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# 2017 Global Asset Performance Management Customer Value Leadership Award

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BEST  
2017 PRACTICES  
AWARD

GLOBAL ASSET PERFORMANCE MANAGEMENT  
CUSTOMER VALUE LEADERSHIP AWARD

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## Background and Company Performance

### *Industry Challenges*

The global asset management software market is witnessing many growth opportunities as asset-intensive industries, especially process manufacturing, transportation and utilities, face intense pressure to reduce operational costs and enhance asset efficiency. To achieve the same, companies in asset-intensive industries have been investing in enterprise software such as enterprise asset management (EAM). At present, they are turning to asset performance management software that collects operational and condition data that can be leveraged to evaluate asset health, mitigate risk, improve reliability and ensure regulatory compliance.

Asset management vendors face multiple challenges: one of the biggest is complex asset infrastructure with siloed hardware and software. This becomes a serious area of concern as it results in ineffective integration due to which asset data are not fully utilized. In order to achieve asset integration, vendors must adopt a holistic approach and design solutions with common data-sharing platforms and architecture.

There also is a growing need for diagnostic and analytical tools that assess key performance indicators, analyze trends, and provide collated data in graphical formats. As end users face the challenge of data consolidation and interpretation, they are unable to effectively leverage these asset data for their strategic decisions.

As the Industrial Internet of Things (IIoT) transforms businesses, asset-intensive industries are receptive to creating “digital twins” with smart devices. Asset performance management software with intuitive features such as machine learning and advanced analytics for predictive maintenance will unleash new growth opportunities.

Software vendors that can offer new technologies that address unmet needs will excel despite stiff competition and market volatility.

### *Customer Impact and Business Impact*

#### **Customer Purchase Experience**

Pennsylvania-based Bentley Systems delivers advanced modelling and asset performance and reliability software for precise, reliable, safe, and intuitive management of critical asset infrastructure in asset-intensive industries such as process manufacturing, energy utilities, transportation, mining, and water and wastewater.

Maximum asset utilization and operational efficiency are critical for asset-intensive industries, but ageing equipment is vulnerable to failure, causing unplanned downtime. Over the past decade, Bentley has been expanding its asset performance management portfolio. Its most widely adopted solution is AssetWise, which collates, analyzes, and interprets data and presents it in a single dashboard. Unlike its competitors, Bentley delivers its software on an open, data-sharing platform instead of enforcing proprietary restrictions that prevent integration between systems. Its new AssetWise CONNECT Edition ensures the convergence of engineering, information, and operational technologies and transforms manufacturing plants, mines, utilities and transportation networks into

connected systems for real-time monitoring of even the most isolated or remote equipment. It identifies inoperative or underperforming assets and drills down to the root cause, allowing companies to transition from reactive to proactive maintenance to better manage performance and reduce downtime. This serves as key differentiating factor for Bentley as compared to other competitor solutions available in the market.

By combining its design engineering software competencies along with asset performance, Bentley delivers the most intricate information in real-time for end-to-end project and operations management. This serves as an effective tool for extending asset life and improving efficiency across the asset lifecycle.

**Best Practice Example:** Bentley recently partnered with an Australian mining company that planned to produce 55 megatons of iron ore every year. The client installed AssetWise for real-time monitoring and prognostic assessments that helped it better plan for maintenance and repairs to prevent equipment failure. As a result, the client was successful in achieving the production target as well as reducing operational costs by 1 USD million with reduced manpower and, more importantly, improved asset lifecycle.

### **Customer Ownership Experience**

The primary benefit enjoyed by Bentley's customers is its breadth of asset performance management software which includes AssetWise ALIM (Asset Lifecycle Information Management), AssetWise Asset Reliability, AssetWise Operational Analytics, AssetWise Enterprise Interoperability and Electronic Plan Review. They are designed to offer easy implementation, greater flexibility, efficient data management in structured formats, and analytical tools for data insights.

The most pressing need for companies in asset-intensive industries is software that is compatible with existing physical and IT systems, and converts massive amounts of data into strategic insights. Bentley's Enterprise Interoperability software creates a unified platform that extracts data from both third-party software and hardware deployed at a client's facility. Operational Analytics software not only aggregates data from various assets and business processes, but determines asset performance patterns, offers traceability and validation features, and represents data in interactive, graphical formats for easy interpretation that allows users to take immediate action pertaining to safety, security, performance, and regulatory compliance. Bentley has partnered with Microsoft Azure to host the data and protect end users' intellectual property and confidentiality.

Frost & Sullivan found that the factor that sets AssetWise apart is its ability to package all critical software functions into a single solution.

**Best Practice Example:** The largest oil and gas company based out of India, used Bentley software to assess the remaining life of 265 offshore platforms that have been operating for more than 25 years, as the cost of replacement is exorbitant. This assessment included verifying the platform's structural health, determining any requirements to safely extend working life and the recertification of the platforms for continued operations in the ocean. As a result of using Bentley software, it was able to extend the life of 90% of their offshore assets for 10-15 years.

## Customer Service Experience

The sharp rise in the number of asset management software vendors has made differentiation crucial to success. Superior service is a key differentiator in addition to diverse software functionality that influences end user decision.

Frost & Sullivan recognizes Bentley's ability to deliver its software as a service, tying its success to users' success at this stage of the digital transformation. Bentley offers an array of value-added services including a digital platform that facilitates mobility and data sharing through secured gateways, and custom training modules for registered engineers. The company leverages the virtual platform for timely response to software glitches and instantly upgrades with add-on features.

Bentley engages with customers throughout the product lifecycle, assisting with software selection, installation, and commissioning, and monitoring performance after deployment. It has a dedicated team of software engineers who track and trace usage through the cloud and offer in-context guidance on efficient utilization if any gaps are identified. This service is offered in addition to traditional 24X7 customer support that serves as a key differentiating factor. This proactive approach of Bentley's demonstrates their commitment to deliver best-in-class services to its customers.

Best Practice Example: Europe's largest construction project, worth £14.9 billion, implemented a 'digital twin' with AssetWise for the new 100 km rail route across London from Reading and Heathrow in the west, through new tunnels under the city to Shenfield and Abbey Wood in the east. Using AssetWise ALIM, it captured all asset and engineering information to create a complete view of the 'digital railway'. With the new connected data environment, using a hybrid cloud-computing platform powered by Microsoft Azure, the user now has the foundations to build the digital and physical railway.

## Customer Acquisition

Bentley Systems, with presence in more than 50 countries, has been expanding its global reach. Since 2007, the company has been enhancing its asset lifecycle management capabilities by combining 3D modelling with its asset management software portfolio.

Its acquisitions of IVARA in 2012 and C3 Global in 2015 have placed the finest and most compelling asset management software under one umbrella. It combines the detailed layout of asset infrastructure with asset monitoring, reliability, and operational analytics, thereby serving as a one-stop solution provider. Through these acquisitions, Bentley has been successful in restructuring its product portfolio which, as a result, helped in gaining traction across various industries. This can be exemplified through their partnership with one of the US' largest utility companies, where AssetWise was implemented to ensure all the critical assets were up-to-date and helped to drive decisions on their capital replacement plans. The unique feature of this solution is its ability to fulfill short and long term strategies based on maintenance, health and risk mitigation which is critical for asset-intensive industries.

Additionally, to promote and sustain interoperability, the company is entering into multiple strategic partnerships with automation, enterprise, and IT vendors to create a unified

platform that seamlessly integrates with existing infrastructure. Through a partnership with Siemens, for example, Bentley offers 3D modelling capabilities that help production, process, and control engineers from application and conceptualization, through to commissioning of all digital assets.

With a comprehensive product portfolio engineered to address customer requirements, Bentley Systems has been highly efficient in building a strong reputation for itself in the global market.

### **Brand Equity**

Bentley has established itself as an innovative and reliable software solution provider for infrastructure and asset-intensive industries and a trusted knowledge partner. Frost & Sullivan found that this was primarily achieved through a product portfolio with the latest and most advanced engineering capabilities that cater to customers' present needs and allow flexibility for the future, and has resulted in long-lasting customer relationships.

Bentley's brand image is also recognized by enterprise vendors including Siemens, SAP, and IBM, which leverage and certify Bentley's technology for asset performance management. Built on the foundation of integrity and reliability, Bentley has found wide acceptance in the market place as compared to its competitors, and has enabled the company to retain a loyal customer base in the market.

### **Growth Potential**

The automation industry is at the phase of transforming its solutions with smart and intuitive capabilities. By embracing digital technologies, organizations can resolve even the most complex challenges. Bentley was ahead of its time by broadening focus in the area of asset maintenance to incorporate cloud-based solutions, industrial mobility, and advanced analytics.

The key differentiating factor of Bentley's solution is they are designed with utmost flexibility, adaptability and reliability, which has translated into many successful implementations. This can be stated as the company's success factor in adopting new technologies that have been reflected in strengthening and expanding its customer base.

The company positions itself as a one-stop solution provider, with personalized services such as BIM Advancement Academy, in which the company's software experts work with customers to improve asset health and eliminate data complexity with appropriate tools, templates, and training.

Bentley's approach of delivering long-term benefits for its customers with advanced technologies assures optimistic growth prospects likely to outpace its competitors.

## *Conclusion*

Bentley Systems has developed future-ready asset performance management software solutions and an open data-sharing platform through strategic acquisitions and partnerships, putting it in an ideal position to take advantage of immense growth opportunities in asset-intensive industries. The company has the ability to support the development complex asset models and deliver solutions that help to improve the lifecycle of infrastructure assets through its comprehensive asset performance software portfolio. Its value-added, end-to-end services that support both projects and operations teams are an additional benefit to its global customer base. With a strong growth potential, global customer base, and its ability to enhance customer value through value added solutions, Bentley is expected to further spearhead its growth.

With its strong overall performance, Bentley Systems has earned Frost & Sullivan's 2017 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 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

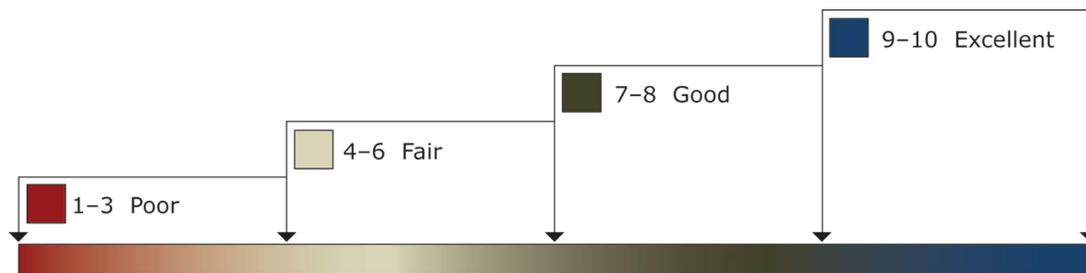
- Criterion 1: Financial Performance
- Criterion 2: Customer Acquisition
- Criterion 3: Operational Efficiency
- Criterion 4: Growth Potential
- Criterion 5: Human Capital

## Best Practices Award Analysis for Bentley Systems

### 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.

<i>Measurement of 1-10 (1 = poor; 10 = excellent)</i>			
<b>Customer Value Leadership</b>	Customer Impact	Business Impact	Average Rating
<b>Bentley Systems</b>	<b>9</b>	<b>9</b>	<b>9</b>
Competitor 2	8	8	8
Competitor 3	7	7	7

### *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**

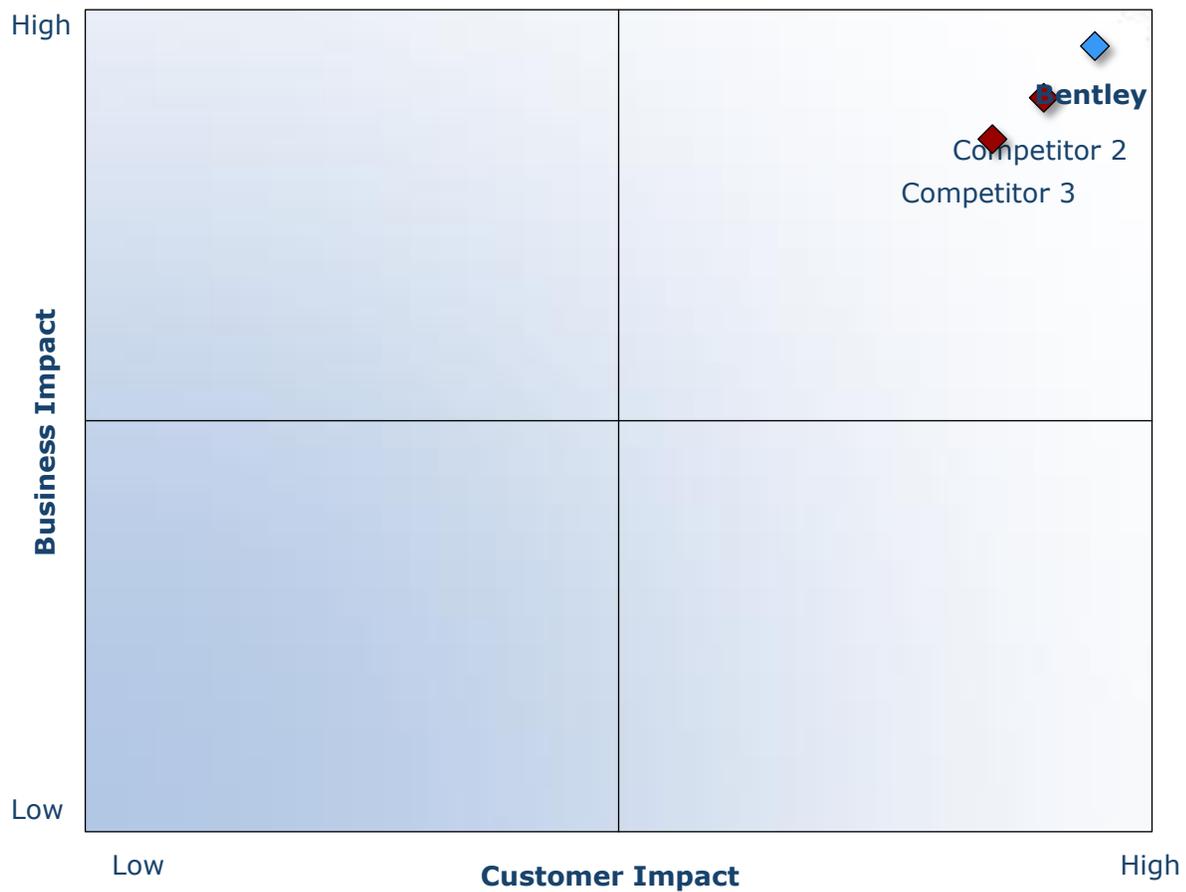
Requirements: Customer focus strengthens brand, reinforces customer loyalty, and enhances growth potential.

**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.

STEP	OBJECTIVE	KEY ACTIVITIES	OUTPUT
1 <b>Monitor, target, and screen</b>	Identify Award recipient candidates from around the globe	<ul style="list-style-type: none"> <li>• Conduct in-depth industry research</li> <li>• Identify emerging sectors</li> <li>• Scan multiple geographies</li> </ul>	Pipeline of candidates who potentially meet all best-practice criteria
2 <b>Perform 360-degree research</b>	Perform comprehensive, 360-degree research on all candidates in the pipeline	<ul style="list-style-type: none"> <li>• Interview thought leaders and industry practitioners</li> <li>• Assess candidates' fit with best-practice criteria</li> <li>• Rank all candidates</li> </ul>	Matrix positioning of all candidates' performance relative to one another
3 <b>Invite thought leadership in best practices</b>	Perform in-depth examination of all candidates	<ul style="list-style-type: none"> <li>• Confirm best-practice criteria</li> <li>• Examine eligibility of all candidates</li> <li>• Identify any information gaps</li> </ul>	Detailed profiles of all ranked candidates
4 <b>Initiate research director review</b>	Conduct an unbiased evaluation of all candidate profiles	<ul style="list-style-type: none"> <li>• Brainstorm ranking options</li> <li>• Invite multiple perspectives on candidates' performance</li> <li>• Update candidate profiles</li> </ul>	Final prioritization of all eligible candidates and companion best-practice positioning paper
5 <b>Assemble panel of industry experts</b>	Present findings to an expert panel of industry thought leaders	<ul style="list-style-type: none"> <li>• Share findings</li> <li>• Strengthen cases for candidate eligibility</li> <li>• Prioritize candidates</li> </ul>	Refined list of prioritized Award candidates
6 <b>Conduct global industry review</b>	Build consensus on Award candidates' eligibility	<ul style="list-style-type: none"> <li>• Hold global team meeting to review all candidates</li> <li>• Pressure-test fit with criteria</li> <li>• Confirm inclusion of all eligible candidates</li> </ul>	Final list of eligible Award candidates, representing success stories worldwide
7 <b>Perform quality check</b>	Develop official Award consideration materials	<ul style="list-style-type: none"> <li>• Perform final performance benchmarking activities</li> <li>• Write nominations</li> <li>• Perform quality review</li> </ul>	High-quality, accurate, and creative presentation of nominees' successes
8 <b>Reconnect with panel of industry experts</b>	Finalize the selection of the best-practice Award recipient	<ul style="list-style-type: none"> <li>• Review analysis with panel</li> <li>• Build consensus</li> <li>• Select recipient</li> </ul>	Decision on which company performs best against all best-practice criteria
9 <b>Communicate recognition</b>	Inform Award recipient of Award recognition	<ul style="list-style-type: none"> <li>• Present Award to the CEO</li> <li>• Inspire the organization for continued success</li> <li>• Celebrate the recipient's performance</li> </ul>	Announcement of Award and plan for how recipient can use the Award to enhance the brand
10 <b>Take strategic action</b>	Upon licensing, company is able to share Award news with stakeholders and customers	<ul style="list-style-type: none"> <li>• Coordinate media outreach</li> <li>• Design a marketing plan</li> <li>• Assess Award's role in future strategic planning</li> </ul>	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.

### 360-DEGREE RESEARCH: SEEING ORDER IN THE CHAOS



### 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>.