



RECYCLEYE

Your competitive advantage. Sorted.

Differentiate your designs by offering your clients future-proofing flexibility.

Recycleye.com
See the potential

Your objectives. Sorted.



Flexible designs

adapt to different council
contracts & upcoming
regulations



Differentiate bids

from competitors, whilst
advising reliable technology



Expertise

position yourselves as
advisors in the industry

Who we are.



50 expert team members.



UK-based.



Installed in 8 countries.

1.6 billion images compiled.



45 systems installed.



3 products.

Trusted partnership. Sorted.



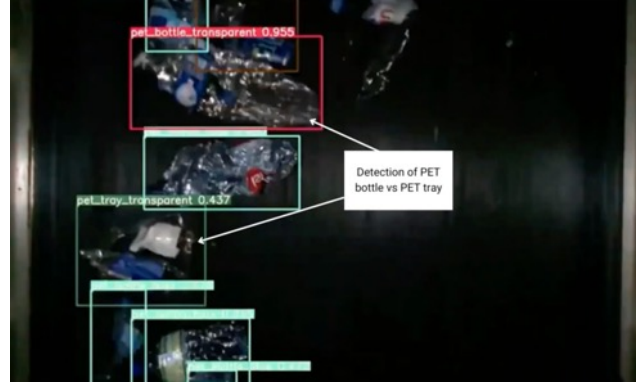
Extraordinary performance.
Sorted.

Recycleye.com
See the potential

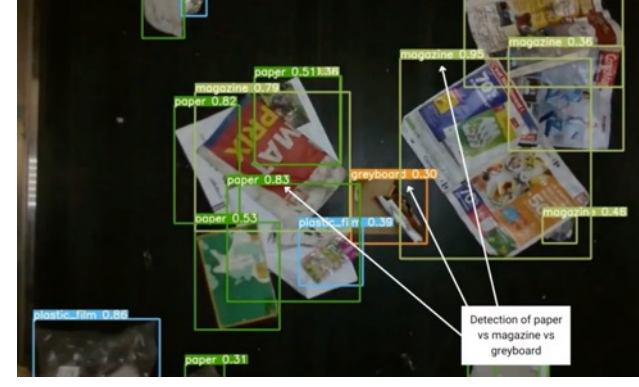
Limitless material classes. Sorted.



HDPE line.



PET line.



Paper line.



Mixed DMR line.



WEEE line.



Metal line.

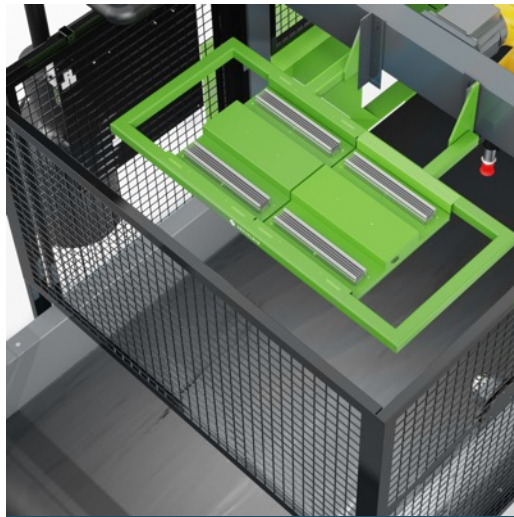


Aluminium line.



Residual line.

Our solutions: with AI at the core.



Insights

Trend insights on scanned material



Robotics

Targeted, reduced cost QC



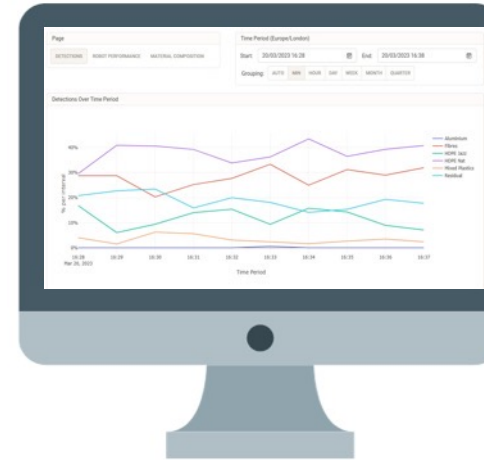
Optical sorters

Accurate, high-volume sorting at speed



RECYCLEYE

Our solutions: **AI-powered insights.**



Near real-time data.
Uploads when connected to internet.



Sample 100% of your waste.
Exhaustive compositional trends.



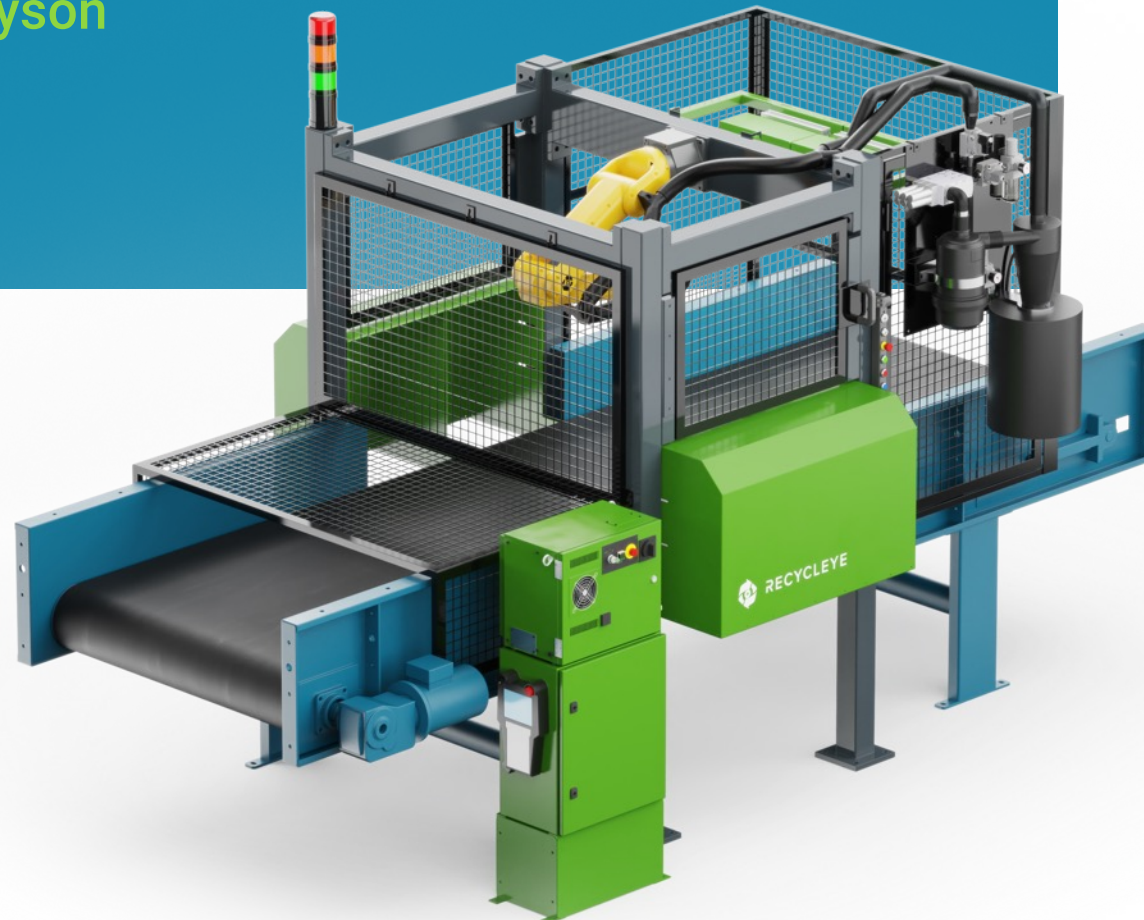
Track your equipment.
Monitor robot availability & performance.

Our solutions: **AI-powered robots.**

"We decided to purchase 4 further robots from Recycleye, following the great results of the first one."

- **Jarek Stanislawek, Bryson**

Bryson
Recycling



Lighter + smaller robots.
75% lighter, easy to retrofit and maintain.



Pick, rotate + shoot function.
Efficient picking operation.



No empty movements.
Pressure sensors detect successful picks.



Modular options.
Add multiple sequential robots during retrofit.

Our solutions: **AI-powered robots.**



Consistency. Sorted.



- No change in performance throughout the day
- No toilet break / holidays
- No recruiting / training
- No accident / H&S issue
- No salary increase
- No PPE cost

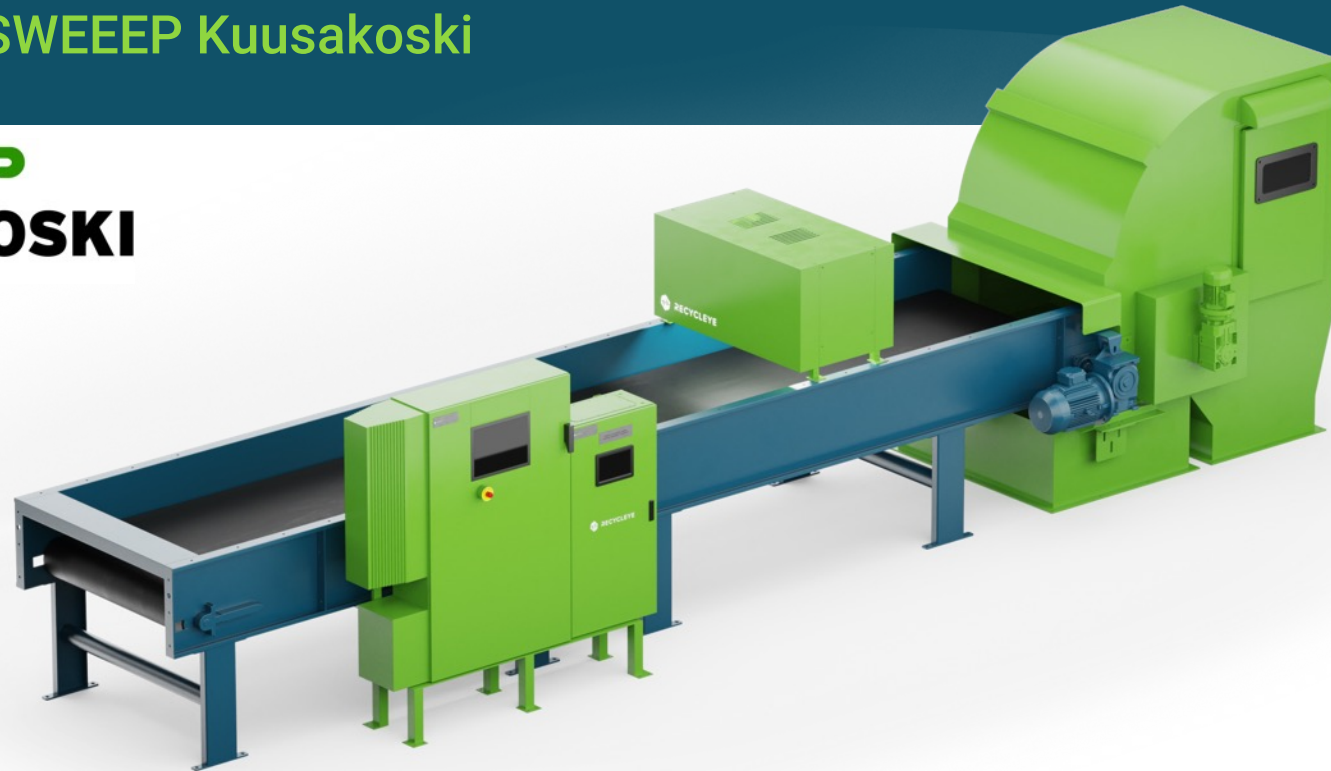
Picks / minute



Our solutions: **AI optical sorter.**

"This innovation will not only increase the value of our material output through additional purity, but also safeguard our staff and facilities due to the 24/7 battery detection."

- **Barry Walker, SWEEP Kuusakoski**



High volume sorting.
To unprecedented granularity.



A world-first AI innovation.
For your MRF.

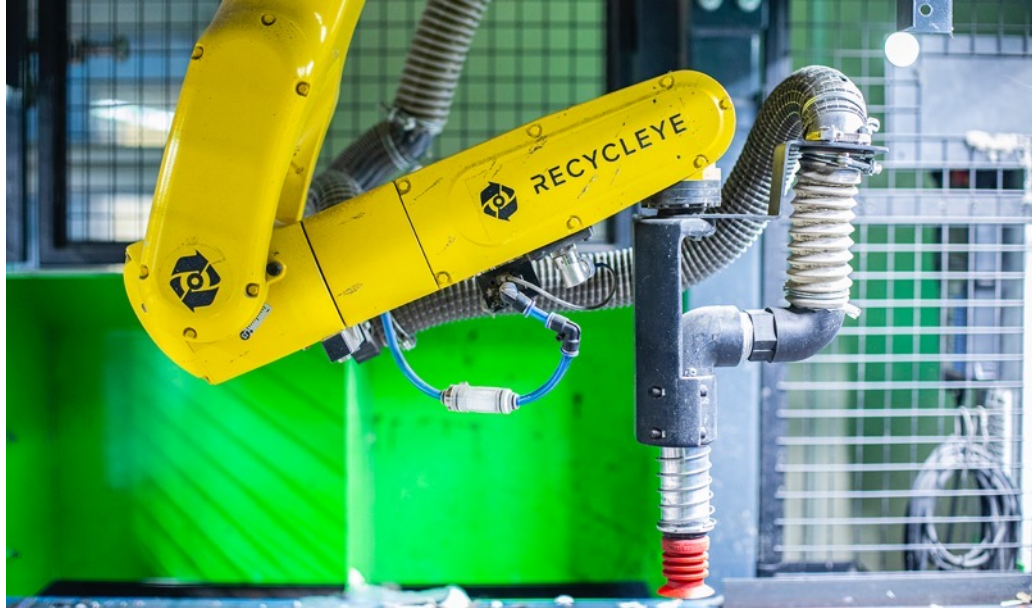


Variable configurations.
9 different widths, 3 ejector
configs available.

Our solutions: **AI optical sorter.**



2 solutions for 2 challenges.



Robotics – easy retrofit.

- Automate manual quality control lines
- DMR material streams
- Targeted picking, up to 55 per minute
- Up to 4 picking categories



Optical sorters – bulk sorting.

- Bulk sorting at hundreds of ejections per minute
- DMR, WEEE and C&D
- Binary sort into 2 streams

**The newest addition to your
toolbox.
Sorted.**

Recycleye.com
See the potential

AI explained.

Artificial intelligence

Computers mimic human intelligence using logic, if-then rules, etc.

Machine learning

Statistical techniques that enable machines to improve tasks with experience – pattern spotting.

Deep learning

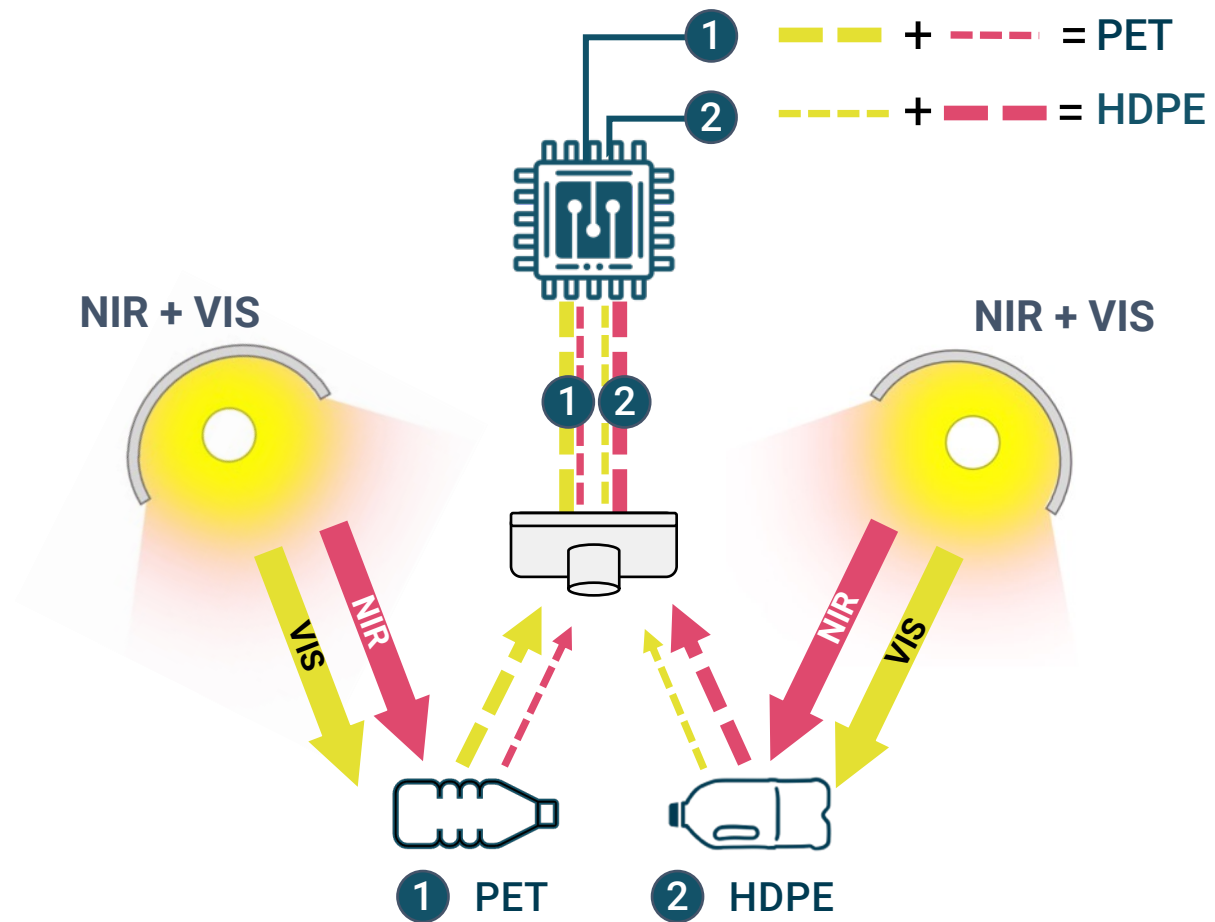
Multi-layer neural networks.

Computer vision – CNN

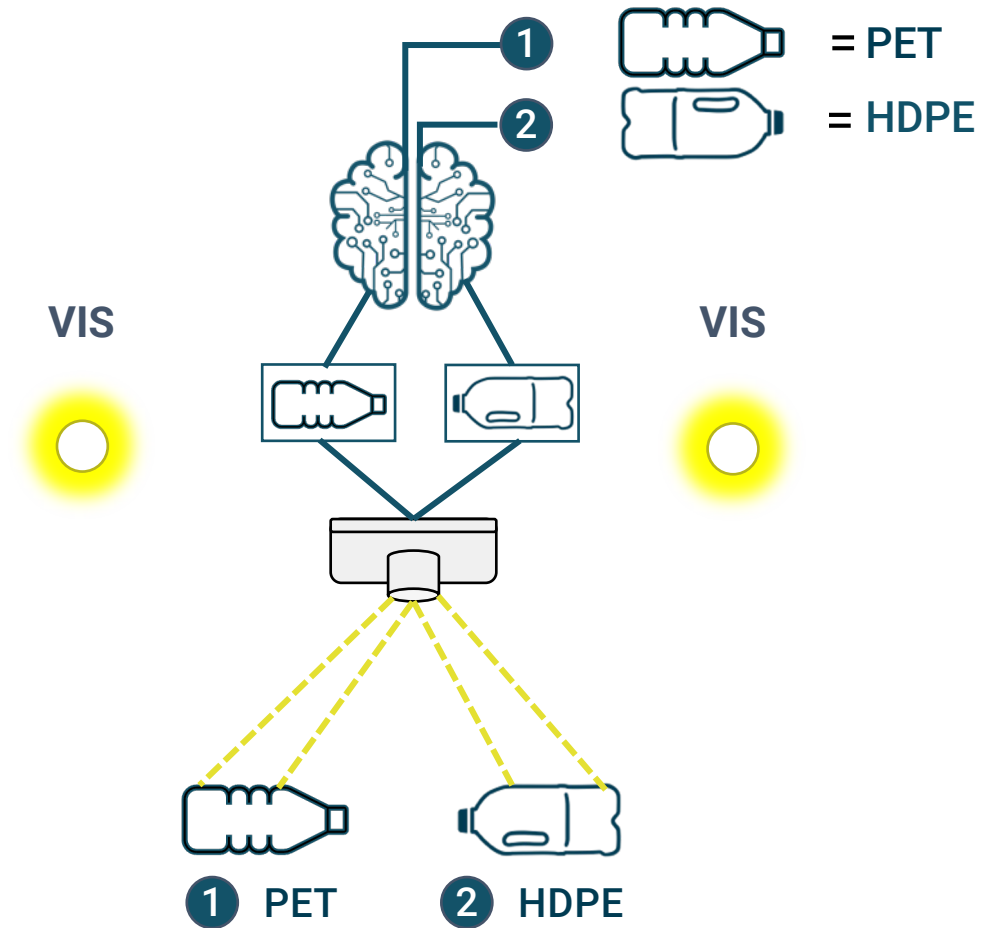
Image analysis.

Optical sorting comparison: NIR v AI.

Conventional optical sorting.

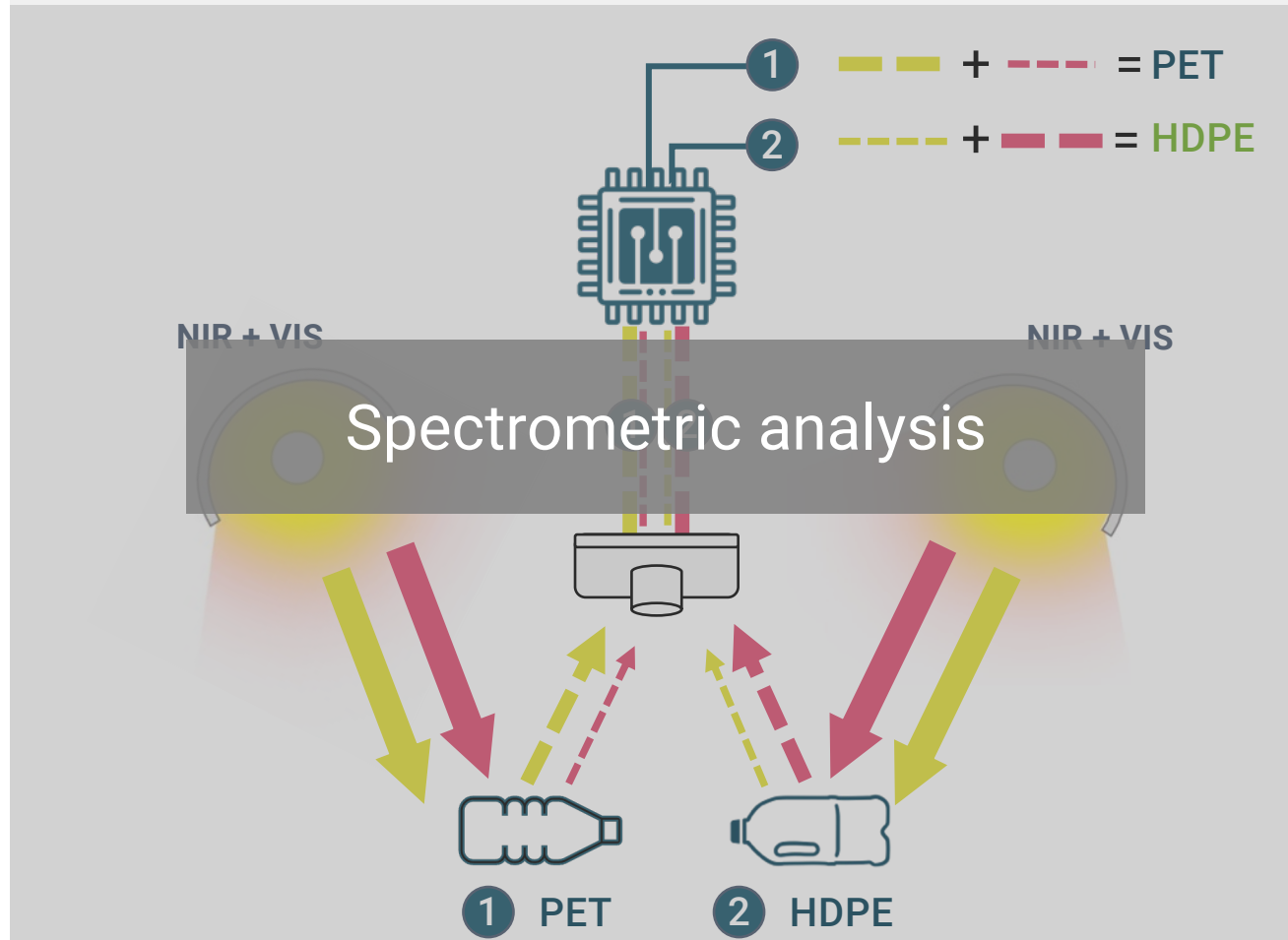


Artificial intelligence.

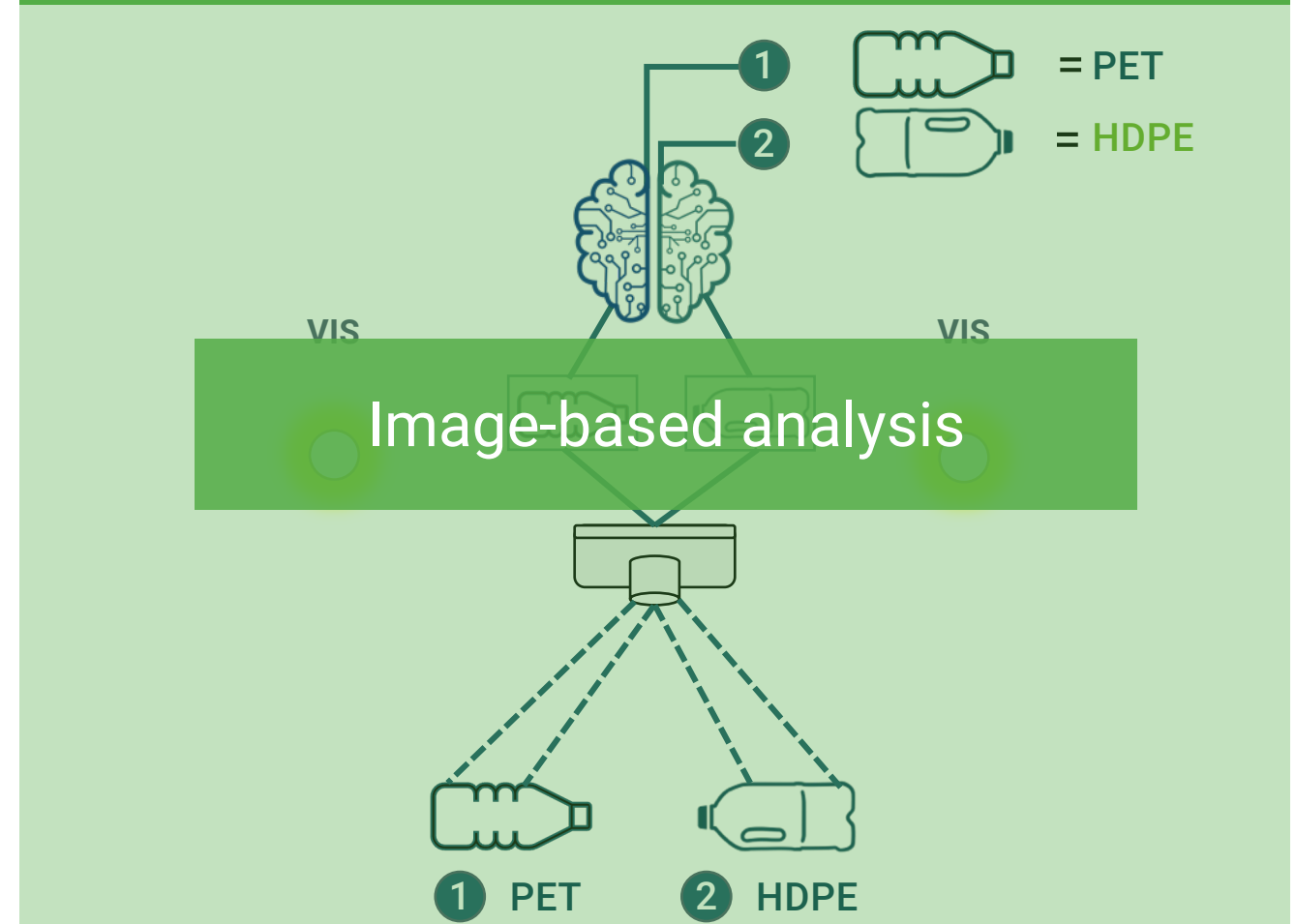


Optical sorting comparison: NIR v AI.

Conventional optical sorting.



Artificial intelligence.



Optical sorting comparison: NIR vs AI.

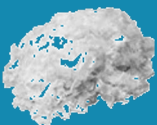
Eg. transparent PET bottle sort: 



Same shape / visual features but different materials



Transparent PP bottle



PET flakes



HDPE bottle



Coloured PET bottle



Aluminium



Fibre



Films



PP pots

Same materials but different shape / visual features



Sleeved PET bottle



White PET bottle



Non-food PET bottle



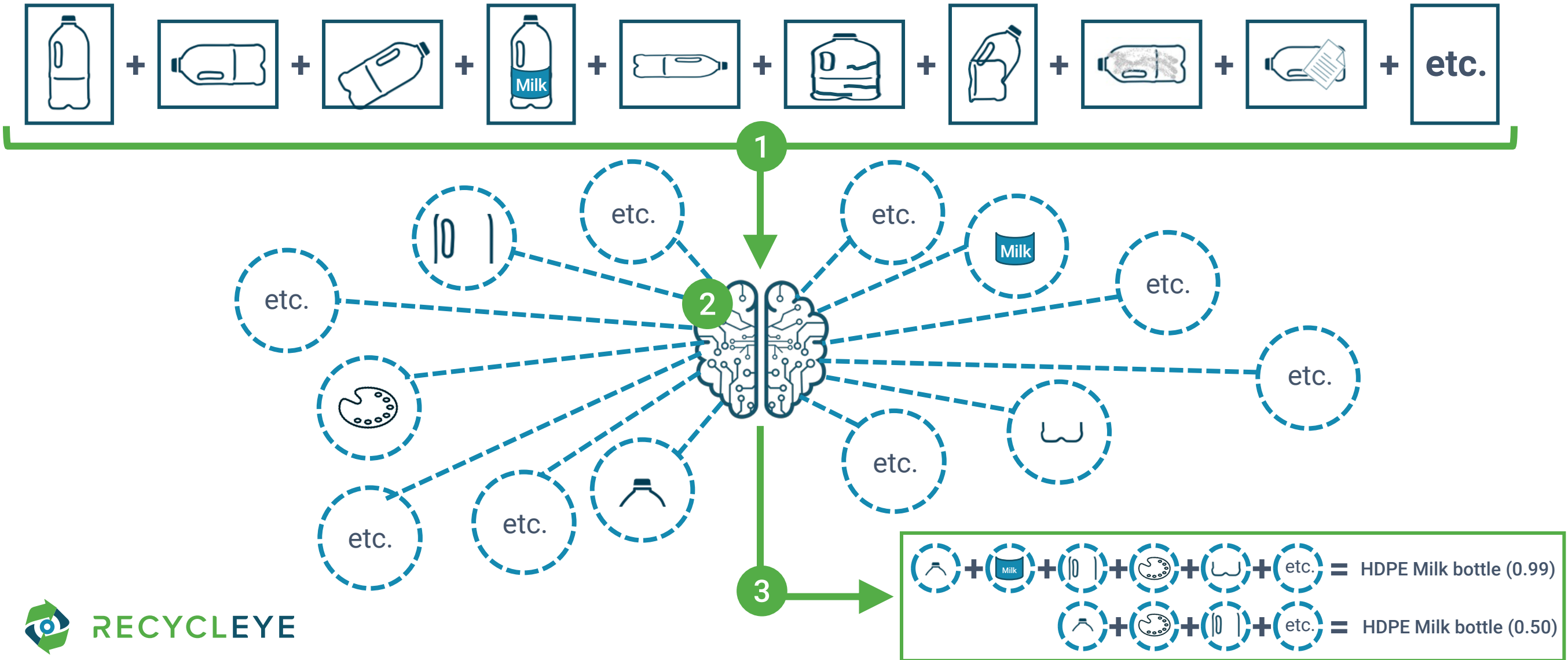
PET tray



Black PET

Training AI.

e.g. UK milk bottle



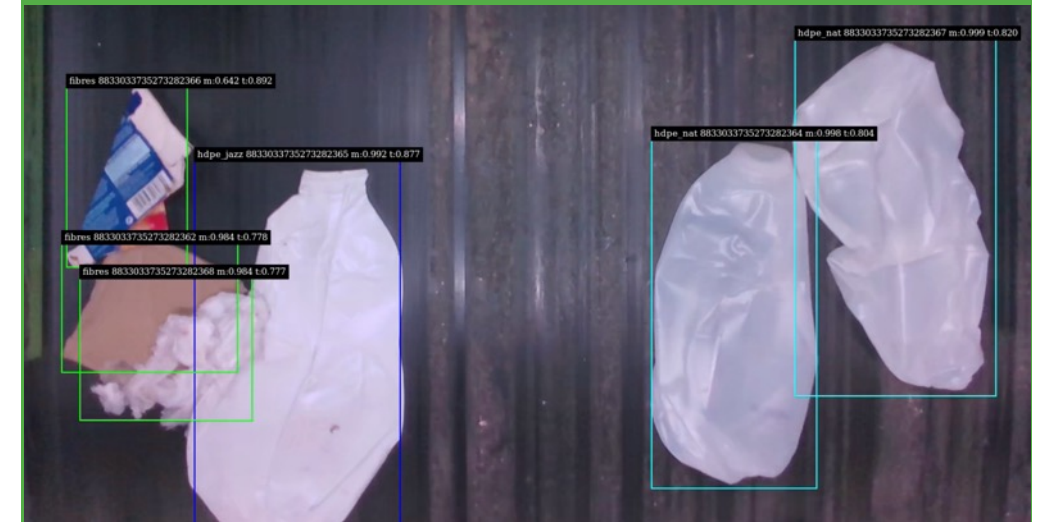
Training AI.

e.g. UK milk bottle

Labelling



Model



Accurate detections. Sorted.





RECYCLEYE

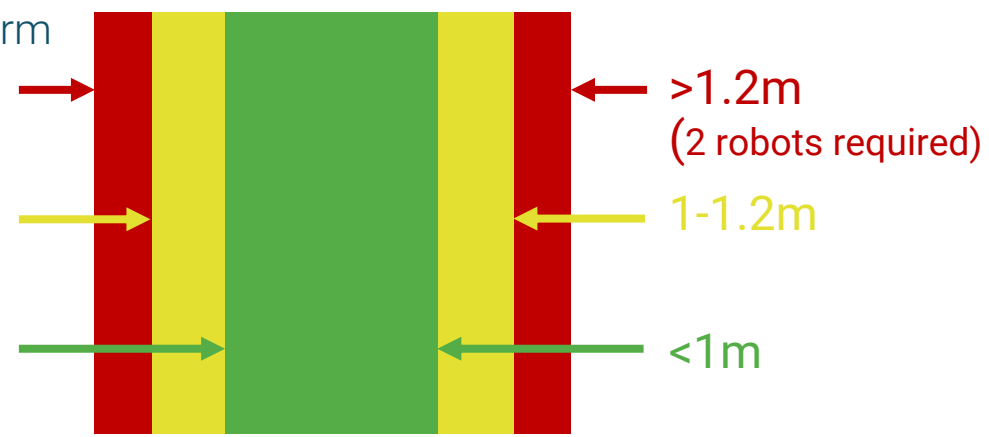
Future-proofed designs.
Sorted.

Recycleye.com
See the potential

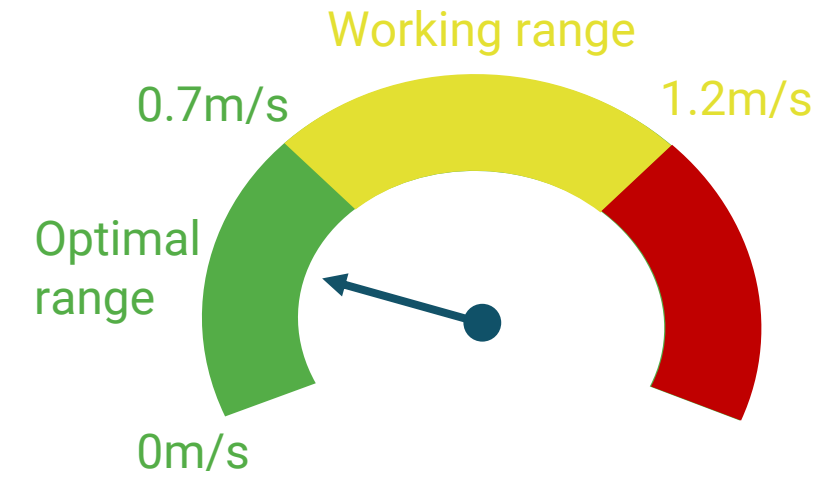
Successful robots: line characteristics.

Width

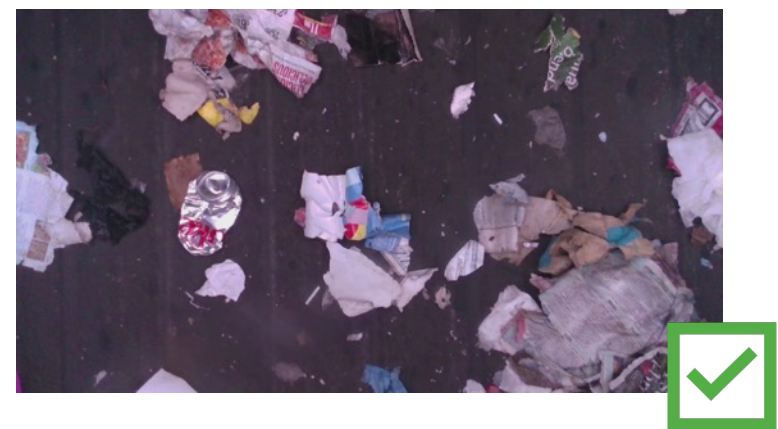
Per robotic arm



Speed



Density

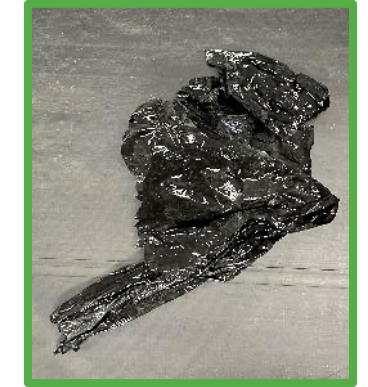


Monolayer with minimal overlap for correct picking

Successful robots: **object characteristics.**

Type of objects suited for suction extraction

Objects with mechanical properties that allow a suction system to create vacuum e.g. household DMR: aluminium, PET, HDPE, fibres, beverage cartons, etc



Type of objects not suited for suction extraction

Objects that will not allow a vacuum to be formed e.g. non-household DMR, including textiles, organics & shredded paper



Successful robots: **pick rate.**

From 15 to 55 picks / min
per robotic arm

Pick rate is dependent on line
characteristics:

- Belt speed
- Belt width
- Required purity
- Number of items available

Real example of robot activity over 1 minute

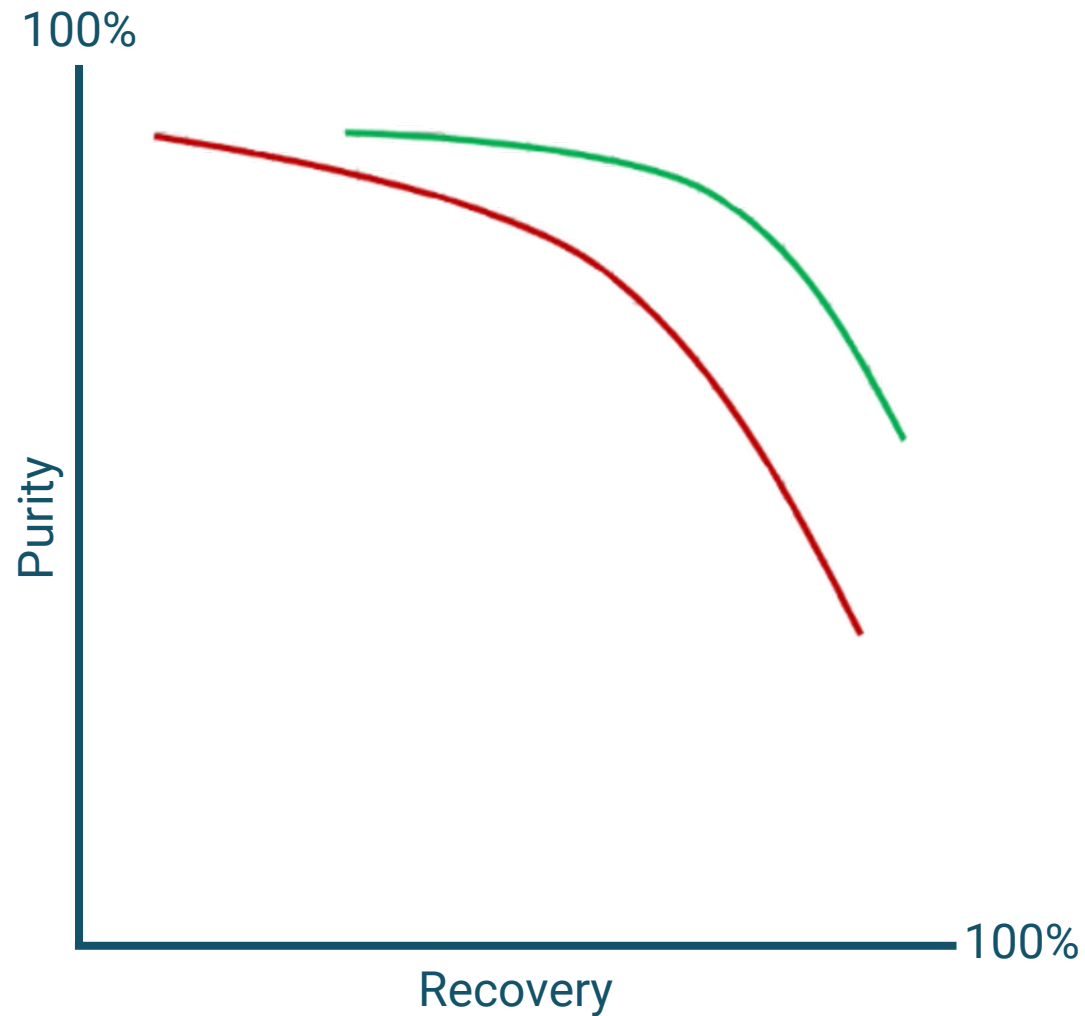


[Link to dynamic calculator](#)



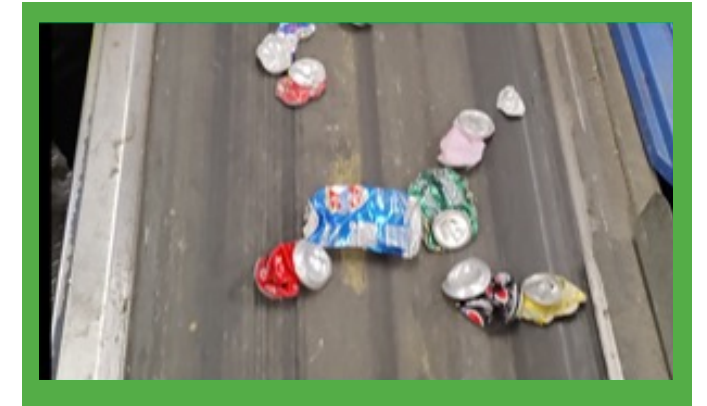
RECYCLEYE

Successful robots: **purity vs recovery.**



$$\text{Purity rate} = \frac{\text{Number of target items extracted}}{\text{Total number of extracted items}} \times 100$$

$$\text{Recovery rate} = \frac{\text{Number of extracted items}}{\text{Number of available items}} \times 100$$



Successful case studies.



Bryson
Recycling

3 robots picking valuables
from fibre QC

2 robots picking valuables
from residual line



Panda

2 robots removing
contamination from mixed
paper line

1 robot removing
contamination from
aluminium can line

1 robot picking beverage
cartons from residual line



FCC
Environment

1 robot sorting HDPE
Nat/Mixed Plastics split-
stream

55ppm

99% purity

+12% volume



cireco

3 robots recovering PET and
aluminium from residual line



LEVENSEAT

1 robot removing wine bottle
lids from aluminium can and
aerosol stream

Up to 53ppm

2 FTEs replaced



+ more installed at industry leading facilities across Europe.

The full package. Sorted.

Recycleye.com
See the potential

Deliver a connected system.

Onsite connectivity



Integrates to your client's site management system e.g. SCADA



Connects via hard-wired ASI, hard-wired contact or ethernet profinet.



Control room visibility on stationary or faulted robot, allowing client remote start, stop & reset.

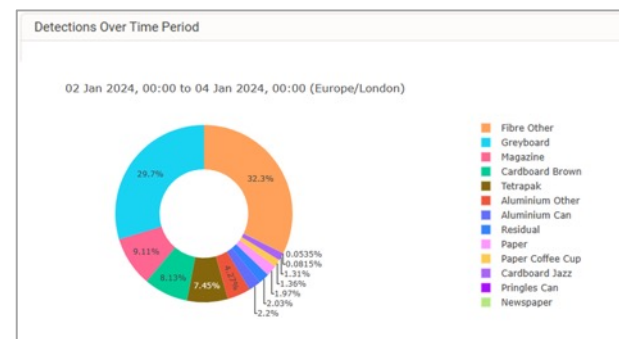


RECYCLEYE

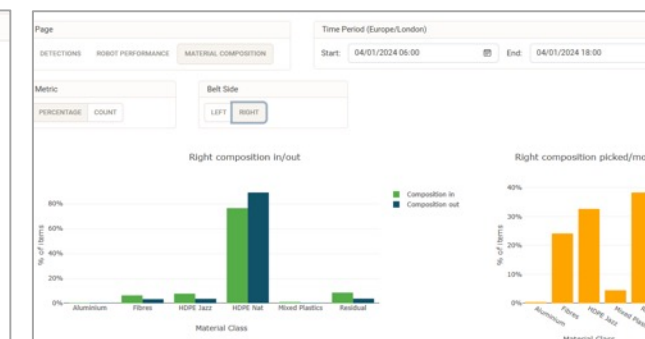
Remote dashboard



Compositional analysis



Robot performance



Customisable time range

Per shift, per week, per month



Accessible anywhere

Remote and local monitoring



Exports to Excel

For detailed analysis

Simple maintenance. Sorted.

Client responsibility



Daily

- Check suction cup health
- Check vacuum hose health
- Clean dirt from vision camera

 10 mins

Weekly

- Clear pressure sensor air filter
- Empty dust filter
- Clean end effector
- Inspect door interlocks
- Empty cyclone drum

 30 mins

Reliable support. Sorted.

Our support package



Preventative maintenance

- Provision of spare parts
- 3 x 1-day maintenance visits per year
 - ✓ 2 for the system
 - ✓ 1 for the robotic arm



Emergency support

- Remote assistance & monitoring (20 h/y) assisted by IP camera
- 1 x 1 day emergency site visit



Performance optimisation

- Bespoke model tweaking (<20h/y)
 - ✓ New objects
 - ✓ Class picking changes
- Free robot software upgrades
 - ✓ Increase efficiency
 - ✓ Increase speed



Simple installations. Sorted.



Fast retrofit to existing belts, during plant downtime.



No plant modifications, simple + low cost.

"The single biggest reason we decided to go with Recycleye is that they fit their machine into our existing infrastructure."

- Liam Dunne, Panda



Quick, low cost retrofit by a small team during plant downtime.



RECYCLEYE

Your trusted supplier. Sorted.



Customer focussed approach.



UK-based team.



45 installations worldwide.



Retrofittable at low time + cost.



Experience in all DMR material streams.

Multi-lingual support team.



Design a robot-ready plant now.



Offer a retrofittable solution now or later.

Your next innovation. **Sorted.**



hello@recycleye.com

Recycleye.com
See the potential.

Consistency. Sorted.



- No change in performance throughout the day
- No toilet break / holidays
- No recruiting / training
- No accident / H&S issue
- No salary increase
- No PPE cost

Lifetime cost

