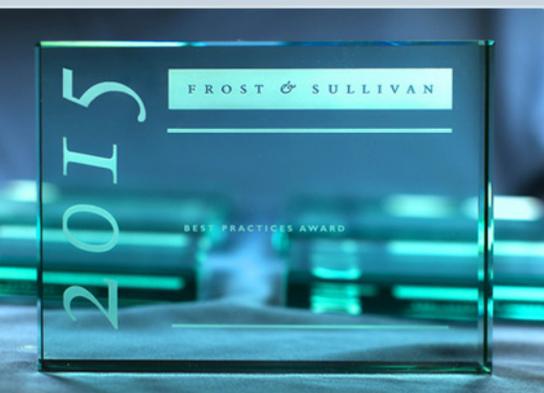




2015 North American Predictive Intelligence for Pneumatics New Product Innovation Award



FROST & SULLIVAN



50 Years of Growth, Innovation & Leadership

Contents

Background and Company Performance	3
<i>Industry Challenges</i>	3
<i>New Product Attributes and Customer</i>	3
<i>Conclusion</i>	6
Significance of New Product Innovation.....	7
Understanding New Product Innovation.....	7
<i>Key Benchmarking Criteria</i>	8
Best Practice Award Analysis for Bimba Manufacturing	8
<i>Decision Support Scorecard</i>	8
<i>New Product Attributes</i>	9
<i>Customer Impact</i>	9
<i>Decision Support Matrix</i>	10
The Intersection between 360-Degree Research and Best Practices Awards.....	11
<i>Research Methodology</i>	11
Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices	12
About Frost & Sullivan	13

Background and Company Performance

Industry Challenges

The Internet of Things (IoT) is growing exponentially with new applications popping up across a multitude of industries. However, Process industry participants have expressed concern over this disruptive, cross-industry transformation and the potential impact of these wireless technologies and smart devices. This is one of the reasons new technology penetration into traditional Process industries has been particularly slow.

Since 2009, the North American Pneumatics market experienced a significant increase in demand, as end users (especially the Automotive and Semiconductor industries) recover from the economic downturn. The aftermath of this sudden surge in demand, however, gave rise to equipment requirements that have necessitated OEMs (original equipment manufacturers) to ramp up production and create 'just-in-time' delivery scenarios for end users. This has caused Pneumatics market suppliers to be cautious about expanding their inventory.

The extremely high production targets among end users have resulted in overworked machines, greater risk of equipment breakdowns and reduced efficiency. Thus, pneumatic equipment manufacturers need to come up with new and innovative advancements in their equipment to address these pressing issues and stay ahead of the competition.

Frost & Sullivan suggests that pneumatic equipment suppliers should intensify their efforts to minimize operating costs and improving efficiency. The intense competition in the market, in conjunction with the expense of investments and the risks involved, makes operational excellence imperative.

New Product Attributes and Customer Impact

Design

When it comes to introducing a new technology, it goes without saying that precision of applicability is absolutely crucial. Bimba's IntelliSense® is a unique technology that combines sensors, cylinders, and embedded software to gather data on the real-time performance of standard Bimba pneumatic devices. This indigenous technology allows users to closely monitor individual components, providing useful insights into the working conditions of the components and making it easier to take steps that will keep the equipment working in top condition at all times.

Best Practice Example:

The "intelligence" of IntelliSense lies within the Sensor Interface Module (SIM), a remote monitoring device that helps users gather insight into device operations. A pair of sensors connected by pneumatic fittings to a Bimba cylinder allows the device to collect information on several variables, including the working condition of cylinders, stroke time,

end of travel, temperature, and pressure. An optional IntelliSense® Data Gateway allows users to remotely access via the internet the stored detailed performance data from as many as 12 different SIMs at the same time.

Match to needs

To operate in this extremely dynamic and competitive market, pneumatic equipment manufacturers need to continually invest in innovation so they don't fall behind. Bimba Manufacturing, a respected leader in this industry, does just that.

For pneumatic equipment customers, achieving extremely high levels of operational efficiency is a key industry challenge. Addressing this challenge, Bimba's IntelliSense is a cutting-edge device that closely monitors individual components and delivers information regularly. This constant feedback helps diagnose the actuator system and enables proactive maintenance of equipment, making machines exponentially smarter. IntelliSense has thus taken technological advancement in machine automation to a whole new level.

Best Practice Example:

IntelliSense® provides critical benefits to large OEMs looking for a decisive competitive edge. This system is ideal for companies that run machinery 24/7 or large value batches, who would lose the batch of product and significant money if the process suffered interruption. Key industries such as Automotive, Packaging, Semiconductors, Pharmaceuticals, and Food Processing would benefit considerably from the IntelliSense® system.

Reliability

In recent years, the key focus for every participant across industries has been machine automation, but Process industries have always been slow adopters of new technology. However, with end users' increasing need for reliability, efficiency, and cost-effectiveness, it is crucial for equipment manufacturers to invest in research and development to engineer products and solutions that can help achieve these benefits.

IntelliSense® delivers superior machine efficiency and productivity, coupled with diagnostic sensing, thus enabling Bimba customers to increase uptime, improve efficiency, and reduce costs.

Best Practice Example:

The sophistication of IntelliSense is clearly illustrated by the device's ability to monitor stream pressure data for every millisecond and temperature every second. Such pressure sensing technology helps users determine whether maintenance should be corrective, preventive, or predictive.

Performance Value

As touched on in the prior section, repairs and maintenance are very expensive for customers, so catching problems early or before they become an issue is paramount for customers. This is why proactive monitoring is so important.

Bimba's IntelliSense® is so advanced that it is able to provide a communications map for customers using a network of smart devices from multiple locations. Predictive prognostics, made possible by its ability to gather up-to-date information on the application's performance condition, permits users to determine when a cylinder or actuator could fail rendering decision-making about maintenance that is fact-based, not guess-based.

Best Practice Example:

IntelliSense enables remote access to obtain diagnoses from anywhere in the world. The device not only provides data to users; it helps them make sense of it. Combining data on predictive failure with other diagnostic information, such as the state of their actuators and estimated days remaining before a breakdown occurs is another significant value of IntelliSense.

Positioning

When companies introduce new technologies and innovation, it is critical that they address the right market, serve the right customers, and are able to meet unique customer requirements in the best way possible to improve their profit margins. Hence, the steps that equipment manufacturers take to identify the right industry in which to operate are crucial.

Best Practice Example:

After running intensive site testing Bimba determined that the packaging industry suffered from costly downtime, which meant that this industry would be particularly receptive to technology that would reduce the problem. The company also realized there could be a significant need for its technology in the automotive, food and beverage, semiconductor, pharmaceutical and medical industries.

Brand Equity

Bimba has been very successful, measured not only by its year-on-year financial performance but also by its initiatives and investments to meet customer demands. The company's high quality of services and excellent after-sales programs have played a key role in generating repeat business. The company also acquires companies from time to time, to enhance its product and service offerings.

Best Practice Example:

Bimba's procurement of Pneumadyne, Inc. is a great illustration of an acquisition best practice. Pneumadyne is an innovative manufacturer of pneumatic components and control systems and has nearly 35 years of experience in the field.. The decision to acquire Pneumadyne was a strategic move that augmented Bimba's product offerings while strengthening its position in the market. The acquisition has strengthened Bimba's power to proactively address key customer needs.

Conclusion

Frost & Sullivan views Bimba Manufacturing as a respected leader and a true innovator in today's Pneumatics market. The company's IntelliSense technology is groundbreaking because it delivers unrivaled value to customers in terms of increased uptime, proactive monitoring, preemptive maintenance and ultimately, reduced costs. Because of its superior performance, Bimba Manufacturing is recognized with Frost & Sullivan's 2015 New Product Innovation Award.

Significance of New Product Innovation

Ultimately, growth in any organization depends upon continually introducing new products to the market, and successfully commercializing those products. For these dual goals to occur, a company must be best-in-class in three key areas: understanding demand, nurturing the brand, and differentiating from the competition.



Understanding New Product Innovation

Innovation is about finding a productive outlet for creativity—for consistently translating ideas into high quality products that have a profound impact on the customer.

Key Benchmarking Criteria

For the New Product Innovation Award, Frost & Sullivan analysts independently evaluated two key factors— New Product Attributes and Customer Impact—according to the criteria identified below.

New Product Attributes

- Criterion 1: Match to Needs
- Criterion 2: Reliability
- Criterion 3: Quality
- Criterion 4: Positioning
- Criterion 5: Design

Customer Impact

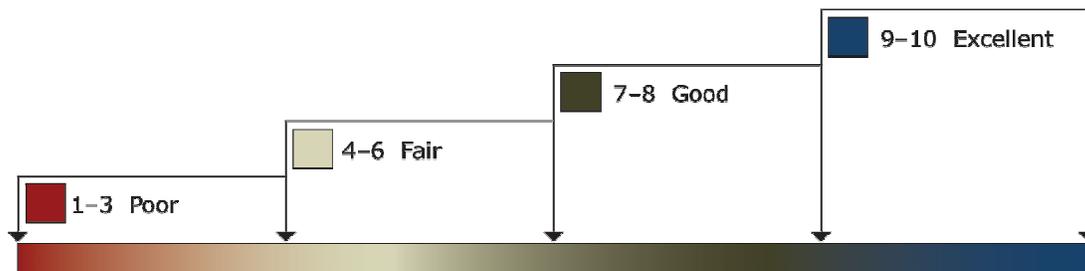
- Criterion 1: Price/Performance Value
- Criterion 2: Customer Purchase Experience
- Criterion 3: Customer Ownership Experience
- Criterion 4: Customer Service Experience
- Criterion 5: Brand Equity

Best Practice Award Analysis for Digi International

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 our 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 is organized by New Product Attributes and Customer Impact (i.e., the overarching categories for all 10 benchmarking criteria; the definitions for each criteria 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, we have chosen to refer to the other key players as Competitor 2 and Competitor 3.

<i>Measurement of 1-10 (1 = poor; 10 = excellent)</i>			
New Product Innovation	New Product Attributes	Customer Impact	Average Rating
Bimba	9.0	9.0	9.0
Competitor 2	8.0	8.0	8.0
Competitor 3	8.0	7.0	7.5

New Product Attributes

Criterion 1: Match to Needs

Requirement: Customer needs directly influence and inspire the product’s design and positioning

Criterion 2: Reliability

Requirement: The product consistently meets or exceeds customer expectations for consistent performance during its entire life cycle

Criterion 3: Quality

Requirement: Product offers best-in-class quality, with a full complement of features and functionality

Criterion 4: Positioning

Requirement: The product serves a unique, unmet need that competitors cannot easily replicate

Criterion 5: Design

Requirement: The product features an innovative design, enhancing both visual appeal and ease of use

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 like they are buying the most 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

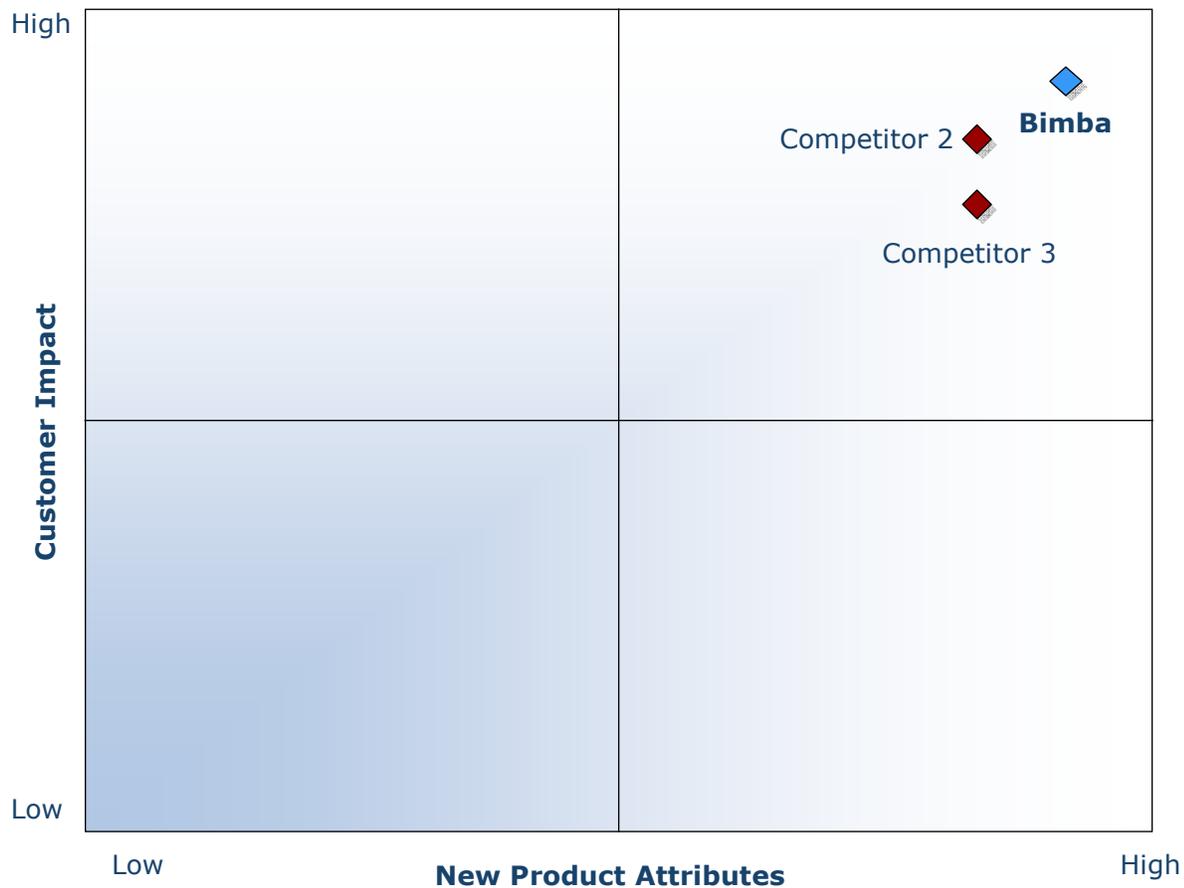
Requirement: Customer service is accessible, fast, stress-free, and of high quality

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 can 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.



The Intersection between 360-Degree Research and Best Practices Awards

Research Methodology

Frost & Sullivan’s 360-degree research methodology represents the analytical rigor of our 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, leading to 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 players and for identifying those performing at best-in-class levels.

360-DEGREE RESEARCH: SEEING ORDER IN THE CHAOS



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

Frost & Sullivan Awards 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 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
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-practice 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-practice criteria
9 Communicate recognition	Inform award recipient of award recognition	<ul style="list-style-type: none"> • 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 may 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 future strategic planning 	Widespread awareness of recipient's award status among investors, media personnel, and employees

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 almost 50 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from 31 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.