

## CONTENTS

4

START-UP  
A SPACE FOR EVERYTHING  
INTERIOR DESIGN

5

START-UP  
NOTHING LIKE A HOME-COOKED MEAL

6

CREATIVE SPACES  
THE ARTFUL ENCLAVE

8

COVER STORY  
TOMMY LEE, BAKER — THE SEQUEL

10

INDUSTRY 4.0  
RESHAPING BANKING TO ENGAGE  
THE MODERN CONSUMER

11

TURNAROUND  
THE MATERIAL ADVANCES OF  
PENICHEM TECHNOLOGIES

12

SMART MOBILITY  
CAR SHARING CATCHING ON IN MALAYSIA

14

ECON 4.0  
CAN A CITY BE SMART?

15

RESPONSIBLE BUSINESS  
AN INTELLIGENT WAY  
TO TACKLE DEFORESTATION

16

AI  
BRINGING AI TO OFFLINE RETAILERS

## EDITORIAL

EDITOR-IN-CHIEF

AZAM ARIS

MANAGING EDITOR

ANNA TANG

EDITORS

JENNIFER JACOBS, THO LIMING

SENIOR WRITERS

PATHMA SUBRAMANIAM

KUEK SER MWANG ZHE

OLIVER CHRISTOPHER GOMEZ

KHAI RAM AFIRI NOORDIN

WRITERS

TAN ZHAY YON, LAILI ISMAIL

VANESHA SHURENTERAN

EXECUTIVE EDITOR (PRODUCTION)

DOO IN LEONG

CHIEF COPY EDITORS

PUSHPAM SINNAHALUNDAN

MAH PIN PIN

ASSISTANT CHIEF COPY EDITOR

RENEE WYFRANCE MARTINUS

SENIOR COPY EDITORS

WONG SOON FAH

MARICA VAN WINDEN

COPY EDITOR

LEE MEI GEOK

ART DIRECTOR

SHARON KHOO

ASSISTANT ART DIRECTOR

LEE WAN YEE

SENIOR GRAPHIC DESIGNER

WENNIE HENG

## ADVERTISING &amp; MARKETING

CHIEF COMMERCIAL OFFICER

SHARON TEE, (03) 31310056

GENERAL MANAGER

WINGSTON LOW, (03) 278 5540

## SENIOR SALES MANAGERS

FONG LAI RUAN, (03) 386 2831

GREGORY THAU, (03) 276 0616

SENIOR ACCOUNT MANAGERS

NG CHING YIM, (03) 232 8035

SHAFINA SYAHIRI, (03) 281 4787

SHANNON LEONG, (03) 677 5345

ACCOUNT MANAGERS

LEE SOO SIN, (03) 710 6220

LUM WAI FONG, (03) 248 5908

LUGMAN AB RAHIM, (03) 628 0297

SHALIN LEE, (03) 658 7245

CREATIVE MARKETING

CHRIS WONG, (03) 687 6577

HEAD OF MARKETING SUPPORT

&amp; AD TRAFFIC

LORRAINE CHAN

EMAIL: [advertising@edgedge.com](mailto:advertising@edgedge.com)

## CORPORATE

PUBLISHER &amp; GROUP CEO

HO KAY TAI

CHIEF OPERATING OFFICER

LIM SHIEW YUIN

WE WELCOME YOUR COMMENTS.

LETTERS AND CRITICISM.

PHONE (03) 77218000

EMAIL: [editor@edgedge.com](mailto:editor@edgedge.com)

PSEUDONYMS ARE ALLOWED.

PLEASE STATE YOUR FULL NAME.

ADDRESS AND CONTACT NUMBER.

(TEL./FAX) FOR US TO VERIFY.

Klean-ing up  
the environment

BY LAILI ISMAIL

**W**hile Malaysians may be aware of the concept of recycling, very few of them actually do it. In 2016, the recycling rate was only 17.5% — still some way off from the government's target of a 22% solid recycling rate by 2020.

Klean Malaysia Sdn Bhd, a start-up founded by Datuk Dr Nick Boden and Datuk Mohamad Arif Abdullah, is on a mission to boost the recycling rate in the country. They have come up with a unique reverse vending machine (RVM) that accepts used and empty polyethylene terephthalate (PET) bottles and aluminium cans in exchange for non-cash rewards.

The project attaches value to every single-use plastic bottle and aluminium can and pays recyclers in Kleans — a virtual currency and e-credit that can be used to purchase goods and services such as mobile airtime, smartcard credit (such as Touch 'n Go), nano gold and food vouchers.

Boden believes that this approach can turn Malaysia into a sustainable circular economy and that the simplest thing would be to focus on two of the most prevalent sources of pollution — PET bottles and aluminium cans. He says there are, conservatively, about 10 billion PET bottles sold annually in the country and only 20% of them are recycled.

"This is based on Australia's statistics, so it is probably more. For aluminium cans, the figure is probably half of that (about five billion units). About 35 million to 40 million tourists visit Malaysia every year, and there are at least two mineral water bottles in every hotel room every day. So, if you do the math, the number of bottles is in the billions. And only a small percentage of that is actually recycled," says Boden, who is a chiropractor by training.

The idea to start the project was not a deliberate one. Boden and Arif, who is a quantity surveyor by training, are also directors of musculoskeletal healthcare company NLB Consulting Sdn Bhd. And one of the corporate social responsibility (CSR) projects they started at the company is called Lend-a-hand, which prints prosthetic arms for children born without hands or functional arms or wrists.

"I have been involved in treating spine and joint problems in Malaysia for the last 15 years. One of the things we commonly see is flat feet. So, we invested in 3D printers a couple of years ago with which we could build customised insoles that need plastic filaments," says Boden.

"Then, we wanted to get involved in some form of CSR programme because as our 3D printing of insoles business picks up, we still have some capacity left on our printer. Using an open-source software, we make the prosthetic arms very cheaply. So, Lend-a-hand is a website where people can donate these arms, which cost between RM150 and RM300 each, to needy recipients."

Most of the recipients are children from poor families who are not able to afford the prosthetic limbs. So, the company relies on donations as well as a portion of its profit to cover the cost of producing them.

To ensure that the donations are not taken for granted, Lend-a-hand asks the beneficiaries to contribute plastic bottles. "They have to collect 3kg of PET bottles and they have to either show that they had them recycled in their home country or send them to us so that we can recycle them. We then crush the bottles and use them to make the filaments for the prosthetic hands," says Boden.

While he was thinking of how to make the CSR project more sustainable and ensure that his chain of clinics continues to be profitable, Lend-a-hand opened a door that led to the creation of the Klean project. "People got wind of what we were doing and started

to drop off plastic bottles at our clinic. Suddenly, we had hundreds of bottles that we did not really know what to do with," he says.

One day, as Boden was watching the news, he learnt that 7 of the 10 most polluting countries in the world are in Asia, and Malaysia was quite high on the list. He started to think about how the country has a linear economy. It was then that the idea of promoting a circular economy was born.

Klean is a wholly Malaysian start-up and the founders take pride in this. "The RVM, digital wallet and app are Malaysian designs and intellectual property, owned by a local technology start-up, which is quite rare. We design and produce the machines instead of buying them from China," says Boden.

The latest prototype of their RVM has an aperture that allows users to insert one container at a time. Once they have been scanned and identified, the containers are processed and crushed. The machine allows users to tap their cards and collect points also known as Kleans (100 Kleans = RM1), which are reflected in the digital wallet on its mobile app.

Users can see how many Kleans they have accumulated on the vandal-proof screen as well as the app. The machine also uses GPS to allow the app to detect the locations of the RVMs. "There is no barrier to entry as people can use their mobile phones and Touch 'n Go cards or even their MyKad," says Boden.

## CHANGING MINDSETS ON RECYCLING

Boden says most of the countries with high rates of recycled PET and aluminium are in Europe. First-world countries such as Norway, Sweden and Germany saw the highest rate of recycled PET bottles (93.5% in 2015 because they incentivise people to recycle.

"They have container deposit schemes, which means that that each time you buy a bottle or can, there is a deposit attached to that purchase. If you put the bottle or can into an RVM, you will get the money back. This is the only true way to change behaviour," says Boden.

Separating waste does not lead to recycling, he points out. "The government tried doing it here. What happens after the waste separation? Where does it go? Does it actually get recycled or does it go to a landfill? At this stage, it looks like most of it goes to a landfill."

Project Klean intends to make individual consumers responsible not only for consuming but also recycling. "So when they buy that bottle of water or aluminium can, they will be responsible for what happens to it until it is finished. That means I should be giving it to a place where I know it will get recycled because these are 100% recyclable products," says Boden.

"It is very time consuming to fine people for not separating their waste. Besides, it is difficult for the police to enforce this. So, reward them instead for doing the right thing."

Existing policies and regulations to reduce plastic pollution in the country seem to mostly encourage the substitution of conventional plastic bags with reusable eco-friendly bags. Recycling campaigns, meanwhile, fail to garner active and long-term participation due to the lack of convenience and failure to make economic sense.

Boden and Arif acknowledge the public's indifference to recycling, hence the idea of Klean. "We wanted to promote turning waste into money because there is a value attached to PET and aluminium. There is about RM250 million worth of waste lying out there that is completely recyclable, and produced every year. So, if you can get your hands on even 10% of that, there is potential to make it into a profitable business," says Boden.

He notes that Malaysia, being a signatory of the Paris Agreement, is supposed to reduce its carbon footprint to 40% by 2030. "But with the construction of the high-speed rail line and so many other large