Honeywell
THE POWER OF CONNECTED

2017 European Manufacturing and Execution Systems in Oil & Gas Customer Value Leadership Award
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Background and Company Performance

Industry Challenges

In an increasingly competitive environment, automation companies/service providers are pushed even harder to provide the most valuable solutions and services to their clients by increasing upstream productivity and efficiency and delivering projects within the allocated budget and time. While high throughput is essential, ensuring the proper safety of people and assets is important as well. Operators working in the field often face difficulty in making crucial, on-the-spot decisions due to the inaccessibility to critical data at that point in time. Frost & Sullivan notes that operators need the right data at the right time so they can make strategic decisions, such as setting the criteria for an emergency alarm, ordering equipment maintenance, or tuning the process to increase productivity. A massive amount of data is collected at a high frequency rate, and realistically documenting this data collected over several years can be impossible.

Automation is not new to the oil and gas (O&G) industry, which is where a manufacturing execution system (MES) with Industrial Internet of Things (IIoT) connectivity comes into play. Data from different field locations/projects are collected over time in a cloud-based network, and relevant data can be retrieved from any location at any time. This data can be used for strategic planning, decision making, and system capability learning.

Although many automation companies, such as ABB, Schneider Electric, Siemens, and Emerson, provide MES solutions to the O&G industry, Frost & Sullivan points out that clear differentiating factors allow only a few companies to provide service based on specific customer needs. To standardize the system, automation vendors need to provide hardware-independent software suites that can be installed in a system from any vendor.

Another differentiating feature for vendors is to provide customization options, i.e., providing a suite of software packages from which the customer can install specific software based on project requirements. Frost & Sullivan ongoing research maintains that few companies provide a range of products (inclusive of hardware and software) to fulfill those specific requirements in the best possible way.

Another challenge is the threat of cyber-attacks with the intent to steal, damage, or disrupt stored data. Systems have to be implemented with strong cyber security technology to ensure the network is safe and reliable; companies obviously rely on their available data for strategizing their businesses. Major value is added to the service when a company can work with clients and recommend ways and means to optimize their businesses.

With the help of a company’s process optimization and automation knowledge, the power of Big Data obtained from millions of sensors is unleashed. Various challenges related to the supply chain, process optimization, and operator competency are addressed through the analysis performed on the accumulated data. This factor differentiates a company from its other competitors in providing a complete service to its customers.
Customer Impact and Business Impact

Customer Ownership Experience

MES software offered by most automation companies include services to improve process safety, increase profit margins, and integrate and optimize equipment and processes. Honeywell Process Solutions (HPS) offers similar services; however, Frost & Sullivan points out that the key differentiating factor of its MES software is the wide range of software solutions, of which end users can install specific software modules based on their defined project requirements.

HPS’s Smart Operations MES solution includes Uniformalc® brand (data analytics, historian, asset management, visualization, collaboration and mobility), DynAMo® brand (responsible for alarm & operations management and safety aspects of the customer’s production), and Symphonite™ brand (supply chain planning, scheduling and production accounting, and allocating production to different groups of customers). These brands are a part of HPS’s Connected Plant (HCP) business and its Smart Operations offering. A customer chooses a particular software from this suite of products, which is then installed onto the system. Existing customers that are satisfied with HPS’s solutions can install other modules or upgrade existing applications. With the option to choose, customers only need to invest in the products that will truly address their unique needs/constraints.

HPS’s marketing communications reflect the essence of the company’s brand promise, which is to present a clear, benefit-oriented approach of the products’ expected performance. In the themes, headlines, and copy of all communication materials, the positioning statement consisting of ideas emphasized by subject matter is included.

When the expected results mentioned in these communication materials are obtained, end users of HPS’s solutions are highly satisfied with the overall positive experience throughout the life of the project.

Brand Equity

Every large company adopts marketing strategies, such as mergers and acquisitions, brand consulting services, and communication programs, to create a consistently positive branding experience. HPS’s encapsulates its unique attributes and solutions into its products, which are becoming more powerful, innovative and complex. HPS defines its brand as the “total Honeywell experience.”

HPS produces a wide range of products that are sold and available in retail. In addition, HPS has partnered with distributors worldwide to improve its business, and the company provides a significant amount of training, support, and marketing materials to these distributors to serve customers with technical assistance.

By expanding sales to make products accessible to end users at any location and by providing technical support to distributors in remote locations that do not have HPS offices, the company’s brand value is enhanced among customers with a high degree of
satisfaction. Customers enjoy the “total Honeywell experience” throughout the project’s lifecycle - from buying a product to obtaining technical help from distributors.

Apart from the other strategies mentioned above, HPS has adopted a unique strategy of strengthening the distribution chain by acquiring Intelligrated, a supply chain and warehouse automation leader. With its top-notch leadership team, HPS is looking forward to further expanding its global presence. In addition, Frost & Sullivan appreciates how HPS engages in observational research through customer groups to understand how end users perceive its products and then works to clearly enhance the user experience.

**Price/Performance Value**

HPS adopts a different pricing strategy for its marketing, compared to other competitors that have pricing strategies based on premium pricing policies and rebates/offers. The cost of HPS products depends on raw material price fluctuations; however, the company ensures the impact of this cost is not passed onto consumers, which is achieved by long-term supply contracts and hedging activities/pricing wherever possible. Through this strategy, end users’ operational profits have increased in all segments.

HPS ensures that its superior software and services provide clear value to customers in the form of strong technical assistance. Frost & Sullivan research shows that HPS’ major competitive advantage is that the company truly strives to understand if the products offered are of value to its customers and works to incorporate valuable features provided by other key participants into its future products. This constant analysis is conducted by competitive intelligence, pricing value, and observational voice-of-customer groups. HPS consistently searches for various ways to keep pricing fair and relative to the return on investment (ROI).

Another key value that HPS offers is understanding what customers need to do to improve their reliability, efficiency, safety, and sustainability. HPS has a customer survey and satisfaction program that both discuss price for the value offered and service sustainability. In addition, HPS has a dedicated tool called Assurance 360, launched in 2013, that ensures customers receive the benefits and value across each product’s lifecycle at a fair price. This service program delivers economic benefits to customers through outcome-based deliverables, while ensuring continuous improvements, reducing third-party service, minimizing the total cost of ownership by up to 20%, and addressing automation issues (so that users can focus on their operations).

**Customer Service Experience**

An MES solution is used mostly in the downstream and upstream sectors in the O&G industry. In the upstream sector, application of MES is less on exploration and more on production. The major differentiator between the service provided by HPS and its competitors is that HPS has the process domain expertise to solve related challenges. HPS is quite strong in process industries and uses that knowledge to realize the data-driven first principle model. Data is streamed into this model and used as a starting point to compare the actual versus predicted performance. Comparative analysis identifies the...
deviations, which are then corrected to optimize the process, extend equipment life, and apply machine learning techniques.

Customers remain loyal to HPS since the company has the required analytical skills, expertise, and data science capabilities to analyze clients’ collected data to derive valuable information.

HPS has offices worldwide that operate 24/7, making it simple and accessible for customers to reach the company when assistance is needed. If an HPS office is not in a particular location, distributors that are technically trained by HPS can provide the necessary service as well.

**Growth Potential**

Frost & Sullivan observes how demand from customers is shifting more towards integrated solutions. Customers want HPS to take up the responsibility for the service, operations, and performance output of the software. HPS is adapting to this changing role by deploying experts to monitor the process, thus reinforcing customer loyalty.

Frost & Sullivan expects HPS’s growth plan to be quite aggressive and optimistic over the next one to two years, based on its plan to launch innovative product offerings. With the transition to service orientation, clients are extremely curious about the benefits of the cloud, IIoT, and Industry 4.0.

**Customer Acquisition**

HPS has simplified the barrier to acquiring newer customers by implementing virtual concepts for project delivery and for using the cloud. Additionally, HPS provides software solutions that are available instantly online and new software licensing models that become less capital intensive. HPS’s strategy to acquire new customers includes providing services that can be added to existing systems, rather than companies needing to invest in or revamp their architecture to use HPS services and solutions.

HPS retains existing customers by expanding the services already provided to them - such as upgrading software versions and installing additional software modules. HPS’s initiative to deploy cloud services, IIoT, and automation throughout its supply chains allows it to stay competitive in this business. Through its cloud-based software services, HPS anticipates operational issues and offers solutions to overcome them. Customers notice faster improvements in plant performance.
Conclusion

As O&G projects are becoming more and complex, with higher demand for increased productivity, profitability, and asset and operator safety, automation vendors must provide solutions for simple accessibility to critical data at all times.

HPS has worked closely with O&G companies for over a decade to help customers improve productivity, safety, compliance, and decision making. HPS offers Smart Operations MES solutions that consist of a wide range of software from which customers can purchase particular modules based on defined project requirements.

Apart from helping customers collect a huge amount of data, Frost & Sullivan regards HPS as a true expert due to its deep knowledge in process optimization and automation. The data collected is analyzed and synthesized, and HPS provides the appropriate suggestions to its customers to help them obtain desired results.

With its strong overall process domain knowledge and wide portfolio of software, products, cloud, and IIoT technologies, HPS has earned the 2017 Frost & Sullivan Customer Value Leadership Award.
Significance of Customer Value Leadership

Ultimately, growth in any organization depends upon customers purchasing from a company and then making the decision to return time and again. Delighting customers is, therefore, the cornerstone of any successful growth strategy. To achieve these dual goals (growth and customer delight), an organization must be best-in-class in three key areas: understanding demand, nurturing the brand, and differentiating from the competition.

Understanding Customer Value Leadership

Customer Value Leadership is defined and measured by two macro-level categories: Customer Impact and Business Impact. These two sides work together to make customers feel both valued and confident in their products’ quality and long shelf life. This dual satisfaction translates into repeat purchases and a high lifetime of customer value.
**Key Benchmarking Criteria**

For the Customer Value Leadership Award, Frost & Sullivan analysts independently evaluated two key factors—Customer Impact and Business Impact—according to the criteria identified below.

**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

**Business Impact**
- Criterion 1: Financial Performance
- Criterion 2: Customer Acquisition
- Criterion 3: Operational Efficiency
- Criterion 4: Growth Potential
- Criterion 5: Human Capital

**Best Practices Award Analysis for Honeywell Process Solutions**

**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 Customer Impact and Business 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>Measurement of 1–10 (1 = poor; 10 = excellent)</th>
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<tbody>
<tr>
<td><strong>Customer Value Leadership</strong></td>
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<tr>
<td>Customer Impact</td>
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<tr>
<td>Business Impact</td>
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<tr>
<td>Average Rating</td>
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<tr>
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<tr>
<td>Honeywell Process Solutions (HPS)</td>
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<td>9.3</td>
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<td>9.2</td>
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<td>9.25</td>
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<td>Competitor 2</td>
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<td>8.75</td>
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<td>Competitor 3</td>
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<td>8.7</td>
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<td>8.60</td>
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</table>

**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.

**Business Impact**

**Criterion 1: Financial Performance**
Requirement: Overall financial performance is strong in terms of revenues, revenue growth, operating margin, and other key financial metrics.

**Criterion 2: Customer Acquisition**
Requirement: Customer-facing processes support the efficient and consistent acquisition of new customers, even as it enhances retention of current customers.

**Criterion 3: Operational Efficiency**
Requirement: Staff is able to perform assigned tasks productively, quickly, and to a high quality standard.

**Criterion 4: Growth Potential**
Requirements: Customer focus strengthens brand, reinforces customer loyalty, and enhances growth potential.
**Criterion 5: Human Capital**

Requirement: Company culture is characterized by a strong commitment to quality and customers, which in turn enhances employee morale and retention.

**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>
| 1    | 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 |
| 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-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 | • 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 | • 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 | • 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-practice Award recipient | • Review analysis with panel  
• Build consensus  
• Select recipient | Decision on which company performs best against all best-practice criteria |
| 9    | 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 |
| 10   | Take strategic action | Upon licensing, company is 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.