Aberdeen™ AXIS

Product Lifecycle Management (PLM) Solutions AXIS for Hardgoods Manufacturers

Q2 2009

Discover the Best-in-Class Vendors Who Can Help You Achieve Success
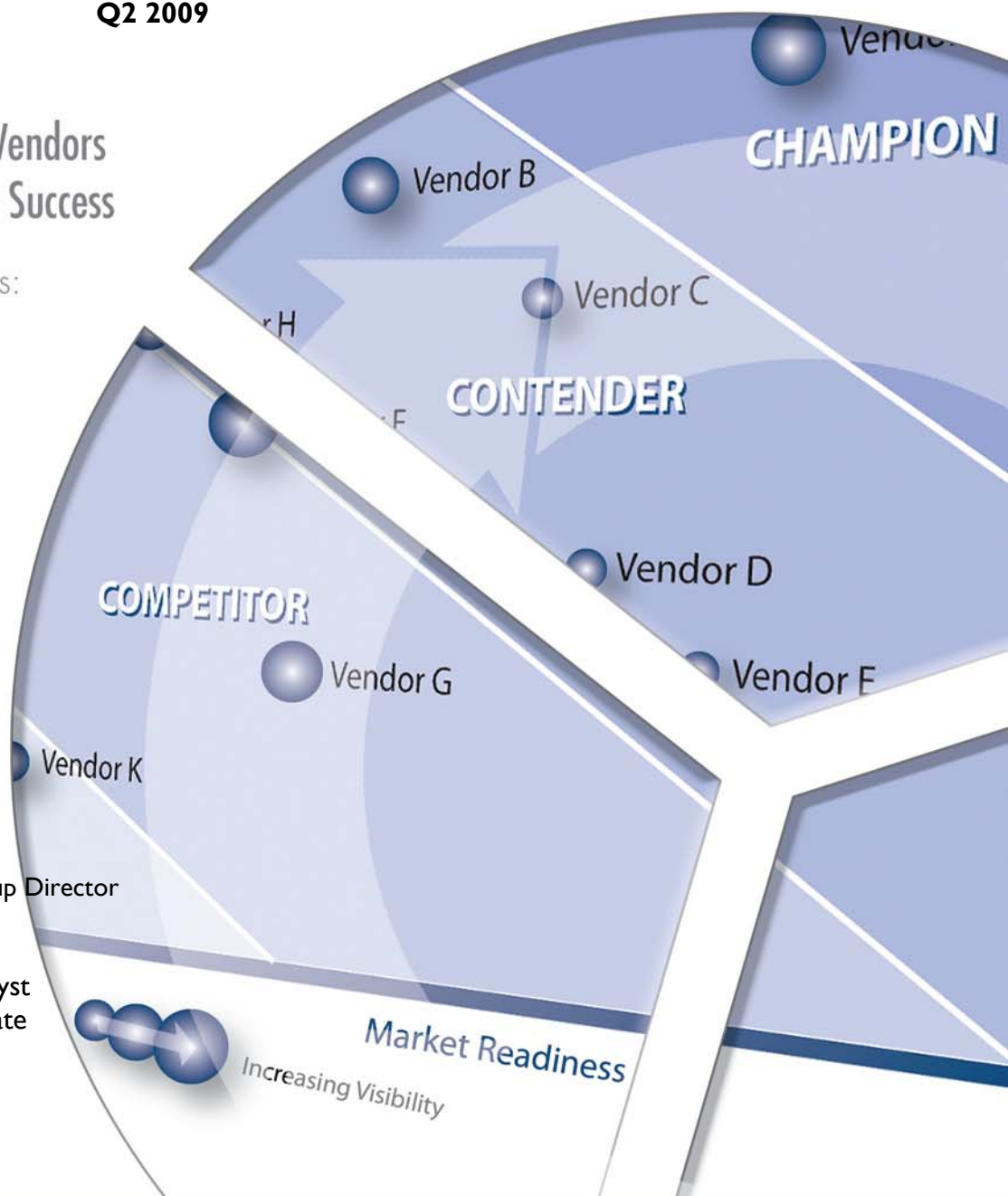
The Aberdeen **AXIS** provides:

- Best-in-Class performance evaluations of vendors based on KPIs from Aberdeen's benchmark studies

- An assessment of each vendor's market readiness determined by over 250 evaluation criteria

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Aberdeen *Group*
A Harte-Hanks Company

Executive Summary

Introduction

Aberdeen Group classifies "Product Lifecycle Management software" as a solution that supports the development of products in two ways:
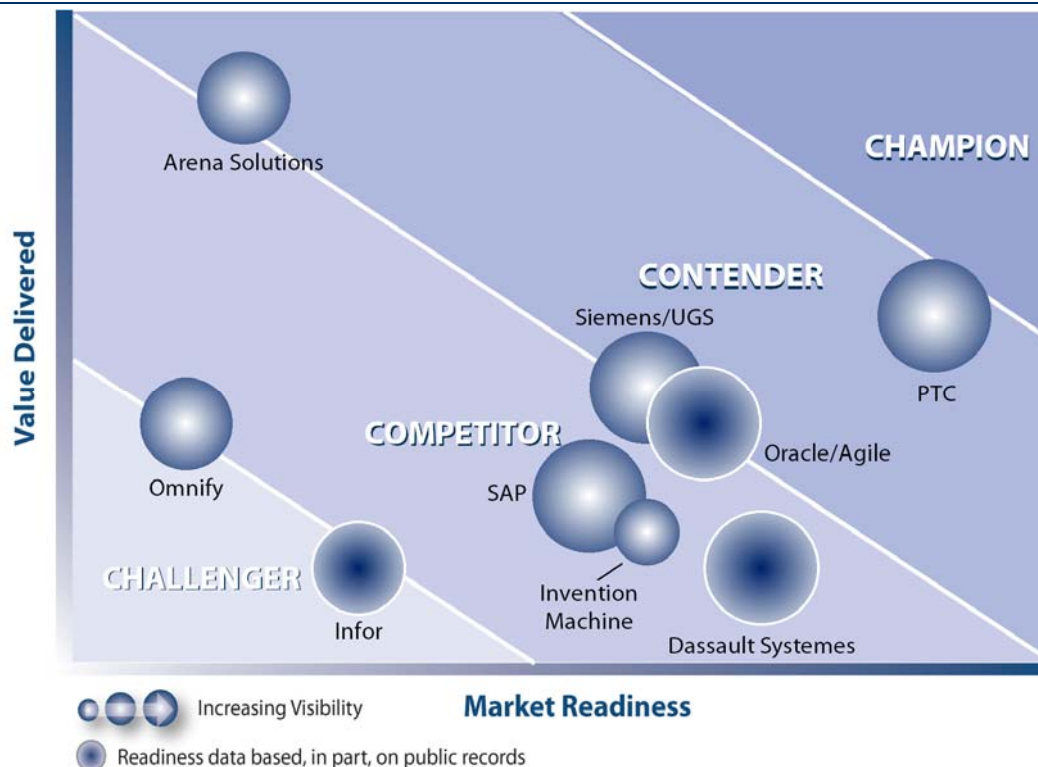
- Managing product information including design data such as Computer Aided Design (CAD) models, documents such as specifications, and Bills of Materials (BOM) as a single product definition. Furthermore, these solutions govern how these items are changed according to standards and rules.

- Tracking, managing and automating governance and creation processes such as portfolio management, program management, release management and change management that are often based on industry standards or customized to internal definitions.

Most importantly, PLM solutions deliver these capabilities in an integrated manner that enables stakeholders to make the right development decisions. In the end, the benefits are developing more innovative products, shortening time to product launch or delivery, and reducing product and development costs. Based on Aberdeen's research, **PTC**, **Arena Solutions**, **Siemens / UGS** and **Oracle / Agile** are the top performing product lifecycle management software solution providers when it comes to the *Value Delivered* to customers and the *Market Readiness* of the vendors themselves. This report is intended to help facilitate an understanding and selection of product lifecycle management solutions for end-user organizations.

Contents

The PLM Solutions AXIS for Hardgoods Manufacturers

Source: Aberdeen Group, Q2 2009

Chapter 1: Analyst Insights

Product development initiatives are meant to enable a company to accomplish their strategic goal of growing profitably. The following sections identify the top objectives of product development initiatives, the relevance of PLM solutions to those objectives, and the challenges of PLM deployment.

Top Objectives for Product Development Initiatives

There are many goals for product development initiatives. Ultimately, for any project to be deemed a success, it must positively impact a company's business position in the market. The following are the top business objectives companies are hoping to achieve through their product development initiatives, according to Aberdeen research:

- **Launch the next great or even disruptive product.** Company executives expect a top-line return from product development initiatives, and there is little doubt that innovation is high on the corporate agenda. Eighty-two percent (82%) of respondents identified product-related innovation as a means to driving top-line growth.

- **Bring products to market more quickly.** As innovative as a product may be, if it is late to market, its return on investment may not be realized. Of the 10 Aberdeen product development-related benchmark reports published in 2008, seven found that time-related issues constituted the top driver of product development initiatives.

- **Control and even reduce product and development costs.** Even if an innovative product reaches market first and garners significant market share, if product and process costs are not tightly controlled, margins suffer. Three of the top four pressures driving executive product development initiatives relate to costs: controlling raw good costs (33%), shrinking budgets (31%), and falling product price points (29%).

Aberdeen research shows that companies that pursue product innovation initiatives such as open innovation, innovation as a process, product portfolio management and ideation management on average see an increase in revenues of 10%, decreased product costs of 6% and reduced product development costs of 7%.

Aligning Solution Benefits to Business Objectives

How are PLM solutions relevant to product development initiatives and their business objectives? Successful initiatives are a mix of process, organizational, performance measurement, and knowledge management changes. However, top performers also include the deployment of PLM solution capabilities as an enabling aspect of their initiatives. The benefits of these capabilities include:

- **Formalized support for ideation and project funding processes.** Capturing concepts and ideas as they are generated and objectively analyzing them against one another for project funding ultimately increase an

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Aberdeen AXIS

The Aberdeen AXIS is an objective, fact-based vendor assessment methodology, based on vendor performance in KPI benchmarks from Aberdeen's domain-specific research, and the *Market Readiness* of the organization determined by over 250 evaluation criteria.

Sector Definition

At its most base explanation, Product Lifecycle Management (PLM) solutions support and enable a number of product development stakeholder organizations and processes. Specialty and suite providers offer a wide variety of capabilities, including the management and access of product information and data, automation of development standardized and customized processes, and collaboration between distributed stakeholders inside and outside of the company.

organization's ability to innovate. Top performers are twice as likely to deploy innovation management solutions and over three-times as likely to use portfolio management solutions.

- **Centralized management of product data and information.** Access to the right product information leads to better development decisions, innovative products, and ultimately increased revenues. Furthermore, it dramatically reduces the chance for errors and associated delays in schedules across the development process due to misinformation. Top performers are nearly 40% more likely to use centralized management product data and information when compared to average companies.

- **Formal tracking and automation of development processes.** Processes that are automated will reliably ensure conformance to a defined standard, thus eliminating variability and increasing decision repeatability. Additionally, automated processes offer a systematic reduction in execution times. Top performers are 50% more likely than others to use such project management techniques and twice as likely to deploy the process automation capabilities of PLM solutions.

The Barriers to a Successful PLM Solution Deployment

While PLM solutions have direct advantages and benefits related to the objectives of product development initiatives, deploying a PLM solution is not nearly as simple as installing software on a server. There are a number of barriers and challenges that must be considered and addressed when deploying a PLM solution:

- **Cultural resistance to change.** Change is never easy, especially when it comes to new organizational roles, processes and procedures, and technology solutions. Fully 41% of all respondents stated that overcoming the organizational resistance to change is a barrier to process change.

- **Digital design definition is expanding.** The design definition of the product is expanding rapidly to include not only mechanical aspects, but also electronic, embedded systems and system-level perspectives. Twenty-eight percent (28%) of respondents cite difficulty in deploying an integrated product development solution for all disciplines involved in the development of mechatronic products.

- **Development teams are globally dispersed.** Overall, 43% of companies are planning to increase design work for offshored internal technical centers, while 57% plan to increase outsourcing to offshored companies. As a result, 34% of companies state that keeping designs synchronized will be difficult.

- **Product information is distributed in enterprise systems.** PLM offers the opportunity to create a central repository for product information, but this does not ensure the storage mechanism is used properly. Fifty-two percent (52%) of companies report that product data is managed in multiple databases across the enterprise suite. This distribution of product data can make it difficult to ensure that all the right information is consolidated within PLM.

Chapter 2: Recommendations

Before selecting a PLM solution, companies must assess the ability of solution providers to address fundamental requirements that are critical to both a successful deployment and a successful product development initiative. The following strategies must be considered when developing the strategy behind the deployment of your PLM solution:

- **Develop a firm vision for PLM tied to business strategy.** Top performers are three-times as likely to have a PLM vision tied clearly to business strategy. Conduct an executive workshop to develop a firm vision for future processes for product innovation, product development, and engineering, which explicitly states the direction of the PLM strategy and how it supports the overall business goal.

- **Pursue incremental deployment instead of larger projects.** Top performers are three-times as likely to use an incremental, though no less formal, project approach within the larger PLM vision. Adopt this same PLM program approach by translating the strategy into a series of related projects; consider shifting from a phased rollout strategy to one that is based on smaller, incremental projects.

- **It's about business transformation, not technology installation.** Focus on business transformation as opposed to adoption of technology. Ensure that your business is taking advantage of best practices in implementing enterprise applications such as the use of cross-functional teams, adopting formal change management and training programs, identifying an executive sponsor, and using proven implementation methodologies. Adopt pilot approaches for new functionality, including conference room pilots as well as trial implementations.

To best execute the vision for your PLM solution deployment, strongly consider the following recommendations:

- **Accelerate PLM deployments with templates.** Top performers commonly do not start planning the PLM deployments from a clean sheet. Rather, they are almost three-times as likely to leverage proven baselines of, and templates for, existing data models, industry customizations, and process definitions.

- **Use PLM to centralize product information.** Top performers are more likely than other companies to bring actual costs, sourcing, and supplier data from ERP to PLM, and to be developing and integrating a "should-be" cost in PLM that is then sent to ERP. Centralize product data and use PLM as the primary system of record in the enterprise for most forms of product data.

- **Take process integration beyond the obvious.** While many manufacturers look to integrate enterprise systems as part of their release and change processes, top performers are also nearly three-times as likely as typical companies to integrate Corrective and

Analyst Recommendation

While PLM offers tremendous business value, more is required than just installing the software to realize the most value. Companies who achieve the greatest ROI take a very strategic approach to their PLM implementation. They first focus on how they want their product development processes to work, and then determine how the software can support and enable them.

Preventative Action (CAPA) processes, and to integrate quality planning and product development. Go beyond the basics and integrate the processes key to your PLM vision and strategy.

- **Track progress to your expected ROI.** Top performers are over twice as likely to instrument their processes and systems to track accepted metrics as a means to drive improvement efforts. This allows them to definitively measure ROI while enabling them to justify further investment in PLM solutions and continued product development initiatives.

Analyst Recommendation

Prior to selecting a PLM vendor, time invested in understanding existing processes will be well spent. Evaluate the needs of the development organization, how information flows to stakeholders, and who needs access. Identify what works well and where there are gaps and pain points. Collect feedback from all stakeholders. Use this to develop a list of required criteria as well as "nice-to-haves." Then compare your organization's requirements against the capabilities offered by the PLM vendor. Ensure the vendor's vision of PLM is in alignment with the problems that need to be solved.

Chapter 3:
How to Read the AXIS

Aberdeen AXIS provides an objective, fact-based vendor assessment that looks at the provider's history of *Value Delivered* (Y-axis) and its *Market Readiness* (X-axis). The results are based on relevant survey responses from hundreds of enterprise end-users responding to questions relating to their experiences with the respective solution or services. Vendors represented on the AXIS are illustrated by their performance against the various axes as well as the visibility they received from the market as part of the research.

Aberdeen's research is predicated on primary survey responses with follow-on telephone interviews. All responses are blinded and follow Aberdeen's published methodology. Data collected is reviewed and interpreted by the respective Aberdeen research team and draws upon information typically collected over the prior 12-month period.

Based on business-user survey responses from qualified candidates, vendors have been positioned in one of four categories in the Aberdeen AXIS chart:

1. **Champion.** Vendor has demonstrated superior proficiency in delivering both real value as well as the ability to serve and support its installed user base.

2. **Contender.** Vendor has consistently delivered on ensuring that users achieve a measurable value for their investment as well as the ability to continue to support and service its customers.

3. **Competitor.** Vendor is progressing toward delivering a balance of value and service / support / sustainability. Additional opportunities remain to enhance the value realized by its customers as well as its ability to meet the ongoing needs of the market.

4. **Challenger.** Vendor has achieved market visibility but has an opportunity to assist customers in achieving the value they're looking to realize from the investments made. Vendor readiness remains a concern.

Value Delivered (Y-axis)

The *Value Delivered* by a vendor is determined by the percentage of survey respondents using their solution that achieve Best-in-Class performance.

Over the past 12 months, Aberdeen has surveyed hundreds of end-user hardgoods manufacturing organizations on their use of PLM solutions. Aberdeen's research team analyzed the responses based on stated strategies, KPIs and business outcomes. Using Aberdeen's proprietary PACE™ methodology, end-users are placed into three performance maturity groups: the top 20% of performers are considered "Best-in-Class," the middle 50% are "Industry Average," and the bottom 30% are "Laggard." Survey respondents, as part of the process, identify the various products

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Aberdeen AXIS

The Aberdeen AXIS is an objective, fact-based vendor assessment methodology designed to assist organizations in making technology purchasing decisions.

The assessment is based on vendor performance in KPI benchmarks from Aberdeen's domain-specific research, and the *Market Readiness* of the organization as determined by over 250 evaluation criteria.

and services they have deployed. The aggregated performance of a technology vendor's end-users, complemented by live interviews, determines the relative *Value Delivered* to the market.

Market Readiness (X-axis)

Market Readiness is a critical assessment of the technology vendor's current ability to serve the market based on over 250 objective assessment criteria.

Vendors are provided a standard questionnaire that seeks to thoroughly assess their ability to support their installed base, to bring new products to market, to serve the global community, and to sustain economic cycles, among other KPIs. The questionnaire is augmented by customer interviews and independent research to validate the findings. Vendor briefings may be conducted to provide additional clarification and insight. Each vendor's risk and reliability, strengths and challenges, historical performance, and future outlook are evaluated, and a weighted score is determined. The result is represented as a numerical outcome on the AXIS by way of *Market Readiness*. Solid circles on Table 1 represent solution providers from which comprehensive data was made available for review and validation; reverse-shaded circles represent vendors from which response or available information (i.e., public records) was limited in scope.

Rather than project the suitability of a particular feature or function, the AXIS is a customer-centric view of the success organizations have had with various providers and the potential risk, or lack thereof, associated with the vendor's ability to meet their current and future obligations. These obligations include, but are not limited to, service, support, product updates and upgrades, staffing (e.g., customer service), and financial stability. Vendors falling into the Champion or Contender categories are logical partners for future projects. Those identified in the Competitor and Challenger areas are also strong potential suitors for consideration with additional investigation.

The goal of the AXIS is to provide the competitive intelligence business users require to make smart, informed decisions about their technology initiatives.

Research Methodology

Aberdeen applies a unique methodology to benchmark research that evaluates the business Pressures, Actions, Capabilities, and Enablers (**PACE**) that drive corporate performance.

The success of business strategies are determined by a Competitive Framework in which the top 20% of achievers are **Best-in-Class**, the middle 50% are **Industry Average**, and the bottom 30% are **Laggards**.

Companies that identify the most influential pressures and take the most effective actions are most likely to achieve superior performance. The solution providers that help enterprises achieve this Best-in-Class performance are recognized in the Aberdeen AXIS.

Table 1: Aberdeen AXIS Vendor Breakdown for PLM Solutions for Hardgoods Manufacturers

Company: Total Scores	Market Readiness	Value Delivered	Total Score
PTC	36	56	92
Arena Solutions	24	62	86
Siemens / UGS	31	54	85
Oracle / Agile	32	53	85
Dassault Systèmes	33	49	82
AVERAGE SCORE	*29*	*53*	*82*
Invention Machine	31	50	81
SAP	30	51	81
Omnify	23	53	76
Infor	26	49	70
Datastay	27	*	N/A
Aras	25	*	N/A

* Insufficient market visibility to evaluate   Source: Aberdeen Group, Q2 2009

Vendor Exclusion

Vendors may be excluded from the AXIS report for various reasons including:

1. Failure to achieve adequate market visibility within the context of the surveys

2. Failure to provide requisite *Market Readiness* information

3. Inability to validate *Market Readiness* information (i.e., customer interview responses are inconsistent with vendor representation)

Additional *Market Readiness* information may be extracted from public records when available. In the context of the PLM AXIS the following companies were identified but lacked sufficient market visibility for grid inclusion: **Datastay PLM** and **Aras.** These providers are discussed in Chapter 4. Furthermore, companies that provide CAD, CAE and PLM for Softgoods or Processed Goods are not included in this report.

Chapter 4:
Vendor Snapshots

The vendor snapshots provide a high level overview and insight into various vendors identified in this AXIS report. The review is based on primary research along with the analyst team insight drawn from briefings and customer interviews.

Key
🟩 Higher than average score
🟦 In line with average score
🟧 Lower than average score

Categories of PLM Solution Providers

- **PLM Solutions in an Enterprise Suite.** In this category of solution provider, the PLM solution is offered within a suite of enterprise applications such as Enterprise Resource Planning (ERP) systems, Manufacturing Operations Management (MOM) systems and Supply Chain Management (SCM) systems. The out-of-the-box integration of PLM with these enterprise systems exposes more product information that exists within organizations such as engineering, procurement, manufacturing, and supply chain management to more product development stakeholders. The resulting advantage is a more holistically informed group of stakeholders, making better development decisions and accelerating the overall process. PLM solutions from Infor, Oracle, SAP, and Siemens PLM Software fall into this category.

- **PLM Solutions in a Product Development Suite.** In this category of solution provider, the PLM solution is offered within a suite of product development solutions such as Computer Aided Design (CAD) applications, Computer Aided Engineering (CAE) applications, Simulation Lifecycle Management (SLM), and Content Management Systems (CMS). The close integration of PLM with these design and engineering solutions allow the engineering organization to make better design decisions and arrive at the engineering release milestone more quickly. PLM solutions from Dassault Systèmes, PTC and Siemens PLM Software fall into this category.

- **PLM Solutions as a Stand-alone Offering.** These types of PLM solutions are not part of either an enterprise or product development suite. The value behind a stand-alone or point PLM solution is that the capabilities can be best-of-breed because development resources are not applied to developing integrations with other systems and applications within an enterprise system or development application. PLM solutions from Datastay and Aras fall into this category.

- **Specialty Product Development Solutions.** The solutions, which are not necessary identified as PLM, either manage product data and information or automate some subset of the product development process. The advantage associated with these solutions is that they often include unique and niche capabilities that are often not included in traditional PLM solutions. Solutions from Arena Solutions and Invention Machine fall into this category.

PTC (Windchill PDMLink and ProjectLink)

Overview

PTC (formerly known at Parametric Technology Corporation) was founded in 1985 with the launch of Pro / ENGINEER. A disruptive CAD product at the time, Pro / ENGINEER fueled revenue growth for the company for over a decade. PTC acquired a number of companies since that time, but none more important than Computervision in 1998, a former billion-dollar solution provider of the CADDS product. Unbeknownst to PTC prior to the acquisition, Computervision held a majority stake in the small startup that initially developed the Windchill development kit. Under directives from PTC executives, starting in 1999, the kit was used to create a number of PLM solutions including Windchill PDMLink, Windchill ProjectLink and others. PTC's Windchill qualifies as a *PLM Solution in a Product Development Suite*.

Observations

When it comes to *Value Delivered* as a measure of helping manufacturers hit their product development targets, PTC's Windchill retains a second-highest score. The root cause lies in three areas for PTC: its architectural and development strategy, the capabilities of its product, and its synergy and integration with other applications within its product development suite.

From an architectural perspective, Windchill is built on web-native services, enabling simple deployment through a web browser. But more interestingly, Windchill's web-native architecture also addresses emerging IT requirements to integrate PLM with other enterprise systems through Service Oriented Architectures (SOA). The overall result is a smaller deployment, integration, and maintenance workload for the IT organization.

From a product perspective, PTC has continuously invested heavily in the organic development of products based on Windchill, resulting in a broad and deep solution. As a result, Windchill supports and enables core product development processes of manufacturers today. Differentiation, however, lies in the integration of Windchill web services into Pro / ENGINEER and other CAD applications. The effect is higher rates of centralized design data management because engineers are working with PLM through a familiar application: the CAD tool. As a result, design data is exposed to the wider enterprise where stakeholders can make better product development decisions. In addition to organic development efforts, PTC has continued to acquire companies with synergistic product offerings, such as Synapsis and its regulatory compliance product. PTC's web-based architecture allows the company to quickly integrate these products into its product development suite. Customers can take advantage of newly acquired integrated offerings without waiting for time-intensive integration efforts to be completed.

Additionally, last year's announcement of ProductPoint, a new product that has been built natively on top of Microsoft's SharePoint, is simultaneously both a great opportunity and a looming threat. On the positive side, the product allows existing Microsoft customers to extend SharePoint to

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AXIS Benchmark: PTC

Market Readiness
Score: 36
Average Score: 28.91

Value Delivered
Score: 56
Average Score: 53

"We have been using PTC CAD and PDM tools for roughly nine years. PTC support and technical services have been very valuable. They have met and exceeded our expectations in many areas despite some ongoing software quality problems. We have been able to achieve payback multiple times since implementing and hope to increase our spending in the coming year."

~ Senior Director of Global Engineering Systems and Services, Fortune 100 Electronics Company

support design and engineering organizations, which has been a longstanding request that omits the need to purchase and deploy a new enterprise system, even a PLM solution. Alternatively, the release of ProductPoint raises some questions around the Windchill ProjectLink product. While ProjectLink has some capabilities that ProductPoint does not, in some cases, users could use either to fulfill their needs. Current and potential future users of either product should gain a clear understanding of which solution supports their use cases and business processes.

Despite the fact that PTC customers have experienced success, there is room for improvement in the product and strategic issues to address. In the past 10 years, Windchill has seen a number of modules such as PartsLink, an online library of supplier parts, and DynamicDesignLink, an automated configuration solution, that have subsequently been merged into the PDMLink product. These changes have at times required customers to migrate their data and processes into PDMLink in these specialized, but important, areas.

From a *Market Readiness* perspective as a measure ensuring customer success, PTC has scored well based on both its ability to partner globally and its focus on enabling customer processes.

Many solution providers have long serviced North America and Europe, but PTC is making a new, stronger commitment to Asia and the Pacific Rim. The company opening a second corporate headquarters in China that will serve not only as a customer visit center but also to house a significant development organization to incorporate local customers into the development process. Asia-based customers and other manufacturers with global operations will be able to engage top level executives within PTC without having to travel literally across the world.

The other characteristic that differentiates PTC's *Market Readiness* score is the company's focus on business processes. PTC looks at its customer's processes, and how Windchill products support those processes, as a means for direction and guidance for future enhancements and new product capabilities. The resulting philosophy has changed from an incremental improvement of individual product capabilities to one of cross-product support of overall processes. Customers can engage PTC in a discussion with confidence that the out-of-the-box solution can support their processes.

PTC also offers an OnDemand option that enables customers to deploy PLM without the administrative overhead of an on-premise implementation. Originally targeted at small- and medium-sized companies, this option is also appealing to those looking for a way to try it on a test basis with little upfront investment.

The PTC story is not entirely positive, however. Its financial predictability has not been what shareholders and investors would prefer. PTC's stock has significant ups and downs over the course of the last five years. This can have consequences for customers if the decisions that PTC makes to meet shareholder expectations (such as recent rounds of layoffs) come at the expense of its ability to continue to develop and enhance its products.

Additionally, some months ago, rumors swirled that the company is being shopped for acquisition, perhaps to mirror recent moves such as Oracle's acquisition of Agile or Siemens' acquisition of UGS.

PTC's Windchill should be considered by any size manufacturer that is considering a PLM solution to support its efforts. Larger companies should investigate customization and integration into their IT ecosystem of ERP, SCM, MES and other systems. Smaller manufacturers should consider PTC's templated deployments and on-demand solutions.

Arena Solutions

Overview

After investigating a number of different PLM solutions while at Light and Motion Industries, Michael Topolovac and Eric Larkin founded Arena Solutions in February 2000 in order to develop a new PLM solution that, from their perspective, more directly addressed product development problems. Since then, they have organically developed this Software-as-a-Service (SaaS) solution. Most recently, Craig Livingston, a former executive leader for Agile Software Corporation which was acquired by Oracle, has been named CEO. Arena Solution's offering qualifies as a *Specialty Product Development Solution*.

Observations

When it comes to *Value Delivered*, Arena Solutions surpasses all other solution providers on the AXIS due to its exceedingly sharp focus on solving the problems of a specific role: the Head of Operations. This role, with responsibilities commonly split between different executives at larger companies, is responsible for taking product to market after design release within small to mid-sized enterprises (SMEs). One of the role's primary responsibilities is owning and managing the bill of materials through procurement, production and, ultimately, delivery to the customer.

While Arena's product is not considered a full featured PLM solution, its chief strength lies in how it manages product information and data, specifically bills of materials, from late in the design phase through the release, to manufacturing and onwards. From a deployment perspective, Arena also understands that SME manufacturers have little appetite for large upfront investments or big, broad solutions that take significant time to deploy. As a result, the company only offers its solution in a subscription on-demand model, in which every customer accesses a single deployment of its software on the web. The result is a minimal up-front investment with no solution deployment, matching the desires of IT managers at SME manufacturers. All in all, the capabilities of the solution set, budgetary investment, and lack of solution deployment match the needs of the roles it targets well.

However, there are negatives about the solution. The solution does not support the needs of an engineering manager or director at an SME manufacturer. Specifically, it does not directly manage and release design

AXIS Benchmark: Arena Solutions

Market Readiness
Score: 24
Average Score: 28.91

Value Delivered
Score: 62
Average Score: 53

data. And the change management process, a core product development process, is supported in a limited fashion by Arena's capabilities. If these areas are important, then a separate PLM solution or Product Data Management (PDM) solution must be purchased. Furthermore, Arena's offering sits somewhere between PLM and ERP. Many manufacturers directly integrate PLM and ERP by passing the Bill of Material from one to the other. Adopting this solution requires manufacturers to examine how their product information flows to and from this third solution in the company.

From a *Market Readiness* perspective, Arena garnered a below-average score, due in part to serving manufacturers primarily with North American headquarters. While some of its customers have operations or partners scattered across the globe, Arena Solutions lacks the scale and reach to support their efforts in a direct presence manner. Additionally, Arena is repositioning itself not as a PLM solution provider, but a Product Information Management solution provider. While focus is good, the change in strategy hints at a prior failed strategy and elicits concerns: Will this strategy work? How long will Arena stick with it? Risk-averse buyers should investigate thoroughly and find answers to their liking before proceeding.

To seriously consider Arena Solutions, think about the following: Ensure that the engineering team has a PLM or PDM solution that is design-focused and, as a result, does not need to be integrated with downstream systems. Also, check to make sure that Arena's offering will not overlap with any role that an existing ERP solution plays within the company. Lastly, investigate the solution to make sure it addresses your Head of Operation's issues. If all three align, Arena Solutions is a viable solution.

Siemens PLM / UGS (Teamcenter)

Overview

Siemens PLM has a long history, beginning in 1963 with the founding of United Computing, which developed the early CAD software, Unigraphics. In 1976, McDonnell Douglas acquired United Computing and continued to develop Unigraphics until 1991, when it was acquired by EDS. In 2001, EDS acquired a former competitor, SDRC, and merged it with Unigraphics, renaming it UGS. In 2004, EDS sold its PLM solutions business to a private equity group. In 2007, UGS was then acquired by Siemens Automation and Drives (A&D) Group and became known as Siemens PLM Software. UGS's longstanding product lifecycle management suite is Teamcenter, which Siemens continues to provide. IMAN formed the basis of Teamcenter Engineering while Metaphase functionality was the core of Teamcenter Enterprise.

In 2007 Siemens PLM Software released the first version of a totally new platform Teamcenter 2007 which unified these two platforms for the first time. At the enterprise level, Teamcenter, Tecnomatix and SIMATIC IT form a suite that addresses the development of products and its associated manufacturing processes. Siemens also offers Teamcenter Express, as part of its Velocity series for small to mid-size manufacturers. Siemen's

AXIS Benchmark:
Siemens / UGS

Market Readiness
Score: 31
Average Score: 28.91

Value Delivered
Score: 54
Average Score: 53

Teamcenter is a unique offering in that it qualifies as both a *PLM Solution in an Product Development Suite* due to its integration with SIMATIC IT and as a *PLM Solution in an Product Development Suite* due to its integration with NX, Siemen's CAD application.

Observations

When it comes to PLM solutions, Teamcenter has the most mature and richest heritage available. Overall, the solution garners an above average *Value Delivered* score compared to competitive products on the AXIS. The solution's score is positively influenced by Siemens' vision for product development as well as manufacturing planning and execution. Many of its customers reap benefits by simultaneously designing products and manufacturing processes. However Siemens' score is negatively affected by the cost of integrating iMAN and Metaphase into Teamcenter 2007 because more development dollars could have been expended on new capabilities and functionality to support customer development processes.

From a product development vision perspective, Siemens has heavily and consistently invested in the development of Teamcenter. This includes the incremental improvement of its core capabilities to support engineering and design activities, and also includes its expansion of existing capabilities into new areas such as mechatronics, system engineering, simulation lifecycle management, direct materials sourcing, compliance management and maintenance, repair and overhaul (MRO). In total, Siemens PLM has launched several new modules since the unification of iMAN and Metaphase into Teamcenter 2007. The overall effect has been to more fully support an expanded set of customer processes.

From manufacturing planning and executive perspective, the integration of Teamcenter within the broader suite of manufacturing solutions is critical and unique in the market. The combination of Teamcenter's support for product development, Tecnomatix's enablement of production planning and simulation, and SIMATIC IT's tracking of manufacturing execution allows Siemens PLM to explore a number of integrated capabilities that can offer significant value to manufacturers. Specifically, engineering and manufacturing organizations can collaborate more closely to plan production and track manufacturing execution. The emphasis here is concurrent development of the product and process that results in an overall reduction of the product development process to shorten time to market.

Despite Siemens' vision in product development and manufacturing, there are downsides to Teamcenter. Heavy investments in a multi-year program to integrate iMAN and Metaphase into Teamcenter 2007 required development effort and focus. And while Siemens PLM has launched a large number of new modules, even more new functionality could have been developed if not for the integration work. The good news is quite simple: the integration work is complete. Going forward, Siemens can focus on new developments, accelerating their already fast pace of releasing new functionality.

"We have several different locations that are on different CAD platforms. We are trying to migrate to a standardized platform by using Siemens' PLM solution."

~ Engineering Manager
Industrial Equipment Manufacturer

From a *Market Readiness* perspective, Siemens' above-average score is the tangible and direct result of being acquired by a much larger organization. As a corporation, Siemens provides broad-based stability and global reach as a company. Yet Siemens PLM Software, a division of Siemens, has retained its identity by being left to operate in a primarily independent fashion. The result is an organization that offers its customers worldwide support, but still retains the expertise, commitment and knowledge of a specialty PLM solution provider. The challenge, though, is that as Teamcenter becomes part of a larger set of applications, and the former UGS organization becomes more tightly entwined within Siemens, it may lose some of its identity and, as a result, the ability to deliver value to their customer. The challenge for Siemens will be how to maintain focus on front-end and middle aspects of the product development realm while leveraging Siemens' considerable global capabilities and emphasis on the back-end aspects of product development. The good news is that this is not an entirely new problem for Siemens PLM because, as an organization, it has been acquired and spun back out a number of times. Throughout its history, it has maintained a focus on product development and manufacturing.

Siemens' Teamcenter should especially be considered for manufacturers that emphasize or have core competencies around concurrently designing products and developing production plans. Engage in a conversation with Siemens to understand their future product roadmap and vision to ensure it aligns with your objectives. Smaller companies should investigate Teamcenter Express as part of the integrated Velocity Series of products.

Oracle / Agile

Overview

Oracle's history as one of the largest software companies in the world is well known. In contrast with SAP, which developed their PLM offering organically, the real history behind Oracle's PLM solution lies in the background of Agile, the company Oracle acquired in May 2007. Agile was founded in 1995 and developed as a pure-play offering, unlike many other PLM solution providers which also have offered CAD authoring applications. While the last two years since the acquisition have certainly resulted in closer integrations with Oracle's larger E-Business Suite, Agile PLM is still a viable stand-alone solution. Oracle's Agile PLM product qualifies as a *PLM Solution in a Enterprise Suite*.

Observations

When considering Oracle's average *Value Delivered* score, one cannot ignore how much the value proposition for Agile PLM has changed since the acquisition. Like Infor's acquisition of their PLM offering, the most notable positive outcome has been that a broad stand-alone offering has been dropped into Oracle's extensive e-business enterprise suite. Oracle has invested significant time, effort and development dollars in not only integrating the solutions, but also in leveraging standard technologies across the suite. The result is a predictable and successful marriage of a best-of-

**AXIS Benchmark:
Oracle / Agile**

Market Readiness
Score: 32
Average Score: 28.91

Value Delivered
Score: 53
Average Score: 53

breed solution, fully integrated into a software-in-the-large enterprise suite. The acquisition has combined Agile's solid view of product development with Oracle's broad vision to support integrated enterprise processes that includes procurement, supply chain management, finance, and customer management. The results have been advantageous for Oracle's customers. For example, Oracle's integrated environment provides engineers the ability to more easily understand inventory levels, procurement discount thresholds and finance constraints. Likewise, enterprise stakeholders from non-engineering organizations can more directly access engineering product information. This translates into product decisions made by more fully informed stakeholders. This value proposition is shared by SAP and Infor which also offer *PLM as part of an Enterprise Suite*.

Alternatively, some capabilities of the solution are distinctly lacking. Specifically, the direct management of engineering data and information is not as strong as with other providers. Mechanical and electrical design data are primarily treated as simple documents, rather than being accessed by a system that manages and controls their complex inter-relationships. In the hectic and dynamic environment prior to engineering's release to manufacturing, this can result in slower design processes as well as version control errors that are passed downstream. This lack of engineering level capabilities is no new issue for Agile, because even prior to the acquisition, the company never placed a high priority on the improvement of these capabilities. And given Oracle's emphasis on an enterprise suite solution, it should come as no surprise that those priorities shifted even further away from engineering-focused capabilities.

Thus, an important question facing manufacturers is this: Which scenario is more important? The ability to make the right product decisions through more holistically informed stakeholders, or tightly controlling engineering data and information to avoid errors downstream? The answer depends on the business goal, objective or initiative driving adoption of PLM. The lack of engineering support capabilities, however, is concerning.

From a *Market Readiness* perspective, Oracle has succeeded with Agile in part because it acquired a solution with existing dedicated support sales and marketing organizations kept intact. This allowed Agile to leverage the scale of the Oracle solutions and its extensive worldwide sales force. The result is wholehearted and widespread support for a solution that could very viably stand on its own without the rest of the enterprise suite. The whole Agile organization has been integrated into Oracle, and it retains a drive to make its customers successful.

The standing question here is: Will Oracle be able to maintain Agile's focus on its customers and, specifically, the needs of product development and the engineering organization? Again, Oracle's biggest advantage will continue to be the source of its central challenge. As the Agile solution is more fully integrated into Oracle's suite and the Agile organization is assimilated into corporate Oracle to gain scale, its challenge will be finding how to avoid losing the dedicated focus on enabling product development and operations. A waning focus on PLM ultimately affects a customer's successful pursuit of product development initiatives. Those looking for a PLM solution should

"For a manager, Agile is great! If I need to find and pull a drawing or even a CAD model, it's easy for me to get that information from Agile. Even if I don't know the part number, I can still find it with relative ease. However, where I run into problems is getting the information into the system. For a company our size, it's complicated."

~ CEO / President / Chairman, Industrial Equipment Manufacturer

"We're an international firm with offices all over the world, and we have been using Agile for five years. We use the software to collaborate across all of our different offices. Some folks within the organization have even used the software as a means to communication with clients for schedule verifications."

~ Engineering Manager, Engineering Services Provider

deeply investigate Oracle's long term commitment to PLM, including development plans.

If you are a large enterprise, Oracle should be included on any PLM shortlist, not just as a stand-alone solution, but particularly if your company needs a larger suite of enterprise solutions, including ERP. However, make sure to consider which focus is more important: a product development suite with PLM integrated with CAD, or an enterprise suite with PLM integrated with ERP and other enterprise applications such as CRM and SCM.

Dassault Systèmes (ENOVIA)

Overview

Headquartered in France, Dassault Systèmes (DS) started developing CAD software in 1981. As such, DS saw much of its growth through its CATIA CAD offering, mainly within the automotive and aerospace / defense industries. DS' portfolio had included a large number of products but has undergone consolidation and change. Prior to the latest version of its current offering, DS offered three distinct PLM products: ENOVIA VPLM, ENOVIA SmarTeam and ENOVIA MatrixOne. VPLM was developed organically to support DS' CAD offerings; SmarTeam, which focuses on the needs of small and mid-sized organizations, was acquired in 1999. Another provider, MatrixOne, was acquired in March 2006, adding the third PLM product to DS' ENOVIA brand. All three, however, are now integrated and consolidated as part of a single integrated architecture. In addition to the ENOVIA PLM product, DS also offers product data management in PDMworks (a part of the Solidworks brand, acquired by Dassault Systèmes in 1997). DS ENOVIA qualifies as a *PLM Solution in a Product Development Suite*.

Observations

Before considering Dassault Systèmes' scores on the AXIS, an obvious question comes to mind: Prior to the V6 integration, why has DS offered three separate PLM solutions? Primarily, it has allowed the company to grow revenues in an inorganic way, satisfying shareholder demands for growth. While these answers benefit DS as a business, the news is not all good. Planning, developing and maintaining separate solutions means resources and dollars must be split three ways. As a result, none of these solutions progress as fast down their respective roadmaps, creating lagging capability and functionality. Customers end up with offerings that do not have the wholehearted dedication of their solution provider. Therein lies the largest reason why DS' products have the lowest *Value Delivered* score on the entire AXIS. But the outlook isn't completely gloomy. In the latest release, V6, DS has adopted a platform approach, investing significant resources and monies into integrating the three product lines to share a common development platform and architecture. This should enable great efficiency within the development organization, translating into greater progress on the roadmap and increased quality.

AXIS Benchmark: Dassault Systèmes

Market Readiness
Score: 33
Average Score: 28.91

Value Delivered
Score: 49
Average Score: 53

"If you have CATIA V5, SolidWorks, or the other packages which integrate fully, I think SmarTeam is a good solution. In some cases, it has exceeded expectations. The web tools are very good because of its light weight and speed. However, it has bugs which basic web programming should be able to fix. The thick client is pretty robust, but it is difficult to use. Overall, my expectations have been met with a few disappointments along the way. However, very few solutions have integration with as many CAD systems as SmarTeam."

~ CAD Manager, Commercial Vehicle Supplier

From a future vision perspective, DS articulates a compelling story around what it calls "PLM 2.0" – applying Web 2.0 technologies to product development. The idea is to take Web 2.0 technologies and use them to connect the disparate stakeholders of product development, whether they are spread across the globe, the company or even along organizational boundaries. DS has pursued this vision by strategically integrating these technologies into its existing products such as ENOVIA or by creating a new set of visualization products collectively called 3DVIA. In this ecosystem, product development stakeholders are not forced to learn a brand new product, but just how to use new capabilities within their existing solutions. Despite DS's smart approach to the Web 2.0 trend, though, questions remain. Most notably, are engineers and other stakeholders ready to adopt a real-time connectivity vision of development? The answer depends largely on whether or not engineers are ready to change how they approach product development. A more social model offers potential benefits, but it also entails commitments and an outlook that may not be readily accepted. If engineers find the social model helps them get their work done more quickly, this is a very compelling solution.

When considering DS's high *Market Readiness* score, a point of note is that its business has grown steadily and significantly over the past five years. DS possesses the considerable advantage of a diversified product set as part of one of the largest revenue streams in the industry. Furthermore, its executives have a reputation for building direct relationships with executives within its largest manufacturing clients. This is a clear sign that Dassault is willing to partner closely and ensure the overall success of its customers. It has also afforded the company a strong defensive position in a very competitive market. DS has scuttled more than one deal for competitors as a result of its strong working customer relationships. However, this may also obscure some of the company's shortcomings to ensure that its customers are successful, as shown by its poor *Value Delivered* score.

DS has also profited from a long-standing, 30-year partnership with IBM, which has delivered and supported ENOVIA in North American markets. While this was once an exclusive arrangement, IBM has begun selling, integrating, and supporting Dassault's competitors in recent years, most notably PTC's Windchill. While the relationship between IBM and DS still exists and is strategic for both companies, IBM's sees additive opportunities beyond a single dedicated partnership. Specifically, many PLM products now align closely with IBM's vision of integration through service oriented architectures (SOA). This development however leaves questions as to whether or not the relationship will continue to deteriorate. If IBM continues to distance itself from its partner, it is uncertain whether or not Dassault's own sales staff will be able to backfill IBM's sizeable revenue contribution.

If adopting Web 2.0 technologies to enable collaboration within product development is a top driver of your PLM initiatives, then seriously consider and evaluate Dassault Systèmes' ENOVIA. Be confident that Dassault can partner for success, but thoroughly investigate ENOVIA's capabilities to ensure it can support your efforts.

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Invention Machine

Overview

Invention Machine was founded in 1992 in Belarus, but in 2002 underwent restructuring and moved its headquarters to Boston, MA. In 2005, a new version of Goldfire Innovator was introduced. Subsequent releases have extended the product's functionality and ease of use. Invention Machine's Goldfire Innovator qualifies as a *Specialty Product Development Solution*.

Observations

When it comes to *Value Delivered*, Invention Machine scored below average, representing the inherent challenge in the value proposition they offer to the market. Managing the process of creating and developing innovative products is by no means well defined or easy in today's product development process. Invention Machine's approach reflects the major challenge of most software providers: How do you present technology in the right context of a development process? In this case, Invention Machine provides automated process technology and semantic search in a sequential set of steps in an innovation process. While there are extensive out-of-the-box capabilities and customization is available and relatively easy, unfortunately, a large number of manufacturers struggle with simply defining their innovation process in the first place. This fact is reflected in Invention Machine's *Value Delivered* score. If you have an innovation process already defined, Goldfire can help you successfully deploy it.

Despite this fact, to ensure innovators are constantly armed with the latest and greatest developments, Invention Machine makes continuous updates to the databases it provides with its software. A subscription, which is part of its standard software maintenance fee, is required to receive them. As a result, customers are plugged into the latest in emerging intellectual property that can be reused to create innovative products, a challenge in manual processes. Furthermore, Invention Machine has developed partnerships with PTC and Siemens PLM. By integrating with the respective PLM solutions, it provides users with another mechanism to access internal engineering information stored within PLM and apply it to ideas for new products.

From a *Market Readiness* perspective, Invention Machine punches above its weight against larger, better resourced competitors. As a small company, the organization has fewer resources and lacks the global reach of larger software providers, though it has compensated by investing heavily in making each customer successful in a partnership-intensive manner. Furthermore, the company is heavily investing in its product to make it easier to deploy and use.

If you are one of the smarter manufacturers that have figured out that innovation does not happen by chance, but by process, you should seriously consider Invention Machine's offering. But you do need to make a dedicated commitment to an innovation initiative and to a software provider like Invention Machine to be successful.

AXIS Benchmark: Invention Machine

Market Readiness
Score: 31
Average Score: 28.91

Value Delivered
Score: 50
Average Score: 53

SAP

Overview

German-based SAP can boast a long history and one of the most expansive software portfolios in existence. Like competitors Oracle and Infor, SAP provides an integrated enterprise solution suite, notably including ERP solutions. SAP PLM is currently on its seventh release, which can be purchased as a stand-alone or as an integrated part of the full SAP Business Suite. Unlike Oracle, which acquired Agile, SAP developed its PLM solution organically. SAP's PLM solution qualifies as a *PLM Solution in a Enterprise Suite*.

Observations

SAP PLM possesses capabilities that are as expansive and full as any other solution assessed within this report. Much like Oracle's and Infor's solution, SAP's PLM product is offered as part of an enterprise suite. Likewise, the value proposition is much the same, as stakeholders inside and outside engineering gain greater visibility into what is typically scattered product information and data to make better product development decisions. This enabling capability is more powerful in the new version of SAP's PLM solution which offers even more extensive integration with the rest of its product suite through a commonly shared set of business intelligence tools. In addition to its product's functionality, SAP possesses a good vision of how its products help specific and multiple roles within the product development process as defined through what are called Value Scenarios. These process definitions outline which roles need which information to make decisions or create new deliverables in the product development process. With insight into the needs of VPs of Operations, Engineering and Manufacturing, SAP has designed a solution that serves them well.

For such a large and omnipresent solution provider, SAP possesses only an average *Market Readiness* score on the AXIS. SAP has long faced criticism that it does not take its PLM solution seriously. Past critics have proposed that SAP appears to offer a check-in-the-box solution designed to address objections from product development stakeholders and help move their agenda forward for their corporate IT solutions, specifically for ERP. But significant investments into the organic development and an aggressive product roadmap tell otherwise. At this point, the biggest challenge for SAP, and as a result for their prospective customers, is getting SAP as a corporate entity to care as passionately about product development as much as the leaders of the PLM organization within SAP do. Organizations of this size do not change overnight.

Manufacturers who are already running SAP or want to implement PLM as part of an integrated enterprise suite should consider SAP's overall capability and potential value. SAP's solution's recently enhanced ability to provide insight into other SAP application data allows product development stakeholders to make more fully informed design decisions. Make sure, however, you perform due diligence on SAP's commitment to you as a partner.

AXIS Benchmark: SAP

Market Readiness
Score: 30
Average Score: 28.91

Value Delivered
Score: 51
Average Score: 53

"As of 2008, our entire company moved into SAP, so SAP is the backbone of our PLM platform. We have been implementing the software in segments, but in terms of capability, it's been as useful as it will be, even without a full implementation. The process has taken longer than expected, so we don't expect to achieve payback on our investment for another year."

~ Director of Engineering, Engineering, Automotive Manufacturer

"We use SAP PLM, but mostly it's a Bill of Materials tool. We use it for things like material control, Bill of Materials revisions, and control of mass changes. We have SAP across the enterprise, so the advantage is we can easily upload BOMs into the production system of our manufacturing facilities across the globe, but it doesn't do a whole lot to manage CAD files. The only thing we put into it is TIF files. We use the capabilities of our CAD tool to manage designs."

~ Director of Engineering, Industrial Equipment Manufacturer

Omnify

Overview

Omnify's story started in 1998 with the development of a Bill of Material system. The company incorporated in October, 2002, and in the same year saw the first shipments of its product lifecycle management system. Omnify PLM was organically developed as an open integration platform with a focus on ease-of-use and quick implementation. These goals guide the strategic direction of the company today, focusing primarily on the needs of small to mid-sized manufacturers, while promising the capability to scale to the needs of larger organizations. Omnify's PLM solution qualifies as a *PLM Solution as a Stand-alone Offering*.

Observations

When considering Omnify's position on the PLM AXIS, it is critical to recognize that Omnify strengths and weaknesses are both rooted in their core strategy: They are predominantly driven by their customer's enhancement requests. Omnify's *Value Delivered* score is competitive with larger product development suite providers, reflecting its precise attention to addressing customers' requests, and this has driven strong incremental improvements. What's wrong with the equation? The software companies that enable their customers' successes, including those scoring the highest in *Value Delivered*, are often characterized by equal parts tactical improvements and strategic vision. These companies know to listen to their customers in aggregate but, perhaps more importantly, they know when to ignore an individual customer request that detracts from executing on their own strategic visions. The result is the ability to not only help their clients evolve, but to revolutionize how their clients execute their product development processes. Customers should not expect the next breakthrough capability or ground-shaking technology from Omnify that will transform their business, but steady and progressive improvement.

From a *Market Readiness* perspective, much like Arena Solutions, Omnify is primarily focused on the small to mid-size market, although it offers a more robust total PLM solution. While not a large company, Omnify is well-positioned to meet the needs of this set of customers. It is committed to supporting its customers with an open integrated platform that works well with ERP, PDM and CRM solutions from SAP, Oracle, Epicor, Infor, Sage, and others.

Any SMB manufacturer considering implementing PLM needs to give Omnify a look, though larger enterprises may want to include a variety of providers in their analysis.

Infor

Overview

Infor is another integrated enterprise suite provider, although considerably younger than Oracle and SAP, founded in 2002. Well known for growth through

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AXIS Benchmark: Omnify

Market Readiness
Score: 23
Average Score: 28.91

Value Delivered
Score: 53
Average Score: 53

"The return on investment with Omnify is quick and continuous. We opted for the annual license, but it pays for itself just in manpower alone, not to mention improved quality, information accessibility, and several other benefits. I would absolutely rate it a 10 and recommend it without hesitation."

~ Gerrit Kruitbosch,
VP of Engineering,
Edge Products

"We were looking for a configuration management system. Omnify was the kind of solution that we were looking for. The adoption was quick, straight forward, and painless. Through time, Omnify became more than a system to manage our drawings; it changed the way we did business. By using this tool we were able to more effectively implement Lean Six Sigma by gathering and monitoring data both on workflows and processes and effectively implement change. It's become an integral part of what we do every day."

~ VP of Engineering, Aerospace & Defense Supplier

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acquisition rather than the organic development of its solutions, Infor's entrance into the PLM market followed the same path. In 2005, Infor acquired Formation Systems, which added process industry-focused PLM capabilities to its product suite. In 2005, Infor acquired GEAC, which added F&A industry support with PLM Runtime. It wasn't until 2006, with the acquisition of competitor SSA Global Technologies, when Infor added PLM capabilities targeted at discrete manufacturers. Today, Infor offers Infor PLM Runtime, Infor PLM Optiva and Infor PLM for Project or Bid based, Configure to Order or Component-Based Manufacturers. The last of these is on its eighth release, is sold as part of a larger enterprise suite and almost exclusively within ERP. Infor's PLM solution qualifies as a *PLM Solution in an Enterprise Suite.*

Observations

Like SAP and Oracle, Infor's PLM offering is part of a larger enterprise suite of solutions. The value equation is much the same as any other PLM solution that is part of such a suite: managing a larger set of product information within a single set of solutions opens it up to wider access by all stakeholders in the product development process. As such, those participants make better development decisions based on a holistic view. And while this approach can certainly deliver value, Infor's approach differs dramatically from others with PLM as part of an enterprise suite. The focus is specifically on manufacturers that face shorter lead times and require more customer interaction that are inherently a part of bid-based projects or configure-to-order products. Because of the need for close coordination between sales, finance, purchasing and engineering, tight integrations are required between PLM, ERP and CRM systems. So where SAP and Oracle offer their PLM solutions as stand-alone offerings, Infor specifically sells and supports its PLM solution almost exclusively as part of a suite. The product can be purchased stand-alone, but is rarely done so. As a result, more focus is on enhancing capabilities of an integrated suite as opposed to addressing general product development problems. This holistic view of a bid-based or configure-to-order business offers some benefits. And it shows in the performance of their customers. Infor customers do in fact achieve success by hitting product quality targets for 74% of their development projects compared to a 73% average for all benchmarked companies. However, Infor's customers are sorely missing key development targets along the way. Specifically, its customers are launching products on time only 53% of the time compared to 61% of benchmarked companies. Additionally, Infor's customers are hitting their development budget targets only 49% of the time compared with 62% for all benchmarked companies. It's hard to be a successful manufacturer when only half of your projects launch on-time and are completed on budget. This contributes to Infor's tie with Dassault for the lowest *Value Delivered* score on the AXIS.

From a *Market Readiness* perspective, Infor is a large solution provider with global reach and scale. However, it is the focus and dedication of resources on the development, deployment and support of its PLM solution on that same scale that is the issue. As stated before, Infor sees its PLM solution only as an extension of its enterprise suite and not as a stand-alone solution that can solve product development problems in its own right.

Manufacturers who regard an integrated suite of PLM and ERP as critical to their business should include Infor on their long list of prospects.

AXIS Benchmark: Infor

Market Readiness
Score: 26
Average Score: 28.91

Value Delivered
Score: 49
Average Score: 53

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Vendor Snapshot Supplement

Vendor Snapshots: Market Readiness (X-axis) Only

The vendor snapshots in this section include vendors that provided the requisite *Market Readiness* information but did not achieve adequate market visibility within the context of Aberdeen surveys to create a *Value Delivered* score.

Datastay PLM

Overview

Founded in 2002, Datastay is another solution provider that offers a Software as a Service (SaaS) PLM system. Unlike Arena Solutions, Datastay offers its PLM solution as part of a larger suite that addresses quality, overall new product introduction, and change management. It does have a focus on serving small to mid-sized manufacturers, but not to the level of granularity of Arena Solutions, which is exclusively focused on the Head of Operations as a key audience. It is a small company mainly serving North America but also with customers in Denmark, Germany, France and Italy. Some development of their solution is done out of Belarus, but the majority of the work is done at their corporate headquarters in Toronto Canada. If you are purely looking for a PLM solution that is offered in a SaaS model, you should consider Datastay along with others.

Aras

Overview

Founded in 2000, Aras takes a dramatically different approach to PLM than any other solution provider in the market: It is offered as an open source solution. By making PLM freely available without licensing costs, Aras allows users to download and evaluate its PLM offering without significant investment in licenses. Customers only have to invest budgetary dollars for implementation, training, and support services. However, not everything is free in this model. While avoiding costs in an evaluation environment may well be advantageous, those working in a production environment will want to pay the subscription fee to gain access to hot bug fixes or to run on a certified platform. Considering the business-critical engineering data and processes that PLM manages, foregoing access to hot bug fixes or running on a platform that is not considered certified by Aras assumes a great deal of risk for production environments. Those without this support could find themselves with that data inaccessible due to software-platform compatibility bugs, essentially shutting down the product development process. Downloading and evaluating the solution may well not require the subscription fee. However, any production system will require an enhanced level of support.

During a recession where every budgetary dollar is scrutinized to a high degree, Aras's offering is very appealing to try as a low cost evaluation. Considering the level of planning and support a successful PLM

AXIS Benchmark: Datastay PLM

Market Readiness
Score: 27
Average Score: 28.91

Value Delivered
Score: NA*
*Insufficient market representation to evaluate

"We use Datastay PLM to ensure consistency across all of our manufacturing locations. We also use it as a tool for data storage and change control. The solution has exceeded our expectations."

~ Chris Boyce, Global Director, Federal Mogul

AXIS Benchmark: Aras

Market Readiness
Score: 25
Average Score: 28.91

Value Delivered
Score: NA*
*Insufficient market representation to evaluate

implementation requires, those looking to download and try out PLM on their own without any guidance or advice from a PLM expert may become disgruntled and frustrated, abandoning the attempt to take advantage of PLM before they have really given it a chance. The result may well be failed implementations that never really had a chance to succeed. Alternatively, it may provide Aras with volume of tire-kickers, opening up this class of solutions to a broader range of users, resulting in more value realized by additional customers.

Those looking to try out PLM, but do not have the budget for any upfront investment or would like to reduce the risk of upfront investment should definitely take a look at Aras. However, keep in mind PLM is very a difficult solution to successfully adopt and deploy without a full-fledged support system, hence the low *Market Readiness* score for this provider.

Appendices

Aberdeen AXIS Methodology

About this Aberdeen AXIS

Focused on Aberdeen's Product Innovation and Engineering and PLM research, this AXIS Report is based on 4,036 respondents from 13 benchmark studies conducted between Q1 2008 and Q1 2009. Solution providers covered in this report were asked in Q4 2008 to complete an extensive questionnaire regarding their company's overall status and operational performance. Follow-up interviews were conducted with the evaluated vendors' customers in March 2009.

About Aberdeen

Since 1988, Aberdeen's research has been helping corporations worldwide become Best-in-Class. Having benchmarked the performance of more than 644,000 companies, Aberdeen is uniquely positioned to provide organizations with the facts that matter — the facts that enable companies to get ahead and drive results. That's why our research is relied on by more than 2.5 million readers in over 40 countries, 90% of the Fortune 1,000, and 93% of the Technology 500.

As a Harte-Hanks Company, Aberdeen plays a key role of putting content in context for the global direct and targeted marketing company. Aberdeen's analytical and independent view of the "customer optimization" process of Harte-Hanks (Information – Opportunity – Insight – Engagement – Interaction) extends the client value and accentuates the strategic role Harte-Hanks brings to the market.

For additional information, please visit Aberdeen Group at www.aberdeen.com or call (617) 854-5200. To learn more about Harte-Hanks, please call (800) 456-9748 or go to www.harte-hanks.com.

The Aberdeen AXIS Methodology

The Aberdeen AXIS is an objective and fact-based vendor assessment methodology designed to assist organizations in making technology purchasing decisions. The Aberdeen AXIS assesses vendors using two criteria: 1) Best-in-Class status (*Value Delivered)* based on key performance indicators drawn from Aberdeen's domain-specific body of primary fact-based research; and 2) *Market Readiness* of the vendor organization determined by over 250 evaluation criteria, including: vendor questionnaires, public records, vendor briefings and customer interviews.

- **Vendor Selection** – Vendors appearing on an AXIS have been identified by Aberdeen and the marketplace as having a relevant solution.

- **Vendor Omission** – Vendors may not appear on an AXIS for typically one of three primary reasons: 1) the vendor failed to supply requisite

data for analysis; 2) the vendor failed to have sufficient market representation as part of the analysis (i.e. insufficient customers identified the vendor as a provider); or 3) the vendor's solution or service did not align with the particular AXIS.

- **Data Collection** – Data for the Y-Axis (*Value Delivered)* is extracted from relevant Aberdeen benchmark research reports published in the proceeding twelve months (typically). All of the benchmark reports are predicated on Aberdeen's PACE methodology, using primary field research in which end-users are polled via standardized survey. Information collected is analyzed using Aberdeen's formulaic approach to determining Best-in-Class performance. Data for the X-Axis (*Market Readiness)* is a by-product of a vendor-fielded questionnaire containing over 200 key questions, public records, customer interviews and vendor briefings. A weighting algorithm, maintained in confidence to prevent response gaming, is applied to determine respective vendor scores.

- **AXIS Recommendations** – The relative positions of the vendors on the AXIS, as well as the insight provided in the report, represent an assessment of the vendor score for *Market Readiness* and *Value Delivered,* interpreted via published methodology and analyst insight.

An Aberdeen AXIS is published typically once a year for each of the 22 research practices covered by Aberdeen.

Further Reading

- *The Top Five Principles for Successful Product Development*; February, 2009

- *Getting the Process Right – a Fresh Look at PLM and Product Development*; September 2008

- *The Best Kept Secret of Top SMB Product Developers? Finding the Shortest Path to PLM Value*; July 2008

- *Integrating the PLM Ecosystem*; April 2008

For information on updates or publication schedules, please contact: AXIS@aberdeen.com.

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