including the ability to apply the proper strategies for delicate fabrics, make appropriate cuts, and perform the correct operations for each garment.

Employment in the apparel and textile industries plummeted by over 85% between 1979 and 2019 as brands moved production offshore. As generations of tailors, patternmakers, and couture seamstresses retired, their skills were not passed on[100]. Without robust apprenticeship programmes or a clear training pipeline, valuable artistry and precision have been lost. This skills gap creates a genuine opportunity for SEs that invest in training and apprenticeship.

12.4.2 Capital Resources

The core machinery needed for a repair workshop includes:

- one or more industrial sewing machines,
- an overlocker for edge finishing,
- a steam pressing iron or press,
- a cutting table

A well-equipped small repair workshop can be established for a total equipment investment of between $5,000 and $20,000 depending on the number of machines, their age and specification, and whether equipment is purchased new or refurbished[99].

[97] Proficient Market Insights - Tailoring and Alteration Services Market Size, Share, Growth, and Industry Analysis (2025) Report
[98] Grewal Levy Marketing - Marks & Spencer Provides Repair and Alterations Service, in Pursuit of Sustainability Article
[99] Dojo Business - Textile Workshop: Startup Budget Article
[100] Seamsdress - Why the U.S. Faces a Shortage of Skilled Garment Makers & Why a Skilled Labor Shortage Demands Innovative Solutions Article

Space requirements: a unit of 300 to 800 square meters is typically sufficient for a small operation, with a customer-facing front area for intake and collection, and a workshop area for the repair work[99].

12.5 Logistical, Environmental and Policy Factors

12.5.1 Logistics

Customers bring garments directly to the premises for intake and collection on completion; in more digitally enabled operations, drop off and collect via a courier or postal service are used. There is no complex supply chain for raw materials, and consumables such as thread, buttons, zippers, and interfacing represent a minor cost line.

The main logistical consideration is workshop scheduling: matching incoming workload with staff capacity to maintain promised turnaround times while keeping quality high. In most stores, the turnaround time for alterations is 5-10 days, though repairs requiring special order materials like zippers or buttons may take longer[101].

12.5.2 Policy Factors

The EU's Right to Repair Directive is the most significant structural policy in this sector. In it, a European online platform with national sections will be set up to help consumers easily find local repair shops, sellers of refurbished goods, buyers of defective items, or community-led repair initiatives such as repair cafes[102]. This EU-funded visibility infrastructure is a direct benefit to registered repair workshop operators, including SEs, and must be applied nationally by all member states by 31 July 2026.

Some individual EU member states have gone further. For instance, Sweden has reduced VAT on repairs to clothing and bicycles from 25% to 12%, with the incentives intended to reduce the environmental impact of goods purchased by consumers[103]. SEs should investigate national and local incentive schemes in their own jurisdictions, as these can materially reduce the cost barrier for customers and increase demand.

12.6 Main Market Challenges and how they are Overcome

12.6.1 Skilled Labour Shortage

A significant constraint on this model is the availability of people with the tailoring and repair skills needed to operate it. Without robust apprenticeship programmes, valuable knowledge has been lost in many markets, and finding skilled labour is significantly more challenging[100]. SEs are particularly well-positioned to address this challenge as workforce training is central to many SE missions. Establishing an apprenticeship or supported employment programme that trains participants in repair skills simultaneously solves the SE's staffing problem and delivers measurable social impact. Partnering with fashion colleges, vocational training providers, or community education bodies to deliver structured learning pathways can build a pipeline of skilled workers over time.

[101] RRRevolve - Textile repair & sewing service in Zurich website
[102] European Parliament - Right to repair: Making repair easier and more appealing to consumers (2024) Press Release
[103] World Economic Forum - Sweden is paying people to fix their belongings instead of throwing them away (2016) Blog

12.6.2 Consumer Perception — Repair as Inconvenient or Low Status

Many consumers have become accustomed to a replacement culture in which it feels easier or more attractive to buy new than to repair. Challenges include competition from fast fashion and a declining number of skilled tailors in some regions[104]. Successful repair businesses should reframe the service around convenience, quality, and identity. SEs can adopt an approach that offers online booking, collection and delivery options, and fast turnaround times, to remove the friction that stops potential customers from using repair services[104].

12.6.3 Pricing Tension Between Affordability and Viability

Because skilled repair labour is time-intensive and cannot be easily automated, the cost of repair can appear high relative to cheap replacement items. However, setting prices too high reduces accessibility, particularly for the lower-income communities that many SEs exist to serve.

SEs should also actively pursue repair bonus schemes and municipal subsidy programmes such as France's repair bonus or Amsterdam's City Pass to bring down the net cost to end users without reducing workshop income[105].

12.6.4 Inconsistent Workload and Revenue Variability

Repair demand can be seasonal and unpredictable, creating cash flow challenges for small workshops. Diversifying income sources reduces dependency on fluctuating walk-in repair volumes. Adding workshop classes, B2B contracts, partnerships with clothing brands for warranty repair fulfilment, and subscription maintenance plans for regular customers can all smooth revenue across the year[104].

12.7 Summary: Potential for SE Development of this Business Model

The potential is likely to increase over the medium term as EU Right to Repair policy embeds, repair bonus schemes proliferate across member states, and consumer attitudes continue to shift. By investing in repair services, SEs can access government subsidies or city partnerships that support circular initiatives.

SEs with a community-facing physical presence are well-positioned to capture local demand as that demand grows, and the EU online repair platform launching in coming years will provide a free, publicly funded customer acquisition channel. There is also potential for SEs to develop B2B repair partnerships with clothing retailers and brands, who are increasingly under regulatory and reputational pressure to offer repair options to their customers.

12.7.1 Investment Required

- A small-scale SE entering this model should budget an initial investment in the range of $15,000 to $40,000 to cover: workshop fit-out; industrial sewing machines and essential equipment; workshop consumables and initial materials stock; website and booking system; marketing and launch costs; and working capital for the first three months of operation

[104] Verified Market Reports - Global Tailoring and Alteration Services Market Size By Type of Service (2025) Report
[105] COSH! - Preparing Your Business for the EU's Right to Repair Regulation (2025) Article

- Grant funding can be utilised to cover the skills training and employment components of the model, with social investment for the commercial infrastructure.
- SEs can also explore whether their national or local government offers repair bonus certification schemes that would make them eligible for consumer subsidy funding, as this can effectively increase workshop revenue without requiring the SE to reduce its prices.

13 Case Study on Repair in Workplace: United Repair Centre

13.1 Introduction

United Repair Centre (URC) was born from a collaboration between Patagonia, SE *Makers Unite* and the Amsterdam Economic Board, united by a shared vision to shift the clothing industry from a waste-heavy model to one that values repair, reuse, and circularity[107]. Its model centres on operating professional repair hubs that serve clothing brands, with repair technicians working on garments sent in by consumers through brand portals, and also attending brand retail locations and workplace pop-up events to carry out repairs in person.

Twenty-five clothing brands are affiliated with URC that employs 40 people in its operation in Amsterdam[106]. The organisation carries out around 50,000 repairs annually, with its strength lying in quality, speed, and scale[106].

URC provides employment and skills training for individuals often excluded from the labour market, including refugees and young adults[107]. By collaborating with major brands, like Patagonia, Lululemon, and The North Face, URC enables direct consumer engagement, data feedback, and impact reporting[106].

13.2 Income Breakdown

URC's income is generated entirely through B2B service fees paid by clothing brands for repair services carried out on their customers' garments. There is no retail sales income, no consumer-facing subscription, and no reliance on donations. Brands pay URC to operate repair programmes on their behalf, and consumers interact with URC through branded portals and in-store pop-up events.

URC's financing model combines philanthropic investments and impact-driven capital, ensuring that its operations are sustainable and its mission is central to its growth, while also allowing the organisation to reinvest in the development of cutting-edge technologies[107].

URC's social mission is locked by a golden share owned by an independent foundation, and 50% of profits are reinvested to support its social mission[107]. This structure means that while URC is a commercially trading for-profit entity, half of all profit is permanently directed back into social impact activities, functioning similarly to an SE profit-lock. On the investment side, URC successfully raised €1.8 million from a diverse group of investors, funding which enabled URC to establish its state-of-the-art repair centre in Amsterdam[108].

[106] Fashion United - Changemakers in fashion: Thami Schweichler, founder United Repair Centre (2025) Article
[107] Doughnut Economics Action Lab - United Repair Centre Case Study
[108] Generous Minds – United Repair Centre Case Study

13.3 Scaling History

Makers Unite, an initiative born in 2016 during the European refugee crisis, wanted to create meaningful connections, foster understanding, and use creativity and sustainability to tell powerful stories[108]. In time, Makers Unite evolved into a B2B business producing upcycled products for brands like Ben and Jerry's, Filling Pieces, and Tommy Hilfiger. During the Covid-19 pandemic, Patagonia approached the team for garment repairs. At the time, there were no scalable B2B repair services in Europe, allowing for the start of United Repair Centre in 2021[109].

In 2023, United Repair Centre expanded to London[110]. In November 2025, a successful €3.2 million investment round was completed to expand URC to France, Germany, and Italy, starting in Paris[108]. URC has since launched United Repair Academy, which trains students to become clothing repair specialists through course modules ranging from accurate measuring and fabric knowledge to pattern drawing and complex repairs[110]. The academy is specifically focused on creating opportunities for underprivileged people, particularly refugees, with additional focus on building language skills.

13.4 Financial Outline of Business Model

URC's financial model is built on a B2B fee-for-service structure in which brands pay for repairs carried out on their customers' garments. The unit of revenue is the individual repair, with volume and complexity determining income. URC carries out around 50,000 repairs annually and surpassed the one million euro revenue mark in 2024, implying an average revenue of approximately €20 per repair across the mix of jobs, which is consistent with industry pricing for straightforward garment repairs[106].

Key cost lines are likely repair technician wages, the Amsterdam hub premises, logistics infrastructure for receiving and returning garments, and the technology platform that connects brands, consumers, and repair staff. The city of Amsterdam supports URC through access to social employment programmes and welfare agencies, helping to reduce the effective cost of workforce recruitment and onboarding for people with a distance to the labour market[109].

Brands using URC's platform have experienced repair customers show two to three times higher lifetime value and significantly higher Net Promoter Scores[111]. The commercial argument URC uses to justify the service fee to brand partners is that repair is not just a cost to the brand but a customer retention tool.

The Paris hub, opening in February 2026, is supported by the city of Paris as well as the €3.2 million impact investment round. This pattern of combining municipal support with impact capital is the financial template URC uses for each new hub launch.

13.5 Marketing Presence

URC's marketing strategy is built almost entirely around earned media, institutional partnerships, and brand co-marketing rather than paid advertising. The founding story of refugees and newcomers

[109] I Amsterdam Business - United Repair Centre: On the circular transition and changing the fabric of fashion (2025) Article
[110] Trend Watching – Innovation of the Day (2024) Blog
[111] Reflawn - United Repair Centre: Repair Is the New Cool (2025) Article

repairing clothes for major outdoor brands, is inherently compelling and has generated extensive press coverage without significant marketing spend.

Guidance and support from the British Fashion Council's Institute of Positive Fashion and the Ellen MacArthur Foundation have been provided to URC London[112]. Such endorsements from recognised institutions function as powerful credibility signals to both potential brand partners and to impact investors.

The City of Amsterdam plays a key role by connecting URC to networks, trade missions, and events, especially through Amsterdam Impact and the Amsterdam Economic Board[109]. The city promotes URC's job vacancies and supports access to social employment programmes. This municipal backing has given URC visibility at European and global sustainability events, including the Global Fashion Agenda in Copenhagen[109].

URC maintains active social media channels and a regularly updated press section on its website, and its founders give frequent interviews and conference appearances. The Repair business model also functions as a tool for customer loyalty, customer experience, and brand perception reinforcement as it provides an opportunity to re-engage the customer and deepen the relationship with every subsequent point of contact.

13.6 Lessons and Learning

Several key lessons emerge from URC's experience:

- Starting with one anchor partner provides credibility and lowers risk. URC built its entire initial operation around a single brand relationship with Patagonia before opening the model to other brands. This gave the team time to develop operational workflows, prove quality and turnaround standards, and build a replicable blueprint without the complexity of managing multiple brand relationships simultaneously.
- The B2C model alone was not sufficient to sustain or scale the mission. While the original Makers Unite B2C model had an impact, it proved insufficient for long-term sustainability and growth.. This is a significant lesson for SEs considering the repair in workplace and pop-ups model: a pure consumer-facing model may not generate enough volume or margin, and a B2B channel is a powerful route to scale.
- Municipal and public sector support is essential in the early phase. At every stage of URC's development, the city of Amsterdam has played an active role by connecting URC to networks, co-funding the training academy, and supporting workforce recruitment through welfare and employment agencies. SEs should treat local government as a strategic partner rather than simply a funder, and actively cultivate those relationships from the outset.

[112] ESG News - Fashion Giant Patagonia and Social Impact Firms Launch United Repair Centre London (2023) Article

14 Business Model: Producing Felt, Stuffing & Insulation

14.1 Description of the Model

This model involves an organisation collecting post-consumer or post-industrial textile waste, mechanically processing it through shredding and fibre-opening into a raw fibre material, and then remanufacturing that material into finished or semi-finished products, such as, stuffing and filling for mattresses, furniture, and cushions; nonwoven felt sheets and rolls; insulation panels; and acoustic materials. The outputs are sold business-to-business to manufacturers in the construction, furniture, and interiors sectors[113].

Mechanical recycling involves physically deconstructing fibres through methods such as shredding, crushing, or melting to reprocess fibres back into yarn[114]. Mechanical processing leads to weaker fibres and lower quality textiles that have limited use, such as furniture stuffing or insulation. Transformation of recycled textile fibres into technical nonwoven felts is one of the key methods for recycling textiles into new products[115]. Production lines include fibre opening and blending, fine openers and web forming, web bonding, and slitting and winding equipment[114]. New products such as wipes, building insulation, mattresses, car interiors, and furniture fillings can be created with these outputs.

14.2 Market Position

The business occupies a position in a growing but capital-intensive sector. It is not unique as industrial textile recyclers exist across Europe, but at the regional and smaller scale, particularly where the SE can secure feedstock through community or municipal collection and can sell locally, there is a market to explore.

14.3 Products, Services and Customers

14.3.1 Products

The primary outputs of this model are:

- Loose fibre filling and stuffing, used in mattress manufacturing, cushion filling, furniture padding, and moving blankets
- Nonwoven felt sheets and rolls sold to the automotive, construction, and interiors industries
- Acoustic insulation panels sold to architects, builders, and interior fit-out contractors[116].

[113] Resource Recycling Inc. - The new age of textile recycling (2025) Article
[114] U.S Government Accountability Office – Textile Recycling Technologies Report
[115] Andritz - Textile-to-Textile: The new opportunity website
[116] LIDSEN Publishing - Sustainable Thermal Insulation Derived from Recycled Textile Waste (2023) Journal Article

14.3.2 Pricing

This is a B2B, volume-driven market. Textile recycling operates on lower margins but higher tonnage with tier-based pricing common[117]. In 2023, the average recycling price in Europe was around $350 per tonne, representing the baseline costs involved in collecting, sorting, and processing post-consumer and post-industrial textiles. Projections for 2024 depict a rise in prices to approximately $380 per tonne, likely due to the expansion of formal recycling networks and the implementation of EPR schemes[118].

Premium pricing can be achieved where the material meets compliance standards for regulated industries[117]. In regulated industries, strict flammability and hygiene standards apply as buyers are not only paying for fibre, they are paying for compliance. If material is documented, traceable, consistent, and meets contamination thresholds, an SE can access these markets and command a higher price[117].

14.3.3 Customers

Customers are almost exclusively B2B. Key target markets are furniture manufacturers, mattress producers, automotive interior suppliers, construction companies, and acoustic panel designers. Other end-use industries utilise stuffing and felt for automotive interiors, packaging materials, home furnishings, and geotextiles[119]. Customer acquisition in this model typically happens through direct sales outreach, trade fairs, and sustainability procurement frameworks, rather than consumer-facing marketing.

14.4 Resource Requirements

14.4.1 Human Resources

A small-scale SE operation in this model would typically require a team of 8 to 20 people, covering textile intake and sorting, machine operation, quality control and output packaging, maintenance, and logistics and sales. The work is largely manual at the intake and sorting stage, making it well-suited for people with limited prior industrial experience.

Sorting operatives need basic training in fibre identification, primarily distinguishing natural from synthetic fibre content, as blended materials are harder to process and lower in output quality. Machine operators require more specific training in the operation and basic maintenance of shredding, fibre-opening, and bonding equipment.

14.4.2 Capital Resources

The core processing line for this model includes:

- a textile shredder or "fluffing" machine
- a fibre opener or garnet machine
- if producing felt, a needlepunch or airlay bonding unit
- slitting, winding or cutting equipment

[117] Eslando - How to Price Textile Waste Feedstock for Recycling (2026) Blog
[118] Mark and Spark Solutions - Europe Textile Fibre Recycling Market Analysis by Fibre Type (2026) Report
[119] Markets and Markets – Textile Recycling Market (2025) Report

Production lines for nonwoven felt include fibre opening and blending, fine openers and web forming, web bonding, and slitting and winding equipment[115].

The price of industrial textile shredding equipment varies significantly depending on the type of material to be processed, the required output fineness, and the throughput capacity required. Entry-level shredders suitable for small-scale operations begin at approximately $15,000 to $30,000, while full industrial-scale systems cost significantly more, up to $500,000[120].

Space requirements are significant. The operation requires an industrial unit or warehouse capable of accommodating feedstock storage, machine processing lines, and finished product storage, with loading dock access for inbound and outbound bulk logistics.

14.5 Logistical, Environmental and Policy Factors

14.5.1 Logistics

Inputs:

- Feedstock arrives from several sources: post-consumer textile collections via municipal bring points, community collection drives, and charitable donation channels, post-industrial pre-consumer waste such as cutting room offcuts and production scrap from garment manufacturers and textile mills[118]
- Feedstock quality and consistency are critical. Textile waste needs to be scanned and sorted according to the relevant input requirements[119]. Jeans, for example, must have their zippers and buttons removed. As advanced and automated fibre sorting and preprocessing are not yet widely developed, manual sorting is a persistent operational requirement

Outputs:

- Finished products are typically sold in bulk by weight or volume and delivered by pallet or container to manufacturing customers[117]

14.5.2 Environmental and Policy Factors

The EU's mandatory separate textile waste collection requirement, under the revised Waste Framework Directive, is an important policy development for this model. The Waste Framework Directive mandates that from 2025, EU Member States must establish separate collection systems for used textiles[121]. This creates a structural increase in the supply of sorted feedstock available to processors.

The 2025 amendment of the Waste Framework Directive requires producers making textiles in the EU will be required to cover the costs of collection, sorting, and recycling through new schemes that will be set up by each Member State[122]. EPR schemes ensure a consistent supply of post-consumer textiles to certified recycling facilities, helping recyclers maintain steady output[118]. Recyclers can invest EPR funding in advanced sorting technologies and automated fibre separation systems[118].

[120] GEP Ecotech - How Much Does a Industrial Textile Shredding Machine Cost (2021) Article
[121] European Environment Agency - Management of used and waste textiles in Europe's circular economy (2024) Briefing
[122] Latham & Watkins LLP - EU Sustainability: State of Play — Circular Economy and Product-Related Frameworks (2025) Article

SEs operating in this space will need to register as certified recycling businesses in order to participate in national EPR schemes and access the feedstock and funding flows they generate. Environmental permits for industrial processing and waste handling will also be required, with specific requirements varying by member state.

14.6 Main Market Challenges and how they are Overcome

14.6.1 High Capital Cost of Entry

The equipment required to establish a fibre processing line: shredder, fibre opener, bonding unit, pressing and cutting equipment — represents a reasonable upfront investment. Financial support options include subsidies for recycling industry promotion, capital investment grants under environmental programmes, and interest subsidies on project loans. EU structural funds, national circular economy investment programmes, and EPR scheme funding are all relevant sources for SEs in this space.

14.6.2 Quality of Feedstock

The quality of recycled felt and stuffing depends heavily on the consistency and cleanliness of incoming feedstock. Mixed-fibre blends, which dominate post-consumer textile collections, are harder to process and produce lower-grade outputs[123]. To mitigate this, a SE can consider establishing dedicated collection channels for cleaner, more homogeneous feedstock, such as industrial pre-consumer waste from garment manufacturers, or mono-fibre donations from specific community drives. Building strong sorting protocols at intake, and investing in basic fibre identification tools, helps segregate materials by composition before processing.

14.6.3 Low Value-to-Weight Ratio of Output Products

Stuffing and basic felt materials are low in value relative to their bulk and weight, which makes logistical costs proportionally higher. Moving up the value chain from loose stuffing toward finished felt panels or acoustic products increases the revenue per tonne of feedstock processed. Material that is documented, traceable, and meets contamination thresholds can access regulated markets such as mattresses, furniture, automotive interiors, and building applications, and can charge a compliance premium over outputs[117].

14.6.4 Regulatory Complexity and Certification Requirements

Operating as a textile waste processor requires navigating waste handling permits, environmental operating licences, and material certification which can be complex and time-consuming. SEs should factor certification costs into their business planning from the outset and treat certification as a commercial investment rather than an overhead[117]. Partnering with an established recycling network or trade body in the early phase can reduce the cost and complexity of navigating the regulatory environment independently.

[123] PubMed Central - Possibility Routes for Textile Recycling Technology (2021) Journal Article

14.7 Summary: Potential for SE Development of this Business Model

While potential exists, the business of felt and stuffing production requires development of sales and supply pipelines. The EPR policy environment in the EU is creating a reliable feedstock supply and a funding mechanism that supports the economics of small-to-medium scale processors. An SE that starts with sorting and feedstock supply, can then develop relationships with regional manufacturers, and progressively invests in processing capacity has a credible development path in this model. Producing own brand goods such as dog beds or toys is also a possibility. This model could be a useful addition to a business that is producing off cuts or manufacturing products.

14.7.1 Investment Required

Textile recycling startups can expect to spend between $500,000 and $2 million on facility-related expenses for a full-scale operation, covering industrial premises, specialist equipment, utilities installation, and loading infrastructure[124]. However, a staged approach, which begins with sorting and feedstock sales before investing in processing machinery, can substantially reduce the initial capital requirement to a more accessible range of $50,000 to $150,000 for the first phase.

For SEs specifically, an early-stage pathway might involve securing a grant-funded feasibility study, piloting feedstock collection and sorting in partnership with a municipality or EPR scheme operator, and using evidence of demonstrated supply to attract social investment or EU structural fund support for equipment acquisition in a subsequent phase.

Below are details of pricing from quotations from two international suppliers for a textile "fluffer" machine. This machine can be used for shredding and preparing textile waste for reuse in filling (e.g. for toys, cushions, insulation): *Multipro Machines* (India) and *Alfatex Machinery* (Poland). A breakdown of major findings in presented in the table below:

Aspect	Multipro (India)	Alfatex (Poland)
Number of Machines	Modular three-unit line (shred, open, blower)	One shred/defibre machine (AM-402), optional collector kit (AM-102)
Blower/Collection	Included (MPFL blower)	Optional AM-102 kit
Electrical Cabinet	Built into each machine	Supplied with AM-402
Pack/Bagging	Covered via blower	Optional extra
Space Needed	Machine: 6m x 1.4m footprint, high ceilings recommended, ~1m clearance around	Machine: 3m x 7m footprint, 2–3m clearance around
Weight of machine	480 kg	1,000 kg (1 metric tonne) for the main unit, plus additional weight for its control cabinet
Training	Free live video training; installation videos & 24/7 support	On-site installation & training available at additional cost
Power Requirements	3-phase supply + 1HP air compressor	3-phase power

[124] Financial Models Lab - Textile Recycling Startup Costs: A $21M CAPEX Breakdown (2025) Blog

Total Price	€14,500 - €17,000 incl. transport, import duties, installation	€30,000 - €35,000 (machine + collector) + freight & installation

Additional Requirements: in addition to the costs highlighted above, WMG noted several other factors that need to be taken into consideration when purchasing a textile shredder/fluffing machine

- Financial costs: an air filtration unit, which is recommended would cost between €2,500 to €3,500. Additional costs include a structural engineer to install the machine on a floor other than a ground floor to evaluate the floor's current load rating and assess whether reinforcements are needed
- Space Requirements: Fluffing machines need high ceilings and well-ventilated space. They must be installed separately from sewing production due to airborne fibres and dust. Ideally they should be housed in a dedicated recycling/processing room with dust extraction and strong ventilation.
- Safety Requirements:
    - Air quality/dust: Both machines create airborne fibres. A dust extraction system or industrial air filtration is strongly advised to protect staff health and prevent contamination of sewing operations.
    - Protective equipment: Safety glasses, masks/respirators, and protective gloves mandatory. Operators should wear protective clothing that reduces fibre build-up.
    - Workspace requirements: Non-slip flooring, emergency exits clearly marked, first aid kit and fire extinguisher within 5m.
    - Compliance: before installation, the CE certification of the machine should be confirmed along with and Irish workplace H&S compliance. A site-specific risk assessment should be completed.
- Upkeep & Maintenance:
    - Annually: Supplier-recommended servicing schedule.
    - Costs: Spare parts (blades, filters, belts) should be budgeted for. Expect annual upkeep costs at ~5–10% of machine value.
    - Downtime: Schedule regular maintenance to avoid production delays.
- Training: General training needs for operators:
    - Machine induction and safe operation SOPs.
    - Emergency stop procedures.
    - Dust management and PPE use.
    - Daily cleaning and maintenance routines.

These findings, costs, and requirements will likely to apply to similar-sized SEs operating in the EU.

15 Business Model: Producing Homewares & Fashion

15.1 Description of the Model

This model involves an SE transforming waste or donated textiles through skilled design and production work into entirely new products. The outputs include fashion items such as bags, jackets, accessories, or clothing, and homeware products such as cushions, throws, tote bags, aprons, or decorative items[125]. The process adds creative and economic value to materials that would otherwise be discarded or downcycled. Fashion upcycling, which uses waste clothing and textiles to create new products, can effectively address concerns about excessive consumption of energy and material resources in the fashion industry[126].

The provision of B2B Cut Make Trim services (CMT) to local fashion and homewares is a useful way to increase income streams, in addition to own brand products, Other income streams could include provision of alterations and repair services, and curtain and soft furnishing services.

15.2 Market Position

Upcycling businesses have the potential to be financially sustainable and can create jobs for disadvantaged people. Despite potential economic, environmental, and social benefits, upcycling remains a niche practice. While this business model does not occupy a unique position, the market is far from saturated, and SEs can occupy a distinctive niche through their mission-driven identity, community sourcing, or focus on particular product lines or beneficiary groups.

15.3 Products, Services and Customers

15.3.1 Products and Services

The product range in this model is shaped by what materials are available and what the design and production team can create from them. Typical outputs include bags, purses, and accessories; cushion covers, throws, and homeware textiles; reworked or reconstructed garments; and limited-edition collections made from specific donated or surplus fabric streams. This business models success depends largely on the creative vision of the company or creative director, and in this way is a hard to quantify input – a design sensibility that can't always be planned for.

15.3.2 Pricing

Pricing in this model should reflect the labour-intensive nature of the work. When pricing products, a rule of thumb is that material costs should account for no more than 30% of the final price. For example, if fabric costs £15, the minimum price should be around £50 to cover production time, overheads, and a

[125] Reconomy - The state of the circular economy in the fashion industry (2024) Article
[126] ResearchGate - Upcycling as a business strategy in textile and clothing industry clusters (2023) Journal Article

sustainable margin[127]. The labour-intensive nature of crafting unique items leads to higher production costs and limits scalability for large-scale production, which results in a higher price per item.

Pricing is also generally based on a prototyping process, where the minutes of production are calculated and then times by the hourly rate. This is often twice the actual paid rate to account for overheads and over runs.

Overcoming the stigma that upcycled items are inferior or less desirable than new ones is a significant marketing challenge that brands must address through strong storytelling and quality presentation.

15.3.3 How are Customers Accessed

Customers are accessed through a combination of routes. B2C online sales through the SE's own website and platforms such as Etsy are the most common. Physical retail, for instance through a dedicated shop, a concession within another retailer, or market and craft fair attendance, provides visibility and community connection[127]. B2B sales to retailers, gift shops, interior design businesses, and corporate clients seeking ethically sourced products are a further revenue channel that reduces reliance on individual consumer sales[128].

15.4 Resource Requirements

15.4.1 Human Resources

A small SE producing upcycled homewares or fashion can operate with a core team of two upwards, covering design, pattern cutting and production, quality control, and sales and marketing[130]. As volume grows, additional production operatives and a dedicated operations or logistics coordinator would also be needed.

For SEs with a work integration mission, production roles, such as cutting, sewing, finishing, quality checking, can be structured as supported employment or apprenticeship positions, with a small number of experienced lead makers supervising a broader team of trainees or participants. This is both a social value generator and a way to manage wage costs in the early phase.

15.4.2 Capital Resources

Equipment investment for an upcycled fashion brand can range from $5,000 to $50,000 or more, depending on the scale and complexity of the business. At the lower end, basic high quality domestic sewing machines cost $200 to $1,000 each while industrial-grade machines can cost between $2,000 to $10,000 per unit. Equipment costs can be reduced by 30% to 50% by sourcing certified pre-owned industrial machinery[129].

Workshop space for an upcycled production operation needs to accommodate cutting tables, sewing machines, inventory storage of pre-owned textiles, and desk space for the design team. Monthly rental of space also needs to be factored in which will vary significantly by location[130].

[127] CPD Online College – Setting up a Sewing Business Guide
[128] Net Solutions - The Ultimate Guide to B2B Fashion eCommerce: Strategies, Trends, and Solutions (2025) Article
[129] Financial Models Lab - How to Fund Your Upcycled Fashion Brand Startup Costs (2025) Blog
[130] Financial Models Lab - How To Budget and Run an Upcycled Fashion Brand Monthly Costs (2025) Blog

15.5 Logistical, Environmental and Policy Factors

15.5.1 Logistics

Textile inputs arrive through:

- donations from the public
- partnerships with community collection points
- direct sourcing from garment manufacturers'
- arrangements with brands or retailers to collect surplus or returned stock
- pre-sorted textiles can be accessed from specialist recycling and sorting operators
- use of deadstock fabric is something that many brands use, as this is more reliable and takes less processing time

Finished products or outputs are dispatched to customers by post or courier for online sales, delivered directly to retail stockists, or transported to market and fair stalls[126].

15.5.2 Policy and Environmental Factors

The EU's Ecodesign for Sustainable Products Regulation, which entered into force in July 2024, is the most significant policy development for producers of new textile and homeware products in the EU. The Ecodesign for Sustainable Products Regulation creates a framework to set eco-design requirements for products including textiles, covering durability, recyclability, and recycled content[131].

From July 2026, a ban on the destruction of unsold consumer textile products applies to large enterprises, with SMEs given a transitional period[131]. While this applies primarily to large fashion brands, it creates a policy context that encourages brands to explore alternative end-of-life routes, including donation to SE up-cyclers, rather than destruction or wastage, which may increase the availability of quality surplus stock for SEs in this model.

15.6 Main Market Challenges and how they are Overcome

15.6.1 Labour Intensity and Cost per Unit

A major challenge of this model is that every product requires significant skilled human time to design, cut, and construct from irregular or variable waste materials, making production costs structurally higher than conventional manufacturing[132]. When using donated products – the handling and production time can often lead to a more expensive cost of production than buying new textiles. This needs to be carefully trialled to ensure end products can absorb these handling costs. To address this, SEs should focus on product lines that maximise the output value relative to production time, for instance, accessories, bags, and distinctive homeware items often offer better margins than reconstructed clothing because they require less precise fitting and can be made more efficiently. Companies that are successful are often using the design features of the inputs to create a unique selling point, i.e.

[131] Tappr - ESPR: Ecodesign for Sustainable Products Regulation (2025) Blog
[132] Fashion Sustainability Directory - What Are the Key Challenges in Scaling up Upcycled Fashion? (2025) Blog

- www.elvisandkresse.com
- https://www.instagram.com/p/CYwpNSXLmOJ/
- https://www.instagram.com/zingaravintage/
- https://www.727sailbags.com/en/?srsltid=AfmBOoqEzFfA3ErbzyWNePK-99QVS8vlp0h-bb4b9evl4uGlCv8eOHU1

Using grant funding or supported employment programmes to subsidise labour costs in the early phase can also be adopted.

15.6.2 Inconsistent and Unpredictable Materials Supply

Material sourcing may be inconsistent and variable, and the quality of discarded materials can vary greatly depending on the source and how it has been handled. This means that each batch of upcycled materials may require a different approach to processing, adding complexity and resources to the production process[132]. To mitigate this, SEs should diversify supply channels to reduce dependence on any single stream. Or identify a specific high-volume material and specialise in this. Designing product lines with inherent flexibility, where the design can adapt to the available material rather than requiring a specific input, makes production more resilient.

15.6.3 Consumer Perception of Upcycled Products

Upcycled items are often perceived as less desirable or inferior to new ones, and overcoming the stigma associated with repurposed materials is a significant marketing challenge[132]. Strong brand storytelling, which involves communicating the origin, transformation, and uniqueness of each product, can be used to address this[132]. SEs have a natural advantage here because the social mission behind the production adds a compelling additional layer to the story. Photography, social media and website content, and demonstrations at events all help customers see the quality and craft involved.

15.7 Summary: Potential for SE Development of this Business Model

The potential is meaningful and growing, particularly as EU regulation begins to shift the economics of the wider textile industry in favour of circular models. The EU Strategy for Sustainable and Circular Textiles aims to ensure that by 2030 all textile products placed on the EU market are durable, repairable, and recyclable, and that profitable reuse and repair services are widely available[133]. This creates a supportive structural policy environment for SEs producing new products from waste textiles.

SEs that can build a recognisable brand, maintain consistent product quality, and develop reliable B2B retail relationships alongside their direct consumer channels are well-positioned to achieve commercial viability. However to do this need to ensure that there are staff with the appropriate design and manufacturing skill sets.

[133] Interreg Europe - New EU Strategy for sustainable and circular textiles (2022) Article

15.7.1 Investment Required

Launching an upcycled fashion brand requires a total startup budget of $50,000 to $75,000 for initial capital expenditure and inventory, plus working capital. Initial setup includes approximately $8,000 for industrial sewing machines, $10,000 for studio renovation, and $9,500 for website development and product photography[129], as well as initial salaries It is likely that another income line will be needed to support the growth of such a business.

Grant funding is well-suited to the training, skills development, and community engagement aspects of this model. As the business demonstrates trading income and social outcomes, it becomes an increasingly credible candidate for impact investment and ESPR-linked brand partnership funding.

15.8 Case Study: Rifò (Italy)

15.8.1 Introduction

Rifò was founded in October 2017 in the textile district of Prato, Tuscany, Italy. The company regenerates noble textile fibres such as cashmere and wool using a proven technology developed in the Prato district over a hundred years ago[134]. Textile scraps are torn apart, converted back into raw fibres, and transformed into yarns used to produce high-quality garments, with exceptional savings in natural resources.

Using recycled wool, cashmere, cotton and denim, Rifò creates fabrics and yarns that become sweaters, scarves, gloves, shirts, and tote bags. The products are sold through its online shop and through stockists in more than 300 stores globally[135]. The company has grown to a team of around 25 people and achieved B Corp certification in 2020[136]. Customers are sustainability-motivated consumers across Italy and Western Europe.

15.8.2 Income Breakdown

In 2023, Rifò had a sales revenue of €3.1 million[137]. Average prices range from €110 for wool sweaters to €140 for cashmere designs[136]. Income is generated entirely through product sales, online and through retail stockists, with no reliance on ongoing grant income for core operations.

Rifò has raised a total of approximately $1.74 million across funding rounds. Investors include a|impact, Encelado Ventures, Premio Innovazione Toscana, Hubble Acceleration Program, and Ulule[138]. In 2021, the company also received approximately €350,000 from Italy's Smart and Start Italia national startup programme to expand production and invest in research and development for new materials[139].

15.8.3 Scaling History

Rifò was founded in November 2017 by Niccolò Cipriani and Clarissa Cecchi, launched through a successful public crowdfunding campaign on the Ulule platform[134]. From that crowdfunding start, Rifò

[134] European Circular Economy Stakeholder Platform - Rifò: regenerating noble textile fibres into timeless garments Case Study
[135] Italy Magazine - This textile tradition of Prato was sustainable before anyone knew how to label it (2024) Article
[136] Rifò – Who is Rifò website
[137] Women's Wear Daily - Rifò Brings Back 15th-century Craftsmanship 2024 Article
[138] CB Insights – Rifò Company Profile
[139] Invitalia - With Rifò, fashion is circular and sustainable News Story

quickly transformed into a sustainable clothing startup, growing steadily until it closed two rounds of investment. In 2019, Rifò launched its first sweater regenerated from 100% Italian denim, and in 2021 received approximately €350,000 from Smart and Start Italia to broaden production and fund research into new materials[139].

In December 2023, the company opened a temporary shop on Milan's Corso Garibaldi to test the retail market in the city, with Milan identified as the priority location for a future permanent retail expansion beyond its existing single store in Prato[137]. In 2022, Rifò launched the Nei Nostri Panni social impact project which employed local migrants in paid internships to learn textile crafts at risk of disappearing[136].

15.8.4 Financial Outline

Rifò's financial model is built around premium-priced, small-batch repurposed fashion sold direct-to-consumer online and through a curated wholesale network. Sales reached 3.1 million euros in 2023, with average product prices of €110 to €140 per garment[137]. This premium positioning is justified by the craft involved in sorting, processing, and producing recycled cashmere and wool garments to a quality standard that is comparable to virgin equivalents.

Rifò measures its impact against five KPIs covering recycled fibre content, post-consumer fibre collected through its take-back service, gender balance in governance, job opportunities created for local migrants, and the percentage of production costs spent on local suppliers[140]. This structured impact measurement supports grant applications, investor reporting, and B Corp recertification, all of which reinforce the commercial and reputational standing of the business.

15.8.5 Marketing Presence

Rifò's brand identity is built around the cenciaioli tradition of Prato. the ancient craft of sorting and regenerating textile waste. Which is a centuries-old sustainability practice that the modern brand is reviving and scaling[135]. This heritage narrative gives the brand a distinctive and authentic story that resonates with sustainability-motivated consumers globally.

The brand has been featured in WWD, Italy Magazine, and international sustainable fashion media, generating significant earned coverage without heavy paid advertising spend.

15.8.6 Lessons and Learning

Several learnings come forward from Rifò's experience:

- Place-based heritage is a powerful brand differentiator. Rifò's founding in Prato, the historic home of European textile recycling, gave the brand an authentic and distinctive story that is impossible for competitors to replicate. SEs should identify and communicate the place-based, community, or cultural story behind their operation as a core marketing asset.
- Keeping the supply chain hyperlocal reduces cost, builds relationships, and strengthens the sustainability narrative. Rifò sources and produces entirely within an 18-mile radius of its headquarters, linking with local organisations that collect and sort garments and with local

[140] United Nations Department of Economic and Social Affairs – Rifò: Circular Fashion Made in Italy Profile

textile makers who sell production waste. This proximity model reduces logistics costs, builds long-term supplier relationships, and provides a transparent and verifiable supply chain story for customers.

- Social impact programming embedded in the commercial model is a good alternative to grant-dependent welfare activity. Rather than running its migrant training programme as a separate charity function, Rifò funds the Nei Nostri Panni project through a fixed allocation from every product sold, supplemented by brand partnerships. This embeds social investment directly into the trading model rather than treating it as an add-on dependent on external funding cycles.

16 Business Model: Chemical Textile Production

16.1 Description of the Model

Chemical textile recycling is an advanced industrial process in which post-consumer or post-industrial textile waste is broken down at a molecular or polymer level using chemical processes, such as depolymerisation, solvolysis, dissolution, or hydrolysis, to produce virgin-quality raw materials that can be used to manufacture new textiles[141]. Unlike mechanical recycling, which physically shreds fibres and degrades their quality, chemical recycling rebuilds fibre from the ground up.

When waste textiles are heavily degraded or of poor quality, chemical recycling becomes essential. This method breaks down fibres into polymers and even monomers, allowing new fibres to be rebuilt[142].

16.2 Market Position

This model is not unique as a growing number of large commercial operators and well-capitalised startups are entering the space across Europe. However, the market is still emerging and the processing infrastructure required to meet EU 2030 targets does not yet exist at scale. Experts estimate that Europe could see five to ten large chemical recycling plants emerge, and that for every one chemical plant, approximately ten mechanical fibre sorting plants are needed to feed it with adequately prepared feedstock[142]. This creates a layered ecosystem in which SEs can occupy multiple roles, collection, sorting, and feedstock preparation, that are essential prerequisites for chemical recycling operations.

16.3 Products, Services and Customers

16.3.1 Products and Services

The outputs of chemical textile recycling are regenerated raw materials, primarily:

- Recycled polyester chips or filament, produced through depolymerisation of polyester garments, which are then sold to yarn spinners and fabric manufacturers
- Regenerated cellulosic fibre derived from cotton-rich waste, which can substitute for virgin cotton in new garment production
- Chemical recycling feedstock, which is sorted and pre-processed textile waste sold to chemical recycling plants as a prepared input material[143]

Recovered fibres can be used in new clothing, nonwoven fabrics, insulation for vehicles, and advanced industrial applications.

16.3.2 Customers

Customers are mostly businesses. Brand partnerships, which involve processing textile waste for fashion brands on a contract basis, offer lower working capital requirements, stable volumes, and circular

[141] Fashionating World - The Recycling Mandate: Converting textile waste into high-value feedstock for 2026 (2026) Blog
[142] Renewable Matter - Europe Eyes Billion-Dollar Opportunity in Textile Waste Recycling (2025) Article
[143] Industry Today - Textile (Fabric Waste) Recycling Plant DPR & Unit Setup (2025) Blog

economy positioning as a market entry route. Direct collection of textile waste from fashion brands, manufacturers, and municipalities offers better material costs and volume control but requires higher infrastructure investment. Major fashion brands including Adidas, H&M, Bestseller, and Zalando have all invested in or entered long-term supply agreements with chemical recycling companies, indicating commercial appetite for reliable recycled fibre supply[144].

16.4 Resource Requirements

16.4.1 Human Resources

A chemical recycling operation requires a highly specialised team. Managing the capital and technical complexity of a chemical recycling facility demands senior engineering and project management staff. The operation requires deep expertise in chemical processing and high-volume sorting technology.

Key roles include chemical engineers, process technicians, quality control specialists, logistics and supply chain managers, and sales staff with knowledge of the B2B fibre market. Recruiting experienced professionals for operations and management can account for around 20 to 30% of the total initial investment[145].

16.4.2 Capital Resources

The high amount of capital investment is a significant barrier in this model. Capital investment requirements range from $50 to 200 million for commercial chemical recycling facilities which is far beyond the reach of a typical SE operating without major institutional investment.

Equipment costs at industrial scale: Infinited Fiber Company is building a 30,000 tonne per year flagship plant in Finland with an investment of €220 million[146]. Even at smaller pilot scale, the core processing infrastructure, which includes chemical reactors, separation systems, purification equipment, and laboratory testing facilities, represents a multi-million-euro investment. Fibre processing machinery alone requires a capital expenditure of approximately $450,000 as a foundational investment[145].

Space requirements include a large industrial site with chemical handling infrastructure, environmental containment systems, laboratory facilities, and loading infrastructure[143]. Principal equipment includes sorting lines, shredders, carding machines, chemical reactors, and baling systems[143]. High-level automation and quality assurance protocols are needed to ensure fibre integrity and contamination control[143].

[144] Sifted - Meet the European startups making fashion sustainable (2021) Article
[145] Financial Models Lab - Textile Recycling Startup Costs (2025) Blog
[146] Andrtiz - Textile-to-Textile: The new opportunity Blog

16.5 Logistical, Environmental and Policy Factors

16.5.1 Logistics

Feedstock arrives from post-consumer textile collections and from post-industrial pre-consumer waste from garment manufacturers. Analysis of textile waste across six European countries found that 74% of low-value post-consumer textiles, approximately 494,000 tonnes annually, are suitable for recycling. Of the collected volume, 53% is suitable for chemical recycling based on certain recycling criteria[147].

16.5.2 Policy

The EU policy environment is actively driving the conditions that make this model commercially viable at scale.

- Under the EU Waste Framework Directive, all Member States must have separate textile waste collection in place from January 2025 and fully operational national textile EPR schemes in place by 2027[148]. This creates a structural increase in the supply of sorted feedstock available to recycling plants.
- EPR schemes now include eco-modulated fees, meaning a producer pays a significantly higher levy for a garment that is difficult to recycle, such as a multi-material blend, compared to one designed as a mono-material, creating easier recycling conditions for processers[148].
- Certain countries have gone beyond EU mandates, for instance The Netherlands introduced EPR for textiles from 1 July 2023, requiring that at least 50% of textiles placed on the market be prepared for reuse or recycled by 2025, rising to 75% by 2030[149].

16.5.3 Environmental Factors

Environmental permitting is a significant operational requirement. Chemical recycling facilities must comply with industrial emissions regulations, hazardous materials handling requirements, and wastewater management standards, which vary by EU member state[150]. Environmental compliance failures can result in plant shutdowns and loss of brand partnerships. Proactive investment in pollution control, regular monitoring and audits, and comprehensive documentation are essential. Chemical textile recycling also requires significant and consistent energy sources, therefore, SEs intending to operate in this sector should aim to use clean and renewable energy to reduce environmental impact.

16.6 Main Market Challenges and how they are Overcome

16.6.1 High Capital Requirements

Commercial chemical recycling facilities require a high capital investment of multi-million dollars[145]. This places full-scale chemical recycling beyond the direct reach of virtually all SEs without institutional or government co-investment. To address this, SEs can explore partnership models, in which an SE manages feedstock supply under a long-term contract with a commercial chemical recycler, or brand

[147] Fashion For Good – Sorting for Circularity Europe (2022) Report
[148] Carbonfact - Overview of All Textile Extended Producer Responsibility (EPR) Laws (2026) Report
[149] Compliance and Risks - Development and Potential of Extended Producer Responsibility in the Textiles Sector (2025) Blog
[150] Deskera - What Every Chemical Manufacturer Needs to Know About Environmental Regulations Blog

partnerships, where they handle textile waste for fashion brands on contract[144]. Working in partnership offers lower working capital requirements, stable volumes, and strong circular economy positioning.

16.6.2 Regulatory Complexity and Environmental Permitting

Operating a chemical processing facility requires navigating a complex web of industrial emissions regulations, chemical use permits, and waste handling licences. Therefore, SEs should engage environmental consultants and legal advisors from the earliest stage of planning reduces the risk of compliance failures. They can also seek to co-locate with established industrial parks where environmental infrastructure and permitting frameworks are already in place, reducing the time and cost of compliance set-up[151].

16.6.3 Market Pricing and Competition from Virgin Fibre

Chemically recycled fibre must compete on price with virgin polyester and cotton, both of which benefit from established supply chains and lower production costs per unit. One way to mitigate this is to secure long-term offtake agreements with brands committed to recycled content targets which ensures revenue and reduces exposure to market pricing volatility[141]. Large-scale retailers are already shifting procurement contracts toward suppliers who can demonstrate the recyclability and recycled content of their collections, creating a compliance-driven premium for recycled fibre.

16.7 Summary: Potential for SE Development of this Business Model

The market opportunity in chemical textile recycling is large and structurally growing. A potential value of €74 million per year has been identified from reintroducing sorted and recycled post-consumer textiles back into the value chain across just six European countries, with 53% of low-value collected textiles suitable for chemical recycling. The potential for SE involvement in the chemical recycling value chain is meaningful but concentrated in upstream and partnership roles rather than in direct plant operation, given the capital and technical requirements involved. However, the chemical recycling ecosystem creates a clear and growing role for SEs in the upstream stages of collection, sorting, feedstock preparation, and quality testing, that are essential inputs to the system. An SE that positions itself as a reliable, certified feedstock supplier to commercial chemical recyclers, is well-positioned to operate a credible business model.

16.7.1 Investment Required

For SEs targeting the feedstock sorting and supply role, the investment required is considerably more accessible than for full chemical processing:

- Investment in advanced recycling technology and machinery for a modern recycling facility needs to meet environmental regulations while maintaining high efficiency, with many companies allocating around $200,000 to $350,000 for state-of-the-art recycling machinery. A sorting and feedstock preparation operation would sit at the lower end of this range.

[151] Reju – Reju Announces the selection of Regeneration Hub One … (2025) Press Release

- An initial capital budget of approximately $225,000 is needed to cover collection vehicles at $150,000 and laboratory testing equipment at $75,000[145]

16.8 Case Study: Reju (France and Netherlands)

16.8.1 Introduction

Note: Reju is not a SE, it is a commercial company. However, it is one of the most thoroughly documented and operationally advanced example of chemical textile recycling in the EU, and its business model is directly relevant to SEs seeking to understand this space.

Reju was launched in November 2023 by Technip Energies, building on a technology partnership with IBM and Under Armour that had been in development since 2021. The company focuses on creating industrial-scale solutions for the large volume of plastic fibre in textiles that currently goes unrecycled. Reju uses technology invented by IBM Research to create a new circular system for recovering, regenerating, and recirculating textile waste at scale, starting with polyester[152]. The end product, known as Reju Polyester, has a 50% lower carbon footprint than virgin polyester and can theoretically be regenerated infinitely[152].

Reju currently employs around 75 people and is headed by Patrik Frisk, the former CEO of Under Armour[153]. Customers are exclusively B2B, mainly fashion brands, yarn manufacturers, and fibre producers seeking verified recycled polyester as a substitute for virgin material.

16.8.2 Income Breakdown

Reju does not publish standalone financial accounts as a subsidiary of Technip Energies, and no revenue figures are publicly available for the business at this early stage.

Capital for development is provided entirely by Technip Energies from its corporate balance sheet rather than through external fundraising or grant applications. The final investment decision for Regeneration Hub One is subject to approval by the Technip Energies board[154]. This means Reju operates with corporate capital rather than grant funding or venture investment.

The project has received support from the Netherlands Foreign Investment Agency, the Ministry of Infrastructure and Water Management, and the Ministry of Climate Policy and Green Growth in terms of site selection facilitation and government endorsement[154].

16.8.3 Scaling History

Technip Energies, IBM, and Under Armour began working together in 2021 to bring IBM's VolCat technology to industrial scale for textile recycling[155]. VolCat enables the selective chemical breakdown of polymers, functioning as a molecular sorter that can regenerate polyester fibre infinitely.

[152] Technip Energies - Reju opens Regeneration Hub Zero in Frankfurt, Germany (2024) News Article
[153] Trellis - Dutch startup aims to recycle 300 million pieces of polyester clothing a year (2025) Article
[154] Invest in Holland - Reju Announces Site in the Netherlands for Textile-to-Textile Recycling Center (2025) News Article
[155] Technip Energies - Technip Energies Creates Reju – An Innovative Polyester Textile Regeneration Company Press Release (2023) Press Release

Reju was formally created by Technip Energies in November 2023, with the groundbreaking ceremony for its first demonstration facility taking place at the Technip Energies Frankfurt Research Centre in September 2023[155]. Regeneration Hub Zero, Reju's first operational facility in Frankfurt, opened in October 2024, functioning as a demonstration and pilot plant to prove the technology at working scale before the industrial hub is built[156].

Regeneration Hub One at Chemelot Industrial Park in the Netherlands was announced in May 2025. Once operational, it is designed to process the equivalent of 300 million textile articles annually and produce 50,000 tonnes of recycled monomer per year[156].

16.8.4 Financial Outline of Business Model

Reju's financial model is built around selling Reju Polyester to yarn manufacturers and ultimately to fashion brands at a premium over commodity virgin polyester. Reju's CEO has confirmed publicly that customers are already lined up before the industrial plant is built, stating that no plant would be constructed without upstream feedstock supply and downstream offtake both secured in advance[153].

The upstream feedstock supply chain is being built through partnerships with textile collectors and sorters. These partnerships represent the commercial model that SEs in a feedstock supply role could potentially participate in.

16.8.5 Marketing Presence

Reju's marketing strategy is built around industry credibility and institutional endorsement rather than consumer-facing campaigns. Reju's site selection for Regeneration Hub One was publicly endorsed by the Dutch Minister for Climate Policy and Green Growth, the CEO of Chemelot, and supported by the Netherlands Foreign Investment Agency, generating significant earned media coverage across sustainability, fashion, and industrial trade press[154].

Reju is actively cultivating relationships across the full value chain simultaneously, speaking with collectors, sorters, chemical companies, yarn manufacturers, and apparel brands, using this ecosystem-building approach as both a commercial and a marketing strategy[153]. The company positions itself not just as a recycler but as the builder of a new circular infrastructure that the whole industry needs.

16.8.6 Lessons and Learning

Several key lessons emerge from Reju's experience:

- The upstream feedstock supply chain does not yet exist at the scale needed and that is an opportunity. Reju's CEO has stated explicitly that the pipeline for collecting and processing textiles at the volume a chemical recycling plant requires is currently non-existent, and that building it requires signed partnerships with collectors and sorters across multiple countries. This is a signal that SEs operating in collection, sorting, and feedstock preparation are essential partners in the chemical recycling ecosystem.

[156] Innovation Origins - Reju to build pioneering textile recycling hub in the Netherlands (2025) Article

- Securing contracted demand and offtake agreements before building is a financial prerequisite. Reju would not build a plant without having upstream supply and downstream customer contracts secured in advance.
- Corporate backing allows for sustained funding and support. Reju moved from technology development in 2021 to demonstration plant in 2024 and industrial plant announcement in 2025, a four-year development arc that has required sustained capital investment with no commercial return. For SEs without a corporate parent, this timeline underlines the importance of securing patient capital. whether through social investment, EU structural funds, or long-term grant programmes, rather than short-cycle funding that requires rapid returns.

17 Business Model: Mechanical Textile Production

17.1 Description of the Model

Mechanical textile recycling is an industrial process in which collected post-consumer or post-industrial textile waste is physically broken down through cutting, shredding, tearing, and carding into recovered fibre that can be reused in new products[157]. Minimum chemicals are involved in the core process, and dyes are not removed, instead materials are pre-sorted by colour before processing to manage colour in the output.

Mechanical recycling via unravelling, garneting, tearing, or cutting and grinding is already a well-established technology, with a wide range of production capacities ranging from 5,000 to 36,000 tonnes per year[158]. Essentially all kinds of textile waste, material types, types of textile products, and fabric structures can be processed through mechanical recycling, though some technology holders focus on specific fibre types[158].

The majority of textiles currently sent for recycling in the UK and across Europe are mechanically recycled, where the used textile is processed into smaller pieces and then used in new textile-based products such as non-wovens, stuffing, and insulation.

17.2 Market Position

The business is not occupying a unique position. Industrial mechanical recycling operators have existed in Europe for over a century. However, the model is far from saturated at regional scale across most of the EU, and EPR-funded feedstock flows are creating new commercial opportunities for operators, including SEs, that can process at regional scale and supply consistent quality fibre to downstream buyers.

17.3 Products, Services and Customers

17.3.1 Products and Services

The outputs of mechanical recycling include:

- Recycled loose fibre or shoddy, used as stuffing and filling for mattresses, furniture, and acoustic panels
- Recycled yarn, re-spun from higher-quality single-fibre streams such as pure cotton, wool, or denim, sold to textile manufacturers for use in new fabrics
- Non-woven felt and technical textiles, produced through further processing of recovered fibre for the automotive, construction, and industrial sectors
- Wiping cloths and industrial rags, produced by cutting and grading salvaged fabric to commercial cleaning standards

[157] Sage Journals - Recent advances in recycling technologies for waste textile fabrics: a review (2023) Journal Article
[158] MDPI - White Paper on Textile Fibre Recycling Technologies (2024) Journal Article

Mechanical recycling processes generally include shredding waste textiles into small fractions, heavy carding in a garnet machine to release the fibres, and then re-spinning those fibres into new yarns[157].

Thermo-mechanical recycling can process blended textiles that cannot be recycled into new fibres, producing composite products and giving materials a new life. This approach offers a viable end-of-life pathway for otherwise problematic mixed-composition materials[158].

17.3.2 Customers

Customers are exclusively B2B. Small-scale mechanical recycling operations are suitable for local textile processing serving local market needs. Medium-scale facilities are designed for regional operations. Key target customers include insulation and automotive industries for recycled fibre and fill material, and apparel manufacturers for regenerated yarn and fabric[157].

17.4 Resource Requirements

17.4.1 Human Resources

A small-to-medium mechanical recycling operation requires staff covering textile intake and quality checking, manual sorting by fibre type and colour, machine operation and basic maintenance, quality control of output fibre, baling and logistics, and sales and customer account management.

The process of identifying and sorting mixed post-consumer materials and separating blended fabrics into single fibre types requires considerable time and labour, which is currently one of the main factors that makes post-consumer recycling cost-intensive. This labour intensity is a structural challenge but also a structural opportunity for SEs whose mission involves creating accessible employment.

17.4.2 Capital Resources

Small-scale operations processing 500 to 1,500 tonnes annually emphasise manual sorting with basic mechanical processing to serve local market needs, with minimal automation. Medium-scale facilities processing 3,000 to 8,000 tonnes annually balance automation with mechanised sorting and achieve good economies of scale for competitive positioning[159]. Fibre processing machinery represents approximately $450,000 as a foundational capital investment for a recycling operation[160].

Space requirements are industrial in nature. The operation needs a warehouse or industrial unit capable of accommodating feedstock intake and storage, sorting lines, mechanical processing equipment, finished product storage, and truck access for inbound and outbound logistics.

[159] Industry Today - Textile (Fabric Waste) Recycling Plant DPR & Unit Setup (2025) Blog
[160] Financial Models Lab - Textile Recycling Startup Costs (2025) Blog

17.5 Logistical, Environmental and Policy Factors

17.5.1 Logistics

- Feedstock arrives from post-consumer textile collections and from post-industrial pre-consumer waste from garment manufacturers in the form of cutting room offcuts, production scrap, and end-of-roll fabric.
- Output fibre, yarn, or felt is sold by weight and dispatched in bales or on rolls to B2B buyers.

17.5.2 Policy and Environmental Factors

- EU Textile EPR will provide new business opportunities and a larger market for used textiles to SEs involved in the collection and treatment of textiles. The measures will fund investments in capacity for separate collection, sorting, reuse, and recycling[161].
- EPR fees are eco-modulated, meaning producers pay less for durable and recyclable products, creating incentives for better design that in turn improves feedstock quality for recyclers[161].
- Less than 1% of all textiles worldwide are currently recycled into new products, against an EU ambition to reach 50% of textile waste recycled by 2030[161]. The gap between current practice and regulatory ambition is the market opportunity.

17.6 Main Market Challenges and how they are Overcome

17.6.1 Fibre Degradation Reduces Output Quality

A core technical limitation of mechanical recycling is that the physical tearing and shredding process shortens fibre length, weakening the recycled material relative to virgin fibre. The short fibre content limits the type of yarn spinning method that can be employed. SEs can adopt soft mechanical recycling, a newer approach that unravels fabric rather than shredding it, that preserves fibre strength and length far better than traditional garneting[162]. SEs investing in processing equipment should investigate soft mechanical recycling technology as a means of achieving higher output quality and therefore higher prices.

17.6.2 Blended Fabrics Cannot Be Effectively Separated

Mechanical recycling is most effective for single-material textiles such as 100% cotton. It is less effective for blended materials because the recycling process further degrades the already lower quality of the resulting material[163]. To ensure a quality standard, SEs should build their processing model around specific, well-defined feedstock streams. Building dedicated collection channels for specific fibre types, such as pure denim or pure wool, reduces the proportion of problematic blended material in the processing line.

[161] Carbonfact - Overview of All Textile Extended Producer Responsibility (EPR) Laws (2026) Blog
[162] Horizon - Keeping clothes in circulation: how EU research is transforming textile waste (2025) Article
[163] U.S Government Accountability Office – Textile Recycling Technologies Report

17.6.3 Low Output Value Relative to Operating Costs

The cost currently associated with collection, transportation, and sorting of post-consumer textiles is not always outweighed by the subsequent value generated through recycling. Identifying and sorting mixed post-consumer materials requires significant time and labour to make post-consumer recycling cost-effective without additional support mechanisms[164]. By moving up the value chain from loose fill to re-spun yarn or technical felt, SEs can increase the revenue per tonne of feedstock processed.

17.7 Summary: Potential for SE Development of this Business Model

Experts estimate that Europe could see five to ten large chemical recycling plants emerge, and that for every one chemical plant, approximately ten mechanical fibre plants will be needed to feed it with adequately prepared feedstock[165]. This indicates a long-term structural demand for mechanical processing capacity across Europe that vastly exceeds current supply.

EU EPR measures will provide new business opportunities and a larger market for used textiles to SEs involved in the collection and treatment of textiles. As national EPR schemes come online across EU member states by 2028, the funding flows available to certified mechanical recycling operators will increase substantially.

17.7.1 Investment Required

- Small-scale operations processing 500 to 1,500 tonnes annually can be established with manual sorting emphasis and basic mechanical processing. Medium-scale facilities processing 3,000 to 8,000 tonnes annually require more balanced automation with mechanised sorting to achieve competitive economies of scale.
- The foundational capital investment for fibre processing machinery is approximately $450,000, with a further $400,000 required if the operation extends to finished fabric production through weaving or knitting.
- Key EU funding sources relevant to this model include the EU LIFE programme for environmental innovation, Horizon Europe, the EU Just Transition Fund for regions with industrial restructuring needs, and regional structural and investment funds targeting circular economy development.

[164] MDPI - Fundamental Challenges and Opportunities for Textile Circularity Journal (2024) Article

[165] Renewable Matter - Europe Eyes Billion-Dollar Opportunity in Textile Waste Recycling (2025) Article