

COMPLETE RECYCLING SYSTEMS



Delivering superior waste
management equipment

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Trommel Screens: Reliable Separation for Demanding Applications

Trommel screens are a cornerstone of modern recycling and waste management operations, providing reliable and efficient material separation. At CRS NI, our heavy-duty trommel systems are designed for performance, durability, and versatility — able to handle construction and demolition waste, commercial and industrial waste, mixed dry recyclables, gypsum, compost, and auto shredder residue (ASR).

How They Work:

Material is fed into a rotating cylindrical drum, which is fitted with perforations or mesh panels. As the drum rotates, smaller particles pass through the holes, while larger materials travel to the end of the drum for discharge. Internal lifters tumble and advance materials for maximum screening efficiency. CRS trommels feature robust steel construction, replaceable screening panels, and variable drum speed controls, ensuring long service life and minimal maintenance.

Applications Across Industries:

C&D WASTE:

Recover valuable aggregates from mixed rubble, soil, and concrete fines.

COMMERCIAL & INDUSTRIAL WASTE:

Efficient separation of packaging, plastics, paper, and residual materials.

MIXED DRY RECYCLABLES (MDR):

Separate light fractions like paper and plastics from heavier metals and glass.

GYPSUM RECYCLING:

Accurate separation of gypsum powder from contaminants such as paper and plastics.

AUTO SHREDDER RESIDUE (ASR):

Separates metals from non-metallic materials such as plastics, foam, rubber, and dust. CRS trommels are built to handle the rigours of ASR processing, providing durability and stability under heavy loads.



COMPOSTING AND ORGANICS:

Separate fine compost from oversize material, improving compost quality and reducing reprocessing time. The tumbling action of the drum handles moist or fibrous materials with ease, making it ideal for green waste and food waste processing.

Benefits of CRS Trommels:

- High throughput efficiency for large volumes of material.
- Low maintenance and long-lasting durability.
- Flexible, eco-friendly operation supporting sustainability and circular economy goals.

Our systems are fully customisable, with options for mobile or stationary installations, and integrate seamlessly into new or existing recycling systems.

[\[Read the Full Article\]](#)

The Role of AI and Robotics in the Future of Waste Management

The recycling industry is undergoing a technological revolution, with AI-powered systems and robotics transforming how facilities sort, process, and recover materials. At CRS NI, we integrate advanced automation to improve throughput, reduce contamination, and increase operational efficiency.

How AI is Revolutionising Sorting:

Traditional recycling relies heavily on manual picking, which can be slow, inconsistent, and costly. AI-powered optical sorters now scan materials using advanced AI algorithms to accurately separate plastics, metals, paper, and more. Key benefits include:

MATERIAL SELECTION:

AI can identify and pick any material you choose, ensuring precise separation and consistent quality.

ADAPTIVE LEARNING:

Systems continuously improve sorting performance as new materials appear.

EFFICIENCY:

Process larger volumes faster and more accurately than manual sorting.

ROBOTICS:

Speed, Precision, and Safety

Robotic arms powered by AI handle labor-intensive sorting tasks in MDR and other facilities. Advantages include:
Consistent Accuracy: Thousands of items sorted per hour with precision.

OPERATOR SAFETY:

Reduce human exposure to hazardous or sharp materials.

OPERATIONAL SAVINGS:

Lower labor costs and improve productivity.

Key Technologies Behind CRS Automation:

EDDY CURRENTS:

Extract non-ferrous metals like aluminium and copper.

MAGNETIC DRUMS:

Separate ferrous metals efficiently.

OPTICAL SORTERS (AI):

Precise material recognition and separation.



ROBOTIC PICKERS:

Handle complex or delicate sorting tasks.

BENEFITS OF INTEGRATING AI AND ROBOTICS:

- High-speed, reliable sorting with minimal human fatigue.
- Flexible systems that adapt to new materials or changing waste streams.
- Enhanced sustainability through improved recycling rates and reduced landfill waste.

CRS NI combines in-house plant design with specialist AI and robotic machinery sourced from original manufacturers, delivering fully integrated automated systems tailored to client needs.

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Recent Mobile System Installation



A recent mobile installation, delivered through our Polish dealer Powerstone, highlights the flexibility and innovation of CRS NI machinery.

This hybrid system is designed for maximum efficiency and adaptability, featuring:

CRS-038:

Equipped with a built-in Air Separation Unit (ASU) to extract light materials and a magnetic head drum for ferrous metal recovery.

CRS-021-SM:

Includes magnet and blowing fan options for precise material separation.

Mobile Conveyor:

Seamlessly links the two units for smooth and continuous material transfer.

The system can operate via onboard generators or directly from mains electricity and offers three configurable layouts to fit any site. This combination of mobility, hybrid power, and configurable design ensures top performance for a wide range of recycling operations.



Expanding into ASR Metal Recycling

We're pleased to announce that CRS NI now has the capability to design and build metal recycling plants, with a focus on Automotive Shredder Residue (ASR) systems. ASR recovery is a growing market that demands robust and adaptable plant design. Our engineering team has developed systems to efficiently separate ferrous and non-ferrous metals while maximising recovery rates and plant performance. With the introduction of our ASR plant design capabilities, CRS NI reaches another significant milestone in its ongoing growth within the recycling sector.



Product Highlight: Single Deck Flip Flow Screen



Reliability and performance — that's what keeps our customers coming back.

One of our long-standing clients recently replaced their old CRS screen with a new single deck flip flow screen, after testing several alternatives.

The result?

Ours was the only screen capable of efficiently handling their very fine material, delivering consistent throughput and clean separation.

This success story highlights how CRS NI equipment continues to outperform expectations — even after years of demanding use.

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“Our new CRS single deck flip flow screen was installed last weekend and is already exceeding expectations, delivering consistent throughput and clean separation on fine material.”

Gerard Flannagan, Director, Barry's Skips



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