

F R O S T & S U L L I V A N

BEST PRACTICES

AWARDS

F R O S T & S U L L I V A N

2020 BEST PRACTICES
AWARD



**2020 GLOBAL BUILDING AUTOMATION SYSTEMS
COMPANY OF THE YEAR AWARD**

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Background and Company Performance

Industry Challenges

A building automation system interconnects numerous subsystems and equipment that monitor and control lighting, temperature, humidity, sound, and other parameters related to occupant comfort, energy optimization, and asset protection. In the Internet of Things (IoT) era, a building can act as an entity: embedded cognitive solutions give it the ability to think, respond, and learn as the solutions capture and analyze operational data in real time. Advanced data analytics technologies allow for a more holistic view and understanding of operational costs over a building's entire life cycle.

Cost-conscious building managers want to limit capital expenditure yet maximize their return on investment in any project. Their imperative is to find a one-stop building automation system and service provider that offers a vertically integrated stack of hardware, sensors, software, and analytics, and has the expertise to cost-effectively integrate numerous assets from different manufacturers and address the perennial problems of scalability and cybersecurity.

More and more managers want a fully connected digital experience, with remote monitoring and predictive maintenance capabilities and value-added features that are akin to home automation systems, including controls activated by voice or mobile device.

Visionary Innovation and Performance/Customer Impact

Delta Controls, founded in 1986, is a major building automation systems player with more than 400 distributors in more than 80 countries. The Canadian company is a part of the multibrand Delta Electronics group. Delta Controls' next-generation building automation is based on open standards, multiprotocol adaptability, and seamless asset integration and interoperability. Delta Controls has recognized and capitalized on the need for a capstone of convergence over integration, with products that are simple to use yet embedded with layers of sophisticated technology.

The O3 Sensor Hub 2.0: A Cognitive Technology-Packed Solution

Delta Controls' IoT-enabled O3 Sensor Hub 2.0 utilizes sensor fusion technology with standard building automation protocols built into it. The ceiling-mounted device observes its environment and reports interior temperature, occupancy, humidity, lighting, heating, and serves as a connectivity platform for sensing air quality, ventilation, window contact, and shade position findings to an edge system controller or a supervisory platform. The cloud-connected device is ceiling mounted, allowing for virtually touchless setup and commissioning and provides for a distinctive and easy-to-use engagement platform.

Delta Controls' sensor fusion technology delivers heightened room control and optimum occupant satisfaction alongside a deeply connected digital experience. Individual O3 Sensor Hubs and edge controllers can be connected via the cloud to Delta Controls' enteliWEB facility and energy management software to track and control building conditions and energy usage. Machine-learning algorithms use real-time conditions of monitored spaces to model occupancy profiles at certain times of day, create seasonal or longer-term temperature profiles, and detect potential problems with subsystems or individual assets.

Delta Controls' products have a full complement of smart features and functionality for edge computing. Frost & Sullivan has identified the ability to add machine-learning algorithms into edge devices as a best practice that makes Delta Controls stand out in a fragmented industry.

The O3 Sensor Hub 2.0's ceiling mount gives it the best vantage point of a room so it can monitor a wide area rather than a single point and automatically make adjustments for comfort. It can detect occupants and determine precise occupancy levels with a combination of audio sensors that can pick up on people making sounds or even the faintest ambient sounds, such as typing on a keyboard or the turning of a page; passive infrared (PIR) motion sensors; and infrared sensors that detect body heat. The audio sensor serves an additional purpose: safety. In the future, the O3 Sensor Hub will feature product developments with machine learning techniques, that would enable scream detection or a gunshot, for example, and put an emergency response into motion. Frost & Sullivan determined that the Sensor Hub is more precise than basic motion sensor systems, enabling cost savings and allowing for fewer false readings that a space is unoccupied.

AV Connectivity

The sensor hub takes television and projector remote controls off the boardroom table by emulating the Infrared Remote Control signals. Occupant set activity modes using the O3 Mobile App – in turn the A/V equipment, along with the entirety of the space environment, adjusts to the desired state.

Direct Control

A pair of onboard inputs/outputs allow direct connectivity to control equipment in the space including lighting dimming and color tune setting. The Hub senses light levels and color and can perform immediate closed-loop daylight harvesting and circadium rhythm control of the lighting without the expense of running control wiring back to centralized lighting controls – it sits just a few feet from the light fixtures in the ceiling.

The device also is more aesthetically pleasing: the discreet 7.1-inch diameter hub protrudes only 1.62 inches from the ceiling, and from a 15-foot mounting height has a 30-foot PIR sensing range. Multiple wall controls or sensors (which the company refers to as "wall acne") and the associated wiring are no longer a concern for architects and installers. The touch-free system ensures safety, security, and energy efficiency, because no unauthorized people can change room settings. Frost & Sullivan concluded that the O3 Sensor Hub 2.0 is revolutionary in how it connects to the customer and to building occupants.

Best Practices for Seamless Integration and Interoperability, and Digital Trust

To orchestrate widespread adoption as a standard device in a building's IoT ecosystem, Delta Controls' O3 Sensor Hub 2.0 has pushed system integration to the next level. The company considered interoperability with other systems to be a critical component in the Sensor Hub's design. This open platform IoT device supports multiple protocols that allow it to integrate with almost any system, including native BACnet, MQTT, and REST API for third-party integration, and BLE API for custom app development. Customers, for example, can extract data for their own workspace management and productivity metrics. Delta

Controls' technology allows all programming to be done virtually; then, when an O3 Sensor Hub is installed in a building, it can be activated either via Bluetooth to send an application code or near-field communication with a simple tap of a smartphone.

Delta Controls' internal cybersecurity team ensures a robust, secured system with the flexibility to deal with the evolving threat landscape. The company's cybersecurity center conducts hardening analyses for all networked assets, including penetration testing to identify and rectify vulnerabilities. The company collaborates with research groups and networking experts on cybersecurity issues, including an ongoing collaboration with the US GSA to ensure the products meet their evolving security standards. In 2019, for instance, it worked with McAfee's Advanced Threat Research team to ensure an enterprise-wide cyber defense strategy.

Frost & Sullivan lauds Delta Controls for leading the way in the implementation of the BACnet Secure Connect protocol, which uses accepted best practices of IT professionals in the creation of secure communication between building automation systems on-premises and in the cloud. It is compatible with legacy BACnet deployments, and is future-proof. Delta Controls is among the companies developing BACnet Secure Connect device implementation architecture and a reference implementation, as well as a knowledge-sharing platform for all participating companies regarding security threats.

Benchmarking Excellence with Multidimensional Growth Strategies

Delta Controls' building automation sales from its core markets of North America and Europe account for 80% of its revenue; the company achieved a staggering revenue growth of 20% in the North American market in 2019. In Europe, the company has a strong presence in the United Kingdom, Poland, and Germany.

Delta Controls has ambitious plans to diversify its growth beyond its core markets. Currently, only 20% of its revenue is from the Asia-Pacific region and the Middle East. Combined with Delta Electronics' sales offices in Asia—particularly China, India, and Southeast Asia—further synergies are bound to develop from integrating core competencies and sales channels. The company has extended its reach to India through OEM partnerships, and it has an office in the highly competitive Chinese market, which is dominated by local players, with plans to pursue opportunities in engineering and installations.

The Delta Electronics group brand portfolio also includes LOYTEC, VIVOTEK, and Amerlux. Through mergers and acquisitions, the group has assembled expertise in building control management systems, smart surveillance and security, and high-end professional lighting. The synergies have strengthened Delta Controls' smart building automation capabilities, and expanded its breadth of products and expertise so it can offer turnkey smart infrastructure solutions.

The company's typical route to market is through its network of hundreds of system integrators and mechanical contractors around the world. It also offers a cost-effective software-as-a-service option for commercial office space, retail, education, and healthcare customers that want a connected digital experience and bundled smart solutions. The

company has diversified its go-to-market strategy by targeting large international corporate accounts and engaging with Fortune 500 companies. It has gained additional growth opportunities through OEM partnerships to be a part of an overall solution offering under a different brand.

Customer Value Enhancement and Brand Equity

Delta Controls takes an active role in assessing clients' facilities infrastructure, understanding their priorities and short- and long-term goals, and determining their operational needs and capabilities. Delta Controls' motto, "Do it Right," is the tie that binds employees and partners to their end customers, ensuring that each product and solution is a perfect fit for a client's unique needs. Under the Earthright ethos, the company practices and helps clients achieve sustainability through energy-efficient buildings.

The company's robust partner selection process includes best practice criteria related to demonstrated technical expertise and project experience. Company-supervised training is a must: its "Do it Right" certification is based on IT, energy management, and green building expertise. Customer feedback is an important measurement of partner performance and a way to determine areas of improvement.

ATS Automation, a Washington state-based provider of energy management services, automated control systems, critical airflow solutions, and building system integration, is a proud Delta Controls partner and was impressed with the onboarding process.

"The emphasis on quality and timely shipments was clearly evident," said Lucy Gedney, ATS's vice president of sales. "During our visit we were able to hear from every department and found the future product roadmap to be especially exciting and reassuring that Delta Controls is thinking 'ahead of the curve' to anticipate the future needs of our clients and the industry as a whole.

"The overall 'family style' culture of the Delta Controls team was palpable. This culture and way of doing business comes through clearly during every interaction we have had with this team, from order entry all the way to the CEO."

Conclusion

Delta Controls' earns Frost & Sullivan's 2020 Company of the Year Award in the global building automation industry because it exemplifies best practices in the development and convergence of technologies and the nurturing of partnerships that ensure the best possible customer service and technical support. Frost & Sullivan's independent analysis concludes that the O3 Sensor Hub 2.0 will set a new industry benchmark. The company's ambitious internationalization and growth diversification strategies, and its active involvement in creating smart, sustainable, and secure buildings, will help it to stand out in an increasingly crowded marketplace.

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 and Performance

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

Customer Impact

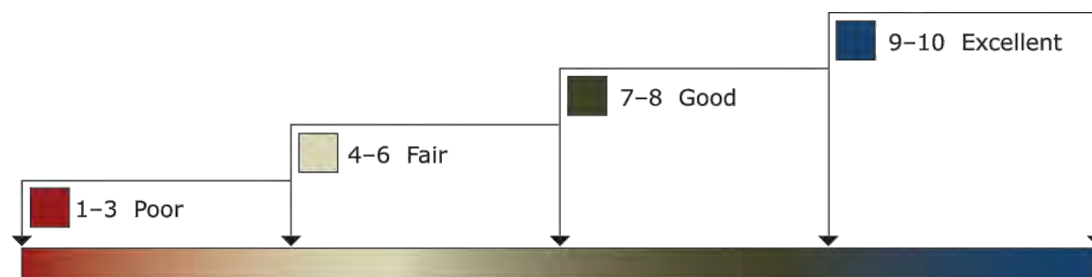
- Criterion 1: Price/Performance Value
- Criterion 2: Customer Purchase Experience
- Criterion 3: Customer Ownership Experience
- Criterion 4: Customer Service Experience
- Criterion 5: Brand Equity

Best Practices Award Analysis for Delta Controls

Decision Support Scorecard

To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Scorecard. This tool allows research and consulting teams to objectively analyze performance according to the key benchmarking criteria listed in the previous section, and to assign ratings on that basis. The tool follows a 10-point scale that allows for nuances in performance evaluation. Ratings guidelines are illustrated below.

RATINGS GUIDELINES



The Decision Support Scorecard considers Visionary Innovation and Performance and Customer Impact (i.e., the overarching categories for all 10 benchmarking criteria; the definitions for each criterion are provided beneath the scorecard). The research team confirms the veracity of this weighted scorecard through sensitivity analysis, which confirms that small changes to the ratings for a specific criterion do not lead to a significant change in the overall relative rankings of the companies.

The results of this analysis are shown below. To remain unbiased and to protect the interests of all organizations reviewed, Frost & Sullivan has chosen to refer to the other key participants as Competitor 1 and Competitor 2.

<i>Measurement of 1–10 (1 = poor; 10 = excellent)</i>			
Company of the Year	Visionary Innovation & Performance	Customer Impact	Average Rating
Delta Controls	10	9	9.5
Competitor 1	8	8.5	8.25
Competitor 2	7.5	8	7.75

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

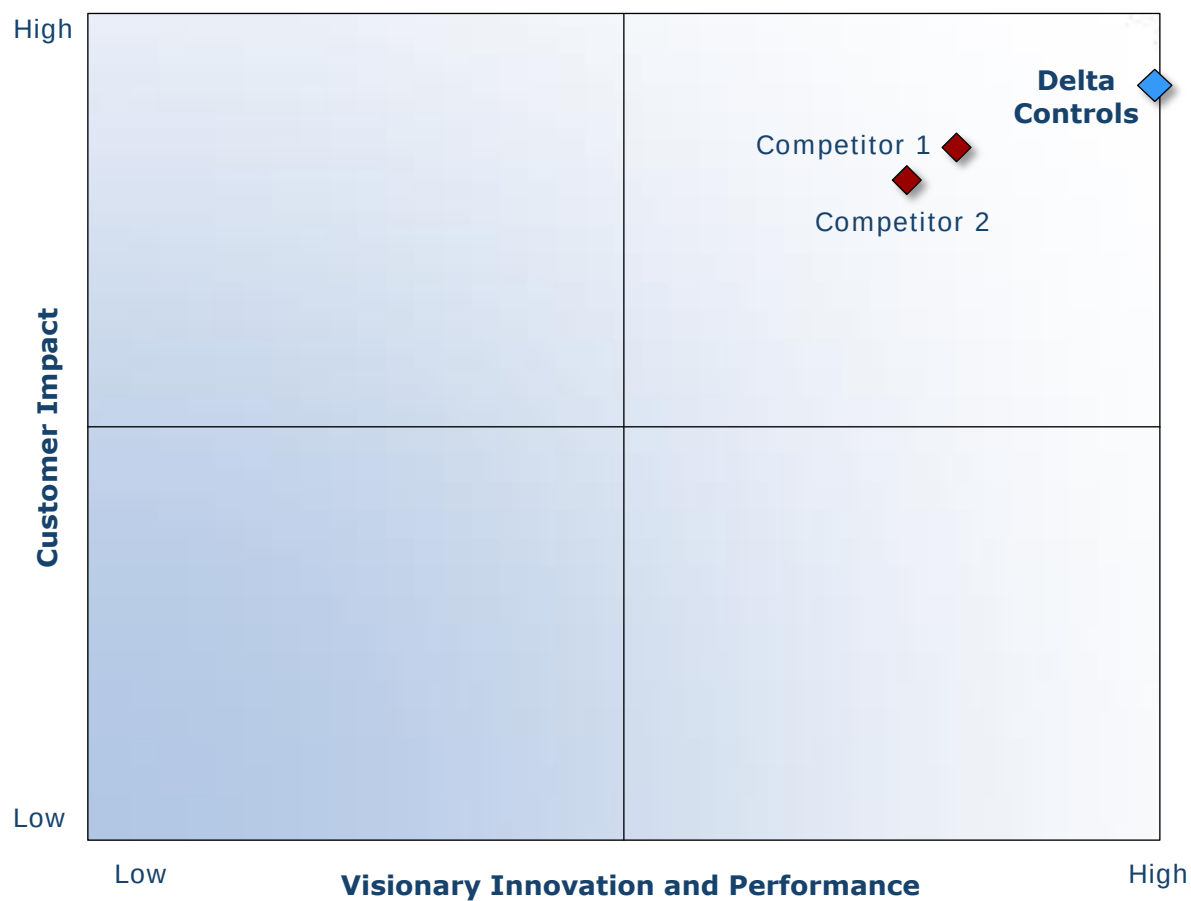
Requirement: Customer service is accessible, fast, stress-free, and of high quality.

Criterion 5: Brand Equity

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

Decision Support Matrix

Once all companies have been evaluated according to the Decision Support Scorecard, analysts then position the candidates on the matrix shown below, enabling them to visualize which companies are truly breakthrough and which ones are not yet operating at best-in-class levels.



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	- 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	- 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	- 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	- 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	- 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	- 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	- 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	- 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	- Present 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	- 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>.