

Ecube Labs case study

Vodafone Global M2M
Coming to a street near you:
the world's smartest bin

Vodafone
Power to you



 **한화케미칼**

태양광 산업의 글로벌 선도기업 한화케미칼(주)이
후원한 이큐브랩의 태양광 압축 쓰레기통입니다

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Smarter bins, smarter cities

You're in the city. The weather's hot, it's a beautiful day. Then you see it, that overflowing bin. Your blood pressure rises. Who's supposed to empty it? Why haven't they done it? Then the smell hits you...

There's little doubt about it, overflowing litter bins are a blight on many modern cities. Thankfully a group of exciting entrepreneurs from South Korea think they have found the solution and it could easily be coming to a street near you soon.

The challenge

Solar-powered saviour

SunBeom Gwon, CEO and Founder of Ecube Labs, first noticed the problem when on the busy streets in Seoul, South Korea.

"We had huge problems in the city: the local authority had cut its residential waste collections, so people were resorting to putting their household rubbish in public bins," Gwon recalls. "I was tired of seeing bins overflowing with rubbish in my neighbourhood. It's unhealthy, looks bad and spoils the atmosphere around the city."

It wasn't long afterwards that an inspired Gwon came up with the solution: an innovative litter bin that compacts its contents using a solar-powered compressor. With this ingenious technology, the bins can hold up to four times more rubbish before they need to be emptied.

That's clever enough itself, but the newly-formed Ecube Labs team wanted to do more. Much more.

"We had a vision for a truly 'smart' bin that can also communicate wirelessly when it needs to be emptied," says JiWon Baik, Project Manager for Ecube Labs. "This is where we believe we can really make a difference. Using this real-time intelligence, organisations and local councils can plan waste management collections more effectively. They can also cut down on the number of unnecessary collection visits. Most importantly for the citizen, they make sure the bins rarely overflow."

Ecube Labs' smart bin – the Clean Cube – was born.

"Straight away we realised that both efficiency savings and environmental benefits could be huge. Not just here in South Korea, but around the world," says Baik.

The solution

International ambition

When Ecube Labs started researching mobile partners that could support its ambitions, it discovered that Vodafone was the perfect fit. Vodafone provides Global M2M managed network connectivity that enables the Clean Cube bins to communicate and provide real-time status reports to its owners. With connectivity being available worldwide, this reduces the complexity of deployment of service as Ecube Labs expands in to additional countries.

"We need one global partner with reliable and well-established international coverage to provide us with connectivity to the bins," says Baik. "This is important. We have great energy but we only have limited resources at this stage of the company's development. We didn't want to be negotiating with a new partner every time we expanded into a different country."

"Working with Vodafone also means that we are dealing with a well-known and respected global company," Baik adds. "It makes it much easier for us to gain the technical certifications we need for each market – it gives us exactly the kind of credibility that we need."

Just as importantly Ecube Labs has found that Vodafone is also very flexible and adapts quickly to its needs as a start up.

"Vodafone's support has been excellent," says Baik. "We are by no means their biggest customer, but Vodafone makes sure that we get the SIMs as quickly as possible. The team has also provided us with a flexible deal that doesn't tie us into any long term commitments or costs. As a start up, this kind of flexibility is absolutely crucial. It will help us to grow our idea into a global reality."

A cleaner future for our streets

With its profile growing all the time, Ecube Labs is now trialling its system with several customers – including the local authority in Seoul, universities and a number of big businesses.

While it's still too early to say what the impact of the bins will be if they are widely adopted, Gwon predicts enormous potential for the future – both for the organisations that collect waste and for the environment we live in.

"We have already calculated that if waste removal operations in Seoul alone decrease by only 10%, carbon emissions decrease by approximately 1,000 tons. What we are seeing from our trials and projections is that if the 5,000 bins around Seoul are replaced with our bins, waste removal will decrease by over 20% within a year and a half. This, effectively, is the same as planting 150,000 trees around Seoul by decreasing CO₂ emissions from reducing fleet operations for waste removal," he concludes.

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SunBeom Gwon, CEO, Ecube Labs



The bottom line

A smarter way of working

- Support for the entrepreneurial spirit: Vodafone has provided Ecube Labs with a flexible financial package that reflects its status as a start up, helping the company to grow and develop without being bound by long term contracts
- Highly innovative and efficient: organisations that use the Clean Cube to manage the removal of waste can reduce their workload by as much as 20%
- A smarter way of working: smart wireless connectivity means organisations only need to make collection trips when bins are full, reducing both fuel costs and CO₂ emissions
- Ready for international expansion: Vodafone's extensive global M2M network also helps Ecube Labs to achieve international technical certifications and provide reliable coverage around the world.

About the customer

- Ecube Labs is the developer of a solar-powered smart 'bin' that aims to reduce the amount of litter on the world's streets
- Start up based in South Korea
- Targeting local authorities as well as large businesses
- www.ecubelabs.com

Solution:

Vodafone provides Ecube Labs with M2M SIM cards that provide wireless connectivity to the Clean Cube smart bin, helping organisations to manage waste collection more efficiently and keep the streets clean.



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