



ECOfluid Systems Inc.

Recipient of the 2006 Packaged Wastewater Treatment
Technology Leadership of the Year Award



“Partnering with clients to create innovative growth strategies”

I. Market Overview/Key Challenges

Participants in the packaged wastewater treatment market are faced with the need for innovative solutions, while maintaining efficiency and productivity levels at competitive costs.

Additional support, competitive pricing, and superior technological credibility are necessary to realize continued success, and yield maximized sales returns in the packaged wastewater treatment market. While there is a reasonable level of commitment to existing suppliers, customers are clearly showing a level of openness towards the most competitive suppliers. Customer satisfaction becomes a key advantage for maintaining the market position in the packaged wastewater treatment market.

In 2005, the revenues for the total packaged wastewater treatment market in U.S and Canada reached \$153.8 million. This is expected to increase to \$167.6 million in 2006. The revenues for the total market for packaged wastewater treatment in Europe, the Middle East, and Africa are likely to reach \$1.03 billion in 2006.

Packaged wastewater treatment systems have several advantages, which include:

- Ease of transportation
- Simple operation requiring less manpower
- User-friendly with low maintenance requirements

Some of the key challenges in the packaged wastewater treatment market include:

Rising Steel Costs

Increasing steel demand in China has resulted in scarcity of steel, which in turn has doubled the cost of raw steel since 2003. It should be noted, however, that steel prices have their cyclical ups and downs and fluctuate like any other commodity. Even though manufacturers are now seeing an increase in business activity, they are unable to generate higher returns partially due to soaring steel prices. Manufacturers are unable to hold prices steady for long because of the price volatility. The impact of this challenge is expected to be medium throughout the forecast period.

Consolidation of the Marketplace is Likely to Increase Pressure on Small- and Medium-Sized Companies

The wastewater industry as a whole is presently undergoing a period of consolidation. Large companies control major portions of the market due to various acquisitions and merger activities. This is forcing other small-and medium-sized companies to exit the market.

The packaged wastewater treatment market is very demanding and fiercely competitive. With demands for increased functionality, manufacturers are under pressure to cater to customers' needs. Companies are now designing equipment that is modular in design, compact in size, allowing easier upgrades and repair, and can be adapted to nearly all sizes of plants. With more inclination being shown towards enhancing customer satisfaction, the onus is definitely on the manufacturers to improve operational efficiency with durable and rugged equipment.

Some of the other challenges include:

- R&D Investment Needed To Succeed in the Packaged Wastewater Treatment Market
- Increasing Focus on Cost-effectiveness Drives Designing and Production of Treatment Equipment.

II. Award Categories & Relevance

The competitive landscape of the packaged wastewater treatment market has undergone dramatic changes in recent years. Most of the companies active in the wastewater industry anticipate further consolidations to take place in the future. The packaged wastewater treatment market is extremely competitive and fragmented. For achieving success in this market, it is imperative for companies to

reduce operating costs, develop new products, and eventually make profits.

Wastewater treatment all over the world is achieving significant importance. Achieving excellence, which can meet global standards, is extremely important for all the companies that want to succeed in this market. A global trend in the packaged wastewater treatment market is to have a few vendors that the end users can trust completely. Clearly only those companies are expected to succeed in this market that have an excellent record for delivery execution.

III. 2006 Packaged Wastewater Treatment Technology Leadership of the Year Award

Award Description

The Frost & Sullivan Award for Technology Leadership of the Year is bestowed each year upon the company that has demonstrated excellence in technology leadership within its industry. The recipient company has demonstrated technology leadership by excelling in all stages of the technology life cycle - incubation, adaptation, take up, and maturity - to ensure a continuous flow of improvements. By innovating leading-edge concepts, the company has pioneered client applications.

Research Methodology

To choose the recipient of this award, the analyst team tracks all emerging technologies, ongoing research, and development projects within the industry. This process includes interviews with all the market participants as well as extensive secondary and technology research. The technologies and research projects are then compared according to customer-base demands. Also considered are elements such as feasibility of product launch, likelihood of customer acceptance and acceptance rates, and estimated time to market. Competitors are then compared and ranked for relative position. The company chosen to receive the award received the number one industry ranking.

Measurement Criteria

In addition to the methodology described above, there are specific criteria used in determining the final ranking of competitors in this industry. The recipient of this award has excelled based on one or more of the following criteria:

- Significance of the technology in the industry
- Number of competitors having similar industry technology (competitive factor)
- The technology refinement process meeting changing end-user needs (addresses research and development efforts by vendors)
- Value-added technology and services to the customers
- Adoption rate by each the industry participants (denotes responsiveness of the vendors)
- New product innovation
- Time to market

The 2006 Frost & Sullivan Technology Leadership of the Year Award is presented to ECOfluid Systems Inc. in the U.S. and Canada packaged wastewater treatment market. ECOfluid Systems Inc. has been recognized for its unique advanced biological wastewater treatment technology - USBF™ and service strategies, which have enabled the company to increase its market share in the competitive market.

Focus on Technology

The packaged wastewater treatment market is very competitive and companies need to innovate in order to succeed. The ability to bring product and technology innovations to the market ahead of rivals can be an important advantage for companies.

ECOfluid Systems Inc's ability to accurately gauge its customers' differing needs and to develop innovative technology and services accordingly has helped it withstand the increasing competition in the packaged wastewater treatment market.

ECOfluid Systems Inc's advanced plants based on the USBF™ process address the constant demands of their customers to produce high quality effluent

In today's wastewater treatment market, nutrient removal is viewed as being just as crucial to the finished product as the removal of primary and secondary BOD and suspended solids. A great deal of money is, therefore, being spent on Biological Nutrient Removal (BNR) systems.

ECOfluid's advanced biological wastewater treatment technology, or USBF™, is a single-sludge denitrification process that incorporates all the processes required for biological treatment within one reactor and within one circulation loop, using very little energy in the process.

Conventional processes, like SBR and extended aeration, rely on sedimentation - a slow and inefficient process. Time is dictated by the volume and specific gravity of the sediments. By contrast, however, ECOfluid's USBF™ technology utilizes a fluidized bed or 'counter current' movement that, unlike 'static' sedimentation, is dynamic in continually removing pollutants.

The sewage enters an anoxic compartment, is drawn by gravity into an aeration compartment, where it then enters the bottom of the upflow sludge blanket filtration clarifier and overflows off the top. The remainder is then recycled from the bottom through the use of airlift pumps which require no power due to the internal loop configuration. In this way, the mixture is exposed to anoxic aeration three or four times per day, resulting in superior biological nutrient removal, even without the use of added chemicals. Phosphorous removal, through a process known as "biological luxury uptake", is an additional cost-free benefit of the process.



Conventional systems are unable to increase sludge concentrations due to filamentous growth accumulations, usually within ten to fifteen days. The USBF™ technology, on the other hand, does not require primary clarification prior to biological treatment and offers hydraulic flexibility because it easily accommodates high peak flows. In fact, the higher the flow, the higher the sludge blanket rises and the larger the filtration area becomes. ECOfluid's USBF™ technology is, therefore, ideal for use in municipal and domestic wastewater treatment, water reclamation, industrial wastewater and existing plant retrofits.

Commitment to Service and Customer Satisfaction

The company places emphasis on what it considers to be its most valuable resource - the customer. Over the years, this approach has proven to be its formula for success and the company has established a reputation for providing high quality and reliable services, on-time deliveries, quality products and a staff that is accessible and knowledgeable about customer service requests. Always looking for ways in which to serve customers better, ECOfluid Systems Inc. maintains the highest standards for quality control and assurance of its systems. By working hand in hand with customers, the company has developed superior systems to address the packaged wastewater treatment market.

Great Reputation

Brand name, reputation and integrity are three of ECOfluid's greatest assets. The company's relationship with its clients depends on integrity, reputation and quality products.

Conclusion

ECOfluid Systems Inc. is emerging as a company that has employed certain best practices, which have not been replicated by other companies in the market. The company's versatile technology, and its exceptional customer service makes ECOfluid Systems Inc. a worthy recipient of 2006 Frost & Sullivan Technology Leadership of the Year Award for the U.S. and Canada packaged wastewater treatment market.



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