

# Next level recycling with IoT

PLASTIC



GLASS



Non-recyclable waste



## Business needs

A way to transmit information from smart recycling bins to make it easy for customers to claim carbon credits

## Networking solution

AT&T Internet of Things connectivity enables rapid data delivery to the SmartSort dashboard

## Business value

Streamlined operations and technology that promotes recycling, thereby supporting environmental sustainability

## Industry focus

Post-consumer waste diversion and recycling technology

## Size

Late phase start-up

## About SmartSort

SmartSort Technologies is a Software-as-a-Service (SaaS) provider. Its technology improves recycling and increases revenues at venues like stadiums and arenas, airports, hotels, and grocery stores. The company empowers single-system data monitoring and aggregation to a large collection of individual systems. The systems and monitoring are linked together across all stakeholders.

## The situation

The revolutionary SmartSort system uses artificial intelligence, machine learning, and computer vision to deliver predictive analytics on consumer patterns, behaviors, and preferences. SmartSort required reliable, high-performing connectivity to measure recycling efforts and document corporate social responsibility activities.

## Solution

AT&T Global SIM delivers end-to-end connectivity to SmartSort bins, which promote recycling. Organizations that rely on this breakthrough solution then collect and use the data to refine and optimize their recycling and sustainability programs. AT&T Control Center, AT&T's premier SIM management portal, makes it a snap to deploy and manage SmartSort bins.

## Recycling simplified

Recycling is an important part of preserving the environment and reducing the carbon footprints of individuals and organizations. However, people are often unsure of what goes into the recycling bin. This leads to non-recyclable materials entering the recycling stream, or to people throwing things away because they don't understand what can and can't be recycled.

SmartSort CEO and founder Cris Luce says the lowly trash bin is the single biggest barrier to successful consumer waste diversion. He and his partners founded SmartSort to overcome the problem of improper disposal, which dooms many recycling efforts. Contaminated waste streams jeopardize recycling and composting efforts.

The company designed a high-tech container equipped with a camera and sensors that can detect the type of waste that is being placed in it. As people approach, the SmartSort technology notices and recognizes the items they plan to dispose of, and shows them which waste stream (recycle, compost, reuse, or landfill) the waste item belongs in. This helps to reduce the amount of time and effort needed to sort and recycle waste and reduces the amount of waste that ends up in landfills.

## Documenting social responsibility

The SmartSort solution is an Internet of Things (IoT) device that uses the same computer vision technology in self-driving cars. This technology can identify waste materials, logos, and objects to direct proper disposal of waste.

"We filed both domestic and international patents around modifying human behavior during post-consumer waste diversion activities," Luce said. "We do that by presenting visual and audible cues on a display, which educates consumers about where they should deposit their waste items."

Depending on available options in each location, consumers are directed to place their waste in recycle, compost, landfill, or reusable bins. While diverting waste is the end game, SmartSort is at its core a data company. Its smart bins track material diversion. Then they aggregate the line items to enable companies to pursue carbon and plastic credits.

We algorithmically perform validation and verification," Luce said. "This ensures that we don't greenwash, which is falsifying data. We make sure that the customer and stakeholders can use the accurate data for their environmental, social, and governance (ESG) aspects and corporate social responsibility activities."

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**Cris Luce, Founder and CEO  
SmartSort**



## Connectivity is crucial

SmartSort is focused initially on businesses like airports and stadiums that move a great deal of waste. SmartSort assesses each location's infrastructure and studies how it currently handles waste disposal, then recommends premium placement opportunities for SmartSort systems. Luce said some customers have seen an improvement of 57% in recycling and a big boost in customer engagement.

He noted that customers approach recycling in different ways. One large beverage company is interested in understanding how many plastic bottles and aluminum cans can be diverted from landfills, while an airline is measuring how much material by weight is being properly recycled. A sports team measures how much weight and material is recycled at each game and over the course of its season.

“We’re a data company, and the intelligent trash can is the means to an end,” Luce said. “We had to build it because no one else built it. It supports our patent with our intellectual property and algorithms.” SmartSort hopes to influence policy and the procurement of virgin materials such as aluminum or plastic to enable its subscribers to seek carbon credits for waste diverted from landfills at their venues.

To give its subscribers the verification they need to apply for the credits, SmartSort needed a secure, reliable way to communicate data from its smart bin locations to company headquarters. “Connectivity is crucial in our business,” Luce said. “We have to have continuous connectivity.”

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## Streamlined deployment

SmartSort chose AT&T Global SIM to provide dependable end-to-end connectivity. This enables its solution to collect vital data about recycled items from its smart bins. It’s also easy for staff to use the AT&T Control Center, AT&T’s premier SIM management portal, which makes it a snap to deploy and manage its bins.

“The AT&T Control Center will be our SIM management solution where we have all the billing and everything else integrated to streamline deployment and connectivity to our systems,” Luce said. “AT&T Business was able to walk us through and get us in the right spot to establish our access control center relationship with the appropriate type of network. Ordering, deployment, and management have been incredibly easy.”

## Data integrity

Luce had recent discussions about companies on the cutting edge of IoT. His conversations were with a global analyst and an edge-networking CEO who both praised AT&T Business.



“AT&T Business is a leader in IoT,” Luce said. “Their expertise is everything. It saves time and gives us confidence that we’re in the right space. AT&T expertise is tier one, and their ability to easily convey complicated configurations was very valuable to us.”

Security is another vital consideration. “It’s everything,” Luce said. “AT&T Business is defending their network, which helps secure our connection. If the network is breached, it’s not good for our brand reputation. It would be as bad as if our data were falsified. If there’s no trust in the data then there’s no ability to claim carbon credits, which means companies lose money and credibility.”

## Unparalleled support

Luce is grateful for the support he continues to receive from AT&T Business. “It’s unparalleled,” he said. “I can pick up the phone and call my point of contact about anything.”

Luce is enthusiastic about SmartSort’s future and its vision to make sure recycling and composting are economically sustainable. “You cannot expect businesses to incur more cost, so our game strategy is to make sure that recycling becomes fun and informative for the consumer, and preferably profitable for our customers,” he said.

Bigger things are coming for SmartSort. Luce said he and his colleagues look forward to expanding their operations beyond the 48 contiguous states of the U.S. “We’re already talking with AT&T Business about looking into Canada, Mexico, and the European market,” he said. “We will rely on the AT&T global footprint to support SmartSort’s growth.”



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