



Sherbourne Recycling

Local authority waste
infrastructure delivery



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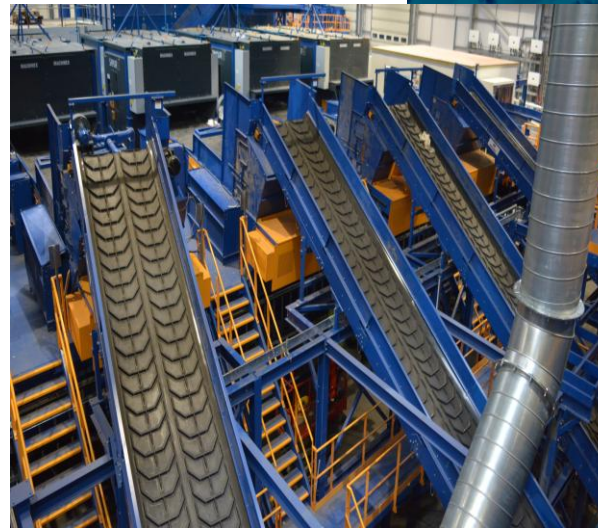
Innovation and collaboration are at the heart of Sherbourne's success as a pioneering materials recycling facility

What makes us different?

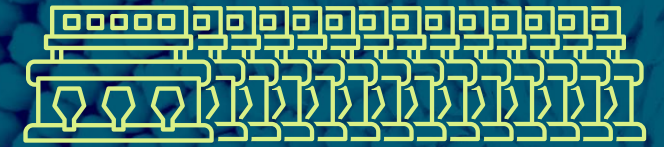
- Innovative partnership, ownership and funding model
- Technology led solution, needing minimal human intervention
- On-going commitment to the circular economy
- Unique R&D 'Circular by Design' capability
- Knowledge and understanding of operational, commercial and local authority needs
- Exclusive knowhow and experience within the team



Delivery and growth centred on partnership, sustainability and innovation



18 SORTING ROBOT ARMS



14 OPTICAL SORTERS



100% OF MATERIAL KEPT IN THE UK

1.5MILLION RESIDENTS SERVED



AI VISION THROUGHOUT PROCESS



Background

Regional solution

- Established in 2021, but journey began in 2016
- Sherbourne was established to develop, operate and maintain a new state-of-the-art Materials Recycling Facility in Coventry
- Partnership of eight local authorities, formed in response to the challenge in processing kerbside recyclate:
 - Escalating waste management costs
 - Volatile recyclate markets
 - Failed procurement exercises / only able to secure short-term arrangements for processing of materials
 - Legislation change on the horizon – DRS, EPR, Simpler Recycling
 - Compositional changes
 - Industry labour shortages
 - Feasibility study identified sufficient capacity within the partnership to build a regional facility



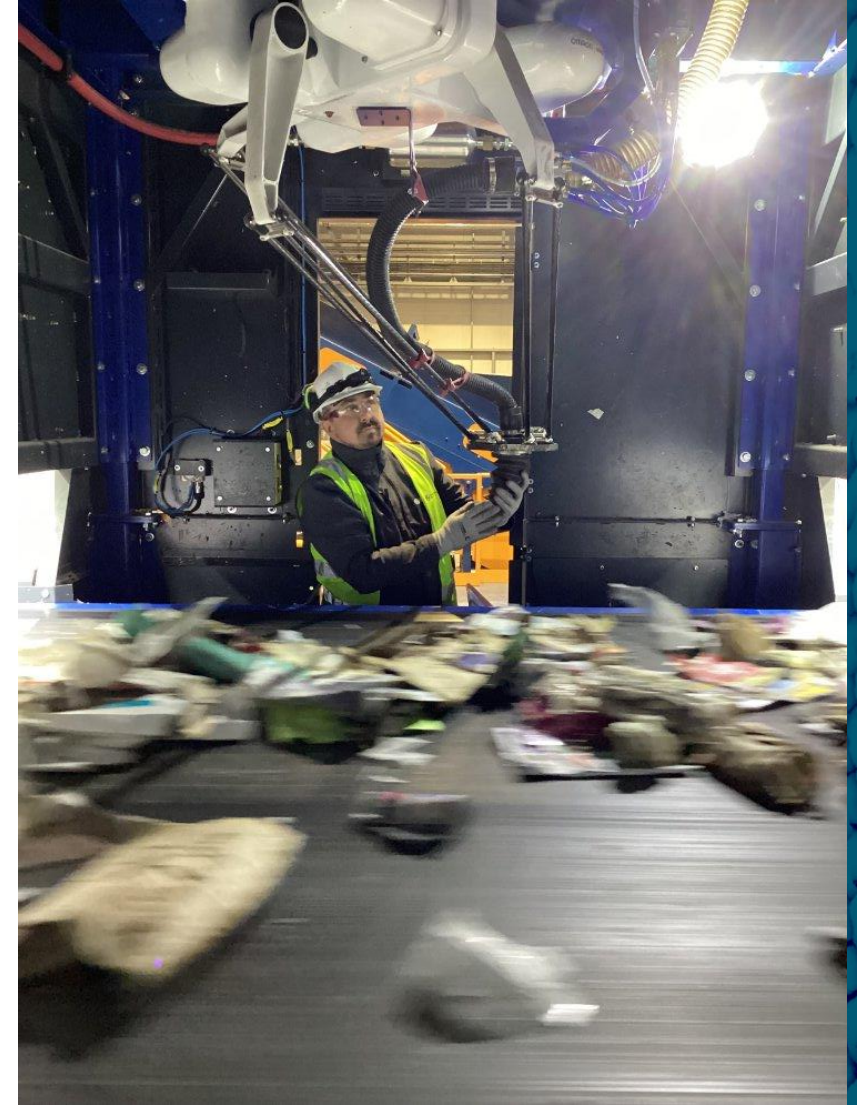
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Sherbourne Approach

De-risking waste management

- Collaborative working: 25-year partnership
- Commerciality: financial model based on operating costs, debt servicing and material sales
- Risk allocation: shared risk / benefit
- Facility design: flexibility, resilience, and agility to adapt to change, ability to cope with changing demands both up and downstream of the facility
- Sustainability: UK markets secured for all material grades, 100% renewable energy, electric fleet where practical
- Delivery of a fully integrated state-of-the-art MRF, utilising AI and robotics to maximise recovery
- Capability and capacity to process up to 250,000 tonnes of Dry Mixed Recyclate per year



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TIMELINE



2016
Feasibility Study

2017
High-level
Business Case

2017
Engagement with
Potential Partners

2017/18
Detailed Feasibility
Study

2018/19
Detailed Business
Case / Financial
Modelling

Winter 2019
Market
Engagement

2019
Member's
Commitment
through Joint
Working
Agreement

December 2020
Development of
Governing
Documentation

December 2020
Preferred Bidder
Selection

February 2020
Short Listing
Bidders to go
through to CFT

2020
Financial Model

September 2019
OJEU Notice Issued

Summer 2019
Procurement
Development

Spring 2019
Final Business Case

Winter 2020/21
Value Engineering

January 2021
**Planning
Permission
Granted**

April 2021
Financial Close / Contract
Award & Company
Incorporated /
Shareholder Agreement
signed

May 2021
Clegg on Site

September 2022
Machinex on Site

June 2023
Commissioning

Aug 2023
First Waste
Accepted

Solution response: an innovative approach to UK waste challenge

Legislation and regulation

Evolving waste legislation and the restructuring of public services are demanding new, sustainable and technologically advanced solutions for recycling and recovery

Technological advancement

Sherbourne's model of integrating robotics, AI and optical sortation technologies drives efficiency and performance improvement, with a highly flexible solution to respond to ever-changing demands

New revenue streams

The Sherbourne solution is built around optimising resource and revenue potential, using advanced recycling technologies to transform waste into valuable raw materials

Resource security

Driving quality to ensure that waste is treated as a resource and returned to UK markets, thereby safeguarding the UK's manufacturing industry and supporting the circular economy

Stable returns

Sherbourne values longer term partnership arrangements with suppliers, offtakers, customers and end users to ensure on-going sustainability, value for money and return on investment

Disruption

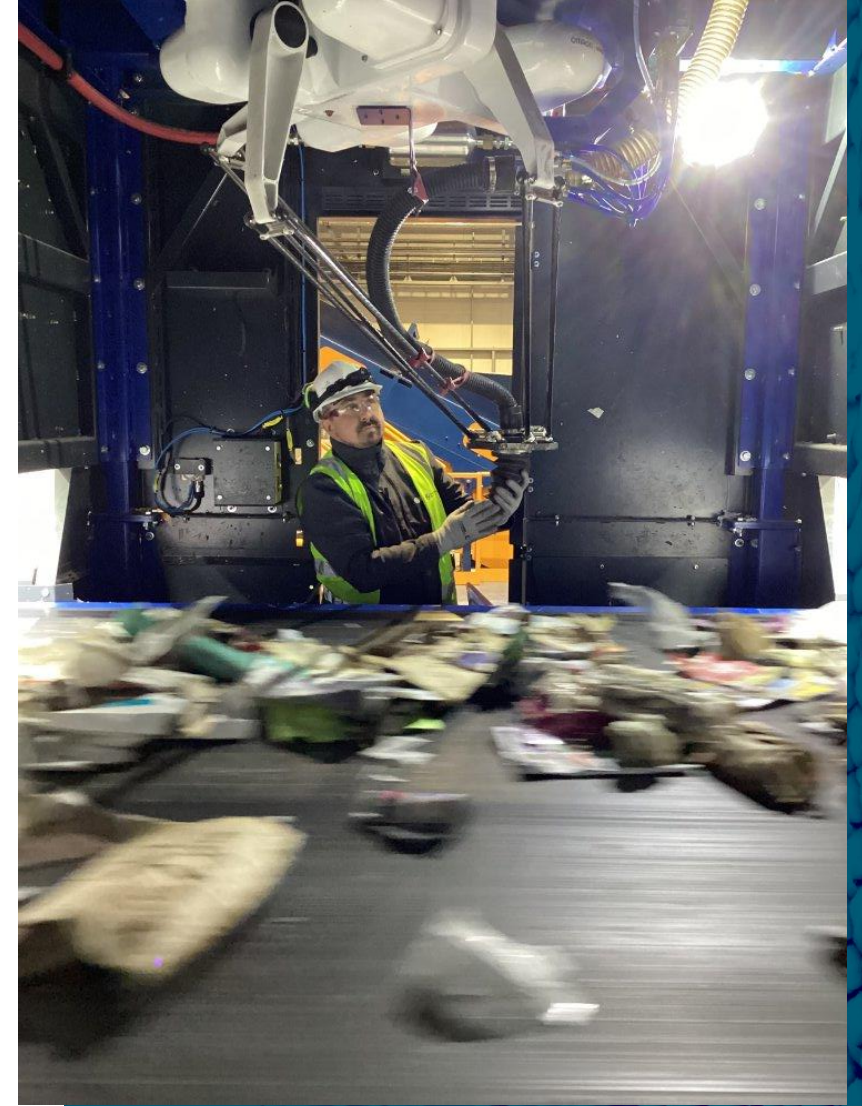
The local authority, legislative, regulatory, geo-political and environmental landscape are all facing significant change. This presents a chance to remodel how things are done and turn challenges into opportunities



Advanced Technologies

Integrated process with AI at its heart

- Optical technology that can relay material stream and composition in real time
- Analysis of material trends and behaviours through the process
- AI integrated into NIR and optics for deeper image and material recognition
- 18 SamurAI® robot arms autonomously separating residual items
- Agility to change interaction with material stream dependent on legislative or market changes
- Data capture throughout helping confirm process changes and material behaviour
- Film extraction throughout the process – including robot arms and optic sorters
- Film and packaging presented by residents in fully commingled bins kerbside and all partner authorities Simpler Recycling compliant ahead of 2027 target



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- A** Motion floor and drum feeder (1)
Material infeed
- B** Trommels (2)
Mechanical presort
- C** Manual Sorters
Oversized Presort
- D** MACH OCC Screen (1)
Cardboard sorting
- E** MACH Hyspec® - Optical Sorter (5)
News & Pams
- F** MACH Ballistic® (4)
2D & 3D Fraction Sorting
- G** MACH Hyspec® - Optical Sorter (4)
Mixed Paper
- H** SamurAI® - Sorting Robot (10)
Fibre streams
- J** Ferrous Metal Separator + Eddy Current Separator (2)
+ MACH Hyspec® - Optical Sorter (5)
Containers stream
- K** SamurAI® - Sorting Robot (8)
All container streams
- L** Single-Ram Baler (1) + II-Ram Baler (1)
Baling Fiber & Containers streams
- M** Optical Sorter + Glass Clean-up System (1)
Glass stream
- N** Compactor (2)
- O** Semi Automated Sampling Line

