Spolia design

UUSIMAA BUILDING COMPONENT BANK

SUMMARY OF THE FINAL REPORT 30.9.2026

The Uusimaa Building Component Bank project developed and piloted an operational model for the reuse of building components, covering the entire process from inventory and intact removal to storage and sale. This report describes how practical pilots, training, and guidelines can support municipalities in developing expertise in reuse and lay the foundation for permanent Building Component Bank operations.

This is an English summary of the Finnish-language final report Uudenmaan rakennusosapankki – Loppuraportti (30 September 2026), prepared by Spolia Design Oy for the Helsinki-Uusimaa Regional Council. The complete report in Finnish can be found here.

Euroopan unionin osarahoittama
PIRKANMAA COUNCIL OF TAMPERE REGION
Uudenmaan liitto Nylands förbund
eko kumppanit
Uudenmaan kiertotalouslaakso
Tampereen yliopisto Tampere University



Between October 2025 and October 2026, the Helsinki-Uusimaa Region tested how reclaimed building components can move systematically from demolition sites to new construction. The answer: the supply side can be organised as a repeatable service, but the chain breaks unless there is receiving demand, a named owner and a commercial operator.

AT A GLANCE

The Uusimaa Building Component Bank was designed and piloted within KOPPI – Circular economy green deal: from theory to implementation with the support of the regional hubs, an ERDF co-funded project run by the Helsinki-Uusimaa Regional Council, the Council of Tampere Region, Circular Economy Pirkanmaa / Ekokumppanit and Tampere University (KOPPI: Alueelliset kotipesät – tuki ja pilotointi kiertotalouden green deal -sitoumuksiin 2025–2027).

KOPPI establishes regional hubs in the Helsinki-Uusimaa and Tampere regions that coach municipalities in making and implementing commitments under Finland's national circular economy green deal, with pilots in the green deal change area 'Resource-wise built environment' (Resurssiviisas rakennettu ympäristö). The work supports Uusimaa's goal of becoming carbon neutral by 2030 and the regional climate roadmap's aim to cut the carbon footprint of construction and increase the reuse of building materials.

The service model was piloted by Spolia Design Oy, a Finnish company with expertise in second-hand building components. The brief for this pilot was to develop a service model for municipalities and other property owners that links the supply of reclaimed components, the demand for them and every step in between: surveying, dismantling, qualification, refurbishment, interim storage, and a physical and digital marketplace.

Rather than aiming for a wide product range, the pilot focused on a few product groups that move easily on the market, so that stock would turn over quickly. The focus product groups were bricks, glass structures and windows, doors and partitions, and floor and ceiling materials.

FINDINGS OF THIS PILOT INCLUDE

- **The continuation of the building component bank must be based on demand.** It should start from a receiving project and a motivated founding group, with one operator responsible for the whole value chain.
- **The chain breaks at demand and responsibility**. Recurring bottlenecks included: acceptance criteria, product data quality, no receiving project, unclear responsibilities, cost, schedule and interim storage.
- **Organisations that started with a concrete site or product group got furthest.** Ambition alone does not deliver. The largest participants did not manage to launch a pilot.
- **One pilot completed the full chain.** At YIT's Circular Economy Corner in Vallila, Helsinki (the circular economy store in YIT's Circular Economy Pilot Block 697), interior products were carefully dismantled, stored, listed on a marketplace, sold and installed in a new location.

WHAT WAS DONE

- A baseline survey of 11 responses covering 12 organisations
- Three identical online training sessions and a hands-on warehouse and logistics day in Nurmijärvi: 171 participations in total, reaching about 100 individual people
- Seven pilots with public and private property owners, a contractor and a manufacturer
- A shared Business Model Canvas (BMC) for public and private actors, a reuse handbook, published in Finnish in November 2026, and a proposal for next steps

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01 Where component reuse stands in Finland

> ***Reuse is on everyone's agenda but building components do not yet move systematically from demolition to new use. Research, sector roadmaps and carbon neutrality targets all mention it, yet a commercial market is only beginning to form.***

THE MARKET IS FRAGMENTED

Supply consists mostly of one-off, unpredictable batches, and **service chains are scattered**. Buyers struggle to judge availability, total cost and delivery time. What is missing is recurring material flows, established responsibilities and deliveries large enough to matter.

Trust is one of the key barriers. What is needed is verified technical quality and confidence that an agreed batch arrives complete and on time.

Aesthetics also matter. Signs of wear can be read as defects or as part of a product's value and history.

REGULATION DOES NOT YET CREATE DEMAND

Finnish demolition material reporting and the general recovery obligation **set no measurable reuse target and do not require anyone to buy used components.** Projects can comply without changing how they design, procure or build. The national carbon footprint limit values introduced in 2026 are lenient enough that most new buildings meet them without specific low-carbon measures, so they do not make reuse more competitive.

Information is also too thin and too late: demolition data reported through municipal permit processes and the national Rapu service (demolition material and construction waste report) focuses on waste quantities, not on the condition, dimensions, location and release date of individual components that a market would need.

PILOTS ARE NOT BECOMING PRACTICE

Public property owners and municipalities have bought expertise and run experiments, but mostly project by project. Reuse is not yet part of property development, design commissioning, procurement or construction. This report argues that **reuse should be recognised as a specialist design discipline of its own**, and that a pilot's success should be measured by whether it creates recurring activity: named responsibilities, a replicable process, a procurement model and a decision to continue.

MUNICIPALITIES HOLD STRONG LEVERS

Municipal steering should continue until market demand can carry the activity. Criteria set in land allocation, land-use planning, competitions and public procurement have already enabled experiments and encouraged companies to develop solutions.

Municipalities can also set carbon limits stricter than the national level, and use their planning monopoly, land allocation terms and land-use agreements to require measurable reuse, either of components from the site itself or of used products bought on the market.

BASELINE SURVEY FINDING: MORE READY TO SUPPLY THAN TO USE.

The baseline survey found that **organisations were better equipped to hand products over than to take them in.** Respondents, two thirds of whom were public or publicly owned property owners and developers, rated the availability of expertise and of most target products as at least moderate; floor and ceiling materials were seen as hardest to find. Their own experience showed where the chain breaks: 10 of 11 had carried out inventories and 9 had done careful dismantling and storage, but only 3 had experience of qualification and only 5 of using components in a new building.

02 Seven pilots

The pilots were meant to follow one common path from inventory to resale, ideally with one product passing through the whole process first. In practice, different starting points, needs and start dates led to tasks tailored to each organisation, and only one pilot reached new use.

Organisation / site	Pilot type	Main components	Result
Castellum, Nordic property company Derby Business Park, Espoo	Inventory and logistics trial	Doors, glass partitions, furniture, kitchens	38 pallet spaces packed in about 30 hours, two truckloads moved to central storage
Saint-Gobain Ecophon, manufacturer	Product-specific reuse guide	Glass wool acoustic ceiling panels	Guide to identifying, dismantling, packing and storing the manufacturer's own panels
Heka / ATT City of Helsinki housing company and housing production, Markkinatie 16	Early reuse study before renovation	Sanitary fittings, doors, floors, fixtures	Over 10 product groups identified; the client set concrete reuse targets for the project
Metropolitan Area Transport Ltd, Itäkeskus metro station, Helsinki	Needs assessment and circularity survey	Steel structures, surfaces, windows, lighting	19 products identified; calculated saving potential about 452 t CO_2e
Municipality of Vihti, Vihdintie 30	Reuse survey before demolition	Sand-lime bricks and loose parts	About 18,100 bricks identified; calculated potential about 19 t CO_2e; trial dismantling not carried out
City of Porvoo Tuorilanmäki 11 and 13	Demolition material and waste survey	Concrete, wood, metal, brick, soil material	Met the statutory survey, but recorded no product-level reuse data
YIT (contractor and developer), Vallila Circular Economy Corner, Helsinki	Full-chain service pilot	Parquet, carpet tiles, glass partitions, WC seats	Inventory → dismantling → storage → qualification → sale → new use (see section 3)

02 What the pilots showed



Derby Business Park: inventoried building components, transport, and interim storage. Photos: Spolia Design



An excerpt from an early reuse study for Markkinatie 16.

Consistent and timely product data is the foundation. Components were identified well, but data was often scattered or came too late. At Castellum, incomplete data led to re-inspections and incorrect reservations, which added work and eroded trust.

Logistics must be planned before dismantling. Routes, lifts, pallets, load sizes, labelling and storage locations directly affect product condition, workload and cost. A store supports flow only if every batch has an ID, a location, a responsible person and a planned next step.



Itäkeskus metro station: inventoried building components

Qualification remains open. No demanding construction product was tested in the project. Each product group needs acceptance criteria, tests, documentation and a clear answer to who proves fitness for use.

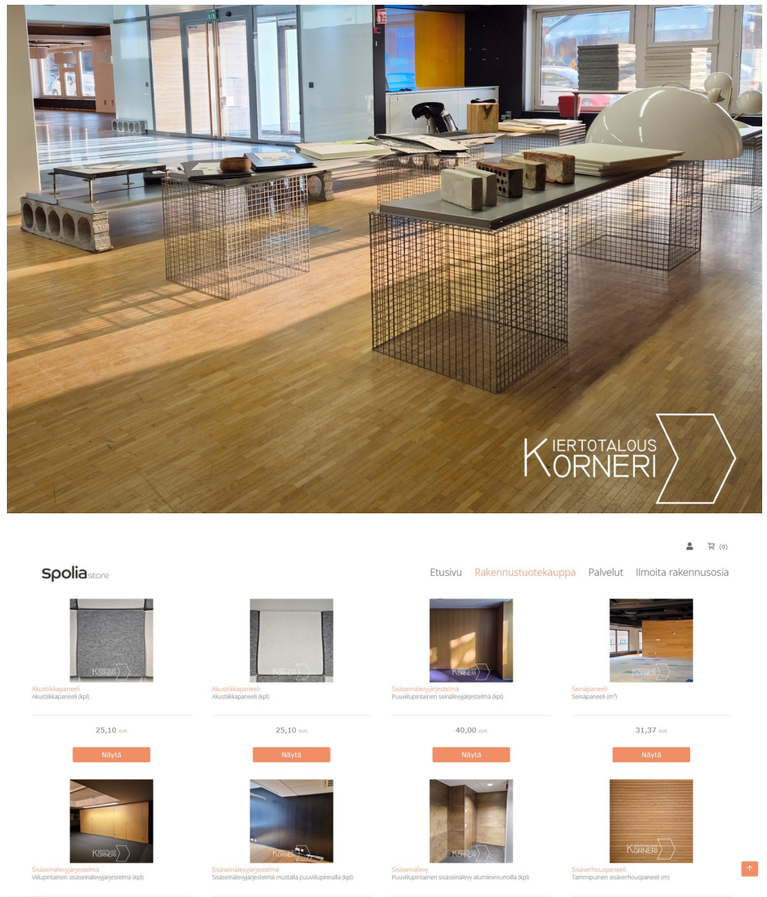
Inventory without a receiving project does not become reuse. Most pilots mapped supply or calculated potential. Carbon and cost impacts are therefore mostly calculated, not verified.

A manufacturer can speed up the market. The Ecophon guide showed that handling can be standardised. The manufacturer saw take-back and resale as best run by a specialised reuse operator.

Pilots that did not start. The three largest participants, the City of Helsinki, the City of Espoo and Senate Properties (the Finnish state's property agency), did not launch a pilot or define a suitable topic during the project. The report reads this as a sign of how hard it is for large organisations to turn general reuse goals into an operational site and task. Two organisations within the Helsinki city group, Heka/ATT and Metropolitan Area Transport, did run their own pilots.

03 Spotlight: the Vallila Circular Economy Corner

The Circular Economy Corner (Vallilan kiertotalouskorneri) was the only pilot to complete the whole reuse chain: several product groups were taken from a building being stripped, sold on an open marketplace and installed in new locations. It shows that the chain works when the product range is limited and commercial responsibility is clear.



Vallila Circular Economy Corner: Arrival, sales exhibition, packaged textile tiles, and a digital marketplace. Photos: Spolia Design.

SETTING

YIT, one of Finland's largest construction companies, owns and is redeveloping the Circular Economy Pilot Block 697 in Vallila, Helsinki. As part of the redevelopment, Spolia had already mapped the reuse potential of the buildings' components. For the Building Component Bank pilot, YIT provided both premises and products from the buildings to be dismantled. Spolia selected and inventoried the products, guided their careful dismantling and was responsible for product data and sales.

Limits of the evidence. The products were mainly interior fittings, so the qualification of demanding construction products was not tested. Installation at the receiving sites and the warranty phase were not followed up within the reporting period.

Business model implications. The Corner is the clearest proof that a Building Component Bank is feasible in practice. Its lessons are built directly into the proposed operating model and business model (sections 4 and 5).

HOW THE CHAIN WORKED

Products are interior products that move easily on the market: Parquet flooring, textile carpet tiles, glass partition walls and WC seats

Identification and inventory: Spolia selected suitable products and recorded them in its product data system, Spolia Flow.

Careful dismantling and packing: Spolia drew up instructions for dismantling and packing, and products were removed intact under quality control.

Transport and storage:
Products were packed, moved and stored ready for sale.

Qualification and productisation: Formal testing or site-specific verification was not needed for interior products, but sold products went through quality assurance and were checked against their intended next use.

Sale: Products were published on Spolia's open digital marketplace (store.spolia.fi) with photos, prices and pick-up details. The physical Corner served as showroom, shop and collection point.

New use: Products were sold, delivered and installed in new locations.

WHY IT WORKED

One responsible operator:
Spolia held the product data, the sale and the delivery. *A listing alone does not move a product*: someone has to take commercial responsibility for it.

A focused range:
Several product groups passed through the same service model, so the process could be repeated rather than reinvented for each item.

Physical and digital:
The showroom complemented the online marketplace and let buyers inspect products before buying. This is a direct answer to the trust gap described in section 1.

A committed property owner.

YIT supplied both the space and the products, so the pilot had a real source and a clear owner from day one.

04 Conclusions

The components and the know-how exist, but without receiving demand, named responsibility and a commercial operator the chain breaks before reuse happens.

WHAT WAS CONFIRMED

There is a real need for a Building Component Bank
Usable components emerge from demolition and renovation, but product data, acceptance criteria, supply and demand do not meet at the right time. The market is still immature.

The supply side can be run as a repeatable service
Inventory, careful dismantling, packing, transport and storage form a manageable process.

The full chain works for selected products
At the Vallila Circular Economy Corner, recovery, sale and installation in a new building were delivered as one service.

Training needs are significant
Starting levels and practical readiness vary widely between organisations. Participants asked above all for cost data, concrete problems and solutions, a full-chain case study, recordings, and in-person sessions tailored to target groups.

WHAT REMAINS OPEN

Qualification of demanding construction products was not tested in practice, and site-specific verification was outside the project's scope.

The receiving end
Receiving site, purchase decision, sale and reinstallation remained open in most pilots.

Carbon and cost impacts are mostly calculated potential
The material does not yet show realised, verified savings across the pilots.

The business model was drafted, but its demand, pricing, risk sharing and profitability have not been tested in live operation.

WHAT THE MODEL NEEDS

The Building Component Bank should act as operator of the whole reuse value chain. It connects a donor demolition site with a receiving project and is responsible for product data, coordinating qualification, refurbishment, logistics, sales, delivery reliability and warranty.

The chain runs in six steps:

1. **Demand and target**
   receiving project, product group and decision-making power
2. **Inventory and data**
   quantity, dimensions, condition, photos, location and ID
3. **Qualification and economics**
   criteria, tests, responsibilities, price and a decision gate
4. **Dismantling and packing**
   work instructions, yield, protection, labelling and readiness for pick-up
5. **Storage and sale**
   location data, condition monitoring, reservation and contract
6. **Delivery and use**
   schedule, receipt, installation, documents and a warranty of at least two years

THREE PRINCIPLES TO CONSIDER

Decision gates:
Site approval, product approval and a commercial order come before any step that drives up cost.

Shared product data:
The same ID and data structure follow the product from the donor site through storage to the receiving project.

Operator responsibility:
The operator takes commercial responsibility for delivery on standard construction-product contract terms; technical verification is done with partners.

The bank should be launched by a motivated founding group, starting with a limited product range and real receiving demand. Municipalities can strengthen demand through procurement, land allocation terms and project targets; the commercial operator turns those targets into deliveries and measurable results. The warehouse serves the flow of products – it is neither the starting point nor the goal.

FOUR LEVELS OF READINESS

The report proposes a self-assessment model. The level can vary by project and product group; the key question for each organisation is which decision would take it to the next level.

Level	What it looks like
1 Preparing	Reuse is in strategic goals. Competence is being built, but there is no named owner, chosen site or shared procedure
2 Piloting	One or more steps are tried in a single project; decisions are made case by case
3 Operational	Components move from identification to new use, including sale, delivery and installation. Roles, data and quality assurance are defined
4 Established	Reuse is part of normal design, procurement and construction, repeated across projects

05 Business model and next steps

The proposed Building Component Bank is a regional service run by one operator, funded by participation and membership fees plus a share of sales, and it will be set up by a founding group of committed organisations.

BUSINESS MODEL IN BRIEF

The Business Model Canvas was developed for public bodies and companies together.

Value proposition: the entire reuse value chain from one accountable operator. The receiving project gets components documented and ready for design, without having to coordinate a fragmented supply chain itself. The aim is the largest possible CO_2e reduction per euro spent.

Customer segments: municipalities and other public property owners, private property owners and developers, construction companies, and regional networks of several organisations.

Key activities: site and demand mapping; inventory, product data and a digital product passport; qualification and steering of dismantling and refurbishment; storage, logistics, sales and delivery responsibility.

Key partners: long-term co-funders and owners; property owners committed to predictable component flows; developers committed to using components; dismantling, refurbishment, storage and logistics partners; testing, qualification and design experts; digital platform providers.

Channels: a digital marketplace, a physical warehouse and showroom, direct project support, municipal and industry networks, training and guidance.

Revenue: a participation fee covering the launch and first year of operation; an annual membership fee in three service tiers as the ongoing base funding; a share of the sales margin on products; and separately billed expert and additional services.

Costs: mainly staff, the digital system and premises. Product-specific costs for dismantling, refurbishment, testing, storage and logistics are deducted before the sales margin is shared.

Key partners	Key activities	Value proposition	Channels	Customer segments
Costs			**Revenue**	

Building blocks of the shared Business Model Canvas.
See the full canvas in the Finnish report.

FORMING THE FOUNDING GROUP

The report proposes four steps from interest to a joint decision to prepare the bank:

1. **The Helsinki-Uusimaa Regional Council communicates** the results and next steps in its own channels and regional networks, and makes an initial mapping of interested actors.
2. **Spolia holds a 30-minute conversation with each interested organisation.** The organisation outlines its role, needs and possible contribution, and Spolia assesses its readiness level. The conversation does not commit anyone to membership or funding.
3. **Spolia invites selected organisations to a joint workshop** to assess the shared goal, the core task and the conditions for further preparation.
4. **The organisations decide.** Each names a representative and states whether it will join the next preparation phase. Spolia then convenes the founding group.

ABOUT THE PROJECT

The Uusimaa Building Component Bank is part of KOPPI – Circular economy green deal: from theory to implementation with the support of the regional hubs, implemented in 2025–2027 by the Helsinki-Uusimaa Regional Council, the Council of Tampere Region, Circular Economy Pirkanmaa / Ekokumppanit and Tampere University, and co-funded by the European Union (ERDF). Spolia Design Oy acted as operator of the pilot. A public handbook on the reuse of building components, compiling the lessons and practical guidance from the pilots, was published in Finnish in November 2026.

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