2018 Global Surface Mount Technology Reflow Soldering Equipment Company of the Year Award
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Background and Company Performance

Industry Challenges

The constantly evolving surface mount technology (SMT) reflow soldering equipment industry is characterized by the cyclical nature of demand. Companies witness peak customer demand during the phase of rapid technology advances, followed by a dip in demand for a couple of years and then another surge in demand. Typically, customers such as electronic device manufacturers increasingly invest in the peak demand phase, which lasts for only two to three years. Rapid technology advances, such as Internet of Things (IoT) and the growing popularity of digitization, data centers, and cloud services, are significantly boosting the demand for more advanced electronic components and equipment. This demand is driving investments in new components and equipment from customers endeavouring to cater to end users’ futuristic demands. However, end users that fail to upgrade their products and technologies with advanced features fall behind the competition, which negatively impacts their revenues and margins and their relationships with their customers, thus leading to the loss of contracts.

Additionally, with investments, end users expect on-time service delivery. For example, if SMT companies do not meet the high-demand volume on time because of the lack of innovation or slow development cycle, their customers’ businesses can be seriously impacted, such as electronic device manufacturers.

With the market currently witnessing a high rate of investments and innovation activities, SMT manufacturers must meet the personalized needs of each customer on time. Consequently, SMT manufacturers experience tremendous pressure to ensure on-time delivery of custom equipment to enable a diverse customer base to meet high end-user demands and stay competitive.

Visionary Innovation and Performance and Customer Impact

Addressing Unmet Needs

Known for its pioneering innovation in convection-based SMT reflow soldering ovens, New Jersey-based Heller Industries, Inc has been continuously innovating its products to meet customers’ evolving demands and changing technological preferences. Driven by this customer-centric approach and supported by a team of proficient and trained engineers, along with intensive research and development (R&D), Heller has continuously expanded its portfolio of SMT reflow ovens, from the recently discontinued Mark III to the Mark 5 and now the Mark 7 that is in the pipeline.
Mark 5 Series

The Mark 5 Series of reflow ovens is recognized as the top convection-based SMT reflow oven worldwide for large-board and dual-lane applications. Mark 5 comes in models 1826 and 1936/2043.

Heller’s lead-free-certified convection-based SMT reflow oven, the Heller Mark 5, features the best technology worldwide and promises the tightest tolerance and parallelism. The Mark 5 oven’s enhanced heater modules are comparatively slimmer than competing solutions, with a response time of less than one second and a change in temperature of less than 0.1 degrees Celsius.

Furthermore, Heller’s first-in-class flux management system embedded in the reflow ovens, which are both filter less and waterless, streamlines the flux collection in a separate box featuring removable plates, thereby diminishing the need for maintenance, which optimizes time and enables cost savings.

Mark 5 Series models 1826 and 1936/2043 support high-volume manufacturing, with a maximum belt speed of 74 inches per minute, without the need for a gap between two printed circuit boards (PCBs) and with no dip in performance. Additionally, the wide process window accommodates several diverse PCBs in one temperature profile, thereby providing customers with unprecedented flexibility in managing PCBs.

Overall, these offerings are a distinct testament to Heller’s unprecedented excellence in technological innovation and engineering SMT reflow soldering ovens that effectively address customers’ growing need for best-of-breed solutions with the highest value for the money.

Mark 7 Series

To stay competitive in this market, companies must continuously develop high-performance products that guarantee a lower total cost of ownership (TCO). To enhance the quality of the customer experience and satisfaction, Heller plans to introduce the Mark 7 Series of machines in 2018, which was announced in Productronica 2017. This series features an evolved design, such as uniformity and a large-sized blower, which guarantees better airflow for heavy or difficult boards and carriers. In fact, Heller is looking to develop ovens with novel catalysts that will optimize and heighten operational efficiency, minimize the need for flux maintenance, and bring down the nitrogen consumption rate.

The Mark 7 Series will best suit high-throughput applications. With Heller’s continuous effort to innovate and improve reflow soldering ovens, Frost & Sullivan believes that Heller stands out from the competition in delivering the market’s unmet technological and performance needs.
Visionary Scenarios through Mega Trends

More end customers, such as electronic device manufacturers and electronic contract assembly manufacturers, are embracing digitization to extract the maximum value from their connected assets to boost the productivity of their industrial processes in Industry 4.0 environments and improve margins. In addition, these customers are looking for smart automation-driven SMT solutions that will accelerate their Industrial IoT (IIoT) transformation by leveraging an ecosystem of connected assets, automation software that will minimize manual intervention and ensure error-free measurements, and predictive analytics for accelerating their time-to-market schedules.

Heller’s ETL/CE-compliant reflow ovens run on the next-generation Windows operating system, with data and alarm logging features. Industry 4.0 communication-enabling features, such as the GEM/SECs interface and the remote monitoring and technical support (RMATS) option, along with the ECD CPK software, have strengthened Heller’s positioning in the Industry 4.0 landscape. These communication features enable the ability to monitor end users’ SMT assets in real time, provide efficient process control, and enable end-to-end product traceability, all of which are in contrast to conventional solutions that involve a high level of manual machine health checkups that are both error prone and time consuming.

Accurate, real-time insights and predictive analytics empower end customers to pinpoint issues and fix them instantly, without having to wait for the end of the development cycle. Moreover, immediate data-driven decisions prevent instances of unplanned downtime because of sudden machine malfunctioning, thus saving end customers from incurring heavy financial losses.

Driven by its commitment to advance technologies, Heller is collaborating with companies to take predictive analytics to the next level. For example, in partnership with Panasonic Factory Solutions, Heller is looking to leverage Panasonic’s manufacturing execution system called PanaCIM® to integrate its reflow ovens seamlessly with automation equipment from other vendors and create a connected network of devices, machines, and systems. This partnership and solution will enable end customers to harness the power of Big Data and make informed decisions to improve the productivity of their manufacturing processes and operations, thereby transforming their manufacturing floors into smart factories.

Frost & Sullivan commends Heller for creating visionary scenarios by embracing the latest communication features and enabling an intelligent connected network in the factory floor.

Customer Purchase Experience

Heller’s product/technology strategy is aligned with lowering the cost of equipment every year to stay competitive in this price-sensitive market. China is the world’s manufacturing hub. With the US government’s June 2018 imposition of a 25% import tax on goods manufactured in China, all of Heller’s competitors are presently compelled to hike the price
of their reflow ovens to prevent high-scale losses. This scenario is based on the fact that they all have their manufacturing bases in China for goods to be shipped to the United States, thereby making averting this import duty imposition impossible, which will likely affect the purchase experience of cost-conscious customers and impact their margins in the short term of 9 to 12 months.

In this context, Heller is best positioned to continue offering a superlative purchase experience to its customers. The company’s strategy to shift its manufacturing base and supply chain from China to Korea, from where it began manufacturing goods for the US market in July 2000, has exempted the levy of an import duty on Heller’s goods. Similar to its manufacturing factory in China, Heller’s parallel supply chain in Korea can produce any reflow oven, thereby providing the company with a competitively advantageous position to meet the demands of US customers for its low-cost, world-leading reflow ovens without a price increase. Current customers that intend to continue buying Heller’s products can purchase more ovens without having to extend their budgets.

This advantage over its peers will attract potential customers and, thus, expand the company's customer base. Over the next 9 to 12 months, Heller is poised to deliver a highly pleasing purchase experience to its US customers and record high margins. In addition to supplying the equipment at a lower cost, the strategically positioned supply chain will enable Heller to deliver products on time, which is a critical success factor in the industry. Therefore, Frost & Sullivan believes that Heller has developed a proven strategy to deliver the best purchase experience in the industry.

**Customer Ownership Experience**

Customers are continuously seeking cost-effective yet powerful, high-value SMT reflow soldering solutions that can minimize their capital and operational expenditures and, consequently, lower their TCO. Characterized by the unprecedented reliability of Heller's world-leading SMT reflow ovens, the operating cost is less than competing solutions available in the market, thus enhancing the value proposition of Heller’s offerings and enabling it to sustain its positioning at the forefront of the competition.

Because customers want to achieve faster returns with fewer investments, the advanced balanced flow heating and cooling technology mechanisms of Heller’s reflow soldering ovens enable customers to reduce their nitrogen consumption by 40 to 50%. In addition, customers record significant energy efficiency levels, thus saving a maximum of 40% of the cost they otherwise would incur using competing solutions. For instance, by leveraging Heller's reflow ovens, customers witness the lowest TCO by saving between $15,000 and $18,000 annually, which is industry leading.

Furthermore, customer satisfaction is integral to Heller’s growth strategy. For example, Heller partners with its customers to build a clear understanding of their needs and then designs world-class semi-custom offerings based on those needs. To ensure customers
receive their customized solutions on time, Heller has a dedicated team of about 80 engineers who work only on semi-custom solutions, proving the company’s aggressiveness in providing the best customer ownership experience in the industry.

Frost & Sullivan commends Heller for its ability to provide the lowest TCO in the industry, along with its ability to design and deliver customized solutions on time.

**Brand Equity**

Heller has been repeatedly recognized for its pioneering excellence in designing world-leading premier SMT reflow soldering ovens and lauded by customers for its outstanding timeliness of service in its soldering equipment. Brands such as IBM and Lean Stream & Heller Reflow Technology (North California’s top sales representative group) associating themselves with Heller is a distinct testament to their confidence in the company’s competence and the unmatched performance of its reflow ovens, thereby enhancing the company’s brand credibility across the entire SMT reflow soldering ovens market.

Heller has established a local presence through its strong network of distributors in the Americas, Europe, Australia, New Zealand, Asia, and Africa. This geographic reach has enhanced the company’s brand visibility and has positioned it to reach out to and fulfill the needs of a large number of customers worldwide.

Frost & Sullivan believes that with its strong distributor network, partnerships, and aforementioned strategically linked supply chain, Heller leads the market in delivering on time the best products for customers, thereby strengthening its brand equity.
Conclusion

Established as a world-leading manufacturer of SMT reflow soldering ovens, Heller has been repeatedly recognized for its pioneering innovation excellence and on-time service delivery, which are two key factors that currently drive the global SMT reflow soldering equipment market. Moreover, the company’s customer-centric approach drives its continuous product development, thus allowing it to meet the specific needs of cost-conscious customers on time.

Heller’s portfolio of lead-free-certified Mark Series SMT reflow ovens are best-of-breed offerings because they guarantee the lowest TCO, with a 40 to 50% reduction in nitrogen consumption; minimized maintenance needs; and about 40% in energy savings. In addition, Heller aligns its product strategy with the rapid technological advances that impact customers’ changing preferences and demands. For example, Heller’s offerings support Industry 4.0 communication, and the company will take predictive analytics to the next level by collaborating with brands such as Panasonic to enable customers to harness the power of Big Data and implement corrective strategies to enhance productivity and witness improved margins and profitability.

Shifting its parallel manufacturing base to Korea to cater to the needs of its US customers, without being affected by the 25% import duty imposed on China’s manufactured goods, distinctly exemplifies Heller’s strategic excellence over its peers.

With its strong overall performance, Heller Industries has earned Frost & Sullivan’s 2018 Company of the Year Award.
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 Award Analysis for Heller Industries**

**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 Visionary Innovation & Performance and Customer Impact (i.e., these are 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, we have chosen to refer to the other key participants as Competitor 2 and Competitor 3.

<table>
<thead>
<tr>
<th>Company of the Year</th>
<th>Visionary Innovation &amp; Performance</th>
<th>Customer Impact</th>
<th>Average Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heller Industries</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Competitor 2</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Competitor 3</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

**Visionary Innovation & Performance**

**Criterion 1: Addressing Unmet Needs**
Requirement: Implementing a robust process to continuously unearth customers’ unmet or under-served 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 revenues, 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 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 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.

<table>
<thead>
<tr>
<th>STEP</th>
<th>OBJECTIVE</th>
<th>KEY ACTIVITIES</th>
<th>OUTPUT</th>
</tr>
</thead>
</table>
| Monitor, target, and screen | Identify Award recipient candidates from around the globe | • Conduct in-depth industry research  
• Identify emerging sectors  
• Scan multiple geographies | Pipeline of candidates who potentially meet all best-practice criteria |
| 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-practice criteria  
• Rank all candidates | Matrix positioning of all candidates’ performance relative to one another |
| Invite thought leadership in best practices | Perform in-depth examination of all candidates | • Confirm best-practice criteria  
• Examine eligibility of all candidates  
• Identify any information gaps | Detailed profiles of all ranked candidates |
| 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-practice positioning paper |
| 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 |
| 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 |
| 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 |
| Reconnect with panel of industry experts | Finalize the selection of the best-practice Award recipient | • Review analysis with panel  
• Build consensus  
• Select winner | Decision on which company performs best against all best-practice criteria |
| Communicate recognition | Inform Award recipient of Award 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 |
| 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 future 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 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 participants and for identifying those performing at best-in-class levels.

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.