

WHO ARE WE?

Established in 2011, Ecube Labs is an innovative green technology company committed to providing eco-friendly waste management solutions for smart and sustainable cities of tomorrow. Our current line of offerings include an integrated, IoT-based solution that dramatically improves the efficiency of waste collection, all the while making our environment greener and communities cleaner.

We help cities and waste collection organizations alike to reduce operational costs by eliminating unnecessary pick-ups, providing dynamic collection routes and schedules for a complete optimization of the collection operations.

Essentially, we provide transparency and increase operational effectiveness in the waste collection chain, reducing costs and labor associated with such services. Our eco-friendly waste management solutions also improve public cleanliness by reducing the impact of overflowing bins.

As one of the top smart waste management and logistics solution company, we have continued to invest highly in R&D, global expansion and most importantly our people. Ecube Labs has offices in North America and Asia. Our products and services can be seen throughout all major regions including North & South America, Europe, and Middle East.

Bringing you the next wave of smart city innovations



OUR SOLUTIONS

Ecube Labs offers a comprehensive smart waste management solution using industry leading cloud-based software connected to the latest in custom IoT smart sensor and smart bin technology.

CleanCityNetworks (CCN)



CCNx



CleanCUBE



CleanFLEX



- **CleanCityNetworks (CCN)**

- **CCNx (Fleet Management)**

- **CleanCUBE (CCB)**

- **CleanFLEX (CFX)**



CleanCUBE

The CleanCUBE is a smart waste bin that operates via Solar, AC, or Hybrid power to provide a myriad of services.

8x WASTE CAPACITY

- Compact waste at up to 1,590 Lbs. (720KG) of force allowing up to 8x capacity and preventing overflow



FILL-LEVEL DETECTION

- Relays relevant data back to CCN for monitoring and management of your bins



TECHNOLOGY CUSTOMIZATION

- Endless possibilities for design, technology options, and advertising (print, video, wrapping)
- Public WiFi
- Smart city technology customization



Three Models

Compatible with standard wheelie bins, the CleanCUBE comes in 28 Gal. (100L), 35 Gal. (120L) and 64 Gal. (240L) sizes.

Safety Features

Fire detection, hand detection, and special locking mechanisms ensure safe operation while anti-rust coating and a shock resistant exterior guarantee long-lasting durability.

See tech specs for a full list of features.

Hermosa Beach, USA

A popular beach town in Southern California, Hermosa Beach is visited by millions of tourists each year, resulting in frequent premature collections to avoid overflow. Utilizing CCN reduced operational costs.



- Lack of waste bins created high number of overflow occurrences and was causing hygiene issues on the streets
- Needed a better solution than “over-zealous” collection



- 14 initial CleanCUBEs were installed in the busiest areas (pier) in Hermosa Beach, with the next phase to include 20 additional CleanCUBES & 100 CleanCAPs
- City officials and 3rd party collection organizations were trained on operation methods
- Monitoring revealed inefficient operation and high waste generation areas

90% DECREASE IN OVERFLOW



- Collections performed based on real-time and predictive analysis increased efficiency
- Combined with compaction of waste in the CleanCUBEs, collections were reduced to once per day





Washington D.C., USA

Rodent abatement program is seen as a growing success story within the office of the D.C. mayor along with the Dept. of Public Works that is continuing to better understand their waste operations for further optimization.



- The growing rodent population in the District is causing concern related to health and safety of its residents & tourists
- Waste is inappropriately thrown away by local businesses and residents alike; main source of food for rodents
- 25 CleanCUBE in SE/NW DC (Barrack's Row, Freedom Plaza and Indiana Ave, Pennsylvania Ave.)



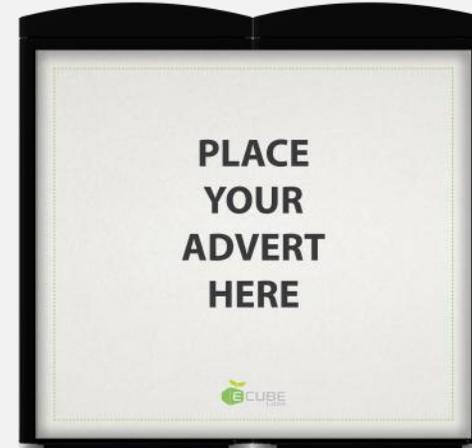
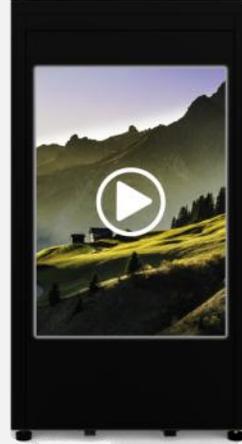
- 100 CleanCAPs to be installed with DowntownDC Business Improvement District in conjunction with Office of the CTO
- Monitor and analyze collection frequency to optimize collection personnel routes and downtime

REDUCTION IN THE NUMBER OF RODENT APPEARANCES



- Identified the least waste generated locations and optimized collection frequency from 21 times a week to 3 times a week
- The local businesses where CleanCUBE has been deployed has seen a reduction in the number of rodent appearances
- Due to less frequent collections, it has reduce the downtime of waste collectors to focus on secondary waste related issues

CleanCUBE Ad Space PRICING & FEATURES



Models

Print Panel

Backlit Print Panel

Video Panel

Print Panel

Backlit Print Panel

28 Gal. / 100L 526 x 1018 mm
 35 Gal. / 120L 658 x 1298 mm
 64 Gal. / 240L 736 x 1346 mm

526x1018 mm
 658x1298 mm
 736x1346 mm

Indoor and Outdoor LCD panels available in custom sizes and layouts. Enquire for specific pricing.

1132 x 1018 mm
 1156 x 1298 mm
 1388 x 1346 mm

1132 x 1018 mm
 1156 x 1298 mm
 1388 x 1346 mm

\$95

\$275

\$320~\$2400

\$180

\$550

CleanCUBE OPTIONS



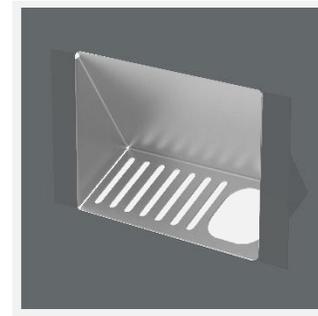
Safety Mounting Bracket



Manual Hopper



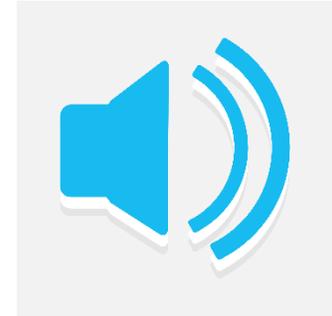
Hands Free Hopper



Ash Tray / Butt



WiFi Hotspot*



Audio Speaker

28 Gal.
/100 L

\$90

\$70

\$340

\$60

\$225

\$145

35 Gal.
/120 L

\$130

\$70

\$340

\$60

\$225

\$145

64 Gal.
/240 L

\$145

\$70

\$340

\$60

\$225

\$145

* WiFi Hotspot capability does not include SIM card and data plan



CleanCityNetworks (CCN)

Monitor Your Entire Waste Management Operation

Using CCN, you can keep a track of all your bins, monitor fill levels and fill level history, optimize collection routes, check battery levels, geographical locations, collection history, overflow status, response times, fire events, and more.

Predictive Analysis

As data is collected, our machine learning algorithm will intelligently learn from your waste generation patterns to allow you to see your status up to 24 hours into the future. This allows you to optimize your collection routes and generate more efficient routes as opposed to using real-time data.

Actionable Insights

Collection performance and efficiency, overflow frequency, waste generation, sub-optimal collections, and more comprehensive reports are available to help you understand your operations and pinpoint areas that can be improved.

Universally Accessible

CCN is a cloud-based service and can be accessed from any device with an internet browser. Optimized for desktop, mobile, and tablet devices, CCN is accessible anywhere anytime. No special software is required, no downloads or installations, simply log in and you're up and running.



Hardware & Asset Integration

CCNx is an extended-feature version of CleanCityNetworks for users who require fleet management capabilities. It integrates our CleanTRACK Module (CTM) and software/app to provide real-time monitoring, analysis, and asset management.

Automated Route Optimization

CCNx's one-click route optimization simplifies your operations while maximizing efficiency using our advanced algorithms. These optimized routes are received by all assets/drivers using the CCNx app, available on all major mobile platforms and are updated dynamically, even while your assets are out on collections.

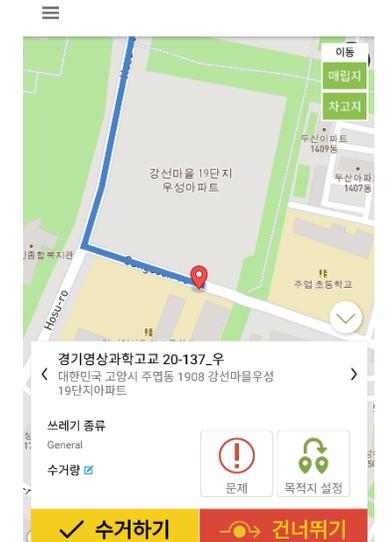
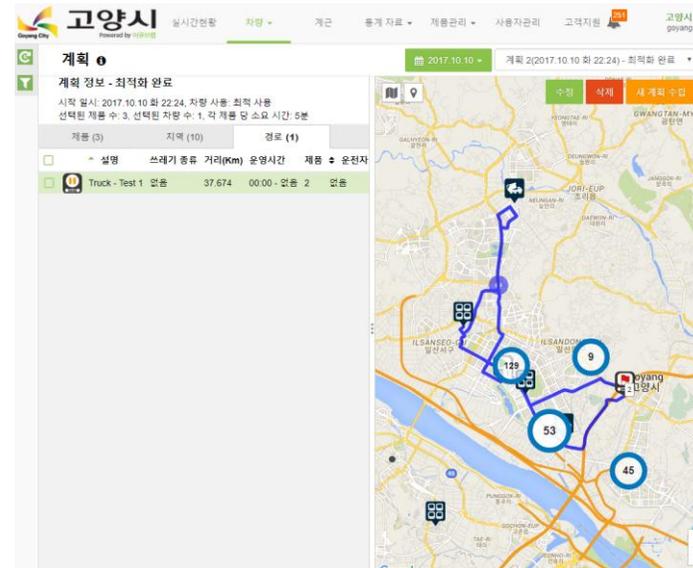
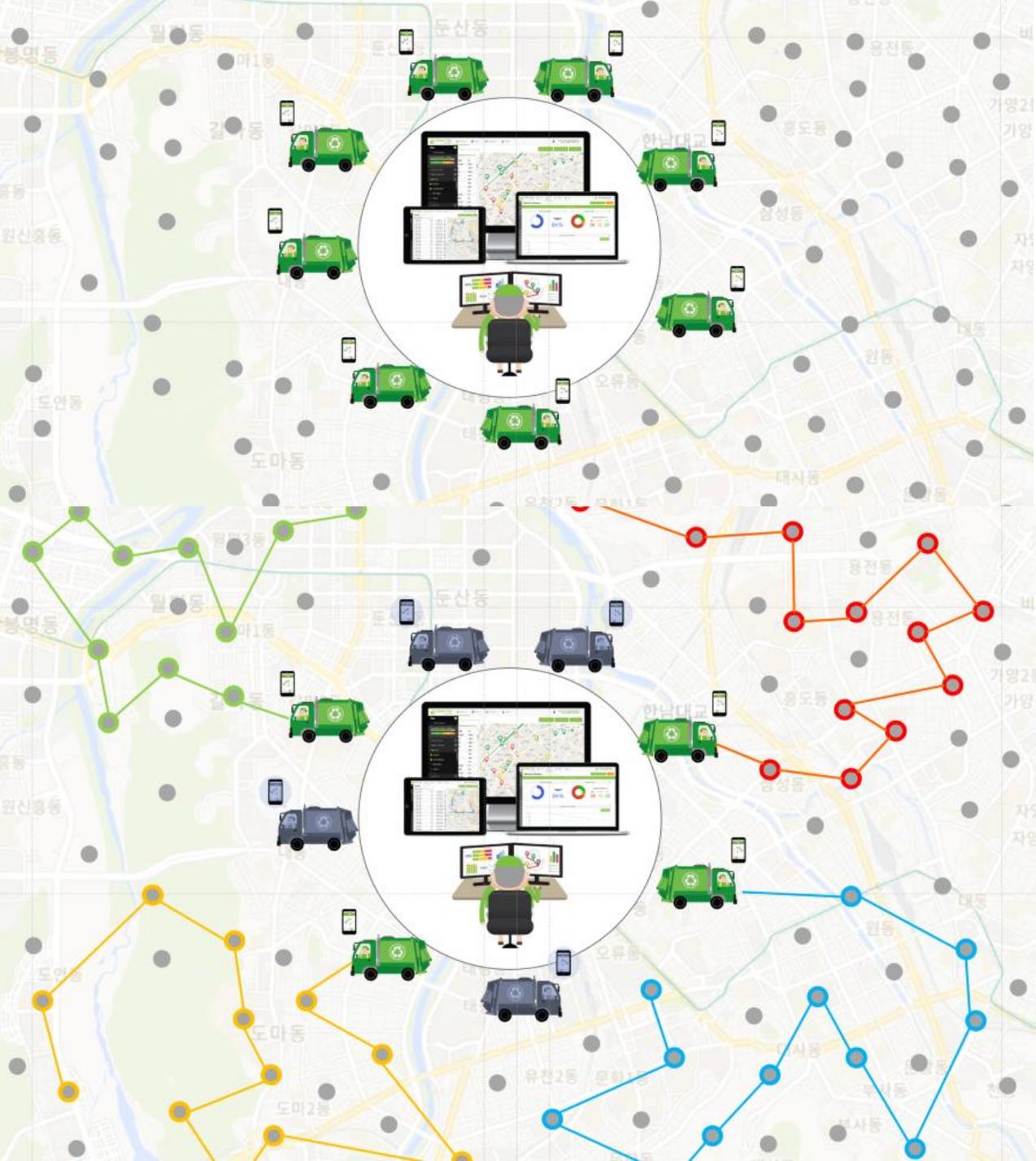
Advanced FM Features

Monitor vehicle statuses, control schedule dispatch times, track driver behavior and fuel consumption, and give drivers access to reporting tools for a comprehensive and purpose-made FM solution.

Consultative & Analytics Reports

CCNx also includes heuristic input from the Ecube Labs Team for customized improvement recommendations on your overall operations ranging from bin placement location and distribution to collection schedules and fleet utilization.





Admin / Dispatch Users

Build upon familiar CCN features to create plans and schedules that maximize operational efficiency for all assets and human resources. Implement and monitor them from your control center and make adjustments on the fly in real-time or create radically improved plans and schedules based on analysis of historical data over time.

Asset / Operator Users

Send itineraries for the shift to drivers and operators who can then follow the easy step-by-step instructions and guidance for the collection route. Operators can report issues, upload photos, and more, all right from within the app. Push real-time updates to routes to operators for bins that become serviceable along their existing route.



CleanTRACK Module (CTM)

Our CTM is a GPS tracker/OBD module designed to seamlessly integrate with your fleet vehicles and relay a myriad of useful data logs back to CCNx where you can monitor the information live, along with historical data, in order to gain actionable insights and make on-the-fly adjustments.

Comprehensive Data

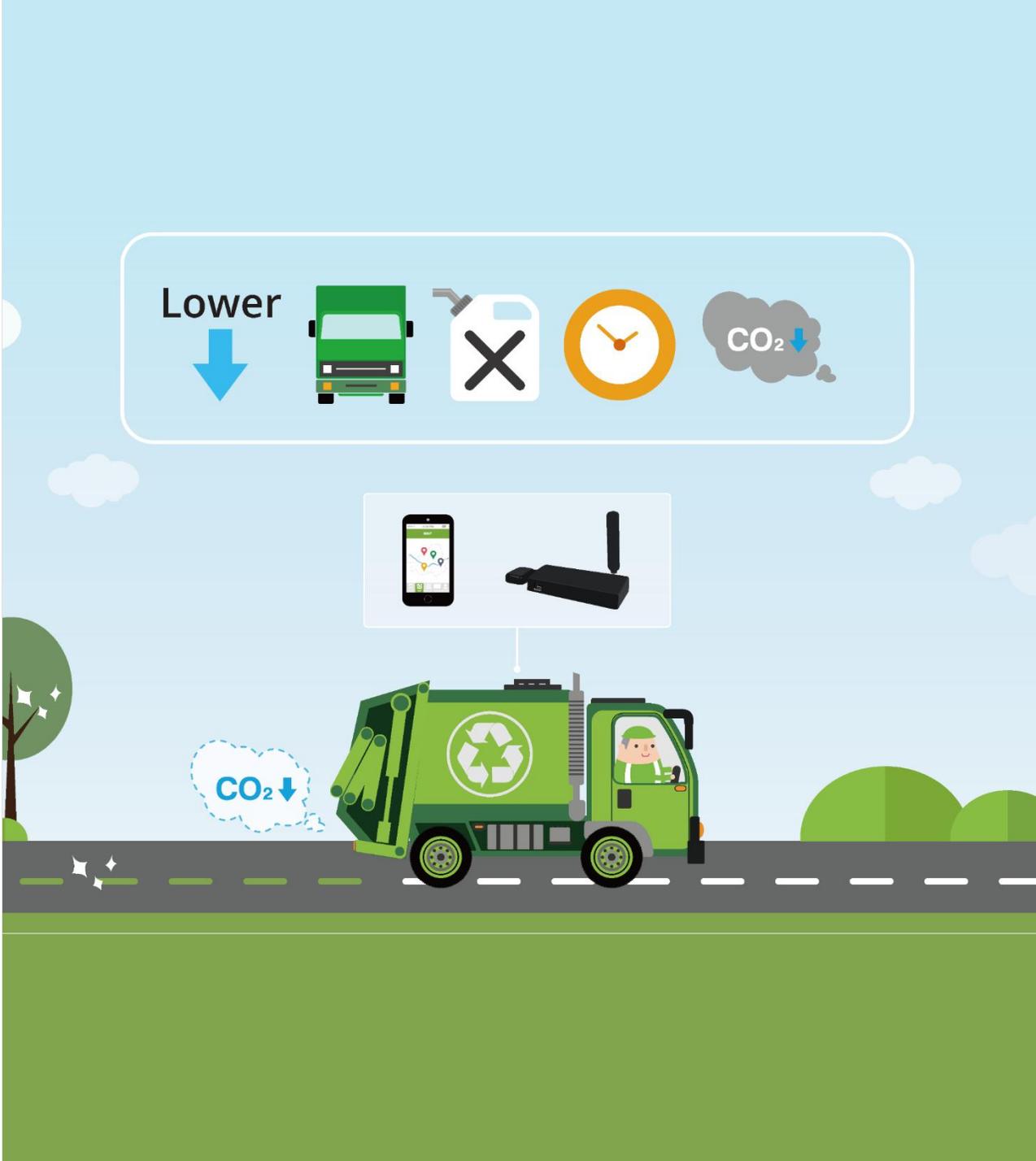
CTM provides real-time GPS tracking, vehicle speed, RPM, throttle position (gas pedal), engine oil temp, air intake temp, outside temp, coolant temp, MAF, atmospheric pressure, engine torque, battery voltage, and more.

Customized FM Features

CTM data can be customized to client needs to asses data such as air gauge, fuel gauge, trip mileage, trip fuel consumption, fuel injection efficiency, braking patterns, shifting patterns, etc.

Consultative & Analytics Reports

The consultative reports included with our CCNx packages include analysis and action recommendations based on historical CTM data logs.

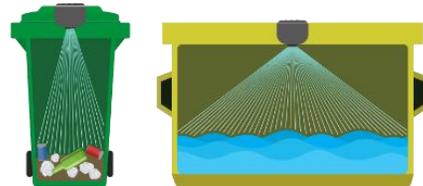




The CleanFLEX is an multi-functional ultrasonic waste bin sensor that detects both liquids and solids, transmitting data to Ecube Labs' IoT network solutions, CCN.

FILL-LEVEL DETECTION

- Ultrasonic sensors detect the fill-level of solid and liquid waste



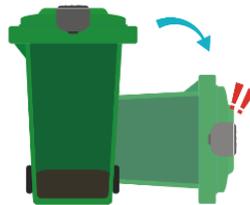
FIRE DETECTION

- Heat sensors detect fires and alert the user via a notification



TILT SENSOR

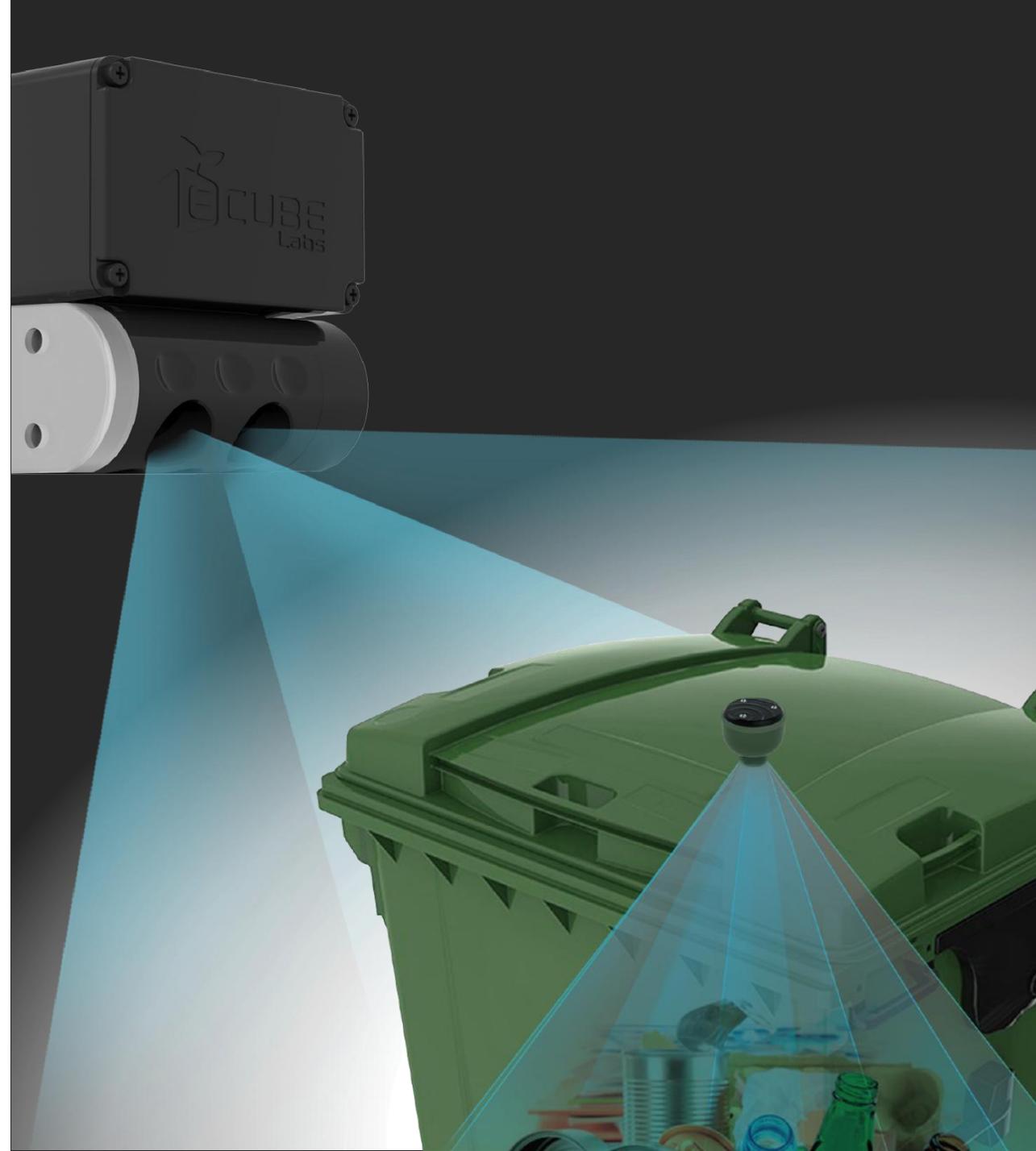
- Notifies the user if a bin has been knocked over or a lid remains open



Application Versatility

CleanFLEX can be installed on a variety of containers ranging from public waste receptacles to dumpsters, skips, underground bins, and more.

The variety of configurations allows for creative applications that traditional sensors won't allow.





LIMITED WARRANTY

Ecube Labs (ECL) warrants that its products conform to the specifications contained in the technical specifications for the products shipped to its customer. The customer's sole and exclusive remedy (and ECL's sole and exclusive liability) under this limited warranty shall be the repair or replacement of defective products.

Subject to the limitations set forth below, ECL warrants that the products will be free from defects in materials or workmanship and undertakes to replace, free of charge, any defective parts for a period of twelve (12) months (the "Warranty Period") from the date of the acknowledged receipt of goods for the products thereof, including replacement parts, in the products; provided the customer expressly acknowledges and agrees that this warranty is limited to only such defects which the customer proves to be (i) due solely to defective materials and/or poor workmanship on the part of ECL; (ii) discovered within the Warranty Period; and (iii) for which notice thereof is duly given to ECL as provided below.

All claims, including for the alleged damage, shortage, negligence, or any other cause whatsoever, shall be deemed to have been waived by the customer unless such notice is made in writing and received by ECL within thirty (30) days after discovery of the damage or defect of the products. The customer's remedy and the ECL's sole and exclusive liability shall be the repair or replacement of such products and shall constitute fulfillment of all liabilities of ECL. This warranty shall not apply if the products fails due to improper application, use, modifications, handling, installation, removal, or modification, or if the products are repaired by any party other than ECL or its official distributors, is subjected to abuse, neglect, accident, improper or abnormal use, or unusual physical or electrical stress.

ECL reserves the right to make changes in design, production, manufacture, or characteristics of the products or to improve on the products at any time and in any way, without incurring any obligations to replace, retrofit, or modify any products previously sold.

Under no circumstances shall ECL's liability to the customer exceed the amount paid by the customer for the products. The customer will bear all reasonable shipping costs if the products are replaced pursuant to this warranty. This warranty does not apply to any defect or non-conformance caused by (i) the customer's use of the products for a purpose or manner other than that for which they were designed; (ii) failure to follow ECL's user manuals for the use, storage, and handling of the products; or (iii) any other abuse, misuse, or neglect of the products by the customer. This warranty applies only to the customer and not to third parties. This warranty is not assignable.

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