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# D5.1 Blueprint proposal to deploy take-back schemes for furniture WP5/Task 5.2

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# 1. VISION AND GOALS

## 1.1 The context

Why a blueprint on the take-back of furniture? Why introduce this 'foreign' element into the furniture business model? Because of the context of the climate and environmental crisis, which is also a resource crisis, and which poses new challenges to society, manufacturing sectors, politics and administrations. The take-back aim is indeed to reduce the environmental footprint of the furniture supply chain by extending the useful life of goods and raw materials.

To contrast the environmental and climate crisis, Europe has set itself ambitious goals, with carbon neutrality to be achieved by 2050. But Europe, despite the complexity of the new geopolitical scenarios, is not alone: people speak of the 'Brussels effect' to describe the fact that the European Union has become for other nations a kind of model that cannot be disregarded, and which must often be imitated.

Companies compliant with European sustainability regulations and the Green Deal are more innovative and competitive in global markets.

To talk about sustainable development can only make sense within the framework of the circular economy. The concept of circular economy is often misunderstood and its scope limited to the waste cycle and recycling of materials. This is why it is useful to recall the European Parliament's concise definition of it: "The circular economy is a production and consumption model that involves sharing, lending, reusing, repairing, reconditioning and recycling existing materials and products for as long as possible". The circular economy therefore starts with the design and production of goods put on the market with the aim of extending the life cycle of materials, helping to minimize waste.

Reusing products and recycling materials would slow down the use of natural resources, reduce landscape and habitat disruption and help to limit biodiversity loss. Another [benefit from the circular economy](#) underlined by the European Parliament is a reduction in greenhouse gas emissions. According to the European Environment Agency, industrial processes and product use are responsible for 9.1% of greenhouse gas emissions in the EU, while the management of waste accounts for 3.3%. Creating more efficient and sustainable products from the beginning would help to reduce energy and resource consumption, as it is estimated that more than 80% of a product's environmental impact is determined during the design phase. A shift to more reliable products that can be reused, upgraded and repaired would reduce the amount of waste. Recycling raw materials mitigates the risks associated with supply, such as price volatility, availability and import dependency. Moving towards a more circular economy could increase

competitiveness, stimulate innovation, boost economic growth and create jobs ([700,000 jobs in the EU alone by 2030](#), according to the European Parliament).

The Ellen Mc Arthur Foundation [indicated](#) 3 fundamental principles that guide the transition from the linear 'take-make-dispose' model to the circular model:

1. Eliminate waste and pollution;
2. Circulate products and materials (to their maximum value);
3. Regenerate nature.

Three principles that, the foundation emphasises, are guided by design.

This is the context and these are the key words to think about when referring to 'take-back of furniture', the subject of this blueprint. Outside of this context, one would lose not only the sense of choice, but also a significant part of the benefits.

## 1.2 A definition

The 'take-back' of furniture is related to sustainability and environmental responsibility. It refers to practices adopted by manufacturers or retailers that allow consumers to return old or unwanted products. This furniture can then be reused, refurbished, recycled or disposed of in a responsible manner. We can give a narrow or broad definition of take-back. The first concerns the business that offers the service to customers. The second also includes all the activities and collaborations that can be activated around this service activity, from those who do reverse logistics to those who sell used furniture, from those who recycle it to NGOs who donate it to those in need. In this blueprint, we will broaden our gaze to the broadest definition, which allows for maximum environmental and economic outcomes.

The main objective of take-back is to reduce the environmental impact of goods. This practice not only helps conserve natural resources but also promotes the circular economy, a more environmentally and economically efficient economic paradigm in which products and materials are kept in use for as long as possible.

Almost a quarter of the world's furniture is manufactured in the EU and around 10 million tonnes are sold in the European market ([European Commission](#)). About 10.000.000 tonnes of furniture is discarded in EU countries each year, the majority of which is destined for either landfill or incineration. Improving circularity in the EU furniture sector could potentially increase by €4.9 billion in GVA by 2030. Over 163,000 jobs could be created by implementation a full transition to a circular model in the EU furniture sector. ([Furn360](#))

## 1.3 The advantages of placing in complexity

Reflections on environmental sustainability and ecology, as recalled by the philosopher Edgar Morin (one of the fathers of complexity theory), were the first to bring out the central role of the concept of systems complexity. Only

by operating with the complexity of systems in mind will we avoid paradoxical effects that would contradict the sustainability goals we have set ourselves.

Transferring the concept of complexity from the field of knowledge to the field of service, design and operation of furniture supply chains, we can get useful pointers for companies that want to start taking back goods.

In our case, complexity refers not only to the furniture production chain (from design to raw materials to third-party supply to retail), but also to the other supply chains and services that intersect - or could positively intersect (symbiosis) - the new business models that take-back can bring:

- design
- logistics
- repair and refurbishment
- maintenance
- second-hand market
- recycling chain (plastic, wood, metals, textiles, upholstery)
- non-profit (from repairs and second-hand sales to donations to various sustainability initiatives).

This paper will therefore try to hypothesize the flows and actors that we could imagine as allies on the path to take-back.

## 1.4 Obstacles

On the pathway to widespread circular economy and take-back of furniture, both in the contract and retail market, several obstacles can be assumed:

- **Intrinsic obstacles:** While some panel producers have already incorporated wood recycling into their processes, exploring methods to extend product life (e.g. refurbishment) has not yet become a common aspect of the business model for many companies. Nevertheless, these practices may initially seem costly, they can create new business opportunities to the increasing consumer demand for sustainable and long-lasting products;
- **Economic barriers:** repair and refurbishment are manual labour-intensive activities, and are therefore expensive activities, especially in view of the availability of very cheap furniture on the market. The costs associated must be balanced against the potential revenue or savings from selling used furniture and recovered materials (plus any extended producer responsibility (EPR) contribution);
- **Regulatory obstacles:** France is currently the only EU countries that has implemented an Extended Producer Responsibility (EPR) scheme for the furniture sector, although other countries are working in this direction (e.g., Italy constituted a national consortium in October 2024, while Spain, the Netherlands, Belgium are now working on it). A fragmented approach to EPR regulations could lead to uncertainties and inconsistencies, hindering efforts to promote better circular practices and creating barriers to the European single market;

- **Regulatory compliance:** navigating the complex regulations regarding waste and recycled materials can be daunting and requires compliance expertise, especially for small and medium-sized enterprises (SMEs);
- **Cultural obstacles:** The majority of companies lack specific managerial skills related to the implementation of circular economy measures. A culture relating to the circular economy is also generally lacking at the various levels of public administration and among consumers, who (with a few exceptions, especially when it comes to furniture) are still unaccustomed to offers (products and services) that meet the principles of the circular economy;
- **Logistical complexity:** setting up an efficient collection and transportation system for bulky items like furniture can be logistically challenging and costly;
- **Consumer participation:** encouraging consumers to return used furniture instead of discarding it can require significant marketing efforts and incentives;
- **Technological requirements:** Implementing systems for tracking and managing returned items could involve substantial initial technology investments.

## 1.5 Levers

What are the prerequisites (economic, cultural, regulatory, infrastructural) for a successful take-back programme and for the transition to a more circular furniture economy? What does a company need? Taking into account the aforementioned obstacles, in this section we will describe the enabling factors for the transition: the different factors to be considered as part of a modular system to which new pieces can be added.

We can group the different factors into three different areas:

**Within the company.** Initiatives to be implemented at company level:

- Skills. Initiate consultancy and/or professional recruitment and/or training related to the circular economy and take-back;
- Context. Knowing what is happening around us is important. For this, it might be useful for companies to collect market data (e.g. on the demand for second-hand furniture; on the capacity of the national and local supply chain to process and recycle wood and the different materials used, ...);
- Best practices. Identifying and analysing the best practices of furniture companies;
- Defining the details of the take-back service;
- Enriching business models;
- Innovation, technological scouting and open innovation;
- Setting targets;
- Loyalty strategies;



- Measuring results;
- **Productive and social ecosystem.** Initiatives to be launched outside the company walls, extended to the entire production and social system:
  - Partnership;
  - Consumer information;
  - Learning from others. Furniture companies;
  - Learning from others. The other supply chains;

#### **Regulatory, administrative, infrastructural ecosystem**

- Extended Producer Responsibility (EPR);
- Ecodesign Regulation;
- Digital product passport;
- Green public procurement;
- Incentives.

## 2. WITHIN THE COMPANY

### 2.1 Skills

The transition from a linear to a circular economy model requires a significant transformation in both production processes and business mentality, and a number of specific professional skills are essential to achieve this. Several analyses have explored the role of professional skills (both transversal and sector-specific) in facilitating the transition from a linear to a circular economy model. For example, skills in sustainable design, materials innovation or managerial innovation.

The benefits that companies can achieve by using specific skills related to the circular economy are quantifiable in terms of operational efficiency, cost reduction, increased innovativeness, competitiveness and customer satisfaction, improved corporate image (including the attraction of professional talent) and regulatory compliance. Specific expertise in the circular economy – specifically related to take-back and furniture - can lead to cost reductions (see, for example, : [Business Review at Berkeley](#)) and increased innovation and competitiveness (see “[Designing a Circular Business Strategy That Works](#)”) core financial benefits (see “[Enhancing Business Performance through Circular Economy: A Comprehensive Mathematical Model and Statistical Analysis](#)”).

Some examples show how adoption of circular economy skills in furniture production can benefit the business. A notable example comes from the Swedish furniture industry, where the application of design strategies for disassembly has enabled products to be more adaptable to circular economy principles, facilitating processes such as repairing and reconditioning. This approach has shown how such practices can extend the useful life of products and reduce production costs, highlighting a positive correlation between the use of specific circular economy skills and improved business performance in the furniture industry (see “[Circular Furniture Design: A Case Study from Swedish Furniture Industry](#)”).

In addition, the [FURN360](#) project, examined the skills needed for the transition to circular business models in the furniture sector. This project identified and analysed 25 furniture companies active in the circular economy in Europe, collecting data on the skills needed to develop effective circular business models. The companies involved demonstrated how the use of such skills can not only improve sustainability but also increase business efficiency and competitiveness. According to FURN360, the key competencies needed to develop effective circular business models in the furniture sector include:

- Design for disassembly and remanufacturing: expertise in designing products that can be easily disassembled at the end of their life cycle, facilitating repair, reconditioning or recycling of components;
- Resource and waste management: skills in efficient resource management, including recycling of materials and waste minimisation;

- Product innovation and development: ability to innovate and develop products that not only meet consumer needs but are also designed with a long-term sustainability perspective;
- Life cycle analysis: knowledge in the use of life cycle analysis tools to assess the environmental impact of products throughout their life cycle, from production to end-of-life;
- Development of sustainable business models: expertise in creating and implementing business models that promote the efficient use of resources, extend the useful life of products and encourage reuse and recycling;
- Collaboration and partnership: ability to work effectively with different stakeholders, including suppliers, customers and environmental organisations, to promote sustainable practices;
- Leadership and change management: Ability to lead and manage the organisational change required to adopt circular economy practices, including staff training and business process modification.

## 2.2 Context

The productive, social and regulatory context plays a crucial role in the design of a new circular business model and take-back of furniture services, influencing both the feasibility and effectiveness of the strategies adopted. Carefully considering the context - its characteristics and dynamics - is essential in maximizing the chances of success and the sustainability of the business.

For example, assessing the existing or potential demand for refurbished or second-hand products is vital. In markets where there is already an acceptance or even a preference for used or refurbished products, a circular business can find a ready niche market. This also requires an analysis of product positioning and marketing strategies to attract consumers. Where to find this data? Chains of second-hand shops (for example in Italy [Mercatino](#) or [Mercatopoli](#)) provide data on second-hand furniture. While some platforms (such as [Subito](#)) provide information on sales volumes and trends, others, such as eBay, [Leboncoin](#) (very popular in France), [Gumtree](#), particularly used in the UK, or the Spanish app [Wallapop](#), do not. But not infrequently, market research companies such as Nielsen, Euromonitor and GfK conduct studies on European consumer consumption and preferences, including aspects related to second-hand goods.

Regarding reuse, recycling capacity and existing recycling infrastructure in the local context can be part of the thinking (for wood: in Italy, [Rilegno](#), which manages the end-of-life of wood packaging; in France, [Ecomaison](#) (see [3.3.3.](#)), which is mandated by law to manage the collection and recycling of used furniture, including wooden furniture; in the UK, the [Wood Recyclers Association](#)-WRA promotes and facilitates wood recycling). The same applies to different plastic polymers or metals.

## 2.3 Best practices

As we have seen when discussing competencies (2.1), reference to best practices is essential in order to capitalise on the experience of others, avoid their mistakes and exploit the lessons that can be drawn from those experiences, putting them in relation to one's own market, type of goods, and regulations.

Apart from the companies we will analyse later (3.4), there are several repositories of experiences of mobile circularity (and thus also take-backs) to draw from, including:

- the [documents](#) of the above-mentioned European project FURN360;
- EFIC [Collection of Circular Economy best practices](#) in the furniture industry;
- [FurnCIRCLE guidelines](#), containing 250 best practices;
- The Ellen MacArthur Foundation "[Case studies and examples of circular economy in action](#)";
- The EEB and Eunomia report "[Circular economy opportunities in the furniture sector](#)";
- the recent study "[Circular Furniture Design: A Case Study from Swedish Furniture Industry](#)";
- the [JRC study](#) which prepares the ground for the revision of the EU Ecolabel criteria for Wooden furniture.

## 2.4 Defining the details of the take-back service

What will the company's take-back look like? Before starting out, the characteristics of the service must be outlined.

For example:

**Choose which type of products.** For which products will the company provide the service? At the start, the service will presumably only be offered for a limited number (perhaps even one) of the company's products. The choice will fall on items which, on the basis of their design (materials, durability, ease of disassembly), could have a longer life cycle and which enable the company to reduce its environmental impact as much as possible. Thought will have to be given to the logistics of collection (in-store delivery? delivery to partners?)

**Choose the type of market.** Take-back is easier for the contract market. Working on large orders simplifies collection, repair, and second-hand management. The retail market, on the other hand, requires less standardised - and therefore more complex - solutions;

**Imagine the entire end-of-life cycle.** Once you have chosen the product(s), you need to plan for the entire end of life (from collection to repair and resale, from recycling to disposal). In planning, you should begin by selecting partners who will assist the company in managing the different phases (see 3.1.);

**LCA analysis.** Life cycle analysis (LCA) could help the environmental efficiency of the life cycle project. LCA could even suggest changes or improvements;

**Business plans.** Along with environmental efficiency, a business plan will allow verification of the economic viability of the project. A business plan should balance the cost of service (including customer incentives: see 2.8.) with the value of used furniture and recycled materials, with the advantages in communication and reputation.

**Rethinking design.** LCA will also enable improved furniture design: disassembly, durability, recyclability, recycling.

## 2.5 Enriching business models

When the core business of a company (in the case of a furniture producer: sales) loses its centrality (as in the case of those who choose to focus on take-back), it will obviously be necessary to combine sales with other businesses. And it is not only an economic issue, but also an environmental one. Servitisation in fact, i.e. the transition from possession to use, from sale to rental, is one of the central strategies for increasing the sustainability of consumption.

The Ellen MacArthur Foundation calls for servitisation as a key component of the circular economy, emphasising that it promotes environmental sustainability by reducing waste, extending product lifespans, and decreasing material consumption. By shifting from merely selling products to offering services, businesses can maintain control over the lifecycle of the products, facilitating better recycling and reuse.

Servitisation, which involves offering services alongside their products rather than merely the physical products themselves, benefits the environment in several ways:

**Waste reduction:** by minimising the need to produce new physical products, waste is reduced, and reuse and recycling are promoted;

**Resource efficiency:** servitisation incentivises companies to optimise the use of resources to extend the useful life of products, reducing the consumption of raw materials and energy;

**Reduced environmental impact:** with fewer goods produced and disposed of, CO<sub>2</sub> emissions and other negative impacts on the environment decrease.

Here are some of the services that could complement the sale:

- Rental
- Maintenance
- Repair
- Sale of used products
- Sale of spare parts
- Sale of recycled raw materials
- Advice on furnishing projects
- Advice on the donation of used furniture to charity.

Not all of these services need to be offered directly by the company, which could instead use partnerships (3.1).

## 2.6 Innovation, Technological scouting and open innovation

Technological scouting can benefit the company. By exploring and adopting new technologies, a company can enhance its processes for disassembling, refurbishing, and recycling furniture more efficiently. Technological advancements might include innovations in material recovery, biodegradable materials or modular furniture design, which can streamline the take-back process, reduce costs, and minimise environmental impact. This proactive approach in scouting and implementing new technologies supports the development of a more effective and sustainable circular business model.

Open innovation is defined by [Henry Chesbrough](#), who coined the term, as "a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology". This approach contrasts with the traditional "closed innovation" model where research and development are solely internal. Open innovation leverages external sources of innovation, such as customers, research institutions, and other companies, to bring new ideas and technologies into the business.

Open innovation could allow the company starting a take-back service for furniture to collaborate with external partners such as designers, suppliers, recycling experts, start-ups to develop more effective and efficient take-back processes. It can bring fresh, new ideas.

An example of technological scouting and open innovation in the furniture industry is Steelcase's partnership with Microsoft to develop creative workplace solutions that integrate technology with furniture design. This collaboration led to the creation of "[Creative Spaces](#)" — a range of spaces that incorporate advanced technology to foster creativity in the workplace. This project blends Steelcase's expertise in furniture with Microsoft's advanced technology.

## 2.7 Setting targets

Setting specific goals is very important. This helps in clearly defining the vision, measuring progress, and aligning internal efforts.

Goals should include:

1. **Collection Milestones:** define specific volume goals for the amount of furniture to be collected over time;
2. **Reusing and recycling targets:** set quantifiable objectives for the percentage of furniture reused or materials recycled from collected furniture;

3. **Customer Engagement:** Aim to increase customer participation rates in the take-back programme through awareness and incentive strategies;
4. **Sustainability Impact:** establish benchmarks for reducing the environmental impact, such as lowering carbon emissions and waste reduction through the take-back service;
5. **Cost efficiency:** set objectives to reduce operational costs and increase the cost-effectiveness of the take-back process.

These goals provide direction and metrics for success, making it easier to manage the programme effectively and demonstrate its value both internally and externally.

## 2.8 Loyalty strategies

To increase customer loyalty, a furniture company implementing a take-back service could offer benefits that not only incentivize participation in the programme but also enhance the overall customer experience and loyalty to the enterprise.

These benefits can be economic, experiential and value-based. Some examples:

- **Discounts and credits:** offer discounts or credits on future purchases in exchange for returning used furniture. This incentivizes participation in the take-back programme, but by building customer loyalty it also encourages repurchase;
- **Valuation and cashback:** valuing returned furniture and offering cashback based on its condition and value can reward customers to care for their furniture;
- **Exclusive membership:** create a membership programme for customers who participate in the take-back programme, offering exclusive benefits such as early access to new collections or special events;
- **Free design consultations:** offer free design consultations to help customers choose new furniture that fits perfectly into their existing spaces, thus improving the buying experience and perceived value.
- **Restyling services:** propose (also in partnership with others) restyling services for furniture that customers choose to keep, helping them to modernise or personalise it;
- **Repair and restoration workshops:** organise events (also in partnership with others) where customers can learn how to repair and maintain their furniture, promoting practical skills and a stronger bond with the product and the company;
- **Environmental transparency:** clearly communicate the environmental impact of the customer's actions, e.g. how many kg of CO<sub>2</sub> have been saved by recycling furniture;

- **Sustainability certificates:** provide certificates attesting to the customer's contribution to waste reduction and positive environmental impact, offering a sense of active participation and social responsibility.
- **Collaborations with non-profit organisations:** involving customers in initiatives that support social or environmental causes, such as the donation of used furniture to schools or associations;
- **Participation in reforestation projects:** linking furniture returns to reforestation projects or other environmental initiatives, showing how each participation in the programme contributes to a broader objective.
- **Questionnaires:** collect feedback from customers to continuously improve the service. Potentially, the answers can be useful for increasingly personalised customer management.

These benefits, if well designed and communicated, could not only improve customer loyalty, but also strengthen the company's reputation as a leader in innovation and sustainability in the furniture industry.

## 2.9 Measuring results

For a business launching a take-back service, measuring progress is important for several reasons:

- **Resource optimization:** Monitoring the amounts of materials collected and recycled helps optimise resource use and reduce waste;
- **Environmental impact assessment:** measuring progress allows the company to evaluate the effectiveness of strategies aimed at reducing environmental impact;
- **Continuous improvement:** tracking data enables the company to identify areas for improvement and adapt strategies to maximise the programme's effectiveness;
- **Customer trust and transparency:** providing regular reports on progress enhances transparency and can strengthen customer and stakeholder trust in the company's sustainability.

These aspects contribute not only to the operational success of the take-back service but also to the company's reputation and competitiveness.

How to measure progress? It would certainly be helpful to identify key performance indices (KPIs) to measure progress.

KPI might include:

- **Collection Efficiency:** Volume of products collected for reusing or recycling compared to the total amount sold;
- **Reuse rate:** Percentage of materials collected through the take-back service that are successfully reused;
- **Recycling Rate:** Percentage of materials collected through the take-back service that are successfully recycled;



- **Cost Savings:** Reducing costs by selling used products and using or selling recycled materials;
- **Supply Chain Integration:** given the central role of suppliers in many furniture companies, it might be useful to measure how much these suppliers participate in the company's circularity. An indicator could be the number of suppliers involved out of the total number of suppliers used; or the monetary value of the suppliers' circular services compared to the total savings/gains related to circular services;
- **Environmental Impact Reduction:** Measurable decrease in carbon footprint, energy usage, and waste generation due to circular practices. For individual models and all businesses;
- **Customer Participation Rate:** Proportion of customers who utilize the take-back service versus the total customer base.

## 3. PRODUCTIVE AND SOCIAL ECOSYSTEM

### 3.1 Partnership

As we will also see from the cases described in this blueprint, partnerships play a crucial role in the success of take-back initiatives. Both from a business and environmental perspective. Partnerships complement the company's expertise and operational capabilities (e.g., in repair, reverse and sustainable logistics, knowledge of the habits and spending capabilities of potential customers of second-hand furniture). They allow the service to be offered even where transportation emissions would otherwise cancel out the environmental benefits of giving furniture a second life, if the partners are located in areas far from where the company and its business units are. Here are some types of external partners and how they can contribute to successful service:

**Logistics, transport, removals companies.** Partnering with companies that specialise in reverse and sustainable logistics to optimise furniture pickup and delivery leads to improved efficiency in transportation processes, reduced costs and carbon emissions. It can also bring expansion of service reach, allowing access to more customers. Moving companies can also play an important role, at a time when businesses or people changing offices or homes want to get rid of furniture they no longer need;

**Associations of recyclers, recycling and waste management companies.** Collaborating with entities that facilitate operations in the waste world, and with facilities specialised in recycling materials such as wood, metal, and plastic can help ensure smoother management of collection and recycling processes; jointly find solutions to the management of problematic streams (padding; complex objects); and make the design of furniture more efficient;

**Companies and associations of companies selling second-hand goods.** Operators who sell used goods, including furniture, can be highly beneficial for a furniture manufacturing company looking to start a take-back service. Here's how:

1. Establishing networks: used-goods sellers have networks for redistributing items. A furniture manufacturer can partner with these operators to give a second life to used furniture;
2. Market insights: these operators have a deep understanding of consumer trends and preferences in the used-goods market. Furniture manufacturers can gain valuable insights into which products are more likely to be accepted in the second-hand market, helping to distinguish

furniture for reuse from furniture for recycling. Furniture manufacturers and sellers of second-hand could jointly draw up common guidelines for assessing the condition of furniture and deciding on the destination (reuse, repair, recycling);

3. Logistical support: used-goods operators typically have the logistics in place to handle bulky items like furniture, including transportation and storage. This could be very useful in case of take-back for the retail market. Collaborating with these operators can help furniture manufacturers manage the logistical challenges associated with large-scale take-back programmes;

**Local architects.** Constructive relationships with architects (of interiors, but not only) can be a way for a more widespread take-back service;

**Craftsmen.** Collaboration with designers, small local artisans, makerspaces can be useful in the case of upcycling services;

**Non-profit organisations.** Non-profit organizations that support social and environmental causes (from donating furniture to those in need to local initiatives such as tree planting) can provide the company with expertise and operational capabilities for initiatives in these areas: from donating furniture that cannot enter the second-hand market to engaging and retaining consumers to improving social reputation;

**Hi tech and digital companies.** Technology partners are essential to best implement different aspects of take-back, the circular economy of furniture and servitisation. Almost every stage of these processes can benefit from these collaborations; from advanced solutions to manage the return process and tracking of furniture to digital product passports; from the Internet of Things to enrich furniture with new sustainability-related functions (informative, educational), from maintenance to warehouse management apps;

**Integrated marketing and communication agencies.** Communication is invaluable to a company offering a furniture take-back service: to encourage broader use of the take-back service and cultivate a positive public perception and, by:

- Raising awareness: developing targeted campaigns to educate consumers about the availability and benefits of the take-back service, thus driving participation;
- Building brand image: crafting a strong environmental and sustainable brand image that resonates with eco-conscious consumers;
- Handling public relations: managing media relations to gain positive press coverage, which can increase service visibility and credibility.

**Universities and Research Centres.** By leveraging the knowledge, technologies, and research capabilities of academic institutions, a company can enhance its service offering, improve its sustainability credentials, and gain a competitive edge in the market. Collaboration with universities and research centres can be highly beneficial in several ways:

- Innovation: universities and research institutions can provide access to cutting-edge research and technologies that can enhance the efficiency and effectiveness of eco-design and take-back process, such as new materials easier to recycle or advanced recycling techniques;
- Sustainability assessments: academic partners can help conduct life cycle assessments and sustainability audits to better understand the environmental impact of innovation as the take-back service and identify areas for improvement;
- Consumer behaviour studies: researchers can analyse consumer behaviour and attitudes (also through company surveys: see 2.8.) towards sustainability, take-back, second-hand furniture and recycling, providing insights that help tailor the service to better meet customer expectations and increase participation rates;
- Pilot projects: collaborative projects can serve as pilots or case studies, testing new ideas in a controlled, academic setting before full-scale implementation, reducing business risk;
- Grants and funding: universities often have access to grants and funding opportunities not available directly to businesses, which can support joint sustainability initiatives or research projects.

**Other supply chains.** Collaborating with other supply chains (from example the mattress one) can be useful to create an industrial symbiosis for the sustainable management of furniture end-of-life (in the case of mattress, the end of life of upholstered furniture, from chairs to sofas).

## 3.2 Consumer information

For the successful implementation of a furniture take-back service, consumer information is crucial. Information helps consumers understand the importance and benefits of returning used furniture, such as environmental protection and cost savings.

Consumers need detailed guidance on how to participate in the take-back program, including what items are eligible, how to return them, and the benefits of doing so. Informative campaigns can raise awareness and increase participation rates by highlighting the environmental impact and personal benefits, such as discounts on future purchases or direct compensation (see 2.8). Information can help consumers to prepare furniture

for return, ensuring that the items meet the take-back criteria, which enhances the efficiency of the recycling or refurbishing process.

Some companies may also provide training to consumers, regarding how to keep their furniture healthy and how to update them in line with evolving design.

### 3.3 Learning from others. Furniture companies

If others have already done it, it is important to know how they did it and what strategies they chose to offer a successful service. Not many furniture companies offer take-back services, but for those entering this world it can be very useful to observe the work done by others to emulate successful choices and design a service tailored to their own company.

On the following pages some cases in point.

### 3.3.1 Ahrend

**Ahrend** is a Dutch furniture company focusing on office and workspace solutions. Founded in 1896 by Jacobus Ahrend, the company controls brands such as **Gispen**, another Dutch furniture company specializing in solutions for offices, educational institutions, and healthcare environments; Presikhaaf, a social enterprise providing employment opportunities for individuals with disabilities or those facing challenges in entering the traditional job market, it focuses on a wide range of activities, including industrial production and assembly, manufacturing school furniture, and offering cleaning and maintenance services; or **Techo**, a furniture manufacturer in Central and Eastern Europe, specializing in office furniture and integrated workspace solutions.

Ahrend is a pioneer of the circular business model, its furniture is modular, lightweight, designed according to sustainable design principles and easy to disassemble. The Dutch company is committed to sustainability, aiming to reduce its environmental footprint through responsible sourcing (by choosing recycled materials that are also recyclable), energy-efficient production methods, and offering product-as-a-service models, which allow for flexible leasing and refurbishment of furniture, aligning with its circular economy goals. Ahrend circular services:

**Circular Advice.** With Circular Advice, Ahrendt help clients create a more environmentally-friendly workspace while using what they already have. It advises clients on how to redeploy furniture; it assesses which pieces are suitable for upgrading, tailored to their needs. It also checks which furniture from its Revived Collection is available (see below).

If the furniture is no longer required later, The Dutch company collects the reusable furniture items and has them refurbished by its Circular Hub. Ahrend interior design studio can also create a layout plan for the workspace, tailored to the organisation's needs.

**Circular Hub.** Circular Hub is where Ahrend provides used office furniture a new lease of life, extending the lifespan and contributing to the circular economy. So far, the Circular Hub has refurbished over 100,000 pieces of furniture. The Hub is a professional production site for revitalising used furniture—including reupholstering and painting. A diverse team of 25 experts, including circular consultants, revitalisation specialists, furniture brokers combine their expertise and skills here.

Depending on the client's needs, the Circular Hub offers various services:

**Furniture take-back.** Ahrend takes back existing furniture that clients no longer need. It then inspects the furniture and refurbishes where necessary, and ultimately offers the product as new through its Revived Collection to the next customer;

**Revived Collection.** The Revived Collection consists of refurbished office furniture that meets the same ergonomic standards, quality, and safety requirements as new furniture. The refurbished furniture collection is available from stock, suitable for both small and large orders;

**Project-based refurbishment.** Circular Hub refurbishes clients' used furniture to make it as good as new, or change the function or specifications of the furniture. The staff might repurpose a chair base for a side table or customise desks, for example;

**Warranty.** Ahrend gives the same warranty to refurbished furniture as new furniture. To achieve this, it works with skilled craftspeople who specialise in upholstery, painting and powder coating. It uses original parts and collaborate with R&D specialists to add new components that meet the latest ergonomic standards;

**Asset Management.** Ahrend Asset Management System is a smart tool providing insight into the location, type, state, purchase and current value of customer's furniture. It is a tool for the management and maintenance of furniture. Ahrend identifies furniture with a unique QR code and RFID tag, which are linked to the Asset Management System. Customers have real-time insight into the status of furniture, allowing them to efficiently manage and maintain furniture too. By RFID, customers can scan their furniture with the RFID hand scanner and get detailed product information about the status and value (if, for example, preventive maintenance is necessary). In case of damage, customers can easily report this via the QR code on the product, therefore, optimising life-cycle management.

**Furniture Service Team.** The Furniture Service Team takes total responsibility for the organisation, planning and execution of the entire furnishing process: delivers, assembles and installs management for Ahrend, Gispen and Presikhaaf; provides service in the case of problems or complaints; provides maintenance and management; takes care of cable management and Asset Management; offers a relocation service and temporary storage;

**Furniture as a Service.** Ahrend "Furniture as a Service" is like a marketplace for furniture, where customers lease furniture, use it, then return it then it is refurbished in the Circular Hub and redeployed to other customers.

Furniture as a Service is a subscription in the form of an operational lease. Which means Ahrend remains the owner of the furniture and customers only pay for the period they use the product. They keep their working capital available for the core activity. Ahrend visits clients every two years to check products functionally and aesthetics.

Furniture as a Service allows client to return or add products monthly. The minimum term of Furniture as a Service contract is 24 months: the offer includes prices from 24 to 120 months for all the Ahrend furniture.

At the end of the contract, Ahrend will collect the furniture, and refurbish it if necessary to provide a second life with another customer.

### 3.3.2 Arper

Arper is an Italian company founded in 1989 and specialised in the production of design furniture for residential, office and public spaces, especially for the contract market. At the Salone del Mobile 2024 in Milan, it presented its take-back service for the *Catifa carta* chair (but the aim is to extend the project to other products). After measuring its CO<sub>2</sub> emissions, Arper has set itself the goal of reducing its carbon footprint by 42% reduction of Scope 1-2 and between 25%-42% reduction of Scope 3 emissions compared to 2022 within 2030, in line with the targets set by the Science-based Targets Initiative. The take-back is part of a broader strategy of decarbonisation, sustainability and circularity that starts with design and also includes refurbishment and rental.

**Design innovation.** *Catifa Carta* is the reinterpretation of *Catifa 53*, a bestseller launched by Arper in 2001 (designer: Lievore Altherr Molina) and the brand's first product to achieve an EPD certification. It is the result of a collaboration with the Swedish start-up PaperShell.

The shell of *Catifa Carta* is made in PaperShell, a composite material made from 29 layers of "kraft paper" and natural resins. No trees have been cut down to produce PaperShell, but wood production residues (sawdust, shavings) and wood by-products are used. PaperShell therefore contains the CO<sub>2</sub> that the trees from which it is derived have removed from the atmosphere.

To prevent this carbon dioxide from returning to the atmosphere after the product has fulfilled its function, Arper has designed an end-of-life management system that includes take-back. In this way the chairs will not end up in landfill or incineration but will be subjected to pyrolysis. Through a life cycle assessment (LCA) Arper has attested that the simple material substitution can reduce CO<sub>2</sub> emissions by up to 39% compared to the incineration of a polypropylene *Catifa 53*, while the pyrolysis scenarios, currently under evaluation, aim to demonstrate the carbon-negativity of the shell.

Of the pyrolysis products, oil is used as fuel, syngas to fuel the process itself, and biochar, which retains most of the carbon, is produced and sold by Stena recycling, the third actor of the partnership. Biochar can indeed be used in agriculture (it is indicated, with certain precautions, to increase carbon sequestration and improve soil fertility) but it is also used, for example, in construction, environmental remediation, and veterinary medicine.

**Take-back.** To make *Catifa Carta* a more sustainable product than other items in polypropylene, it is essential that its life cycle is closed with pyrolysis. To ensure this, take-back is of the utmost importance: because it prevents chairs from ending up in landfills or incinerators and the stored CO<sub>2</sub> from returning to the atmosphere.

While the steel legs are sent to the specific recycling market, the shells are now sent to Sweden for pyrolysis managed by the Swedish partners. In a few years, Arper's goal is for the whole process to be handled more efficiently without the need for products to travel hundreds of kilometres to be treated.

To date, the take-back is a cost for the customer, who has to pay for the shipping the used furniture. But the company rewards him with a credit that is



assessed and recognised on the next purchase of an Arper product, contributing to the loyalty process and making the return as attractive as possible.

**Repair.** Repair and refurbishment are part of Arper's circular strategy. Given the increased availability of spending on refurbished products verified in northern European countries, Arper has chosen to start with pilot projects in Benelux, but with the aim of reaching agreements with partners in other regions to build a Europe-wide network. The service covers all Arper furniture that can be repaired and is ensured through a partnership with [Workbrands](#), a Dutch company selling office and workspace furniture, repairing used furniture and offering one of the largest second life stock in the Benelux. Generally, only the most complex tasks (e.g. replacing polyurethane upholstery on sofas) are carried out in Italy.

**Leasing.** Thanks to the partnership with Grenke - one of the leaders in operational rental - Arper also provides its customers with the option of renting its products instead of buying them. An advantageous choice for those who do not want to tie up capital in activities far from their core business.

At the end of the rental period, the furniture is the property of Grenke, but Arper has a right of first refusal on redemption, which will enable it to fuel future refurbishment projects. An important role in the spread of this modality (pay-per-use) is also played by architects, with whom Arper also collaborates.

**Partnerships.** The whole process of making Catifa Carta more sustainable, as we have seen, is based on a series of collaborations that allow Arper to close the circle of chair production and consumption: PaperShell for the Catifa Carta shell, Stena for biochar management, Grenke for leasing and Workbrands for repairs.

**Digital Product Passport.** Digital provides new tools (those of augmented reality) to enrich products with information that previously we would have had to look elsewhere. Each Catifa Carta chair has a QR code that provides full details on material composition, maintenance requirements and how to handle the return at end-of-life.

### 3.3.3 Ecomaison (and the French circular economy laws for furniture)

Created in 2011 by 24 French furniture distributors and manufacturers - then under the name Eco-mobilier -, [Ecomaison](#) is a simplified public limited company (Société par actions simplifiée - SAS) state-approved to organize the collection, sorting, reuse and recycling of some products, including furniture. It supports producers, distributors and marketers in fulfilling their Extended Producer Responsibility (EPR) obligations.

Extended Producer Responsibility was introduced in France by the "[Grenelle II" law](#) (july 2010, in force for furniture since January 2013). Moreover, the Anti-Waste for a Circular Economy law – [Loi Anti-Gaspillage pour une Economie Circulaire](#)–AGEC, promulgated on February 10, 2020 – intends to “break with the logic of the linear economy” going beyond products end-of-life. In fact, the AGEC law requires producers and marketers to contribute to the prevention and management of waste from products; to adopt an eco-design approach; to promote the extension of a products' lifespan; to support reuse, re-use and repair networks; to contribute to development aid projects in waste collection and recycling.

The law requires enterprises to [take back](#) used products from customers free of charge, when enterprise annual sales are equal to or greater than €100,000 excluding VAT. Retailers must offer a "1 for 1" and "1 for 0" trade-in service (the obligation also applies to sales made solely online). The take-back obligation applies to distributors of furniture, bedding, toys, do-it-yourself and garden products. Today, indoor and outdoor furniture, design elements (such as dressing rooms, worktops, panels, shelves, baskets, boxes, ...), bedding and sleeping equipment, curtains and carpets and all accessories for the above products fall under the EPR system.

Now made up of 68 shareholders from the furniture, bedding, DIY, garden, toy and building sectors, Ecomaison offers solutions for legal compliance with French laws and to help firms with a take-back service through financial and logistic support, team training, communication, annual report, regulatory watch. Some examples:

**Self-diagnosis kit.** Helps companies identify take-back obligations, based on sales areas, the products concerned, delivery sales and the size of products;

**Waste collection.** Ecomaison optimizes the organization of waste collection with access to more than 8.600 collection points digitally mapped all over France (associations, third-party outlets, post offices, relay points and coworking spaces, ...), 2600 retail chains equipped with collection bins and permanent skips at public partner waste collection centres or with private waste operators. Even [craftsmen](#) must comply with the law by ensuring the management of waste from work and renovations on their sites. To organize collection Ecomaison works with numerous partners;

**Industrial Symbiosis.** Ecomaison finds outlets for recycled materials: wood, metal, foam, plastics.... For example, it is the leading supplier of recycled wood in France, with 800,000 tonnes a year. It works with innovators and industries to ensure that all the materials taken are recycled effectively, so that they can be used in the manufacture of new products;

**Donating partnerships.** The French anti-waste law for a circular economy prohibits retailers from destroying unsold new products. They must therefore give priority to offering the unsold products to associations working to combat poverty and to social economy organizations. Ecomaison collaborates with 600 partners of the Economy Social and Solidarity (SSE) for re-use. Subjects reuse 140 000 tonnes of furniture per year. Ecomaison creates local links between retailer members and SSE players. On the one hand, retailers recover used products as part of their take-back service, while on the other, associations have access to a high-quality, local source of materials. To help firms meet this obligation, Ecomaison has created a [donation platform](#) to put distributors of furniture in touch with its partner associations;

**Local authorities.** To improve circular economy for furniture, providing accurate information to the public is essential. Here too, Ecomaison supports [local authorities](#) in sorting waste at waste collection centres;

**Repair bonus.** The repair bonus is a discount applied directly to the consumer's bill by [Ecomaison-labeled repairer](#). It applies only to broken furniture and objects no longer covered by warranty, and is designed to restore them to working order;

**Ecodesign.** Ecomaison support companies in the eco-design of their products and services, to limit their environmental footprint. Ecomaison has a programme dedicated to this subject: [Innovation for Eco-Design](#).

### 3.3.4 Haworth

Founded in 1948, [Haworth](#) is a family-owned \$2,5 billion global company, leader in the contract furnishings industry with design centres in Italy, Germany, China, and the US.

At Haworth, it is evident how the take-back service is part of a broader differentiation of business models - the company offers various services related to furniture - and a circular approach that starts from design.

**Take-back and buy-back.** Haworth International (i.e. EMEA and Asia Pacific) offers several possibilities for clients' used furniture: take-back used products as courtesy to the client or part of a Second Life program (Take-back) or by paying the product's residual value (Buy-back) to resale it on the second-hand market after refurbishment.

Taking back used furniture can be part of the initial contractual purchase agreement between Haworth and the client when new Haworth products are bought. The agreement specifies timeline and terms for product use and subsequent take-back of Haworth products, including pricing/cost indication. Haworth also offers take-back for clients' non-Haworth used furniture products. Haworth chose to start a massive take-back program with office chairs, where their customers' most recurring needs lie, especially for the Zody chair, which has been one of their world's bestsellers for over ten years.

Determining any take-back costs as well as potential buy-back value is based on the product's depreciated value (purchase price, age, condition), costs for take-back, and marketability of the product on the second-hand market.

The used products are collected by Haworth from the customer location, shipped to Haworth plants or to its local partners where they are subject to quality checks, condition assessment and identification of components that need to be switched. Then the final buyback value is determined, that turns into credit to be spent on Haworth products. The product is cleaned and refurbished and then resold.

**Circular design:** Haworth products are designed with replaceable wearing parts and easy dismantling. Individual component identification and preference of reversible bonding mechanisms facilitate high value reuse and recycling options.

[Haworth Cardigan Lounge™](#) for example (by Studio Urquiola) is made of a biomass foam seat, a digital knit with recycled PET yarn; that can be effortlessly disassembled because no glue or adhesives is used, all parts are attached with reversible bonding (only 6 screws and a tool are necessary for assembly).

**Circular services.** Haworth offers its customers all-round furniture-related services:

**Relocate:** physically move products between client's premises

**Clean:** free products from any dirty marks and other unwanted pollution or particles

**Repair:** refit damaged or malfunctioning products by replacing broken parts or solving technical failures

**Refurbish:** refit and clean used products by replacing or reconditioning worn-out parts. After refurbishment, the product is shipped back to customer location

**Remanufacture:** adjust or upgrade used products to alter its original functionality

**Recycle:** disassemble used products by separable materials and transfer to waste treatment facility

**Resale:** sell used products on the second-hand market to another user. Together with local partners and depending on product marketability, Haworth can offer product resale to the second-hand market. Haworth assists its clients with resale or donation of used products, when purchasing new Haworth products.

**Donate:** hand-over used products as courtesy to a charitable organization for further use. Haworth assists its clients with resale or donation of used products, when purchasing new Haworth products. Haworth can also assist clients in locating credible and suitable non-profit organizations across the globe for asset donation.

**Lease o rent:** Depending on project location and scope, Haworth also offers financial furniture use models for its clients, such as through product leasing (regular payments for product use, with the option to purchase products at the end of a specified period) or renting (regular payments for product use, with plan to return products at the end of a specified period)

**Logistics:** in order to balance the benefits of the Second Life program with the negative impact of logistics, Haworth initially aims to support second life programs within 1600 km of the manufacturing facilities of the partners: Haworth facilities in Portugal and Poland can support the vast majority of Europe with in-house refurbishment. In Asia Pacific, that radius includes most of their sales in India and China; for the markets not within that radius, Haworth will identify trusted local refurbishment partners.

The markets where Haworth have plants, they can do the refreshment in-house. In those markets where Haworth does not have a plant, they will find a local partner.

**Partnership:** partnerships with local organisations specialising in the different areas of circular services are an essential aspect of guaranteeing customers the services indicated. To integrate used furniture into the circular economy Haworth works with a network of used furniture brokers and other partners to fully capture the highest value options for used furniture.

Among partners are for example [Rype Office](#) (Furniture Renewed, UK) or [Label Emmaüs](#) (FR): Haworth partners with Label Emmaus in France to [refurbish used Zody chairs](#) (a best-seller) working with people far away from the labour market. Haworth also works with other local partners in France, the UK and the Netherlands.

### 3.3.5 IKEA

IKEA is a global retail giant known for its flat-pack furniture, home accessories, and Swedish design. IKEA has implemented several circular economy and sustainability programmes, with a focus on take-back, extending the lifespan of furniture thanks to replacement of worn parts, and resale initiatives. The Swedish company is one of the few offering a take-back service for the retail market. Globally, in 2019, IKEA gave 39 million recovered products a second life.

**Second-hand Service (Buyback).** IKEA buys used furniture and sell it on the “Second chance market”. The buyback service - tested in Edinburgh in 2019 - is only for used IKEA furniture that’s fully assembled and hasn’t been modified in any way. Not all furniture is eligible for service: for example sofas, armchairs, kitchens, cots, upholstered products, products that include fabric, leather, glass are not. Online you can find a guide price, which gives you the maximum amount IKEA will pay for the furniture. All furniture must be clean, fully assembled and taken to an IKEA store. In-store staff offer the final buyback price. The furniture will be offered for sale on the second-hand market, and customers will receive a voucher corresponding to IKEA's evaluation that can be spent - indefinitely from the date of issue - online or in any store.

**Second-chance market.** In all IKEA stores you can find “pre-loved” products. IKEA, within its own shops and digital platform, offers the possibility to buy second-hand Ikea goods. The second-chance market is filled with ex-display items, products that are being discontinued and furniture bought back from other customers through the buyback scheme. Consumers can browse some of the products in the online second chance markets and reserve them for 48 hours, then pick them up in the selected store.

**Spare parts.** IKEA helps consumers to extend the lifespan of furniture. It guarantees over 4,000 spare parts. People can order small spare parts (such as screws, knobs or plugs) for free online: they will be delivered directly to the customer’s home address in approximately 3 to 5 business days.

For larger parts IKEA has many furniture spare parts available for free. They can be obtained by asking at a local IKEA store or by contacting customer service centre. These are only available when items are still under warranty.

**Guides.** Besides selling, Ikea also assists the customer - at least digitally - after the purchase. Don't know how to assemble a piece of furniture or how to operate a smart product from IKEA? Need guidance on maintenance? Dozens of manuals can be found on the Swedish company's website.

**Partnership.** Thanks to its partnerships, IKEA offers customers a lot of services around furniture: from transportation to cleaning. If purchases are too big or too heavy to be transported by customers, they can use vans from Ikea’s service partner Europcar. Cabinets or beds are collected and returned directly by the IKEA stores. For the assembly of the furniture IKEA relies on the partner Taskrabbitt. Taskrabbitt is a service platform that connects customers with a network of independent “Taskers” who take care of almost everything revolving around furniture, from assembly to home repairs, from moving to cleaning services.



**Branded platform for peer-to-peer second-hand selling.** IKEA's commercial and reputational strength allows it to compete with Ebay in online consumer sales of used products: [in 2024](#) the Swedish company announced a peer-to-peer sales platform for its used products. The platform will be tested in Madrid and Oslo, but IKEA announced that its goal is to expand the service to all markets.

### 3.3.6 MillerKnoll

MillerKnoll is a collection of global furniture brands, including Herman Miller, Knoll, Colebrook Bosson Saunders, DatesWeiser, Design Within Reach, Edelman, FilzFelt, Geiger, HAY, Holly Hunt, Muuto, NaughtOne, Spinneybeck. The group was formed through the merger of Herman Miller and Knoll, that in 2021 brought together two leaders in design and manufacturing of workplace and home furnishings.

In 2009 Herman Miller launched the rePurpose program in North America, to give surplus furniture, supplies, and equipment new life. Today, the service is extended to all the group's brands. Demand for rePurpose continues to grow and, according to the company, has diverted up to 98% of products from landfills.

RePurpose is part of a wider project focusing on sustainability: from design to buildings from servitization to transport to materials.

**Design:** The latest products from across MillerKnoll brands demonstrate commitment to cradle-to-grave design. This includes the Ever Sofa by NaughtOne: the brand's first upholstered product made to be easily disassembled and recycled at end-of-life. Designed by Ric Frampton, it began with the end in mind, and Ever's responsibly sourced materials can eventually be easily separated with simple tools for proper recycling. After the sofa reaches the end of its long life, which is backed by a 10-year warranty, simply return it to NaughtOne via the take-back Program.

Similarly, Knoll's Life Chair reflects the brand's commitment to sustainable design. Made with recyclable material, easily replaceable components, and a high volume of recycled content, the Life Chair facilitates component replacement rather than requiring the entire chair to be replaced.

**Services:** MillerKnoll offers several circular services to its customers:

**Relocate:** MillerKnoll moves furniture within customers' organizations to extend its useful lifecycle in a new space;

**Resell:** The group assesses existing furniture with vendor partners to obtain its highest value;

**Reuse:** MillerKnoll coordinates the donation of used furniture and equipment to non-profits. In 2023, over 300 non-profits and community organizations received donations.

**Recycle:** The used furniture and equipment that cannot be sold or donated are recycled, renewing other materials and keeping them out of landfills. Since May 2013, rePurpose has diverted 25,679 tonnes of office products from landfills.

**Take-back:** The rePurpose program extends the life of furniture, accepting items not only from MillerKnoll but from any manufacturer or brand.

The rePurpose process is designed to mitigate labour costs associated with dismantling, preparation and sometimes transportation. To reduce these costs, MillerKnoll assesses existing furniture and works with vendor partners to maximize value. When assets are transferred to the buyer, an immediate transfer of title eliminates corporate liability, and detailed environmental





reporting provides documentation for LEED certification and other social accountability requirements.

Additionally, donation is considered as a third option: although recipients do not pay for the surplus, donating can still result in cost savings.

Customers can learn about the MillerKnoll rePurpose program by visiting the programme's webpage. Information about the programme has also been published in "Better World Report" and various newsroom stories.

The timeframe in which customers typically request take-back services varies, but BIFMA research from several years ago indicated an average of 7 years.

RePurpose is currently a contract programme, typically requiring around 30 workstations per project to be financially viable. 22% of the items processed through the program are recycled, with the balance being reused, donated, or relocated.

**Partners:** Partnerships are crucial to the success of the take-back and rePurpose programme. RePurpose diverts the assets to a network of non-profit organizations in need of furniture, as well as retailers and recyclers. MillerKnoll partner with Installnet, which provides solutions for office furniture installation, leveraging a network of more than 350 service providers throughout North America including recyclers, liquidators, and non-profits. For example, furniture owners can contact Installnet or MillerKnoll directly via email to arrange collection. Installnet helps MillerKnoll clients manage the de-installation and disposition of furniture.

The shared network of organizations in need of furniture, along with reporting, are key components of the programme.

**Green buildings:** MillerKnoll has many certified green buildings across its global footprint, including WELL Platinum Retail Headquarters and GreenHouse facility in Holland, MI, which has earned a LEED Pioneer building award.

**Sustainable shipping:** MillerKnoll's HAY brand has invested in carbon-neutral shipping in Europe and Asia Pacific by partnering with Maersk ECO Delivery, a system powered by fuel made from recycled biomass.

### 3.4 Learning from others. The other supply chains

Although these are goods of a very different nature, experience in end-of-life management and extended producer responsibility in other supply chains (e.g. electrical and electronic equipment and textiles) may also provide useful pointers for the dissemination and effectiveness of furniture circularity initiatives and policies.

Let's see what furniture companies could learn.

#### 3.4.1 Waste Electric and Electronic Equipment (WEEE)

**Communication.** The collection of electrical and electronic waste in several European countries has low rates of adherence by consumers. There has evidently been a failure to communicate the ethical value of not abandoning or sending electrical devices to landfill waste; not only from an environmental impact standpoint (the environmental importance of sorting phones, remote controls, microwave ovens etc); but also, the economic and strategic importance.

Communication about furniture circularity will need to leverage all aspects: economic (for people and countries), environmental, but also the ethical value of 'adopting' used furniture - or allowing someone to adopt their own - (see 3.1 and 3.4.2).

**Collection Points.** The furniture industry can also learn from the e-waste sector in the importance of effective use of collection points. Another weakness of some systems for managing the end-of-life of electronic products is the scarcity of collection facilities for this type of waste.

Collection is only effective if it is easy and within reach. Even if today the collection of used furniture by companies is mainly related to the contract market, it is very important to extend the take-back to the retail market as well, by making the return of furniture easier. To do so, a widespread system of furniture collection points will be crucial. This can be achieved, for example, by establishing convenient drop-off locations or partnering with local institutions, waste management companies or with large shops selling used products that have large display areas in the heart of cities (see 3.1.).

**The Italian platform for mobile phone repair.** WeFix.it is an Italian platform that can be considered a "Booking" for mobile devices repair, where independent repairers can connect with clients needing repairs for phones, tablets, and PCs. Founded in 2007 in Rome as iFix-iPhone, the company initially specialized in mail-in repair services for iPhones and iPads. As the smartphone market grew, the service expanded to include high-end Android devices, evolving into a repair network offering quick 30-minute repairs.

WeFix.it rebranded from iFix-iPhone in 2023, now boasting a network of 285 repairers across Italy and performing over 4,500 repairs monthly. The platform ensures repair shops are quick, use high-quality parts with a 12-month guarantee, provide quality service, validated by customer ratings.

The business model includes a free-to-use website for customers, while repairers pay a subscription fee. Significant revenue comes from consulting services, with data analytics offering insights into repair trends which are sold to insurance companies and other businesses. Additionally, WeFix.it advises repair shops on managing imports, competing with large retailers, and improving service efficiency, significantly boosting their client base and operational effectiveness. This innovative approach not only supports small businesses but also fosters a robust ecosystem around sustainable device repair, contributing to the circular economy.

WeFix.co.uk is an excellent example of how digital tech can make the circular economy more widespread, easier for consumers, and, therefore, cost-effective for businesses (in this case, repair businesses).

### 3.4.2 Textile. Patagonia

Patagonia is an American outdoor clothing company known for its commitment to environmental sustainability and ethical manufacturing practices. The brand is renowned for producing high-quality gear for climbing, surfing, skiing, and other outdoor activities, while actively engaging in environmental protection and donating a portion of its profits to conservation efforts.

Its concern for the environment also includes a policy that favours repair to extend the lifespan of its products.

This policy is achieved through a mix of digital and physical solutions, with the underlying message sent to customers, to love the products (it is not only an environmental and economic issue, but also an emotional one, as [Byung Chul Han](#) recalls).

Through the information on [its website](#), tutorials on Vimeo and iFixit (see below), customer care, and its own repairers, the company has built a process that allows you to assess the damage sustained by your product, repair it yourself or have it repaired by Patagonia.

Patagonia doesn't charge for most repairs, but more technical items (like wetsuits, waders, etc.) may be subject to a repair fee. By contacting customer service, it is possible to repair small holes or tears yourself: the company will send a patch kit to do it.

If you cannot fix your product yourself, the broken item can be handed in to a store or sent by mail (the shipping cost being covered by customers, while the repair work - in most cases - is covered by Patagonia).

Visiting a Patagonia-owned store, the staff can perform minor repairs in-house, guide customers through self-repair or send the broken item to a Patagonia repair team. For those who don't live near a store, Patagonia encourage you to check out the "Repair & DIY Tutorials" to see if self-repair is an option. Several care and repair guides can be found on the [Patagonia website](#).

Collaboration with iFixit is important for the success of the service. [iFixit](#) is a company that provides free guides for repairing products, usually electronic products, and sells tools and parts to help individuals fix their own devices. Known for its open-source repair manuals and strong advocacy for the right to

repair, iFixit aims to reduce electronic waste and extend the lifespan of consumer products by empowering people to repair their own gadgets.

## 4. REGULATORY, ADMINISTRATIVE, INFRASTRUCTURAL ECOSYSTEM

It is well known that regulations impact business performance. The implementation or application of regulations such as Extended Producer Responsibility, Ecodesign Directive, Digital Product Passport and a strengthened Green Public Procurement can significantly impact a company planning to launch a furniture take-back service. Of course, even taxation and incentives can influence furniture circularity initiatives.

These regulations can help align company strategies with sustainability goals, creating a more favourable environment for launching take-back services.

Let us quickly review the various regulatory innovations that may have a positive impact on potential take-back services.

### 4.1 Extended Producer Responsibility (EPR)

EPR is a policy approach where producers are given significant responsibility—financial and/or physical—for the treatment or disposal of post-consumer products. The aim is to incentivize producers to design more sustainable products and ensure better waste management practices.

In Europe, the Extended Producer Responsibility (EPR) system for furniture is implemented only in France. Since 2013, the EPR system for furniture has been in place to ensure that producers and distributors contribute to the management of furniture waste. This system is managed by organizations like [Ecomaison](#) (former Eco-mobilier, see 3.3.3.), which manages the collection, recycling, and recovery of end-of-life furniture.

Europe is actively promoting the extension of Extended Producer Responsibility (EPR) across more supply chains as part of its broader environmental and circular economy strategies. The European Green Deal, particularly the Circular Economy Action Plan (adopted in March 2020), is a major driver of the expansion of EPR. It aims to make sustainable products the norm in the EU and includes specific measures to, among other things, promote EPR schemes for a broader range of products, such as textiles, furniture, electronics, and batteries.

So, some European Countries are in the process of implementation or exploration of furniture EPR:

- **Italy:** During the last Salone del mobile in Milan, anticipating the EPR regulation that is still in the incubation phase in Italy, FederlegnoArredo, the federation of associations representing wood and furniture companies, [announced](#) the birth of a consortium that is to deal with 'the end-of-life of furniture products within the supply chain';
- **Spain:** Spain is considering [introducing](#) an EPR system for furniture as part of a broader waste strategy. According to recent updates, the Spanish

Parliament approved Law 7/2022 on Waste and Contaminated Soil for a Circular Economy, which aims to extend EPR obligations to new waste streams, including textiles, furniture, and home fixtures. The implementation and approval of these new regulations are expected to be completed by 2025.

An extension of EPR also to furniture in the European countries where it is not yet in force would be an important incentive for take-back services and sustainable end-of-life management. It would impose on companies an environmentally sustainable end-of-life management, with an environmental contribution, borne by the consumer, that would contribute to the economic sustainability of the management. EPR could necessitate the establishment of take-back schemes to comply with waste management obligations. It will certainly expand the market for the services (and the companies providing them) needed to ensure a sustainable end of life for furniture.

## 4.2 Ecodesign Regulation (1781/2024)

Since June 2024, the Ecodesign Regulation (or ESPR, [Ecodesign for Sustainable Products Regulation](#)) has been law in Europe. It establishes a framework for sustainable product design requirements. The regulation will replace the existing Ecodesign Directive, which covered only energy-using products, and extends its scope to almost all types of goods in the EU market, with very few exceptions (i.e. cars or defense and security products). It introduces new requirements such as durability, reusability, upgradability and reparability of products, standards concerning the presence of substances that hinder circularity, energy and resource efficiency, recycled content, remanufacturing and recycling, carbon footprint and environmental footprint, as well as information requirements, including a digital product passport.

The European Commission is to set specific requirements for different products and producers and EU countries will have 18 months to comply with them.

ESPR does not in itself lay down product rules, but rather enables these rules to be laid down in a second stage, via delegated acts (which will systematically be preceded by dedicated impact assessment and consultation). No doubt the furniture standards will contain indications on durability, availability of spare parts, modularity, disassembly, recyclability.

Article 16 of the ESPR requires the Commission to prioritise products and horizontal measures based on a set of criteria pertaining in particular to the potential contribution that could be made to the EU's climate, environmental and energy objectives, as well as the potential for improving the product's characteristics (identified by the proposal from an environmental point of view) and market share, and the distribution of product impacts across the value chain.

A [preliminary assessments](#) carried out by the Commission's Joint Research Centre (JRC) has identified several product groups (and horizontal measures)

that may be suitable candidates for prioritisation under the ESPR, once it enters into force. In this group, Textiles obtained the highest score, but the next highest-scoring product groups were Furniture, with Ceramic Products and Tyres. JRC explains: “Furniture exhibited a high improvement potential in terms of waste generation and lifetime extension, which could be improved by performance requirements on design for durability, design for reliability (e.g. resistance to stress or weathering), design for disassembly, design for refurbishing and/or recyclability, availability of spare parts and mandatory minimum recycled content materials. These circularity measures have the potential to extend the lifetime of the product or its component, potentially saving on new resources, and therefore influencing other categories such as air, soil and biodiversity”.

According to [RREUSE](#) (European network representing social enterprises active in re-use, repair and recycling) there is a lot of potential in upscaling re-use and preparation for re-use through mandatory eco-design requirements. “A [report](#) by Eunomia commissioned by the EEB and a [study](#) by the Nordic Council of Ministers already provided some valid suggestions for potential eco-design requirements”.

The Ecolabel rules on furniture provide for products to be designed for disassembly, and envisage making spare parts available to customers for a period of at least five years.

### 4.3 Digital Product Passport

The Digital Product Passport (DPP) is an initiative introduced by the European Union (EU) as part of its broader strategy to promote a circular economy and sustainable products. DPP is a component of the *EU's Circular Economy Action Plan* and is specifically tied to the *Sustainable Products Initiative (SPI)*. The SPI was proposed by the European Commission as part of the *Green Deal* in March 2022. The DPP has been introduced through the *Ecodesign for Sustainable Products Regulation* (see 4.2.) and will facilitate tracking the lifecycle and composition of products, aiding in more efficient recycling or repurposing. DPP will function as a digital repository containing standardized information about each product: information on materials, chemicals, repair instructions, recycling guidelines, carbon footprint, and more will be stored in a centralized or decentralized database.

It will facilitate recycling and repair by making product-specific information more readily available.

For furniture companies, the Digital Product Passport can simplify and enhance take-back services by:

- **Improving Refurbishment and Recycling:** detailed information on the components and materials of furniture can guide refurbishing efforts and ensure proper recycling of different materials;

- **Enabling better resale and secondary Markets:** with information on product history and condition, take-back programmes can more effectively resell refurbished items, promoting a circular economy.

#### 4.4 Green Public Procurement

According to the latest available data, public procurement in the European Union was estimated to be around **€2 trillion annually**. This figure represents the total value of goods, services, and works purchased by public authorities in the EU. Public procurement accounts for approximately 14% of the Gross Domestic Product (GDP) of the European Union. This makes it a significant part of the EU economy, influencing a wide range of sectors and industries.

So, an update of the Green Public Procurement regulations to include furniture repair and binding rules giving priority to second-hand furniture would be a very important incentive for the environmental sustainability of the sector. To promote the purchase of sustainable, repairable and easily recyclable products, could potentially increase market demand for products designed with take-back and recycling in mind.

#### 4.5 Incentives

Industrial (and environmental) policy also passes through tax and bureaucratic concessions and incentives. Governments can provide various incentives to support companies offering furniture take-back and circular services.

**Financial Incentives.** The financial support could be for the direct benefit of the company offering the take-back or for other parties (see 3.1) performing functions integrated in the process (such as repair). Or even initiatives that benefit society and the environment that intersect with take-back.

Financial incentive could take several forms:

- **Grants:** direct funding to help cover costs (of service start-up; of repair machinery; of operations such as collection)
- **Loan guarantees;**
- **Performance-based Incentives:** Rewards based on the amount of furniture taken-back; of second-hand furniture sold; on materials recycled;
- **Bonus for fixing furniture:** Guarantee a consumer cash-back bonus for those who repair their products;
- **Bonus for the purchase of used furniture.**

**Tax Benefits.** Corporate tax reductions or exemptions, or tax credits or VAT rebates for take-back activities: reconditioning, sale and purchase of used goods (and furniture) or recycled materials (Reuse argued for preferential taxation, such as zero-rated VAT, for repair); at local level, a return incentive for consumers could be a discount on waste taxes in case of the delivery of used furniture to collection points;



**Regulatory Incentives.** Faster and simplified permit processes for companies involved in the collection, transport, storage, resale and recycling of used furniture.





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