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BEST PRACTICES

AWARDS

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2020 BEST PRACTICES AWARD



BETTER WATER. BETTER WORLD.®

2020 GLOBAL DECENTRALIZED WATER AND WASTEWATER TREATMENT COMPANY OF THE YEAR AWARD

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Background and Company Performance

Industry Challenges

Compared to conventional methods of water and wastewater treatment systems, which could pump and transfer millions of gallons of sewage through aging piping networks to centralized WWTP facilities that are miles away, often dumping partially treated water into waterways, decentralized treatment systems treat water on the property at higher standards with more environmental benefits. Suitable for rural settings or small communities, they offer a cost-effective and simplified alternative to centralized treatment systems, enabling communities and commercial establishments to meet their capacity needs and new stringent regulatory requirements. Per the United States Environmental Protection Agency Memorandum of Understanding for Septic and Small Systems, advanced, decentralized wastewater treatment systems require minimal infrastructure, simpler maintenance, and energy-efficiency, while protecting public health.

Rapid urbanization, industrialization, and a strict regulatory environment currently drive significant growth in this space. Frost & Sullivan's independent research indicates that the global market revenue will grow significantly over the next few years, increasing from \$3.99 billion in 2016 to \$6.08 billion in 2023, at a compound annual growth rate of 6.2%.¹ Major contributors to this revenue include suburban and rural communities in North America and Europe, high-rise real estate development in the Asia-Pacific and the Middle East and North Africa regions, and burgeoning industrialization in developing countries such as India and China.

Solutions providers face significant challenges in the water and wastewater treatment realm. The market is highly competitive, with numerous participants vying to outdo one another with increasingly innovative, cost-effective, and sustainable solutions. Successful providers will stay abreast of new trends and developments and implement their insights into their product development. Additionally, providers must deliver seamless customer experiences with high-quality and reliable products and swift implementations. Faulty products or solutions that perform poorly or provide unsatisfactory customer experiences could cost companies crucial business and hence, revenue.

Visionary Innovation and Performance/Customer Impact of BioMicrobics Inc.

Founded in 1996, Kansas-based BioMicrobics Inc. (BioMicrobics) manufactures advanced decentralized wastewater, greywater and stormwater treatment systems for residential, small community, and commercial applications. Operating through its subsidiaries, Scienco/FAST (marine) and SeptiTech® (trickling filters), the company offers a spectrum of simple, low-cost, and robust solutions that enable companies and communities worldwide to solve water crisis issues, achieve sustainability goals, and manage their businesses more effectively. Recognized for exporting success with both Presidential "E" and "E-Star" Awards, BioMicrobics has received multiple innovation awards, including past Frost & Sullivan Best

¹Global Decentralized Packaged/Containerized Water and Wastewater Treatment Systems Market, Forecast to 2023 (Frost & Sullivan, May 2017)

Practices awards for technology innovation and is recognized again this year for its continued leadership.

Enhancing a Product Line through Continuous Innovation

BioMicrobics stands out for its continuous innovation in the water and wastewater treatment industry. Since receiving its last Frost & Sullivan award in 2017, the company redesigned some of its modular technologies for larger flows that were up to about 7,700 cubic meters, or about two million gallons, per day; introduced a new International Maritime Organization (IMO) and United States Coast Guard (USCG) standard-certified marine membrane bioreactor for vessels and offshore platforms; and certified its sodium hypochlorite generator for National Sanitation Foundation 61 for worldwide drinking water standards.

On the acquisition side, BioMicrobics acquired a partial interest in a company that manufactures hypochlorous disinfectant (which formulates into a spray to disinfect against viruses such as the COVID-19 virus). The company also acquired rights to a stormwater drain device called d-Rain Joint®, which prevents rainwater from accumulating on impervious surfaces. As a 2017 Top 10 Green-Building Product of the Year award recipient from buildinggreen.com, the d-Rain Joint® device embeds between concrete slabs as an expansion joint and allows surface runoff water to drain into the underground drainage bed potentially recharging the local aquifer and groundwater sources naturally, on-premises, and without the need for storm sewers.

BioMicrobics also makes another strategic acquisition for its marine focus, a BWTS system which prevents the transfer of harmful aquatic species via ship's ballast water. This product is certified through IMO, USCG, and DNV worldwide marine standards to help keep vessels in compliance and is an important and unique addition to the current offerings in the marketplace.

Committed to Quality

BioMicrobics' places a high premium on quality. The company's products and systems have received numerous certifications and third-party validations from entities such as the National Sanitation Foundation, European Norms, the United States Environmental Protection Agency, International Maritime Organization, and the United States Coast Guard. Third-party testing also formulates a huge and essential part of BioMicrobics' strategy. In one instance, the company created a closed-loop NetZero Water (NZW) system at Miami University, where the students in the dorms reuse the water for everything except drinking. A prominent professor from the university appears in a YouTube video in which he is drinking the water. The company also utilizes a demo WWTP site and onsite laboratory at its facility, where it can perform product enhancements and improvements with existing and new products.

High Performance Leads to Customer Acquisition

To ensure product quality, BioMicrobics places a strong focus on execution and delivery. The company has an official trademarked tagline: "Better Water. Better World.®". It also has a mantra and mission for its products, to be "Simple, low cost, and robust."

While some competitors over promise and under deliver just to acquire customers, BioMicrobics lets its Products speak for themselves and are backed by the People and Policies of the company that support their growing Global Distributor Network currently in more than 80 countries and marketing in 17+ languages. By providing clean, high-quality, and seamless customer experiences, the company ensures that its customers return, often leading to larger purchases and increased revenue.

Many BioMicrobics' distributors that once sold competitors' products switched over to BioMicrobics and became long-time customers. About half of the company's distributors in the marine and land industry once used competitors' products, and are now loyal to BioMicrobics. Such was the case with the company's distributor in Greece and Cyprus. Frustrated with the ordering and service complication from its previous provider, the company sought out BioMicrobics. Today, the two entities continue to enjoy a long and meaningful partnership.

A Burgeoning Company

In August 2020, the online international business news magazine IBNewsMag™ featured the company's President and Chief Executive Officer, Robert Rebori, in a segment entitled "BioMicrobics: Working Hard to Regain International Sales in Far-Flung Countries." In the segment, Mr. Rebori discusses how the company withstood the effects of the COVID-19 pandemic, keeping its distributor network informed through social media, digital communication channels, and webinars.

Industry best practices, company policies, dedicated employees, high-quality products and solutions, and unmatched customer service have led to tremendous company growth in the past few years. In 2018, the company moved from a 47,000-square-foot warehouse with 3,000 square feet of office space to a "Water Campus" in two separate buildings that total 120,000 square feet of warehouse and 19,000 square feet of office space. The new headquarters includes several large conference rooms as well as a training room for demonstrations (decked out with video collaboration screens and face-to-face interaction training capabilities) that held up to 110 people in May 2019 for their triennial distributor conference.

BioMicrobics' employee base consists of a diverse group of water process engineers; biologists; design engineers and drafters; Ph.D.'s with their degrees in disciplines: marine biology sciences, wastewater, and water; MBAs in mathematics, international business, aeronautical engineering, etc.-even a marine Chief Engineer. BioMicrobics has strong support for its people, creating a sense of community with regular company barbecues, happy hours, and comprehensive benefits packages. In the wake of the COVID-19 pandemic, the company allowed employees to work from home before it was mandated to do so. It even provided employees (including part-time employees) with small bonuses to help them kick start small businesses.

BioMicrobics also has several sustainability initiatives. The company sends its wastewater to its own membrane bioreactor to demonstrate innovative water reuse techniques. BioMicrobics has a lab onsite to test the water and make sure it is safe. As part of other sustainability efforts, the company installed light-emitting diode lighting in its buildings, and

it provides its own power with solar panels installed on the expansive roof and daily monitoring not only the energy savings, but also the amount of CO2 it does not create.

Expansion Abroad

While BioMicrobics is well-established in the United States, the company also sees significant opportunities abroad. BioMicrobics has substantial projects underway, amounting to 80,000+ installations (~3,000 per year) in 80+ different countries all over the world. BioMicrobics has also expanded its distribution network, adding 11 new distributors worldwide, and it markets in 17 different languages.

For the last three years, BioMicrobics has mainly focused on expanding to the Africa and Asia-Pacific regions. The company is making big pushes into Indonesia, Malaysia, and Singapore, attending multiple conferences and trade shows (INDOWATER, Vietwater, and International Fund for Agricultural Development) to attract new distributors. While travel restrictions have caused the company to place many of its modular treatment systems projects on hold, BioMicrobics remains profitable throughout the COVID-19 pandemic. Its customers are eager for these projects to continue.

Conclusion

While decentralized water treatment systems have several key benefits over traditional centralized systems, solutions providers face several significant challenges pertaining to innovation strategies, product quality, and customer service. BioMicrobics excels in every aspect of the industry, offering a constant stream of new and innovative award-winning products and backing them up with seamless customer service. Additionally, strong company policies and dedication to the industry have led the company to impressive growth, as it continues to build a qualified and diversified team while seeking opportunities abroad. BioMicrobics also lives the life it preaches, treating and reusing water from its facilities and installing light-emitting diode lights and solar panels in its buildings. As a result, Frost & Sullivan is proud to recognize BioMicrobics as the 2020 Global Company of the Year in the decentralized water and wastewater treatment industry.

Significance of Company of the Year

To receive the Company of the Year Award (i.e., to be recognized as a leader not only in your industry, but among non-industry peers) requires a company to demonstrate excellence in growth, innovation, and leadership. This excellence typically translates into superior performance in three key areas—demand generation, brand development, and competitive positioning—that serve as the foundation of a company’s future success and prepare it to deliver on the 2 factors that define the Company of the Year Award: Visionary Innovation and Performance, and Customer Impact).



Understanding Company of the Year

Driving demand, brand strength, and competitive differentiation all play critical roles in delivering unique value to customers. This three-fold focus, however, must ideally be complemented by an equally rigorous focus on Visionary Innovation and Performance to enhance Customer Impact.

Key Benchmarking Criteria

For the Company of the Year Award, Frost & Sullivan analysts independently evaluated each factor according to the criteria identified below.

Visionary Innovation & Performance

Criterion 1: Addressing Unmet Needs

Requirement: Implementing a robust process to continuously unearth customers' unmet or underserved needs, and creating the products or solutions to address them effectively.

Criterion 2: Visionary Scenarios through Mega Trends

Requirement: Incorporating long-range, macro-level scenarios into the innovation strategy, thereby enabling first-to-market growth opportunity solutions.

Criterion 3: Implementation of Best Practices

Requirement: Best-in-class strategy implementation characterized by processes, tools, or activities that generate a consistent and repeatable level of success.

Criterion 4: Blue Ocean Strategy

Requirement: Strategic focus on creating a leadership position in a potentially uncontested market space, manifested by stiff barriers to entry for competitors.

Criterion 5: Financial Performance

Requirement: Strong overall business performance in terms of revenue, revenue growth, operating margin, and other key financial metrics.

Customer Impact

Criterion 1: Price/Performance Value

Requirement: Products or services offer the best value for the price compared to similar offerings in the market.

Criterion 2: Customer Purchase Experience

Requirement: Customers feel they are buying the optimal solution that addresses both their unique needs and their unique constraints.

Criterion 3: Customer Ownership Experience

Requirement: Customers are proud to own the company's product or service and have a positive experience throughout the life of the product or service.

Criterion 4: Customer Service Experience

Requirement: Customer service is accessible, fast, stress-free, and of high quality.

Criterion 5: Brand Equity

Requirement: Customers have a positive view of the brand and exhibit high brand loyalty.

Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices

Frost & Sullivan analysts follow a 10-step process to evaluate award candidates and assess their fit with select best practice criteria. The reputation and integrity of the awards are based on close adherence to this process.

STEP	OBJECTIVE	KEY ACTIVITIES	OUTPUT
1 Monitor, target, and screen	Identify award recipient candidates from around the world	<ul style="list-style-type: none"> • Conduct in-depth industry research • Identify emerging industries • Scan multiple regions 	Pipeline of candidates that potentially meet all best practices criteria
2 Perform 360-degree research	Perform comprehensive, 360-degree research on all candidates in the pipeline	<ul style="list-style-type: none"> • Interview thought leaders and industry practitioners • Assess candidates' fit with best practices criteria • Rank all candidates 	Matrix positioning of all candidates' performance relative to one another
3 Invite thought leadership in best practices	Perform in-depth examination of all candidates	<ul style="list-style-type: none"> • Confirm best practices criteria • Examine eligibility of all candidates • Identify any information gaps 	Detailed profiles of all ranked candidates
4 Initiate research director review	Conduct an unbiased evaluation of all candidate profiles	<ul style="list-style-type: none"> • Brainstorm ranking options • Invite multiple perspectives on candidates' performance • Update candidate profiles 	Final prioritization of all eligible candidates and companion best practices positioning paper
5 Assemble panel of industry experts	Present findings to an expert panel of industry thought leaders	<ul style="list-style-type: none"> • Share findings • Strengthen cases for candidate eligibility • Prioritize candidates 	Refined list of prioritized award candidates
6 Conduct global industry review	Build consensus on Award candidates' eligibility	<ul style="list-style-type: none"> • Hold global team meeting to review all candidates • Pressure-test fit with criteria • Confirm inclusion of all eligible candidates 	Final list of eligible award candidates, representing success stories worldwide
7 Perform quality check	Develop official award consideration materials	<ul style="list-style-type: none"> • Perform final performance benchmarking activities • Write nominations • Perform quality review 	High-quality, accurate, and creative presentation of nominees' successes
8 Reconnect with panel of industry experts	Finalize the selection of the best practices award recipient	<ul style="list-style-type: none"> • Review analysis with panel • Build consensus • Select winner 	Decision on which company performs best against all best practices criteria
9 Communicate recognition	Inform award recipient of recognition	<ul style="list-style-type: none"> • Announce award to the CEO • Inspire the organization for continued success • Celebrate the recipient's performance 	Announcement of award and plan for how recipient can use the award to enhance the brand
10 Take strategic action	Upon licensing, company able to share award news with stakeholders and customers	<ul style="list-style-type: none"> • Coordinate media outreach • Design a marketing plan • Assess award's role in strategic planning 	Widespread awareness of recipient's award status among investors, media personnel, and employees

The Intersection between 360-Degree Research and Best Practices Awards

Research Methodology

Frost & Sullivan's 360-degree research methodology represents the analytical rigor of the research process. It offers a 360-degree view of industry challenges, trends, and issues by integrating all 7 of Frost & Sullivan's research methodologies. Too often companies make important growth decisions based on a narrow understanding of their environment, resulting in errors of both omission and commission. Successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. The integration of these research disciplines into the 360-degree research methodology provides an evaluation platform for benchmarking industry participants and for identifying those performing at best-in-class levels.



About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, helps clients accelerate growth and achieve best-in-class positions in growth, innovation, and leadership. The company's Growth Partnership Service provides the CEO and the CEO's growth team with disciplined research and best practices models to drive the generation, evaluation, and implementation of powerful growth strategies. Frost & Sullivan leverages nearly 60 years of experience in partnering with Global 1000 companies, emerging businesses, and the investment community from 45 offices on 6 continents. To join Frost & Sullivan's Growth Partnership, visit <http://www.frost.com>.