FABRIC REFORMS

DESIGNING MATERIAL LIFECYCLES AS PUBLIC EXPERIENCE

This project proposes a facility that brings the **material lifecycle of textiles** into the public eye, transforming discarded fabrics into new products through a **highly visible circular material system**. By combining sorting, remaking, and retail, traditionally hidden industrial processes become interactive experiences centered on **everyday material reuse**. The architecture mirrors this commitment through **climate-responsive, low-impact construction**. Prioritizing the **adaptive reuse** of existing structures alongside reclaimed materials, it significantly lowers embodied carbon. Planned for straightforward disassembly, the building ensures future adaptability, allowing parts to be recovered rather than wasted. Ultimately, the hub connects makers and visitors, seamlessly integrating sustainable practices and responsible consumption into daily urban life.

> **"I don't really know if there are other places to donate clothes like clothing banks."**
>
> - Frankie, Islington Play Association

COMMUNITY CAUSE & AIM

While the architecture facilitates physical **sustainable material use**, the project's core ambition is to actively divert textiles from landfill and incineration to **reduce urban pollution and carbon emissions**. Beyond its environmental targets, it acts as an educational tool that promotes **environmental and climate awareness**. The project has a strong social intention—creating an inclusive community hub where people can gather, learn, and participate in making. By offering **low-cost materials and skill-building workshops**, the hub empowers individuals to learn practical crafts, fostering a shared sense of ownership and connection through hands-on education.

POLITICAL POSTER

Textile recycling is often hidden from public view, taking place in back-of-house industrial settings where its value and complexity remain unrecognized. This project bridges the gap between the factory and the city, **pulling these hidden systems directly onto the street**. It repositions these processes—sorting, shredding, carding, and remaking—by bringing them into everyday public spaces. The transformation of discarded fabrics into new materials becomes a **visible, continuous act**, embedding textile recycling within **daily urban life**.

This visibility creates **opportunities for learning and engagement**, with community spaces integrated alongside the processes to allow people to observe and participate in textile remaking. This shared experience makes recycling visible and actively encourages responsible consumption.

12. Responsible Consumption and Production
Repositions textile waste as a resource rather than an end product.

11. Sustainable Cities and Communities
It is both circulation and production space, integrating community activity into everyday movement, stitching fragmented urban conditions together.

9. Industry, Innovation and Infrastructure
Reimagines production as a transparent system, redefining how infrastructure operates within the city.

8. Decent Work and Economic Growth
The space supports skill-based labour such as sewing and knitting, promoting ethical, small-scale economic activity.

4. Quality Education
Through hands-on workshops and visible production processes, the space can be used as an educational extension.

TARGET USERS

PRIMARY

Upcycling Enthusiasts | DIY Makers

SECONDARY

Local Residents Families | Working Adults | School Children | Tourists

INHABITANTS

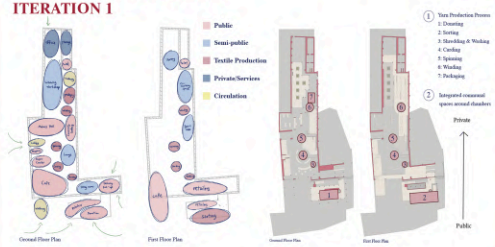
Textile Workers | Local Designers

PARTNERSHIP

- UAL Fashion - Fashion Exhibition
- Palava - Repair
- Traid Clothing Bank - Second-hand Retailer
- Shetland Arts & Crafts Association - Workshops

DESIGN PROCESS

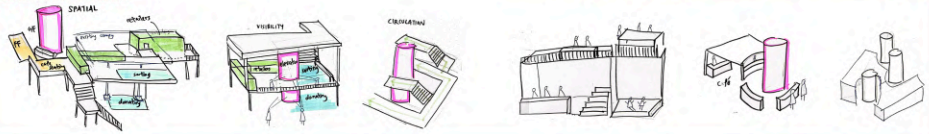
ITERATION 1



ITERATION 2

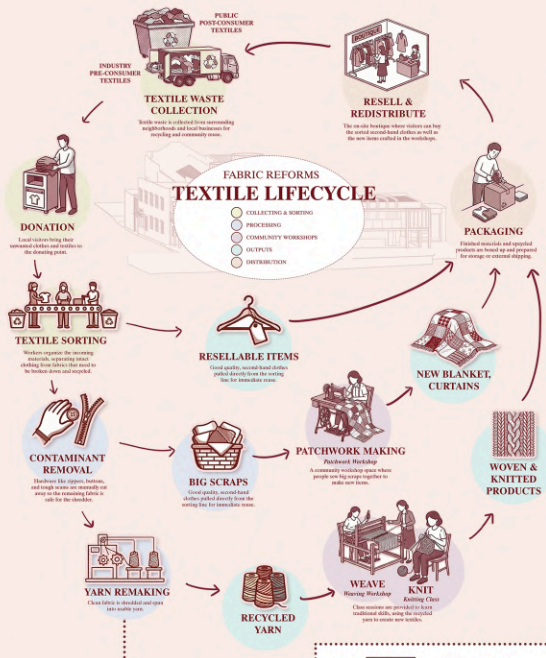
ITERATION 3

IDEA SKETCHES



CIRCULAR ECONOMY

We aim to achieve a circular material loop where resources are continuously reused and transformed, while engaging people in collective acts of collecting, repairing, and remaking.



WITNESSES' JOURNEY

"Frontstage" - Passive public engagement

13 CLIMATE ACTION
Target 13.3: Improve awareness and education on climate change
Making the recycling process visible raises awareness of the environmental impact of textile waste. The architecture acts as a communication tool, increasing public understanding of climate-related issues and promoting behavioural change.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Target 12.8: Promote Universal Understanding for sustainable lifestyles
By revealing the recycling process through visible chambers and architectural framing, the project makes waste transformation understandable.

Community Around Making

The communal spaces surround the machinery chambers, bringing the processes of making and transforming materials into view and embedding them within everyday community interaction.

1 **SHREDDING**
Textiles are sorted and transported to the shredder through pneumatic tubes. A cyclone landing is installed to allow textile enter the shredder.

2 **WASHING & DRYING**
Shredded textiles are transported to wash to ensure cleanliness, getting ready for yarn production.

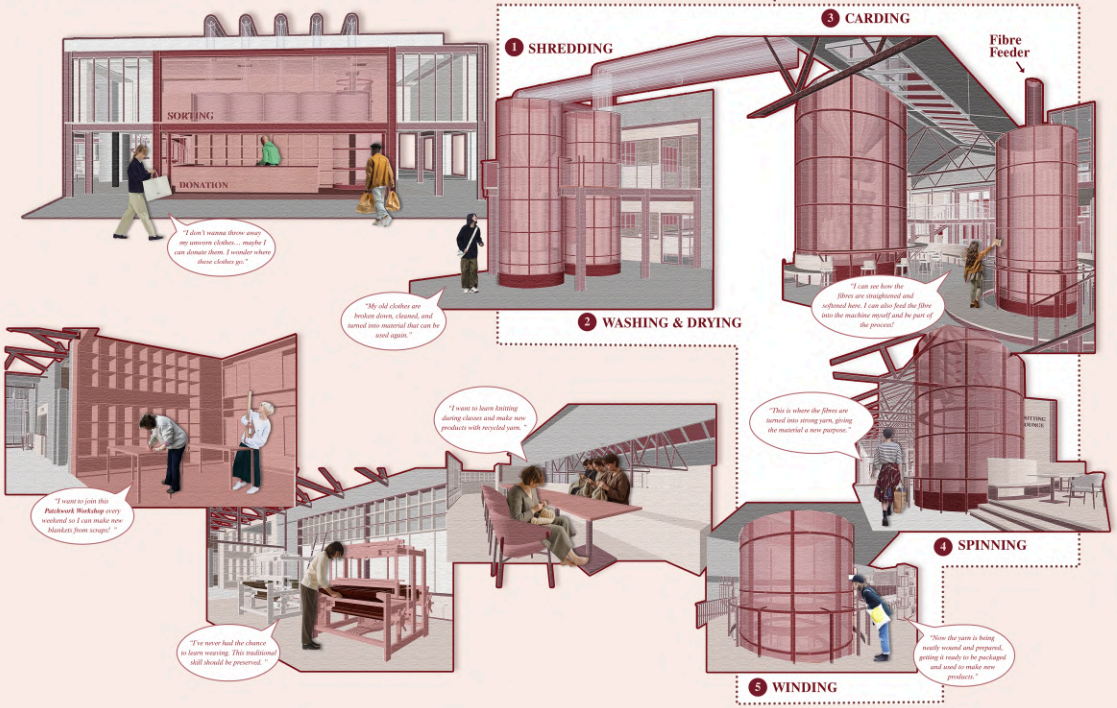
3 **CARDING**
Fibres are aligned and separated to form a continuous fibre web suitable for spinning. In Fabric Reacts, we provided a "feeder", for anyone interested to experience the process can feed in fibre under the supervision of staff.

4 **SPINNING**
The silver from the carding machine will be transported in cans and are twisted yarn in the form of bibbins.

5 **WINDING**
Yarn is wound onto spools, ready for packaging and reselling. This workspace is for staff to check and store yarns prepare for packaging.

MAKERS' JOURNEY

"Backstage" - Active Textile Reusers



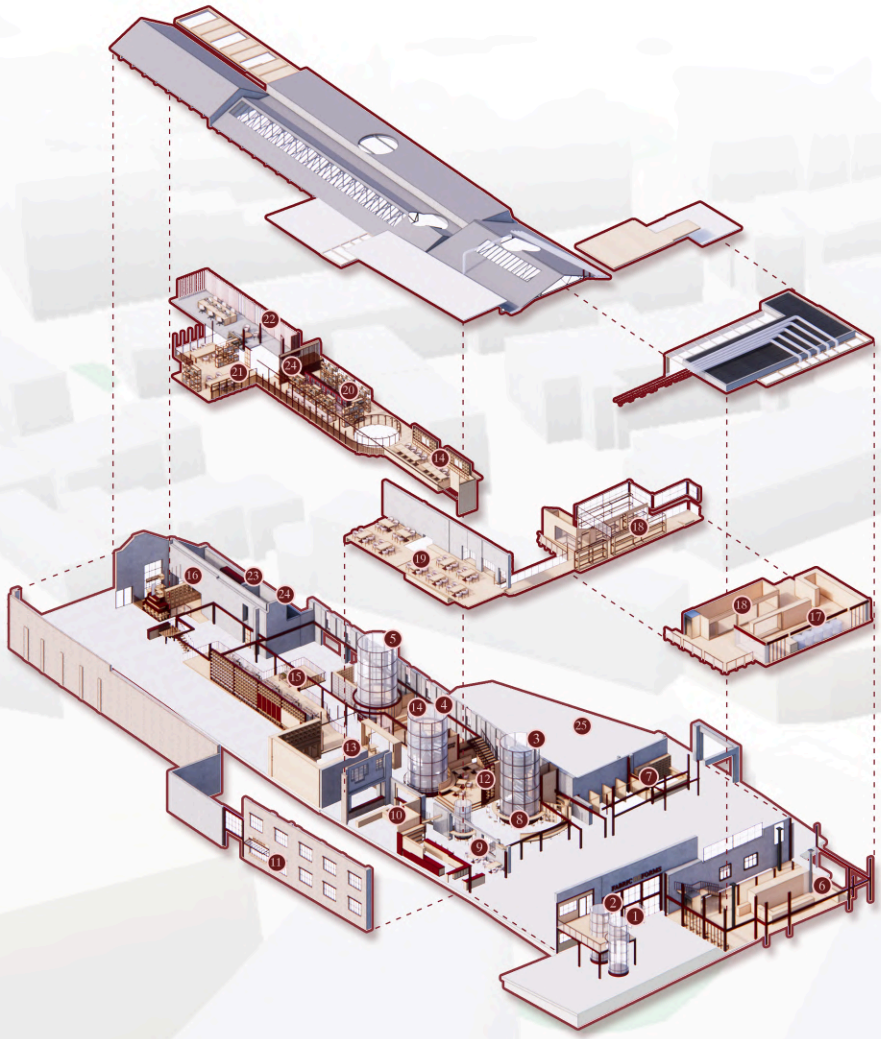
EXPLODED AXONOMETRIC

Yarn Remaking Machinery Chamber

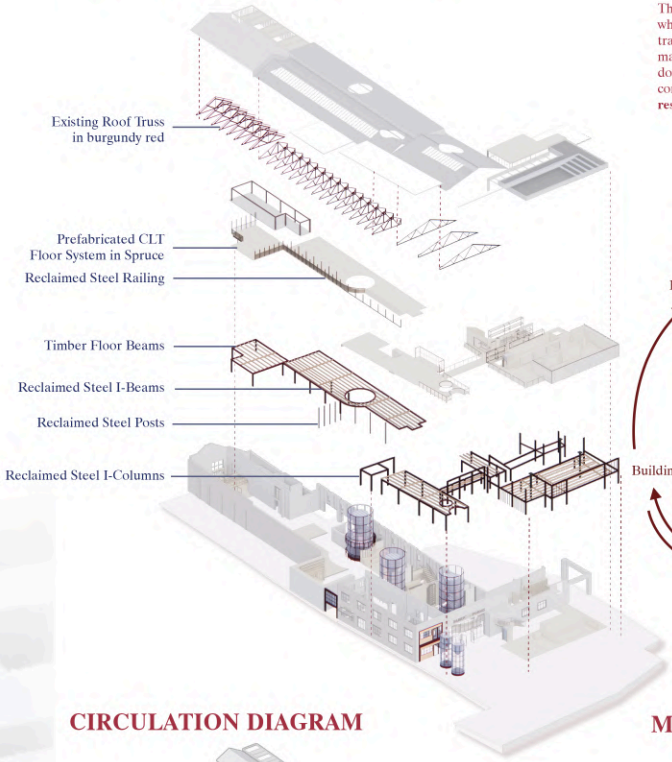
1. Shredding
2. Washing & Drying
3. Carding
4. Spinning
5. Winding

Spatial Program

6. Donating Point
7. Delivery Pick-Up & Fitting Rooms
8. Central Communal Space
9. Cafe
10. Palava Repair Counter & Reception
11. Repair Pick-Up
12. Knitting Lounge
13. Makers Hall - Patchwork Workshop/ UAL Exhibtion
14. Communal Seating
15. Weaving Workshop
16. Packaging & Dispatch
17. Sorting Point
18. Second-hand Retailers
19. Cafe Seatings
20. Library
21. Co-working Space
22. Office
23. Storage
24. Toilet
25. Carpark



STRUCTURAL SYSTEM DIAGRAM

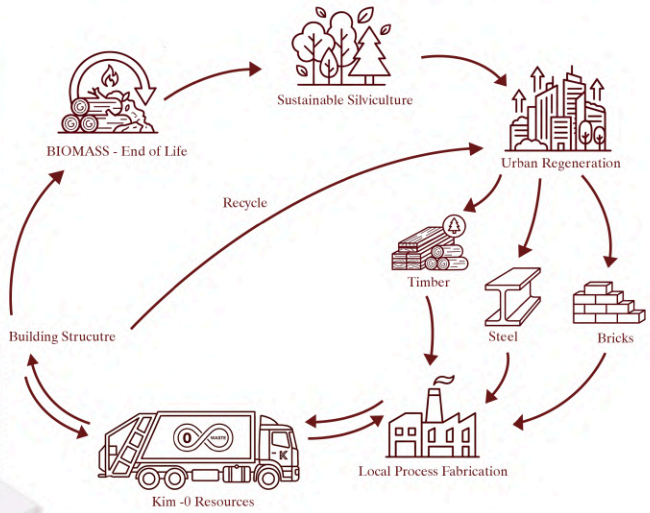


MATERIAL PASSPORT

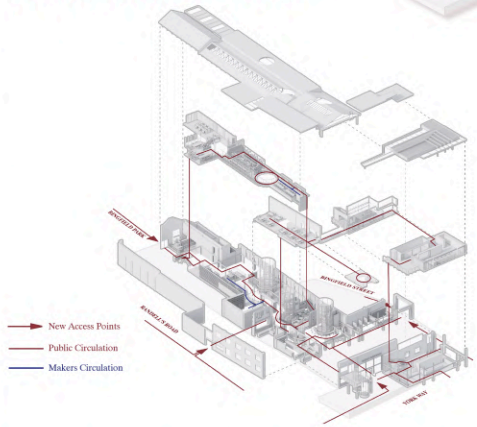
DESIGN FOR DISASSEMBLY & CLIMATE AWARENESS

The project adopts a material care approach, where all building components are selected, tracked, and **designed for reuse**. Through a material passport system, each element is documented with information on its origin, composition, and future reuse potential, enabling **responsible management** across its lifecycle.

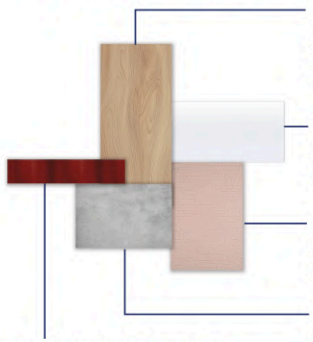
The construction logic strictly utilizes dry connections. Each element is documented via the material passport, thus the building functions as a **material bank**. This ensures that at the end of the building's lifecycle, components are easily disassembled and recovered, drastically reducing reliance on virgin materials and **minimizing environmental impact**.



CIRCULATION DIAGRAM



MATERIAL BOARD



Reclaimed Timber - CLT System (Spruce)

This climate-responsive, prefabricated CLT system relies on dry-joint connections for efficient assembly and future disassembly. Beyond its structural logic, the spruce introduces essential visual warmth and natural texture, softening the industrial space into a comfortable, human-scaled environment for the community.

Clear Solid Polycarbonate

Chosen for its lightweight properties and technical efficiency, the polycarbonate enclosures provide crucial acoustic separation for the machinery while maintaining total visual transparency. This turns the mechanical process into a shared, performative experience.

Linen Fabric

Linen curtains and blinds define private zones without hard physical barriers, while maintaining softness and permeability. This introduces a highly tactile, soft material into the architectural shell, directly connecting the user's spatial experience to the hub's core function.

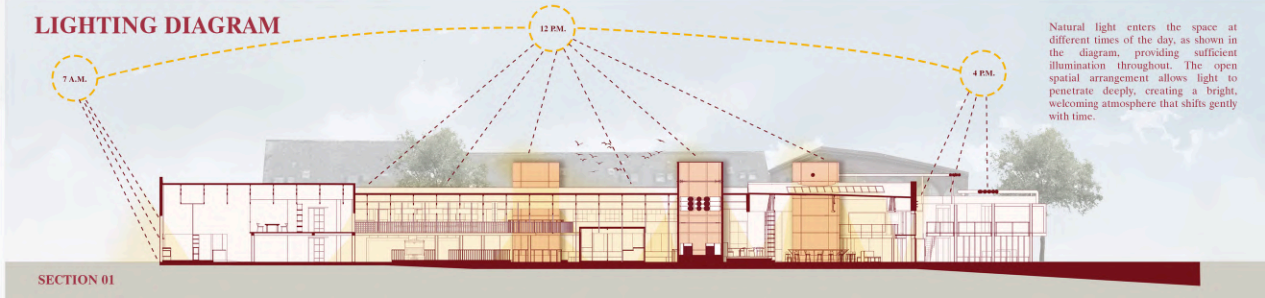
Polished Concrete

Chosen for durability and low maintenance, polished concrete suits high-traffic industrial processes. Its reflective surface enhances light distribution and supports the material language of production and reuse.

Reclaimed Steel - Painted Red

Utilizing reclaimed steel lowers the project's embodied carbon. Finished in a bold red, this structural framework acts as a visual guide for circulation, defining the spatial flow while embracing the site's industrial heritage.

LIGHTING DIAGRAM

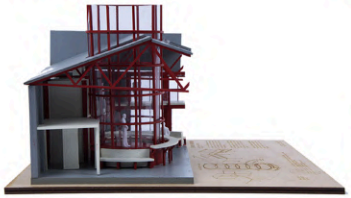


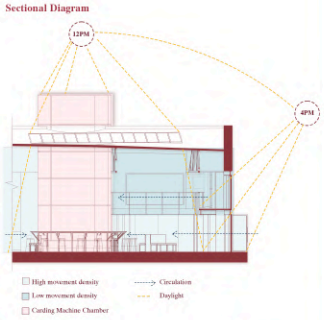
Natural light enters the space at different times of the day, as shown in the diagram, providing sufficient illumination throughout. The open spatial arrangement allows light to penetrate deeply, creating a bright, welcoming atmosphere that shifts gently with time.

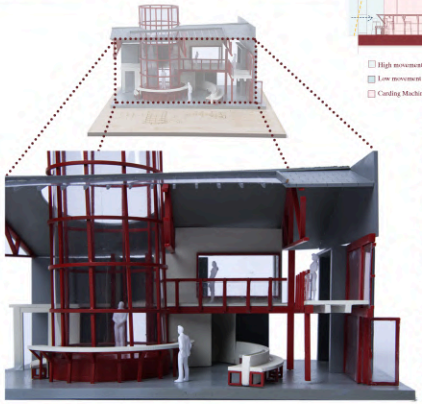
SECTION 01

SECTIONAL MODEL

SCALE 1:50







Structural Language & Integration

Expressed through red steel elements, the columns, beams, and chamber structures define the primary system, demonstrating how the new intervention integrates with the existing building.

Chamber as Spatial Organiser

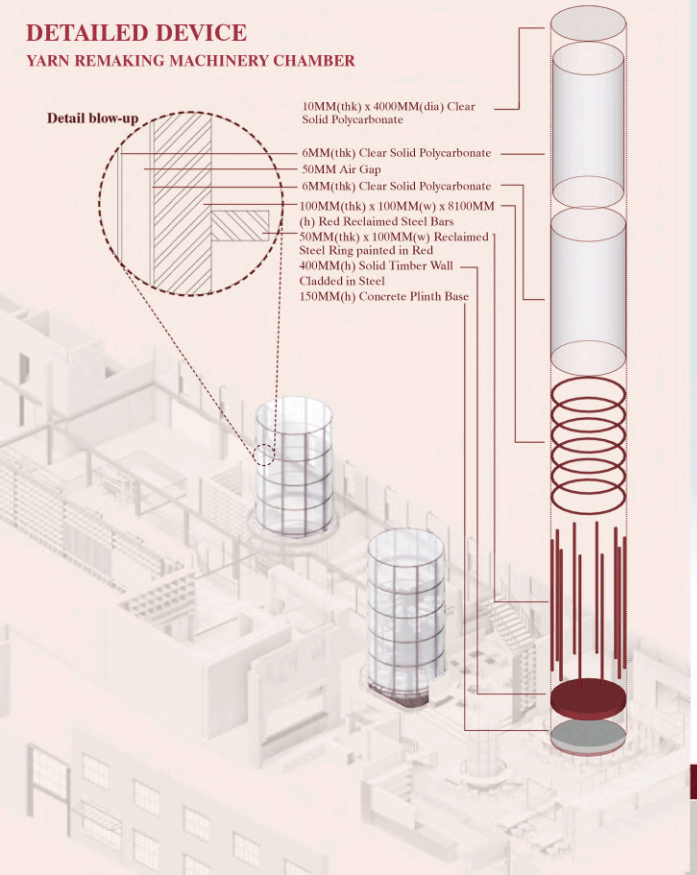
A prominent chamber acts as the main spatial device, organising the surrounding environment, illustrating spatial relationships and vertical dynamics as levels adapt to its form.

Circulation & Experience

The model emphasises circulation, guiding movement and framing interactions. Light is drawn through the structure, creating a cohesive connection between programme, structure, and experience.

DETAILED DEVICE

YARN REMAKING MACHINERY CHAMBER



CENTRAL COMMUNAL SPACE

Extending from the café, this large open area with seating and tables acts as a shared social ground for visitors, makers, and passersby.

Flexible and informal, it allows people to dwell, observe, and gradually engage with textile remaking. Positioned along key circulation routes, it offers views of the carding machine and fibre feeder, integrating material transformation into everyday movement.

SECOND-HAND RETAILERS

Connecting the café to the donation route, the first-floor retail space embeds reuse into everyday circulation. Positioned along this journey, it encourages casual browsing and physically highlights the link between textile processing and sustainable consumption.

CAFÉ

The café operates daily from 10am to 8pm, with a direct street entrance allowing immediate access. Connected to the central communal space, it acts as a social anchor and a transitional buffer between public life and the more process-driven areas of the building.

It encourages visitors to dwell, observe, and gradually engage with surrounding activities, reinforcing the hub as both a place of production and everyday social interaction.

ATMOSPHERE + LIGHT

Maximizing the existing skylight reduces reliance on artificial lighting and enhances user comfort. This natural light floods the space, illuminating the clear polycarbonate machinery chamber. Acting as a luminous focal point, the chamber turns the mechanical process into a visible, performative experience that seamlessly integrates textile reuse into daily life.

HERO SECTION 02

PACKAGING & DISPLAY

The east entrance reveals the hub's output side, where packaging, dispatch, and curated displays are visible. Recycled yarn made on-site promotes zero waste and slow fashion, while exposed processes complete the building's transparent production narrative.

CO-WORKING SPACE

Designed for collaborative and independent work, the co-working space operates by appointment to maintain focus. Accessed via the back stairs, it ensures controlled and quieter circulation.

LIBRARY

Located on the first floor, the library offers a calm, low-density environment. It supports textile recycling education through curated resources and individual study pods for focused learning.

COMMUNAL SEATING

Allows visitors to sit along the edges and passively observe workshops or exhibitions. Designed for educational visits, the three-sided enclosure helps maintain safety and focus, especially for children. Adjustable curtains and an integrated projector support an immersive learning environment on textile recycling and global awareness.

SORTING POINT

Located above the donation point, textiles are lifted directly into a polycarbonate-enclosed space, ensuring control while maintaining full visibility of the sorting process. This transparency allows close public observation, strengthening awareness of material transformation.

DONATING POINT

Facing York Way, the donation point is highly visible and accessible, encouraging spontaneous public participation and embedding textile recycling into everyday urban life.

Step inside
FABRIC REFORMS
Scan to watch

HERO SECTION 01

THE TACTILE EXPERIENCE

Across all workshops, tactile experiences ground the hub's environmental goals in a human-scale reality. Contrasting the soft textures of repurposed fabrics with the visual warmth of natural timber creates essential sensory details. By physically engaging with materials within a clean, muted setting, visitors **connect directly to the textile lifecycle**. This hands-on interaction transforms a functional recycling facility into a comfortable, welcoming environment.

WEAVING WORKSHOP

The weaving workshop preserves traditional craft by transforming recycled yarn into new textiles while preserving craft skills. Set within a double-height space, it is visible from upper levels, turning making into a performative act of production, learning, and observation.

KNITTING LOUNGE

Connected by a staircase, this quieter space offers a more private and focused environment for knitting. It features customised shelving for tools and yarns, supporting both individual and shared use. Regular classes encourage users to create garments or accessories while promoting the use of recycled materials.

MAKERS HALL

A flexible community space for both making and exhibition. As a patchwork workshop, it hosts weekly Saturday sessions where participants use donated textile scraps to produce blankets and curtains supporting the homeless.

In partnership with UAL fashion design, it also hosts exhibitions for students to showcase their work to the public. Customised display device allows it to be stored when not in use. Through these functions, the hall promotes community engagement and slow fashion awareness.