

# Turn London's Buildings Into a City-Scale Resource Bank

An AI-powered framework for city-wide reuse · Powered by Upcyclea



**10M t**

of construction & demolition waste produced in London yearly

**37%**

of world emissions from the built environment

**50%+**

of London building emissions are embodied carbon

## THE CHALLENGE

London produces over 10 million tonnes of construction and demolition waste every year — the largest single waste stream in the UK. Yet 98% of what's extracted ends in low-value 'end of life' applications, despite most materials being technically reusable. The built environment accounts for 37% of global emissions, with embodied carbon now exceeding 50% of a London building's total lifecycle emissions.

The London Plan and the GLA's Green New Deal require developers to demonstrate circular economy principles and whole-life carbon reporting on all major projects. Yet the market for reclaimed materials remains fragmented and opaque: information is unstructured, dispersed across stakeholders, and existing platforms rely on spot trading that cannot scale. Valuable materials go to waste, embodied carbon goes unaccounted for, and London's circular economy potential remains largely untapped.

## WHAT IS ROMULUS — LONDON URBAN MINING?

ROMULUS is an institutional reuse framework that brings together London boroughs, the Greater London Authority, asset owners, contractors, architects, manufacturers and academic institutions into a shared platform and monthly forum. Rather than a simple marketplace, ROMULUS creates the institutional infrastructure — trust, data standards, governance and AI matching — needed to industrialise reuse at city scale across Greater London.

ROMULUS is powered by Upcyclea, a company with nearly 20 years of circular economy expertise and an AI-based circular resource management platform operational since 2019. Upcyclea already operates the same model in France (PIRÉE, since 2023) and Singapore (SUM, since 2026), managing over 5 million sqm of assets, and was selected by the GLA to deploy this proven methodology across London.

## ROMULUS OBJECTIVES

- **Digitise building audits**  
Collaborate with London stakeholders to conduct Pre-Demolition Audits (PDAs) that create transparent, structured inventories of reusable materials.
- **Standardise data**  
Use Digital Product Passports to capture product and material data within a common template — enabling comparability, trust and AI processing across London.
- **Build critical mass**  
Bring key London industry members into a trusted forum that manages complexity, enables scale and interoperates with other existing marketplaces.
- **Drive evidence-based policy**  
Provide the GLA and London boroughs with real evidence and market signals to design targeted interventions — turning information into action and action into policy.
- **Measure impact automatically**  
Generate real-time ESG indicators: waste avoided, CO2 saved, water preserved and financial balance — per project and across Greater London.

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# How ROMULUS Works & Why You Should Join

The framework · The platform · The membership model



## HOW IT WORKS

### 01

#### PRE-DEMOLITION AUDIT

On-site survey cataloguing materials by quantity, condition, demountability & reuse potential. Aligned with UK demolition standards (BS 6187).

### 02

#### DIGITAL PRODUCT PASSPORTS

Each item gets a structured passport: type, dimensions, wear, reuse potential, location, availability date & photos. Bulk-imported into ROMULUS platform.

### 03

#### AI-BASED MATCHING

ROMULUS auto-matches available deposits against declared needs across Greater London. Members declare needs free; proposals generated instantly.

### 04

#### ESG IMPACT REPORTING

Every transaction auto-generates: kg waste avoided, kgCO<sub>2</sub>e saved, m<sup>3</sup> water preserved & financial impact — per project and London-wide.

## THE ROMULUS PLATFORM

- **White-label Upcyclea platform**  
Purpose-built for urban mining — live in 3 countries.
- **AI Deposits x Needs matching**  
Auto-suggestions with distance filter & match score.
- **Reuse ecosystems**  
Manage recurring supplier-buyer relationships.
- **Trainings & processes**  
Forum facilitation, methodology guides & onboarding.
- **Bulk PDA import**  
Upload audit data in one go, no manual data entry.
- **Internal messaging**  
Direct communication between deposit owners & buyers.
- **Real-time ESG indicators**  
Building passport (inflow) & reuse transaction (outflow).

## PROVEN IN 3 CITIES — POWERED BY UPCYCLEA

### PIRÉE

France · Since 2023

Sponsors: Social Landlords Association & ULI France. France's first national urban mining platform.

### ROMULUS

London · Since 2024

Sponsors: London boroughs & Greater London Authority. Scaling reuse across the London built environment.

### SUM

Singapore · Since 2026

Sponsors: Singapore Green Building Council, Obayashi, ARUP, AGC & others. City-wide reuse framework for Singapore.

## MEMBERSHIP MODEL

### INDUSTRY (needs)

Free

- Declare material needs
- Purchase reclaimed products
- Access AI match proposals

### DEPOSIT OWNERS

£2,500 / year + £150–800 / building

- Building PDA imports
- AI-based reuse proposals
- ESG outflow indicators
- Priority in the forum

### STEERING COMMITTEE

Free

- Strategy & governance
- Trainings & methodology
- Resource management (Maconda)
- Monthly ROMULUS Forum access

## WHY JOIN ROMULUS?

- **Reduce risk**  
Work within a trusted industry forum — not alone in an unfamiliar market.
- **Speed up reuse**  
AI matching across a large network — no more manual sourcing.
- **Shape GLA policy**  
Contribute data that drives the GLA's circular economy and Green New Deal.
- **Full transparency**  
Know exactly what materials are available, where, and when across London.
- **Market visibility**  
Access real-time signals on material flows and pricing trends.
- **Prove ESG leadership**  
Automated, verifiable impact data aligned with CSRD and UK reporting needs.

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