



2018 Global Decentralized Water & Wastewater Treatment
Company of the Year Award



2018
BEST PRACTICES
AWARDS

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Background and Company Performance

Industry Challenges

Water is a fundamental part of life on earth; not only does it sustain people but it also plays an essential role in sanitation, agriculture, and industrial processes. Without a sufficient water supply, communities suffer severe hardships including malnutrition, sickness, and even death. The swelling of the world's population is making water even scarcer and challenges communities to come up with quick and viable solutions to overcome the water scarcity problem.

In an effort to reverse this dire situation, local governments, industry, and commercial customers turn to innovative technology solutions based on a decentralized approach. Conventional water and wastewater management systems are largely comprised of large capital-intensive centralized facilities for treating and supplying water as well as collecting wastewater and then treating it off-site at a centralized facility. However, rapid urbanization, as well as industrial and commercial growth, has meant centralized wastewater treatment is not always sufficient for managing the supply of treated water as well as treating the wastewater generated. Many centralized treatment plants are landlocked and have aging infrastructures; they cannot be expanded, and upgrades are costly. Rather than expanding and replacing, communities, industries, and commercial establishments are investing in alternative decentralized solutions to address both the capacity needs and meet new regulatory requirements.

A viable solution rests in modular, packaged, smart, maintenance-free, decentralized treatment systems. According to Frost & Sullivan, the global market revenue from these systems will reach \$6 billion by 2023¹. Frost & Sullivan observes that decentralized water and wastewater treatment (WWWT) centers are a better value for money, easier to maintain, and more environmentally friendly than centralized systems. By decentralizing WWWTs, companies avoid having to lay miles worth of pipeline and building massive infrastructures to pump water and wastewater.

Visionary Innovation & Performance and Customer Impact of Fluence

In 2017, RWL Water and Emefcy expanded their global exploits and created Fluence. As Fluence, the combined entity leverages the expertise of the old Emefcy team (which includes CTO Ronen Shechter, the co-founder of both Emefcy and AqWise) to maintain a stronger focus on innovation, most of which is around a decentralized solution. Prior to the merger, RWL Water was already well-known for its award-winning NIROBOX™ solution and had over 7,000 references in more than 70 countries around the world. As a leading global decentralized water and wastewater solutions provider, Fluence uses membrane aerated biofilm reactor (MABR) technology for decentralized treatment systems globally.

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

Groundbreaking Technology

The company's most valuable technology is its patented MABR technology—a modular wastewater treatment solution customized to suit customers' diverse needs. Due to its remote operating capabilities, MABR operates with minimal maintenance and supervision. It uses up to 90% less energy than competing solutions and reduces operating costs by up to 50%. It also has the added benefit of meeting the stringent Class 1A standards for wastewater treatment. In November 2017, Fluence tasted its first success with its MABR in China in a strategic partnership with QSY to design, build, and operate a C-MABR plant in Henan province. The agreement is part of a broader framework agreement that covers three regional provinces in China. Shortly thereafter, Fluence secured another milestone by signing a framework agreement to deliver six C-MABR plants with partner Jinzi. With these capabilities, MABR will revolutionize the wastewater treatment industry and take decentralized water treatment to the next level of sustainability.

In addition to MABR, Fluence offers a range of other services and products including reuse, desalination, and waste-to-energy systems. Fluence's newest technology is a derivative of the MABR solution using submerged arrays of modules and called the SUBRE. SUBRE is an ideal solution for retrofitting large centralized wastewater treatment centers and installing the SUBRE module increases the average capacity of a plant up to 20%. At the same time, it ensures the plant is compliant with nitrogen removal. Fluence secured its first contract for the SUBRE MABR with the Israeli water utility of Mayanot Ha-Amakim (MAH) for the upgrade of the Ma'ayan Zvi plant from the current capacity of 6,000 cubic meters (m³) per day to between 6,900 to 7,200 m³ per day. The MABR SUBRE has the added credential of meeting stringent nitrogen compliance standards, which is emerging as a strong need among customers worldwide.

These technologies join Fluence's award-winning NIROBOX™ family of decentralized, Smart Packaged solutions for desalination, brackish water and freshwater treatment to provide its customers an option to meet any treatment need. Nirobox provides advanced treatment technologies in affordable and compact packages, offering the industry's smallest overall footprint, which makes the units ideal for the industrial, municipal, and commercial markets.

Aeration is one of the most energy intensive processes of wastewater treatment, and Fluence's SmartAerator™ TORNADO® solution aims to reduce the overall energy consumption of the aeration process as well as monitor the process on a real-time basis to ensure optimal and efficient operation.

During 2017, Fluence further strengthened its technology expertise of anaerobic wastewater treatment with high chemical oxygen demand in the food & beverage sector. It secured nine new contracts for anaerobic wastewater treatment projects in Italy and South America.

A Flexible Business Model

Fluence targets the middle market segment on all seven continents and stays closely involved with its customers, viewing them more as long-term partners rather than customers. Understanding that there is no such thing as a "one-size-fits-all" solution in the

WWWT industry, the company gets involved in the process early on to help its clients customize their projects.

The company offers several financing solutions such as a build-operate-transfer agreement, product finance, a recurring revenue opportunity, or a lease buyback (a service contract). It is also flexible enough to adjust it to the rules of a particular region. After facilitating the financing, Fluence is still responsible for the operational maintenance, and so the company is constantly in touch with its customers to make sure they have a seamless and beneficial purchasing experience. In short, service goes beyond selling a piece of technology, and Fluence strives to put the customer first by offering services and equipment to allow them to focus on their businesses.

In 2017, Fluence began an operation contract of a new ultrafiltration plant for PBB POLISUR-DOW in Argentina. The contract marks a step towards growing the company's presence in Latin America.

The company recently won a BOT project in San Quintin in Baja California, Mexico, which includes a 22,000 cubic liter a day desalination plant, with total investment volume of \$44 million. Fluence is targeting financial close in the first quarter of 2018 by securing 75% debt finance by the North American Development Bank and 25% equity finance, 51% of which goes to Fluence.

Looking Forward

Fluence is traded on the Australian stock exchange and has ambitious revenue targets, which it plans to grow both organically and inorganically through developing its products, as well as through mergers and acquisitions. With operations already underway in North America, South America, the Middle East, and Europe, Fluence now focuses on rural China, which has a five-year plan to build wastewater treatment plants for 400 million people with an overall budget upwards of \$15 billion.

As a brand, Fluence would like to convey its dominance as the only global pure-play company focused on the decentralized water and wastewater and waste energy space. This view compresses Fluence into what it truly is—an agile, innovative, and supportive partner.

Poised for Growth

RWL Water and Emefcy came together because each company needed something the other one had. RWL Water had the references in different areas of expansion. On the other hand, Emefcy had a highly disruptive innovative technology. Both companies came together because there were synergies from both sides, and they recognized an opportunity to create a global company capable of leading the WWWT market for years to come.

As a new company, Fluence's greatest quality is its diversification. It has several locations and products, and it serves a range of industries from oil & gas and power to food & beverage.

Conclusion

While typical decentralized water treatment systems are relatively expensive, complicated, and inefficient, Fluence Corporation leverages innovative and smart technology solutions backed by decades of industrial know-how to excel in water and wastewater treatment solutions. Fluence's excellence becomes apparent through its success, as the company continues to expand its existing offerings as well as partnerships with other prominent companies in the industry. With its easy to use, sustainable, smart and cost-effective solutions as well as a remarkable year of growth, innovation, and leadership, Fluence Corporation earns Frost & Sullivan's 2018 Global Company of the Year Award 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 your non-industry peers as well) requires a company to demonstrate excellence in growth, innovation, and leadership. This kind of excellence typically translates into superior performance in three key areas: demand generation, brand development, and competitive positioning. These areas serve as the foundation of a company's future success and prepare it to deliver on the two criteria that define the Company of the Year Award (Visionary Innovation & Performance and Customer Impact).



Understanding Company of the Year

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

Key Benchmarking Criteria

For the Company of the Year Award, Frost & Sullivan analysts independently evaluated two key factors—Visionary Innovation & Performance and Customer Impact—according to the criteria identified below.

Visionary Innovation & Performance

- Criterion 1: Addressing Unmet Needs
- Criterion 2: Visionary Scenarios through Mega Trends
- Criterion 3: Implementation Best Practices
- Criterion 4: Blue Ocean Strategy
- Criterion 5: Financial Performance

Customer Impact

- Criterion 1: Price/Performance Value
- Criterion 2: Customer Purchase Experience
- Criterion 3: Customer Ownership Experience
- Criterion 4: Customer Service Experience
- Criterion 5: Brand Equity

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 globe	<ul style="list-style-type: none"> • Conduct in-depth industry research • Identify emerging sectors • Scan multiple geographies 	Pipeline of candidates who potentially meet all best-practice 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-practice 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-practice 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-practice 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

About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to 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 practice models to drive the generation, evaluation, and implementation of powerful growth strategies. Frost & Sullivan leverages more than 50 years of experience in partnering with Global 1000 companies, emerging businesses, and the investment community from 45 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.