



# WATER BOTTLING & ICE PRODUCTION FOR HOTELS/ RESORTS

“Zero-Capex” Solution – Design,  
Finance, Installation & Operation



## WELCOME TO OUR GREEN ZONE

Make your Facility Green and reduce the costs & waste disposal of Single use Plastic Bottle Water



## Introduction

Biosystems is delighted to present its Modular Water Bottling Plant Solution. We design sustainable custom-built water Bottling Plants to meet your individual daily needs, in a convenient and cost effective way. Our solution is an environmentally friendly alternative to plastic bottled water which reduces your carbon footprint by providing purified drinking water in glass bottles and gallon drums at sources, at your desired location

*The St. Regis Bali Resort is proud to announce its sustainability advantages at the resort, aligned with Marriot International's "Serve 360 – Doing Good in every direction" initiative. The resort has eliminated all plastic water bottles in the hotel and replaced with glass bottles that are filled with water from Biosystems in house Water Bottling Plant, annually saving approximately 1,438,000 plastic bottles*

## Make your brand look greener

You will also appreciate how little space the Biosystems Bottling Plant takes up. Installed directly in your Resort, the Biosystems Bottling Plant are compact and eliminate the storage space requirements for plastic bottled water and replace and dispose of something the whole planet can be thankful for.

## Fresh, Tasteful Commitment

Many companies who have installed our Bottling Plant are also branding our stylish Glass bottles with their own Logo. They've put their name to not just a water, but what Biosystems water represents: a fresh, tasteful commitment to their clients, guests and the environment



**An Environmentally Friendly Alternative to Plastic Bottled Water**



## Welcome to Our Green Zone

Biosystem's reputation in Water treatment technology can provide you with assurance on safety and guarantee confidence in the service we are providing. Our plant is monitored and adheres to strict operation procedures providing clean safe drinking water to meet World Health Organization and HACCP environmental standards. We retain all intellectual property rights of the system, procedures, licensing and technology.

The Modular Water Bottling Plant is designed for Hotels, Resorts, Villas, Marinas, Island Community, Mine Operations or just about anywhere clean healthy drinking water is required.

## Nano Filtration Membrane Technology

Each Bottling Plant is equipped with advanced Nano Ultra Filtration Membrane Technology with auto control function. The output water from the Nano Water Purification Plant meets HAACP and WHO Water Quality Standards for pure consumable drinking water.

## Staff Training



An Environmentally Friendly Alternative to Plastic Bottled Water

# OUR WATER BOTTLING SOLUTION :

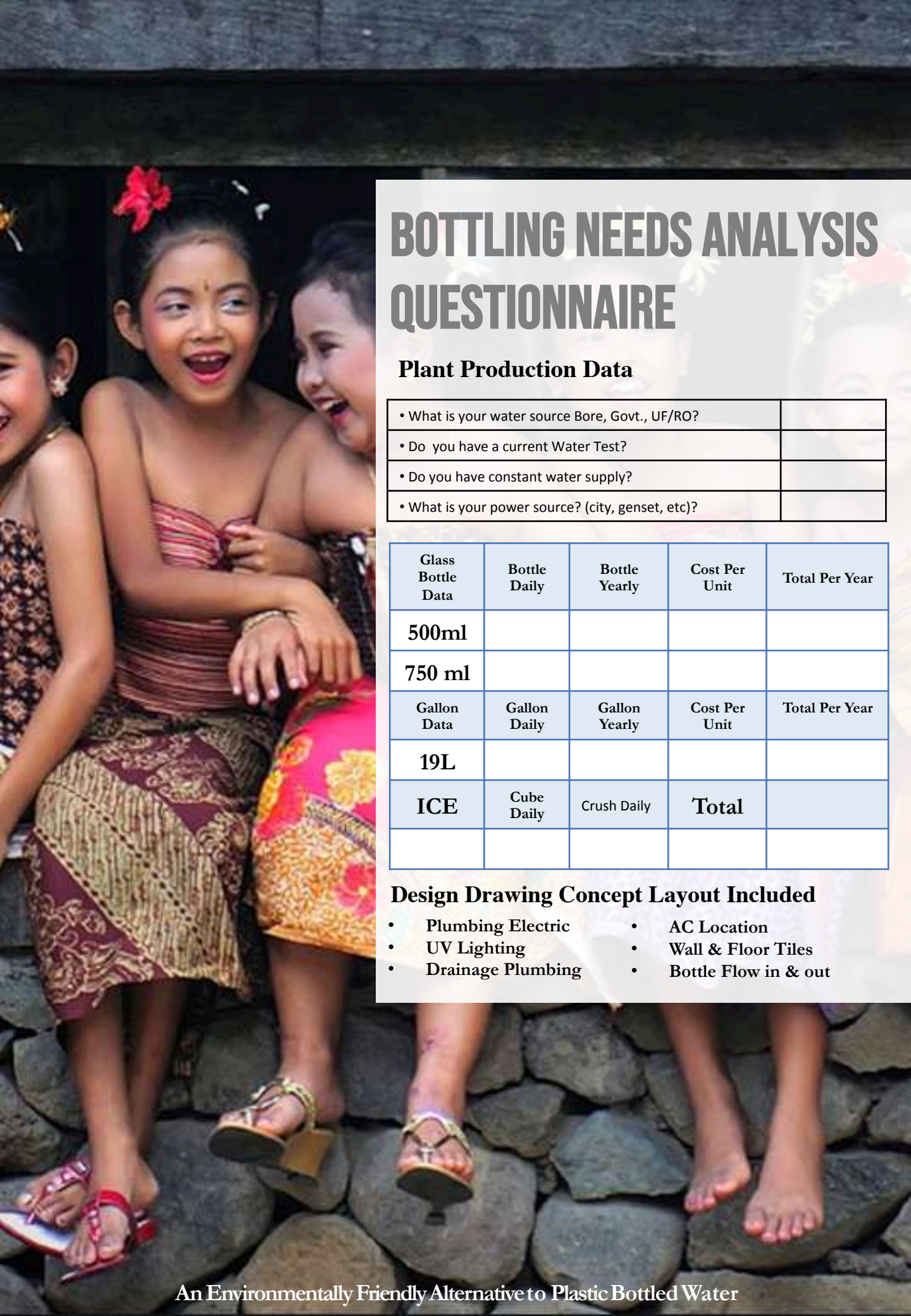
## Working Together to Reduce Your Carbon Footprint

- Brand your Bottles for in-room, banquets, lounge and Bar Sales.
- Reduce your usage of single use plastic bottles
- Never Pay for Water & ICE again!

The Bottling system has been designed to make a positive impact on less than 1 year as well as sustainability improvements for Hotels, Resorts, Villas, Marinas, Island Communities, Mine Operations or just about anywhere clean healthy drinking water is required.



An Environmentally Friendly Alternative to Plastic Bottled Water



# BOTTLING NEEDS ANALYSIS QUESTIONNAIRE

## Plant Production Data

• What is your water source Bore, Govt., UF/RO?	
• Do you have a current Water Test?	
• Do you have constant water supply?	
• What is your power source? (city, genset, etc)?	

Glass Bottle Data	Bottle Daily	Bottle Yearly	Cost Per Unit	Total Per Year
500ml				
750 ml				
Gallon Data	Gallon Daily	Gallon Yearly	Cost Per Unit	Total Per Year
19L				
ICE	Cube Daily	Crush Daily	Total	

## Design Drawing Concept Layout Included

- Plumbing Electric
- UV Lighting
- Drainage Plumbing
- AC Location
- Wall & Floor Tiles
- Bottle Flow in & out

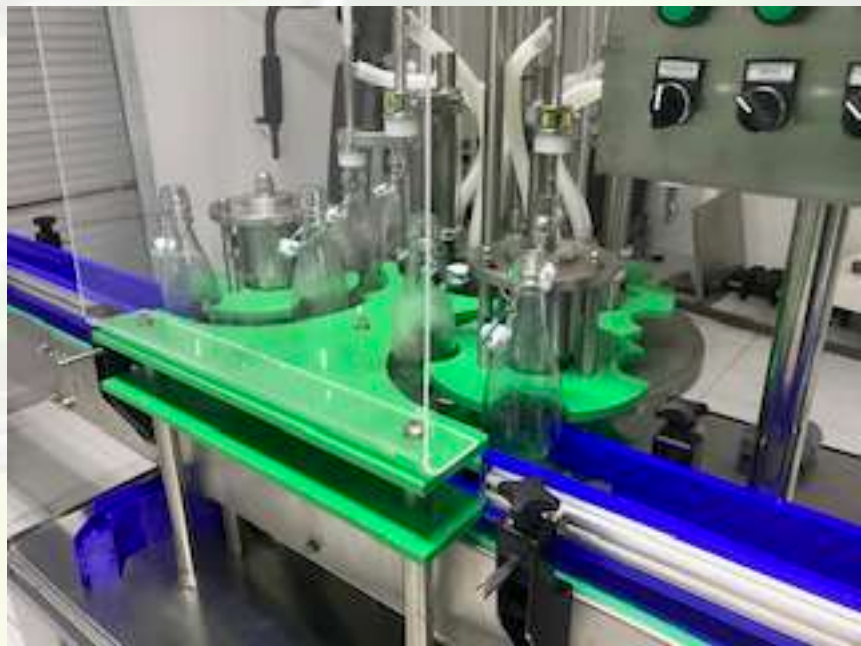
A close-up photograph of clear water being poured from a glass bottle into a glass. The water is captured in mid-pour, creating a dynamic splash and ripples in the glass. The background is a soft, out-of-focus green.

# **BOTTLING DESIGN SERVICES**

## **Sustainable Water Bottling Plant Concept**

Our design staff can assist you in defining your Bottling Plant Concept and then move your Bottling project from the drawing board to reality. We provide Premium Water Bottling Plant, design services and equipment for resort, hotel, mining camps, commercial and municipal application worldwide.

- General Consulting
- Engineering and Design
- Project Management
- Procurement and Installation
- Training and Commissioning





Alila Hotel Ubud Bali



Potato Head Seminyak Bali



JHL Jakarta



Legian Suites Bali



St Regis Nusa Dua Bali



Gaia Bandung

# PREMIUM WATER BOTTLING SOLUTION FOR HOTELS & RESORT

## Building a Sustainable Future

### Modular Bottling Plants

**Tested ♦ Prepackaged ♦ Warranted**

Production capacities ranging from 100 bottles/days to 1000 bottles/hour

- Upgradable options available for all Bottling Plants
- Specialist Purification for all Water Sources i.e. Ground Water, Dam, Rivers, Government Water & Sea Water
- We are specialist first in Water Purification Technology products & services



An Environmentally Friendly Alternative to Plastic Bottled Water





# MARRIOT GROUP GLASS BOTTLING PLANT ST REGIS BALI RESORT

The St. Regis Bali Resort is proud to announce its sustainability advantages at the resort, aligned with Marriot International's "Serve 360 – **Doing good in every direction**" initiative. The resort has eliminated all plastic water bottles in the hotel and replaced with Swing Top Glass Bottles that are filled from the Biosystems in-house Premium Water Bottling Plant, annually saving approximately 1,438,000 plastic bottles & ring pull caps. In addition approximately 126,026 plastic wrappings and 83,838 plastic vanity products have been replaced with biodegradable alternatives. With the goal to reduce its environmental footprint up to 50% across the portfolio by 2025, The St. Regis Bali Resort in collaboration with Biosystems are a forerunner in the field.





**BIOSYSTEMS BOTTLING PLANTS ARE SAVING 5 STAR HOTELS UP TO 20%  
ON WATER COSTS & ERADICATING ALL PLASTIC BOTTLES**

*An Environmentally Friendly Alternative to Plastic Bottled Water*

# WORK TOGETHER TO REDUCE SINGLE USE PLASTIC



- We reduce your carbon footprint
- You give your guest a quality, environmentally friendly product.
- We can supply you ice, gallons & sparkling.

- You make savings on your water costs

- You can brand your bottled water for in-room, banquets, lounge and bar sales.
- We reduce your usage of single use plastic

**An Environmentally Friendly Alternative to Plastic Bottled Water**



## **DAILY OUTPUT TESTING**

- **Sample bottles are tested daily internally**
- **Re-tested after 30 Days internally**
- **Monthly laboratory water test reports**
- **Quality Drinking Water HACCP Standard**

*An Environmentally Friendly Alternative to Plastic Bottled Water*





## PT Biosystems Indonesia

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# THE LIVEABILITY CHALLENGE 2021

## Submit your innovations in Decarbonisation or Re-Imagining (Resources)

Dear Mark,

Thank you for participating in The Liveability Challenge 2021 – your application submission is now complete.

We are excited to read Biosystems proposal and submitted to our shortlisting committee with your Environmentally Friendly Alternative to Single use Plastic Bottled Water

The finalist chosen to pitch at The Liveability Challenge 2021 Grand Finale will be on the official Challenge website: [www.theliveabilitychallenge.org](http://www.theliveabilitychallenge.org).

## Organisers

Presenter

**TEMASEK**  
FOUNDATION

Organiser



In Support of



# ENVIRONMENTAL ALTERNATIVE TO PLASTIC BOTTLED WATER

**Sustainability** Replacing plastic bottles in hotels has put this Bali-based Australian in the global spotlight, writes Emma Connors.

It takes a lot to intimidate Mark Campbell. The 69-year-old water specialist has worked in remote locations all over the world, but this year a tender to become a preferred water bottling supplier for the Radisson Resort

Group and its 1450 locations Worldwide almost defeated him "it was quiet daunting, you know," Campbell says from his base in Bali. "several times I advise them, "We can't do this", Each time they said, "Please Mr. Campbell, continue. There are not many of you."

What the Radisson group wants is help with water. A reliable and eco-friendly supply of water that's safe for drinking and doesn't involve plastic bottles is fast becoming a must have in the hotel Resorts Industry. Campbell, a water guy with a passion for quality and a talent for reinvention, has hotels and resort from all over the world beating a path to his door.

After shelving plans to take his company, Biosystems, public last year, Campbell and his advisers are talking to prospective partners to help take the company to next level. It's already been quite a journey.

"Mark is the Indiana Jones of water," says Alexander Melbourne, a consultant helping Campbell to plot what's next.

"We're talking with some pretty big, important international groups that want to come in with Biosystems and make a difference for communities and the hotels sector. It's quite a quantum leap to take Biosystems here into a very exciting future with these big hotel companies," Melbourne says.

In 1983 Campbell won the prestigious HIA Award for villas & Resort Development master builder in Queensland and decided to specialize in water treatment system side of construction. From what he had seen building resorts, surf clubs and the like, the wastewater element was nearly always overlooked.

"The industry had so much potential because it was so poorly done," he says. "I was running building projects, so it was a natural progression to go from construction to water & wastewater treatment. I picked up fairly quickly on how things worked."

He imported biological treatment technology developed by Royal Dutch Shell from Europe to Australia and went into business treating effluent to the point where it is suitable for industrial reuse for production or irrigation. By developing



Modular systems for businesses in remote locations Campbell became the go to guy for mines and resorts Australia wide.

In the early 1990s, he was flown into the Pogera gold mine in Papua Guinea's northern highlands, a region renowned for high rainfall, landslides and earthquakes.

The only way in for Campbell and his six tons modular ARB treatment system was slung underneath large Russian helicopter. "looking back, I think it was probably quite dangerous. But those were the first biological wastewater systems installed in the PNG highlands- I'm pretty proud of that." Mines would remain good customers for Biosystems as the years went by.

From top Mark Campbell at the Biosystems plant, which supplies drinking water in recyclable glass bottles to hotels across Bali and is helping to rid the island of plastic waste. PHOTOS: Dewa Satryadi

In 2003, US giant Newmont, then operating the second-largest copper gold mine in Indonesia, in Sumbawa, West Nusa Tenggara, was hit with heavy fines after its water treatment plants failed to meet government discharge regulation. The company called in Campbell to set things right.

Almost 20 years on, the mine's ownership has changed-Newmont has sold to Amman Mineral International but Campbell is back. He's putting in a new container ARB wastewater system for the mine expansion. But it was work in Fiji that led Campbell to Bali. In the early 1990s he was installing a wastewater system

at the Castaway Island and Musket Cove Resort. A group called Asia Tours asked him to come to Bali to speak at a resort seminar. One thing led to another and Campbell has been based in Bali ever since.

**There were so many resorts going in on septic tanks. If it had continued, the place would be covered in sewage.**

Mark Campbell, Biosystems on Bali

Bali is a good place for a water problems. The lush tropical island had enough water rice farmers to raise the notoriously thirsty crop for centuries. Then the tourist arrived and ground water resources came under immense pressure. Wastewater treatment also left a lot to be desired as tourism started to boom.

"in the 1990s Bali was trying to attract hundreds of thousand of tourists. There were so many resorts going in on septic system. Well, that's just not good enough. If it had continued like that, the place would be covered in sewage," Campbell says.

Biosystems expanded into World Bank funded projects for hospitals and schools. It provided solutions for DFAT & Australian Department of Defense in East Timor and the Solomon Islands. It developed containerized wastewater systems for offshore oil and gas rigs used by Mobil, Chevron, BP, Exxon and Saipem. It supplied the waste water treatment and water purification & services in use at the Australian embassy in Jakarta. This year the British embassy next door became a customers as well.

After the Bali bombings, the company was tapped to provide water and waste solutions for the Australian Eye Hospital and Bali Memorial Burns Unit at the Sanglah General Hospital in Denpasar.

"We've had to be tough, very tough to get through everything we've gone through on the island," Campbell says

Campbell's first customers on Bali were resorts represented at the 1992 seminar including the Bali Dynasty, Santrian and the Padma and it grew from there.



# Australian water warrior gets global kudos for bottler of an idea

*He's ridden choppers into remote mine sites and helped out villagers across Asia, but it's Mark Campbell's desalination and water bottling plants that have put him on the world stage*



Mark Campbell and Sisca, centre, have built a business tackling Bali's water problems, and now his desalination and bottling solutions area attracting global attention. Dewa Satryadi

"I couldn't move. The company just developed and developed"

So did Bali, and the island's freshwater aquifer came under sustained attack. To supplement limited piped water, resorts were sinking their own wells. Demand was too much for supply from the ground water.

Pull out too much ground water and salinity increases, and that's exactly what happened. The freshwater lens, the layer of groundwater that's above denser seawater, becomes salty.

The Biosystems approach to what was fast becoming a massive environment problem was to go much deeper and down into the seawater aquifer below fresh water supply.

Seawater from the ocean's edge is not stable clean water source for desalination plants. It's polluted and treating it to the point for general water supply and human consumption wears out expensive pre-treatment equipment too quickly. So Biosystems sinks wells down to 100-250 metres at least and builds desalination plants on site for resorts, using technology that came of age in the 1990s.

"It's affordable, but these plants require constant servicing. That's why we have many of employees we never see- they live on site," Campbell says

**T**he shift to drinking water began at the Desa Potato Head Resort. "We put in a 1000 cubic meter seawater plant for the hotel's water supply, and they asked,

"Could we get drinking water from this?", "of course," we said.

"After that we went to the Alila Seminyak beach resort and then on to the Marriott Group, Wyndham and Hyatt Group and now providing to offshore global market,"

Gradually the desalination work grew larger than wastewater. The company had grown to employ dozens of people, most of whom were involved on the services side, run by Campbell's wife Sisca. "You can't install water supply without high quality, continuous services."

From working with resources located very much below ground, Biosystems swung around to help resorts address a much more visible problem. Plastic waste.

Pre-pandemic, when millions of tourists came to Bali each year, the island's waste problem was getting bigger and bigger and it was in full view. With piped water not safe for consumption, millions of plastic bottles were consumed. Once emptied, there was no good place for them to go.

Each year, as the tourist season went on, the piles of waste in Suwung landfill in South Denpasar got higher and higher. Plenty bottles never made it even that far..

**"There is no way to get rid of plastic here on the island," says Marcel Kloet, general manager of the St Regis Bali Resort. "If you walked to the shores, you could see so much plastic washing up. It's just terrible, terrible for the people who live here but also terrible for marine life every where."**

When St Regis an ultra-luxury resort, decided it was time to quit plastics, it had to work out how to replace the 189,000 plastic bottles it provided its guest each year (pre-COVID-19 at least).

"We looked around and found a few suppliers who could bottle in glass for us, and we also found some hotels who were doing it all themselves, Kloet says. "We decided we wanted a partner who could deliver safe and consistent quality drinking water,"

That led to Biosystems."Mark is incredibly passionate,"Kloet says. "This bottling business grew out of his passion

for water solutions – I don't think he ever thought it was going to be so successful." St Regis was the first mover in the Marriott group on the island, signing a build own operate contract with Biosystems in late 2019. since then, others have come on board.

The pandemic has been a disaster for Bali's economy, which shrunk by 9.3 per cent last year. Plans to re-open for international tourism this year are on hold as Indonesia struggles to bring a massive surge in COVID-19 infections under control. Biosystems, however, has had a very busy pandemic.

As well as running the St Regis operation the company now supplies 10 other resorts with glass water bottled at the company's own plant. This was originally built for training purposes, but has now shifted to a delivery operation running full-time.



St Regis has happily discovered the shift to refillable glass bottles has reduced the cost of supplying drinking water for guest and staff by 30 per cent, and it has spread the word.



"There are many other Marriott hotels worldwide who want to do what we've done. "That's why the group has selected Biosystems as a partner". "There are plenty of Marriott hotels knocking on his door."

Now there is also the Radisson European business to consider in their expansion, but what Campbell is really excited about is the potential to provide drinking water for many communities that rely on trucked in supply. Add a bottling plant and employment opportunities open up for those communities as well. It's a lot on our plate. Campbell is looking for help. "We need a partner that will help our expansion. There are some exciting companies out there that can help take this to the next level,"

"We definitely will stay engaged with Biosystems, though. The future direction is very important to us. This company's history is one of never-ending improvements,"

# DICE CUBE ICE MACHINES

## SRM-45A

### Dimension

500(W) x 580(D) x 750(H)mm

### Ice Production/day

46 kg (AT/10°C, WT/10°C)

36 kg (AT/32°C, WT/21°C)

### Ice Storage Capacity

14 kg

### Electrical Consumption

287 W

## SRM-60A

## SRM-80A

### Dimension

660(W) x 670(D) x (970+80)(H)mm

### Ice Production/day

60A: 65 kg (AT/10°C, WT/10°C)

50 kg (AT/32°C, WT/21°C)

80A: 80 kg (AT/10°C, WT/10°C)

57 kg (AT/32°C, WT/21°C)

### Ice Storage Capacity

31.4 kg

### Electrical Consumption

60A: 370 W

80A: 450 W

## SRM-105A

## SRM-125A

### Dimension

660(W) x 670(D) x (1120+80)(H)mm

### Ice Production/day

105A: 100 kg (AT/10°C, WT/10°C)

70 kg (AT/32°C, WT/21°C)

125A: 125 kg (AT/10°C, WT/10°C)

81 kg (AT/32°C, WT/21°C)

### Ice Storage Capacity

43.6 kg

### Electrical Consumption

105A: 480 W

125A: 590 W

## SRM-270AA

### Dimension

760(W) x 620(D) x 560(H)mm

### Ice Production/day

270 kg (AT/10°C, WT/10°C)

180 kg (AT/32°C, WT/21°C)

### Electrical Consumption

861 W



B-501 SA





# APPLICATION



Resorts



Schools



Factory Staff



Apartments



Villa Estate



Restaurant

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