



Ecube Labs
Company Presentation

12. 2015

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Ecube Labs

Transforming Cities Into Smarter & Greener Spaces

Company Information

Company Name	Ecube Labs Co., Ltd.
CEO	Sunbeom Sean Gwon
Products	<ul style="list-style-type: none"> • Solar-powered Compacting Waste Bin • Attachable Ultrasonic Fill-level Sensor • Real-time Monitoring & Data and Predictive Analytics SaaS
Establishment Date	July 2011
No. of Employees	29
HQ Address	#406 Acetechnotower 5 th Bldg., Guro 3-dong, Guro-gu, Seoul, Korea, 08380
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History

- 2011 07 Establishment of Ecube Labs Co., Ltd.
Grand Prize, EU-Korea Business Plan Competition, EU Chamber of Commerce
- 2012 09 Installed Clean CUBES at universities with Hanwha Chemical
- 2013 04 Signed MOU with URM Group, AUS waste mgmt. firm
08 Formed global strategic partnership with Vodafone
12 Nominated for 'Innovation Award' at Pollutec 2013
Awarded grand prize in 13' Korea Creative Economy Awards'
- 2014 06 'Green Business Award' from Korea Ministry of Trade, Industry, and Energy 'Technology Innovation of the Year Award' from Frost & Sullivan
09 Selected for SMBA's 'Tech Incubator Program for Startup' (\$500K)
10 'Innovation Award' Finalist, Australian Waste & Recycling Expo
12 Installed 100 Clean CUBES in Ibagué in cooperation with Interaseo
Signed MOU with Korea Telecom (KT) & began pilot project with NTT Docomo
- 2015 02 Began pilot project of 30 Clean CUBES for Seoul Metropolitan
04 Signed exclusive agreement with ESE World (Europe)
05 Selected for K-Global's 'Prospective ICT R&D Program' (\$1,000K)
Signed exclusive agreement with OTTO Group (SEA)
Signed exclusive agreement with MTKI (Middle East)
07 Began a pilot project of Clean CUBES at Changi Airport
10 Began a pilot project of Clean CUBES at Singapore Sports Hub
Began a pilot project of Clean CAPS for Seoul Metropolitan



CE Marking
20 November 2014



Green Certification
16 May 2014



ISO 9001 Certification
04 June 2013



ISO 14001 Certification
04 June 2013



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Ecube Labs' Comprehensive Solution

Integrated smart waste management & logistic solutions for smarter cities

Ecube Labs provides a single data management platform for both hardware products. The data is transmitted in real-time from the Clean CUBE and Clean CAP and can be optimized remotely on the Clean City Network (CCN).



3 Clean CAP

Smart ultrasonic fill-level sensor

Attachable to all types of containers, the Clean CAP utilizes ultrasonic technology to sense the fill-level and transmits data to Clean City Network (CCN) platform.



Clean CAP B
(Battery model)



Clean CAP S
(Solar model)

Main Functions

- **Senses** fill-level from 30 cm to 13 ft.
- Fill-level information **transmitted** to Clean City Network (CCN) through 2G or 3G (WCDMA / GSM)
- Operates for 10+ years*

Wide Applicability

- Detects **any solid/liquid substances**
- Attachable to **various kinds** of bins and containers

Options

- **Power options** availability: solar-powered and battery-powered models
- **Mounting bracket** offered for side attachment

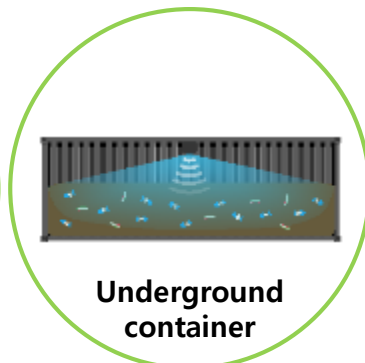
Applicable Container Types



Wheelie bin



Dumpster



Underground container



Liquid tank



Textile bin

*Based on two transmissions per day

4 Clean CUBE

Smart solar-powered waste compacting waste bin

100% powered by solar energy, the Clean CUBE compacts waste, allowing it hold 6-8 times more waste than traditional bins. Various advertisement panels are available that can generate additional revenue stream.

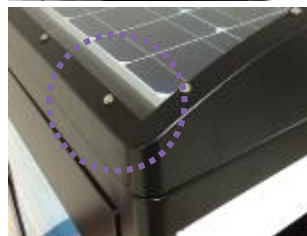
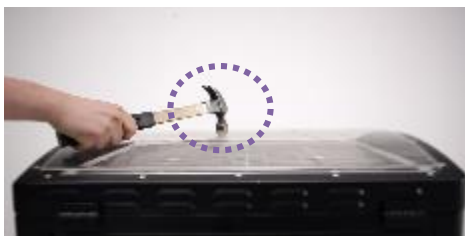
Main functions

- **Compacts** waste with up to 720kg of force
- Prevents waste overflow by increasing bin capacity
- **Detects** fill-level of general waste
- Fill-level information **transmitted** to Clean City Network (CCN) through 2G or 3G



Safe and Durable

- Hand detection sensor
- Fire detection sensor
- Special locking mechanism for all points
- Anti-rust and shock-resistant exterior
- Liquid-proof compression arm



Unique features

- **Wheelie bin MGB** compatible
- LED/LCD backlit **advertisement panel** on the sides to generate additional revenue



Various combinations

- Three sizes available: **100L, 120L, 240L**
- Door cover options for different waste streams
- Different power options (**solar-powered** and **hybrid**)
- Customizable wrap around design for marketing



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Clean City Network (CCN)

Real-time monitoring and data management platform

CCN uses real-time and historical data from Clean CUBE and Clean CAP to improve collection efficiency. The monitoring, route optimization and predictive analytic capabilities directly translate into operational savings.



Smart Data Processing

- Displays fill-level map with filtered search
- Shows status of individual connected bins
- Visual summary of graphs and charts about collection efficiency, battery capacity, and more

Actionable Intelligence

- Push notifications to collection staff
- Smart route optimization for efficient waste collection
- Collection forecast for intelligent scheduling

Convenient Data Management

- Simple drag-and-drop bin assignment
- Easy account authorization for different account levels

Easy Access

- Web-based solution requiring only login ID and password
- Smart devices supported (iOS & Android)

7 Benefits

Aligning cost-efficiency with social responsibility and environmental sustainability

Our line of integrated products provides both direct and indirect benefits to major stakeholders.



Social Benefits

- Improves **public cleanliness**
- Increases **recycling** diversion rates
- Less trucks on the road and time

Economic Benefits

- Collection optimization reduces labor and fuel costs
- Indirect cost reduction from lower maintenance cost of vehicles and roads
- **Clean CAP** reduces operational costs by 50%
- **Clean CUBE** lowers operations costs by 80%

Environmental Benefits

- Elimination of **waste overflow** result in cleaner public areas
- Reduction of **CO2 emissions**
- Utilization of renewable energy

Advertisement Benefits

- When placed in high-traffic areas, provides highly cost-effective advertisement space
- **Advertising revenues** help offset initial cost
- Can also be used for nonprofit PSA campaigns

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Ecube Labs' Global Presence

Represented in 5 continents through partnerships with local organizations & municipalities



Europe

- **Germany** – Munchen
- **Netherlands** – Best
- **Switzerland** – Emmen
- **Austria** – Salzburg
- **Sweden** – Stockholm
- **UK** – Birmingham

Middle East

- **UAE** – Dubai, Sharjah
- **Saudi Arabia** – Mecca

Asia & Oceania

- **Korea** – Seoul
- **Singapore**
- **Japan** – Shinagawa, Yoyogi, Sumida
- **China** – Tianjin
- **Australia** – Sydney, Perth
- **New Zealand** – Whanganui

North & South Americas

- **USA** – Las Vegas
- **Colombia** – Ibaguè

Smarter Cities, Greener Communities

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