Who we are

"*Byewaste believes in a world where people see waste as value. A world where recycling and re-use of products is a "first-to-mind" thought. We have the technology, knowledge and innovations necessary to live in a waste-free world. Now it is our turn to make this accessible for the citizens*."

Byewaste is a start-up company based in Rotterdam, developing a software platform to help citizens to get rid of their unused items. We develop an up-cycling solution which combines AI and smart logistics to eliminate the clutter around. Our mission is to simplify the reuse and recycling of non-traditional household waste such as electronics, books, toys and textiles with a door-to-door collection. Objects that are in good condition are shared to thrift stores or otherwise recycled. The platform connects citizens who have waste with recyclers and large thrift store chains interested in these items.

Byewaste combines behavioral economics approaches with modern last-mile solutions to move items in an economically and environmentally sustainable way. Our goal is to create a circular economy system for items stored at home, such as small electronic appliances and textiles, preventing everyday objects from ending up in the trash and increasing their reusability by closing the loop between citizens and recyclers.

Byewaste offers its solution to the municipalities that are looking for circular solutions to meet the new EU directives. Despite new EU regulations and environmental initiatives, recycling rates are low. In the Netherlands, for example, only 40% of electronic appliances are recycled, or, in the worst case, 70% of textiles are simply thrown in the regular trash. Waste companies have trouble meeting environmental goals because all of today's solutions are too expensive and out of date. On the other hand, citizens have little motivation or little interest in recycling because effective solutions require too much effort. Byewaste's research and results have confirmed that citizens are aware of sustainability but have little time to reach a collection point or thrift shops.

Citizens open the app or web app and choose the pickup day and time slot. They indicate what and how many items they want to get rid of and Byewaste collects the items. All items get an optimal second life through thrift stores or they get recycled. Hereby, primary production of new materials, incineration of materials at the end-of-life, and transportation required for primary products to reach consumers are avoided.

The company is already active in the whole municipalities of Capelle aan den IJssel, Rotterdam[1] and expanding soon to Schiedam and Krimpen aan den JIssel. The collection in Capelle is mostly carried by partners like Het Goed NV, one of the largest thrift shops in the Netherlands, while in Rotterdam we partner with Pakkethelden, a cargo bike delivery service that employs social workers. The service is still totally free for citizens, but we are re exploring a freemium model once citizens have many boxes at once and collect tips.

[1] https://openrotterdam.nl/recyclen-in-rotterdam-nog-makkelijker-door-app-bye-waste/

Our case

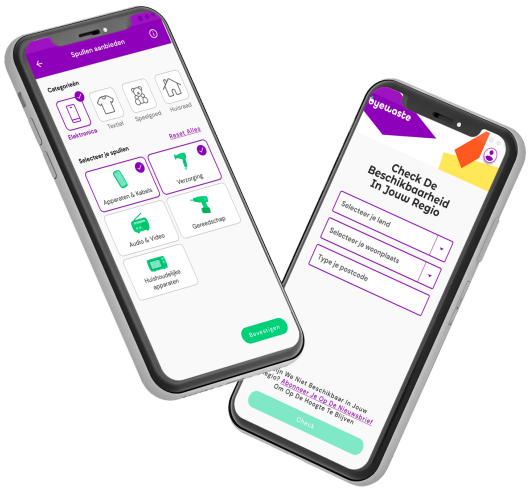
The goal of this project is to create a specific sustainable impact measurement system for old items which can be reused, repaired or recycled, powered by AI-scanning technology. Using this, we will create a circular economy network within the local municipalities, connecting citizens' old items with sustainable entrepreneurs, while generating social impact by providing meaningful jobs to people with a distance to the labor market.

Setting up a specific sustainable impact measurement system is incredibly complex due to the varying nature and quality of items. Accurate sustainable impact reporting is something many businesses and (local) are struggling with and which is slowing down climate action. Therefore, a specific sustainable impact system which determines the item, assesses its quality, assigns a destination, and estimates the corresponding sustainable impact is a truly innovative combination of technologies and expertise. This could potentially benefit nearly all parties involved with reusing, refurbishing and recycling.

Byewaste will develop the AI-scanning technology which powers the sustainable impact measurement system. Byewaste is looking for a motivated student to work with our team of 11 people, including top-class software engineers and data scientists. The AI-scanning technology will learn based on visual inputs of the items collected. Ultimately, the AI-scanning technology should be able to recognize an item, assess its quality, and assign a destination. The destination is based on the item and its quality. For example, a damaged phone can go to a refurbisher, whereas a torn t-shirt can go to a textile recycler. These activities will be performed at Byewaste's facility and at the Byewaste's office.

Contacts

tommaso@byewaste.app



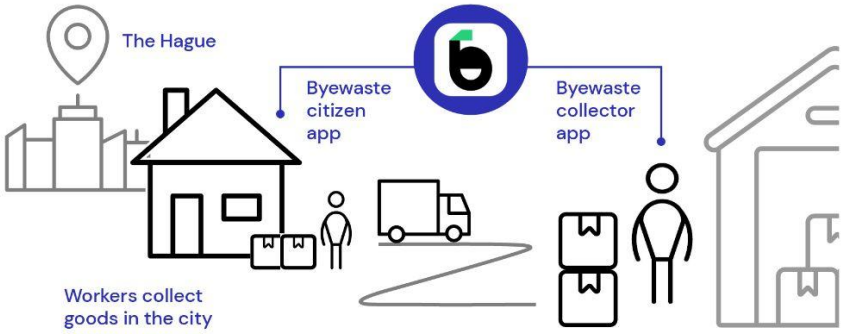
byewaste
SIMPLE. USEFUL. NOW

Sustainable Impact Measurement System

powered by AI-scanning technology

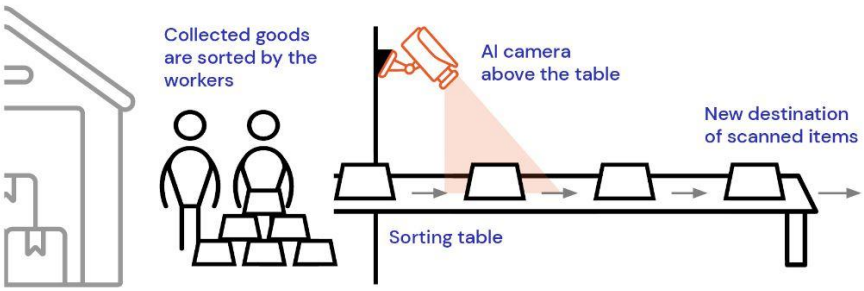
step 1

Collection of goods



step 2

Sorting at the warehouse



AI-scanning technology	ITEM'S TYPE	ITEM'S QUALITY	ITEM 'S DESTINATION	ITEM'S IMPACT
	Categorization of the item	Broken, to be repaired or reusable	Choice of sustainable destination	Calculation of the sustainable impact

THE CAMERA

It scans the items to identify and register their characteristics.

THE SUSTAINABLE IMPACT

It is calculated by matching the item's destination with an index number determined by Universiteit Leiden.