DESCRIPTION AND BENEFITS

REQUEST YOUR DEMO!

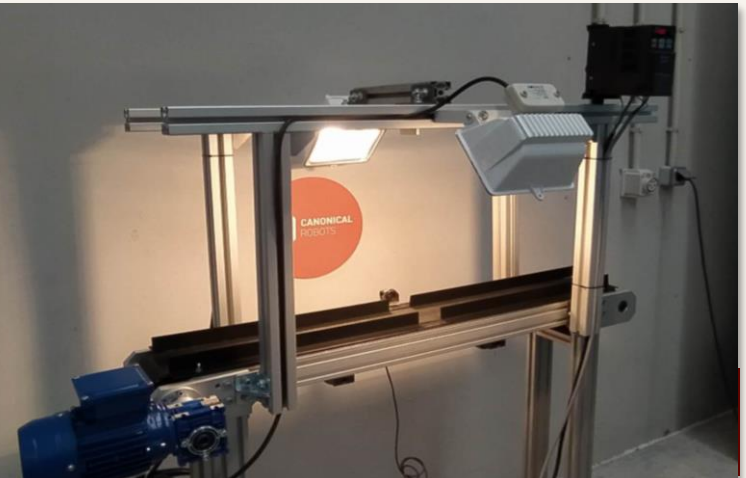
DESCRIPTION

CIRPLASTIC is one of the most recent and innovative developments we are working on. It is an automated plastic pellet classification system that uses **hyperspectral vision** to accurately identify the material's composition while being transported on a high-capacity conveyor belt, ensuring a continuous, efficient, and highly precise process.

CIRPLASTIC is designed to streamline and enhance the recycling process. With a minimal impact on the total plastic certification cost—less than 0.1%—it enables recycling and manufacturing companies to obtain higher-purity materials, achieve their goals, and comply with the strictest environmental regulations efficiently and effortlessly.

Benefits

- Higher material purity
- Efficiency and speed
- Waste reduction
- Regulatory compliance
- Sustainability and profitability
- Resource optimization
- Enhanced traceability



Cirplastic

CANONICAL ROBOTS

Classification System for efficient and profitable plastic recycling for a Circular Economy

CANONICAL ROBOTS

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Co-funded by the European Union

CIRPLASTIC

CURRENT CHALLENGES

Companies face major challenges in plastic recycling, including contamination, inefficient sorting, low recycling rates, and high operational costs. Stricter regulations and growing demand for high-quality recycled plastics add further pressure. Traditional methods are slow and error-prone, reducing profitability.

An advanced plastic classification system improves material purity, boosts efficiency, and ensures regulatory compliance. Automation reduces costs and increases throughput, making recycling more viable. By enhancing sustainability and profitability, these systems are essential for a circular economy and a competitive recycling industry.

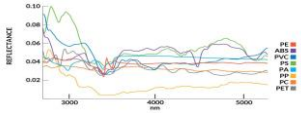
WHAT IS CIRPLASTIC

CIRPLASTIC is a **Canonical Robots** solution designed **to classify various types of plastics.**

It is an automated plastic pellet sorting system that uses **hyperspectral computer vision** to accurately identify the material composition while it is being transported on a high-capacity conveyor belt, ensuring a continuous, efficient, and highly precise process.

This data forms a unique "**spectral fingerprint**" for each material, which can be analyzed using sophisticated algorithms to identify and differentiate between various materials with high accuracy

Different plastics display unique spectral features due to their molecular composition. As a result, when operating in the MWIR range, HSI can distinguish between different plastic types.



END-USERS

PRODUCERS (RECYCLING)

Plastic waste classification companies separate, clean, and shred plastics for recycling. They use advanced technology to classify plastics by type and remove contaminants. The shredded plastics are sent to recycling plants to create new products. They also manage non-recyclable waste. Their aim is to reduce landfill waste and support a circular economy.

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Benefits

- ✓ **Enhanced Quality**: improve pellet consistency and reduce impurities.
- ✓ **Certification Compliance**: obtain plastic certifications to boost credibility.
- ✓ **Operational Efficiency**: streamline processes for premium pricing and competitive advantage.

CONSUMERS (MANUFACTURERS)

Companies using recycled plastics transform plastic waste into new materials for industries like construction, fashion, and automotive. Their goal is to reduce the use of virgin plastics and promote sustainability through a circular economy.

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Benefits

- ✓ **Enhanced Quality**: improve pellet consistency and reduce impurities.
- ✓ **Certification Compliance**: obtain plastic certifications to boost credibility.

RAAS BUSINESS MODEL

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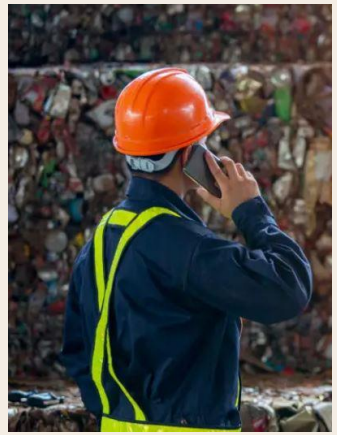
CIRPLASTIC, through its **RaaS (Robots as a Service) business** model, offers a flexible and low-risk solution for companies looking to optimize their recycling processes. This approach allows companies to access our technology through a subscription or rental model, rather than making a large initial investment. In this way, costs are reduced and the adoption of automation is made easier without committing significant financial resources.



Key Metrics from RaaS Implementation

- ✓ **Increase in the price of the plastic of 0.2%**
- ✓ **Total year plastic processing capacity: 30.3K Tm**
- ✓ **Price Robot as a Serice model: 405 Kg/Euro**

End-users benefits:

- ✓ **Operational cost reduction**
- ✓ **Increase in the price of the plastic of 0.2%**
- ✓ **Adaptability and scalability**
- ✓ **Certification and Reusability**
- ✓ **Enhance brand image**
- ✓ **Access to new markets that require supply chain transparency**