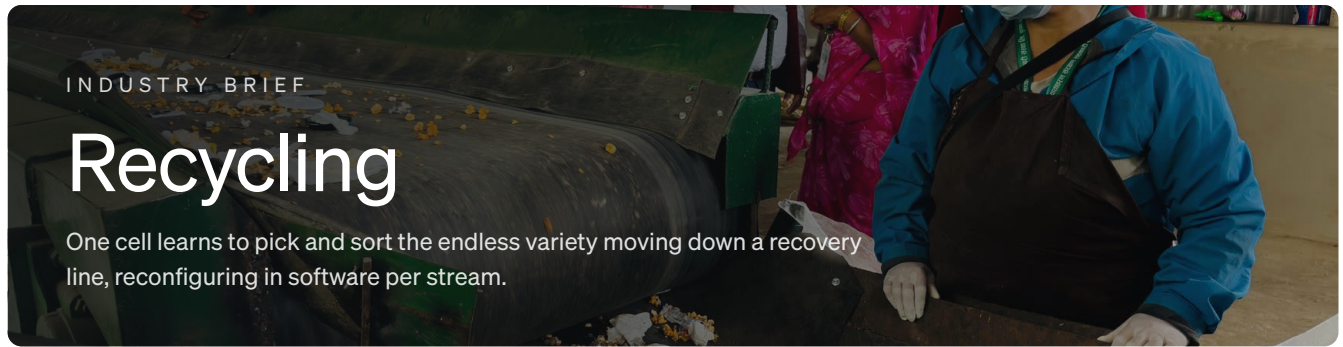




INDUSTRY BRIEF

Recycling

One cell learns to pick and sort the endless variety moving down a recovery line, reconfiguring in software per stream.

Recovery streams arrive unstructured: one conveyor carries crushed bottles, tangled film, shredded fiber, and contaminants in no fixed pose, and the mix shifts hour to hour. The dirty, hazardous picking line runs on manual labor that turns over constantly; the work fixed sorters and optical-only systems leave on the belt.

A Relling vision system identifies material on the stream by type, shape, and condition, and a single cell picks targeted items at line speed. Reconfigure it in software per stream, shift, or commodity with no retooling, and it handles positive sort, contaminant pull, and disassembly by loading different skills. Qualified at Relling HQ before it ships, then tuned on-site.

AT A GLANCE

Footprint	~2 × 2 m
Payload	12.5 kg
Reach	1.3 m
Placement	±0.05 mm
Power	Single-phase
Install	≤ 2 weeks

01 The work we take on

THE TASK PROFILE

A Unstructured streams Material arrives in random poses, overlapping and partially buried on a moving belt, with no fixturing and no two frames alike.	B Infinite variety The object set is effectively unbounded, so every brand, package, and broken fragment is a new shape the cell must recognize and grasp on sight.	C Dirty and hazardous Dust, sharps, fluids, and shifting loads make the line dangerous and punishing for equipment, demanding rugged, washdown-tolerant hardware.	D Variable condition Items are crushed, torn, soiled, or labeled over, so identity is inferred from partial, degraded cues rather than clean references.	E Speed under load The belt never stops, so perception, decision, and grasp must close within a narrow window as material flows past.
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02 Why now

THE CASE FOR MOVING NOW

Picking lines can't hold labor

Manual sorting is dirty, repetitive, and dangerous, and turnover runs extreme. Seats sit empty and recovery rates slip; a cell that picks every shift without churn keeps the stream moving.

Safety off the belt

Sorters reach into a stream of sharps, fluids, and unknown contents at speed. Moving people back from that hazard cuts injury exposure while holding throughput.

Clean streams pay

Diversion mandates rise while buyers pay for purity, and a point of contaminant decides a bale's price. Consistent perception-driven sort lifts grade and turns recovered material into a higher-value commodity.

OEMS WE WORK WITH


FANUC
KUKA
ABB
YASKAWA

03 What we automate in Recycling

TASKS ON THE LINE

A Positive sort

Pick target PET, HDPE, aluminum, or fiber off the belt into the correct stream.

C E-waste disassembly

Separate components from devices and route boards, metals, and plastics by type.

E Color sorting

Divide containers by resin color to lift bale grade and commodity value.

G Infeed metering

Meter material onto the line at a steady rate to keep pickers evenly loaded.

B Contaminant removal

Pull rejects and off-spec material out of an otherwise clean recovered stream.

D Film and bag removal

Lift loose film, wrap, and bags that foul screens and jam downstream equipment.

F Bale quality control

Inspect outgoing bales and remove stray contaminants before they are baled.

H Palletizing

Stack sorted bales and bins onto pallets for shipment off the floor.

WHAT A CELL HOLDS

≤ 2 wk

Install to running on your floor, not months of integration

±0.05 mm

In-hand placement for fit- and safety-critical parts

100%

Inspection on every part — checked, not sampled

Representative configuration. Final specs are issued with the proposal.

04 Working with us

FROM YOUR PART TO A QUALIFIED CELL, IN UNDER TWO WEEKS ON-SITE

A · SCOPE & PO

We start with your part

A short scoping engagement confirms fit, sets acceptance criteria, and puts a fixed price in writing — capital or robotics-as-a-service.

B · PRE-BUILD AT RELING HQ

We build & qualify it first

We build and run the cell against your parts on our floor until it meets acceptance. The trial-and-error happens here, not on your line.

C · ON-SITE CONFIGURATION

It arrives pre-built

The qualified cell shows up ready. On-site is tuning, not assembly: under two weeks to integrate line, MES/ERP, and safety.

D · ACCEPTANCE & FIRST UNIT

Proven, then handed over

We run supervised until your safety engineer signs off and the cell hits its numbers. Maintenance and software updates are covered.

05 Let's talk

We started Relling to help this country make more of what it needs. If a task is hard to staff or automate, send it over — we'll tell you straight whether a cell fits.

Talk to us: jai.relan@rellingsystems.com · rellingsystems.com

EXCEPTIONAL ENGINEERING, TEAM FROM

